LANCIA

LANCIA k

2nd Volume

Service
Manual

3U05DV

The information in this publication is intended as a guide and could be superseded by modifications introduced by the Manufacturer at any time for technical and commercial reasons or in accordance with local regulations.

Fiat Auto S.p.A.
Direzione Marketing Commerciale
Direzione Post-Vendita - Servizi - Assistenziali
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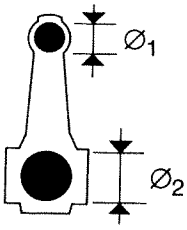
This manual contains the main instructions for repairing and maintaining the **LANCIA k**

The section **INTRODUCTION AND TECHNICAL DATA (00.)** has the dual function of introducing the model and supporting the remaining part of the manual. This section contains the tables of technical data and specific information relating to the sections in the remaining part of the manual.

The remaining sectsions (10. - 18. etc.) include the descriptions for the repair operations.

This manual contains graphic representations and symbols in place of descriptions for mechanical components, operations and servicing.

For example:



Small end diameter

Big end bearing housing

Tighten to torque

ENGINES *Section 10 contains illustrations of the operations of removing-refitting the power unit, operations on vehicle and the various fuel, lubrication and cooling systems.*
The procedure for overhauling the engines, is published in separate booklets under the following print numbers:

1995 16v: 504.513/06	*Inserted in the Overhauling Petrol Engines Manual Volume 1*
1998 20v - 2446 20v: 505.810/02 *2959 V6 24v: 505.810/03*	*Inserted in the Overhauling Petrol Engines Manual Volume 2*
2387 TD: 505.223/02	*Inserted in the Overhauling Diesel Engines Manual*

GEARBOXES *Section 21-27 illustrates the operations of removing and refitting the gearbox. The procedure for overhauling the manual gearbox at the bench is published in a separate booklet under the following print number:*

505.028/05:	*Inserted in the Overhauling gearboxes manual*

THIS PUBLICATION HAS BEEN PRODUCED IN A LOOSE LEAF FORMAT TO FACILITATE THE OPERATION OF UPDATING THE MODEL.

For the use of chemical products stick closely to the instructions in the safety chart which the supplier must give the consumter (for Italy in accordance with D.M. no. 46/1992)

The LANCIA k is a three box saloon with a load carrying structure, a transversely mounted engine and front wheel drive.

The LANCIA k is available in 5 different versions.

The LANCIA k 2.0 is powered by a 1998 cc, 5 cylinder in line engine with 4 valves per cylinder with BOSCH Motronic integrated electronic injection/ignition which develops a power output of 107 kW (145 CV bhp)

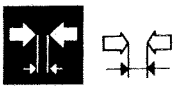
The LANCIA k 2.0 t is powered by a 1995 cc, 4 cylinder in line engine with 4 valves per cylinder with BOSCH Motronic integrated electronic injection/ignition, supercharged by a Garrett turbocharger and develops a power output of 151 kW (205 CV bhp)

The LANCIA k 2.4 is powered by a 2446 cc, 5 cylinder in line engine with 4 valves per cylinder with BOSCH Motronic integrated electronic injection/ignition and develops a power output of 129 kW (175 CV bhp)

The LANCIA k 3.0 is powered by a 2959 cc 6 cylinder in 60° V engine, with 4 valves per cylinder, with BOSCH Motronic integrated electronic injection/ignition and develops a power output of 148 kW (201 CV bhp)

The LANCIA k 2.4 td is powered by a 2387 cc 5 cylinder in line Diesel engine with electronically controlled indirect injection, supercharged by an IHI turbocharger and develops a power output of 91 kW (124 CV bhp)

Graphic representations and symbols

	Removing Disconnect
	Refitting Connect
	Dismantling Disassembly
	Fitting Composition
	Tighten to torque
	Tighten to torque plus angle
	Fully tighten
	Stake nut
	Adjustment Regulation
	Visual inspection Check
	Warning
	Lubricate Grease
	Replace Genuine spares
	Bleed braking system
	Work surface Machined surface
	Interference Force fit
	Distance to be measured Measurement – Check Thickness - Clearance
	Rolling torque

	Inlet
	Exhaust
	Operation
	Tolerance Difference in weight
	Pre-loading
	Rotation
	Compression ratio
	Selection Classes
	Oversize Greater than .... Maximum
	Undersize Smaller than .... Idling
	Number of revs
	Ratio
	Pressure
	Temperature
	Temperature $<0°C$ Cold Winter
	Temperature $>0°C$ Hot Summer
	Windscreen wiper with electric washer pump
	Rearscreen wiper with electric washer pump
	Engine

SERVICE MANUAL COMPOSITION

At present, September 1994, the **LANCIA K 2nd volume** manual is composed of the following booklets:

Print No.	Sections	Page Nos.	Versions	Comments
506.475/01 With binder (IX/94)	**50**	1 ÷ 50	All versions	Automatic climate control Automatic heater
	55	1 ÷ 178	All versions	Electrical equipment
		1 ÷ 143	All versions	Wiring diagrams
	55D	1 ÷ 83	All versions	Electrical equipment diagnosis
	70	1 ÷ 82	All versions	Removing-refitting Replacing body panels

Print N°	Sections	Page Nos.	Versions	Comments
506.475/08 (IV/96)	55	117-117/1 117/2-117/3 117/4-118	All versions	Lancia CODE emergency starting procedure using accelerator pedal (96 range)
506.475/14 (VI/96)	55	18	All versions	Electrical equipment update
		1-17	96 range versions	Radiofrequency alarm
		1-43	All versions	Wiring diagrams update
	55	34/1-34/2 72/1	All versions	Update for fitting front door hinges and sticking interior rear view mirror support plate
506.475/16 (VIII/96)	50	19-20	All versions	Update
	55	176/3-176/6	All versions	Passenger Air Bag-New Air Bag update
		23-24 29-32	All versions	Wiring diagrams update
		1-30	96 range versions	Wiring diagrams
506.475/18 (X/96)	55	53-54	All versions	Infocenter update
	70	32/1	All versions	Replacing glove compartment flap lock barrel
506.475/13 (XII/96)	55	Index 26/1-26/4 29	96 range versions	Radio phone wiring diagrams update
506.475/19 (VI/97)	55	53-54	All versions	Update: Infocenter
		79-80 80/1		Update: Headlamp alignment
		26/5-26/10 29	96 range versions	Update: Wiring diagrams
	70	83-84	All versions	Update: Sound insulation panels
506.475/20 (XI/97)	55	57-58	All versions	Update: I.G.E. control unit
		Index 26/11-26/12	96 range versions	Update: Wiring diagrams.

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Print N°	Sections	Page Nos.	Versions	Comments
506.475/01 With binder (IX/94)	50	1-50	All versions	Automatic climate control Automatic heater
	55	1-178	All versions	Electrical equipment
		1-143	All versions	Wiring diagrams
	55D	1-83	All versions	Electrical equipment fault diagnosis
	70	1-82	All versions	Removing-refitting Replacing body panels
506.475/02 (X/94)	55	101-118	All versions	Electrical equipment: Lancia CODE
		1	All versions	Wiring diagrams index
506.475/04 (XII/94)	70	35-36	All versions	I.S. 12/94
506.475/05 (III/95)	70	35-36	All versions	Replacing rear window update
506.475/07 (V/95)	55	31-54 117-118 175-176 176/1-176/1	All versions	Infocenter-Lancia CODE Air Bag: update
		13-14		Lancia CODE: wiring diagram update
506.475/09 (VII/95)	50	28/1-28/2	All versions	I.S. 6/95
506.475/11 (X/95)	55	3-3/1 3/2-4	1998 20V 2446 20V 2387 TD	I.S. 11-12/95
	70	34/1-34/2	All versions	

Print N°	Sections	Page Nos.	Versions	Comments
506.475/22 (II/98)	55	147-176	All versions	Update: Air Bag
506.475/23 (V/98)	55	Index 26/13-26/14	96 range versions	Update: Wiring diagrams
506.475/25 (II/99)	70	17-18 34/1-34/2	All versions	Update: Removing-refitting front seat and sticking interior rear view mirror support plate

WORKSHOP MANUAL COMPOSITION

To date, June 1997, the **LANCIA k volume 2**manual comprises the following:

Publication no.	Sections	Number of pages	Versions	Notes
506.475/01 With binder (IX/94)	**50**	1-50	All versions	Automatic air conditioner Automatic heater
	55	1-178	All versions	Electrical system
		1-143	All versions	Wiring diagrams
	55D	1-83	All versions	Electrical equipment diagnosis
	70	1-82	All versions	Removing-refitting Replacing body panels
506.475/02 (X/94)	**55**	101-118	All versions	Electrical system: Lancia CODE
		1	All versions	Contents wiring diagrams
506.475/04 (XII/94)	**70**	35-36	All versions	S.I. 12/94
506.475/05 (III/95)	**70**	35-36	All versions	Replacing rear window update
506.475/07 (V/95)	**55**	31-54 117-118 175-176 176/1-176/1	All versions	Infocenter - Lancia CODE Air-Bag: update
		13-14		Lancia CODE: wiring diagram update
506.475/09 (VII/95)	**50**	28/1-28/2	All versions	S.I. 6/95
506.475/11 (XI/95)	**55**	3 - 3/1 3/2 - 4	1998 20V 2446 20V 2387 TD	S.I. 11-12/95
	70	34/1-34/2	All versions	

Cont.

Publication no.	Sections	Number of pages	Versions	Notes
506.475/08 (IV/96)	**55**	117-117/1 117/2-117/3 117/4-118	All versions	Lancia CODE emergency starting procedure with accelerator pedal ('96 range)
506.475/14 (VI/96)	**55**	18	All versions	Update of electrical system
		1-17	'96 range versions	Alarm and radiofrequency
		1-43	All versions	Update of wiring diagrams
	55	34/1-34/2 72/1	All versions	Update of fitting of front door hinges and glueing of interior rear-view mirror mounting plate
506.475/16 (VIII/96)	**50**	19-20	All versions	Update
	55	176/3-176/6	All versions	Update of passenger Air-Bag - New Air-Bag
		23-24 29-32	All versions	Update of wiring diagrams
		1-30	'96 range versions	Wiring diagrams
506.475/18 (X/96)	**55**	53-54	All versions	Update of Infocenter
	70	32/1	All versions	Replacing lock barrel on glove compartment door
506.475/13 (XII/96)	**55**	Contents 26/1-26/4 29	'96 range versions	Update of wiring diagrams: Car 'phone
506.475/19 (VI/97)	**55**	53-54	All versions	Update: Infocenter
		79-80 80/1		Update: Headlamp alignment
		26/5-26/10 29	'96 range versions	Update: Wiring diagrams
	70	83-84	All versions	Update: Sound-proofing panels

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At present, December 1995, the **LANCIA k 2nd volume** manual is composed of the following booklets:

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506.475/01 With binder (IX/94)	**50**	1 ÷ 50	All versions	Automatic climate control Automatic heater
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		1 ÷ 143	All versions	Wiring diagrams
	55D	1 ÷ 83	All versions	Elec. Equip. fault diagnosis
	70	1 ÷ 82	All versions	Removing-refitting Replacing body panels
506.475/02 (X/94)	**55**	101 ÷ 118	All versions	Electrical equip.: Lancia CODE
		1	All versions	Wiring diagrams index
506.475/04 (XII/94)	**70**	35 ÷ 36	All versions	I.S. 12/94
506.475/05 (III/95)	**70**	35 ÷ 36	All versions	Replacing rear window glass - update
506.475/07 (V/95)	**55**	31 ÷ 54 117 ÷ 118 175 ÷ 176 176/1 ÷ 176/1	All versions	Infocenter - Lancia CODE Air-Bag: update
		13 ÷ 14		Lancia CODE: wiring diagram update
506.475/09 (VII/95)	**50**	28/1-28/2	All versions	I.S. 6/95
506.475/11 (XI/95)	**55**	3 - 3/1 3/2 - 4	1998 20V 2446 20V 2387 TD	I.S. 11-12/95
	70	34/1-34/2	All versions	

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506.475/02 (X/94)	**55**	101 ÷ 118	All versions	Electrical equip.: Lancia CODE
		1	All versions	Wiring diagrams index
506.475/04 (XII/94)	**70**	35 ÷ 36	All versions	I.S. 12/94
506.475/05 (III/95)	**70**	35 ÷ 36	All versions	Replacing rear windscreen: update
506.475/07 (V/95)	**55**	31 ÷ 54 117 ÷ 118 175 ÷ 176 176/1 ÷ 176/1	All versions	Infocenter - Lancia CODE Air-Bag: update
		13 ÷ 14		Lancia CODE: wiring diagram update
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506.475/14 (VI/96)	**55**	18	All versions	Update: electrical equipment
		1 ÷ 17	96 range versions	Radiofrequency alarm
		1 ÷ 43	All versions	Wiring diagrams update
	55	34/1-34/2 72/1	All versions	Update: fitting front door hinges and sticking interior rear view mirror support plate
506.475/16 (VIII/96)	**50**	19 ÷ 20	All versions	Update
	55	176/3 ÷ 176/6	All versions	Update: Passenger Air-Bag - New Air-Bag
		23 ÷ 24 29 ÷ 32	All versions	Wiring diagrams update
		1 ÷ 30	96 range versions	Wiring diagrams
506.475/18 (X/96)	**55**	53 ÷ 54	All versions	Update: Infocenter
	70	32/1	All versions	Replacing glove compartment lock barrel
506.475/13 (XII/96)	**55**	Index 26/1 ÷ 26/4 29	96 range versions	Wiring diagrams update: Radiotelephone
506.475/19 (VI/97)	**55**	53 ÷ 54	All versions	Update: Infocenter
		79 ÷ 80 80/1		Update: Headlamp alignment
		26/5 ÷ 26/10 29	96 range versions	Update: Wiring diagrams
	70	83 ÷ 84	All versions	Update: Sound insulation panels
506.475/20 (XI/97)	**55**	57 ÷ 58	All versions	Update: I.G.E. control unit
		Index 26/11 ÷ 26/12	96 range versions	Update: Wiring diagrams

Update for the "LANCIA K 2nd volume" manual
Update: Air-Bag
(Print no. 506.475/22) (II–98) order n° *604.45.960*

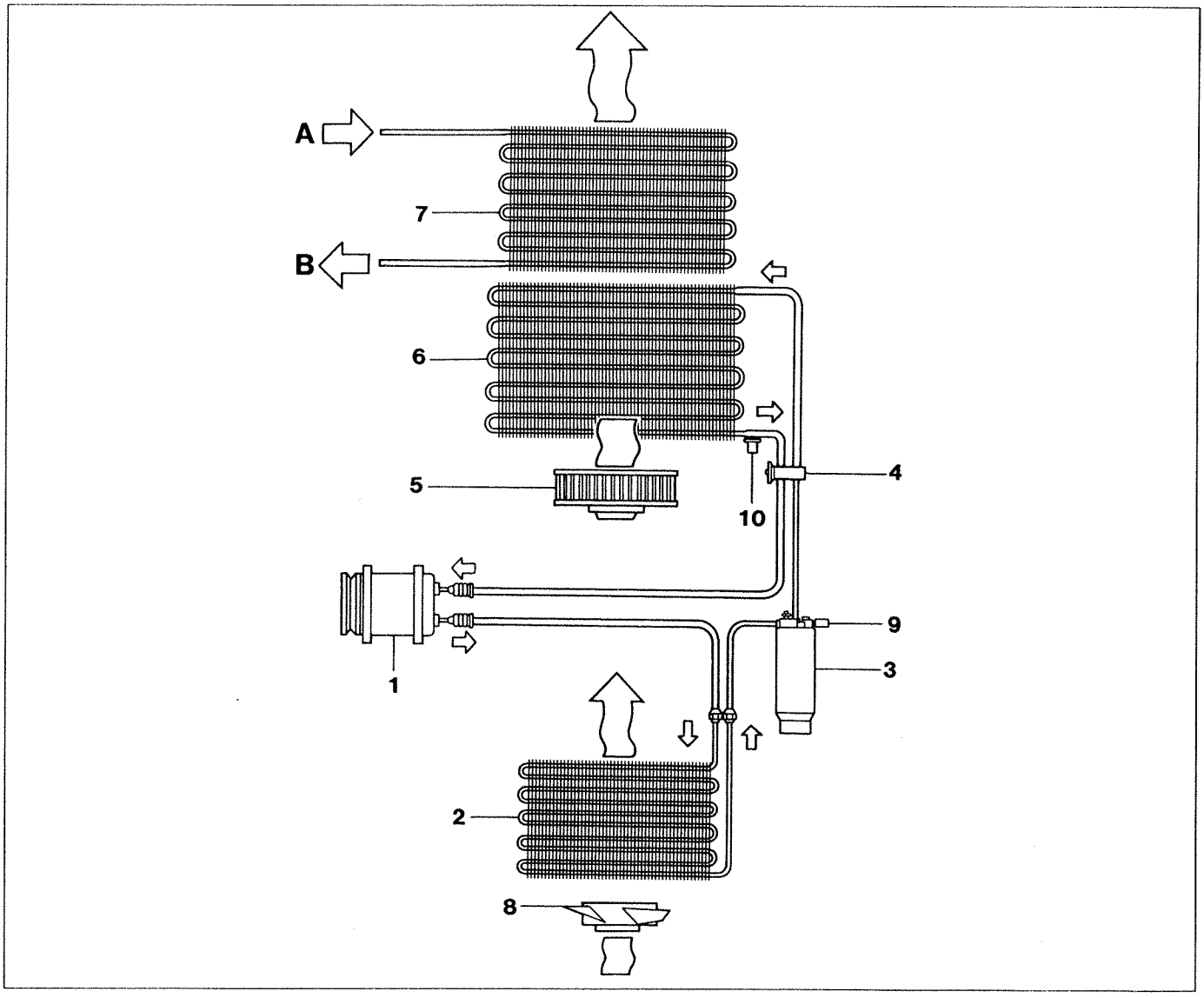
The pages in this booklet deal with the Air Bag and replace those in Section 55 of the manual.

Together with these pages comes the Summary for the 2nd and 3rd volumes and the update pages for Section 00 of the LANCIA K '97 update and 55-70 for the LANCIA K Coupé which likewise replace the pages in the manuals.

INTRODUCTION

The automatic heating/ventilation system may be divided into two parts for convenience.
The first part is a closed circuit (represented by lower figure). This generates cold air and mainly consists of the following parts:
- a compressor;
- a condenser, fitted in front of coolant radiator;
- an evaporator, fitted in evaporator/heater assembly;
- a dehydrating filter.

The second part of the system is a closed circuit that uses coolant from the engine to generate warm air.



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Heating/ventilation system diagram

1. Compressor
2. Condenser
3. Dehydrating filter
4. Expansion valve
5. Evaporator fan
6. Evaporator
7. Heater evaporator
8. Condenser fan
9. 3-stage pressure switch
10. Anti-frost thermostat

A. Coolant intake
B. Water outlet

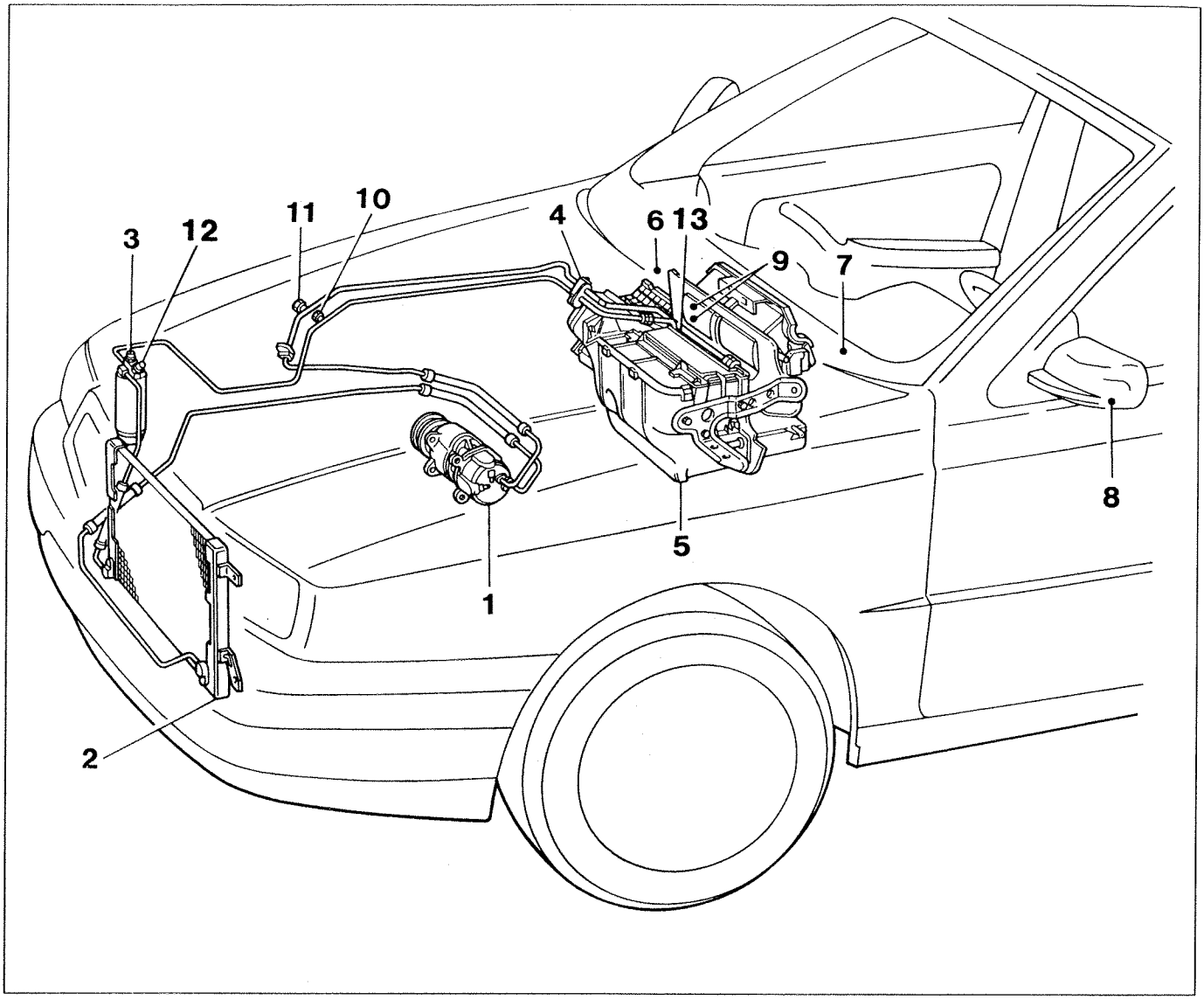

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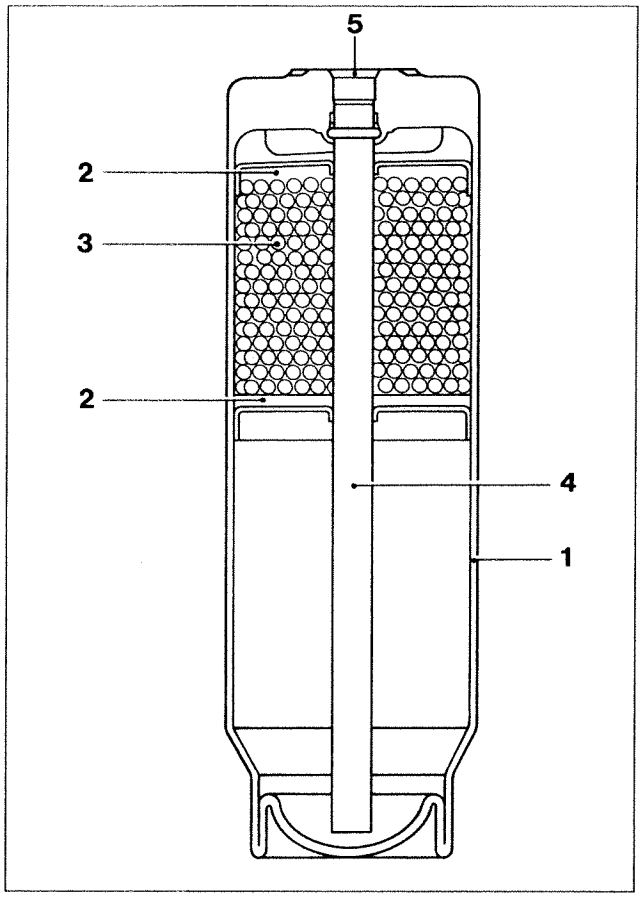
Diagram showing heating/ventilation system

1. Compressor
2. Condenser
3. Dehydrating filter
4. Expansion valve
5. Evaporator
6. Solar radiation sensor
7. Interior air temperature sensor
8. Outside air temperature sensor
9. Mixed air temperature sensor
10. Charging valve
11. Discharging valve
12. 3-stage pressure switch
13. Anti-frost thermostat (only for engines 3000 V6)

GENERAL DESCRIPTION OF HEATING/VENTILATION SYSTEM COMPONENTS



P3U06AH01

1. Filter case
2. Filter
3. Drying pack
4. Outlet fitting
5. System inspection glass

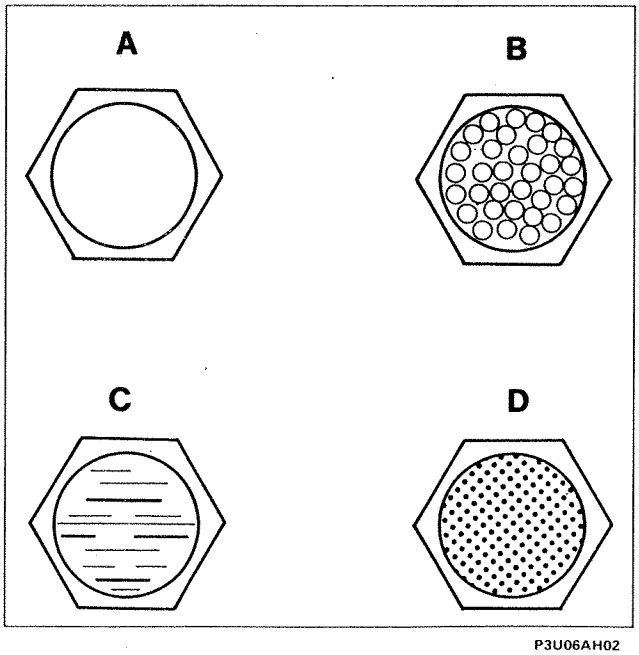
DEHYDRATING FILTER

The dehydrating filter is installed between the condenser and expansion valve and performs three main tasks:
- acts as an accumulator for coolant
- actgs as a filter
- acts as a dessicator.

The filter accumulates most of the coolant (in liquid state) from the system and acts as a separator between coolant in a liquid state and coolant in a gaseous state.
Moisture present in the system may be extremely damaging because it generates hydrochloric acid and hydrofluoric acid when it comes into contact with coolant. These compounds corrode and damage components.
Moisture may also bring about formation of ice in the system expansion valve.

The dessicating filter also contains substances (silica gel and activated aluminium) that capture moisture present in the coolant.

Dessicating filters must therefore be stored in a dry, well-sealed environment until installation. An inspection glass on the filter outlet allows system operation to be monitored. Four instances may arise:



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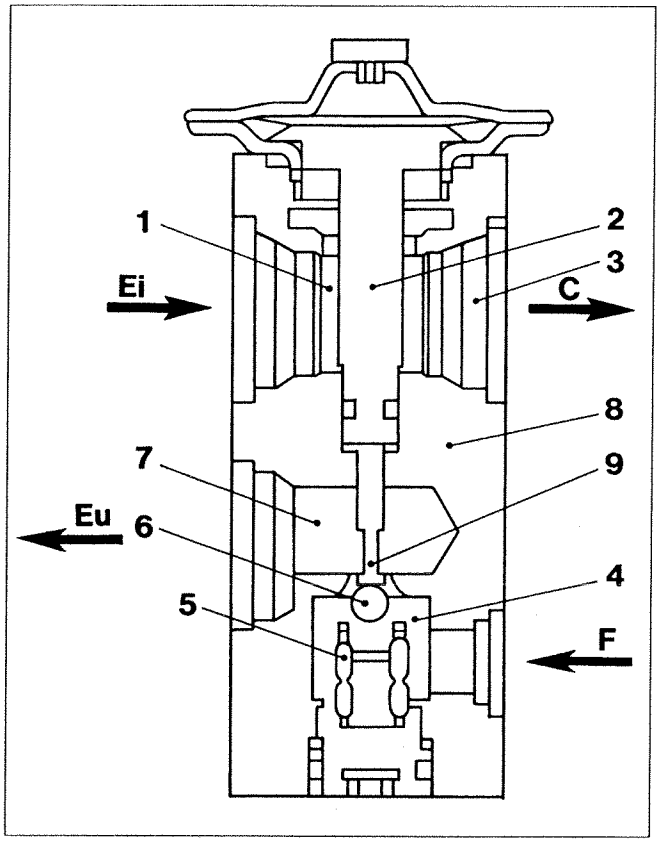
A. **Glass clear:** indicates system has been charged correctly, or system completely lacks coolant (in this case a complete lack of cooling action will be noted in the evaporator). Glass may also be clear if coolant charge is excessive. It is advisable to check pressure.

B. **Glass with presence of bubbles:** formation of vapour bubbles or foam through the glass indicates that system contains an insufficient quantity of coolant, or air has leaked into system. Bubbles may be noticed occasionally during system start-up or during electromagnetic clutch release.

C. **Glass with strands of oil:** indicates a lack of coolant and that oil from compressor is flowing through system.

D. **Glass with uniform, streaked fluid:** indicates that dessicating substance in filter has broken down and is flowing through the system due to breaks in containing plates.



1. Evaporator output fluid duct
2. Heat-sensitive element
3. To compressor inlet fitting
4. Fluid under pressure
5. Counter spring
6. Ball and calibrated hole
7. Expanded fluid (to evaporator intake fitting)
8. Expansion valve case
9. Rod

C. To compressor
F. To dehydrating filter
Ei. Evaporator intake
Eu. Evaporator outlet

BLOCK-TYPE EXPANSION VALVE

The expansion valve controls fluid flow to the evaporator in order to achieve maximum system cooling potential. Fluid flow and pressure are adjusted to adapt to the various compressor rotating speeds.

This type of valve has two different coolant passages:
- lower passage, from drying filter 4 to 7, contains overheating spring 5 and modulating element - in this case ball 6 housed in calibrated duct.
- upper passage, from evaporator 1 to compressor 3, containing thermostatic sensor 2, connected to upper part of diaphragm and ball 6.

This valve performs three different functions in the system:
- controlling coolant flow
- stabilising evaporation temperature;

- controlling overheating.

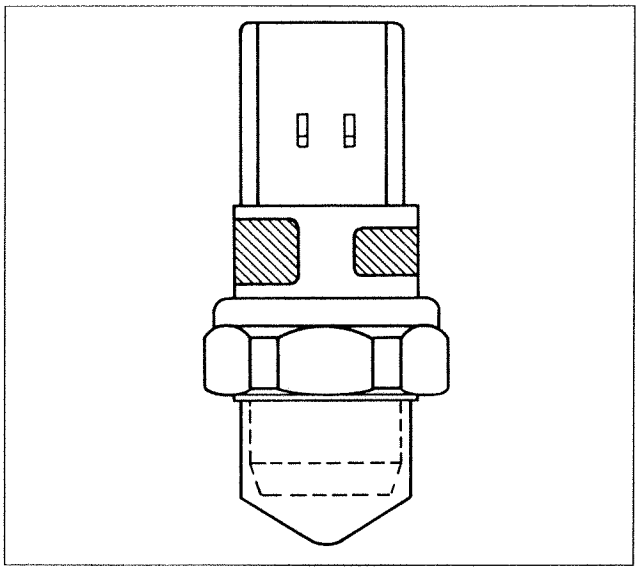
The flow control function is achieved through movement of ball 6, connected to thermostatic sensor 2 by means of rod 9. Ball action is countered by spring 5.

The position of ball 6 depends on the pressure difference acting on a diaphragm located inside sensor 2. This is turn depends on evaporator fluid oulet temperature.

High outlet temperatures from evaporator 1 (corresponding to situation where high levels of heat are being dissipated) increase pressure inside thermostatic sensor 2; this involves movement of rod 9 and connected ball 6. This increases passage cross section and consequently the flow of coolant through the system.

Low temperature at the output of evaporator 1 (reduced heat dissipation) means that cross section of calibrated hole 6 is restricted to reduce flow through system.
The calibrated hole also atomises fluid in the liquid state in order to promote evaporation. Evaporation pressure is stabilised on the basis of temperature difference between evaporator inlet and outlet as follows: lower part of diaphragm is sensitive to coolant temperature at evaporator intake because a duct joins it to valve outlet downstream of calibrated hole. Upper part is sensitive to evaporator outlet temperature. Pressure differences between evaporator inlet and outlet involve temperature changes that act against direction of rod 9 and connected ball 6 (helping to damp fluctuations).

Control of overheating is ensured by spring 5, which is calibrated to ensure regular operation with pre-established temperature gap. This temperature gap (overheating) ensures that fluid to evaporator is in a vapour state. If any fluid were present, it could damage the valves when taken up by the compressor.



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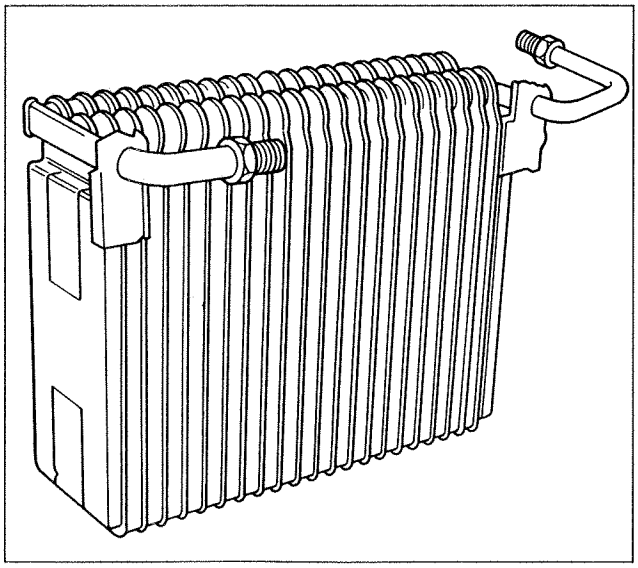
SETTING LEVELS	
level 1	Opens 2.45 $\pm$ 0.25 bar closes 2.6 $\pm$ 0.34 bar
level 2	Closes 15.2 $\pm$ 0.98 bar Differential 3.92 $\pm$ 0.98 bar
level 3	Opens 28^{+2}_{-3} bar Differential 6 $\pm$ 2 bar

THREE STAGE PRESSURE SWITCH

The three-stage pressure switch controls the condenser and radiator fans when the vehicle is still or moving at low speed and no air flow is generated by vehicle progress.

Coolant condensation is then activated by means of forced ventilation.
This switch also disconnects compressor electromagnetic coupling when fluid pressure (high pressure side) reaches dangerous levels despite action of condenser and radiator fan.

When pressure is less than 2.4 bar and outdoor temperature is less than 5°C, heat is also insufficient to evaporate coolant.



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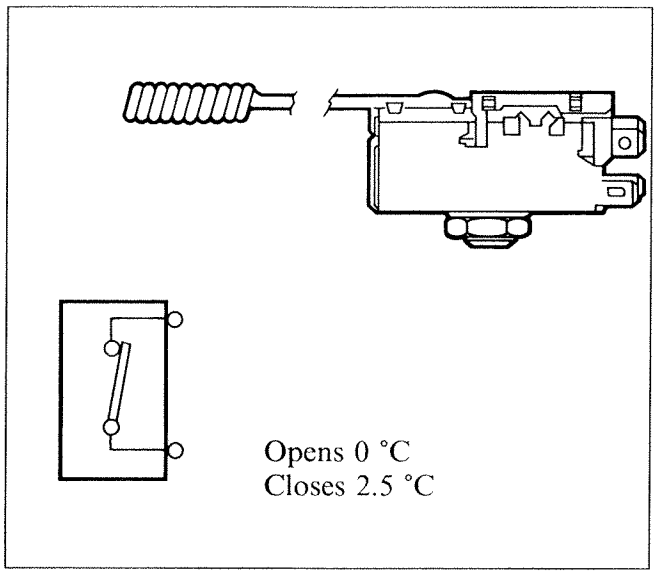
EVAPORATOR

The evaporator is fitted inside the passenger compartment in evaporator/heater assembly.
Expansion takes place inside the evaporator, with consequent vaporisation of fluid. This brings about a sudden temperature drop.

The evaporator is therefore a heat exchanger that cools air flowing over it.

Air within environment to be conditioned, i.e. the passenger compartment, is forced to flow over the radiant pack by the action of a fan. It is cooled and dried because vapour condenses on the coil surfaces and then drains to the outside through a pipe.

The system is designed to operate in a vehicle with its windows closed.



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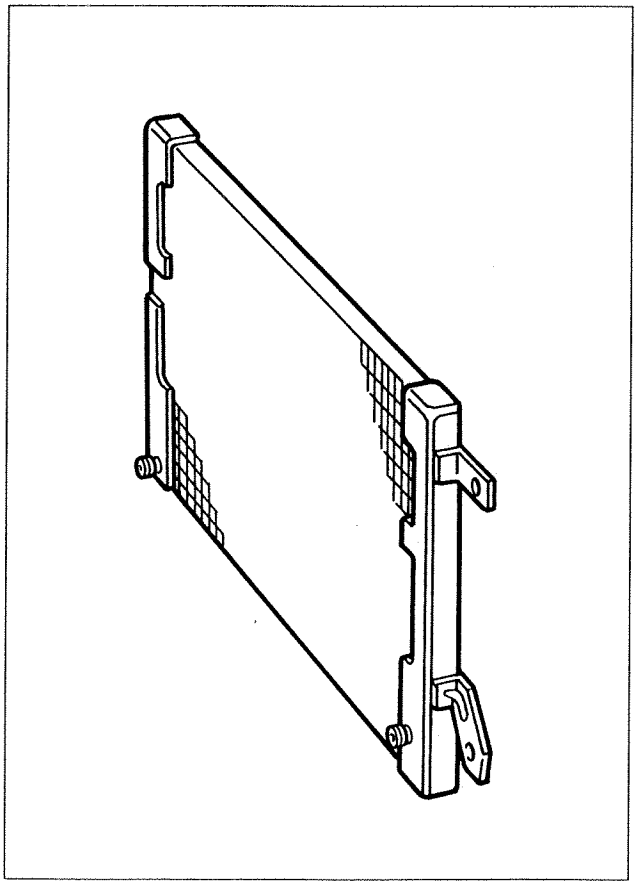
ANTI-FROST THERMOSTAT (Only for 3000 V6 engines)

The anti-frost thermostat, whose heat-sensitive pipe is fastened to the evaporator low pressure outlet, performs the task of cutting off power to compressor pulley electromagnetic coupling when temperature in this pipe section drops below 0°C. Power is restored when temperature exceeds 2.5°C.

This function maintains required cooling level. If temperature drops to excessively low levels, condensate present on evaporator fins could easily bring about the formation of a layer of ice that would obstruct air flow to vehicle passenger compartment.
If the compressor stops under these conditions, coolant can no longer flow in sufficient quantities to cool the evaporator further. Evaporation temperature tends to rise until pressure switch turns compressor on again. Now the cycle may begin again normally if operating conditions are restored.



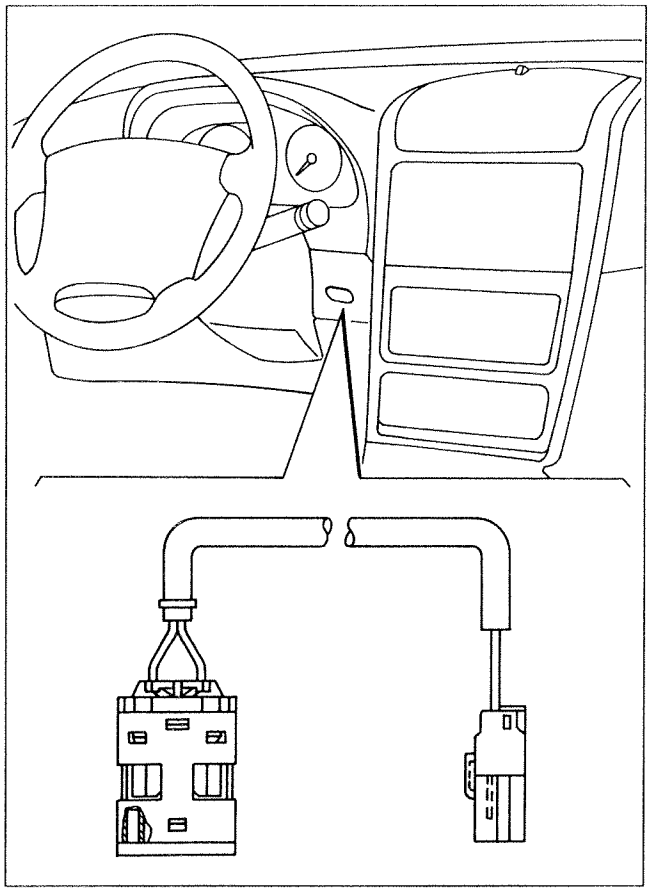
P3U09AH02

CONDENSER

The condenser fitted on front of the engine radiator gives up a certain amount of heat to the outside. This leads to coolant R134A changing from a gaseous state to a liquid state (temperature of 60 °C).

This consists of a radiator made out of high thermal efficiency aluminium, which is cooled by moving air produced by a fan and vehicle motion.

Insufficient heat exchange within the condenser not only brings about a pressure increase within the system but also leads to incomplete condensation of R134A. The expansion valve therefore receives fluid still in the gaseous state, which considerably reduces system cooling capacity.
Under certain driving conditions (traffic queues or steep gradients) with high outdoor temperatures, the coolant may not liquify fully. A pressure switch is therefore fitted (in addition to the existing radiator thermostatic switch) with the purpose of turning on the fan independently of the coolant temperature control.



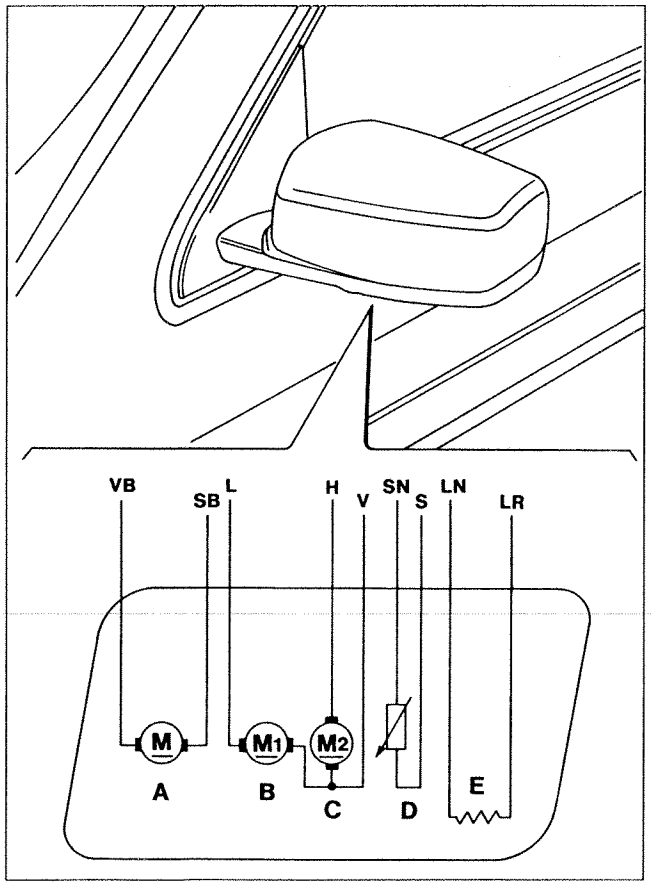
P3U10AH01

INTERIOR AIR TEMPERATURE SENSOR

This is located between the steering column and the INFOCENTER. It is installed on an intake so that interior air temperature reading is more reliable.

The sensor is "NTC" type with resistance of 2.2 kOhm at 25°C; service temperature ranges from a minimum of -30°C to a maximum of +85°C.

Temperature (C°)	Resistance (Ohm)
-15	15982
-10	12154
0	7200
+10	4393
+20	2753
+30	1768
+40	1161



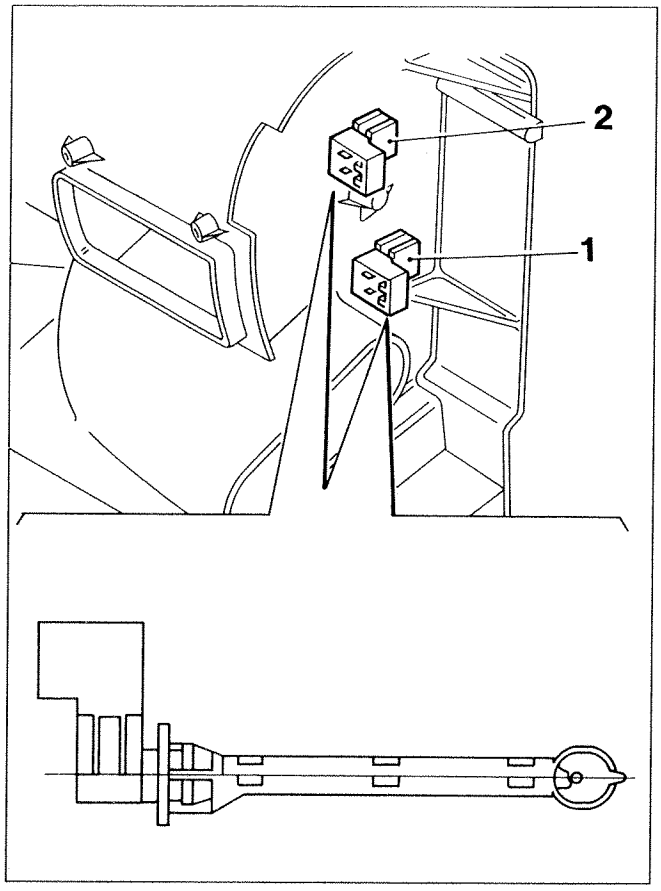
P3U10AH02

AIR TEMPERATURE SENSOR OUTDOOR (D)

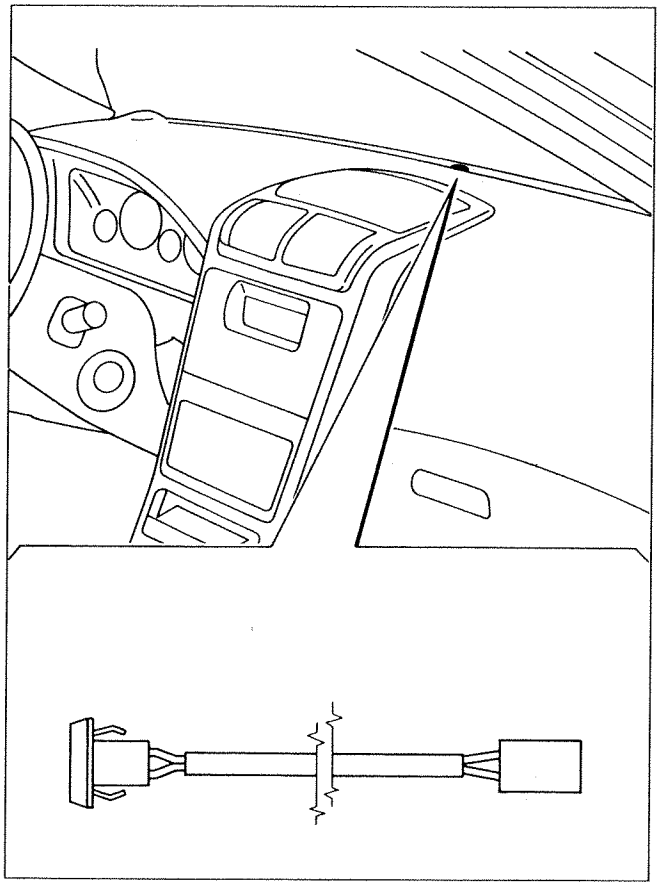
This is fitted beneath the left-hand door mirror, as shown in the figure.
This sensor is "NTC" type with rating of 10 kOhm at 25°C.

Temperature (C°)	Resistance (Ohm)
-20	100000
-10	55000
0	32650
+10	20000
+20	12500
+30	8000
+40	5000

A. Turned over
B. Vertical
C. Horizontal
D. External temperature probe
E. Demisting



P3U11AH01



P3U11AH02

MIXED AIR TEMPERATURE SENSORS

Two sensors are used in order to optimise temperature recording. These can be distinguished by colour.

Sensor 1 measures air directed to lower outlets, while sensor 2 measures air directed to upper outlets.
If selected air distribution pattern includes both solutions, the INFOCENTER averages the readings from both sensors.

The sensors in question are "NTC" type with resistance of 10KOhm at 25°C. Service temperatures range from a minimum of -20°C to a maximum of +90°C.

Temperature (C°)	Resistance (Ohm)
-5	42326
0	32650
+10	19899
+20	12492
+30	8057

SOLAR RADIATION SENSOR

The solar radiation sensor is located on the facia close to the windscreen. It is photodiode type.

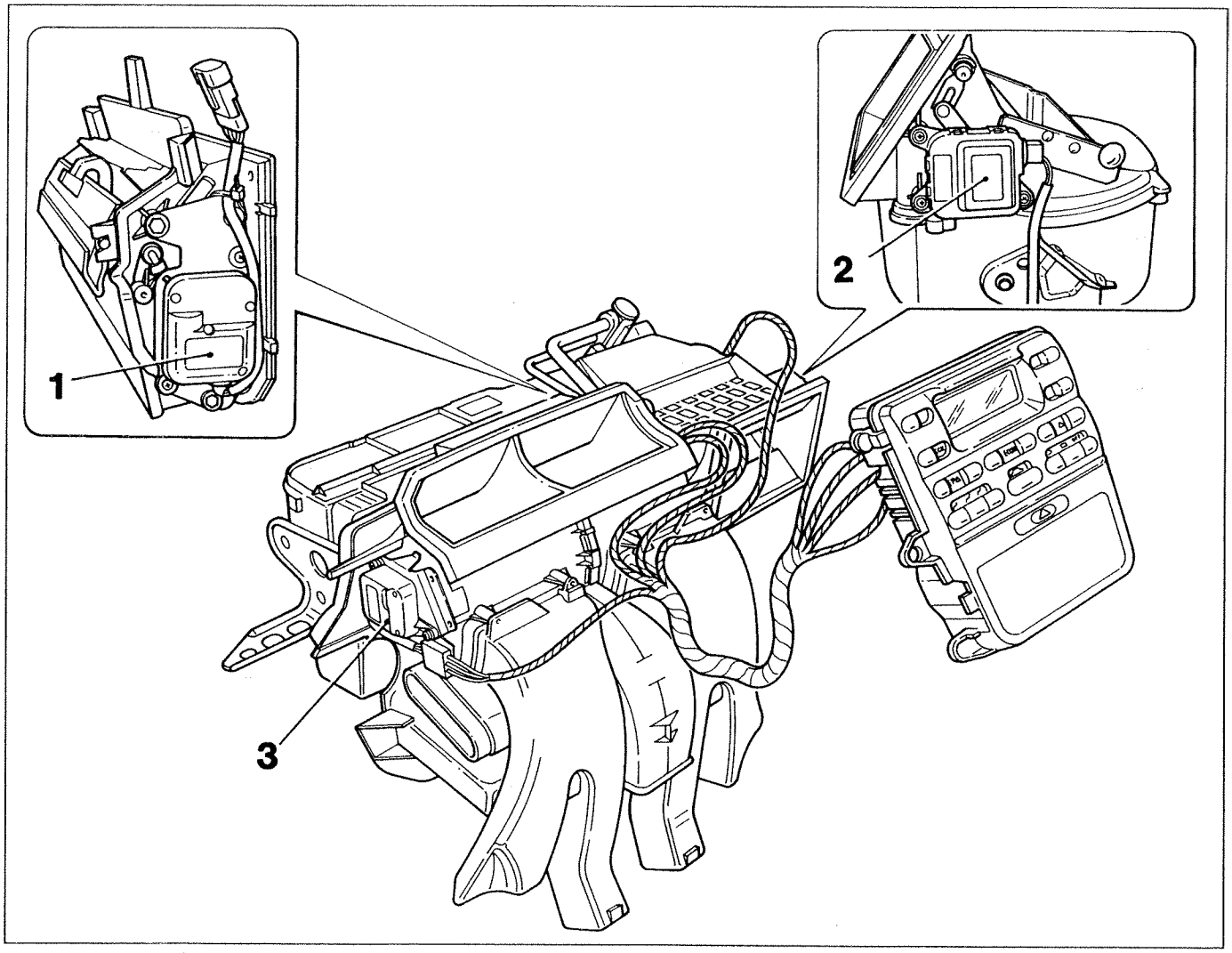
COMPRESSOR

The compressors used in this heating/ventilation system are of two types, as follows:

- NIPPONDENSO 6 CA 17
- SANDEN SD 7 V 16.

EVAPORATOR/HEATER ASSEMBLY

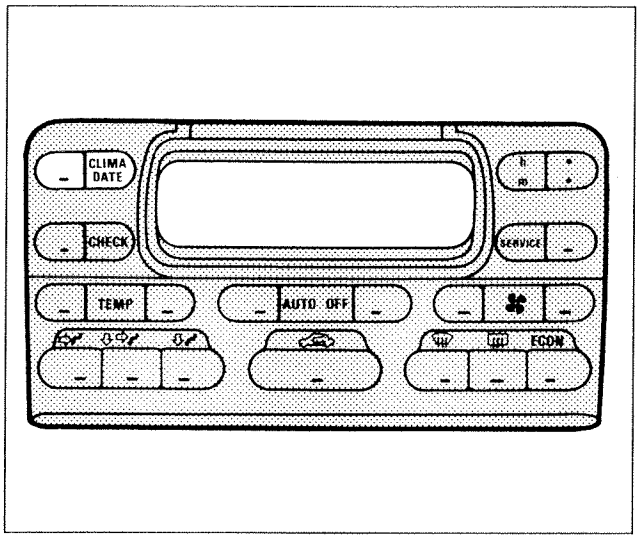
This system automatically regulates the following parameters: air temperature to outlets, fan speed, air distribution, recirculation, compressor activation.
The system must allow the following parameters and functions to be adjusted manually: fan speed over 5 positions, air distributor over 4 positions (5 automatic), recirculation, compressor activation.
Manual manoeuvres over-ride automatic actions and are saved until the user deletes the control by returning functional control to the automatic system.
If one of the parameters is altered manually, the others remain under automatic control. Temperature of air flowing to outlets is always controlled automatically to ensure temperature indicated on display is achieved in passenger compartment (unless system is off).
As already described previously, heating/ventilation system is integral with an **INFOCENTER system, which will be discussed in greater detail in Section 55 - Electrical equipment.**



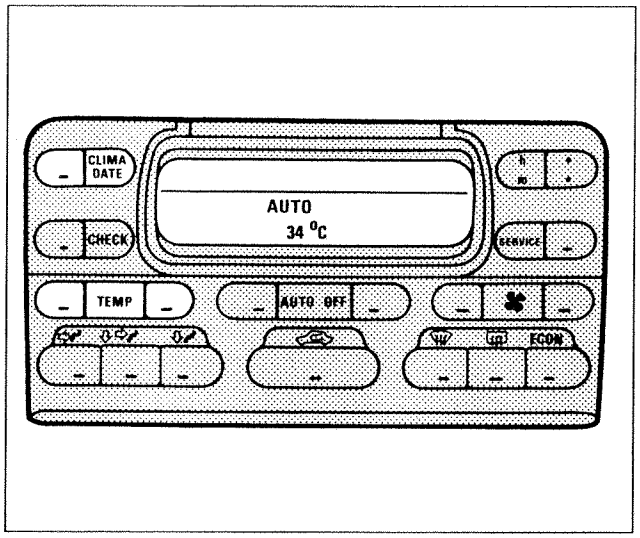
P3U13AH01

1. Mixing actuator
2. Recirculation actuator
3. Distribution actuator

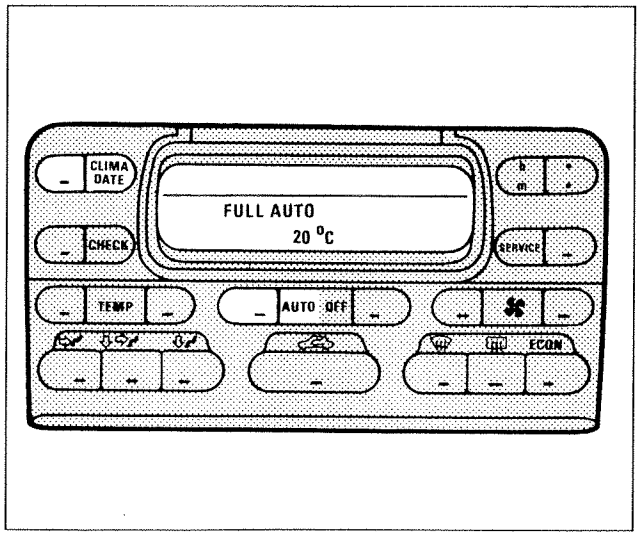
HEATING/VENTILATION SYSTEM CONTROLS



P3U14AH01



P3U14AH02



P3U14AH03

Automatic heating/ventilation system controls are located on the INFOCENTER, which is positioned in the middle of the facia.

CLIMA DATE key

Used to turn INFOCENTER to heating/ventilation mode.

TEMP keys

The TEMP keys are used to select passenger compartment temperature within a 15 °C range (from 18 °C to 32 °C). Temperature setting appears on the display, regardless of time for which keys held down.

If user selects a temperature higher than 32 °C (90 °F), HI status is set (see HI key), accompanied by deactivation of wording FULL AUTO and activation of wording AUTO. This status involves the following conditions:

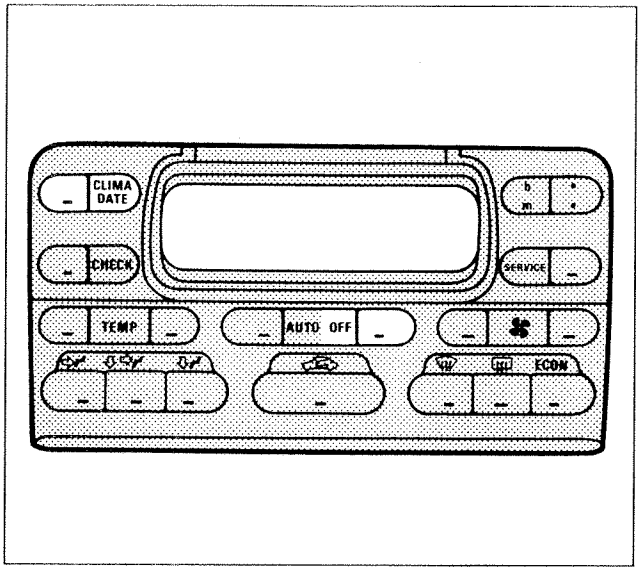
- mixer flap locked in maximum heat position;
- FLOOR distribution (unless otherwise selected by user, or a different time interval elapses between engine start-up to achievement of service temperature, termed start-up transitory state)
- compressor controlled by system logic, unless otherwise selected by user;
- air flow equal to 300 m/h, unless otherwise selected by user, or flow of 80 m/h set by start-up transitory state;
- recirculation activated.

This situation may be altered only by **altering required temperature.**

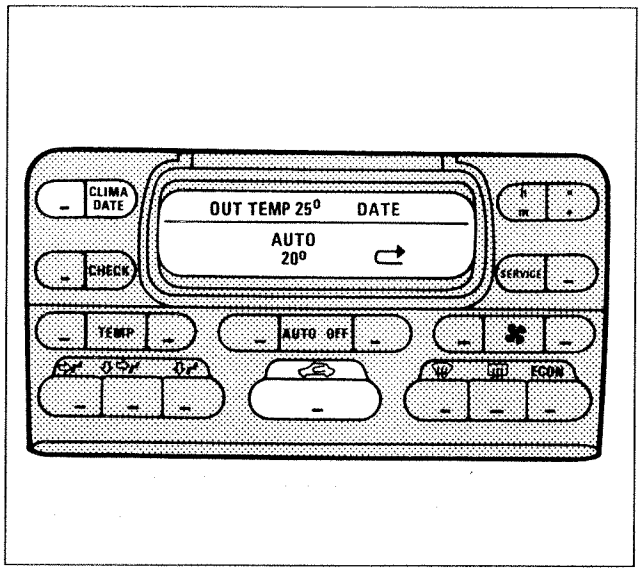
AUTO key

When the AUTO key is pressed, the system automatically controls temperature, distribution, fan speed and activation of recirculation.

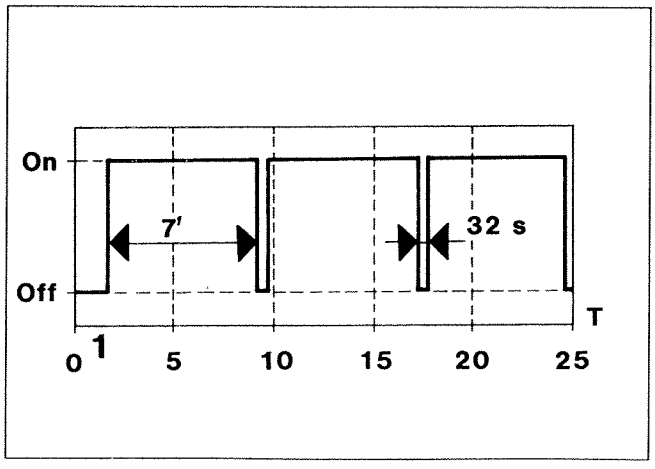
Wording FULL AUTO appears on display when system is in this condition.



P3U15AH01



P3U15AH02



P3U15AH04

Passenger compartment air exchange logic (only with treated temperature greater than 3°C)

OFF key

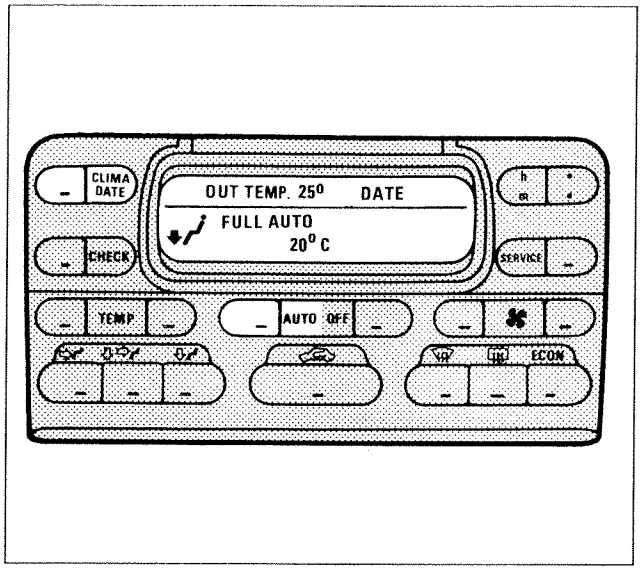
When the OFF key is pressed, the system is deactivated (if on) or activated (if off). Any messages on system operation will disappear from the display while only recirculation will stay activated.

RECIRCULATION key (⇦)

When the recirculation key is pressed, recirculation function is activated and display shows relevant symbol. If no manual commands are given, recirculation is controlled automatically (by means of an actuator). This occurs on the basis of outdoor temperature (if greater than 26 °C) and also of treated (or mixed) temperature).

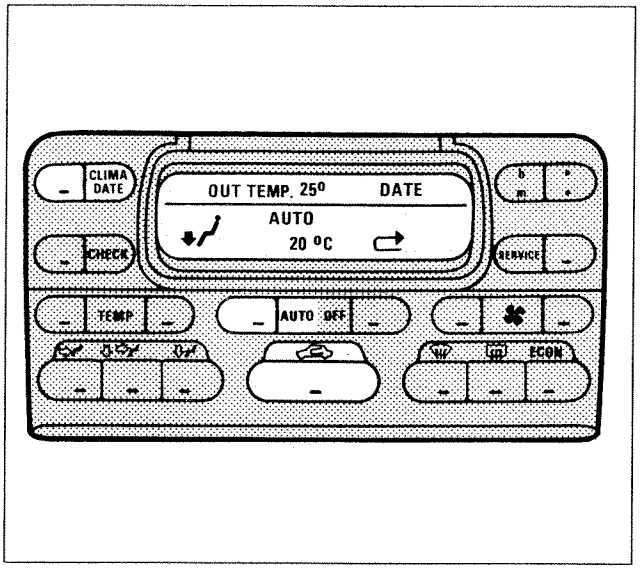
A particular automatic cycle for control of recirculation is activated under these conditions. This involves the recirculation function coming on for 7 minutes (outside air flow cut off completely) as the recirculation symbol appears on the display. Once this period has elapsed, the system opens the recirculation flap for 32 seconds in order to allow air to be exchanged inside the passenger compartment.
During this operation, the symbol disappears from the display. After 32 seconds, the recirculation flap closes again for a further 7 minutes and the symbol reappears on the display. Cycle is repeated if temperature is below 26 °C and recirculation key not pressed manually.

NOTE *With engine running (immediately following start-up), if outdoor temperature level is greater than or equal to 26 °C (condition when recirculation is activated automatically) this function is not enabled until interior temperature set by user has stabilised).*



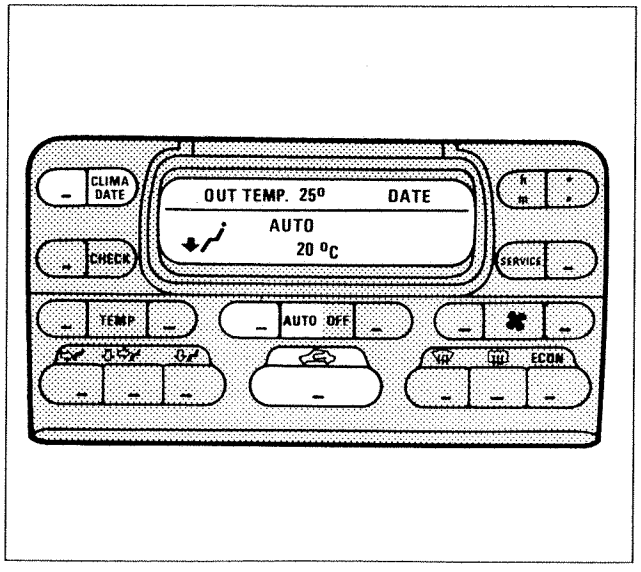
P3U16AH01

If the system operates automtatically, the wording FULL AUTO appears on the display. The INFOCENTER logic carries out timed recirculation flap openings (recirculation symbol disappears from display).



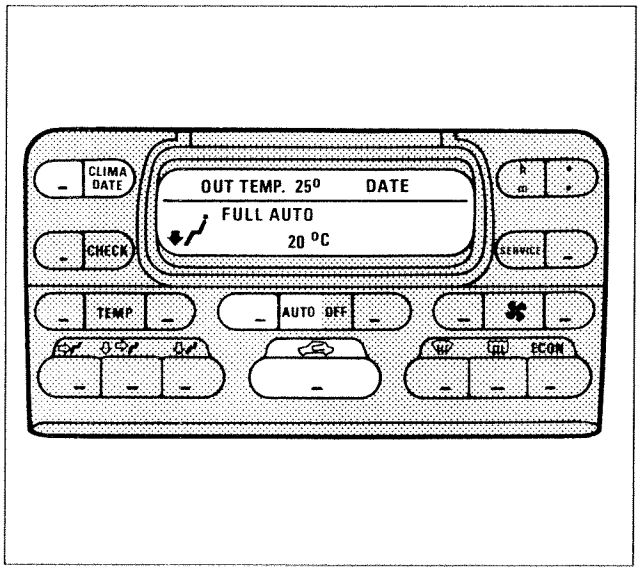
P3U16AH02

If the recirculation button is pressed when recirculation is on, the wording FULL AUTO disappears from the display and the recirculation symbol appears. The recirculation function is permanently active.



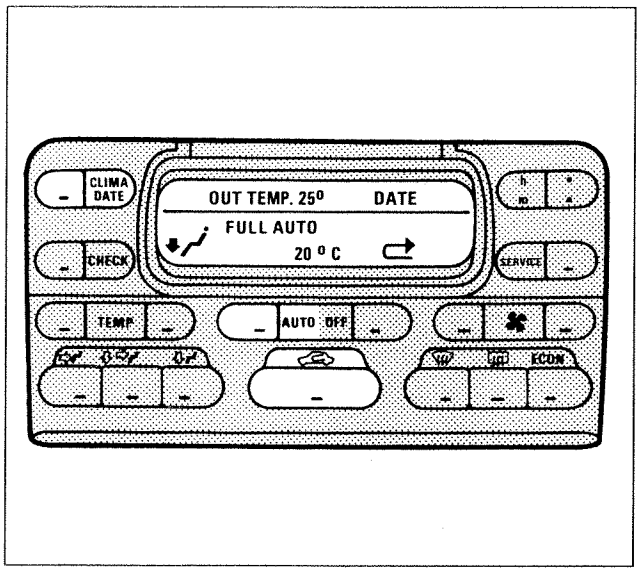
P3U16AH03

When the recirculation key is pressed again, the symbol disappears from the display and the recirculation function is permanently deactivated.



P3U17AH01

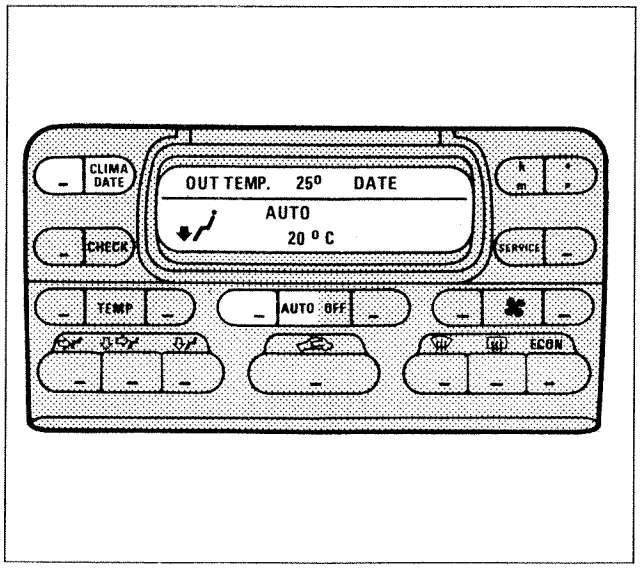
When the recirculation key is pressed for a third time, the original automatic recycle function is restored. The FULL AUTO function reappears on the display and the 7 min/32 sec. cycle is restored.



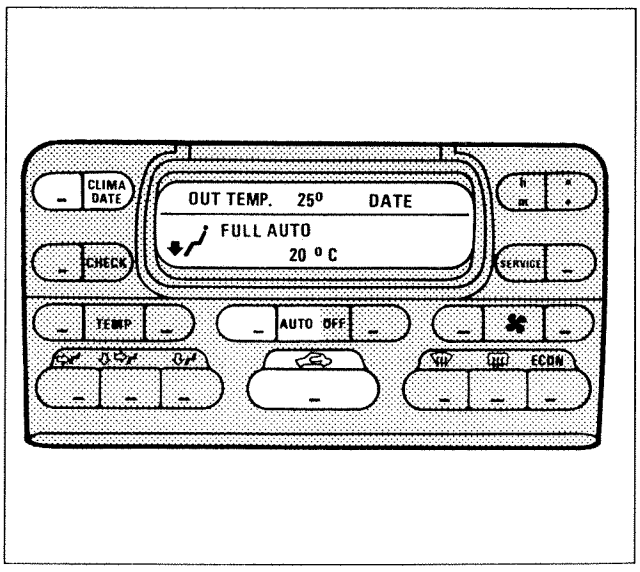
P3U17AH02

Other situations may also occur where temperature is lower than 26 °C:

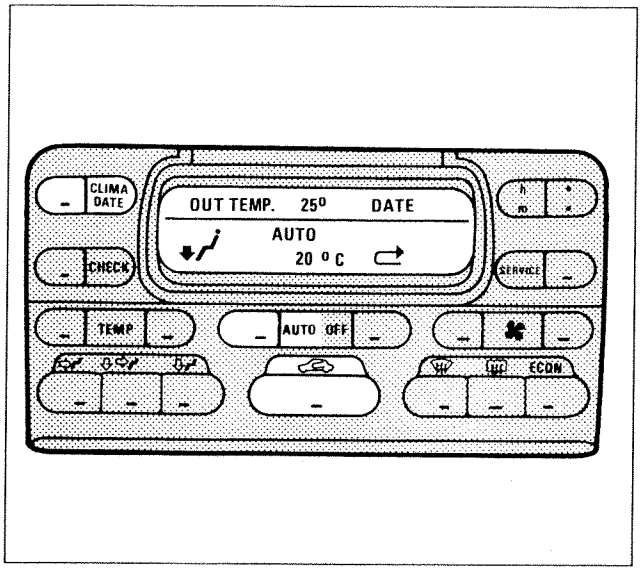
1. During stage when INFOCENTER operates in FULL AUTO mode and RECIRCULATION function is active, when key (⟲) is pressed, the air outlets will open and can no longer be controlled through the ECU. The wording AUTO appears on the display and the recirculation symbol disappears.
2. When the ECU is in FULL AUTO mode, but not in RECIRCULATION phase (i.e. with outside air outlets open), the wording FULL AUTO will disappear when the (⟲) key is pressed and the wording AUTO will appear together with recirculation symbol.



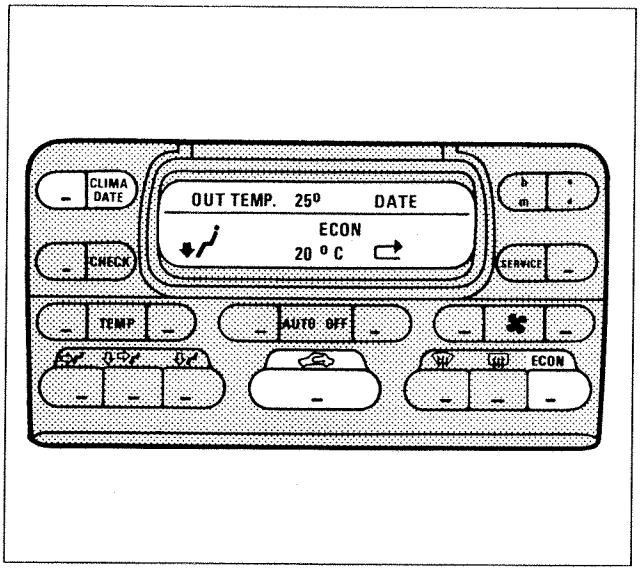
P3U17AH03



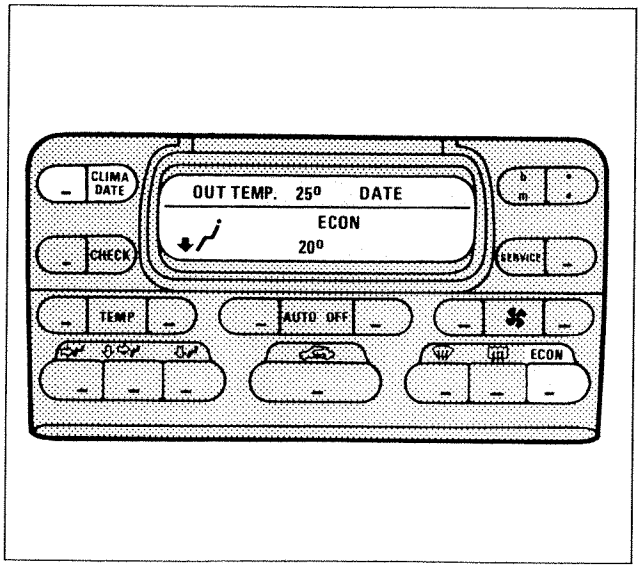
P3U17AH04



P3U18AH01



P3U18AH02



P3U18AH03

Recirculation mode when ECON key activated

When the system operates in ECON mode, the RECIRCULATION function may only be activated manually.
When the ECON key is pressed, the heating/ventilation system introduces timed opening of outside air intake flaps. Symbol disappears from display when flaps are open.

When key is pressed a second time, this function is eliminated and the ECU takes over control of the heating/ventilation system.

ECON key

When the ECON key is pressed, the compressor is cut out and the wording AUTO ECON appears on the display.
Once the key is pressed, the function is saved for an indefinite time, even once the vehicle has stopped, as with the other manual controls.
When the key is pressed again, the function is cancelled and the automatic system takes over control of both the compressor and other ECON-related parameters.

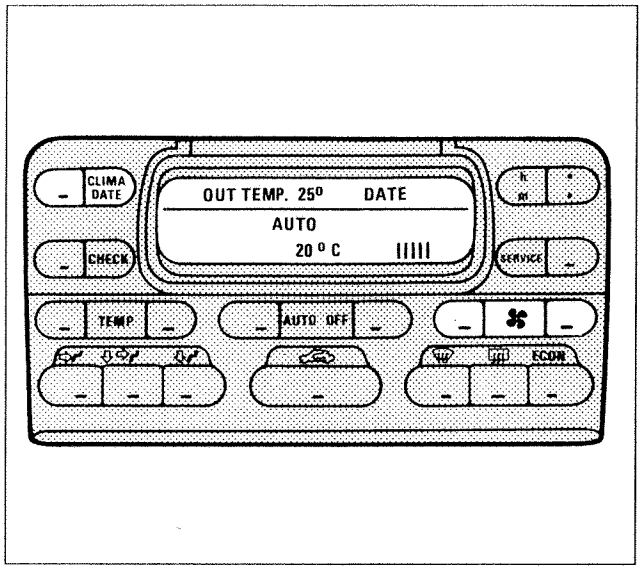
When the ECON key is pressed, the system checks whether outdoor temperature is higher or lower than required.

Two situations may occur:
A. If outdoor temperature is lower than required, system works normally and can provide requirement without activating compressor.
B. If outdoor temperature is higher than interior temperature, the system cannot reduce passenger compartment temperature.

This situation is indicated on the INFOCENTER display when the flashing indication ECON appears for a time of about 10 seconds.

The flashing status is saved and redisplayed whenever vehicle is started up again or internal temperature is altered to a level higher or lower than outdoor temperature or AUTO mode is activated.

When the TEMP key is pressed, the user may increase or decrease the temperature.
If a higher than requested outdoor temperature is accepted as valid, the ECON display will again show a flashing ECON indication which subsequently becomes fixed.



P3U19AH01

FAN speed keys

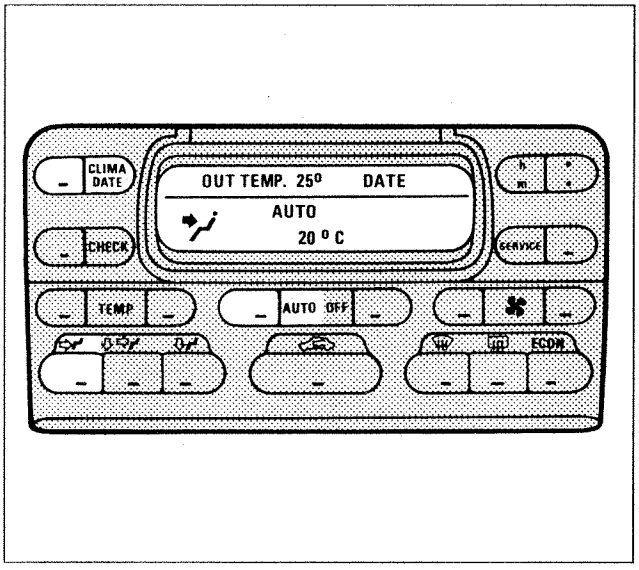
When the AIR keys are pressed, the air flow changes. This is displayed by bar-graphs (containing 5 bars) and the word AUTO will appear on the display. If no manual command is given, speed will be controlled by the computer and FULL AUTO will appear on the screen.

AIR key may be pressed manually to increase (right-hand key) or reduce (left-hand key) the flow. If the flow is reduced with the compressor activated, the fan will stay on (minimum, one bar) while it will go off in ECON mode.

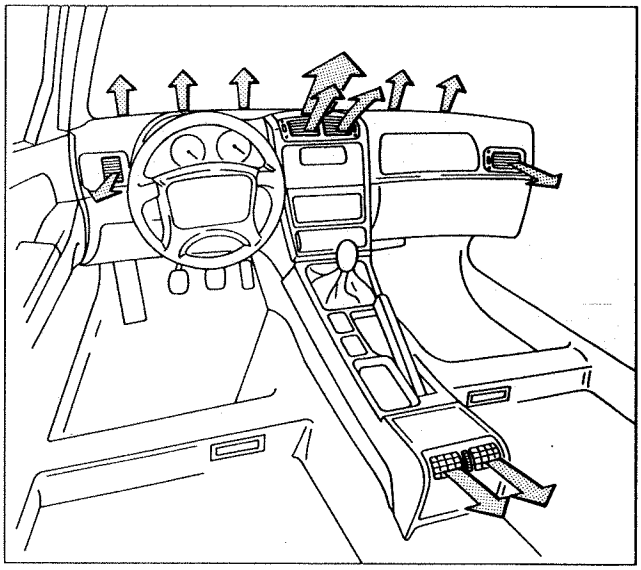
Air distribution keys VENT, BILEV, FLOOR

When the VENT, BILEV, FLOOR keys are pressed, air distribution alters. The relevant symbols light up, plus the word AUTO on the display

A. When the VENT is pressed, the relevant symbol lights up on the display and air is conveyed to the middle of the facia.



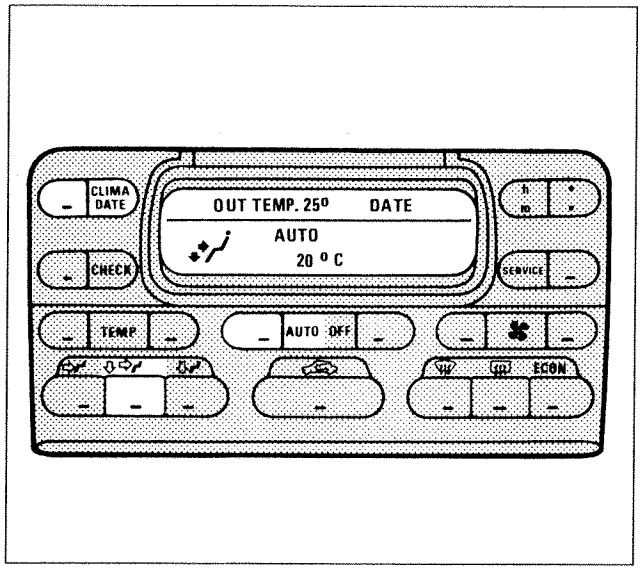
P3U19AH02



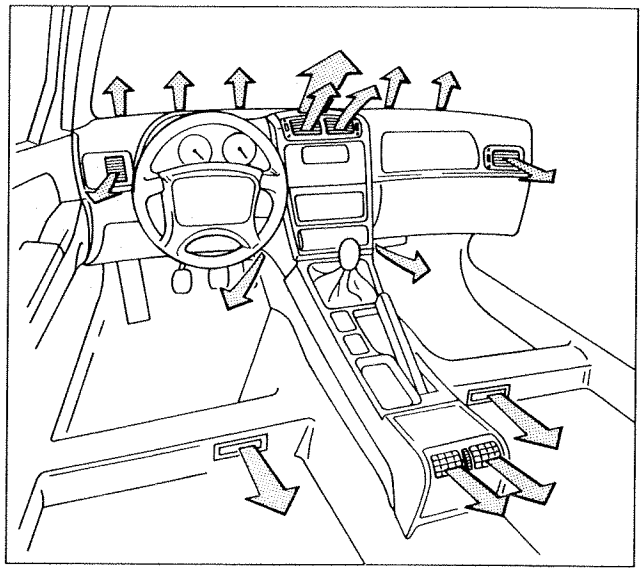
P3U19AH03

50.

B. When the BILEV key is pressed, the symbol ( ) is displayed and air is conveyed to the central-lower part of the facia.

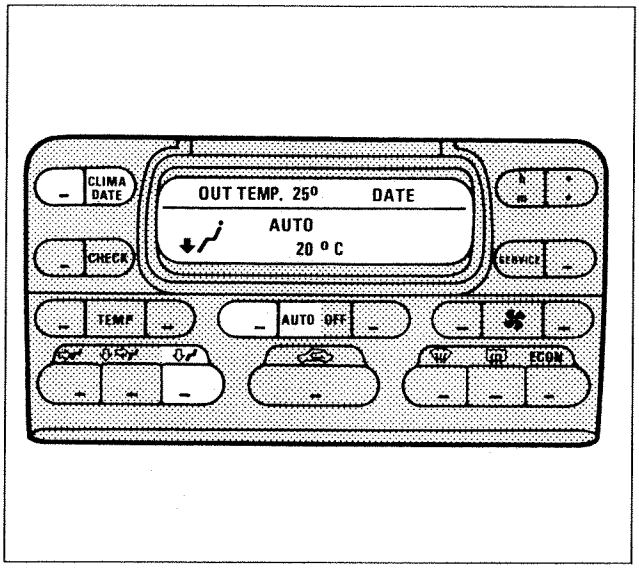


P3U20AH01

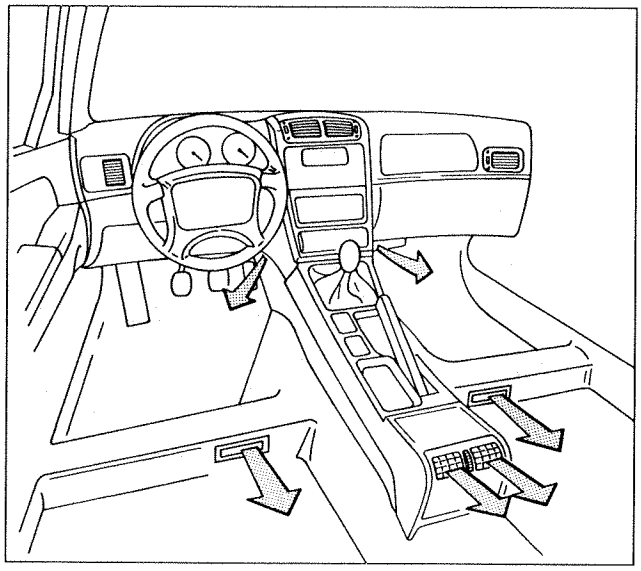


P3U20AH02

C. When the FLOOR key is pressed, the symbol ( ) appears on the display and air is conveyed to the bottom part of the facia.

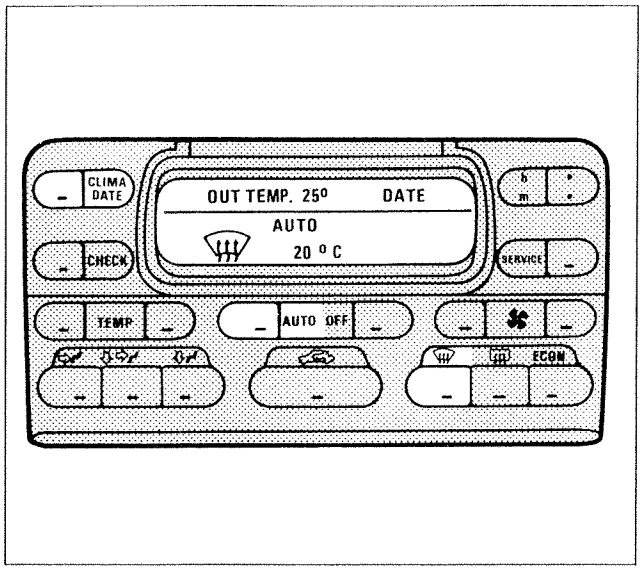


P3U20AH03



P3U20AH04

During the stage of winter temperature increase, until temperature of treated air at outlets reaches a temperature of more than 21 °C, the system assumes distribution mode with fan on first speed.

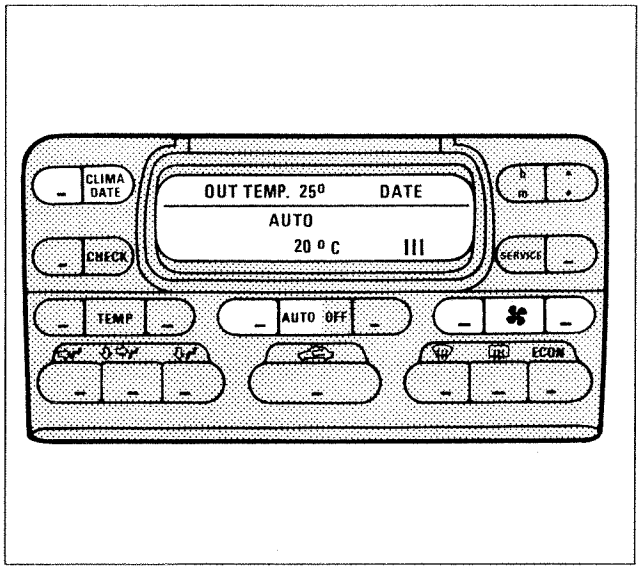


P3U21AH01

Windscreen demister key

This function is activated automatically only during the temperature increase stage, until temperature at air outlets reaches a level higher than 21 °C.

In all other cases, activation may take place only manually and is accompanied by appearance of the relevant symbol and the wording AUTO.

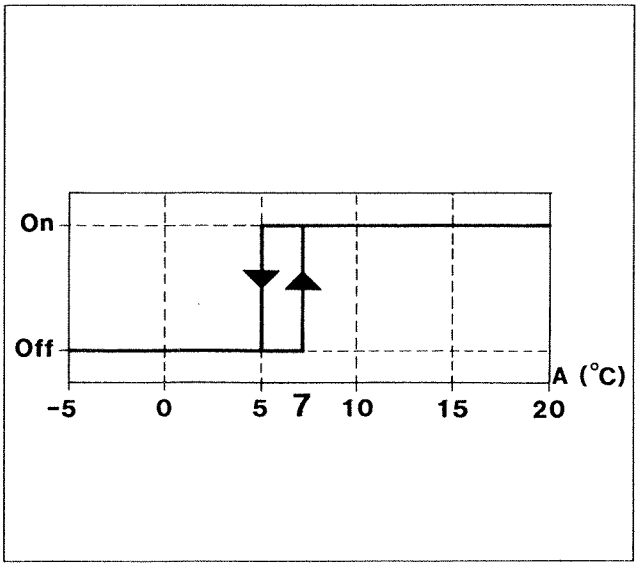


P3U21AH02

Air flow

When the AIR keys are activated, the change in air flow should be displayed by the bar-graph lighting up.

If no manual command is given, speed will be controlled continuously by INFOCENTER logic and the wording FULL AUTO will appear on the display.
With the compressor on, minimum possible manual speed setting will correspond to one lighted bar. This prevents the compressor becoming frozen.



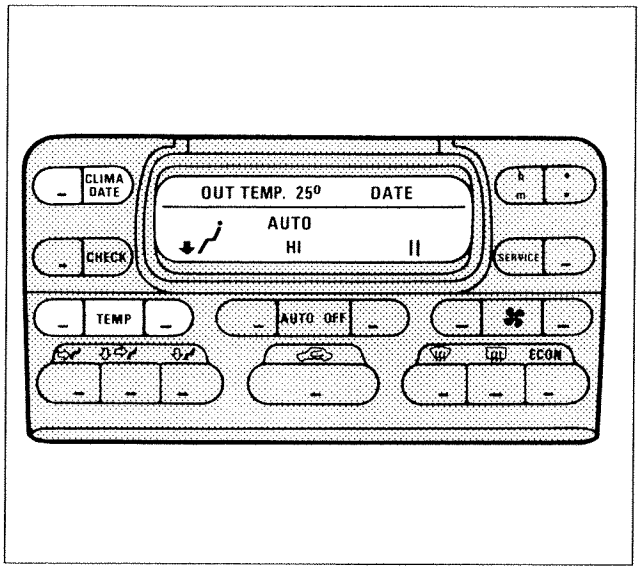
P3U21AH03

Compressor activation

The INFOCENTER sends a signal to the Bosch MOTRONIC electronic control unit in order to activate the compressor. Compressor activation, except for anti-frost sensor operation, is dependent upon outdoor temperature (A) in accordance with a set equation.

With outdoor temperature between 5 and 7 °C the automatic logic should activate the compressor provided that OFF and ECON keys are not activated.

If recirculation is activated manually the compressor will stay on until outdoor temperature drops to -5 °C.

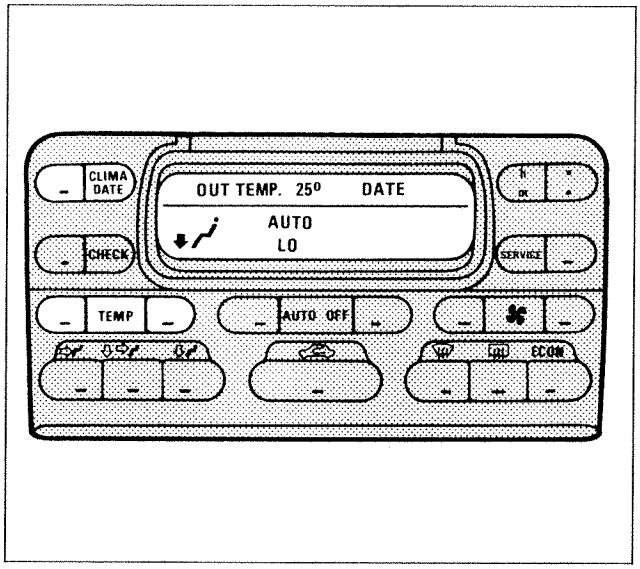


P3U22AH01

HI status

If the user sets a temperature in excess of 32 °C (90 °F), system enters HI mode i.e. with full heating. This appears on the display accompanied by wording AUTO.

This situation involves the following consequences:
- mixer flap locked in "full heat" position;
- distribution flap set to FLOOR, unless user selects otherwise or distribution is set to DEF;
- compressor managed by logic, unless otherwise selected by user;
- air flow equal to 300 m^3/h, unless otherwise selected or set to 80 m^3/h;
- recirculation off.



P3U22AH02

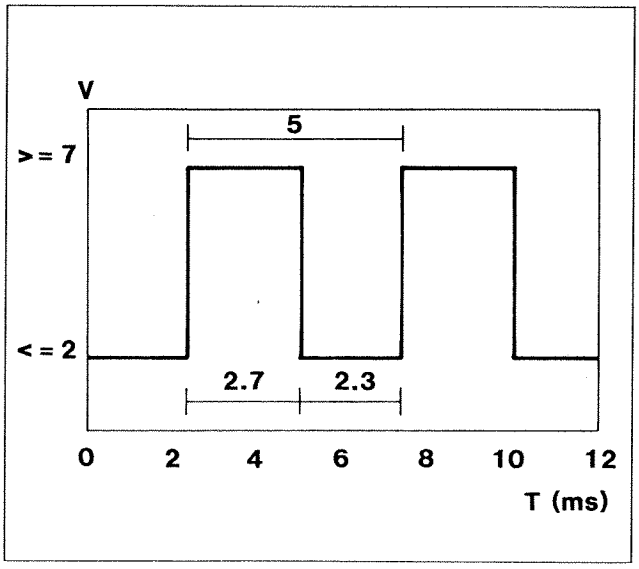
This mode is turned off only when the temperature is reduced.

LO status

If the user sets a temperature less than 18 °C (64 °F), LO status is activated - i.e. maximum cooling. This word appears on the display accompanied by AUTO. This situation involves the following consequences:

- mixer flap locked in maximum cooling position;
- distribution set to VENT, unless user selects otherwise;
- air flow equal to 400 m^3/h, unless user selects otherwise;
- compressor controlled by logic, unless user selects otherwise;
- recirculation activated without reopening.

This status is deactivated only when required temperature is increased.



P3U22AH03

COMPUTING OUTDOOR TEMPERATURE

Speedometer signal

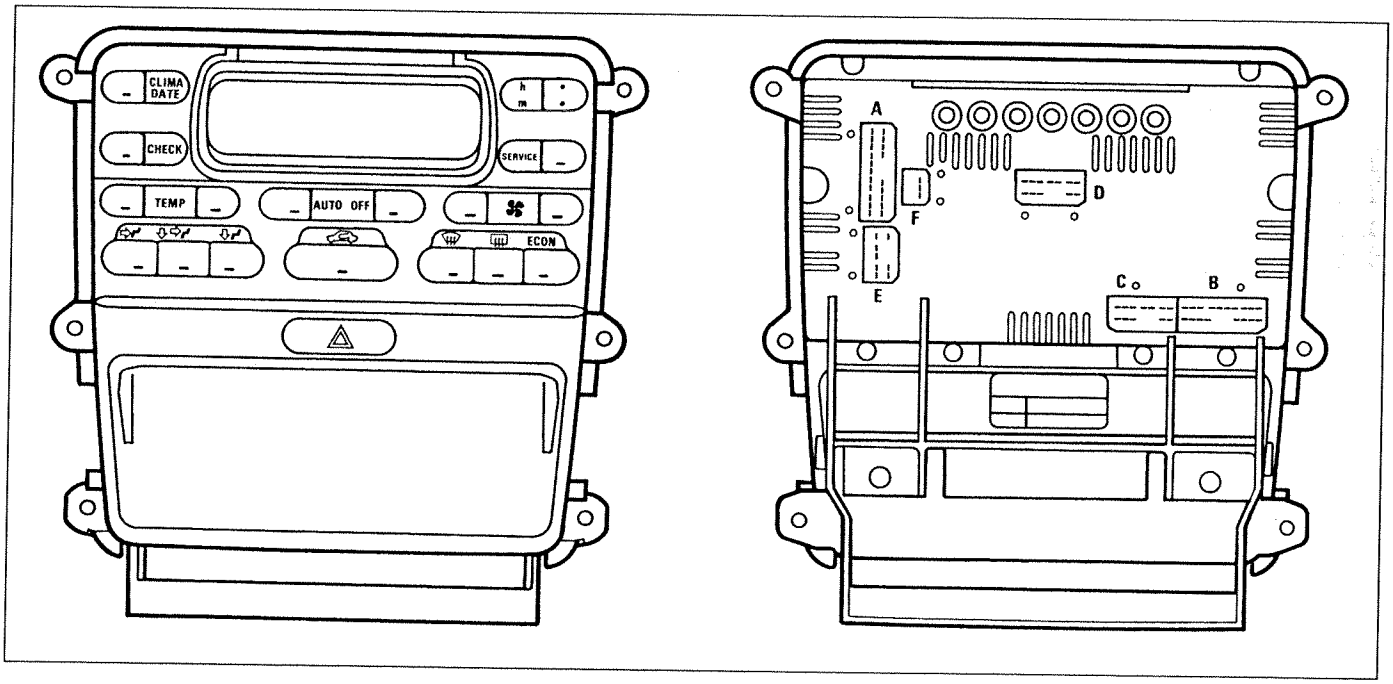
This signal from the multiple instrument is a signal processed by the INFOCENTER for computing temperature as a function of vehicle speed.

The pulse generator is based on a Hall-effect sensor, with 4 pulses/revolution (equal to 4 pulses/metre) operating at ambient temperature, 14V and 3000 rpm.

The external temperature value with which the system operates is selected each second from between the memorized value and the measured value, in accordance with the speed of advance and time, in accordance with a logic in the control unit.
In other words, when the ignition is on, the control unit takes account of the external temperature which the relevant sensor is measuring, and compares it with the last temperature measured before the ignition was switched off.
If the external temperature is below that memorized previously, the control unit replaces this value with the value in memory; if it is higher, it is not updated.
With the car running, the external temperature value is updated also using the signal coming from the instrument panel speedometer; this signal is considered in accordance with a threshold value of 30 km/h.

If the car does not exceed 30 km/h, the external air temperature is updated only if it decreases in relation to the value previously memorized at the time when the ignition was switched on.

If the car exceeds 30 km/h for at least 1 minute, the value relating to the external air temperature is replaced with that memorized previously, whether it has increased or decreased.



P3U23AH02

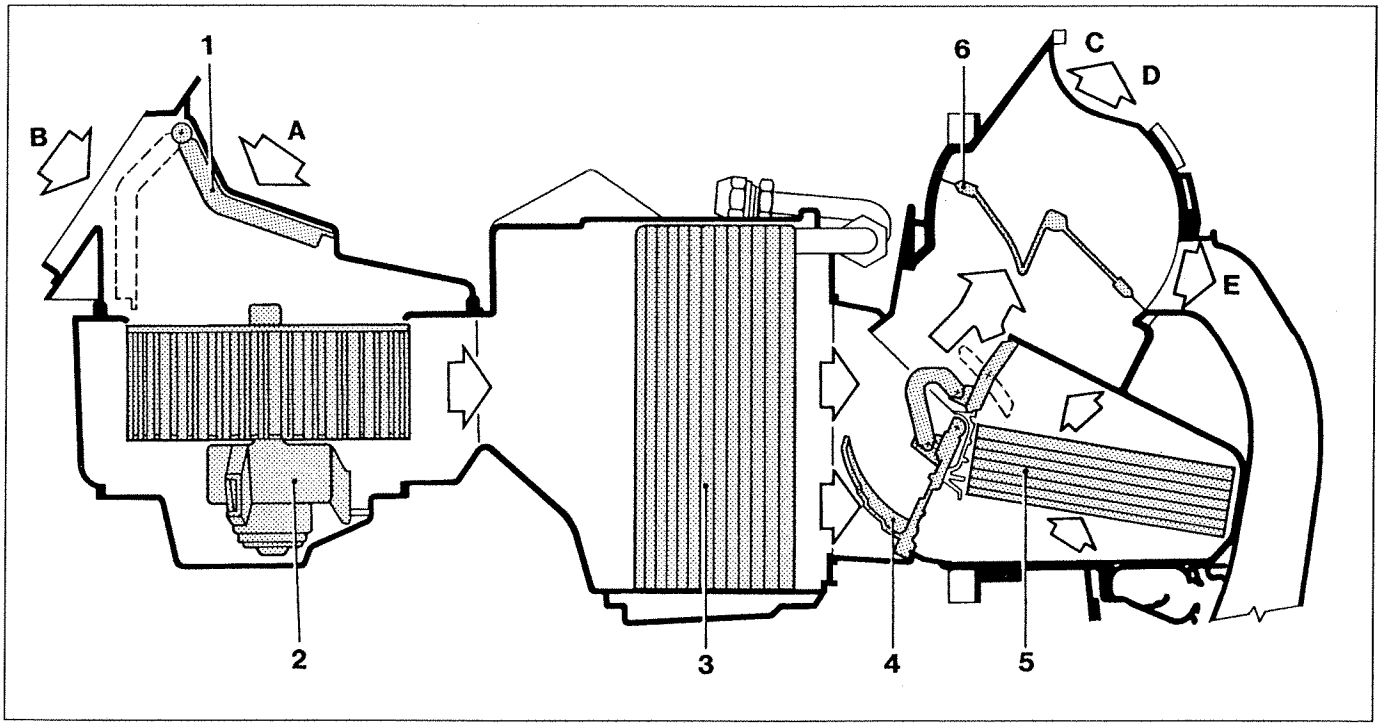
CONNECTOR	INPUT SIGNAL
A	Earths and supplies
B	Faults and wear
C	Faults
D	Climate control
E	Various signals
F	Fault diagnosis

50.

AIR DISTRIBUTION DIAGRAM

The air is drawn in by the fan (2) through the air intakes in accordance with the position assumed by the recirculation flap (1); (B) indicates an air flow taken from outside and (A) an air flow taken from inside the car.

The air passes through the evaporator (3) and reaches the mixing area where the mixing flap (4), on the basis of the position assumed, diverts the air either directly to the distribution or to the radiator heater (5). Finally the mixed air is sent, depending on the position assumed by the distribution flap (6), either to the demister (C) or ventilation (D) or floor (E).

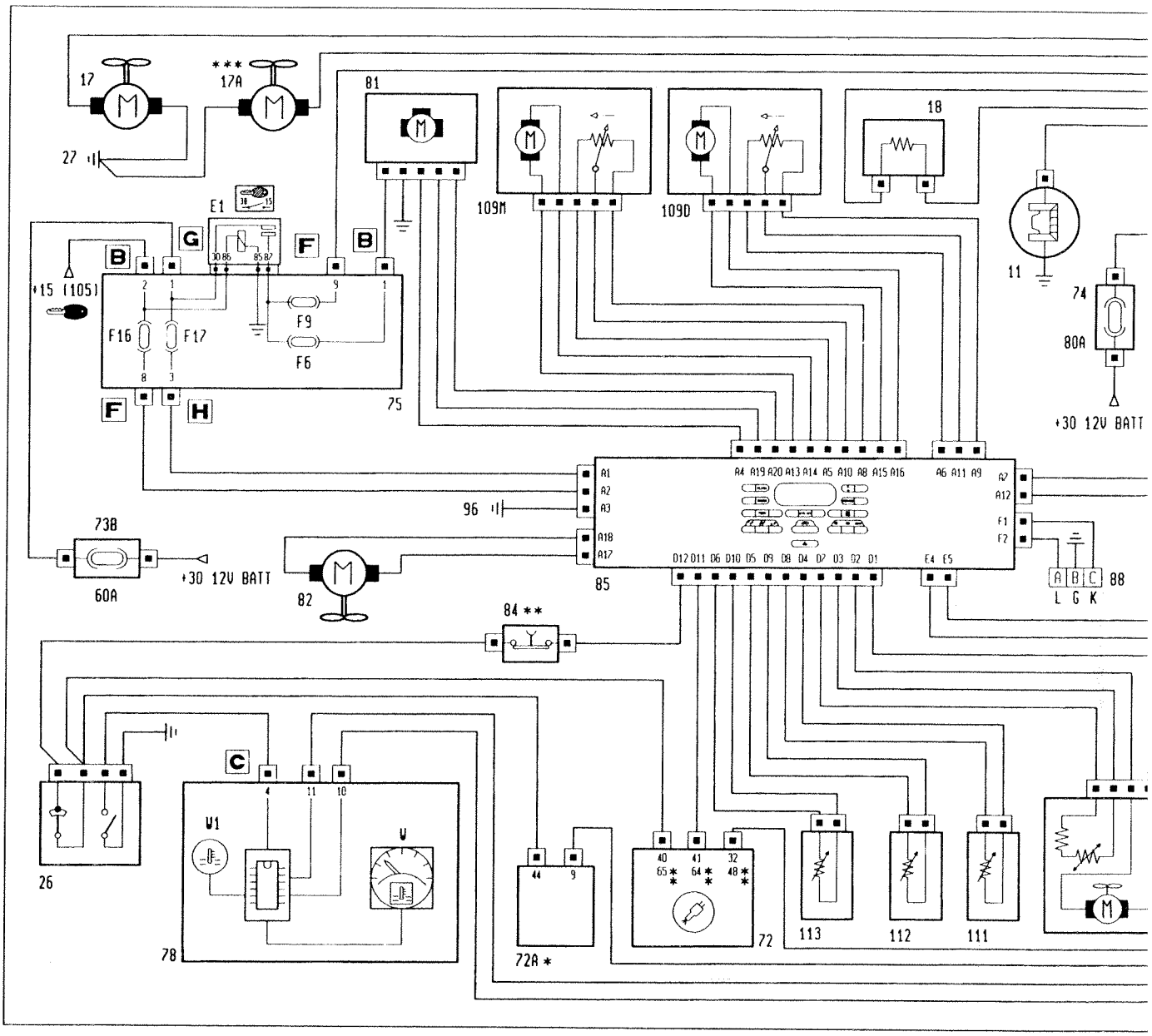


P3U12AH01

1. Recirculation flap
2. Electric fan
3. Evaporator
4. Mixing flap
5. Radiator heater
6. Distribution flap

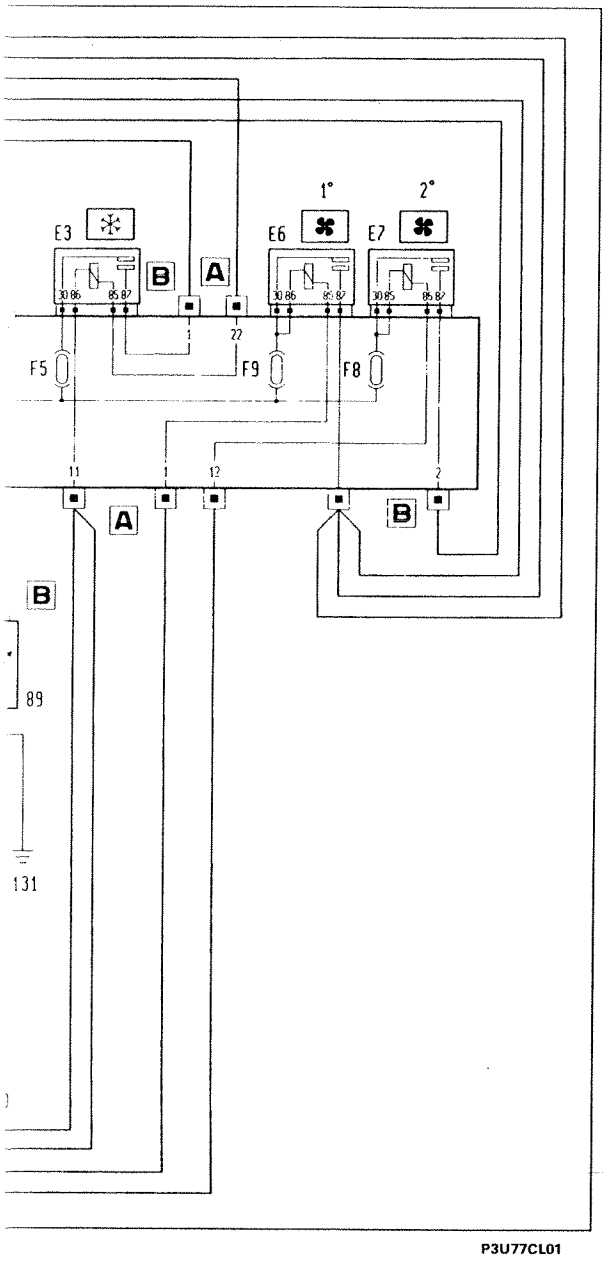
A. Car interior air flow (recirculation)
B. External air flow
C. Windscreen air flow
D. Central, front, side outlets air flow
E. Bottom and rear outlets air flow

HEATING/VENTILATION SYSTEM WIRING DIAGRAM



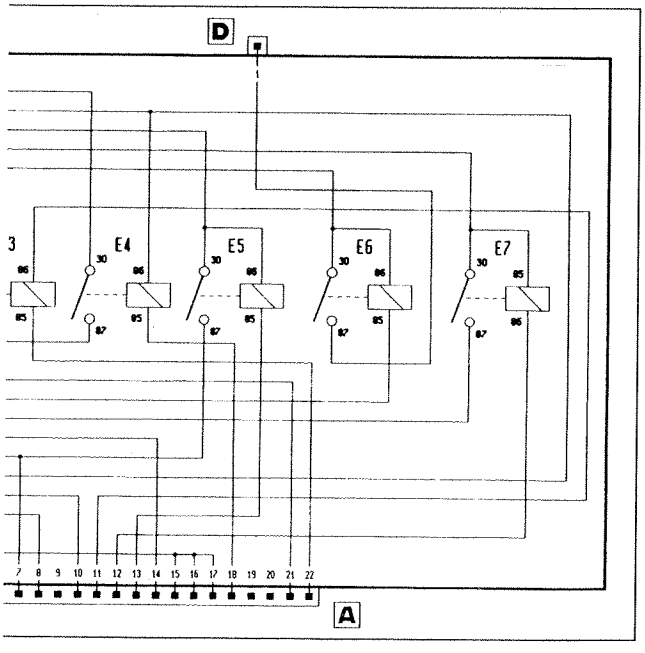
* Connection variants for TD version
** Connection variant for 2959 version
*** Only for TD version

JUNCTION UNIT ON ENGINE BAY FOR VEHICLES WITH A/C



P3U77CL01

A. Air conditioner control relay
B. Seat for multiple connector for leads connected to junction box
C. Connection seat for two-way customer
C1. Terminal connected to air conditioner compressor
C2. Terminal connected to engine cooling fan (low speed)
D. Single-pole terminal for connecting engine cooling fan (high speed)
E. Terminal for connecting main battery power source
F. 10A fuse for air conditioner compressor
G. 50A fuse for cooling fan (low speed)
H. 50A fuse for cooling fan (high speed))
I. Fan relay for engine cooling (low speed))
L. Cooling fan relay (high speed))

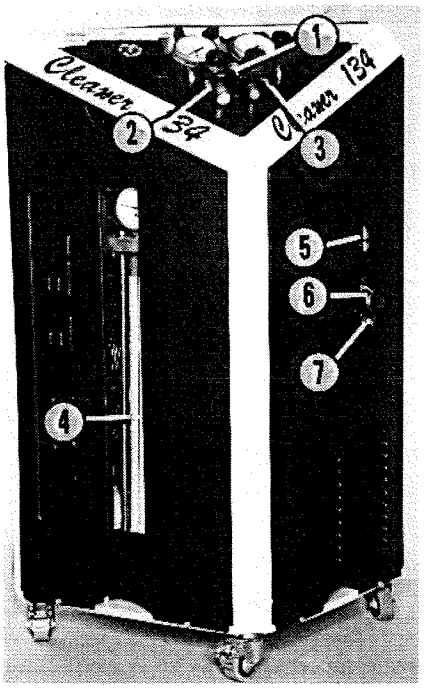


P3U24AH02

COOLANT TRANSFER EQUIPMENT

The Cleaner 134 device (shown in the various figures) is used to carry out the following operations:

- monitor vehicle air conditioning system operation;
- recover coolant in system;
- clean recovered fluid;
- recharge air conditioning system:



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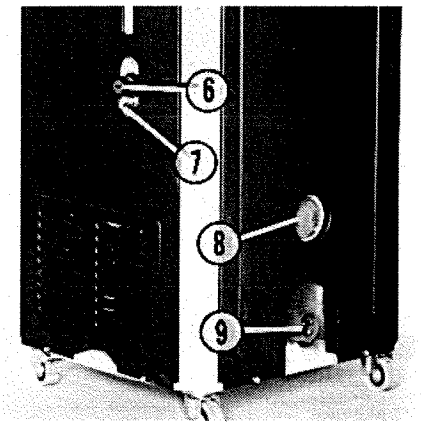
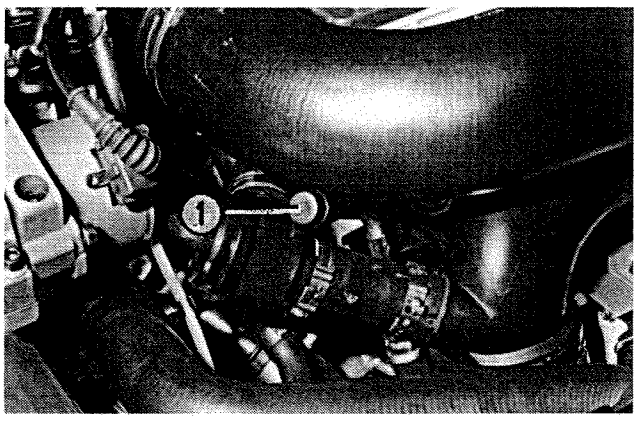


P3U26AH02

1. Pressure gauge assembly
2. Fitting for connection hose
3. Fitting for connection hose
4. Dispensing cylinder
5. Slot for viewing level of oil separated from coolant
6. Drain cock for oil separated from recovered coolant
7. Oil drain fitting
8. Master switch knob
9. Seat for supply lead plug (female)



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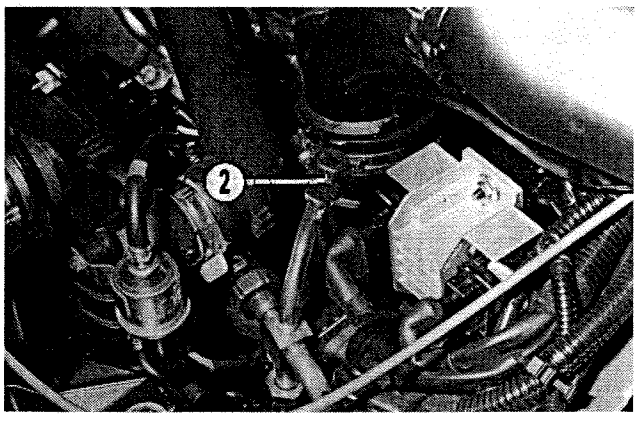

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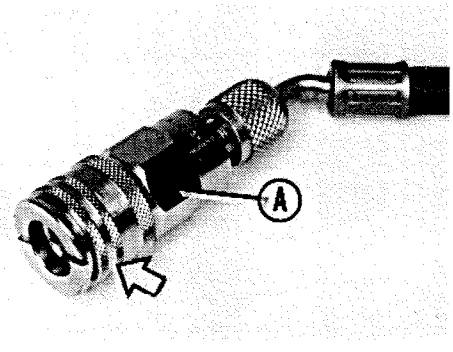
CONNECTING DEVICE TO VEHICLE HEATING/VENTILATION SYSTEM

Carry out the following operations in order:

- check that device cocks are closed and electric control knobs are in position 0 (off);
- connect quick-release fitting (A) of blue hose to needle valve (1) welded to pipe section that forms part of pipe connecting evaporator to accumulator;
- connect fitting (A) of red hose to needle valve (2) welded to four-way fitting on first pipe section connecting condenser to evaporator.

NOTE

Move arrowed ring-nut fully upward before installing fitting to needle valve



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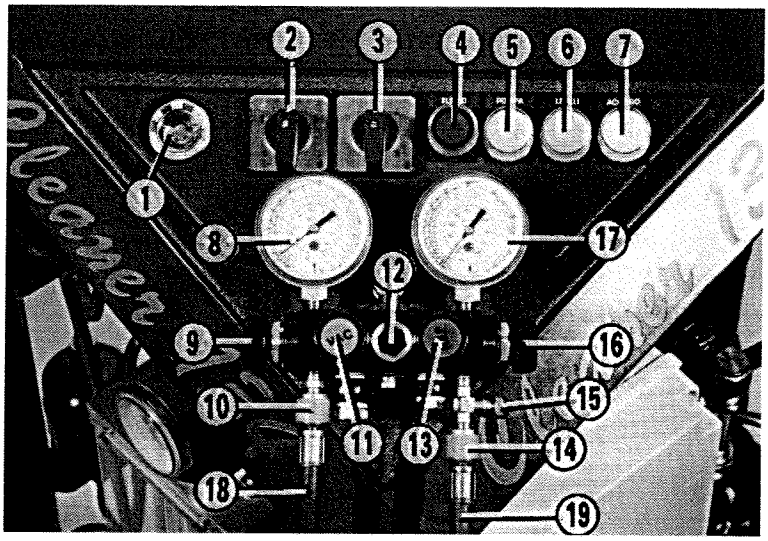


Detail of Cleaner 134 device top panel

1. Moisture indicator
2. Function selector
3. Function switch
4. Compressor forcing button and "LOCK" warning light"
5. "PUMP" warning light
6. "LEVEL" warning light
7. Device "ON" warning light
8. Low pressure end pressure gauge
9. "LOW" pressure cock"
10. Fitting for low pressure end hose
11. "VAC" cock"
12. Liquid gauge
13. "REF" cock"
14. High pressure end hose fitting
15. Fitting for connecting vehicle system oil filling device
16. High pressure cock"
17. High pressure end pressure gauge.
18. Low pressure end hose
19. High pressure end hose

TABLE SHOWING POSITION OF COCKS AND ELECTRICAL PARTS DURING EACH OPERATION

OPERATION	COCK LOW (9)	COCK VAC (11)	COCK REF (13)	COCK HIGH (16)	KNOB FUNCTION SELECTOR (2)	KNOB FUNCTION SELECTOR (2)
[A]•	open	closed	open	open	position 1	position 1
[B]•	open	open	closed	open	position 2	position 0
[C]•	closed	closed	open	open	position 1	position 2
[D]•	closed	closed	open	open	position 1	position 2
[E]•	open	open	closed	open	position 1	position 1
[F]•	closed	closed	closed	closed	position 1	position 3

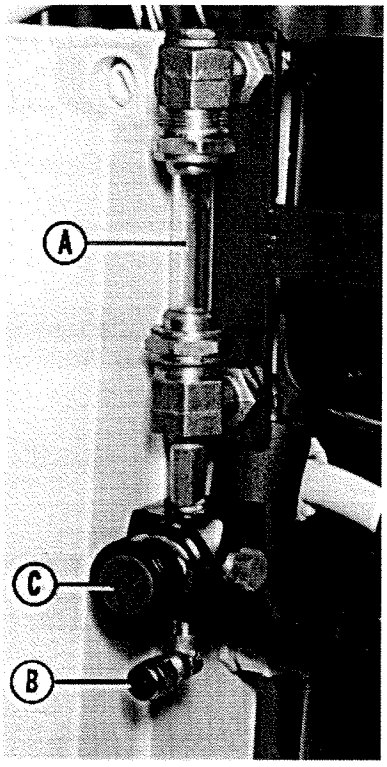
[A]• Recovering and recycling coolant
[B]• Draining and drying vehicle system
[C]• Charging vehicle heating/ventilation system
[D]• Transferring coolant from dispensing cylinder to a canister
[E]• Transferring coolant from cannister to equipment dispensing cylinder
[F]• Replacing vehicle filters

Before carrying out the operations listed at the bottom of the previous page, note the comments set out below.

RECOVERING AND RECIRCULATING COOLANT FROM VEHICLE HEATING/VENTILATION SYSTEM

Before recovering coolant from vehicle system, ensure that device dispensing cylinder contains only a small amount of coolant. Then run vehicle engine and a/c system simultaneously for 10 - 15 minutes.

This will prevent the device dispensing cylinder filling completely with consequent automatic interruption of recovery operation with transfer of excess coolant to a canister. Maximum coolant recovery will also be achieved from the vehicle system.



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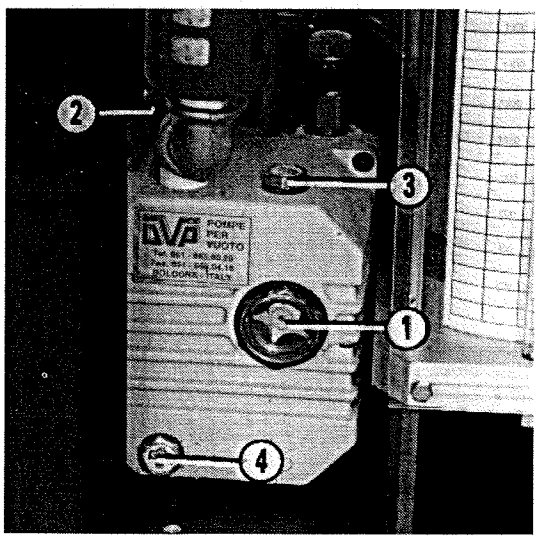
When coolant pressure at low pressure side device intake reaches a level of - 0.2 bar, a pressure switch automatically stops operation and the «LOCK» warning light (14) comes on. An acoustic signal also advises that the recovery operation is complete.

When the signal sounds, leave the device connected with the vehicle system running for about 10 minutes so that any low pressure coolant pockets left in the system can take up heat, increase in pressure and be recovered.

To reduce waiting time for above operation, recovery of any coolant left in the system can be forced by pressing button (14), which activates device compressor and monitors vacuum level. Vacuum reading is shown on blue low pressure side gauge.

When the above operation is complete, oil separated out from recovered coolant in distillation column may be displayed by observing level indicator (A) and drained through fitting (B) after opening cock (C).

If necessary, the same amount of clean antifreeze can be added to the vehicle system to make up for the amount removed by the device together with the coolant.



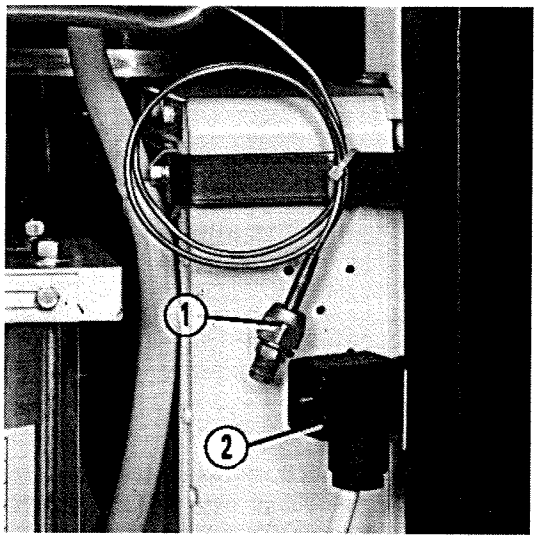
P3U28AH02

DRAINING AND DRYING VEHICLE HEATING/VENTILATION SYSTEM

Before draining and drying system, check that device vacuum pump contains the necessary amount of oil (free of impurities) by carrying out the following operations;

- operate pump by turning selector lever to 2. Check oil level in indicator window (1) and partly back off weight (2) to let out any uncondensed gas that could contaminate the oil and cause severe damage to the pump;

- after 5 minutes of operation, check that level of oil is just over half way up indicator window (1) and no impurities are present on surface;



P6E29AH01

View of parts used to connect electronic vacuum gauge

1. Fitting
2. Electrical power point

Oil level in hot vacuum pump should be within range shown on indicator window (1, lower figure on previous page). If level is too high, the pump will become clogged with oil and overheat so that its efficiency is reduced. If the level is too low, lubrication may be insufficient leading to a risk of seizing.

When the pump is running, «PUMP» warning light comes on. When left hand pressure/vacuum gauge (low pressure end) indicates a given vacuum level, close cock VAC (11) and turn selector knob to position 0.

During the next 5 minutes, check vehicle system seal by monitoring vacuum level shown on left hand pressure/vacuum gauge or an electronic vacuum gauge (connected to fitting 1) to ensure level does not drop. If no leaks are detected, continue with interrupted operation until pressure gauge shows a vacuum level of 10 mbar.

CHARGING VEHICLE AIR CONDITIONING SYSTEM

Before charging vehicle air conditioning system, check that level assumed by coolant in device dispensing cylinder column corresponds to a quantity significantly greater than amount to be added to system because device will stop automatically when minimum level is reached.

Add 70 grams to quantity of coolant required for system to cover amount left in connection lines when disconnected from system needle valves.

If system cannot be fully charged because pressure in system becomes equal to pressure in device dispensing cylinder, close HIGH cock, start up vehicle engine, activate a/c system (maximum cooling position with fan at full speed), open LOW cock slowly and close together with REF cock when system is fully charged.

TRANSFERRING COOLANT FROM DEVICE DISPENSING CYLINDER TO A CONTAINER

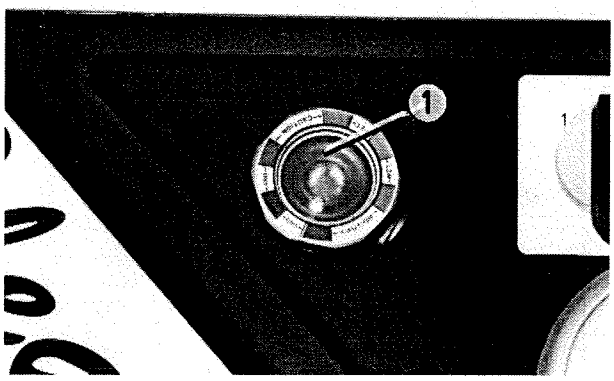
Before beginning transfer, ensure that recipient is approved for pressures up to 35 bars and that a vacuum has been set up inside (at least -0.1 bar)
During transfer, use only red connection hose (high pressure side). This should be connected to service valve of recipient. Note also that recipient should be filled only to a level equivalent to less than 80% of its volume.

TRANSFERRING COOLANT FROM DEVICE DISPENSING CYLINDER TO A CONTAINER

If this operation is necessary while vehicle a/c system is being charged, first drain system again by recovering coolant added.

CHECKING PRESSURES IN VEHICLE SYSTEM

Pressure levels can be read directly off two device pressure gauges (blue low pressure and red high pressure) after connecting both hoses to system.



P3U30AH02

MOISTURE INDICATOR AND FILTER REPLACEMENT

The colour of moisture indicator (1) indicates level of moisture present in liquid coolant after passing through the first three device filters.
Percentage humidity levels at given temperatures correspond to the indicator colours given in the following table

INNER DISC COLOUR	WORDING	MOISTURE CONTENT (in parts per million)		
		24° C	38° C	52° C
LIGHT BLUE	DRY	Less than 5	Less than 10	Less than 20
PURPLE-BLUE	CAUTION	5 - 10	10 - 30	20 - 50
RED	WET	Greater than 15	Greater than 30	Greater than 50

When central disc is blue, coolant is in good condition. When colour becomes more bluish, filters are still in good condition and coolant contains an acceptable level of moisture.

When colour begins to lose its bluish shade to become purple, filters require replacement.

Filters must be replaced at the end of the current operation even if central disc becomes red again because an acceptable level of coolant purity is ensured by safety filter (third filter station).

To estimate coolant temperature inside moisture indicator, rest one thumb on clear part and determine temperature according to sensation felt by consulting following table:

Sensation of cold	Use colour column corresponding to 24°C
Sensation of warmth	Use colour column corresponding to 52°C
No sensation	Use colour column corresponding to 38°C

Maximum acceptable level of moisture in coolant is 15 parts per million.

The device automatically sets up a vacuum in the part of the system connected to filters to be replaced. When a vacuum of - 0.2 bar is set up in the compressor inlet line, a pressure switch stops the compressor and simultaneously lights up «LOCK» warning light while turning on acoustic signal;

When filters are removed from seats for replacement, ensure they are under a slight vacuum. Otherwise device system could be faulty.

After replacing filters with the aim of removing air and humidity from device, connect device to a canister of R 134 A or a vehicle a/c system and perform a recovery and cleaning cycle.

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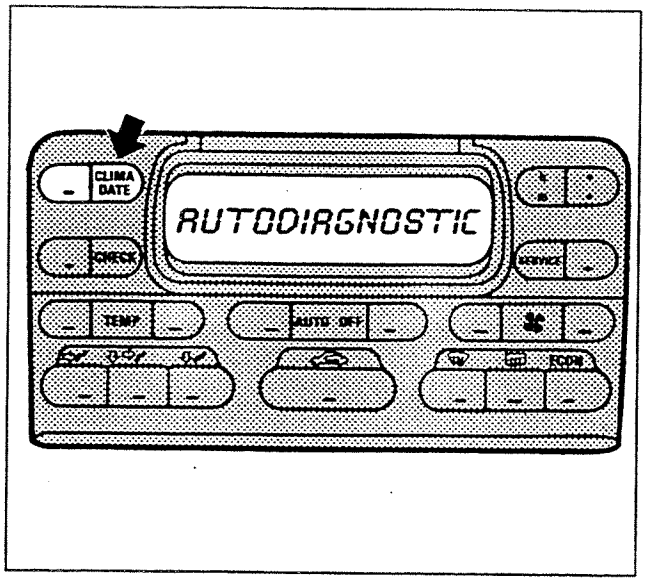
When filters are replaced, moisture indicator disc becomes red. Before it changes back to blue, it may be necessary to recover and recycle up to 2.5 Kg of coolant. Even though moisture indicator disc colour has not completely settled, coolant is nevertheless quite clean.

Heating/ventilation system test device specifications

PART	CIRCUIT INVOLVED	FUNCTION	SETTING VALUES
Three-stage pressure switch	level 1: Compressor pulley electromagnetic coupling relay coil excitation circuit	Circuit open	2.20 bar to 2.65 bar (2.45 ±0.25 bar)
		Circuit closed	2.26 bar to 2.94 bar (2.6 ± 0.34 bar)
	level 2: Radiator and condenser cooling fan power circuit	Circuit closed	14.22 to 16.18 bar (15.2 ± 0.98 bar)
		Circuit open	10.3 to 12.26 bar differ. 3.92 ± 0.98 bar
	level 3: Compressor pulley electromagnetic coupling relay coil excitation circuit	Circuit open	25 to 30 bar (28 +2-3 bar)
		Circuit closed	20 to 24 bar differenziale 6 ± 2 bar
Anti-front thermostat	Compressor pulley electromagnetic coupling relay coil excitation circuit	Circuit open	4°C
		Circuit closed	6°C

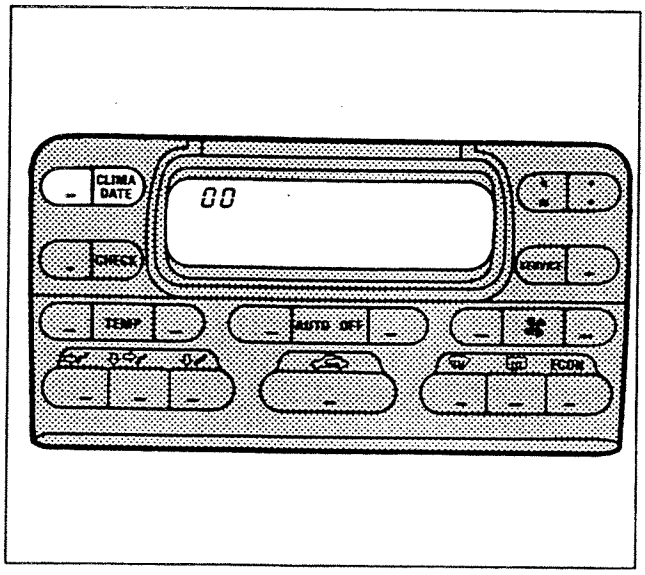


PIL01F501

AUTODIAGNOSIS

The climate control system is equppied with an autodiagnositic function; to access this function, press the "CLIMA" switch shown in the diagram and turn the ignition key to the ON position; the word AUTODIAGNOSTIC should appear on the INFOCENTER display.

After several seconds one or more codes made up of pairs of letters with numbers or numbers only will appear.



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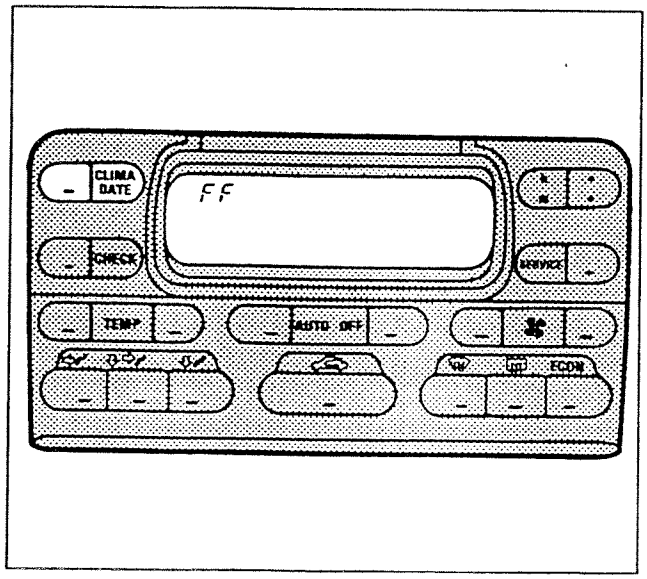
If no fault is detected the code "00" will be displayed.



PIL01F503

If the fault detected is not recognized by the autodiagnostic function, the code "FF"* will be displayed

(*) In this case, it is necessary to use the Fiat Lancia Tester.

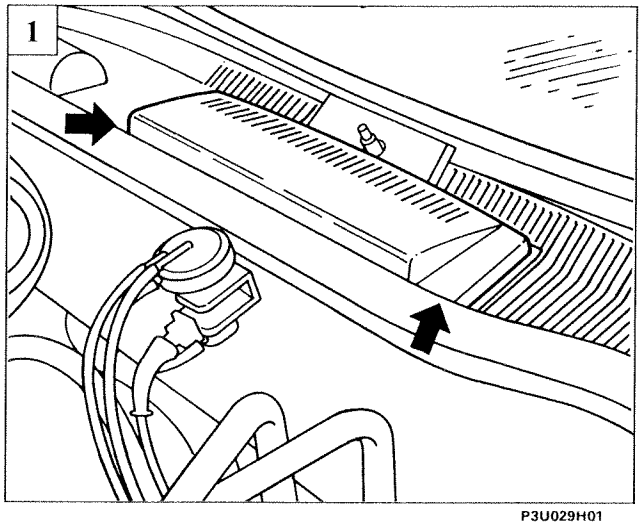
The codes displayed are composed of two numbers or one letter and one number. The first number or letter identifies the faulty component whilst the second number identifies the type of failure.

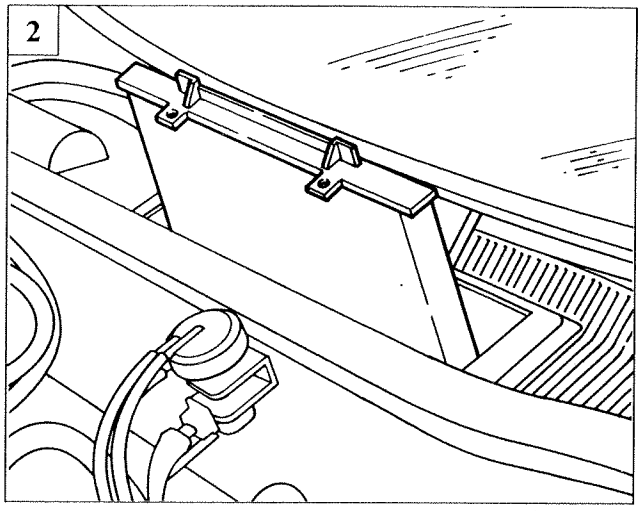
Faulty component codes	
Code displayed	**Faulty component**
1...	Mixed air temperature sensor 1
2...	Mixed air temperature sensor 2
3...	Outside air temperature sensor
4...	Passenger compartment air temperature sensor
5...	Air mixture flap actuator
6...	Air distribution flap actuator
7...	Car interior fan
8...	Signalling mixture flap actuator position
9...	Signalling distribution flap actuator position
A...	Passenger compartment sensor fan
B...	Compressor operation
C...	Solar sensor
D...	Recirculation air flap actuator

Failure type codes	
Code displayed	**Type of failure**
... 1	Circuit broken
... 2	Short circuit to earth
... 3	Short circuit to battery
... 4	Broken circuit and short circuit cannot be distinguished

Examples

11 Broken circuit for mixed air temperature sensor 1.
23 Short circuit to battery for mixed air temperature sensor 2.



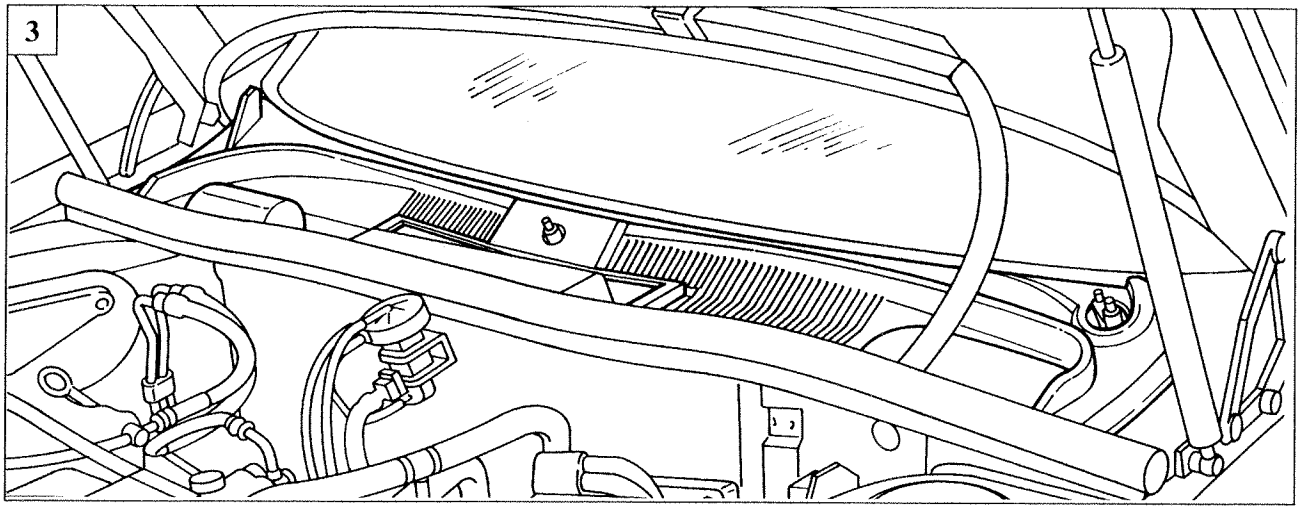


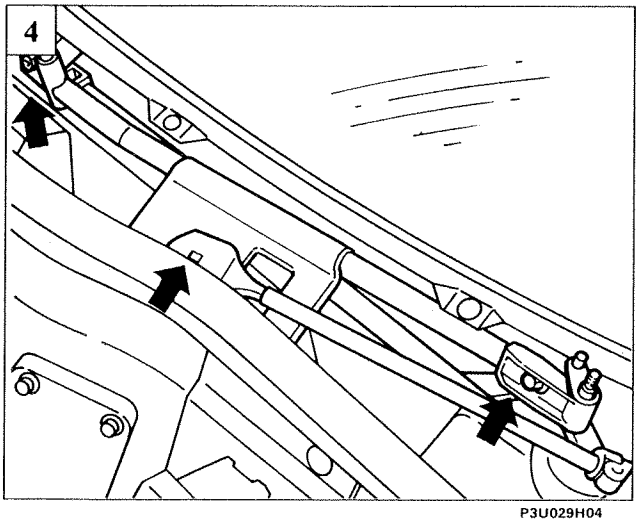
CHANGING ANTI-POLLEN FILTER

Carry out this operation once a year. It is advisable to change filter element at the beginning of summer.

When using vehicle mainly in town, check filter element visually every three months. Heating/ventilation system efficiency may be reduced signficantly if filter is not changed.

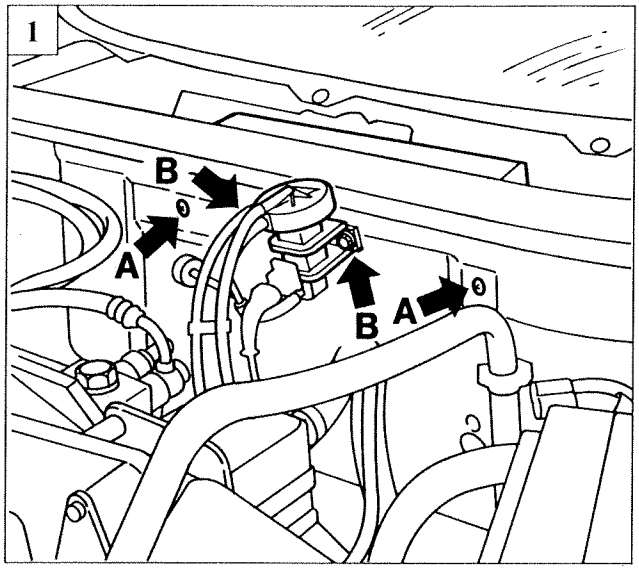
1. Remove relay unit cover.
2. Unscrew screws retaining antipollen filter and remove.





REMOVING - REFITTING EVAPORATOR/FAN ASSEMBLY

1. Remove both wiper arms, then unscrew bolts retaining relay unit cover and remove.
3. Unscrew retaining screws and remove protective grille.
4. Remove bracket on wiper frame, then remove motor with linkage.



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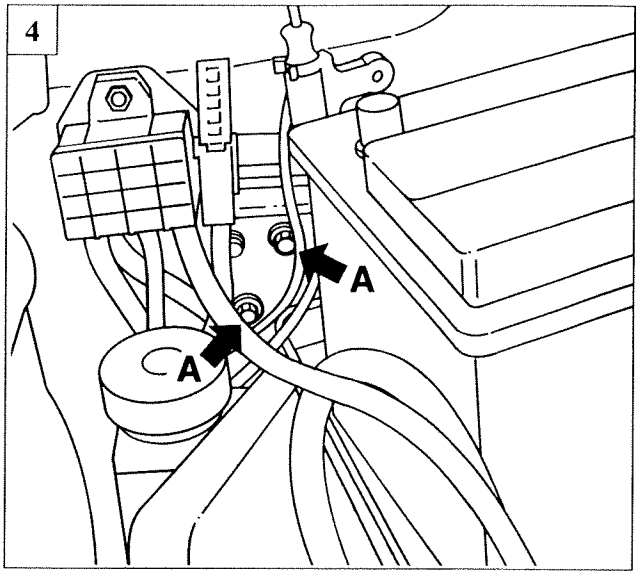

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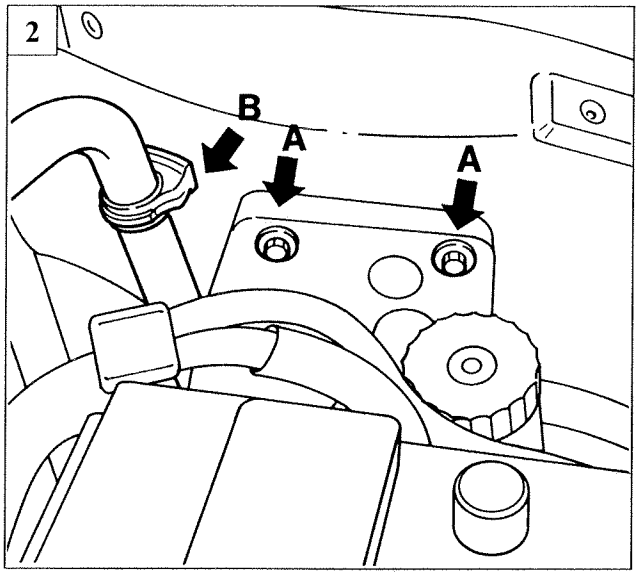

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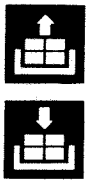
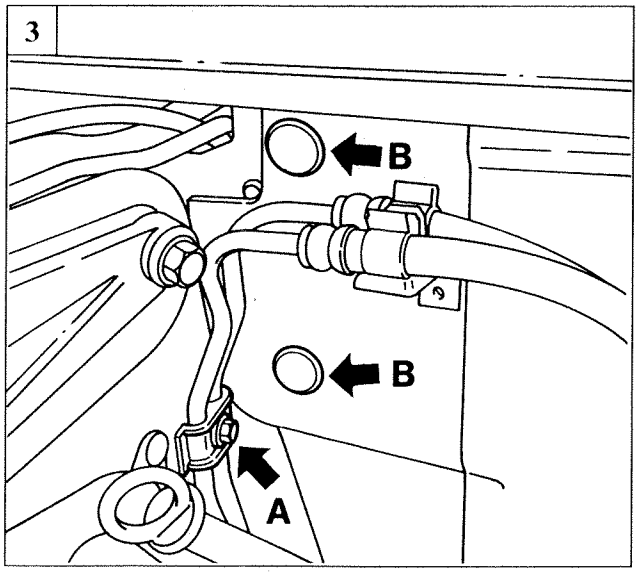


1. Unscrew screws (A) and remove relay unit. Unscrew screws (B) and remove EGR valve.
2. Unscrew retaining screws (A) and remove cover. Remove brake servo vacuum pipe (B) from bulkhead.
3. Disconnect bracket retaining fuel feed pipes (A). Remove all plastic retaining studs (B) located on left and right hand side of the vehicle using tool 1878077000.
4. Remove connector block (A) located on left hand side.
5. Release wiring by undoing clip (A) indicated.



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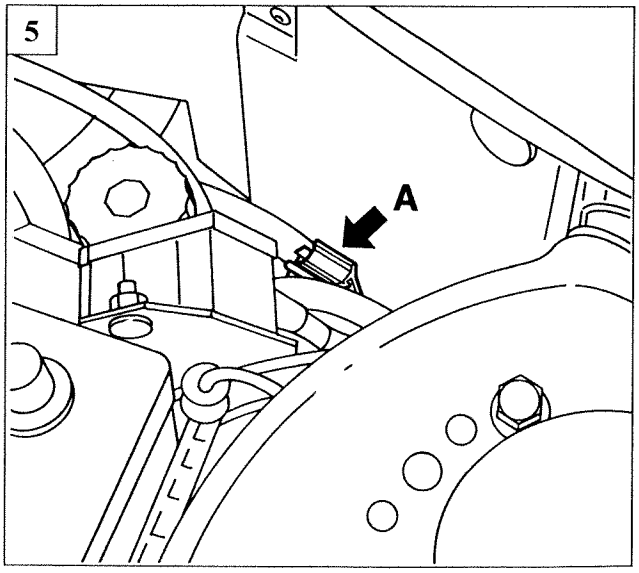

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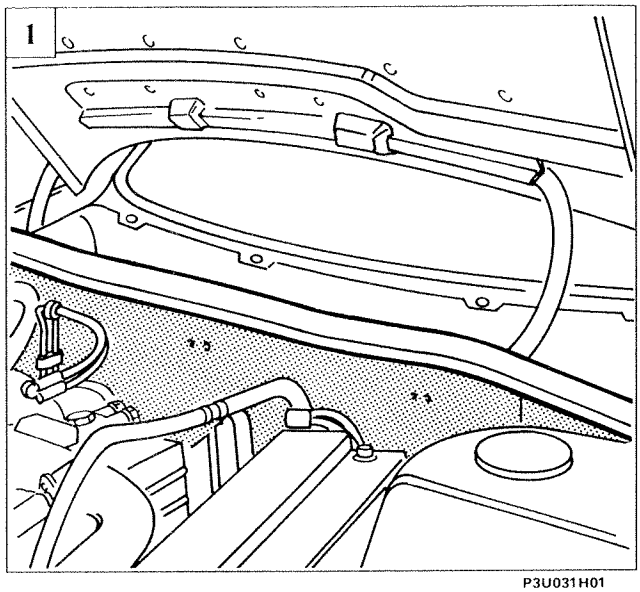

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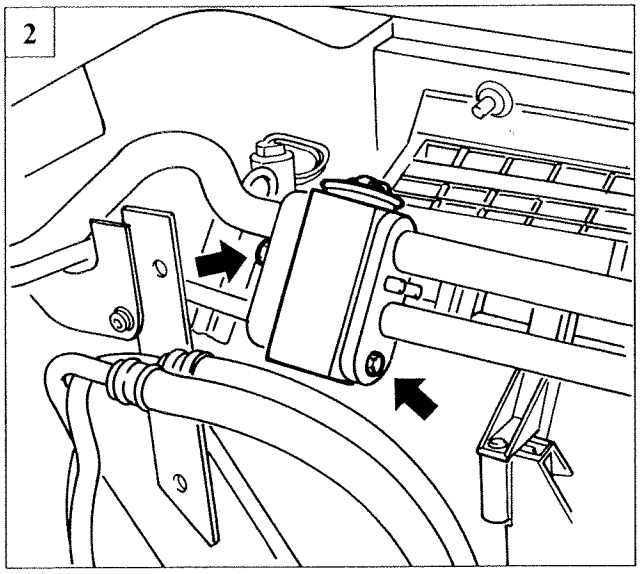
2



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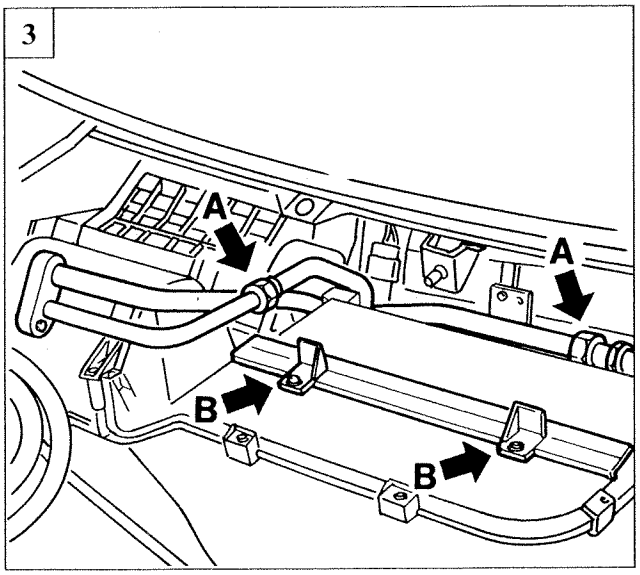

P3U031H03

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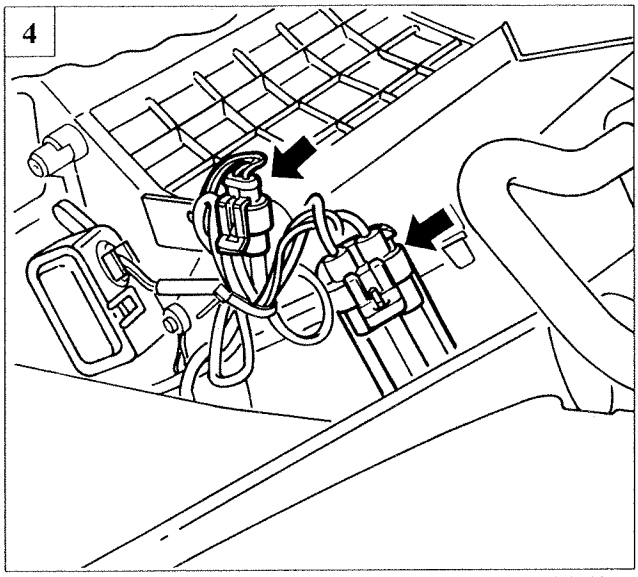
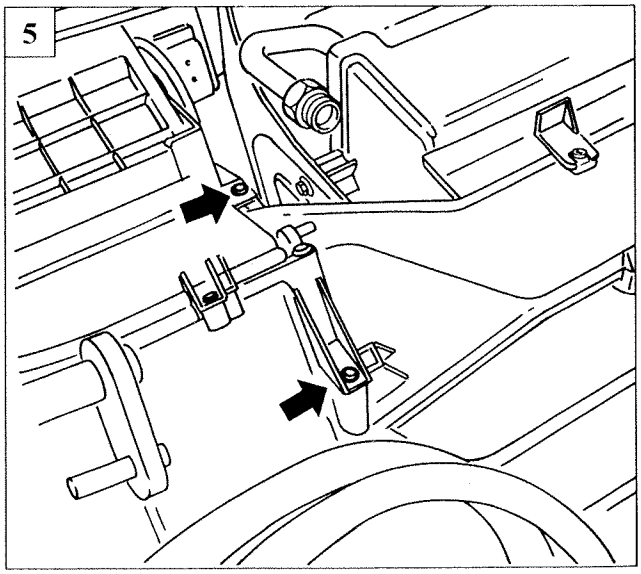


P3U031H04

1. Remove flame bulkhead from engine bay.
2. After draining system, remove expansion valve by undoing fastenings indicated in figure.
3. Disconnect fittings (A) of evaporator/heater unit line. Unscrew screws (B) and remove anti-pollen filter.
4. Disconnect both fan connectors as shown in figure, then release electrical wiring.
5. Unscrew bolts indicated in figure and release fan from evaporator.

5



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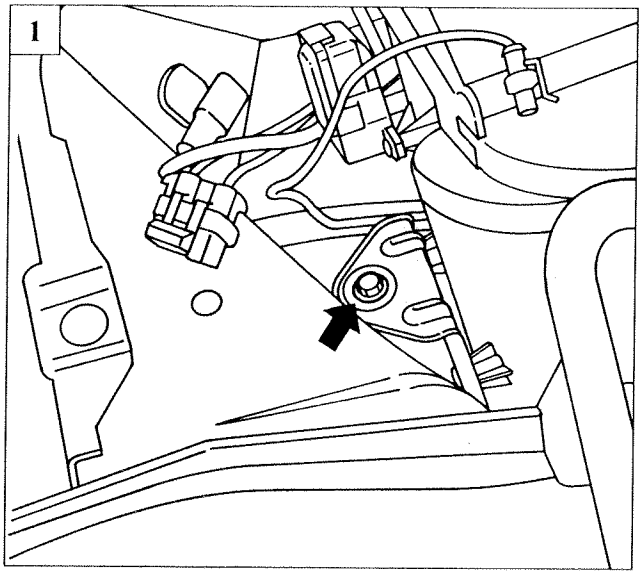

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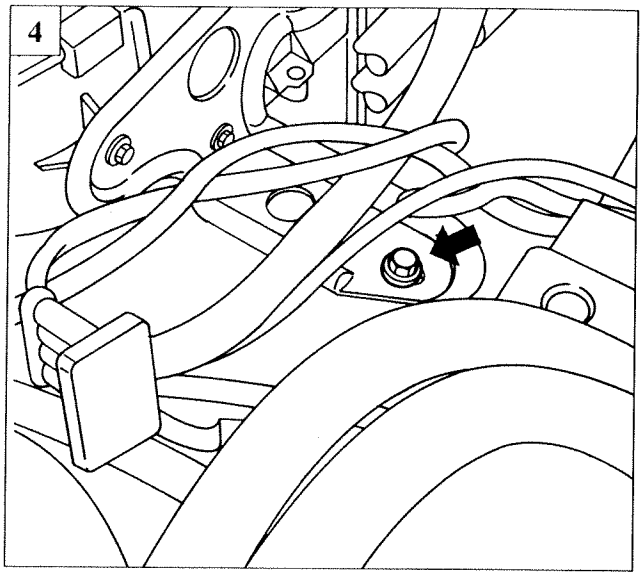

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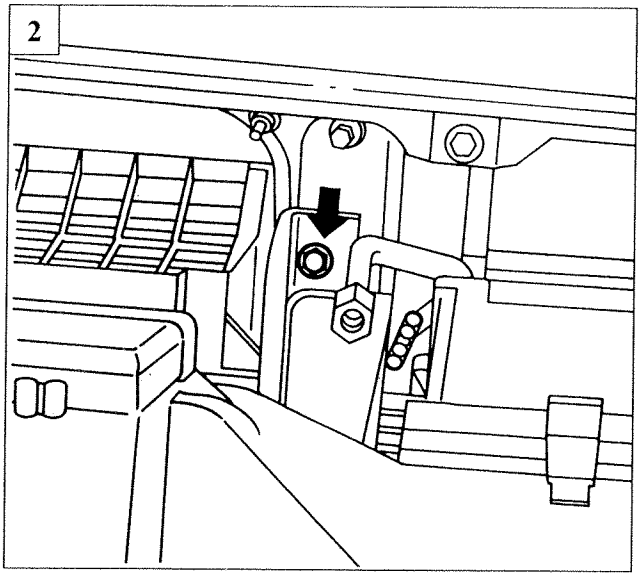

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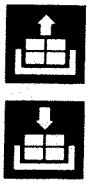
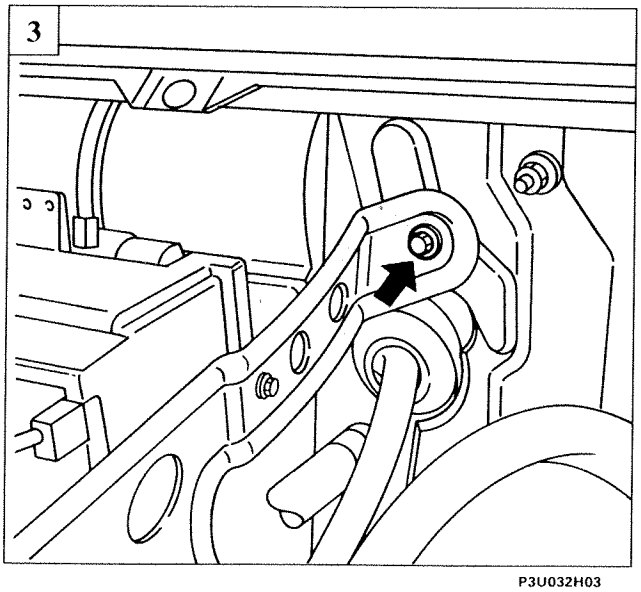


1. Unscrew retaining nut indicated.
2. Unscrew bolt indicated and disconnect fan assembly from body.
3. Unscrew bolt indicated.
4. Unscrew bolt indicated.
5. Unscrew the three screws indicated and remove profiled bracket from evaporator.



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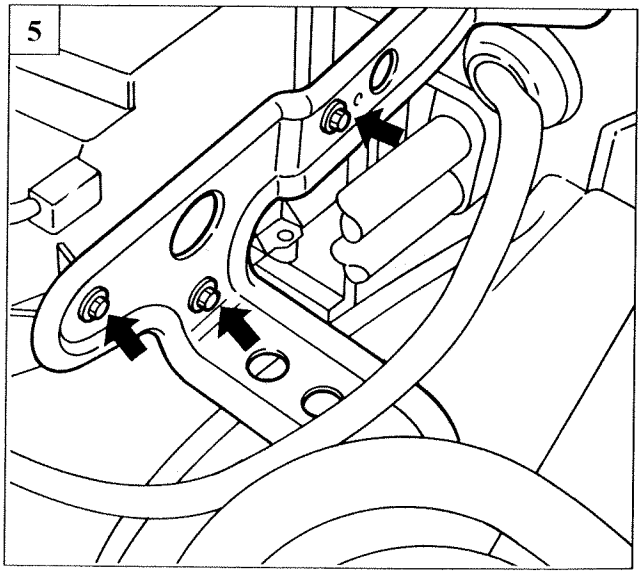

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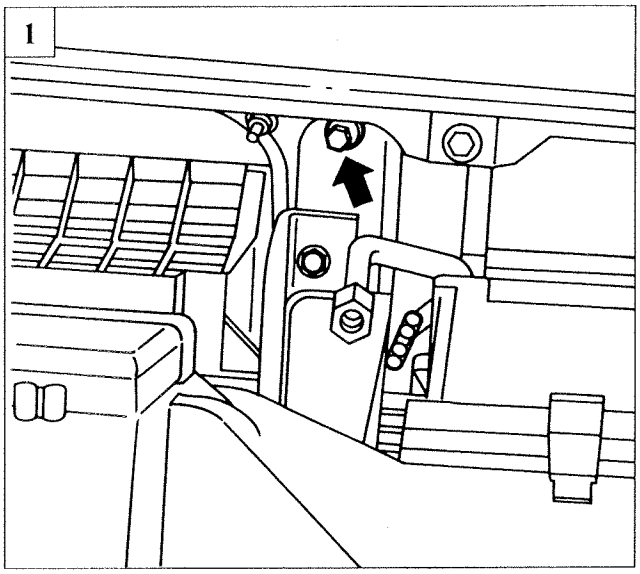

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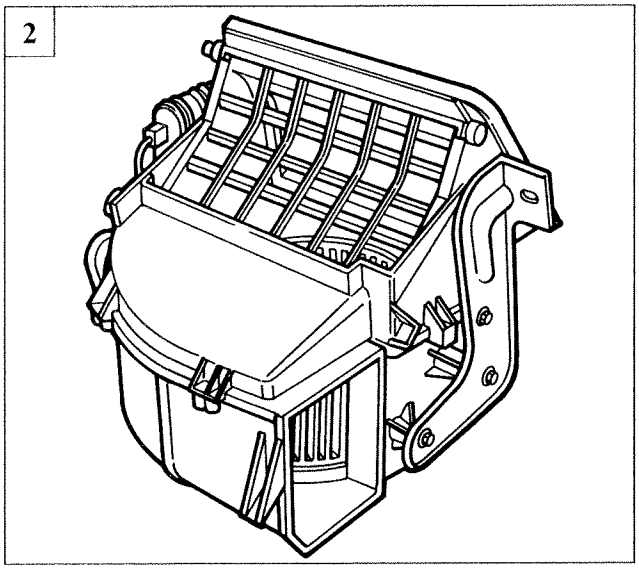

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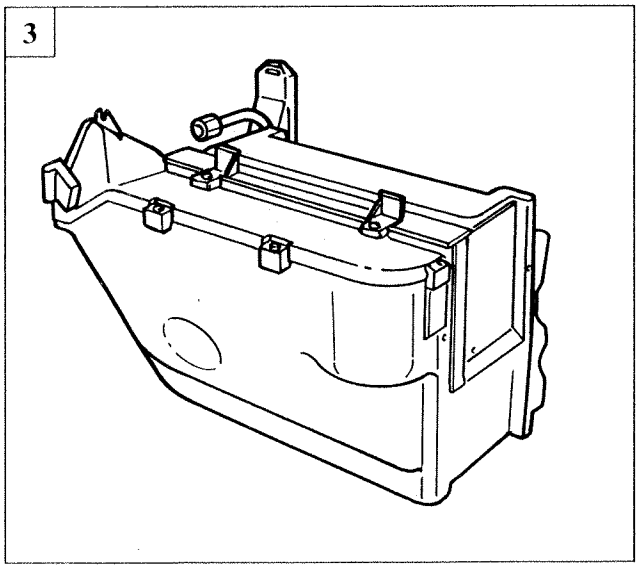

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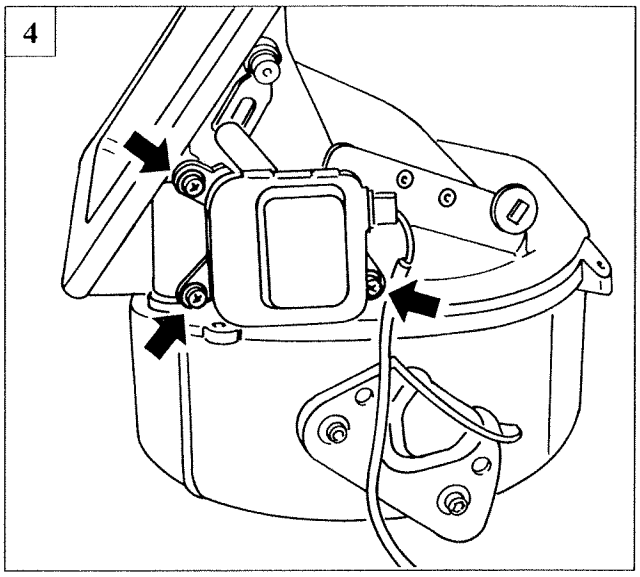
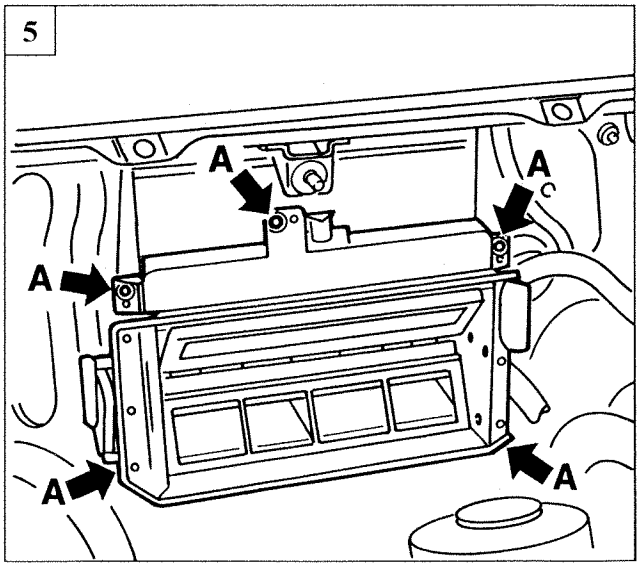


P3U033H04

1. Unscrew bolt indicated.
2. Remove fan unit from engine bay.
3. Remove evaporator unit from engine bay.
4. Unscrew the bolts indicated and remove recirculation flap actuator.
5. Unscrew screws (A) indicated and remove mixer flap assembly.

5



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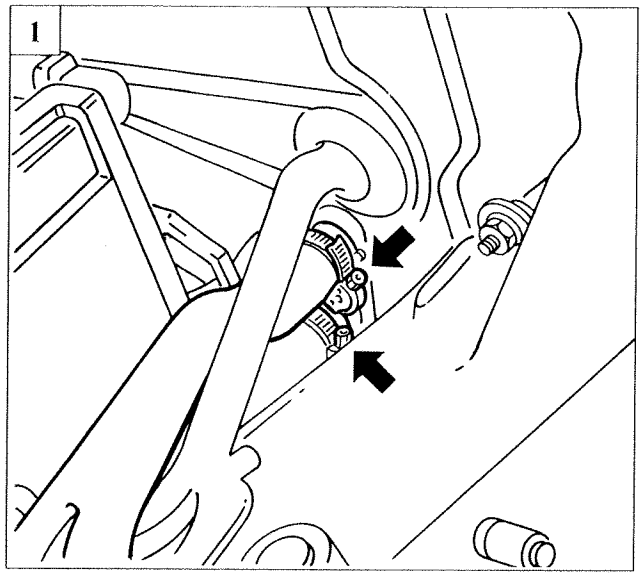

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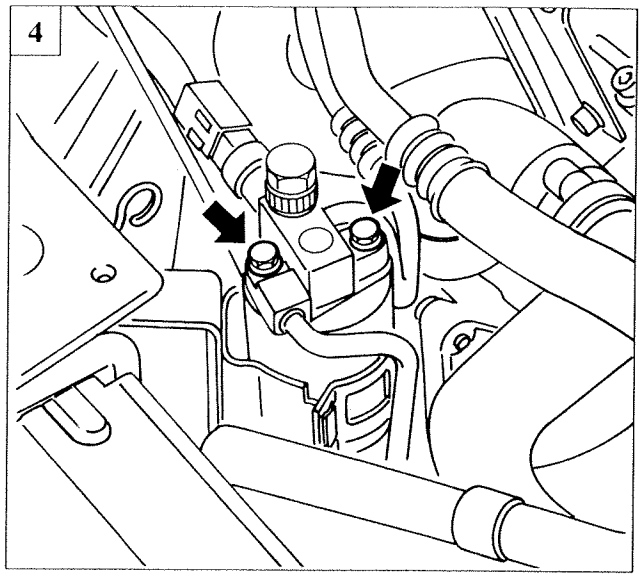

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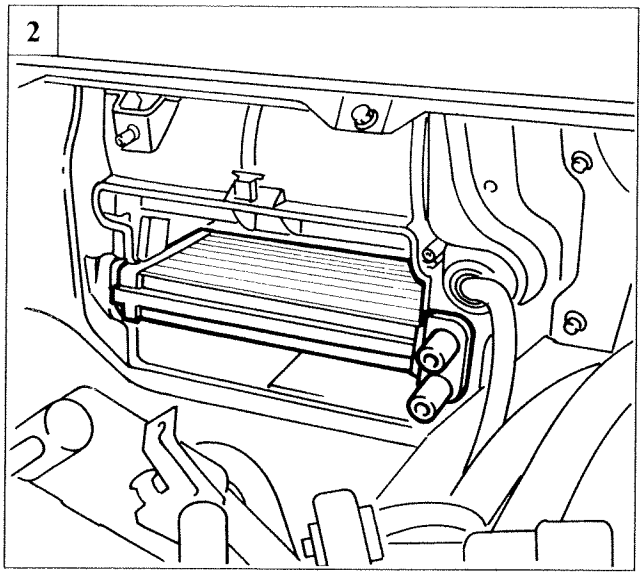

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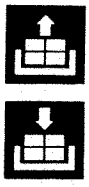


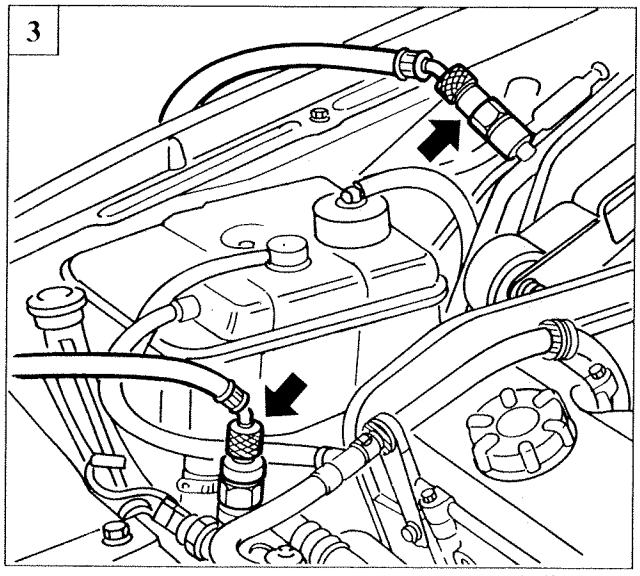
REMOVING - REFITTING HEATER RADIATOR

1. If heating radiator is to be replaced, it is advisable to drain coolant system. Loosen clips indicated figure and disconnect delivery and return line.
2. Remove heater radiator.

REMOVING - REFITTING DEHYDRATING FILTER

3. Drain system using CLEANER 134.
4. Disconnect both pipes (seal with plugs) and pressure switch.
5. Loosen screw indicated, then withdraw filter.

3



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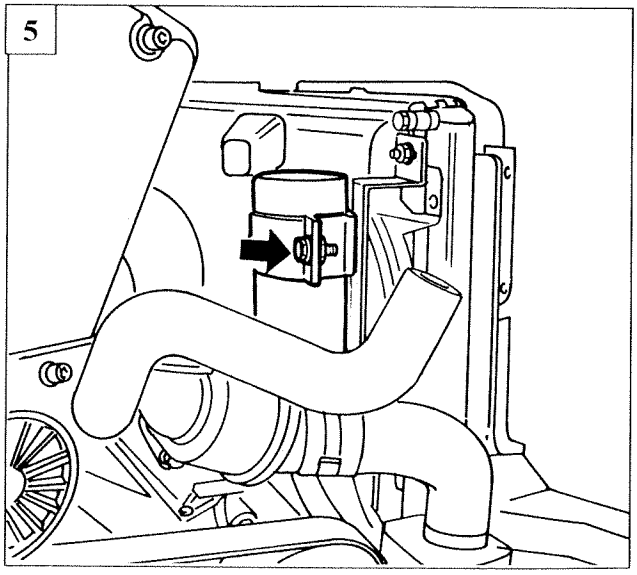

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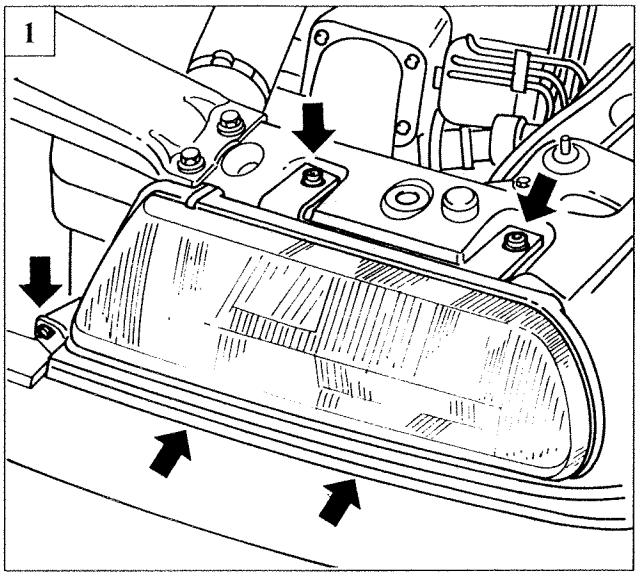

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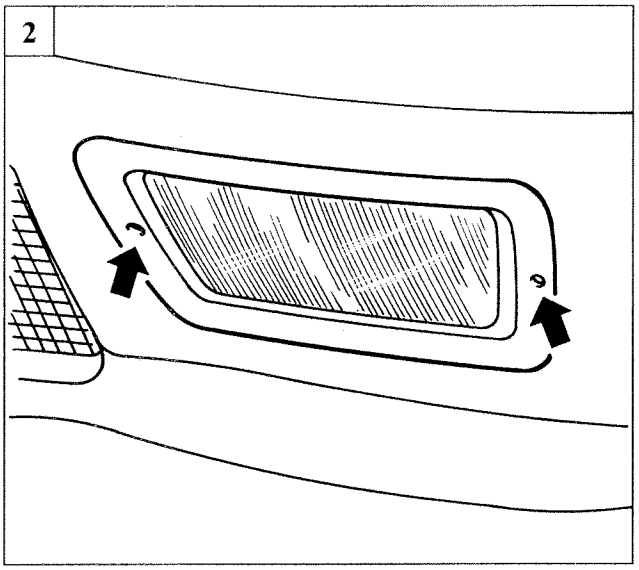

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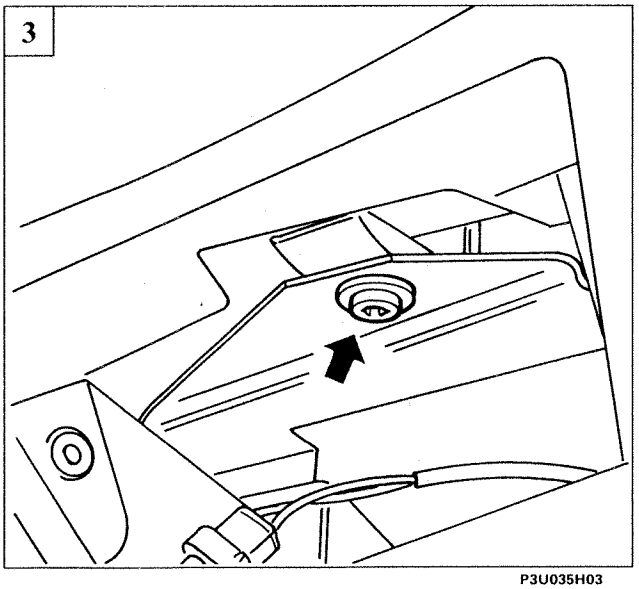
REMOVING - REFITTING CONDENSER RADIATOR

Dehydrating filter need not be removed in order to remove condenser. **Drain system using CLEANER 134.**

1. Remove both front lights by undoing screws indicated.
2. Remove both front fog lamps by undoing screws indicated.
3. Remove screws located inside fog lamp compartment.
4. Remove screws located near front wheels as shown in figure.



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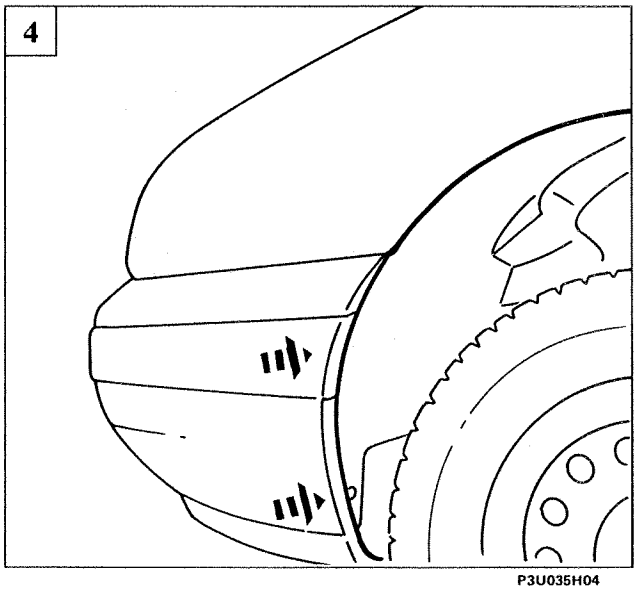

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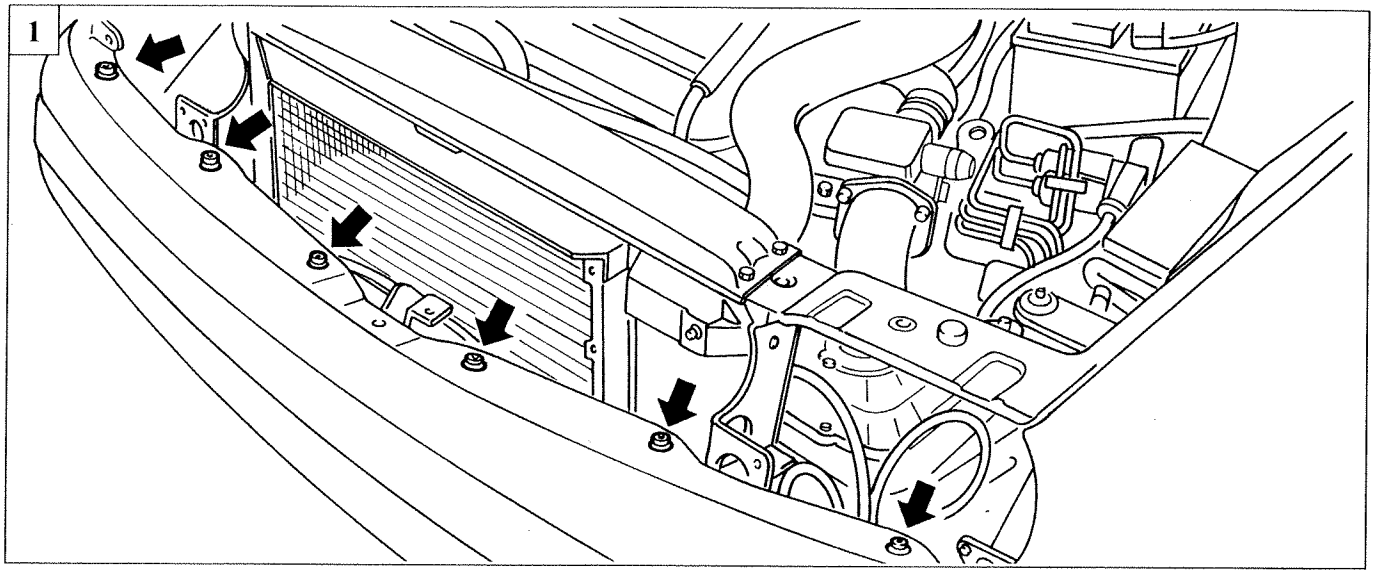

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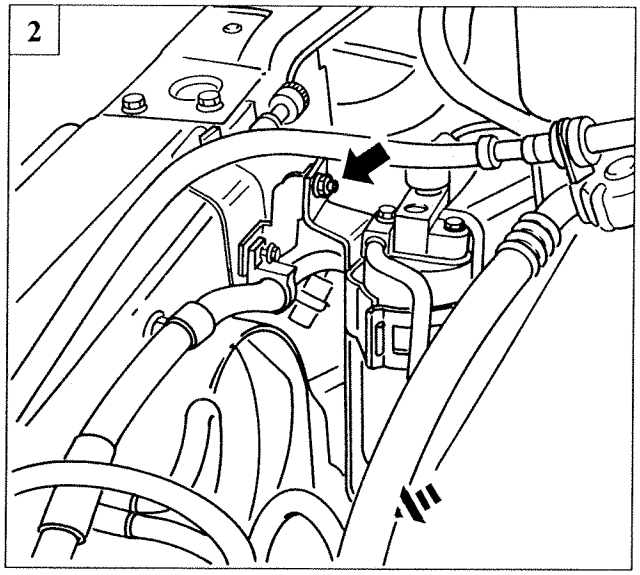

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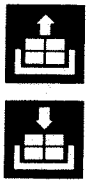
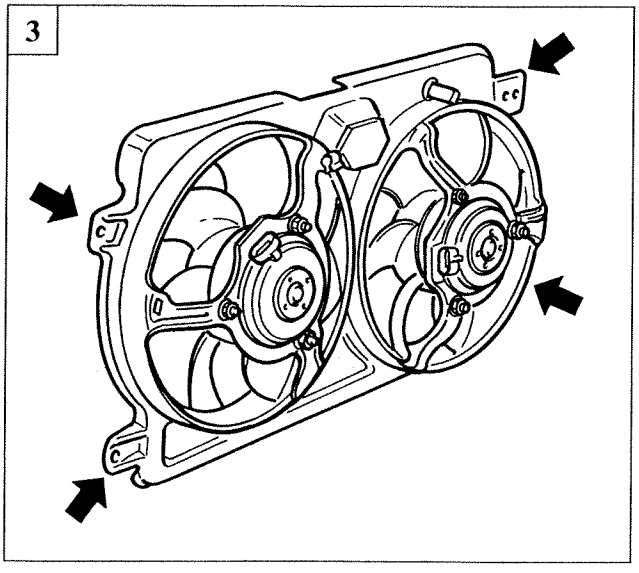


1. Unscrew screws on lower part of bumpers.

2. Unscrew dehydrating filter mount bracket retaining nuts.
3. Unscrew retaining screws on fan assembly fins, disconnect electrical connections from both fans and remove assembly from engine bay.

4. Remove bonnet opening linkage and fastenings securing upper beam as shown in figure. Then remove beam.

3



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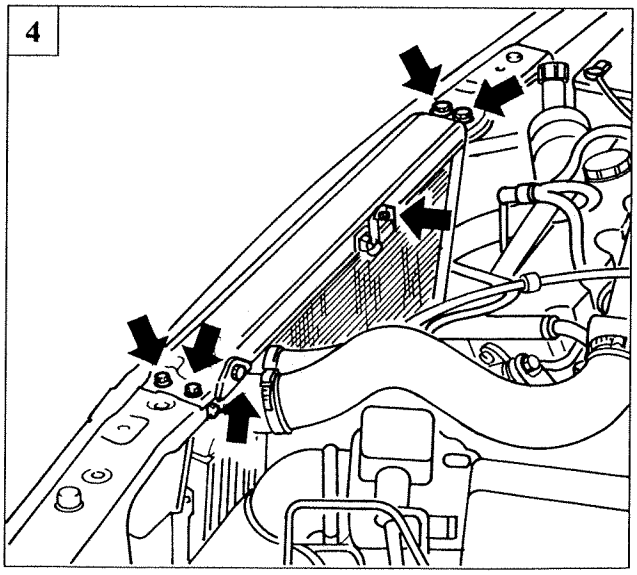

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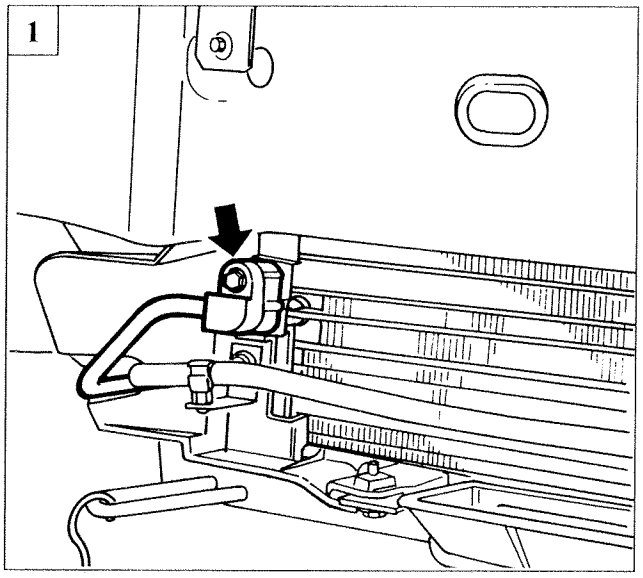

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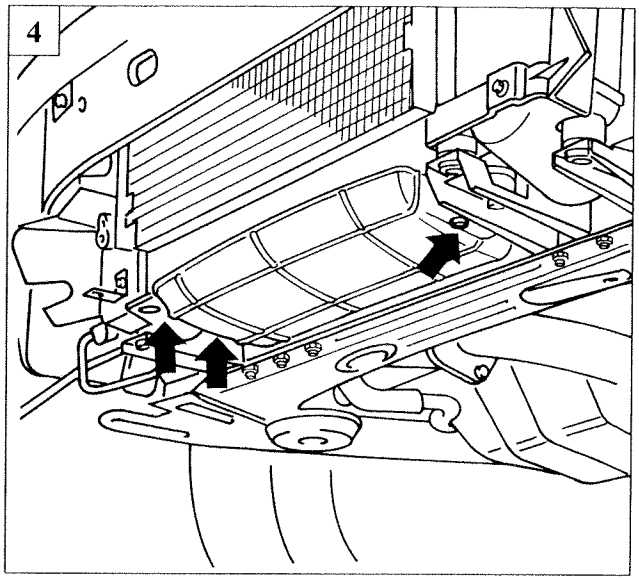

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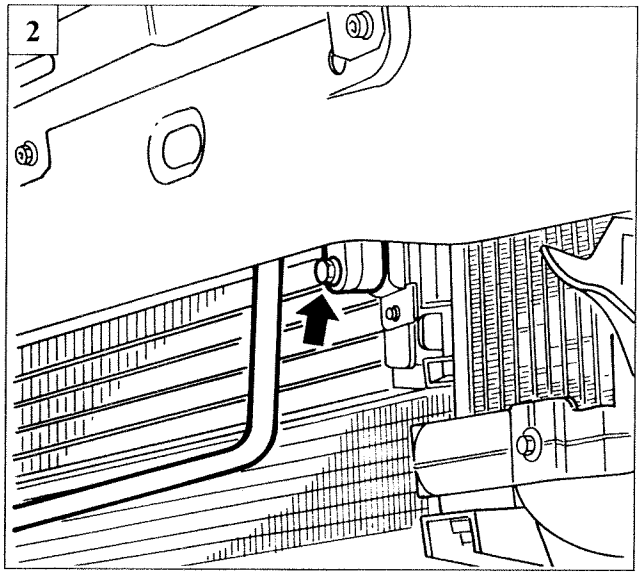

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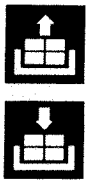
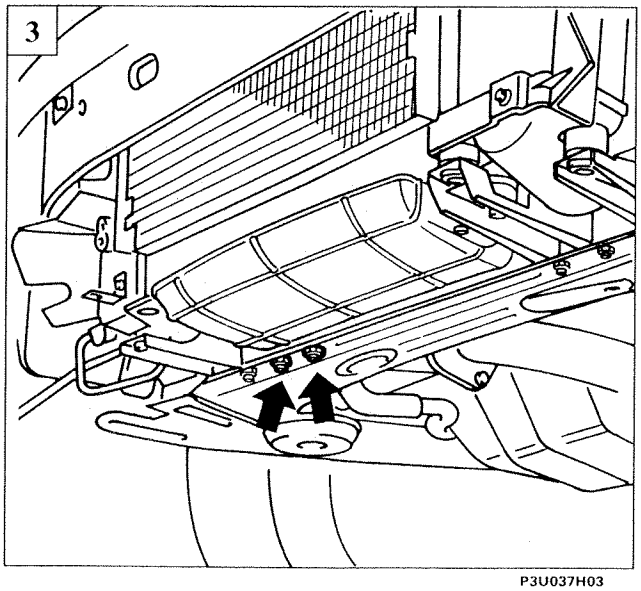


1. Remove pipe located at right hand side of condenser.
2. Remove pipe located at left hand side of condenser and withdraw from pipe carrier bracket.
3. Remove both nuts indicated which secure bracket to engine oil radiator mounting. Take care not to damage shroud during removal.
4. Remove both right hand side screws and left hand screw from oil radiator shroud and remove.
5. Unscrew the bolts indicated on left hand side of shroud.



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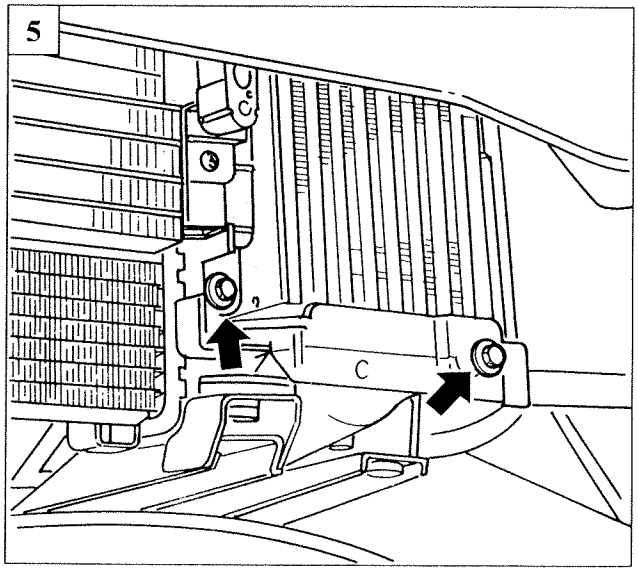

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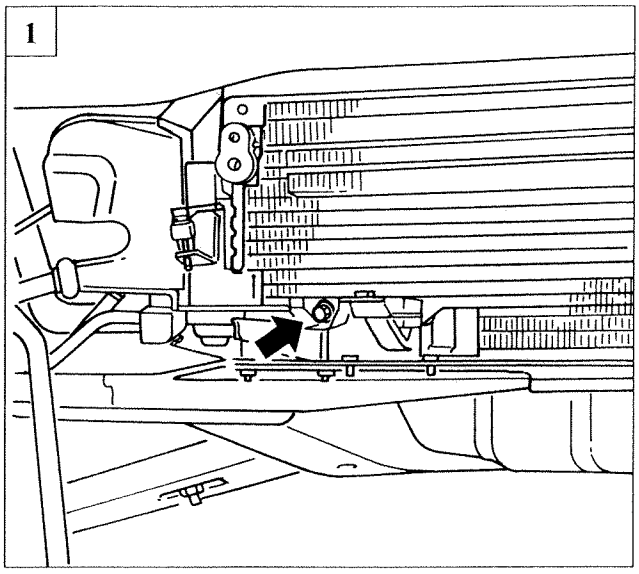

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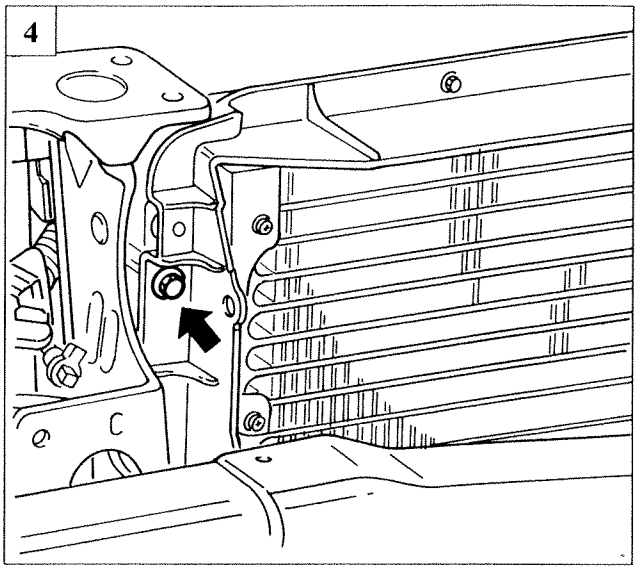

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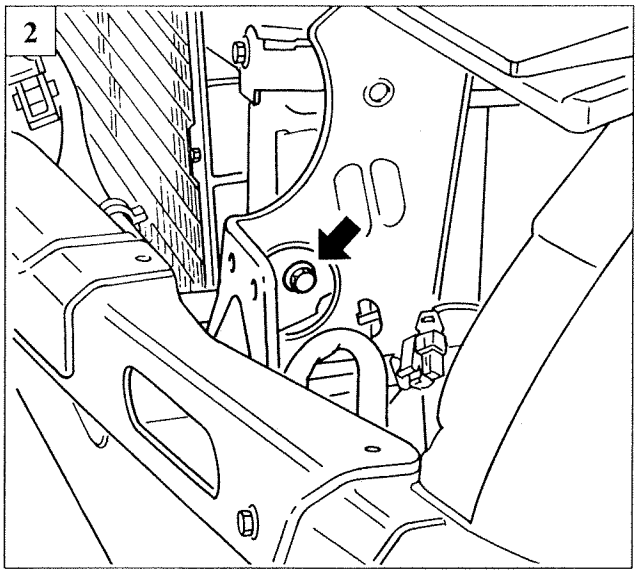

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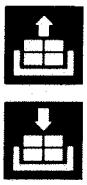
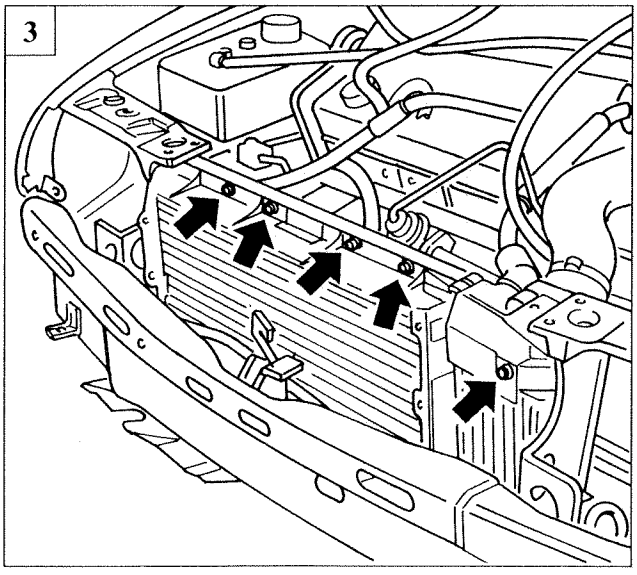


1. Unscrew retaining screw indicated.
2. Unscrew retaining screw indicated.
3. Unscrew retaining screws indicated.
4. Unscrew retaining screw indicated.
5. Move condenser-radiator assembly toward engine and shroud outward. Then remove retaining screws on condenser fins and remove from engine bay.

3



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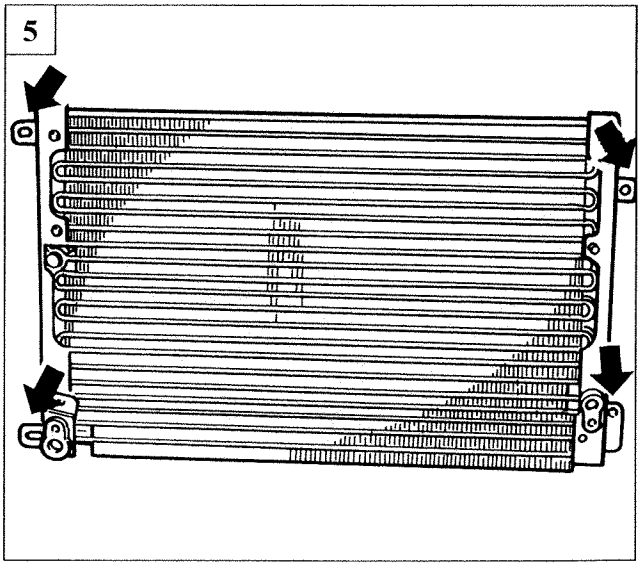

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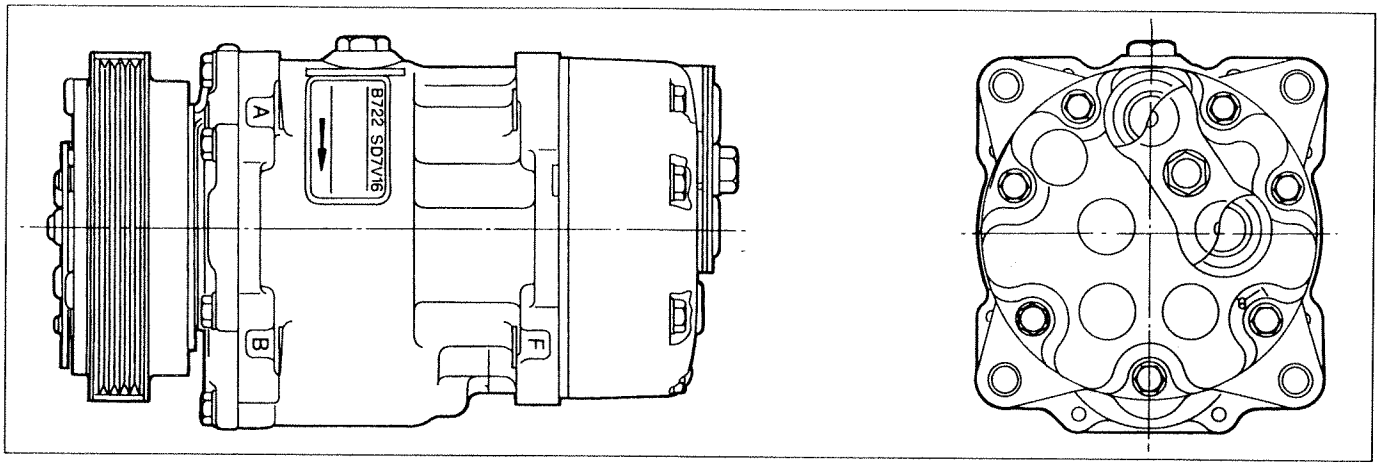
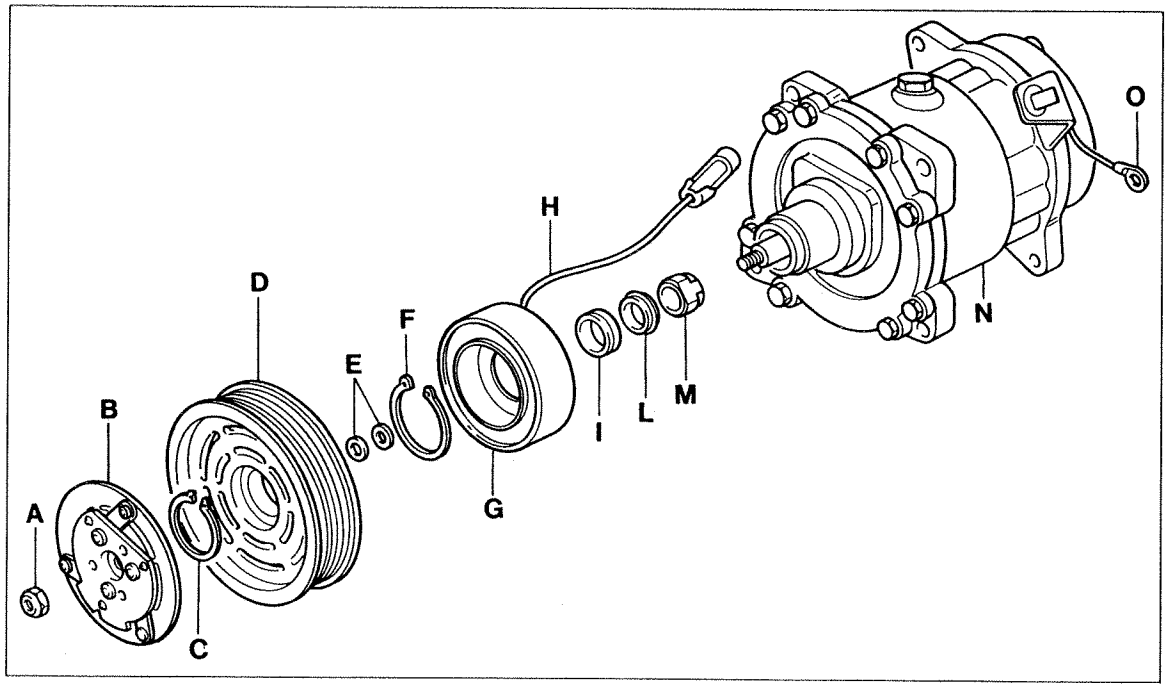
SANDEN 7V16 COMPRESSOR



P3U039H01

Oil quantity and type	240 cm^3 of SP 10
Electromagnetic coupling operating voltage	12 V
Minimum electromagnetic coupling activation voltage	7.5 V
Power uptake by electromagnetic coupling	49 W
Current uptake by electromagnetic coupling	4.08 A
Quantity of R134A to charge system	0.73 kg

ELECTROMAGNETIC CLUTCH

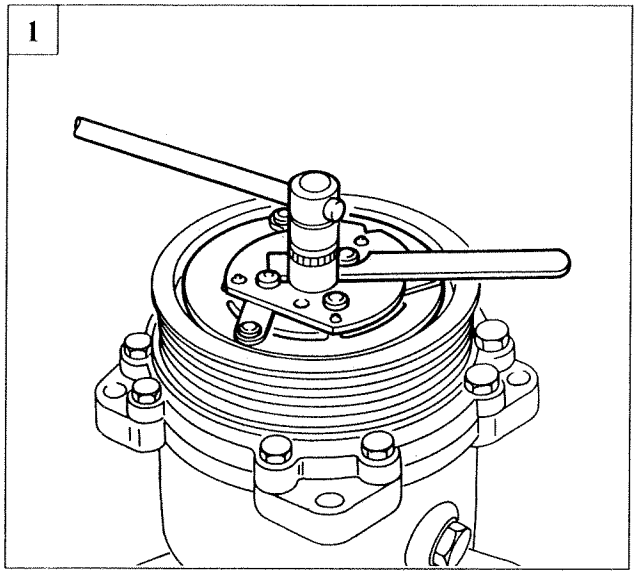


P3U039H02

Electromagnetic clutch components

A. Clutch assembly retaining nut
B. Hub
C. Pulley retaining ring
D. Cylinder pulley
E. Clutch clearance adjustment shims
F. Solenoid pulley retaining ring
G. Solenoids
H. Solenoid power cable
I. Metal ring
L. Rubber sealing ring
M. Gasket
N. Compressor case
O. Earth connection cable

1



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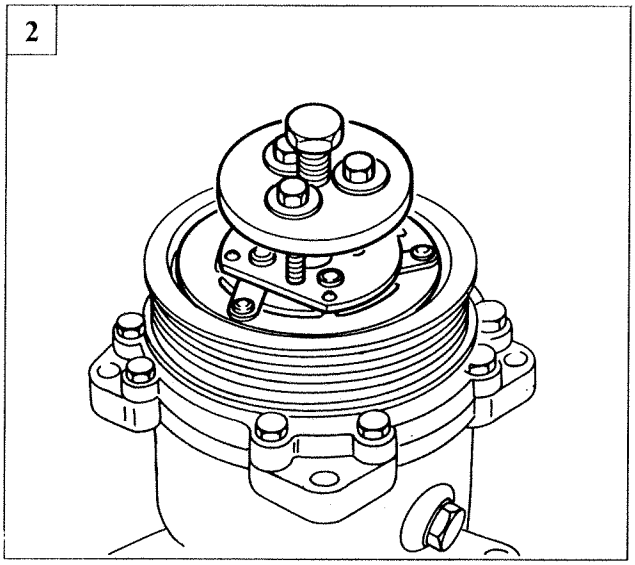

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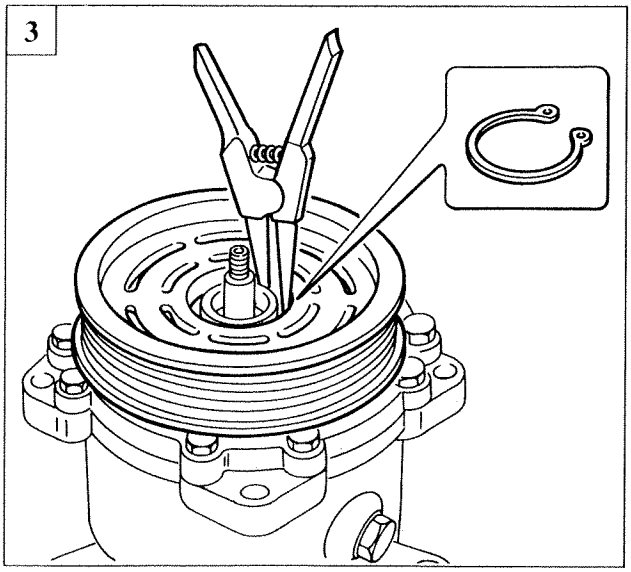

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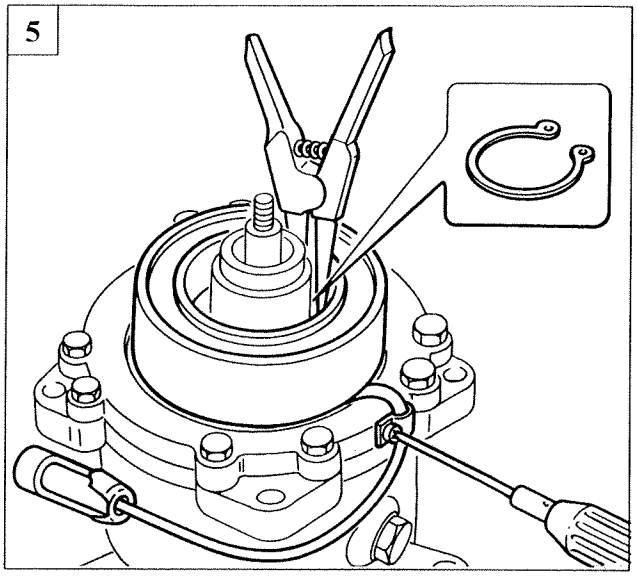


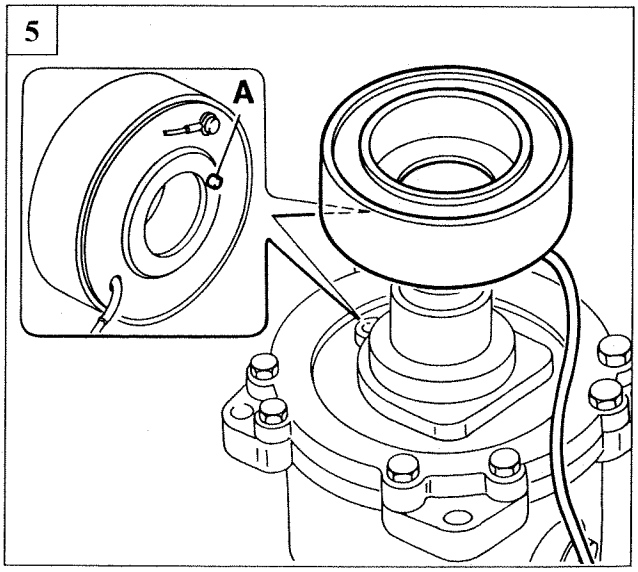
P3U040H04

REMOVING - REFITTING ELECTRO-MAGNETIC CLUTCH

1. Use tool 32409* (A) to retain hub so that clutch assembly retaining nut can be unscrewed.
2. Use tool 32416* (A) to remove hub.
3. Remove pulley retaining ring and clutch clearance adjustment shims.
4. After removing pulley, loosen screw indicated to release solenoid power cables. Then remove retaining ring as shown in the figure.
5. Remove solenoid, noting that dowel (A) must fit into hole on compressor case during reassembly.

* *Tool made by MURRAY of Milan.*

5



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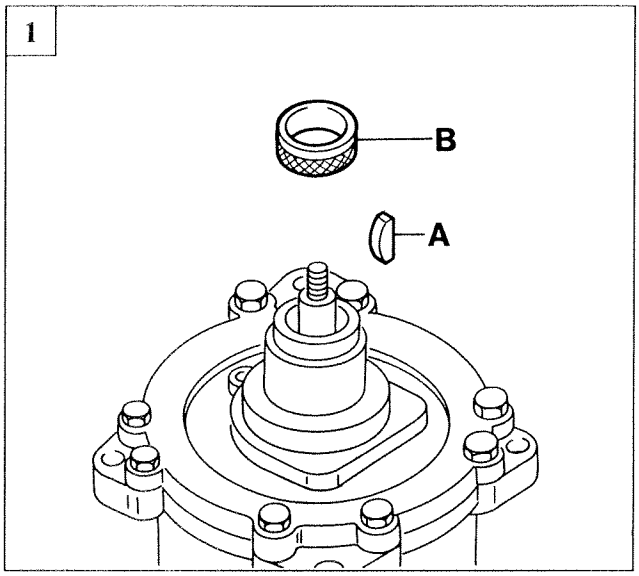
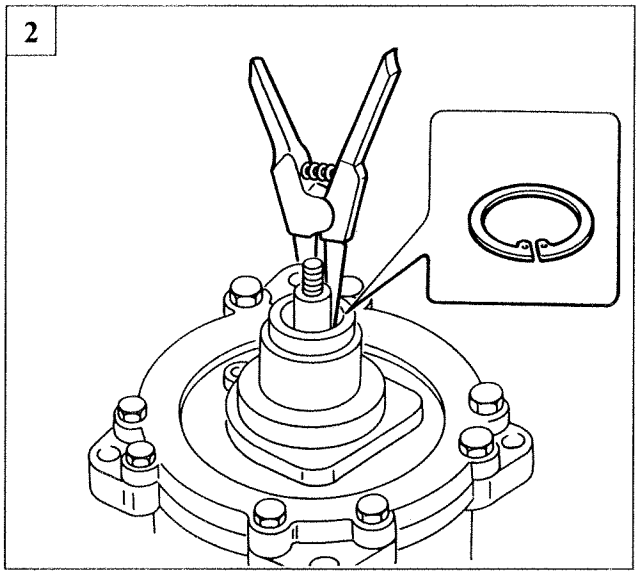


P3U041H01

1. Remove installation key (A) from compressor shaft, then withdraw metal ring with felt washer (B).

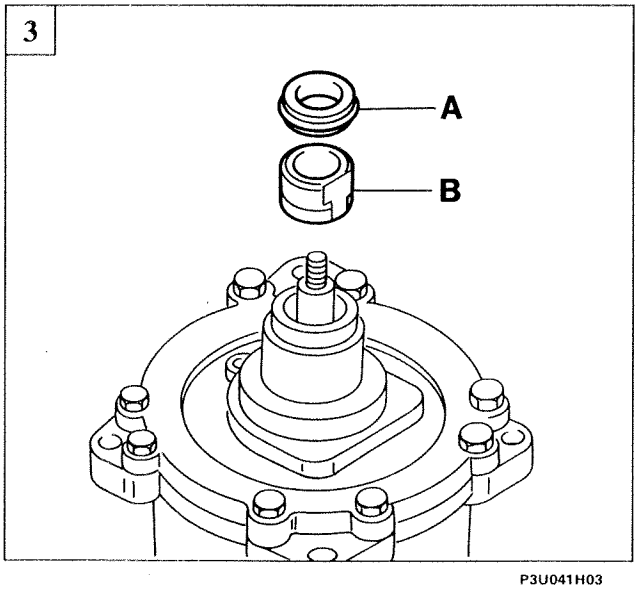
2



P3U041H02

2. Use appropriate pliers to remove retaining ring.

3



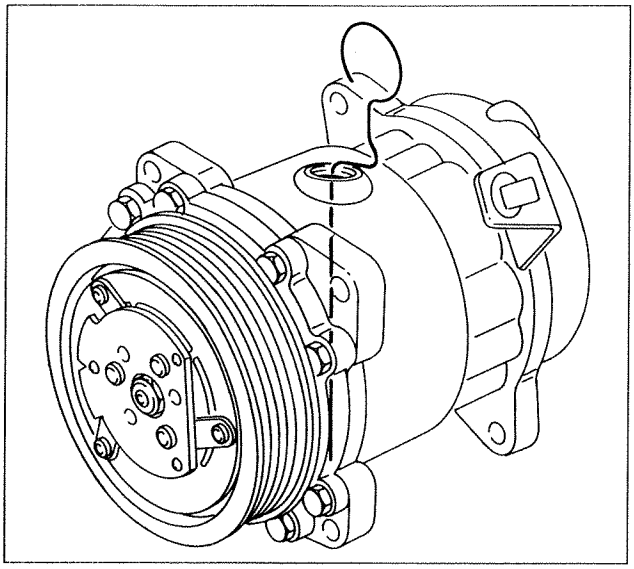
P3U041H03

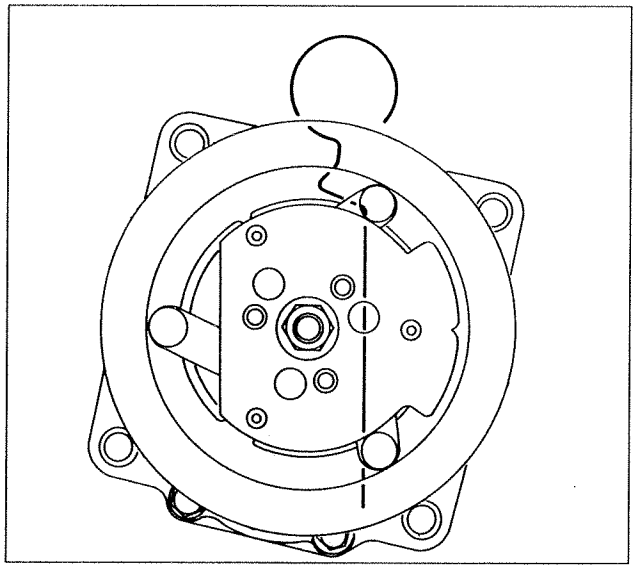
3. Withdraw metal washer from compressor shaft together with rubber sealing ring (A). Use tool 32425* to remove gasket (B).

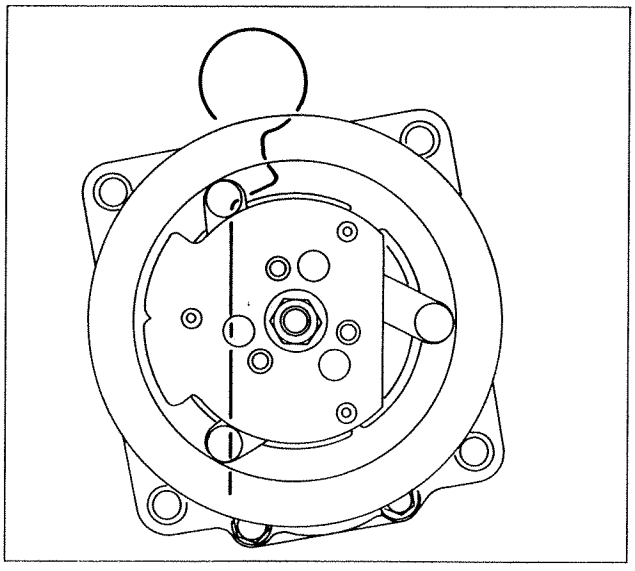
ADJUSTING CLUTCH CLEARANCE

Adjust clearance between hub and clutch using shims provided.

* *Tool made by MURRAY of Milan.*


P3U042H01


P3U042H02


P3U042H03

CHECKING OIL LEVEL

Carry out the following operations in order to check oil level:

- operate heating/ventilation system and then compressor for about ten minutes with engine idling to drain system slowly;
- position level gauge 32448 on flat surfaces of front anchorage dogs and read angle after centring air bubble in level;
- remove oil filler plug then turn compressor clutch plate to move internal compressor components to position described below.

A. With compressor angled to right, operating rod of piston (control rod) must be at beginning of its stroke toward rear of compressor.

B. With compressor angled to left, operating rod of piston (control rod) must be at beginning of its stroke toward front of compressor (pulley end).

- fit oil level dipstick 32447 into appropriate hole until bent part touches compressor case. Note that it must be positioned according to compressor angle;
- remove dipstick from compressor and count number of notches wet with oil.

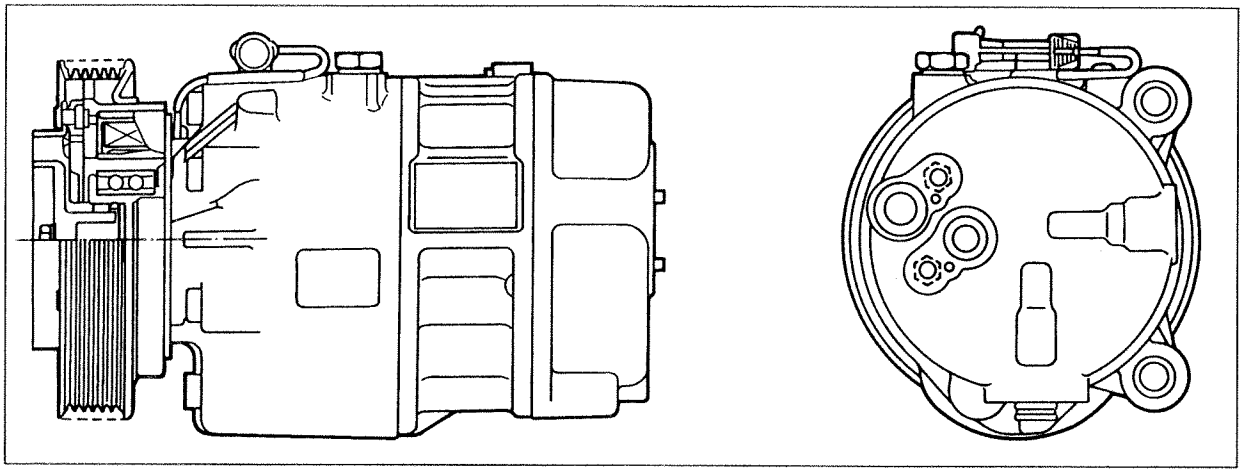
Oil level in relation to compressor angle is given in table at bottom of page.

If level is lower (than indicated), add oil to average level given in table.

Tighten plug to a torque of 1.1 - 1.2 daNm (1.1 - 1.1 Kgm).

Gradient angle	Number of notches
0°	2 - 4
10°	4 - 5
20°	5 - 6
30°	6 - 7
40°	7 - 9
50°	9 - 10
60°	10 - 12
90°	12 - 13

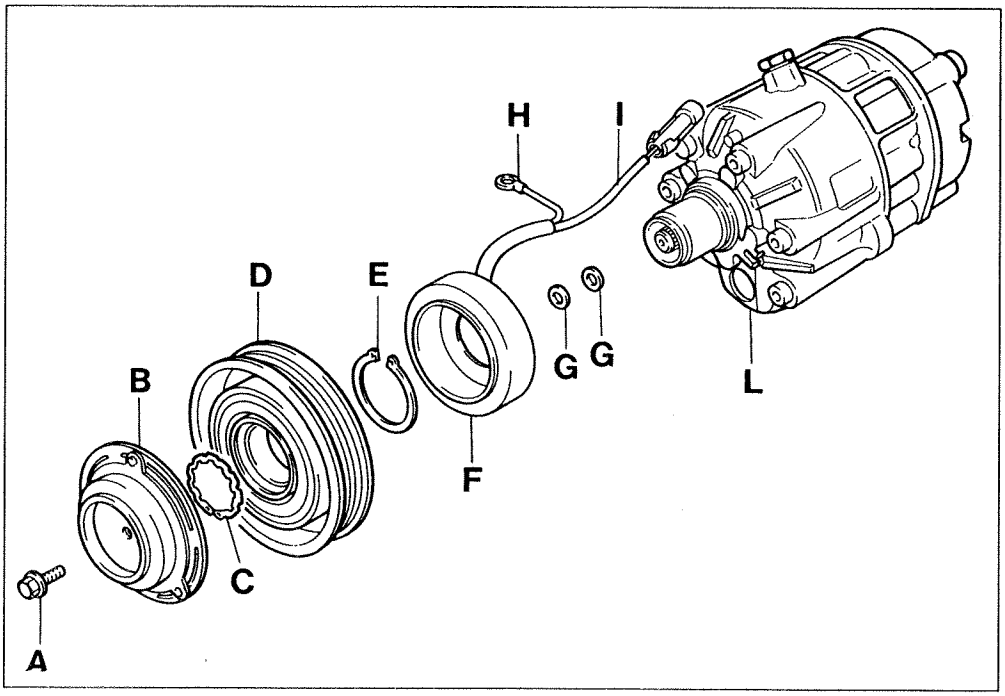
NIPPODENSO 6CA17 COMPRESSOR



P3U043H01

Oil quantity and type	155 ± 15 cm³ of ND OIL 8
Electromagnetic coupling operating voltage	12 V
Minimum electromagnetic coupling activation voltage	7.5 V
Power uptake by electromagnetic coupling	40 W
Current uptake by electromagnetic coupling	2.2 A
Quantity of R134A to charge system	0.8 kg

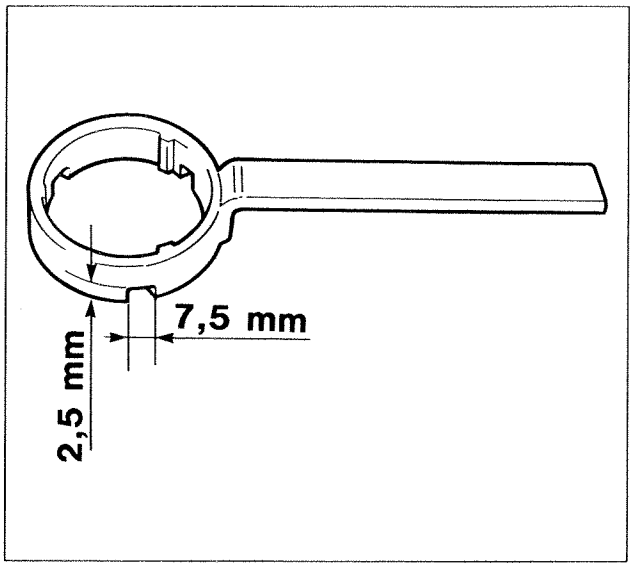
ELECTROMAGNETIC CLUTCH



P3U43AH02

Electromagnetic clutch components

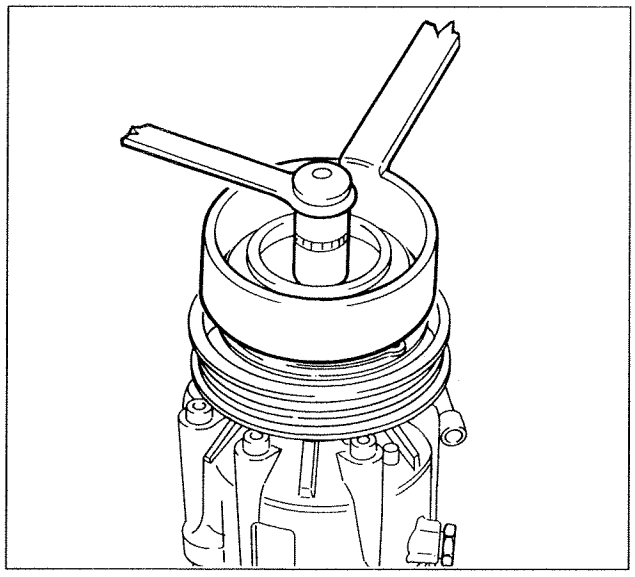
A. Clutch assembly retaining bolt
B. Hub
C. Pulley retaining ring
D. Pulley for cylinder
E. Solenoid pulley retaining ring
F. Solenoids
G. Clutch clearance adjustment shims
H. Earth connection lead
I. Solenoid power cable
L. Compressor case



P3U044H01

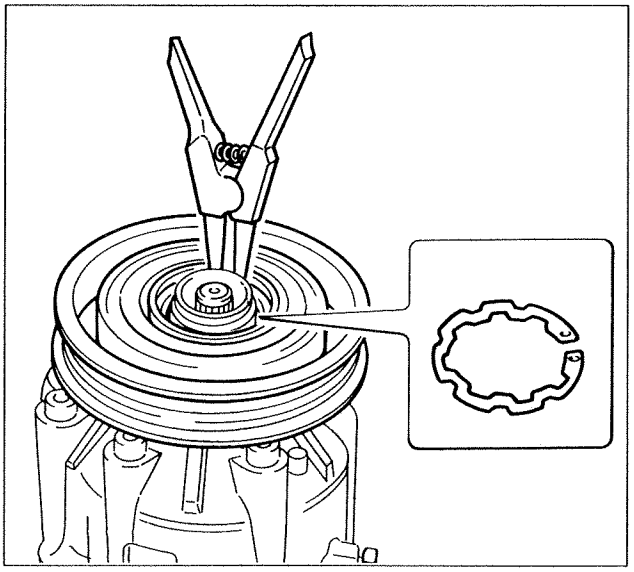
REMOVING - REFITTING ELECTRO-MAGNETIC CLUTCH COMPONENTS

1. Make three equidistant millings on tool 1860494000 at distances shown in figure.



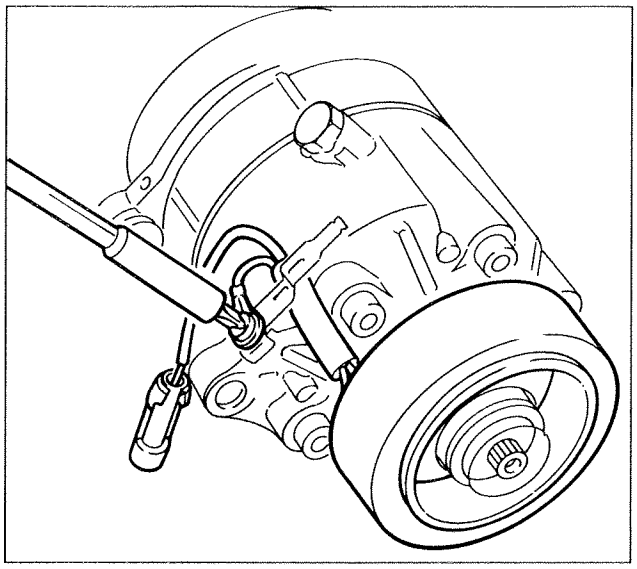
P3U044H02

2. Use tool modified in this way to remove retaining nut.



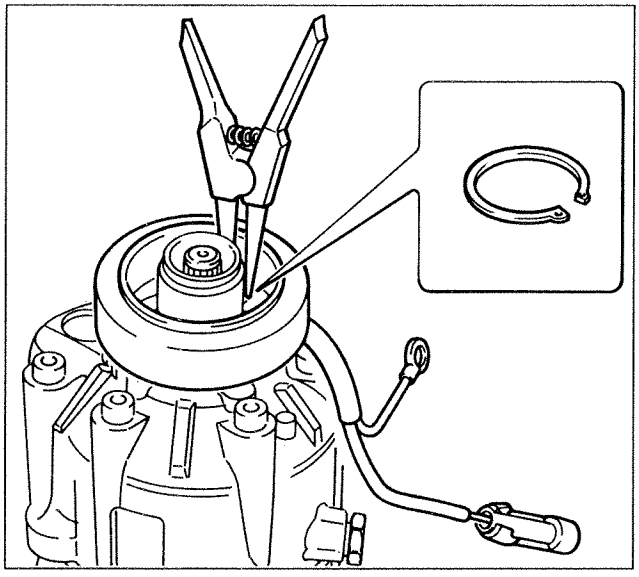
P3U044H03

3. Remove pulley retaining ring and pulley.



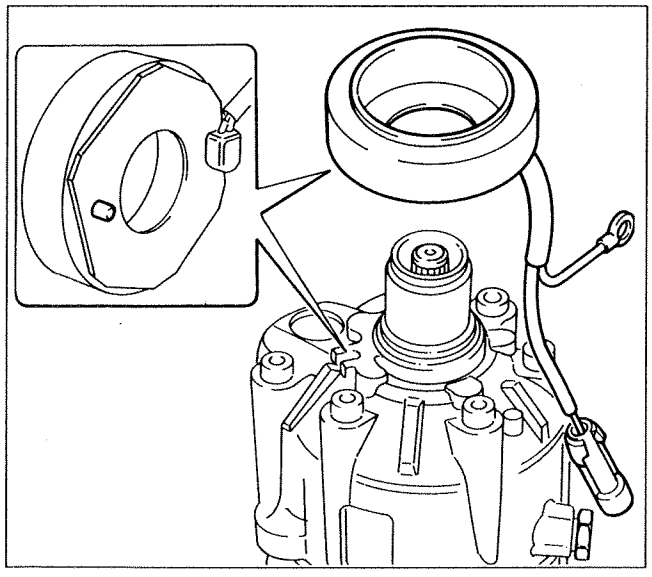
P3U045H01

1. Unscrew solenoid lead retaining screw indicated.



P3U045H02

2. Remove solenoid retaining ring.



P3U045H03

3. Remove solenoid, ensuring dowel on solenoid coincides with hole on compressor case when reassembling.

Reverse operations described above to refit.

ADJUSTING CLUTCH CLEARANCE

Adjust clearance between hub and clutch by means of shims.

AUTOMATIC HEATING SYSTEM CONTROLS

Automatic heater controls are located on INFOCENTER (as indicated on facing page), which is positioned in the middle of the facia.

CLIMA key

Used to access automatic heater function on INFOCENTER.

TEMP keys

TEMP keys can be used to alter temperature required in passenger compartment through a range of 15°C.

OFF key

When OFF key is pressed, system goes off (if on) or on (if off). When this key is pressed, system operating messages should disappear from display i.e. required temperature, recirculation function (distribution, windscreen demisting) and wording CLIMA OFF appears on display.

RECIRCULATION key ()

When the RECIRCULATION key is pressed, recirculation function is activated and relevant symbol appears on display. Unless manual commands are given, recirculation is controlled automatically according to required temperature and outdoor temperature.

FAN speed keys

When the AIR keys are pressed, air flow is altered. This is displayed by means of bar graphs (5 bars) while word AUTO appears on display.

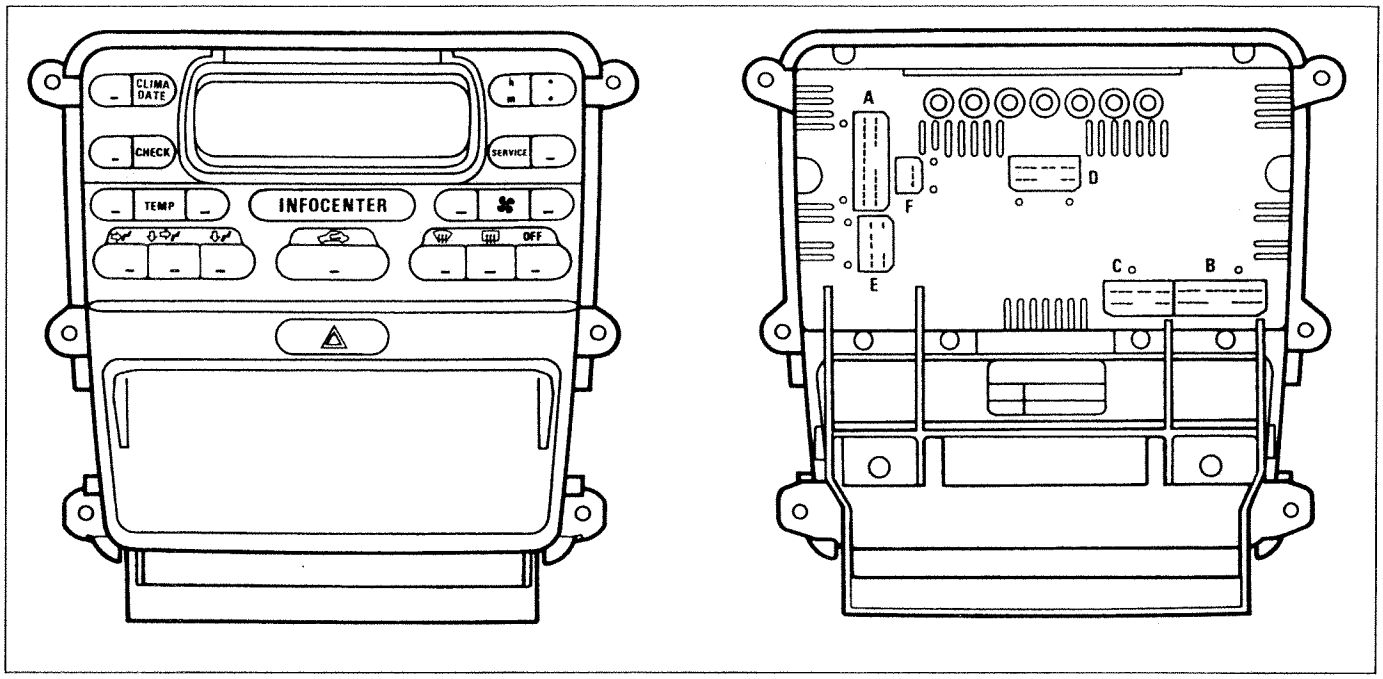
Distribution keys VENT (), BILEV (), FLOOR ()

When the VENT, BILEV, FLOOR keys are pressed, air distribution is altered. Relevant symbols light up and word AUTO appears on display. When keys for the three positions are pressed, the following distribution flap angular positions are obtained:

VENT = 0 degrees

BILEV = 35 degrees

FLOOR = 65 degrees



P3U33AH01

CONNECTOR	INPUT SIGNAL
A	Earths and power sources
B	Faults and wear
C	Faults
D	Do not connect *
E	Various signals
F	Fault diagnosis

Windscreen demister key

This key is pressed when all air is to be directed toward windscreen (distribution flap positioned at 95 degrees).

HI status

If user sets temperature greater than 32 °C (90 °F), HI status is obtained, i.e. maximum heating. This appears on display accompanied by wording AUTO. This status is cancelled only when required temperature is decreased.

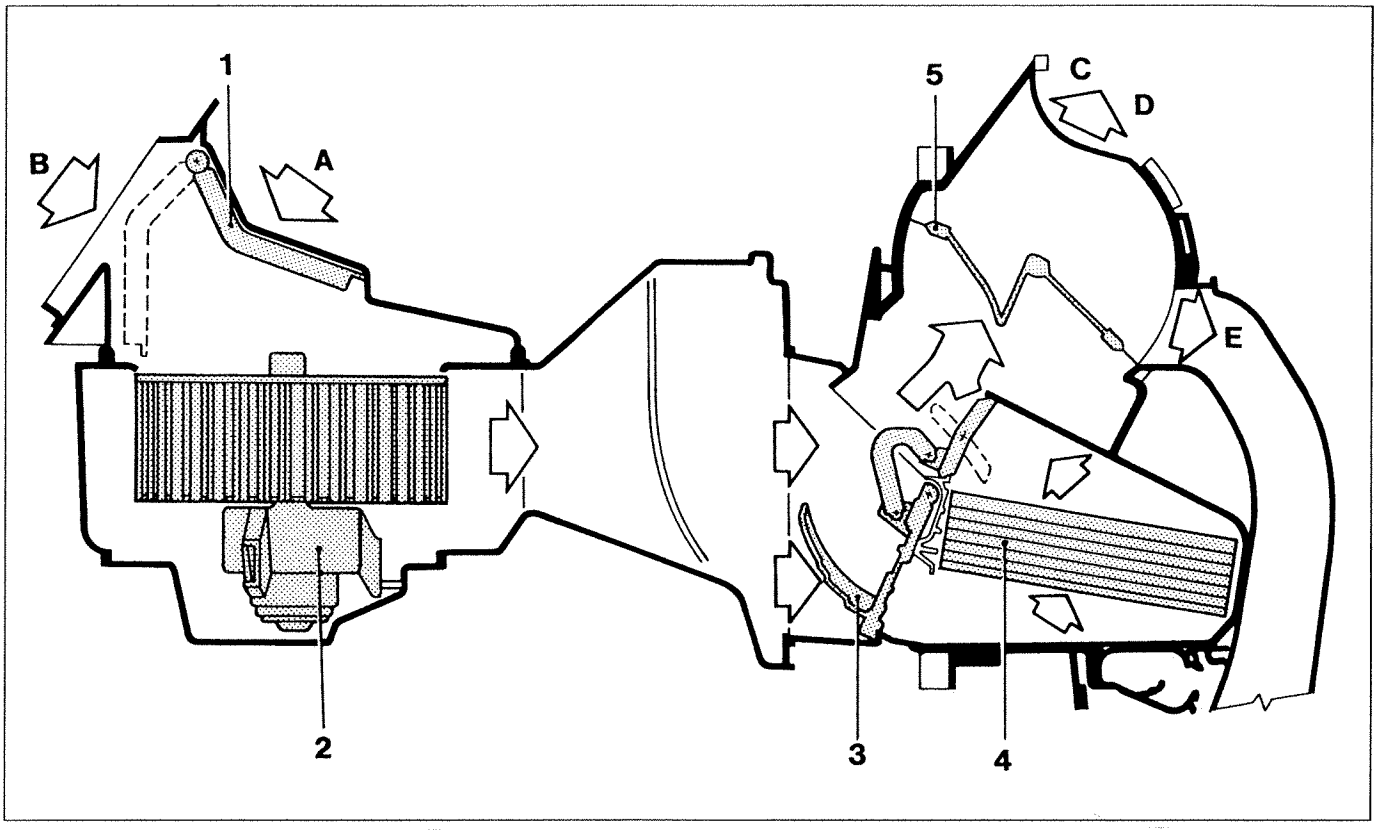
* For vehicles with automatic heaters, connector D is not connected

50.

AIR DISTRIBUTION LAYOUT

Air is taken up by fan (2) through air intakes according to position assumed by recirculation flap (1); where (A) indicates an air flow taken from outside and (B) an air flow taken front inside vehicle.

Air reaches mixing area where mixing flap (3) directs air directly to distribution system or to heater radiator (4) according to position assumed.
According to position taken up by distribution flap (5), mixed air is directed to demister (C), fan (D) or floor (E).



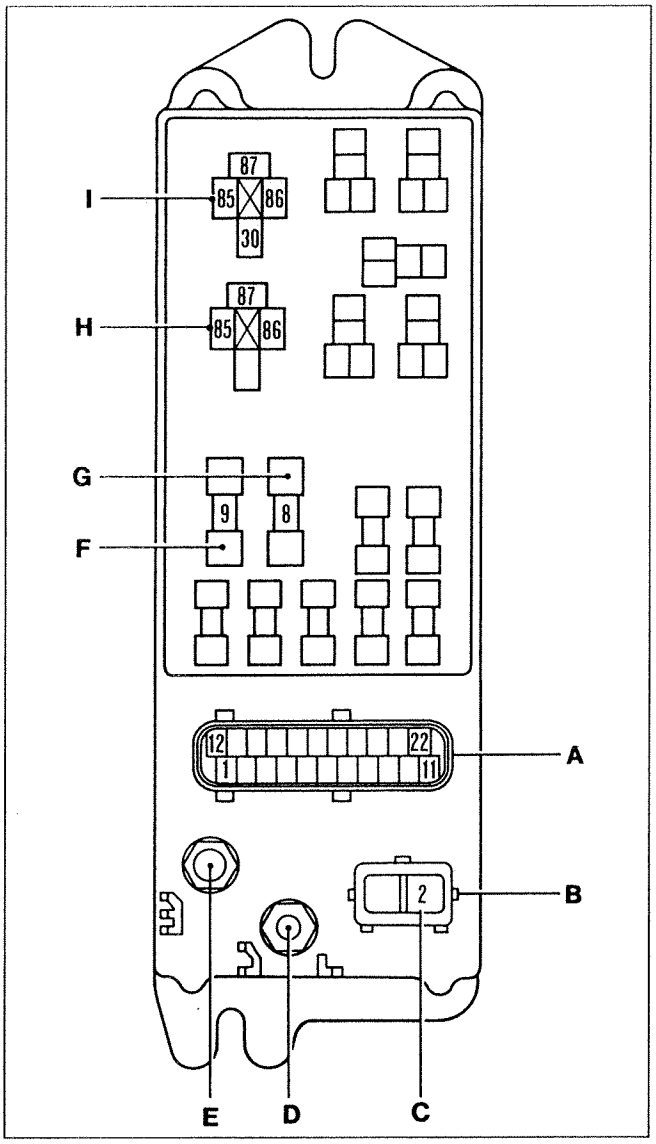
P3U30AH01

Diagram showing route taken by air through heating/ventilation assembly

1. Recirculation flap
2. Electric fan
3. Mixer flap
4. Heater radiator
5. Distribution flap

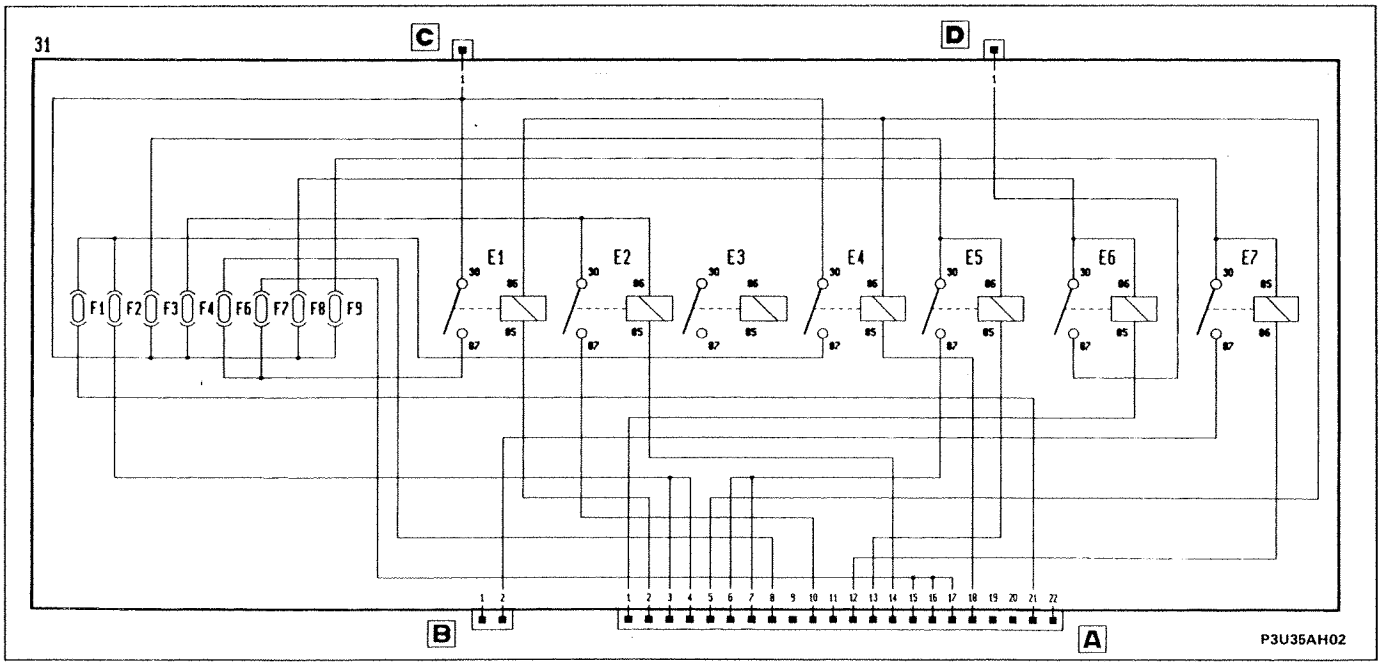
A. Outdoor air flow
B. Interior air flow (recirculation)
C. Windscreen air flow
D. Air flow from central, front and side outlets
E. Air flow to rear outlets

JUNTION UNIT ON ENGINE BAY FOR VEHICLE WITH AUTOMATIC HEATER



P3U35AH01

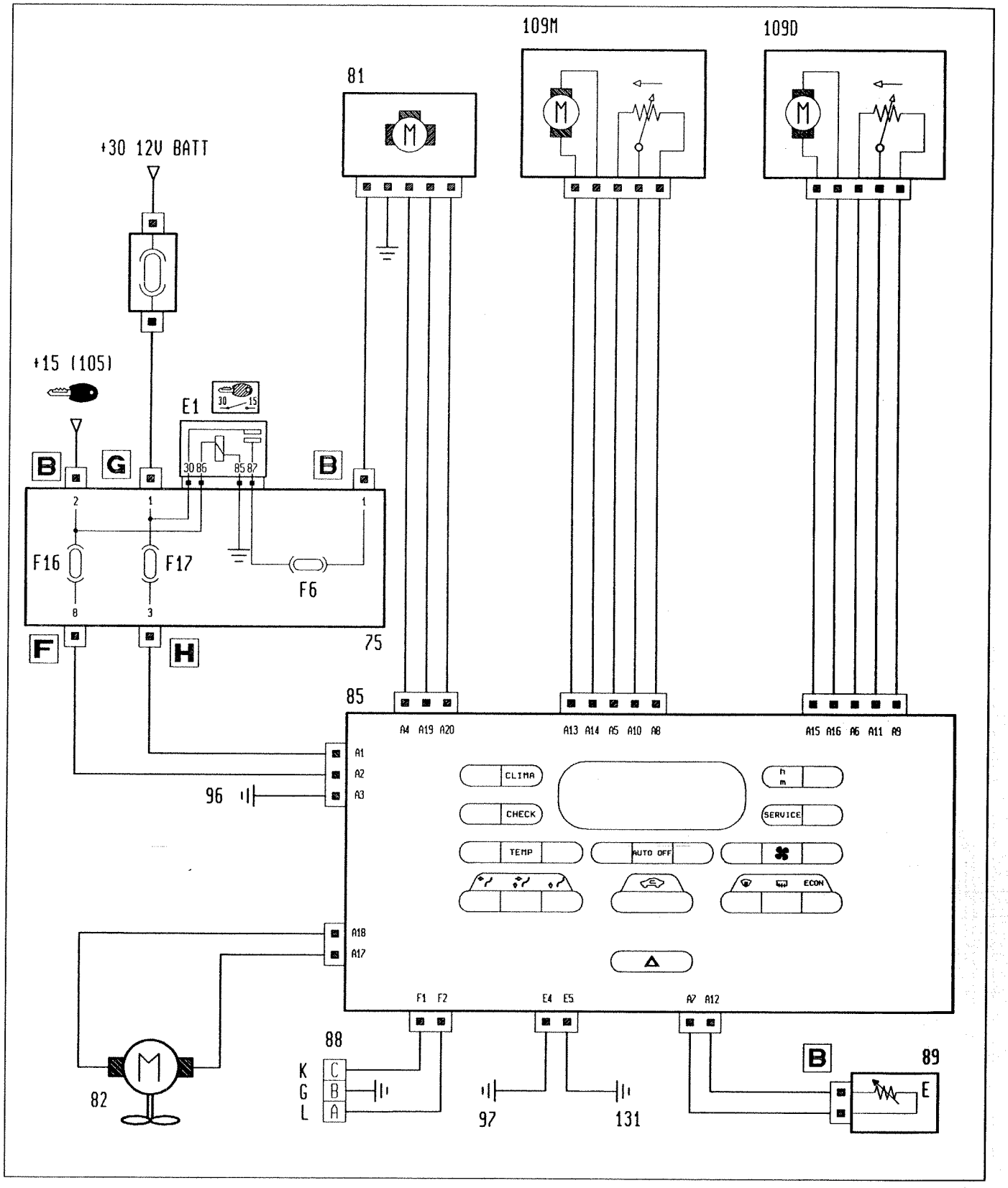
A. Seat for multiple connector for leads connected to junction box
B. Connection seat for two-way connector
C. Terminal connected to engine cooling fan (low speed)
D. Single-pole terminal for connecting engine cooling fan (high speed)
E. Connection terminal for main battery power source
F. 50A fuse for engine cooling fan (low speed)
G. 50A fuse for cooling fan (high speed)
H. Fan relay for engine cooling (low speed))
I. Cooling fan relay (high speed)



P3U35AH02

50.

WIRING DIAGRAM FOR SYSTEM WITH AUTOMATIC HEATER



P3U25AH01

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Index

55.

NOTE *The components identification key, for the wiring diagrams in this Section, is given at the end of Section 55 - Electrical Equipment - Wiring Diagrams.*

The information contained in this publication is purely indicative and could be out of date following modifications made by the Manufacturer, at any time, for technical or commercial reasons or in order to conform to legal requirements in the various countries.

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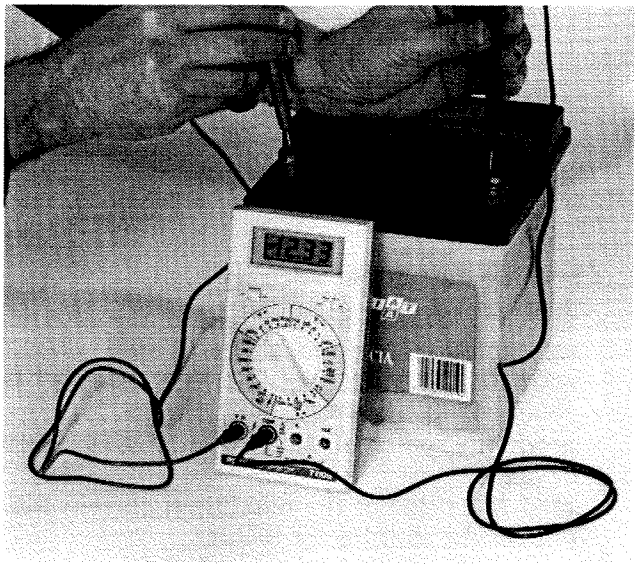


F3U001L01

BATTERY

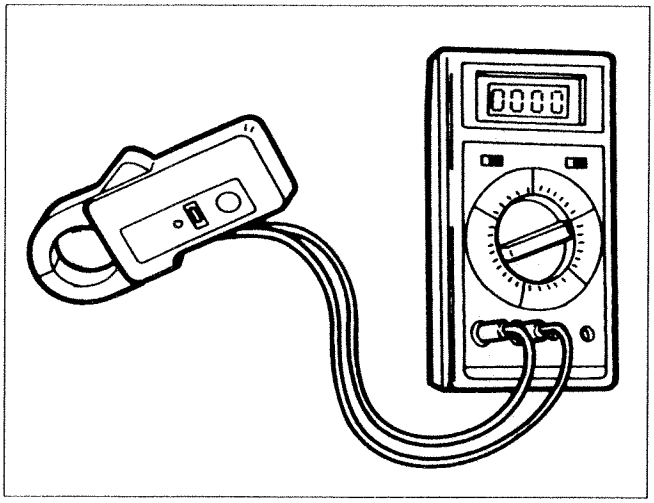
The batteries fitted to all versionsare of the maintenance-free type and so do not require maintenance.
This type of battery has the following advantages over conventional batteries:

- very low electrolyte consumption owing to the use of a new type of alloy for the construction of the grids and plates;
- extremely low self-discharge rate which offers good starting capacity for a period of 7 months; it therefore lends itself to prolonged storage (at temperatures of below 28°C);
- a reduction in the volumes of gases developed during charging, which are those that cause corrosion and consequently poor contact on the terminals.

If a discharged battery is suspected, **after leaving the battery on an open circuit for at least two hours**, measure the voltage without load, connecting a digital voltmeter to its terminals. If the reading is below 12.30 V it is 50% charged; if it is 12.48 V it is 75% charged, and if it is 12.66 V it is 100% charged.

If the electrolyte level in one or more cells of the battery is below the minimum level marked on the plastic container, open the cell cover and add distilled and deionized water (as for ordinary batteries).

NOTE *Do not subject the battery to fast charging at voltages of over 15.5 V, or to high recharging currents or amperages.*



P3U002L01

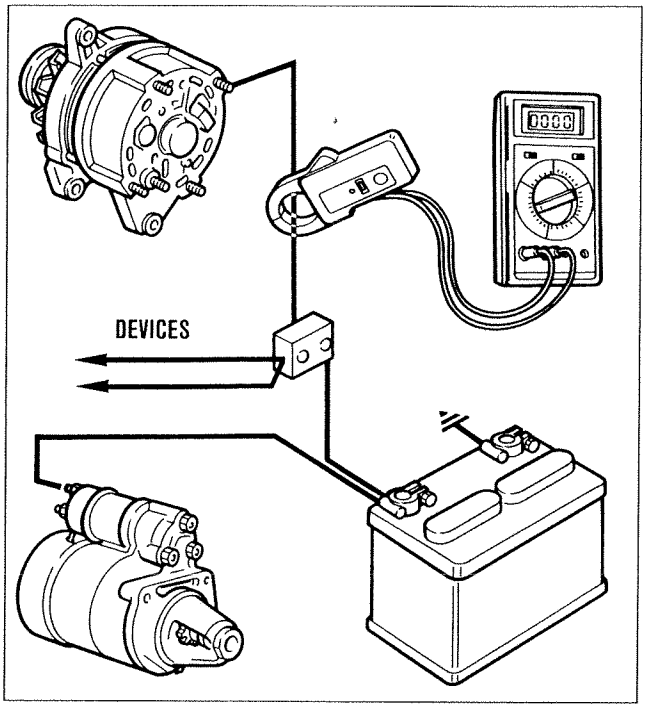
ALTERNATOR

Checking the voltage and maximum current intensity delivered by the alternator on the car, using a digital multimeter and HALL effect clip-on ammeter.

Description and use of the clip-on ammeter

This is clipped to a multimeter and permits the following to be measured: battery charging and discharging current, SCR (silicon-controlled diode) controlled current and currents absorbed by starter motors, between 10 and 600 A without the circuit having to be interrupted. Before starting the measurements:

- set the 'LO-HI'switch on the clip to "LO" for measurements up to 200 A or to "HI" for measurements between 200 and 600 A.
  The reading is obtained in both positions for any value, but it is necessary to change the position to ensure greater precision of the reading on the display.
- After connecting the clip to the multimeter, set the multimeter to the 200 mV or 2 V range, alternating or direct depending on the current to be measured.
  If the selected range is 200 mV, the reading will be given directly in amperes; if the range is 2 V, the reading must be multiplied by one thousand.
- The reading must then be reset by operating the "ZERO ADJUST" button on the clip-on ammeter. If there is reason to suspect the existence of dispersed magnetic fields, the ammeter should be reset while being held at a distance of 5-10 cm from the conductor.
  When measuring DC, a possible hysteresis phenomenon could render it impossible to reset the clip. In this case, open and close the clip a few times and then reset it.

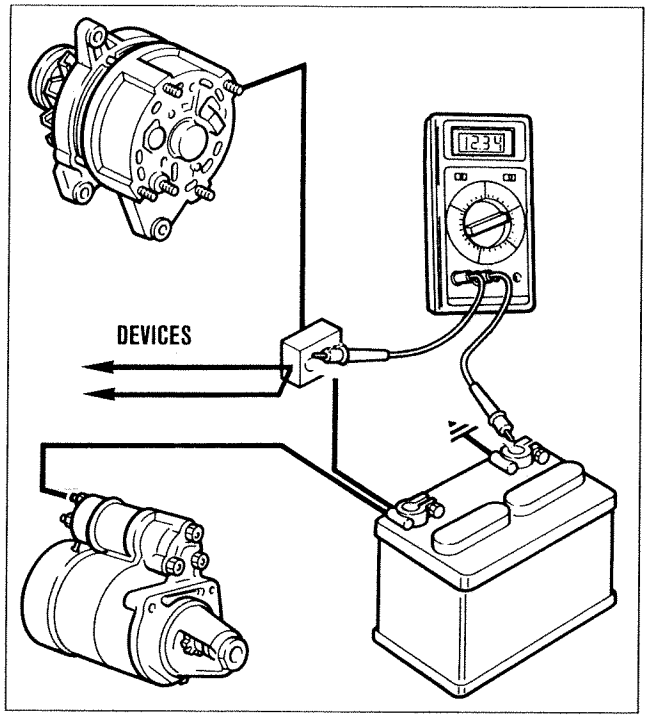


P3U002L01 P3U002L02

Checking the current intensity

- Clip the clip-on ammeter onto the alternator-cable junction block (see figure);
- start up the engine and increase its speed to 3000 - 4000 rpm;
- gradually switch on all the available electrical devices;
- read the value of the maximum current output on the multimeter display.

If the current intensity readin on the multimeter is over 5 A lower than the specified value, overhaul the alternator.

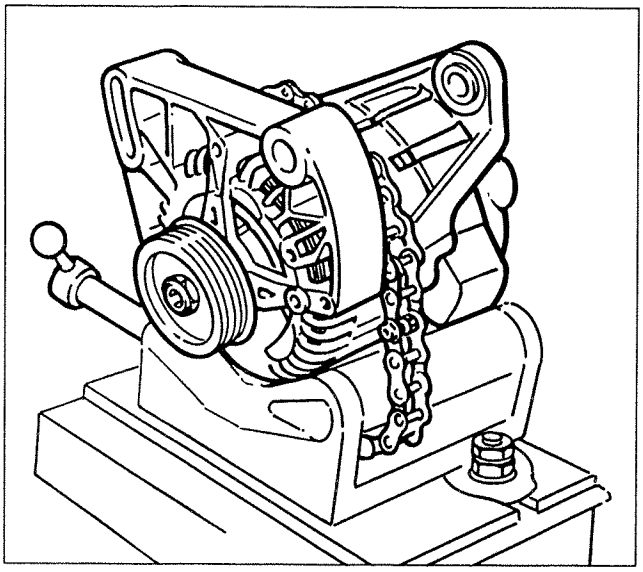


P3U002L03 P3U002L04

Check the voltage

- Place the multimeter leads in contact with the battery terminals;
- start the engine and increase its speed to 3000 - 4000 rpm;
- gradually switch on a few electrical devices until an absorption of about half of the maximum load is obtained.

Under these conditions, the voltage reading must be between the maximum and minimum values shown in the graphs below, in accordance with the ambient temperature of the electronic regulator (alternator).



PIL01M504

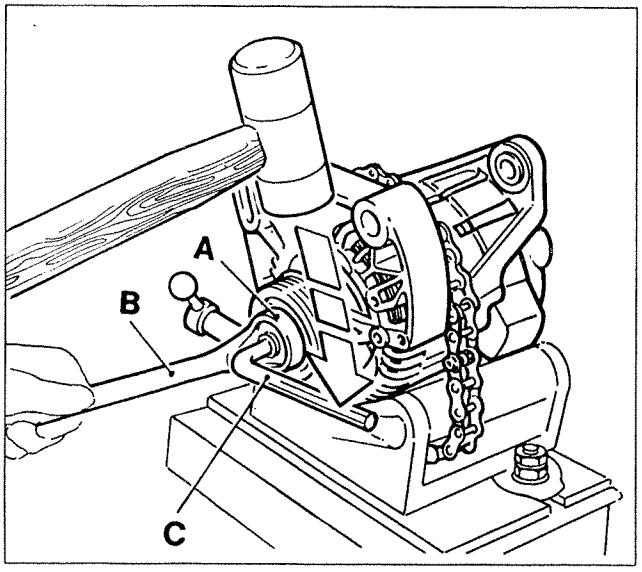
OVERHAULING MARELLI ALTERNATOR

1998 20V 2446 20V

Removing pulley

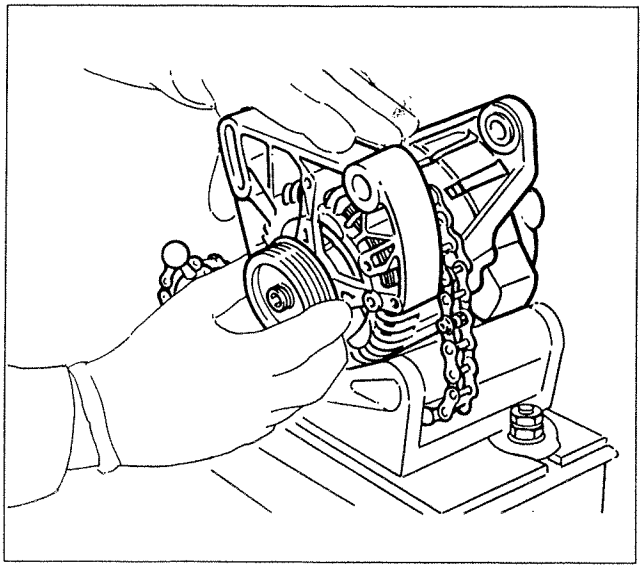
Remove the nut fixing the pulley using a controlled torque pneumatic screwer. Alternatively, proceed as described below:

- firmly fix the alternator in a horizontal position, on a cradle support with the internal walls protected with a soft material, or in a vice securing it through one of the two fixing clamps with two lead jaws in position;



PIL01M505

- lock the nut fixing the pulley (A) using the spanner (B) and insert the 8 mm spanner (C) in the alternator shaft housing;
- using a plastic hammer, strike the long side of the spanner (C) firmly, repeating this operation, if necessary, until the nut has been loosened;
- after having removed the nut and the washer, remove the alternator pulley.

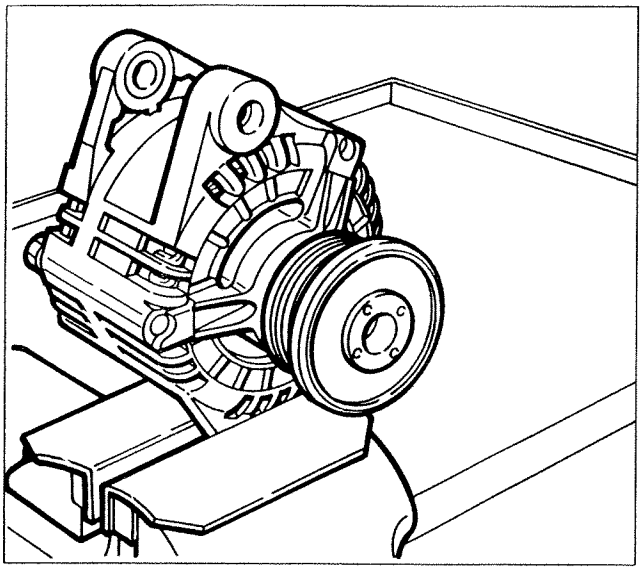


PIL01M506

8 daNm

Refitting pulley

Clean the threaded element of the alternator shaft using a wire brush to remove any residues of Loctite, then smear Loctite 270 sealant on the first 3-4 threads.
Manually tighten the pulley until it is in the end of travel position, then tighten to the recommended torque.

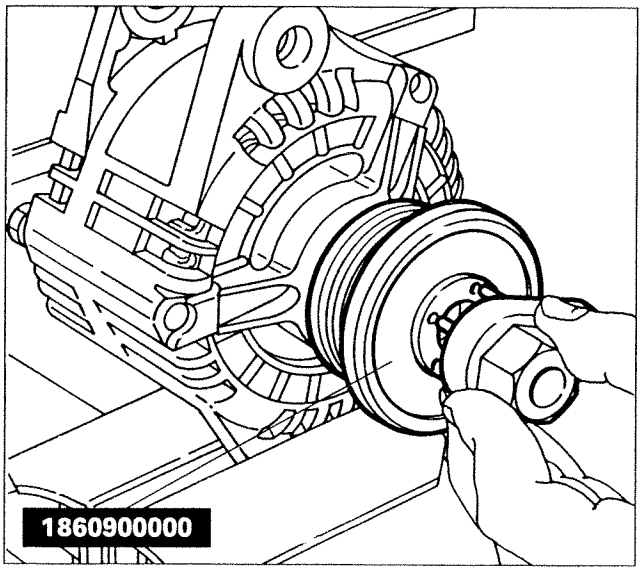


PIL01M507

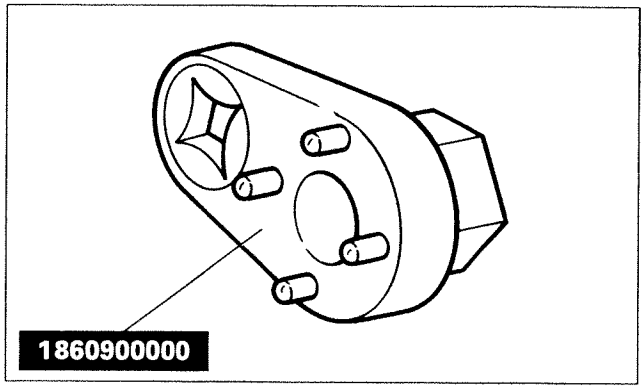
2387 TD

Removing pulley

Proceed to dismantle the alternator pulley by carrying out the following operations:
- securely fix the alternator in a horizontal position on a cradle support with the internal walls protected by a soft material;
- alternatively, fix the alternator in a vice locking it in a horizontal position using one of the two fixing clamps with the two lead jaws in position;

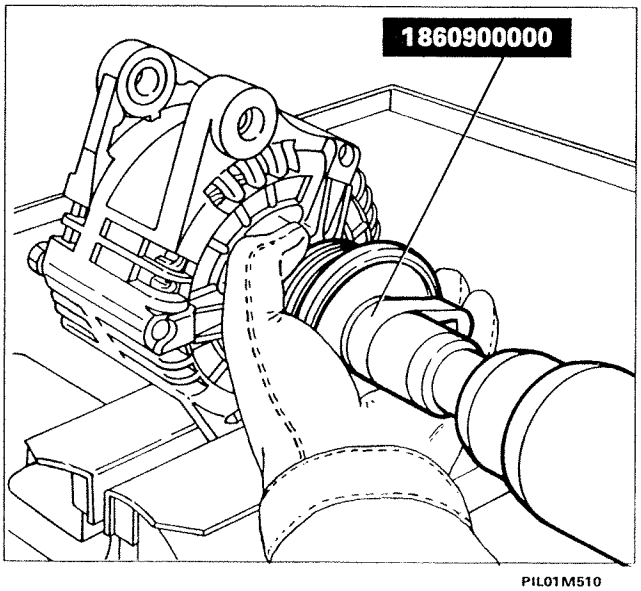


PIL01M508



PIL01M509

- insert the pins for special tool 1860900000 in the corresponding alternator pulley apertures;

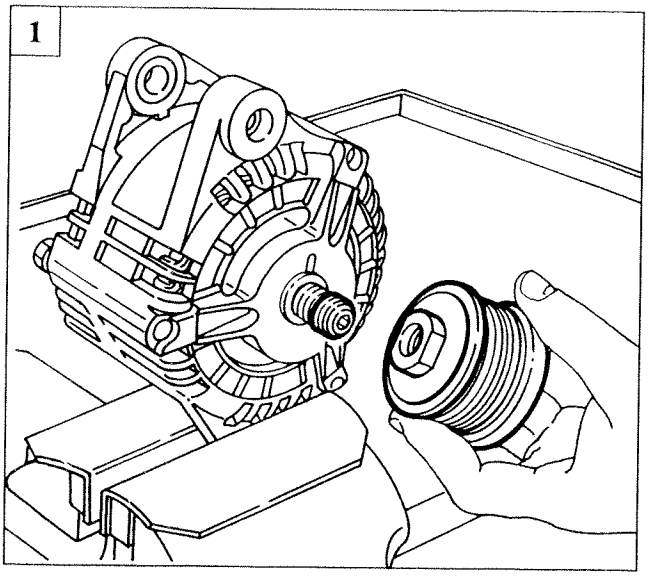


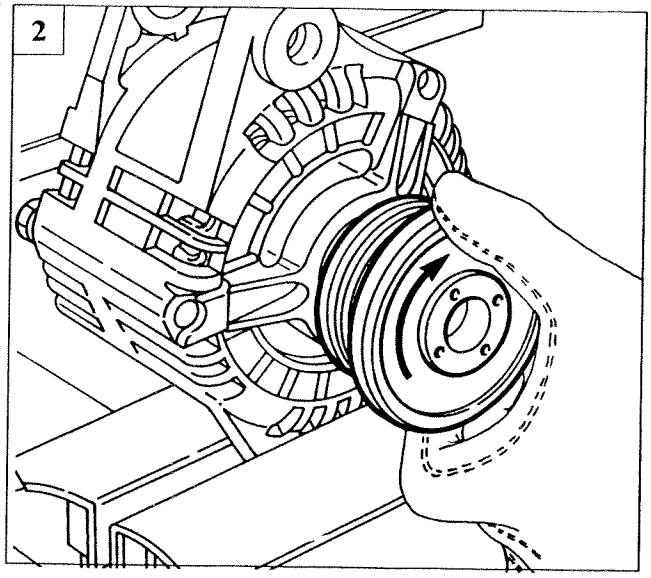
PIL01M510

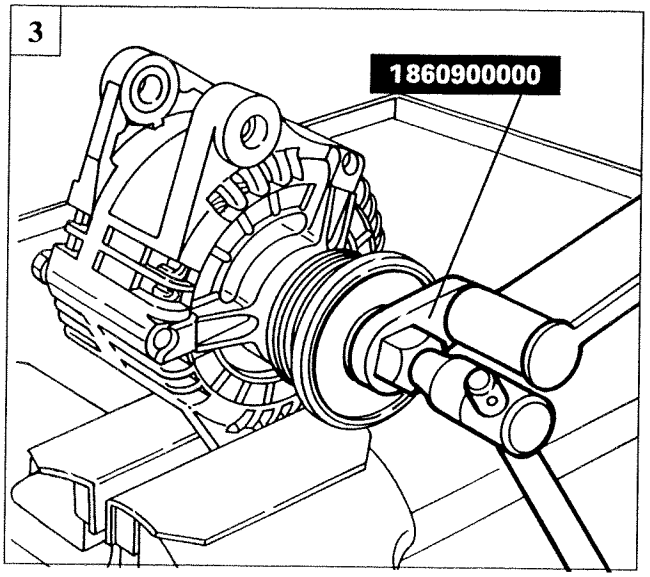
- fit a 24 mm bush to a controlled torque pneumatic screwer;
- insert the bush in the corresponding housing in tool 1860900000 and, operating the pneumatic screwer in a left direction (anti-clockwise), loosen the pulley.

NOTE *During this stage the pulley should be handled gently by a suitably protected hand.*

It is IMPERATIVE to use a pneumatic screwer for the operation of removing the pulley.



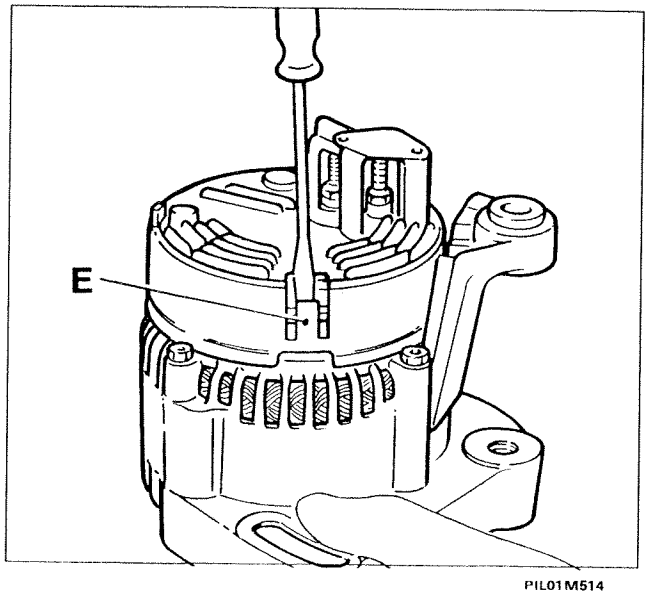




Refitting pulley

Fit the alternator pulley by carrying out the following operations:

1. clean the threaded element of the alternator shaft using a wire brush to remove any residues of Loctite, then smear Loctite 270 sealant on the first 3-4 threads;
2. fully tighten the pulley, manually then, insert the pins for tool 1860900000 in the pulley apertures;
3. working via the aperture in the tool, insert an 8 mm spanner in the housing in the alternator shaft and, working with a torque wrench set at 11 daNm in the square housing in the actual tool, tighten the pulley to the recommended torque figure.

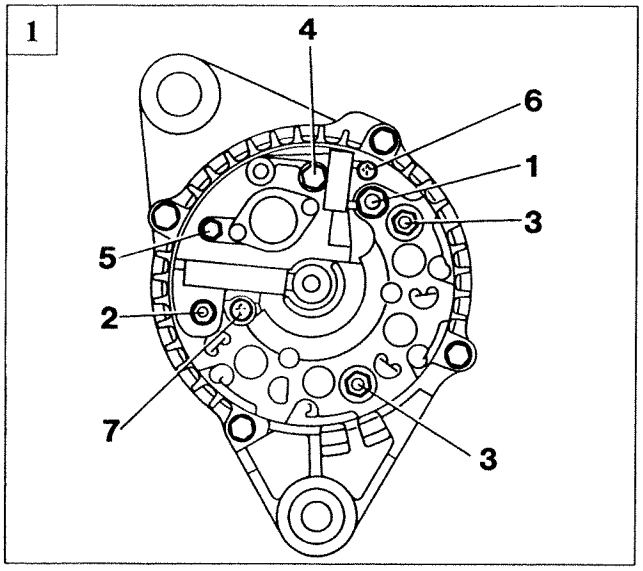


1998 20V 2446 20V 2387 TD

Removing-refitting protective cap

Rest the alternator in a vertical position with the straight side facing upwards, using a suitable support.
Using a suitable screwdriver, gently apply leverage to the cap fixing clips (E) and remove the cap.

1



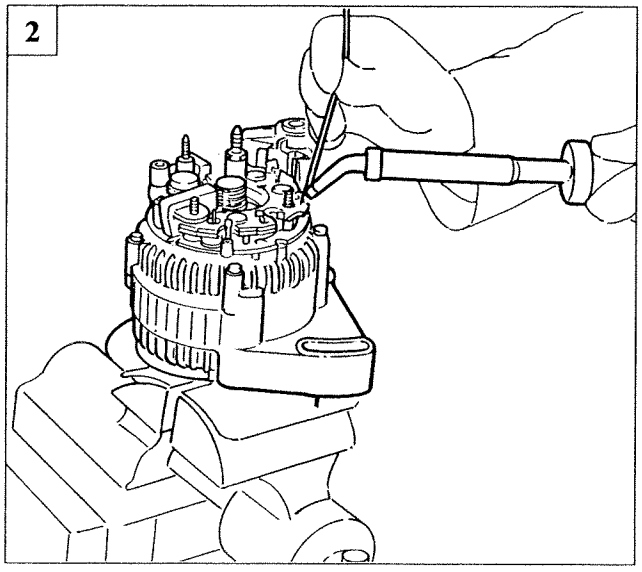
PIL01M515

Removing-refitting regulator

1. Undo the following nuts:
   - (1) for the clamping screw and the relevant bush;
   - (2) for fixing the regulator and axle to the support;
   - (3) for fixing the axle to the support;
   - (4) for the clamping screw.

When refitting, tighten nut (1) and nuts (2) and (3) to the recommended torque (0.85 daNm) and (0.55 daNm).

2

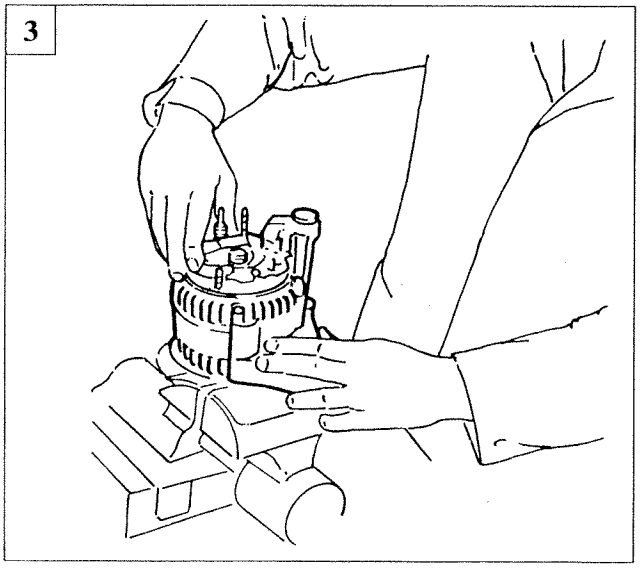


PIL01M516

2. - Rest the welder (80W) on the stage connection to the rectifier bridge and release a drop of filling material;

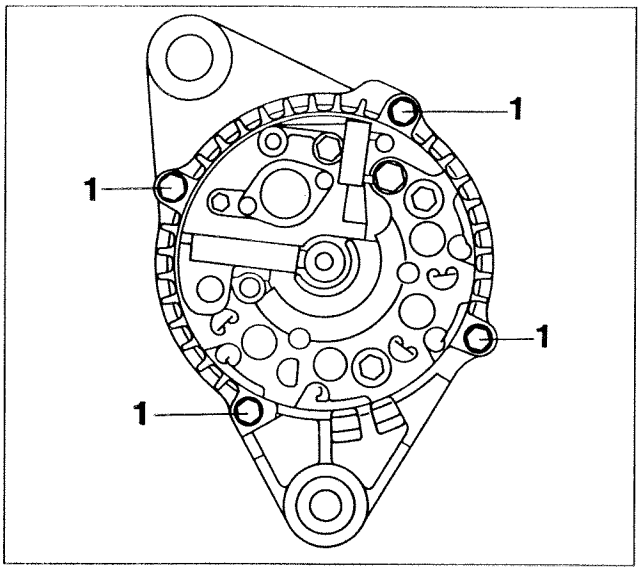
   - keep the welder resting on the connection and, at the same time, using a suitable screwdriver, gently apply leverage to the plastic support for the three energizing circuits;
   - remove the excess material;
   - repeat the operation for each of the terminals, reducing the interval to the minimum possible to prevent the diodes from overheating;
   - remove the three circuits (where fitted), then undo the regulator and bridge fixing bolt on the support (6 fig.1), the bolt fixing the regulator to the support (5 fig.1) and the bolt fixing the regulator to the bridge (7 fig.1);
   - when refitting, tighten the bolts (5) (6) (7) to the recommended torque (0.25 daNm).

3



PIL01M517

3. Remove the regulator taking care that the blades are not damaged during the operation.

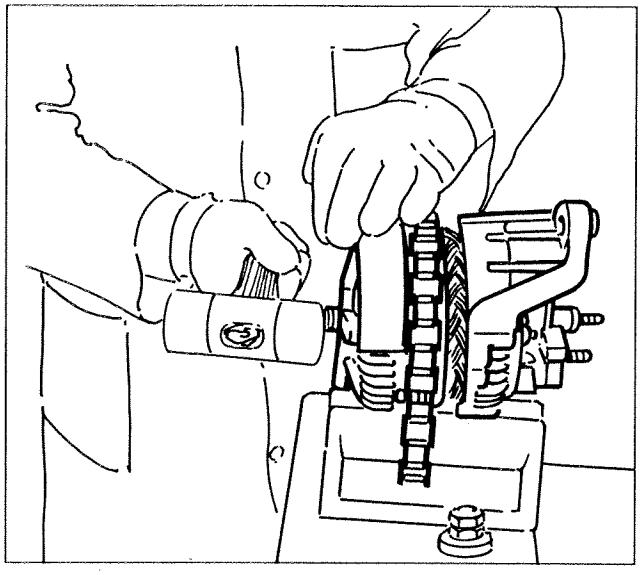


P3U005L01

Dismantling-fitting supports

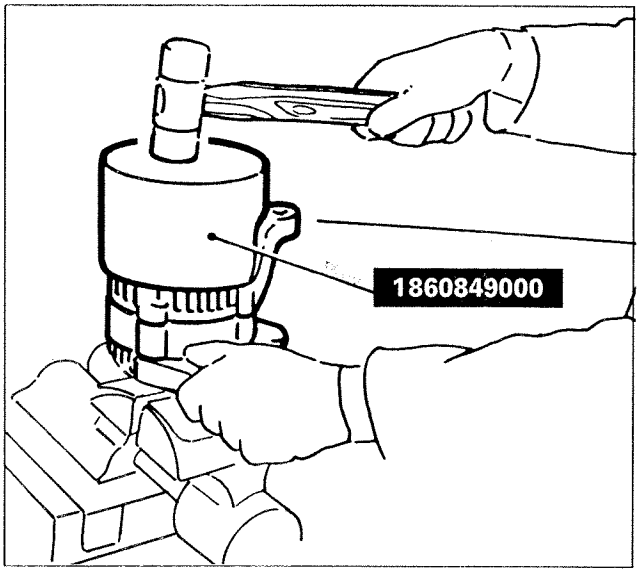
Proceed as described for the regulator on the previous page to remove phase terminals from bridge connectors.

1. Unscrew the bolts fastening (1).



P3U005L02

2. - Rest the control end of the alternator in horizontal position on the support cradle and fasten securely;
   - strike the control end of the alternator shaft using a plastic mallet until the rectifier end mount comes out together with the rotor.

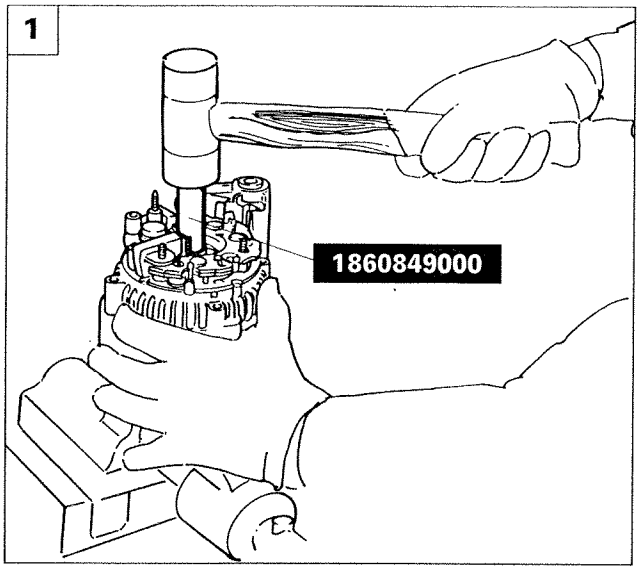


P3U005L03

3. - When fitting, rest tool 1860849000 on the rectifier end mount and strike using a plastic mallet until the rectifier end mount and control end mount fit together;

   - tighten bolts(1) to the specified torque (0.55 daNm).

55.



P3U006L01

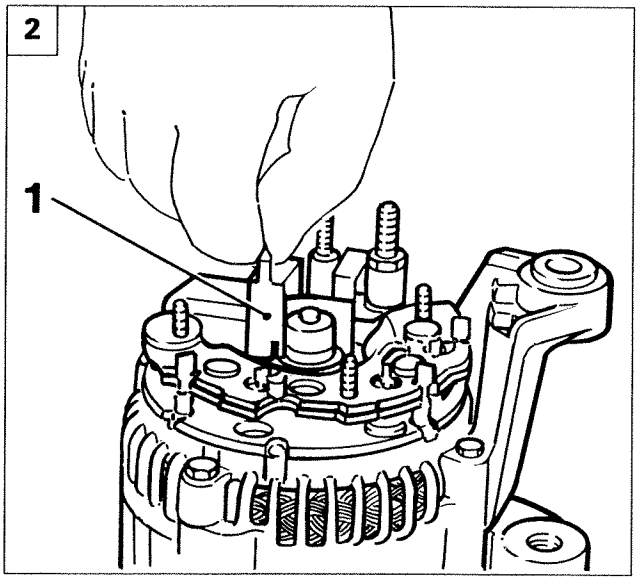
Dismantling-fitting rotor

1. - Position the rectifer end mount with rotor on a suitable support (vice);

   - rest one end of the soft cylinder-shaped tool (plastic) on the end of the rotor shaft (rectifier end) near the commutator and strike the opposite end of the cylinder using a plastic mallet;

   - remove the rotor from the rectifier mount;

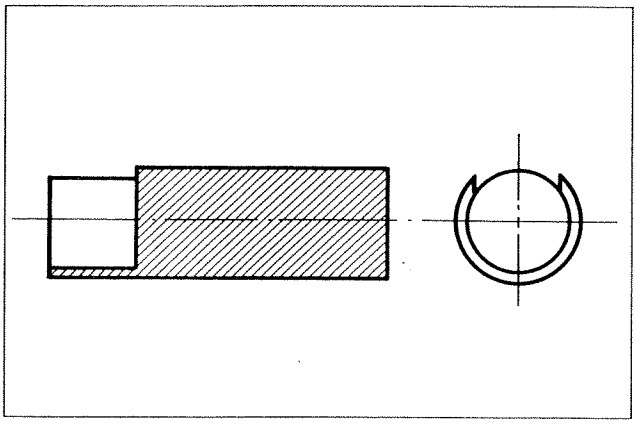
   - when fitting, ensure that the rotor turns freely and without friction inside the mount.



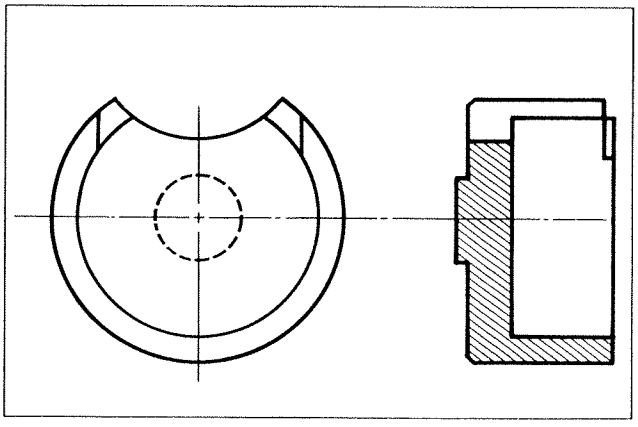
P3U006L02

Dismantling-fitting mounts together with regulator

2. The alternator mounts may also be removed and refitted without removing the regulator. In this case, proceed as described previously (ignore the instructions relating to the regulator). Take care to protect the brushes using an appropriate box (1), which should be removed following installation (see fig. 2).



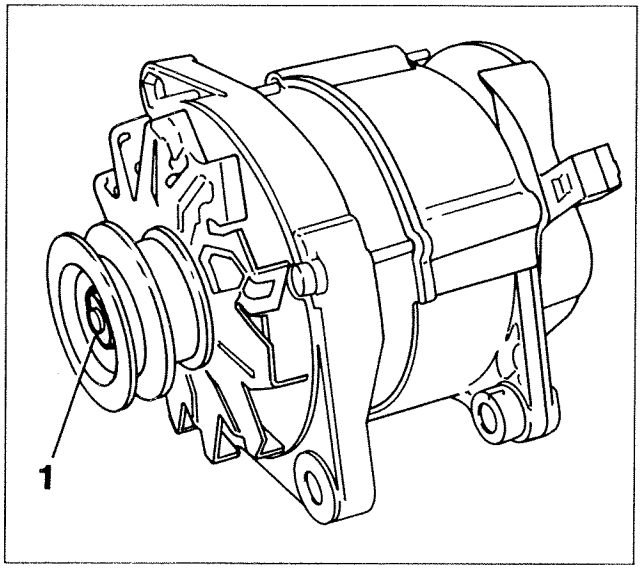
P3U006L03



P3U006L04

Tools no. 1860849000
Rotor removal pin and mount fitting drift

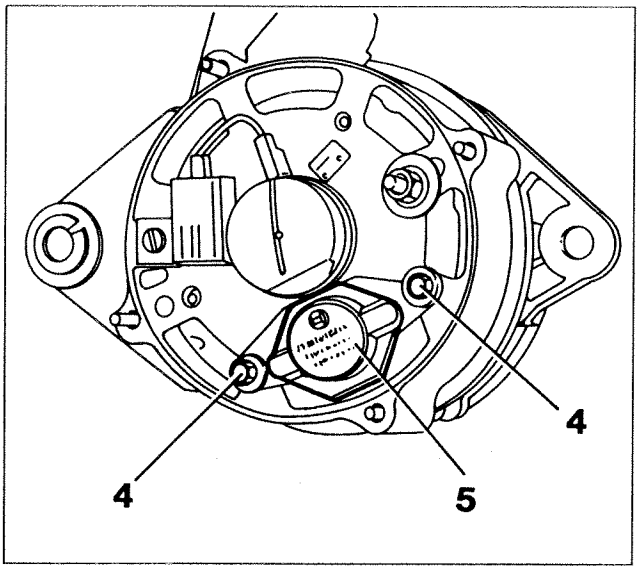
OVERHAUL OF BOSCH ALTERNATOR



P3U007L01

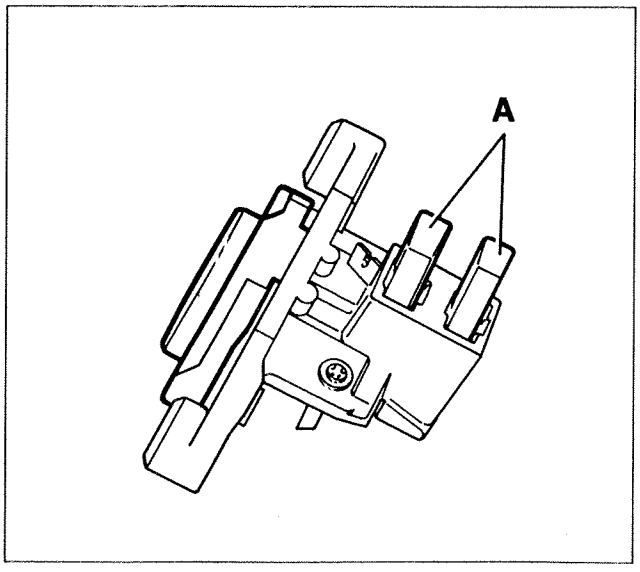
Dismantling

- Undo the nut (1), then remove the fan and pulley from the alternator shaft;



P3U007L02

- undo the screws (4) securing the voltage regulator (5) to the alternator's rear frame, then remove the voltage regulator.



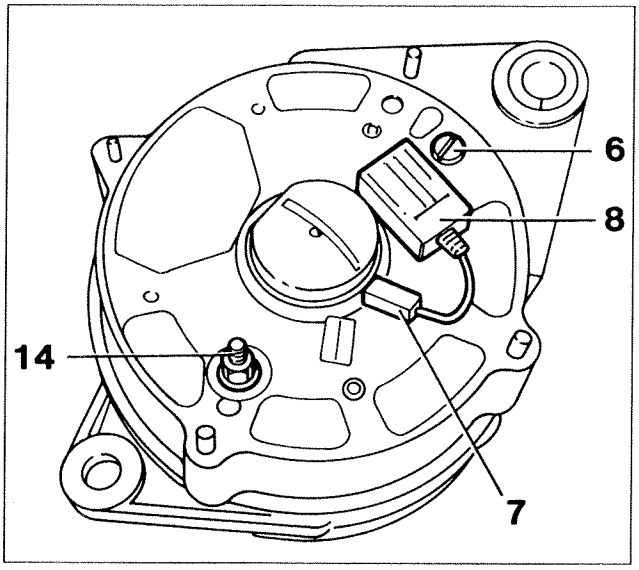
P3U007L03

Electronic voltage regulator

A. brushes

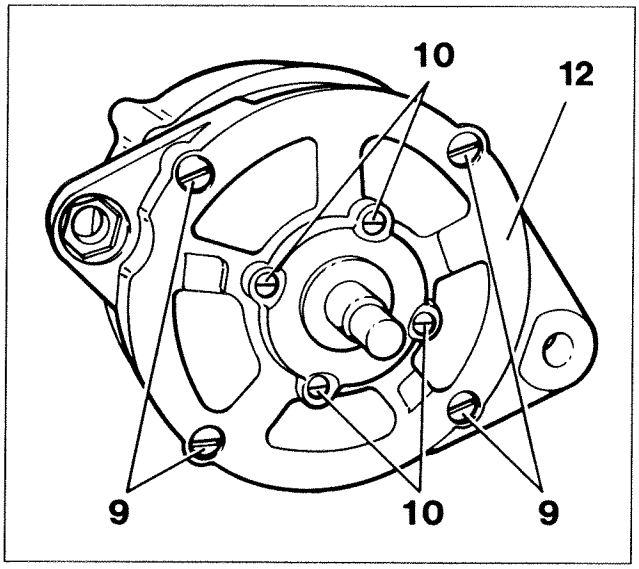
If the regulator is replaced, always check the state of wear of the rotor slip rings. If the brushes have caused recesses in the commultators, always replace the complete rotor.

55.



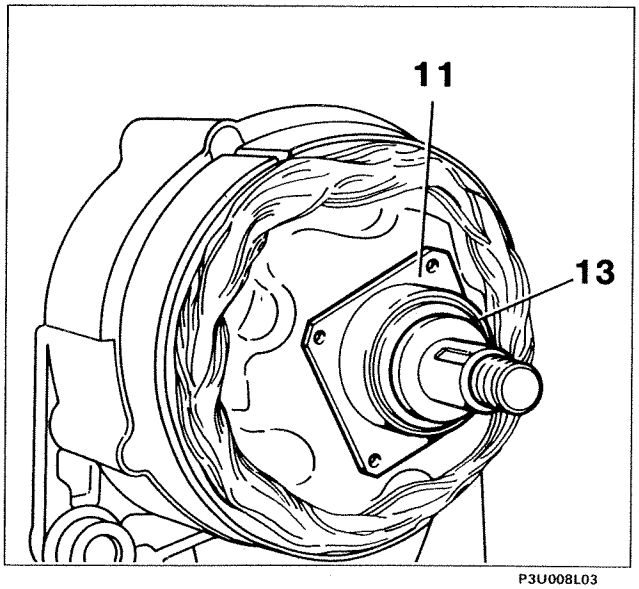
P3U008L01

- undo the screw (6) and after disconnecting the connector (7) from the blade terminal, remove the capacitor (8);



P3U008L02

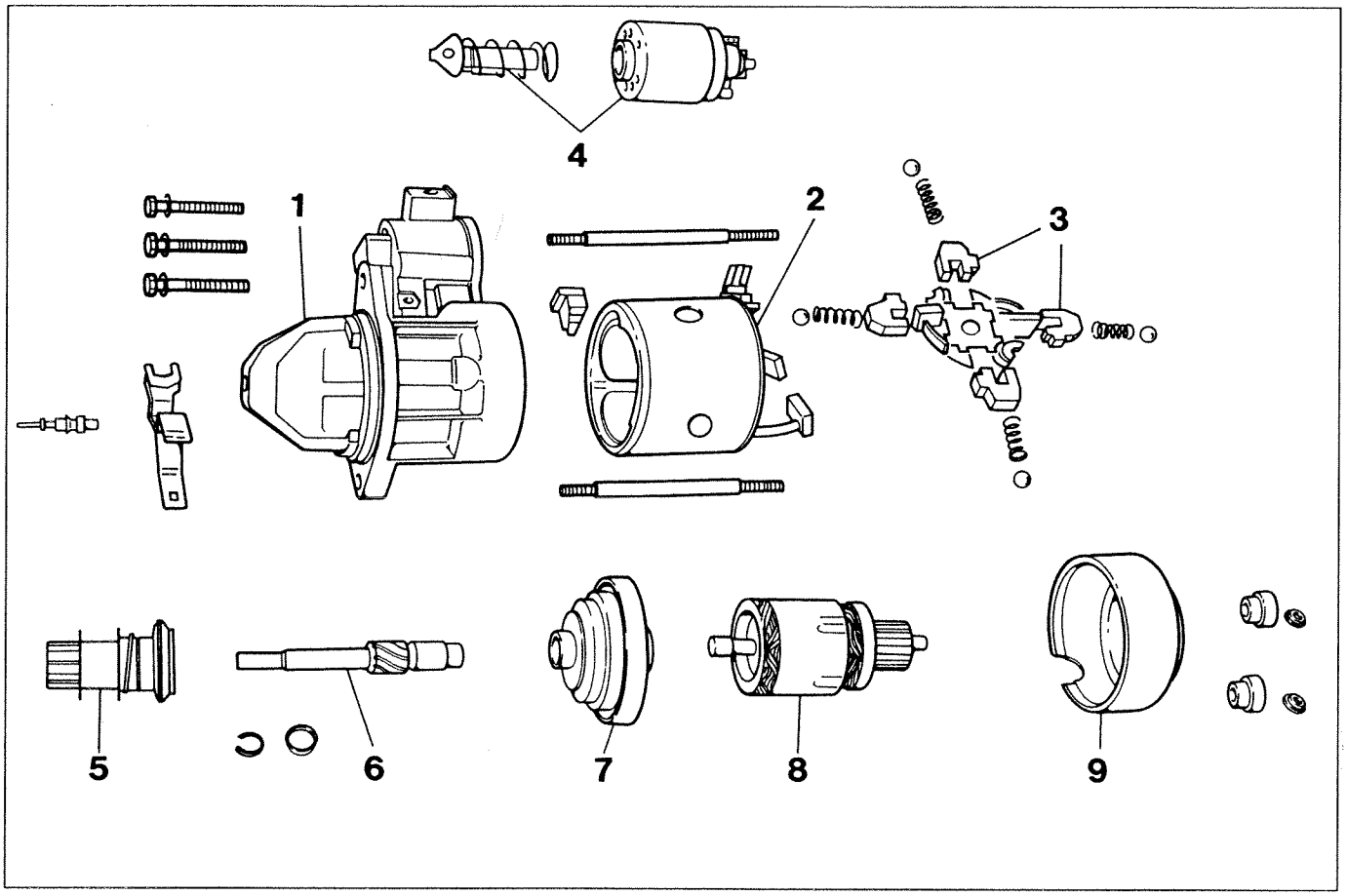
- undo the alternator attachment bolts (9);
- undo the bolts (10) securing the plate (11) mounted under the bearing (13) to the alternator's front frame (12);



P3U008L03

- using a press or brass drift, release the bearing (13) from the alternator's front frame (12) which can then be separated from the stator;
- to refit, proceed in reverse order to dismantling.

M. MARELLI STARTER MOTOR



P3U009L01

Components of the M. Marelli starter motor with epicyclic reduction gear

1. Front frame
2. Casing with stator windings
3. Brush holders
4. Engagement solenoid
5. Pinion complete with roller clutch
6. Shaft
7. Epicyclic reduction gear
8. Armature
9. Rear frame

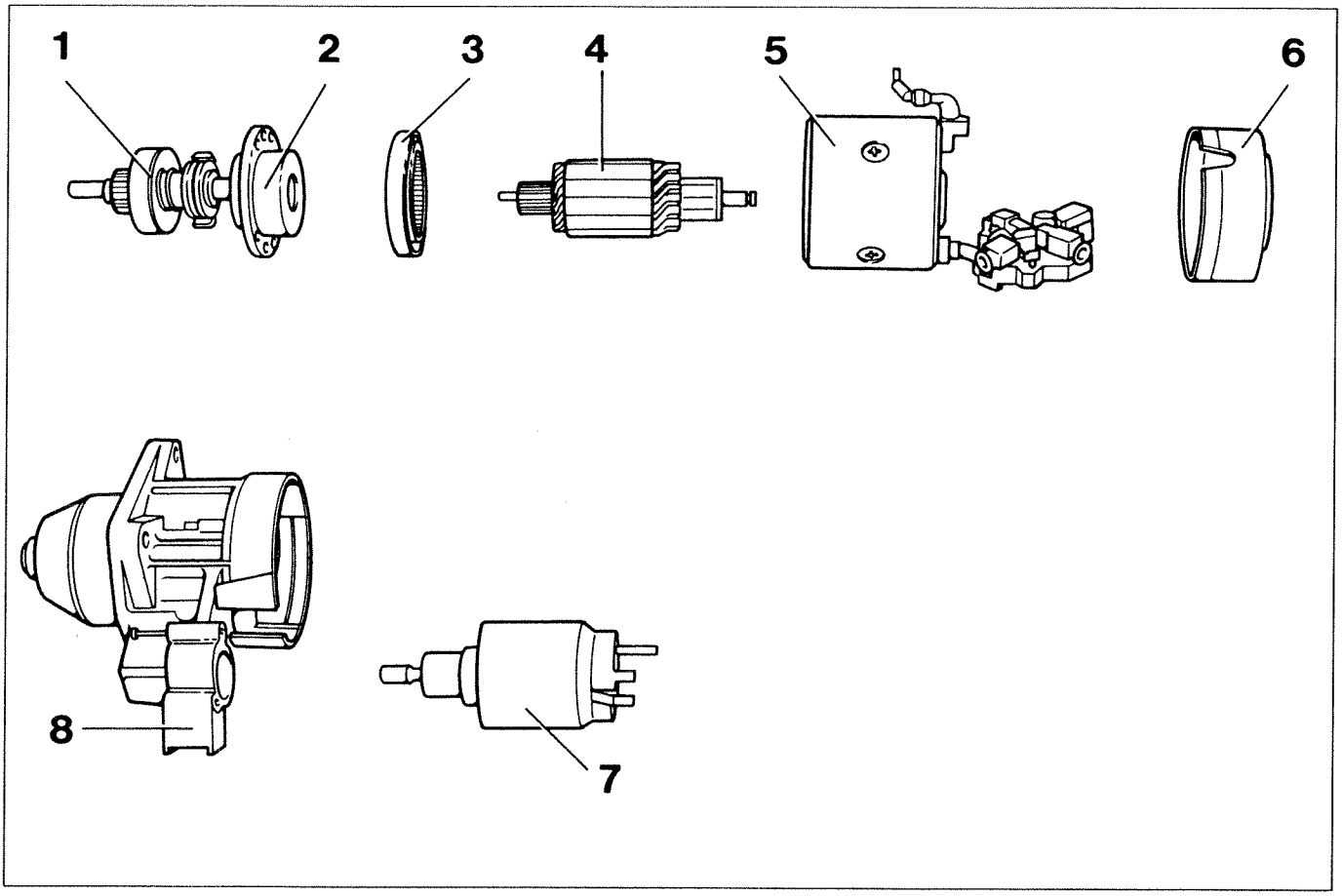
Checks

Conduct the following checks on the starter motor components:

armature: continuity, short circuit and earth insulation tests
stator: continuity and earth insulation tests
brush holder mounting: earth insulation test
solenoid: continuity and earth insulation tests

The roller clutch must be replaced whenever the starter motor is noisy during starting.

BOSCH STARTER MOTOR



P3U010L01

Components of the Bosch starter motor with epicyclic reduction gear

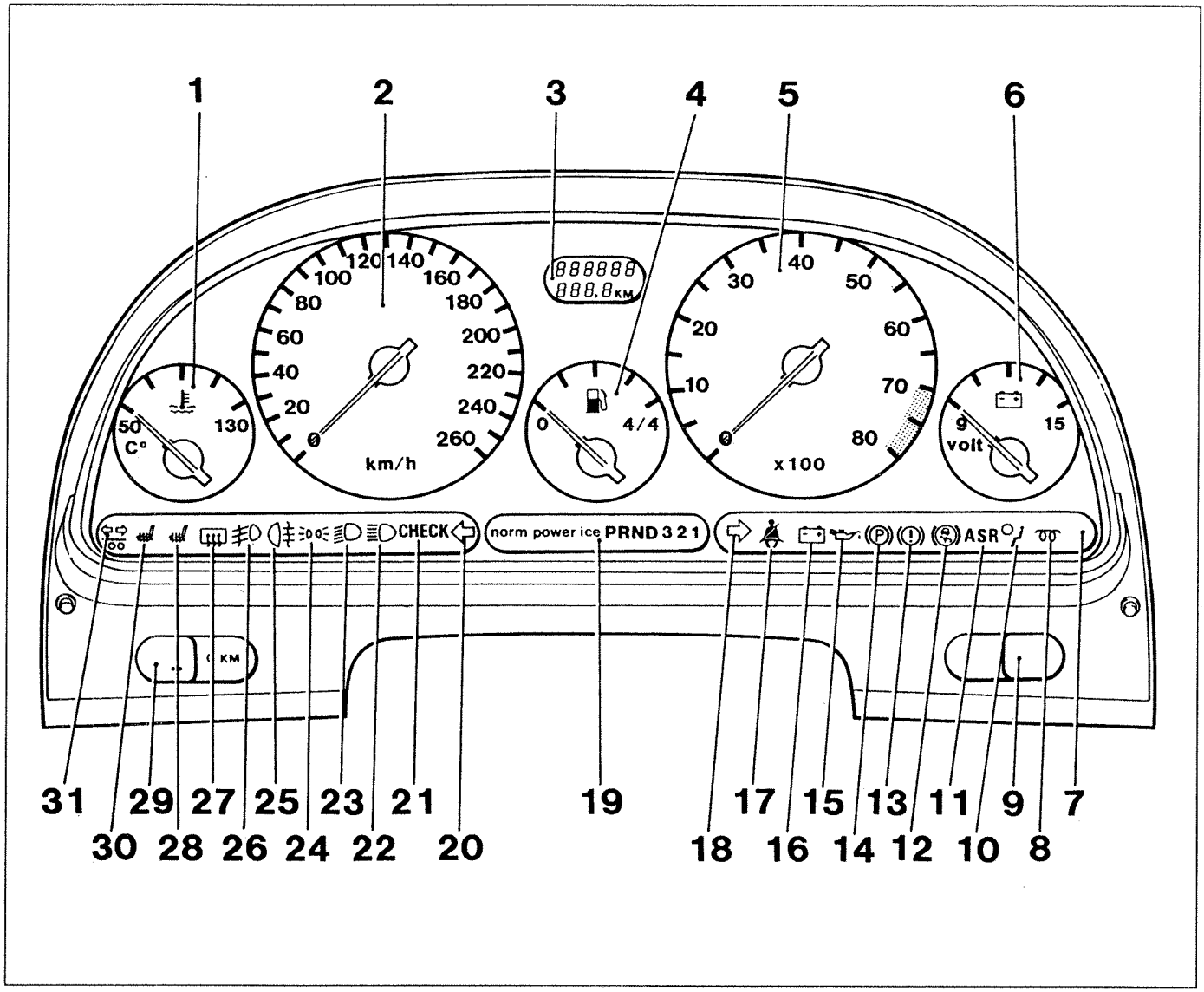
1. Engagement pinion with roller clutch
2. Satellite shaft
3. Stator (inner splines)
4. Armature
5. Casing with windings and brushes
6. Frame
7. Engagement solenoid
8. Frame

Checks

Conduct the following checks on the starter motor components:

armature: continuity, short circuit and earth insulation tests
stator: continuity and earth insulation tests
brush holder mounting: earth insulation test
solenoid: continuity and earth insulation tests

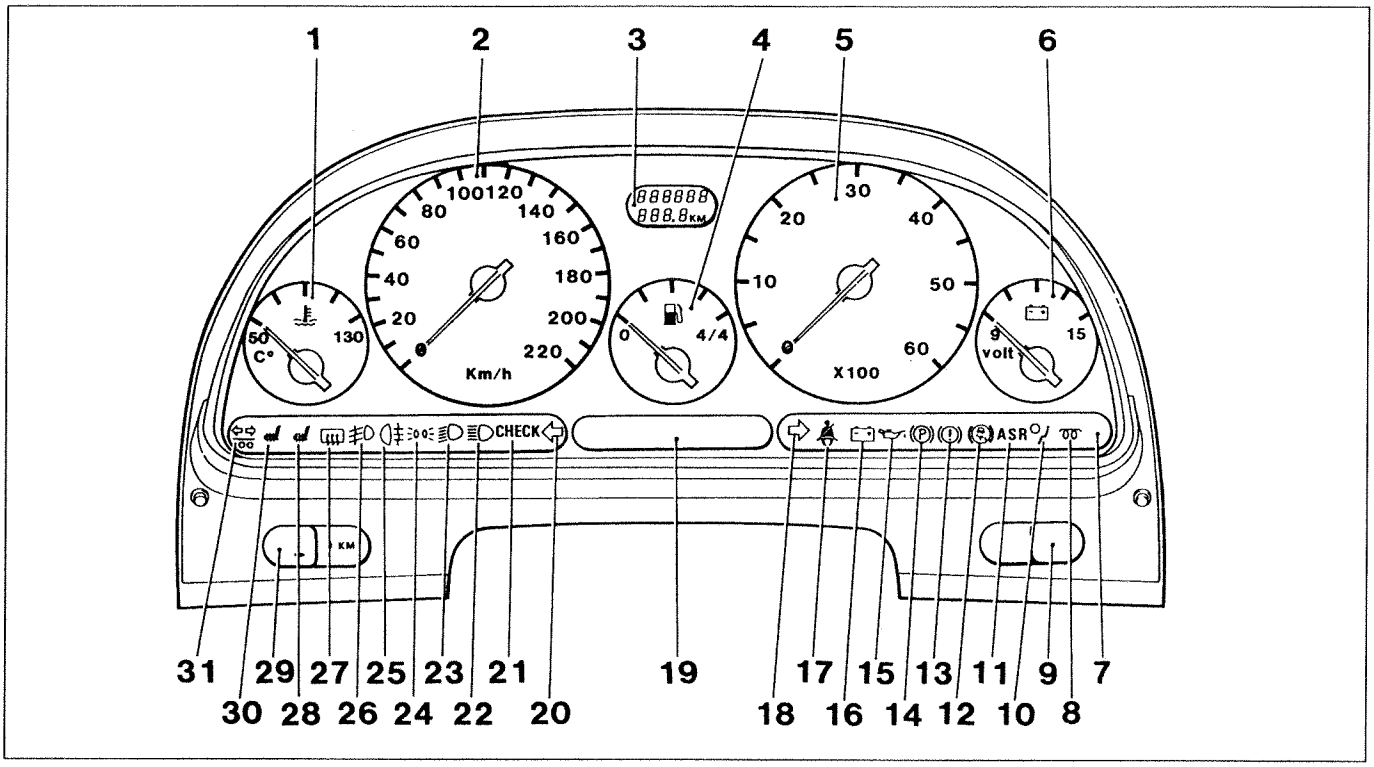
INSTRUMENT PANEL (Petrol and automatic transmission versions)



P3U21CL01

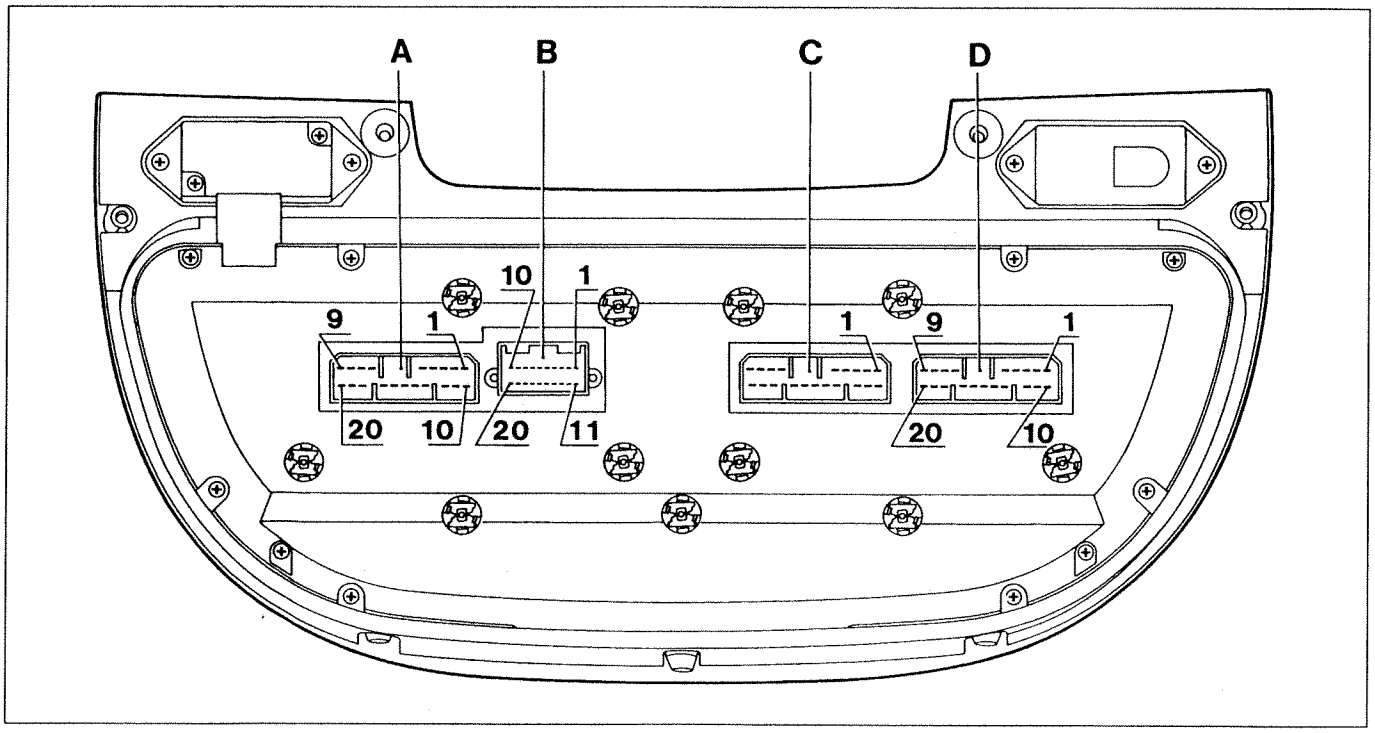
1. Water temperature gauge and warning light
2. Electronic speedometer
3. Odometer LCD display
4. Fuel gauge and warning light
5. Electronic rev counter
6. Voltmeter
7. Spare warning light
8. Plug preheating warning light (diesel version only)
9. False ABS key
10. Air Bag fault warning light
11. ASR warning light
12. ABS fault warning light
13. Low brake fluid level warning light
14. Handbrake warning light
15. Oil pressure warning light
16. Generator warning light
17. Seat belts warning light
18. Right direction indicator warning light
19. Display for cars with automatic transmission (Aisin - ZF)
20. Left direction indicator warning light
21. Check summary warning light
22. Main beam headlamps warning light
23. Dipped beam headlamps warning light
24. Side lights warning light
25. Rear fog lamps warning light
26. Front fog lamps warning light
27. Heated rear window warning light
28. Right heated seat warning light
29. Trip recorder reset button
30. Left heated seat warning light
31. Trailer indicators warning light

INSTRUMENT PANEL (Diesel versions)



P3U22CL01

Rear view of instrument panel



P3U22CL02

A White 20-pin connector (for warning lights)
B Black 20-pin connector (automatic transmission)
C Blue 20-pin connector (engine compartment)
D Black 20-pin connector (various services)

DESCRIPTION OF WIRES AND CONNECTORS

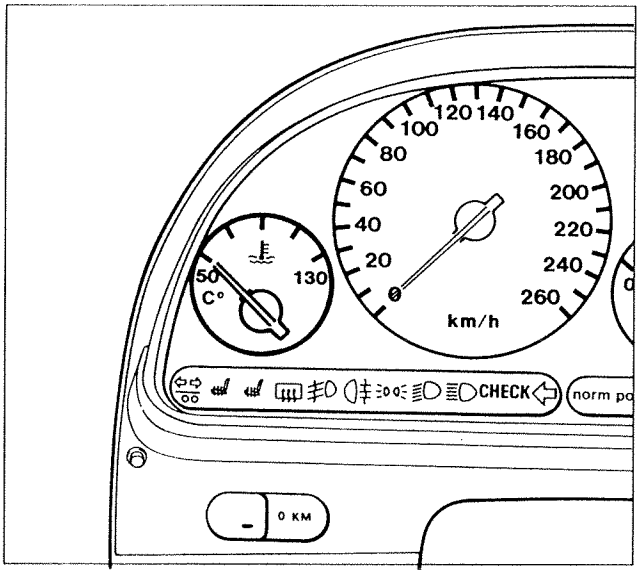
CONNECTOR A		
Pin no.	**Wire colour**	**Circuit involved**
1	LR	Main beam headlamps warning light
2	RV	Check summary warning light
3	AN	Left direction indicator warning light
4	CB	Rear fog lamps warning light (IGE control unit)
5	GN	Side lights warning light (IGE control unit)
6	HV	Dipped beam headlamps warning light
7	BN	Front fog lamps warning light (IGE control unit)
8	AV	Right heated seat warning light
9	AG	Left heated seat warning light
10	G	+12 V for lighting
11	A	+12 V from key (+15) instrument general supply
12	N	Instrument general earth
13	MB	+12 V from battery (+30) instrument supply
14	Z	Attenuator earth for Infocenter
15	NZ	Attenuator earth
16		Not connected
17		Not connected
18		Not connected
19	CN	Heated rear window warning light (IGE control unit)
20	LG	Trailer indicator warning light

CONNECTOR B		
Pin no.	**Wire colour**	**Circuit involved**
1	ZN	To auto. transmission control unit (pin 49)
2	RV	To auto. transmission control unit (pin 16)
3	HL	To auto. transmission control unit (pin 31)
4	BN	To auto. transmission control unit (pin 33Z)
5	G	To auto. transmission control unit (pin 14Y)
6	V	To auto. transmission control unit (pin 50X)
7	HB	Auto. transmission fluid maximum temperature
8	HN	Automatic transmission fault
9	CB	Serial line for AISIN transmission
10		Not connected
11	A	Signal for "P" symbol
12	B	Signal for "R" symbol
13	C	Signal for "N" symbol
14	H	Signal for "D" symbol
15	L	Signal for "3" symbol
16	S	Signal for "2" symbol
17	M	Signal for "1" symbol
18	N	Lighting earth
19	R	+12 V (+15 key)
20	GR	+12 V (lighting)

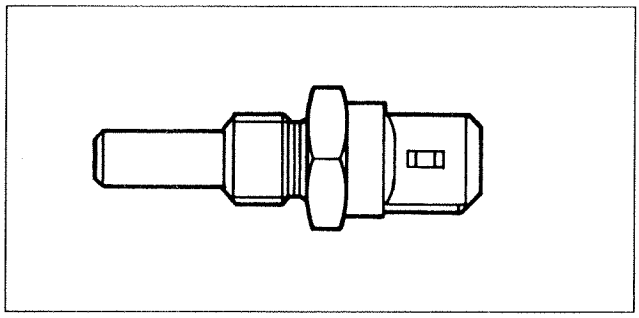
55.

CONNECTOR C		
Pin no.	**Wire colour**	**Circuit involved**
1	A	Generator warning light (12V)
2	HN	Minimum oil pressure warning light
3	B	Generator warning light (+D)
4	BG	Coolant pressure switch
5	HV	Heated rear window enablement
6	S	Seat belts warning light
7	BR	K line for Fiat Lancia Tester
8	AB	L line for Fiat Lancia Tester
9		G line for Fiat Lancia Tester
10	BL	Activation of low speed fan relay
11	AR	Activation of high speed fan relay
12		Repetition of speedometer signal
13	MG	Repetition of speedometer signal
14	V	Repetition of speedometer signal
15	MN	Repetition of speedometer signal
16	MV	Repetition of speedometer signal
17	HG	Repetition of speedometer signal
18		Repetition of speedometer signal
19		Repetition of speedometer signal
20	GR	+ 12V lights from rheostat

CONNECTOR D		
Pin no.	**Wire colour**	**Circuit involved**
1	MB	Plug preheating warning light (diesel version)
2	AB	Air Bag fault warning light
3		ASR fault warning light
4	LB	Right direction indicators warning light
5	LN	ABS fault warning light
6	AN	Low brake fluid warning light
7	BR	Handbrake warning light (from I.G.E. control unit)
8	MG	Earth (fuel gauge)
9	AG	Signal (fuel gauge)
10		Not connected
11		Not connected
12	AR	Repetition of rev counter signal (to Infocenter)
13	A	Rev counter signal
14	GN	Speedometer signal (pulse generator)
15		Not connected
16	M	Pulse generator earth
17		Not connected
18	L	Pulse generator supply
19	V	Radiator water temperature sensor (return)
20	BV	Radiator water temperature sensor (signal)



P3U26CL01



P3U26CL02

DESCRIPTION OF COMPONENTS

Coolant temperature gauge

The coolant temperature gauge is driven by an electronic control unit; the signal arrives from a PTC sensor located on the cylinder head which measures the temperature in the cooling system. The signal reaches the instrument when the ignition is on (+15).
The sensor is supplied by a maximum constant current of 0.5 mA.

The warning light comes on in the following cases:
- 120°C ± 1°C for the 1998 20v, 1995 16v turbo and 2446 20v versions;
- 116°C ± 1°C for the 2959 24v and 2387 TD versions.

The warning light goes out when the temperature is decreasing:
- 115 °C for the 1998 20v, 1995 16v and 2446 20v versions;
- 111 °C for the 2959 24v and 2387 TD versions.

In the case of a short circuit or open circuit, the indicator positions itself at the beginning of the scale (50 °C) and the warning light does not come on.
The warning light comes on at each start-up for a period of 4 seconds to check that the warning light is working. After 4 seconds, it remains inhibited for about 2 minutes afer each start-up.
Depending on the signal coming from the coolant temperature sensor, the instrument switches on/off:
- the low speed radiator fan control relay;
- the high speed radiator fan control relay.

Coolant temperature control logic for 1998 20v - 2446 20v - 2959 24v - 2387 TD versions

Function	Temperature increase	Temperature reduction
Low-speed electric fan	ON for Temp. = 92 ± 2°C	OFF for Temp. = 87 ± 2°C
High-speed electric fan	ON for Temp. = 96 ± 2°C	OFF for Temp. = 91 ± 2°C

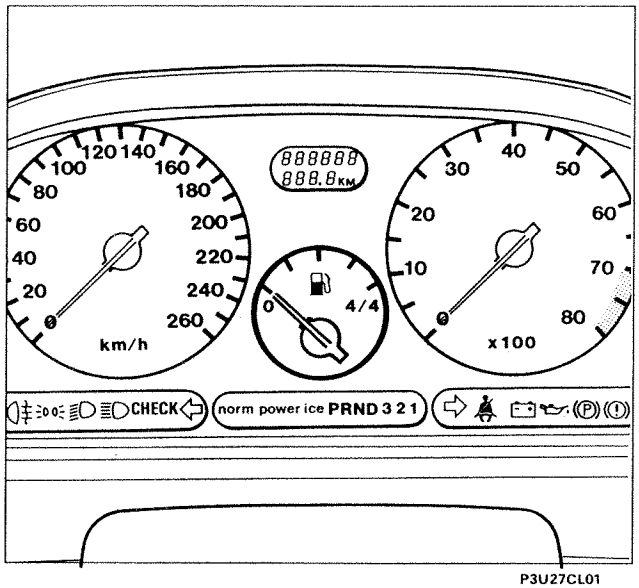
The high-speed relay only comes on if the low-speed relay has been on for at least 7 seconds. If there is a fault on the high-speed circuit, the instrument keeps the low-speed relay active.
The temperature control circuit must recognize the fault state of the sensor and/or wiring.
In the event of a fault (because of break or short circuit in sensor), the system carried out the following functions:
- activation of the low-speed fan;
- coolant temperature gauge at beginning of scale (50 °C).

The information relating to the fault is made available through the Fiat Lancia Tester.
On versions with air conditioner, a pressure switch is mounted in the air conditioning cooling radiator; this is for activating the engine cooling fan irrespective of the engine's temperature condition.

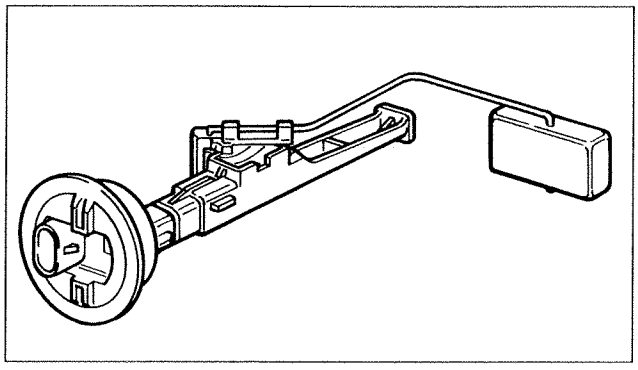
When the pressure switch is activated:
- the low-speed fan is switched on immediately;
- the high-speed fan is switched on after 7 seconds.

When the pressure switch is activated:
- the high-speed fan is switched off immediately;
- the low-speed fan is switched off after 7 seconds.

If the pressure switch is switched off before the high speed is activated, the fan must remain activated for 7 seconds at low speed before being switched off.



P3U27CL01



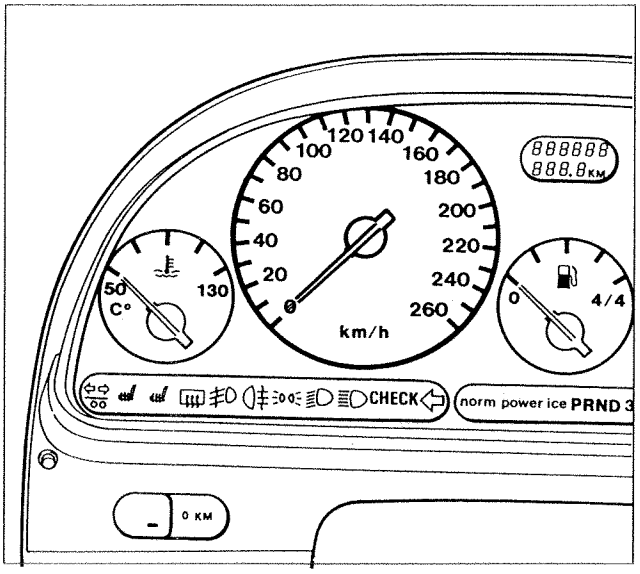
P3U27CL02

Fuel gauge

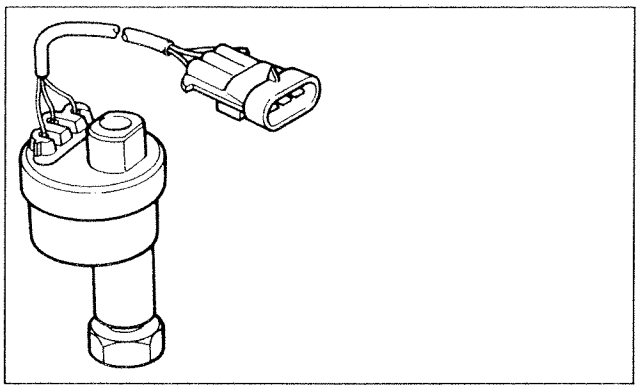
The fuel gauge is an instrument driven by an electronic control unit. In the fuel tank, there is a float which sends a signal to the instrument when the ignition is on (+15).
When the fuel reserve (9 l) is being consumed, the warning light on the instrument comes on. At each start-up, the warning light comes on for 4 seconds to check the efficiency of the system.

Values controlling the fuel gauge

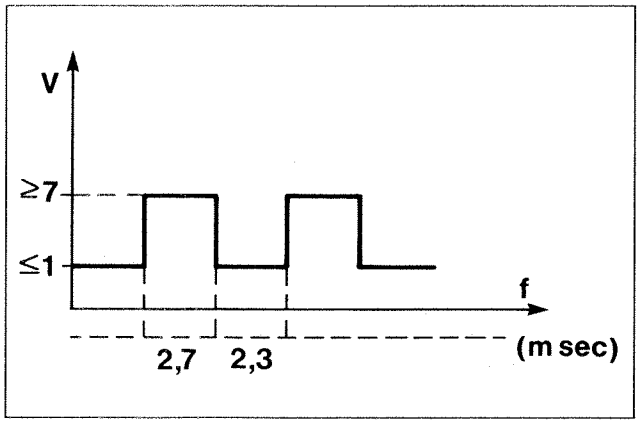
Fuel level	Values (in Ohm)
4/4	0 - 6
3/4	59 - 69
1/2	116 - 126
1/4	186 - 201
start of reserve (9 ± 1 l)	239 ± 3
0	295 - 315



P3U28CL01



P3U28CL02



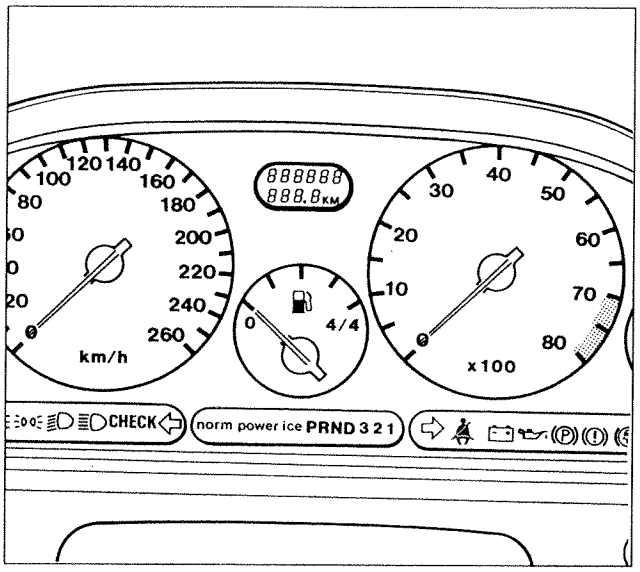
P3U28CL03

Speedometer

The speedometer is driven by an electronic control unit; the instrument and its circuit receive a speed signal from a pulse generator fitted on the gearbox.

2 scales are used:
- scale from 0-260 km/h for 1998 20v, 2446 20v and 2959 24v versions;
- scale from 0-220 km/h for 2387 TD versions.

At a speed of between 0-4 km/h, the needle on the instrument does not move; once this value is exceeded, the needle will indicate the vehicle's speed.
The pulse generator located on the gearbox is supplied directly from the instrument panel; it exploits the Hall effect and provides the instrument input a square wave which has already been amplified. For the speedometer to work, the signal must have a minimum value of below 1V and a maximum value of over 7V.
The input signal into the instrument emerges unchanged from the instrument panel and is used for other functions (e.g. air conditioner). These outputs are all separate from each other and are protected against short circuits towards the supply and towards earth.

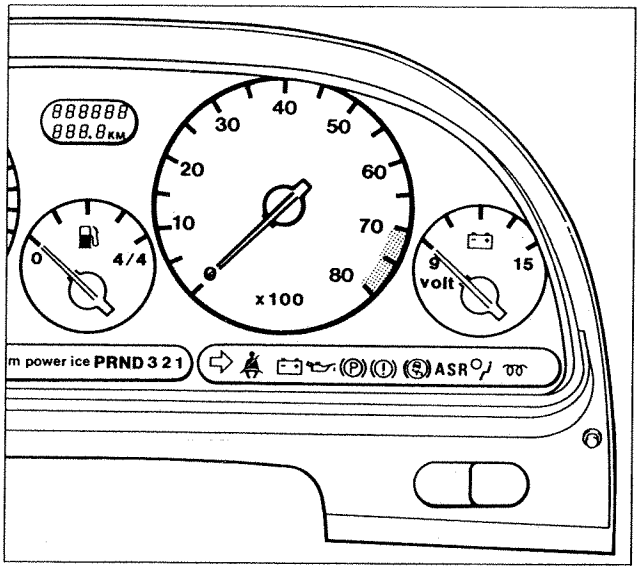


P3U29CL01

Odometer

The odometer is electronic with LCD display, and is mounted at the top of the dashboard.
The display has two numerators on 2 rows which indicate the total mileage and trip length.
The data are displayed on 6 digits with 7 segments for the total mileage counter, and 4 digits for the trip recorder.
To reset the trip recorder, press the appropriate button the the dashboard.

The LCD display is activated when the ignition is on (+15), the total mileage and trip length values displayed are the same as those when the engine was last switched off.
When the battery terminal (+30) is disconnected, the total mileage memory is not reset, but there may be a loss of up to 4 kilometres. The trip recorder is reset whenever the direct voltage (+30) from the battery is cut.



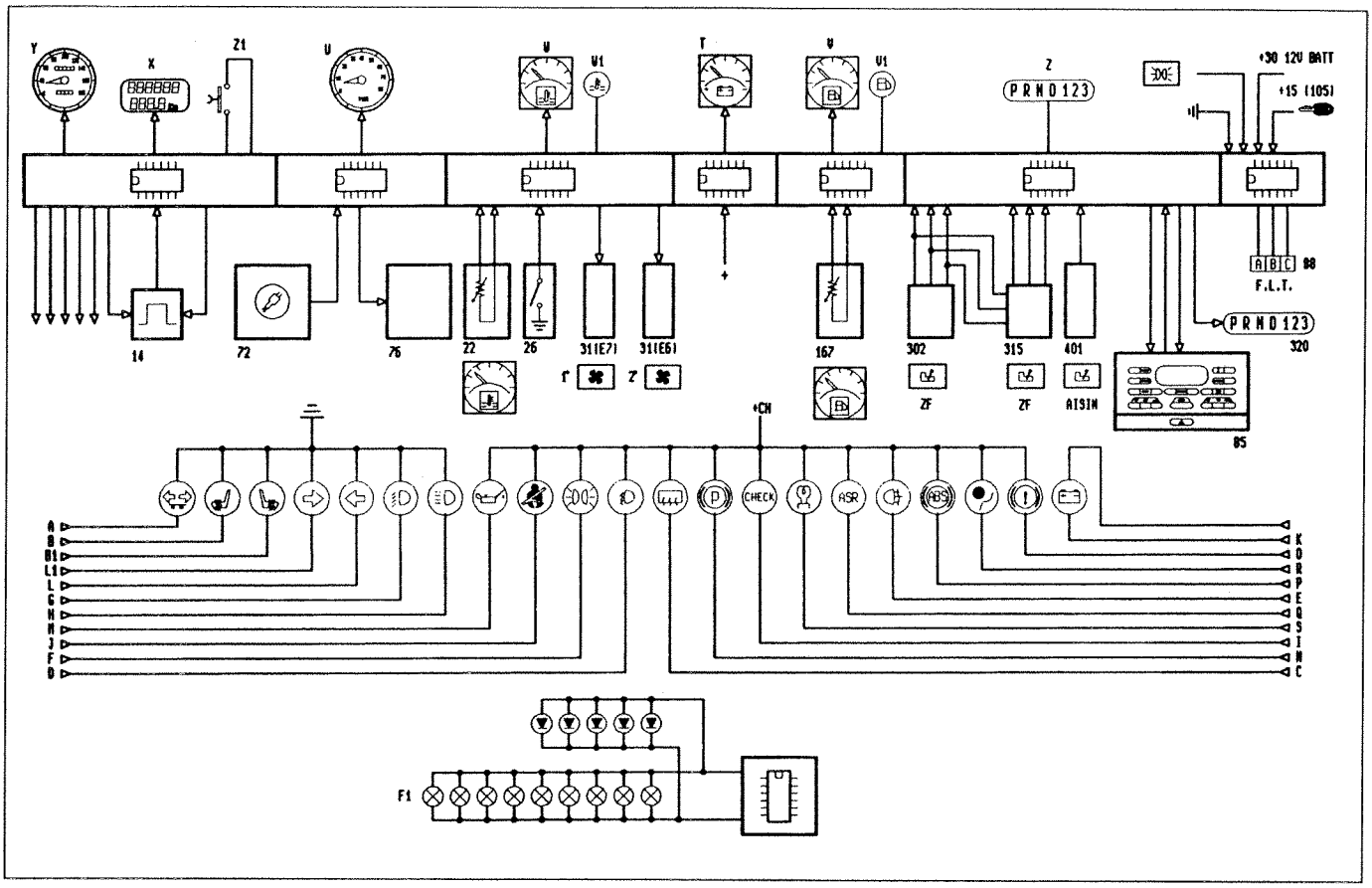
P3U29CL02

Rev counter

This instrument receives its signal from the fuel injection/ignition control unit. The same signal is sent to both the Infocenter for the air conditioner and the I.G.E. control unit to enable the activation of the time-lagged heated rear window.

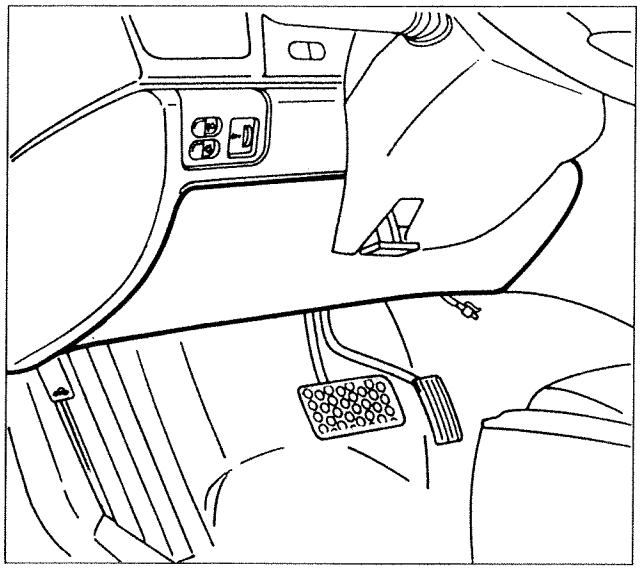
Engine	Full scale indication	Signal collection point	Red sector	Full scale pulses
1998 20v	8000	Motronic M2.10.3 control unit	7000 - 8000	5 pulses/2 engine revs
2446 20v	8000	Motronic M2.10.3 control unit	7000 - 8000	5 pulses/2 engine revs
2959 24v	8000	Motronic M3.7 control unit	7000 - 8000	3 pulses/engine rev
2387 TD	6000	MSA11 control unit	5000 - 6000	5 pulses/2 engine revs

GENERAL WIRING DIAGRAM



P3U25CL01

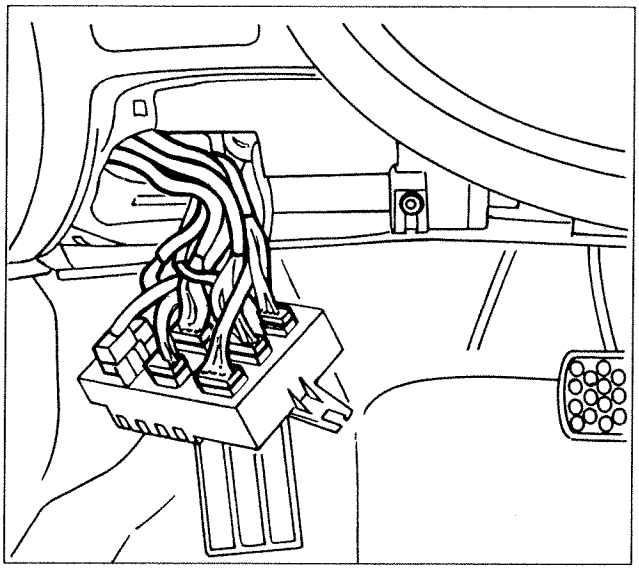
55.



P3U026L01

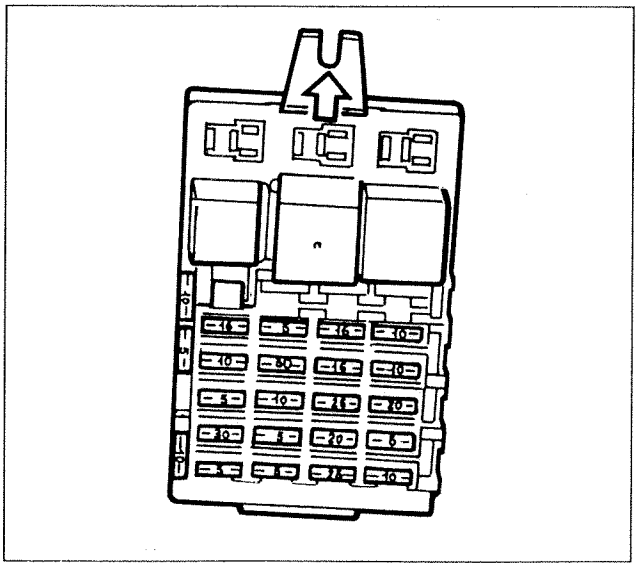
REMOVING-REFITTING

- Remove the trim under the dashboard, steering wheel side;



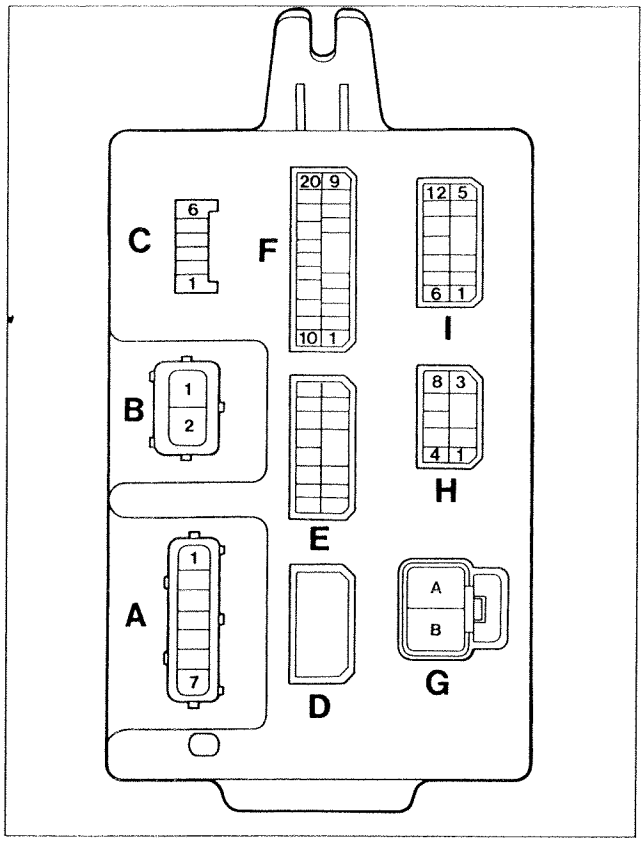
P3U026L02

- undo the attachment screw, lower the fuse and relay unit and disconnect the supply connectors, then remove the fuse and relay unit.



P3U026L03

Fuse and relay unit, fuse side

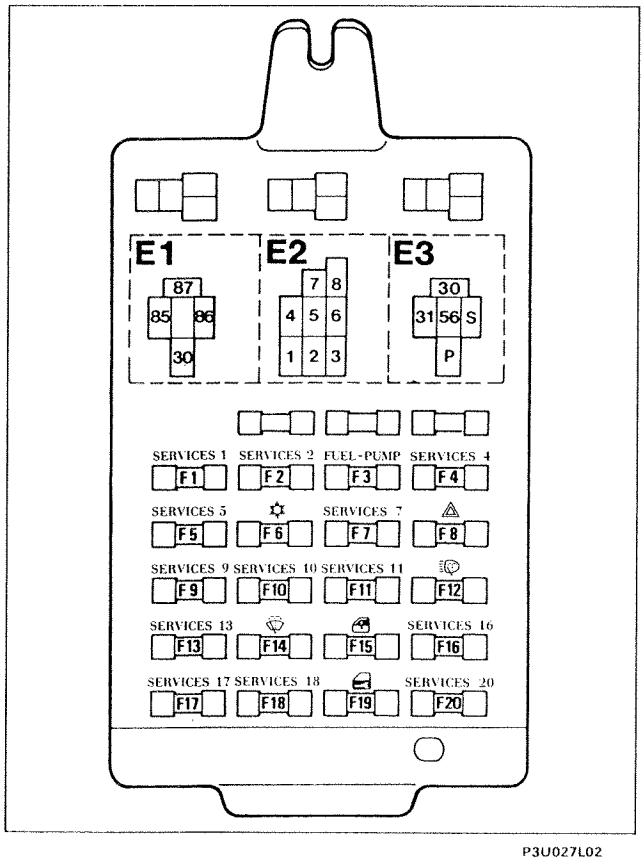


P3U027L01

JUNCTION UNIT

Location of connectors on control unit

The connectors cannot be connected incorrectly because each one is individually shaped. The same letters are used to identify the connectors as are adopted in the wiring diagrams.



P3U027L02

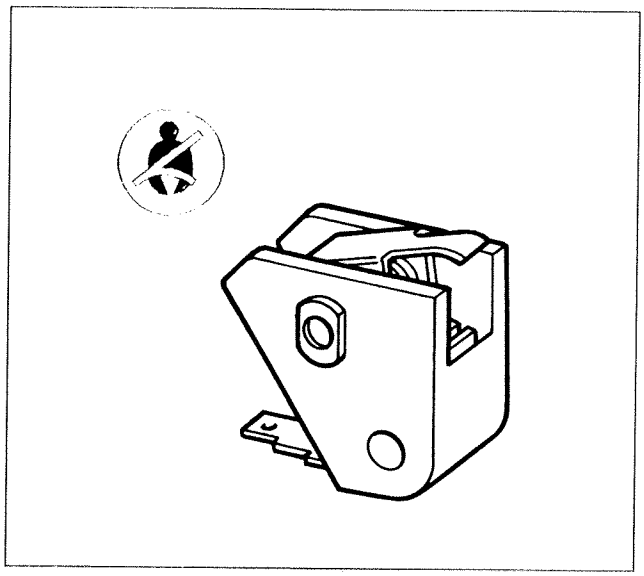
Location of fuses and relays on control unit

E1. Ignition switch discharge relay.
E2. Turn signal/hazard warning light flasher unit.
E3. Headlamp washer timer.

55.

LIST OF FUSES AND MAIN PROTECTED CIRCUITS (for vehicles produced up to 31/12/95)

N° Fus.	Amp.	Symbol	Protected circuit
1	15	Services 1	Switch for signal to brake light fuse IGE control unit; braking lights; brake light control signal pressed for ABS; automatic transmission; i.e. system for turbodiesel.
2	5	Services 2	IGE control unit signal switch for dipped beams; main beam relay; instrument panel; fog lamp/rear fog lamp warning light; Infocenter.
3	15	Fuel Pump	Fuel pump.
4	10	Services 4	4 puddle lights; 2 floor lights; r. and l. rear courtesy lights; boot light-compartment light; front courtesy light; timer for front courtesy light.
5	10	Services 5	Heated electric mirrors; fold-down, heated, electric mirror courtesy light; electronic a/t.
6	30		Heating/ventilation system.
7	15	Services 7	Car radio; electric aerial; front cigarette lighter.
8	10		Hazard warning light system.
9	5	Services 9	Relay for compressor; heated seat heat pad relay.
10	5	Services 10	Boot release electromechanical relay.
11	25	Services 11	Free.
12	20		Headlamp wash/wipe.
13	25	Services 13	Sun-roof; reversing lights; reversing light signal for electrochromic mirror.
14	25		Front wash/wipe.
15	25		Motors for right and left front windows.
16	5	Services 16	lectrochrome interior mirror; Infocenter; air bag system; indicator for timer; rear electric window inhibition control light; IGE control unit signal.; signal to infra-red ray receiver; signal to electric front window control unit-signal to rear electric window ECU elettrici; Servotronic control unit; passenger side door lighting.
17	5	Services 17	Infocenter; instrument panel; car radio (security code); signal for automatic transmission; acoustic signal for automatic transmission.
18	5	Services 18	Siren for alarm; alarm receiver.
19	25		Door lock motors; fuel flap release motor.
20	5	Services 20	Electronic key system (Lancia CODE).



P3U30CL01

Seat belt warning light

The "SEAT BELT" warning light is managed by the instrument's electronics as follows: when the ignition is switched on (+15), if the driver has not fastened his seat belt, the warning light comes on for a maximum period of 120 seconds. After this time, the warning light goes out.

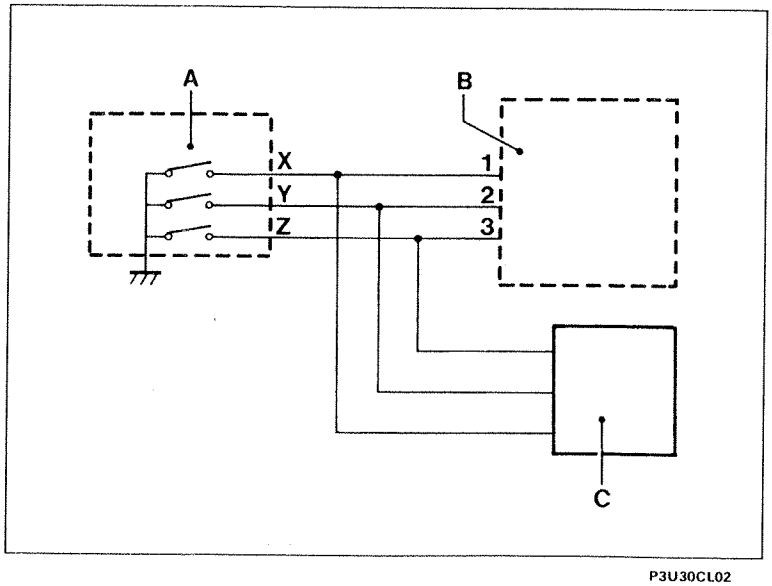
Automatic transmission option

"ZF" gearbox

The control unit of the "ZF" automatic transmission receives, from a mechanical selector, the gearlever's position by means of three coded signals. These signals are sent to the instrument, inside which there are separating diodes which prevent the return of currents to the control unit, thus avoiding interference or malfunctions.
The gearlever coding is effected by mechanical switches anchored to earth, and is described in the table opposite.

LEVER POSITION	X	Y	Z
P	1	0	0
R	1	1	0
N	0	1	0
D	0	1	1
3	1	1	1
2	1	0	1
1	0	0	1

0 = contact open
1 = contact closed



P3U30CL02

A. Gear selector
B. ZF control unit
   1. pin 50
   2. pin 14
   3. pin 33
C. Instrument panel

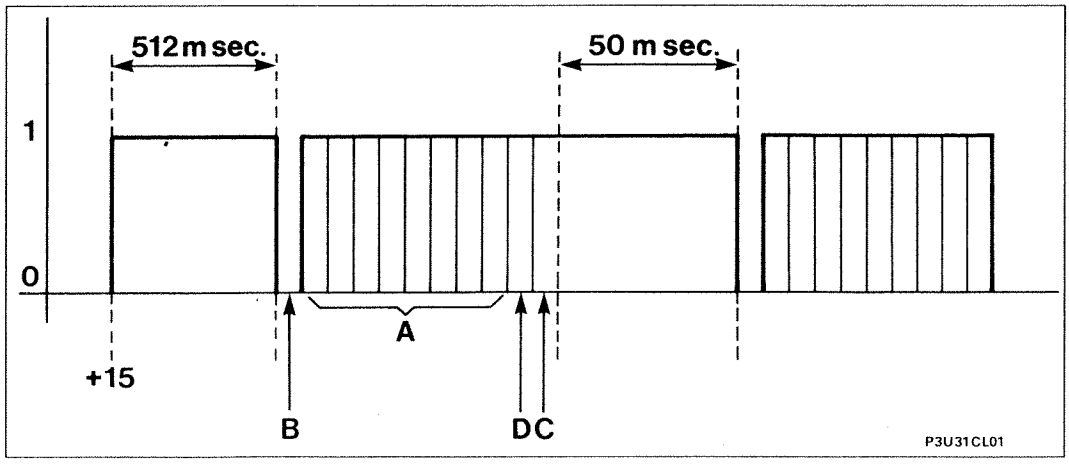
55.

Information concerning the driving mode and any faults is supplied to the instrument or the Infocenter from the "ZF" control unit. If the output signal is logic "1", this is equivalent to an earth signal.
The table below lists the relevant pins of the "ZF" control unit and the various situations that may arise at their outputs.

pin 16	pin 49	pin 31	Display on instrument	Display on Infocenter
1	0	0	NORM	
1	1	0	POWER	
0	1	0	ICE	
x	x	1		Automatic transmission fluid overheating fault
1	0	1	NORM	Automatic transmission fluid overheating fault
1	1	1	POWER	Automatic transmission fluid overheating fault
0	1	1	ICE	Automatic transmission fluid overheating fault
0	0	0	Display off	Auto. transmission control unit fault

"AISIN" gearbox

On cars fitted with the "AISIN" automatic transmission, the control unit supplies to the instrument information relating to the driving mode and danger information; the communication is via a serial line.
The graph below shows a serial transmission of data between the instrument and the "AISIN" control unit. After the ignition has been switched on (+ 15), about 512 ms must elapse before there is the "start bit", which permits transmission of the 8 information bits. To end the transmission there is a "stop bit", after which 50 ms elapse before a new data transmission.



A. Information bits
B. Start bit
C. Stop bit
D. Parity bit

The 8 bits which constitute the transmission contain information relating to the gearlever position, information relating to the set driving mode and the fault conditions as shown in the tables on the next page.

Bit 7	Bit 6	Bit 5	Selected driving mode
0	0	1	NORM MODE
0	1	0	POWER MODE
1	0	0	ICE MODE

Gearlever position	Bit 4	Bit 3	Bit 2
P	1	1	1
R	1	1	0
N	1	0	1
D	1	0	0
3	0	1	1
2	0	1	0
1	0	0	1

Bit 0	Bit 1	Type of fault	Display on instrument	Display on Infocenter
1	0	Control unit fault	Display off	AUTO. TRANSMISSION CONTROL UNIT FAULT
0	1	Automatic transmission fluid overheating	Normal display	AUTO. TRANSMISSION FLUID OVERHEATING FAULT

The control unit's outputs, used to indicate faults to the Infocenter (automatic transmission fluid overheating and system fault), are protected from short circuits to the battery positive or earth.
For purposes of diagnosis, when the ignition is switched on (+ 15), the outputs assume the ON state for 2 seconds followed by an OFF state for 1 second; immediately after they assume the correct value received from the automatic transmission control unit to which the instrument is connected.

FAULT DIAGNOSIS

The instrument panel has a diagnostic socket located in the console under the dashboard for dialogue with the Fiat Lancia Tester. The connection is serial and is effected by means of dedicated K and L lines. Fault diagnosis takes place by sending requests from the Fiat Lancia Tester to the instrument, which only answers if interrogated.

Coolant temperature signal

Check on open circuit and short circuit to earth and to battery.
On request from the Fiat Lancia Tester, the coolant temperature read by the microprocessor may be obtained via the K and L lines; it is also possible to activate the coolant temperature gauge with a specific command, issued by the Fiat Lancia Tester.

55.

Rev counter signal

Check on open circuit and short circuit to earth and to the battery.
On request from the Fiat Lancia Tester, the signal sent from the fuel injection electronic control unit to the instrument panel may be displayed, and it is also possible to activate the rev counter with a specific command from the Fiat Lancia Tester.

Speedometer signal

Check on open circuit and short circuit to earth and to the battery.
The pulses sent from the generator to the instrument are requested via the Fiat Lancia Tester.
The Fiat Lancia Tester activates the speedometer, but the number of miles on the odometer does not increase.
The voltage values (+15 and +30) may be linked to the speedometer signal.

Fuel gauge

Check on open circuit and short circuit to earth and to the battery.
Reading by the Fiat Lancia Tester of the voltage signal, which indicates the amount of fuel measured in the tank and is transmitted by the K and L lines.
Activation of the fuel gauge by a command from the Fiat Lancia Tester.

Signal from automatic transmission

"ZF" gearbox

Reading with Fiat Lancia Tester of the operating state of the gear engaged indicator switch.

Check on the 3 inputs relating to the gearbox status; check on the presence of short circuit and open circuit on these 3 inputs.

Engine cooling fan

The Fiat Lancia Tester may activate and check the efficiency of the engine cooling relay and select its speed.

Automatic transmission display

All the segments of the display may be activated by the Fiat Lancia Tester.

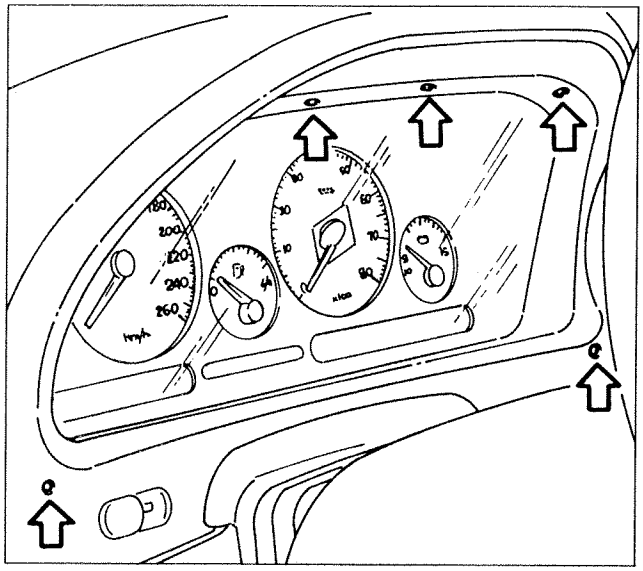
Warning lights on instrument panel

The warning lights on the instrument panel may be checked from the Fiat Lancia Tester to check that they are working; it is possible to check the minimum or maximum intensity of each warning light.

Interface for Electronic suspension system (optional extra)

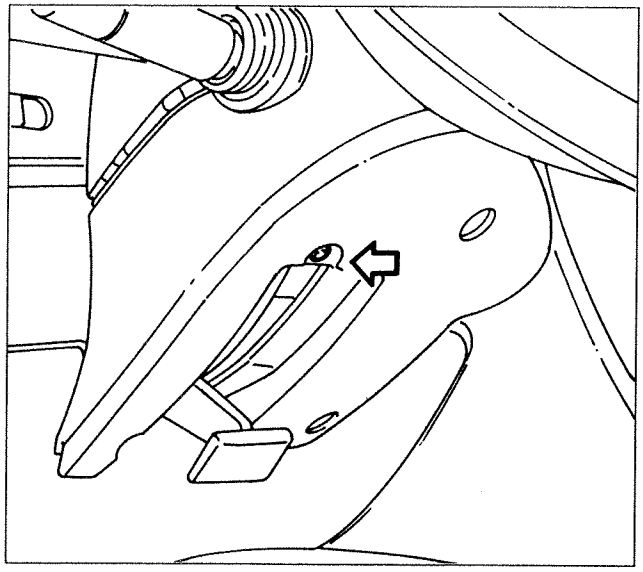
NOTE *This car is ready for controlled-damping suspension to be fitted; this optional extra will be on the market shortly, but is not available at the moment.*

REMOVING-REFITTING



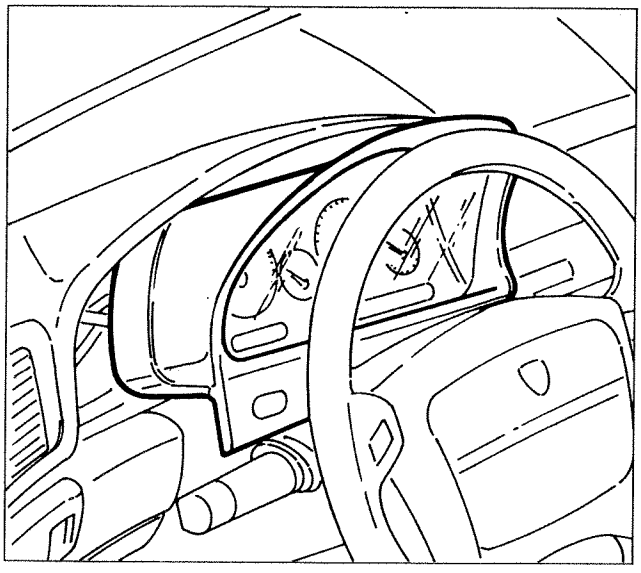
P3U023L01

- Undo the screws securing the instrument panel to the dashboard;

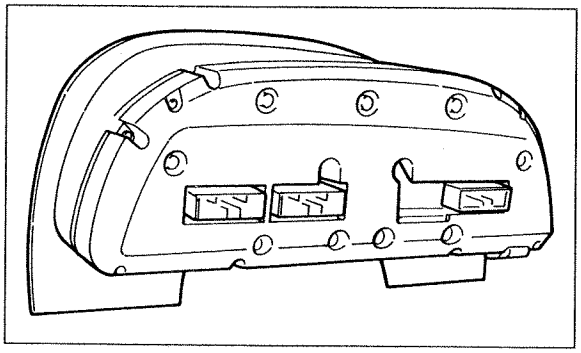


P3U023L02

- undo the attachment screw and remove the steering upper trim;



P3U023L03

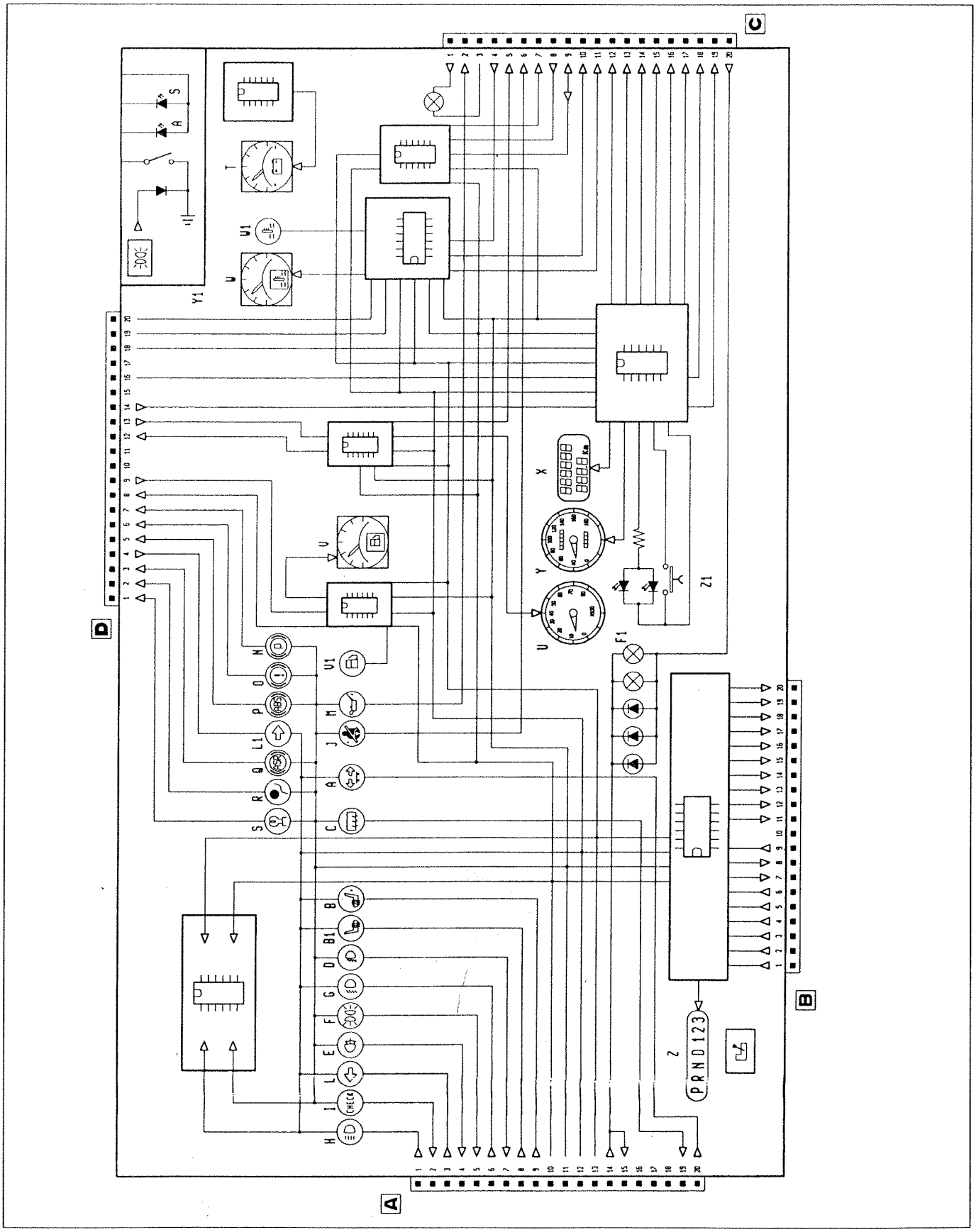


P3U023L04

- gently withdraw the instrument panel from its seating and disconnect the supply cables;
- remove the instrument panel from the dashboard.

55.

WIRING DIAGRAM (all versions)



P3U24CL01

DESCRIPTION OF WIRING AND CONNECTORS

CONNECTOR A		
Terminal no.	**Wiring colour**	**Circuit involved**
1	R	Interior lights
2	-	Available
3	GN	Sun-roof
4	-	Reserve
5	GV	Windscreen wash/wipe
6	RN	Front window power supply
7	S	Door lock and fuel flap lock system

CONNECTOR B		
Terminal no.	**Wiring colour**	**Circuit involved**
1	R	Heating/ventilation system
2	A	+15 ignition switch

CONNECTOR C		
Terminal no.	**Wiring colour**	**Circuit involved**
1	H	Electric fuel pump
2	S	Reversing lights
3	AB	Right rear turn signal
4	AN	Left rear turn signal
5	RN	Electric aerial
6	RV	+15 rear wiper positive *

CONNECTOR D
NOT USED

CONNECTOR E		
Terminal no.	**Wiring colour**	**Circuit involved**
1	-	Available
2	-	Available
3	AR	Right turn signal control
4	AN	Left turn signal warning light
5	-	Reserve
6	AG	Left turn signal control
7	-	Available
8	N	Emergency power source for alarm
9	M	+15 from ignition switch (radio position)
10	R	Infocenter control lights
11	AV	Emergency light control
12	-	Available
13	LG	Trailer turn signal warning light
14	LB	Right turn signal warning light

* Valid only for SW versions.

CONNECTOR F		
Terminal no.	**Wiring colours**	**Circuit involved**
1	-	Available.
2	RN	Compressor/heat pad/-electric seat relays.
3	B	Boot release relay.
4	RG	Fold-down door mirrors; electronic automatic transmission.
5	-	Available.
6	NL	Reversing light signal for electrochromic mirror.
7	AB	Right side turn signal.
8	RB	Facia (Infocenter; Servotronic control unit).
9	GV	Reversing lights with electronic automatic transmission.
10	-	Available.
11	S	Electronic code system (Lancia CODE).
12	-	Available.
13	-	Available.
14	-	Free.
15	N	Headlamp wiper timer; emergency turn signal bulb.
16	R	Car radio.
17	HV	Dipped beam signal for headlamp wiper timer
18	GR	Infra-red ray receivers.
19	M	Alarm siren and leds.
20	RV	Signal for windscreen washer for headlamp wash/wipe timer.

CONNECTOR G		
Terminal no.	**Wiring colours**	**Circuit involved**
1	R	+30 Battery unprotected to IGE control unit.
2	R	+30 Battery.

CONNECTOR H		
Terminal no.	**Wiring colour**	**Circuit involved**
1	-	Available.
2	-	Available.
3	MB	Infocenter power; instrument panel.
4	-	Available.
5	BR	Reversing light control from automatic transmission.
6	VN	Brake light control.
7	V	Brake light power supply.
8	RN	Cigar lighter.

CONNECTOR I		
Terminal no.	**Wiring colours**	**Circuit involved**
1	HN	Relay to bypass appliances during start-up.
2	-	Available.
3	-	Available.
4	HR	Reversing light control.
5	-	Reserve.
6	-	Free.
7	BR	Reversing light control.
8	VN	Headlamp pump.
9		Fuel pump.
10	A	Right front turn signal.
11	L	Left side turn signal.
12	AN	Left front turn signal.

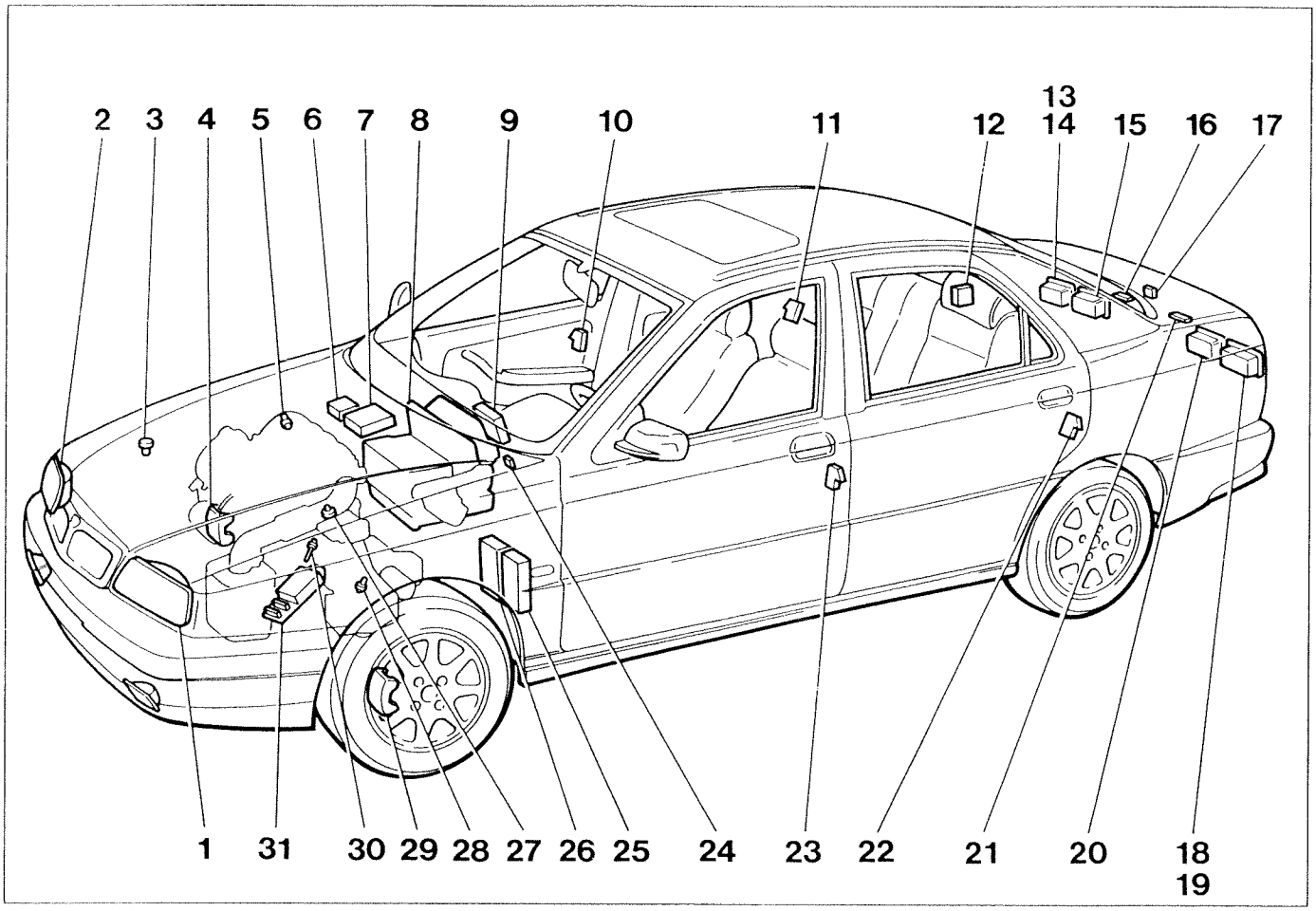
LIST OF FUSES AND MAIN PROTECTED CIRCUITS (for vehicles produced from 1st January 96)

N° Fus.	Amp.	Symbol	Protected circuit
1	15	Services 1	Switch for signal to brake light fuse IGE control unit; braking lights; brake light control signal pressed for ABS; automatic transmission; i.e. system for turbodiesel.
2	5	Services 2	IGE control unit signal switch for dipped beams; main beam relay; instrument panel; fog lamp/rear fog lamp warning light; Infocenter; control panel lighting dimmer; electric mirror switch lighting; front cigar lighter lighting; ashtray lighting; headlamp alignment correct control lighting; Car radio; electric windows; indicator for timer; rear electric window inhibition control light; signal to infra-red ray receiver; passenger side door lighting.
3	15	Fuel Pump	Fuel pump.
4	10	Services 4	4 puddle lights; 2 floor lights; right and left rear courtesy lights; boot light; compartment light; front courtesy light; timer for front courtesy light.
5	10	Services 5	Heated electric mirrors; fold-down, heated, electric mirror courtesy light; electronic automatic transmission.
6	30	❄	Heating/ventilation system.
7	15	Services 7	Car radio-electric aerial; front cigarette lighter.
8	10	△	Hazard warning light system.
9	5		Relay for compressor; electric seat heat pad control relay.
		Services 9	

N° Fus.	Amp.	Symbol	Protected circuit
10	5	Services 10	Boot release electromechanical relay.
11	25	Services 11	Free.
12	20		Headlamp wash/wipe.
13	25	Services 13	Sun-roof; reversing lights; reversing light signal for electrochromic mirror.
14	25		Windscreen wash/wipe.
15	25		Engines for right and left front windows.
16	15	Services 16	Infocenter; air bag system; IGE control unit signal.; signal to electric front window control unit; signal to rear electric window ECU; Servotronic control unit.
17	5	Services 17	Infocenter; instrument panel; car radio (security code); signal for automatic transmission; acoustic signal for automatic transmission.
18	5		Siren for alarm; alarm receiver.
19	25	Services 18	Engines for central locking; engine for fuel flap lock.
20	5	Services 20	Electronic code system (Lancia CODE).

INTRODUCTION

The "INFOCENTER" on-board information centre is fitted to all specifications and consists of:
- a liquid crystal display;
- 18 keys to call up/activate functions;
- two function control microprocessors.



Components of INFOCENTER

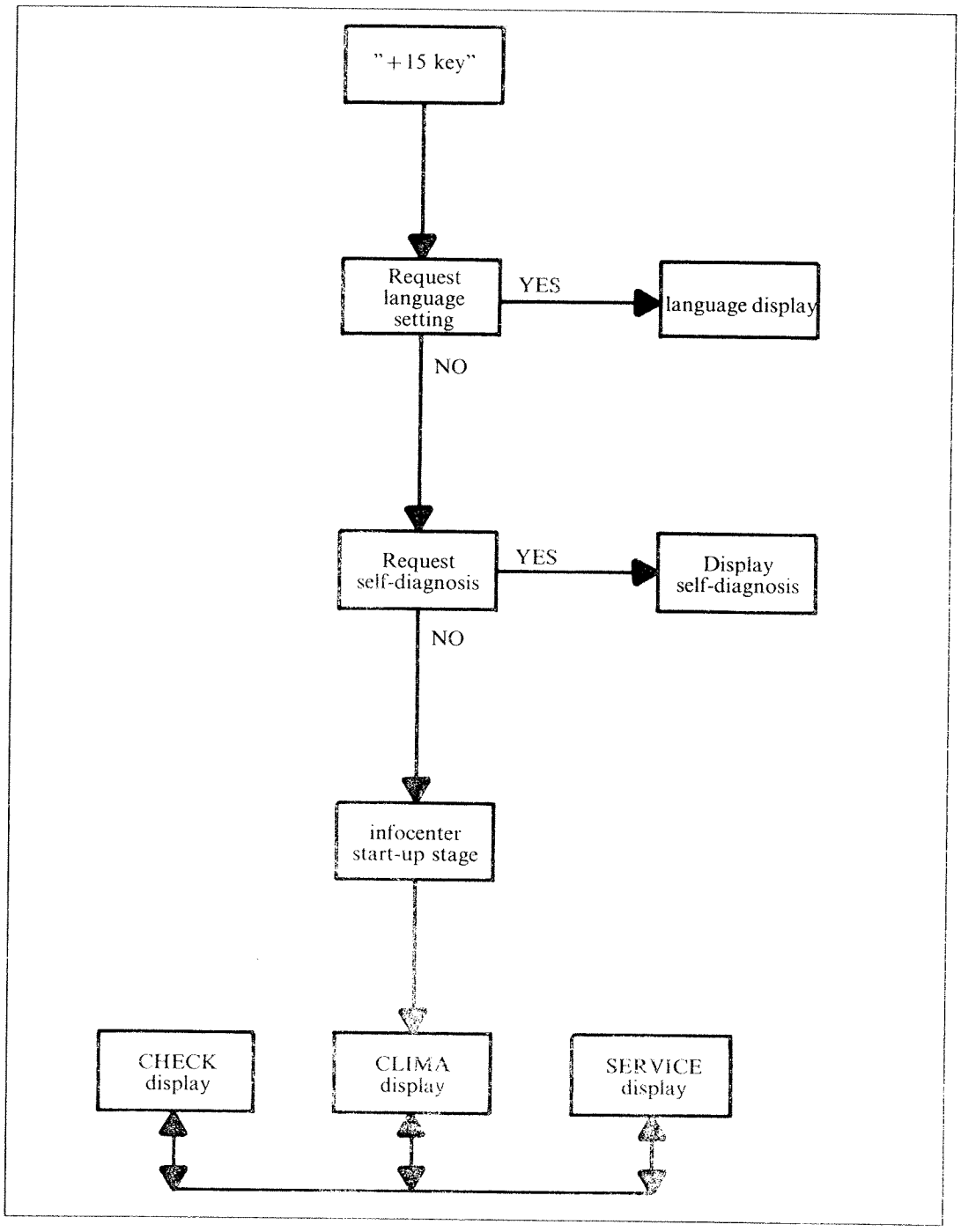
1. Left front side/parking light
2. Right front side/parking light
3. Coolant level sensor
4. Right-hand brake lining wear sensor
5. Turbo pressure sensor (only Diesel versions)
6. Automatic transmission ECU
7. Electronic injection control unit
8. Automatic air conditioner
9. Infocenter
10. Right front door closure sensor
11. Right rear door closure sensor
12. Variable-rate suspension ECU
13. Right brake light
14. Right rear side light
15. Right rear fog lamp
16. Right number plate light
17. Rear boot closure sensor
18. Left rear side light
19. Left brake light
20. Left rear fog lamp
21. Left number plate light
22. Left rear door closure sensor
23. Left front door closure sensor
24. Diagnostic socket
25. IGE control unit.
26. Interconnection control unit on facia
27. Water in fuel filter sensor (only Diesel versions)
28. Maximum automatic transmission fluid temperature sensor
29. Left hand brake lining wear sensor
30. Engine oil level sensor
31. Peripheral ECU (for air conditioner)
32. Left front side/parking light

55.

The "INFOCENTER" on-board information system performs the following functions:

CHECK: runs check on entire vehicle;
CLIMA: controls interior vehicle temperature;
SERVICE: displays messages relating to vehicle programmed maintenance.

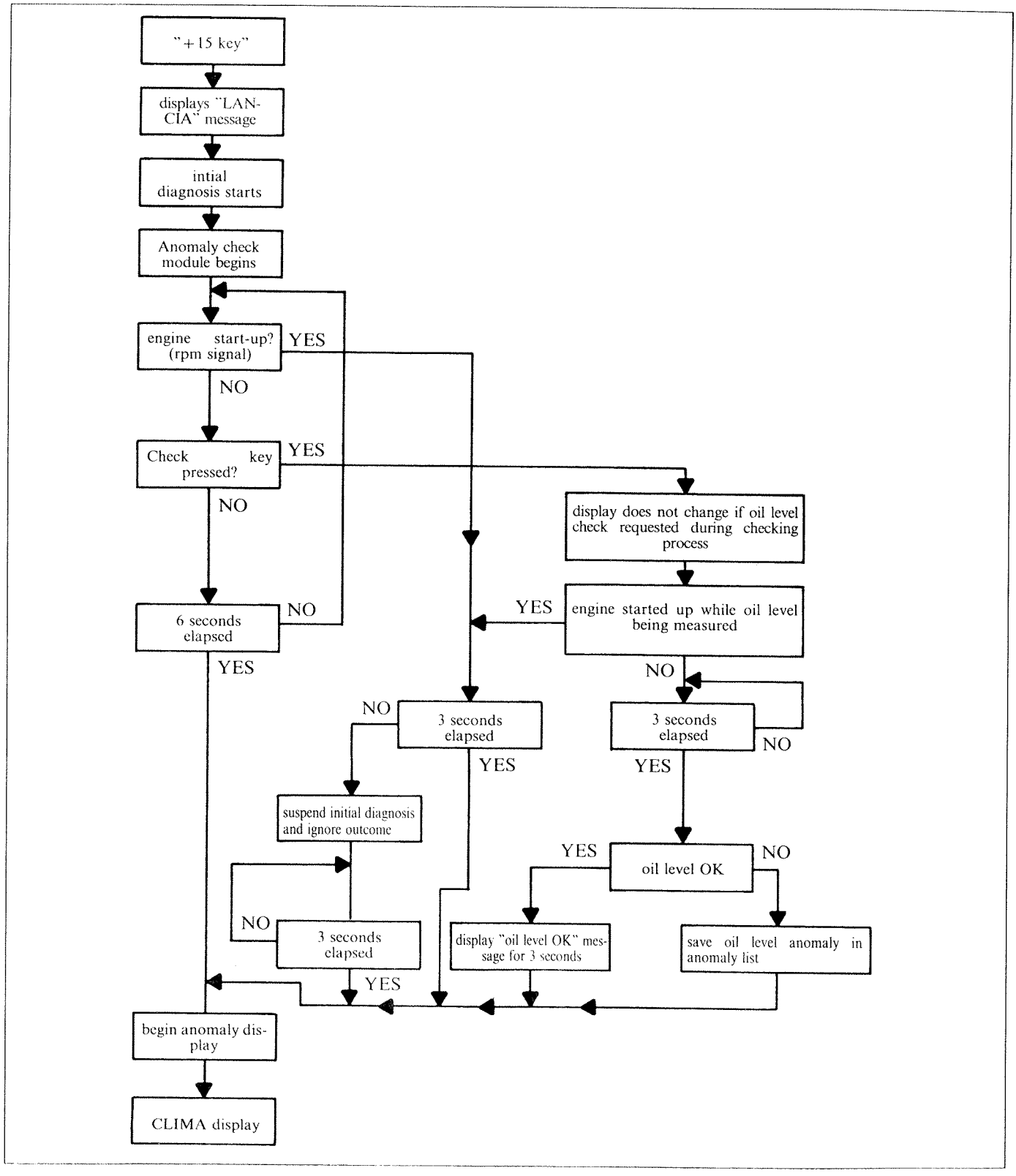
All this information is displayed on a transmissive monochromatic liquid crystal display optimised for negative contrast.
The flow diagram summarises initial Infocenter module operation. Note that the system sets itself to CLIMA mode after the initial stage.
The user may select CHECK or SERVICE functions by pressing the relevant keys.
The ANOMALY CHECK display takes precedence over all other functions and displays a message corresponding to the anomaly on the screen.



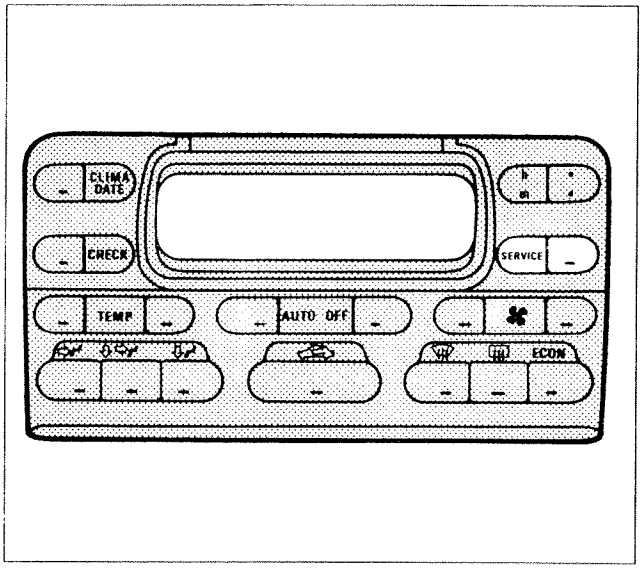
P3U57CL01

START-UP STAGE

The flow diagram shows all the Infocenter initialisation stages. If a CLIMA mode key is pressed during the start-up stage, the function relating to the key is activated but the display does not show confirmation until the initialisation procedure is complete.



P3U58CL01



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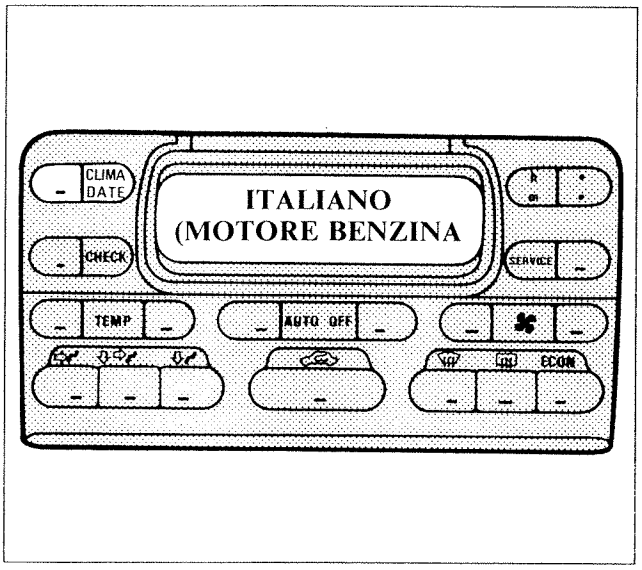

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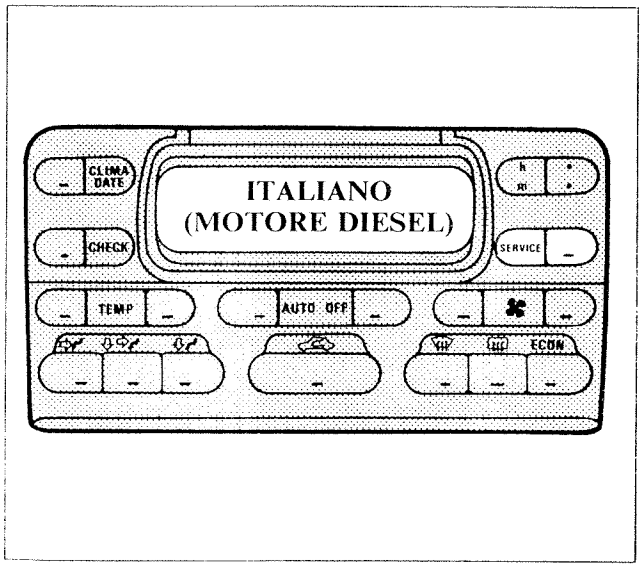
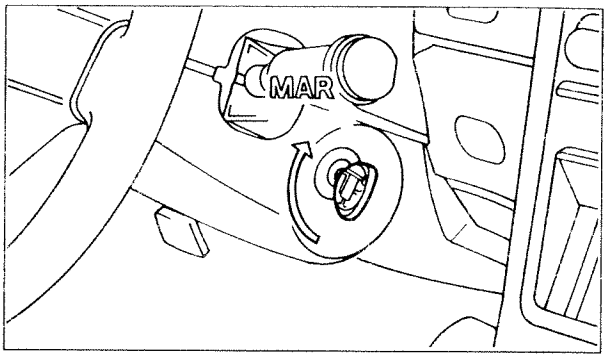


P3U59CL04

LANGUAGE AND ENGINE VERSION SELECTION PROCESS



P3U59CL02

Proceed as follows to display CHECK and SERVICE mssages in the required language:

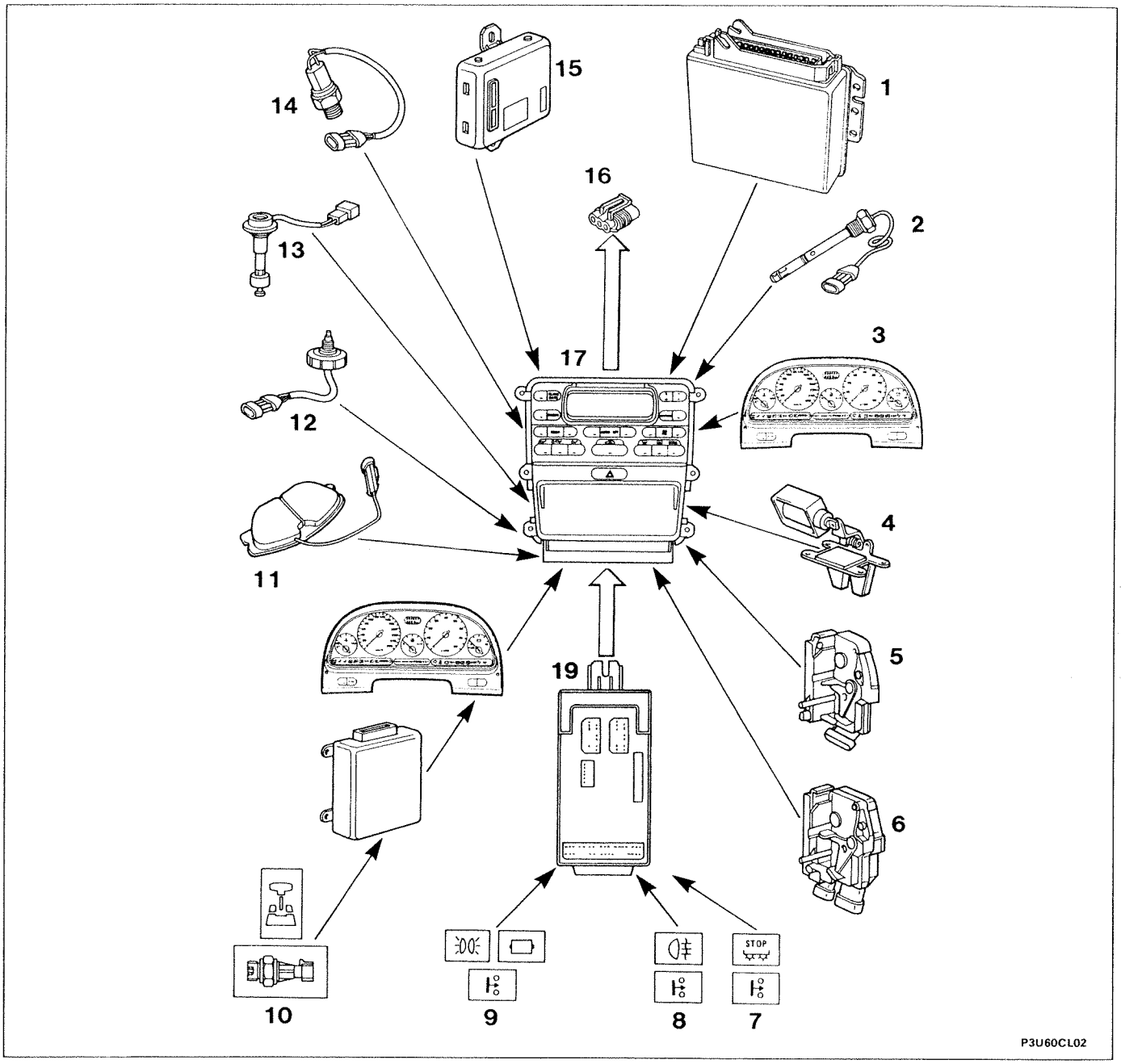
- press SERVICE key and turn ignition key to MARCIA (+15);

- the wording "ITALIANO" and "MOTORE BENZINA" appears on the display. Two options are available at this point:
  1. if the language and engine type are as required, simply press "CLIMA DATE" key to save the selection:

  2. press the "SERVICE" key to view the available language and engine type options. The available languages are: French, English, German and Spanish. The engine versions are: petrol and diesel.

- After selecting the language and the engine version, press "CLIMA DATE" key to save the displayed data.

INFOCENTER SYSTEM DIAGRAM



1. Electronic injection control unit
2. Engine oil level sensor
3. Instrument panel
4. Rear boot closure sensor
5. Right and left rear door closure sensor
6. Right and left front door closure sensor
7. Vehicle brake light fault signal and fuse
8. Rear fog lamp fault signal
9. Number plate light and front/rear side light fault signal
10. Maximum automatic transmission fluid temperature sensor (only for versions with automatic transmission)
11. Brake lining wear sensor
12. Water in fuel filter sensor (only Diesel versions)
13. Radiator fluid level sensor
14. Turbo pressure sensor (only Diesel versions)
15. Variable-rate suspension ECU
16. Tester socket for Fiat Lancia Tester/SDC
17. Infocenter information system
19. IGE control unit

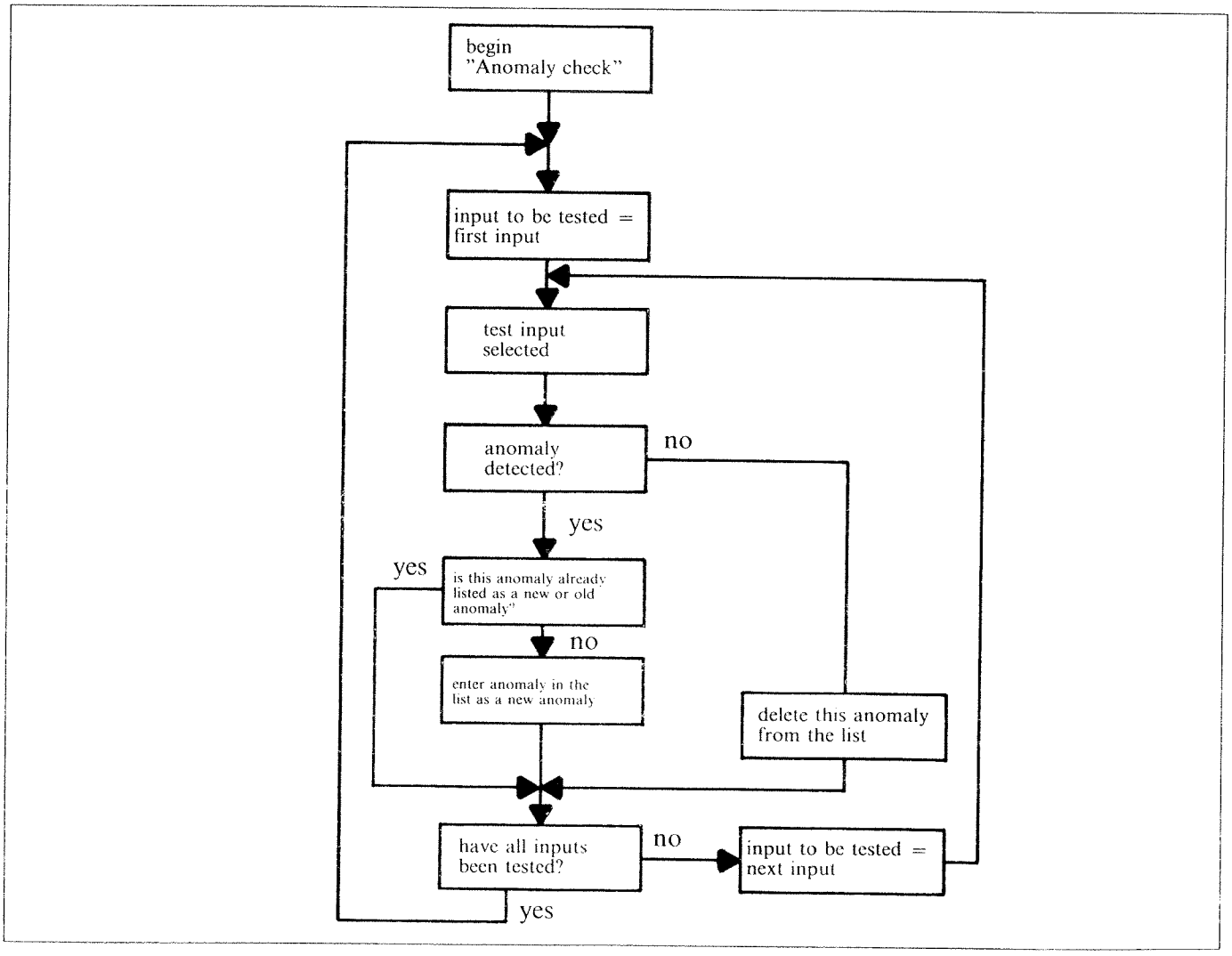
CHECK FUNCTION

Functions monitored by the "CHECK" with key in MARCIA position or with engine running are:

- right and left front door open indication;
- right and left rear door open indication;
- boot open indication;
- vehicle brake light and fuse fault indication;
- front and rear side light fault indication
- rear fog lamp fault indication;
- number plate light fault indication;
- low radiator fluid indication;
- brake pad wear indication
- variable-rate suspension fault indication;
- electronic injection system fault indication;
- catalytic converter max. temperature indication (only for Japanese market)
- maximum automatic transmission fluid temperature indication;
- automatic transmission ECU fault indication;
- engine oillevel indication (function inhibited with engine running)
- water in fuel filter indication (only for diesel engines);
- turbo over-pressure indication (only Diesel versions).

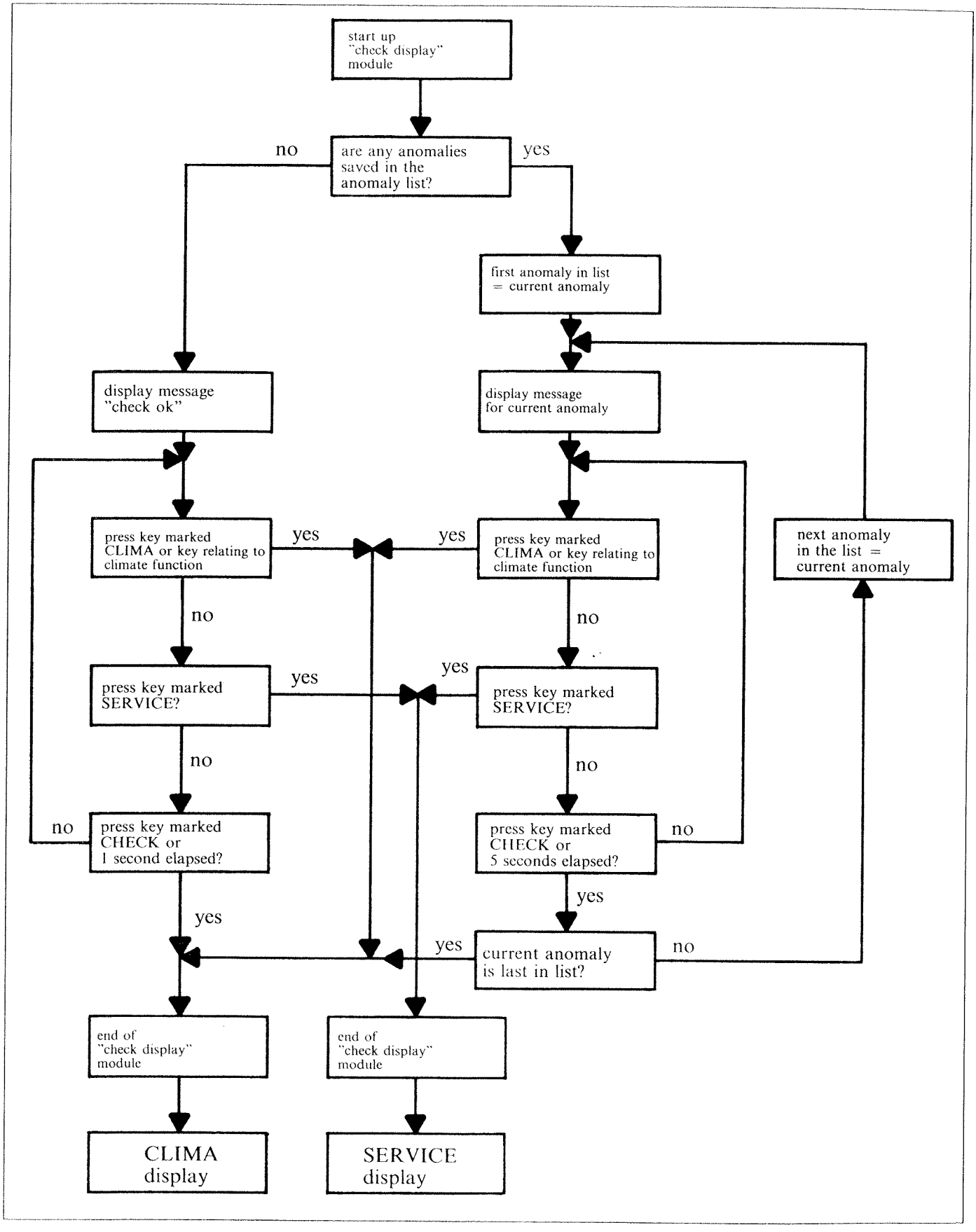
Press "CHECK" key to call up any anomalies displayed and saved previously on the Infocenter display.

The flow diagram shows the various fault search stages on the vehicle. The manual fault search process is shown overleaf.



P3U61CL01

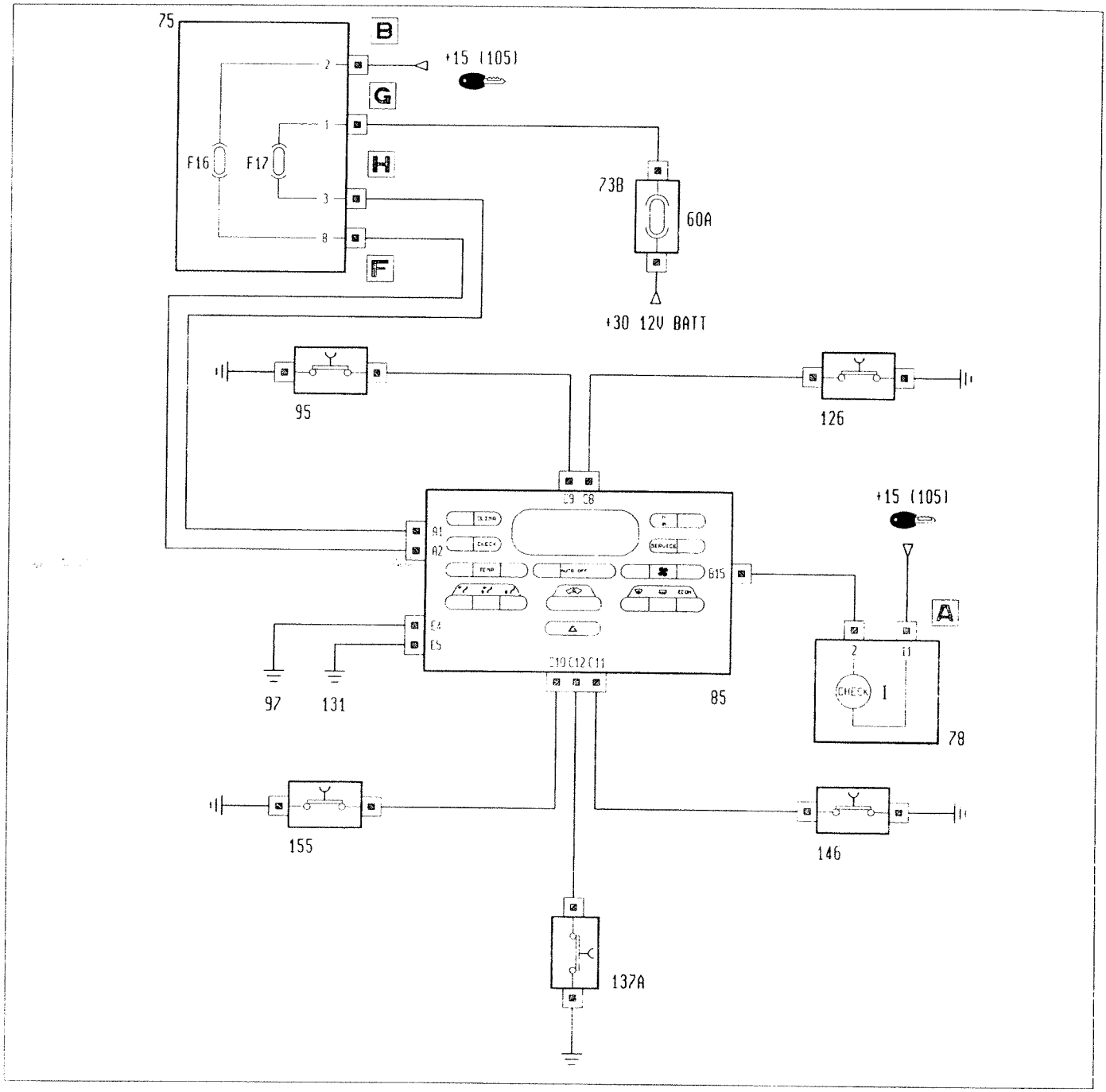
Check display: manual request



P3U62CL01

55.

Right and left hand side front and rear doors - boot lid (see key to wiring diagrams)

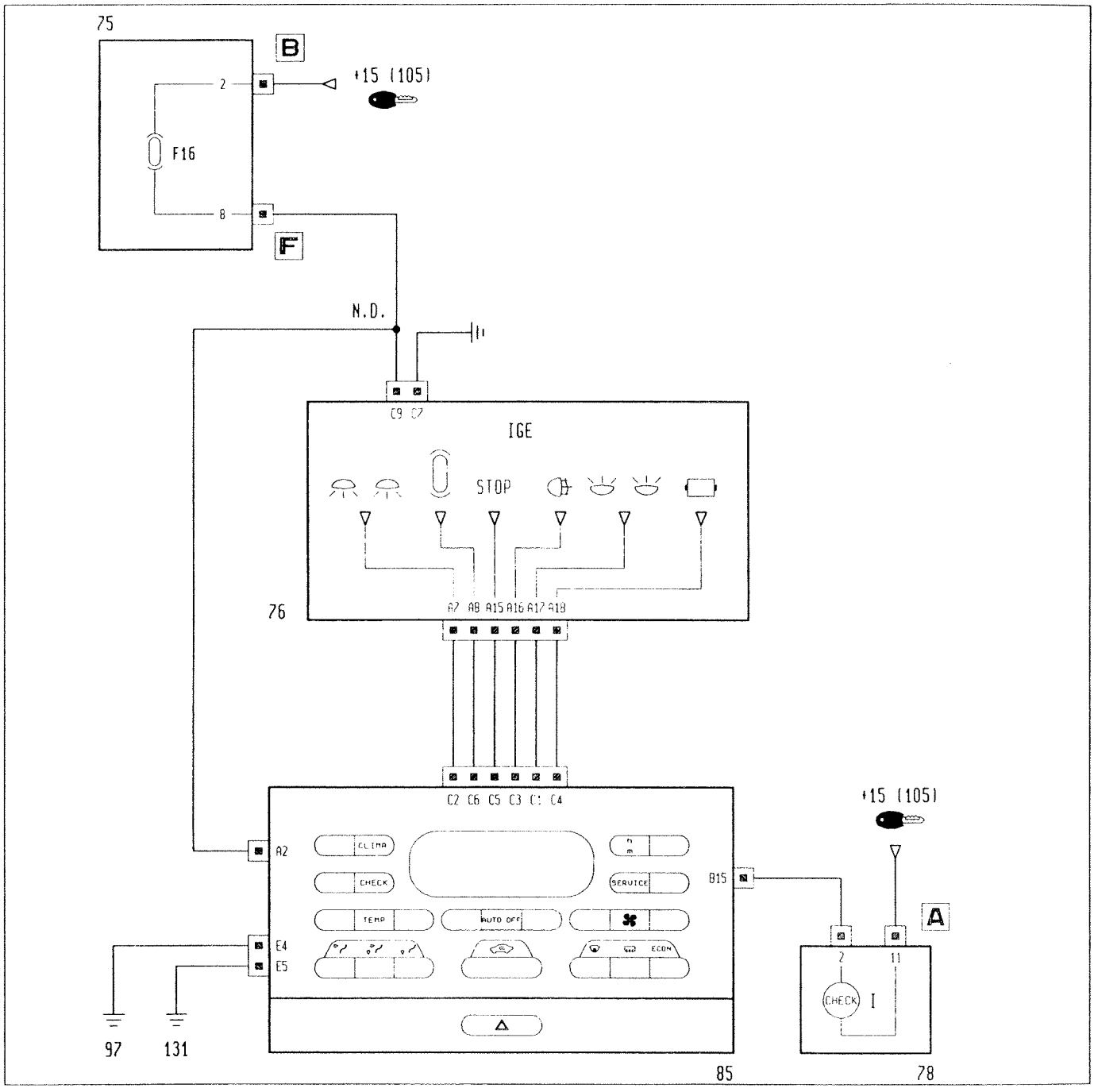


P3U63CL01

When the key is turned to MARCIA position (+15), the Infocenter check records or receives anomaly signals:
when the microprocessor receives an earth signal from one of the sensors (located in the locks), the following wording appears on the display "INCOMPLETE CLOSURE: RIGHT FRONT DOOR","INCOMPLETE CLOSURE LEFT FRONT DOOR","INCOMPLETE CLOSURE RIGHT REAR DOOR","INCOMPLETE CLOSURE LEFT REAR DOOR" and "INCOMPLETE CLOSURE BOOT LID".
The microswitches located in the locks are Normally Open type (with doors and boot closed).
Contacts are considered:
- open with resistance greater than 2 Ohm;
- closed with a resistance less than 100 Ohm.

Contact clearing current is about 10 mA.

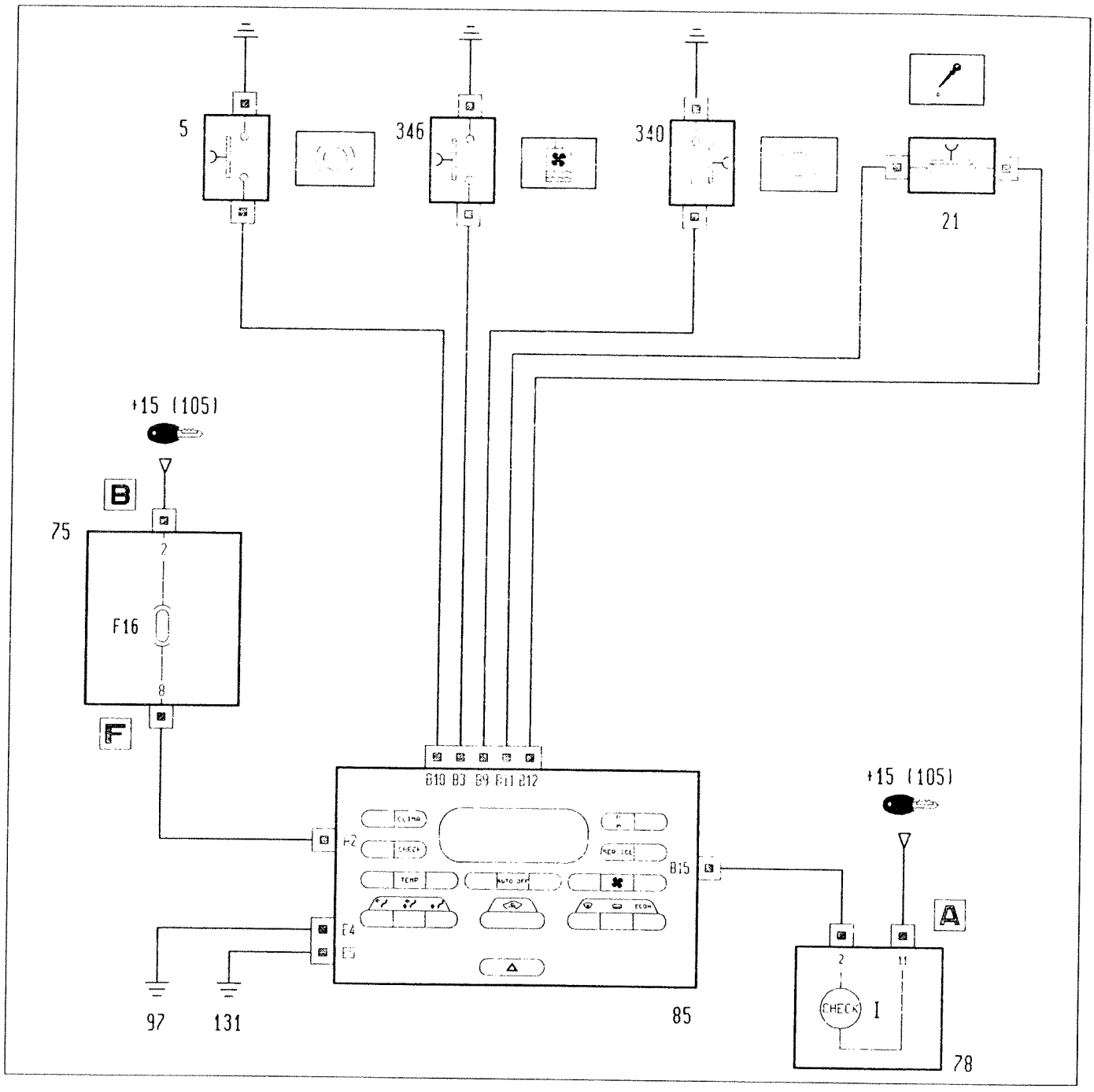
Vehicle brake lights and fuse - front and rear side lights - number plate lights (see key to wiring diagrams)



P3U64CL01

The functions listed on this page (vehicle brake lights and fuse, front and rear side lights, rear fog lamps and number plate lights) are controlled from the IGE control unit. This sends an anomaly signal (via a dedicated line) to theInfocenter.
The anomaly is displayed on the display 3 seconds after initial diagnosis has been carried out by the IGE control unit.

Brake pad wear - engine oil level - radiator coolant level (see key to wiring diagrams)



Brake pad wear

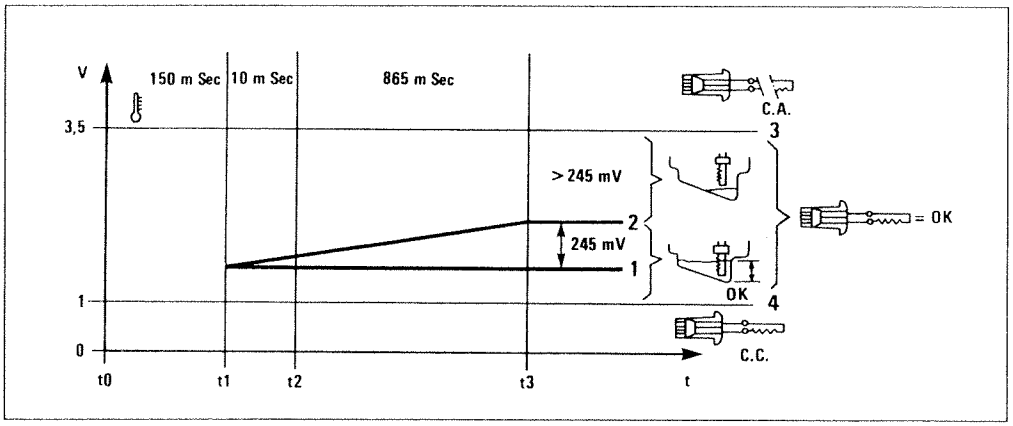
The "BRAKE PAD WEAR" fault is indicated on the Infocenter display only when the anomaly has been repeated on ten consecutive occasions) i.e. 10 braking manouevres lasting at least 2 seconds each).

Engine oil level

The engine oil level sensor, located in the oil sump, carries out a check only with ENGINE OFF and the vehicle level.
With key in MARCIA position (+ 15), press "CHECK" key. The hot wire sensor submerged in the engine oil consists of a heated wire for which the voltage drop is recorded on two different occasions. The difference is then taken between the two readings.

The resulting values are controlled by the Infocenter module, which is able to indicate the following anomalies on the display:
- low engine oil level;
- fault in engine oil check system. Two options are possible: short circuit or circuit (wiring/sensor) open.

With the key turned to MARCIA position, the sensor is supplied with a current of 200 mA. After a settling period (t0 ÷ t1 = 150 msec) the Infocenter electronic system takes an initial voltage measurement (time t1 - t2 = 10 msec).
After a second waiting period (time t2 - t3 = 865 msec) the system takes another voltage reading, which is compared with the first and the following conditions may occur:
1. if the potential difference between the two voltage readings is less than 245 mV, engine oil level is as specified;
2. if the potential difference exceeds 245 mV, the engine oil level is on minimum;
3. if the second voltage reading is greater than 3.5 V, the sensor is broken (circuit open)
4. if the voltage is less than 1 V the sensor is short-circuited.



P3U66CL01

t3-t1 = probe activation time: 875 msec
t2-t1 = reading time: 10 msec
t1-t0 = supply settling period: 150 msec

Radiator coolant level

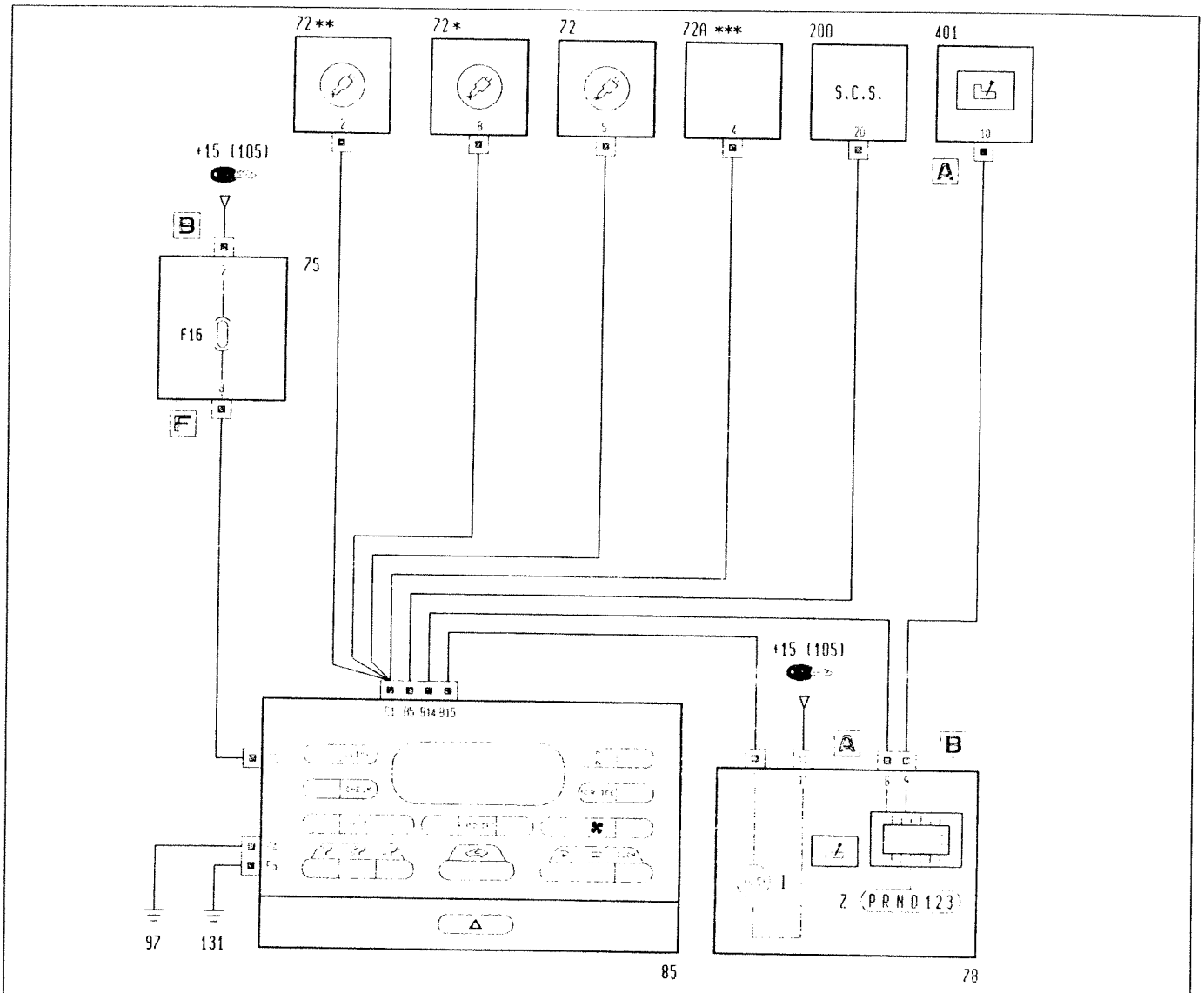
The low coolant level sensor consists of a switch enclosed in a sealed case and a float located in the expansion tank.
When the fluid level drops below minimum level, the float is lowered to close switch contacts and thus the electrical circuit.
This lights up the "LOW COOLANT LEVEL" message on the Infocenter display.

From the time the anomaly is recorded, only once it has persisted for 30 seconds, enablement is given for activation of the wording on the display.
If the fault signal disappears for a time in excess of 30 seconds for any reason, the message disappears from the Infocenter display.
The Infocenter intake is protected by radiofrequency signals and electrostatic discharge by special filters.

Other features include:
- contact clearing current = 10 mA;
- maximum resistance with contacts closed = 100 Ohm;
- maximum resistance with contact open = 1 K Ohm.

55.

Fault in variable-rate suspension ECU - fault in electronic injection ECU - fault in automatic transmission ECU (see key to wiring diagrams)



* Connection for version 2959 V6 24v
** Connection for version 1995 16v turbo
*** Connection for version 2387 TD

P3U67CL01

Fault in variable-rate suspension ECU

The Infocenter electronic module receives a fault signal from the variable rate suspension ECU. Once the first 3 seconds of diagnosis have elapsed, a fault signal is displayed for the component in question.

Fault in electronic injection ECU

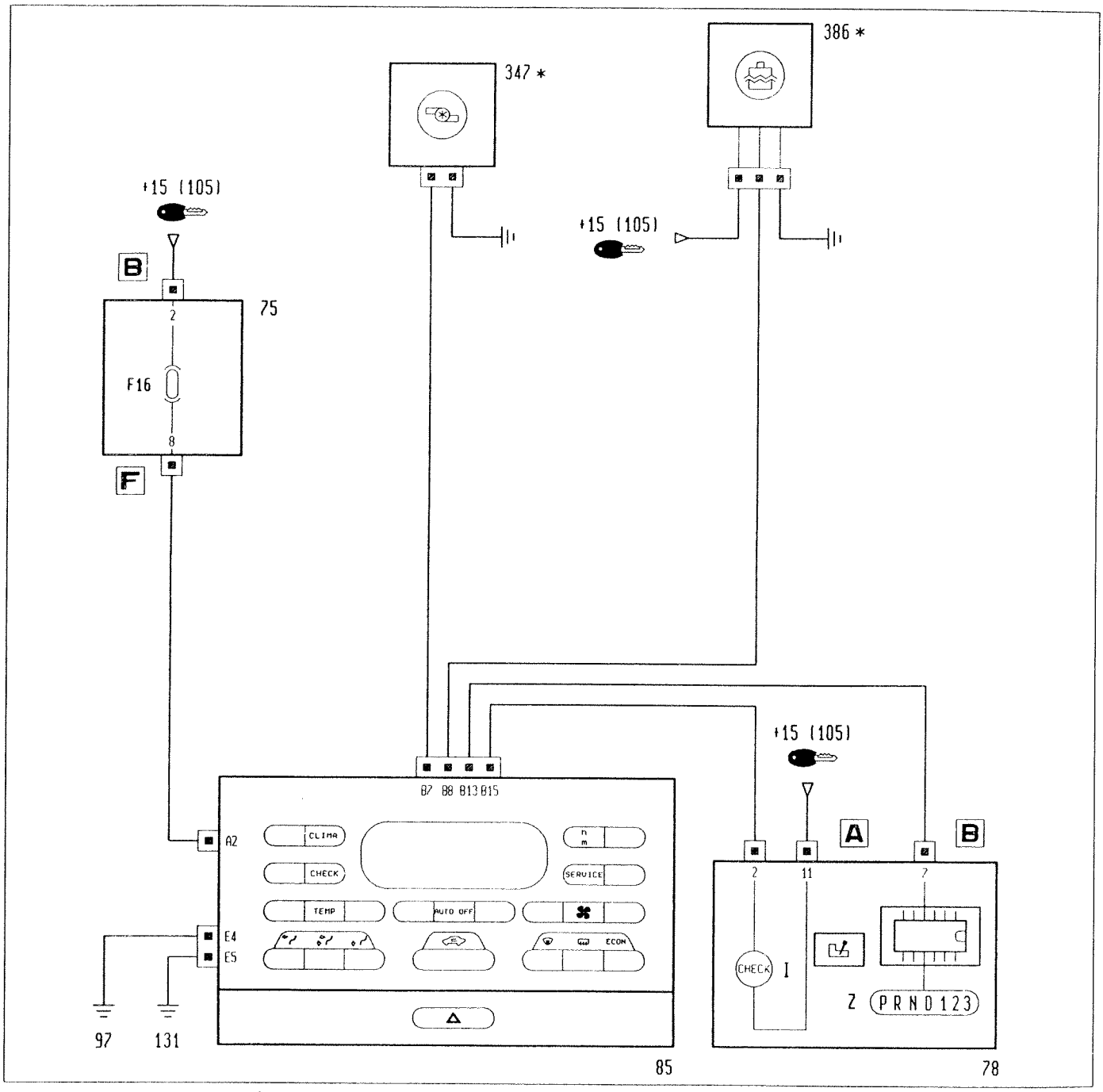
The Infocenter module receives a fault signal from the electronic injection control unit. This anomaly is immediately displayed on the infocenter display.

Fault in automatic transmission ECU

The Infocenter electronic module receives a signal not from the automatic transmission ECU but from the instrument panel. The instrument panel output is protected by short-circuits to the battery positive terminal.

A ECU fault message is displayed 3 seconds following initial diagnosis.

Water in fuel filter indication - turbo over-pressure indication - catalytic converter max. temperature indication - maximum automatic transmission fluid temperature indication - icy road acoustic/visual signal (see key to wiring diagrams)



P3U68CL01

* **Only for version 2387 TD**

Water in fuel filter indication (only diesel versions)

This device is designed to indicate the presence of a certain amount of condensate water in the fuel filter before it goes on to jeopardise engine operation.
The system works on the basis that water is a better conductor than fuel and has a different specific weight. If sufficient condensate gathers in the lower part of the filter to touch the sensor, the electrical conductivity between sensor and vehicle earth changes signficantly.

The sensor is normally insulated electrically, while the filter is connected to the vehicle earth through its mount. When the connection between sensor and fuel is only through fuel, electrical conductivity is almost zero. When the connection is through water, the electrical conductivity between sensor and filter is very high. This brings about operation of the electronic module, which is connected to the sensor and incorporated in the fuel filter bleed knob.
Thirty seconds elapse once the sensor has recorded the anomaly before the Infocenter displays the message "WATER IN DIESEL FILTER".

Turbo pressure sensor

The turbo pressure sensor is fitted to the first cylinder intake manifold. This records excess pressure and at least 30 seconds elapse before the anomaly message is displayed by the Infocenter.
The turbo pressure sensor intake on the Infocenter muts be protected against radiofrequency signals and electrostatic discharge by means of special filters.

Maximum catalytic converter temperature (only Japanese market)

The signal from the sensor is processed by an ECU and immediately displayed by the Infocenter.

Maximum automatic transmission fluid temperature sensor

The Infocenter displays a fault message 3 seconds after the fault is detected by the sensor.
The signal does not come directly from the sensor but from the control panel. This output is protected by short-circuits to the positive terminal and it is able to withstand a current drop of 10mA with a voltage drop of 1.7 V.

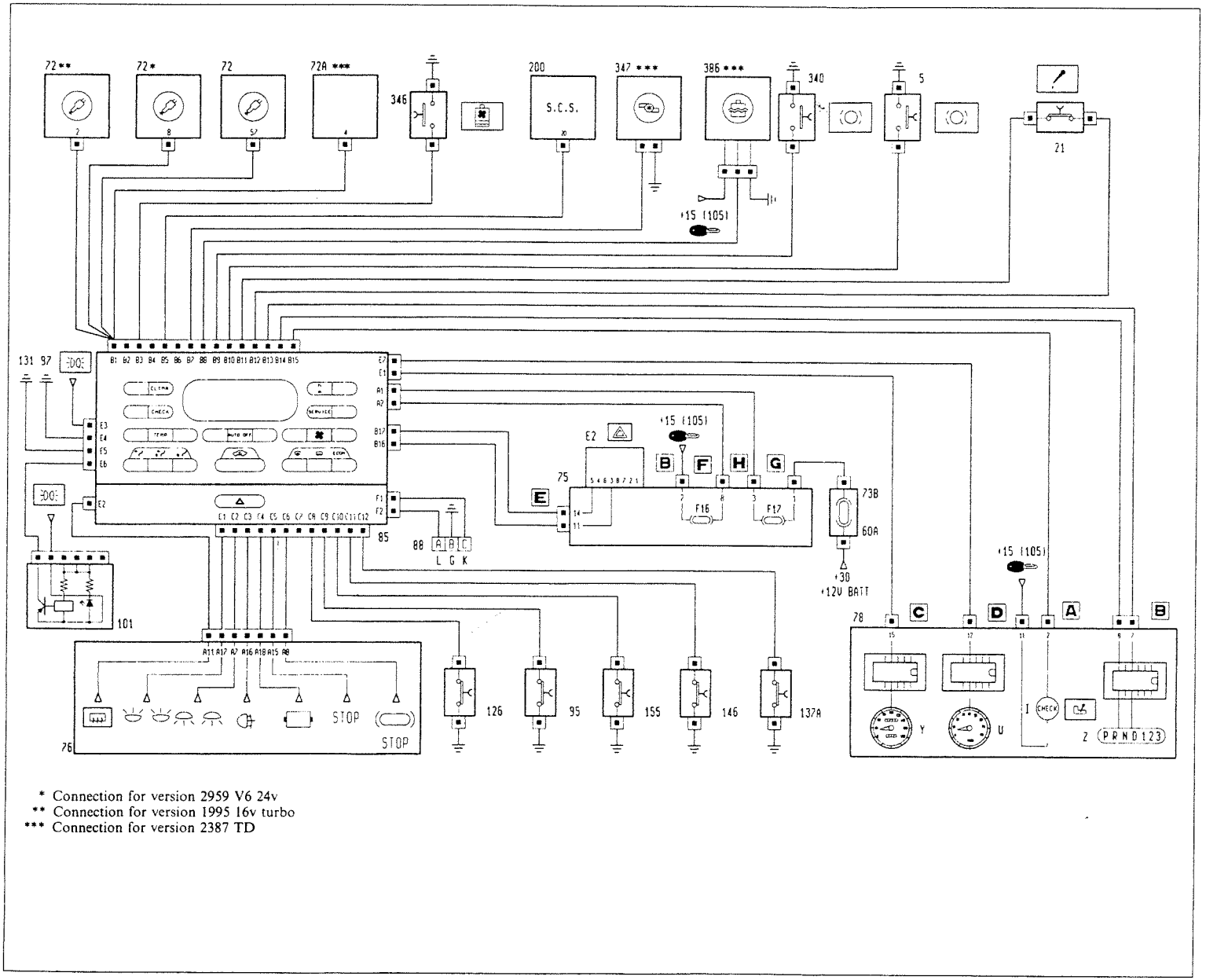
Automatic transmission ECU fault indication

The Infocenter indicates a fault 3 seconds after the fault is recorded by the ECU.
The signal does not reach the ECU directly but passes from the instrument panel; this output is protected by short circuits toward the positive terminal and it is able to withstand a current drop of 10 mA with a voltage drop of 1.7 V.

Ice on road acoustic/visual signal

Every time the vehicle is started up or is drive on the road, when outdoor temperature drops to +3 °C, the horn comes on for about 5 seconds and the message "WARNING, POSSIBILITY OF ICE ON ROAD is displayed.
The Infocenter module uses the same message system when temperature drops to +1 °C.
The module no longer intervenes after three signals because the displayed warnings are now considered sufficient.
The horn may or may not come on to indicate the presence of ice on the road surface.
Whe the horn has come on at least once:
- if the outdoor temperature reaches or exceeds +6 °C and then drops again to +3 °C the horn comes on as described above;
- if the outdoor temperature does not reach +6 °C and then drops to +3 °C the horn does not come on.

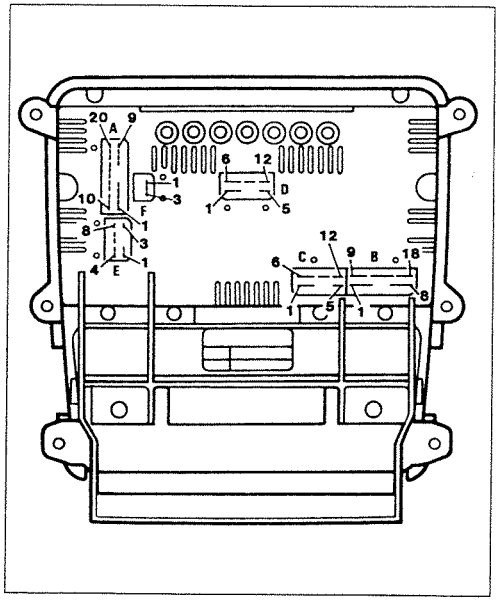
BASIC WIRING DIAGRAM (function "CHECK") (see key to wiring diagrams)



* Connection for version 2959 V6 24v
** Connection for version 1995 16v turbo
*** Connection for version 2387 TD

P3U71CL02

Rear view of Infocenter ECU



P3U72CL01

CONNECTOR A

1. +12 V from battery (+30)
2. +12 V from battery (+15)

CONNECTOR B

1. Fault in electronic injection ECU
2. Maximum catalytic converter temperature (only Japanese market)
3. Low coolant level
4. Not connected
5. Variable-rate suspension system fault
6. Not connected
7. Excess turbo pressure (only diesel versions)
8. Water in fuel filter (only Diesel versions)
9. Brake lining wear
10. Brake lining wear
b1. Low engine oil level 1
12. Low engine oil level 2
13. Maximum automatic transmission fluid temperature
14. Fault in automatic transmission system
15. To red check warning light on instrument
16. Hazard warning light control
17. Hazard warning light flasher signal
18. Not connected

CONNECTOR C

1. Front side light failure
2. Rear side light failure
3. Rear fog lamp fault
4. Number plate light failure
5. Vehicle brake light fault
6. Vehicle brake light fuse fault
7. Not connected
8. Right front door open
9. Left front door open
10. Right rear door open
11. Left rear door open
12. Boot lid open

CONNECTOR E

1. Speedometer signal
2. Heated rear windscreen
3. positive from light switch
4. Earth for signal circuits
5. Dimmer (low signal)
6. Dimmer (high signal)
7. Rev counter signal (from instrument)
8. Not connected

CONNECTOR F

1. Serial line K
2. Serial line L
3. Serial line G

CLIMATE FUNCTION

Press the "CLIMA" key when screen is to be used exclusively for air conditioner functions.
Key wording and identification points are lit in green by measn of a warning light.
The automatic air conditioner control system automatically regulates the following parameteters/function:

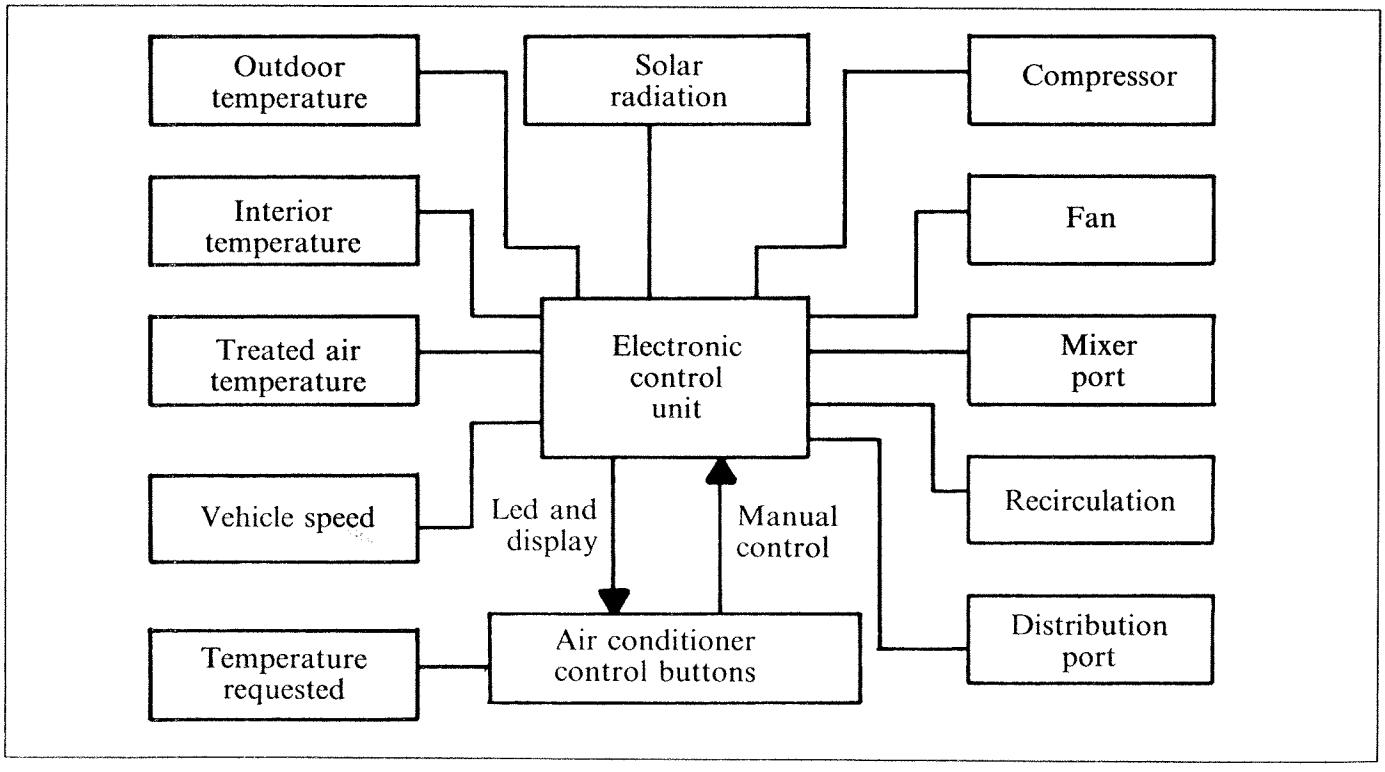
- air temperature to outlets;
- fan speed (continuous speed);
- air distribution;
- air recirculation;
- compressor activation.

It also governs the following parameters/functions manually:
- fan speed (continuous);
- air distribution in four positions;
- recirculation;
- compressor activation.

All manual operations carried out under the "CLIMA" function take priority over the automatic functions and are saved until the user wishes to alter the function by turning to automatic mode.

When one of the parameters is set manually, the others are controlled automatically. In particular, air temperature to outlets allows temperature requested on display to be maintained in the passenger compartment (except when off).
The system saves the functions even when the vehicle stalls and the engine is turned off.
The system is zeroed only when the battery is disconnected from the system. When the battery is refitted, the first time the engine is turned on, the Infocenter memory is set to "AUTO" and a temperature of 24 °C appears on the display. The remaining functions are set automatically.
Temperature is expressed in degrees centigrade for Italy and Central Europe and in Fahrenheit for the United Kingdom.

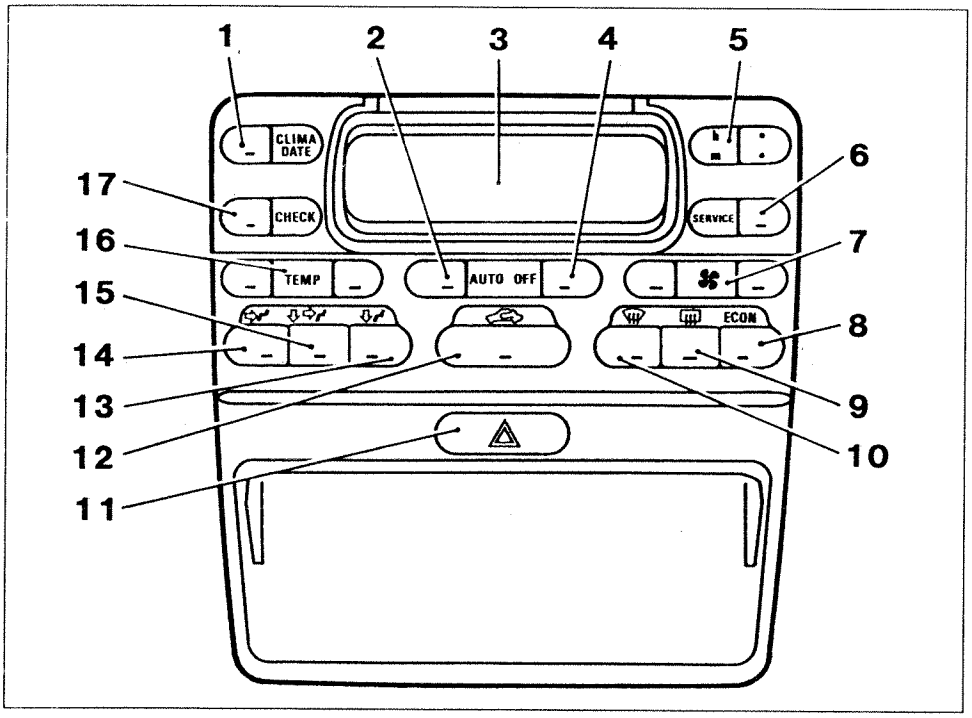
The figure below shows a flow diagram for the automatic air conditioner.



P3U73CL01

55.

Front view of Infocenter



Key

1. Climate function
2. Automatic air conditioner key
3. Liquid crystal display
4. Air conditioner ECU on/off key
5. Clock keys
6. Service function
7. Fan speed adjustment keys
8. ECON function activation key
9. Timed rear window heater activation key
10. Key for directing air toward the windscreen
11. Key for activating hazard warning lights
12. Interior air recirculation function activation key
13. Key for directing air toward lower part of passenger compartment
14. Key for directing air to the central part of the passenger compartment
15. Key for directing air to the lower - central part of the passenger compartment
16. Keys for changing temperature from 18 to 32 °C
17. Check function

Operation

The Infocenter is located in the middle of the instrument panel and controls the air conditioning system by means of the following controls:

- auto;
- econ;
- off;
- passenger compartment temperature;
- recirculation;
- timing gear;
- windscreen demister or defroster;
- air flow.

The following sensors for passenger compartment temperature control are connected to the Infocenter ECU:

- outdoor temperature;
- treated air;
- passenger compartment temperature;
- solar radiation.

CLIMA key

Press "CLIMA" key to set air conditioning function on Infocenter.

TEMP keys

Adjust "TEMP" keys to alter temperature in passenger compartment through a range of 15°C.

AUTO key

Press "AUTO" key for system to take automatic control of air temperature and distribution, fan speed, compressor activation and recirculation activation. The display shows the wording FULL AUTO.

OFF key

Press the "OFF" key to turn off the system (if on) and turn on the system (if off). When this key is pressed, the display is cleared of messages relating to air conditioner operation, i.e. temperature required, recirculation functions (timing gear, windscreen demisting) and the wording CLIMA OFF should appear on the display.

ECON key

Press the "ECON" key to turn off the compressor and the wording AUTO ECON appears on the display.

RECIRCULATION key

Press "RECIRCULATION" key to set recirculation mode and the display will show the associated symbol. If no manual action is taken, recirculation is controlled automatically on the basis of temperature required and outdoor temperature.

FAN speed keys

Operate "AIR" keys to change the air flow and display pattern by means of bar graphs (consisting of 5 bars). The wording AUTO appears on the display.

Distribution keys

Press VENT-BILEV-FLOOR keys to alter air distribution pattern. Associated symbols light up and wording AUTO appears on the display. The following angular distribution flap positions correspond to the three settings:

VENT = 0 degrees
BILEV = 35 degrees
FLOOR = 65 degrees

Windscreen demister key

Operate this key to direct air toward the windscreen (distribution flap position at a 95 degrees). If the system is set to ECON mode by pressing "ECON" key, this operation is cancelled and the compressor is again controlled automatically.

HIGH temperature

If the user sets a temperature higher than 32 °C (90 °F) a condition of HIGH is achieved, i.e. maximum heating. This appears on the display accompanied by the wording AUTO. This status ceases only when the required temperature is reduced.

LOW temperature

If the user sets a temperature of less than 18 °C (64 °F). Temperature is LOW, i.e. condition is of maximum cooling. This appears on the display accompanied by the wording AUTO. This status ceases only when the temperature setting is increased.

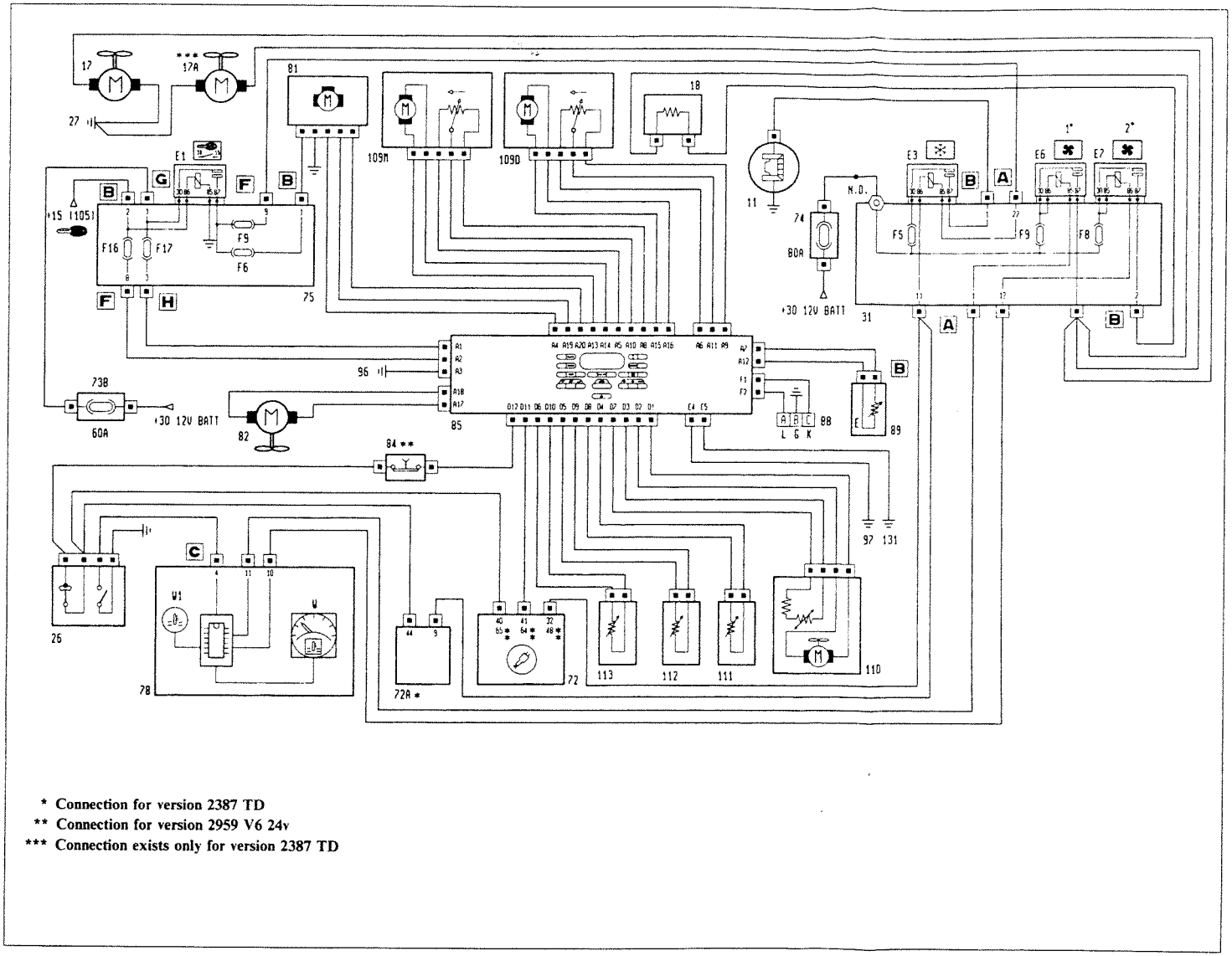
55.

Setting the date

- Turn the key to marcia position (+15). The CLIMA screen will appear if no anomaly is displayed;
- set the Infocenter to the CLIMA function;
- press "CLIMA/DATE" key so that the date appears on the liquid crystal display;
- press button "h" using a pencil tip. The month - day - year will appear on the display (example: FEBRUARY - 10 - 95), with the right hand year figure flashing;
- use button "m" to adjust the flashing number to the required value (example: 5 for the year 95);
- press button "h" per to confirm selected value and move to the flashing left hand year figure;
- use button "m" to adjust the flashing figure to the required value (example: 9 for the year 95);
- press button "h" to confirm the selected value and move to the flashing month;
- use button "m" to select the month (example: FEBRUARY);
- press button "h" to confirm month selected and move to flashing day figures;
- use button "m" to adjust day figures (example: 10);
- press button "h" to confirm the selected day and finish programming. When programming is completed, the two figures indicating the year disappear from the display.

Whenever the battery is disconnected or the Infocenter is deactivated, repeat the date programming procedure because this does not remain in the memory.

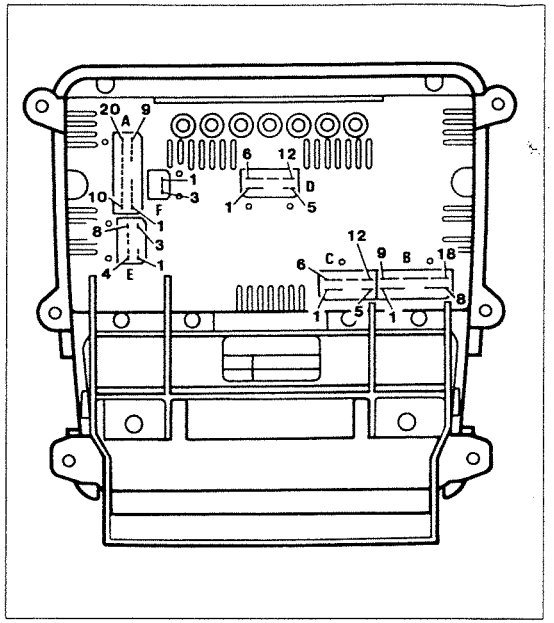
GENERAL BASIC WIRING DIAGRAM (function "CLIMA") (see key to wiring diagrams)



* Connection for version 2387 TD
** Connection for version 2959 V6 24v
*** Connection exists only for version 2387 TD

P3U77CL01

Rear view of Infocenter



P3U72CL01

CONNECTOR A

1. + 12 V battery (+30)
2. + 12 V from ignition switch (+15)
3. Earth for power circuits
4. Interior fan earth
5. Mixed air potentiometer earth
6. Air distribution potentiometer earth
7. Outdoor temperature sensor earth
8. Mixed air potentiometer supply
9. Air distribution potentiometer supply
10. Mixed air potentiometer signal
11. Air distribution potentiometer signal
12. Outdoor temperature sensor signal
13. Mixed air motor -/+
14. Mixed air motor +/-
15. Air distribution motor -/+
16. Air distribution motor +/-
17. Air recirculation motor -/+
18. Air recirculation motor +/-
19. Interior fan PWM signal
20. Input for vehicle interior speedometer signal

CONNECTOR D

1. Interior fan supply
2. Interior fan earth
3. Interior temperature sensor earth
4. Mixed air temperature sensor earth 1
5. Mixed air temperature sensor earth 2
6. Solar sensor earth
7. Interior temperature sensor
8. Mixed air temperature sensor 1
9. Mixed air temperature sensor 2
10. Solar sensor
11. Compressor (signal from electronic injection control unit) microswitch 1
12. Compressor (signal from electronic injection control unit) microswitch 2

CONNECTOR E

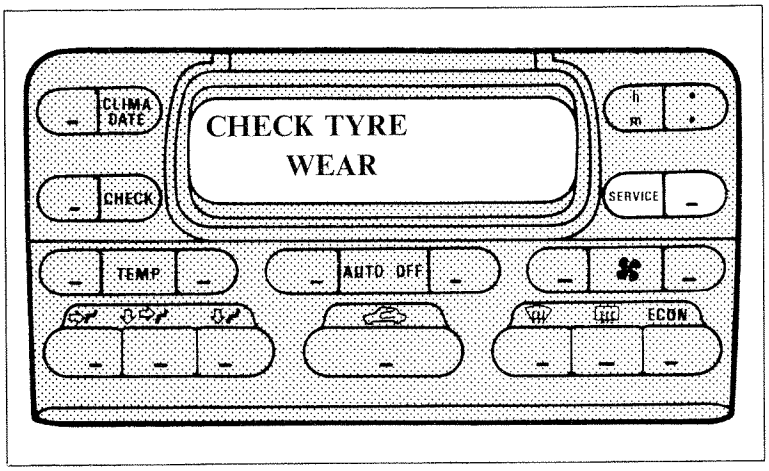
1. Speedometer signal
2. Heated rear windscreen
3. Positive from light switch
4. Earth for signal circuits
5. Dimmer (low signal)
6. Dimmer (high signal)
7. Rev counter signal (from instrument)
8. Not connected

CONNECTOR F

1. Serial line K
2. Serial line L
3. Serial line G

Publication no. 506.475/07

SERVICE FUNCTION



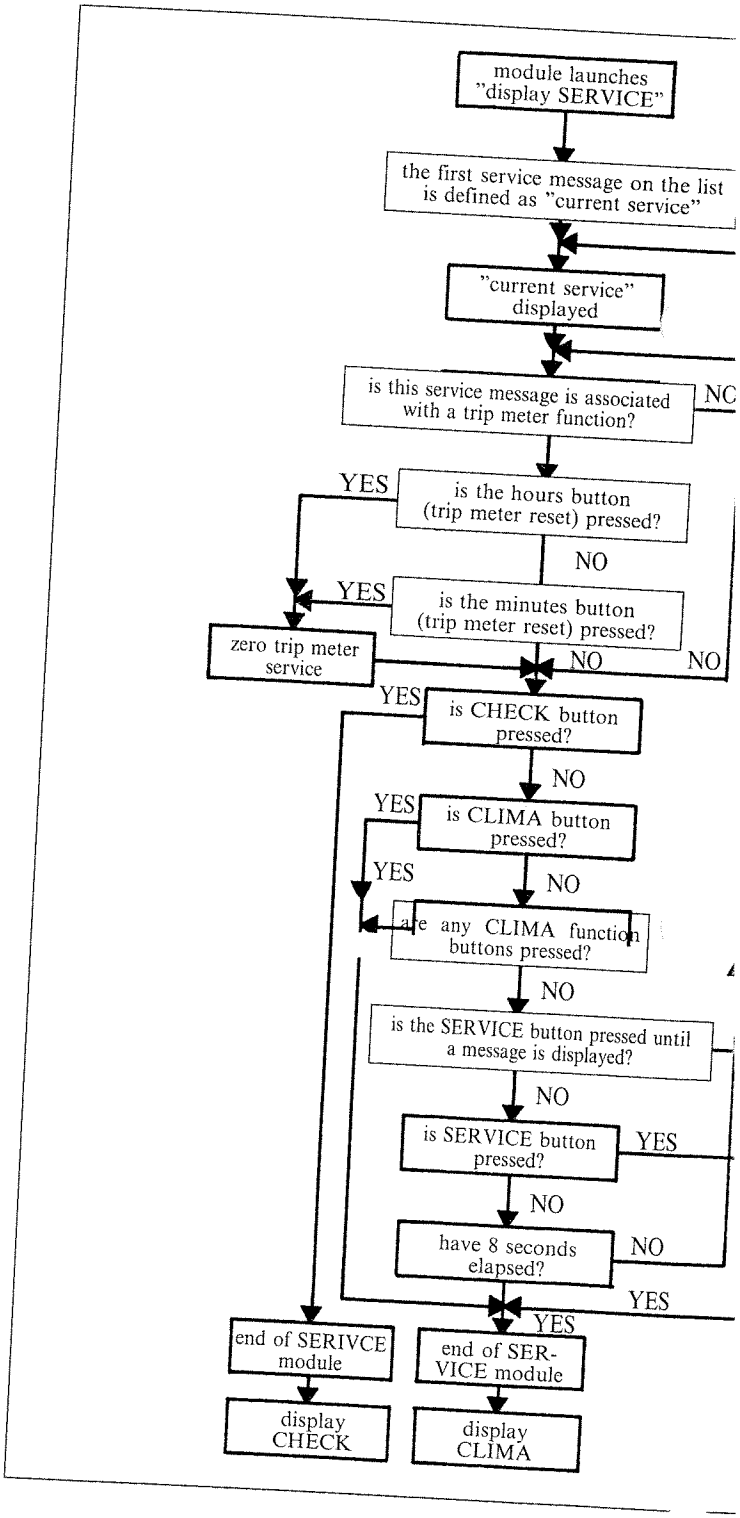
P3U79CL01

The "SERVICE" is obtained by pressing the button shown in the diagram; this function takes advantage of the infocenter logic module and the signal from the speedometer sensor, detected by the instrument panel. To obtain messages on the display the ignition key must be in the ON position (+ 15) or the engine must be running.
When the "SERVICE" button is pressed the words: "CHECK TYRE WEAR" appear on the display; by pressing the button once again, within 8 seconds, further information appears on thedisplay; if the button is kept pressed the messages are displayed cyclically (3 seconds for each message). If problems occur for the functions under the "CHECK" service whilst the "SERVICE" function is being read, the fault messages take priority over the "SERVICE" ones.

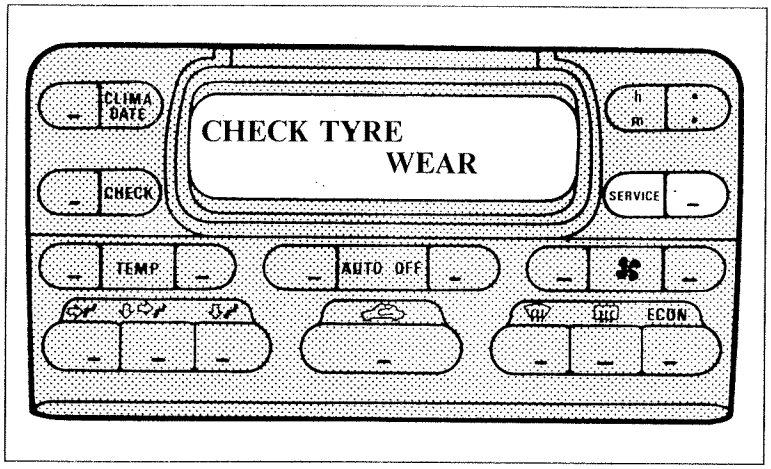
Electrical equipment
Infocenter
55.

The Infocenter module counts backwards eve. y 50
scale is 100 km.
When 0 km is reached, the replacement in questic
To return to the initial counting state simply press
the SERVICE function and the appropriate repla
The principle is the same as far as the counting of t
month to month until the appropriate replacemen

Display Service



SERVICE FUNCTION



P3U79CL01

The "SERVICE" function is called up by pressing the button shown in the diagram; this function uses the infocenter module and the signal from the speedometer sensor, taken from the instrument panel. The key must be in the ON position (+15) or the engine running in order to obtain the messages on the display.
When the "SERVICE" button is pressed, the following words appear on the display: "CHECK TYRE WEAR"; by pressing the button once again, in less than 8 seconds, futher information appears on the display; by keeping this button pressed, the messages will be displayed in cycles (3 seconds for each message). If, whilst reading the "SERVICE" function, faults occur for the functions controlled by the "CHECK", the fault messages will appear instead of the "SERVCE" ones.

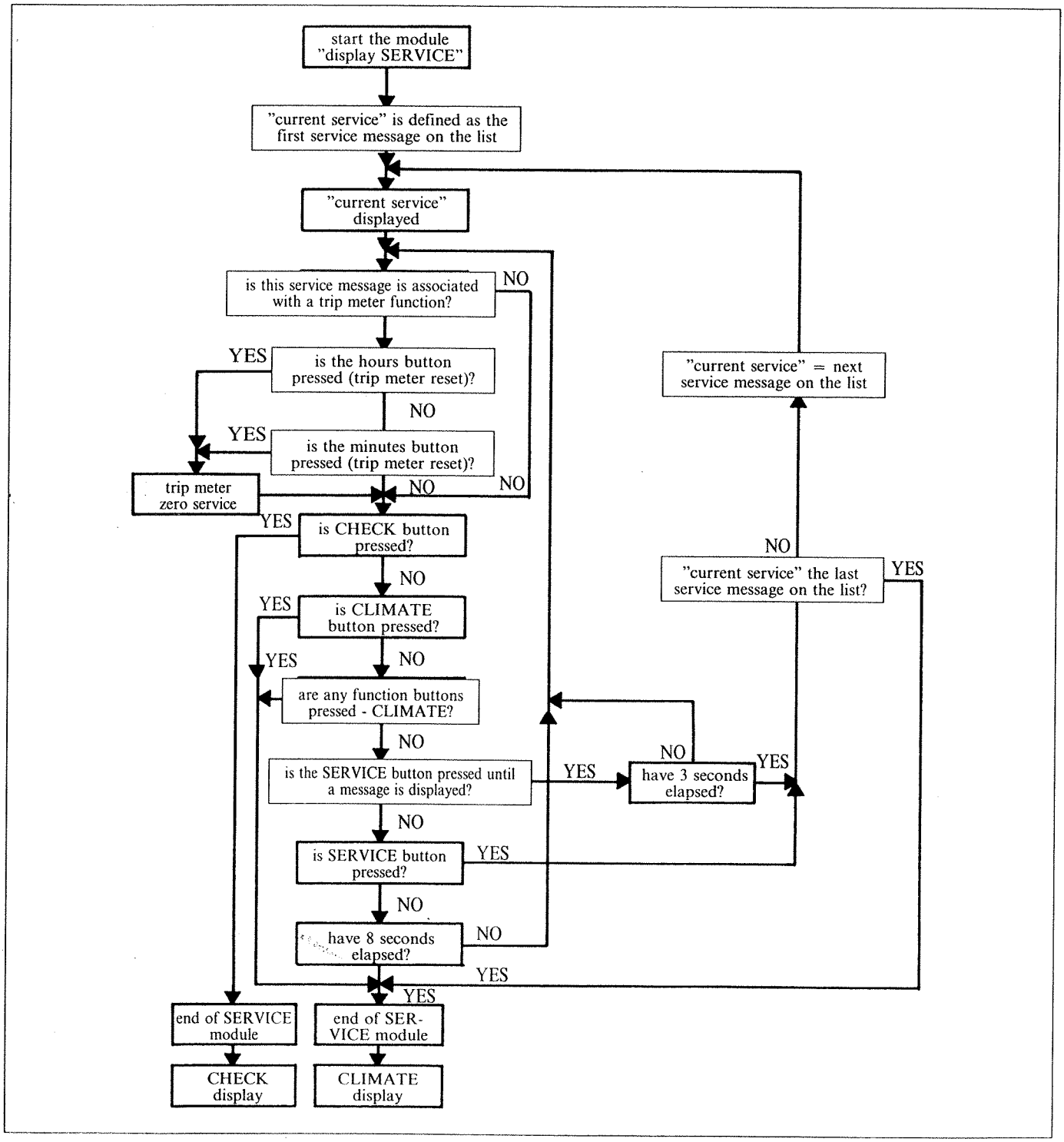
Messages displayed (on vehicles produced until 1995)
- check tyre wear;
- front tyres min 2.2 - max 2.3 bar;
- rear tyres min 2.2 - max 2.3 bar;
- planned maintenance between 15000 km;
- engine oil SELENIA SAE 10W40 - engine oil SELENIA TURBO DIESEL;
- changing engine oil between 15000 km - changing engine oil between 7500 km (diesel versions only);
- replace engine oil filter between 15000 km;
- replace fuel filter between 30000 km - replace fuel filter between 15000 km (diesel versions only);
- replace air filter between 30000 km - replace air filter between 15000 km (diesel versions only);
- replace spark plugs between 30000 km (excluding 2959 V6 24v versions);
- check emissions between 15000 km;
- replace pollen filter between 6 months;
- replace windscreen wiper blades between 12 months;
- brake fluid TUTELA TOP4;
- engine coolant type PARAFLU' FIAT;
- change brake fluid between 24 months;
- for further information, see handbook.

Messages displayed (on vehicles produced since 1996)
- check tyre wear;
- front tyres min 2.2 - max 2.3 bar;
- rear tyres min 2.2 - max 2.3 bar;
- planned maintenance between 20000 km;
- engine oil SELENIA 20K - engine oil SELENIA TURBO DIESEL;
- changing engine oil between 20000 km - changing engine oil between 10000 km (diesel versions only);
- replace engine oil filter between 20000 km - replace engine oil filter between 10000 km (diesel versions only);
- replace fuel filter between 80000 km - replace fuel filter between 20000 km (diesel versions only);
- replace air filter between 40000 km - replace air filter between 20000 km (diesel versions only);
- replace spark plugs between 40000 km (excluding 2959 V6 24v versions);
- check emissions between 40000 km;
- replace pollen filter between 20000 Km;
- replace windscreen wiper blades between 12 months;
- brake fluid TUTELA TOP4;
- engine coolant type PARAFLU' 11;
- change brake fluid between 60000 km;
- for further information, see handbook.

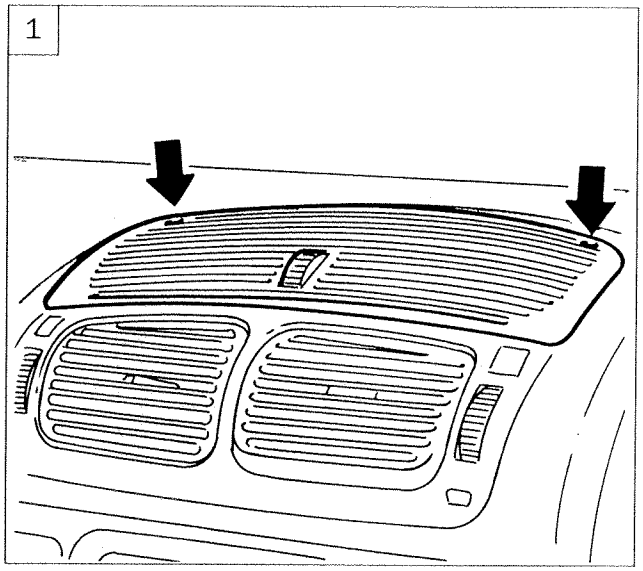
55.

The Infocenter module counts, in reverse, every 500 km; when the reverse counting reaches 1000 km, the counting scale is 100 km.
When it arrives at 0 km, the message for the replacement in question appears.
To return to the original counting state, simply press buttons "h" or "m" with the tip of a pencil remaining in the SERVICE function and the replacement being carried out.
As far as the counting of the months is concerned, the principle is the same. The Infocenter module goes from month to month until the appropriate replacement appears on the display.

Display Service



1



P3U055L01

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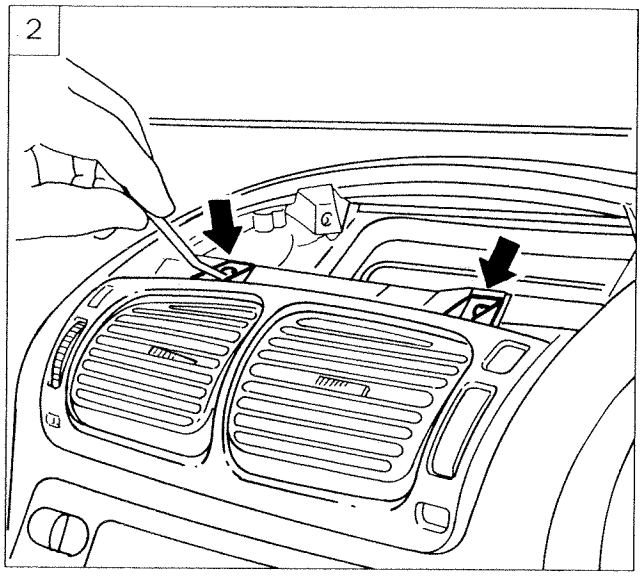

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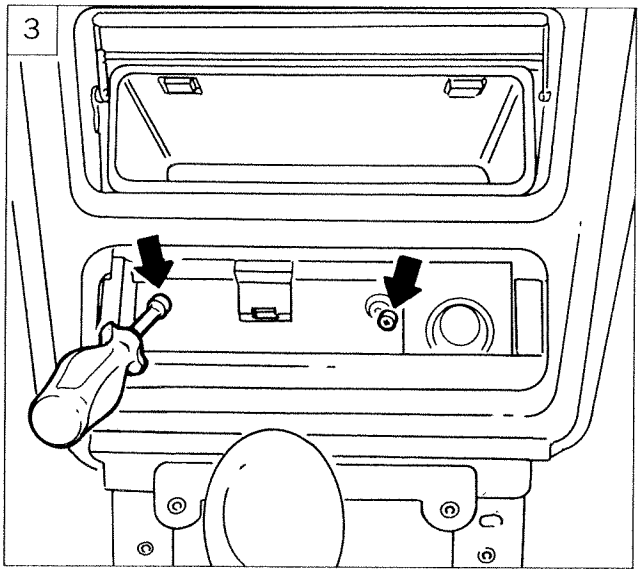
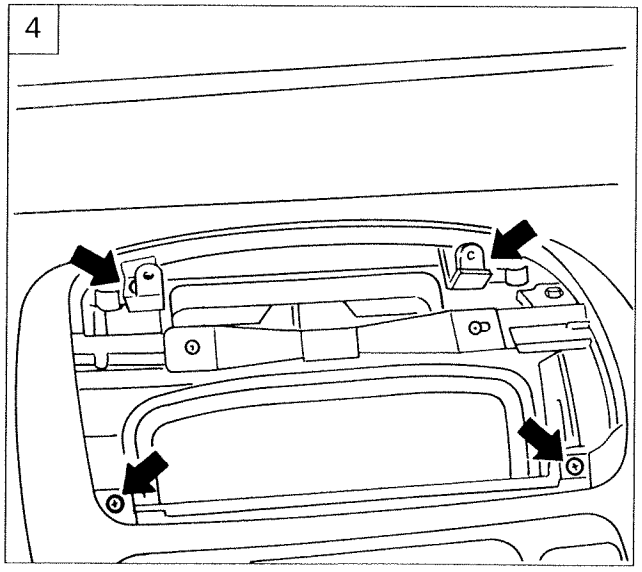


P3U055L03

REMOVING-REFITTING

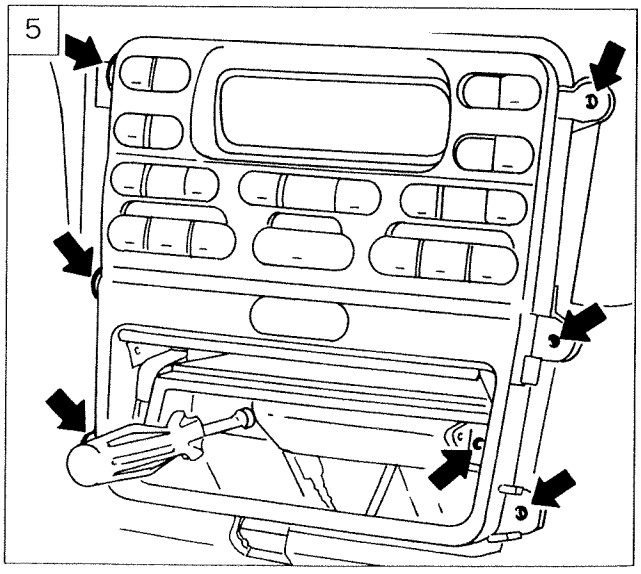
1. Remove the top central air diffuser grille from the dashboard.
2. Remove the central air diffuser grille from the dashboard.
3. Remove the radio compartment and ashtray, then undo the screws underneath.
4. Undo the attachment screws and remove the central frame.
5. Unscrew at the points indicated, disconnect the connectors then remove the "Infocenter".

4



P3U055L04

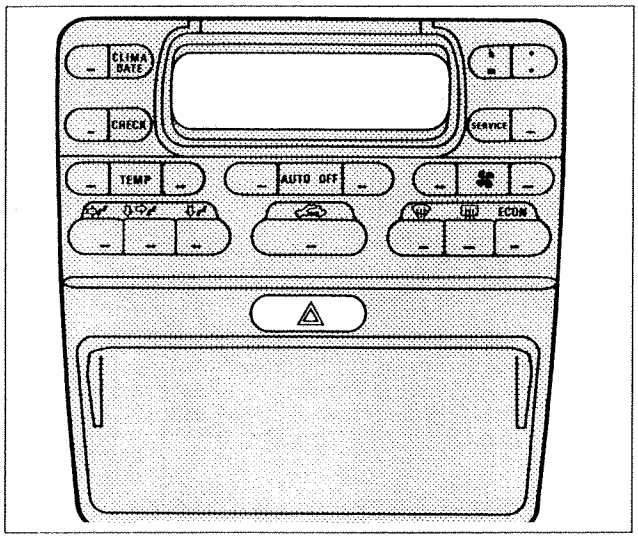
5



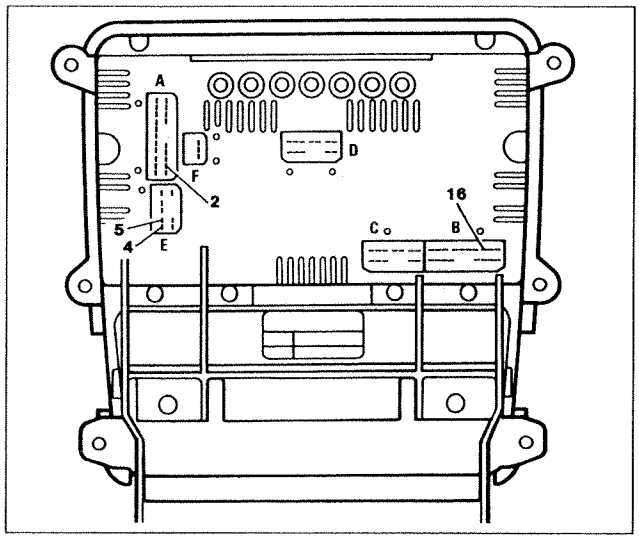
P3U055L05

Location of hazard warning lights key

The hazard warning lights key located in the Infocenter module is of the unstable type. However, the hazard lights circuit is not linked to the Infocenter's logic.

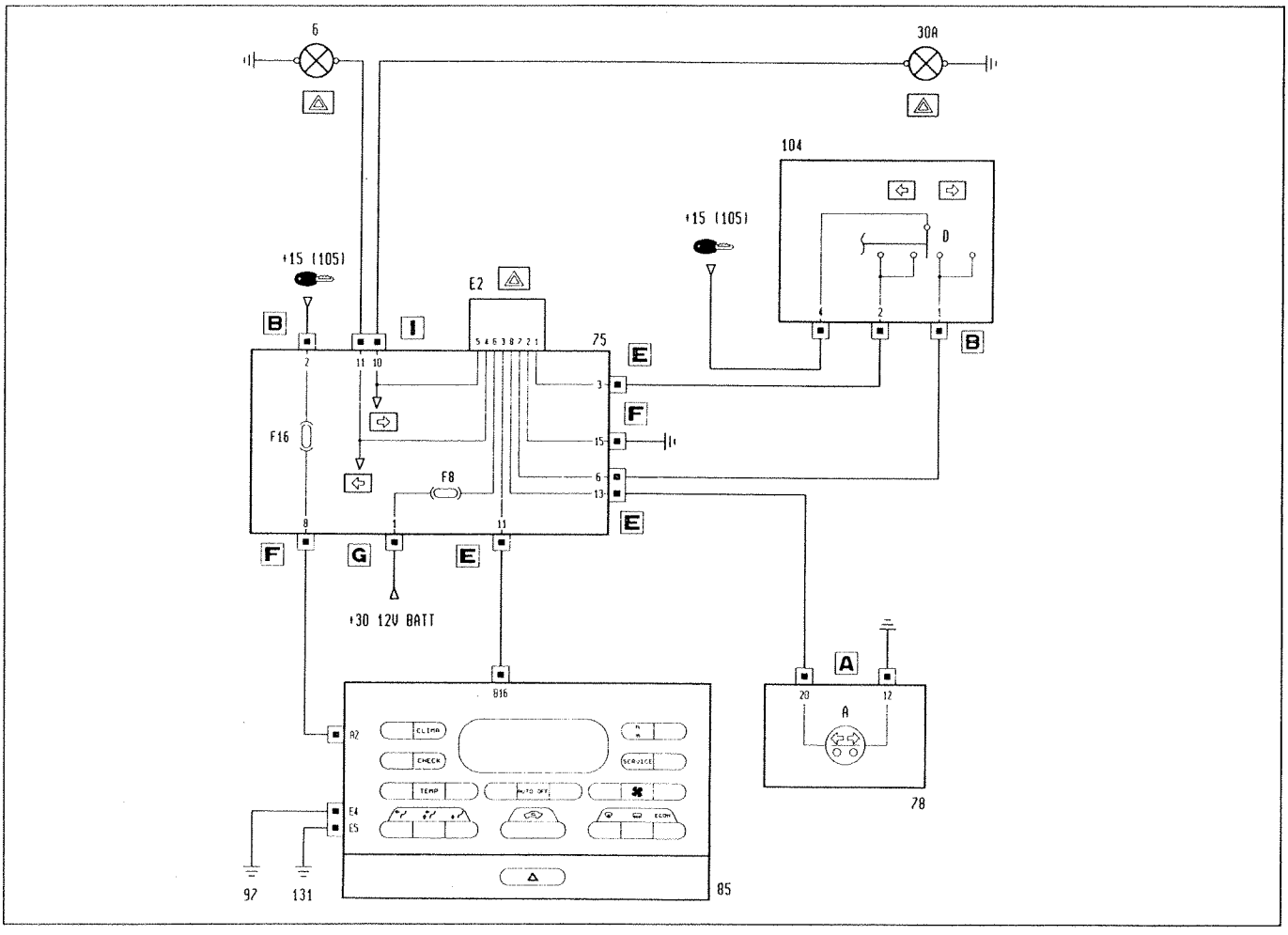


P3U81CL02



P3U81CL03

Wiring diagram of hazard warning lights



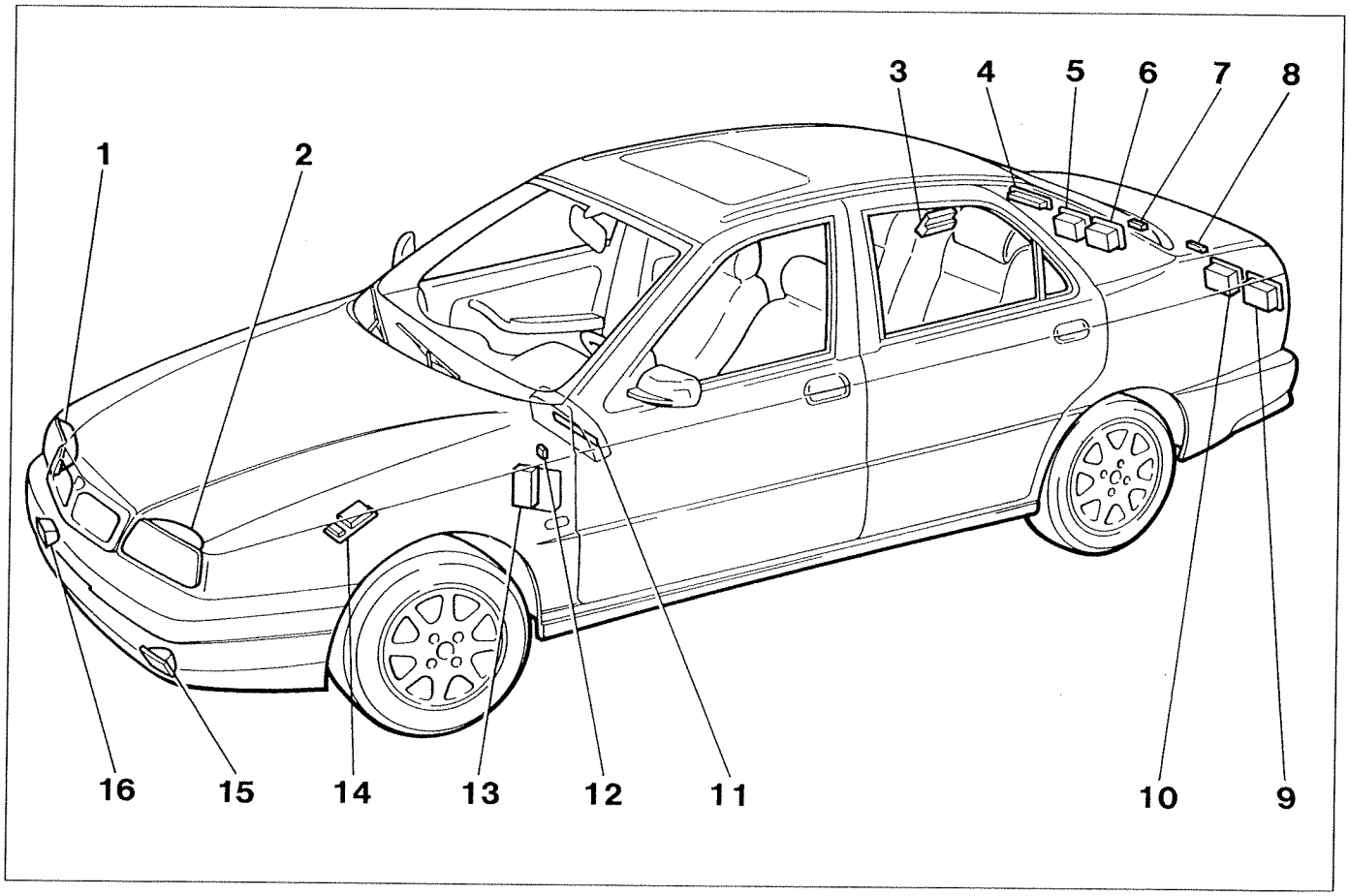
P3U81CL01

INTRODUCTION

The I.G.E. junction box (Impianto Gestione Elettronica - Electronic Management System) operates and checks the following functions:
- side lights;
- parking lights;
- number plate lights;
- brake lights (stop);
- rear fog lamps;
- fog lights;
- dipped headlamps relay feed;
- dipped headlamps relay feed (*);
- warning lights in instrument panel (side lights, fog lights, rear fog lamps, heated rear windscreen and hand-brake);
- heated rear windscreen timer.

(*) In accordance with European regulations, North European market vehicles equipped with electric head-lamp alignment are exempted from fitting the DIM DIP headlamp circuit.

Location on vehicle of connectors managed by the I.G.E. control unit



P3U34CL01

1. Left front side/parking light
2. Right front side/parking light
3. Heated rear windscreen relay
4. Additional brake light
5. Left rear side/parking light - left brake light
6. Left rear fog lamp
7. Left no. plate light
8. Right no. plate light
9. Right rear fog lamp
10. Right rear side/parking light - right brake light
11. Warning lights in instrument panel
12. Diagnostic socket
13. I.G.E. control unit
14. Fog lights relay
15. Left fog light
16. Right fog light

55.

The I.G.E. electronic control unit, equipped with a microprocessor, possesses static electronic components which have the task of receiving the operating signal for the switches, activating the consumers (5/21 W bulb) and simultaneously transmitting the diagnosis, via the dedicated connection, to the infocenter control unit.
Each inlet is protected by suitable filters against any electrostatic discharges or radiofrequency signals.
The activation of the external lights (brake lights, side/parking lights, no. plate light, rear fog lamp) is carried out by means of semiconductor switches which simultaneously control the operation and the check of the function.
A failure of the above mentioned bulbs is signalled via a dedicated line to the infocenter.
The I.G.E. control unit inlets for the operation of the various switches (side light, rear fog lamps, fog lights) allow a connection, inside the control unit, to earth; this connection makes it possible to activ ate the above mentioned devices.

The I.G.E. junction box comes into operation when the following conditions occur:
- key in ON position (connector C pin 9);
- parking lights go ahead (connector A pin 9).

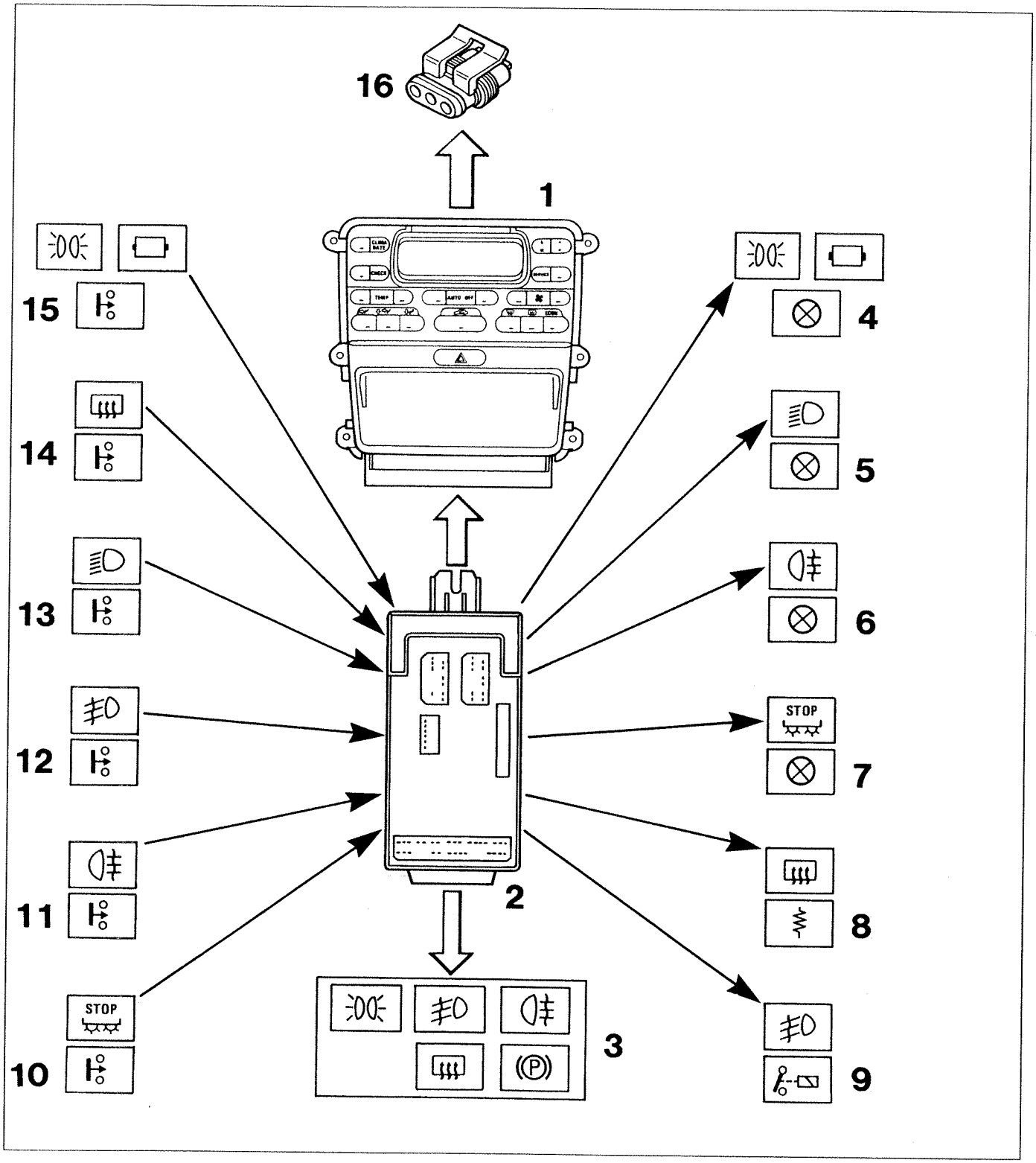
The lack of one of these conditions deactivates the control unit and engages the stand-by function.

In vehicles for North European markets, the cable loom and the wiring diagrams for the exterior lights system remain the same. The system differs as far as the operating logic is concerned because there is a specific I.G.E. junction box for the North European market.

I.G.E. system diagram key (see overleaf)

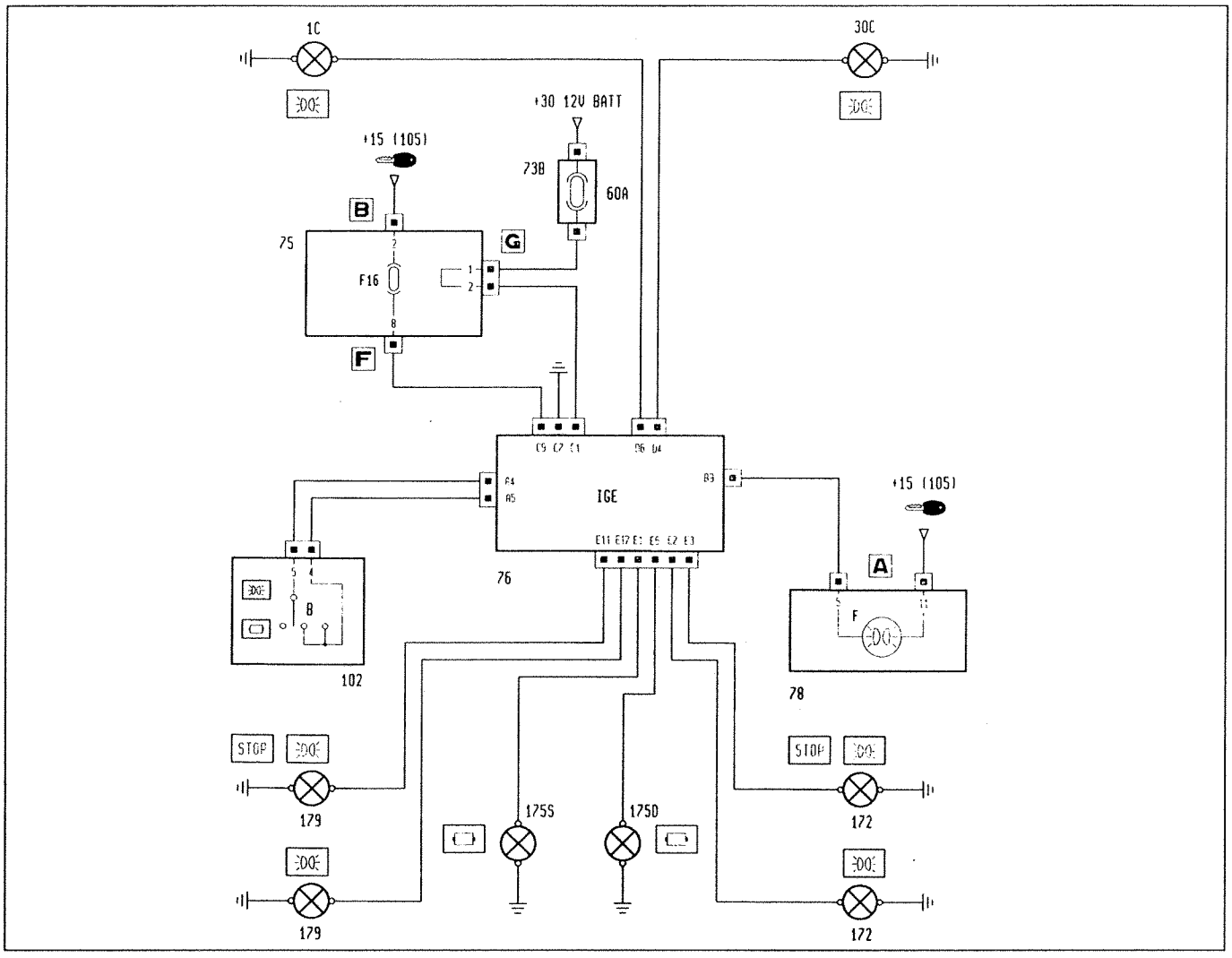
1. Infocenter control unit
2. I.G.E. junction box
3. Instrument panel (warning lights, side/-parking lights, for lights, rear fog lamps, heated rear windscreen and handbrake)
4. Side/parking lights, number plate lights
5. Dipped beam headlamps
6. Rear fog lamps
7. Braking lights
8. Heated rear windscreen with timer
9. Fog lights relay feed
10. Brake lights switch
11. Rear fog lamps switch
12. Fog lights switch
13. Dipped headlamps switch
14. Heated rear windscreen with timer switch
15. Side/number plate lights switch
16. Diagnostic socket

DIAGRAM OF I.G.E. SYSTEM



FUNCTIONS OF THE I.G.E. SYSTEM

Side lights and number plate lights



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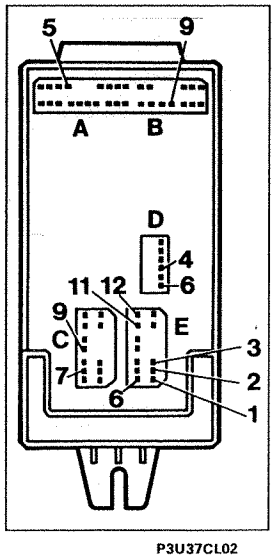


P3U37CL02

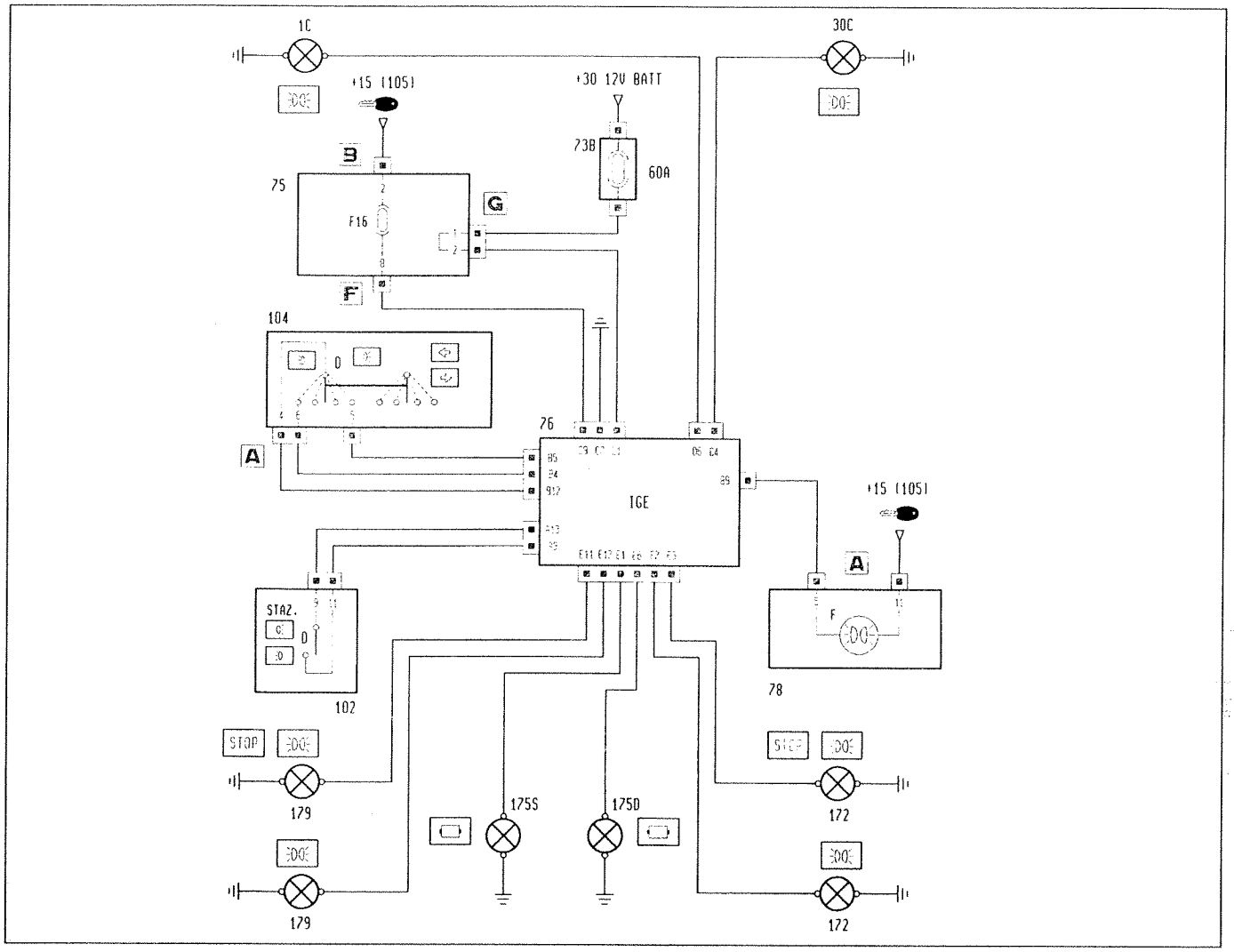
The side lights are enabled if the following conditions are present:
- presence of ignition ON (+15) signal at connector C pin 9;
- closure to earth (connector C pin 7) of the circuit controlled by the side lights switch (connector A pin 5).

From connector B pin 9, there emerges a signal which switches on the side lights warning light on the instrument panel.

The side lights and number plate lights are connected to the I.G.E. control unit as follows:

Side lights	Connector	Pin	No.plate	Connector	Pin
front right	D	4	left	E	1
front left	D	4	right	E	6
rear right	E	2			
rear left	E	12			
additional rear right	E	3			
additional rear left	E	11			

Parking lights



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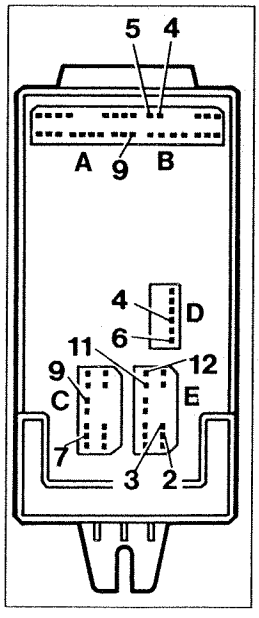


P3U38CL02

The parking lights are enabled if the following conditions arise:
- absence of the ignition ON signal in connector C pin 9;
- closure to earth (connector C pin 9) of the circuit controlled by the parking lights switch (connector A pin 9).

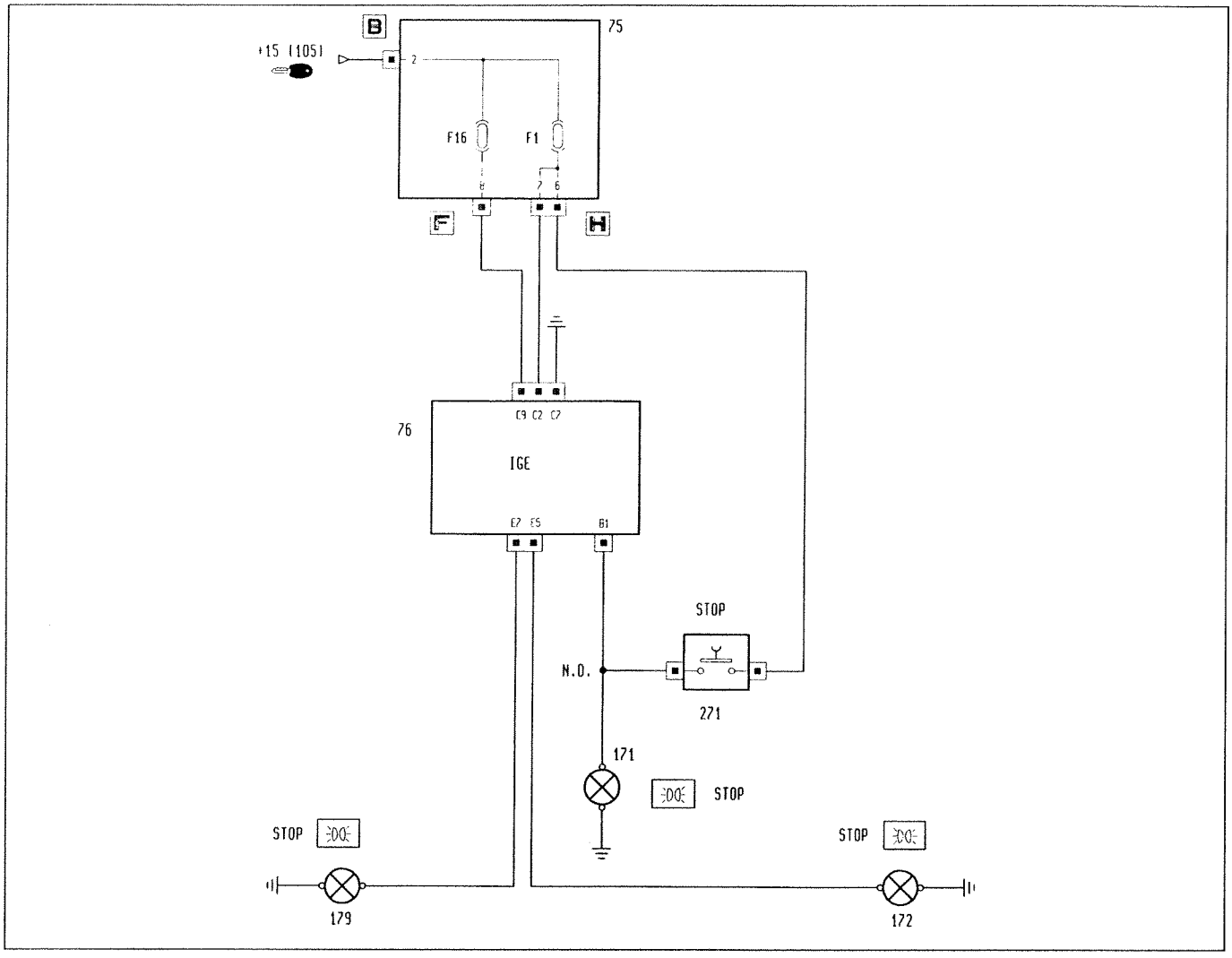
The side lights are used as parking lights:
- the parking lights on both sides, the warning light on the instrument panel and the number plate light are on when the parking lights switch is on (inputs on connector B pin 4 and 5 are ACTIVE);
- the left parking lights are on when the parking lights switch and left direction indicator are on (on connector B pin 4 is INACTIVE while pin 5 is ACTIVE);
- the right parking lights are on when the parking lights switch and right direction indicator are on (on connector B pin 4 is ACTIVE while pin 5 is INACTIVE).

The parking lights are connected to the I.G.E. control unit as follows:

Parking lights	Connector	Pin	Parking lights	Connector	Pin
front right	D	4	rear left	E	12
front left	D	6	additional rear right	E	3
rear right	E	2	additional rear left	E	11

55.

Stop lights



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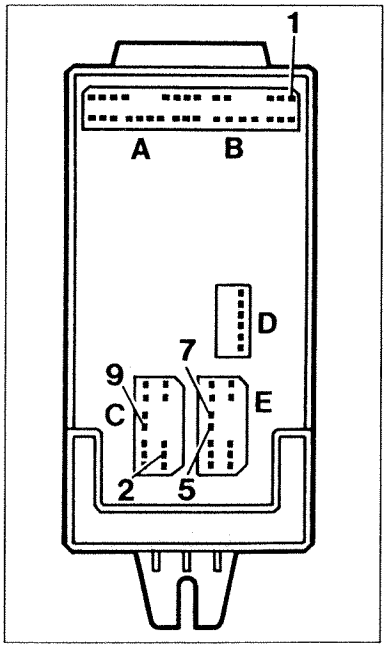


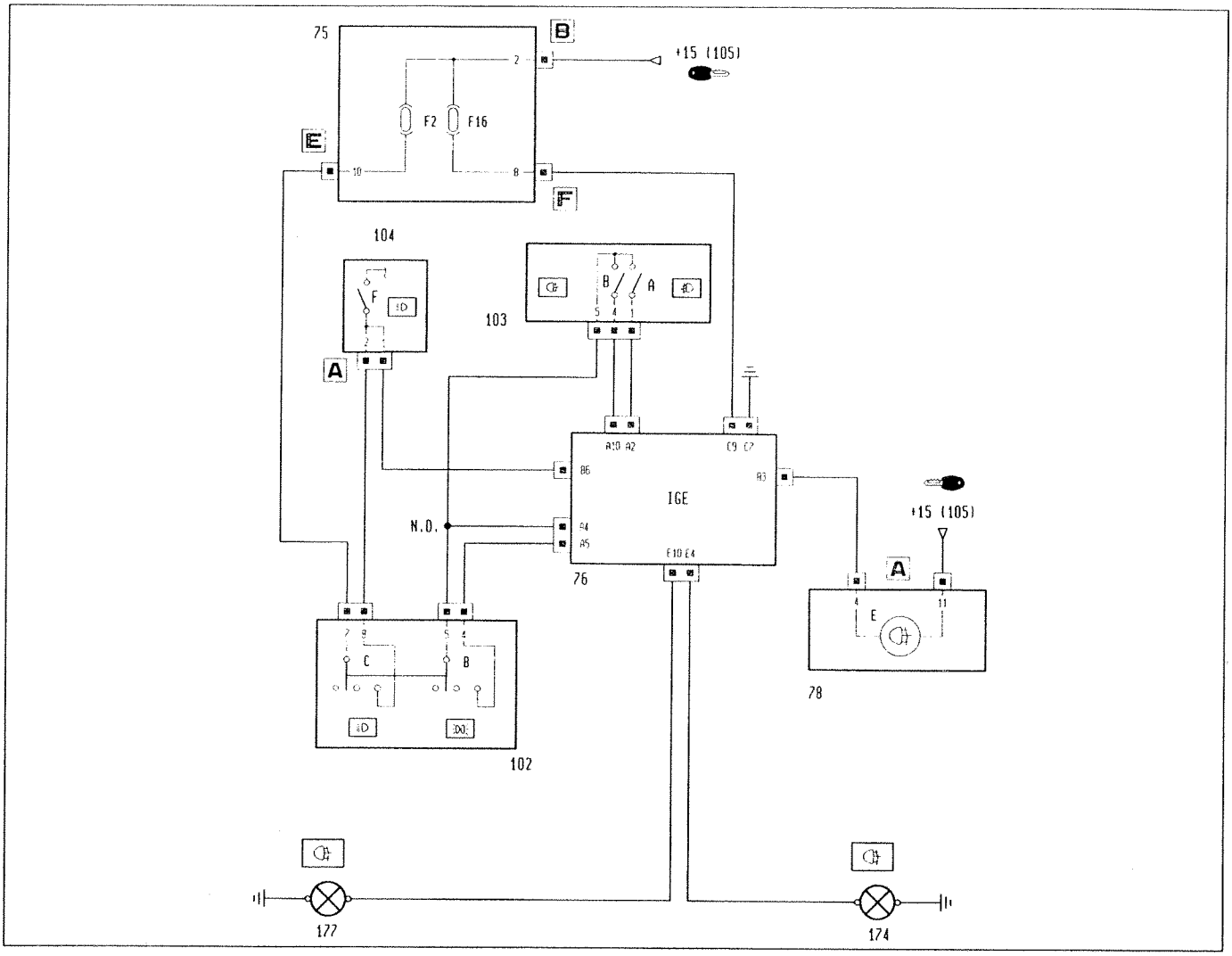
P3U39CL02

The stop lights circuit is connected to the control unit as follows:
- right stop light = connector E pin 5;
- left stop light = connector E pin 7;

The stop lights are enabled if the following conditions arise:
- presence of ignition ON (+15) signal in connector C pin 9;
- the circuit, controlled by the switch on the brake pedal (connector B pin 1) is closed towards the positive.

Since the stop lights system is an active protection, it is monitored by the I.G.E. control unit. The fuse (F1) supplies the stop lights and receives a key-dependent positive (+15); the connector C pin 2 of the I.G.E. control unit checks the efficiency of the fuse F1 and the stop lights.
The car has an additional stop light; this is not controlled by the I.G.E. control unit, but receives the signal directly from the brake pedal switch.

Rear fog lamps



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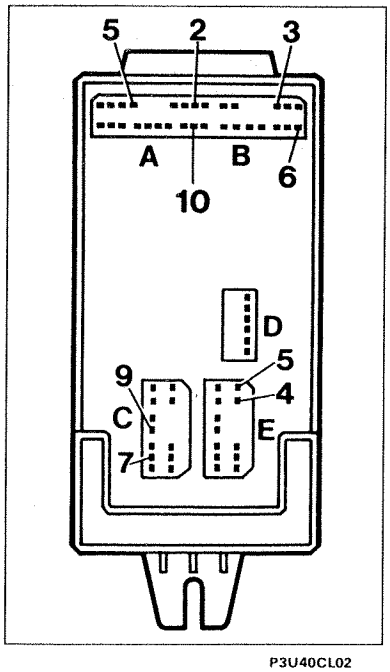


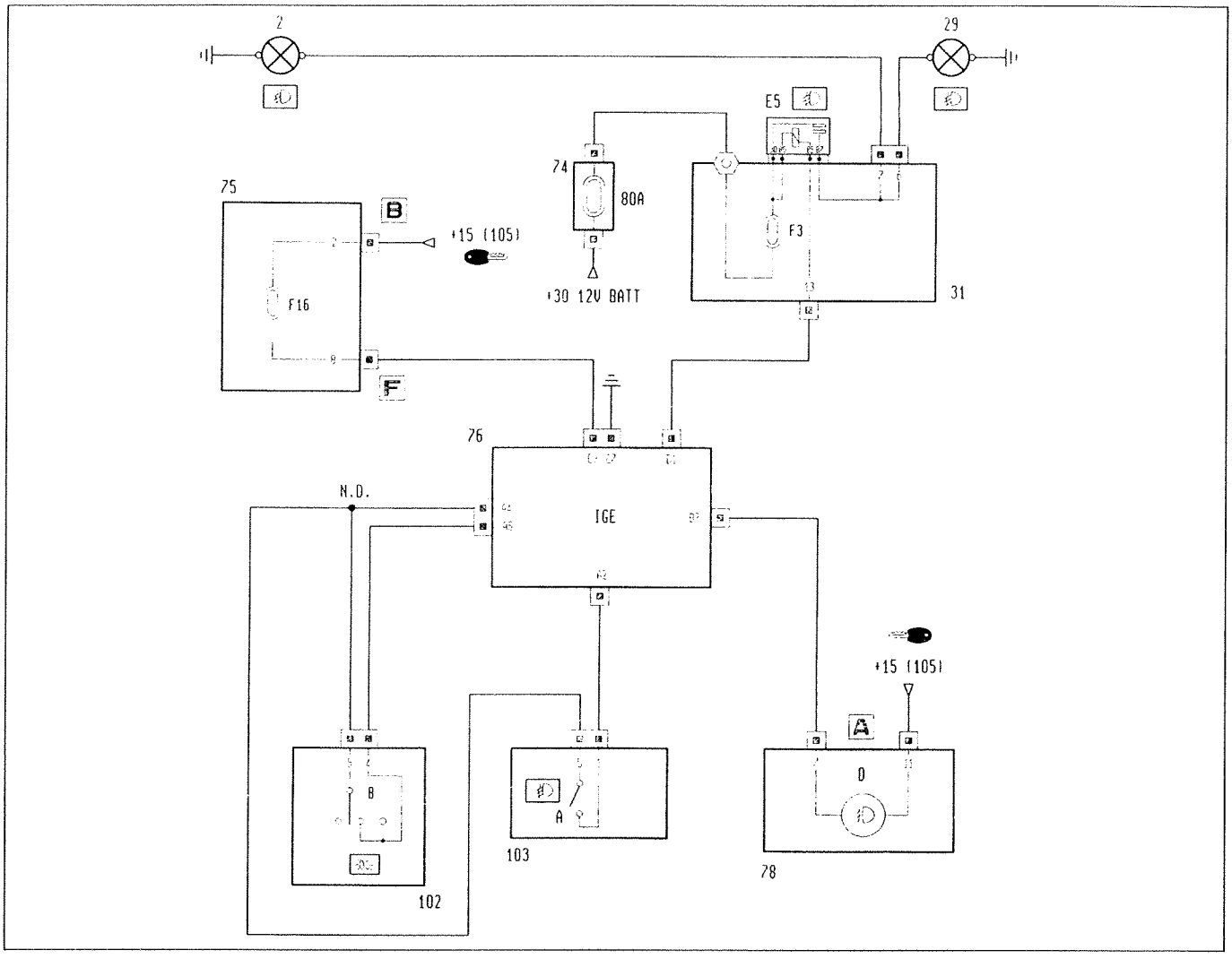
P3U40CL02

The rear fog lamps circuit is connected to the control unit as follows:
- rear right fog lamp = connector E pin 4;
- rear left fog lamp = connector E pin 5.

The rear fog lamps are enabled if the following conditions arise:
- presence of the ignition ON (+15) signal in connector C pin 9;
- the circuit, controlled by the side lights switch (connector A pin 5), is closed to earth (connector C pin 7);
- presence of rear fog lamps ON signal on connector A pin 10;
- presence of dipped beam headlamps ON signal (positive signal on connector B pin 6) or front fog lamps ON (negative signal on connector A pin 2).

Under these conditions, the rear fog lamps must come on, with their warning light on the instrument panel which is connected to the I.G.E. control unit via connector B pin 3.
If there is a change in the lights (dipped headlamps, main beam headlamps, front fog lamps) the rear fog lamps must not be switched off. The outputs on the control unit are only deactivated in the following two cases:
- by pressing the rear fog lamps control button;
- absence of +15 signal on connector C pin 9 (ignition ON), or absence of dipped beam/main beam headlamps/front fog lamps ON signal.

Front fog lamp relay



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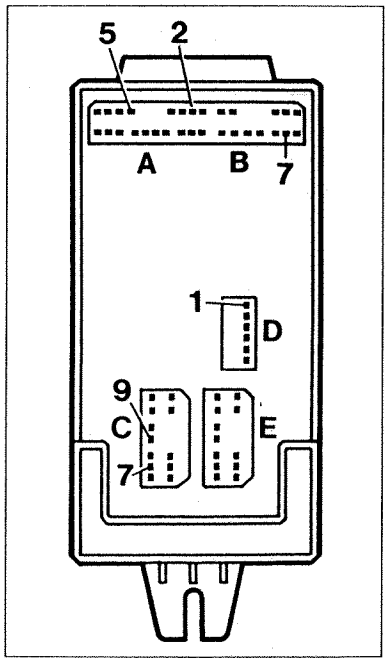
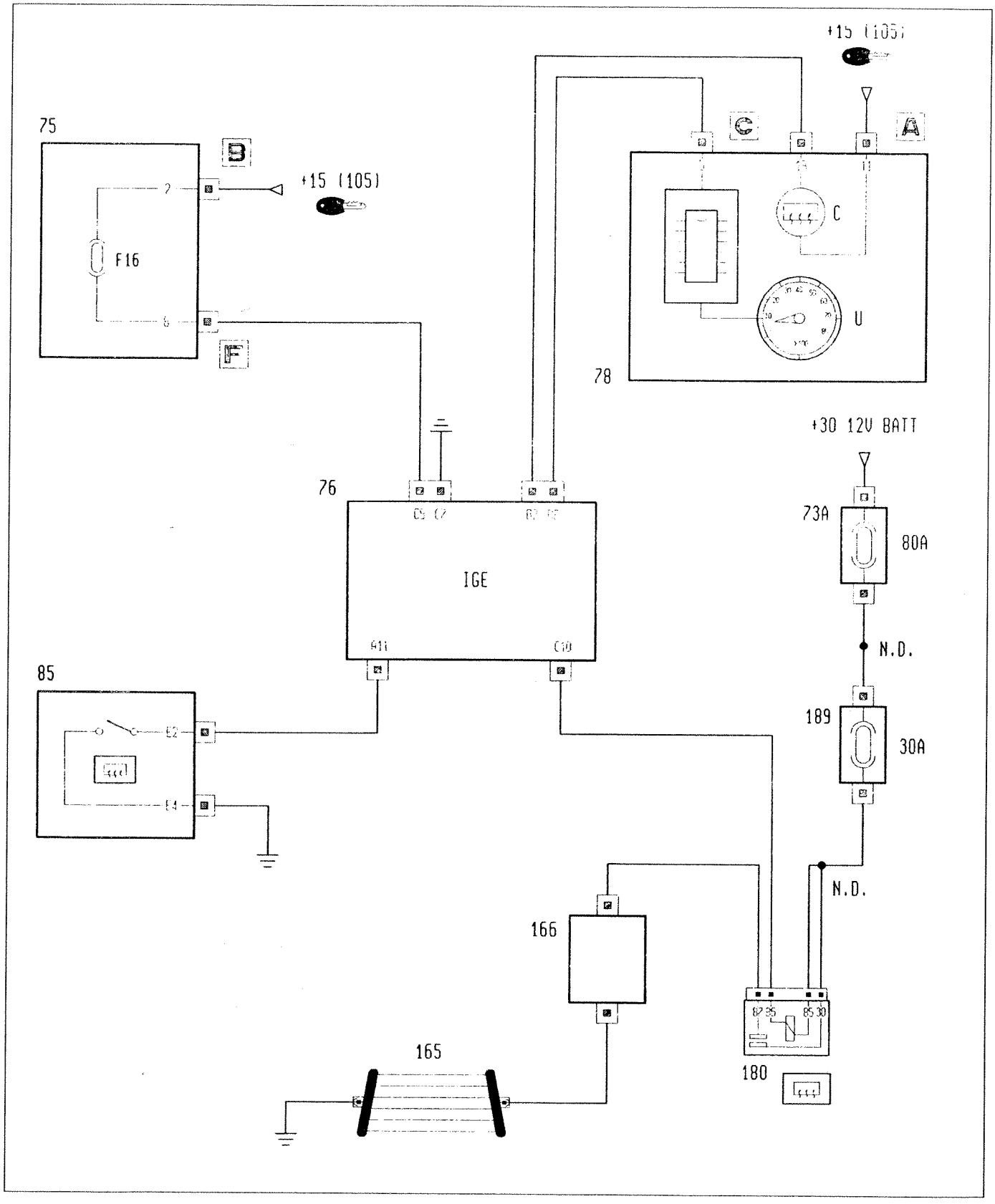


P3U41CL02

The front fog lamp relay is connected to the control unit via connector D pin 1; the front fog lamp relay is activated if the following conditions arise:
- presence of the ignition ON signal (+15) in connector C pin 9;
- input on connector A pin 5, side lights control, is closed to earth (connector C pin 7);
- presence of a front fog lamps control signal on connector A pin 2.

Under these conditions, the front fog lamps must come on, with their warning light on the instrument panel which is connected to the I.G.E. control unit via connector B pin 7.

Time-lagged heated rear window relay



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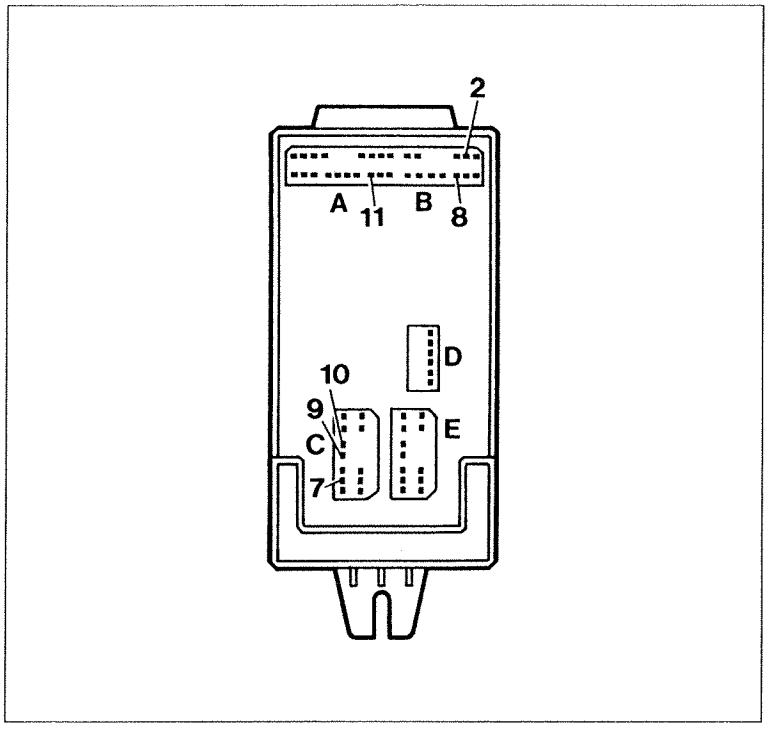


P3U43CL01

The timed heated rear window relay is connected to the control unit by means of connector C pin 10.

It is activated if the following conditions arise:
- presence of ignition ON (+15) signal in connector C pin 9;
- input to connector A pin 11, timed heated rear window control closed to earth (connector C pin 7).

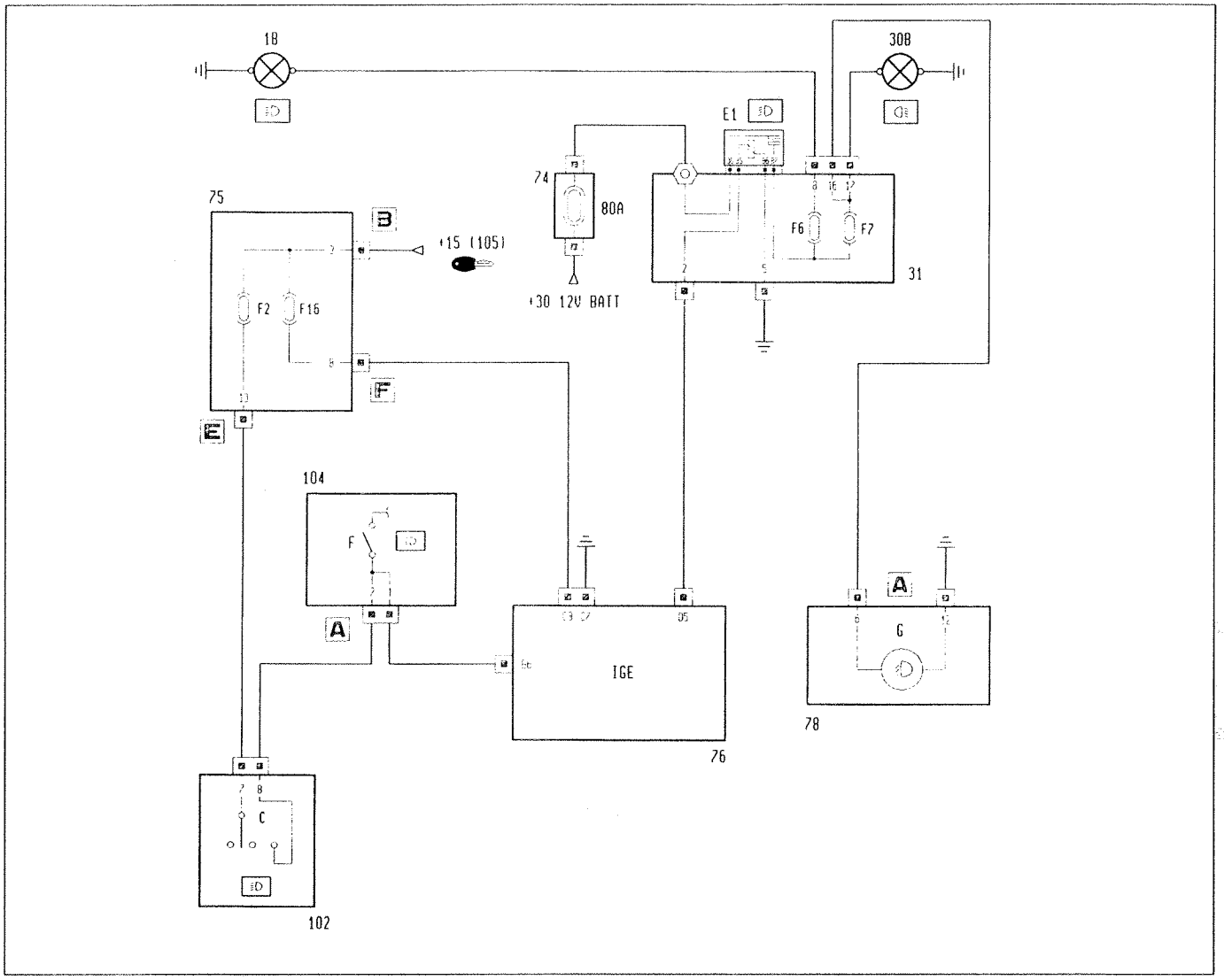
It is only activated when the switch is released, in order to prevent it being continuously switched on, in the event of a short circuit of the input of the I.G.E. control unit.
The output on the I.G.E. control unit which controls the heated rear window is deactivated in two ways:
- MANUALLY, by pressing the heated rear window switch again or in the absence of the positive (+15) on connector C pin 9;
- AUTOMATICALLY, after 60 minutes of actual operation of the heated rear window.

The automatic operation of the heated rear window is basically linked to the following:
- the engine rpm signal, present at the input of connector B pin 8;
- the battery voltage;
- the heated rear window switch on/off logic.

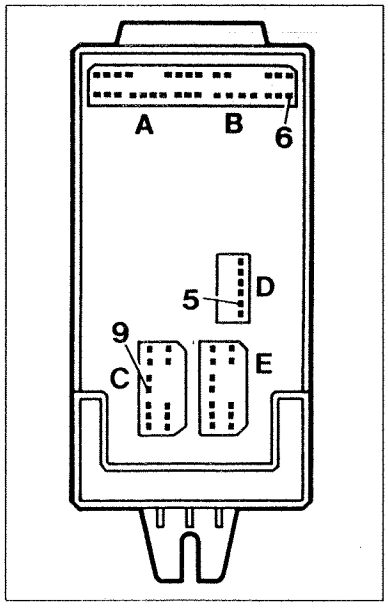
The switch on/off logic is as follows:
- the first 10 minutes of operation are independent from the engine rpm;
- after this period of time, the switching on of the heated rear window depends on the engine rpm, namely:
  if the rpm is below 1000 rpm (OFF signal) the rear window is switched off after 10 seconds;
  if the rpm is over 1000 rpm (ON signal) for a duration of at least 10 seconds, the rear window is switched on and stays on (if already activated) until 60 minutes of actual operation are reached.

Throughout the period of automatic operation, the heated rear window relay must switch off when the battery voltage falls below 8.5 ± 0.5 V for a period of 150 ms.
When the heated rear window is switched on, its warning light on the instrument panel should come on (a positive signal is present on connector B pin 2). The heated rear window warning light stays on permanently for a maximum period of 60 minutes during automatic operation, and only goes out if the rear window is switched off manually.

Dipped beam relay



P3U44CL01



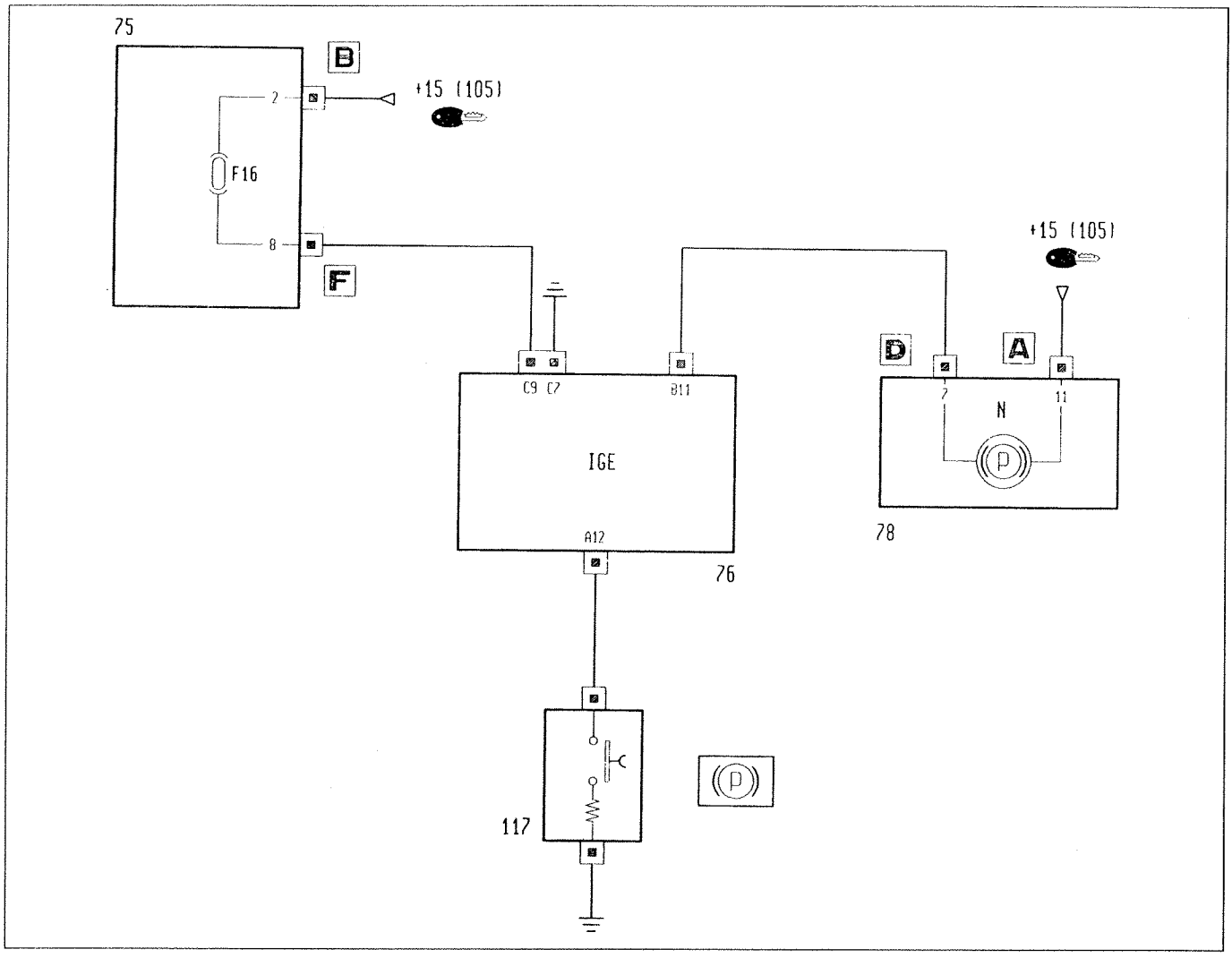
P3U44CL02

The dipped beam relay is activated if the following conditions arise:
- presence of the ignition ON signal (+15) in connector C pin 9;
- input controlled by the dipped beam/main beam headlamps switch (connector B pin 6) closed to earth.

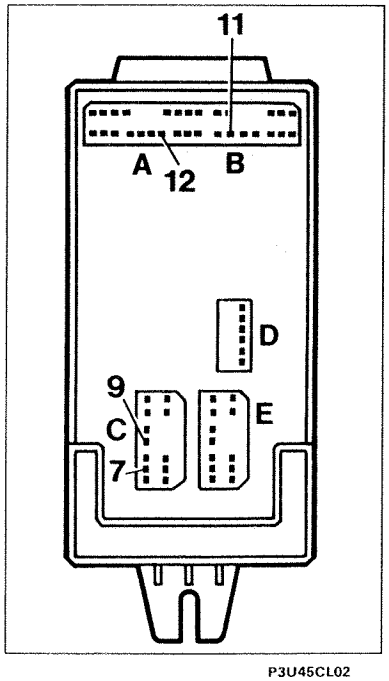
The dipped beam headlamps warning light is controlled by the dipped beam relay, which is connected to the output of connector D pin 5 of the I.G.E. control unit.

55.

Handbrake warning light



P3U45CL01

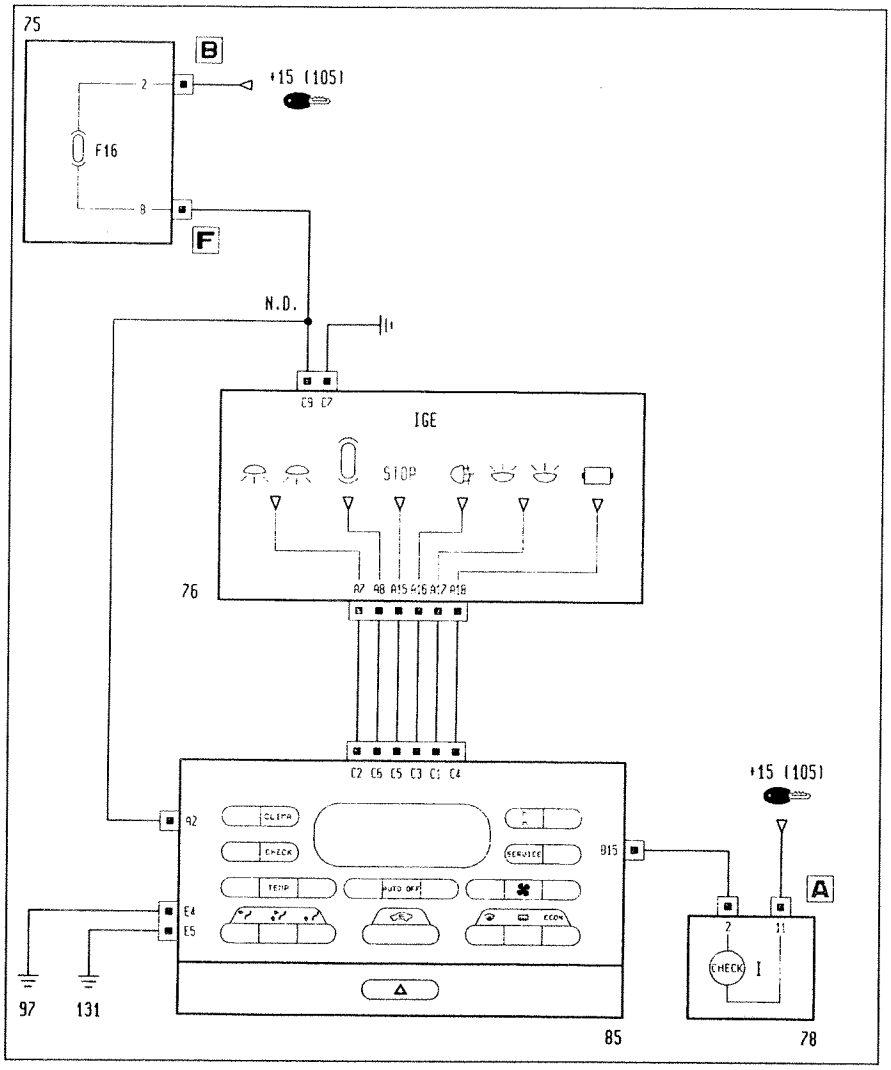


P3U45CL02

The handbrake warning light is connected to the control unit via connector B pin 11.
The warning light comes on under the following conditions:
- presence of ignition ON (+15) signal in connector C pin 9;
- input, on connector A pin 12, closed to earth (connector C pin 7).

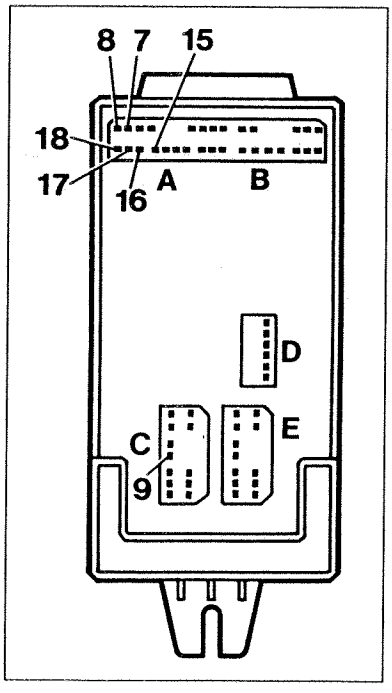
Under these conditions, the handbrake warning light on the instrument panel must flash simultaneously at a frequency of 1.5 Hz with a 50% duty cycle.
The handbrake warning light can be controlled by other electronic units, so this output requires appropriate separation so that the warning light can be driven in parallel.

Information from I.G.E. control unit to Infocenter



P3U46CL01

The I.G.E. control unit is connected to the Infocenter by means of dedicated serial lines. The information sent to the Infocenter is:
- front side lights fault (output on connector A pin 17);
- rear side lights fault (output on connector A pin 7);
- rear fog lamps fault (output on connector A pin 16);
- right and left stop lights fault (output on connector A pin 15);
- number plate lights fault (output on connector A pin 18);
- stop lights fuse fault (output on connector A pin 8).



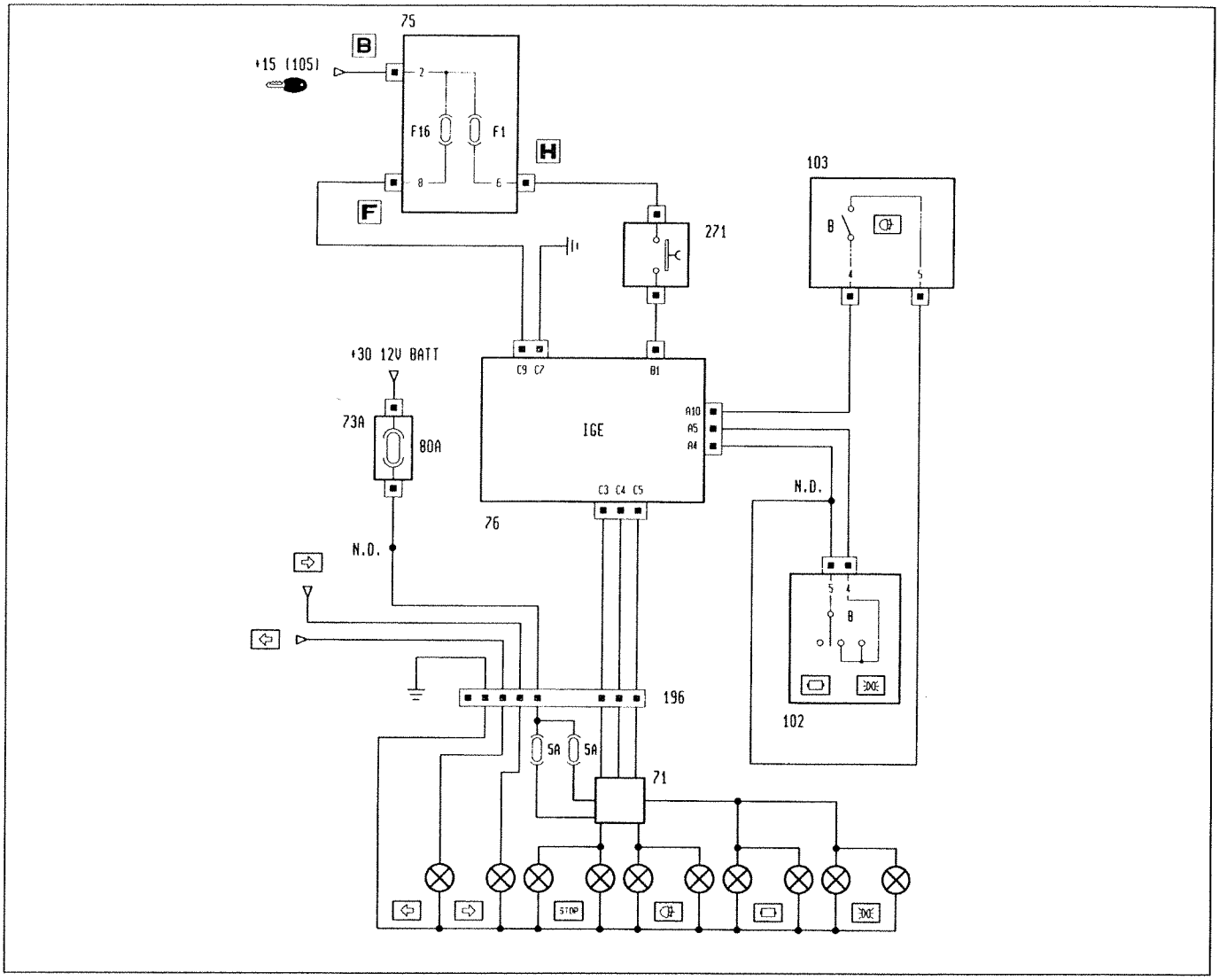
P3U46CL02

The connections between the I.G.E. control unit and the Infocenter are activated when:
- the ignition ON (+15) signal is present in connector C pin 9;
- the individual functions (only if activated) are faulty.
  The stop lights function is always monitored by the control unit.

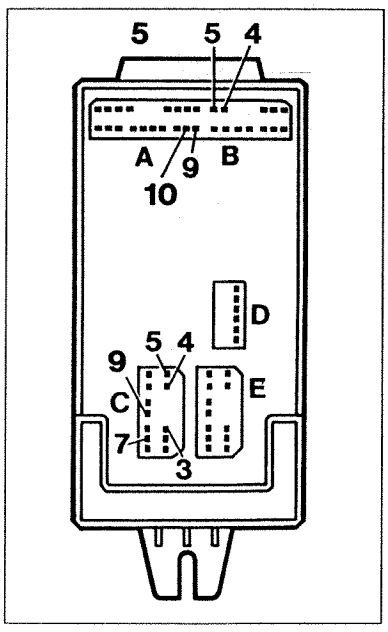
When the I.G.E. control unit is put into operation, all the outputs to the Infocenter are activated and any fault information is sent. After 2 seconds, the outputs to the Infocenter are deactivated for about one second to confirm the information sent.
When normal operation is resumed, the connections between the I.G.E. control unit and Infocenter are again activated, then any faults that may have occurred can be displayed.

55.

Towhook wiring



P3U47CL01

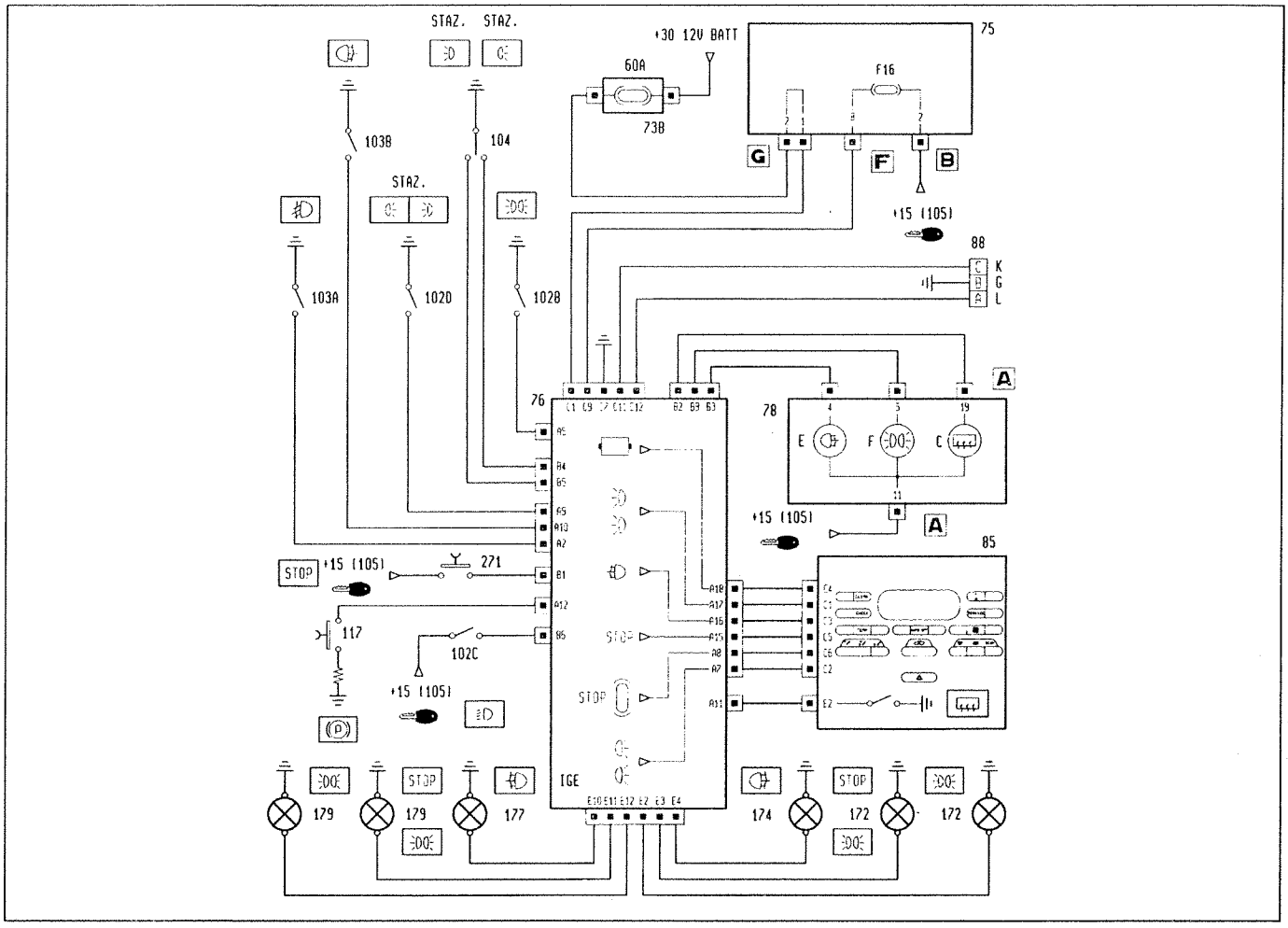


P3U47CL02

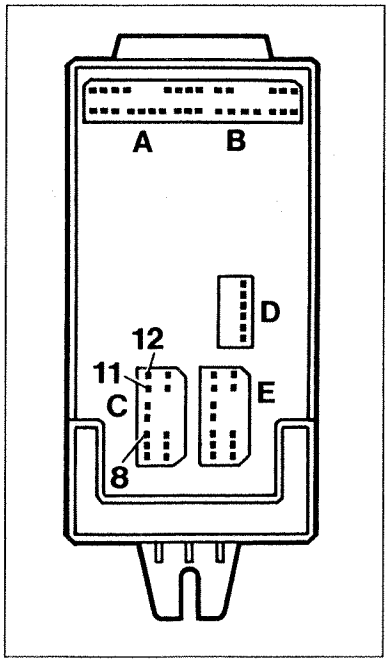
The towhook wiring comprises:
- stop lights control (output on connector C pin 5);
- rear fog lamps control (output on connector C pin 3);
- control for side lights (output on connector C pin 4) and parking lights on all the side lights (connector A pin 9); while for the right side (connector B pin 4) and left side (connector B pin 5).

The above-mentioned outputs are activated to earth (connector C pin 7) when the relevant functions are switched on by the user.

Connections between I.G.E. control unit and diagnostic socket



P3U48CL01



P3U48CL02

The I.G.E. control unit has a diagnostic socket located in the console under the dashboard which dialogues with the Fiat Lancia Tester or C.D.S.; the connection is serial with dedicated K-L-G lines.
The connections are as follows:
- L line dedicated to communication between Fiat Lancia Tester and I.G.E. control unit (output on connector C pin 12);
- K line dedicated to communication between I.G.E. control unit and Fiat Lancia Tester (output on connector C pin 11);
- G line connected to earth (output on connector C pin 8).

The diagnostic instrument can check the following switches (with the ignition ON):
- parking lights right side;
- parking lights left side;
- rear fog lamps;
- side lights;
- front fog lamps;
- stop lights
- handbrake warning light;
- timed heated rear windscreen;
- headlamps ON signal.

FAULT DIAGNOSIS PROCEDURES

The diagnostic instrument checks whether:
- the switch is active or inactive in its circuit;
- the circuit is short-circuited or open;
- incorrect bulbs have been fitted (21W rather than 5W and vice versa).

The latter check is made on the following functions:
- rear fog lamps;
- rear side lights;
- additional rear side lights;
- front side lights;
- number plate lights;
- braking lights.

If bulbs of incorrect rating are fitted, this is indicated on the diagnostic instrument as follows:
- SHORT CIRCUIT, if a 21W bulb is fitted instead of a 5W bulb;
- OPEN CIRCUIT, if a 5W bulb is fitted instead of a 21W bulb.

Two checks may be conducted using the Fiat Lancia Tester or C.D.S.:
- if the bulbs are lit, the diagnostic instrument carries out a short circuit and open circuit check;
- if the bulbs are NOT lit, the diagnostic instrument only conducts an open circuit check.

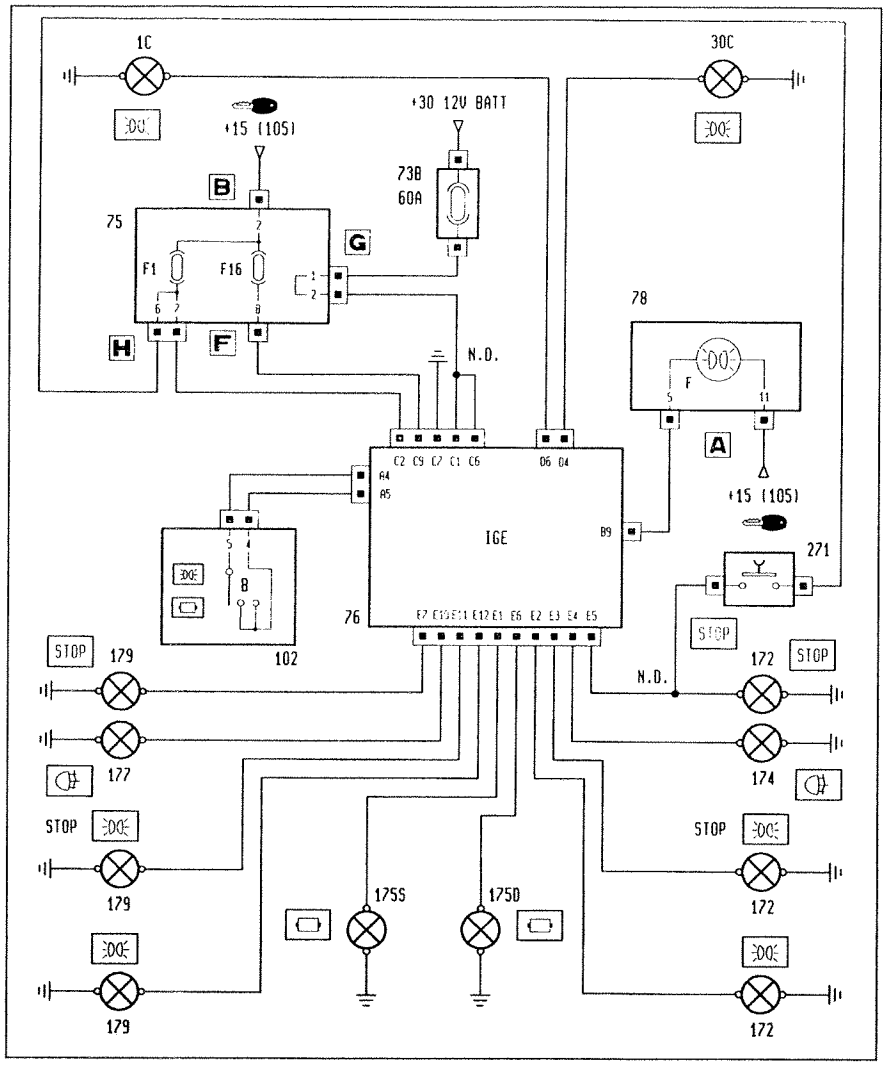
The Fiat Lancia Tester/C.D.S. can check:
- heated rear window warning light;
- rear fog lamps warning light;
- side lights warning light;
- right and left parking lights warning light;
- timed heated rear window relay;
- front fog lamps relay.

The above-mentioned circuits are switched on via the Fiat Lancia Tester/C.D.S.
The latter also controls individually the outputs used for the check, in order to conduct a specific test.

The outputs checked for possible fault finding are:
- front side lights;
- rear and additional side lights;
- right and left stop lights;
- rear fog lamps;
- number plate lights;
- stop lights fuse;

The Fiat Lancia Tester/C.D.S. checks the efficiency of the lines of the "towhook wiring", in particular the side lights and rear fog lamps.
The check is carried out as follows:
- rear fog lamps wiring in parallel with the rear fog lamps warning light;
- side lights wiring in parallel with the side lights warning light.

Check integrated in the I.G.E. control unit

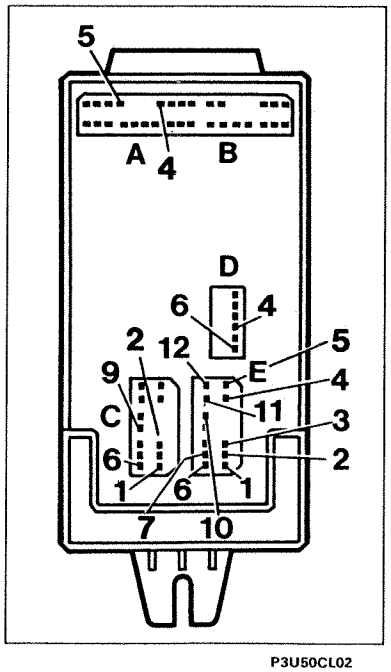


P3U50CL01

The many functions of the I.G.E. control unit also include the check function; the fault information is sent to the Infocenter by activating the dedicated lines which have a serial protection resistance of 390 Ohm.

The I.G.E. control unit checks the efficiency of the following:

- bulbs;
- relevant connections (wiring);
- stop lights control button, subordinate to the relevant fuse.



P3U50CL02

The lights check function is deactivated if the battery voltage is less than 9V. Any fault indications are stored in the I.G.E. unit's memory and only displayed when the battery voltage returns to the specified values.

If the open circuit faults are present in the absence of an active command of the function in question, the indication is stored in the control unit's memory but not displayed by the Infocenter. The fault is only displayed when the relevant circuit is activated.

The I.G.E. control unit checks whether the following circuits fail to come on:
- front side lights;
- rear side lights;
- number plate lights;
- rear fog lamps;
- stop lights because of internvention of the fuse protecting the pedal switch.

Other types of errors that can be diagnosed by the control unit are:
- faulty bulb;
- wiring short-circuited;
- bulb with incorrect rating (5W rather than 21W).

55.

SIGNALS FROM I.G.E. CONTROL UNIT TO INFOCENTER

Side lights and number plate lights check

The side lights fault indication is made with the ignition ON (connector C pin 9) and the control switch actuated (circuit to earth connector A pin 5).
The "front side lights fault" message is activated when:
- one or both front right and/or left bulbs or their supply cables are broken (connector D pin 4 and 6);
- one or both bulb supply cables are short-circuited to earth;
- one or both bulbs are of incorrect rating (21W instead of 5W).

The "rear side lights fault" message is activated when:
- one or both the rear side lights or their supply cables are broken (connector E pin 2 and 12);
- one or both additional rear side lights or relevant supply cables are broken (connector E pin 3 and 11);
- one or both of the bulb supply cables are short-circuited to earth;
- one or both bulbs are of incorrect rating (21W rather than 5W).

The "number plate lights fault" message is activated when:
- the rear number plate light bulb(s) or their supply cables are broken (connector E pin 1 and 6);
- one or both bulb supply cables are short-circuited to earth;
- the bulb(s) are of incorrect rating (21W rather than 5W).

Rear fog lamps check

The rear fog lamps fault indication is made when the ignition is ON (connector C pin 9) and with the rear fog lamps circuit active (connector E pin 4 and 10).
The "rear fog lamps fault" message is activated when:
- the rear fog lamp bulbs or their supply cables are broken (connector E pin 4 and 10);
- the bulb supply cables are short-circuited to earth;
- one or both bulbs are of incorrect rating (5W rather than 21W).

Stop lights check

The stop lights fault indication is made when the ignition is ON (connector C pin 9) and is subordinate to the type of fault detected.
The "stop lights fault" message is displayed if one or both bulbs are blown, there is no power supply or the wiring is faulty. The fault indication is made whether or not there is a signal coming from the stop lights button.
If the bulb supply is short-circuited to earth, the "stop lights fault" indication only takes place if the button located on the brake pedal is operated.
If the stop lights button fuse is found to be blown, when the "stop lights fuse fault" is displayed, the "stop lights fault" message is also activated.
When the stop lights fuse is working properly, the "stop lights fault" message is activated when:
- one or more stop lights bulbs or their supply cables are broken;
- one or more stop lights bulbw supply cables are short-cricuited to earth;
- one or both bulbs are of incorrect rating (5W rather than 21W).

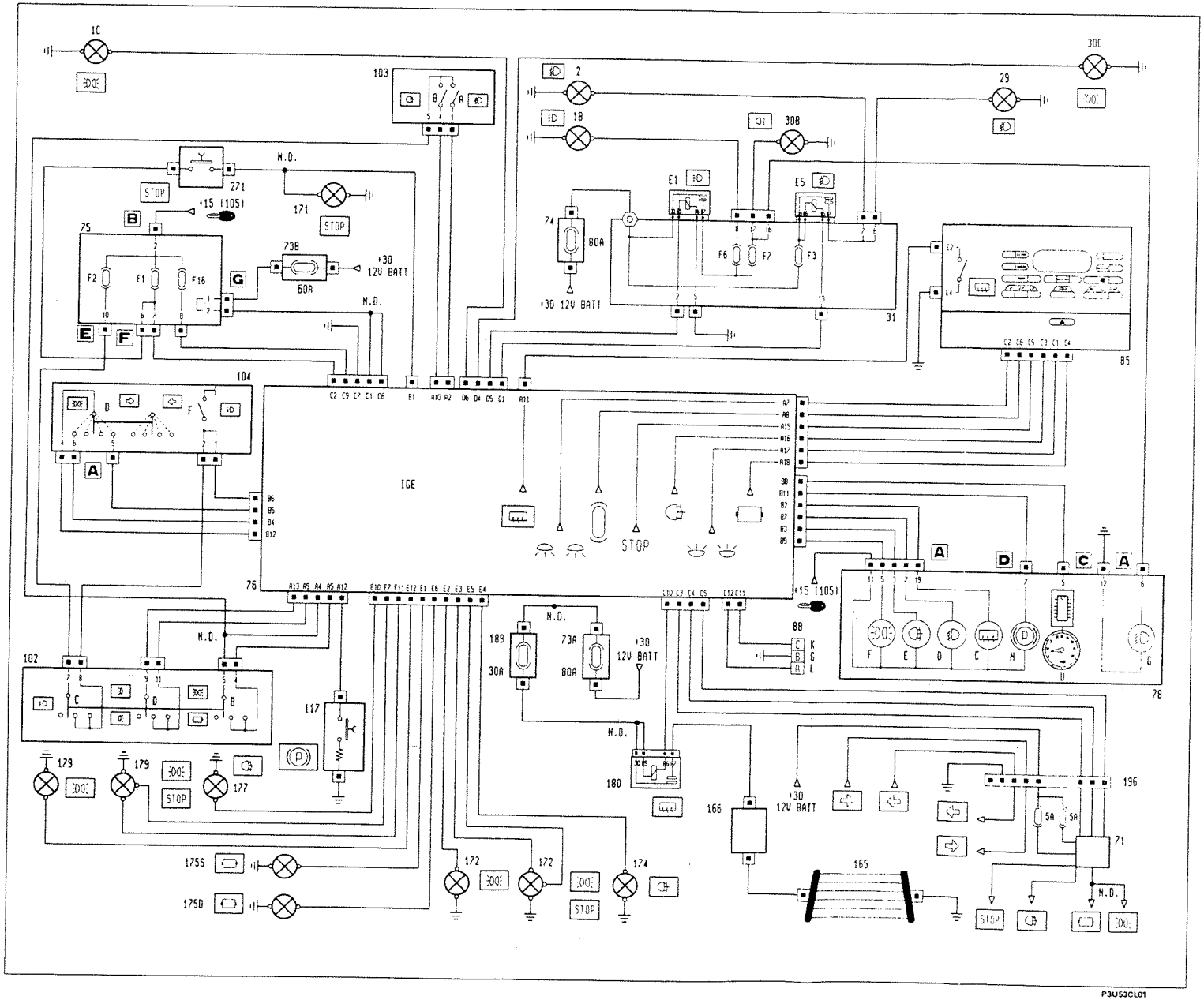
Stop lights fuse check

The "stop lights fuse fault" message is displayed when the ignition is ON (connector C pin 9) and the fuse (F1) in the fuse and relay unit is blown. This fault is displayed as "stop lights fuse fault". The message "stop lights fault" is also displayed since, because the fuse is blown, the system is faulty and does not cause the warning lamps to come on.

Supply check

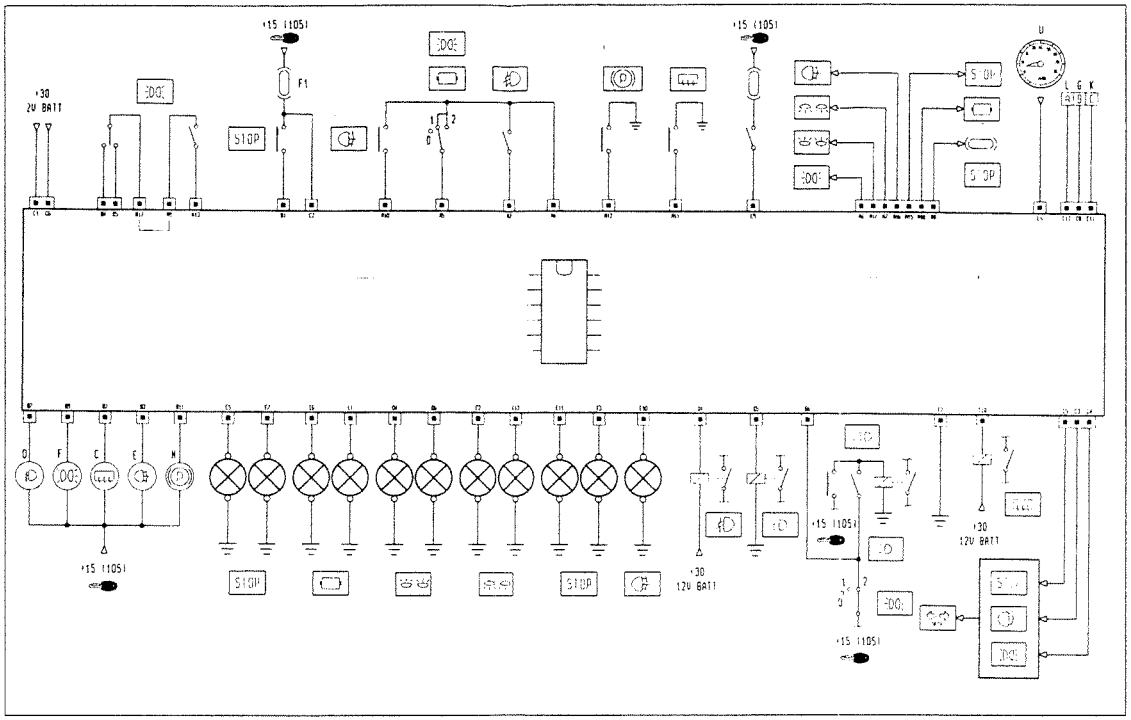
A break in the positive cables (connector C pin 1 and 6) is only recognized at the instant when a circuit is activated.
The Infocenter will display the following faults:
- "front side lights","rear side lights","rear fog lamps","stop lights" and "number plate lights".

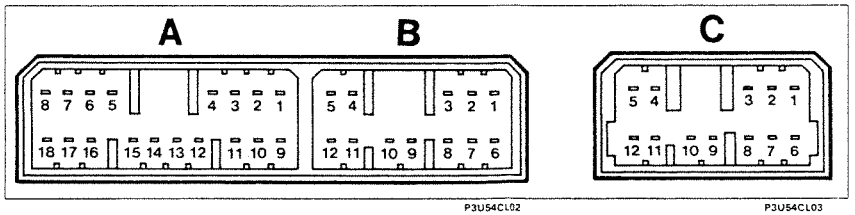
GENERAL WIRING DIAGRAM

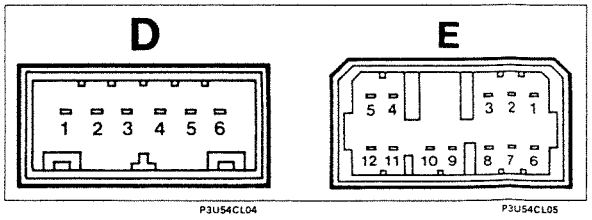


P3U53CL01

Connections on I.G.E. control unit







Connector A (white)

1 Not connected
2 Input for front fog lamps
3 Not connected
4 Output to earth for lights switch side lights input
5 Not connected
6 Output for rear side lights check
7 Output for stop lights fuse check
8 Input for parking lights control
9 Input for rear fog lamps
10 Input for heated rear window
11 Input for handbrake button
12 Output parking lights to external lights control
13 Not connected
14 Output for stop lights check
15 Output for rear fog lamps
16 Output for front side lights check
17 Output for number plate lights

Connector C (red)

1 Input for brake switch
2 Output for rear window warning light
3 Output for rear fog lamps warning light
4 Input for right parking lights
5 Input for left parking lights
6 Output for dipped beam control
7 Output for front fog lamps warning light
8 Input for engine rpm
9 Output for side lights warning light
10 Not connected
11 Output for handbrake ON warning light
12 Output for parking on stalk unit

Connector D (white)

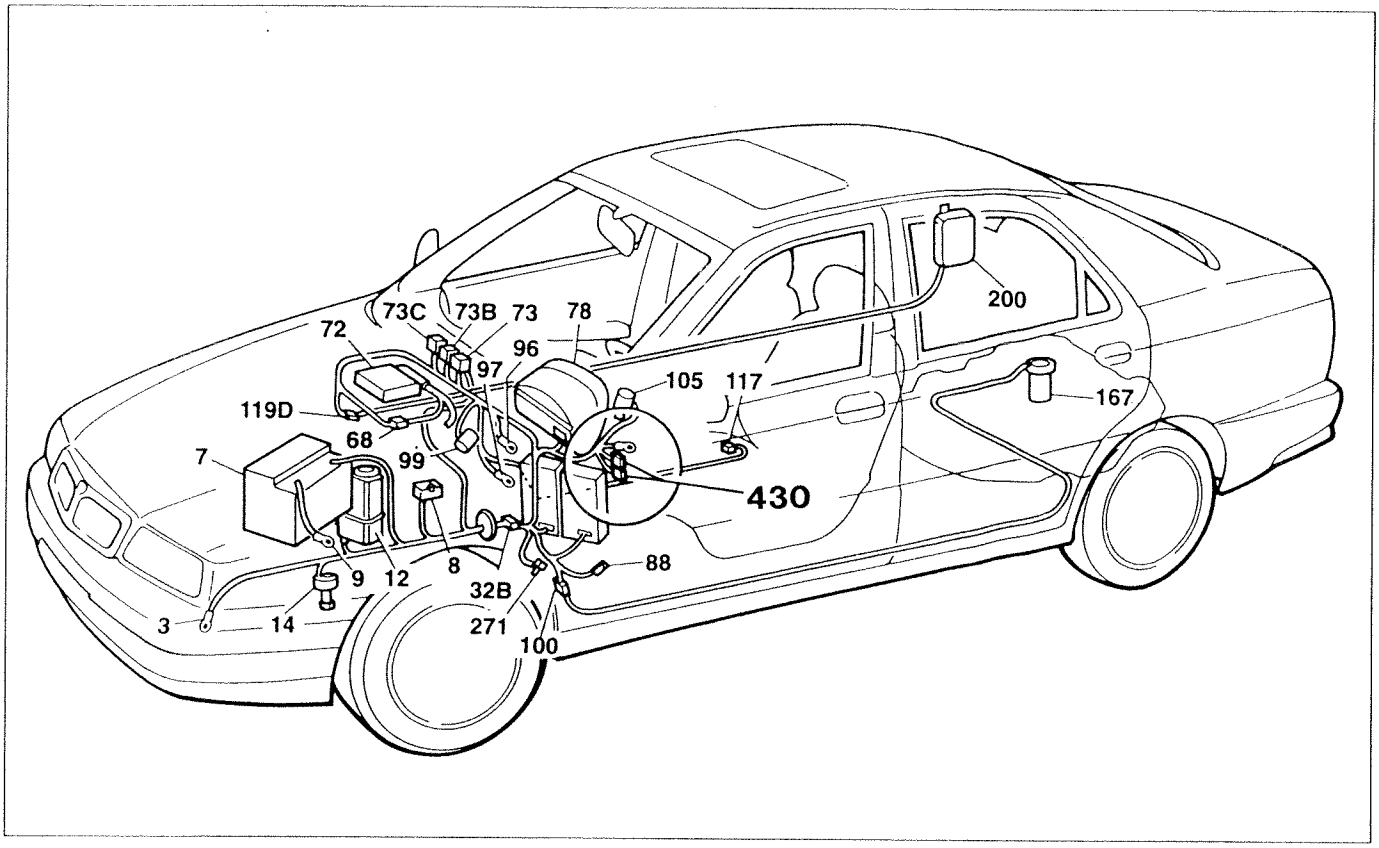
1 Output for front fog lamps relay control
2 Not connected
3 Not connected
4 Outupt for front right side light
5 Output for dipped beam headlamp relay control
6 Output for front left side light

Connector E (grey)

1 Output for left number plate light
2 Output for rear right side light
3 Output for additional rear right side light
4 Not connected
5 Output for right stop light
6 Output for right number plate light
7 Output for left stop lights
8 Not connected
9 Not connected
10 Output for rear fog lamps
11 Output for rear left additional side light
12 Output for rear left side light

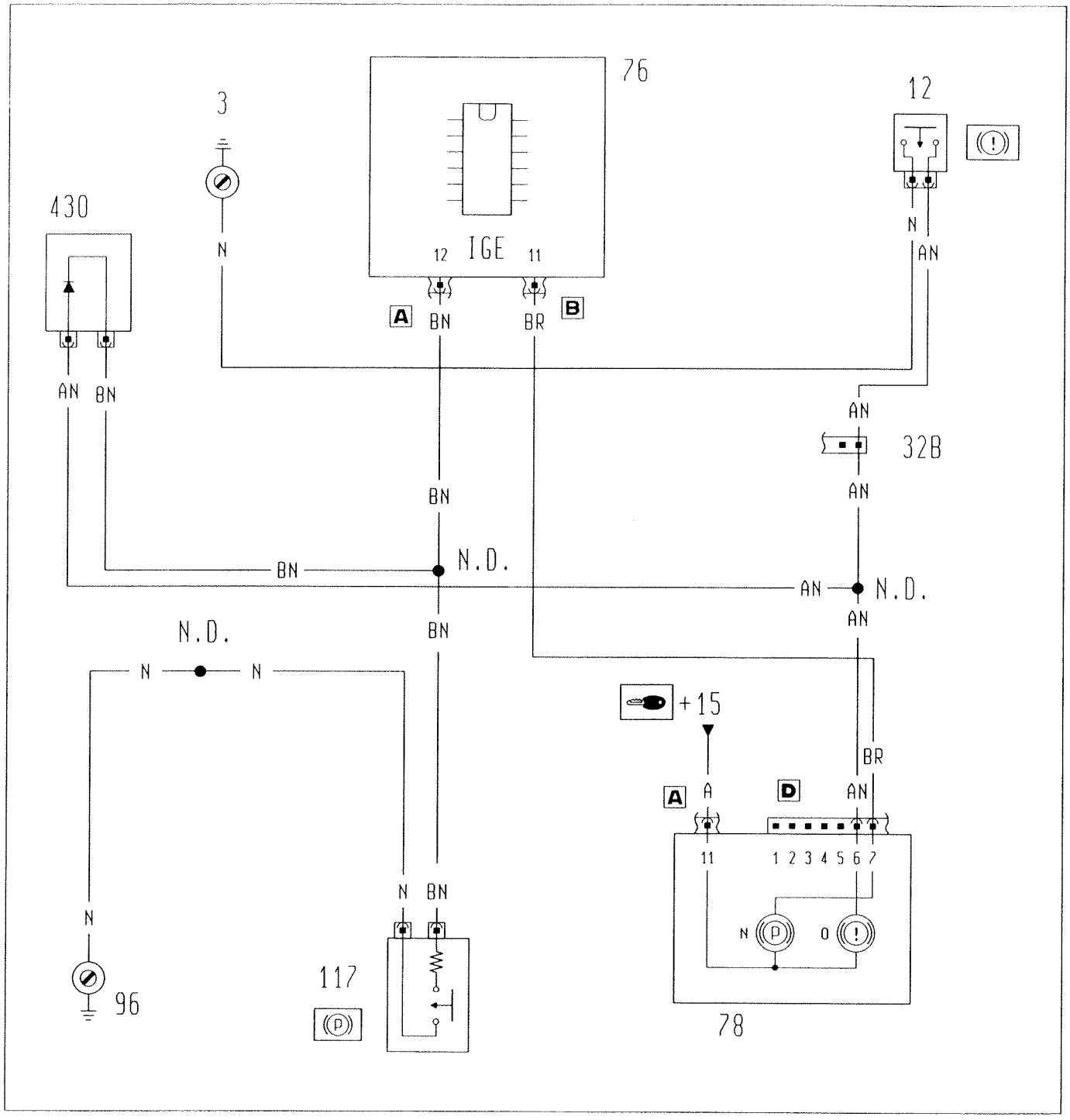
INSUFFICIENT BRAKE FLUID LEVEL WARNING LIGHT

From vehicle chassis number n° 2011476, a connection diode has been fitted between the warning light and the parking light warning light in order to check operation of the insufficient brake fluid level warning light. It is possible to check the operation of the insufficient brake fluid level warning light by operating the parking brake.



P3U076L01

3 Left front earth
7 Battery
8 Main junction unit
9 Earth on body
12 Low brake fluid level indication sensor
14 Pulse generator for speedometer signal
32B Connection between facia cable and left engine bay cable
68 Electronic injection lead connection
72 Fuel injection control unit
73 Secondary juntion unit
73B 60A fuse protecting IGE control unit-/junction unit
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (facia)
76 IGE control unit.
78 Instrument panel
88 Diagnostic socket for Fiat/Lancia/Tester
96 Earth on carrier
97 Earth on floor pan
99 Cigar lighter
100 Connection between facia lead and left longitudinal lead
105 Ignition switch
117 Parking brake indicator switch
119D Connection between facia cable and right front door cable
131 Earth on steering column mount
167 Fuel level gauge
200 Electronic variable rate suspension control unit.
271 Braking light switch
430 Diode connecting parking brake /low brake fluid system

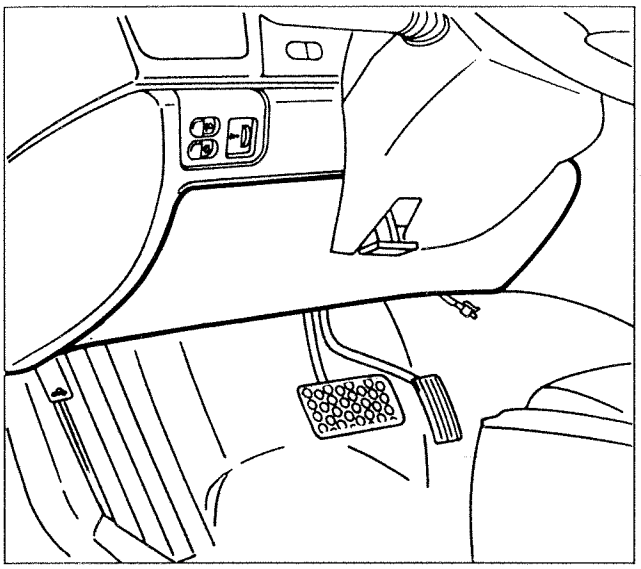


P3U076L02

Key

3 Left front earth
12 Low brake fluid level indication sensor
32B Connection between facia cable and left engine bay cable
76 IGE control unit.
78 Instrument panel
N Parking brake warning light
O Insufficient brake fluid level warning light
96 Earth on carrier
117 Parking brake indicator switch
430 Diode connecting parking brake / low brake fluid level system

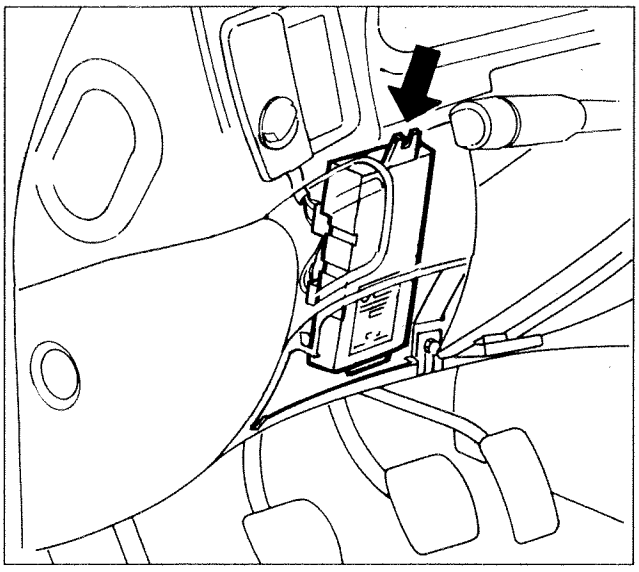
N.D. Taped ultrasound welding in wiring bundle



P3U026L01

REMOVING-REFITTING

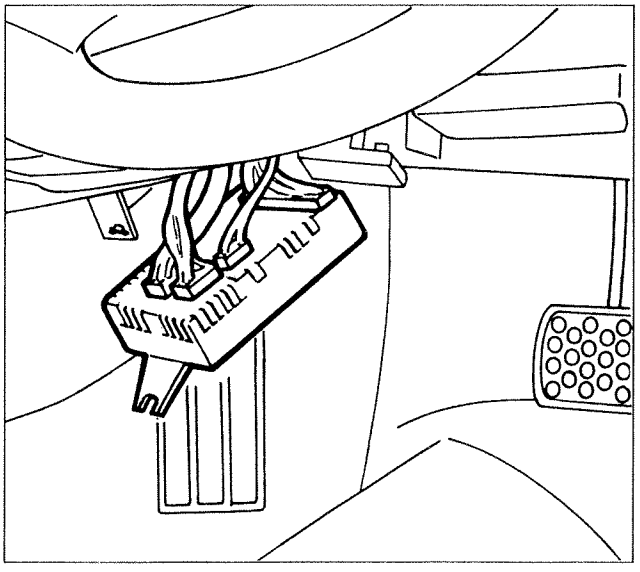
- Remove the dashboard lower trim, steering wheel side;



P3U077L01

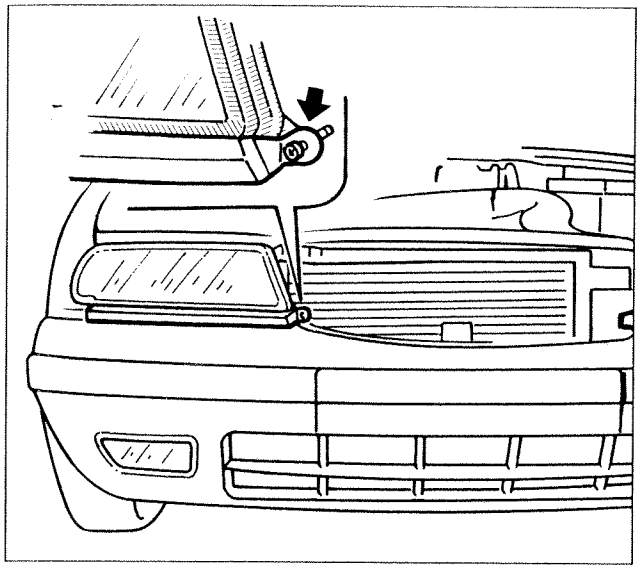
Location of I.G.E. control unit

NOTE *The arrows shows the position of the control unit attachment screw.*



P3U077L02

- undo the attachment screw, lower the control unit and disconnect the supply connectors, then withdraw the control unit.

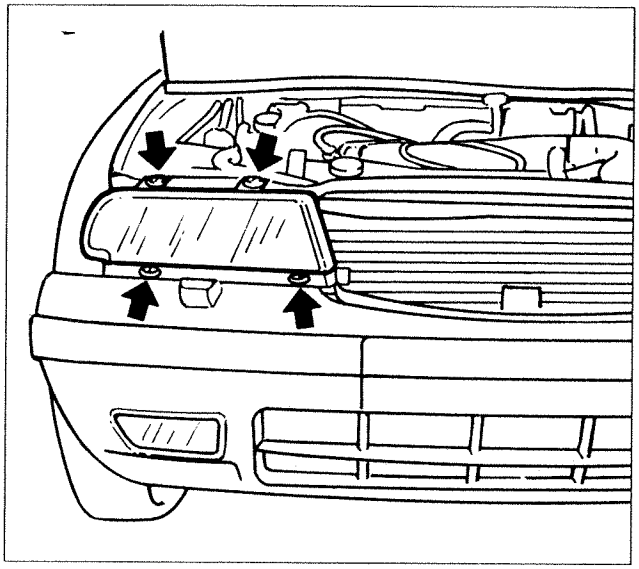


P3U078L01

FRONT LIGHTS CLUSTER

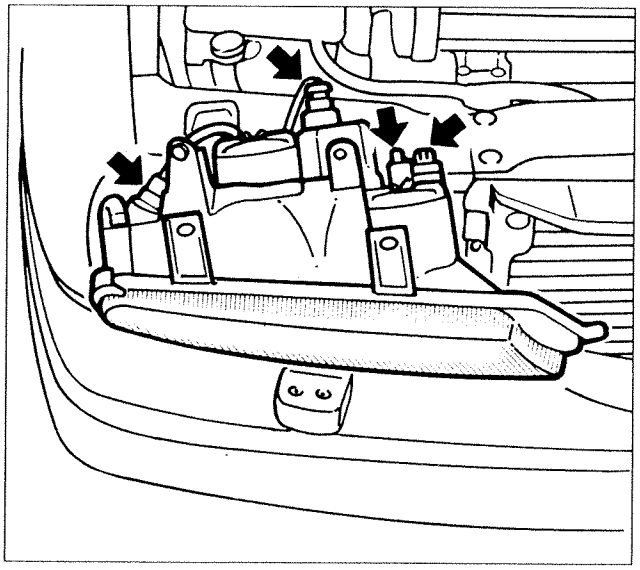
Removing-refitting

- Lift the bonnet;
- remove the bottom trim on the lights clusters by undoing the attachment screws (arrowed);



P3U078L02

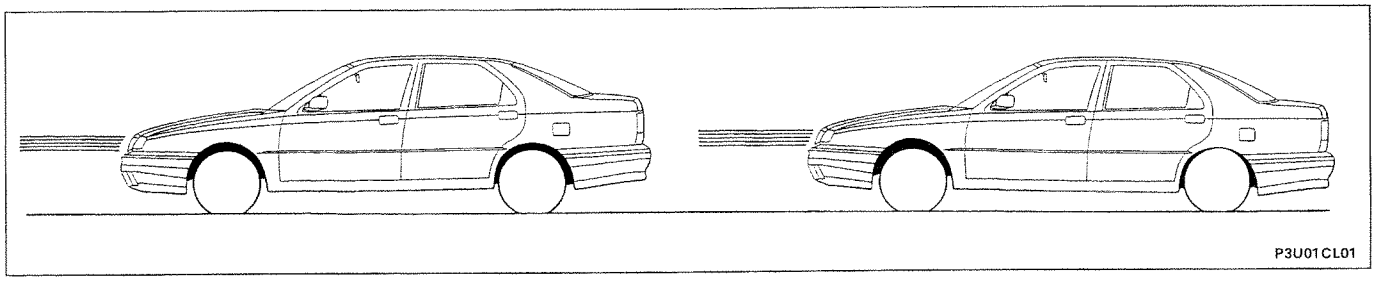
- undo the attachment screws;



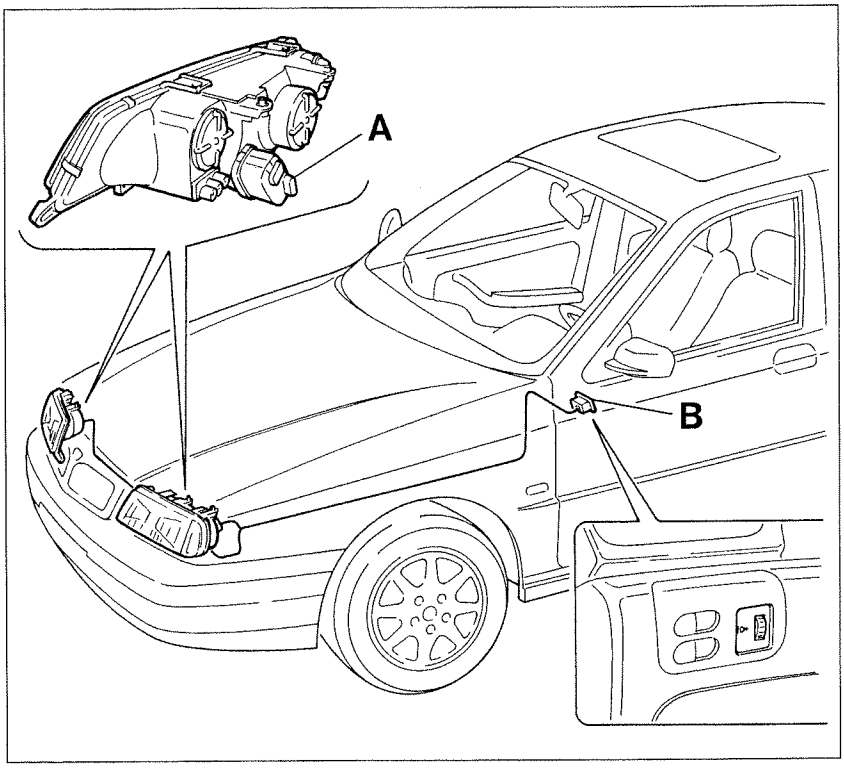
P3U078L03

- remove the lights cluster from its seating, disconnecting the connectors (arrowed).

ELECTRIC VERTICAL HEADLAMP ALIGNMENT (manually operated)

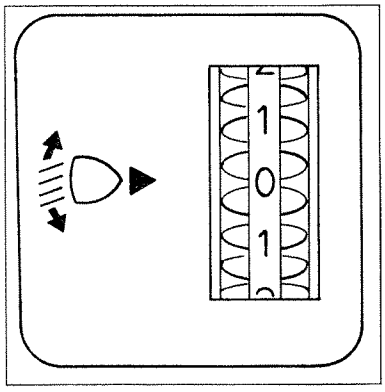


The device in question is designed to correctly vertically align the dipped headlamp beam via a manual control in the passenger compartment irrespective of the load on the axles by positioning the knob at a number corresponding to a given load, details of which are in the table:



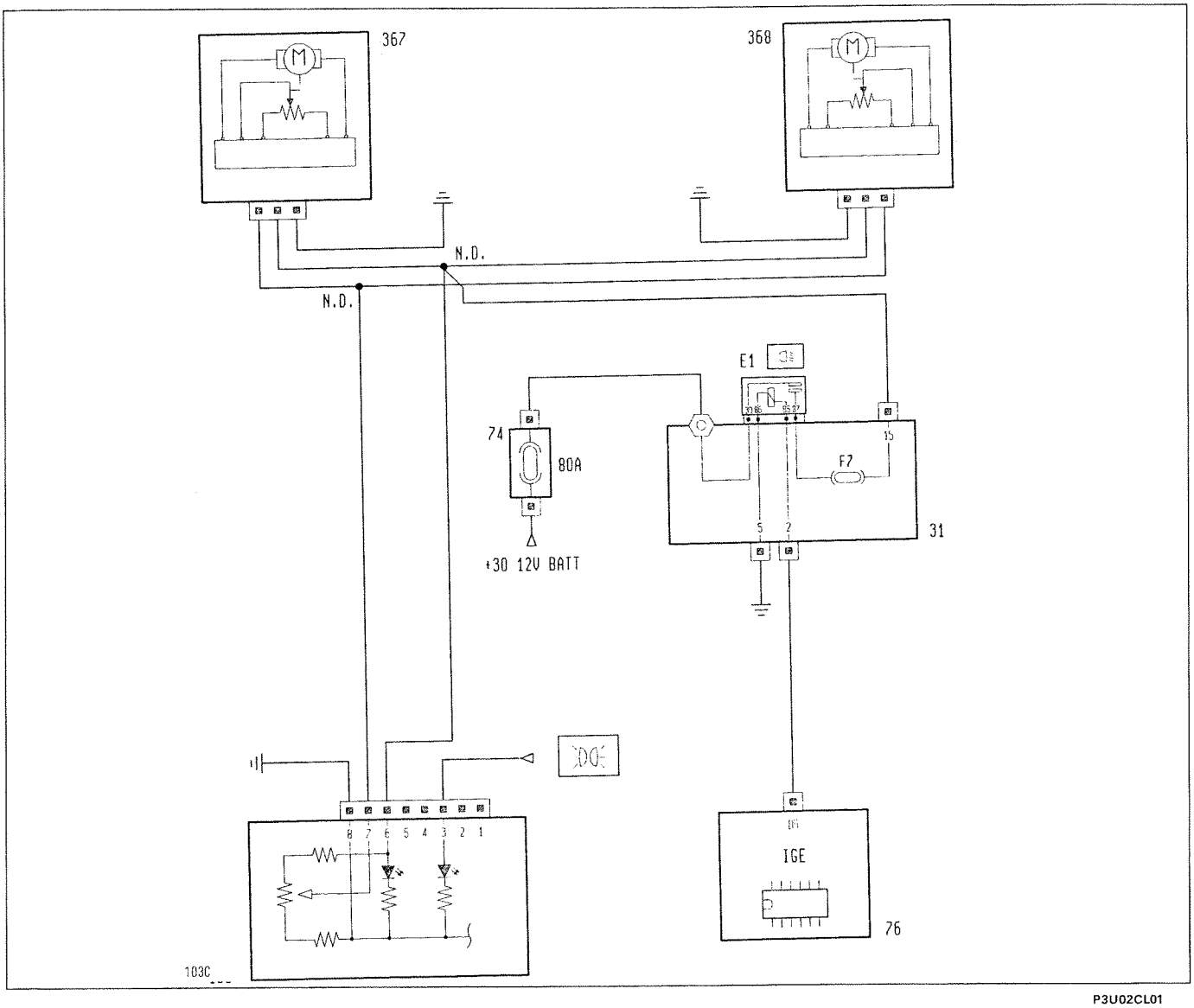
A. Actuators on headlamps B. Control potentiometer

Knob position	Load condition
-1	driver and passenger with full fuel tank
0	driver only with full fuel tank
1	all the seats occupied and heavy load
2	all the seats occupied plus load in the luggage compartment reaching maximum permissible load on the rear axle with full fuel tank
3	driver plus load in the luggage compartment reaching maximum permissible load on the rear axle with full fuel tank



The electrical vertical headlamp alignment device is not fited on the LANCIA k SW because it is equipped with self-levelling rear suspenion which keeps the vehicle geometry constant as the load varies.

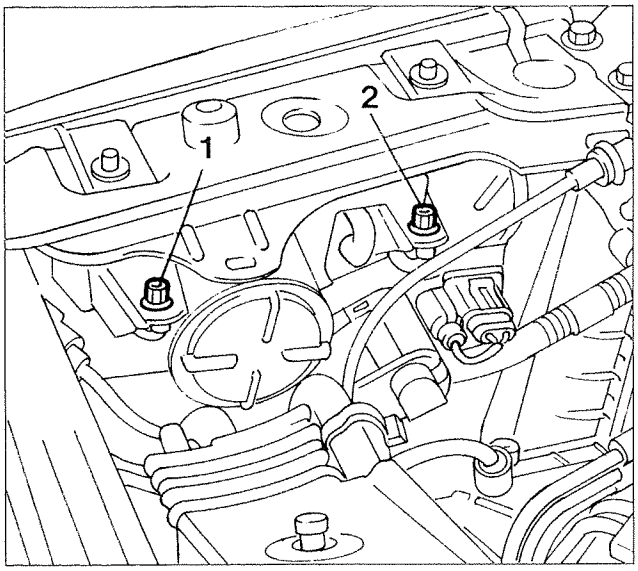
Device connection wiring diagram



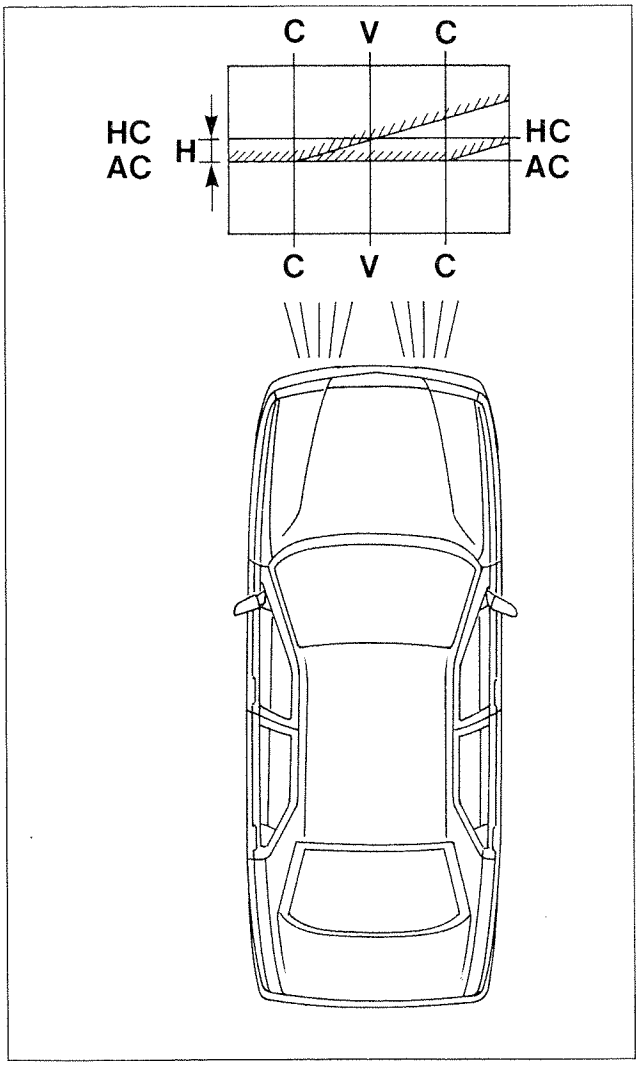
P3U02CL01

Operation

The adjustment is electrical and can be carried out when the dipped headlamps are switched on. The movement is produced by two motor actuators (367 and 368) fitted directly on the light clusters. The operation (103C) is via a potentiometer controlled by a knob located in the dashboard which can be placed in five different positions, corresponding to the same number of positions for the light clusters. This knob has an ideogram which is lit up when the side lights are switched on.
The system is supplied, when the dipped headlamps are switched on, with a positive voltage of 12V coming from the fuse (F7) line in the junction unit (31) (see also dipped headlamps wiring diagram). The actuator comprises a geared motor on which a potentiometric type position transducer is fitted plus an electronic control unit.



P3U080L06



P3U080L07

HEADLAMP ALIGNMENT

1. Screw for adjusting light beam in a horizontal direction
2. Screw for adjusting light beam in a vertical direction

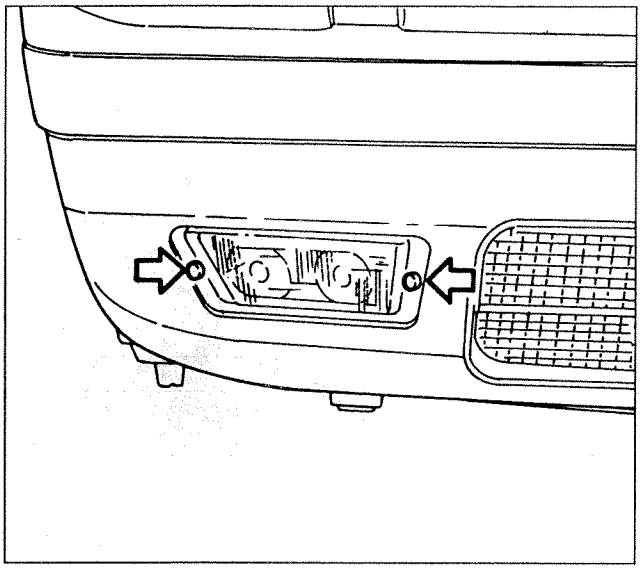
The vehicle should be equipped with a spare wheel, tools, fluids and fuel reserve; the tyres should be inflated to the normal pressure with the driver on board.
Place the vehicle on a flat surface with the light clusters 10 m away from a screen or an opaque surface on which the following lines have been traced:
V - V: vertical corresponding to the symmetrical plane of the vehicle.
C - C: corresponding to the vertical planes passing throughthe reference centres of the light clusters.
HC-HC: horizontal corresponding to the height from the ground of the light cluster reference centres.
AC-AC: horizontal below the 13 cm line Hc-Hc (figure for new vehicles corresponding to a decrease of 1.3%).
Carry out the alignment of the light clusters for the dipped beam. Acting on the headlamp alignment device, proceed as follows.

Vertical aglinment

Ensure that the horizontal section of the demarcation line between the dark zone and the one lit by the light beam coincides with the line **AC-AC** traced on the screen.

Horizontal alignment

Ensure that point where the two horizontal and tilted lines cross with the point where lines **C-C and AC-AC** on the screen coincides. If the screen must be positioned closer, this value should be reduced proportionally.

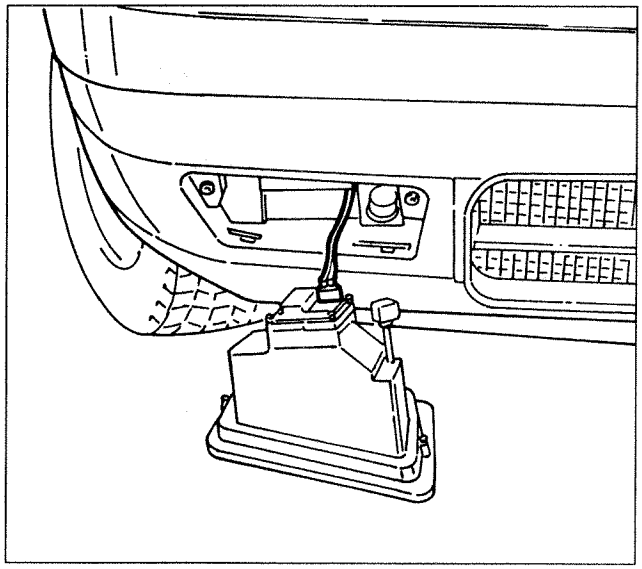


P3U079L01

FRONT FOG LAMPS

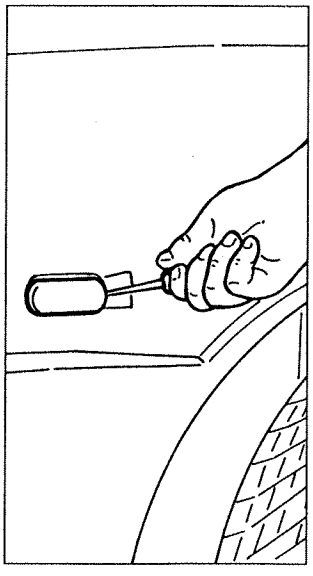
Stacco-riattacco

- Undo the screws shown in the figure;

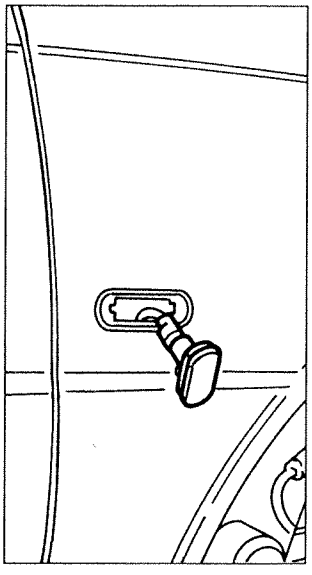


P3U079L02

- disconnect the supply connector then remove the front fog lamp.



P3U079L03

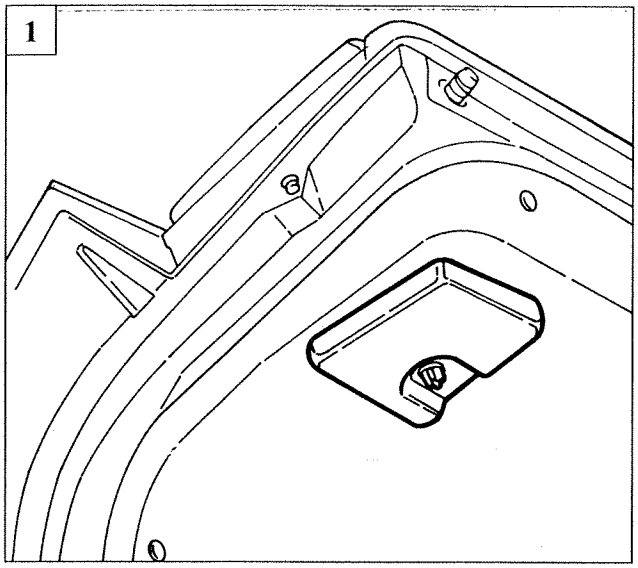


P3U079L04

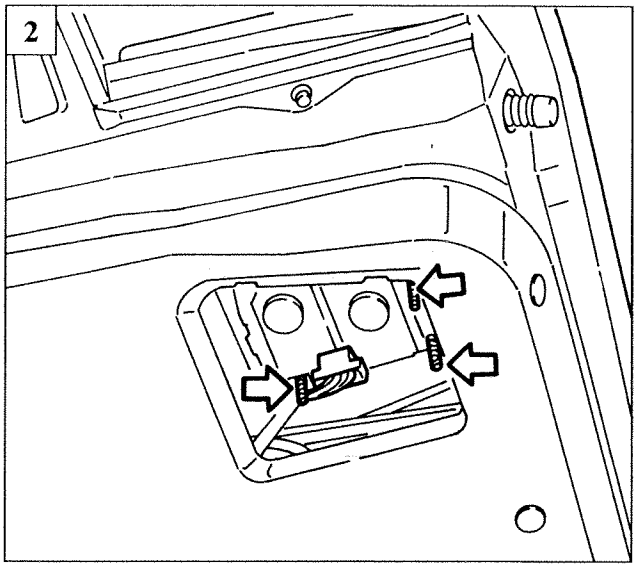
SIDE REPEATER

Removing-refitting

- Prise off the side repeater using a screwdriver (left picture);
- disconnect the supply connector then remove the side repeater (right picture).



P3U080L01



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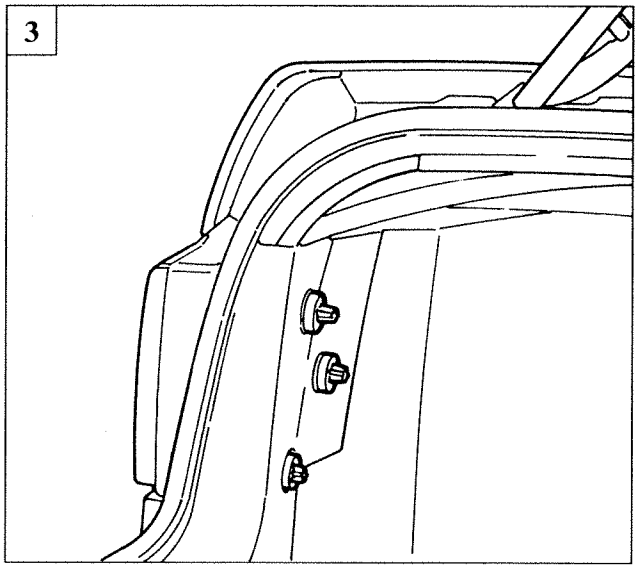


P3U080L03

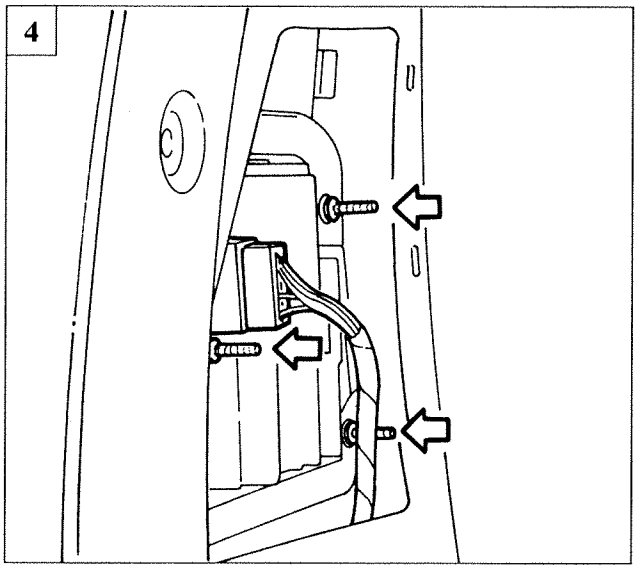
REAR LIGHTS CLUSTERS

Removing-refitting lights cluster (on boot lid)

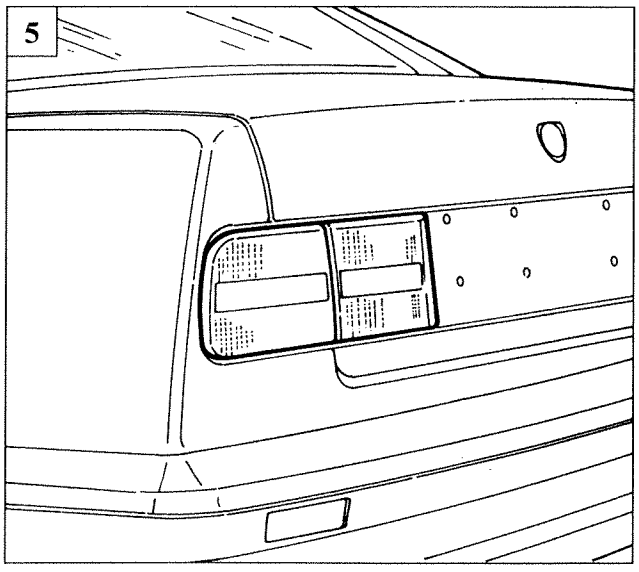
1. Open the boot and remove the attachment embellishment;
2. disconnect the connector, undo the screws shown in the figure and withdraw the lights cluster.

Removing-refitting lights cluster (on mudguard)

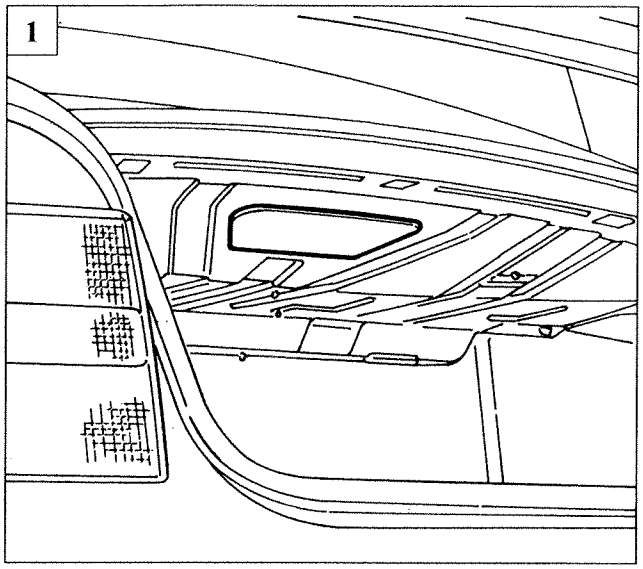
3. Open the boot and remove the attachment buttons;
4. disconnect the supply connector, remove the attachment screws and withdraw the lights cluster;
5. to refit, reverse the procedure for removal.



P3U080L04



P3U080L05



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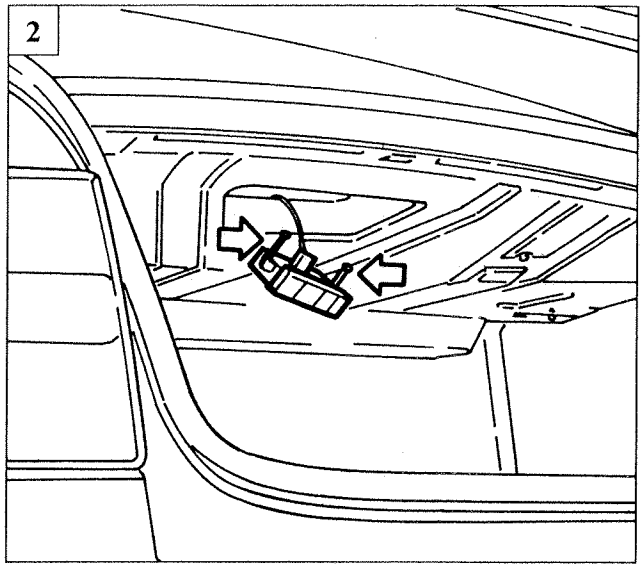

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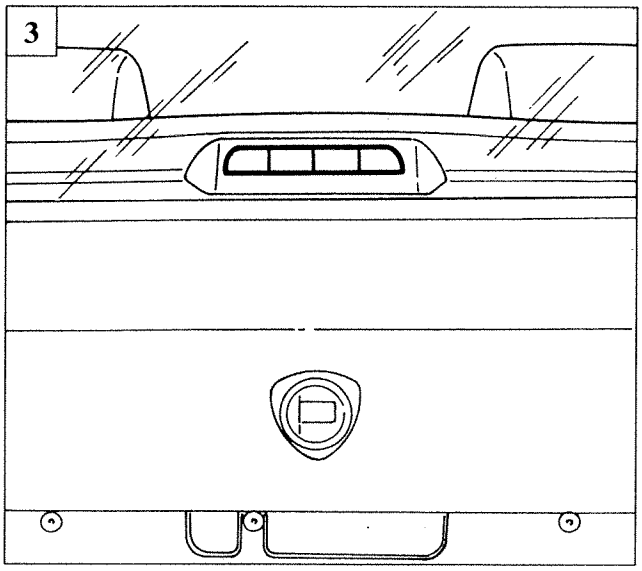


P3U081L03

ADDITIONAL STOP LIGHT

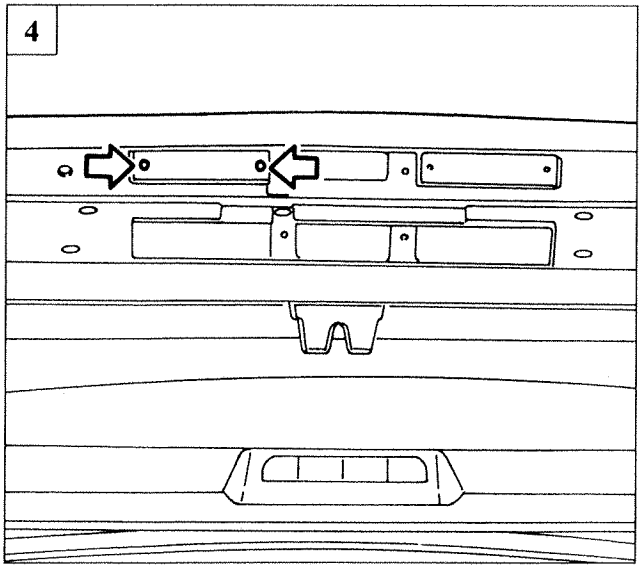
Removing-refitting

1. Remove the attachment embellishment;
2. undo the screws (arrowed), disconnect the wiring connector then remove the additional stop light;
3. to refit, reverse the procedure for removal.

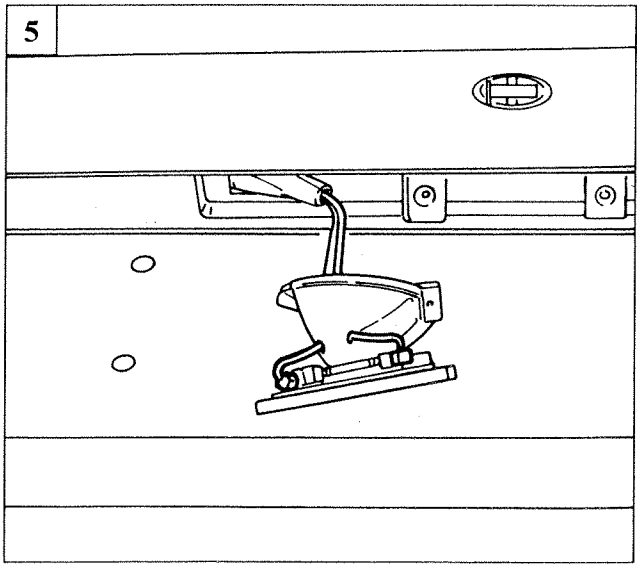
NUMBER PLATE LIGHT

Removing-refitting

4. Undo the screws (arrowed);
5. disconnect the supply connectors and remove the number plate light.

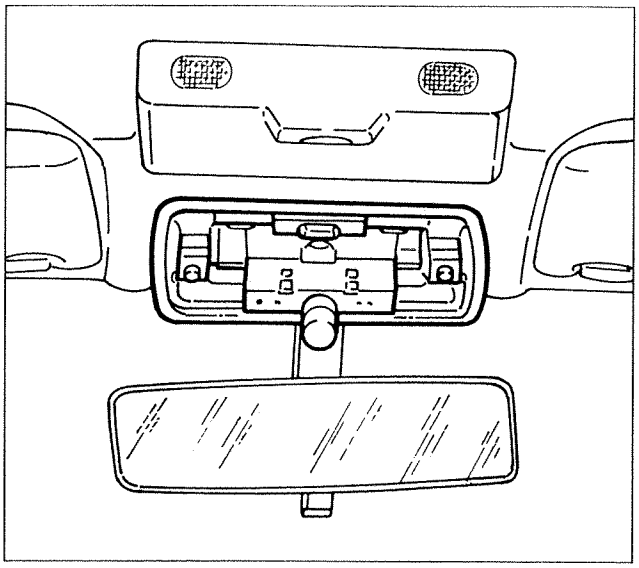


P3U081L04



P3U081L05

55.

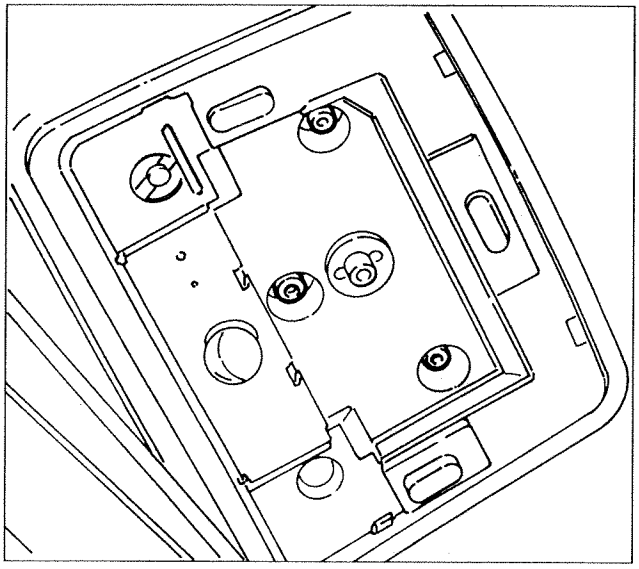


P3U082L01

FRONT COURTESY LIGHT

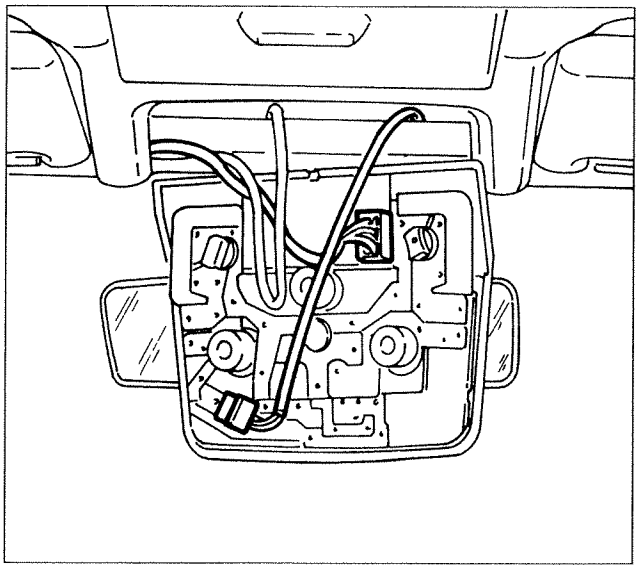
Removing-refitting

- Prise off the lens;



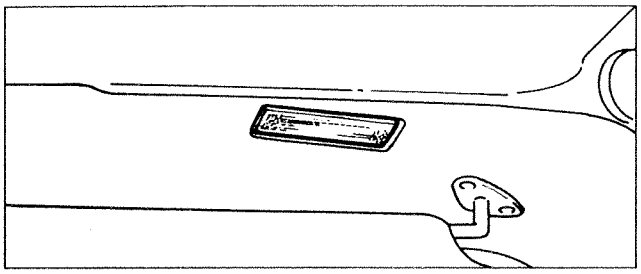
P3U082L02

- undo the attachment screws;

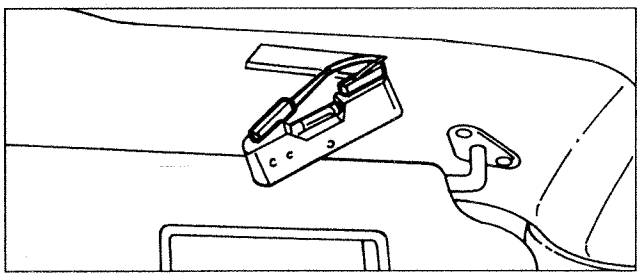


P3U082L03

- disconnect the supply connectors, then remove the courtesy light.



P3U083L01

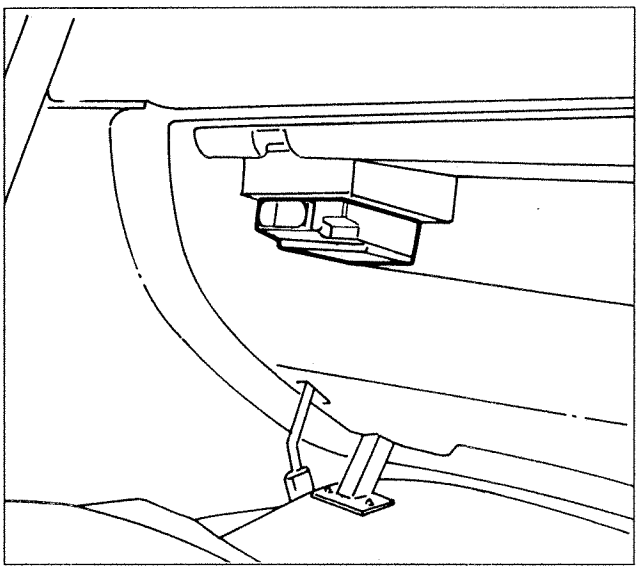


P3U083L02

PASSENGER MIRROR COURTESY LIGHT

Removing-refitting

- Prise off the courtesy light (top picture);
- disconnect the supply connector, then remove the courtesy light (bottom picture).

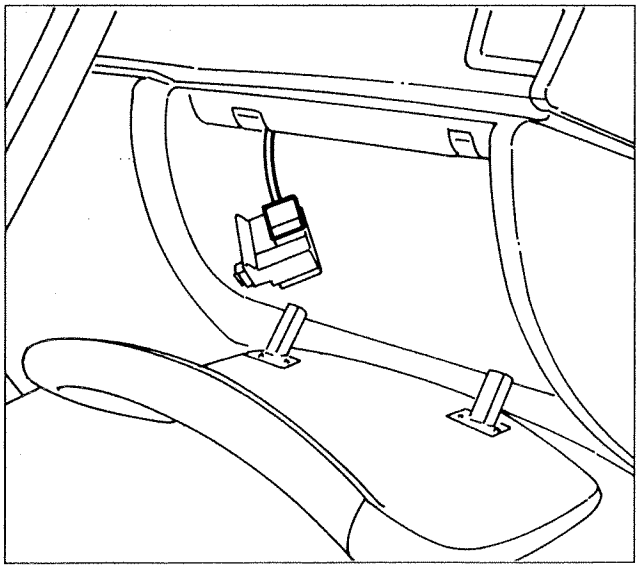


P3U083L03

GLOV COMPARTMENT LIGHT

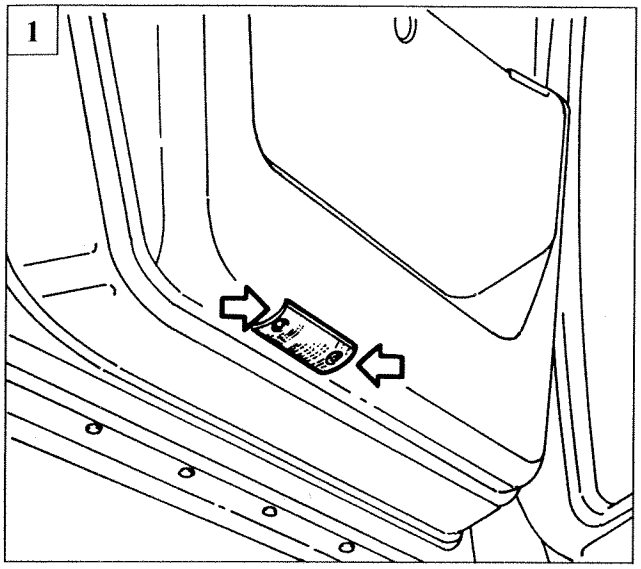
Removing-refitting

- Prise the light off its seating using a screwdriver;

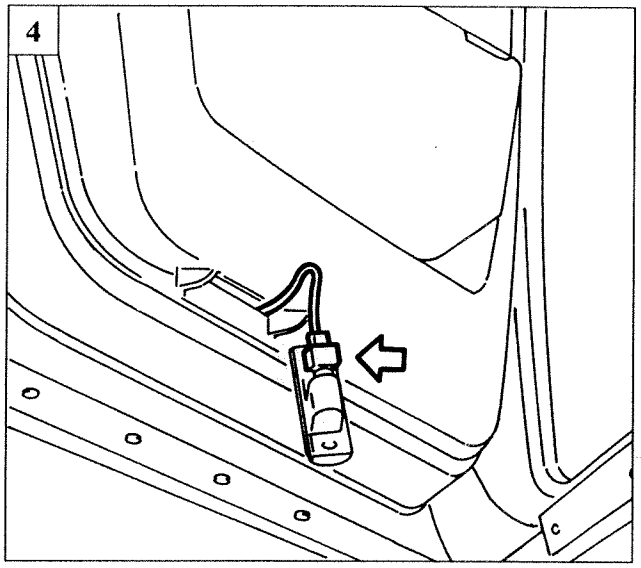


P3U083L04

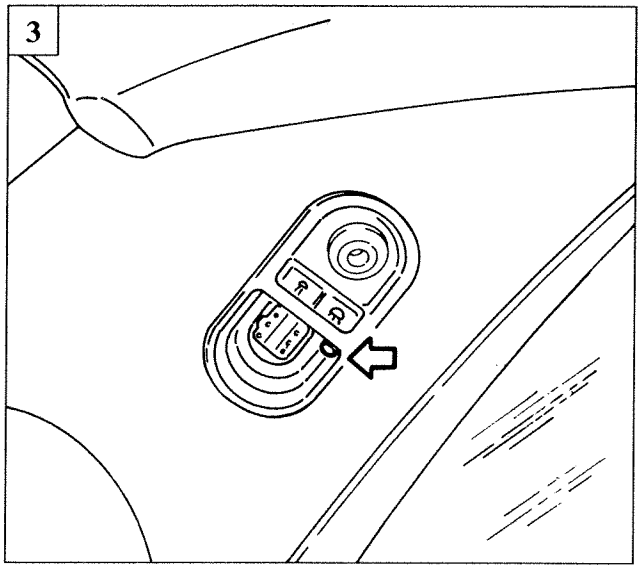
- disconnect the supply connector, then remove the light.



P3U084L01



P3U084L02



P3U084L03

PUDDLE LIGHT

Removing-refitting

1. Undo the attachment screws;
2. disconnect the supply connector, then remove the light.

REAR COURTESY LIGHT

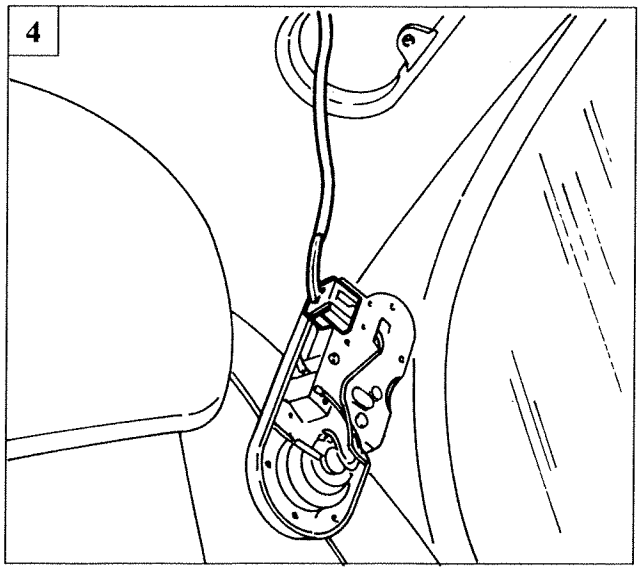
Removing-refitting

3. Prise off the lens and remove the attachment screw which is underneath;
4. disconnect the supply connector then remove the courtesy light.

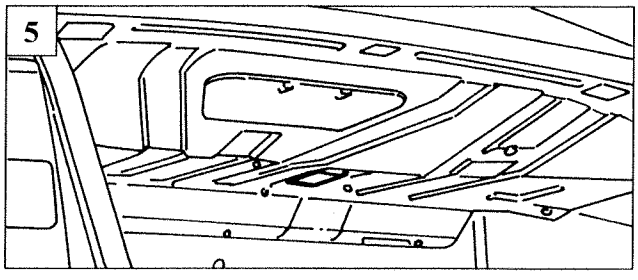
BOOT LIGHT

Removing-refitting

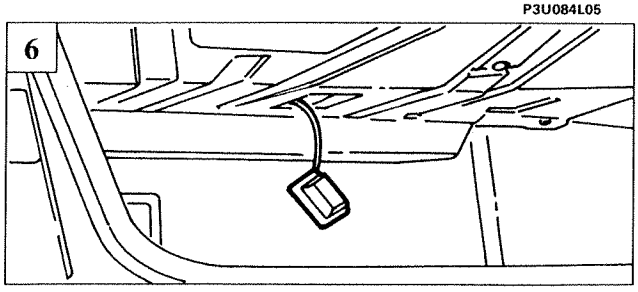
5. Prise off the light;
6. disconnect the supply connector, then remove the light.



P3U084L04



P3U084L05



P3U084L06

VEHICLE INTERIOR AND LUGGAGE COMPARTMENT LIGHT CONTROL UNIT

For vehicles produced from the month of JULY 95, a new vehicle interior and luggage compartment light control unit has been introduced to allow the luggage compartment light to be put on a 20 minute delay while a different system is adopted for car interior courtesy lights.

Operation

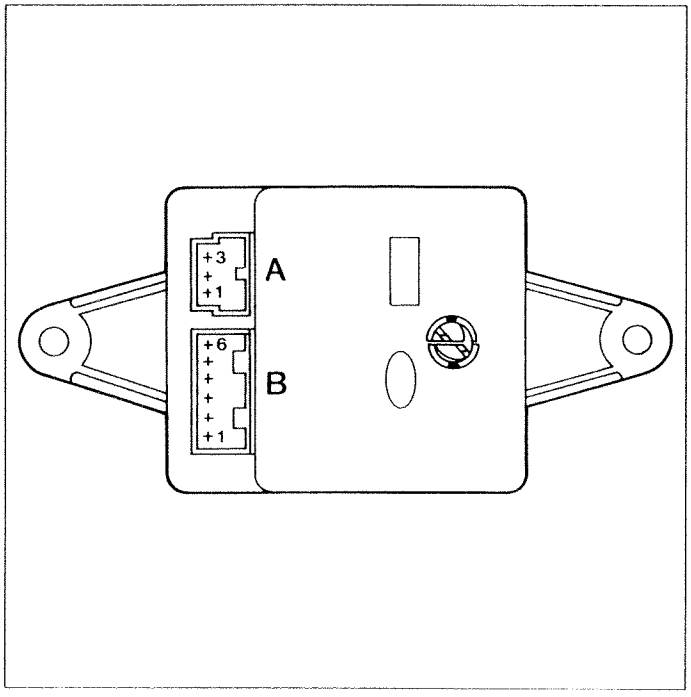
The control unit is located in the passenger compartment beneath the facia and turns the interior courtesy light on and off gradually by means of a timer. The control unit can handle up to 10 W.

The interior courtesy light function is controlled by:
- 2 switches which indicate that the doors have been opened (this function is also linked to the alarm and Infocenter "CHECK" function);
- 15V input from ignition key;
- door lock confirmation input (earthed).

The control unit receives an enabling signal from the two front doors, the courtesy light comes on and reaches maximum intensity within 3 seconds. A timer (T1) simutaneously comes on for 150 seconds. After this, the front courtesy light is gradually de-activated over a period of 3 seconds..

If timer (T1) is de-activated before the 150 seconds are over, a second timer (T2) is activated for 6 seconds. After this, the courtesy light is gradually turned off.
When the key is turned to + 15 position, both timers are de-activated and the courtesy light gradually goes off within 3 seconds. The courtesy light also gradually goes off over a period of 3 seconds from the moment a door lock signal is received.
The luggage compartment light activation function is controlled by the control unit. A signal from the tail-gate position (open/closure) switch detects opening and activates a time for 20 minutes.

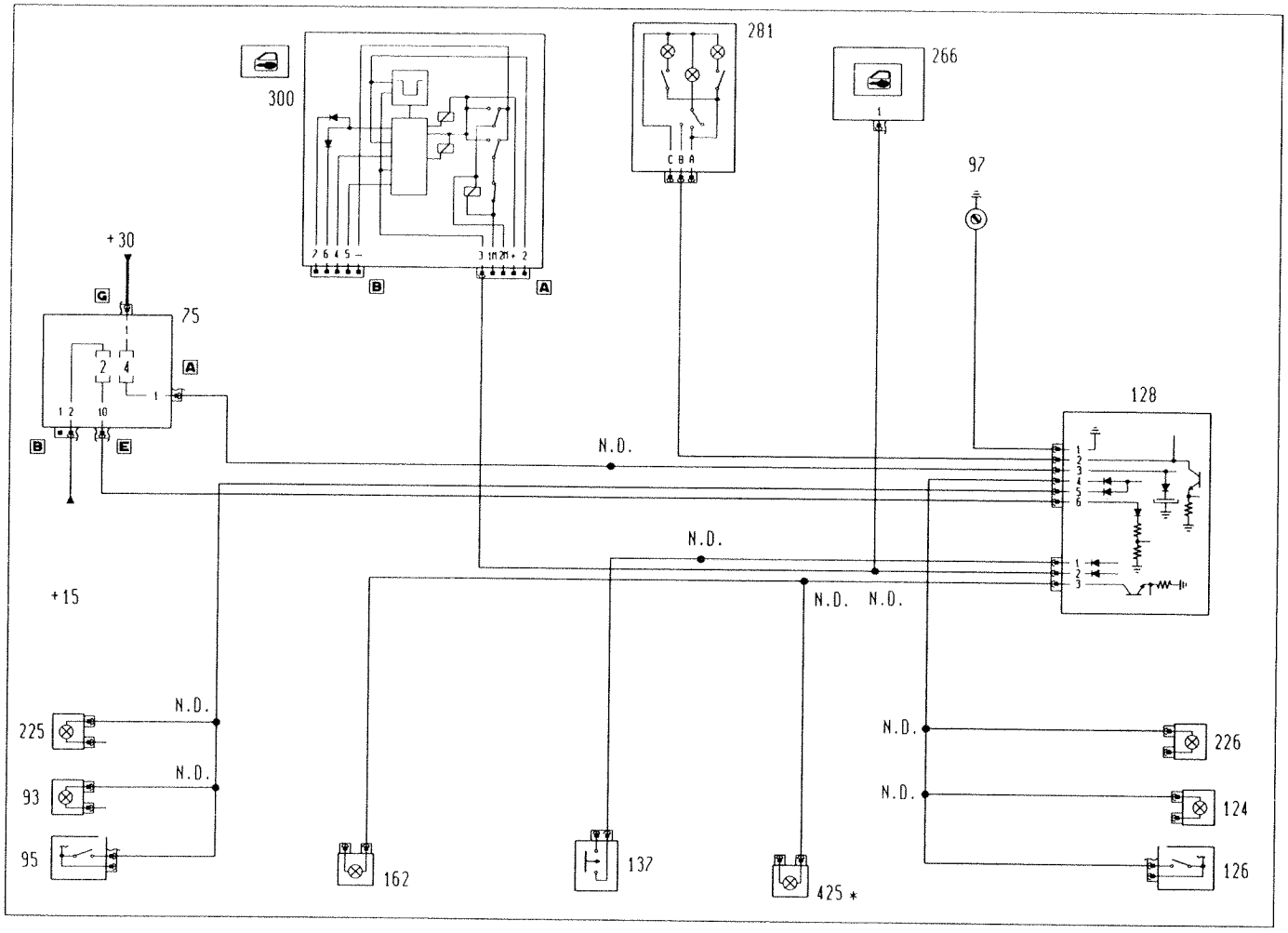
When the set time has elapsed, the courtesy light goes off even when the tail-gate is still open.
When the tail-gate is closed, the light goes off automatically to interrupt the timer cycle.



P3U084L07

	Connector A
1	Tail-gate switch
2	Door lock control
3	Tail-gate bulb

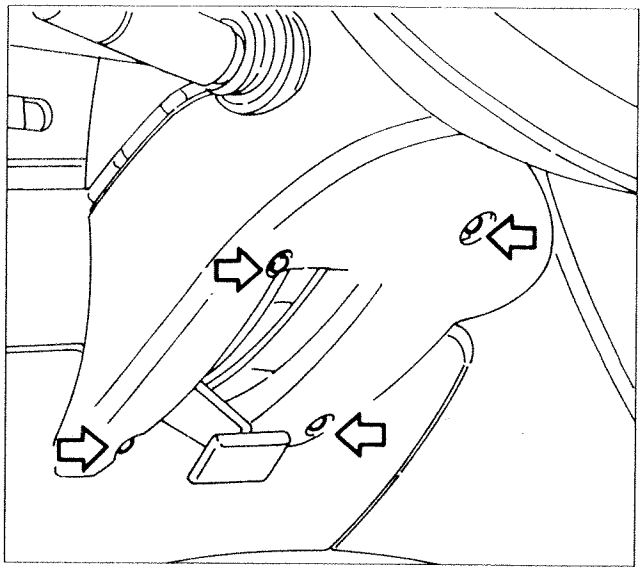
	Connector B
1	Earth
2	Front courtesy light output
3	+ 30 battery
4	Right front door
5	Left front door
6	+ 15 Battery



* Only on versions SW

Key

75 Junction unit (facia)
93 Puddle light on left front door
95 Left front motor and left front door open and alarm on warning light
97 Earth on floor pan
124 Right front puddle light
126 Left front puddle light
128 Front/luggage compartment courtesy light
137 Luggage compartment tail-gate lock assembly
162 Luggage compartment lighting
205 Left floor light
226 Right floor light
266 Alarm device receiver
281 Front courtesy light for car interior
300 Central locking electronic control unit
425 Right hand luggage compartment courtesy light

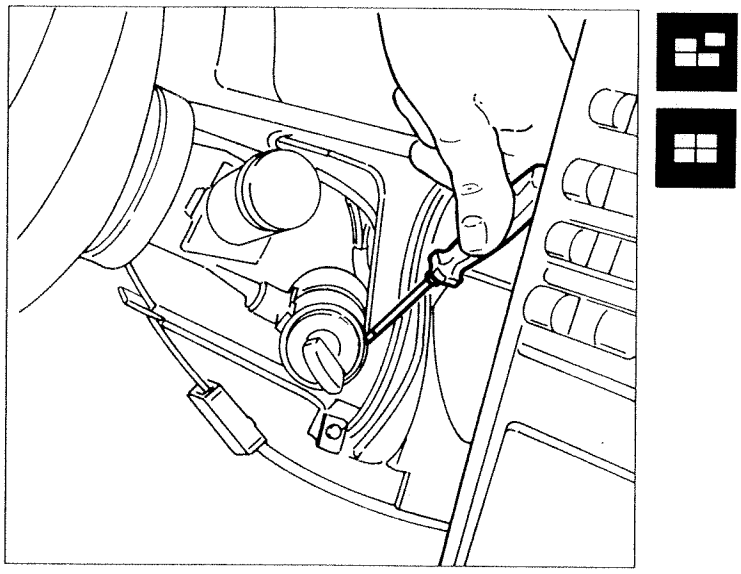


P3U085L01

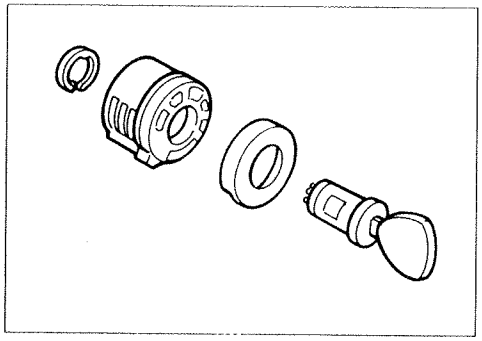
IGNITION SWITCH

Removing-refitting

- Unscrew the retaining bolts and remove the steering column trim;



P3U085L02

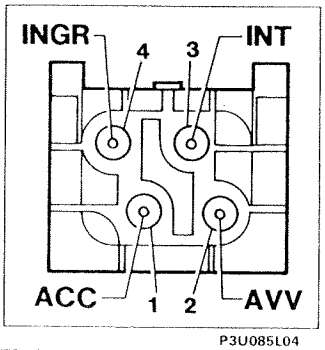
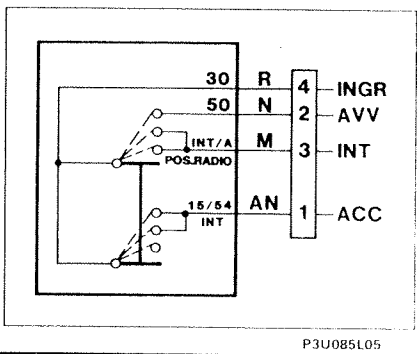


P3U085L03

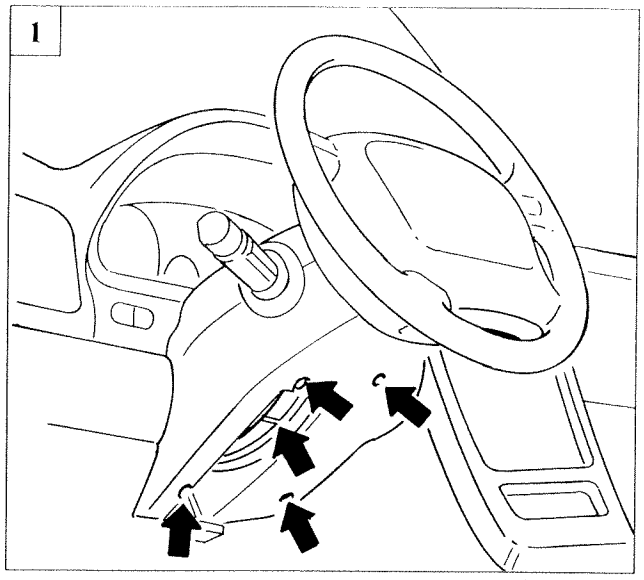
- disconnect ignition switch, as shown in the figure.

Before removing the ignition switch, disconnect the battery terminals and turn key to "MARCIA".

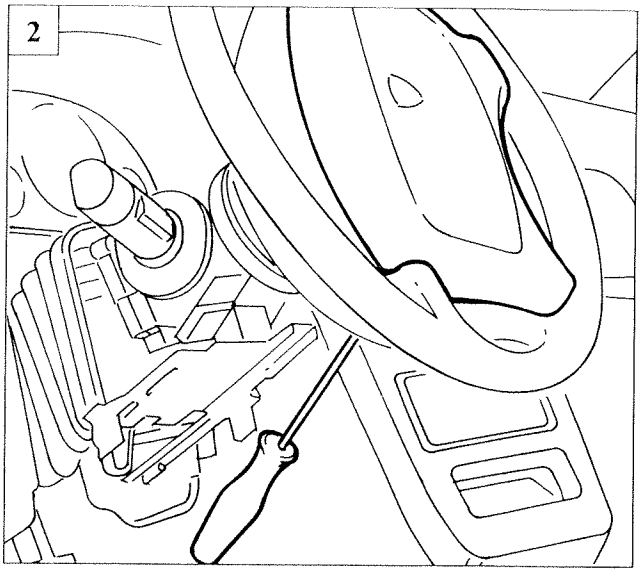
Diagram showing ignition switch internal connections

Tag terminal identification codes	Wiring diagram
	
P3U085L04	P3U085L05

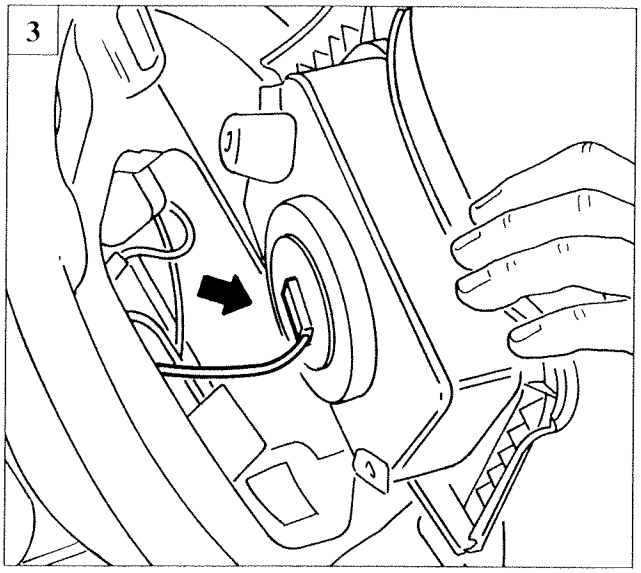
NOTE. *An extra 20A fuse in the Lancia k protects the ignition switch. The fuse is located in the middle of the engine bay.*



P3U086L01



P3U086L02



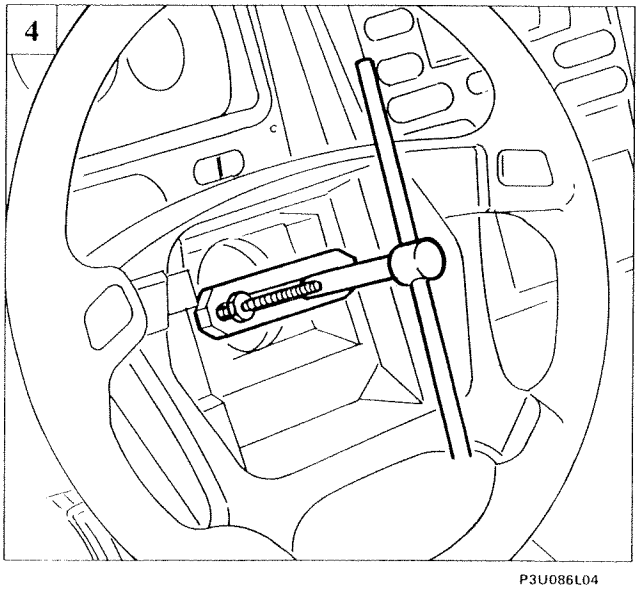
P3U086L03

STALK UNIT

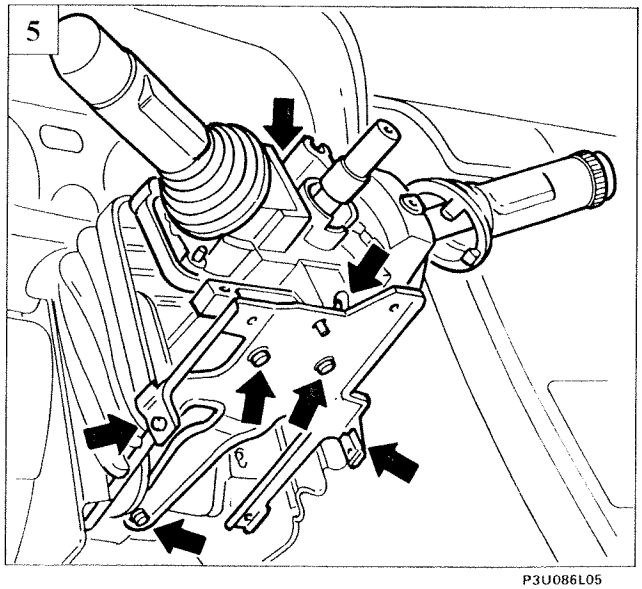
Removing-refitting

1. Unscrew the bolts indicated and remove the steering column trim;
2. unscrew the bolts fastening the air bag assembly to the steering wheel;
3. remove the air bag from the steering wheel as described on page 175;
4. remove the steering wheel using an appropriate extractor, then disconnect the clock spring connector;
5. separate the steering column trim mount plate after undscrewing the relevant bolts. Then disconnect the connectors and remove the stalk unit.

Before beginning this procedure, ensure the SAFETY REGULATIONS beginning on page 167 are scrupulously adhered to.

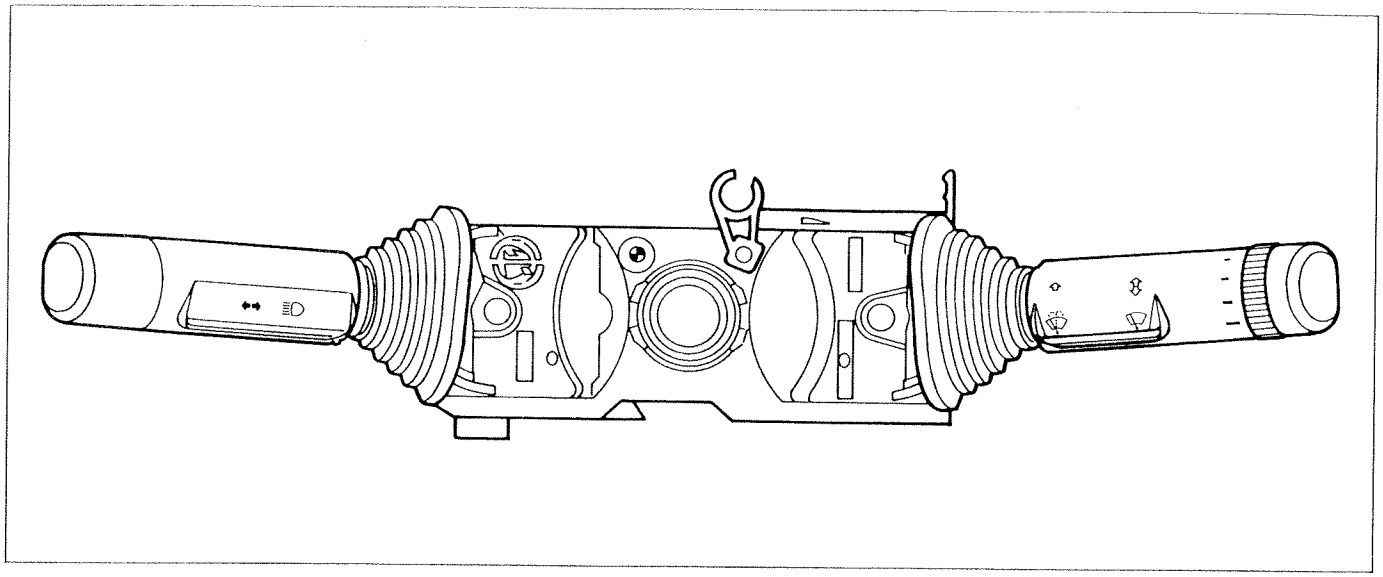


P3U086L04



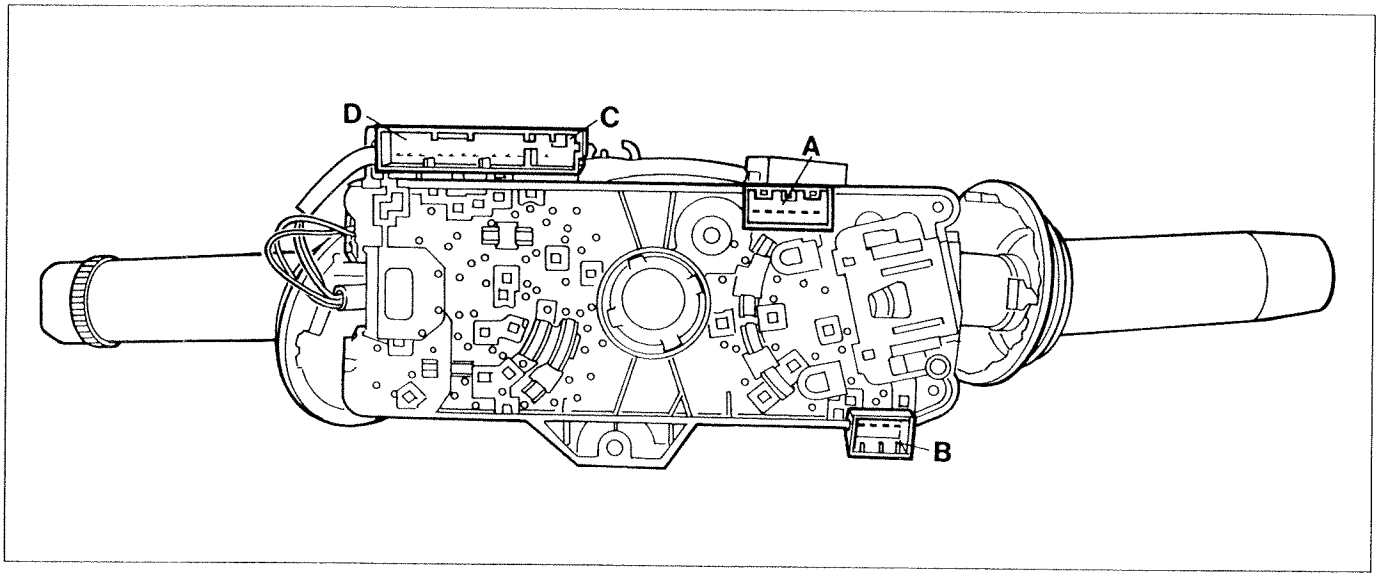
P3U086L05

Front view

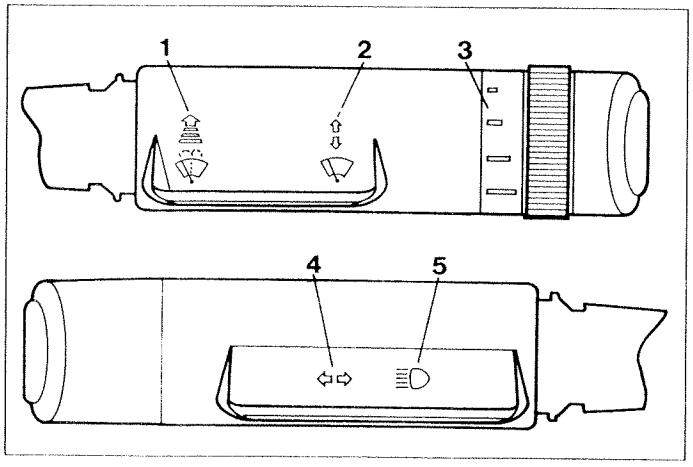


P3U086L06

Rear view



P3U086L07

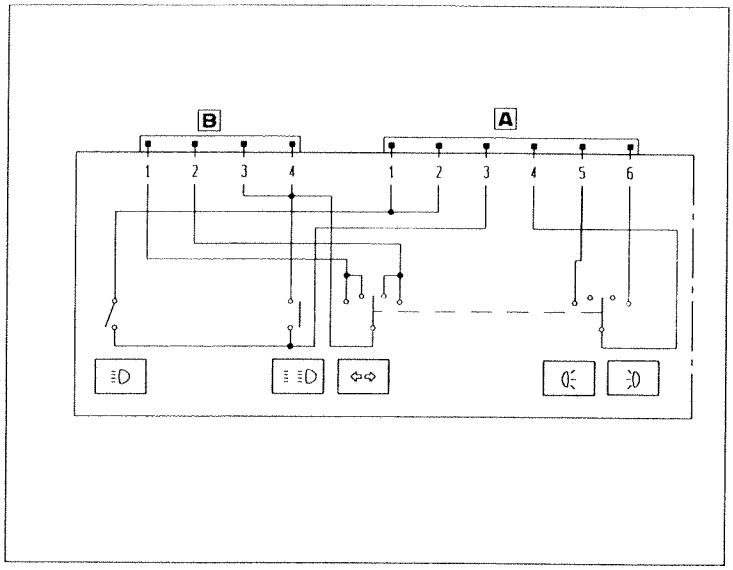


P3U086L08

1. Windscreen wiper pump control
2. Windscreen wiper control
3. Windscreen wiper speed intermittent function
4. Turn signal lever
5. Main beam lever

A-B-C-D Electrical connectors

Light switch wiring diagram

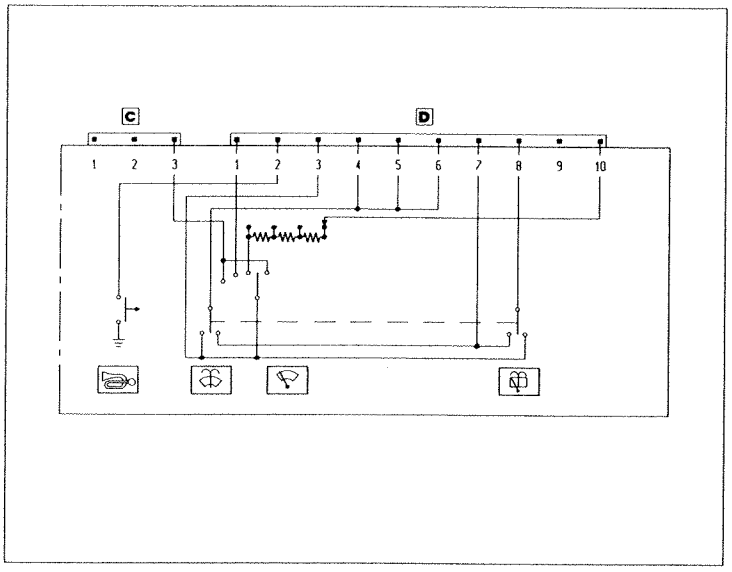


P3U088L09

Connector A		Wiring colours
1	Dipped beam relays (I.G.E.)	HN
2	Exterior lighting control	AB
3	Main beam relay	AV
4	Exterior lighting control (I.G.E.)	GL
5	IGE control unit.	LN
6	IGE control unit.	L

Connector B		Wiring colour
1	Left branch turn signal	AG
2	Right branch turn signal	AR
3	Ignition switch (provision)	-
4	Ignition switch	A

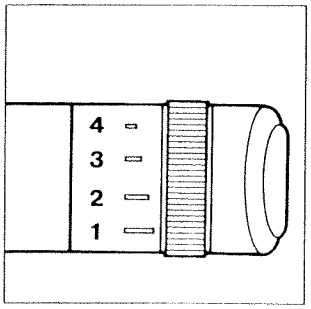
Windscreen wiper switch wiring diagram



P3U086L10

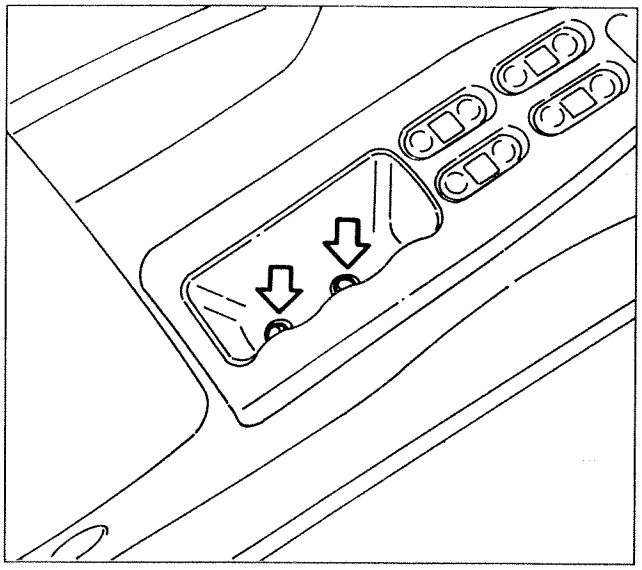
Connector C		Wiring colour
1	Available	-
2	Available	-
3	Windscreen wiper unit	H

Connector D		Wiring colours
1	Windscreen wiper unit	AV
2	Horn relay	BN
3	Windscreen wiper unit	GN
4	Washer pump	-
5	Windscreen wiper unit	R
6	Headlamp washer intermittent function	-
7	Front/rear washer earth	-
8	Rear wash/wipe	B
9	Available	-
10	Windscreen wiper unit	AR



P3U086L11

Fixed resistance windscreen wiper beat variator	
Pos.4	R = 0 - 350Ω
Pos.3	R1 = 1.8 KΩ ± 7%
Pos.2	R2 = 3.3 KΩ ± 7%
Pos.1	R3 = 5.1 KΩ ± 7%

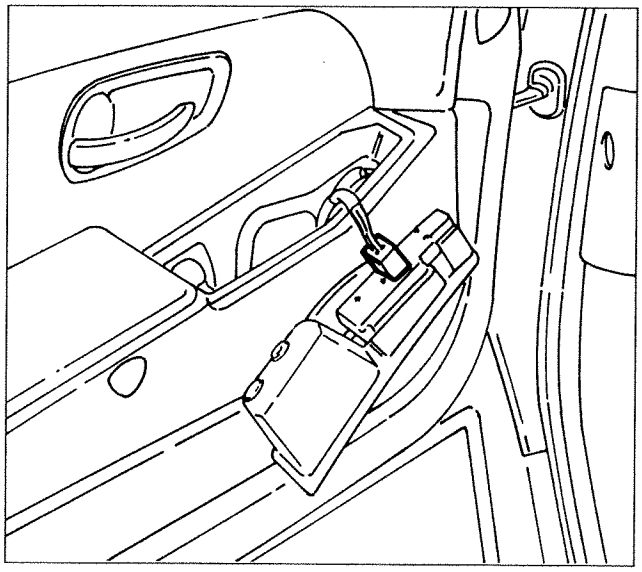


P3U087L01

ELECTRIC WINDOW SWITCHES

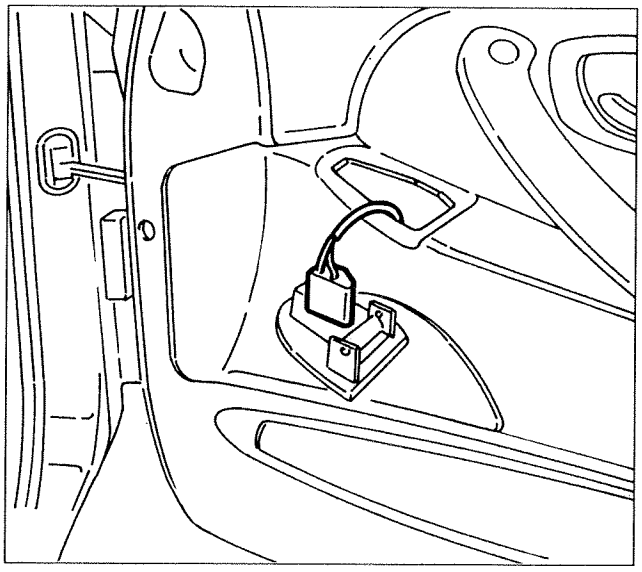
Removing-refitting electric windows switches, driver's side

- Undo the screws shown in the figure;



P3U087L02

- disconnect the supply connector, then remove the electric windows switch unit.

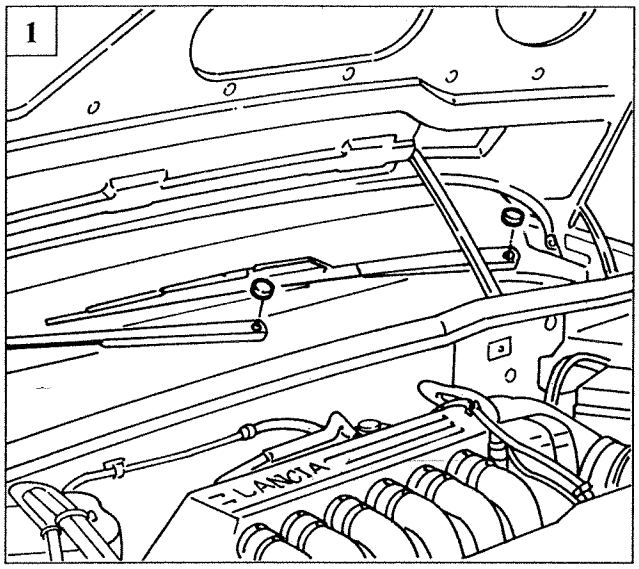


P3U087L03

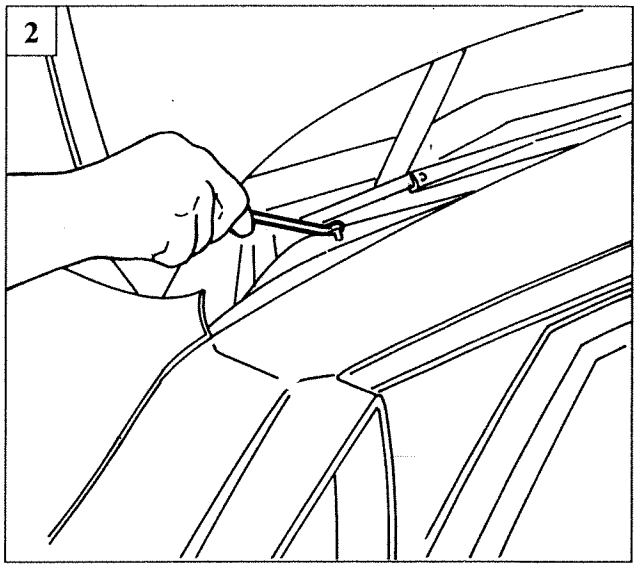
Removing-refitting electric windows switch, passenger side

- Prise off the assembly, then disconnect the supply connector and remove the electric window switch.

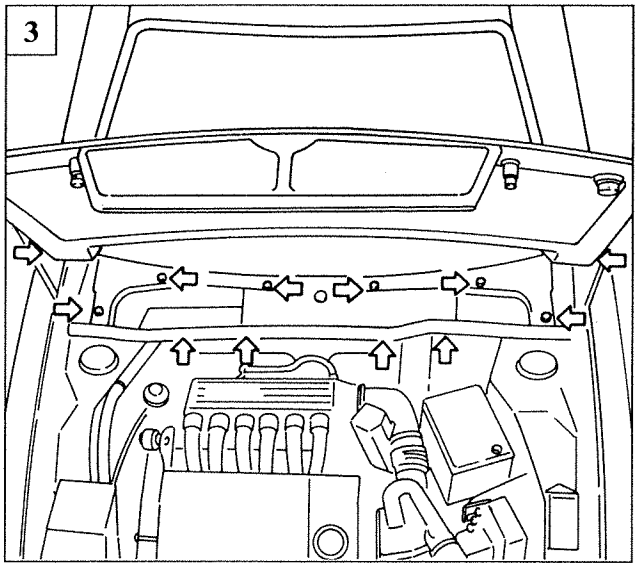
55.



P3U088L01



P3U088L02

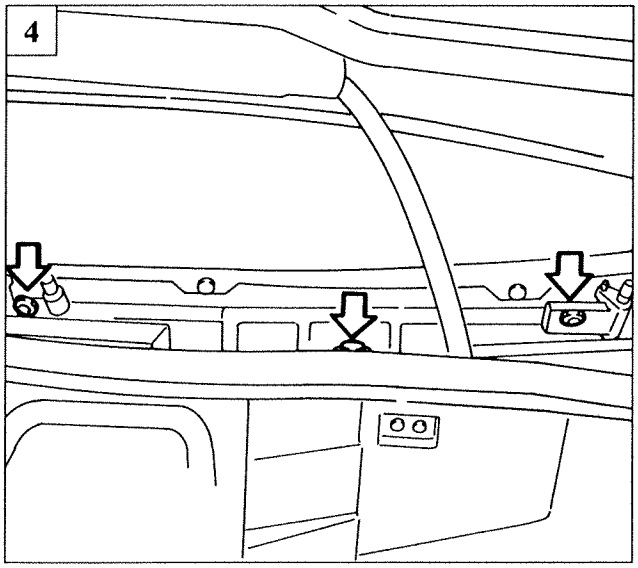


P3U088L03

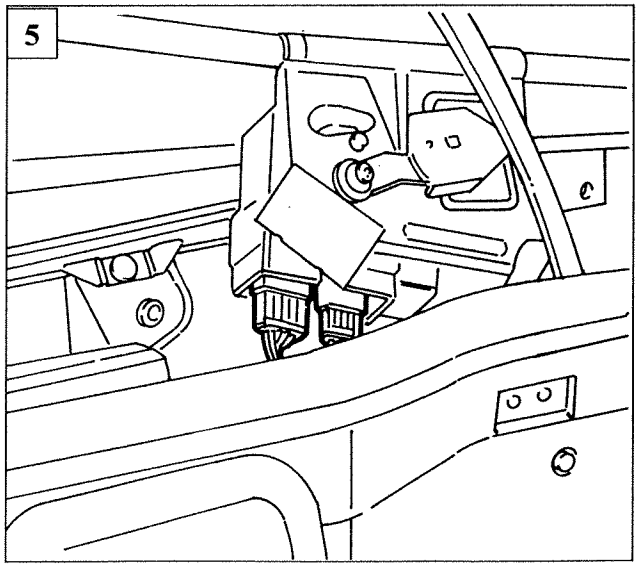
WINDSCREEN WIPER MOTOR

Removing-refitting

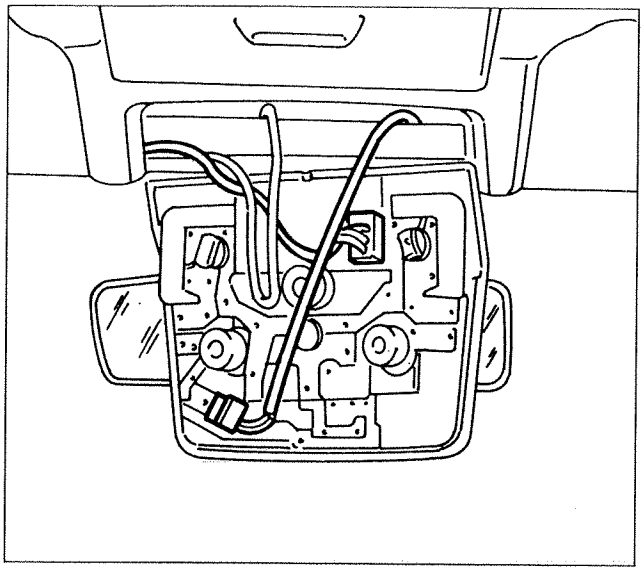
1. Lift off the button and undo the attachment nuts which are underneath;
2. release the supporting arms using a screwdriver;
3. undo the screws securing the plastic cover and remove it;
4. undo the screws securing the windscreen wiper motor to the bodywork;
5. disconnect the supply connectors and withdraw the motor from its seating.



P3U088L04



P3U088L05

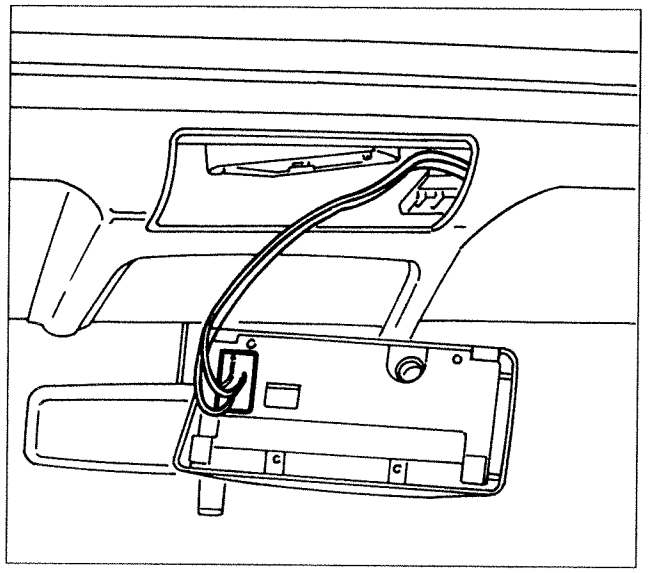


P3U089L01

SUNROOF MOTOR

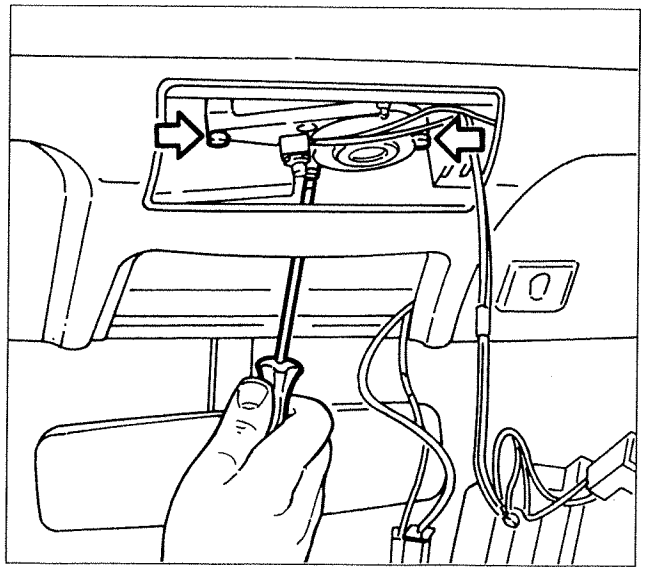
Removing-refitting

- Remove the sunshades and courtesy light, disconnecting the supply connector;

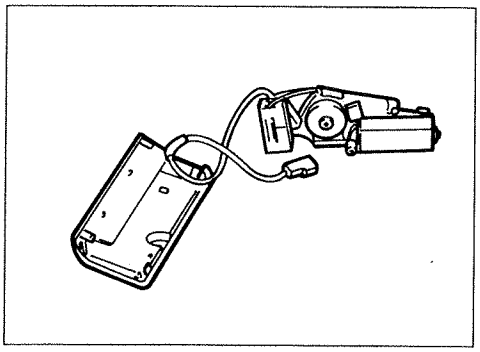


P3U089L02

- lower the courtesy light, releasing it from its attachment points;

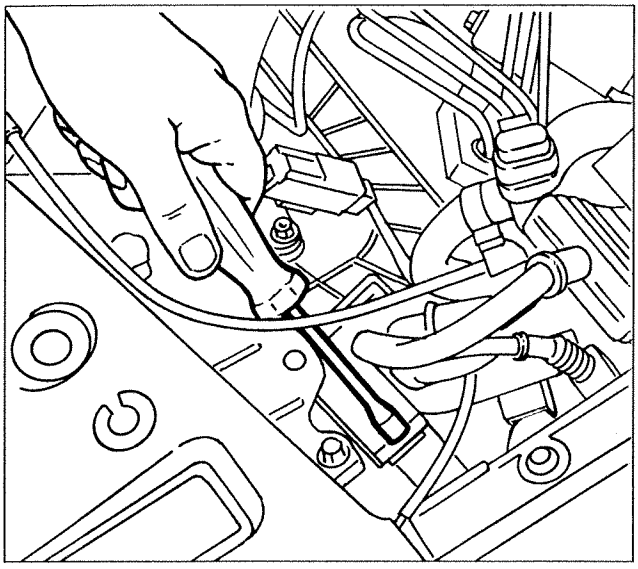


P3U089L03



P3U089L04

- undo the screws attaching the motor to the roof, disconnect the supply connectors and then remove the motor.

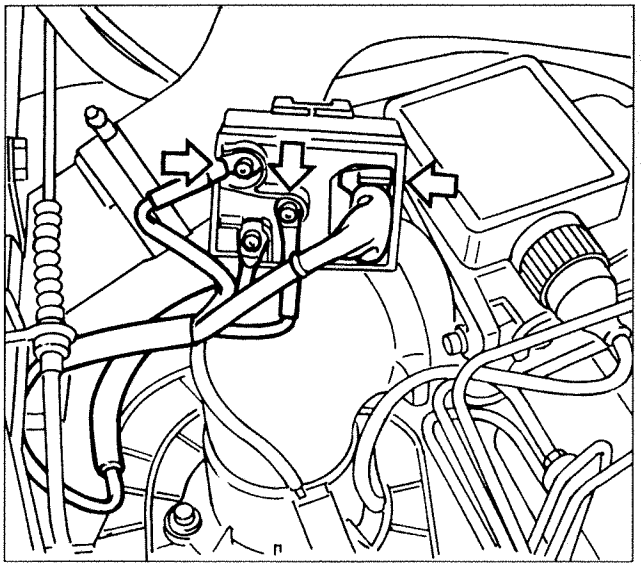


P3U090L01

PLUG PREHEATING DEVICE

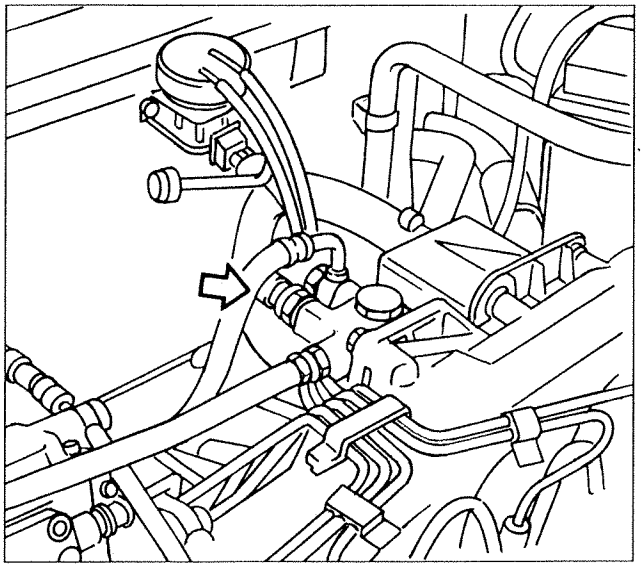
Removing-refitting

- Undo the attachment screw shown;



P3U090L02

- disconnect the supply connectors then remove the plug preheating device.



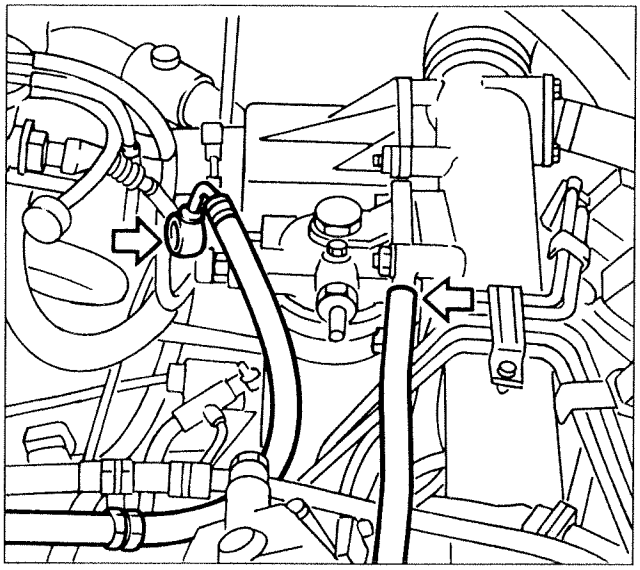
P3U090L03

FUEL FILTER

Removing-refitting

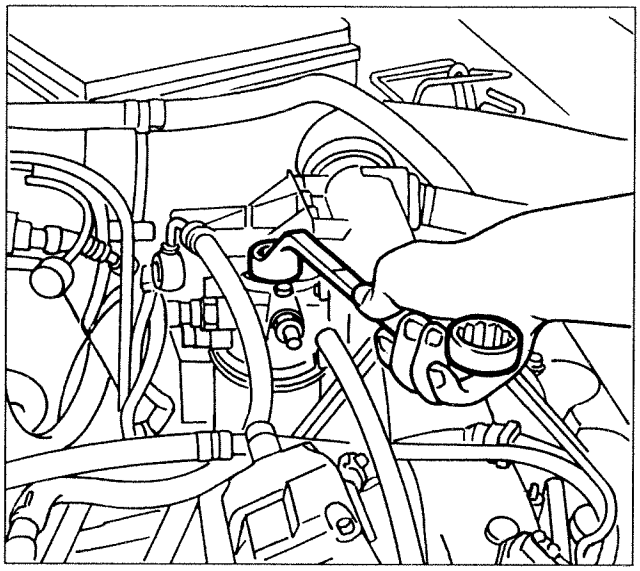
- Disconnect the supply connectors shown in the figure;

NOTE *The fuel filter is of the heated type, and comprises a water detector.*

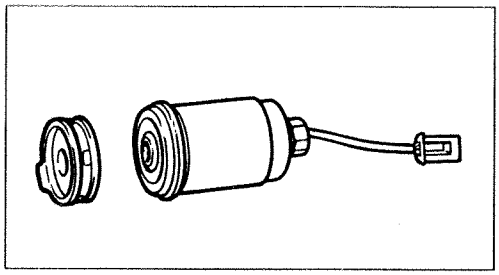


P3U091L01

- disconnect the diesel fuel delivery and return pipes from the fuel filter;

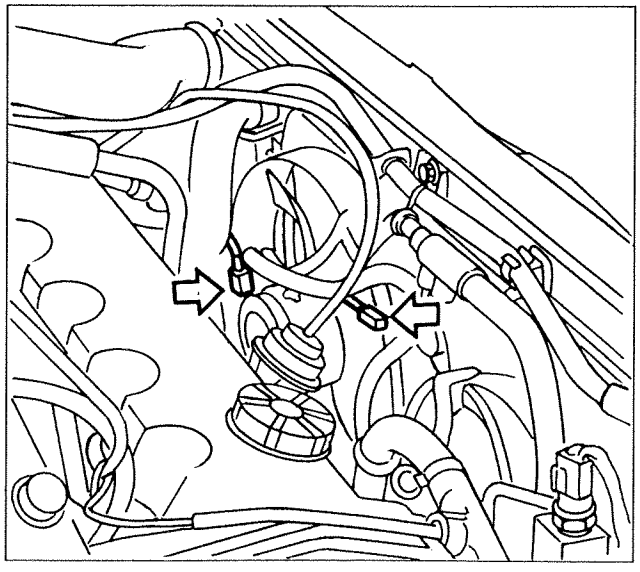


P3U091L02



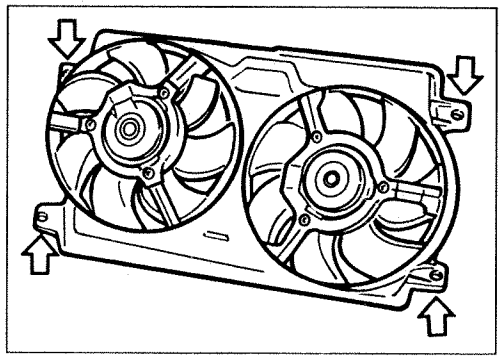
P3U091L03

- remove the screw securing the fuel filter, then remove the filter.



P3U091L04

RADIATOR FAN



P3U091L05

Removing-refitting

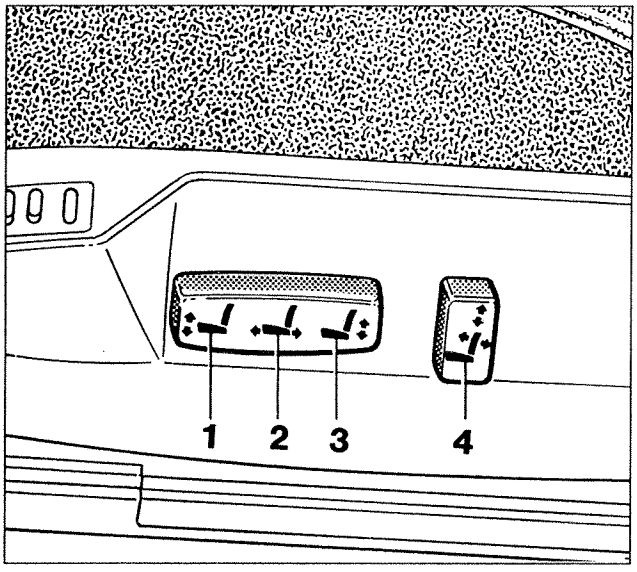
- Disconnect the supply connectors, then remove the fan by undoing it at the points indicated.

55.

ELECTRIC SEAT (with memory and heated)

Memorization

The device can store in memory and recall 3 different positions of the driver's seat; the buttons which adjust the seat are located on the console beside the bottom seat cushion.

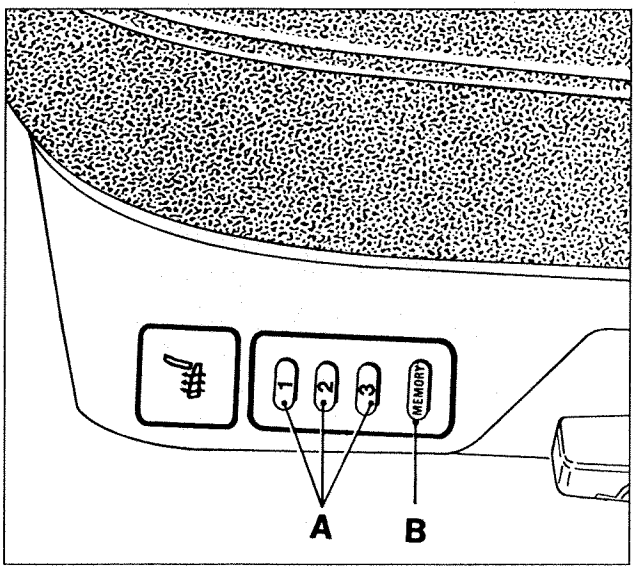


P3U03CL01

The front seat can make 4 different movements:

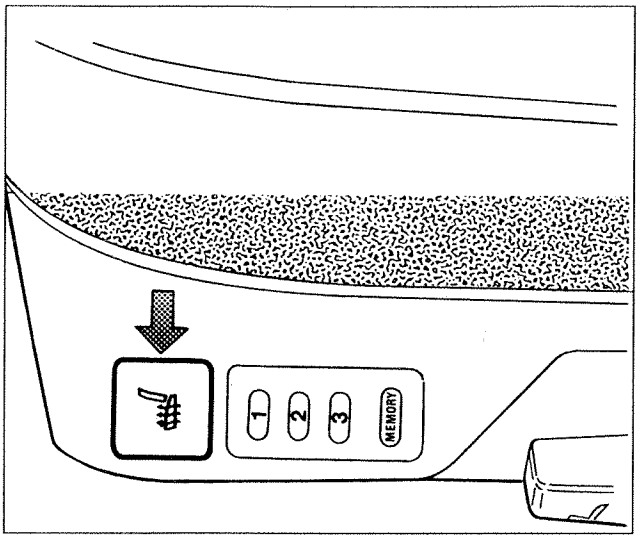
1. front vertical;
2. horizontal;
3. rear vertical;
4. lumbar, vertical and horizontal.

With the ignition ON (+15), adjust the seat position, press the MEMORY button and at the same time press for 1 second one of the 3 recall buttons (1, 2 or 3) corresponding to each position that can be memorized. A further 2 positions can be memorized in the same way; the memorization of a new seat position automatically cancels that previously memorized with the same button.
With the ignition ON (+15), press the desired recall button (1, 2 or 3) until the memorized position is reached.
If the button is released at any moment, the seat is immediately locked.



P3U03CL02

A. Memorized position recall buttons
B. Button for memorizing the positions required by the user

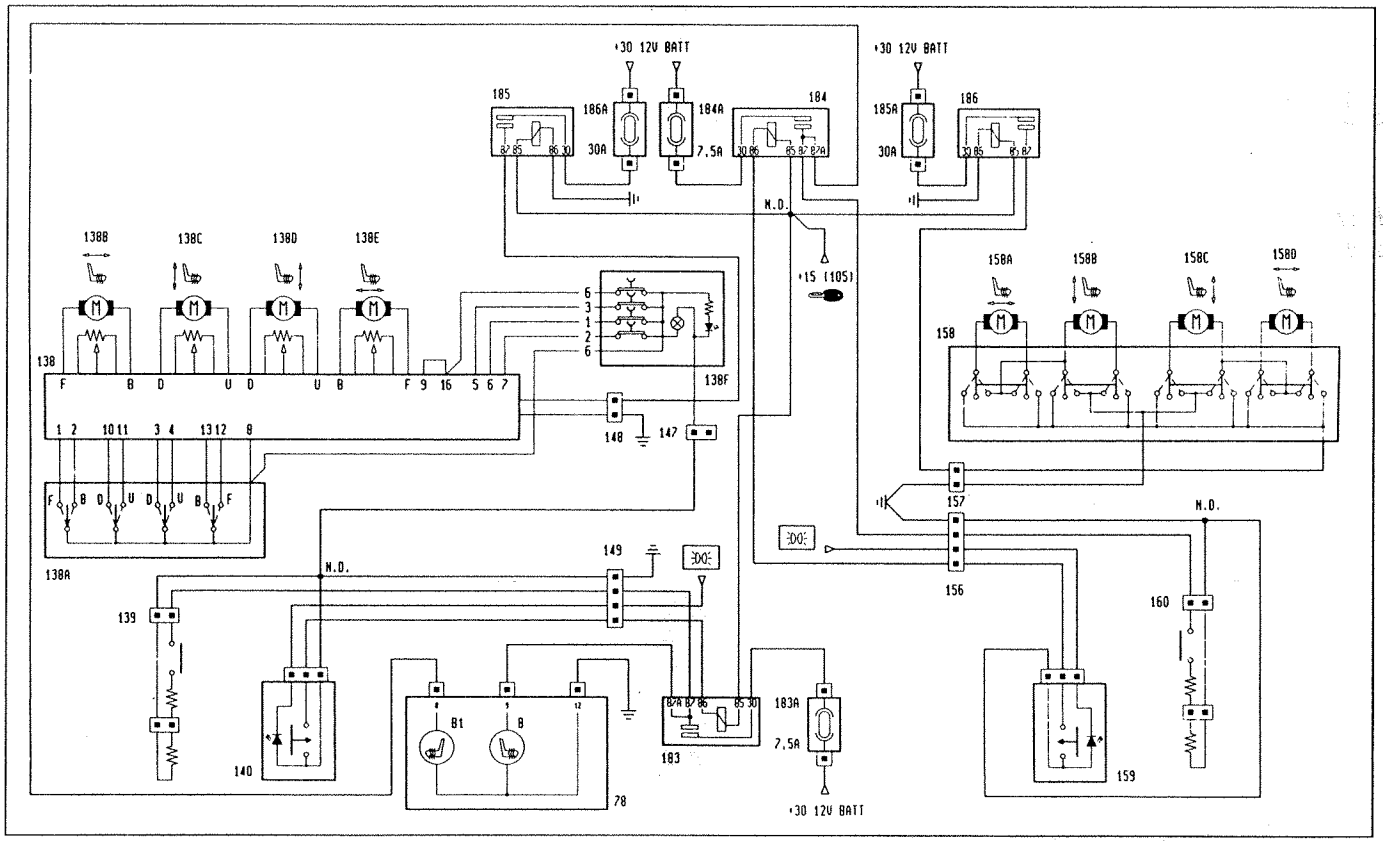


P3U04CL01

Electric heating

The front seats can be heated by thermostat-controlled heating pads placed between the seat stuffing and upholstery.
To switch the device on or off, use the button on the seat's side console.
When the electric heating is on, the symbol on the instrument panel is lit up.

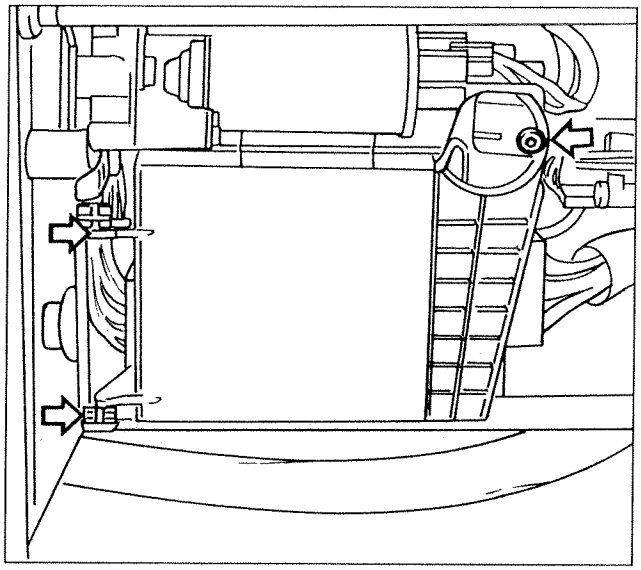
Wiring diagram



P3U04CL02

When the ignition is switched ON, the front seat heating pads are supplied; the relay contacts are normally closed.
When the heating pads reach a temperature of about 28 °C, the thermostats open are automatically cut off the supply; the heating pads can nevertheless be switched off by using the two switches mounted on the seats.
When the switches are switched off, the relays 183 and 184 are energized, the normally closed contacts are opened and the supply to the heating pads is cut off.

55.

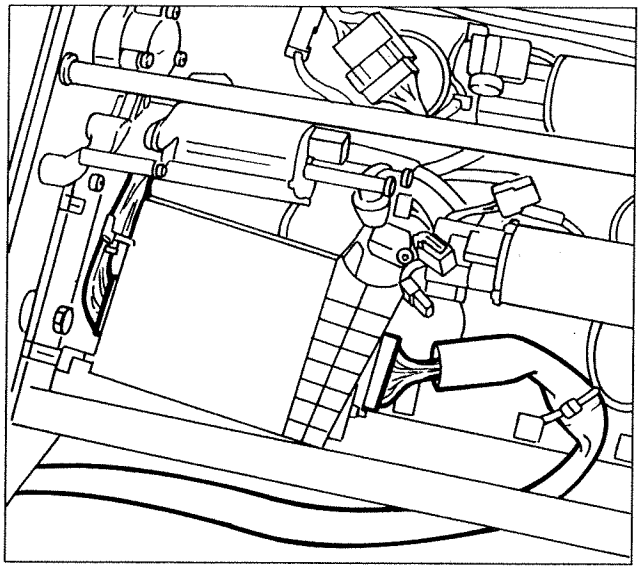


P3U107L01

ELECTRIC SEATS CONTROL UNIT

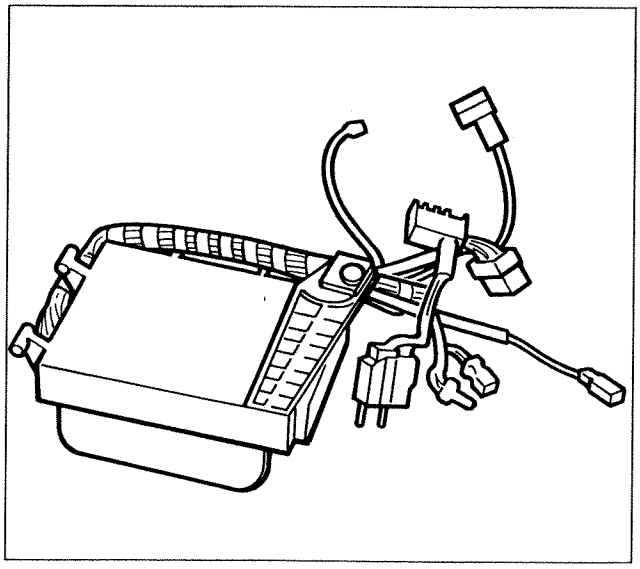
Removing-refitting

- Undo the screws (arrowed in the figure) securing the control unit to the seat;



P3U107L02

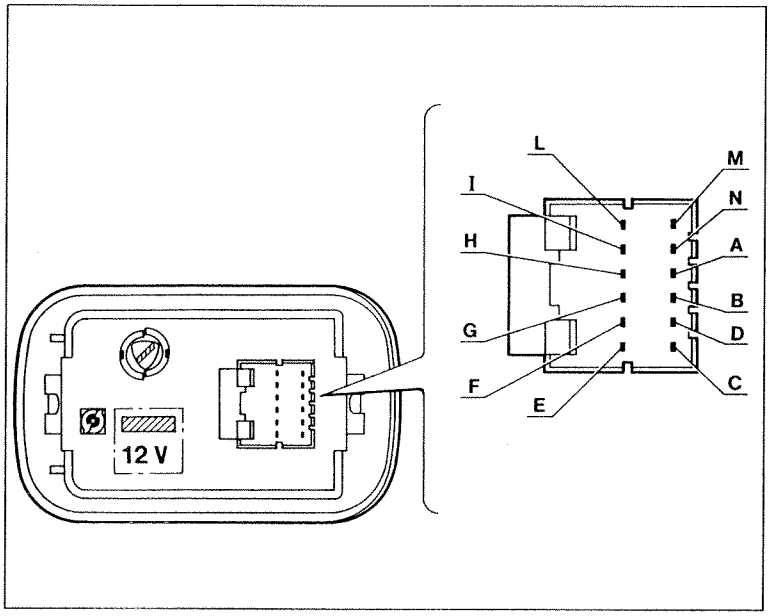
- disconnect the supply connectors;



P3U107L03

- withdraw the control unit from its seating.

EXTERNAL FOLDING AND HEATED REARVIEW MIRRORS



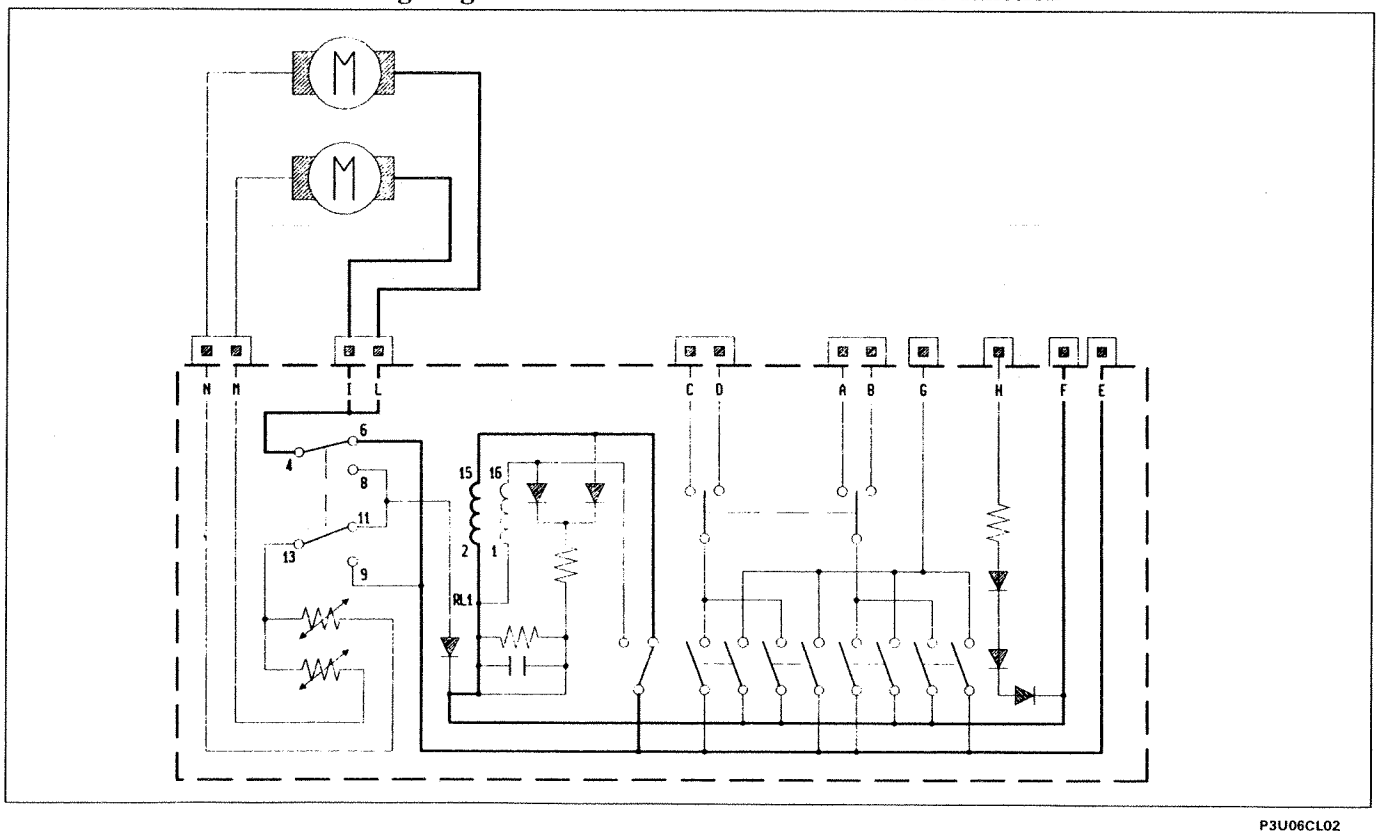
P3U06CL01

Pin	Description
A	To right mirror horizontal movement motor
B	To left mirror horizontal movement motor
C	To right mirror vertical movement motor
D	To left mirror vertical movement motor
E	To 12 V (+15 key-dependent)
F	Earth
G	To shared motors
H	To 12 V symbol illumination
I	To right mirror folding motor
L	To left mirror folding motor
M	To left mirror folding motor
N	To right mirror folding motor

Internal view of rearview mirror

The external rearview mirrors can be folded by means of a command issued by the user, thus permitting better manoeuvrability while parking, accessing garages and in all cases where the vehicle's lateral dimensions need to be reduced as much as possible.
In addition to being folding, they also comprise heating elements for demisting the mirror.

Wiring diagram: external rearview mirror closure function

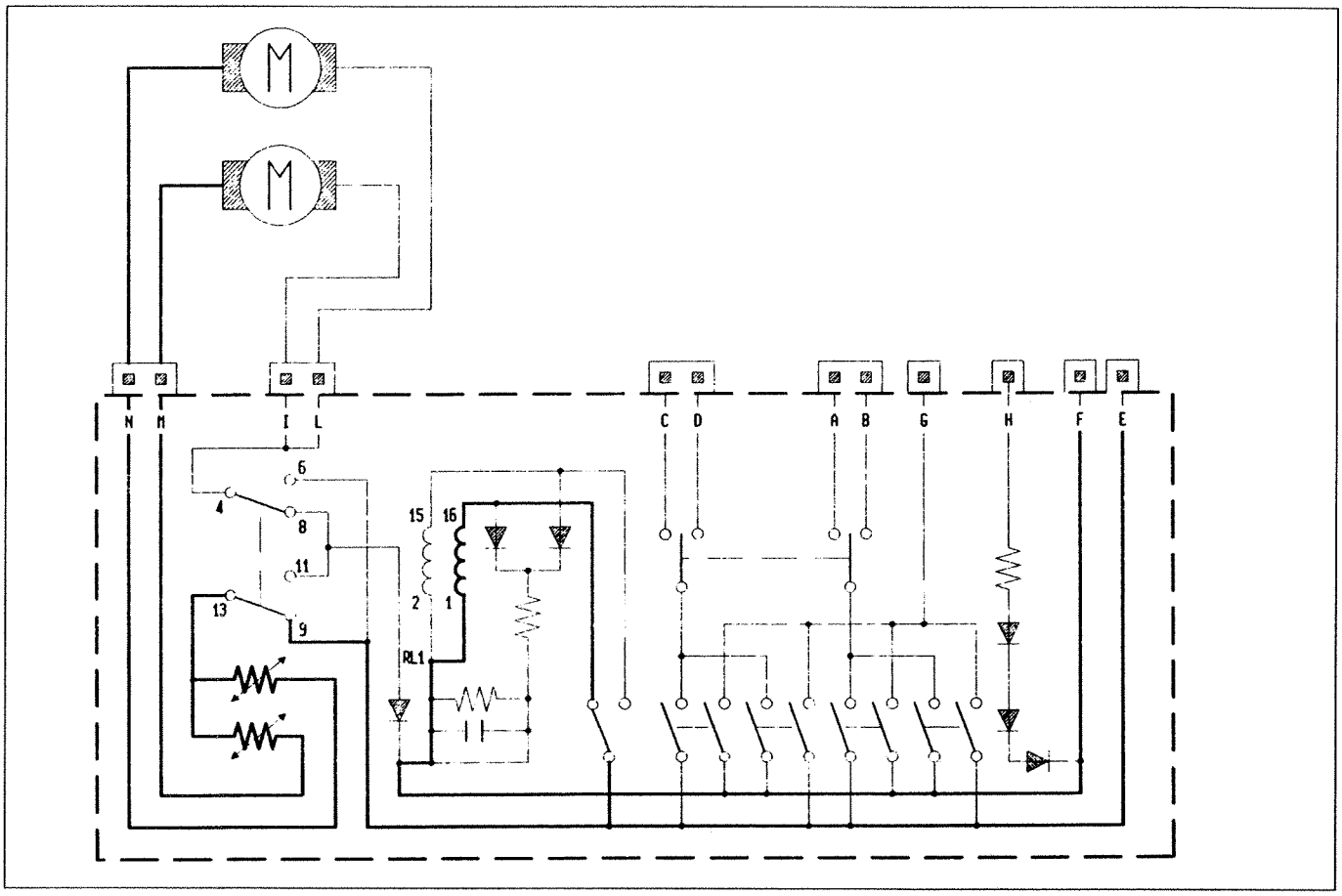


P3U06CL02

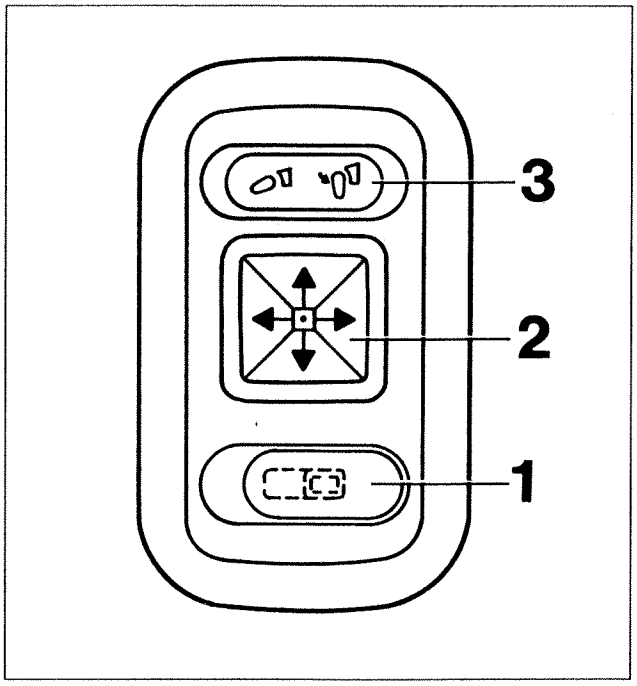
55.

Assuming that the starting position is the open position, when the button (3) controlling the mirror closure is pressed, the coil 15 is energized. The voltage reaches point 6 of the relay and supplies pins L and I (white-red wire). The motors are actuated and close the external mirrors.

Wiring diagram: external rearview mirrors open function



P3U07CL01

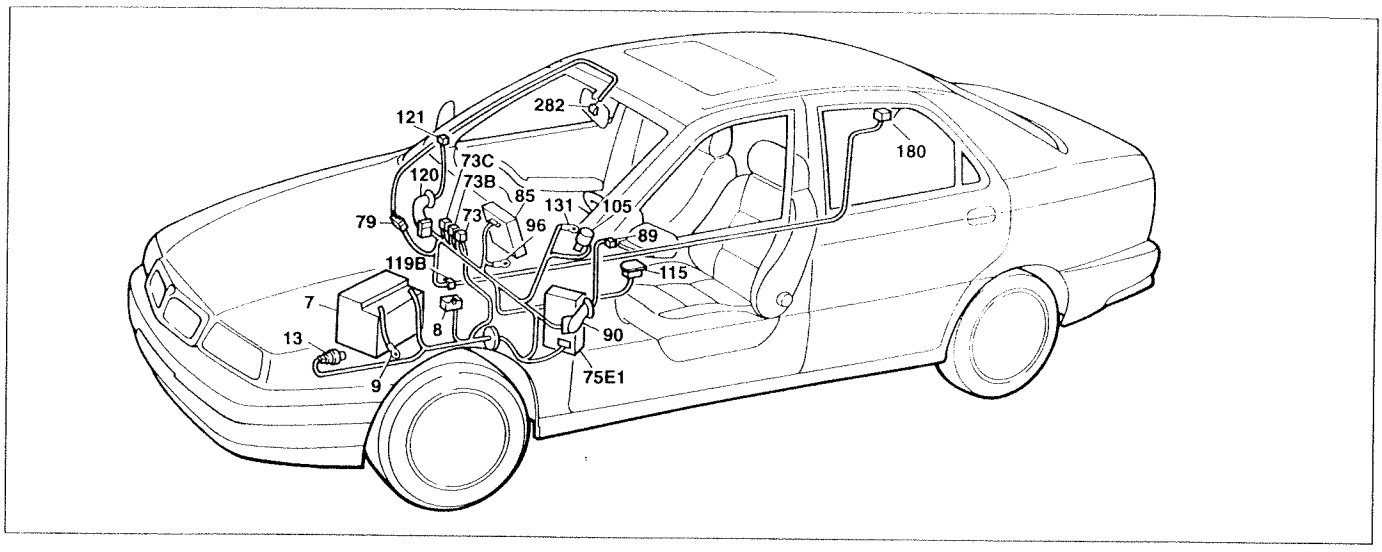


P3U07CL02

Starting from the closed position, when the mirror open button (3) is pressed, the coil 16 is energized and the voltage reaches point 9 from the relay, supplying pins M and N (white-green wire). The motors are actuated and so close the mirrors.
The control unit's electronics prevent the motors from remaining actuated once they reach the required position (open or closed), thus preventing damage to the motors.
A single pulse is sufficient to fully open or close the external rearview mirrors. The pushbutton unit includes the control for adjusting the position of the external mirrors.
Select the mirror to be adjusted with the button (1), and use the control (2) to adjust the selected mirror vertically and horizontally.

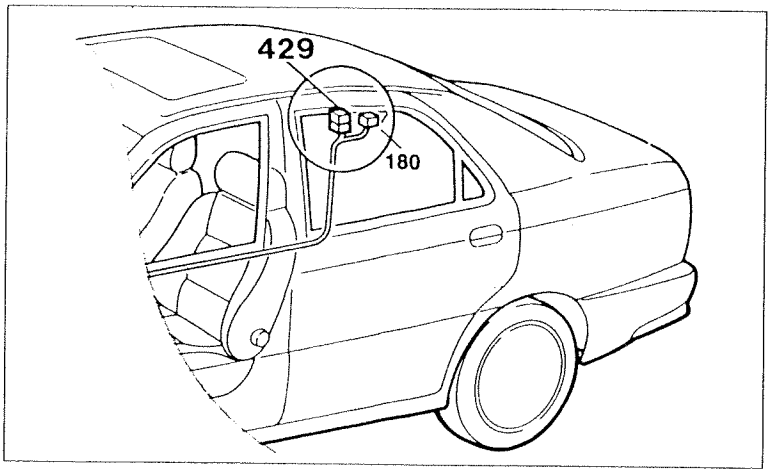
External rearview mirror operating button

Location of door mirror components and cable-ways on the vehicle



P3U099L03

After the first batch of vehicles, a 7.5A fuse (429) was added. This is located at the right hand side of the luggage compartment.

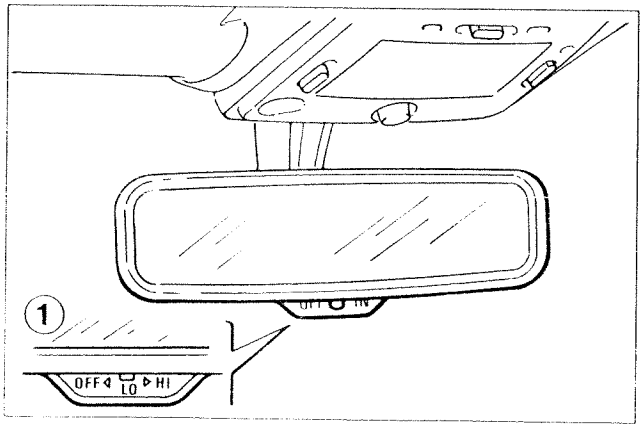


P3U099L02

NOTE *The component identification numbers are as used in the wiring diagrams in section 55 - Electrical equipment - Wiring diagrams; refer to the key at the end of this section*

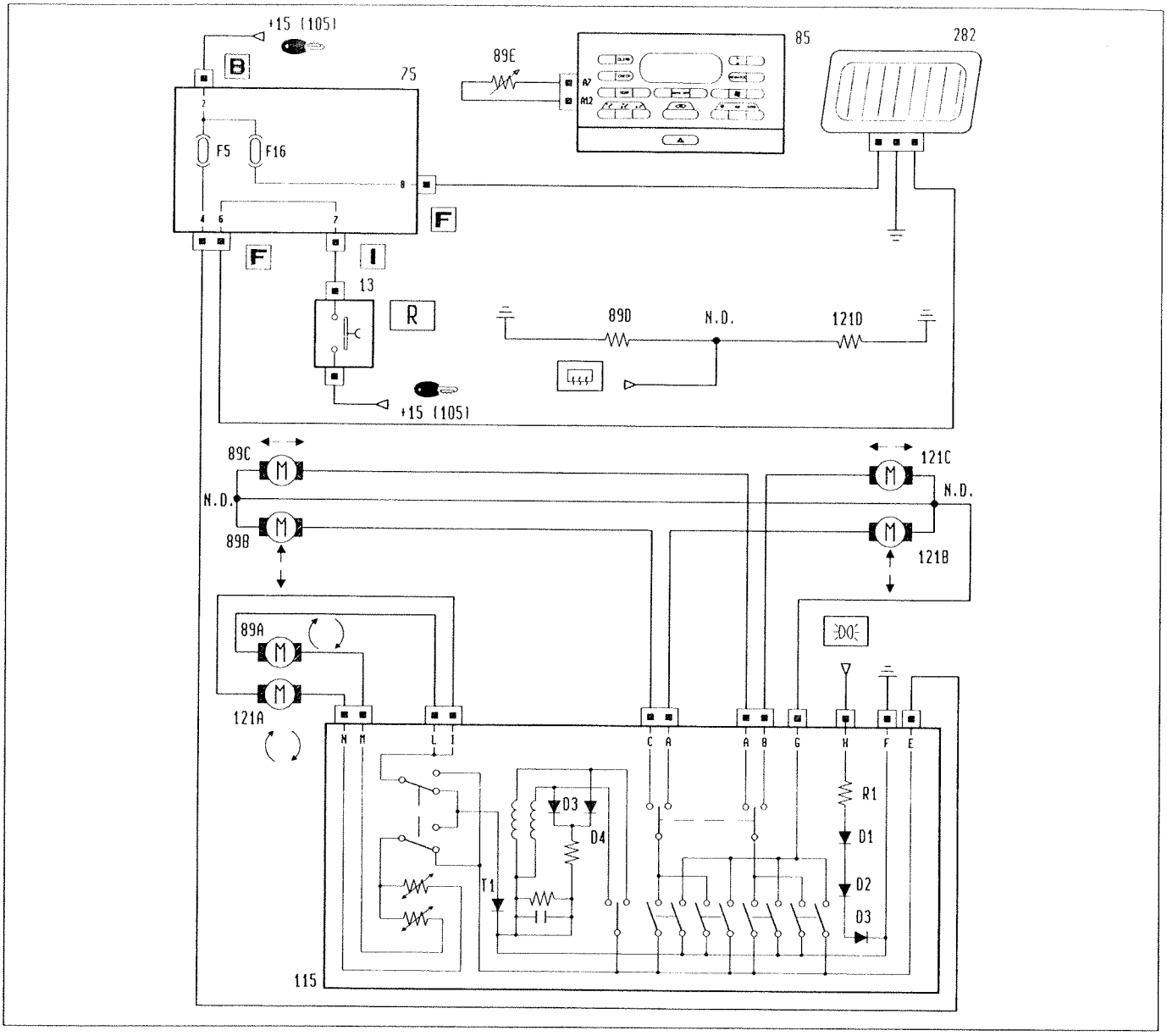
INTERIOR REAR VIEW MIRROR

The interior rear view mirror features an automatic anti-glare function. A photodiode sensor measures the intensity of the light beam striking the mirror and sends a message to the electronic control unit. This in turn partly obscures the liquid crystal diodes in the anti-glare device.



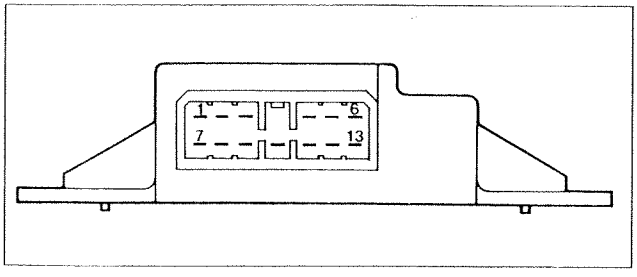
P3U08CL01

Switch (1) can be used to cut-out the function or set to different mirror light intensities according to the sensitivity of the driver's vision.
When reverse is engaged, the anti-glare device cuts out to allow maximum visibility while manoeuvring the vehicle.
The mirror is continually adjustable in all directions.



TURN SIGNAL CONTROL UNIT (For versions WITHOUT alarm signal)

Versions without an alarm signal are fitted with an electronic control unit beneath the central console facia. This controls the turn signals when the vehicle doors are closed (using a key or remote control). The turn signals flash only during door closure.



Control unit connector	
1	Available
2	Lancia CODE led input
3	Right hand turn signals
4	Hazard warning light flasher control
5	Available
6	Lancia CODE output
7	Battery positive (12V)
8	Available
9	Available
10	Turn signal control
11	Left hand turn signal
12	Available
13	Lancia CODE led battery positive

INTRODUCTION

The **Lancia Code** is an electronic key that protects the vehicle against theft attempts. It consists of:

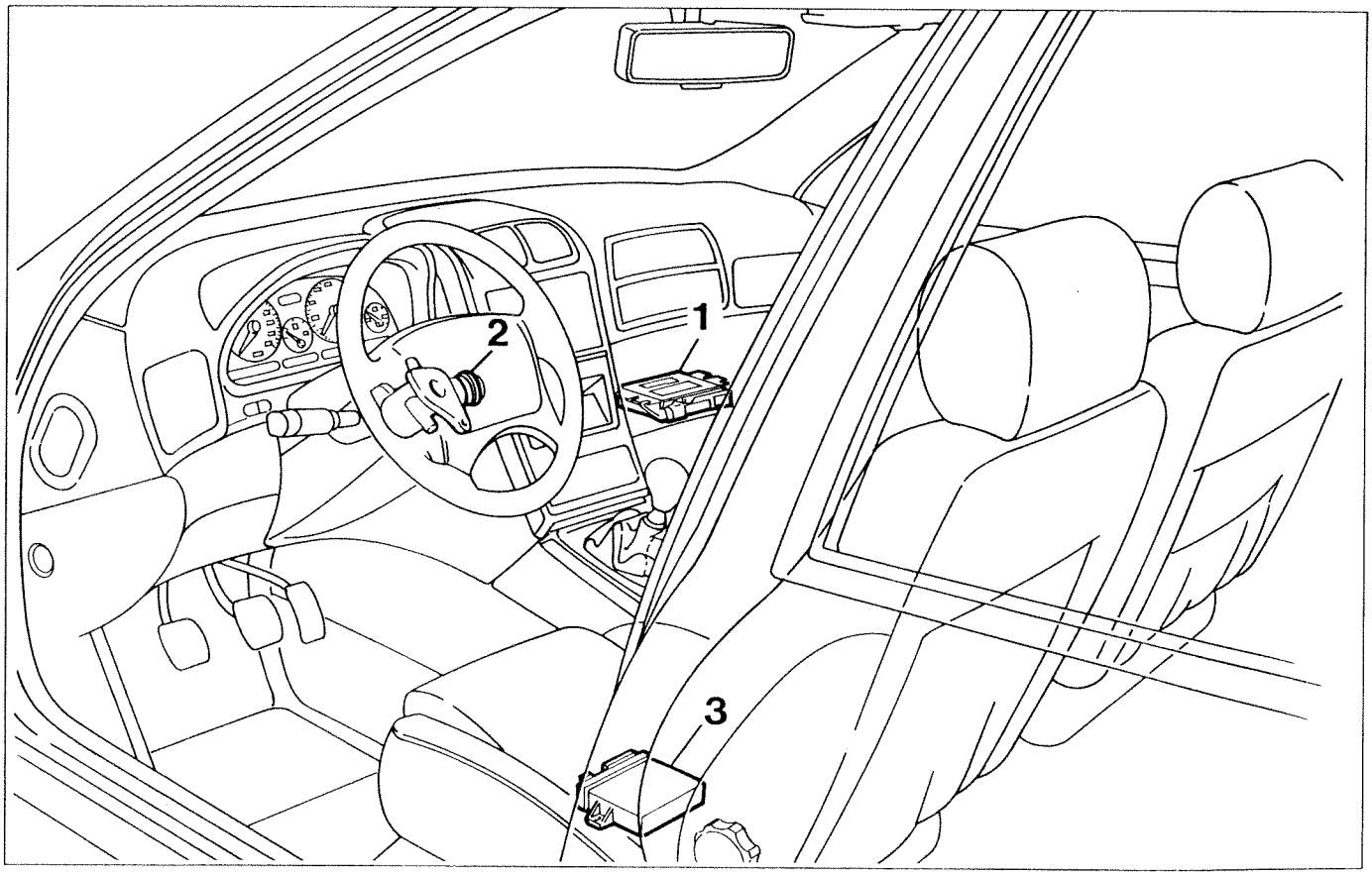
- four electronic keys containing a secret code;
- an electronic key ECU and external aerial;
- Injection ECU (for petrol engines and diesel electronic pumps) with a serial line for control of communication to electronic key ECU;
- card with secret code for emergency procedure.

The electronic key system enables the electronic injection ECU for operation via an exchange of codes.

When key is set to MARCIA (+15) the electronic injection ECU sends a code request to the electronic key ECU. This responds by sending a secret code, only after recognising a known electronic key within the ignition switch (by aerial).
The injection ECU begins the electronic engine management process once the code has been recognised.
The electronic injection ECU may only memorise the secret code via a special procedure.

Electronic key ECU functions are as follows:
- recognise insertion and turning of key in ignition;
- emit an electromagnetic field to power and activate the key TRANSPONDER (code emitter);

- receive secret code issued by key;
- memorise up to 8 keys using the same number of secret codes;
- manage code checking/processing;
- control a single-wire bidirectional serial link with the injection ECU;
- control a test warning light (LED) located in the middle of the dashboard.

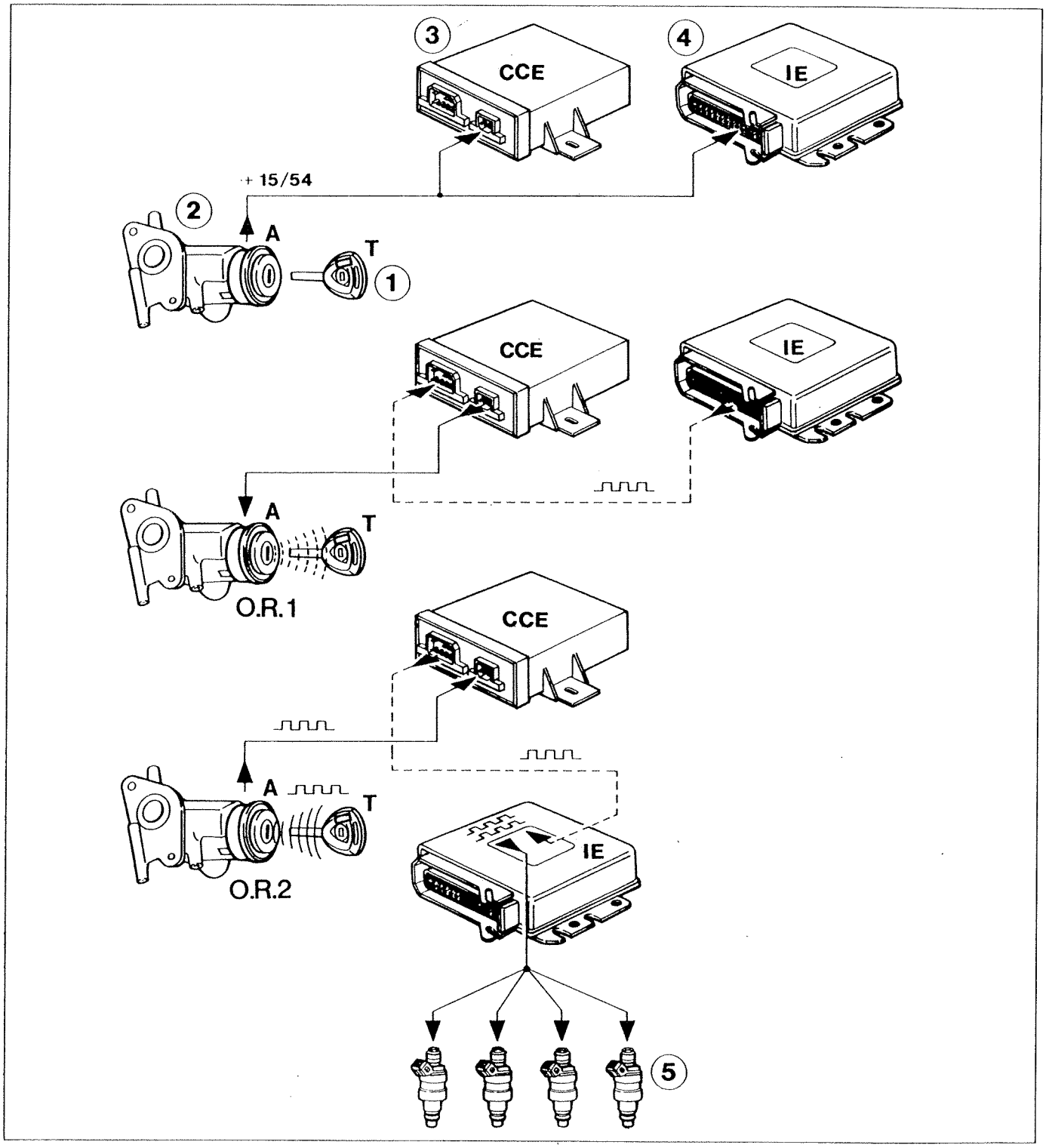


P3U094L01

1. Injection ECU
2. Ignition switch with aerial
3. Electronic key ECU

55.

Electronic key system



1. Key with transponder T (engine start-up code emitter)
2. Ignition switch with built-in aerial A
3. Electronic key ECU (CCE)
4. Electronic injection control unit (IE)
5. Injectors

O.R.1 Radio waves for activating transponder
O.R.2 Radio waves for sending secret key code

SYSTEM COMPONENTS

Electronic injection control unit

The electronic injection control unit is the main component of the electronic key system because it contains the Master Code.
When the key is turned to MARCIA (+15), the injection control unit asks the electronic key ECU for a code. The received code is then compared with the Master Code in the memory. If the code comparison is successful, the electronic injection control unit allows engine operation and management to proceed.

If the electronic key ECU is faulty, the electronic injection ECU manages the emergency start-up procedure using a Fiat Lancia Tester.

Under no circumstances should electronic injection ECUs be swapped between vehicles to check their efficiency.

During fault diagnosis, before replacing a electronic injection control unit, ensure that the component under examination is really inefficient because when a new electronic injection ECU is activated the Master Code is saved and the unit can no longer be used on any other vehicle.

Electronic key ECU

The electronic key ECU is located beneath the front driver's seat and its main function is to recognise keys inserted in the ignition switch.
Upon a request by the electronic injection ECU, the electronic key ECU sends it:
- the master code, thus enabling engine operation and management;
- the fault diagnosis code (key not recognised) to block engine operation.

The electronic key ECU is also responsible for:
- controlling key saving and re-saving;
- arranging to save the Master Code in the electronic injection control unit (upon a request from the electronic injection control unit);
- management of green electronic key system warning light (LED).

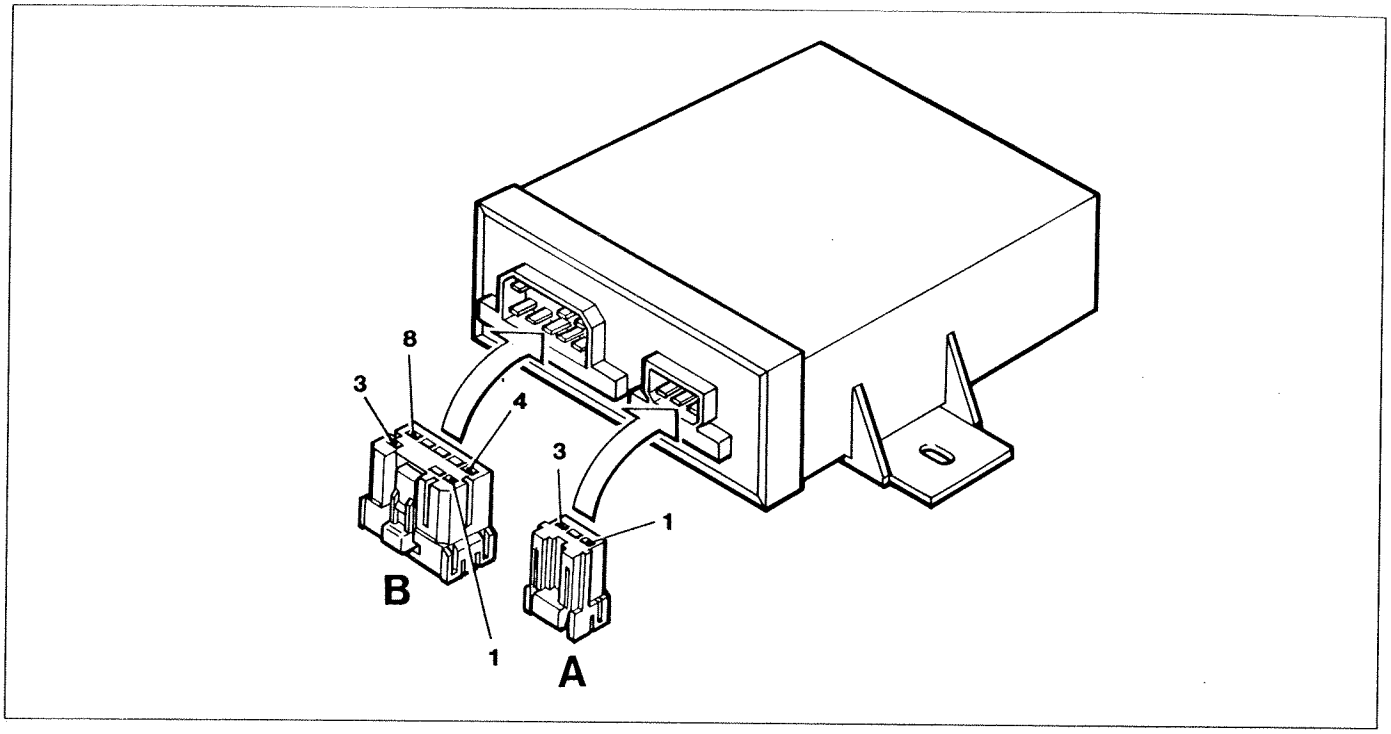
Two procedures existing between the electronic key ECU and the injection ECU allow dialogue between the units:

1. after the electronic key ECU saves the keys, dialogue with the as yet BLANK injection ECU begins. Exchange of information (code saving) between injection ECU and electronic key ECU is governed solely by the injection ECU. The electronic key ECU is only enabled to respond to enquiries from the injection ECU;
2. code checking is a standard procedure that is repeated whenever the driver inserts the electronic key in the ignition and turns it to MARCIA (+15). The checking process continues even when the user moves the key to AVVIAMENTO(+50).

With the key in MARCIA position (+15), the electronic key ECU must recognise the electronic key with its code. Two options are possible:
- code recognition by the electronic key ECU, the injection ECU enables engine operation (the green led goes off);
- if code recognition is negative, the electronic key ECU sends a code to the injection ECU, which does not allow engine operation (green led is on with steady light).

55.

Perspective view of electronic key ECU and connectors



P3U097L01

Connector A

1. Aerial
2. Not connected
3. Antenna earth

Connector B

1. Not connected
2. Signal for warning light (led)
3. +12 V from battery (+30)
4. Earth
5. Line K from injection ECU tester socket
6. Serial line to injection ECU
7. Not connected
8. +12 V with key in MARCIA position (+15)

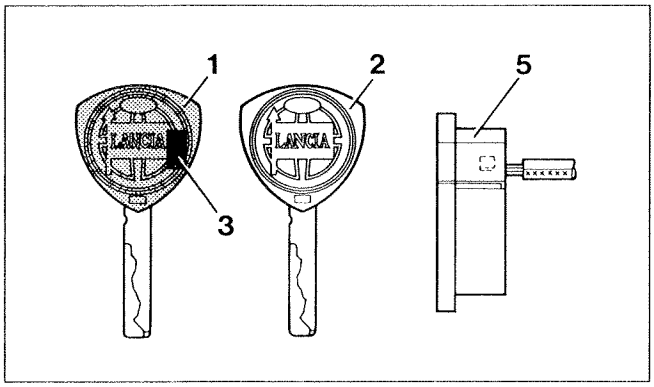
Electronic keys

The key grip contains a Transponder. This electronic device (NOT supplied by the battery) contains a code and transmits information through the atmosphere.
When the key is inserted in the ignition and the Transponder is energised by radio waves received via the aerial, the Transponder responds by emitting a code.
Four keys are provided with the vehicle:
- n° 1 electronic key RED;
- n° 2 electronic keys;
- n° 1 electronic key for garage;
- n° 1 card with secret code for emergency vehicle start-up using Fiat Lancia Tester.

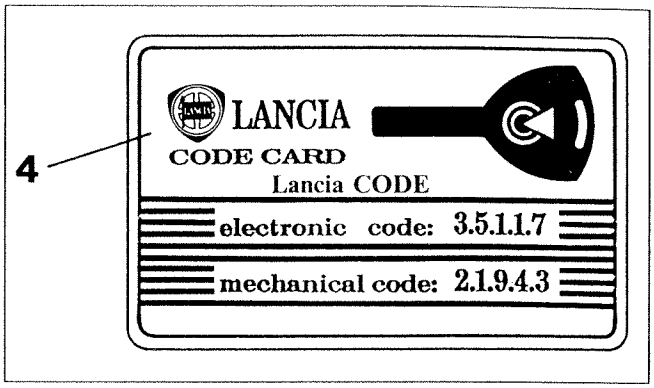
Each key contains a Transponder with a secret code. The RED contains the Master Code and must be used SOLELY for the key memorisation process.
The RED key code is the Master Code saved in the electronic injection control unit and electronic key ECU. This represents an insoluble link between the electronic injection control unit and the RED key. If the RED key is lost or damaged, no further new keys may be saved. If the electronic key ECU becomes faulty and the RED key is not available, the electronic key and electronic injection ECUs must be replaced.

The vehicle owner is advised to observe the following instructions SCRUPOLOUSLY:
- *The Red key must be kept in a safe place (not in car);*
- *The RED key must be used only for saving new keys;*
- *the card with the secret code must not be left in the car in case the car is stolen, but must nevertheless be available for the emergency start-up procedure using a Fiat Lancia Tester.*

The RED key is proof of vehicle ownership. This must always be present (together with card) when the car is bought or sold.



P3U098L01



P3U098L03

1. RED key
2. Normal key
3. Transponder
4. Card with secret code (Lancia CODE CARD)
5. Aerial

Aerial

The aerial:
- provides energy to the Transponder in order to send the code:
- receives code from Transponder and sends it to electronic key ECU.

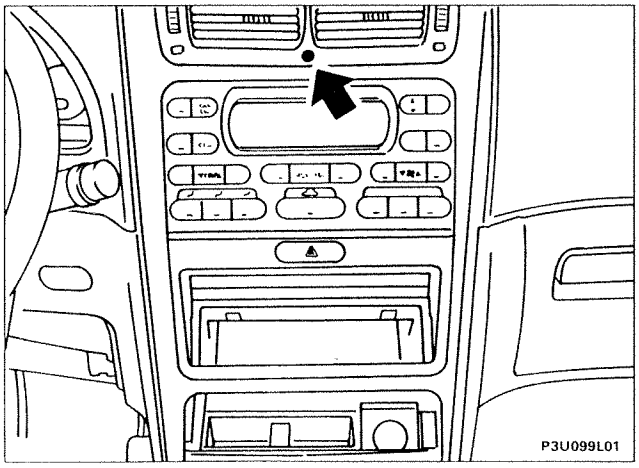
Because the aerial must be close to the Transponder (for reasons of electromagnetic immunity, small aerial size and small Transponder range of action), it is fitted co-axially with the ignition switch.

Code Card

This card bears a 5-figure code for the emergency start-up using a Fiat Lancia Tester (electronic code). It also bears a mechancial code used to copy the milling on the key.
The other side of the card shows precautions to be observed. Two spaces are also provided for labels bearing car alarm remote control codes.

Electronic key system warning light

The green indicator light (LED) is located in the middle of the facia between the ventilation outlets. When an alarm is fitted, the two-coloured warning light (green/red) is used for both systems.



P3U099L01

The warning light is controlled by the electronic key ECU as follows:
- OFF - key recognised in MARCIA position (+15), correct system operation;
- FLASHING - key not in or key turned to STOP, engine lock in operation;
- FLASHING WITH KEY ON MARCIA (+15) - the warning light (LED) indicates that the electronic key ECU is blank and flashing 2.5 seconds after turning key to MARCIA (+15);
- ON WITH KEY TURNED TO MARCIA (+15) - when warning light stays on permanently with key turned to MARCIA (+15):
  a. key not recognised by electronic key ECU (engine control prohibited);
  b. serial line not connected;
  c. key rememorisation procedure not carried out correctly.

If ELECTRONIC KEY LEDs come on temporarily or permanently while the vehicle is in motion or during start-up, the system is not necessary faulty. Under certain circumstances it may indicate an attempt at theft has taken place.

If this situation occurs, test the system properly by stopping the vehicle, turning off the engine and turning ignition key to STOP. Turn key back to MARCIA, when the electronic key LED should come on and then go off again after 1 second.

If the LED stays on following this procedure, repeat the operation and wait in STOP position for longer than 30 seconds. If the electronic key LED stays permanently on when the key is in MARCIA position, test the electronic key system.

KEY MEMORISATION

First key memorisation

The first key memorisation takes place in the factory.
To check memorisation has taken place, insert key in ignition and turn to MARCIA (+15):

- if the warning light goes off, key has been memorised;
- if warning light begins to flash at a higher frequency after about 2.5 seconds, the system is still blank.

A Fiat Lancia Tester can be used to check whether a key is blank during testing of the electronic injection control unit.

Key memorisation with blank system

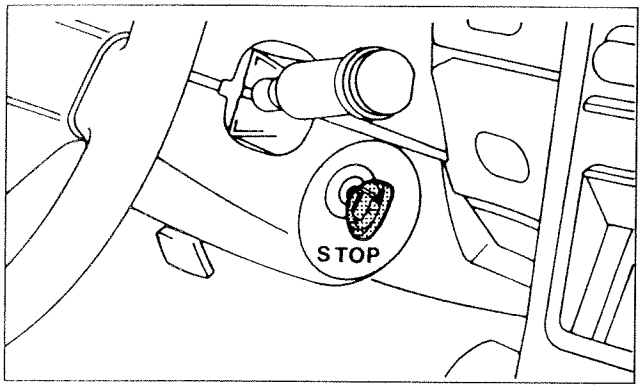
A blank system means that neither the electronic injection control unit nor the electronic key ECU fitted to the vehicle contain ANY memorised codes (e.g. following a repair that involved replacement of both control units).

Before beginning this procedure, ensure that the electronic key ECU is really blank. Use of a faulty electronic key ECU or one with contents in memory will lead to irreversible memorisation of an incorrect code in the electronic injection control unit, which may then no longer be used on other vehicles (led flashing with key turned to MARCIA).

The key memorisation procedure is divided into two stages in sequence:
- the electronic key secret code is memorised in the electronic key ECU;
- the electronic key ECU is responsible for memorising the master code in the injection ECU (even if blank).

This second stage is implemented automatically when the first has been completed successfully, providing a further +15.
This procedure permits up to 8 different keys to be memorised, with a minimum number of 3.
The memorisation procedure may be carried out only once ECU has checked that everything is properly connected and working (universal code active and hence vehicle not protected).
The presence of a universal code is indicated by the flashing of a warning light (green led). This flashes at a rate of 1.6 Hz with a 50% operating cycle;
flashing starts 2.5 seconds after key has been turned to MARCIA (+15). Memorisation procedure can proceed after carrying out this check.

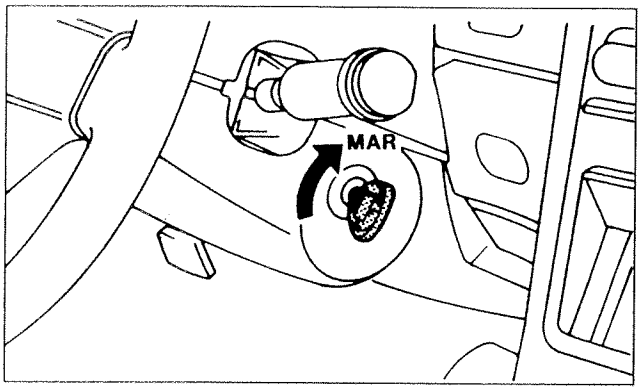
To avoid mistakes during key memorisation process, it is advisable to read the procedure described overleaf carefully before carrying out process on vehicle.



P3U100L01

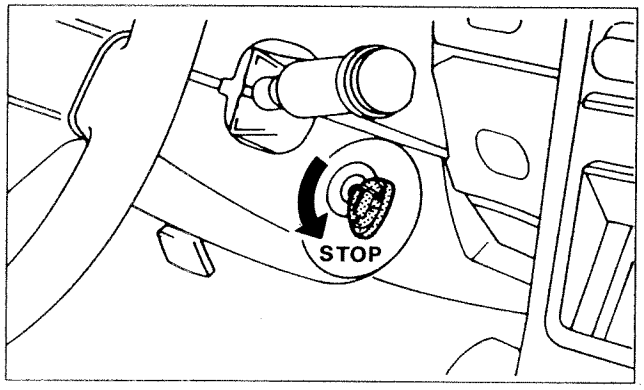
If a new key is added, all keys provided with vehicle must be rememorised because any keys not used during this procedure will be deleted from the memory.

Insert RED key in ignition when in STOP position.



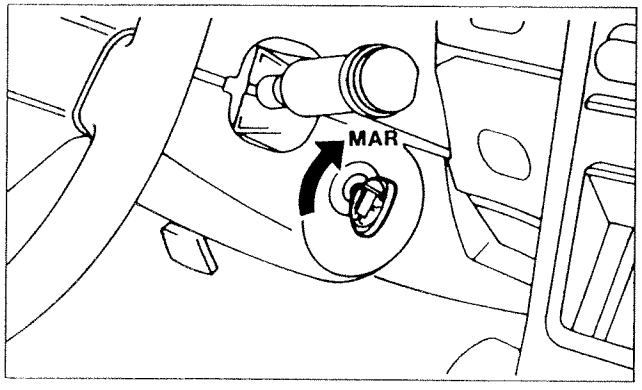
P3U100L04

Turn RED key to MARCIA (+15). The warning light will come on for 0.7 sec.



P3U100L03

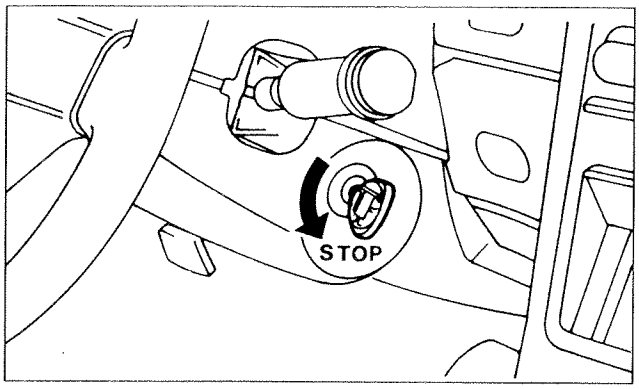
Turn RED key to STOP when the warning light goes off.



P3U100L02

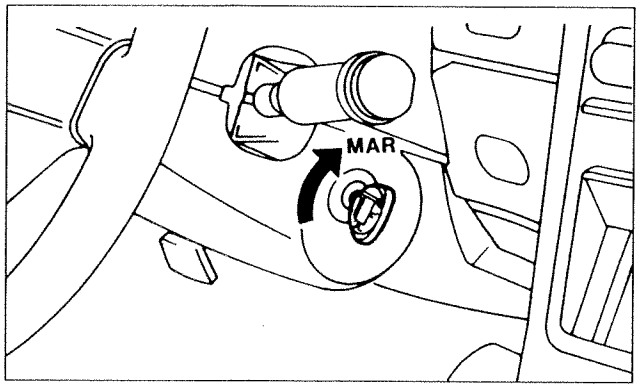
Within 10 seconds:
- remove RED key from ignition;
- insert a new key (1) in the ignition and turn to MARCIA (+15). The warning light will come on for 0.7 sec.

55.



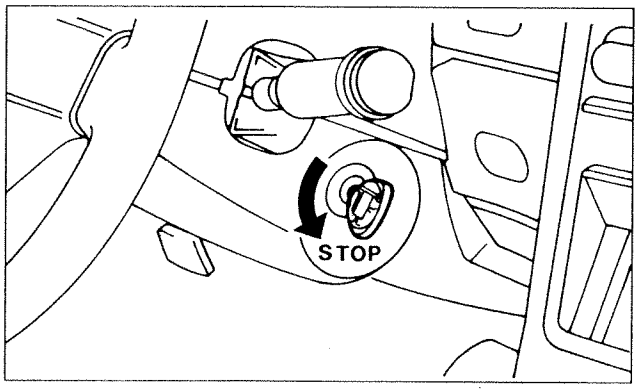
P3U101L01

When the warning light goes off, turn key (1) to STOP.

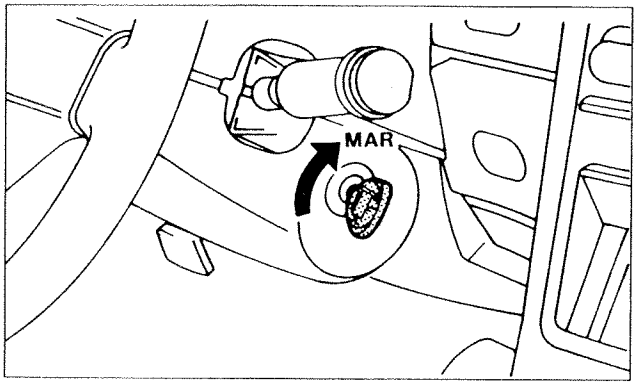


P3U101L02

Within 10 seconds:
- remove key (1) from ignition;
- insert a new key (2) in the ignition and turn to MARCIA (+15), warning light will come on for 0.7 sec.

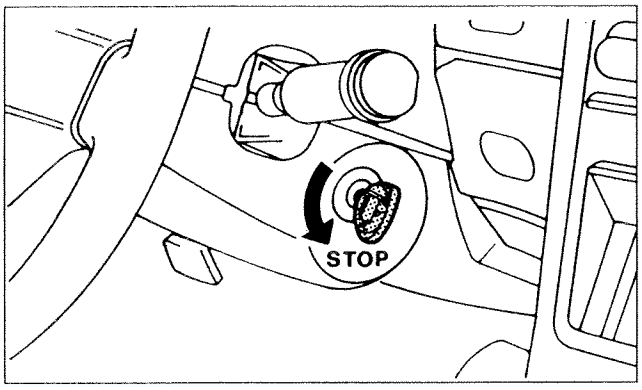


Turn key (2) to STOP once warning light goes off.



P3U100L04

Within 10 seconds:
- remove key (2) from ignition;
- insert RED key in ignition and turn to MARCIA (+15). Warning light will come on for 0.7 sec.

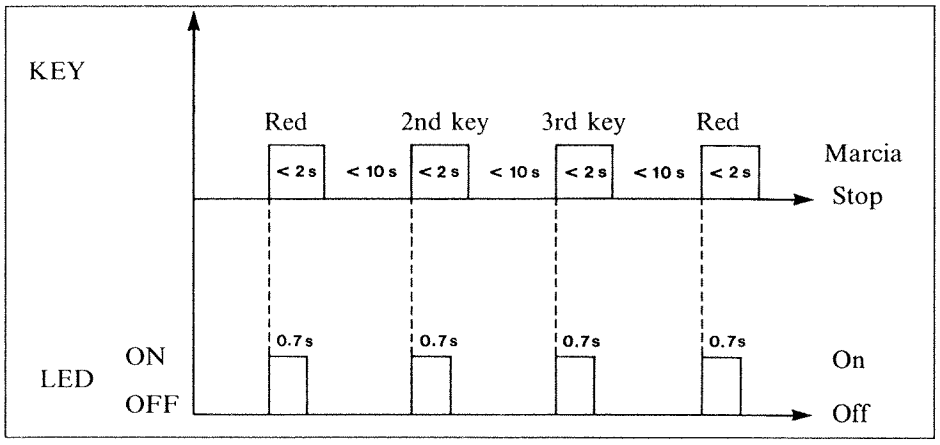


P3U102L01

When the warning light goes off, turn RED key to STOP.
The memorisation process is completed (master code memorised in electronic injection control unit) as follows:
- turn RED key to MARCIA (+15);
- hold RED key on MARCIA for about 3 seconds;
- the LED warning light will come on for 0.7 sec and go off permanently if process has been successful;
- the LED warning light comes on for 0.7 seconds and begins to flash again after about 2 seconds if memorisation has not been successful. In this case, remove the RED key and repeat key memorisation procedure from the beginning.

On a blank system, the key memorisation procedure will not be successful in the following cases:
- a key is inserted on 2 consecutive occasions;
- the same key is inserted twice or more between 2 insertions of a RED key;
- key held on MARCIA (+15) for longer than 2 seconds;
- key held on STOP for longer than 10 seconds.

NOTE *The memorisation procedure is desribed for 3 keys (including RED key), but must be applied to all keys provided with the vehicle (4 keys), plus any additional keys.*



P3U102L02

The diagram shows led activation as a function of key memorisation.
- If the procedure has not been carried out properly, the memorisation procedure must be repeated very carefully.
- If a mistake is made at any time and for any reason, hold key on MARCIA (+15) for longer than 2 seconds or on STOP for longer than 10 seconds. Then begin key memorisation sequence again.

Once memorisation has been completed, ensure that all keys provided are able to start the engine. If one of the keys will not start the engine, repeat the key memorisation process.

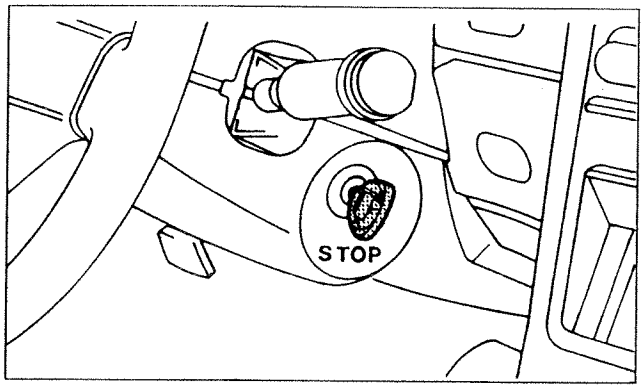
Key memorisation with electronic key ECU blank and NOT blank

See section on "key memorisation with blank system" described from page 6 onward in order to memorise keys with electronic key ECU blank and electronic injection ECU not blank.

Key memorisation with electronic key ECU and electronic injection control unit NOT blank

This procedure is required whenever further black keys are memorised or when keys are reset following dowel replacement.

55.

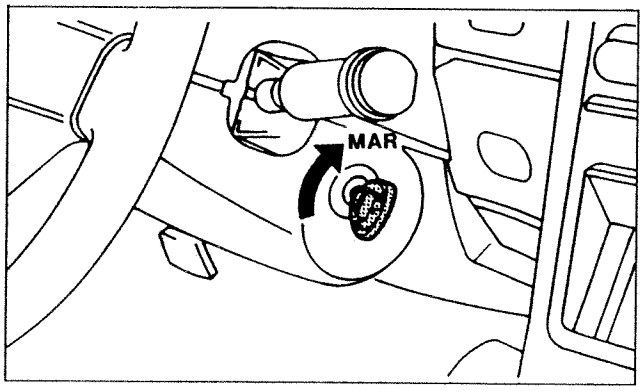


P3U100L01

Addition of a new key involves re-memorisation of all keys provided because keys not used during this process are deleted from the memory.

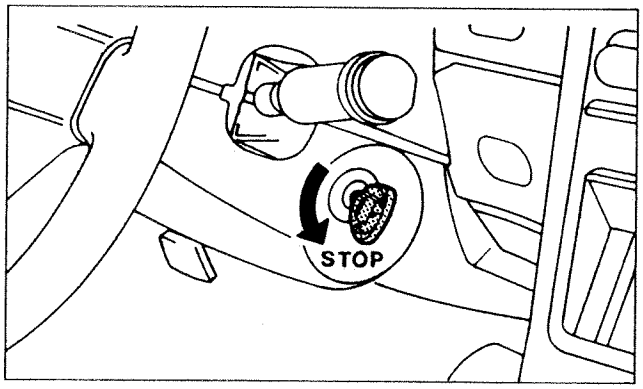
To avoid errors in the key memorisation process, it is advisable to read the following instructions carefully before working on vehicle.

Insert RED key in ignition in STOP position.



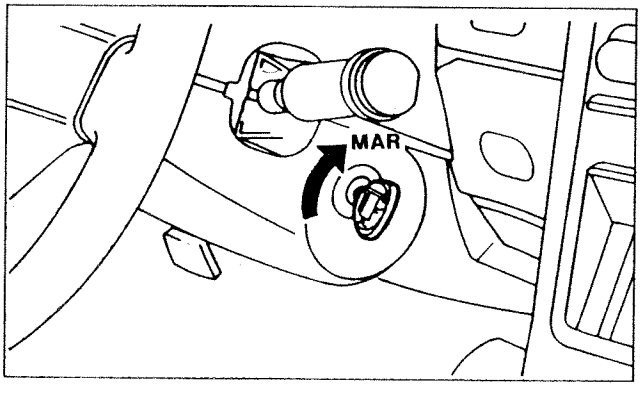
P3U103L02

Turn RED key to MARCIA (+15) when warning light will come on for 0.7 sec.



P3U103L03

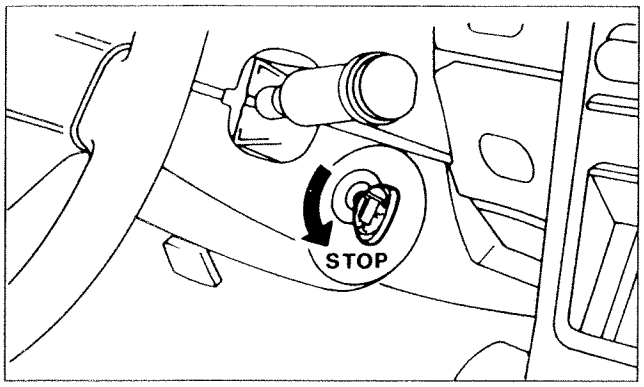
When the warning light goes off, turn RED key to STOP.



P3U103L04

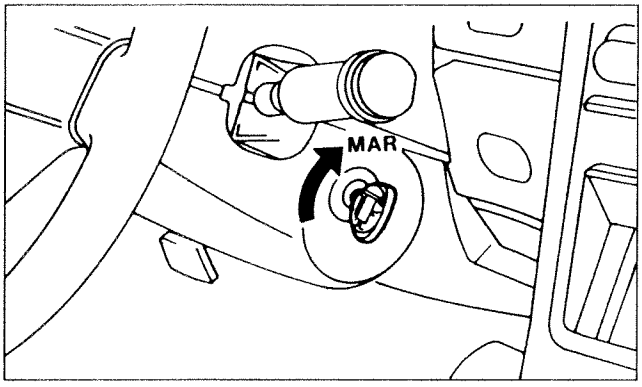
Within 10 seconds:

- remove RED key from ignition;
- insert a new key (1) in the ignition and turn to MARCIA (+15), when the warning light will come on for 0.7 sec.



P3U104L01

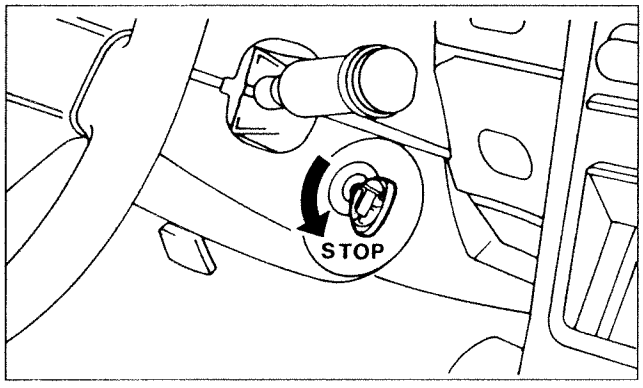
When warning light goes off, turn key (1) to STOP.



P3U101L02

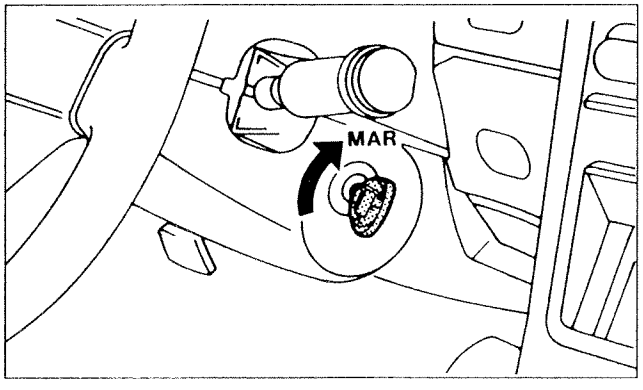
Within 10 seconds:
- remove key (1) from ignition.

- insert a new key (2) in the ignition and turn to MARCIA (+ 15), when the warning light will come on for 0.7 sec.



P3U101L01

When the warning light goes off, turn key (2) to STOP.

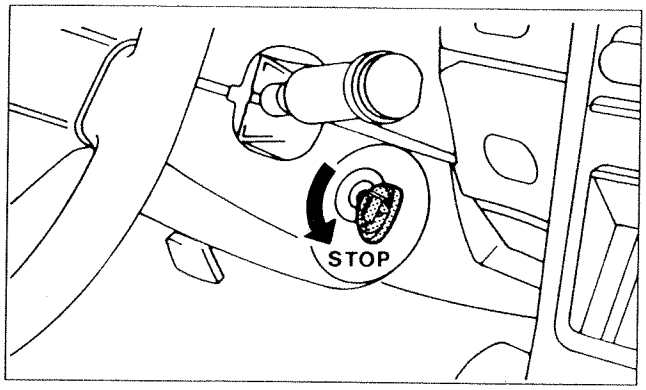


P3U100L04

Within 10 seconds:
- remove key (2) from ignition;

- insert RED key in ignition and turn to MARCIA (+ 15), when warning light will come on for 0.7 sec.

55.



P3U102L01

When the warning light goes off, turn RED key to STOP.

After saving, ensure that all keys provided can start the engine. If one of the keys will not start the engine, repeat the key memorisation procedure.
This procedure cancels recognition of keys memorised previously and saves RED key with recently memorised keys.

Key memorisation with electronic key ECU and electronic injection control unit NOT blank

The key rememorisation process will not be successful under the following circumstances:
- if a key is inserted on 2 consecutive occasions;
- if the same key is inserted twice or more between 2 insertions of a RED key;
- key held on MARCIA (+15) for longer than 2 seconds;
- key held on STOP for longer than 10 seconds.

If the procedure has not been carried out properly, repeat memorisation procedure carefully.

If a mistake has been made for any reason and at any time, turn key to MARCIA (+15) for at least 2 seconds or to STOP for at least 10 seconds, then begin key memorisation process again.

If the LED comes on with a steady light during the rememorisation procedure, the process has been halted because a mistake has been made. Repeat procedure from the beginning in this case.

If LED comes on with steady light (with RED key on MARCIA) upon 2nd consecutive insertion, system is not malfunctioning but rememorisation process has started (1st insertion) and then been halted (2nd insertion).
To restore LED to correct operation, turn RED key to STOP.

NOTE *The memorisation procedure has been described for 3 keys (including RED key), but must be applied to all keys provided with vehicle (4 keys), plus any additional keys.*

Memorising keys with electronic key ECU not blank and electronic injection control unit blank

If the electronic injection ECU requires replacement, the Master Code must be saved in the unit.

To save the master code in the electronic injection control unit, simply turn key to MARCIA (+15) after checking electronic key ECU is efficient.

It is absolutely prohibited to swap injection ECUs between vehicles to check their efficiency.

When testing, before replacing the electronic injection control unit, check component under examination is really inefficient because the Master Code is saved when a new injection ECU is activated and the unit is rendered completely unusable on other vehicles.

MANUAL FAULT DIAGNOSIS

When the LED remains lit with a steady beam with key on MARCIA (+15), the following problems may arise:

- key not recognised by *electronic key ECU;*
- serial line not connected;
- key re-saving process not carried out correctly (procedure interrupted).

System blank and key on MARCIA

A blank system denotes simultaneous presence on a vehicle of an *electronic injection control unit* and an *electronic key ECU* with no codes saved (e.g. following an operation that required replacement of both control units).

a) When the LED comes on for 0.7 seconds and begins to flash again after 2 seconds, everything is properly connected and operational. Vehicle is not protected, universal code is active.

b) When the LED flashes with code 1 (one flash, pause, one flash etc.), the serial line is not connected or ECUs are not communicating with one another.

c) When the LED flashes with code 2 (2 flashes, pause, 2 flashes, etc.) one of the following applies:

- aerial broken;
- Trasponder broken;
- Trasponder missing;
- the *electronic injection control unit* has received an incorrect code.

Electronic key ECU blank and key on MARCIA

Vehicle with *electronic key ECU* blank and *electronic injection control unit* NOT blank.
When LED is lit with a steady beam with key on MARCIA, one of the following applies:
- aerial broken;
- Trasponder broken;
- Trasponder missing.

FAULT DIAGNOSIS

The electronic key system does not have its own tester socket. To check system efficiency, use Fiat Lancia Tester and test via electronic injection system.
A Fiat Lancia Tester is used to find out injection ECU lock status or when vehicle start-up code is not recognised.
A serial line between injection ECU and Fiat Lancia Tester is obtained only after the key is turned to MARCIA (+15).
The injection ECU sends the Fiat Lancia Tester a byte containing error or status information.

Errors:

1. Serial line not active, code not received or time out.
   This error indicates that the ECUs (electronic and injection key) have not been able to communicate. Probable causes are a broken line/short circuit or a problem on the ECUs. If the system is blank, this error indicates no response from aerial (aerial broken, Trasponder broken or missing).

2. Incorrect code received.
   The injection ECU has received a code from the electronic key ECU that does not correspond to its master code. Probable cause may lie in swapping of injection ECU or use of another RED key during re-saving.

3. Incorrect code in electronic key ECU.
   This means that an unknown key has been inserted in the electronic key ECU and car is not permitted to start.

Status information:

- injection ECU blank;
- prohibit engine management procedure active;
- incorrect code in electronic key ECU.

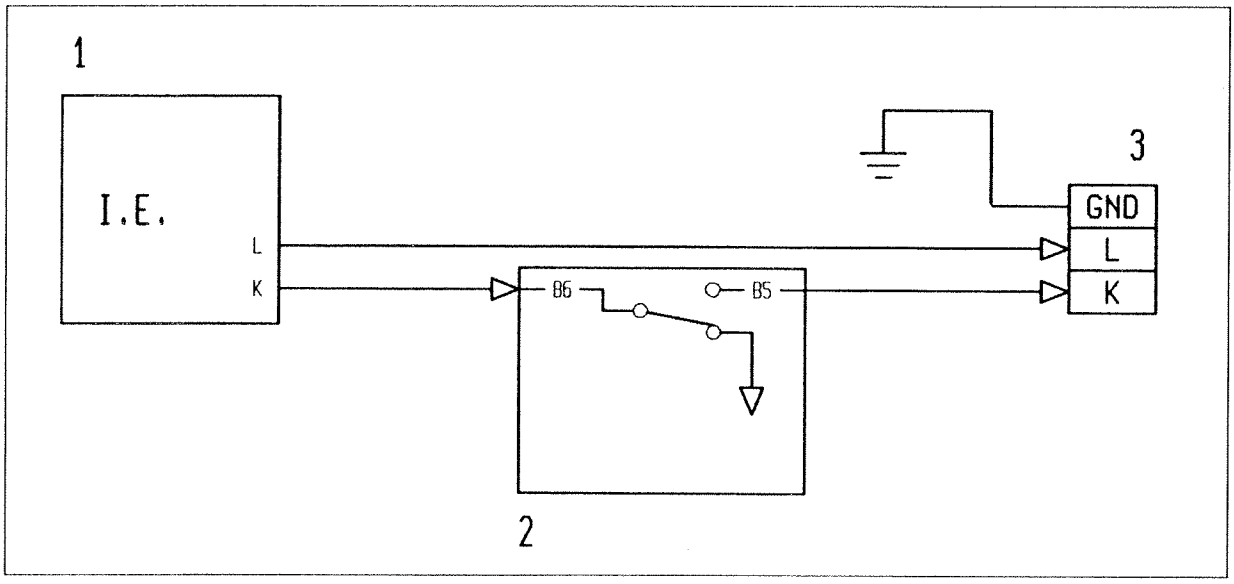
The ECU contains a counter which is activated when an error is saved and decreases whenever the error is not present. The ECU deletes the error from its memory when the counter reaches zero.
When memorised, the error may be identified as PRESENT or NOT PRESENT.

Internal relay controlling line K

When relay controlling line K is in rest position, the ECU is able to dialogue with the electronic key ECU and the electronic injection control unit. The relay switches to the K line only when the following events occur simultaneously:

- no activity in serial line between electronic key ECU and electronic injection;
- low signal on pin B5 for time in excess of 500 msec.

The relay returns to rest position when pin B5 is inactive (and high signal thus present) for a time in excess of 30 seconds. If pin B5 remains at low levels for a period in excess of 5 seconds, system probably contains a short-circuit to earth and relay returns to rest position.
The electronic key ECU tests the inner relay. The LED comes on if the inner relay is not tripped after connecting the Fiat Lancia Tester.



P3U122L01

1. Electronic injection control unit
2. Electronic key ECU
3. Tester socket

EMERGENCY START-UP PROCEDURE USING FIAT LANCIA TESTER

The emergency start-up procedure can be used to start the engine when electronic key system is not working properly (electronic key ECU faulty, keys unusable etc.).
The emergency procedure may be activated only if electronic injection control unit status is "*prohibit engine management*".
The procedure is activated by entering the 5-figure code on the Code Card on the Fiat Lancia Tester keypad.

This procedure may be used to start the engine only once but may be repeated an unlimited number of times.

PRECAUTIONS TO BE OBSERVED WHEN REPLACING ELECTRONIC KEY SYSTEM COMPONENTS

The electronic key system consists of various interconnected components. Care must be taken when one of these parts is repaired or replaced.

Electronic injection control unit

It is absolutely prohibited to exchange ECUs between vehicles to check their efficiency.

During fault diagnosis, before replacing an electronic injection control unit ensure that the component in question is really inefficient because when the Master Code is saved in a new electronic injection ECU, the unit is rendered completely useless on other vehicles.

Electronic key ECU

When the electronic key ECU is replaced, all electronic keys must be rememorised by following the instructions given on page 106.

RED key

If the RED key is not available, new engine start-up keys cannot be saved.

If the RED key is lost or the associated Transponder is broken/lost, the following must be replaced:

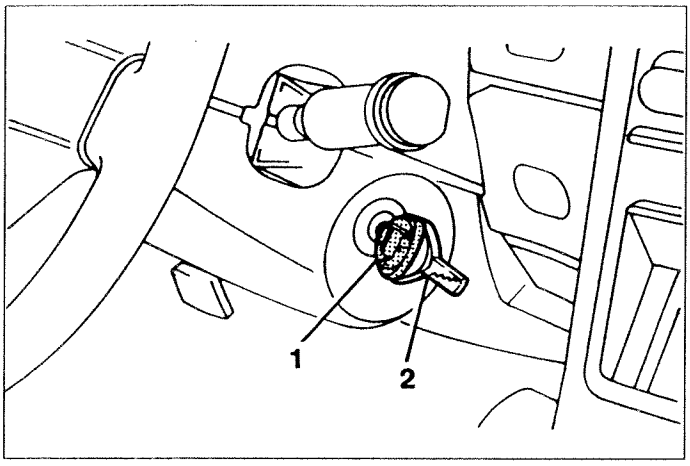
- *kit of dowels and new keys;*
- *electronic key ECU;*
- *electronic injection control unit.*

These components are replaced at the first service where use of the RED key is required (e.g. ignition broken).

Kit of dowels and new keys

Whenever the ignition requires replacement, simply remove Transponder from the old RED key and fit it into the new key. Then carry out the new key memorisation process (procedure on page 106).

If the ignition has been damaged far from the place where the RED key is kept, carry out the following emergency procedure:
- replace damaged ignition;
- insert the new RED key without Transponder in the ignition;
- bring Transponder of old key into contact with new RED key without Transponder inserted in ignition (see figure page 115);

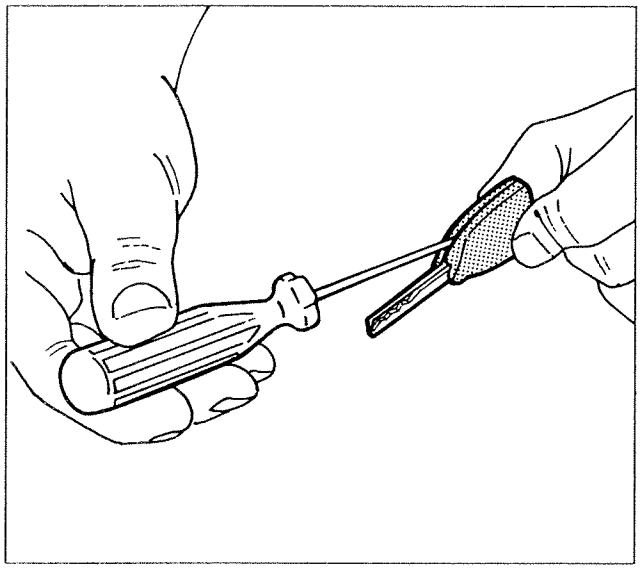


P3U15CL01

1. New RED key with TRANSPONDER
2. Old black key with TRANSPONDER

- Turn key and while holding grips in contact to start engine.

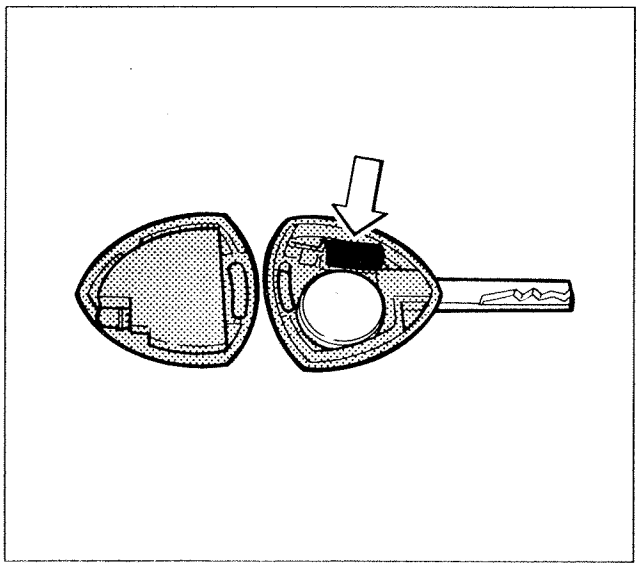
As soon as possible, the Transponder in the OLD RED key must be transferred to the housing in the grip of the NEW RED key.



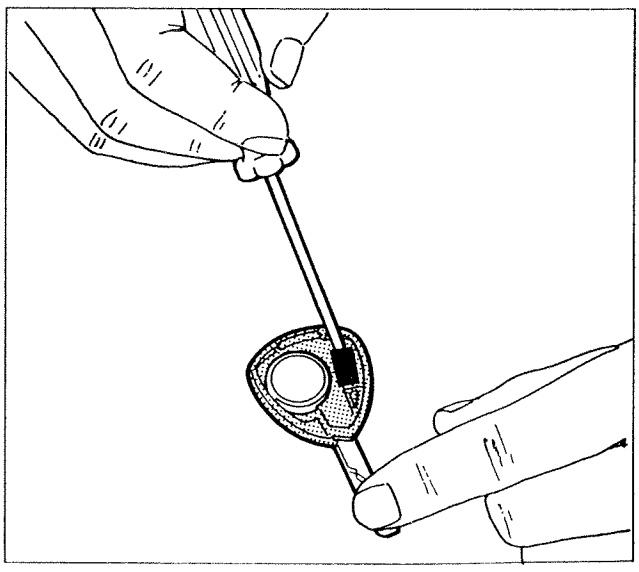
P3U108L02

Proceed with great care to avoid the Transponder (which is a small part) becoming broken or lost (disassemble on a table)

- Insert a small screwdriver in the key slot and prise open;
- open the RED key carefully. This consists of two halves and the Transponder is indicated by an arrow;
- use a small screwdriver or awl to remove Transponder from its seat in the OLD RED key;

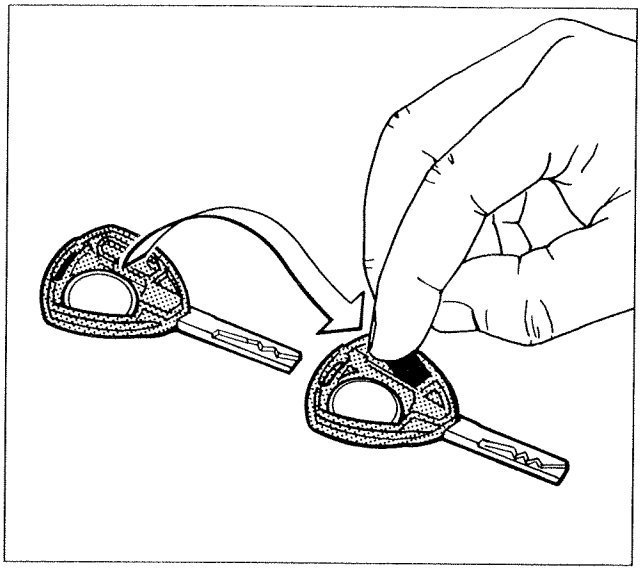


P3U108L03

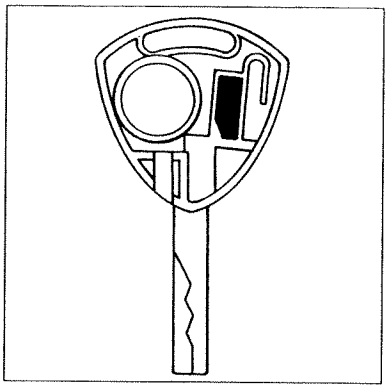


P3U108L04

55.

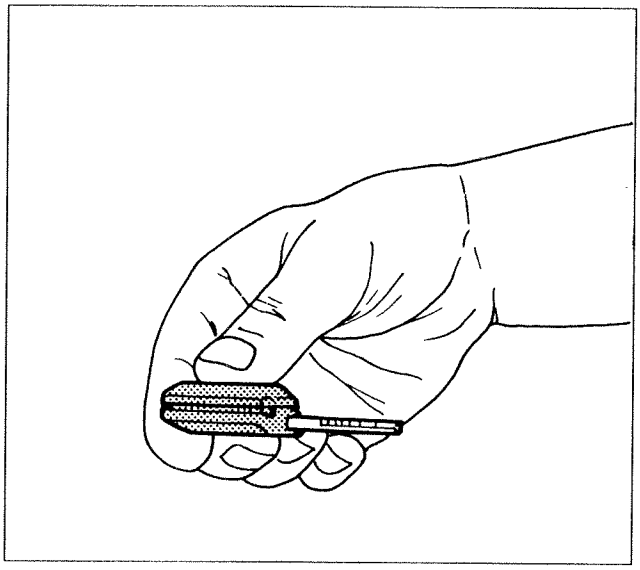


P3U109L01



P3U109L03

- fit the Transponder of the OLD RED key into the housing of the NEW RED key. Respect positioning shown in the figure above and take care not to damage the electrical component;



P3U109L02

- press both halves of the NEW RED key lightly together to join;
- after carrying out the above operation, save the new key set.

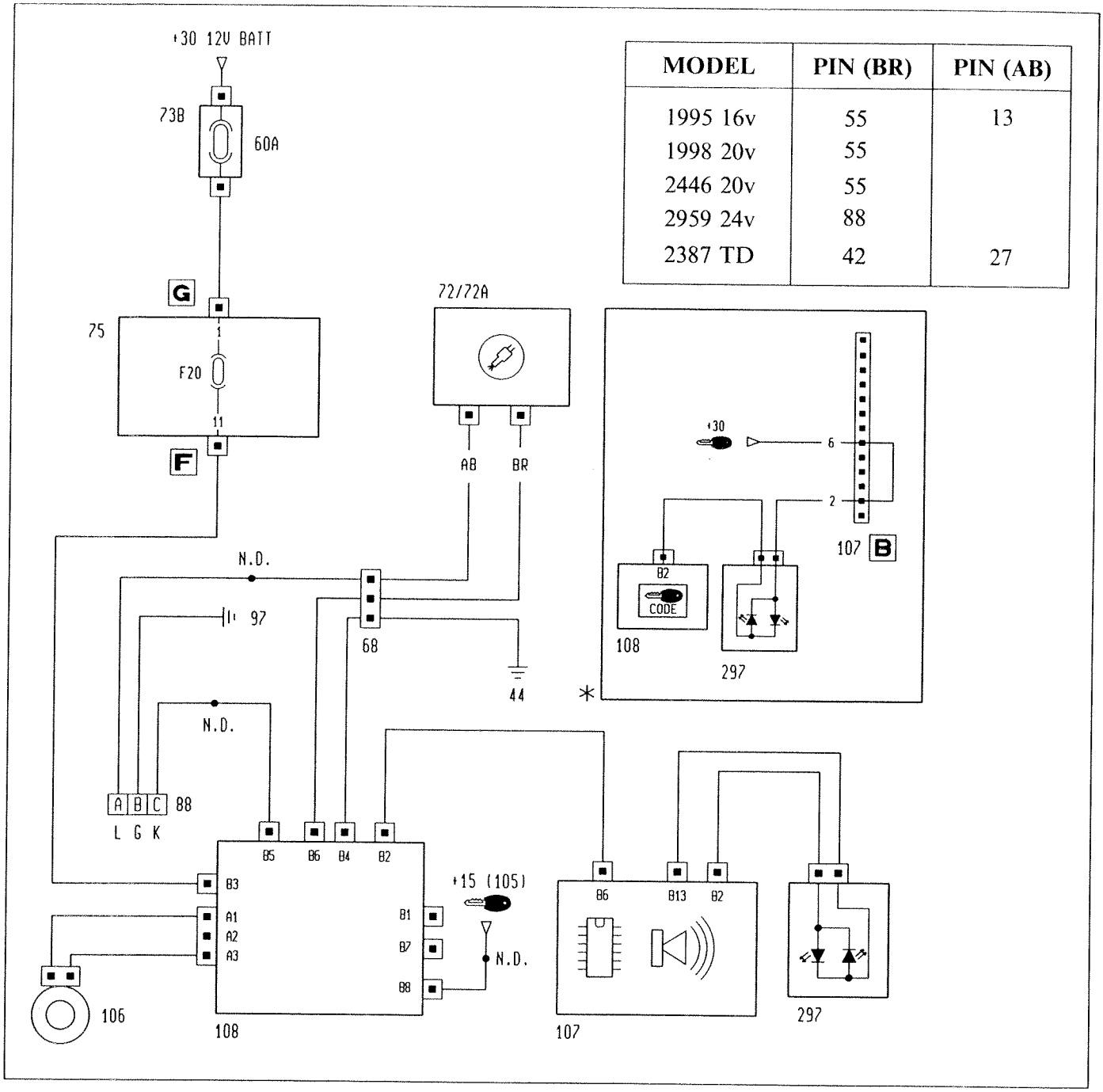
Transponder

It is absolutely forbidden to handle, replace or exchange key Transponders (except when replacing dowel kit/ new keys and only in the case of the RED key).

Addition of a new key to the four keys provided with the vehicle

Addition of a new key involves re-saving all existing keys provided with vehicle because keys not used during this process will be deleted from the memory.

MODEL	PIN (BR)	PIN (AB)
1995 16v	55	13
1998 20v	55	
2446 20v	55	
2959 24v	88	
2387 TD	42	27



P3U128L02

Key

44 Power earth
68 Connection between facia lead and electronic injection lead
72 Fuel injection control unit
72A Fuel pump ECU (2400 TD)
73B 60A fuse for IGE control unit/junction unit
75 Junction unit (facia) F20 = 5A
88 Tester socket for Fiat Lancia Tester
97 Earth on floor pan
105 Ignition switch
106 Electronic key aerial
107 Car alarm ECU
108 Electronic key ECU
297 Car alarm/electronic key device warning light

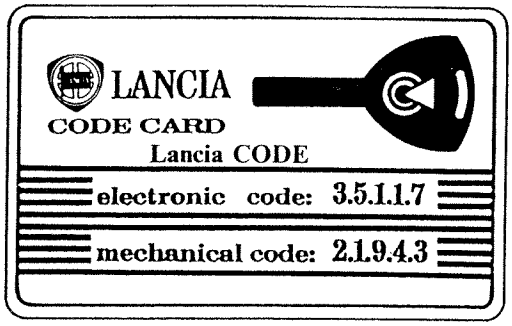
* *Connection variants for versions without car alarm.*

55.

EMERGENCY START-UP PROCEDURE USING ACCELERATOR PEDAL WITH INDICATION ON INFOCENTER DISPLAY

Follow the procedure described below very carefully to avoid mistakes when carrying out emergency start-up using the accelerator pedal.

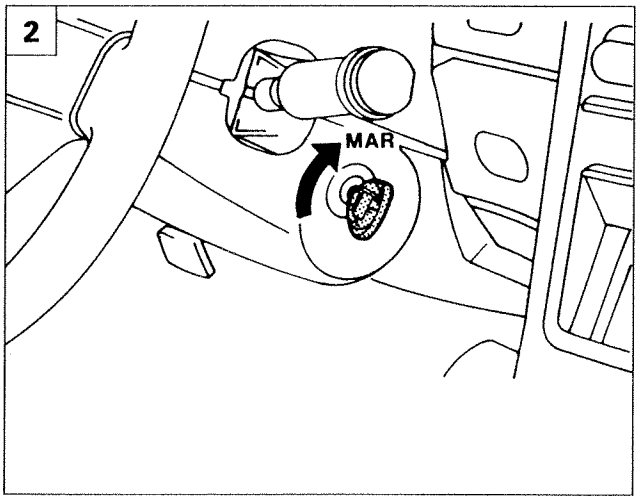
1



P3U117L01

1. Read the code on the CODE CARD before beginning the code entry procedure.

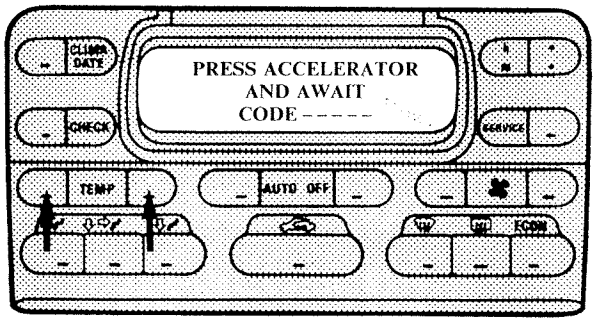
2



P3U100L04

2. Insert the ignition key and turn to MAR.

3

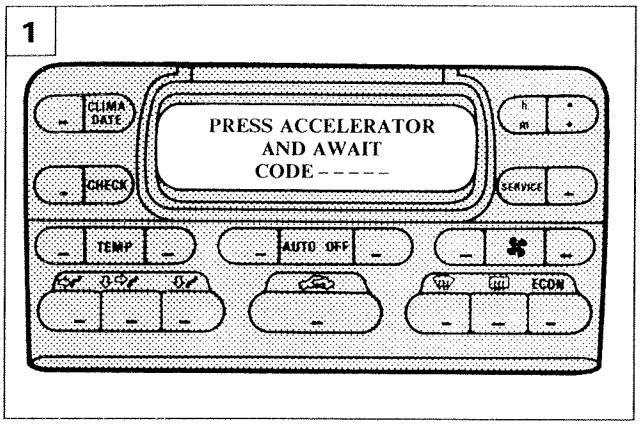


P3U117L02

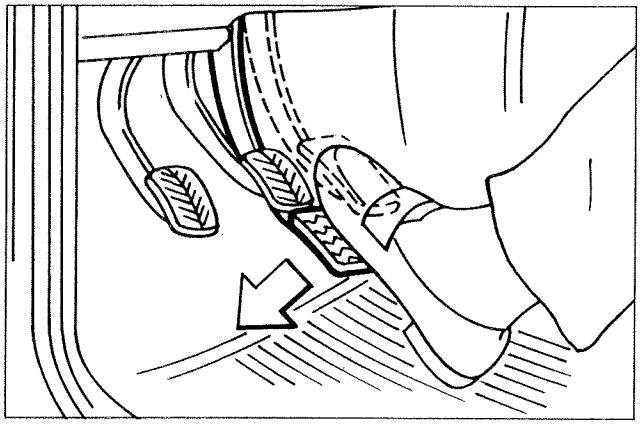
3. Press the two "TEMP" keys shown in the figure simultaneously for at least 4 seconds. The display will read: "PRESS ACCELERATOR AND AWAIT CODE".

3U186L

1



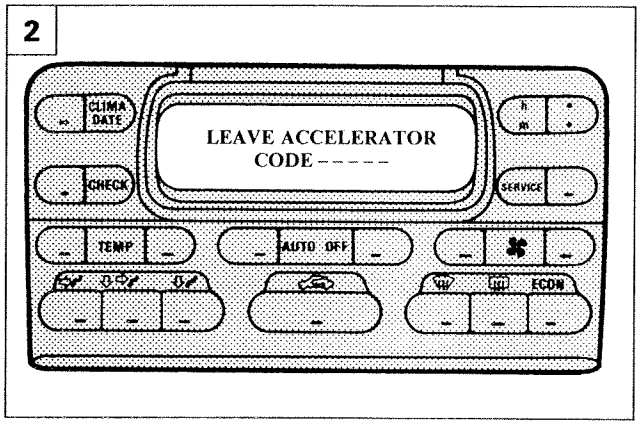
P3U118L01



P3U118L02

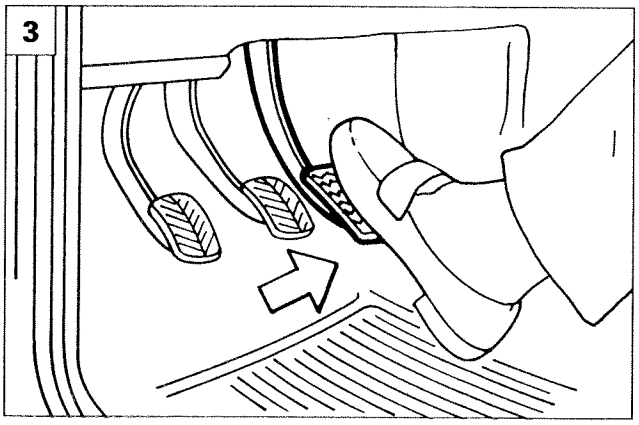
1. When the accelerator pedal is pressed, the display shows the following message "PRESS ACCELERATOR AND AWAIT CODE".
   To continue the procedure, keep the accelerator pedal pressed for at least 8 seconds.

2



2. After pressing the pedal for 8 seconds, the following message will appear on the display "LEAVE ACCELERATOR CODE".

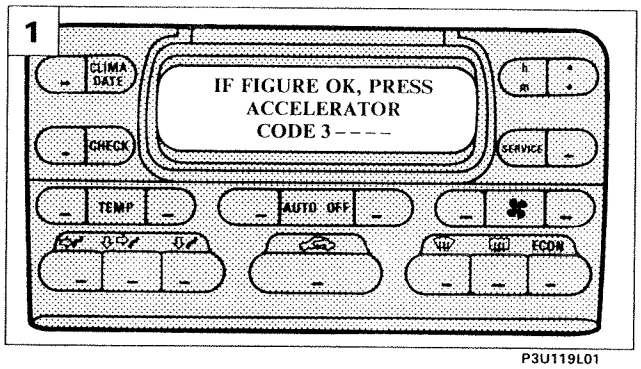
3



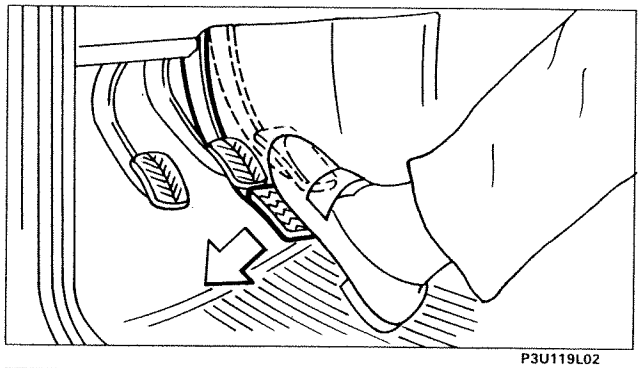
P3U118L03

3. When the accelerator pedal is released, the display will show the first figure, starting from number 1.

3U187L

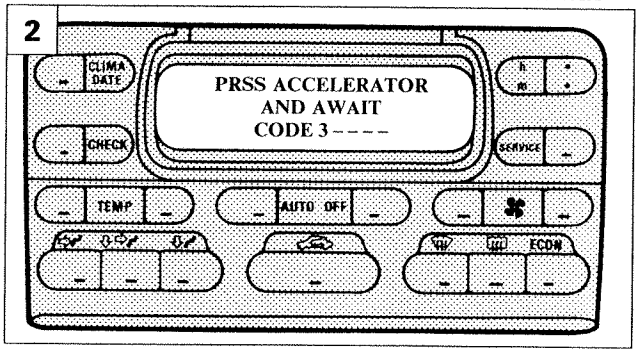


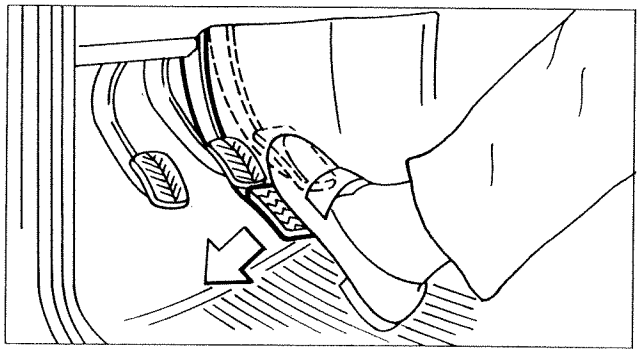
P3U119L01



P3U119L02

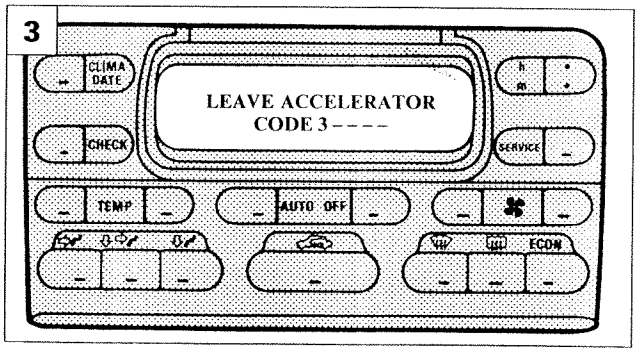
1. The first figure on the display begins a progressive count from 1 to 9 to the accompaniment of an acoustic signal. The display shows the message "IF CODE OK, PRESS ACCELERATOR CODE". When the first figure on the display is the same as the first number of the code on the CODE CARD, press the accelerator pedal as shown in the figure.

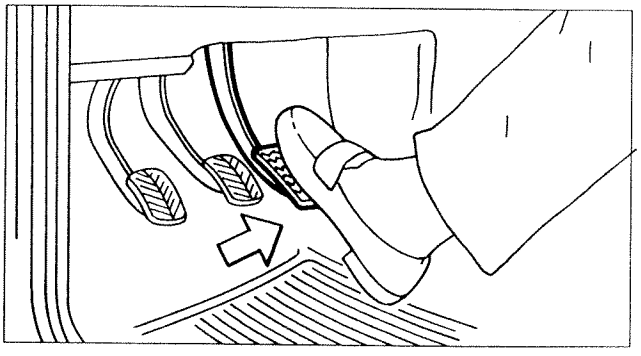




2. Keep the accelerator pedal pressed down, and the display will read "PRESS ACCELERATOR AND AWAIT CODE"

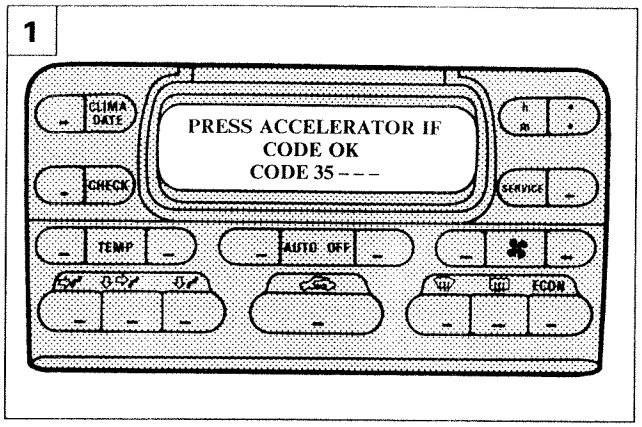
3. When the accelerator pedal is kept pressed for 4 seconds, the display shows the message "LEAVE ACCELERATOR CODE".





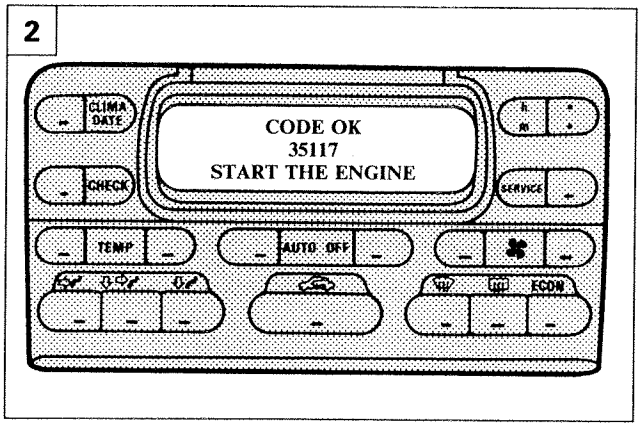
P3U119L03

3U188L

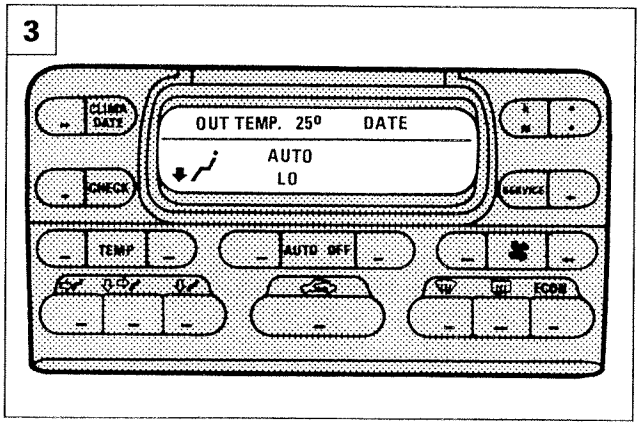


P3U118L01

1. After releasing the accelerator pedal, the code entry procedure begins again from the message "IF FIGURE OK PRESS ACCELERATOR CODE"; the other figures making up the code on the code card must be entered in the same way as the first.

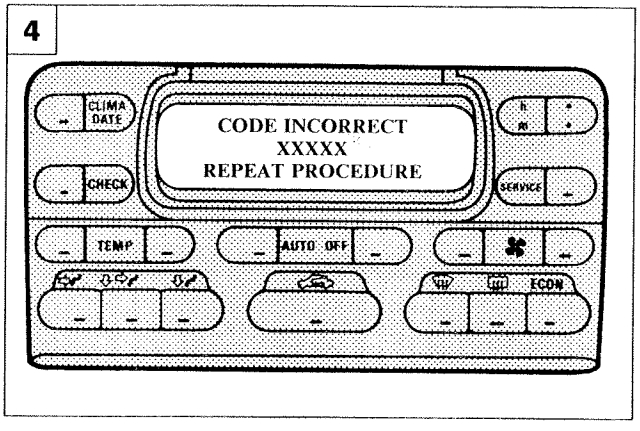


2. If the code is correctly entered, the infocenter display will show the message "CODE OK 35117 START UP ENGINE".



P3U120L01

3. When the engine is started, the infocenter display will show the CLIMATE or CHECK screen.

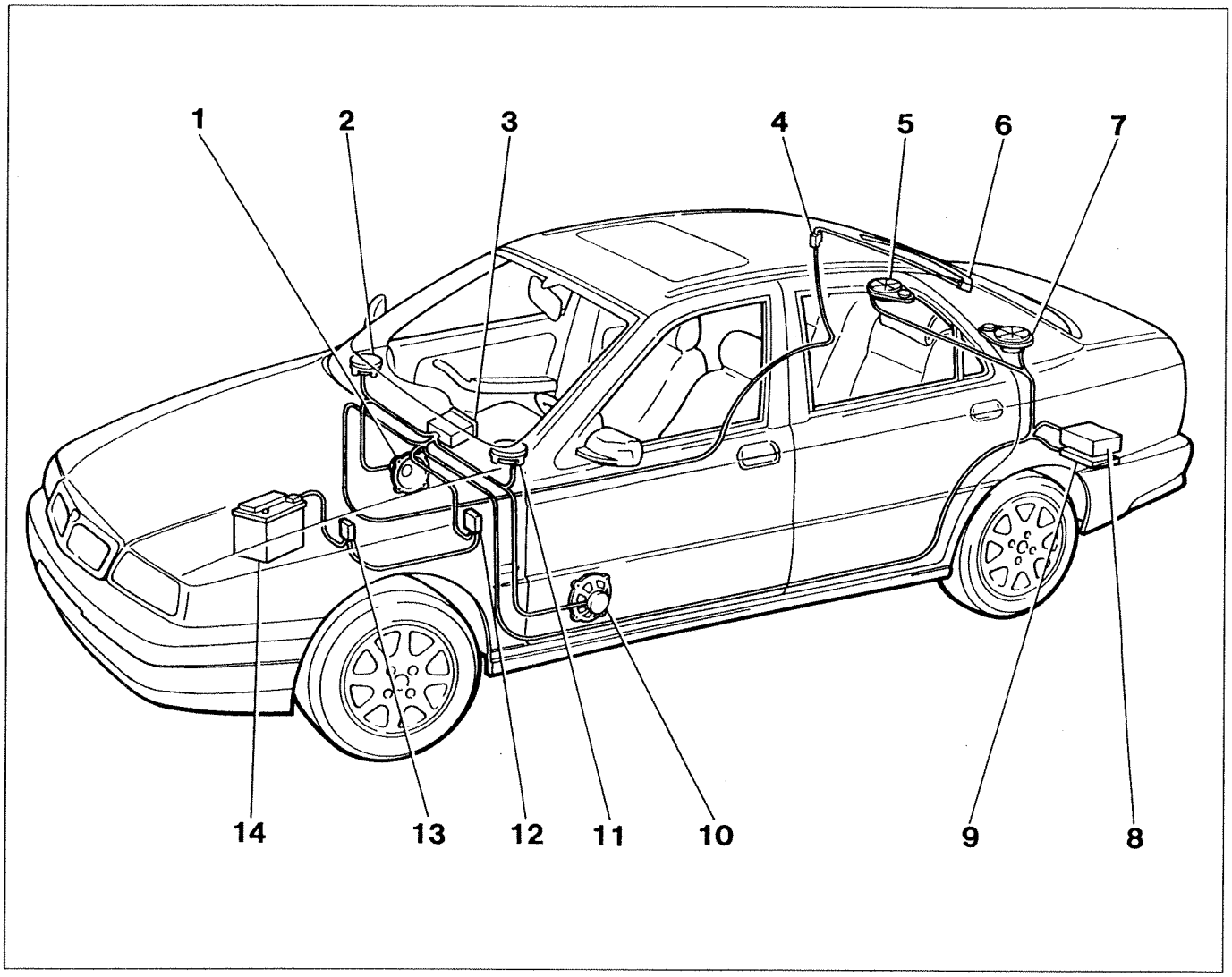


4. If an incorrect code is entered or the code entry procedure is incorrect, the display will show the message "CODE INCORRECT XXXXX REPEAT PROCEDURE".

3U189L

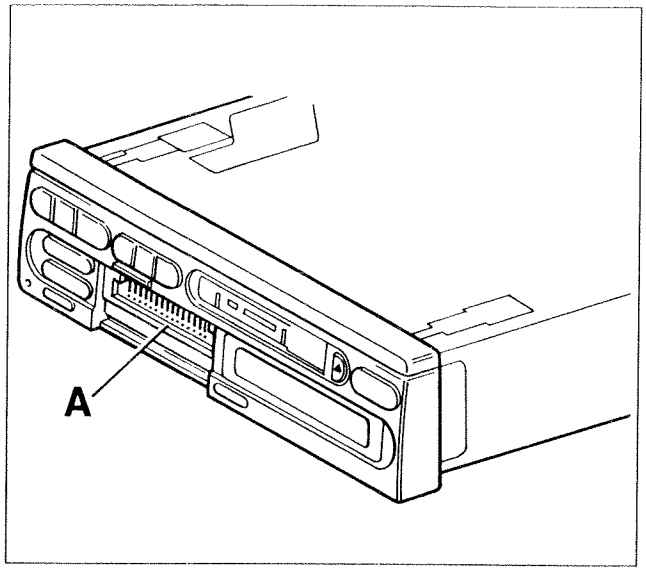
55.

LOCATION OF CAR RADIO COMPONENTS ON VEHICLE



P3U10CL01

1. Right front speaker (woofer)
2. Right front speaker (tweeter)
3. Car radio ADT 838 (medium - high level) /ADM 838 (high level Hi Fi)
4. Amplifier for aerial on heated rear window
5. Right hand rear speaker (woofer and tweeter)
6. Aerial screen-printed on rear window
7. Left hand rear speaker (woofer and tweeter)
8. CD player (fitted with high level - Hi Fi)
9. Amplifier (fitted with high level -Hi Fi)
10. Left front loudspeaker (woofer)
11. Left front loudspeaker (tweeter)
12. Junction unit with fuses F7 (15A) and F17 (5A) protecting car radio
13. 60 A fuse
14. Battery



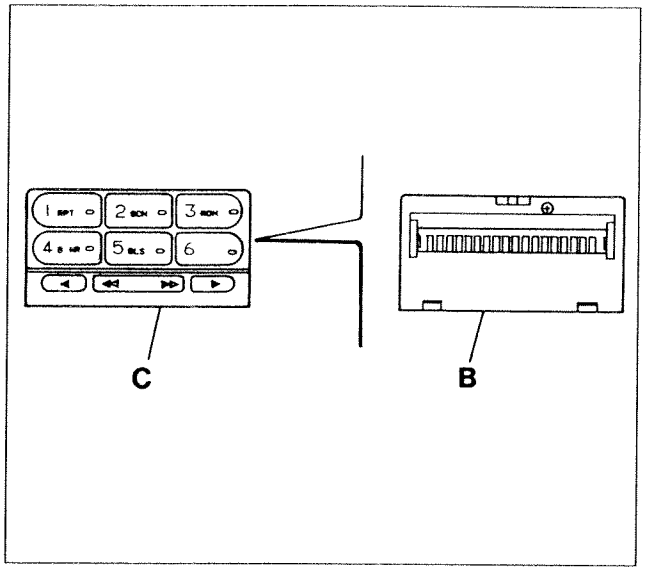
P3U09CL01

DESCRIPTION OF COMPONENTS

Removing the removable front

The removable front of the radio may be removed to prevent theft whenever the vehicle is left unattended. Each time it is removed, it must be placed in its case to avoid damage.

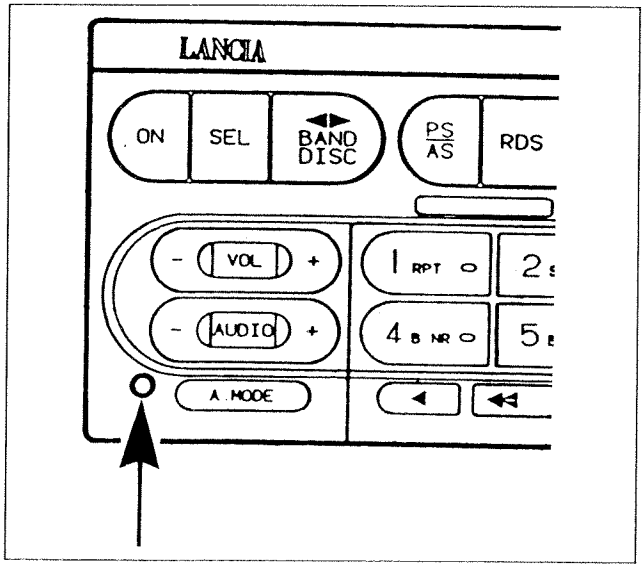
A. Connector on car radio



P3U09CL02

Ensure connector contact areas on the radio and removable front are kept clean. Avoid contact with hands or tools. The presence of dirt could cause the radio to work inefficiently. It is therefore advisable to clean the surfaces with a soft, dry cloth.

B. Connector on removable front
C. Removable front



P3U09CL03

Loction of anti-theft warning light (led) on the radio

To increase the protective function against theft, a red warning light (led) located on the radio may be made to flash. Proceed as follows to turn on:

- turn off the power by means of the ON switch
- remove the removable front of the radio.

55.

Standard wiring

The vehicle is equipped with wiring to connect all speakers, the rear window aerial amplifier and the radio power source.
The following leads leave the radio connector:
- leads BN and RN connected to the left front speaker;
- leads SN and NZ connected to right front speaker;
- leads and C connected to left hand rear speaker;
- leads AN and A connected to right hand rear speaker;

Speaker housings are located:
- front tweeters, at the end of the instrument facia;
- woofers, on the front doors;
- rear tweeters and woofers, at the end of the rear parcel rack;

The speakers are connected by means of connector B (black) located on the rear of the radio. Connector A (white) is used to connect the following power supplies:

- battery through fuse (F7 - 15A) located in the junction unit;
- radio earth;
- radio control light power source;
- aerial amplifier;
- +12 V (accessory position).

A + 12V protected by fuse F7 (15A) is available for connection of an electric stylus-type aerial (lead RN on the aerial amplifier connector).

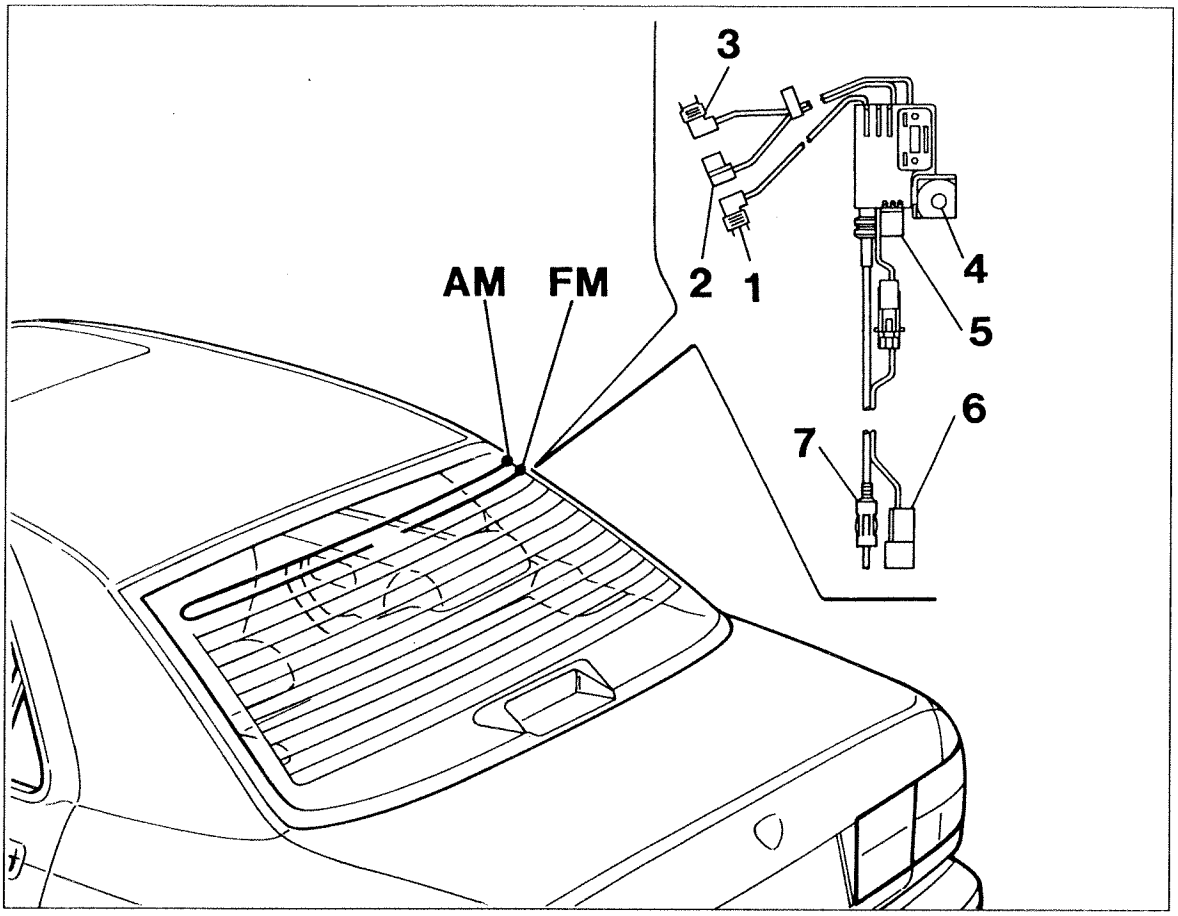
Provision for car radio

The "provision for car radio" option allows for:
- tweeter on instrument facia with passband of 2500-20000 Hz, nominal impedance of 4 Ohm, power of 30 W in RDS and weight of 30 g;
- woofer on front doors with passband of 100÷8000 Hz, nominal impedance of 4 Ohm, power of 12 W in RDS weight of 330 g and diameter of 130 mm;
- woofer and tweeter on rear parcel sheft with passband of 70-20000 Hz, nominal impedance of 4 Ohm, power of 30 W in RDS, weight of 500 g and bore of 160 mm (woofer);
- aerial amplifier and aerial built into the rear window.

The right hand side of the luggage compartment houses a shielded lead and connector for connection of the aerial amplifier built into the rear window.
The space available in the conventional rear window has been used to create an AM/FM aerial by laying two wires of conducting material in parallel with the existing heater elements. The vehicle chassis acts as an earth plane.
It was not possible to use the existing heated windscreen wires because it is not possible to uncouple the signal received by the heated rear window supply. This effect is due to the fact that the heated window supply is usually subject to considerable interference generated by the electrical system and electronic equipment.

The amplifier for this type of aerial is located beneath the right pillar trim and bolted to the steel body frame. The fastening ensures that the amplifier is earthed.

It consists of two separate amplification circuits, one for the AM band and the other for the FM band. An anti-interference filter fitted in line with the heater wire power source suppresses the interference generated by the vehicle.



1. Heated rear window positive terminal
2. FM aerial terminal
3. AM aerial terminal
4. Amplifier earth: nut secured to body shell
5. Supply to heated rear window (circuit with anti-interference filter)
6. Amplifier supply through the car radio
7. Connection with the aerial coaxial cable coming from the car radio

Medium level (High)

With the "medium level radio" option, the car is fitted with:
- amplifier for aerial built into heated rear window;
- loudspeakers;
- radio with removable front, model ADT 838.

The radio is of compact size as specified by DIN standards. On the front, it is possible to control all the functions for radio (with RDS), tape and CD by means of a multi-function keyboard, and to display the set commands via a green alphanumeric liquid crystal display. The radio must have a high output power (4 x 20W), in order to ensure low distortion and a high sound level without interference.

- Operating voltage = 10-16 V;
- nominal voltage = 13.5 V;
- memory supply voltage = 4.2 V;
- absorbed current = less than 10A at the maximum output power;
  less than 3 mA with the radio off and the ignition OFF (STOP);
  less than 8 mA with the radio off, ignition OFF (STOP) and CD connected.

55.

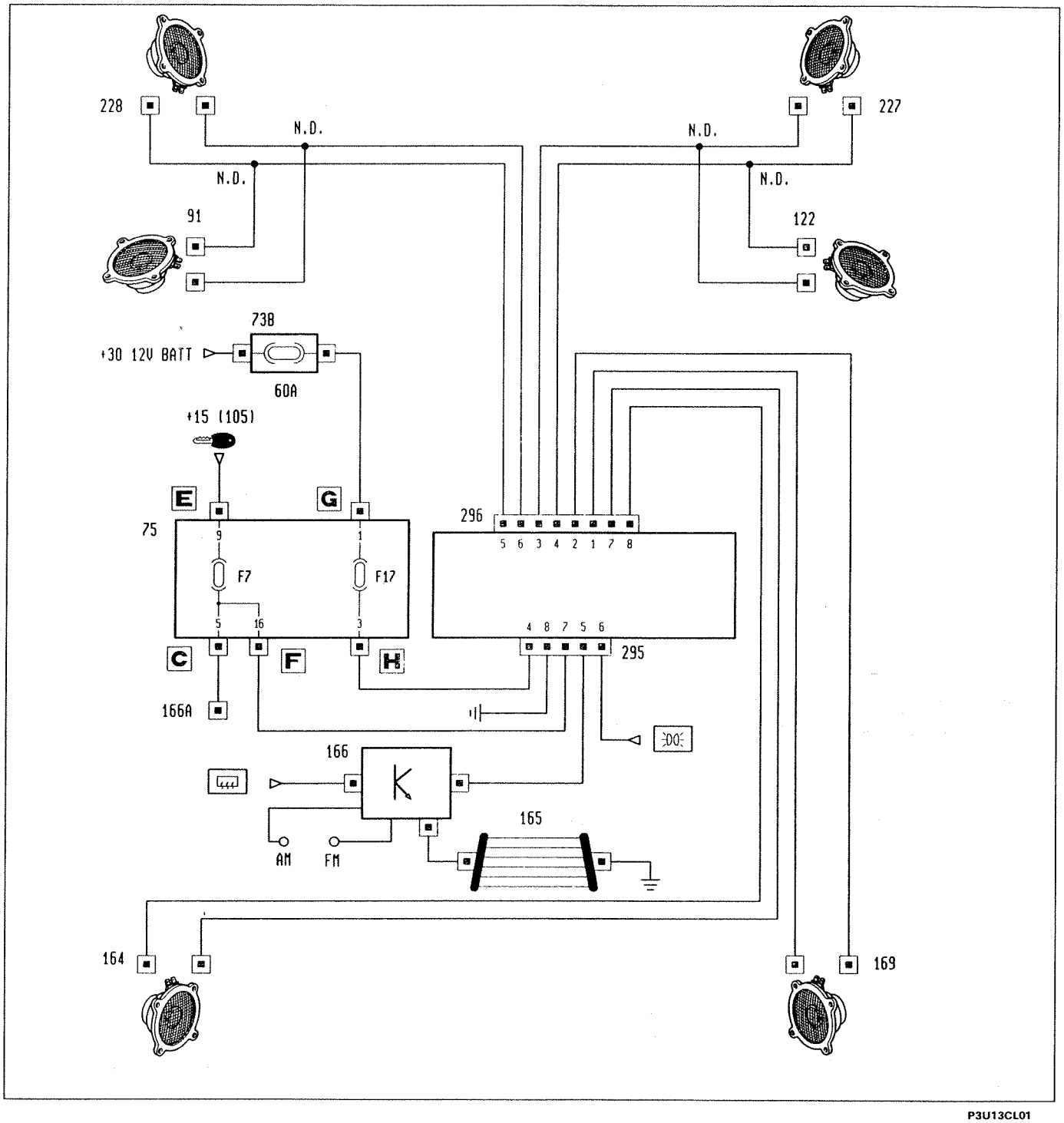
Radio

- Type of tuner = PLL quartz;
- band limits = FM 87.5 - 108.0 MHz; MW 531.0 - 1602.0 kHz; LW 153.0 - 279.0 kHz;
- intermediate frequencies = 10.7 MHz (FM), 450 khz (MW), 450 (LW).

Power section

- number of output channels: 4
- musical output power: 26 W peak (per channel)
- load impedance: 4 Ohm
- supply voltage: 13.5 V
- nominal output power: 13 W RDS

General wiring diagram of ADT 838 car radio



P3U13CL01

High level (Hi Fi)

With the "high-level radio" option, the car is fitted with:
- amplifier for aerial built into heated rear window;
- loudspeakers;
- radio with removable front, model ADM 838;
- amplifier with DSP for radio;
- CD reader with 6-disc loader, model CDC 838.

The radio is of compact size as specified by DIN standards. On the front, it is possible to control all the functions for radio (with RDS), tape and CD by means of a multi-function keyboard, and to display the set functions via a green alphanumeric liquid crystal display. The system (radio and amplifier) must have a high output power (4 x 25W), in order to ensure low distortion and a high sound level without interference.

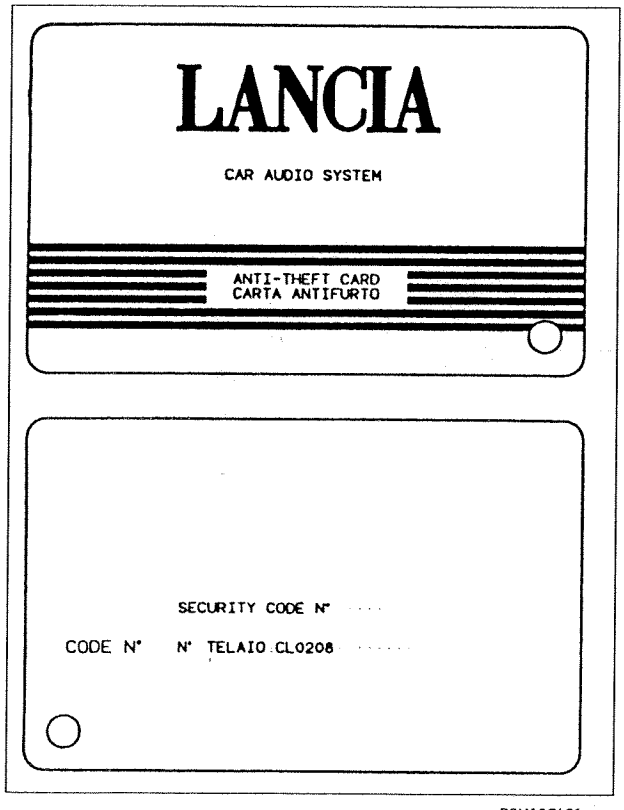
- Operating voltage = 10.2 - 15.6 V;
- nominal voltage = 13.5 V with negative to earth;
- memory supply voltage = 4.2 V;
- absorbed current = less than 10 A at maximum output power;
  less than 2 mA with the radio off.

Radio

- Type of tuner = PLL quartz;
- band limits = FM 87.5 - 108.0 MHz; MW 531.0 - 1602.0 kHz; LW 153.0 - 279.0 kHz;
- intermediate frequencies: 10.7 MHz

Power amplifier (external with incorporated DSP) model ADM 838

- Number of output channels: 4
- load impedance: 4 Ohm;
- output power: 25 W max;
- supply voltage: 13.5 V;



P3U16CL01

Anti-theft protection

Secret code

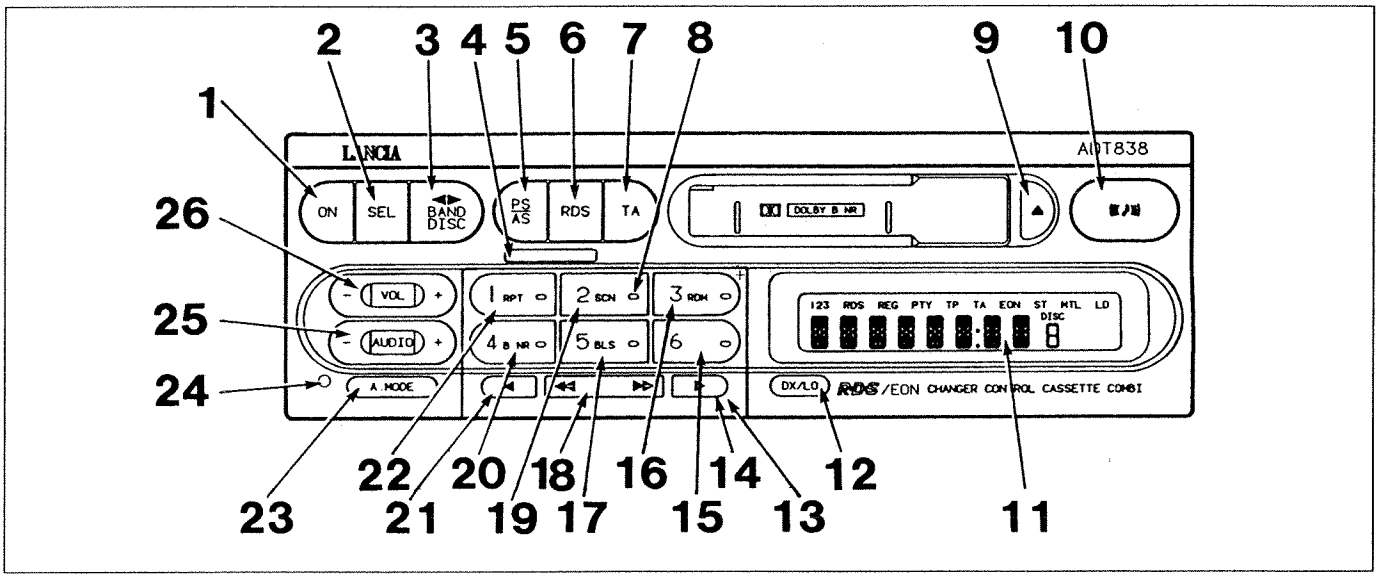
The 4-digit secret code is indicated on the anti-theft card which is supplied with the car. The card, with the secret code, should then be stored in a safe place.
If the battery is disconnected, the radio will only work if the secret code is entered. After 3 consecutive errors in entering the code, the anti-theft device cannot be switched off for one hour, even if the code is correct.
It is necessary to enter the code in the radio at the time of delivery of the car and whenever the battery supply is temporarily cut off.

If, for example, the code number stated on the anti-theft card is 2541, the procedure is as follows:
- switch on the radio;
- the message "CODE IN" is displayed;
- press the "2 SCN" button;
- the number "2" will be displayed;
- press the "5 BLS" button;
- the number "25" will be displayed;
- press the "4 BNR" button;
- the number "254" will be displayed;
- press the "1 RPT" button;
- the number "2541" will be displayed.

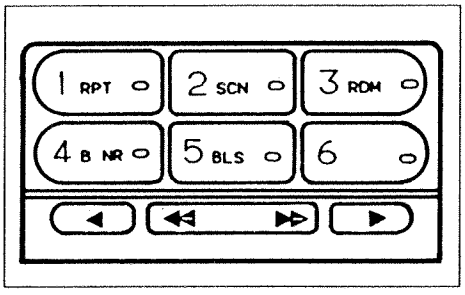
A radio frequency indication will be displayed. If an incorrect code has been entered, the radio remains blocked and the "CODE IN" message is displayed again. Re-enter the correct code, repeating the procedure described above.

55.

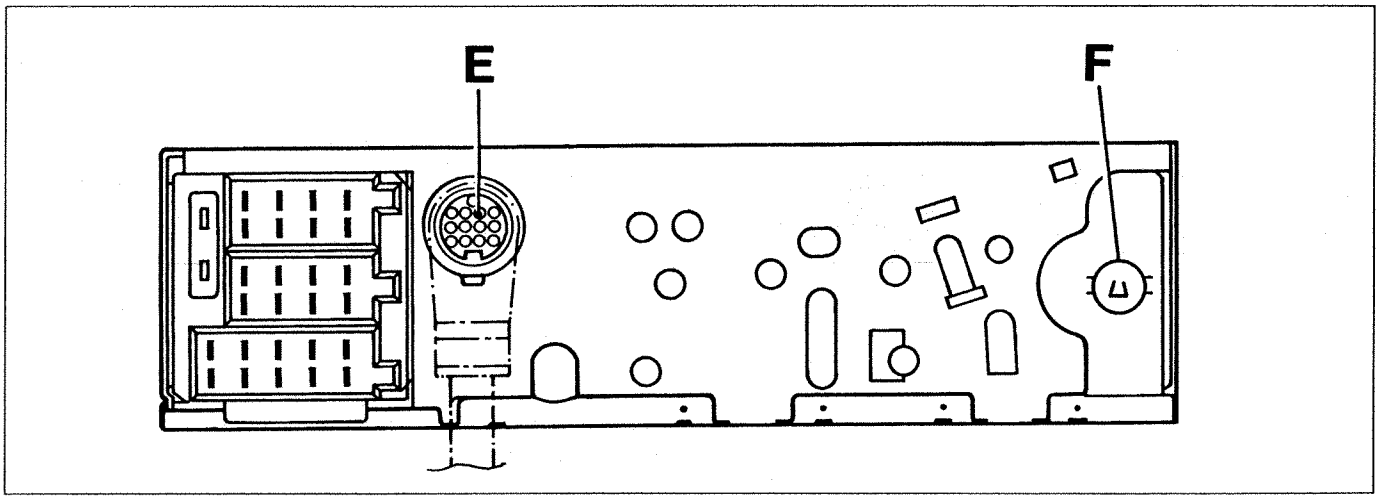
ADT 838 RADIO WITH REMOVABLE FRONT



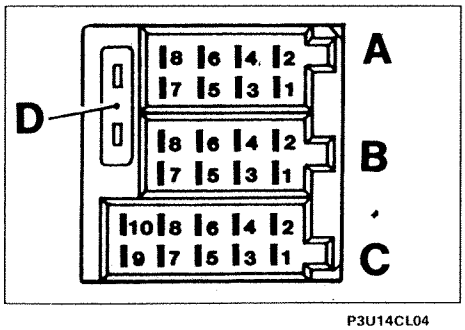
P3U14CL01



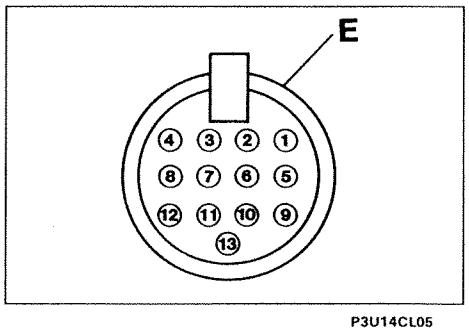
P3U14CL02



P3U14CL03



P3U14CL04



P3U14CL05

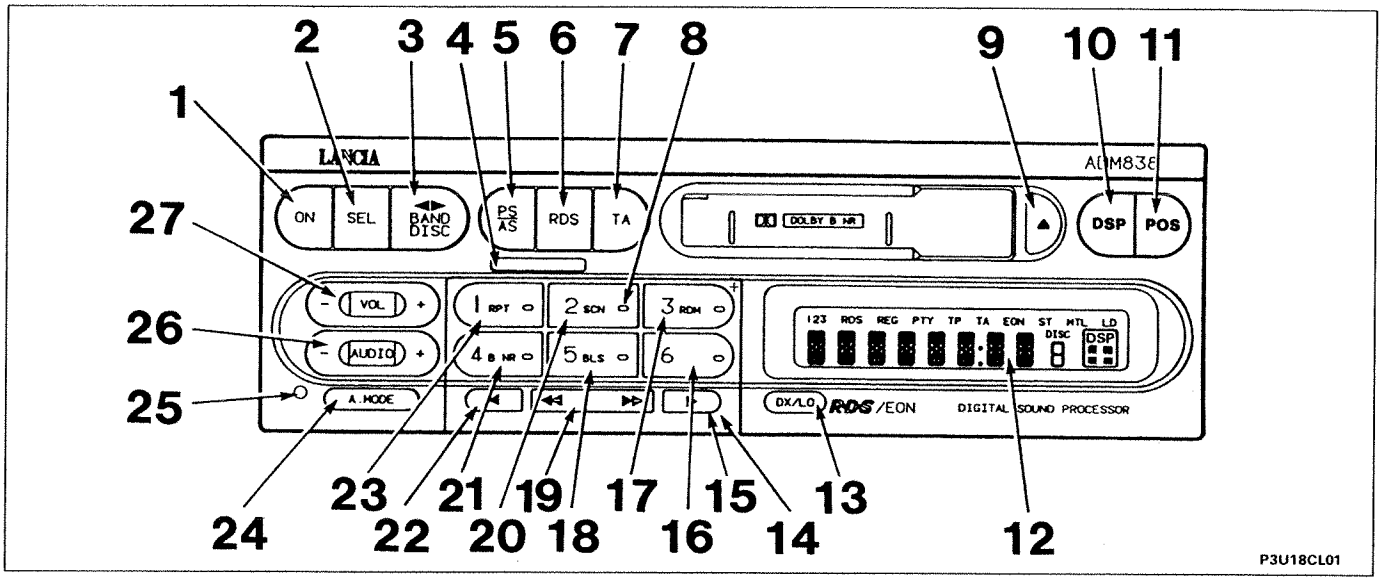
N°	AUTO MODE	RADIO MODE	TAPE MODE	CD MODE
1	Power on-off			
2	Radio-tape-cd selector			
3		FM1-FM2-FM3-MWLW band selector	Manual cassette reverse	Compact disc selection
4	Removable unit (DCP) disconnect button			
5		Scan. preselec. stations auto store(FM1 only)		
6		RDS (radio data system) selector		
7		TA (traffic announcement) selector		
8		Preselected station indicator LED	Function activated indicator LED	Function activated indicator LED
9			Cassette expulsion	
10	Sound flavor rock-jazz- classic			
11	Liquid crystal display			
12		Distant/local function selector		
13	Removable unit (DCP)			
14		Manual tuning (up)	Tape forward feed (ff)	Fast forward (ff)
15		Preselec./memoriz. station n°6		
16		Preselec./memoriz. station n°3		Random passage selection
17		Preselec./memoriz. station n°5	Blank skip function selection	
18		Automatic tuning (up-down)	Forward/rewind passage search (ff-rew)	Forward/rewind passage search (ff-rew)
19		Preselec./memoriz. station n°2	Passage scan	Passage scan
20		Preselec./memoriz. station n°4	Dolby B-nr function selection	
21		Manual tuning (down)	Tape rewind (rew)	Fast backward (fb)
22		Preselec./memoriz. station n°1	Passage repeater	Passage repeater
23	Low/high pitch-fader-balance selectors			
24	Anti = theft LED			
25	Rec, low/high pitch-fader-balance level			
26	Rec, volume level			

Conn.	A	B	E
1	Not connected	Rear right loudspeaker (+)	Input/output signal
2	Not connected	Rear right loudspeaker (-)	+12 V (+15 under key)
3	Not connected	Front right loudspeaker (+)	Not connected
4	+12 V	Front right loudspeaker (-)	Signal request
5	Aerial enablement	Front left loudspeaker (+)	Not connected
6	+12 V radio illumination	Front left loudspeaker (-)	Signal earth
7	+12V	Rear left loudspeaker (+)	Left input
8	Earth	Rear left loudspeaker (-)	Right input
9			Not connected
10			Back up (+12 V)
11			+12 V (+30 permanent)
12			Earth
13			Not connected

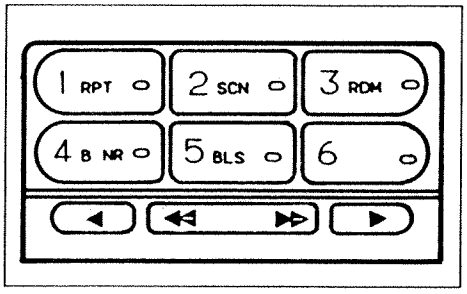
D 10 A fuse
E Seating for multi-pole cable (13 pins) for connection between CD and radio
F Seeating for aerial extension cable jack plug

55.

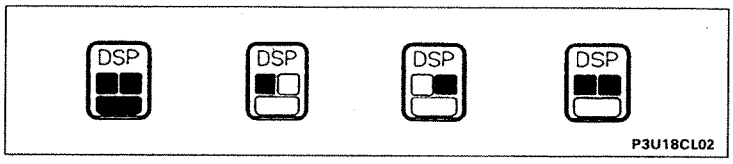
CLARION ADM 838 RADIO WITH REMOVABLE FRONT



P3U18CL01

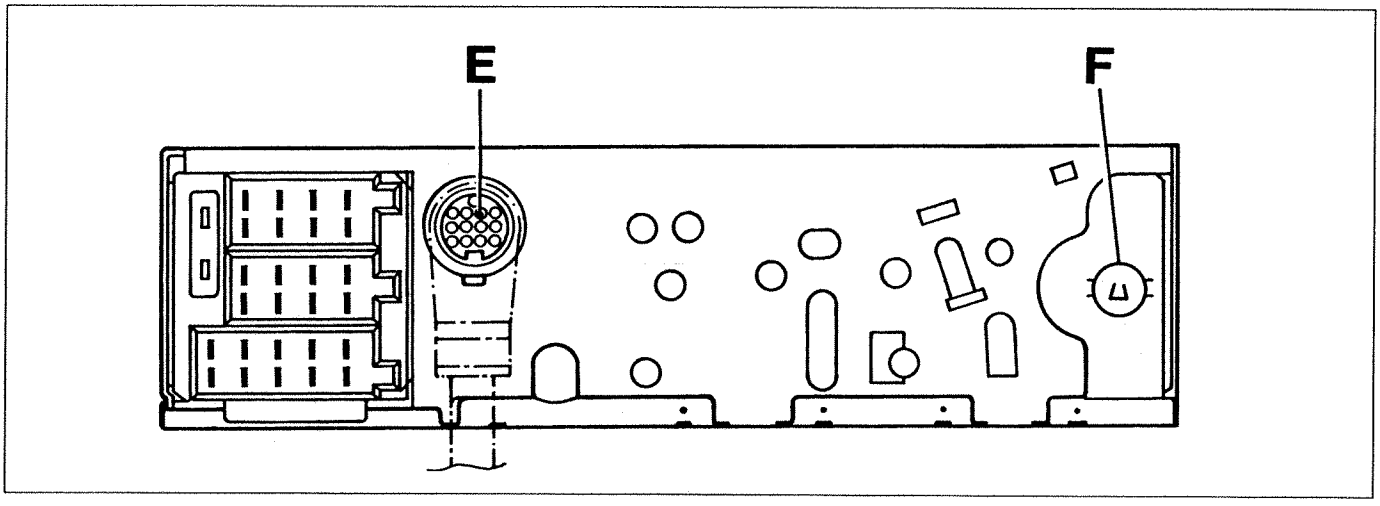


P3U14CL02

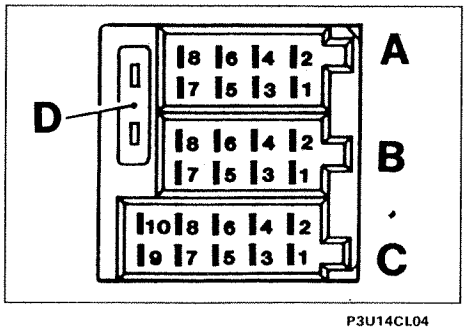


P3U18CL02

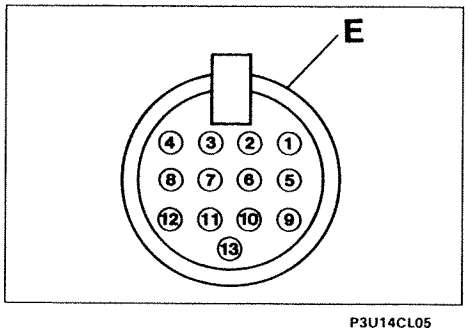
LEFT-HND DRIVE	4/5 PASSENGERS	DRIVER	PASSENGER	FRONT
RIGHT-HND DRIVE	4/5 PASSENGERS	PASSENGER	DRIVER	FRONT



P3U14CL03



P3U14CL04



P3U14CL05

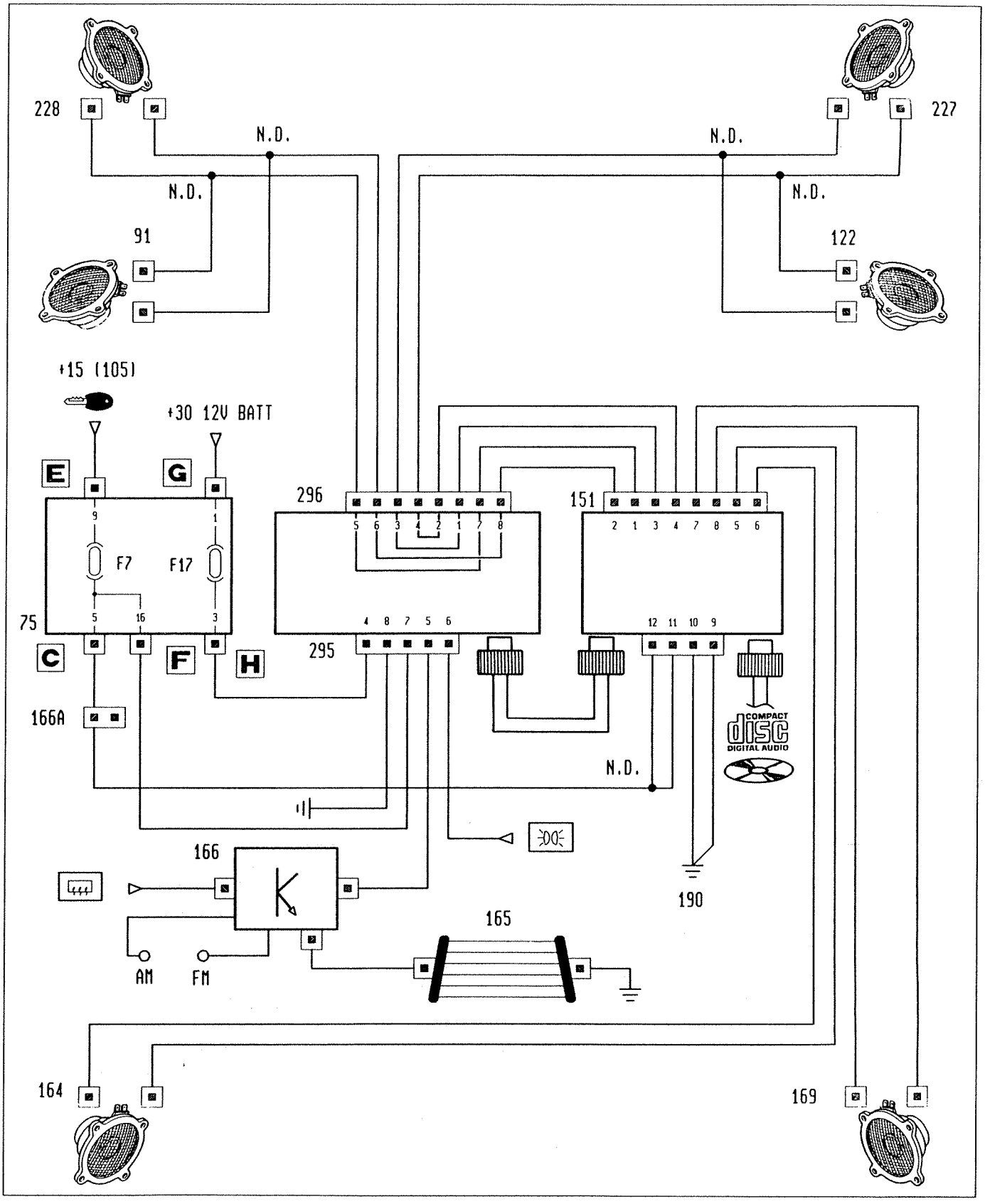
N°	AUDIO MODE	RADIO MODE	TAPE MODE	CD MODE
1	Power on-off			
2	Radio-tape-CD selector			
3		FM1-FM2-FM3-MW-LW band selector	Manual cassette reverse	Compact Disc selection
4	Removable unit (DCP) disconnect button			
5		Scan. preselec. stations auto store (FM only)		
6		RDS (radio data system) selector		
7		TA (traffic announcement) selector		
8		Preselected station indicator LED	Function activated indicator LED	Function activated indicator LED
9			Cassette expulsion	
10	Avail: hall-church-stadium-disco-off			
11	Selection of listening position in car			
12	Liquid crystal display			
13		Distant/local function selector		
14	Removable unit (DCP)			
15		Manual tuning (up)	Tape forward feed (ff)	Fast forward (ff)
16		Preselec./memoriz. station n°6		
17		Preselec./memoriz. station n°3		Random passage selection
18		Preselec./memoriz. station n°5	Blank skip function selection	
19		Automatic tuning (up-down)	Forward/rewind passage search (ff-rew)	Forward/rewind passage search (ff-rew)
20		Preselec./memoriz. station n°2	Passage scan	Passage scan
21		Preselec./memoriz. station n°4	Dolby B-nr function selection	
22		Manual tuning (down)	Tape rewind (rew)	Fast backward (fb)
23		Preselec./memoriz. station n°1	Passage repetition	Passage repetition
24	Low/high pitch-fader-balance selectors			
25	Anti-theft LED			
26	Rec. low/high pitch-fader-balance level			
27	Rec. volume level			

Conn.	A	B	E
1	Telephone mute (N.C.)	Left channel (+)	Input/output signal
2	Not connected	Left channel (-)	+12 V (+30 permanent)
3	Not connected	Right channel (+)	Not connected
4	+12 V	Right channel (-)	Signal request
5	Aerial enablement	Mute	Telecommand +B
6	+12 V radio illumination	Earth	Signal earth
7	+12V	Not connected	Left output
8	Earth	Not connected	Right output
9		Not connected	Mute
10		Not connected	Back up (+12 V)
11			+12 V (+15 under key)
12			Earth
13			Not connected

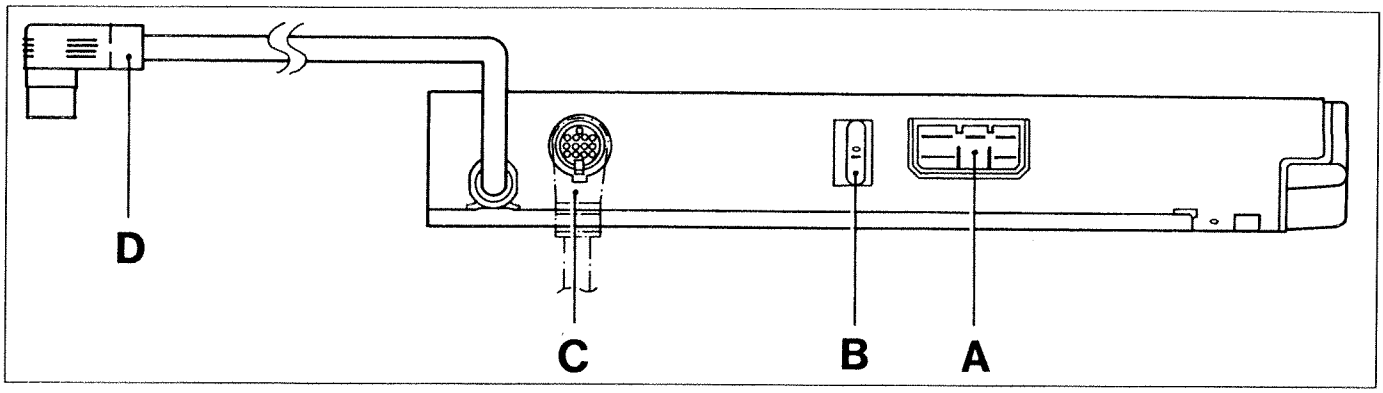
D 3A fuse
F Seating for multi-pole cable (13 pins) for connection between CD and radio seating for aerial extension cable jack plug

55.

General wiring diagram of ADM 838 car radio



External amplifier



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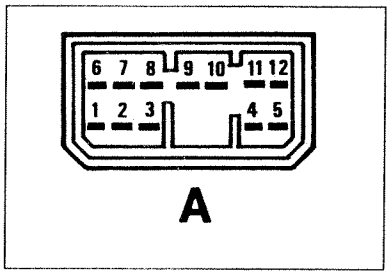

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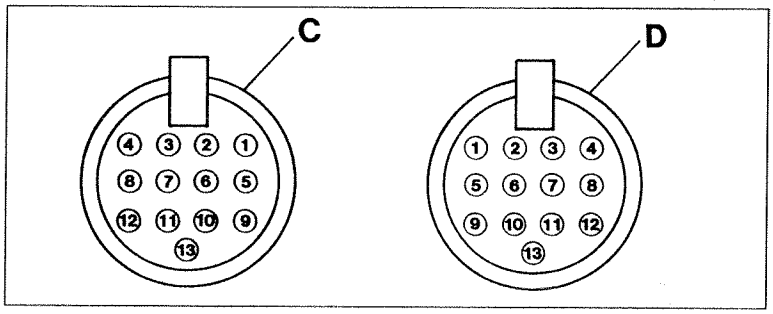
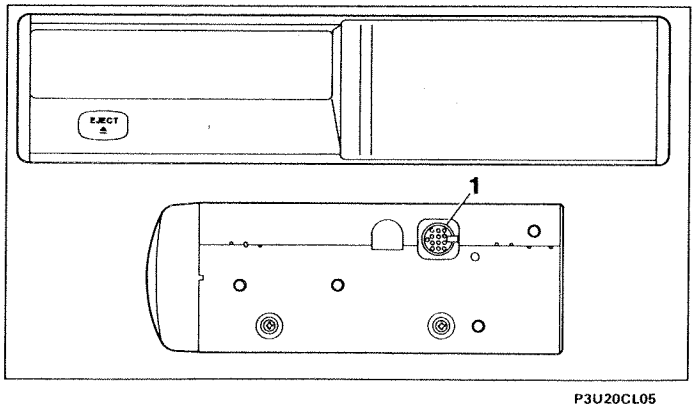


P3U20CL03 P3U20CL04

CON.	A	C	D
1	Front left loudspeaker (+)	Input/output signal	Input/output signal
2	Front left loudspeaker (–)	+12 V (+30 permanent)	+12 V (+30 permanent)
3	Front right loudspeaker (+)	Not connected	Not connected
4	Front right loudspeaker (–)	Signal request	Signal request
5	Rear left loudspeaker (+)	Control + B	Not connected
6	Rear left loudspeaker (–)	Signal earth	Signal earth
7	Rear right loudspeaker (+)	Left output	Left input
8	Rear right loudspeaker (–)	Rear right	Right input
9	Earth	Mute	Not connected
10	Earth	Back up (+12 V)	Back up (+12 V)
11	+12 V Battery	+12 V (+15 under key)	+12 V (+15 under key)
12	+12 V Battery	Earth	Earth
13		Not connected	Not connected

B 10 A fuse
C Seating for multi-pole cable (13 pins) for connection between amplifier and radio
D Multi-pole cable for connection between amplifier and CD



P3U20CL05

CD reader model CDC 838

- Sampling frequency: 44.1 kHz (8 times over-sampling)
- Frequency response: 8-20000 Hz (±1 dB)
- Signal/noise ratio: 94 dB (1 kHz) IHF-A
- Tone control: LOW -100 Hz±10 dB
  HIGH -10 kHz±10 dB

1. Seating for multi-pole cable (13 pins) for connection between amplifier and CD.

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ANTI-THEFT DEVICE (TRW-SIPEA)

Introduction

On request, the car may be fitted with the anti-theft device linked to the central door locking system with remote control.
The TRW anti-theft system is a device which offers volumetric and perimetral protection; it can monitor the status of the doors and the presence of a moving person or object inside the interior compartment.

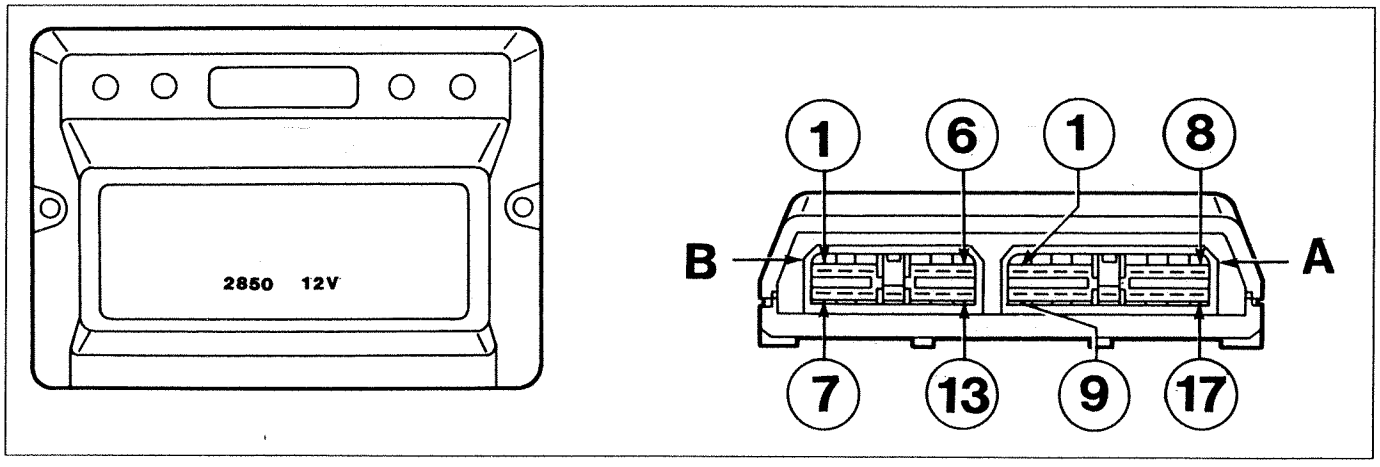
The system is "universal" in that it offers the possibility of managing the sound level of the anti-theft device and the type of flashing of the direction indicators, depending on the regulations in various countries. In addition, a sophisticated self-test system checks:
- errors or intermittent or permanent faults;
- specific faults in the control unit;
- number of activations of the anti-theft device and the alarms effected.

The anti-theft device basically consists of an infrared receiver on the courtesy light, an infrared transmitter (or remote control) integrated in the key, three volumetric sensors incorporated in a plate secured to the roof trim before the courtesy light, six switches (doors, boot and bonnet), an electronic control unit (red) located under the dashboard in the central console area just above the Air Bag control unit, and an alarm siren located on the right in the boot, fitted with an emergency microswitch with ON-OFF key command.

ANTI-THEFT DEVICE CONTROL UNIT

This is the main unit of the anti-theft device. It checks and processes the status of the following sensors:
1. boot switch;
2. bonnet switch;
3. status of the doors, supplied by the door open indicator switches or check control;
5. volumetric sensors alarm;
6. insertion of ignition key.

The control unit has two male connectors A and B with 17 and 13 pins; to these are connected two female connectors (forming part of the 14- and 11-pin wiring).



Anti-theft control unit - view of top

Anti-theft control unit - view of connectors side

INPUT AND OUTPUT SIGNALS TO/FROM THE ANTI-THEFT CONTROL UNIT

PIN	I/O	FUNCTION
B1	OUT	EARTH IN CONTROL UNIT
B2	I/O	FOR DRIVING TWO-COLOUR FLASHING LED ON DASHBOARD
B3	OUT	N.O. RELAY CONTACT: CONTROL OF LEFT BLINKER BRANCH
B4	N.C.	N.C.
B5	N.C.	N.C.
B6	IN	ELECTRONIC KEY SYSTEM
B7	IN	POSITIVE DIRECT SUPPLY (+30)
B8	I/O	LINE K FIAT/LANCIA TESTER
B9	IN	CONTROL UNIT EARTH
B10	IN	POSITIVE DIRECT SUPPLY (+30) TO DIRECTION INDICATORS
B11	OUT	N.O. RELAY CONTACT: CONTROL OF RIGHT BLINKER BRANCH
B12	IN	KEY-DEPENDENT POSITIVE (+15)
B13	I/O	FOR DRIVING TWO-COLOUR FLASHING LED ON DASHBOARD
A1	IN	EARTH IN CONTROL UNIT LINE (-) FIAT/LANCIA TESTER
A2	IN	LINE FOR DEACTIVATION FROM REMOTE KEY
A3	N.C.	N.C.
A4	IN	BRIDGED TO EARTH ON B1
A5	IN	REAR RIGHT DOOR OPEN DETECTION SWITCH
A6	IN	FRONT RIGHT DOOR OPEN DETECTION SWITCH
A7	IN	FRONT LEFT DOOR OPEN DETECTION SWITCH
A8	IN	SIREN ACTIVATION LINE
A9	IN	SERIAL LINE FROM COURTESY LIGHT
A10	I/O	SIGNAL LINE FROM VOLUMETRIC SENSORS
A11	IN	POSITIVE SUPPLY TO VOLUMETRIC SENSORS UNIT
A12	N.C.	N.C.
A13	N.C.	N.C.
A14	N.C.	N.C.
A15	IN	REAR LEFT DOOR OPEN DETECTION SWITCH
A16	IN	BOOT OPEN DETECTION SWITCH
A17	IN	BONNET OPEN DETECTION SWITCH

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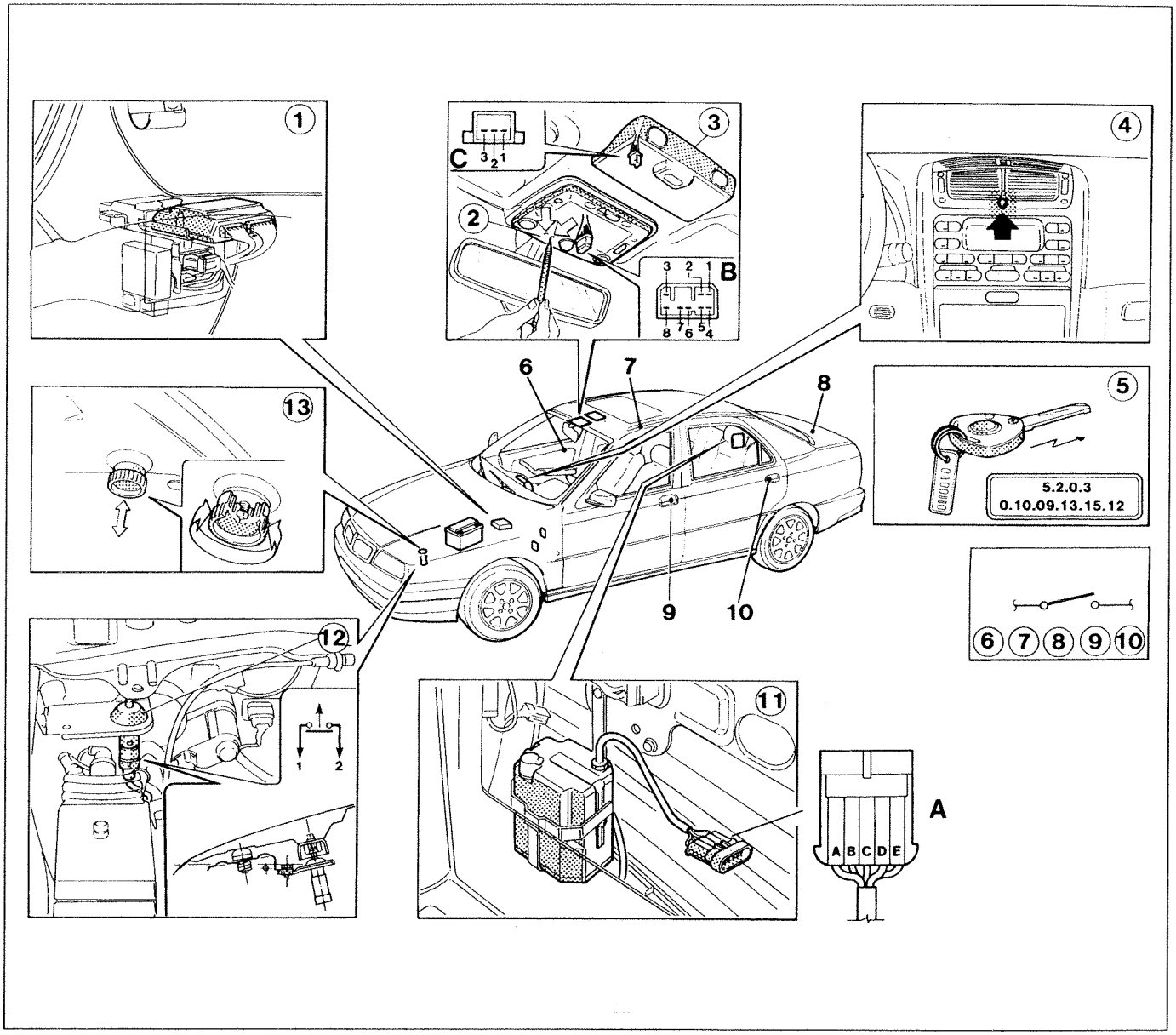
LOCATION OF COMPONENTS

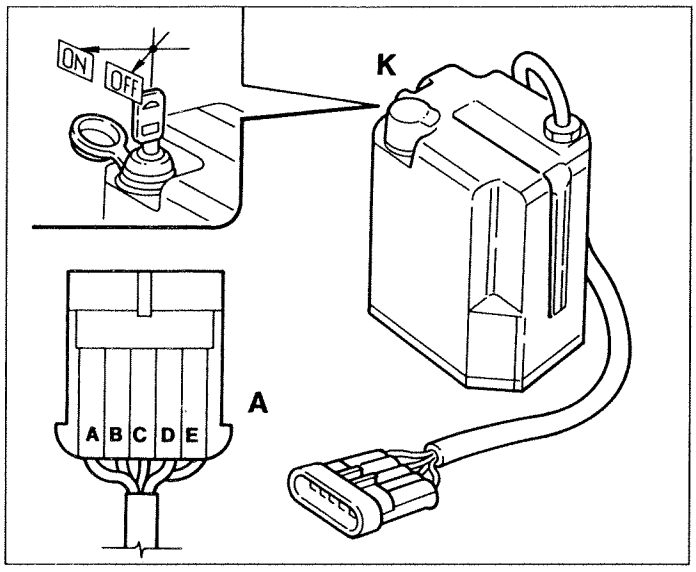


P3U03AL01

Key

1. Anti-theft control unit (red) under dashboard in central console, passenger side
2. Infrared receiver on courtesy light
3. Mounting with volumetric sensors
4. Warning light (two-colour LED) indicating anti-theft device ON
5. Infrared remote control
6. Front right door open indicator switch
7. Rear right door open indicator switch
8. Boot open indicator switch
9. Front left door open indicator switch
10. Rear left door open indicator switch
11. Self-supplied anti-theft siren (on right of boot)
12. Bonnet open indicator switch

NOTE *With the doors, boot and bonnet shut, the switches 6-7-8-9-10-12 are electrically open (i.e. not connected to earth).*



P3U04AL01

ANTI-THEFT SIREN

K. Ignition switch
A. Connector

Technical characteristics

Supply	10.5 - 15 VDC
Absorption at rest	4 mA
Absorption in operation	2A
Frequency	1700 - 2300 Hz
Acoustic pressure	118 dB at 1 metre
Dimensions	112 x 98 x 82 (mm)

The anti-theft siren is located in the space between the metal wall and the fabric boot trim on the right side. This is of the self-supplied type, so it can operate even if the car's battery is disconnected or its leads are cut. The self-supply is achieved by suitable batteries installed directly in the siren's container.

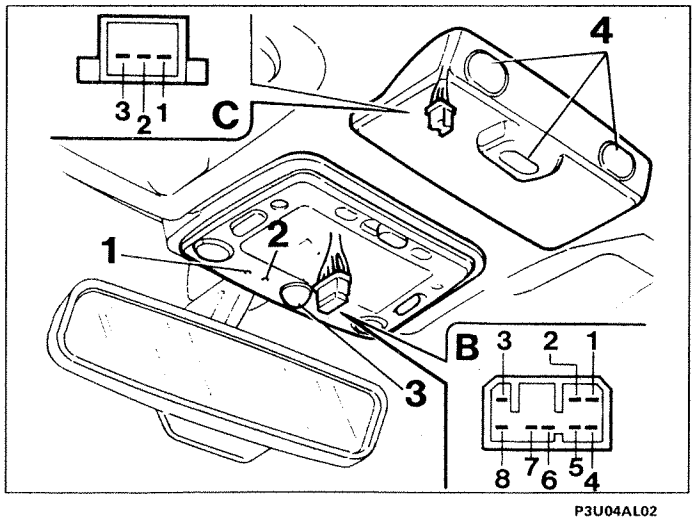
The siren has a connector (A) with five cables which make the following connections:
A - positive +12 V direct from battery (+30) (cable R)
B - general earth (cable N)
C - siren activation/deactivation signal from alarm unit (cable A)
D - positive +12V from ignition switch (+15/54) (cable M)
E - manual siren disablement signal (cable B)

REMOTE KEY

The siren also has a key switch (K) for disabling it if it is activated because of a fault in the system.

Deactivation: when the key is turned, the control unit emits an acoustic signal: the anti-theft device is deactivated or in the OFF position (EUROPEAN MARKET EXCLUDING GERMANY)

Activation: when the key is turned, the control unit stays silent; the anti-theft device is activated or in the ON position



P3U04AL02

RECEIVER

1. LED
2. Programming button
3. Infrared semisphere or receiver
4. Volumetric sensors

B. Connector B (courtesy light)
C. Connector C (volumetric sensors)

The **receiver,** incorporated in the front courtesy light, is an electronic device which receives the infrared signal via a semisphere projecting from the receiver itself. The particular semispherical shape enables it to receive the signal at 360 degrees, provided that the transmitter is not more than about 5 metres away.
It controls the opening/closure of the doors and activates the alarm control unit. Each receiver may be tuned with one or more transmitters (up to a maximum of 4), by storing their relevant codes in memory. There is also a red LED (1) on the receiver, which comes on when the signal is received, while a button (2) is for storing in memory the secret control code.

When it is fitted to the car, the receiver contains a so-called "UNIVERSAL" code, used for carrying out tests at the end of the production line with an appropriate transmitter with universal code.
When the car is delivered to the Customer, the receiver has to be customized by replacing the "UNIVERSAL" code with the code supplied to each Customer.

Courtesy light connector B

1. Door locking
2. Door unlocking
3. Serial line to the alarm control unit
4. N.C.
5. Courtesy light earth
6. Positive 12V from battery (+30)
7. N.C.
8. Key-dependent positive (+15/54)

VOLUMETRIC SENSORS

The three volumetric sensors permit additional surveillance, checking that there has been no intrusion in the vehicle. They are incorporated into a plastic mounting located behind the front courtesy light: two function as transmitters and the third as receiver; the ultrasonic wave beam emitted by the transmitters (the left is that facing the dashboard) must be received by the third (the right one) after the waves have been reflected from the car's internal walls.
If there are no moving objects inside the car, the infrared signal reaches the receiver with the same frequency as that transmitted; if not, a signal is sent to the alarm control unit in order to activate the siren.

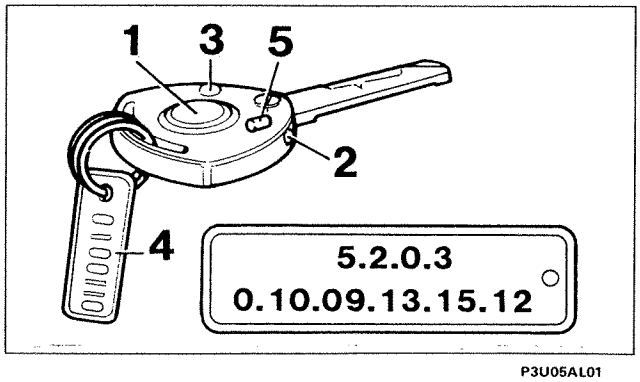
Volumetric sensor connector C

1. Earth
2. Positive from alarm control unit pin A11
3. Line for signal from volumetric sensor

KEY

The keys provided with the car have the following functions:
A) Mechanical function
Locking/unlocking of all the locks, steering lock and engine starting.
B) Electronic key system function
Protected by the rubber casing on the ignition key handle, there is a device called a TRANSPONDER (electronic key) which contains a code. This code is transmitted (when the key is inserted in the ignition switch) to the electronic key system control unit to unlock the fuel injection-ignition system.

C) Transmitter (or infrared remote controls) function)



P3U05AL01

1. Control button
2. Infrared LED
3. Repeater LED
4. Password code plate
5. Transponder

The **transmitter,** protected by a rubber casing, consists of a printed circuit and an infrared emitter. It is supplied by two 3 V lithium batteries. Whenever the control button (1) is pressed, the transmitter sends a beam of rays in the direction in which the LED (2) is pointed.

It is an infrared device with continuous transmission of the code; the maximum duration is 5 seconds, even if the button is pressed for longer. At the same time, the repeater LED (3) comes on whenever a signal is emitted, thus permitting a visual check that the transmitter is sending the code.

It contains a memory which is customized with a with a non-modifiable code consisting of six groups of numbers selected from unnumerable possible combinations. This memorization is done in the factory. The code is printed on a card which is supplied with each transmitter; printed above the code on the card, there is also the "Password" which consists of 4 digits.

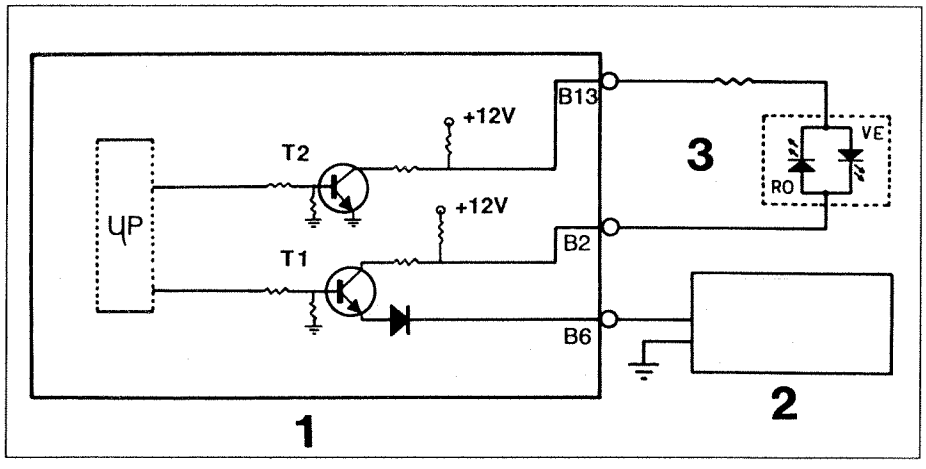
If this transmitter is replaced or an additional one is used, memorization must be carried out using the procedures which apply to both the anti-theft device and the electronic key system.

NOTE *The remote control works with infrared rays, and so does not pollute the environment with radio waves. At the same time it ensures better protection from attempts at understanding its secret code. Its radius of action is about 5 m with the battery well charged. It should be directed towards the receiver located on the courtesy light to avoid the interposition of obstacles which could also be parts of the same car (e.g. shadows of the door pillars). Even the presence of dirt, snow or ice on the side windows can impede reception. If the button is held pressed down, the remote control continues to emit the signal for a maximum period of 5 seconds. If the receiver is not activated, change the angle of the transmitter in relation to the receiver.*

SWITCHES ON DOORS, BONNET AND BOOT

To check the doors and boot, the same switches as for the door and boot open indication circuit are used; the bonnet has its own switch. All these switches indicate non-closure by means of an "earth" signal towards the control unit (doors, boot and bonnet shut = switches open).

TWO-COLOUR (GREEN-RED) INDICATOR LED



P3U06AL01

1. Anti-theft control unit
2. Electronic key system
3. Two-colour LED on instrument panel

The indicator LED (3) located on the instrument panel is a semiconductor display device. It consists of a light-emitting diode which emits a visible beam of light whose colour depends on the semiconductor material used.
For it to emit light, it must be supplied (polarized) with an appropriate voltage of between 1.3 and 2.5 V. In this specific case, it is a two-colour LED, i.e. consisting of two diodes connected in antiparallel on the same container.

Flashing green LED: electronic key system operative

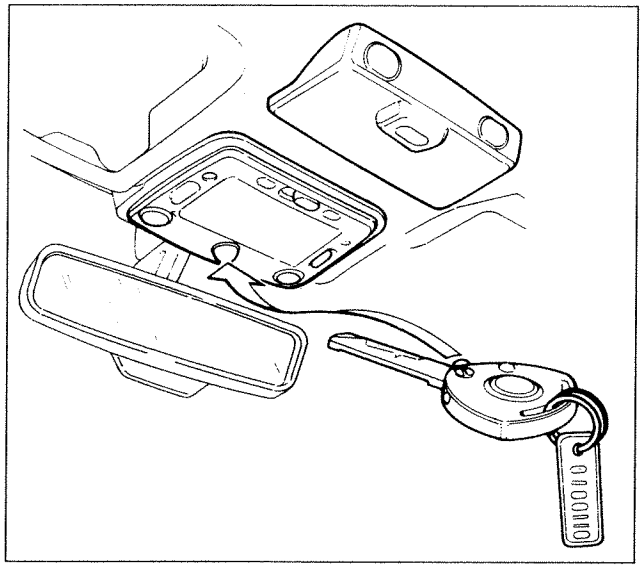
With the ignition and anti-theft device OFF, the green LED flashes because the anti-theft control unit's microprocessor blocks the transistor T2 and keeps the transistor T1 polarized; this enables the green LED to close to earth on the electronic key system. The green LED indicates that the fuel injection control unit is locked.

Flashing red LED: anti-theft device operative

The LED changes from green to red when the anti-theft device is switched on with the remote control. Under these conditions, the microprocessor blocks the transistor T1 and polarizes the transistor T2, allowing the red LED to close to earth on T2.
When the anti-theft device is switched off with the remote control, the red LED goes out and the green LED starts flashing again.

OPERATION OF ANTI-THEFT DEVICE

The anti-theft device can only be switched on with the ignition OFF (STOP position).



P3U07AL01

Activation

Direct the transmitter (remote control) towards the receiver dome and press the button. The infrared receiver sends a command to the door locking control unit to lock the doors, and at the same time a second signal to the anti-theft control unit. The activation of the anti-theft device is indicated both visually and acoustically (on markets where this is required). When the alarm system is on, the two-colour LED at the centre of the instrument panel comes on with a red flashing light.

Deactivation

Again direct the transmitter towards the receiver dome and press the button. The infrared receiver sends the respective commands to the control units to unlock the doors and deactivate the anti-theft device. Deactivation is also indicated visually and acoustically (on markets where this is required). When the anti-theft system is switched off, the two-colour LED becomes green (electronic key system operative = fuel injection locked).

NOTE *The system is protected from illegal recording of the secret code.*

Exclusion of system

If the transmitter batteries become discharged or the anti-theft device becomes faulty, the activated siren can be excluded by turning the remote key, on the siren, to the OFF position. When the remote key is turned to OFF, the siren is switched off, but the anti-theft system remains active; to deactivate it, use the remote control.
If the vehicle is not used for long periods (over one month), set the key to the OFF position and disconnect the battery's negative lead. With the key at the OFF position, surveillance of battery lead cutting (battery disconnection) is no longer active.

Surveillance stage (anti-theft device ON)

During the surveillance stage (vehicle locked and anti-theft device ON), the dissuasion LED flashes at a frequency of about 0.8 Hz; in this state, the anti-theft system monitors:
a) doors, bonnet and boot;
b) disconnection/cutting of the battery cables;
c) unauthorized insertion of the ignition key;
d) movements inside the interior compartment (volumetric surveillance);
e) cutting of the remote key cables;
f) if the battery loses more than 1 Volt/hour (e.g. short circuit).

Alarm state

The system enters into an alarm state when:
1. One of the doors, bonnet or boot is opened.
2. The battery is disconnected or the supply cables to the anti-theft device are cut; if the battery loses more than 1 Volt/hour (short circuit).
3. The ignition key is turned to the ignition ON position.
4. Something invades the car interior space (e.g. if the window is lowered, is it sufficient for a person to put a hand in).

The alarm state is manifested by the activation of the siren and the direction indicators, with times varying depending on the market. The fuel injection-ignition system is blocked by the electronic key system.

If the alarm condition ceases (e.g. if the doors are shut again or the movement of the hand inside the car stops), the siren and the hazard warning lights are deactivated; at the end of the cycle, the system returns to the wait condition (stand-by).
You can exit from the alarm situation:
a) with a switch-off command from the transmitter (remote control);
b) 25 seconds after the last entry into the alarm state;
c) by means of the emergency key (remote) present on the siren.

NOTE *In conditions (c-b), the anti-theft device stays on.*

Exclusion of volumetric surveillance

Volumetric surveillance only can be excluded by means of one of the following actions:
a) Switch off the engine (the anti-theft device is not ON yet); in strict sequence starting from the ignition key at the ignition ON position, turn the ignition key to OFF-ON-OFF. The exclusion of volumetric surveillance is confirmed by the two-colour dissuasion LED (red) coming on for about 2 seconds and by the activation for 2 seconds of the buzzer located in the volumetric sensor ceiling plate.

b) Starting with the ignition key at the ignition ON position, press the button on the receiver (for less than 0.5 s) and then within a maximum of 8 seconds turn the ignition key to the ignition OFF position. The exclusion of volumetric surveillance is again confirmed by the LED on the courtesy light coming on.

Switching volumetric surveillance back on

Volumetric surveillance is switched on fully automatically, and takes place when the ignition key is next turned to the ignition ON position.

NOTE *The ignition key can be set to the ignition ON position (with the anti-theft device ON) for a maximum of 30 s without re-enabling volumetric surveillance (this may be useful for example to permit the closure of windows that may have been left open accidentally).*

AUTO SWITCH-ON OF ELECTRONIC ANTI-THEFT DEVICE (German market only)

Cars with the electronic anti-theft device programmed for the German market include the **"passive"** auto switch-on function. This function ensures the automatic partial switch-on of the anti-theft device a short time (4 minutes) after the car has been left by the user.
Surveillance in the **"passive"** operating mode is as normal, activated by the remote control, except for the following points:
- the doors are not locked;
- volumetric surveillance is not carried out.

Automatic switch-on is activated 4 minutes after the following conditions have arisen:
- ignition key moved from the ignition ON to the ignition OFF position;
- opening and subsequent closure of the driver's door.

The opening of the driver's door or bonnet before the delay period (4 minutes) has elapsed stops the counting. Closure restart the counting.

SELF-TEST

Switching on the anti-theft device

When switched on, the system carries out a self-test to check the correct status of the of the anti-theft device; if there is a fault, the two-colour LED (red) located at the centre of the instrument panel indicates it in accordance with the table below.

Self-test display

FLASHING MODE	MEANING
15 Hz, duration 3 s	Door/bonnet/boot left open or switch faulty
Fixed light, duration 3 s	Volumetric sensor faulty

If a door, the bonnet or the boot are found to be open or a fault in the volumetric sensors is detected, the relevant sensor is excluded from surveillance and an acoustic warning (beep) is emitted one second after switch-on.

Switching off the anti-theft device

When switched off the system indicates, by the timed flashing of the dissuasion two-colour LED (red), which sensor has triggered an alarm that may have occurred during surveillance; the methods are stated in the table below.

NOTE *When the ignition key is turned to the ignition ON position, the indications are cancelled.*

No. of FLASHES	MEANING
1st FLASH	FRONT RIGHT DOOR
2nd FLASH	FRONT LEFT DOOR
3rd FLASH	RIGHT REAR DOOR
4th FLASH	REAR LEFT DOOR
5th FLASH	ADDITIONAL SENSORS - U.S. SENSORS FROM COURTESY LIGHT
6th FLASH	BONNET
7th FLASH	BOOT
8th FLASH	+15 INTERRUPTION IN KEY-DEPENDENT SUPPLY
9th FLASH	+30 INTERRUPTION IN BATTERY SUPPLY
10th FLASH	AT LEAST 3 SIMULTANEOUS CAUSES FOR ALARM

If there are several alarm codes, they are presented in sequence.

FAULT DIAGNOSIS WITH INSTRUMENTS

The system comprises a diagnostic socket for connection of the C.D.S. Diagnostic Station or the FIAT-LANCIA Tester. The alarm control unit permits entry into fault diasnosis with the ignition OFF, after at least 5 seconds, or with the ignition ON but with the alarm system deactivated.

Fault diagnosis with Fiat-Lancia Tester (M40A MODULE)

The FIAT-LANCIA Tester makes it possible to transfer data to the outside, i.e. to read the contents of the anti-theft control unit's memory.
To use the FIAT-LANCIA Tester on the anti-theft device, it is necessary to connect the ADT101A adaptor. To connect it, always proceed as follows:

1. Supply the FIAT-LANCIA Tester through the cigar lighter socket, or connecting it directly to the battery (there is a special cable for the latter alternative).
2. Connect the Tester to the diagnostic socket (check whether the control unit is enabled from the remote key; if not, dialogue with the FIAT-LANCIA Tester is not established).

With the FIAT-LANCIA Tester supplied, fault diagnosis may be started in three different modes: 1) AUTOMATIC; 2) WRITE ISO CODE; 3) SKIP ISO CODE.

Searching for errors in memory

Executing one of the three procedure, the control unit starts transmitting data to the FIAT-LANCIA Tester which represent any errors that may be present. If there are any errors, press the OK key to proceed with searching for the cause of the fault. The check is guided by the FIAT-LANCIA Tester (GUIDED DIAGNOSIS).
After repairing the fault automatically, the FIAT-LANCIA Tester deletes the errors in memory, and then executes a procedure for activation and deactivation of the anti-theft device in order to check that the fault has been eliminated.
The error can be suspended by pressing the OXK key. The error will be stored in the FIAT-LANCIA Tester's memory, and it may be redisplayed by pressing the FC key and selecting SUSPENDED ERRORS.

State of errors in perimetral protection switches

The FIAT-LANCIA Tester indicates whether the respective switches change state (closed to earth-broken) when doors, boot and bonnet are opened and shut. It indicates whether the ignition key is at the ignition ON or ignition OFF position.

Country code programming

The FIAT-LANCIA Tester can program the code of the country where the vehicle will be marketed; it is sufficient to press the OXK key during ACTIVE DIAGNOSIS. The country codes are:
Italy 1 - Germany 2 - France 3 - Switzerland 4 - United Kingdom 5 - Holland 6 - USA 7 - EEC 8 - spare 9 and 10.

Alarm counter

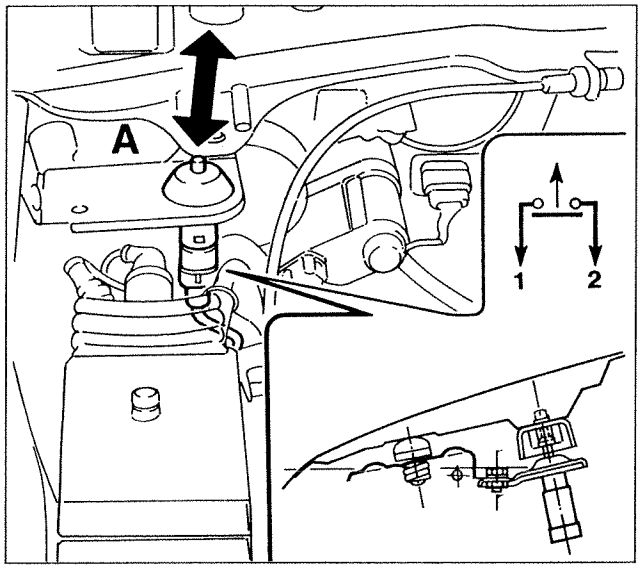
If a theft has been attempted, it is possible to know which protection has intervened and how many times it has intervened. The alarm counter thus indicates how many times the key has been inserted; how many times each individual door, boot or bonnet have been stressed; how many times the volumetric sensors have been activated or whether a supply cable has been disconnected or cut.

Guided diagnosis

If a fault is detected, there will be an acoustic signal from the FIAT-LANCIA Tester and the message relating to the faulty channel will be displayed (e.g. error in warning lamp).
When the OK button is pressed, a procedure for checking the faulty channel will be activated, and the probable causes of the fault will then be indicated. The operator will have to check that the components are working, making sure to repair or replaced any faulty ones.
In order to check whether the fault has been repaired, the program will delete the errors automatically and will make the operator carry out a series of operations, such as activation and deactivation of the alarm system. If the repair has been successful, the Tester will display the next error (if there is one), otherwise it will return to data reading (status of the perimetral protection switches).

When the errors are deleted, the alarm counters are also deleted.

NOTE *Always follow the FIAT-LANCIA Tester's instructions fully.*



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Manual diagnosis

MANUAL DIAGNOSIS can be carried out. To enter into this mode, the ignition key must have been at the ignition OFF position for at least 5 seconds, and the siren's remote key must be in the ON position. The alarm control unit carries out two types of check: automatic and manual.

1) Automatic check

Press the bonnet protection button (A) 7 times in rapid succession within no more than 8-12 seconds. Under these conditions, the self-test of the volumetric sensors connected to the control unit is activated automatically.

a) Positive test (volumetric sensors)
If the test is positive, the direction indicators and the two-colour surveillance LED (red) on the instrument panel will flash 3 times, while the buzzer incorporated in the volumetric sensor mounting will sound for about 2 seconds.

b) Negative test (volumetric sensors)
If the test is negative, a single flash of the direction indicators and the two-colour surveillance LED (red) will indicate that the volumetric sensors are not active (possible break or lack of connection).

2) Manual check

After waiting 2 seconds after the volumetric sensor tests, the efficiency of the connection lines and the status of the door, boot and bonnet switches may be checked.

a) Positive test (door, boot and bonnet switches)
Open and close in succession each door, the boot and the bonnet; one flash of the direction indicators will correspond to each opening and closure.

b) Negative test (door, boot and bonnet switches)
No flashing of the direction indicators will indicate that the door, boot and bonnet switch is faulty or is not connected electrically.

c) Positive test (ignition switch and siren)
The supply to the ignition switch terminal (+15) may be checked by turning the key to the ignition ON position; one flash of the direction indicators will indicate that the circuit under examination is working. A brief acoustic signal from the siren will indicate that it is working. This test must be carried out with the bonnet shut.

d) Negative test (ignition switch and siren)
No flashing will indicate that the circuit (+15) has no voltage and the lack of an acoustic signal will indicate that the siren is not working.

e) Positive test (transmitter, serial line, courtesy light and control unit)
This test must be carried out with the doors, boot and bonnet shut.
Direct one of the known remote controls towards the receiver dome, press the remote control button twice and at each press of the button one flash of the direction indicators will show that there are no communication problems between the courtesy light and anti-theft control unit.

f) Negative test (transmitter, serial line, courtesy light and control unit)
No flashing whenever the button is pressed indicates that there are communication problems between the courtesy light and anti-theft control unit.

Exit from manual diagnosis

To exit from MANUAL DIAGNOSIS, refrain from effecting any action on the system's sensor for 30 seconds, or press the bonnet button 7 times in succession. The exit will be indicated by the direction indicators coming on for about 3 seconds.

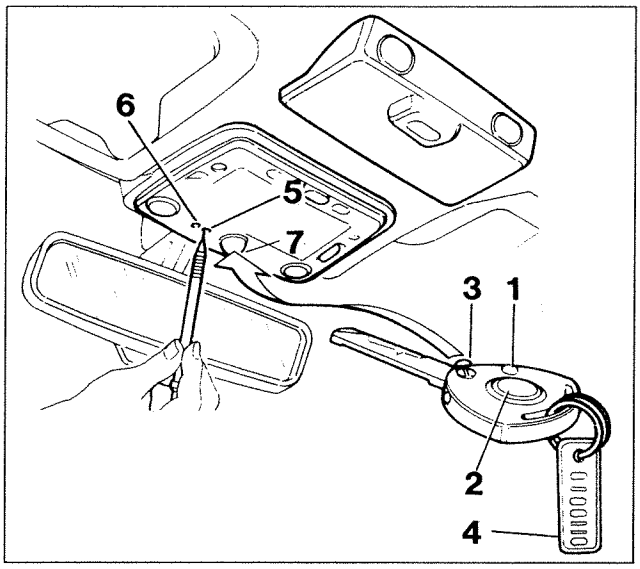
NOTE *It should be remembered that during service interventions on the car, or in the event of faults in the anti-theft system which activate the siren, the latter may be silenced by turning the key switch on the control unit from the ON position to the OFF position.*

On completion of the intervention, always return the key to the ON position and reclose the protective cover on the control unit.

It should be borne in mind that each individual component of the anti-theft device installed in the car forms an integral part of the system and must not be fitted to or tested on other cars, even if of the same model.

PROGRAMMING

The anti-theft device originally fitted requires programming since:
coming out of production, the receiver contains a "UNIVERSAL" code which, controlled by a "UNIVERSAL" transmitter, allows the car to be tested and handled in the factory.
Before delivery, it is therefore necessary to programme the receiver with the code of the transmitter supplied with the car.
The anti-theft device's indication methods may vary depending on the current laws of the country where the car is registered, so it may be necessary to program the system by entering the country code.
There are two programming methods:
A - before entering the Password: SIMPLIFIED PROGRAMMING
B - after entering the Password: PROTECTED PROGRAMMING.
Every transmitter has a paper card with two codes: the 4-digit code and the **Password** for protecting against unauthorized programming (protected programming). The card must be removed by the Customer at the time of purchase and stored in a safe place.



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1. Repeater LED
2. Button on transmitter
3. Infrared LED on transmitter
4. Plate with code with 6 groups of numbers and 4-digit password
5. Programming button on courtesy light
6. LED on courtesy light
7. Infrared receiver

A) Simplified programming

Simplified programming is used for a new memory which has not yet been closed and must accept the recognition of all the codes of the transmitters (remote controls) without limitation as to number.
Consequently there may be many recognized codes, but only the last four will remain in memory.

The memorization of a transmitter must always be done with:
- anti-theft control unit switched off with the remote control (dissuasion LED off)
- ignition key set to ignition OFF position
- emergency key on siren in the ON position.

Programming (memorization) of 1st transmitter

1. Press the programming button (5) present on the receiver; the receiver's LED (6) starts to FLASH, indicating "waiting to receive code".

If the LED (6) remains off when the button is pressed, this means that:
- the anti-theft device is ON. In this case it can only be switched off by means of the UNIVERSAL REMOTE CONTROL;
- the receiver is faulty or there is no supply.

2. Keep the receiver button (5) pressed, direct one of the remote controls supplied with the car towards the receiver's dome (7) (keeping it at a distance of at least 20 cm); press the remote control button (only once); the LED (6) on the courtesy light comes on permanently, indicating that the code has been memorized.

3. When the receiver button (5) is released, the LED (6) on the courtesy light goes out. Two possibilities are now available:
   a) Programme the anti-theft device for the operation required by the laws in the country where the car will be located (country code).
   b) Do not change the operation programmed previously.

Code	Country	Code	Country
1	Italy	6	Holland
2	Germany *	7	U.S.A.
3	Switzerland	8	EEC (Europe)
4	Switzerland	9	Spare
5	United Kingdom	10	Spare

(*) For this country, there is a specific control unit with an appropriate operating logic.

To programme the anti-theft device in accordance with point "a", within 3 seconds of the LED going out, press in succession the programming button (5) as many times as indicated in the table.

At each press, the LED (6) will emit a flash.

At the end of the simplified programming procedure, if the courtesy light LED (6):
- FLASHES 6 times, the code has been memorized correctly;
- FLASHES 18 times it means that the serial line between the receiver and anti-theft device is broken, or the anti-theft device's memory contains a previously-memorized code (lack of acceptance of new code). If an undesired code has been entered, repeat the entire procedure starting from point 1 of simplified programming.

NOTE *If the programming button on the courtesy light is not pressed, the EEC operating mode will be automatically recognized, if this operation is being carried out for the first time. If this operation has instead been carried out previously, the system sets itself in accordance with the mode already memorized.*

NOTE *To programme the country code, also use the procedure with the M40A module and the Fiat-Lancia Tester.*

PROGRAMMING FURTHER TRANSMITTERS (REMOTE CONTROLS)

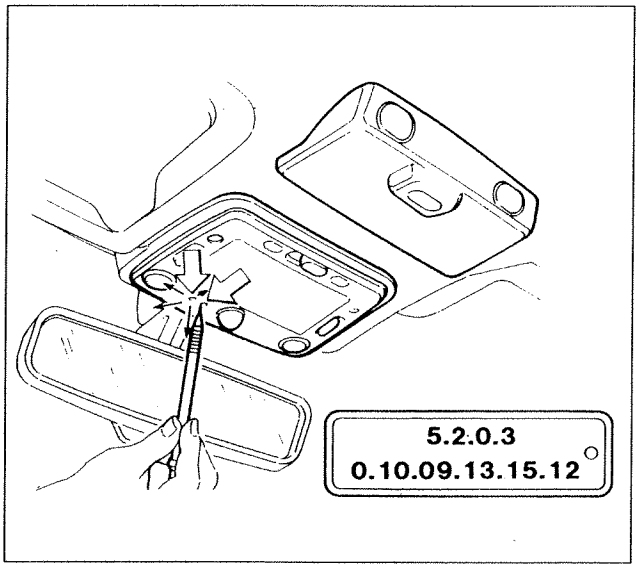
To memorize further remote controls, repeat the simplified programming procedure from point 1. An unlimited number of remote controls can be memorized, but the courtesy light will only retain the last four in memory.

The simplified programming procedure definitively deletes the universal codes present in the courtesy light and electronic control unit of the anti-theft device.

B) Protected programming

To prevent outsiders entering their code, the memory must be protected (closed). This operation takes place:

a) automatically after the anti-theft device has been switched on/off successfully;
b) by an intentional action on the part of the user, by entering the password (four-digit code present on the transmitter card) before the 256 switch on/off actions, for example on the new car after all the codes of the remote controls supplied to the Customer have been entered.



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Manual closure of memory (entry of password)

The method of entering the password is as follows:

1. Press the receiver button for about 2 seconds: the LED will flash for as long as the button is held pressed down.
2. Release the button: after about 2 seconds, the LED will emit a brief flash which indicates the possibility of entering the first digit of the password.
3. Immediately press the receiver's button as many times as the first digit of the password (e.g. 5 times); note that at each press, the LED comes on briefly to give visual confirmation.
4. About 2 seconds after the last press (in the example, the fifth press), the LED will emit another flash to request the entry of the next digit (2).
5. Immediately press the receiver button as many times as the second digit of the password (e.g. twice); note that at each press, the LED comes on briefly to give visual confirmation.
6. About 2 seconds after the last press (in the example, the second press), the LED will emit another flash to request the entry of the next digit (zero).
7. *When the password includes a "zero", do not press the receiver button, but wait for a new request to enter a digit, indicated by the next flash.*
8. After about 2 seconds the LED will emit another flash to request the entry of the last digit (3).
9. Immediately press the receiver button as many times as the fourth digit of the password (e.g. 3 times); note that at each press, the LED comes on briefly to give visual confirmation.

After entering the four digits of the password, the LED on the receiver may behave as follows:

a) it does not come on. This indicates that the password has been entered correctly and that it belongs to one of the memorized remote control codes;

b) it comes on permanently. This indicates that the password has not been entered correctly, or that it does not correspond to any of the memorized remote control codes. In this case, after the LED has gone out, the correct password should be entered starting from point 1.

When the password has been entered, the memory is closed.

Programming of a transmitter (remote control) with memory closed

1. Press the programming button on the receiver. The receiver's LED will start to flash, indicating "waiting to receive code".
2. The operator should hold the receiver button pressed down, and direct one of the new remote controls towards the receiver's dome (keeping it at a distance of at least 20 cm), then press the remote control button (once only).
3. After transmitting the new code, the LED on the courtesy light will stop flashing, indicating that the operation has failed.
   In this case, to enter the code of the new remote control, you will need to use code programming with manual access.

Programming of a transmitter with manual access

Once the memory is "closed", further remote control codes are entered by manually opening the memory. This opening must be carried out in accordance with the instructions given from point 1 to point 12, working in rapid sequence as described on the previous page, then proceed as described below.

After entering the four digits of the password, the LED on the receiver may behave as follows:

a) **it starts to flash** if the password has been entered correctly (opening of memory);
b) **it comes on permanently** for several seconds, indicating that the password has not been entered correctly, or that it does not correspond to any code of the memorized remote controls. In this case, after the LED has gone out, the correct password will have to be entered, starting from point 1.

10. While the LED is flashing, press the button on the courtesy light; the LED will continue to flash.
11. The operator, holding the receiver button pressed down, should direct the new remote control towards the receiver's dome (keeping it at a distance of at least 20 cm); then press the remote control's button (only once).
    The LED on the courtesy light comes on permanently, indicating that the code has been memorized.
12. Release the button: the LED on the courtesy light GOES OUT.

At the end of the procedure, if the LED:
- FLASHES 6 times, the code has been memorized correctly;
- FLASHES 18 times, this means that the serial line between receiver and control unit is broken.

After the new remote control's code has been entered, the memory automatically returns to the closed state. To enter a new remote control, repeat the procedure from point 1.

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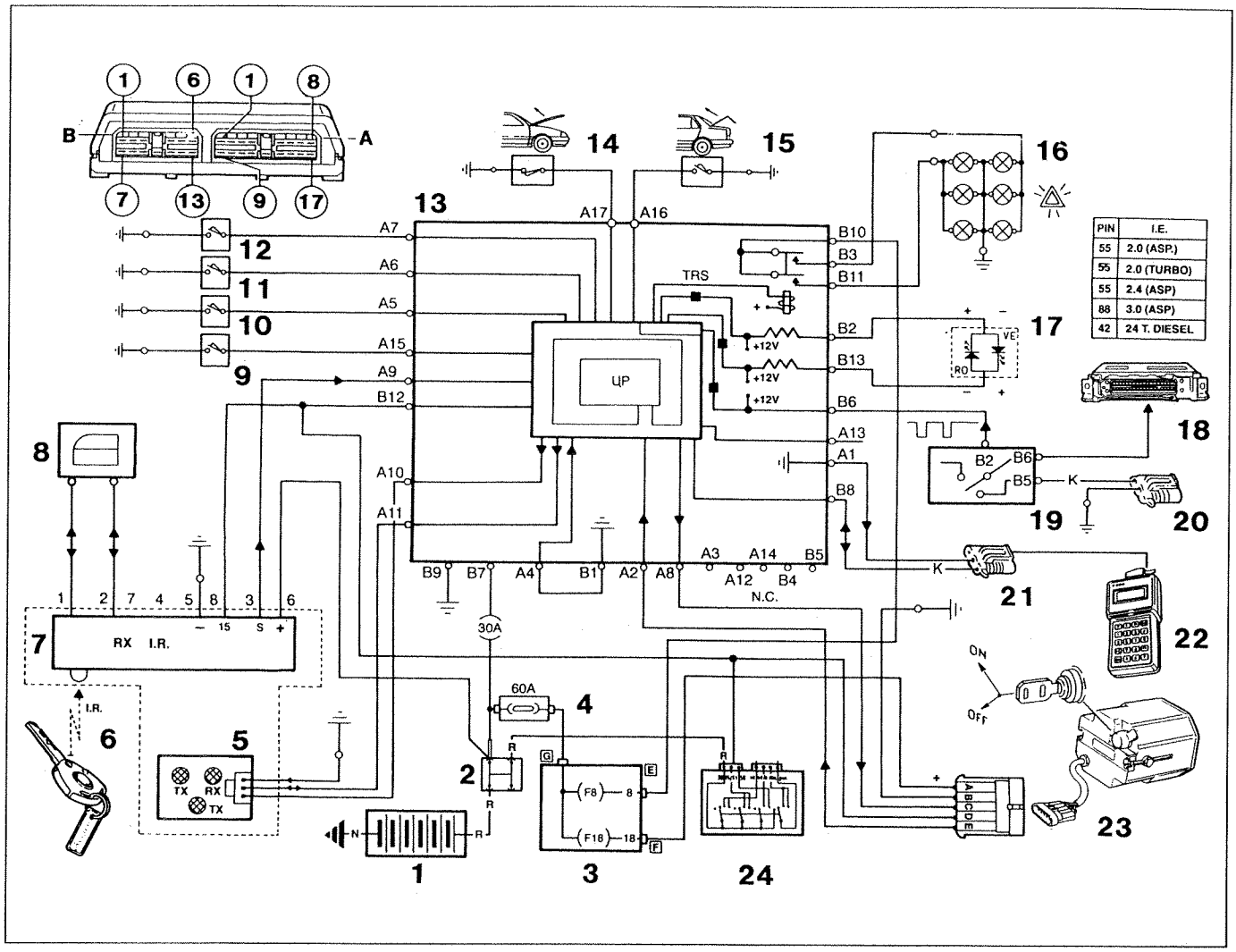
WIRING DIAGRAM



Key

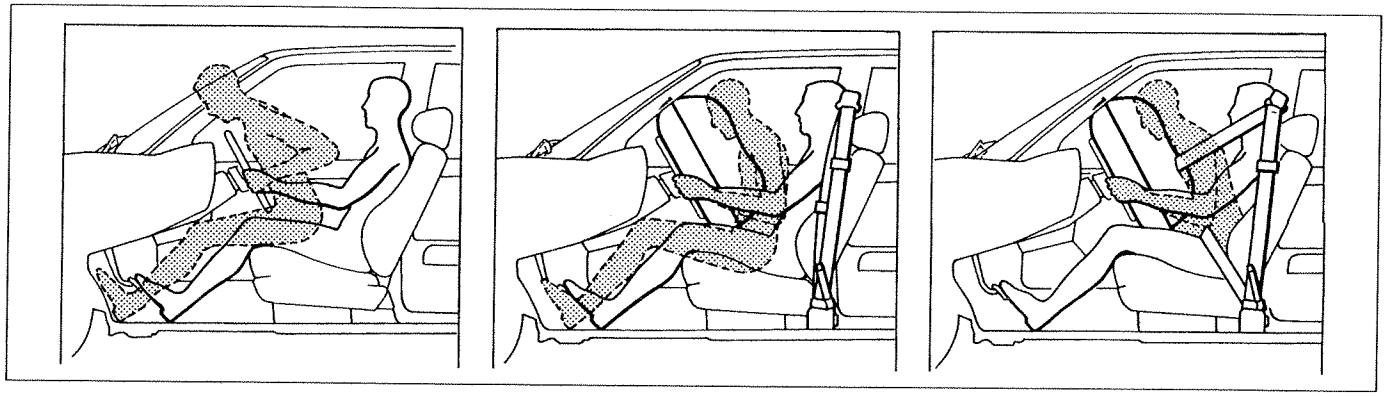
1. Battery
2. Positive node
3. Fuse unit
4. 60 A fuse
5. Volumetric sensors
6. Infrared remote control
7. Infrared receiver
8. Central door locking control unit
9. Switch on rear left door
10. Switch on rear right door
11. Switch on front right door
12. Switch on front left door
13. Anti-theft control unit
14. Switch on bonnet
15. Switch on boot
16. Direction indicators
17. Two-colour surveillance LED
18. Fuel injection control unit
19. Electronic key system
20. Diagnostic socket for fuel injection control unit
21. Diagnostic socket for Fiat-Lancia Tester
22. Fiat-Lancia Tester
23. Alarm siren
24. Ignition switch

ANTI-THEFT DEVICE OPERATION: DOMESTIC REGULATIONS

Country mode	On/ off		Alarm							Installation restrictions
	Vis. sig. from direct. ind.	Auditory	Auditory				Visual			
			Power	FREQIE	Tone	Max. duration	Type of lights	Type of signal	Max. duration	
Germany	PROHIBITED (W/light on vehicle ext. permitted)	PROHIB-ITED	115-118 dBA at 2 m	1800-3550 Hz	SINGLE intermittent 2,5 (+0,5-1,5)Hz	30 Sec	-Direct. indicators -Comp. lights	Flash-ing	**5 mins**	
France			<100 dBA at 2 m	1800-3550 Hz	-SINGLE intermittent -MODULATED	30 Secs	-Direct. indicators -H/lamps	Flash-ing		
Switz.	ALLOWED				SINGLE continuous	30 Secs	Dipped head-lamps		5 mins	
Great Britain	ALLOWED	ALLOWED	>90 dBA at 1 m	< 1500 Hz	-SINGLE intermittent -MODULATED	30 Secs	Front lights			
Belgium	ALLOWED		>001 dBA at 1 m			30 Sec	-Direction indicators -H/lamps		30 secs	
Holland	COMPULSORY (int. or ext.)	PROHIB-ITED	>118 dBA at 1 m	1800-3550 Hz	MODULATED	30 Secs	-Direction indicators -H/lamps		30 secs	Siren and control unit should be located in two separate modules. Control unit should be fitted in passenger comp.
Sweden	COMPULSORY (int. or ext.)				-SINGLE intermittent -MODULATED	30 Secs	-Direction indicators -H/lamps		5 mins	
Italy	ALLOWED						-Direct. ind. -Side lights	Flash-ing	5 mins	
European Regulations	ALLOWED	ALLOWED < 60 dBA	>108 dBA at 1 m	1800-3550 Hz	-SINGLE -MODULATED	30 Secs	-Dir. ind. -Side lights	Flash-ing	5 mins	

AIR BAG SYSTEM WITH ELECTRICALLY OPERATED PRE-TENSIONERS

The Air-Bag system is a safety system which protects the driver and (if present) the passenger. When an impact of a certain degree of severity takes place, the electronic control unit detects it, via its sensors, and sends the order to the inflation system to intervene. Under these circumstances the bags inflate almost instantly and position themselves as a barrier between the bodies of the occupants of the front seats and the dashboard structure which could cause injury.



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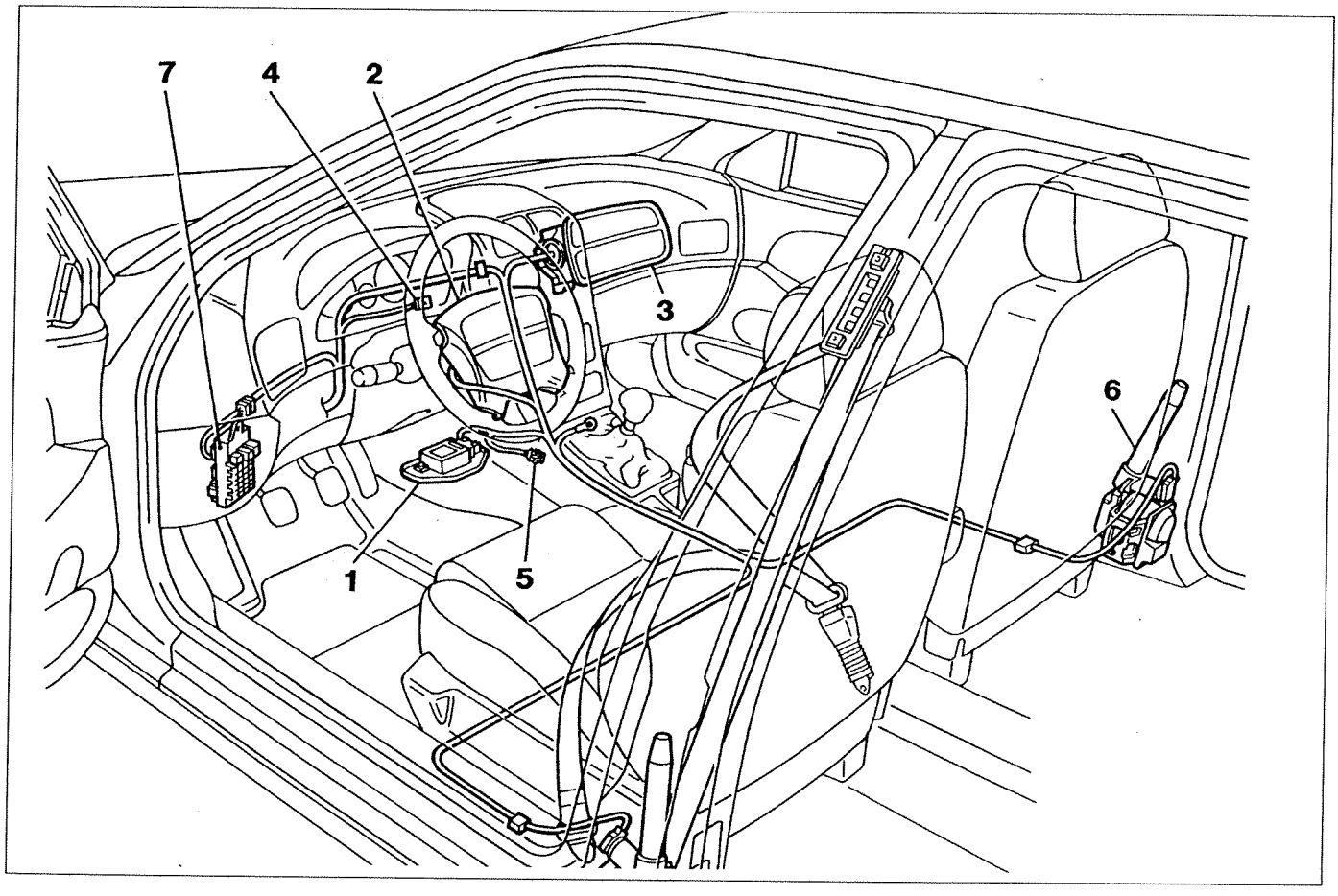
COMPOSITION OF THE SYSTEM

The Air Bag system is made up of: an electronic control unit, Air Bag modules - driver and passenger, Air Bag red warning light, diagnostic socket, pre-tensioner, control unit.



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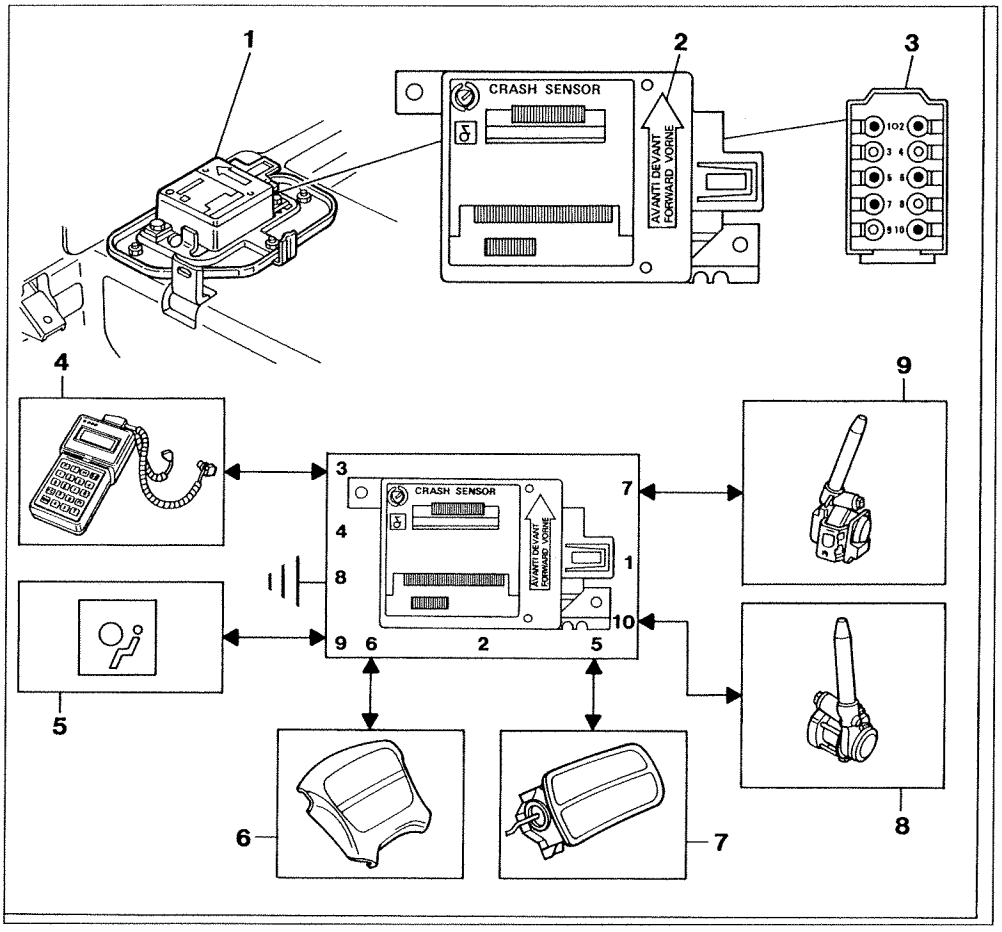
CONTROL UNIT (5021)



1. Electronic control unit
2. Arrow indicating control unit fitting position
3. 10 pin connector
4. FIAT/LANCIA tester
5. Failure warning light
6. Driver's AIR-BAG module
7. Passenger AIR-BAG module
8. Passenger seat belt pre-tensioner
9. Driver's seat belt pre-tensioner

PIN No.	FUNCTION	PIN No.	FUNCTION
1	Pre-tensioner line (+)	6	Driver's Air Bag line (-)
2	Air Bag line (+)	7	Driver's pre-tensioner line (-)
3	Warning light (failure and diagnosis)	8	Earth line on tunnel
4	Serial line K for Fiat/Lancia tester	9	Positive controlled by ignition with fuse
5	Passenger Air Bag line (-)	10	Passenger pre-tensioner line (-)

The electronic control unit (1) is located in the central tray and is rigidly fixed to the floor.
It is equipped with a 10 pin connector (3) with all pins connected to the electrical equipment.
When the ignition is switched ON it receives a 12V supply, but it still operates for about 100 msecs after the supply is cut off as a result of an impact.
This is made possible due to the presence of a buffer condenser inside the circuits which accumulates electrical energy for the normal operation of the control unit and to produce the explosive capsule ignition signal.
The operation of the Air Bag is thereby guaranteed even if the impact causes a drop in the system voltage (e.g.: battery damaged or broken, supply cables interrupted, etc.).

The control unit should be positioned with the arrow (2) pointing in the direction of travel of the vehicle. This position should be **scrupulously adhered to** because it determines the direction in which the acceleration sensor reads the negative acceleration values to determine the impact condition and implement the operation of the Air Bag and pre-tensioners.
There is an accelerometric sensor inside the control unit which emits a signal which, when processed by a microprocessor, makes it possible to determine the severity of an impact and consequently decide whether to implement the operation of the pre-tensioners or the Air Bags.
A second sensor, with safety functions, gives the go ahead to activate the Air Bags.

There are two different activation thresholds: one higher one for the Air Bags (which intervene together, driver's and passenger) and a lower one for the pre-tensioners for the right and left seats.

Failure memory

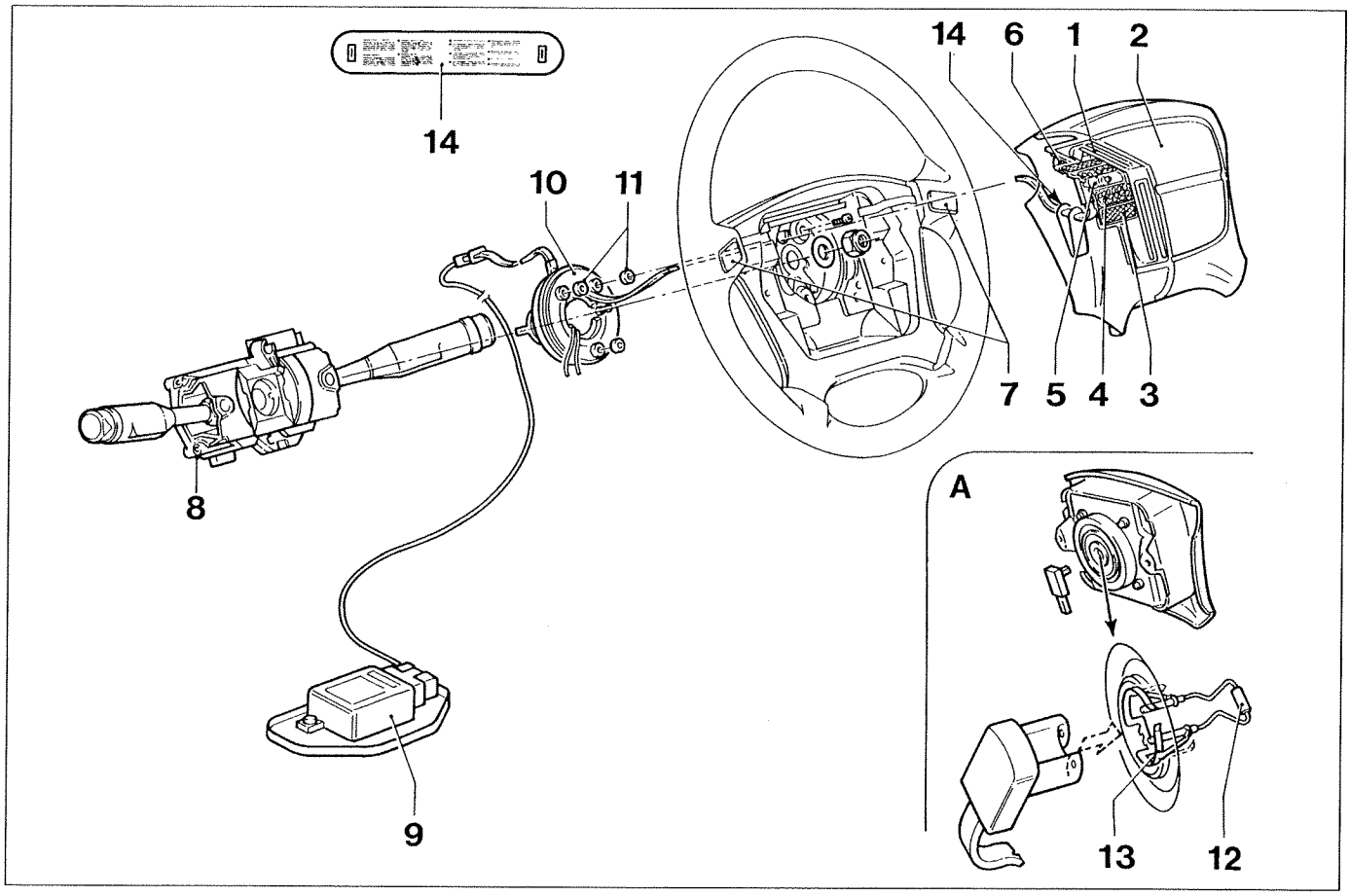
Whilst the vehicle is driving the electronic control unit carries out a constant fault diagnosis of the system, thereby checking the continuity of the circuits and components.
If a fault is detected it is memorized and, at the same time, the "Air Bag failure" warning light in the instrument panel comes on.
The failure memory can be consulted in a service situation by connecting the FIAT/LANCIA TESTER or other diagnostic equipment to the diagnostic socket (see details below).

Impact memory

As stated previously, the control unit microprocessor carries out complex algorhythm calculations and checks on the signal coming from the accelerometric sensor and recognizes the degree of severity of an impact. Depending on this degree of severity and, with the go ahead of the safety sensor, it sends an activation signal to the pre-tensioners and to the Air Bags.
This activation order is stored in a special impact memory which contains information relating to the exceeding of the intervention thresholds and the go ahead of the safety sensor.

DRIVER'S AIR BAG MODULE

The steering wheel has side controls (7) for the horns whilst there is a housing in the centre section for the module containing the folded bag (driver's Air Bag).



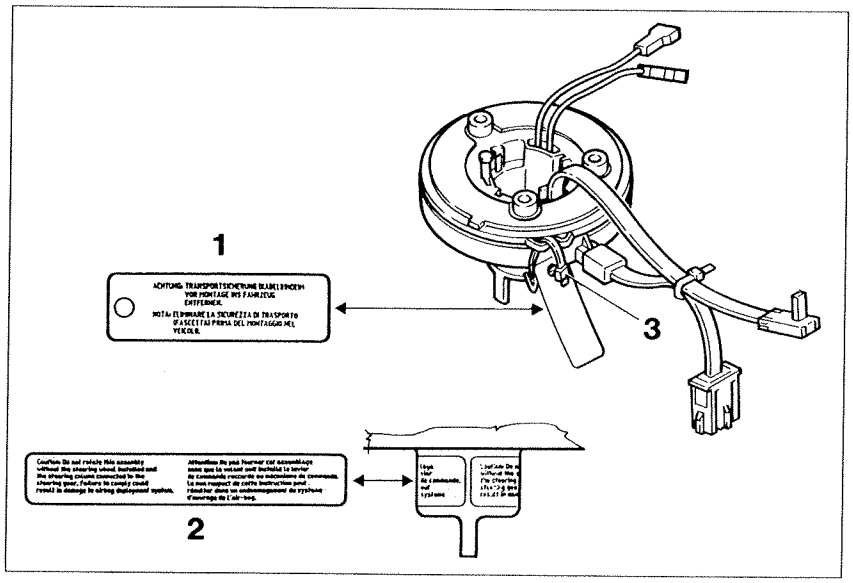
1. Bag
2. Cowling
3. Filter
4. Chemical compound for the formation of the gas
5. Detonator
6. Metal support
7. Horn buttons
8. Steering column switch unit prepared for fitting clock spring
9. Electronic control unit
10. Clock spring
11. Spacers
12. Resistive bridge
13. Short circuit terminal with connector detached
14. Plate fixed to the detonator cable

The steering column switch unit (8) is prepared for housing the clock spring (10).
The module is fixed by two bolts to the steering wheel (at the rear) and is composed of an external metal support (6) connected to a polyurethane cowling (2) which has pre-pressed break lines on the exterior.
The container houses the suitably folded bag (1) and the inflation device. This device contains the detonator (5) which is electrically activated by the electronic control unit (9) when the resistive bridge (12) overheats.
In addition there is a container full of tablets of a chemical compound (4) - sodium nitride - ready to produce the gas (nitrogen) during the explosion required to inflate the bag (1). A filter (3) regulates the pressure and the speed of the gases which are produced and, at the same time, absorbs the most solid residues of the chemical compound which is broken down during the explosion.

55.

As the neoprene bag unfolds it tears through the outer casing of the steering wheel along the special break lines and inflates producing a large ball with a volume 55 dm coming out of the centre of the steering wheel. The sides of the bag are perforated for the gradual, but extremely rapid deflation after intervention.
An orange coloured plate (14) fixed to the detonator (5) supply cable reminds the operator, in four languages, that bfore fixing the clock spring they must position the front wheels of the vehicle aligned in a straight line.

Clock spring



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A Steering column switch unit side
B Steering wheel side
1-2 Plates with warnings to be followed when installing the clock spring
3 Band joining clock spring cable upper and lower plates to prevent rotation; it should be removed when the device is fitted; it should be fitted when the device is removed for operations which do not involve its replacement.

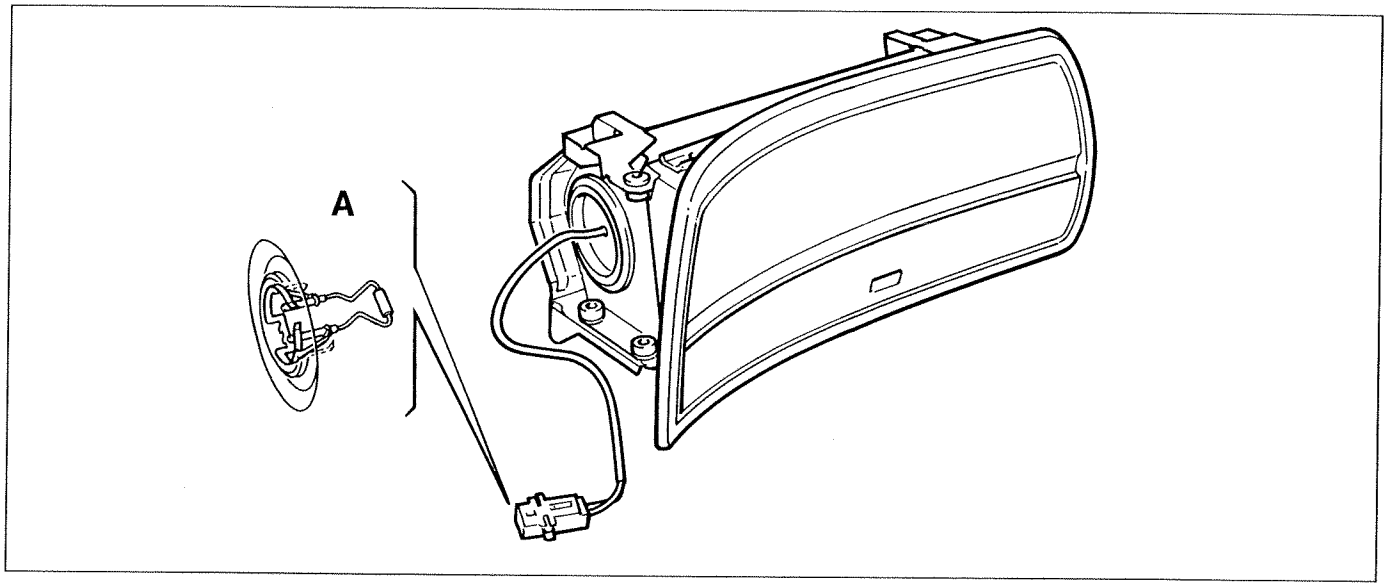
The clock spring is a device which is fitted between the steering column switch unit and the steering wheel; it allows the connecting cable for the Air Bag module fitted on the steering wheel to follow the rotation of the latter without danger of breaking. The device comprises two plates: the lower one penetrates the steering column switch unit, whilst the upper one is fixed to the steering wheel by three bolts. Inside the two plates, the connecting cable for the module is wound round in a spiral thereby allowing it to follow the movements of the steering wheel.
The clock spring is fitted with a safety device which stops it rotating (plate 1) both when it is originally fitted and when it is ordered from the warehouse; this safety device should be removed during fitting. In the case of service operations, proceed as follows:

1. disconnect both battery terminals and wait at least 10 minutes;
2. align the front wheels with them in a straight position;
3. undo the two bolts at the back of the steering wheel frame which fix the Air Bag module, remove the electric socket and remove the module from its housing;
4. remove the steering wheel undoing the centre nut;
5. remove the connector for the clock spring, system side; if it is not being replaced, join the two plates using a band (as illustrated) before removing the clock spring from its housing;
6. to replace the clock spring, undo the three bolts fixing it to the steering wheel, recovering the three shims;
7. when the operation has been completed, refit the assembly remembering to remove the band.

NOTE *When removing, the need to lock the upper and lower plates together using a band is to prevent them from rotating which would cause winding or unwinding resulting in the cable breaking once the clock spring were fitted between the steering wheel and the steering column switch unit.*

If, for any reason, the upper clock spring plate should rotate in relation to the lower one so that the position during the removal is no longer known, THE CLOCK SPRING MUST BE REPLACED.
If the clock spring is being replaced, it is supplied separately from the steering column switch unit.

PASSENGER AIR BAG MODULE



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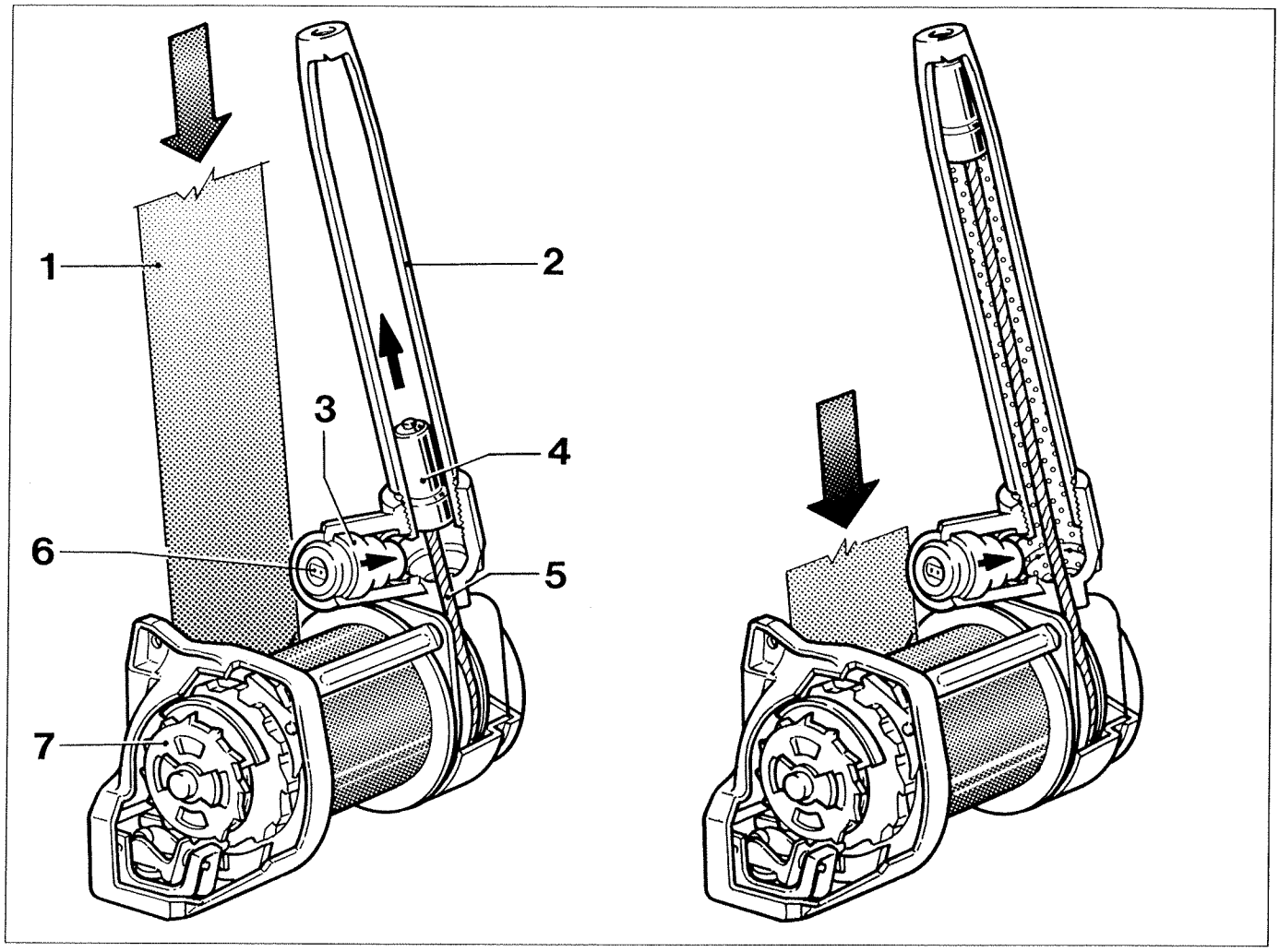
The passenger Air Bag module is also enclosed in a container fixed to a mechanical frame. Its composition and operating principles (apart from its shape) are the same as those described for the driver's Air Bag module.
The intervention of the Bag is programmed by its own intervention threshold by the electronic control unit.
On this module too, when the connector is disconnected, the two terminals short circuit automatically; a device with a spring incorporated in the actual connector joins the two terminals. This means that it cannot be activated through a direct supply.

NOTE *Air Bag modules should be replaced 10 years after they have been fitted which can be determined from the date on the label.*

ELECTRICALLY OPERATED PYROTECHNIC PRE-TENSIONER

Seat belt PRE-TENSIONERS are devices integrated in the reel which, in the case of a frontal impact, restore the inevitable extension of the belt due to the action of the weight of the body, keeping the latter against the seat backrest.
It is vital, in fact, for the belt to remain as close as possible to the body in order to gradually absorb the kinetic energy produced during an impact.
The reaons that a seat belt may, during an impact, no longer guarantee that the body is kept against the backrest, are mainly due to:
- delay in the intervention of the inertia locking device;
- stretching of the belt fibres;
- excess unwinding of the seat belt from the reel;
- thick clothing which creates a space between the belt and the chest.

From all of these causes it is easy to deduce that the belt can only be effective after the body has moved forwards a certain amount.
Pre-tensioners are fitted on both front seat belts; the latter should always be fastened when Air Bags are fitted as they are an integral part of their operation.



P3U12BL01

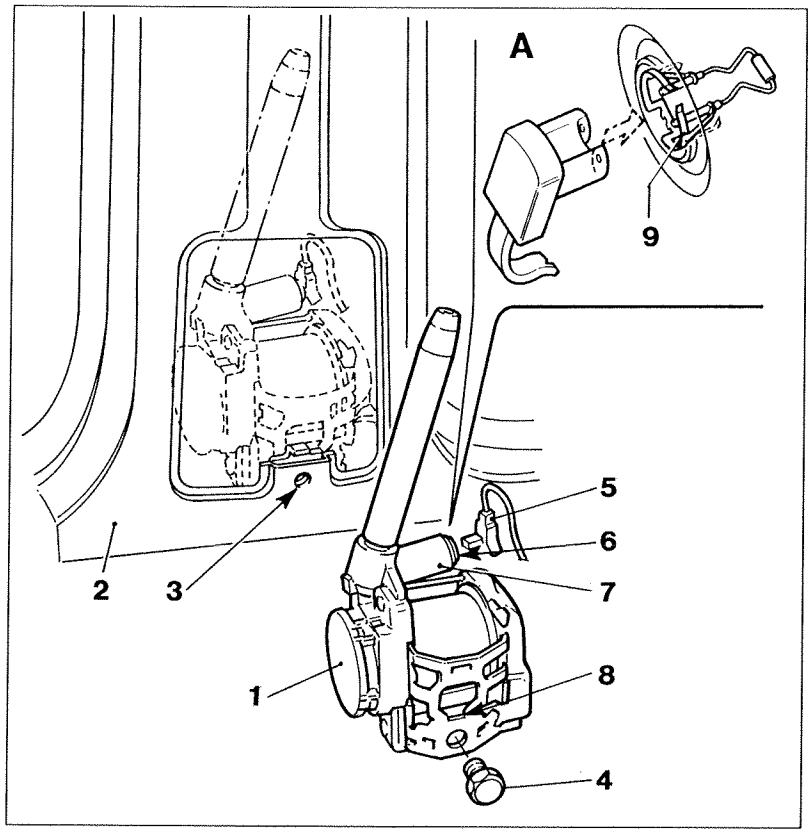
1. Tape
2. Cylinder
3. Gas generator
4. Piston
5. Steel cable
6. Electrical connection
7. Seat belt rewinding coil

Composition and operation

A pre-tensioner is a device integrated in the reel assembly which is activated by an electrical command from the electronic control unit when an impact of a certain degree of severity takes place.

The moement the necessary deceleration occurs, the control unit supplies the gas generator (3).
The pressure of the gas which is produced by the alternator (3) applied to the surface of the piston (4), creates a force which pushes it upwards, into the cylinder (2).
The upwards linear movement of the piston (4), to which a steel cable (5) is fitted and which is fixed at one end to the coil flange, is transformed into a rotary movement of the actual coil, rewinding the tape by several centimetres. The inevitable extension of the belts is recovered in this way and the body of the occupant is kept against the seat backrest. Seat belt pre-tensioners are set to intervene at a lower level than Air Bags. Pre-tensioners cannot be overhauled or repaired therefore they must ALWAYS BE REPLACED after intervention; however, in spite of this, the pre-tensioners fitted on this model continue TO OPERATE after intervention AS IF THE SEAT BELT WERE A REGULAR BELT, i.e. the reel still allows the tape to unwind or wind.

Fitting/dismantling seat belt with pre-tensioner



P3U13BL01

1. Electrically operated pre-tensioner
2. Centre pillar
3. Fixing point on centre pillar
4. Fixing bolt
5. Supply connectors
6. Gas generator supply terminal
7. Gas generator
8. Reel mounting bracket element
9. Short circuit bridge

The reel with the integral pre-tensioner is fitted on the centre pillar, one on the driver's side and the other on the passenger side. When fitting, proceed as follows:

1. Fix the reel with the bolt (4) in the fitting position at the point (3) on the centre pillar. The bolt (4) should be fully tightened to a torque of 4 daNm.
2. Check that the element (8) on the reel mounting bracket is correctly positioned in the corresponding housing (3) in the pillar.
3. Connect the supply connector (5) coming from the electronic control unit in the housing (6) in the gas generator (7). Check that the connector is correctly attached.

To dismantle, proceed as follows:

1. Disconnect both battery terminals and wait at least 10 minutes.
2. Disconnect the supply connector (5) from the housing (6) in the gas generator (7).
3. Undo the bolt (4) and extract the reel from the centre pillar.

For further information on dismantling-refitting the pre-tensioner, see Section 70 - Bodywork, page 24.

NOTE *If the connector (5) is disconnected from the pre-tensioner (1) the two terminals will automatically short circuit; a device incorporating a spring connects the two terminals to each other for safety reasons (see detail A).*

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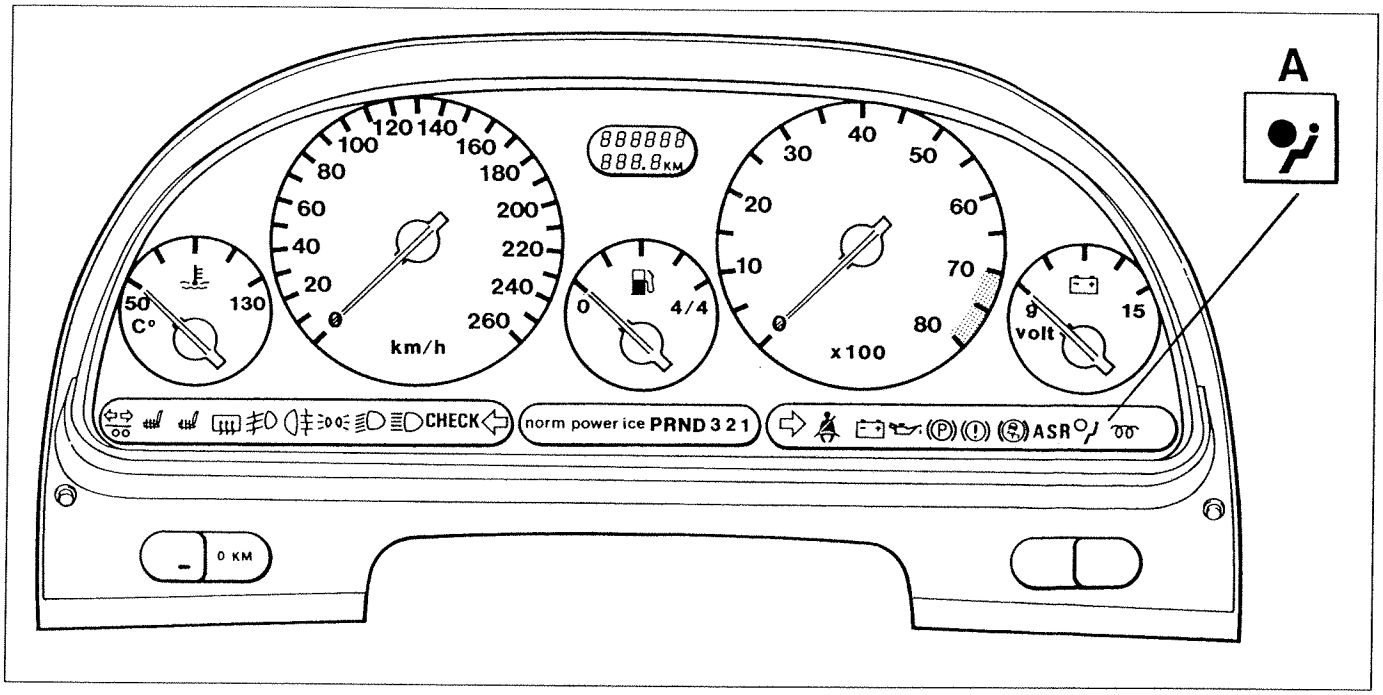
WARNING LIGHT SIGNALLING AIR BAG SYSTEM FAILURES



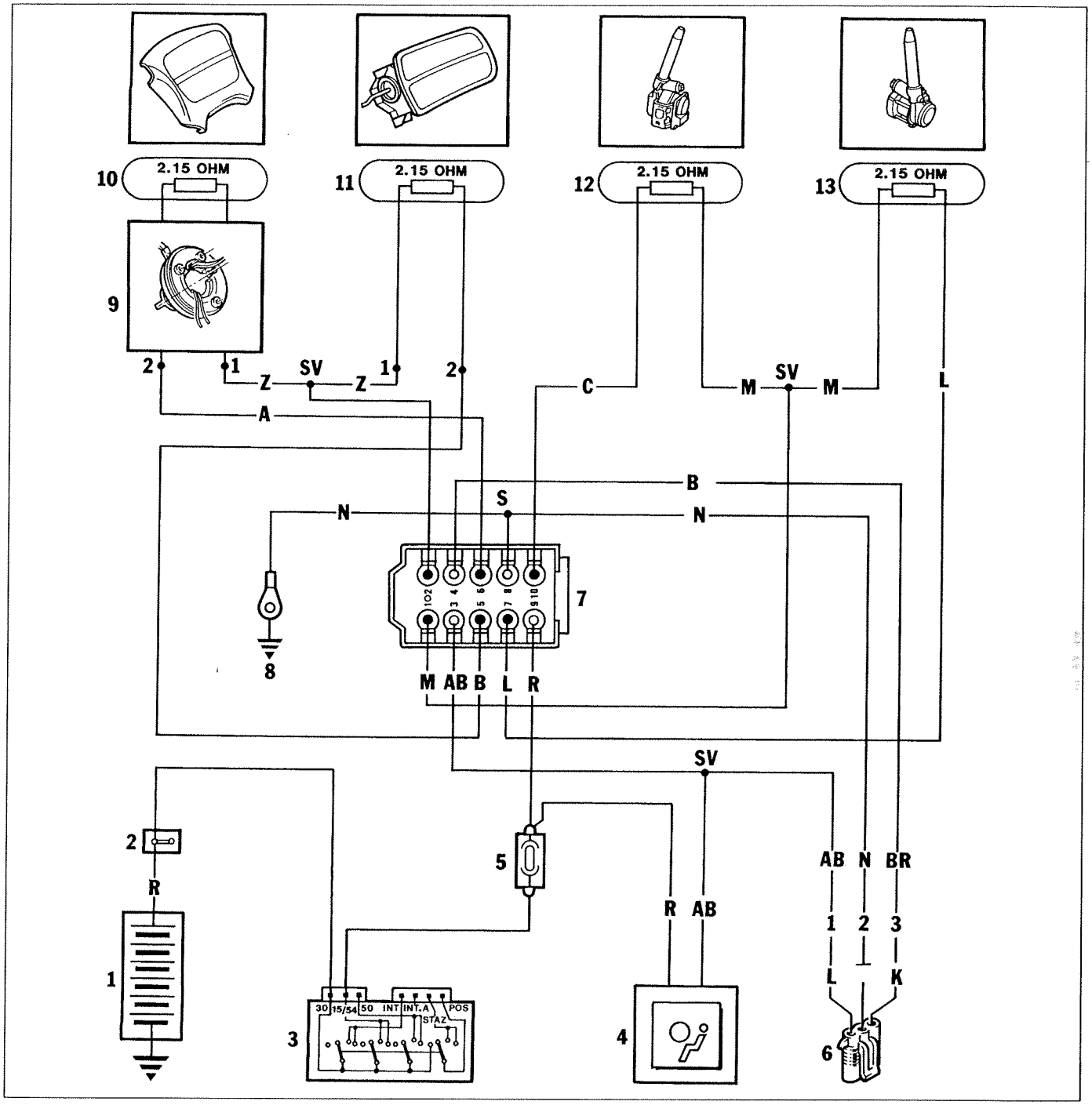
P3U14BL01

The 1W-12V Air Bag warning light (A) in the instrument panel (connector A, Pin 19) is supplied through the ignition when it is switched ON and is operated to earth through the electronic control unit (terminal 3). This warning light comes on for about 4 seconds when the engine is started up or or when the ignition is switched ON.

The user should alwasy check that the warning light has come on (test stage).

If the warning light does NOT come on or does NOT go out after the 4 seconds, this indicates a failure in the Air Bag system. If the electronic control unit detects a failure during the autodiagnostic checks (test) which it carries out to ascertain that the entire system is working properly, it immediately orders the Air Bag warning light to come on.

WIRING DIAGRAM



1. Battery
2. Connector block (+)
3. Ignition switch
4. Air Bag warning light
5. 7.5A fuse in control unit
6. Diagnostic socket
7. Electronic control unit 5021

SU. Ultrasound welding

8. Earth connector on tunnel
9. Clock spring
10. Driver's Air Bag module
11. Passenger Air Bag module
12. Passenger pre-tensioner (white connector)
13. Driver's pre-tensioner (red connector)

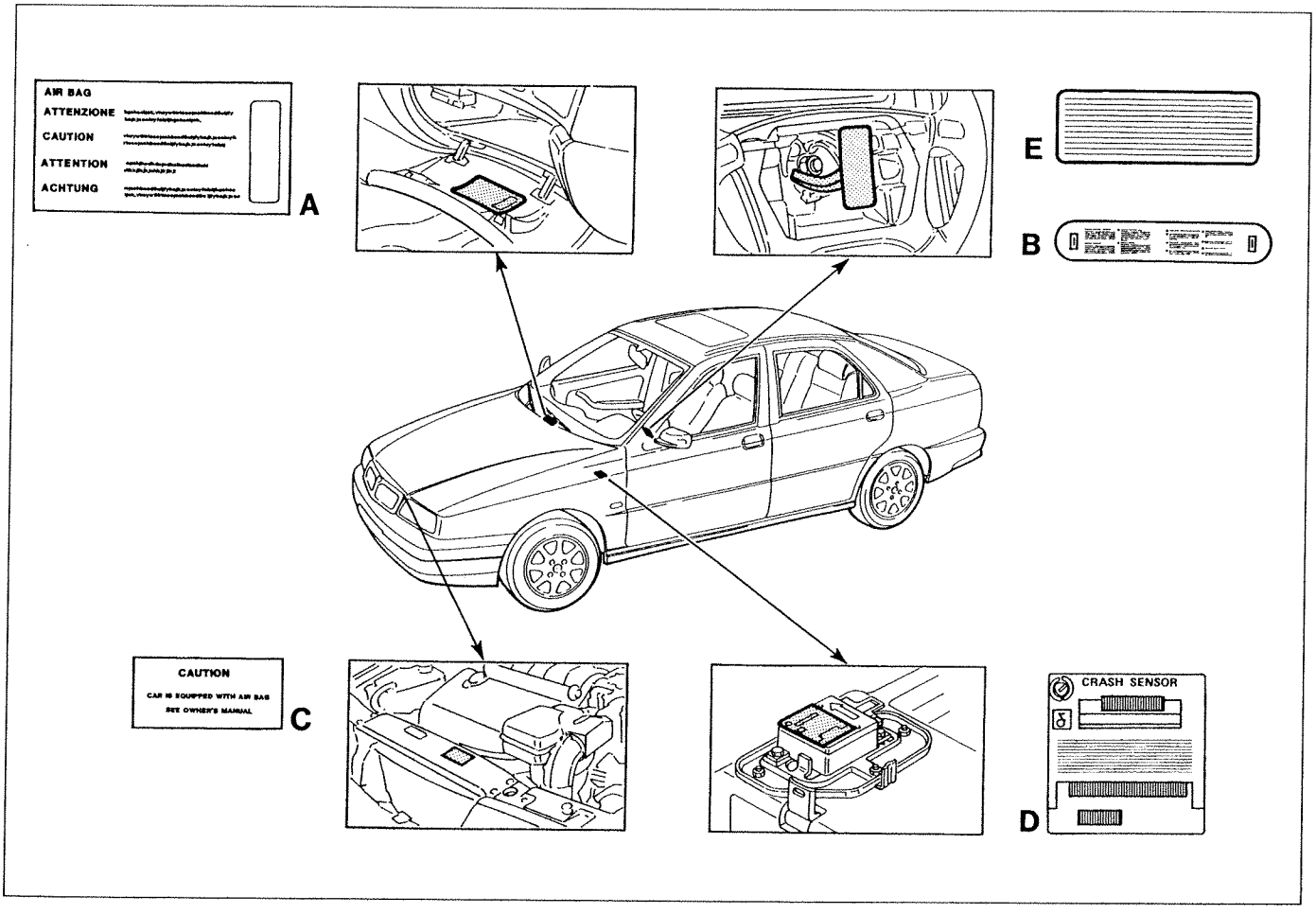
NOTE *With the connector detached from the control unit, pins 1-2-5-6-7-10 are automatically connected to one another.*

- The electronic control unit (7) is supplied at terminal 9 from the battery voltage through the ignition switch (3), with the key in the services position (15/54). There is a 7.5A protective fuse (5) on the junction unit. The earth (8) is fixed by a bolt to the centre tunnel.
- If one or more failures are detected in the system, this is signalled by the electronic control unit (7) through the Air Bag warning light (4) in the dashboard coming on.
- The fault diagnosis of the system is carried out by connecting the Fiat-Lancia Tester (or SDC diagnostic station) to the socket (6). Alternatively, it is possible to use the blink code system using the actual Air Bag failure warning light (4), placing pin 1 (AB) for line L of the diagnostic socket (6) to earth for 1 - 5 seconds.
- All the terminals in this system are clamped and sealed.
- The wiring is special and there are 4 ultrasound welds (SU) inside. To make it more visible for whoever is carrying out service operations, this cable is protected by yellow tape which says Air Bag on it.

PLATES

A series of adhesive labels located at various points on the vehicle remind the operator and the user of the main rules that must be followed.

A. **Sticker inside the oddments tray** in four languages: it advises consulting the owner's handbood and gives the expiry date before which it is necessary to have a Lancia Dealer check the efficiency of the device. **The device will work for a period of 10 years.** The sticker is perforated before it is fitted by the production month and for the 10 years after the production year (for example from 1994 to 2004). This is valid for both Air Bag modules and pre-tensioners.



P3U16BL01

Location on vehicle of plates containing instructions for using the device

B. Plate in four languages fixed on the detonator cable, warning the operator that before fixing the clock spring the front wheels of the vehicle should be in a straight position.

C. Sticker on the front cross member: warning the use and the operator that the vehicle is fitted with an Air Bag and recommending that the instruction booklet should be read.

D. Sticket on the electronic control unit: indicating to the operator that the control unit must be fitted in a longitudinal position in relation to the vehicle (in order to allow the accelerometers to detect the deceleration in the correct direction). It also contains a warning that only specialist and authorized personnel should work on the Air Bag system following the warnings in the Service Manual.

E. Fitting and dismantling should only be carried out by specialist workshop personnel. Before fitting or removing the steering wheel, it is necessary to ensure that the front wheels are straight. Remove the orange coloured connector from the Air Bag assembly and from under the steering lock-ignition switch cover.

AUTODIAGNOSIS

The entire time the vehicle is driving, the electronic control unit carries out an autodiagnosis, checking the Air Bag system and memorizing any failures. The moment a fault is detected, as well as memorizing it, it orders the "Air Bag" warning light in the instrument panel to come on.
During starting, this warning light comes on for about 4 seconds (initial test stage) and then goes out.
If the warning light does NOT come on or does NOT go out after the 4 seconds have elapsed, this indicates a failure in the Air Bag system.
Activation of the system following a particularly severe impact is also memorized by the control unit.

FAULT DIAGNOSIS

Fault diagnosis with the FIAT/LANCIA TESTER

It is possible to analyze the faults memorized in the control unit using the FIAT/LANCIA TESTER or other diagnostic equipment.
The faults memorized in the control unit can be cancelled, after the fault has been repaired, still using the FIAT/LANCIA TESTER or other diagnostic equipment.

NOTE In the case of an impact which has caused the activation of the entire system (Air-Bag and pre-tensioners), the control unit memory cannot be cancelled and must therefore always be replaced. In addition, the warning light in the instrument panel remains on permanently.
If, on the other hand, only the pre-tensioners are activated, the memory can be cancelled, twice. The control unit only has to be replaced in the case of a third activation.

During the fault diagnosis, if it is necessary to take continuity measurements on the module lines, the modules must be disconnected from the wiring and replaced with the appropriate simulation resistances.

Alternative fault diagnosis with (Air Bag) warning light blink code only to be used if the FIAT/LANCIA TESTER is not available.

It is possible to carry out a fault diagnosis on the control unit by interpreting the blink codes emitted by the Air Bag failure warning light located in the instrument panel (see wiring diagram).

Request for blink code

To activate the diagnostic system using the blink codes, the diagnostic socket (6) pin 1 (AB) cable for the serial line must be connected to earth for between 1 and 5 seconds. Pin 1 for the diagnostic socket is connected to terminal 3 of the control unit and the Air Bag system failure warning light is connected at the same terminal. The table shows the faults which can be detected and any remedies to adopt according to the number of flashes emitted by the warning light.

N° of Flashes	POSSIBLE FAILURE	REMEDIES
1	System all in order	
2	Control unit faulty	Replace control unit
3	Wiring for module priming circuits in contact with +12 V	Check the wiring
4	Wiring for module priming circuits in contact with earth (-)	Check the wiring
5	Driver's module priming device outside of tolerance	Check the wiring or replace driver's module
6	Passenger module priming device outside of tolerance	Check the wiring or replace passenger module
7	Supply voltage below 9.5V	Recharge or replace battery
8	Warning light circuit faulty	Replace warning light bulb - Check the wiring
9	Data memorized for impacts	Replace control unit
10	Wiring for seat belt pre-tensioner priming circuits in contact with +12 V	Check the wiring
11	Wiring for seat belt pre-tensioner priming circuits in contact with earth (-)	Check the wiring
12	Driver's seat belt pre-tensioner primer broken	Replace the pre-tensioner
13	Passenger seat belt pre-tensioner primer broken	Replace the pre-tensioner

If the warning light only comes on once when the request is made for the blink code, the Air Bag electrical system is "all in order".
If the memory contains various faults (e.g. 3), the control unit orders the warning light to come on with the code for the first fault memorized (e.g. 2); the next fault will be signalled when a new request is made, i.e. by placing the serial line L for the diagnostic socket to earth and so on for subsequent faults. If the codes memorized were 2, 4, 9 after signalling the last fault, if a new code is required the first fault, i.e. 2, will be signalled again.

Cancelling fault codes

When the repairs have been completed the fault codes stored in the control unit memory can be cancelled. This is carried out by connecting pin 1 (AB) cable for serial line L of the diagnostic socket to earth once again for between 5 and 10 seconds. Only the last fault signalled can be cancelled. Therefore the operation has to be repeated as many times as the number of faults to be cancelled.
It is necessary to pay attention to the length of time the diagnostic socket is to earth (short circuited): if this period exceeds 10 seconds then the electronic control unit will ignore the order to cancel the faults. The memory cannot be zeroed until all the faults stored in the memory have been repaired.

NOTE *Fault number 2 is cancelled automatically if it is not detected within 10 seconds of the ignition key being inserted.*
Fault number 9 (memorizing impact data) can only be cancelled using the Fiat-Lancia Tester.

SAFETY INSTRUCTIONS TO BE FOLLOWED WHEN WORKING ON VEHICLES EQUIPPED WITH AIR BAG SYSTEMS

Operations on vehicle

Below are several rules which MUST, UNDER ALL CIRCUMSTANCES, BE FOLLOWED when carrying out any sort of operation involving vehicles equipped with Air Bags.
It should also be remembered that Air Bag modules are explosive devices. Their usage, transportation and storage are governed by the laws dealing with explosives in the countries where the vehicles are marketed.
Before starting to carry out:
- bodywork repairs;
- welding operations;
- work which requires the removal of the Air Bag modules or the control unit.

A. Always disconnect the battery, i.e.: DISCONNECT BOTH LEADS (+) and (-) from the terminals AND INSULATE THEM THOROUGHLY.
B. Disconnect the 10 pin connector for the control unit waiting at least 10 minutes after the battery has been disconnected.
C. When removing the inflation device for a bag, scrupulously observe the following procedure:

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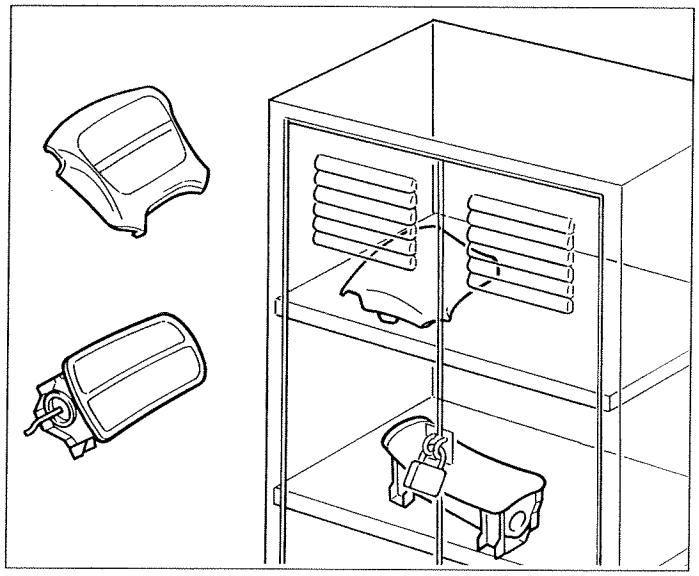
1. Wait at least 10 minutes after having disconnected the battery before starting to remove the module.
2. Undo the fixing bolts.
3. Disconnect the socket for the bag inflation devices (modules).
4. Place the devices, with the cover facing upwards, in a lockable, metal cupboard. This cupboard should be designed exclusively for this purpose; it should not, under any circumstances, be used for storing other types of material, especially if they are inflammable. The cupboard should meet the requirements for housing pyrotechnic charges (metal, impact-resistant with vents to allow natural ventilation) and shoul have signs on the outside in accordance with the laws in force (DANGER EXPLOSIVES - NO NAKED FLAMES - TO BE OPENED BY AUTHORIZED PERSONNEL ONLY).



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NOTE *All the connectors used and wired for the Air Bag modules have a short circuit clip inside. Until the Air Bag modules are connected, via a suitable connector, to an appropriate energy source, there is no possibility of accidental activation.*

A system component which is NOT activated in the case of an accident should still be considered as "active", therefore components which have not exploded because they are defective or have reached the end of their warranty or have to be replaced for other reasons, should be returned to the special centre following the procedure described below.

The refitting and dismantling of the safety system components should ONLY be carried out by skilled, authorized personnel.
The failure to adhere to the instructions given below could involve the system being activated involuntarily resulting in unnecessary injury to persons or repairs to the system.
DISMANTLING AIR BAG MODULES INTO THEIR COMPONENTS IS STRICTLY FORBIDDEN.

NOTE *All the system components have been specifically designed to work on a particular marque and type of vehicle, therefore modules and pre-tensioners cannot be adapted, reused or installed or other vehicles, but only on those for which they have been specially designed and produced.*
Any attempt to reuse, adapt or install a system on a different type of vehicle can cause injury to the occupants of the vehicle in the case of an accident.

Replacing an Air Bag (because of defects or expiry of the warranty)

If an Air Bag module is being replaced because it is defective or because the warranty has expired, it is necessary to:

1. Remove the sticker from the new module, stick it in a special file (register) with the vehicle details (chassis no., registration date, model, etc.) and add the serial number of the old module. This file with the registration data should be kept for any future checks.
2. Before being stuck on top of the existing sticker, the new sticker should be perforated at the month and for the ten years following the year in which the module is fitted (e.g. from 1996 to 2006).
3. Connect the module to the appropriate connector coming out of the steering wheel.
4. Fit the Air Bag module in the special housing in the steering wheel checking that the connecting cable is correctly connected and tighten the bolts to the recommended torque.

Replacing the control unit

The electronic control unit should ALWAYS be replaced in the case of an impact which completely activates the safety system (Air Bag modules + pre-tensioners).

Do not, any circumstances, attempt to reuse the electronic control unit.

If the control unit is being replaced, the sticker on the control unit must be removed and stuck in the special file following the procedure described above.

NOTE *After having carried out repairs to the system, check its operation using the FIAT/LANCIA TESTER.*

Operations after an accident

If any of the safety system components are damaged following an accident, they SHOULD BE replaced. Do not attempt to repair the control unit, the clock spring or the Air Bag modules.

Accidents where the Air Bag system is or is not activated

Several of the safety system components should be inspected if the system has been activated and if it has been partly activated or if it has not been activated at all.
These components are the:
- steering column;
- steering column supports;
- area where the electronic control unit and modules are secured;
- clock spring;
- dashboard (in the area of the passenger air bag module).

If the component is distorted, broken or bent it should be replaced.

Accidents where the Air Bag system is activated

Several of the safety system components should be replaced if the vehicle suffers a frontal impact where the safety system is completely or partly activated.
If the system is partly activated (pre-tensioners only), these components are the:
- pre-tensioners;
- electronic control unit (it should only be replaced after the pre-tensioners have been activated for the third time).

If the safety system is completely activated, these components are the:
- Air Bag modules;
- pre-tensioners;
- electronic control unit.

As far as the wiring and the connectors are concerned, they should be inspected in order to identify any signs of burning, melting of the external insulation or damage due to excessive heat.
Any signs of damage to the clock spring or in the area where the electronic control unit and Air Bag modules are secured will involve the replacement of the damaged components.

Painting operations

There are no particular safety regulations to be observed for painting operations and drying in the oven, given that the safety system (Air Bags and pre-tensioners) have been designed so that they are not damaged when the exterior of the vehicle gets hot in normal paint drying systems.

The use of naked flames near modules is forbidden.
All electronic control units (including the one for the Air Bag system) should, however, always be removed in case the temperature in certain environments may reach or exceed 85°C).

Dangers to health

The precautions to be observed when handling activated Air Bag modules are listed below:
1. Wear protective gloves and safety goggles.
2. After having touched Air Bag units, wash your hands and exposed parts of the body with soap and water.

Effects of over exposure

There is no potential danger in exposure to the propellants as the system is completely sealed.
The mixture of propellants is in a solid state, therefore inhalation is impossible even if the gas generator cartridge were to break.
If there is an escape of gas, this presents no danger to health (for humans).
Contact with skin should be avoided and do not ingest the propellant.

In the case of:
- ***Contact with skin:*** *wash immediately with soap and water.*
- ***Contact with eyes:*** *wash the eyes immediately with plenty of water for at least 15 minutes.*
- ***Inhalation:*** *move the patient immediately into the fresh air.*
- ***Swalloing:*** *make the person vomit if they are concsious.*

It is always necessary to seek medical assistance.

SAFETY INSTRUCTIONS FOR HANDLING AIR BAG MODULES

Under normal circumstances, the driver's and passenger Air Bags are activated through the electronic command during impact. The gas which is produced in these conditions is mainly nitrogen which is not toxic.
It is important that whoever carries out operations to devices fitted on the vehicle observes the safety instructions listed below.
Only suitably trained personnel should be allowed to work on devices.

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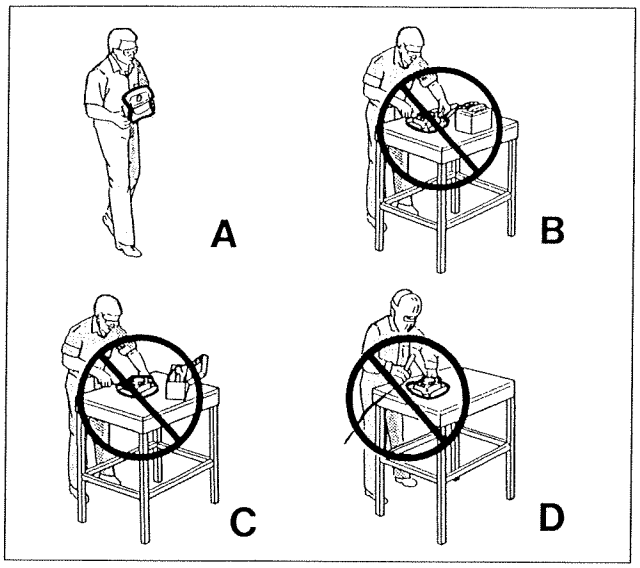

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- When removing and replacing open (exploded) Air Bags, only move one module at a time and wear protective gloves and goggles for the removal operations.
  At the end of the operations, wash your hands thoroughly with neutral soap and, in the case of possible contact with residual powder from the device with eyes, rinse immeidately with plenty of running water.
  Once the Air Bag has exploded the metal components are very hot. Avoid touching them for several minutes (about 20) after the Air Bag has been activated.

A When removing and replacing UNEXPLODED Air Bags, always rest the Air Bag module with the opening flap and the pre-breakage splining facing upwards. Never place anything on top of this flap.

B Do not, under any circumstances, supply an Air Bag module with an electric current.

The system components can only have continuity measurements taken after the modules have been replaced with simulation resistances.

C Do not carry out repairs to Air Bag modules. All defective modules should be sent to the supplier.

D Never subject an Air Bag module to heat, for example through welding, percussion, drilling, mechanical machining, etc.

- Never install Air Bag units which have been dropped or which show signs of any sort of damage on vehicle.
- It is forbidden to store Air Bag modules together withinflammable or combustible materials.
- The gas generators should not come into contact with acid, grease or heavy metals: contact with these substances could cause the formation of poisonous or harmful gases or explosive compounds.
- Spare parts must be stored in the original packaging and their temporary storage must be in accordance with the same procedure as for an Air Bag module which has been removed from the vehicle and not activated, i.e. in a specially designed, lockable, metal cupboard (impact-resistant with special vents to allow natural ventilation). The cupboard should have special notices on the outside (DANGER EXPLOSIVES - NO NAKED FLAMES - TO BE OPENED BY AUTHORIZED PRESONNEL ONLY).
- It is forbidden, on all versions with Air Bags, to carry out repairs to the front seats, unless the system has been rendered inoperational previously by switching OFF the ignition, extracting the key, disconnecting and insulating the battery and then waiting for 10 minutes.
- If, on account of exceptional weather conditions (flooding, high tides, etc.), water and mud reaches such a height as to affect the device components, then it must be replaced.

DISPOSING OF AIR BAG MODULES

Air Bag modules fitted in vehicles should NOT be scrapped with the actual vehicle, but removed previously.
Air Bag units cannot be disposed of without being activated first.
If, during an accident, the Air Bag module is not activated, then the device must be considered as still charged. All unexploded material should be sent to GEMCA in Chivasso, stating the folowing on the accompanying docket:
"AIR BAG/PRE-TENSIONER CONTAINING PYROTECHNIC CHARGE TO BE DEACTIVATED".

The devices must be sent to GEMCA in the same packaging as the spare parts are received in and, if this packaing is no longer available, it can be ordered from the Parts Warehouse in Volvera.
Obviously if AIR BAGS - PRE-TENSIONERS are being replaced, the original packaging should be kept intact for sending the device which has not been activated to GEMCA.

Foreign markets

As far as foreign markets are concerned, check the laws in force and notify the network.

Not complying with the procedures listed below can cause involuntary activation of Air Bag units and injury to persons. Air Bag units which have not been activated should NOT be disposed via the usual means. Air Bag units which have not been activated contain substances which are dangerous to health and can cause injury if the sealed container is damaged during disposal. The disposal of Air Bag units which is not carried out in accordance with this these procedures, could be in violation of laws in force on the subject.

Ordering instructions

If necessary, the devices should be requested, from time to time, from the After Sales Parts Division-Volvera using the V.O.R. procedure only because the Network must not keep stocks of these components. In any case, as mentioned previously, a register is kept, for internal movements, recording the module identification numbers and details of the vehicle (chassis number, registration date, model, etc.).

NOTE *For foreign markets the local laws must be checked and the network notified.*

SAFETY INSTRUCTIONS FOR HANDLING PRE-TENSIONERS

Pre-tensioners are pyrotechnic and therefore they must be correctly handled, moved and stored in order to avoid damage or injury.
In normal conditions, pre-tensioners are only activated through the action and electronic command during an impact. Small quantities of gas are produced which are mainly nitrogen which is not toxic.

The following rules MUST be followed for the safety of operators and the condition of the seat belt with pre-tensioner units. Before any operation, switch the ignition OFF, extract the key, disconnect the battery and wait for 10 minutes before disconnecting the pre-tensioner connectors.

A pre-tensioner which has not been activated in the case of an accident should still be considered "active", therefore pre-tensioners which have not exploded because they are faulty, or whose warranty has expired or which have to be replaced for other reasons, should be returned (complete device) to the special centre, following the procedure described previously for Air Bag modules.

If, as a result of exceptional weather conditions (flooding, high tides, etc.), water and mud reach such levels as to affect the device components, the unit must be replaced.
Pre-tensioners do not require any maintenance and should not, under any circumstances, be lubricated.
Any modifications to the original state will adversely affect operation.

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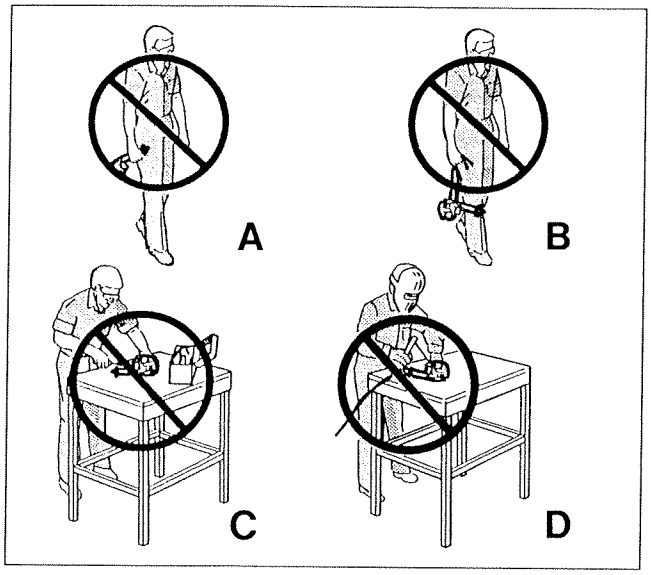

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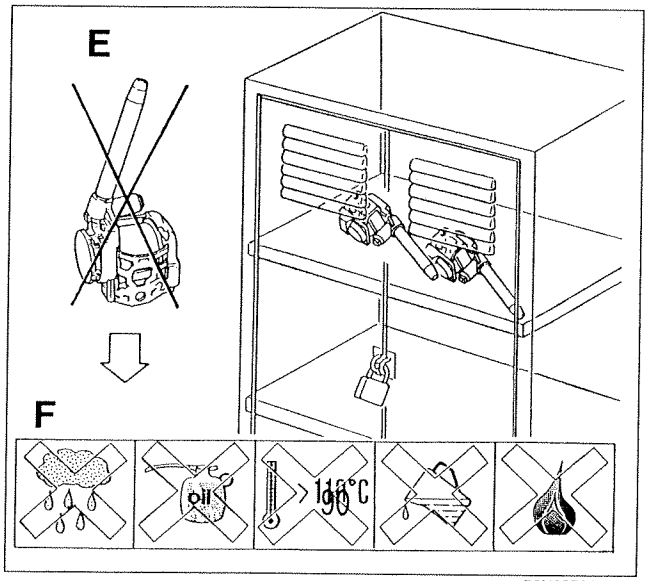

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A Do not handle pre-tensioners by gripping the pipe.

B Do not handle pre-tensioners by gripping the belt.

C Do not tamper with pre-tensioners or carry out any repairs; all defective pre-tensioners should be returned to the supplier.

D Do not subject pre-tensioners to percussion, drilling, mechanical machining or heating through welding.

E Do not drop the unit or expose it to impacts; pre-tensioners which have been dropped from a height of more than 1 metre should not be used, but returned to the supplier.
When operations on the vehicle require the temporary removal of the unit, place it in a metal cupboard which meets the standards laid down by law for housing pyrotechnic charges (see description for Air Bag modules).

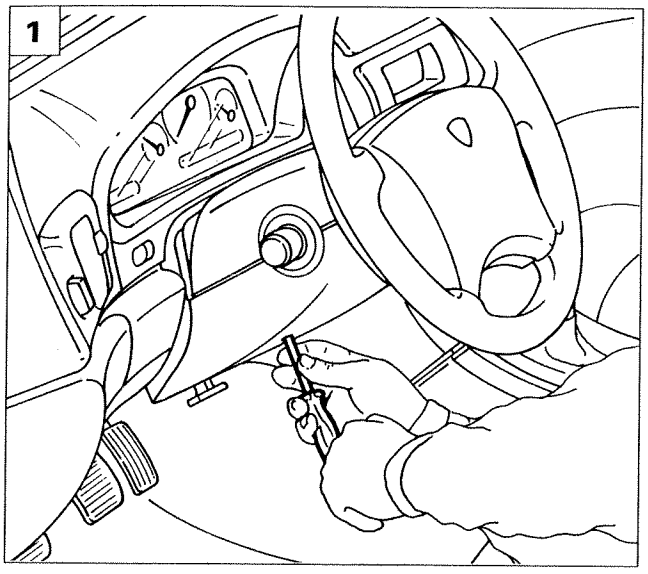
F Keep away from naked flames, fluids, solvents or lubricants and do not expose to temperatures in excess of 90° C.
At temperatures above 165° C, the gas generator may self-ignite.
If a device which has been activated has to be handled, wear protective goggles and gloves.
If the device has been activated, ALWAYS wait for at least 20 minutes after activation before carrying out any sort of operation on it.
Wash your hands with soap and water after handling the device.

Ordering instructions

Follow the same procedures already described for ordering Air Bag modules.

Disposing of pre-tensioners

Follow the same procedures described for Air Bags.



P3U169L04

REMOVING DRIVER'S AIR BAG

Safety measures

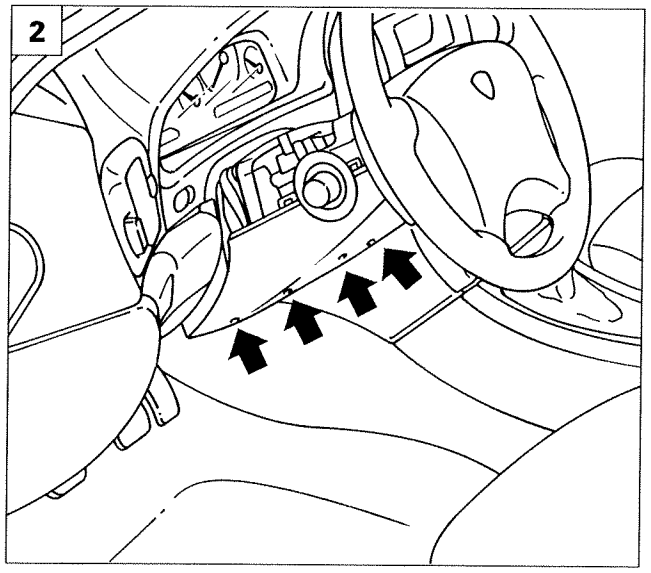
Operations to the Air Bag system components should be carried out by suitably trained personnel, SCRUPULOUSLY following the safety measures listed below. Polythene gloves and protective goggles must be worn during removal and replacement operations.

Before proceeding with the removal of an Air-bag, disconnect the battery leads and wait at least 10 minutes.

Do not use naked flames near an Air Bag or the system components.

The individual system components should not be repaired in any way, but always replaced in one piece.

For more detailed information on the safety instructions, see page 161 onwards.



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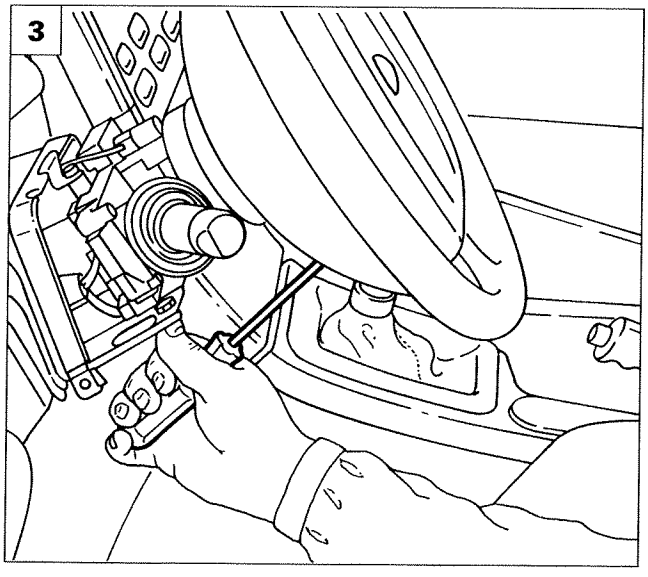
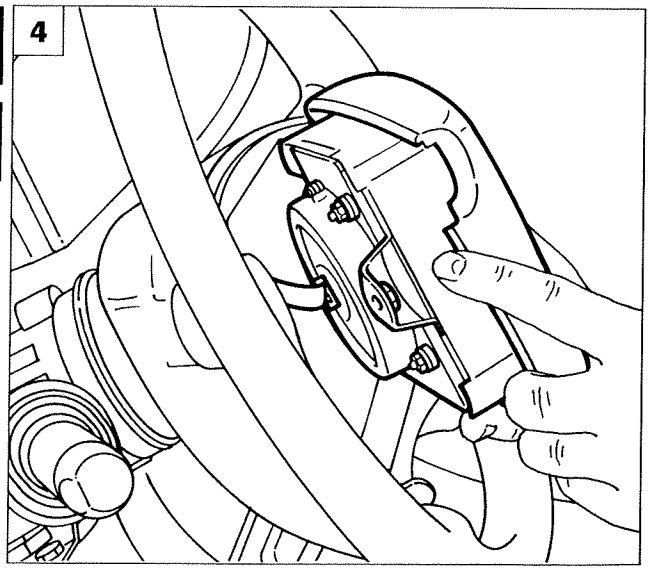
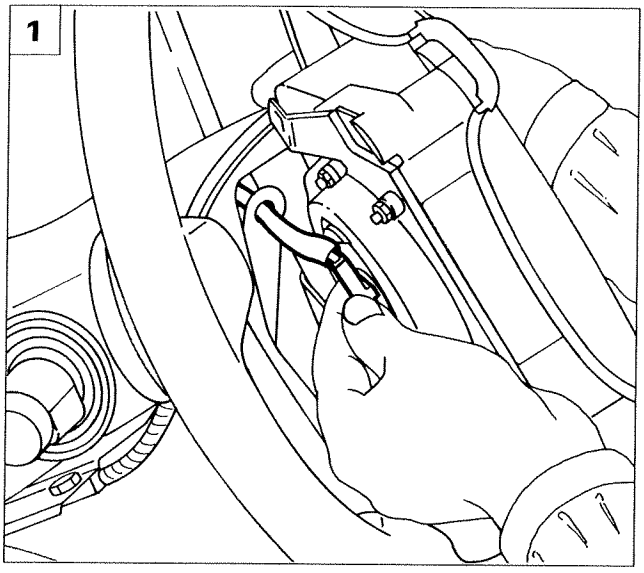
1. Undo the fixing bolt and remove the upper steering column cover.
2. Remove the lower steering column cover undoing the bolts shown.
3. Undo the bolts fixing the Air Bag module, suitably turning the steering wheel.
4. Lift up the Air Bag module rotating it slightly towards the right.



P3U169L06



P3U169L07



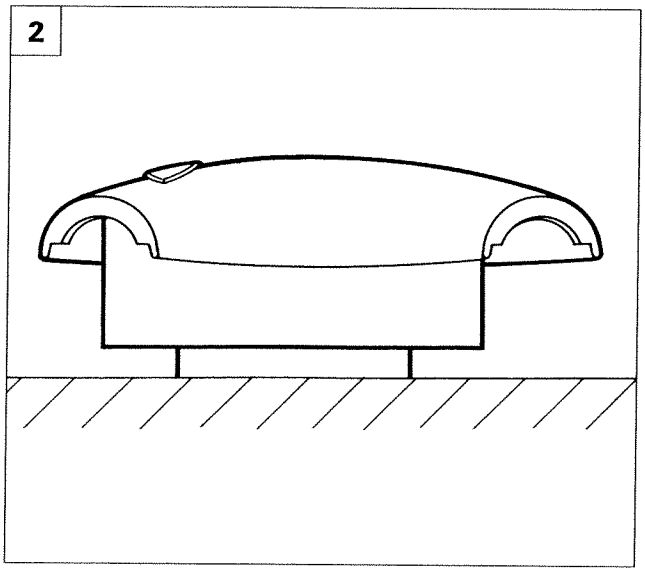
P3U169L08

1. Disconnect the connector for the supply cable from the Air Bag module.

After they have been removed, Air Bag modules which have not been activated should be immediately placed in a suitably marked, locked metal cupboard. Figure n° 2 illustrates the way the module should be positioned with the metal part resting on the surface.

NOTE *To refit simply reverse the order of the operations carried out for the removal.*

DO NOT CONNECT THE BATTERY UNTIL IT IS CORRECTLY FITTED



P3U169L09

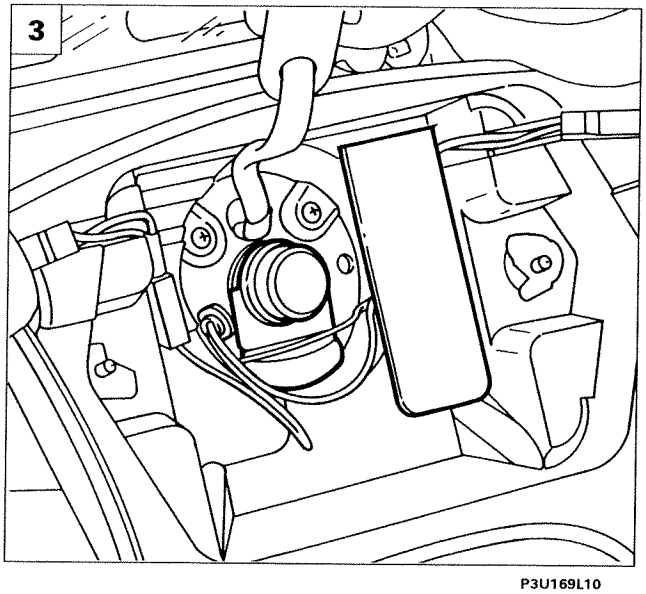
NOTE *After the operation, check the operation of the system using the FIAT/LANCIA TESTER or other diagnostic equipment*

REMOVING-REFITTING CLOCK SPRING

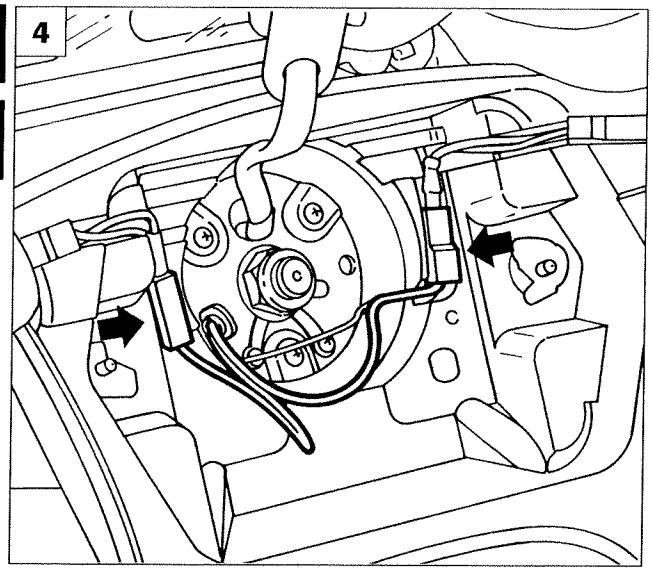
Align the wheels in a straight position

3. Remove the shield for the nut fixing the steering wheel and the yellow plate containing the safety safety instructions.

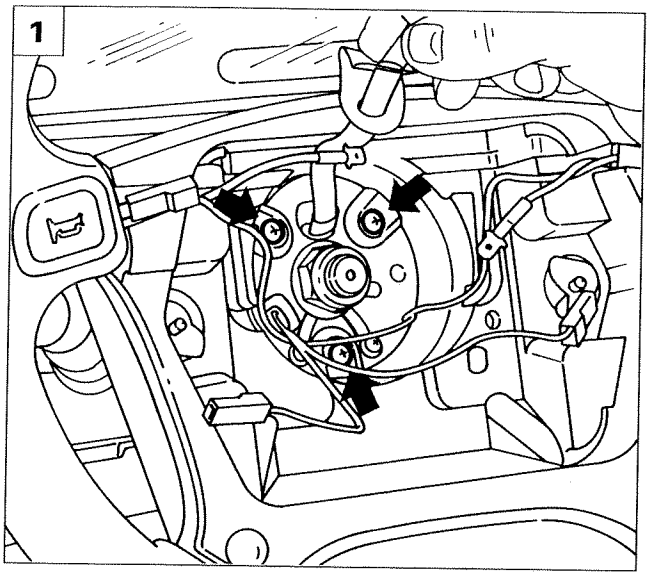
4. Disconnect the connectors for the horns.



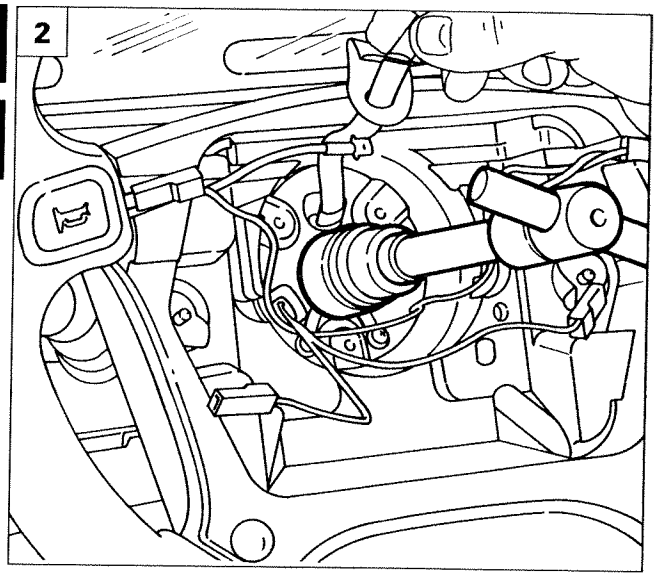
P3U169L10



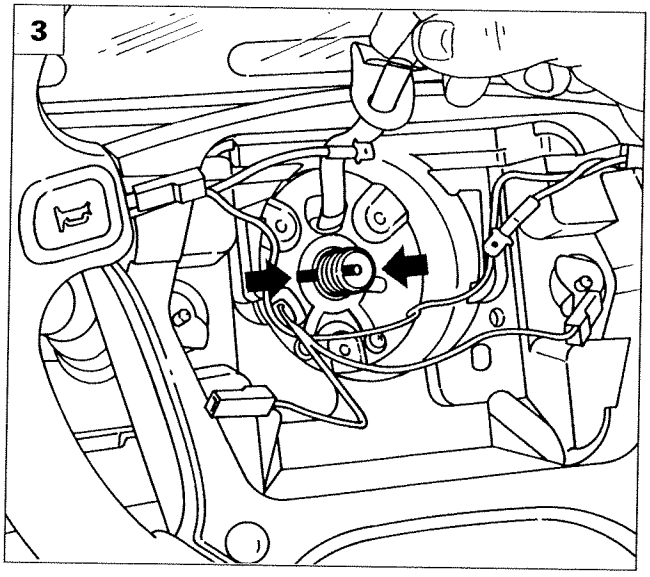
P3U169L11



P3U169L12

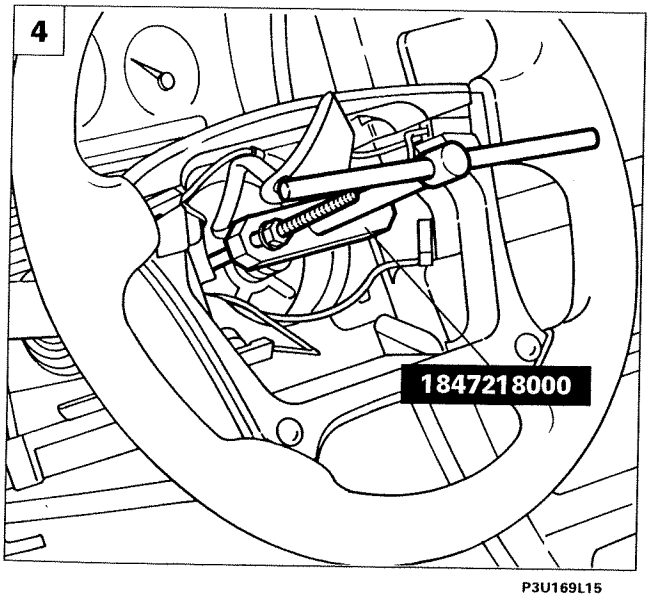


P3U169L13

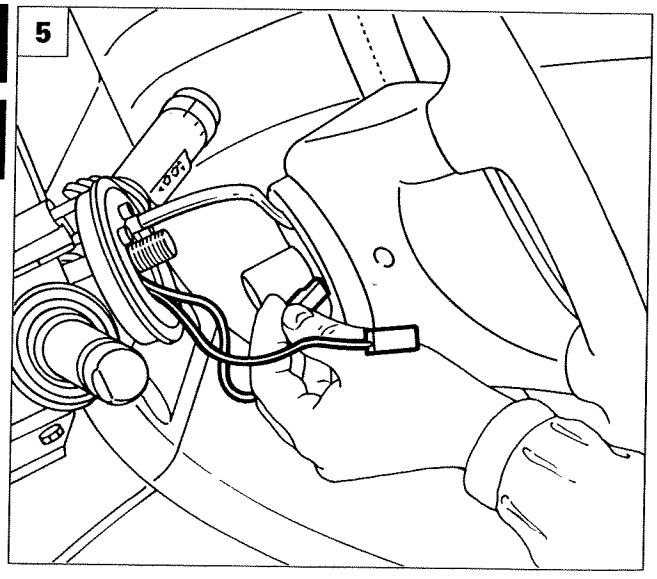


P3U169L14

1. Undo the bolts shown fixing the clock spring to the steering wheel.
2. Undo the nut fixing the steering wheel.
3. Mark the position of the steering wheel hub in relation to the actual steering column.
4. Slightly detach the steering wheel from the steering column using tool 1847218000.
5. Remove the supply cables for the horns through the special slots in the steering wheel hub.

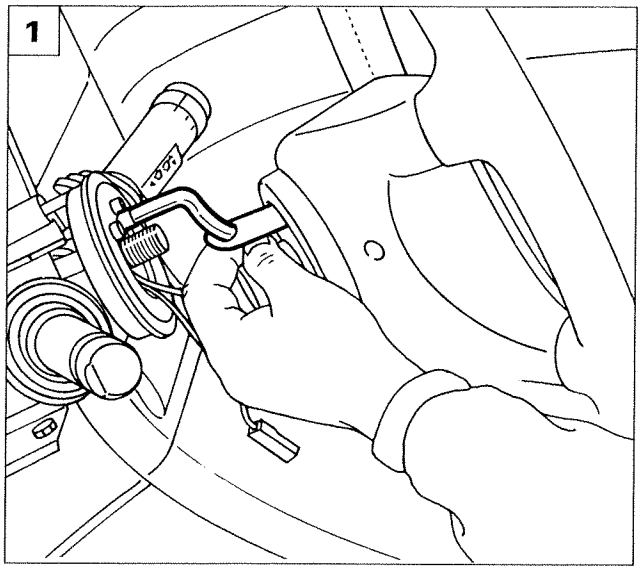


P3U169L15



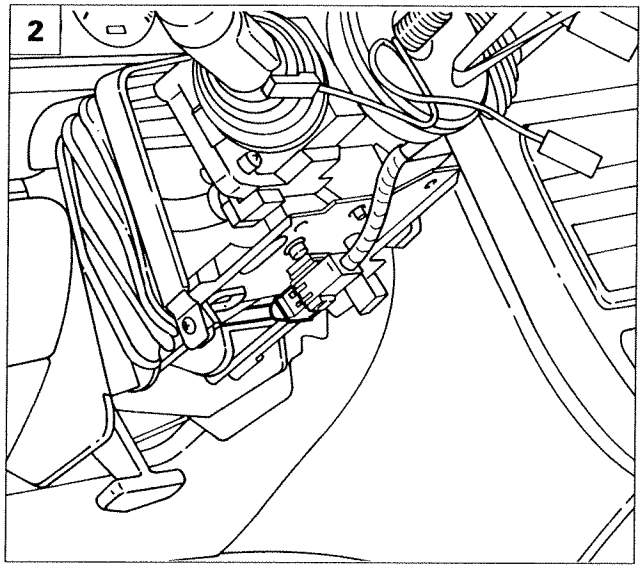
P3U169L16

55.



P3U169L17

1. Remove the Air Bag supply cable, complete with plate, taking care not to damage it and then remove the steering wheel.
2. Disconnect the yellow electrical connector connecting the Air Bag control unit and the clock spring.
3. Working on the tab shown, release the yellow connector for the supply cable and extract the clock spring.
4. Prevent clock spring plates from rotating by fitting a band to maintain the initial reference position.

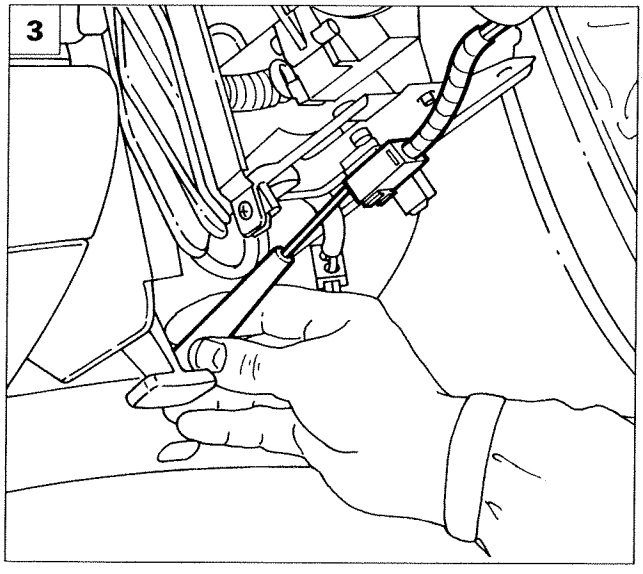


P3U169L18

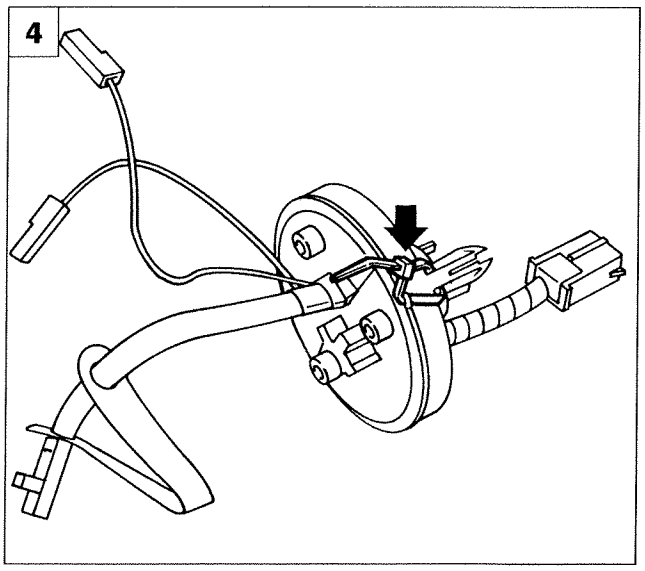
When refitting the clock spring the band preventing its rotation must be removed.

To refit reverse the order of the operations carried out for the removal.

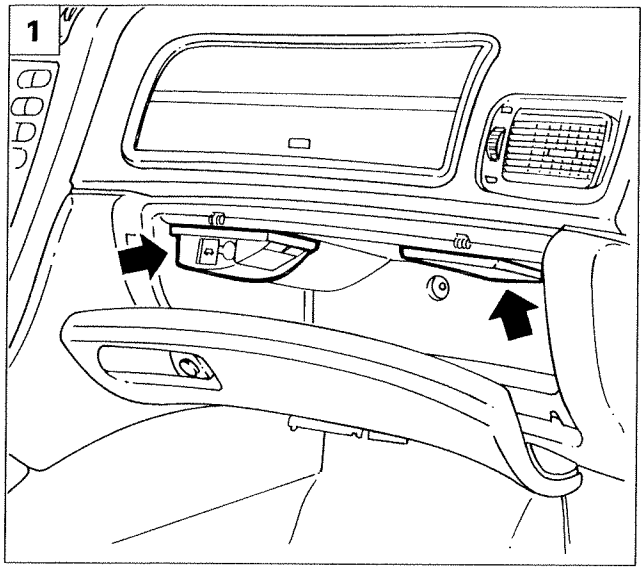
After activation, the metal Air Bag components are very hot, avoid touching them for at least 20 minutes.



P3U169L19



P3U169L20



P3U176L01

REMOVING-REFITTING PASSENGER AIR BAG

Safety measures

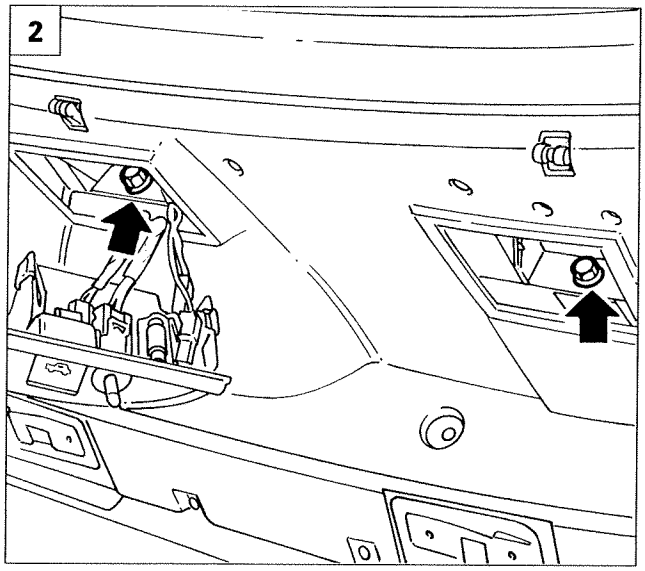
Only suitably trained personnel should carry out operations to the Air Bag system components, SCRUPULOUSLY following the safety measures listed below. Protective goggles and polythene gloves should be worn for the removal and replacement operations.

Before proceeding with the removal of the Air Bag, disconnect the battery leads and wait at least 10 minutes.

Do not use naked flames near the Air Bag and system components.

The individual system components should not be repaired in any way, but should be replaced in one piece.

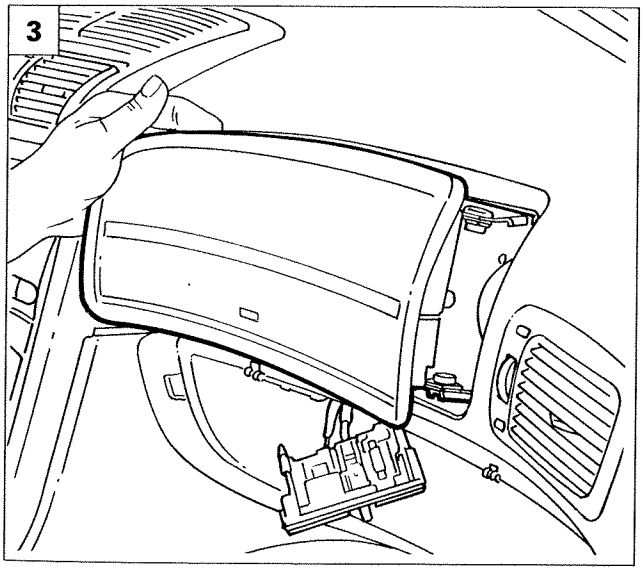
For more detailed information on the safety instructions, see page 161 onwards.



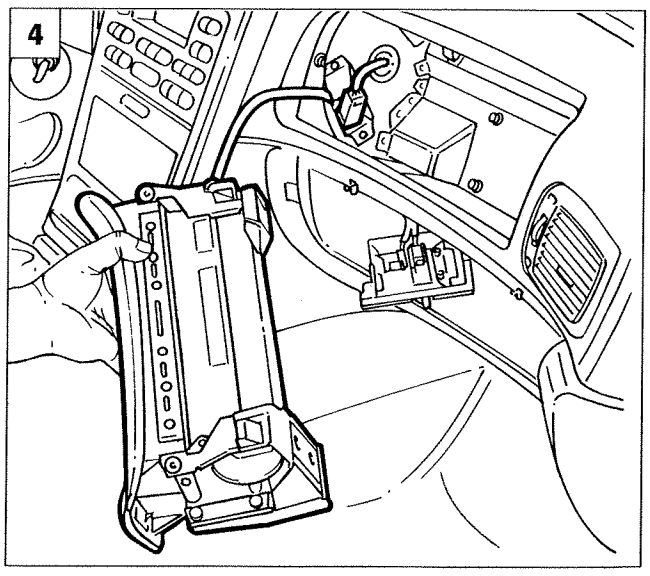
P3U176L02

Removing-refitting

1. Open the glove compartment flap, then remove the courtesy light and the fixing cover.
2. Undo the bolts shown.
3. Carefully extract the Air Bag from its housing in the dashboard.
4. Remove the Air Bag from the dashboard, taking care not to damage the cable.

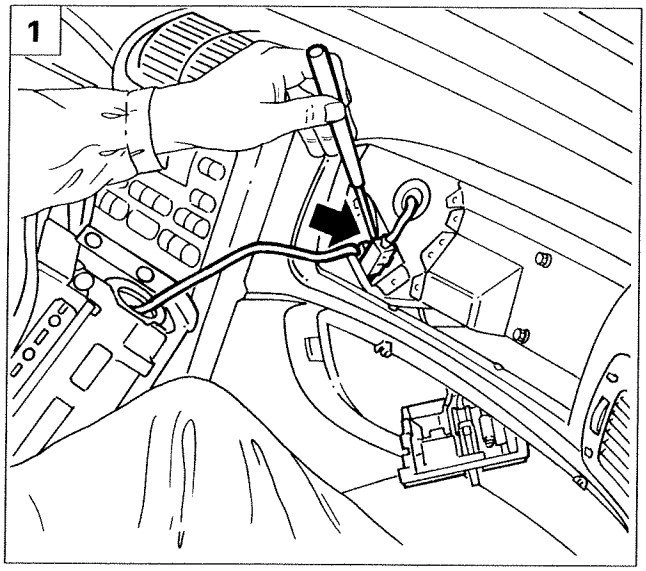


P3U176L03



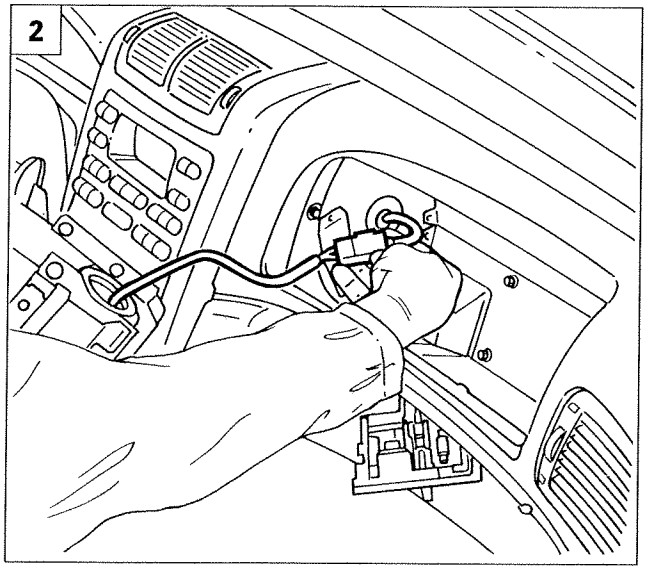
P3U176L04

55.



P3U176L05

1. Using a screwdriver, release the connector.



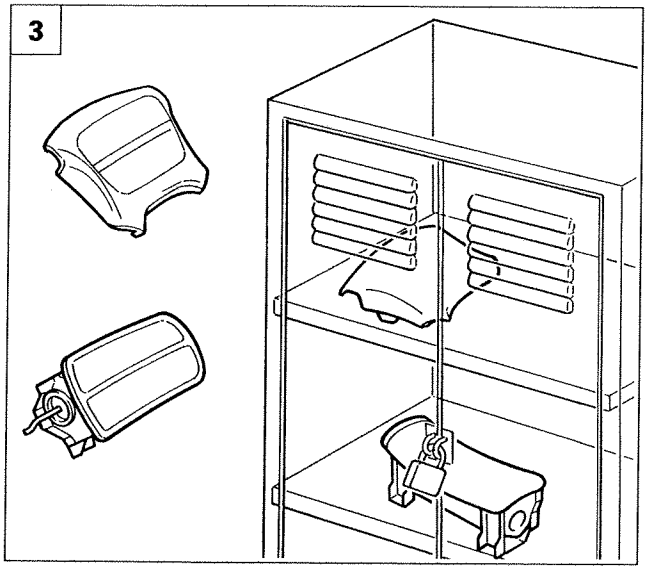
P3U176L06

2. Disconnect the connector, taking care not to damage the cable.

3. Remove the device and position it as illustrated below.

After Air Bags which have not been activated are removed, they should be placed immediately in a suitably marked cupboard which should then be locked.
The diagram shows how to position the device with the metal section resting on the surface.

NOTE *To refit, simply reverse the order of the operations carried out for the removal.*



P3U22BL01

NON COLLEGARE LA BATTERIA SE NON DOPO AVER COMPLETATO CORRETTAMENTE IL MONTAGGIO

NOTA *Dopo l'intervento verificare la funzionalità del sistema tramite FIAT/LANC IA TESTER o altri strumenti diagnostici*

3U762L

NEW AIR BAG SYSTEM

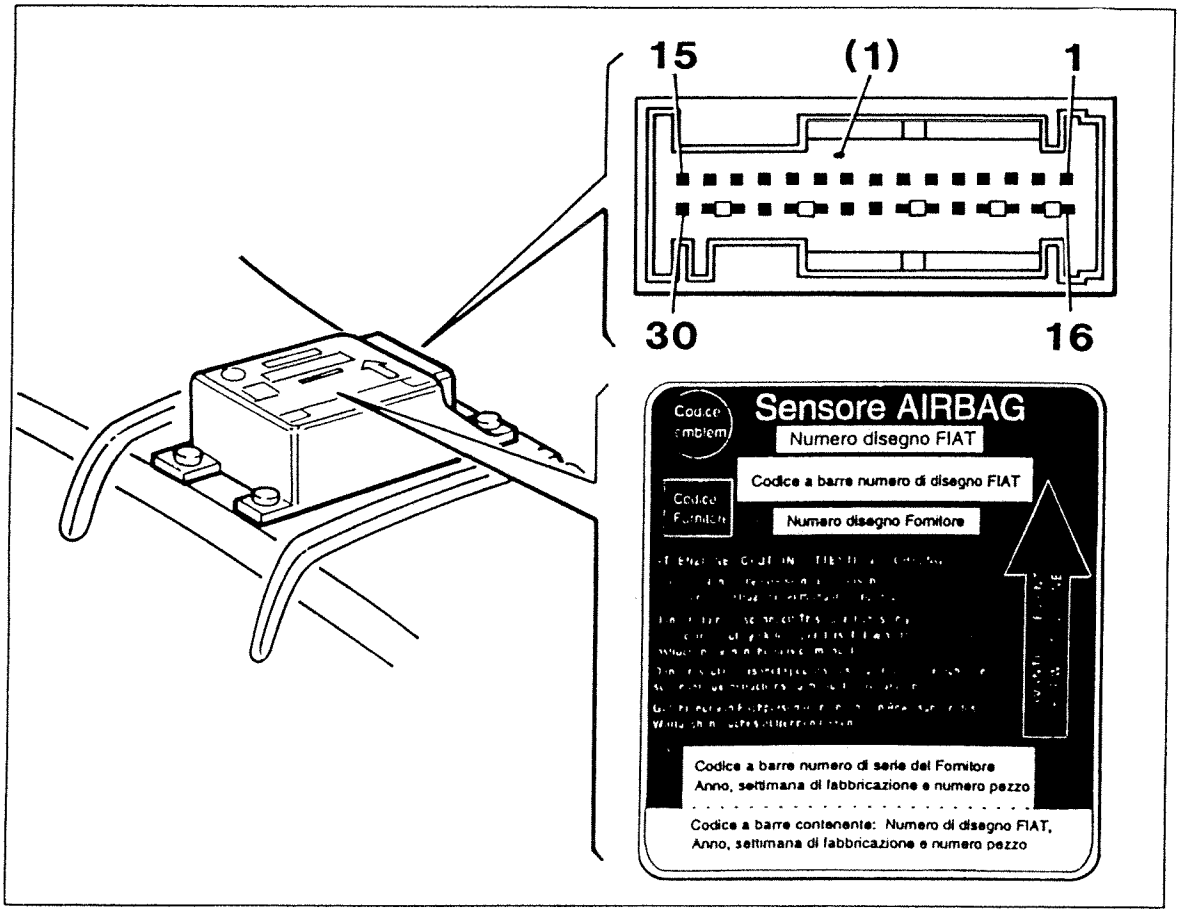
The entire LANCIA k range has new Air Bag system fitted which differs from the previous version in the following ways:

The electronic control unit connector (1) has 30 pins, 13 of which are used for the electronic connection. The connection between the wiring and the Air Bag control unit is ensured by a mechanical closure which is in the correct position when the wiring is reconnected with the control unit.

The Air Bag warning light, in the instrument panel, is supplied when the ignition is switched ON and is placed to earth via terminal 13 of the electronic control unit.

The CLOCK SPRING comprises two plates: the upper plate is fixed to the steering wheel by three bolts, whilst the lower plate is secured to the steering column switch unit by a special turret.

The system fault diagnosis cannot be carried out using the blink code (see page 160).



P3U176L07

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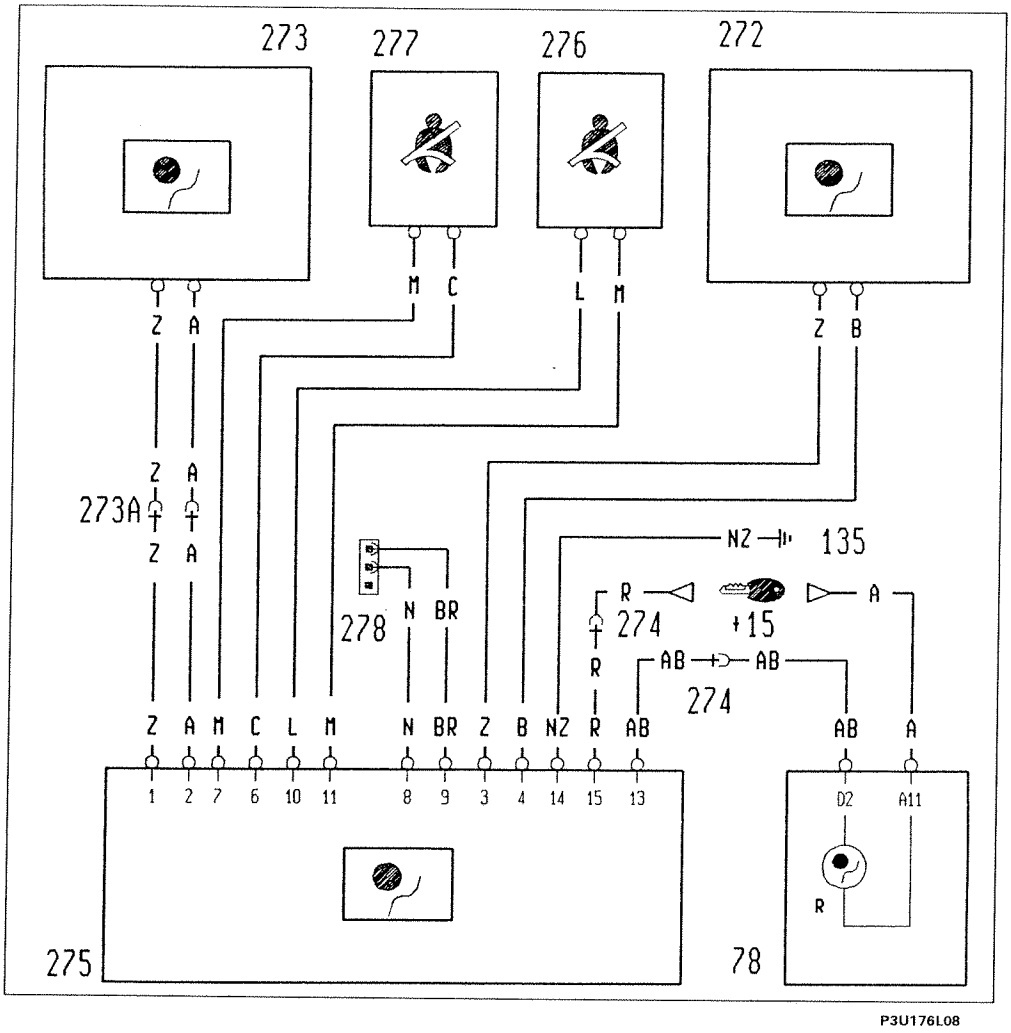
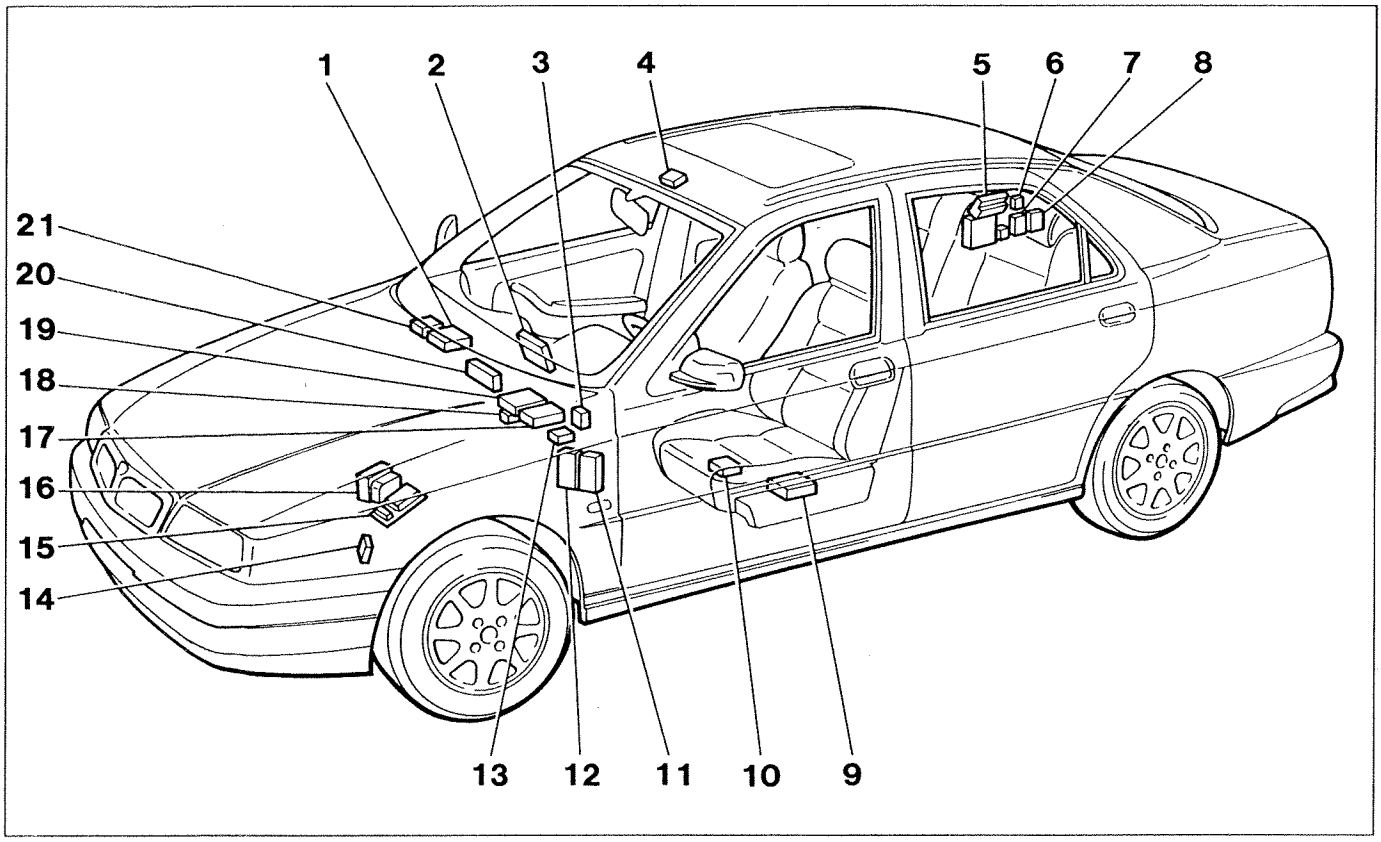


78. Instrument panel with AIR BAG failure warning light
135. AIR BAG system earth
272. Passenger AIR BAG module
273. Driver's AIR BAG module
273A. Connector for CLOCK SPRING
274. Connector connecting AIR BAG system to dashboard cable loom, located under the dashboard, to the left of the heater unit
275. AIR BAG electronic control unit
276. Driver's pre-tensioner
277. Passenger side pre-tensioner
278. Diagnostic socket for FIAT-LANCIA TESTER

Pin	Description	Colour
1	Driver's Air Bag (-)	Z
2	Driver's Air Bag (+)	A
3	Passenger Air Bag (-)	Z
4	Passenger Air Bag (+)	B
6	Passenger pre-tensioner (+)	C
7	Passenger pre-tensioner (-)	M
8	Earth for FIAT-LANCIA TESTER	N
9	Serial line (k) for FIAT-LANCIA TESTER	BR
10	Driver's pre-tensioner (+)	L
11	Driver's pre-tensioner (-)	M
13	Failure warning light	AB
14	System earth	NZ
15	Starting	R

LOCATION OF CONTROL UNITS, RELAYS AND FUSES ON VEHICLE

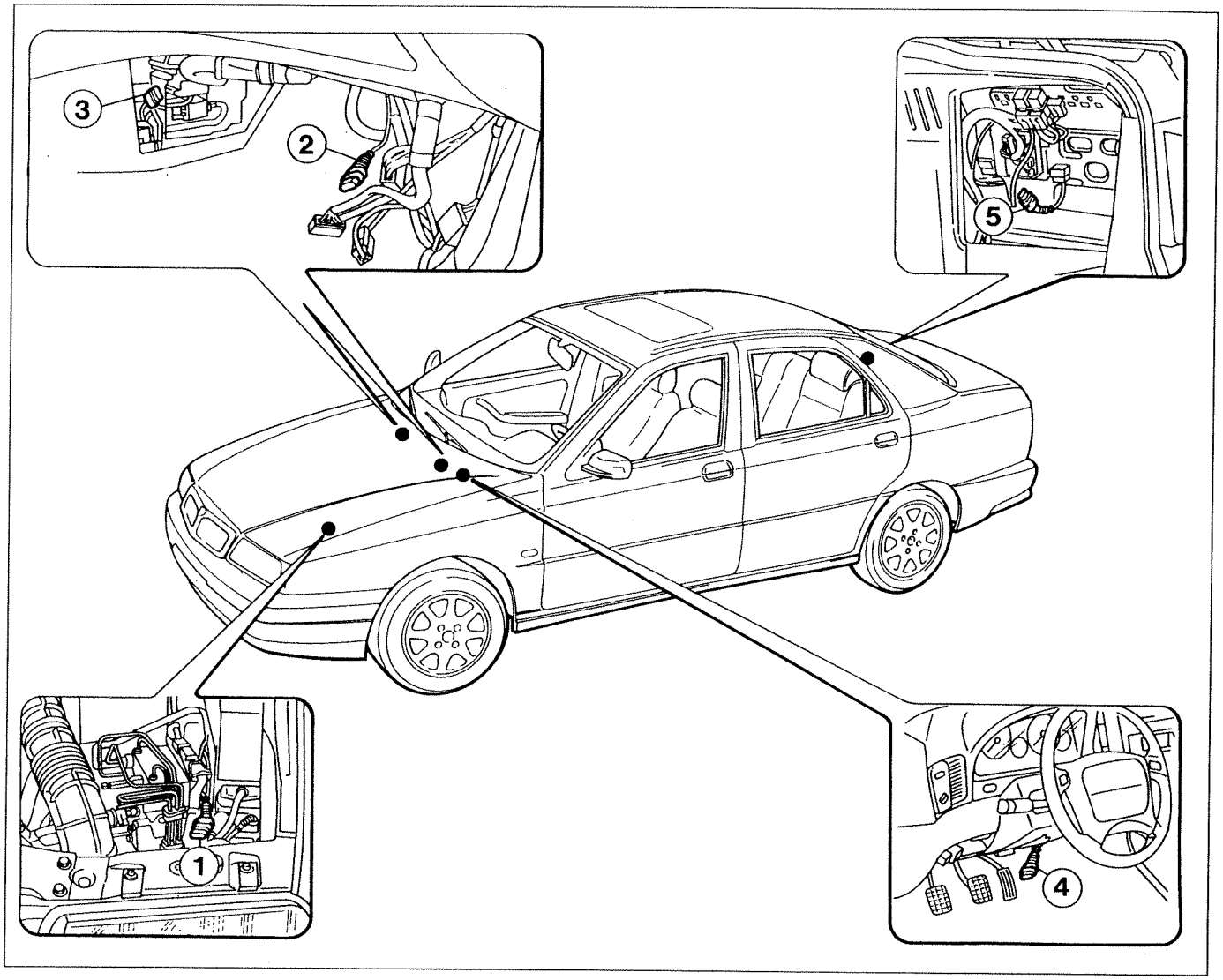


P3U97CL01

1. Electronic fuel injection control unit
2. Infocenter
3. Central door locking control unit
4. Sunroof control unit
5. Rear relay and fuse unit:
   - rear bonnet relay;
   - fuel flap relay;
   - heated rear window relay;
   - left seat heating pad relay;
   - right seat heating pad relay;
   - boot fuse (25A);
   - fuel flap fuse (25A);
   - heated rear window relay (30A);
   - rear electric windows control unit fuse (25A);
   - left seat heating pad fuse (7.5A);
   - right seat heating pad fuse (7.5A);
   - front right seat electric motors fuse (30A);
   - front left seat electric motors fuse (30A).
6. Rear electric windows control unit
7. Servotronic control unit
8. Suspension control unit
9. Electronic key system control unit
10. Left seat memory control unit
11. Fuse and relay unit on dashboard
12. I.G.E. control unit
13. Air Bag control unit
14. Plug preheating control unit
15. Peripheral control unit
16. ABS control unit
17. Front electric windows control unit
18. Courtesy light delay control unit
19. Anti-theft control unit
20. Relay and fuse unit in engine compartment:
    - timing variator relay;
    - fuel injector control relay;
    - flow meter relay;
    - fuel pump relay;
    - modular manifold relay;
    - electronic fuel injection control unit fuse (7.5A);
    - fuse protecting supply to electronic fuel injection control unit (30A);
    - Lambda probe fuse (10A);
    - ABS fuse (10A);
    - fuse protecting I.G.E. and connection unit (60A);
    - fuse protecting supply cable (80A);
    - fuse protecting anti-theft device (30A).
21. Automatic transmission control unit

55.

LOCATION OF DIAGNOSTIC SOCKETS IN VEHICLE



P3U98CL01

1. Diagnostic socket in engine compartment for ABS
2. Diagnostic socket, passenger side, for automatic transmission
3. Diagnostic socket on console under dashboard for Air Bag
4. Diagnostic socket on console under dash. for:
   - I.G.E. control unit;
   - Infocenter;
   - instrument panel;
   - anti-theft control unit;
   - electronic key system control unit;
   - electronic fuel injection control unit.
5. Rear right diagnostic socket for:
   - controlled suspension control unit;
   - Servotronic control unit

page

RADIOFREQUENCY ALARM

The information contained in this publication is purely indicative and could be out of date following modifications made by the Manufacturer, at any time, for technical or commercial reasons or in order to conform to legal requirements in the various countries.

Fiat Auto S.p.A.
D.M.C. - M.P.S.
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ALARM SYSTEM (TRW-SIPEA)

Introduction

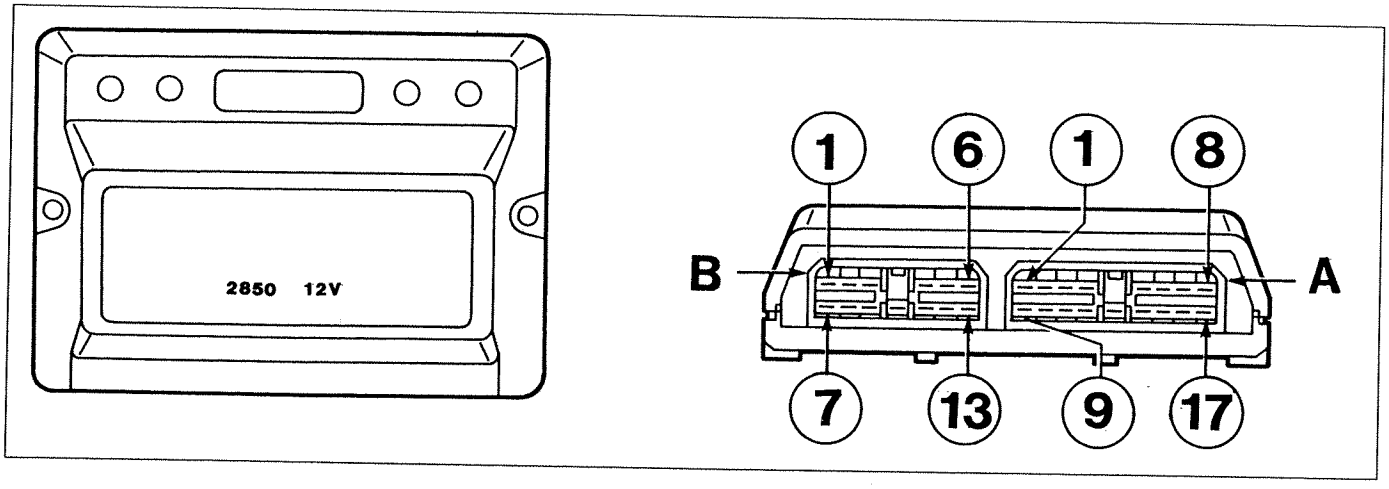
The vehicle may optionally be equipped with an alarm system combined with the remote control central locking.
The TRW system offers volumetric and perimetral protection. It is able to monitor the status of the doors and detect a moving object inside the passenger compartment.
The system is universal because the alarm sound level and turn signal flashing mode can be altered to meet requirements in different countries. A sophisticated self-diagnostic system is also able to test for:
- intermittent or permanent errors or faults;
- specific control unit faults;
- number of times alarm activated and alarms carried out.

The system consists essentially of a radio receiver on the courtesy light, a radio transmitter (or remote control) in the key, three volumetric sensors built into a plate fitted to the roof panel before the courtesy light, six switches (door, boot and bonnet lid), an electronic control unit (red) located beneath the central console area of the facia immediately above the air bag control unit, an alarm siren located in the right hand side of the boot fitted with an emergency switch with ON-OFF key control.

ALARM CONTROL UNIT

This is the main system unit. It monitors and processes the status of the following sensors:
1. boot switch;
2. bonnet lid switch;
3. door status supplied by door open indicator switches or check control;
5. volumetric sensor alarm;
6. ignition key insertion.

The control unit is fitted with two plug connectors A and B (17 and 13-way respectively). This are connected to two sockets (forming part of the 14 and 11-way wiring).



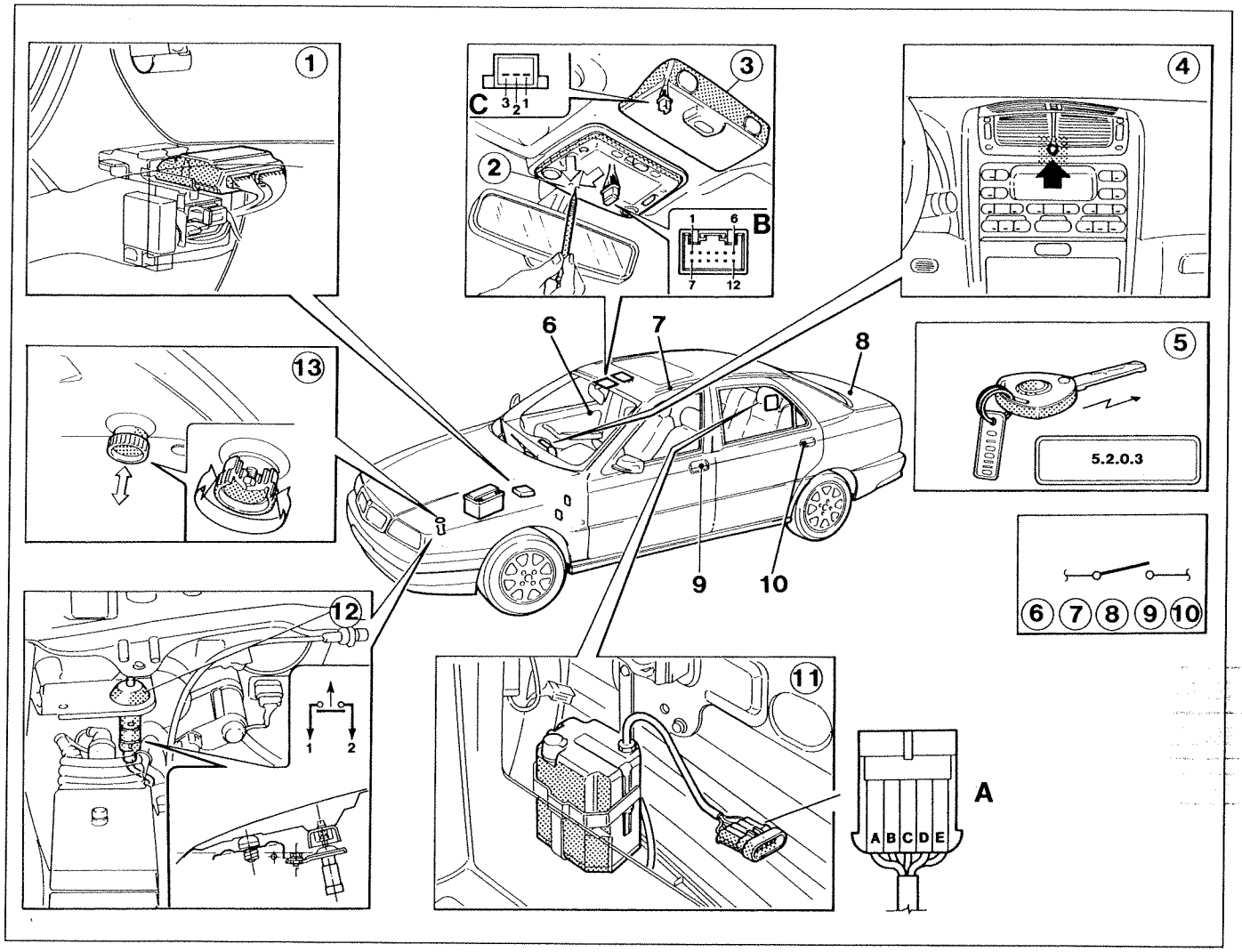
Alarm control unit - view of top side

Alarm control unit - view of connector side

OUTPUT AND INPUT SIGNALS TO AND FROM ALARM CONTROL UNIT

PIN	I/O	FUNCTION
B1	OUT	EARTH IN CONTROL UNIT
B2	I/O	COMMAND FOR TWO-COLOURED FLASHING LED ON FACIA
B3	OUT	LEFT TURN SIGNAL NA RELAY CONTACT
B4	N.C.	N.C.
B5	N.C.	N.C.
B6	IN	ELECTRONIC KEY SYSTEM
B7	IN	DIRECT POWER SUPPLY POSITIVE (+30)
B8	I/O	K LINE FIAT/LANCIA TESTER
B9	IN	CONTROL UNIT EARTH
B10	IN	DIRECT POWER SUPPLY POSITIVE (+30) FOR TURN SIGNALS
B11	OUT	NA RELAY CONTACT CONTROLLING RIGHT TURN SIGNALS
B12	IN	KEY-OPERATED POSITIVE (+15)
B13	I/O	COMMAND FOR TWO-COLOURED FLASHING LED ON FACIA
A1	OUT	FIAT/LANCIA TESTER LINE (-) EARTH IN CONTROL UNIT
A2	IN	DE-ACTIVATION LINE FROM REMOTE KEY
A3	N.C.	N.C.
A4	IN	BRIDGE TO EARTH ON B1
A5	IN	RIGHT REAR DOOR OPEN RECORDING SWITCH
A6	IN	RIGHT FRONT DOOR OPEN RECORDING SWITCH
A7	IN	LEFT FRONT DOOR OPEN RECORDING SWITCH
A8	I/O	SIREN ACTIVATION LINE
A9	I/O	SERIAL LINE FROM COURTESY LIGHT
A10	I/O	SIGNAL LINE FROM VOLUMETRIC SENSORS
A11	OUT	VOLUMETRIC SENSOR UNIT ACTIVATION POSITIVE
A12	N.C.	N.C.
A13	N.C.	N.C.
A14	N.C.	N.C.
A15	IN	LEFT REAR DOOR OPEN RECORDING SWITCH
A16	IN	BOOT OPENING RECORDING SWITCH
A17	IN	BONNET LID OPEN RECORDING SWITCH

LOCATION OF COMPONENTS

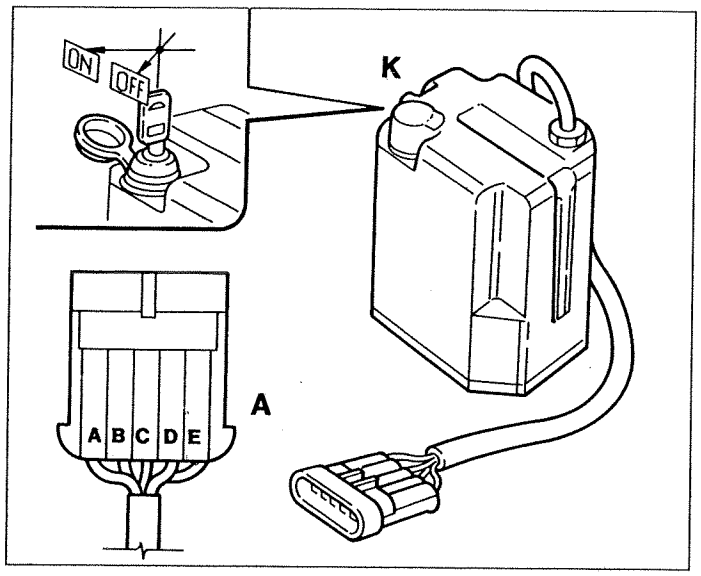


P3U03HL01

Key

1. Alarm control unit (red) below facia in central console, passenger side
2. Radio receiver on courtesy light
3. Support with volumetric sensors
4. Warning light (two-colour led) indicating alarm activated
5. Radio-controlled remote control
6. Right front door open indicator switch
7. Right rear door open indicator switch
8. Boot open indicator switch
9. Left front door open indicator switch
10. Left rear door open indicator switch
11. Self-activated alarm siren (on right side of boot)
12. Bonnet lid open indicator switch
13. Bonnet lid vertical adjustment device

NOTE *When doors, boot and bonnet are closed, switches 6-7-8-9-10-12 are electrically open (i.e. not connected to earth).*



P3U04AL01

ALARM SIREN

K. Ignition switch
A. Connector

Technical characteristics

Power supply	10.5 - 15 Vdc
Uptake at rest	2 mA
Uptake during operation	2A
Frequency	1700 - 2300 Hz
Acoustic pressure	118 dB at 1 metre
Dimensions	112 x 98 x 82 (mm)

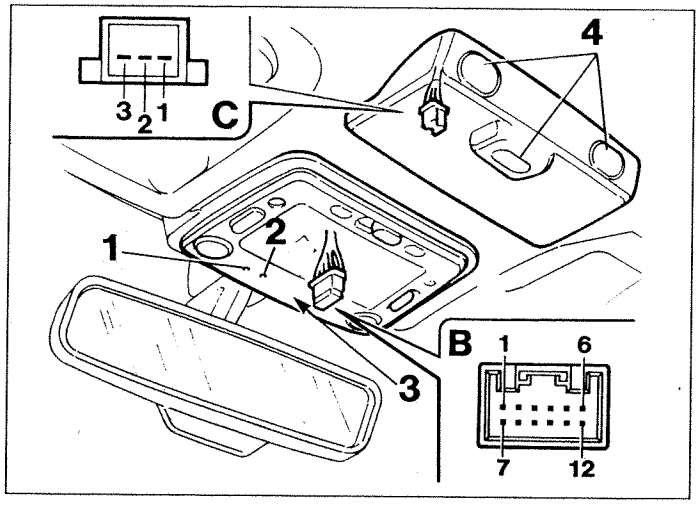
The siren is housed in a compartment between the steel wall and the cloth cover at the right hand side of the boot.
It is self-activated and therefore able to work even if the vehicle battery is disconnected or if the connection leads are cut.
The power supply is provided by batteries fitted directly in the siren case.

The case is fitted with a connector (A) with five leads, which are connected to the following:
A - positive +12 V directly from battery (+30) (lead R)
B - general earth (lead N)
C - siren activation/de-activation signal from alarm unit (lead A)
D - positive +12V from ignition switch (+15/54) (lead M)
E - manual siren disenablement signal (lead B)

REMOTE KEY

The siren is also equipped with a selector key (K) which can be used to shut it off if it is activated as a result of a fault in the system.

De-activation: the alarm system is de-activated when the key is turned to OFF
Activation: the alarm system is activated when the key is turned to ON



P3U04HL02

RECEIVER

1. Light emitting diode (led)
2. Programming button
3. Radio receiver seat
4. Volumetric sensors

B. Connector B (courtesy light)
C. Connector C (volumetric sensors)

The **receiver,** built into the front courtesy light is an electronic device which receives a control signal. It is responsible for door opening/closure and for activating the alarm control unit. Each receiver may be programmed for one or more transmitters (up to a maximum of 8) and is able to store the relative codes. A green led (1) on the receiver comes on when the signal is received. Button (2) allows a secret code to be stored.

When they are fitted in the vehicle, the receivers contain a UNIVERSAL code which is used to carry out tests on cars when they come off the production line using a transmitter with the universal code.
When the vehicle is delivered to the customer, the receiver must be personalised by replacing the UNIVERSAL code with the code for the transmitters supplied with the car.

Courtesy light connector B

1. Flash (for vehicles without alarms and provision for blinker)
2. Serial line to alarm control unit
3. 12V battery positive (+30)
4. Courtesy light earth
5. Door release
6. Door lock
7. Key-operated positive (+15/54)

8-12. N.C.

VOLUMETRIC SENSORS

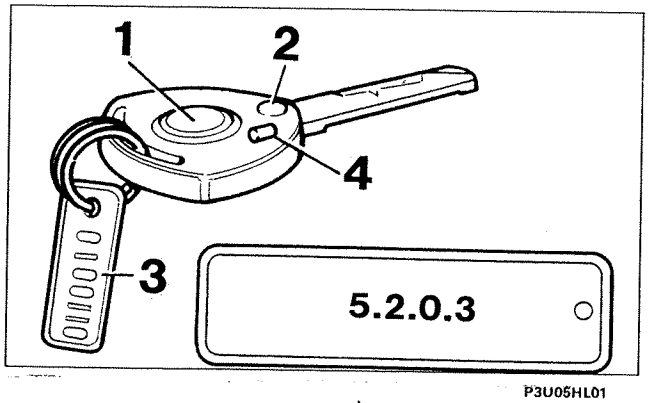
The volumetric sensors are used for additional surveillance: they ensure no intruders have entered the car. They are fitted in a plastic caes located behind the front courtesy light. Two work as a transmitter and one as a receiver. The ultrasound wave beam emitted by the transmitters (left hand transmitter and unit facing the facia) must be received by the third (on the right) after being reflected off the interior walls of the vehicle.
When the vehicle does not contain moving objects, the ultrasound signal reaches the receiver at the same frequency with which it was transmitted. Otherwise, a signal designed to activate the siren is sent to the alarm control unit.

Volumetric sensor connector C

1. Earth
2. Positive from alarm control unit pin A11
3. Signal line from volumetric sensors

KEY

The keys provided with the vehicle perform the following functions:
A) Mechanical function
Lock-release of all locks, steering lock and engine start-up.
B) Electronic key system function
A device known as a TRANSPONDER (electronic key) is protected by the rubber grip of the ignition key. This contains a code which is transmitted (when the key is in the ignition) to the electronic code system control unit to release the injection-ignition system.
C) Function of sending unit (or radio-controlled remote control)



P3U05HL01

1. Control button
2. Flashing led
3. Password card
4. Transponder

The **sending unit,** protected by a rubber case, consists of a printed circuit and a radio emitter. It is powered by a battery (2 3V lithium batteries). Whenever the control button (1) is pressed, the transmitter sends out a radio signal.

55.

This radio-operated device emits a continuous code: maximum duration is 8 seconds even if the button is held down for longer. At the same time, flashing led (2) comes on each time a signal is emitted to provide visual evidence that the transmitter is sending out a code.

The secret code consists of a fixed part and variable part, which changes upon each transmission to prevent the code being broken by unauthorised people. The fixed part is associated with a password, which consists of 4 numbers printed on a label provided with the key itself.

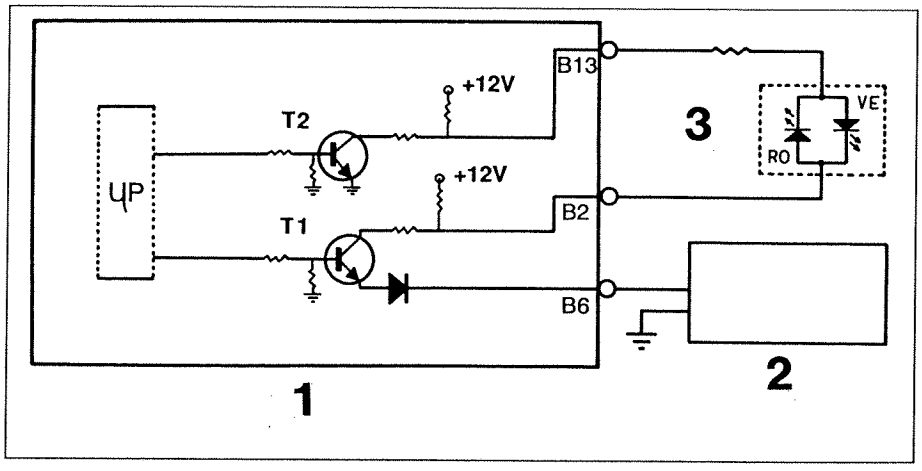
If this transmitter is replaced, or an additional transmitter is used, it must be stored by means of the same system used for the alarm and the electronic code system.

NOTE *The remote control is radio-operated and provides more effective protection against attempts to break the segret code. Its radius of action is about 10 m when the batteries are properly charged.*

SWITCHES ON DOORS, BONNET AND BOOT

Door and boot open indicator circuit switches are used to monitor the doors, boot and bonnet. The bonnet lid is fitted with a special switch. All switches indicate failure to close by sending an earth signal to the control unit (doors, boot and bonnet open = switches open)

TWO-COLOURED INDICATOR LED (GREEN-RED)



P3U06AL01

1. Alarm control unit
2. Electronic key system
3. Two-colour led on instrument facia

The indicator led (3) on the instrument facia is a semi-conductor display device. It consists of a light-emitting diode which emits a visible light beam: the colour of the light depends on the type of semi-conductor material used.
In order for the led to emit light, it must be supplied (polarised) with an appropriate voltage between 3 and 2.5 Volt. If the led is two-coloured, it is made up of two diodes connected in parallel in the same container.

Green led flashing: electronic code system operational

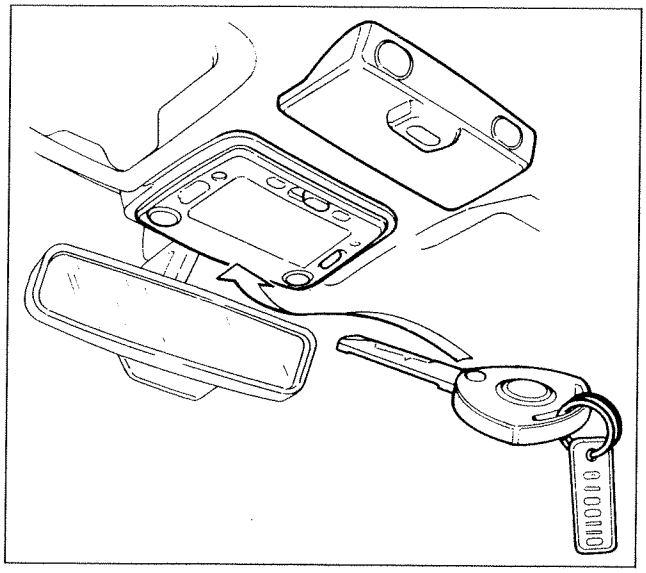
When the key is in the ignition and the alarm is off, the green led flashes because the alarm control unit microprocessor blocks transistor T2 and keeps transistor T1 polarised; this allows the green led to earth through the electronic code system. The green led indicates that the injection control unit is locked.

Red led flashing: alarm system operational

The green light turns red when the alarm is turned on by means of the remote control. Under these conditions, the microprocesor locks transistor T1 and polarises transistor T2 to allow the red light to earth itself through T2.
When the alarm is turned off using the remote control, the red led goes off and the green led begins to flash again.

OPERATION OF ALARM SYSTEM

The alarm system may only be turned on when the key is turned to STOP.



P3U07HL01

Activation

Press the transmitter button. The radio receiver sends a control to the electronic control unit in order to lock the doors and simultaneously sends out a second signal to the alarm system electronic unit. Activation of the alarm system is indicated visually and acoustically (for markets where this is permitted). When the alarm system is active, the two-coloured led in the middle of the instrument facia comes on and flashes red.

De-activation

Press the transmitter button. The radio receiver send controls to the control unit to release the doors and de-activate the alarm. De-activation is also indicated visually and acoustically (for markets where this is permitted). When the alarm system is off, the two-coloured led changes to green (electronic code system operational = injection locked).

NOTE *The system is protected against illicit recording of the secret code.*

System by-pass

When the transmitter batteries are flat or the alarm system is faulty, the siren may be de-activated by turning a remote key located on the siren to OFF. When the remote key is turned to OFF, the siren goes off, **but the alarm system remains active and must be de-activated by means of the remote control unit.**
During long periods of unuse (more than one month), turn the key to OFF and disconnect the battery negative lead. When the key is turned to OFF, lead cutting can no longer be monitored (i.e. battery disconnection).

Surveillance mode (alarm system on)

During surveillance (vehicle closed and alarm system activated), the dissuasion led flashes at a rate of 0.8 Hz.In this status, the alarm system monitors:

a) doors, bonnet lid and boot lid
b) battery disconnection/leads cut
c) unauthorised activation of the ignition switch
d) movements inside the passenger compartment (volumetric surveillance)
e) remote key leads cut
f) if the battery loses more than 1 volt/hour (e.g. a short circuit).

Alarm mode

The system enters alarm mode when:

1. One of the doors, the bonnet lid or the boot lid is opened.
2. The battery is disconnected or the alarm supply leads are cut; if the battery loses more than 1 Volt/hour (e.g. short-circuit).
3. The ignition key is turned to MARCIA.
4. Something invades the passenger compartment space (e.g. even if a window is lowered and someone puts in a hand).

An alarm status is indicated by activation of the siren and turn signals. Timing rates vary from market to market. The injection-ignition system is locked by the electronic code system.

If the alarm status ceases (e.g. if the door is closed again or the hand stops moving about inside the vehicle), the siren and the emergency lights go off). The system returns to surveillance mode when the system cycle is over.

Alarm mode is exited:

a) by de-activating the transmitter (remote control);
b) 25 seconds after the last alarm mode activation;
c) by means of the emergency key (remote) on the siren.

NOTE *The alarm stays on in conditions (b-c).*

Turning off volumetric surveillance

Volumetric surveillance may be turned off by carrying out one of the following procedures:

a) Turn off the engine (the alarm is not yet activated). Beginning with the key on MARCIA, turn it in quick succession to STOP-MARCIA-STOP. Confirmation that volumetric surveillance has been turned off is provided by the two-coloured dissuasion led coming on (red light) for about 2 seconds and the buzzer on the volumetric sensor courtesy light coming on for 2 seconds.
b) Beginning with the ignition key turned to MAR, press the small button on the receiver (for less than 0.5 seconds) and then move the ignition key to STOP within 8 seconds. In this case to, confirmation that volumetric surveillance has been turned off is provided by a led on the courtesy light coming on.

Re-activating volumetric surveillance

Volumetric surveillance is re-activated automatically. This occurs when the ignition key is turned to MAR again.

NOTE *The key may be turned to MARCIA (with alarm system off) for up to 30 sec. without re-enabling volumetric surveillance (this may be useful, for example, when closing windows which have been left open).*

AUTOMATIC DIAGNOSIS

Turning on the alarm system

When activated, the alarm system runs a self-diagnostic test to check that the alarm is working properly. If a fault is present, the two-coloured led (red light) in the middle of the instrument facia provides an indication as shown in the following table.

Automatic test display

FLASHING MODE	MEANING
15 Hz, duration 3 sec.	Door/bonnet/boot left open or switch faulty
Constant light, duration 3 sec.	Volumetric sensors faulty

If a door, the bonnet or boot is found open or a fault is detected in the volumetric sensor, the relevant sensor is excluded from surveillance and a beep is issued one second following activation

Turning off the alarm system

At the moment of de-activation, the system causes the two-coloured LED (red light) to flash to indicate which sensor triggered an alarm during surveillance. Flashing modes are shown in the following table.

NOTE *The signals are cancelled when the key is turned to MARCIA.*

N° PULSES	MEANING
1st PULSE	RIGHT FRONT DOOR
2nd PULSE	LEFT FRONT DOOR
3rd PULSE	RIGHT REAR DOOR
4th PULSE	LEFT REAR DOOR
5th PULSE	SUPPLEMENTARY SENSORS - COURTESY LIGHT SENSORS
6th PULSE	BONNET LID
7th PULSE	BOOT
8th PULSE	+15 INTERRUPT KEY-ACTIVATED POWER SUPPLY
9th PULSE	+30 INTERRUPT BATTERY POWER SUPPLY
10th PULSE	AT LEAST 3 SIMULTANEOUS ALARM CAUSES

Where more than one alarm code is present, the codes are shown in sequence.

TESTING WITH INSTRUMENTS

The system is equipped with a tester socket for a SDC Test Station or a FIAT-LANCIA Tester. The alarm control unit allows the system to enter test mode with the ignition key turned to STOP, after at least 5 seconds or with the key turned to MARCIA but with the alarm system de-activated.

Fault diagnosis using a Fiat-Lancia Tester (MODULE M40A)

The FIAT-LANCIA Tester can be used to download data, i.e. transfer the contents of the alarm control unit memory.
To use the FIAT-LANCIA Tester on the alarm system, it is necessary to connect adaptor ADT101A. Proceed as follows to connect:

1. Activate the FIAT-LANCIA Tester through the cigar lighter or connect it directly to the battery (a special cable is provided for this option).
2. Connect the Tester to the tester socket (check that the control unit is enabled by the remote key. Otherwise communication cannot be established with the FIAT-LANCIA Tester.

When the FIAT-LANCIA Tester is activated, diagnosis can bein in one of three different modes: 1) AUTOMATICALLY; 2) ENTER ISO COD; 3) SKIP ISO COD.

Searching for errors in the memory

When one of the three procedures is carried out, the control unit begins to transmit data on the errors present to the FIAT-LANCIA Tester. If errors are present, press the OK key to move on to search for the cause of the fault. The test is guided by the FIAT-LANCIA Tester (GUIDED TESTING).

After repairing the fault automatically, the FIAT-LANCIA Tester delete the errors in its memory before activating and de-activating the alarm in order to see whether the fault has been eliminated.

The error may be suspended by pressing the OXK key. The error may be stored by the FIAT-LANCIA Tester and then viewed by pressing the FC key and selecting SUSPENDED ERRORS.

Error status of perimeter protection switches

The FIAT-LANCIA Tester reveals whether switch status has changed (earthed-interrupted) when doors, boot and bonnet are opened and closed. It indicates whether the ignition key is turned to MARCIA or STOP..

Programming the country code

The FIAT-LANCIA Tester can be used to enter the code of the country where the vehicle is to be sold; simply press the OXK key during ACTIVE TESTING - the country codes are:
Italy 1 - Germany 2 - France 3 - Switzerland 4 - United Kingdom 5 - Holland 6 - USA 7 - EC 8 - 9 and 10 are free.

Alarm counter

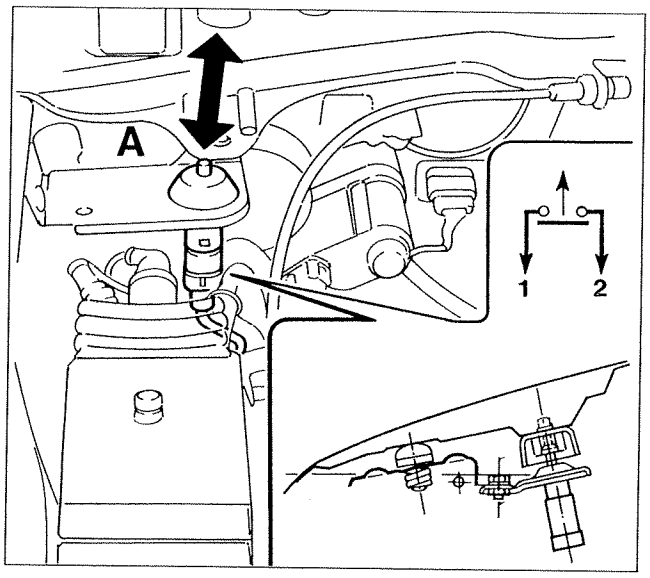
If a theft attempt has taken place, it is possible to find out which protection intervened and how many times this happened. The alarm counter indicates how many times the key was inserted; how many times each individual door, boot or bonnet has been touched; how many times the volumetric sensors have been activated or whether any supply leads have been disconnected or cut.

Guided testing

If a defect is detected, the FIAT-LANCIA Tester will emit an acoustic signal and the display will indicate the defective channel (e.g. error in warning light bulb).
When the OK key is pressed, a check will be run on the defective channel to indicate the probable causes of the defect. The operator will then check that the component is working properly and either repair or replace any defective parts.
In order to check that the defect has been repaired, the program will automatically delete the errors or ask the operator to carry out a series of operations such as alarm activation and de-activation. If the repair has been successful, the next error will be displayed (if present). Otherwise, it will re-enter data reading mode (perimeter protection switch mode).

When the errors are deleted, the alarm counters are also cancelled.

NOTE *Always follow all FIAT-LANCIA Tester instructions to the full.*



P3U11AL01

Manual fault diagnosis

It is possible to carry out MANUAL FAULT DIAGNOSIS; to enter this mode, turn the ignition key to STOP for at least 5 seconds and ensure the siren remote key is turned to ON. The alarm control unit runs two types of checks, one automatic and one manual.

1) Automatic check

Press bonnet lid protection button (A) 7 times in rapid succession within no more than 8-10 seconds. Under these conditions, the volumetric sensors connected to the control unit are automatically self-tested.

a) **Positive test** (volumetric sensors)
If the test outcome is positive, the turn signals will flash three times and the two-coloured surveillance led (red light) on the instrument facia will flash three times, while the buzzer in the volumetric sensor carrier mount will go off for 2 seconds.

b) **Negative test** (volumetric sensors)
If the test is negative the turn signals and two-coloured surveillance led (red light) will flash once only to indicate that the volumetric sensors are not active (possibility of break or poor connection).

2) Manual testing

Wait about 2 seconds after testing the volumetric sensors in order to check the efficiency of the connetion lines and the status of door, boot and bonnet switches.

a) **Positive test** (door, boot and bonnet lid switches)
Open and close each individual door, the boot and the bonnet in succession. The turn signals will flash upon each opening or closure.

b) **Negative test** (door, boot and bonnet lid switches)
When the turn signals fail to flash, this means that the door, boot and bonnet switch is faulty or not connected electrically.

c) **Positive test** (ignition switch and siren)
It is possible to check the efficiency of power supply (+15) to the ignition switch by turning the key to MARCIA; the turn signals flash once to indicate that the circuit under examination is efficient. Efficient operation is indicated by the siren going off for a short time. This test must be carried out with the bonnet lid closed.

d) **Negative test** (ignition switch and siren)
Failure to flash indicates that the circuit (+15) is not activated and failure of the siren to go off indicates that the siren is not working properly.

e) **Positive test** (transmitter, serial line, courtesy light and control unit)
This test must be carried out with doors, boot and bonnet lid closed.
Press the remote control unit button twice: each time the button is pressed, the turn signals will flash to indicate that communication between the courtesy light and alarm control unit is efficient.

f) **Negative test** (transmitter, serial line, courtesy light and control unit)
Failure to flash each time the button is pressed indicates that communication between the courtesy light and alarm control unit is inefficient

Exit from manual fault diagnosis

Leave MANUAL FAULT DIAGNOSIS mode by not activating any system sensors for 30 seconds or by pressing the bonnet lid button 7 times in sequence. The turn signals will come on for about 3 seconds to indicate that exit has taken place.

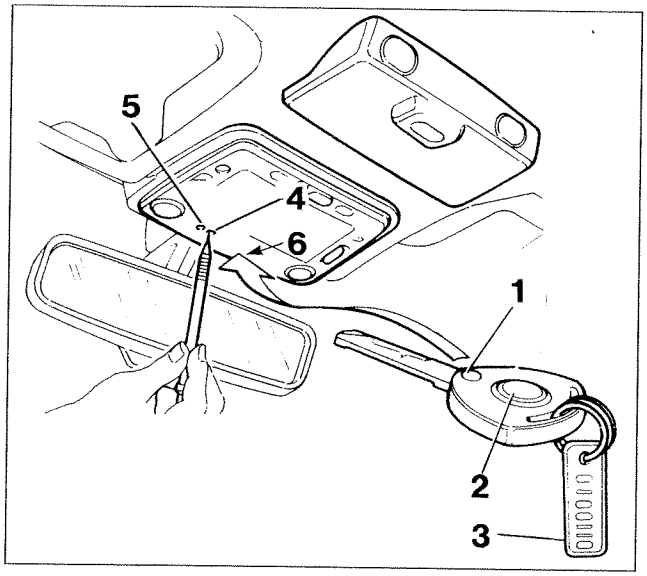
NOTE *During service operations on the vehicle or in the case of alarm system faults which cause the siren to go off, the siren may be turned off by turning the key switch on the control unit from ON to OFF.*

Once the operation is over, always turn the key switch to ON and always seal the protective plug on the control unit.

Note that each individual alarm system component on the vehicle is an integral part of the system and cannot be fitted or tested on other vehicles, even if the model is the same.

PROGRAMMING

The alarm signal fitted originally requires programming because:
when the car leaves the production line, the receiver contains a UNIVERSAL code. This is controlled by a UNIVERSAL transmitter to allow the car to be inspected and moved within the factory.
Before delivery, it is therefore necessary to programme the receiver with the code of the trasmitter supplied with the vehicle.
Alarm warning modes may alter according to the legislation in the country where the car is sold. It may therefore be necessary to programme the system by entering a country code "n".
Two programming modes are possible:
A - before entering a password: SIMPLIFIED PROGRAMMING
B - after entering a password: PROTECTED PROGRAMMING
Each transmitter has a card bearing a **Password** to safeguard against unauthorised programming (protected programming). The card may be removed by the customer at the time of purchase and applied to the space present on the back of the Code Card.



P3U13HL01

1. Flashing led
2. Button on transmitter
3. Plate with 4-figure password
4. Programming button on courtesy light
5. LED on courtesy light
6. Radio receiver

A) Simplified programming

Simplified programming is used for a new memory which has not yet been closed and can recognise all transmitter codes (remote control commands) without any limit of quantity.
Any number of remote control codes are recognised, but only the final eight are stored.

Always store a transmitter with:
- **alarm control unit de-activated with remote control (dissuasion led off)**
- **ignition key turned to STOP**
- **emergency key on siren in ON position.**

Programming (storing) 1st transmitter

1. Press programming button (4) on the receiver. The receiver led (5) will begin to FLASH to indicate "awaiting code reception".

If led (5) stays off when the button is pressed, this means that:
- *the alarm system is ON. In this case, de-activation can be carried out only usng a UNIVERSAL REMOTE CONTROL;*
- *the receiver is faulty or not supplied with power.*

2. Hold down button (4) on the receiver; press the button on the remote control until led (5) on the courtesy light stays on continually to indicate that code "n" has been stored.

3. When receiver button (4) is released, led (5) on the courtesy light goes off. Two options are now available:
   a) To program the alarm system for the system required by the laws of the country where the car will be driven (country code).
   b) To leave the operating mode stored previously.

Code "n"	Country	Code "n"	Country
1	Italy	6	Holland
2	Germany	7	U.S.A.
3	France	8	EC (Europe)
4	Switzerland	9	Free
5	United Kingdom	10	Free

To program the alarm system for option "a", press button (4) as many times as are indicated in the table in succession within 15 seconds of the led going off.

Led (5) will flash each time the button is pressed.

At the end of the simplified programming cycle, if courtesy light led (5):
- FLASHES "n" (n=country code stored) times, the code has been stored correctly;
- COMES ON CONTINUOUSLY for 5 seconds, the serial line between receiver and alarm is broken or the code saved previously is still in the alarm system memory (failure to accept new code). If a wrong code has been entered, repeat all operations beginning from point 1 of the simplified programming procedure.

NOTE *If the programming button on the courtesy light is not pressed, the EC operating mode will automatically be recognised if this operation is being carried out for the first time. If the operation has already been carried out previously, the system will set itself for the mode stored previously.*

NOTE *To program the country code, use the procedure in module M40A of the Fiat Lancia Tester.*

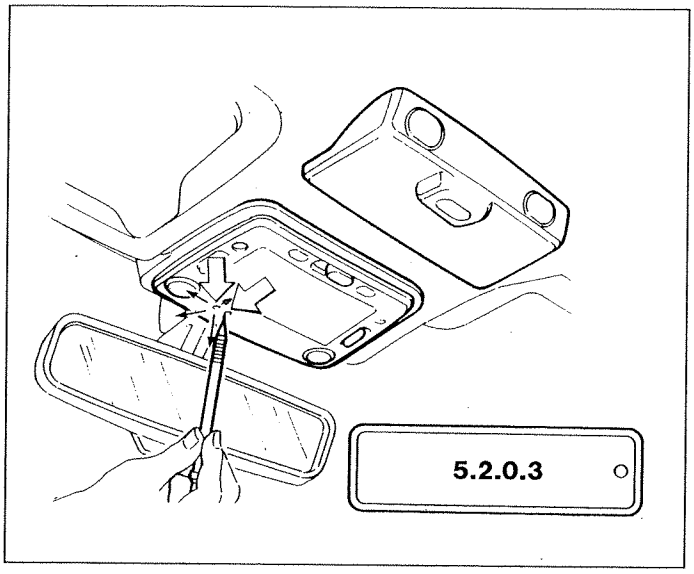
PROGRAMMING FURTHER TRANSMITTERS (REMOTE CONTROL UNITS)

To store further remote control units, repeat the simplified programming procedure from point 1. An unlimited number of remote controls units may be stored, but the courtesy light will only store the last eight.

The simplified programming procedure deletes the univeral codes on the courtesy light and alarm system electronic control unit.

B) Protected programming

To prevent intruders from entering their own code, it is necessary to protect (close) the memory. This operation is carried out:
a) automatically once the alarm system has been activated/de-activated 256 times with success;
b) deliberately, by the user entering a password (four-figure code on the transmitter plate) before the unit has been activated/de-activated 256 times, e.g. on new units after all remote control codes supplied to the customer have been entered.



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CLOSING THE MEMORY MANUALLY (ENTERING PASSWORD)

The Password input procedure is as follows::

1. Press the button on the receiver for 2 seconds. The LED flashes for the entire time the button is held down.
2. Release the button: after about 2 seconds, the LED emits a short flash to indicate that the first figure of the Password may be entered.
3. Immediately press the receiver button as many times as the first figure of the password (e.g. press five times);
   the LED will come on briefly to provide visual confirmation each time the button is pressed.
4. About 2 seconds after the button is operated for the last time (the fifth press in our example), the LED will flash once more to request entry of the next figure (e.g. 2).
5. Immediately press the receiver button as many times as the second figure of the password (e.g. twice)
   the LED will come on briefly to provide visual confirmation each time the button is pressed.
6. About 2 seconds after the button is operated for the last time (the second press in our example), the LED will flash once more to request entry of the next figure (zero).
7. When a "zero" appears in the password, do not press the button on the receiver, but wait for a new figure entry request indicated by another flash.
8. After about 2 seconds, the LED will flash once more to request entry of the next figure (a three).
9. Press the receiver button as many times as the fourth figure of the password (e.g. press three times) Note that the LED should come on briefly to provide visual confirmation each time the button is pressed.

After entering the 4 figures of the Password, the LED on the receiver may behave as follows:

a) stays off. this indicates that the Password has been correctly entered and corresponds to one of the stored remote control codes;

b) stays on continuously. this indicates that Password has been incorrectly entered or does not correspond to any of the stored remote control codes. In this case, re-enter the correct Password beginning from point 1 once the LED has gone off.

The memory is closed once the Password has been entered correctly.

Programming a transmitter (remote control unit) with closed memory

1. Press the programming button on the receiver. The receiver led will begin to flash to indicate that it is awaiting a code.
2. The operator should press the remote control button while holding down the receiver button.
3. After sending the new code, the LED on the courtesy light will cease to flash to indicate that the operation has failed.
   In this case, programme the code with manual access.

Programming a transmitter with manual access

As soon as the memory is closed, further codes can be entered by the remote control only be re-opening the memory. Open the memory by carrying operations indicated under points 1 to 9 in rapid succession as described on the previous page. Then proceed as follows.

After entering the four figures of the password, the LED on the receiver may behave as follows:

a) **being to flash** if the password has been entered correctly (memory open);
b) **come on continuously** for several seconds to indicate that thepassword has been incorrectly entered or that the password does not correspond to any of the stored remote control units. In this case, once the LD has gone off, re-enter the correct password beginning from point 1.

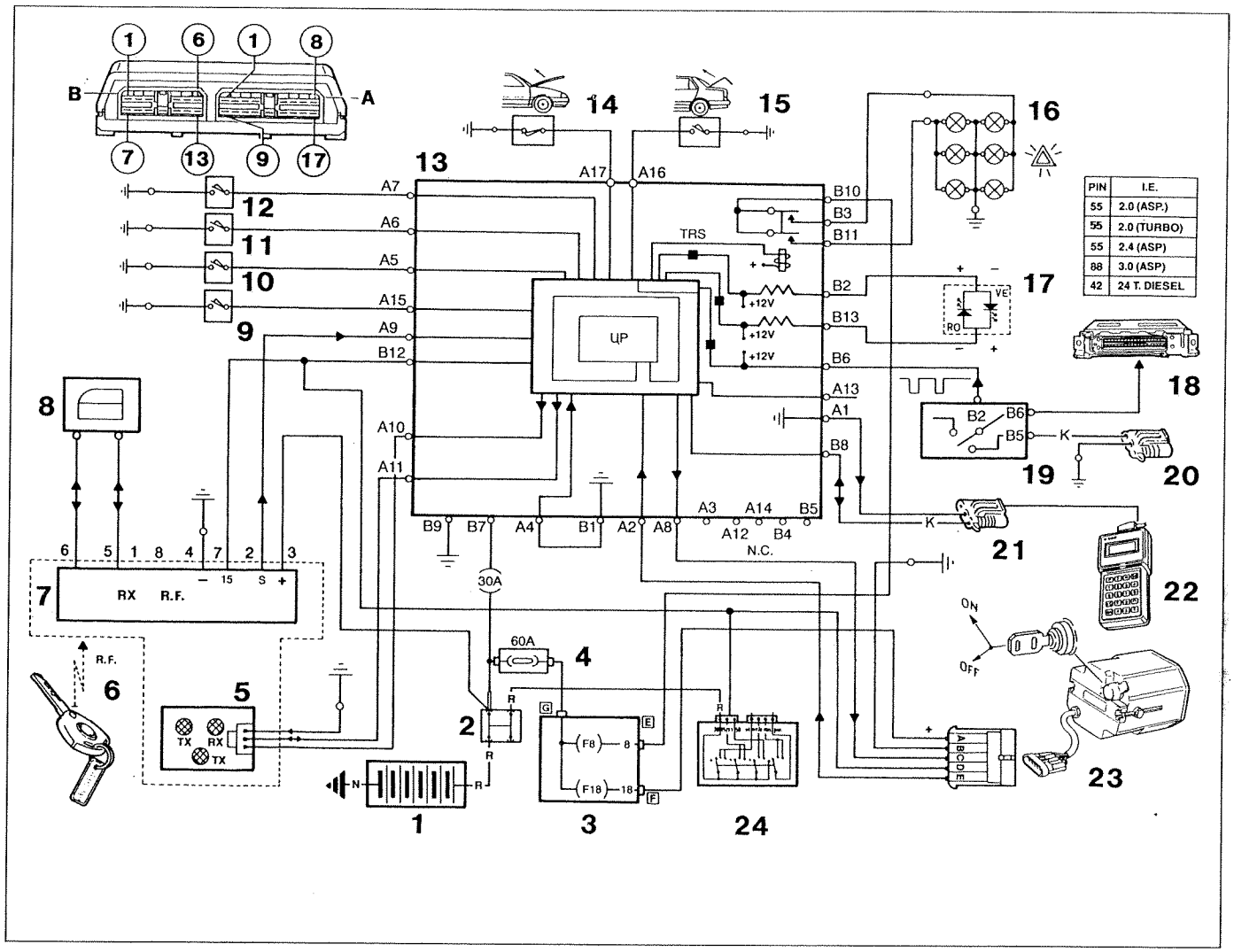
10. While the led is flashing, press the button on the courtesy light. The led will continue to flash.
11. The operator should continue to hold the receiver button down and press the button on the remote control.
    The LED on the courtesy light comes on continuously to indicate that the code has been stored.
12. Release the button: the LED on the courtesy light GOES OFF.

At the end of the procedure, if the courtesy light led (5):

- FLASHES "n" (n=stored country code) times, the code has been correctly stored;
- COMES ON CONTINUOUSLY for 5 seconds, the serial line between receiver and control unit is broken.

After entering a new remote control code, the memory closes automatically. Repeat the procedure from point 1 to enter a new remote control unit.

WIRING DIAGRAM



P3U17HL01

Key

1. Battery
2. Positive centre
3. Fuse box
4. Fuse 60A
5. Volumetric sensors
6. Radio-controlled remote control
7. Radio receiver
8. Door lock control unit
9. Switch on left rear door
10. Switch on right rear door
11. Switch on right front door
12. Switch on left front door
13. Alarm control unit
14. Switch on bonnet lid
15. Switch on boot
16. Direction indicators
17. Two-colour surveillance led
18. Injection ECU
19. Electronic key system
20. Electronic injection control unit tester point
21. Fiat-Lancia Tester connection point
22. Fiat-Lancia Tester
23. Alarm siren
24. Ignition switch

Contents

55.

page

The information in this publication is intended as a guide and could be superseded by modifications introduced by the Manufacturer at any time for technical and commercial reasons or in accordance with local regulations.

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DESCRIPTION	ENGINE TYPE				
	1998	2446	1995T	2959	2387 Td
Preparation for medium range radio	5	5	5	5	5
Preparation for top range radio	7	7	7	7	7
Starting - Motronic electronic ignition and injection - Recharging and warning light -Insufficient engine oil pressure warning light - Injection system failure warning light				9	
Starting - MSA11-310 fuel pump electronic control unit - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light - Heater plugs warning light					11
Direction indicators and warning light - Hazard warning lights and warning light - Braking lights - Reversing lights	13	13	13	13	13
Fuel level gauge and reserve warning light - Handbrake warning light - Insufficient brake fluid level warning light - Seat belt unfastened warning light - Speedometer - Milometer/trip meter and zeroing button - Rev counter - Current socket - Voltmeter	15	15	15	15	15
Ideogram lights - Heated rear windscreen and warning light	17	17	17	17	17
Version with alarm: central locking and signalling doors open	19	19	19	19	19
Version without alarm: central locking and signalling doors open - Door closing device	21	21	21	21	21
Complete Inforcenter	23	23	23	23	23
Air-bag and failure warning light - Seat belt pre-tensioners - Servotronic device	25	25	25	25	25
Preparation for medium range radio - Preparation for radiotelephone	26/1	26/1	26/1	26/1	26/1
Preparation for top range radio	26/3	26/3	26/3	26/3	26/3

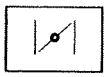
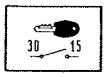
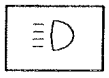
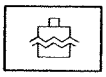
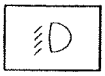
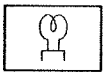
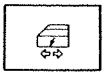
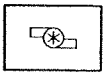
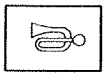
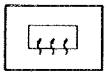
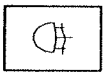
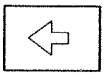
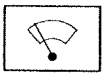
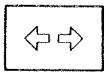
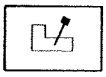
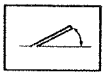
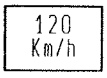
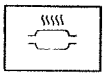
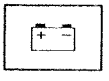
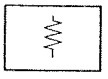
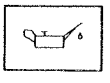
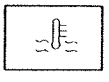
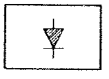
NOTE *The numbers in the table correspond to the electrical equipment page number in the manual*

Cont'

NAME	VERSIONS AND ENGINES				
	1998	2446	1995 T	2959	2387 Td
Provision for car radio, high range	5	5	5	5	5
Lancia CODE device	7	7	7	7	7
Starting - Motronic electronic ignition and injection - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light	9	11	13	15	
Starting - Fuel pump ECU MSA11-310 - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light - Heater plugs warning light					17
Courtesy light	19	19	19	19	19
Fuel level gauge and reserve warning light - Handbrake warning light - Insufficient brake fluid level warning light - Seat belt unfastened warning light - Speedometer - Mileometer/trip counter and reset button - Rev counter	21	21	21	21	21
Electrically-adjusted, heated, fold-down door mirrors - Interior rear view mirror	23	23	23	23	23
Version with antitheft device Door lock and door open indicator	25	25	25	25	25
Version without antitheft device Door lock and door open indicator	27	27	27	27	27
Automatic transmission (AISN)	29				
Automatic transmission (ZF)				31	
Alarm	33	33	33	33	33
IGE ECU assembly connections	35	35	35	35	35
Instrument panel connection	37	37	37	37	37

NOTE Numbers in the table correspond to page numbers in electrical eqpt section

Electrical symbols

 Positions	 Cold starting (starter)	 Ignition discharge
 Main beam headlamps	 Water in fuel filter	 Dipped headlamps
 Heated seat	 Glow plug preheating	 Turn signal with central locking warning light
 Seat belt	 Turbocharger pressure	 Electric horns
 Heated rear windscreen	 Rear fog lamp	 Left turn signal
 Handbrake on and low brake fluid level	 Fog lamps	 Right turn signal
 A.B.S.	 Brake lining wear	 Engine cooling system
 Hazard warning lights	 Turbocharger pressure	 Windscreen wiper
 Turn signals	 Automatic transmission fluid temperature	 Electrically operated sun roof
 Handbrake and low brake fluid level	 Speed limit	 Catalytic converter temperature
 Recharging	 Fuel level	 Resistance
 Engine oil pressure	 Coolant temperature	 Diode

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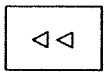
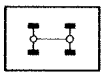
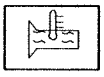
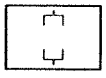
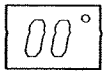
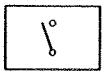
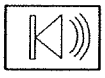
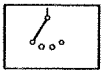
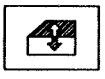
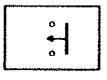
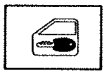
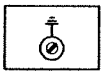
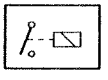
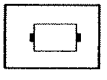
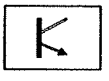
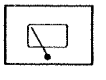
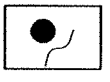
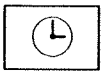
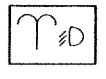
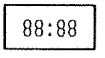
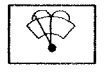
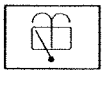
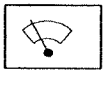
55.

Electrical symbols

 Warning light	 Trip computer control	 Differential lock
 Bulb	 Electronic injection	 Automatic transmission fluid temperature
 Fuse with reference number	 Engine oil level	 Temperature
 Switch open	 Brake fluid level (Japanese version)	 Antitheft device
 Selector switch	 Doors open	 Electrically-operated windows
 Button open	 Central locking	 Earth
 Coil-controlled switch (Relay)	 Electronic suspension sport setting	 Number plate lights
 Engine	 Transistor	 Pulse generator (Timer)
 Rearscreen wash/wipe	 Air-Bag	 Analogue clock
 Headlamp washer	 A.B.S. (Japanese version)	 Digital clock
 Windscreen wash/wipe	 Vehicle brake failure	 Speedometer
 Rear wash/wipe	 Windscreen wiper	 Rev counter

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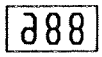
3U02AN



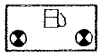
Digital speedometer

Digital rev counter

Digital fuel gauge

Analogue fuel gauge

Analogue coolant temperature gauge



Econometer

Digital coolant temperature gauge

Engine oil temperature

Engine oil pressure gauge

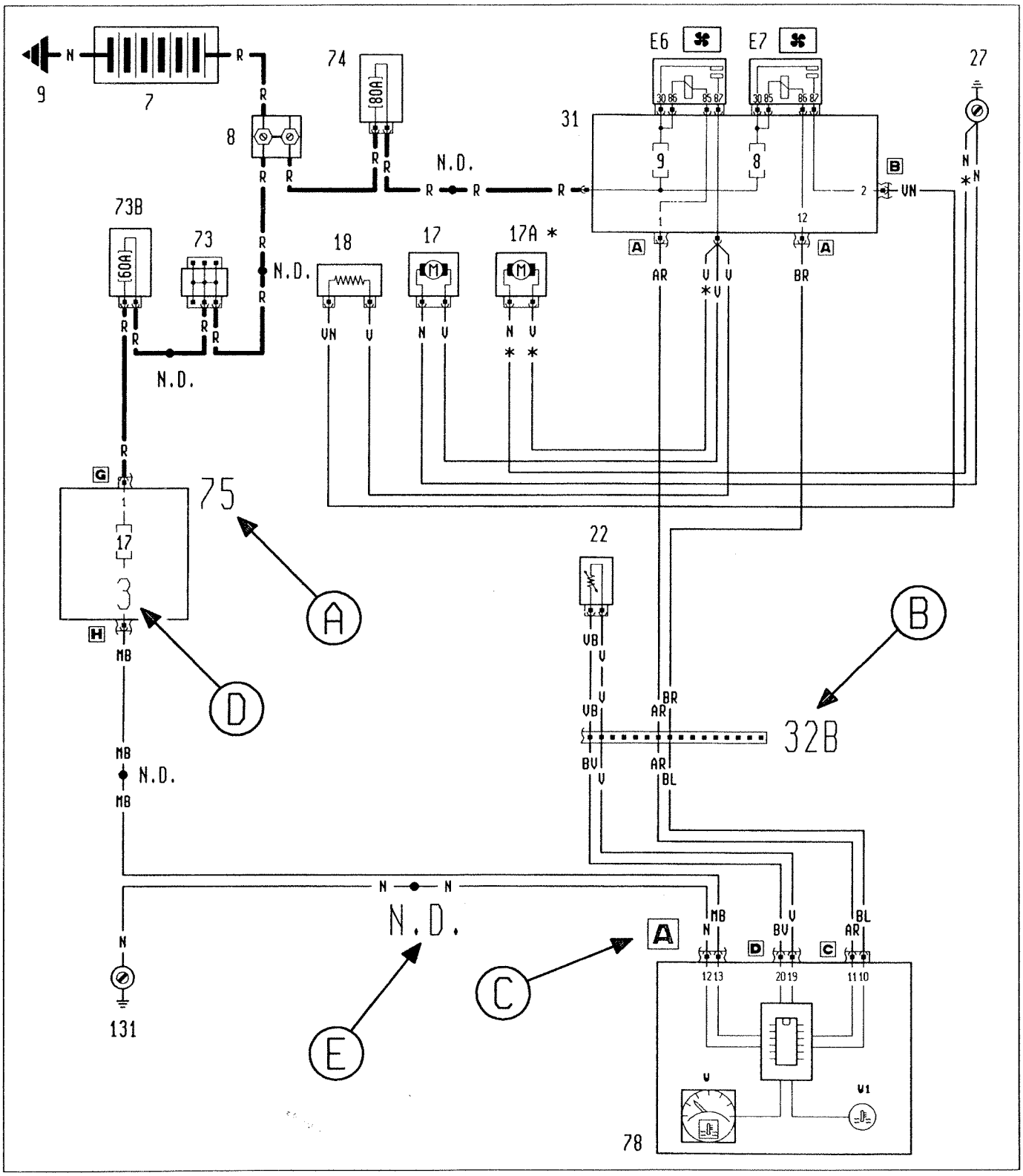
Voltmeter

P3U003N01

3U03AN

55.

How to read the wiring diagram



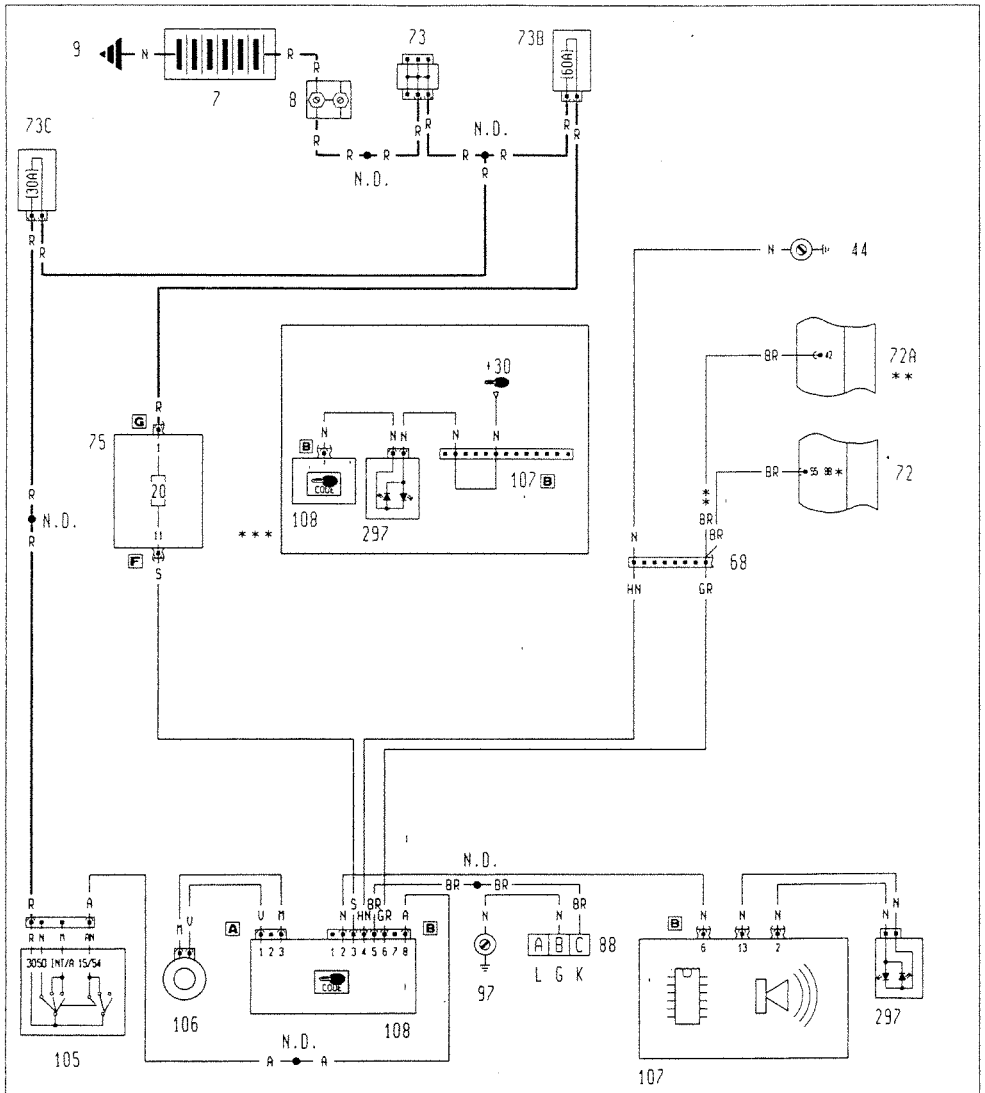
Reference key

P3U004N01

A Component number
B Connection number
C Identification of connector on component
D Connection pin number
E Taped ultrasound welding in wiring bundle

3U04AN

Device (Lancia CODE) - (See key following diagrams)



* Connection variant for 2959 version
** Variant for version 2387 Td
*** Connection variant for versions without alarm device

Updates diagram on page 13

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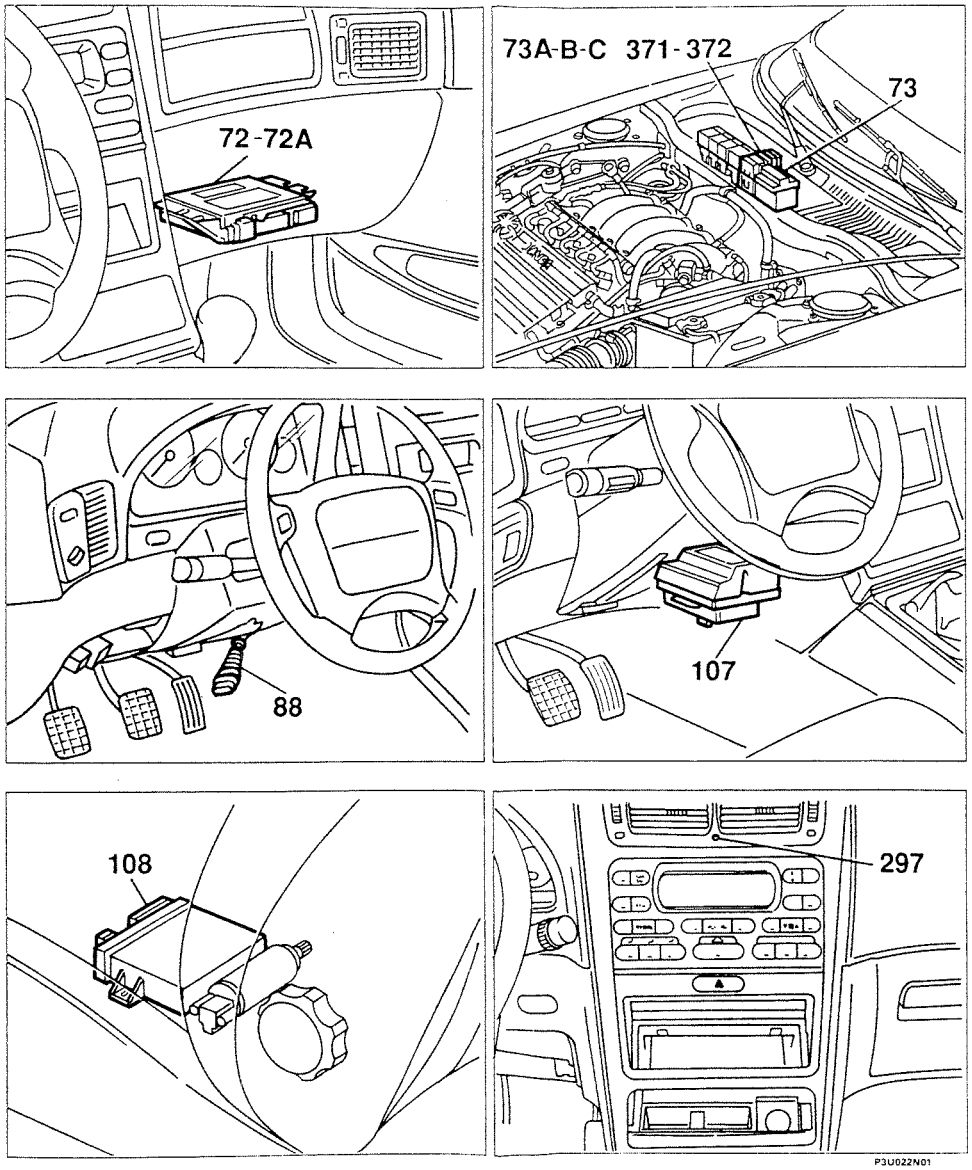
Device (Lancia CODE)



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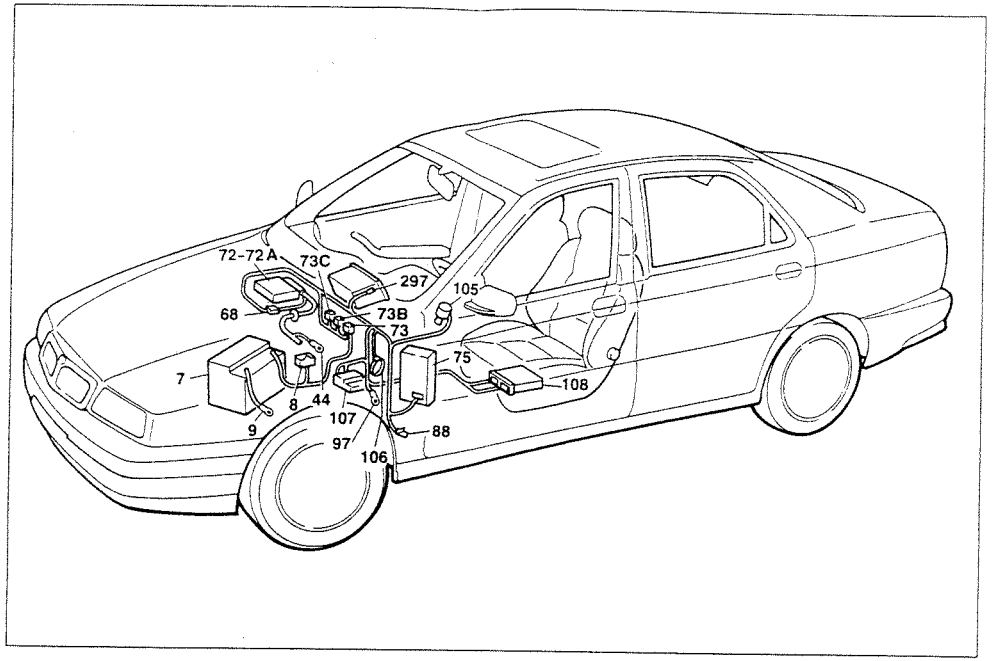


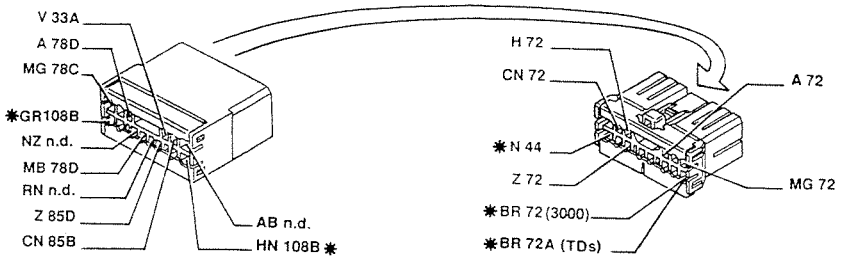
P3U07AN01

Device (Lancia CODE)

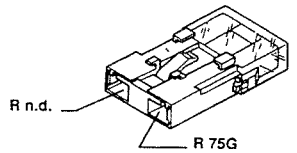
Key to components

7 Battery
8 Main junction unit
9 Earth on body
44 Power earth
68 Connection between facia lead and electronic injection lead
72 Fuel injection control unit
72A Fuel pump ECU (2387 Td)
73 Secondary juntion unit
73B 60A fuse protecting I.G.E. control unit/junction unit
73C 30A fuse for ignition switch/alarm device
75 Junction unit (facia)
88 Diagnostic socket for Fiat / Lancia tester
97 Earth on floor pan
105 Ignition switch
106 Lancia CODE device aerial
107 Alarm control unit
108 Lancia CODE control unit
297 Alarm / Lancia CODE device warning light
N.D. Taped ultrasound welding in wiring bundle

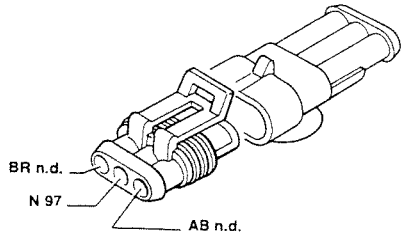
68 Connection between facia lead and electronic injection lead



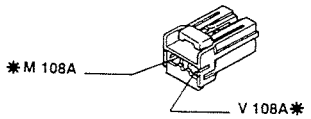
73B 60A fuse protecting IGE control unit /Junction unit



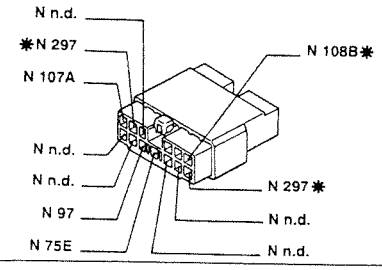
88 Diagnostic socket for Fiat/Lancia tester



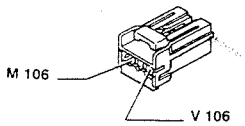
106 Anti-theft device aerial

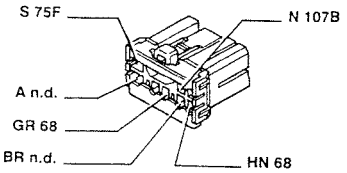


107B Car alarm ECU



108 Immobiliser control unit

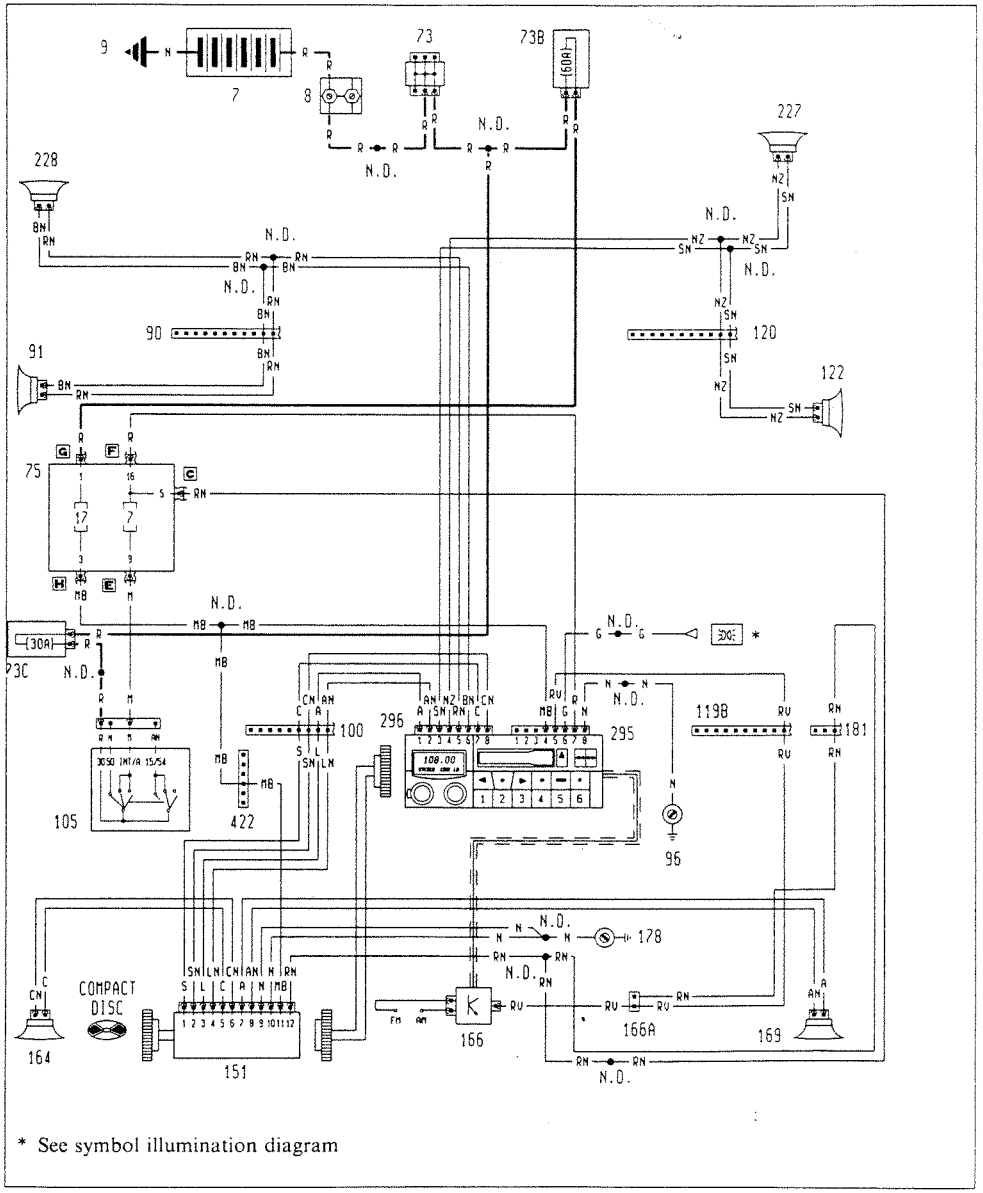




* Wires involved in the wiring diagram are marked with an asterisk

P3U024N01

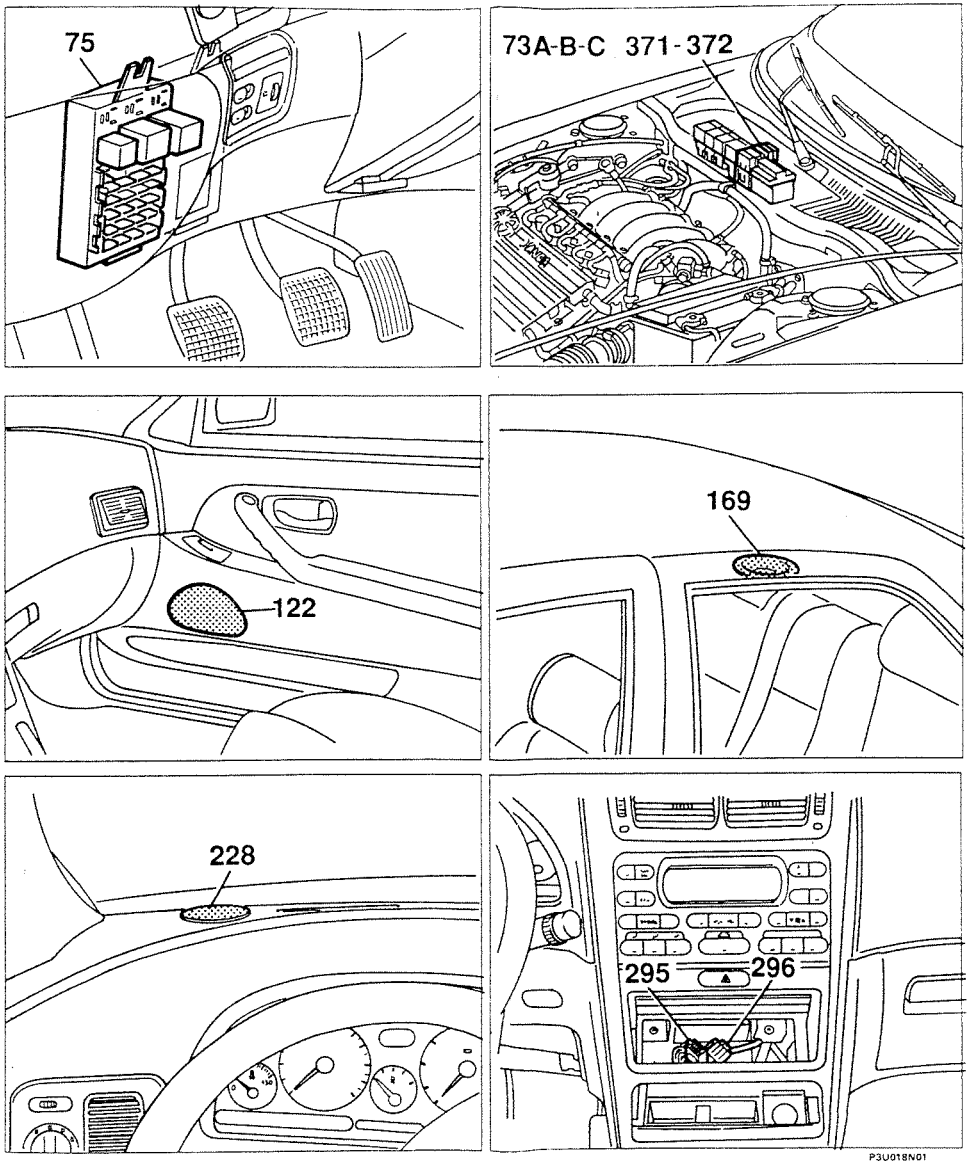
Provision for car radio, high range - (See key following diagrams)



Updates diagram on page 11

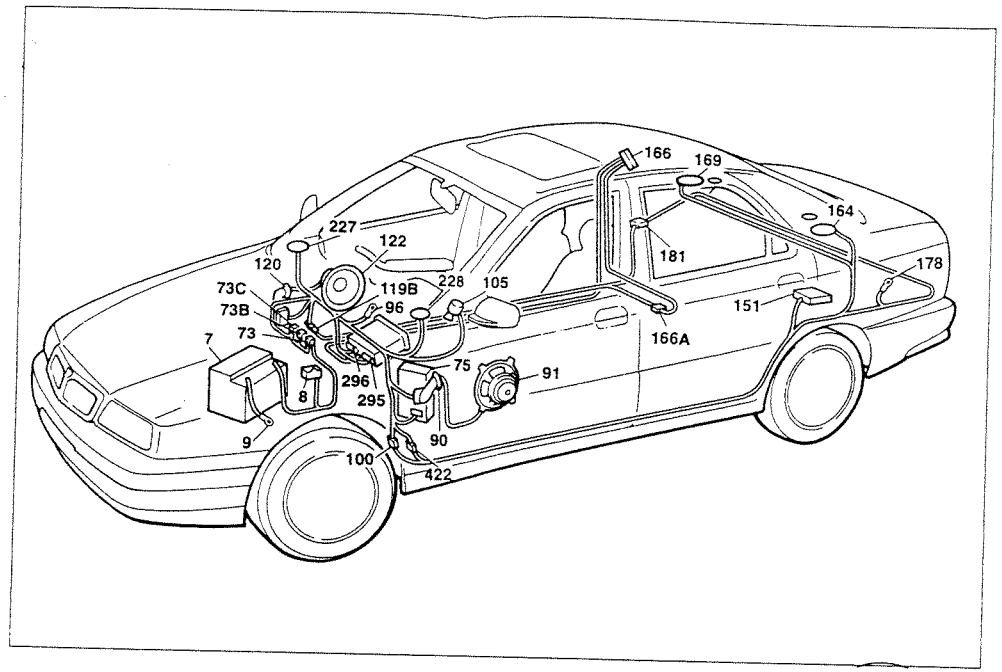
P3U09AN01

Provision for car radio, high range



P3U018N01

55.



P3U11AN01

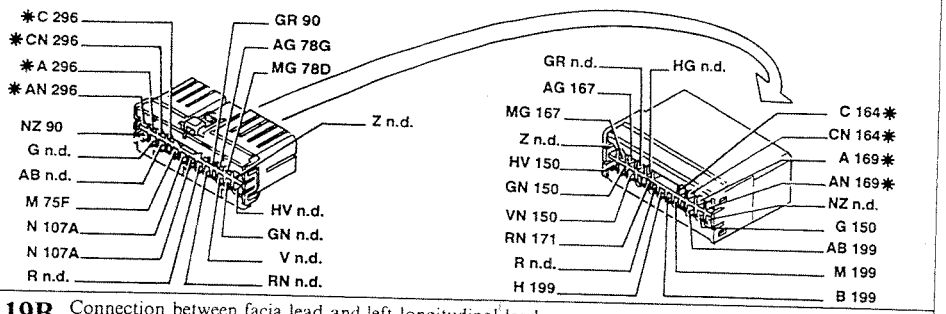
Provision for car radio, high range

Key to components

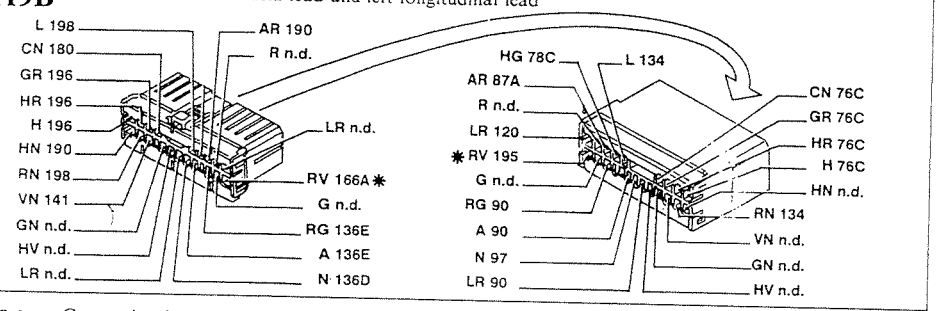
7 Battery
8 Main junction unit
9 Earth on body
73 Secondary juntion unit
73B 60A fuse protecting I.G.E. control unit/junction unit
73C 30A fuse for ignition switch/alarm device
75 Junction unit (facia)
90 Connection between facia cable and left front door cable
91 Speaker on left hand front door
96 Earth on carrier
100 Connection between facia lead and left longitudinal lead
105 Ignition switch
119B Connection between facia cable and right longitudinal cable
120 Connection between facia cable and right front door cable
122 Speaker on right hand front door
151 Amplifier for car radio
164 Left hand rear speaker
166 Amplifier for aerial on back window
166A Rear cable connection on rear window
169 Right hand rear speaker
178 Left rear earth
181 Connection between left longitudinal cable and right longitudinal cable
227 Right front speaker
228 Left front loudspeaker
295 Radio cable connection
296 Radio cable connection
422 Connection between facia lead and left longitudinal lead
N.D. Taped ultrasound welding in wiring bundle

3U11AN

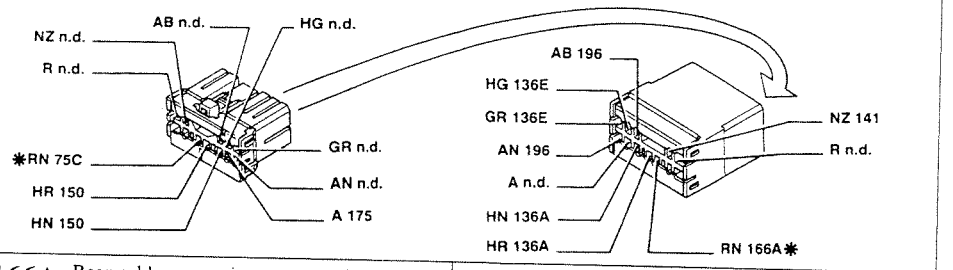
100 Connection between facia lead and left longitudinal lead



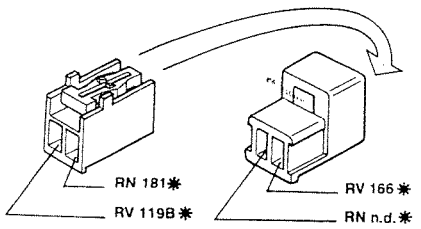
119B Connection between facia lead and left longitudinal lead



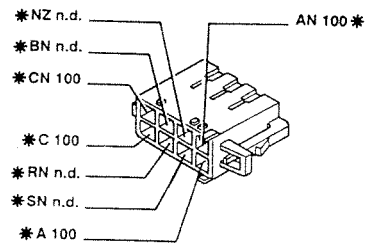
181 Connection between left longitudinal cable and right longitudinal cable



166A Rear cable connection on rear window



296 Radio cable connection



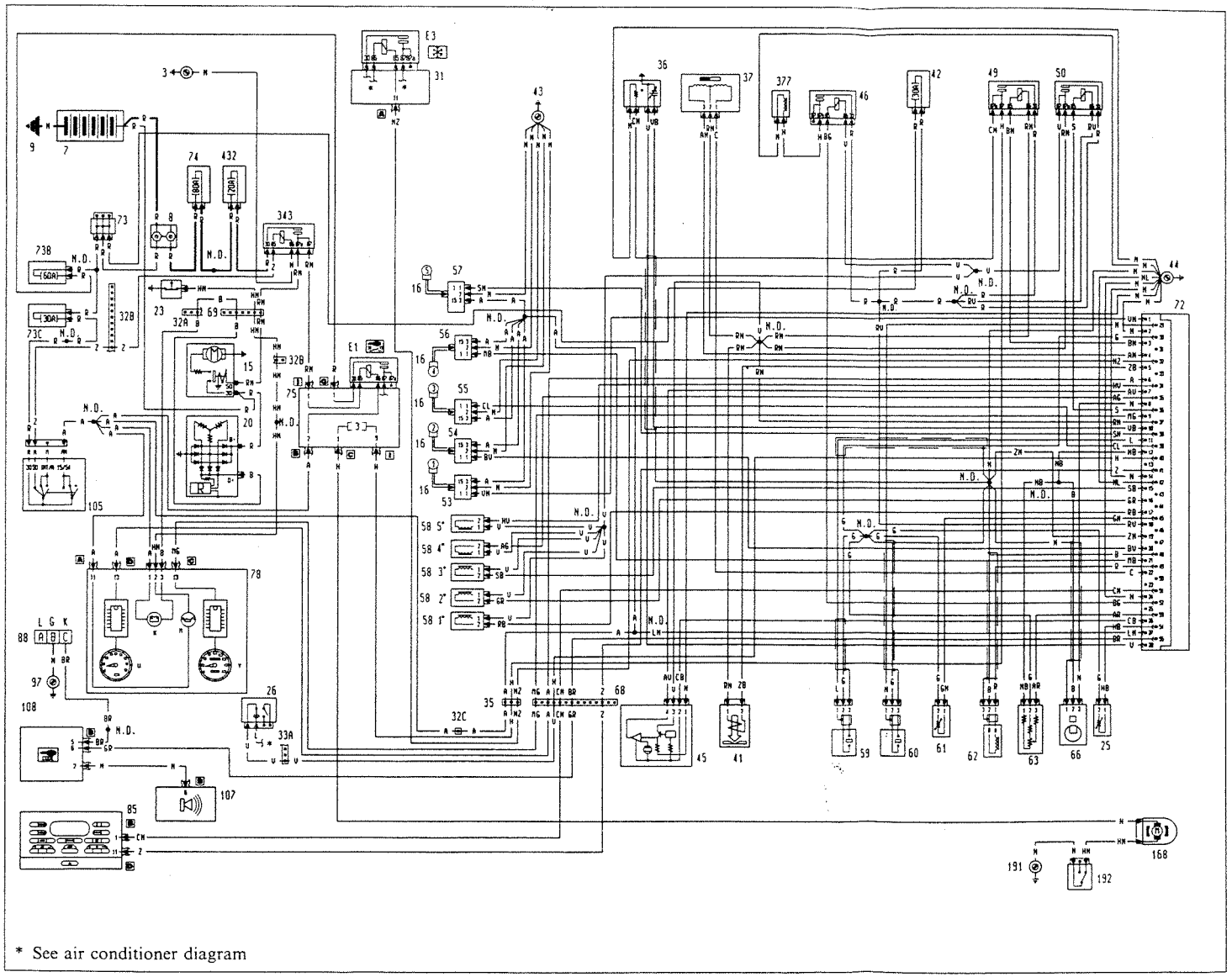
* Wires involved in the wiring diagram are marked with an asterisk

P3U020N01

3U12AN

Version: 1998

Starting - Motronic electronic ignition and injection 2.10.3 - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light - (See key following diagrams)

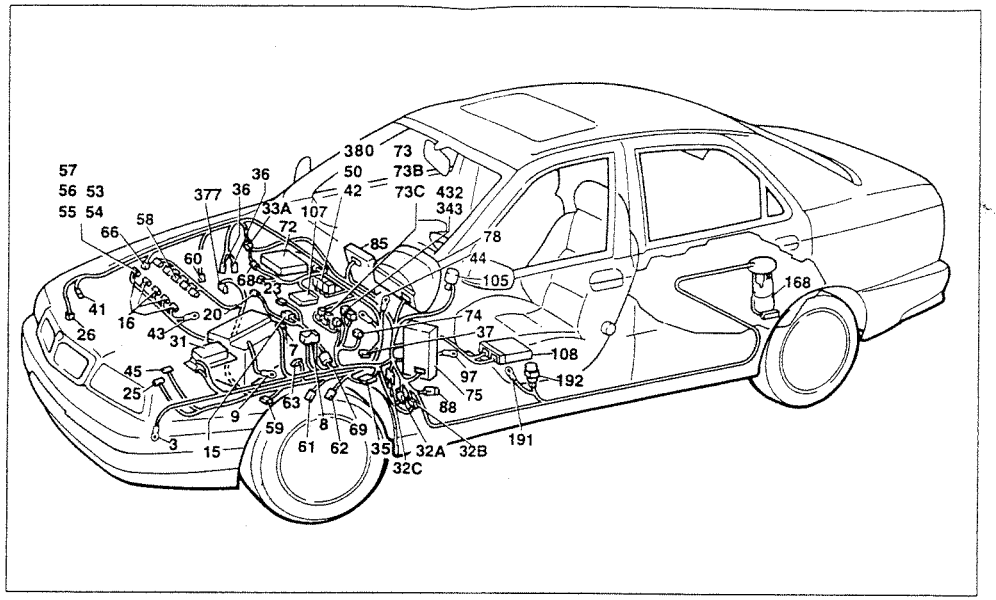


* See air conditioner diagram

Updates diagram on page 23

P3U13AN01

3U13AN



P3U14AN01

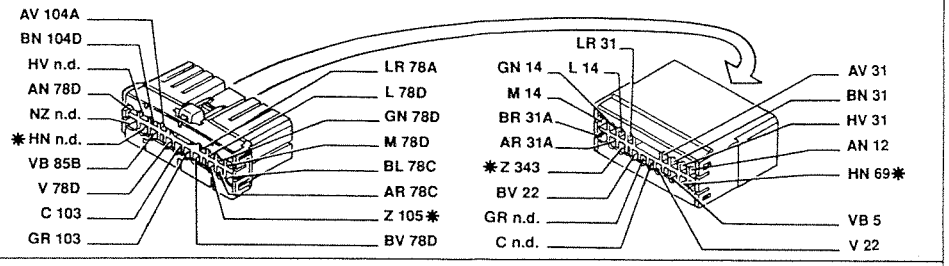
1998 version: Starting - Motronic electronic ignition and injection 2.10.3 - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light

Key to components

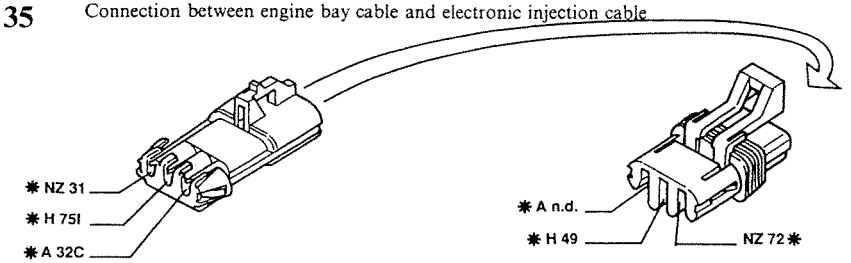
3 Left front earth
7 Battery
8 Main junction unit
9 Earth on body
15 Starter motor
16 Spark plugs
20 Alternator
23 Minimum engine oil pressure indicator sensor
25 Air temperature sensor
26 Three stage pressure switch
31 Peripheral ECU (engine bay)
E3 Compressor coupling control relay
32A Connection between facia cable and left engine bay cable
32B Connection between facia cable and left engine bay cable
32C Connection between facia cable and left engine bay cable
33A Connection between facia cable and right engine bay cable
35 Connection between engine bay cable and electronic injection cable
36 Hot Lambda probe
37 Idle adjustment actuator
41 Fuel vapour cut-off solenoid
42 30A fuse for electronic injection system
43 Electronic earth
44 Power earth
45 Air flow meter (Debimeter)
50 Electronic injection system control relay
53 Ignition coil
54 Ignition coil
55 Ignition coil
56 Ignition coil
57 Ignition coil
58 Injectors
59 1 Knock sensor
60 2 Knock sensor
61 Electronic injection ngine coolant temperature sensor
62 Rpm sensor
63 Potentiometer on throttle valve
66 Timing sensor
68 Connection between facia lead and electronic injection lead
69 Engine service lead connection
72 Fuel injection control unit
73 Secondary juntion unit
73B 60A fuse protecting I.G.E. control unit/junction unit
73C 30A fuse protecting ignition switch/car alarm
74 60A fuse protecting peripheral control unit (engine bay))
75 Junction unit (facia)
E1 Switch discharge connector
78 Instrument panel
K Battery recharging warning light
M Insufficient engine oil pressure warning light
U Electronic rev counter
Y Electronic tachometer
85 Infocenter ECU
88 Diagnostic socket for Fiat / Lancia tester
97 Earth on floor pan
105 Ignition switch
107 Alarm control unit
108 Lancia CODE control unit
168 Electric fuel pump
191 Earth for inertia switch
192 Inertia switch
317 Connection between automatic transmission cable and electronic injection
343 40A starter relay
377 Timing variator
380 Relay for timing variator
432 20A ignition switch control relay fuse
N.D. Taped ultrasound welding in wiring bundle

3U14AN

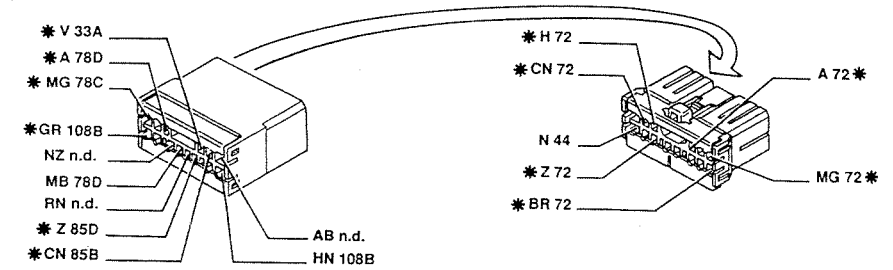
32B Connection between facia cable and left engine bay cable



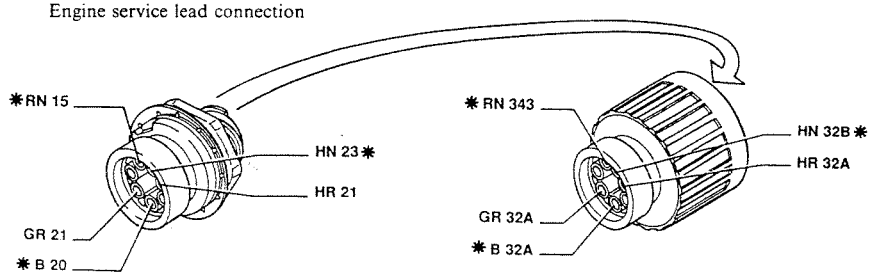
35 Connection between engine bay cable and electronic injection cable



68 Connection between facia lead and electronic injection lead



69 Engine service lead connection



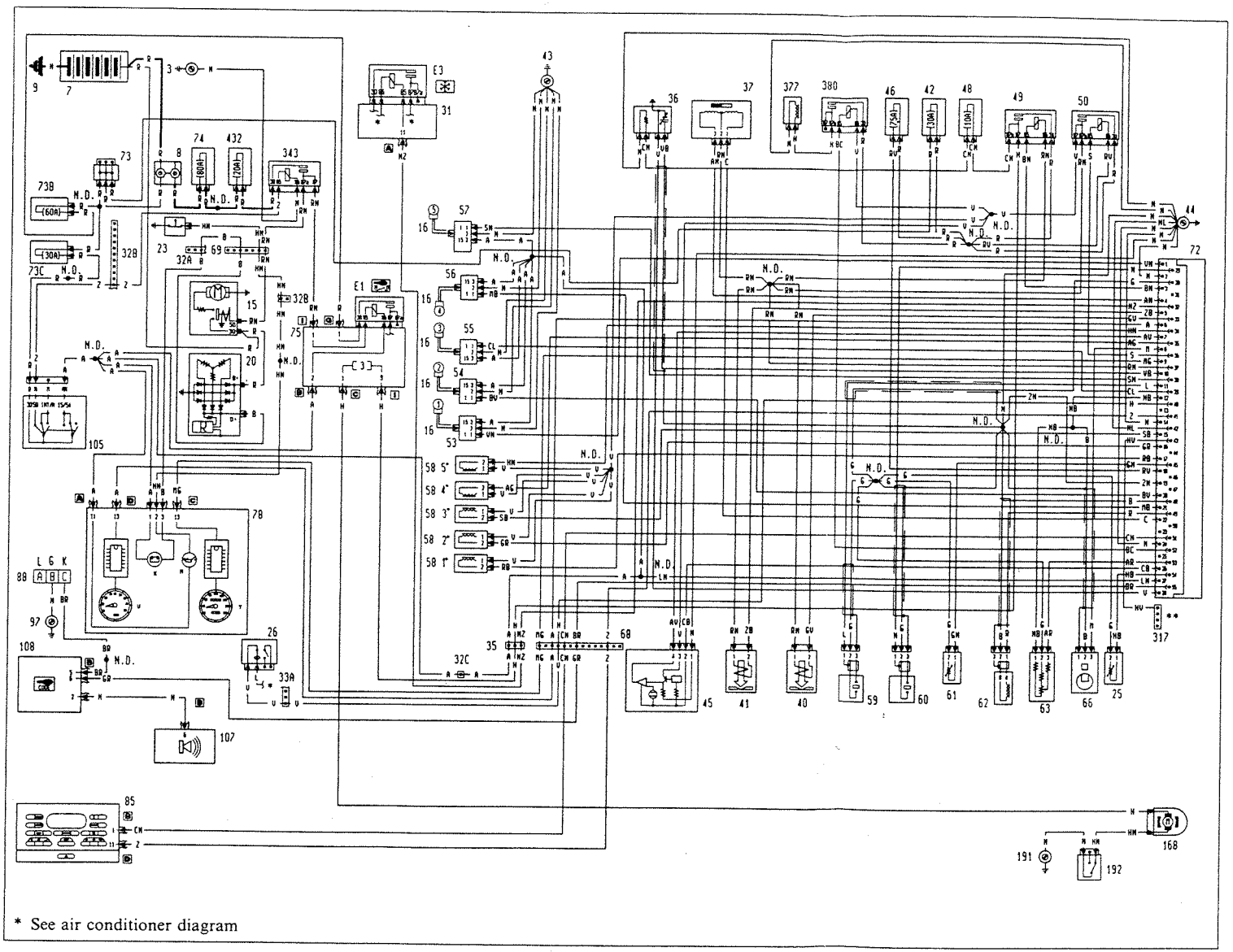
* Wires involved in the wiring diagram are marked with an asterisk

P3U043N01

3U15AN

Version: 2446

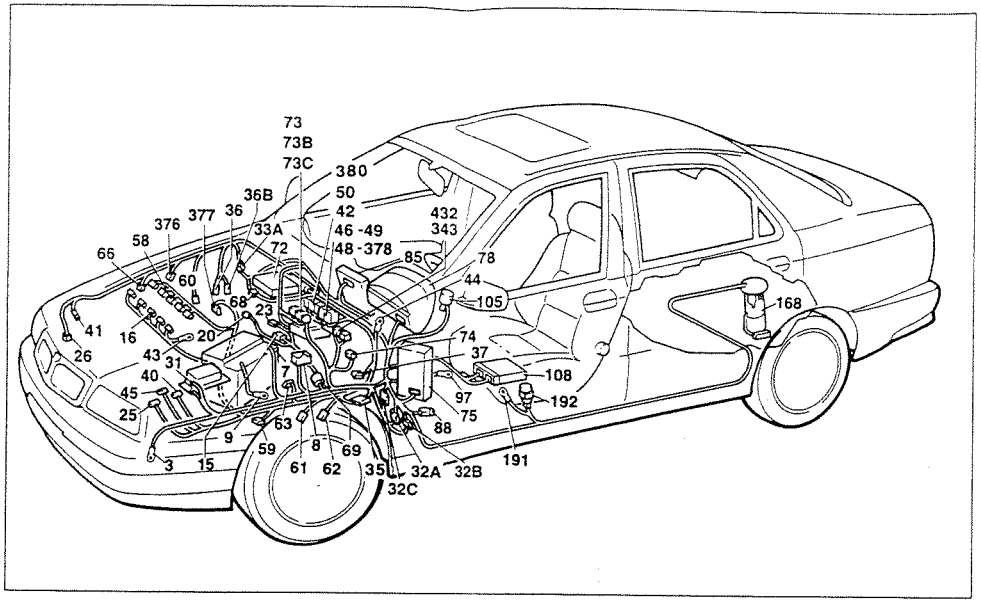
Starting - Motronic electronic ignition and injection 2.10.3 - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light - (See key following diagrams)



* See air conditioner diagram

Updates diagram on page 25

P3U17AN01



P3U18AN01

Version 2446: Starting - Motronic electronic ignition and injection 2.10.3 - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light

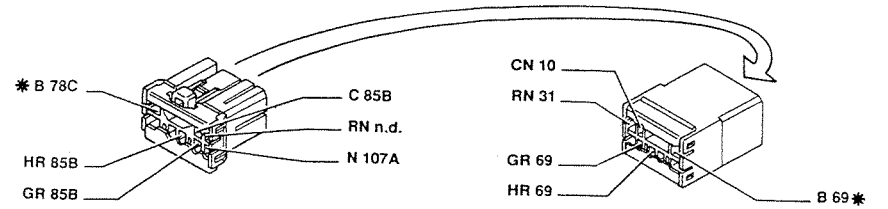
Key to components

3 Left front earth
7 Battery
8 Main junction unit
9 Earth on body
15 Starter motor
16 Spark plugs
20 Alternator
23 Minimum engine oil pressure indicator sensor
25 Air temperature sensor
26 Three stage pressure switch
31 Peripheral ECU (engine bay)
E3 Compressor coupling control relay
32A Connection between facia cable and left engine bay cable
32B Connection between facia cable and left engine bay cable
32C Connection between facia cable and left engine bay cable
33A Connection between facia cable and right engine bay cable
35 Connection between engine bay cable and electronic injection cable
36 Hot Lambda probe
37 Idle adjustment actuator
40 EGR device control solenoid.
41 Fuel vapour cut-off solenoid
42 30A fuse for electronic injection system
43 Electronic earth
44 Power earth
45 Air flow meter (Debimeter)
46 7.5A electronic injection system fuse
48 10A hot lambda probe and air flow meter relay fuse (Debimeter)
49 Relay for electric fuel pump and hot Lambda probe
50 Electronic injection system control relay
53 Ignition coil
54 Ignition coil
55 Ignition coil
56 Ignition coil
57 Ignition coil
58 Injectors
59 1 Knock sensor
60 2 Knock sensor
61 Electronic injection engine coolant temperature sensor
62 Rpm sensor
63 Potentiometer on throttle valve
66 Timing sensor
68 Connection between facia lead and electronic injection lead
69 Engine service lead connection
72 Fuel injection control unit
73 Secondary juntion unit
73B 60A fuse protecting I.G.E. control unit/junction unit
73C 30A fuse protecting ignition switch/car alarm
74 60A fuse protecting peripheral control unit (engine bay))
75 Junction unit (facia)
E1 Switch discharge connector
78 Instrument panel
K Battery recharging warning light
M Insufficient engine oil pressure warning light
U Electronic rev counter
Y Electronic tachometer
85 Infocenter ECU
88 Diagnostic socket for Fiat / Lancia tester
97 Earth on floor pan
105 Ignition switch
107 Alarm control unit
108 Lancia CODE control unit
168 Electric fuel pump
191 Earth for inertia switch
192 Inertia switch
317 Connection between automatic transmission lead and electronic injection lead
343 40A starter relay
376 Modular manifold solenoid
377 Timing variator
378 Modular manifold control relay
380 Relay for timing variator
386 Cable connection to water in diesel filter sensor
432 20A ignition switch control relay fuse

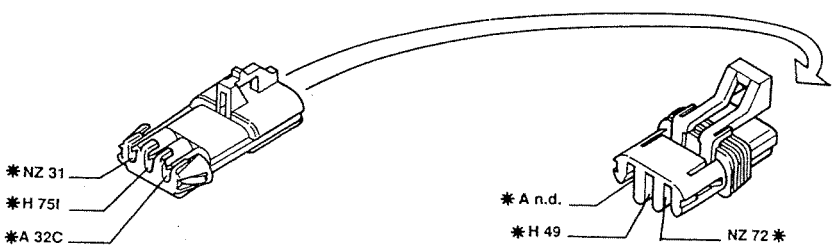
N.D. Taped ultrasound welding in wiring bundle

3U18AN

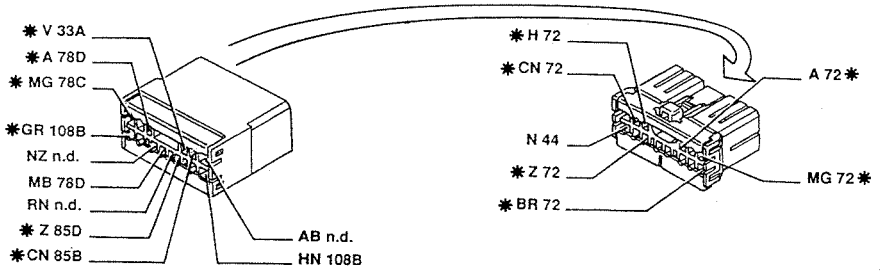
32A Connection between facia cable and left engine bay cable



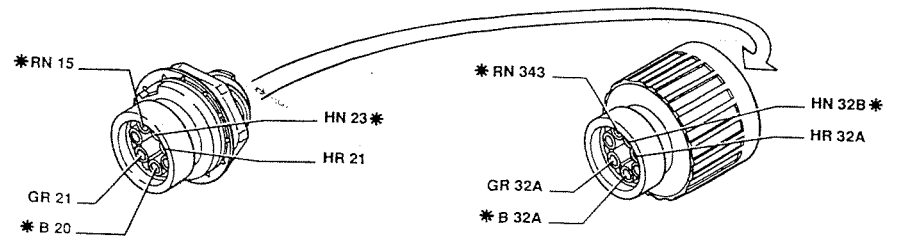
35 Connection between engine bay cable and electronic injection cable



68 Connection between facia lead and electronic injection lead



69 Engine service lead connection



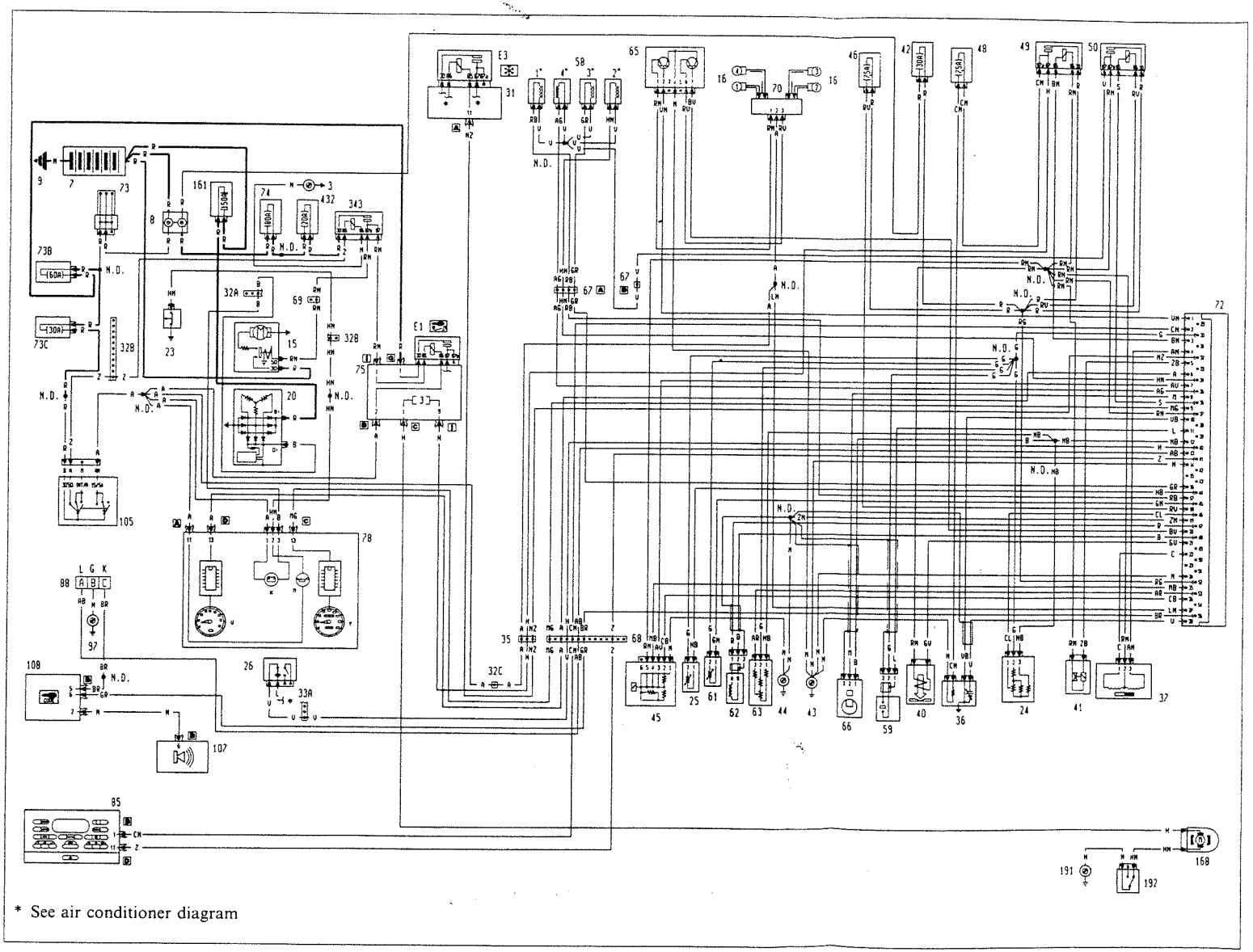
* Wires involved in the wiring diagram are marked with an asterisk

P3U047N01

3U19AN

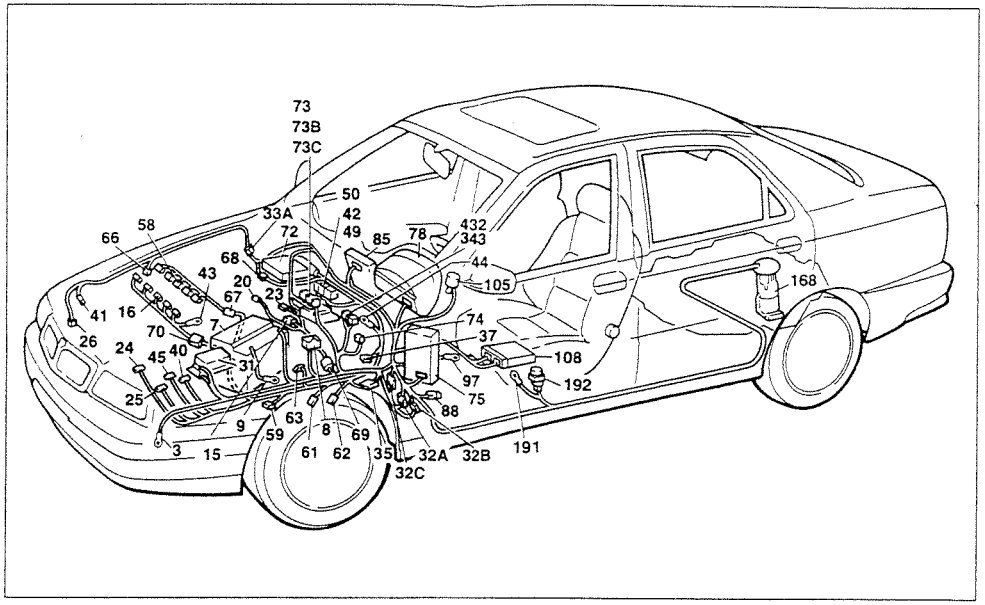
Version: 1995 T

Starting - Motronic electronic ignition and injection M 2.7 - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light - (See key following diagrams)



* See air conditioner diagram

Updates diagram on page 27



P3U22AN01

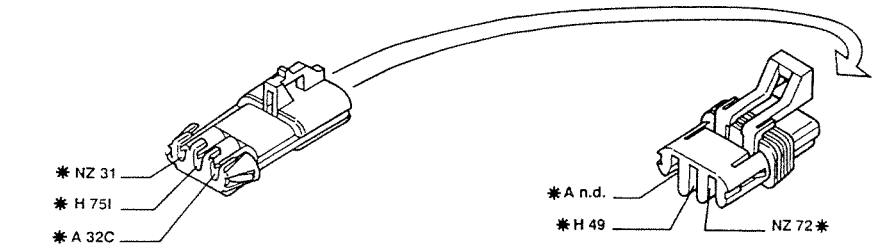
Version 1995 T: Starting - Motronic electronic ignition and injection M 2.7 - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light

Key to components

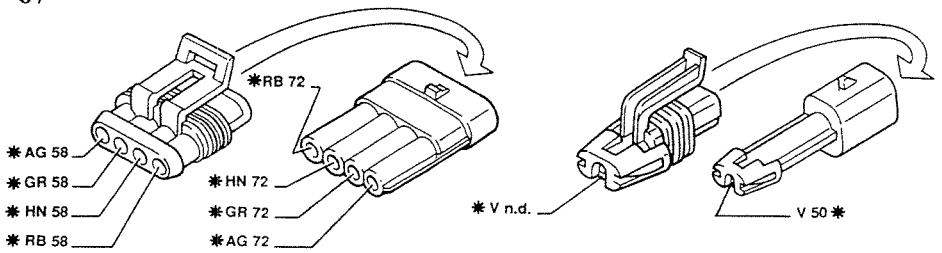
3 Left front earth
7 Battery
8 Main junction unit
9 Earth on body
15 Starter motor
16 Spark plugs
20 Alternator
23 Minimum engine oil pressure indicator sensor
24 Barometric capsule
25 Air temperature sensor
26 Three stage pressure switch
31 Peripheral ECU (engine bay)
E3 Compressor coupling control relay
32A Connection between facia cable and left engine bay cable
32B Connection between facia cable and left engine bay cable
32C Connection between facia cable and left engine bay cable
33A Connection between facia cable and right engine bay cable
35 Connection between engine bay cable and electronic injection cable
36 Hot Lambda probe
37 Idle adjustment actuator
40 EGR device control solenoid.
41 Fuel vapour cut-off solenoid
42 30A fuse for electronic injection system
43 Electronic earth
44 Power earth
45 Air flow meter (Debimeter)
48 10A hot lambda probe and air flow meter relay fuse (Debimeter)
49 Fuel pump control relay and hot Lambda probe
50 Electronic injection system control relay
58 Injectors
59 1 Detonation sensor
01 Electronic injection engine coolant temperature sensor
62 Rpm sensor
63 Potentiometer on throttle valve
66 Timing sensor
67 Electronic injection wiring connection
68 Connection between facia lead and electronic injection lead
69 Engine service lead connection
70 HT distributor.
72 Fuel injection control unit
73 Secondary junction unit
73B 60A fuse protecting I.G.E. control unit/junction unit
73C 30A fuse protecting ignition switch/car alarm
74 60A fuse protecting peripheral control unit (engine bay))
75 Junction unit (facia)
E1 Switch discharge connector
78 Instrument panel
K Battery recharging warning light
M Insufficient engine oil pressure warning light
U Electronic rev counter
Y Electronic tachometer
85 Infocenter ECU
88 Diagnostic socket for Fiat/Lancia tester
97 Earth on floor pan
105 Ignition switch
107 Alarm control unit
108 Lancia CODE control unit
161 100A alternator fuse
168 Electric fuel pump
191 Earth for inertia switch
192 Inertia switch
343 40A starter relay
432 20A ignition switch control relay fuse
N.D. Taped ultrasound welding in wiring bundle

3U22AN

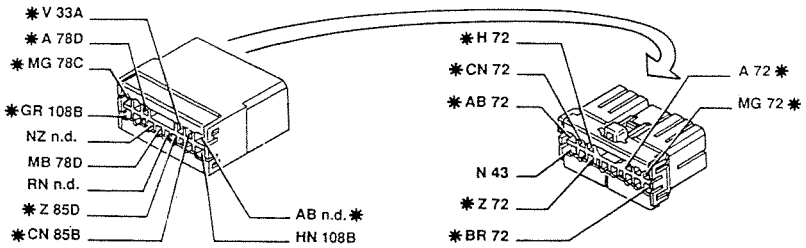
35 Connection between engine bay cable and electronic injection cable



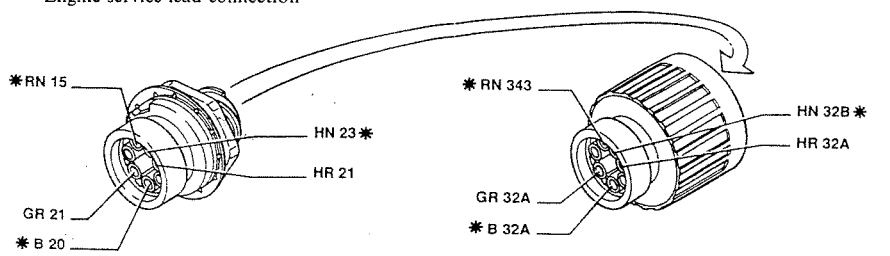
67 Engine service lead connection



68 Connection between facia lead and electronic injection lead



69 Engine service lead connection



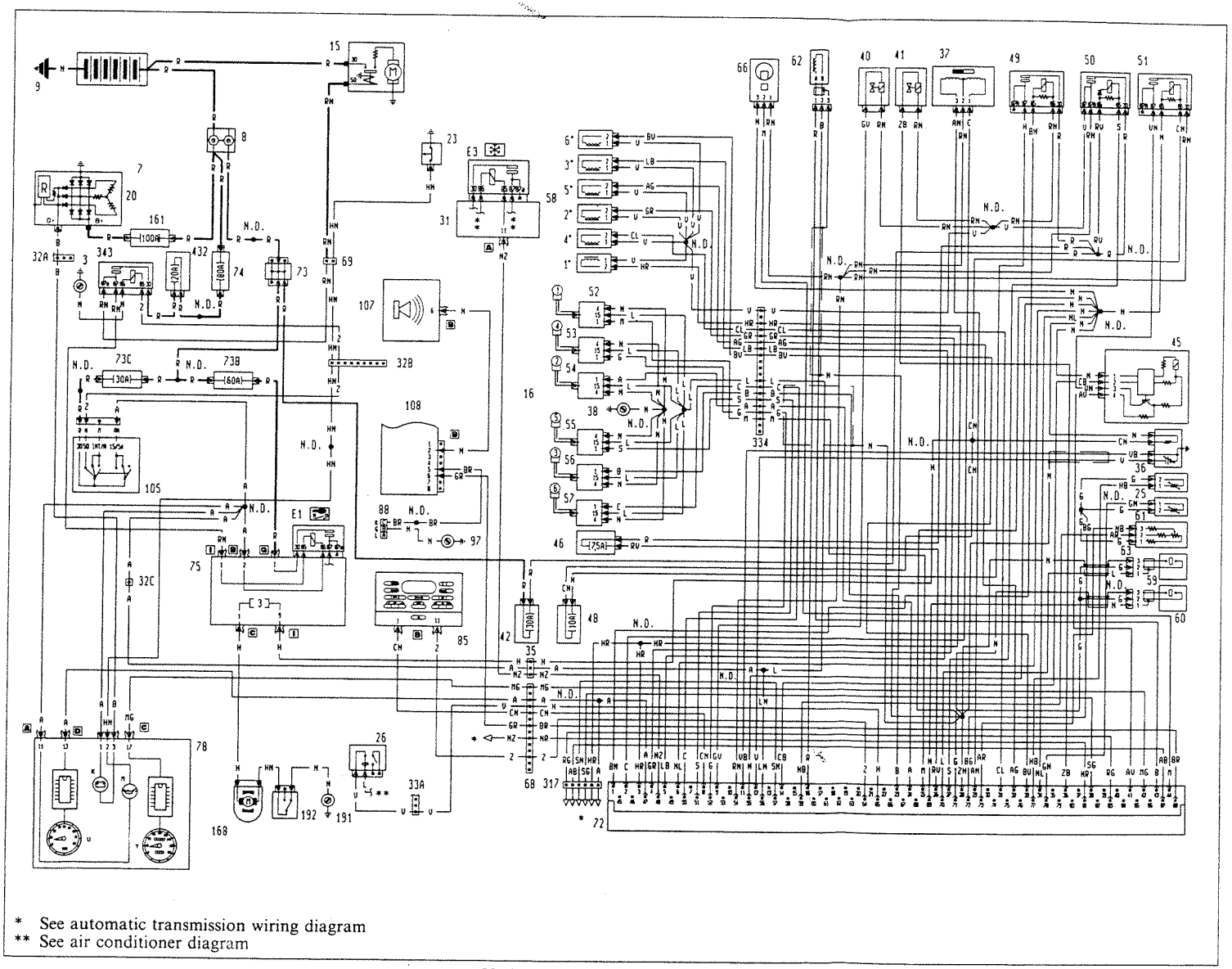
* Wires involved in the wiring diagram are marked with an asterisk

P3U051N01

3U23AN

Version: 2959

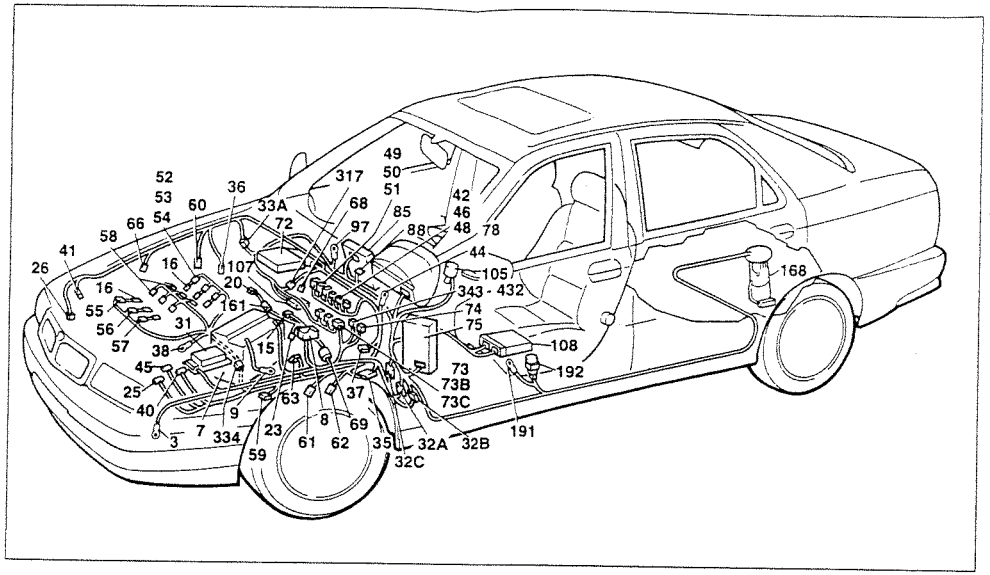
Starting - Motronic electronic ignition and injection - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light - (See key following diagrams)



* See automatic transmission wiring diagram
** See air conditioner diagram

Updates diagram on page 29

55.



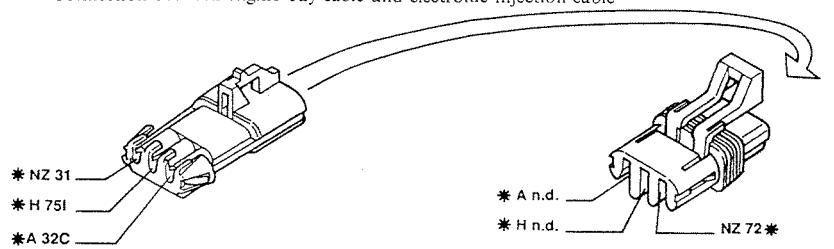
P3U26AN01

Version 2959: Starting - Motronic electronic ignition and injection - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light

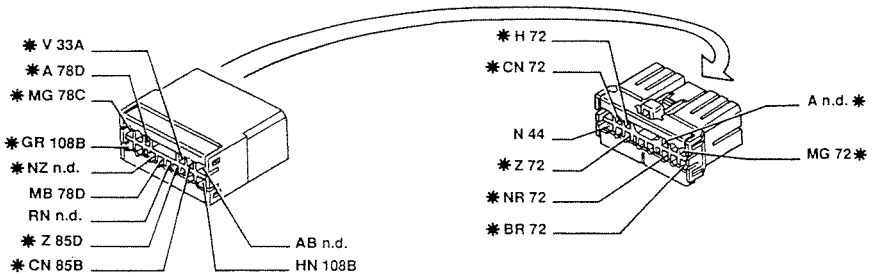
Key to components

3 Left front earth
7 Battery
8 Main junction unit
9 Earth on body
15 Starter motor
16 Spark plugs
20 Alternator
23 Minimum engine oil pressure indicator sensor
25 Air temperature sensor
26 Three stage pressure switch
31 Peripheral ECU (engine bay)
E3 Compressor coupling control relay
32A Connection between facia cable and left engine bay cable
32B Connection between facia cable and left engine bay cable
32C Connection between facia cable and left engine bay cable
33A Connection between facia cable and right engine bay cable
35 Connection between engine bay cable and electronic injection cable
36 Hot Lambda probe
37 Idle adjustment actuator
38 Earth for electronic injection
40 EGR device control solenoid.
41 Fuel vapour cut-off solenoid
42 30A fuse for electronic injection system
44 Power earth
45 Air flow meter (Debimeter)
46 7.5A electronic injection system fuse
48 10A hot lambda probe and air flow meter relay fuse (Debimeter)
49 Fuel pump control relay and hot Lambda probe
50 Electronic injection system control relay
51 Air flow meter control relay (Debimeter)
52 Ignition coil
53 Ignition coil
54 Ignition coil
55 Ignition coil
56 Ignition coil
57 Ignition coil
58 Injectors
59 1 Detonation sensor
60 2 Detonation sensor
61 Electronic injection engine coolant temperature sensor
62 Rpm sensor
63 Potentiometer on throttle valve
66 Timing sensor
68 Connection between facia lead and electronic injection lead
69 Engine service lead connection
72 Fuel injection control unit
73 Secondary juntion unit
73B 60A fuse protecting I.G.E. control unit/junction unit
73C 30A fuse protecting ignition switch/car alarm
74 60A fuse protecting peripheral control unit (engine bay))
75 Junction unit (facia)
E1 Switch discharge connector
78 Instrument panel
K Battery recharging warning light
M Insufficient engine oil pressure warning light
U Electronic rev counter
Y Electronic tachometer
85 Infocenter ECU
88 Diagnostic socket for Fiat/Lancia tester
97 Earth on floor pan
105 Ignition switch
107 Alarm control unit
108 Lancia CODE control unit
119B Connection between facia cable and right longitudinal cable
161 100A alternator fuse
168 Electric fuel pump
191 Earth for inertia switch
192 Inertia switch
317 Connection between automatic transmission lead and electronic injection lead
334 Connection between electronic injection lead and injector braid
343 40A starter relay
432 20A ignition switch control relay fuse
N.D. Taped ultrasound welding in wiring bundle

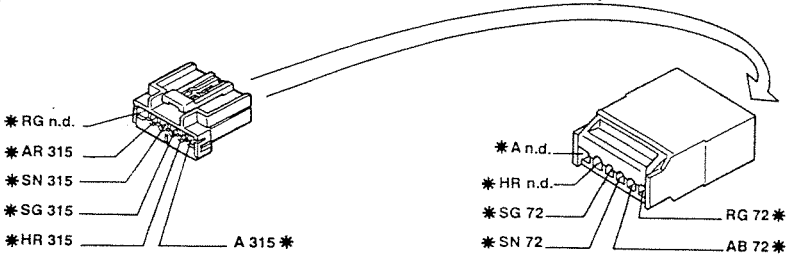
35 Connection between engine bay cable and electronic injection cable



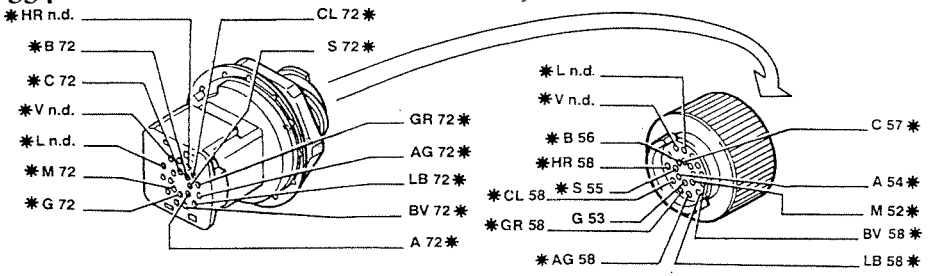
68 Connection between facia lead and electronic injection lead



317 Connection between automatic transmission lead and electronic injection lead



334 Connection between electronic injection lead and injector braid

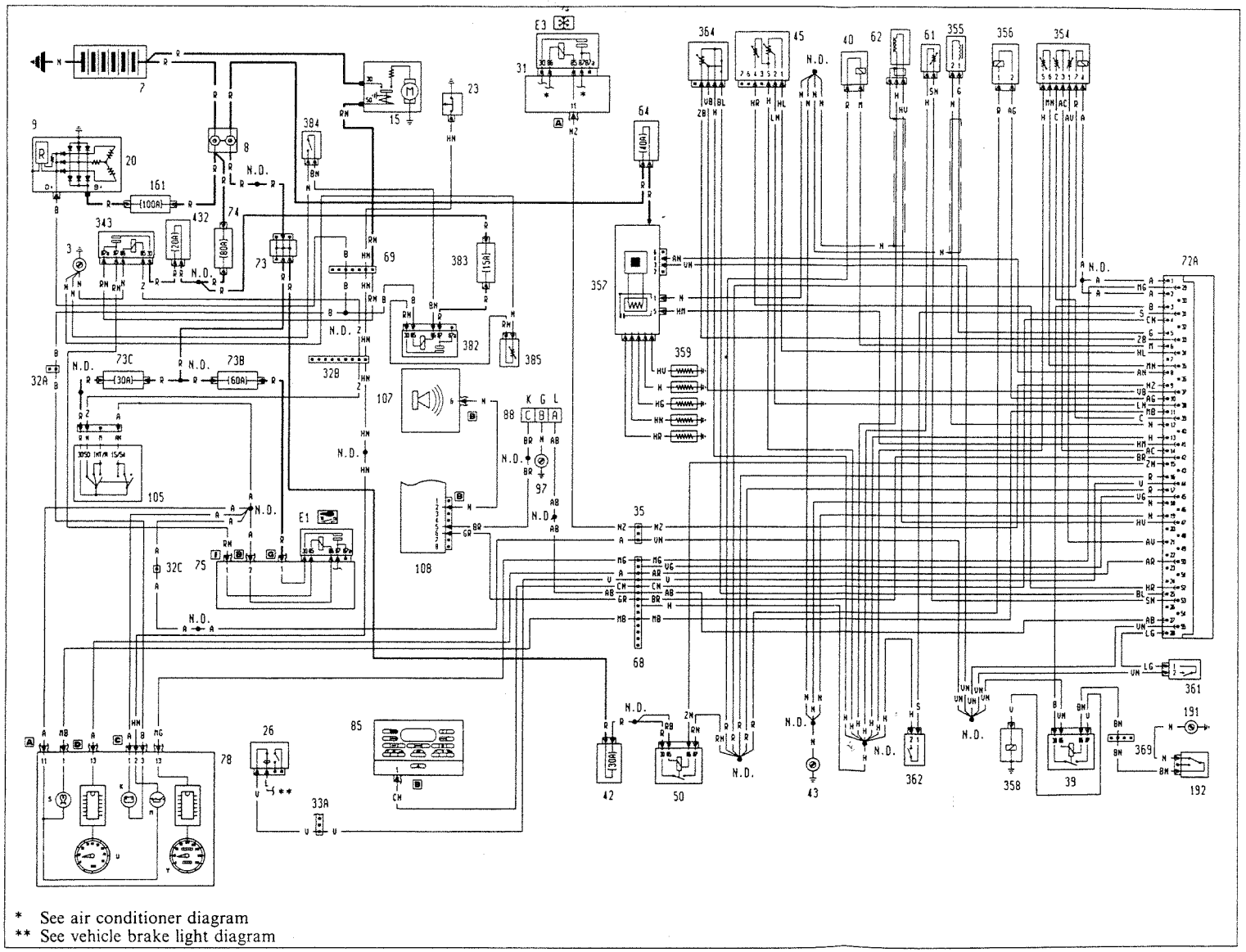


* Wires involved in the wiring diagram are marked with an asterisk

P3U055N01

Version: 2387 Td

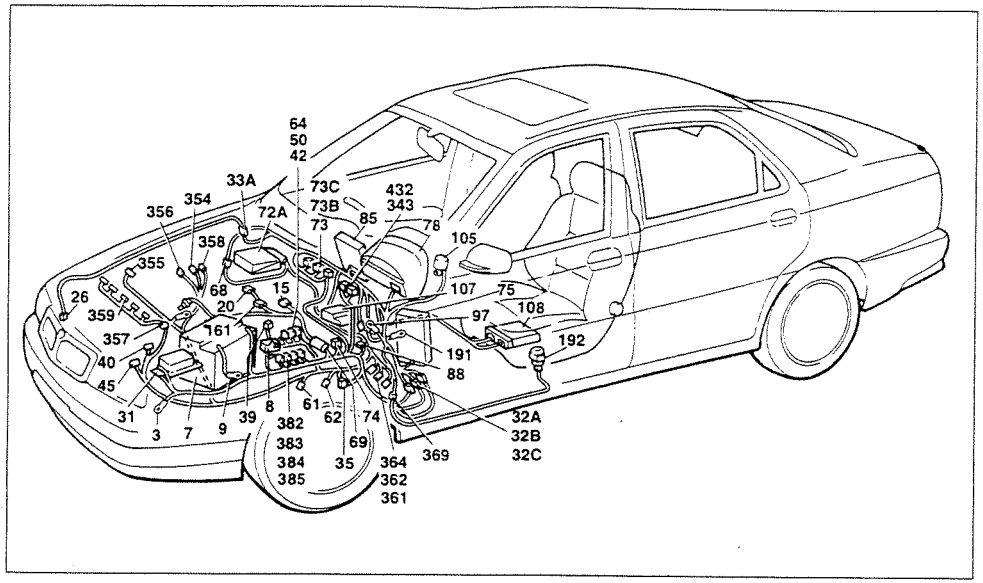
Starting - Fuel pump ECU MSA11-310 - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light - Heater plugs warning light - (See key following diagrams)



* See air conditioner diagram
** See vehicle brake light diagram

P3U29AN01

Updates diagram on page 31



P3U30AN01

Version 2387 Td: Starting - Fuel pump ECU MSA11-310 - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light - Heater plugs warning light

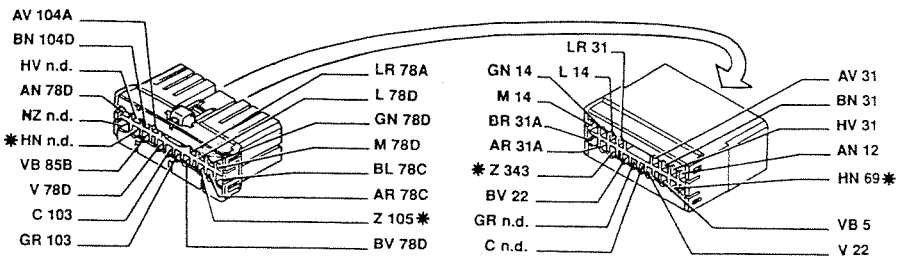
Key to components

3 Left front earth
7 Battery
8 Main junction unit
9 Earth on body
15 Starter motor
20 Alternator
26 Three stage pressure switch
31 Peripheral ECU (engine bay)
E3 Compressor coupling control relay
32A Connection between facia cable and left engine bay cable
32B Connection between facia cable and left engine bay cable
32C Connection between facia cable and left engine bay cable
33A Connection between facia cable and right engine bay cable
35 Connection between engine bay cable and electronic injection cable
39 Relay for inertia switch
40 EGR device control solenoid.
42 30A fuse for electronic injection system
43 Electronic earth
45 Air flow meter (Debimeter)
50 Electronic injection system control relay
61 Electronic injection engine coolant temperature sensor
62 Rpm sensor
64 40A glow plug fuse
68 Connection between facia lead and electronic injection lead
69 Engine service lead connection
72A Fuel pump control unit
73 Secondary juntion unit
73B 60A fuse protecting I.G.E. control unit/junction unit
73C 30A fuse protecting ignition switch/car alarm
74 60A fuse protecting peripheral control unit (engine bay))
75 Junction unit (facia)
E1 Switch discharge connector
78 Instrument panel
K Battery recharging warning light
M Insufficient engine oil pressure warning light
S Heater plugs warning light
U Electronic rev counter
Y Electronic tachometer
85 Infocenter ECU
88 Diagnostic socket for Fiat/Lancia tester
97 Earth on floor pan
105 Ignition switch
107 Alarm control unit
108 Lancia CODE control unit
161 100A alternator fuse
191 Earth for inertia switch
192 Inertia switch
343 40A starter relay
354 Dieesl pump
355 Injector with controls
356 Solenoid on diesel pump
357 Glow plug system control unit
358 Engine cut out solenoid on injection pump
359 Glow plugs
361 Switch on clutch pedal
362 Switch on pedal
364 Potentiometer on accelerator pedal
369 Connection between electronic injection lead and left longitudinal lead
382 Hot diesel filter control relay (P.T.C.)
383 15A hot diesel filter fuse (P.T.C.)
384 Thermal contact for hot diesel filter (P.T.C.)
385 Diesel filter heater coil (P.T.C.)
386 Cable connection to water in diesel filter sensor
432 20A ignition switch control relay fuse

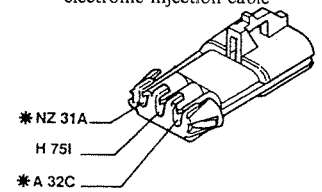
N.D. Taped ultrasound welding in wiring bundle

3U30AM

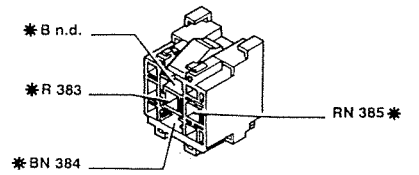
32B Connection between facia cable and left engine bay cable (only for 2387 Tds)



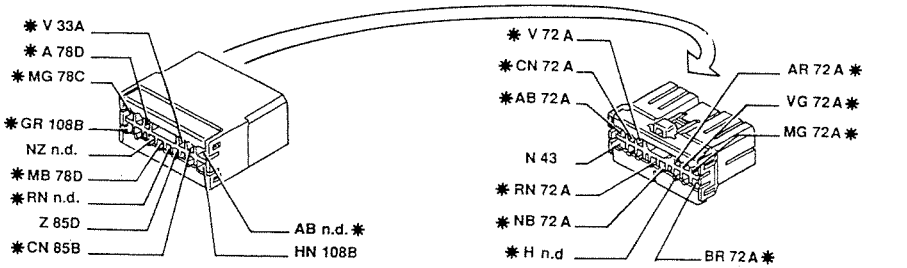
35 Connection between engine bay cable and electronic injection cable



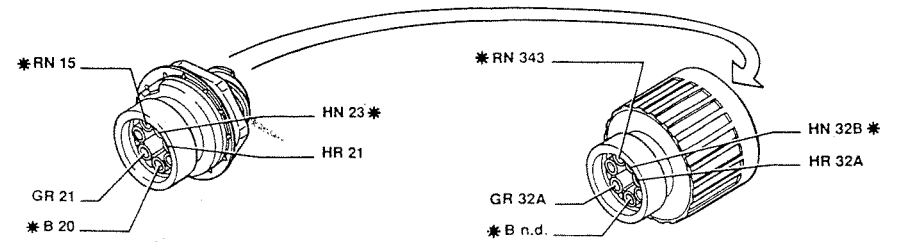
382 Hot diesel filter control relay (P.T.C.)



68 Connection between facia lead and electronic injection lead



69 Engine service lead connection

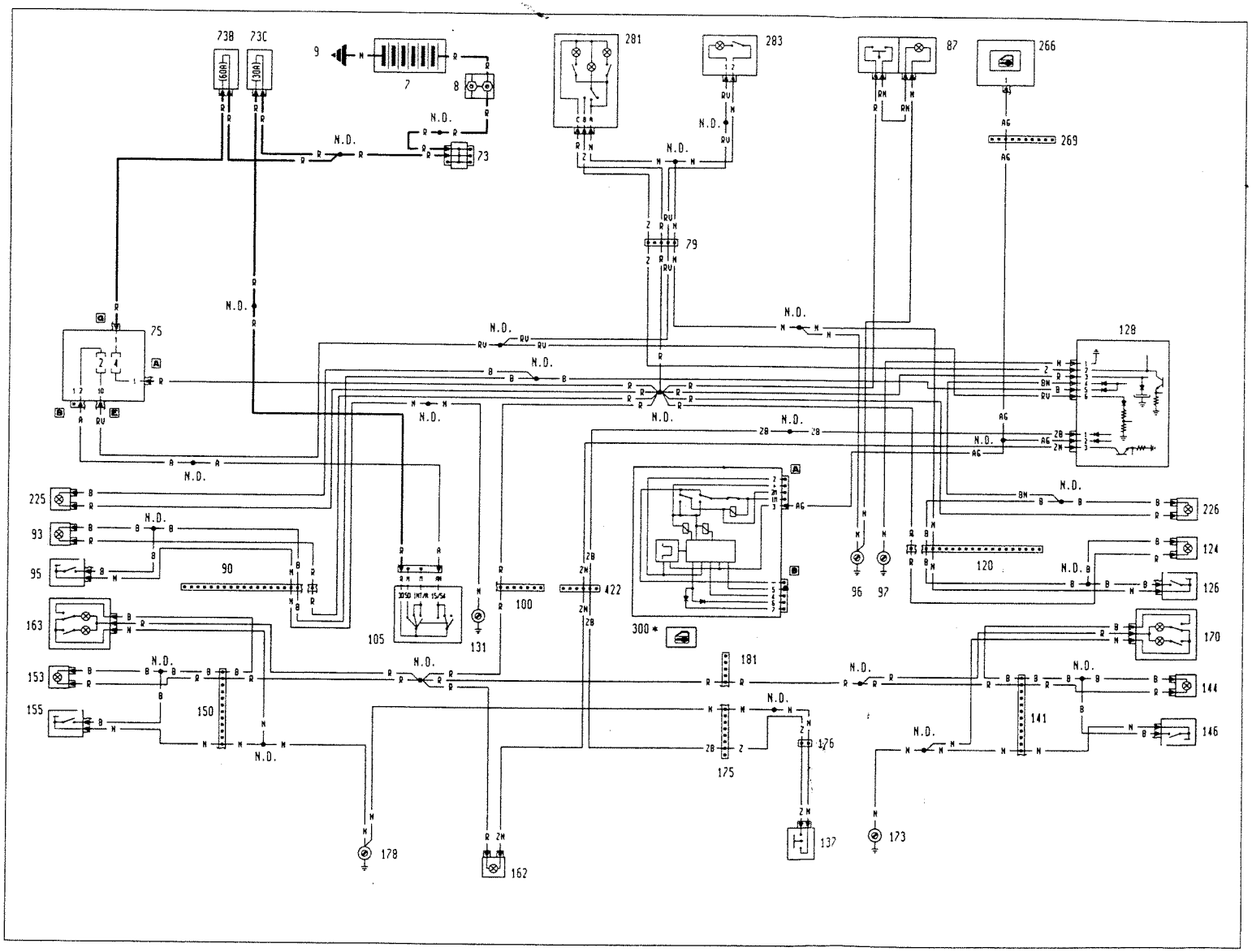


* Wires involved in the wiring diagram are marked with an asterisk

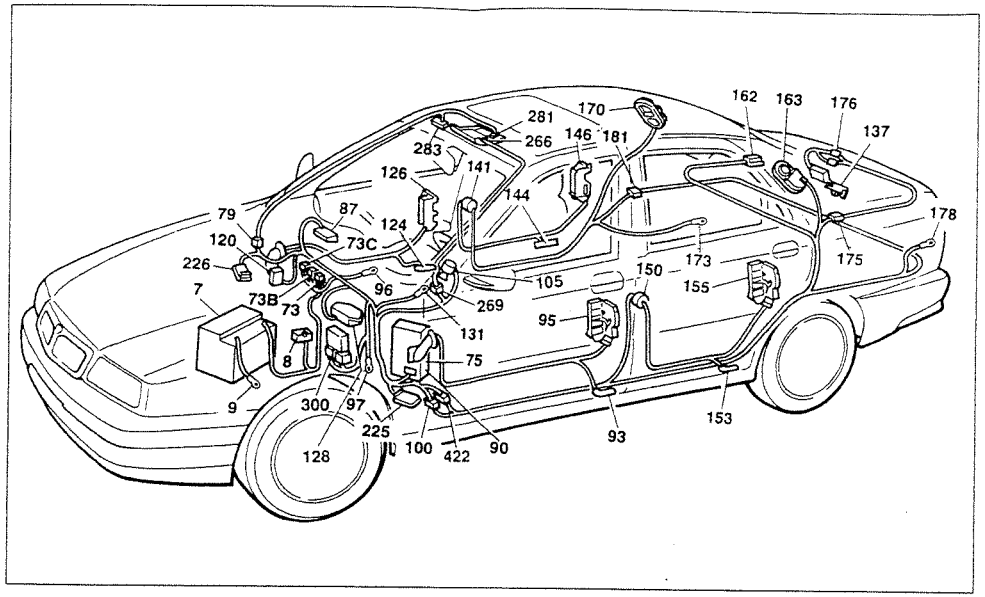
P3U059N01

3U31AN

Courtesy light - (See key following diagrams)



Updates diagram on page 41



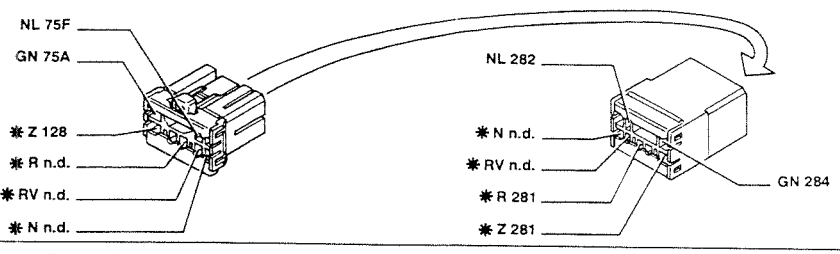
P3U34AN01

Courtesy light

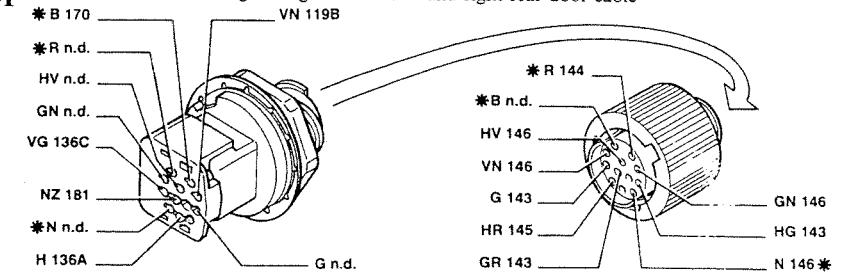
Key to components

7 Battery
8 Main junction unit
9 Earth on body
73 Secondary juntion unit
73B 60A fuse protecting I.G.E. control unit/junction unit
73C 30A fuse protecting ignition switch/car alarm
75 Junction unit (facia)
79 Connection between facia cable and courtesy light cable
87 Glove compartment / boot release control lighting
90 Connection between facia cable and left front door cable
93 Puddle light on left front door
95 Left front door lock motor and left front door open warning light
96 Earth on carrier
97 Earth on floor pan
100 Connection between facia lead and left longitudinal lead
105 Ignition switch
120 Connection between facia cable and right front door cable
124 Puddle light on right front door
126 Right front door lock motor and right front door open warning light
128 Front courtesy light control timer
131 Earth on steering column mount
137 Luggage compartment tail-gate lock assembly
141 Connection between right longitudinal cable and right rear door cable
144 Puddle light on right rear door
146 Right rear door lock motor and right door open/car alarm activated w/light
150 Connection between left longitudinal cable and left rear door cable
153 Puddle light on left rear door
155 Left rear door lock motor and left rear door open/car alarm activated w/light
162 Luggage compartment lighting
163 Left rear courtesy light for car interior
170 Right rear courtesy light for vehicle interior
173 Right rear earth
175 Connection between left longitudinal cable and tail-gate cable
176 Luggage compartment tail-gate cable connection
178 Left rear earth
181 Connection between left longitudinal cable and right longitudinal cable
225 Left floor light
226 Right floor light
266 Infra-red ray receiver for alarm device
269 Connection between facia cable and receiver cable
281 Front courtesy light for car interior
283 Lighted panel on passenger side
300 Central locking electronic control unit
422 Connection between facia lead and left longitudinal lead

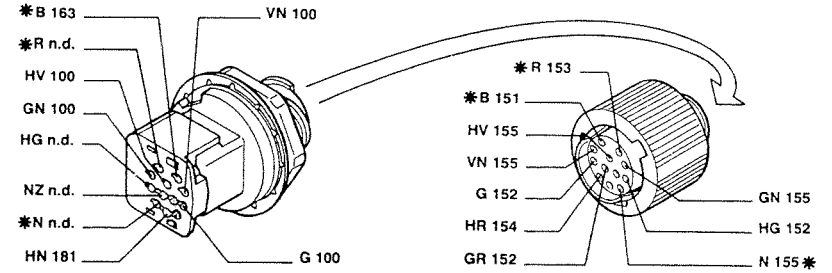
79 Connection between facia cable and courtesy light cable



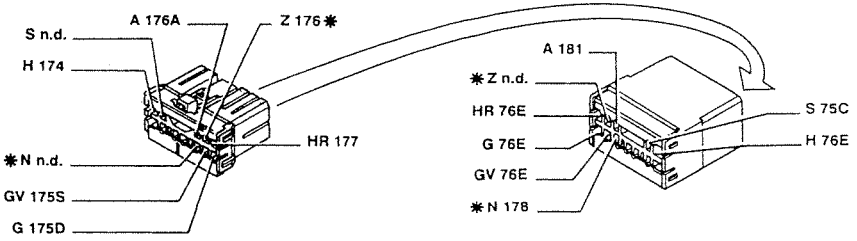
141 Connection between right longitudinal cable and right rear door cable



150 Connection between left longitudinal cable and left rear door cable



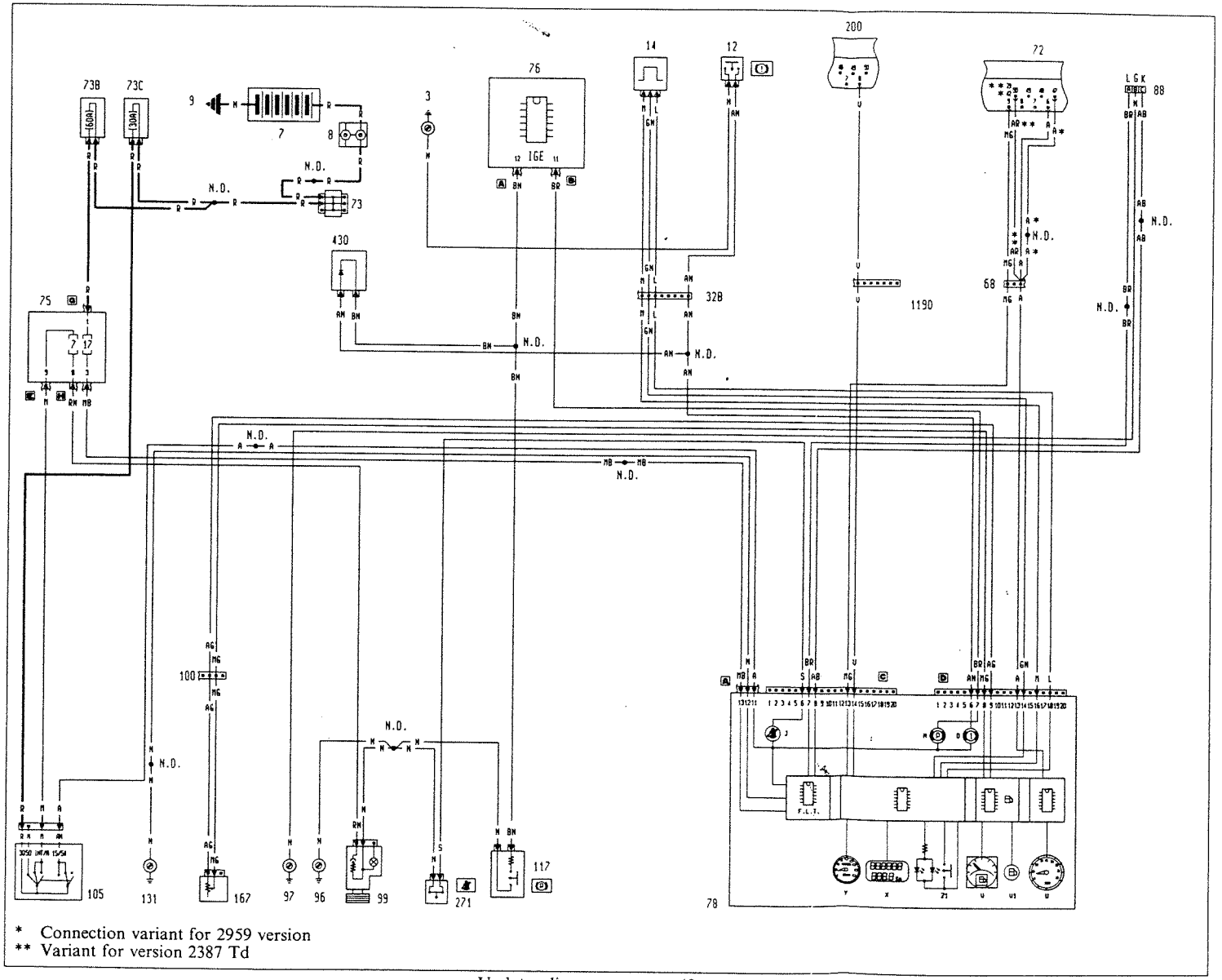
175 Connection between left longitudinal cable and tail-gate cable



* Wires involved in the wiring diagram are marked with an asterisk

P3U079N01

Fuel level gauge and reserve warning light - Handbrake warning light - Insufficient brake fluid level warning light - Seat belt unfastened warning light - Speedometer - Mileometer/trip counter and reset button - Rev counter - (See key following diagrams)

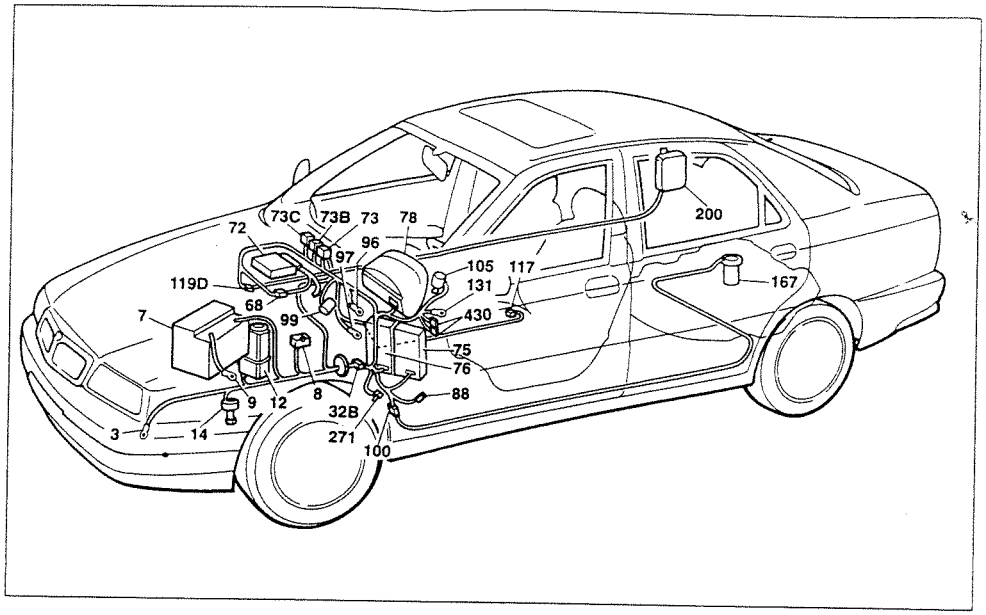


* Connection variant for 2959 version
** Variant for version 2387 Td

3U37AN

Updates diagram on page 43

P3U37AN01



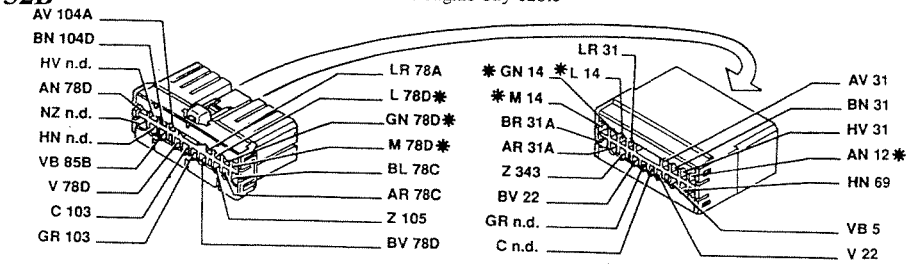
P3U38AN01

Fuel level gauge and reserve warning light - Handbrake warning light - Insufficient brake fluid level warning light - Seat belt unfastened warning light - Speedometer - Mileometer/trip counter and reset button - Rev counter

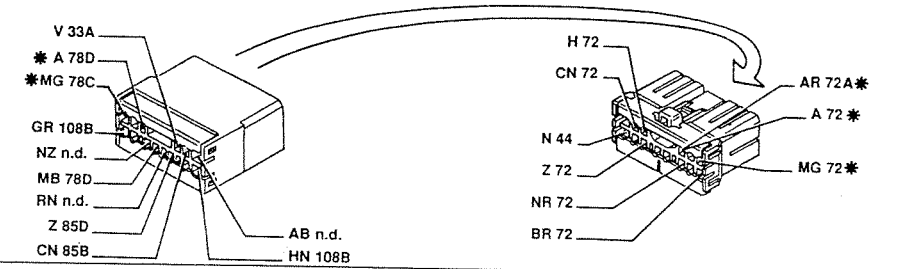
Key to components

3 Left front earth
7 Battery
8 Main junction unit
9 Earth on body
12 Low brake fluid level indication sensor
14 Pulse generator for speedometer signal
32B Connection between facia cable and left engine bay cable
68 Connection between facia lead and electronic injection lead
72 Fuel injection control unit
73 Secondary juntion unit
73B 60A fuse protecting I.G.E. control unit/junction unit
73C 30A fuse protecting ignition switch/car alarm
75 Junction unit (facia)
76 IGE control unit.
78 Instrument panel
J Seat belt undone warning light
N Handbrake warning light / IGE control unit.
O Insufficient brake fluid level warning light
U Electronic rev counter
V Fuel level gauge
V1 Fuel reserve warning light
X Mileometer/trip counter display
Y Electronic tachometer
Z1 Trip computer reset button
88 Tester socket for Fiat/Lancia tester
96 Earth on carrier
97 Earth on floor pan
99 Cigar lighter
100 Connection between facia lead and left longitudinal lead
105 Ignition switch
117 Hand brake warning light switch
119D Connection between facia cable and right front door cable
131 Earth on steering column mount
167 Fuel level gauge
200 Electronic variable rate suspension control unit)
271 Braking light switch
430 Handbrake on/low brake fluid level connection diode
N.D. Taped ultrasound welding in wiring bundle

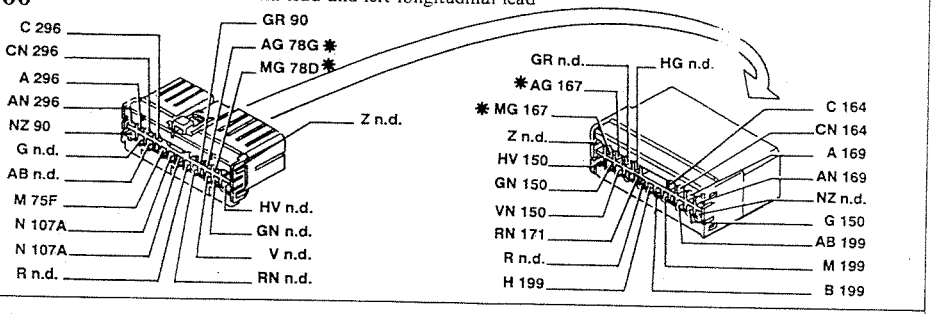
32B Connection between facia cable and left engine bay cable

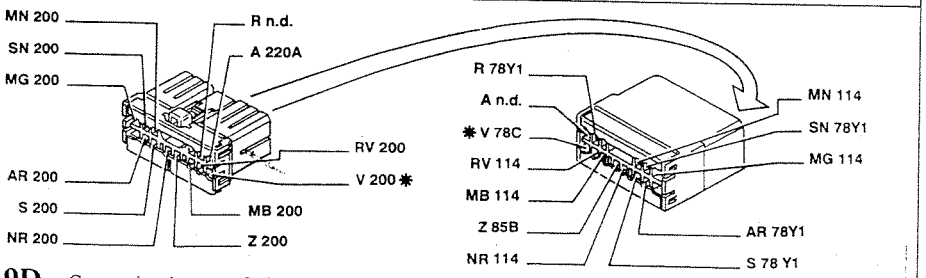


68 Connection between facia lead and electronic injection lead



100 Connection between facia lead and left longitudinal lead



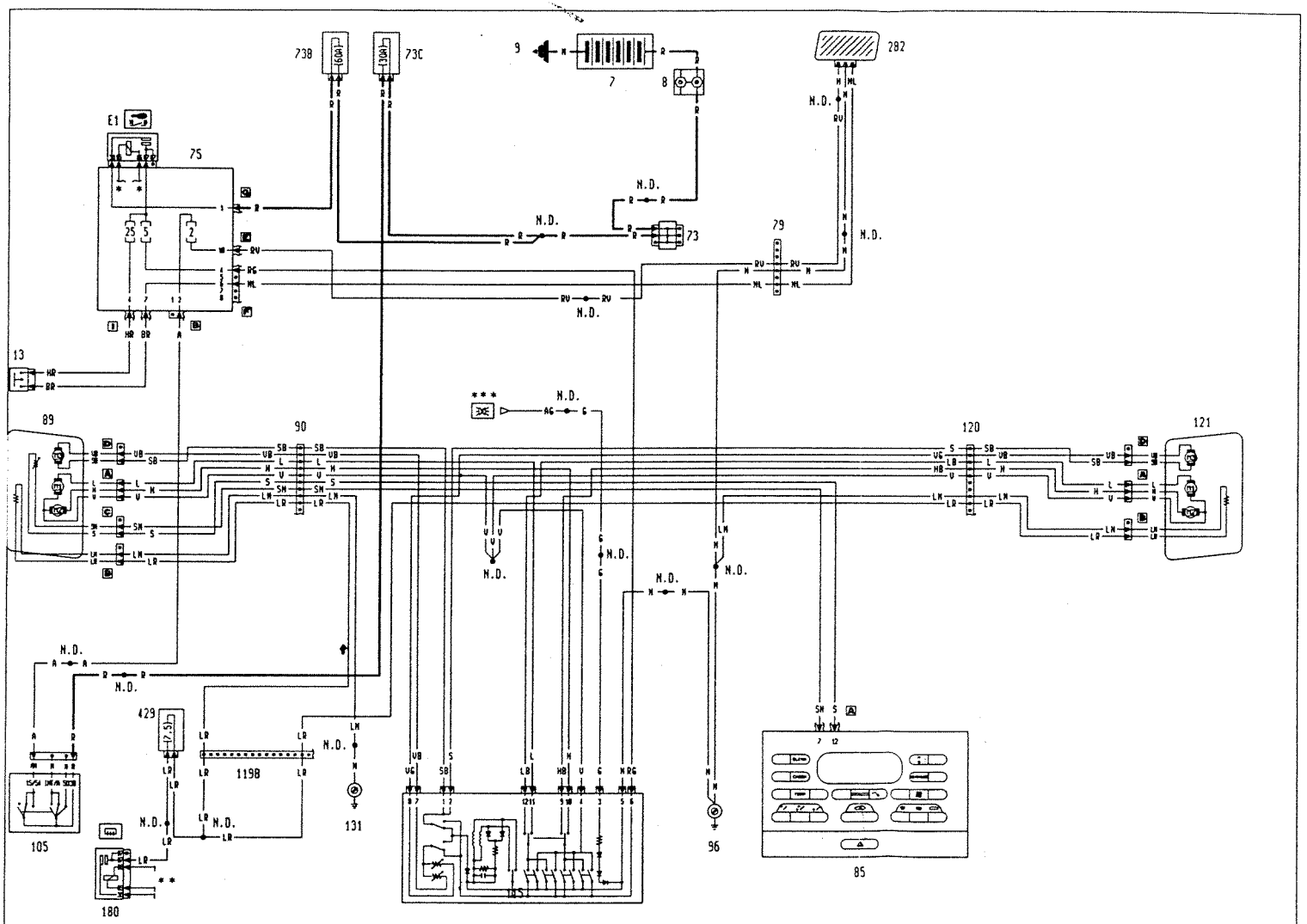


119D Connection between facia cable and right longitudinal cable

* Wires involved in the wiring diagram are marked with an asterisk

3U083N01

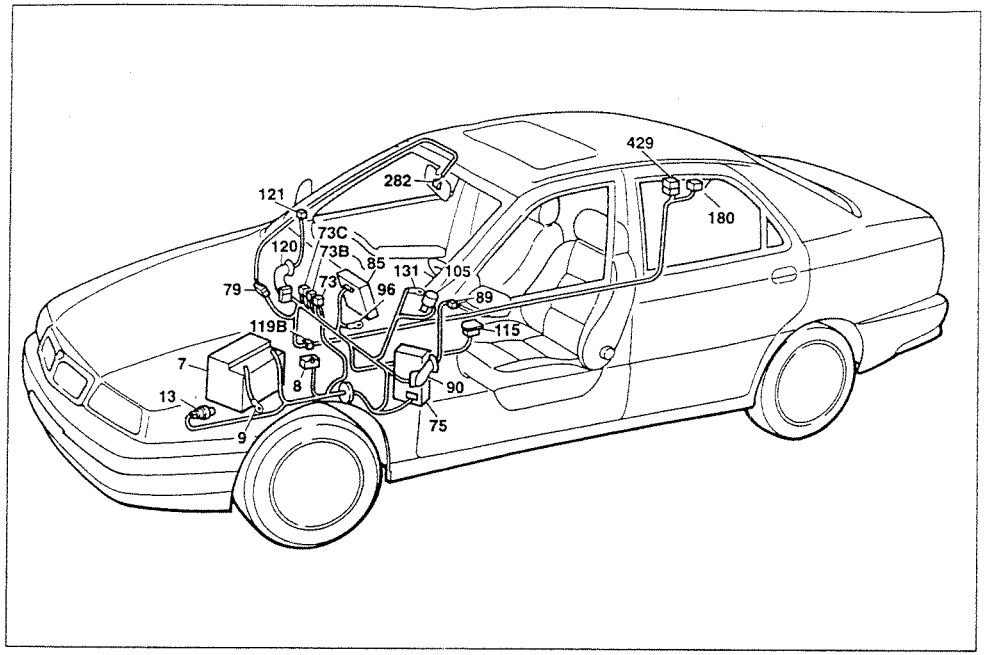
Electrically-adjusted, heated, fold-down door mirrors - Electro-chromic interior rear view mirror - (See key following diagrams)



* See starting diagram
** See heated rear window diagram
*** See symbol illumination diagram

Updates diagram on page 51

3U41AN



P3U42AN01

Electrically-adjusted, heated, fold-down door mirrors - Chrome-plated interior rear view mirror

Key to components

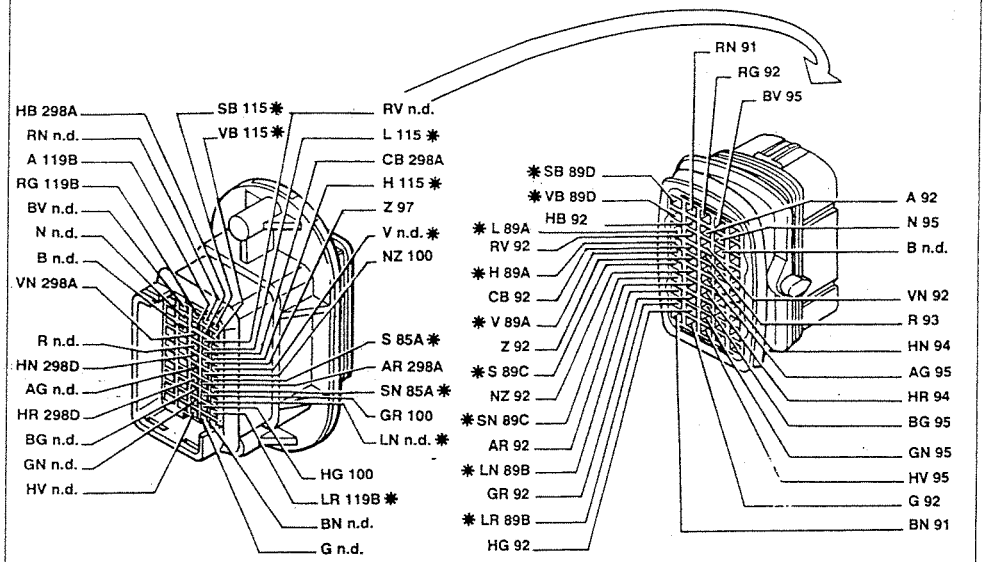
7 Battery
8 Main junction unit
9 Earth on body
13 Reversing lights switch
73 Secondary juntion unit
73A 80A rear service fuse
73B 60A fuse protecting I.G.E. control unit/junction unit
73C 30A fuse protecting ignition switch/car alarm

75 Junction unit (facia)
E1 Switch discharge connector
79 Connection between facia cable and courtesy light cable
85 Infocenter ECU
89 Left door mirror
A Left door mirror fold-down motor
B Left door mirror vertical positioning motor
C Left door mirror horizontal positioning motor
D Left door mirror heater coil
E Outdoor temperature sensor
90 Connection between facia cable and left front door cable
96 Earth on carrier
105 Ignition switch

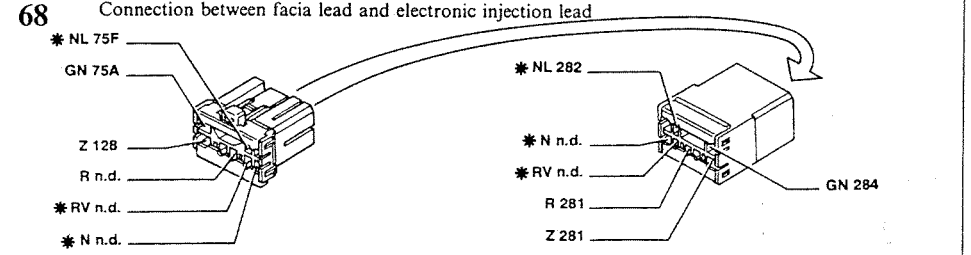
115 Electrically-adjustable door mirror control unit
119B Connection between facia cable and right longitudinal cable
120 Connection between facia cable and right front door cable
121 Right door mirror
A Right door mirror fold-down motor
B Right door mirror vertical positioning motor
C Right door mirror horizontal positioning motor
D Right door mirror heater coil

131 Earth on steering column mount
180 Heated back window relay
282 Interior chrome-plated mirror
429 7.5A heated door mirror fuse
N.D. Taped ultrasound welding in wiring bundle

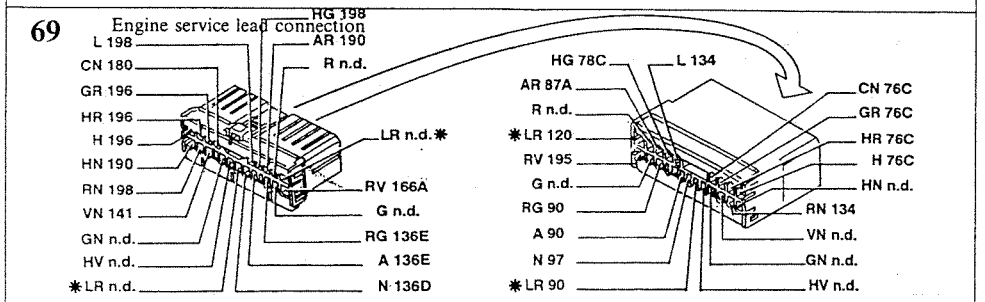
32B Connection between facia cable and left engine bay cable



68 Connection between facia lead and electronic injection lead



69 Engine service lead connection

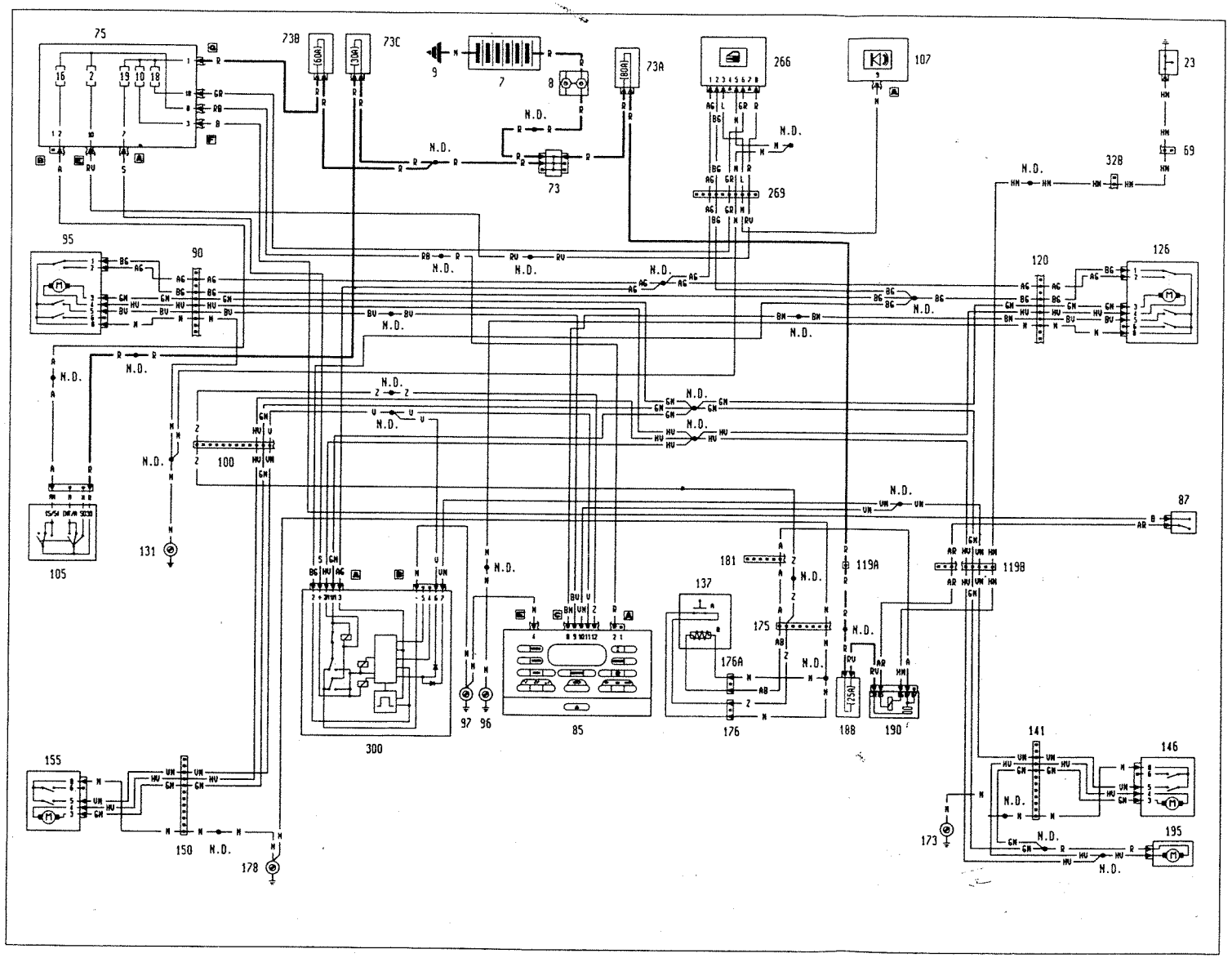


* Wires involved in the wiring diagram are marked with an asterisk

P3U099N01

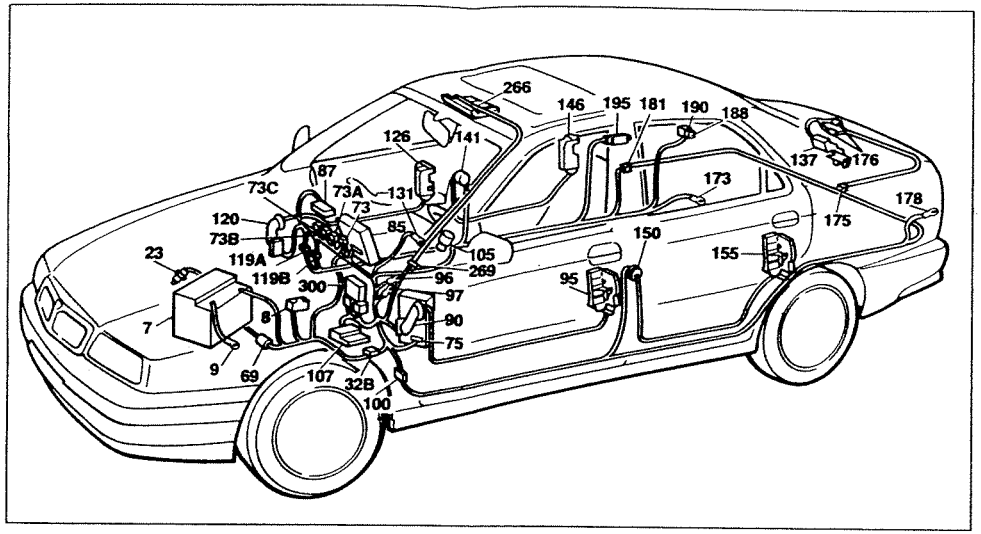
Version with alarm

Door lock and door open indicator - (See key following diagrams)



Updates diagram on page 55

P3U45AN01



P3U106N01

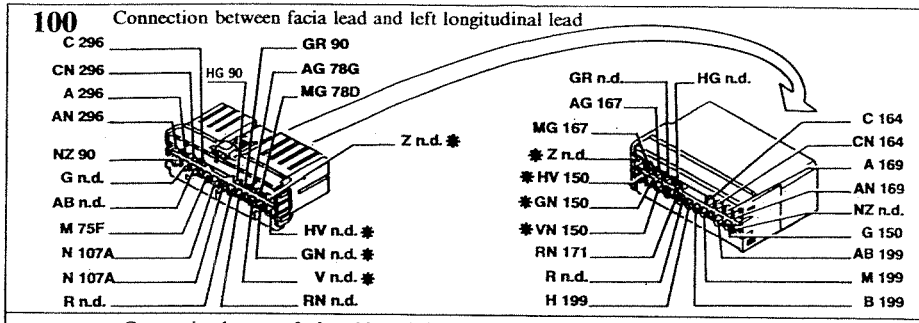
Door lock and door open indicator

Key to components

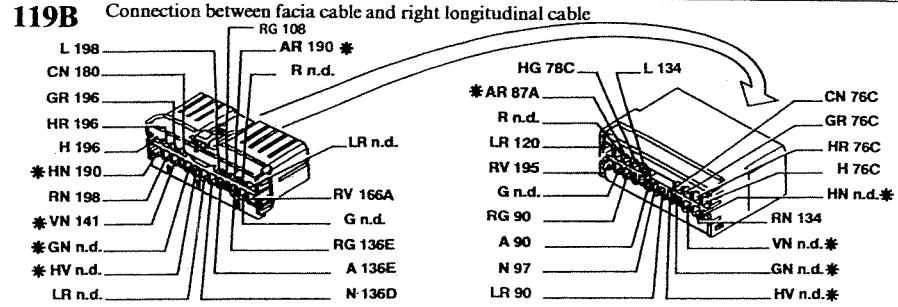
7 Battery
8 Main junction unit
9 Earth on body
23 Minimum engine oil pressure indicator sensor
32B Connection between facia cable and left engine bay cable
69 Engine service lead connection
73 Secondary juntion unit
73A 80A rear service fuse
73B 60A fuse protecting I.G.E. control unit/junction unit
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (facia)
85 Infocenter ECU
87 Glove compartment light / luggage compartment release controls
90 Connection between facia cable and left front door cable
95 Left front door lock motor and left front door open warning light and anti-theft device activation
96 Earth on carrier
97 Earth on floor pan
100 Connection between facia lead and left longitudinal lead
105 Ignition switch
107 Car alarm ECU
119A Connection between facia cable and right longitudinal cable
119B Connection between facia cable and right longitudinal cable
120 Connection between facia cable and right front door cable
126 Right front door lock motor and right front door open warning light and anti-theft device activation
131 Earth on steering column mount
Luggage compartment tail-gate lock assembly
A Luggage compartment light switch and anti-theft activation
B Tail-gate lock/release motor
141 Connection between right longitudinal cable and right rear door cable
146 Right rear door lock motor and right door open/car alarm activated w/light and anti-theft device activation
Connection between left longitudinal cable and left
150 rear door
155 Left rear door lock motor and left rear door open/car alarm activated w/light and anti-theft device activation
173 Right rear earth
175 Connection between left longitudinal cable and tail-gate cable
176 Luggage compartment tail-gate cable connection
178 Left rear earth
181 Connection between left longitudinal cable and right longitudinal cable
188 25A luggage compartment release electromagnetic fuse
190 Luggage compartment tail-gate lock/release relay
195 Fuel flap release motor
266 Infra-red ray receiver for anti-theft device
269 Connection between facia cable and receiver cable
300
Central locking electronic control unit
N.D. Taped ultrasound welding in wiring bundle

137

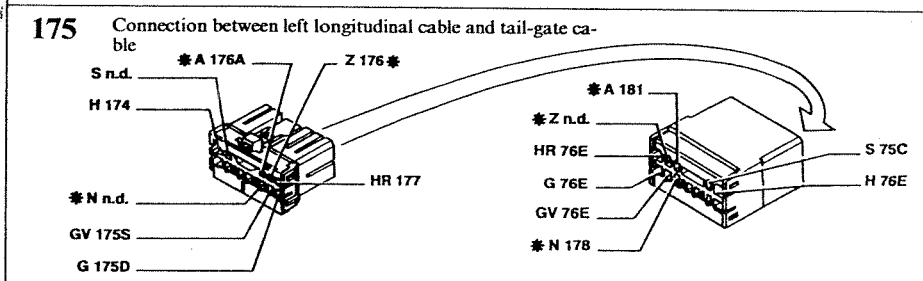
100 Connection between facia lead and left longitudinal lead



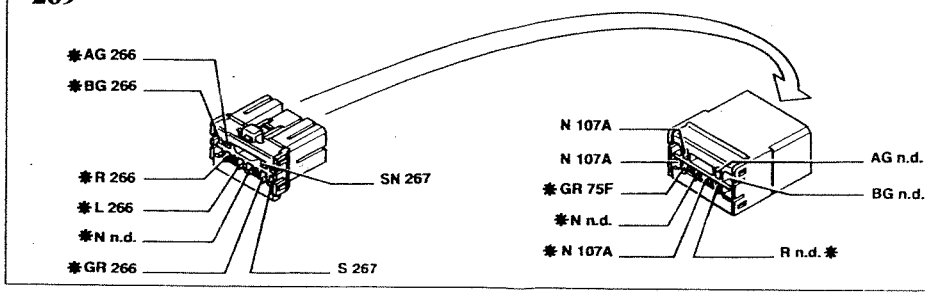
119B Connection between facia cable and right longitudinal cable



175 Connection between left longitudinal cable and tail-gate cable



269 Connection between facia cable and receiver cable

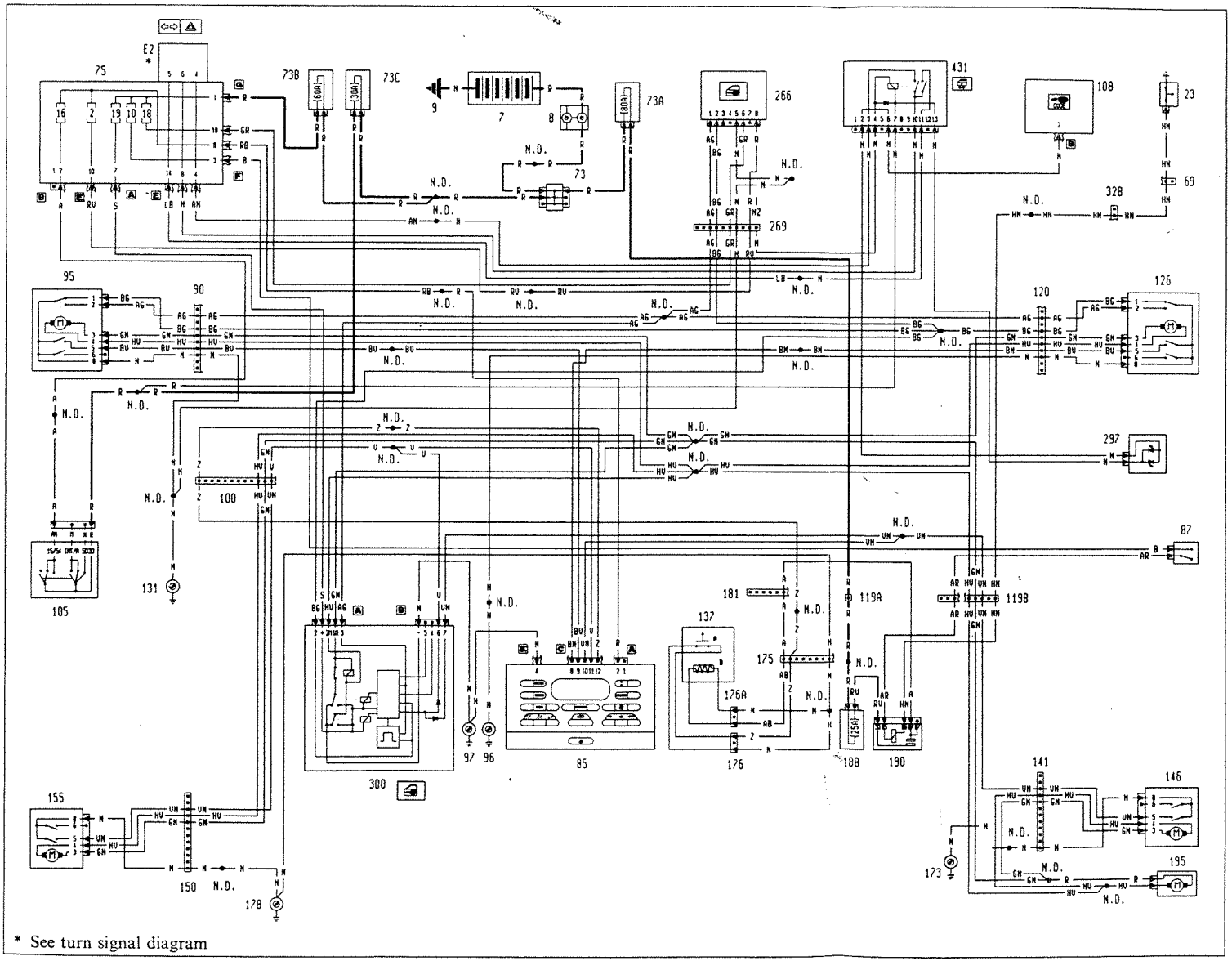


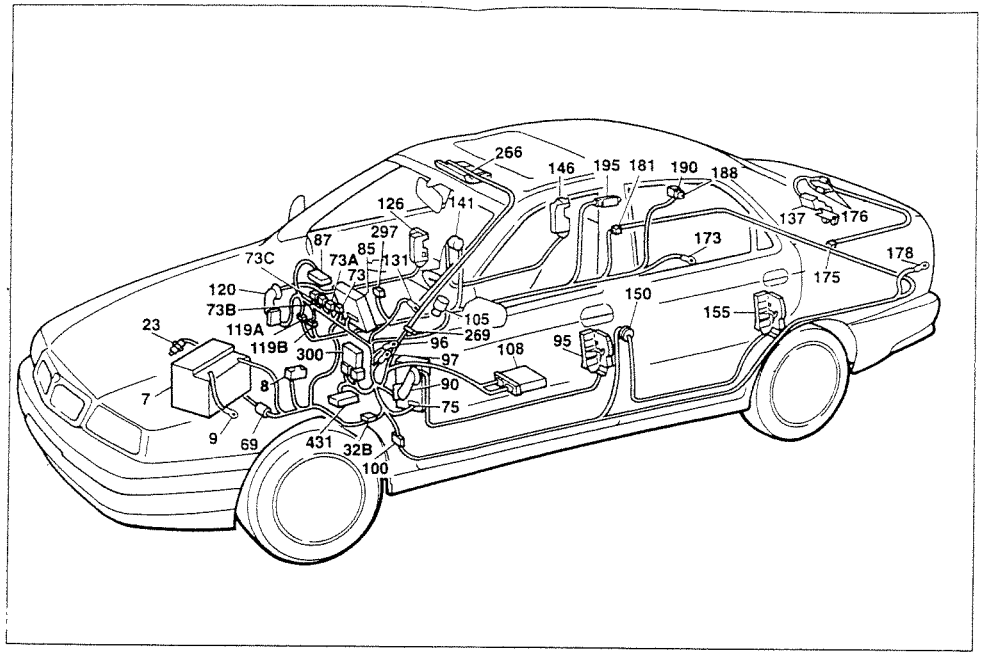
P3U107N01

* The wires marked with an asterisk refer to the wiring diagram

Version without alarm

Door lock and door open indicator - Door closure control device - (See key following diagrams)





P3U50AN01

Version without alarm: Central locking and door open warning light - Door closure control device

Key to components

7 Battery
8 Main junction unit
9 Earth on body
23 Minimum engine oil pressure indicator sensor
32B Connection between facia cable and left engine bay cable
69 Engine service lead connection
73 Secondary juntion unit
73A 80A rear service fuse
73B 60A fuse protecting I.G.E. control unit/junction unit
73C 30A fuse protecting ignition switch/car alarm

75 Junction unit (facia)
E2 Turn signal flasher unit/hazard warning lights
85 Infocenter ECU
87 Glove compartment light / luggage compartment release controls
90 Connection between facia cable and left front door cable
95 Left front door lock motor and left front door open warning light and alarm activation
96 Earth on carrier
97 Earth on floor pan
100 Connection between facia lead and left longitudinal lead
105 Ignition switch
108 Immobiliser control unit
119A Connection between facia cable and right longitudinal cable
119B Connection between facia cable and right longitudinal cable

120 Connection between facia cable and right front door cable
126 Right front door lock motor and right front door open warning light and alarm activation
131 Earth on steering column mount

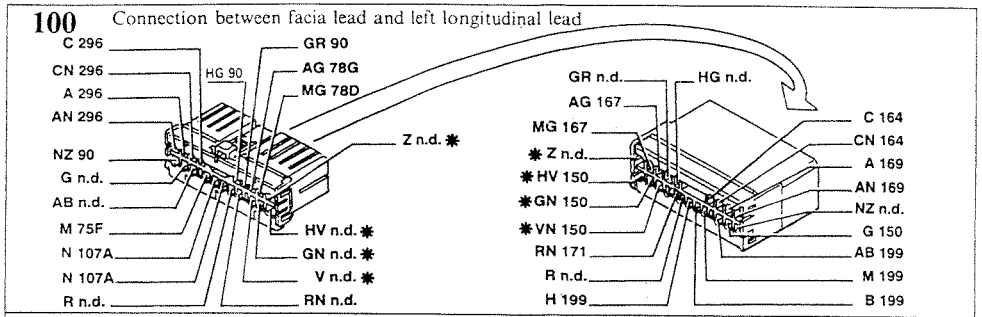
137 Luggage compartment tail-gate lock assembly
A Luggage compartment light switch and alarm activation
B Tail-gate lock/release motor
141 Connection between right longitudinal cable and right rear door cable
146 Right rear door lock motor and right door open/car alarm activated w/light and alarm activation

150 Connection between left longitudinal cable and left rear door
155 Left rear door lock motor and left rear door open/car alarm activated w/light and alarm activation
173 Right rear earth
175 Connection between left longitudinal cable and tail-gate cable
176 Luggage compartment tail-gate cable connection
178 Left rear earth
181 Connection between left longitudinal cable and right longitudinal cable
188 25A luggage compartment release electromagnetic fuse
190 Luggage compartment tail-gate lock/release relay
195 Fuel flap release motor
266 Infra-red ray receiver for alarm device
269 Connection between facia cable and receiver cable
297 Anti-theft device/Lancia CODE device warning light

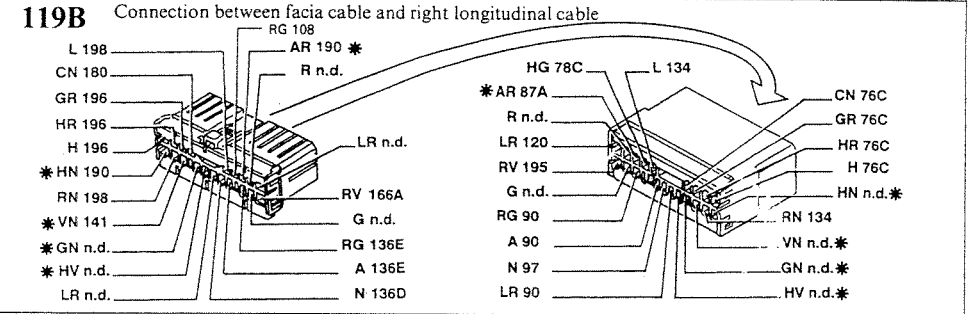
300 Central locking electronic control unit
431 Turn signal and door closure control device

N.D. Taped ultrasound welding in wiring bundle

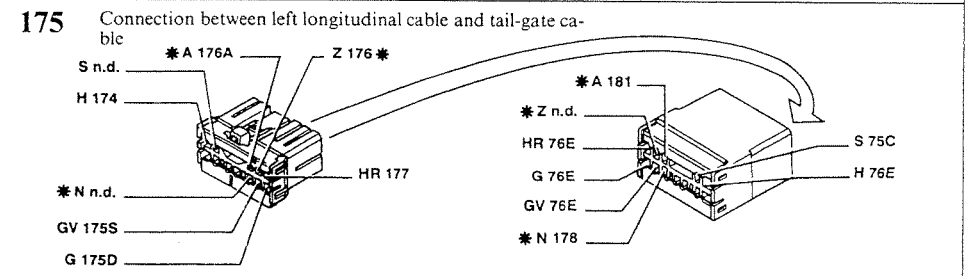
100 Connection between facia lead and left longitudinal lead



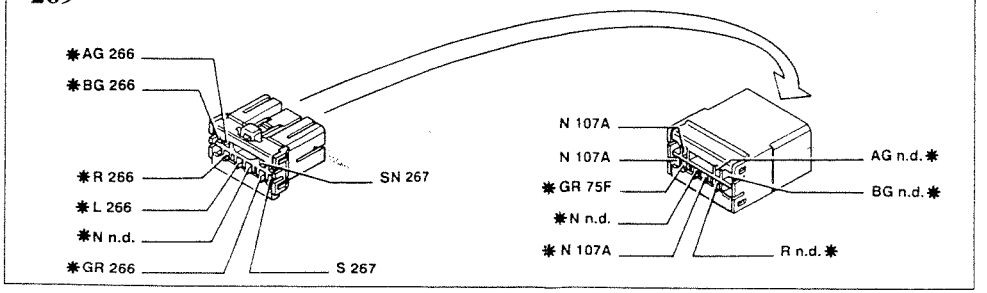
119B Connection between facia cable and right longitudinal cable



175 Connection between left longitudinal cable and tail-gate cable



269 Connection between facia cable and receiver cable

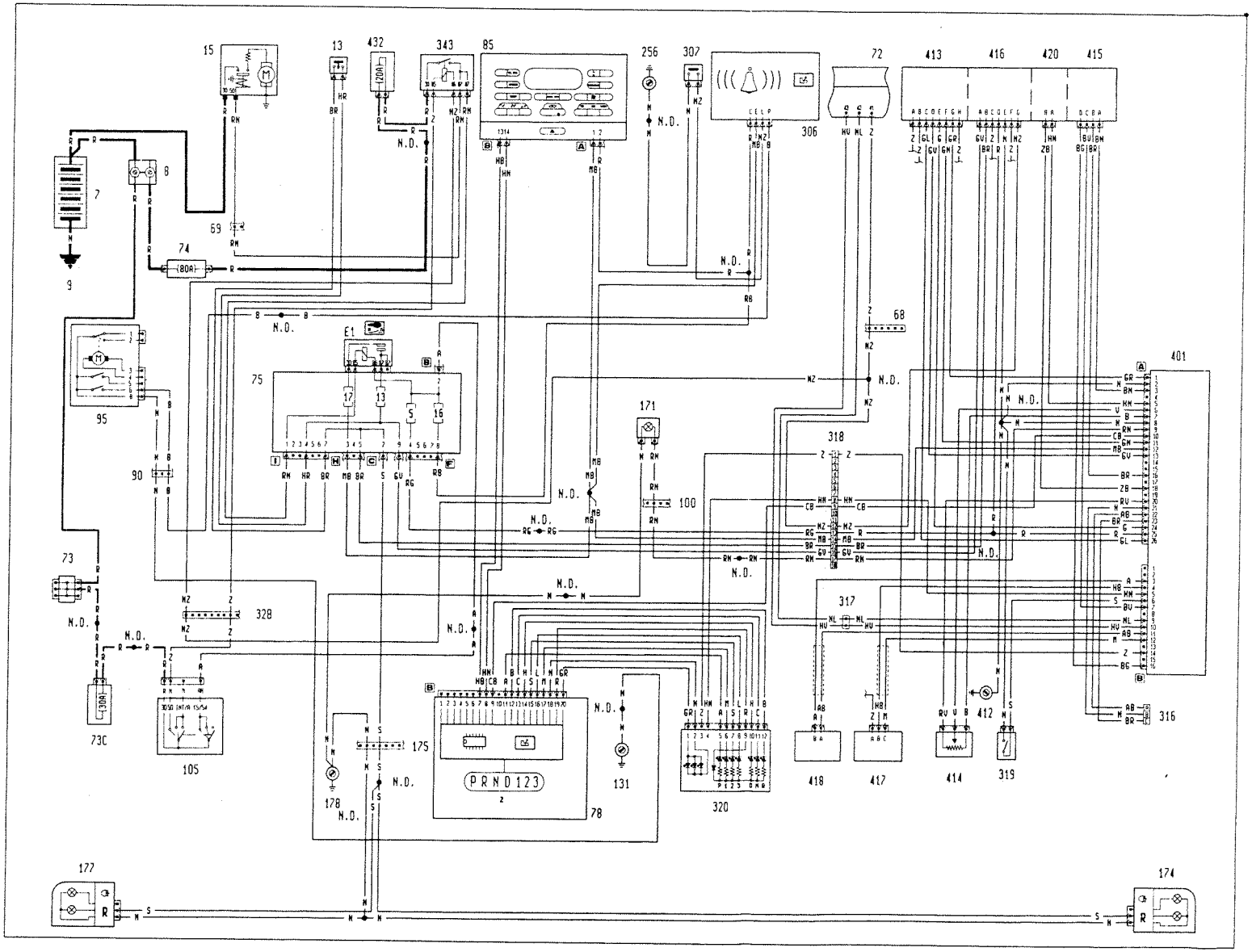


P3U107N01

* The wires marked with an asterisk refer to the wiring diagram

Version: 1998

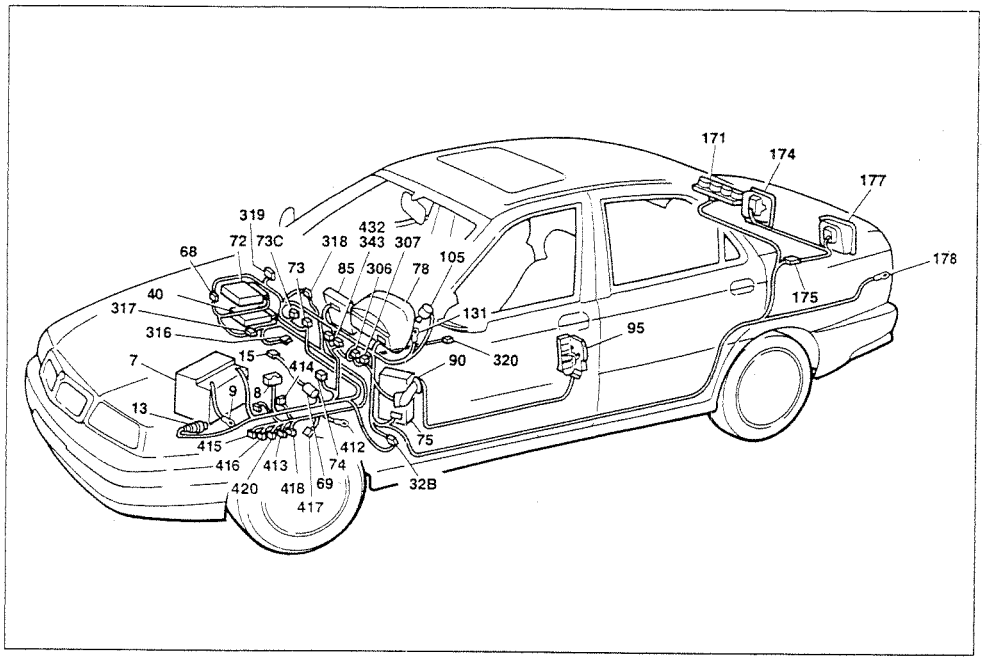
Automatic transmission (Aisin) - (See key following diagrams)



3U53AN

Updates diagram on page 63

P3U53AN01



P3U54AN01

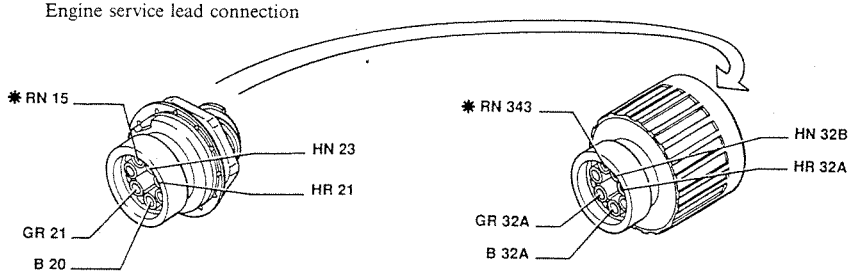
1998 version: Automatic transmission (Aisin)

Key to components

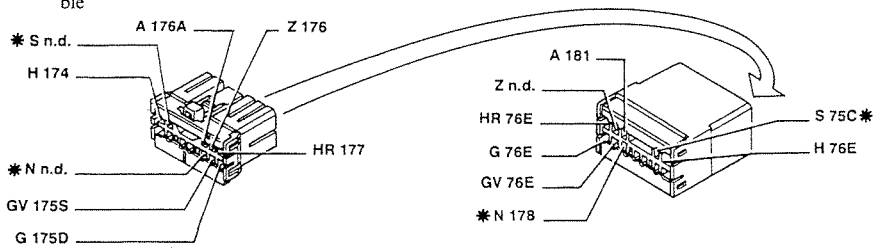
7 Battery
8 Main junction unit
9 Earth on body
13 Reversing lights switch
15 Starter motor
32B Connection between facia cable and left engine bay cable
68 Connection between facia lead and electronic injection lead
69 Engine service lead connection
72 Fuel injection control unit
73 Secondary juntion unit
73C 30A fuse protecting ignition switch/car alarm
74 60A fuse protecting peripheral control unit (engine bay))
75 Junction unit (facia)
E1 Switch discharge connector
78 Instrument panel
Z Electronic automatic transmission gear selection display
85 Infocenter ECU
90 Connection between facia cable and left front door cable
95 Left front door lock motor and
left front door open and alarm activation indicator
105 Ignition switch
131 Earth on steering column mount
171 Supplementary stop light indicator
174 Right tail-light cluster on mobile part
175 Connection between left longitudinal cable and tail-gate cable
177 Left tail-light cluster on mobile part
178 Left rear earth
306 Electronic automatic transmission acoustic alarm
307 Electronic automatic transmission acoustic alarm switch
316 Electronic automatic transmission tester socket
317 Connection between automatic transmission lead and electronic injection lead
318 Connection between electronic automatic transmission lead and facia lead
319 Provision for Kick-Down
320 Electronic automatic transmission speed selection lever display
343 40A starter relay
401 Electronic automatic transmission speed selection control unit (AISIN)
412 Earth on bodywork
413 Connection to solenoid assembly
414 Throttle valve position potentiometer
415 Speed position selector
416 Speed position selector
417 Engine rpm sensor
418 Vehicle speed sensor
420 Automatic transmission fluid temperature sensor
432 20A ignition switch control relay fuse

N.D. Taped ultrasound welding in wiring bundle

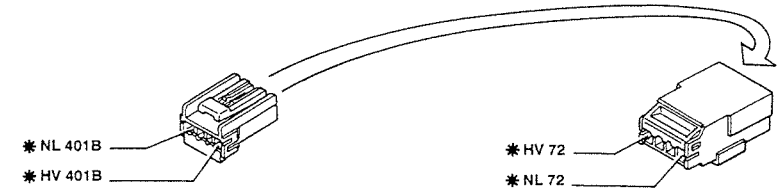
69 Engine service lead connection



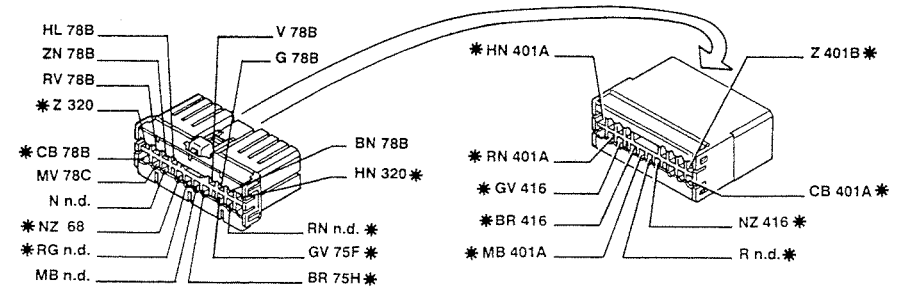
175 Connection between left longitudinal cable and tail-gate cable



317 Connection between electronic automatic transmission and injection lead



318 Connection between electronic automatic transmission lead and facia lead

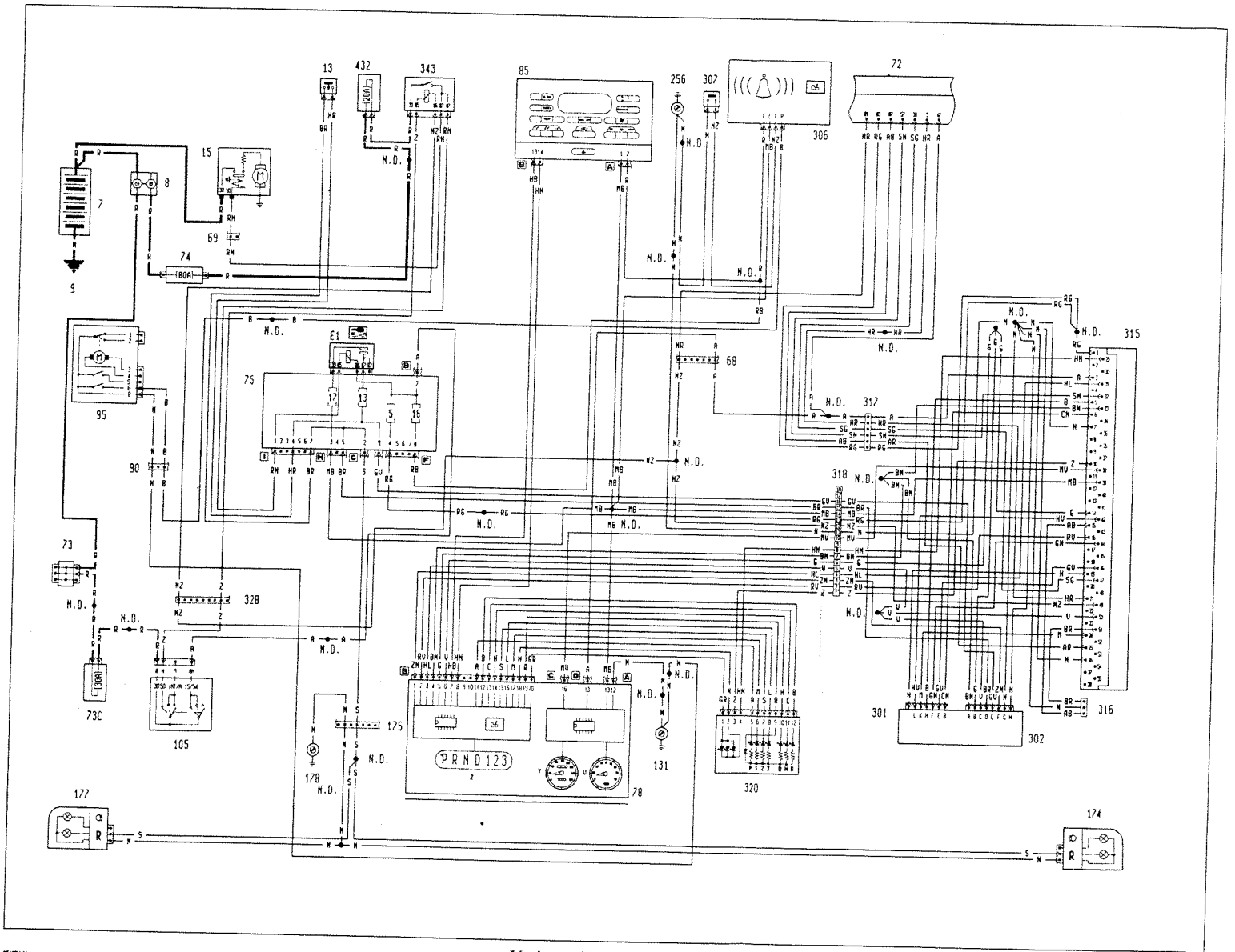


P3U123N01

* Wires involved in the wiring diagram are marked with an asterisk

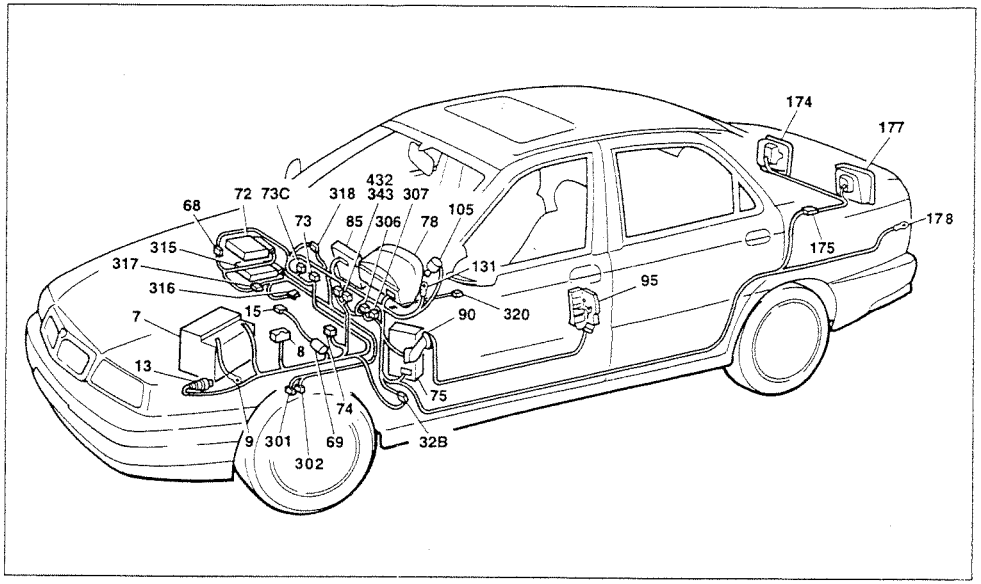
Version: 2959

Automatic transmission (ZF) - (See key following diagrams)



Updates diagram on page 65

P3U57AN01



P3U58AN01

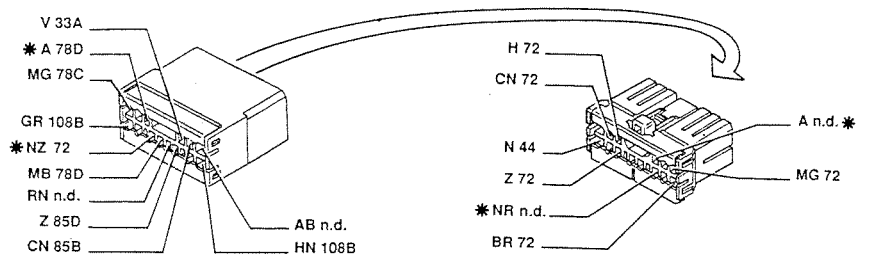
Version 2959: Automatic transmission (ZF)

Key to components

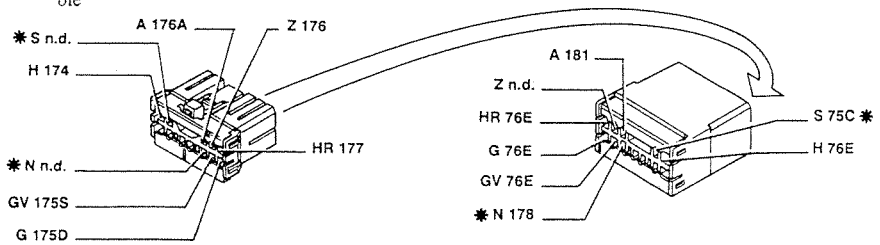
7 Battery
8 Main junction unit
9 Earth on body
13 Reversing lights switch
15 Starter motor
32B Connection between facia cable and left engine bay cable
68 Connection between facia lead and electronic injection lead
69 Engine service lead connection
72 Fuel injection control unit
73 Secondary juntion unit
73C 30A fuse protecting ignition switch/car alarm
74 60A fuse protecting peripheral control unit (engine bay))
75 Junction unit (facia)
E1 Switch discharge connector
78 Instrument panel
U Electronic rev counter
Y Electronic tachometer
Z Electronic automatic transmission gear selection display
85 Infocenter ECU
90 Connection between facia cable and left front door cable
95 Left front door lock motor and left front door open warning light and alarm activation
96 Earth on carrier
105 Ignition switch
131 Earth on steering column mount
174 Right tail-light cluster on mobile part
175 Connection between left longitudinal cable and tail-gate cable
177 Left tail-light cluster on mobile part
178 Left rear earth
301 Solenoid unit
302 Switch control assembly
306 Electronic automatic transmission acoustic alarm
307 Electronic automatic transmission acoustic alarm switch
315 Electronic automatic transmission speed selection control unit (ZF)
316 Electronic automatic transmission tester socket
317 Connection between automatic transmission lead and electronic injection lead
318 Connection between electronic automatic transmission lead and facia lead
320 Electronic automatic transmission speed selection lever display
343 40A starter relay
432 20A ignition switch control relay fuse

N.D. Taped ultrasound welding in wiring bundle

68 Facia wiring connection with electronic injection cable

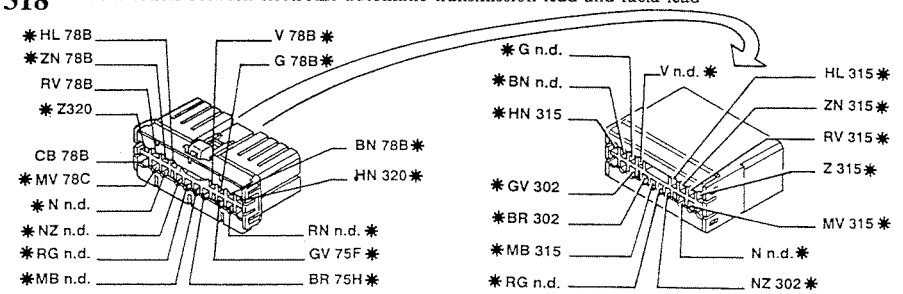


175 Connection between left longitudinal cable and tail-gate cable



317 Connection between electronic automatic transmission and injection lead

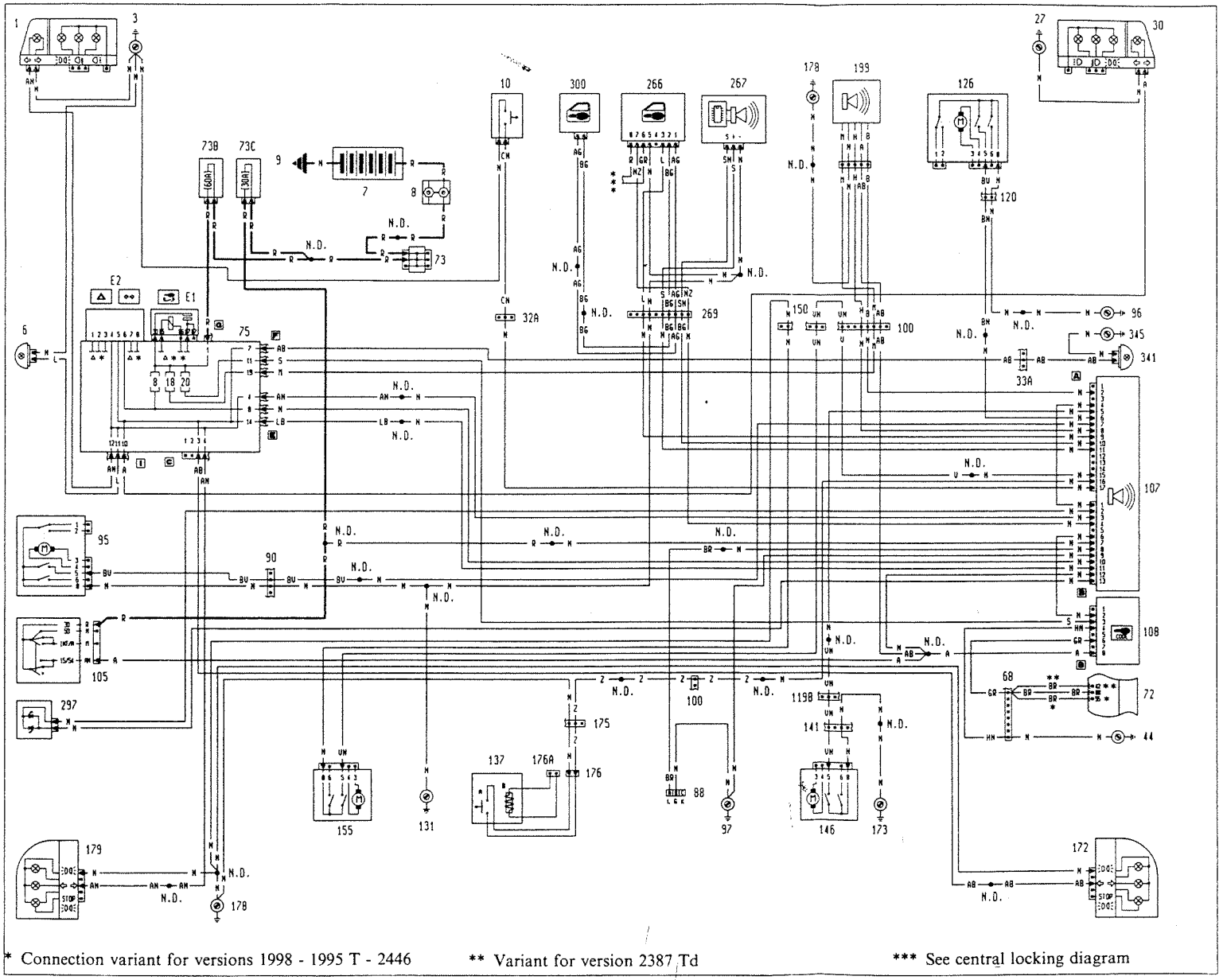
318 Connection between electronic automatic transmission lead and facia lead



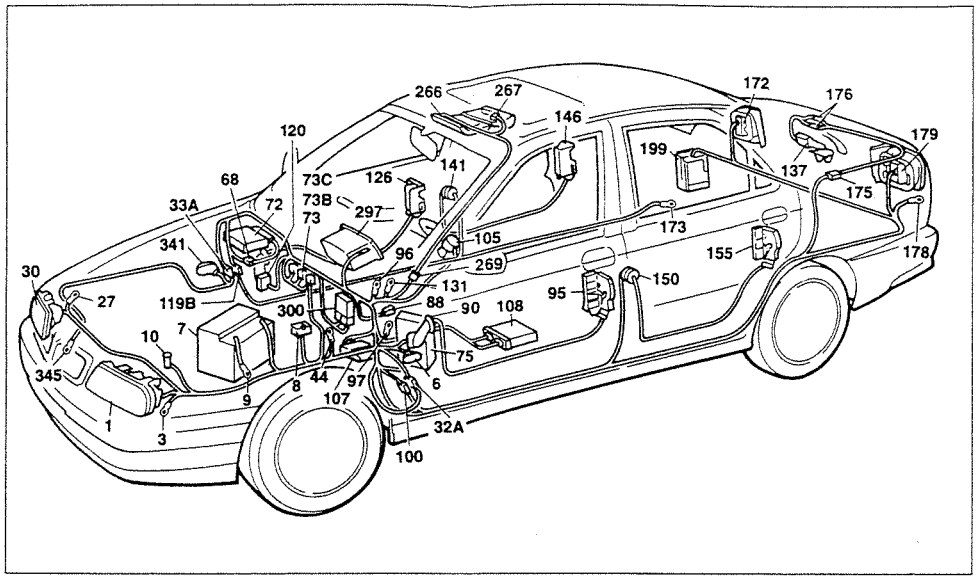
* Wires involved in the wiring diagram are marked with an asterisk

P3U127N01

Alarm device - (See key following diagrams)



Updates diagram on page 67



P3U62AN01

Alarm device

Key to components

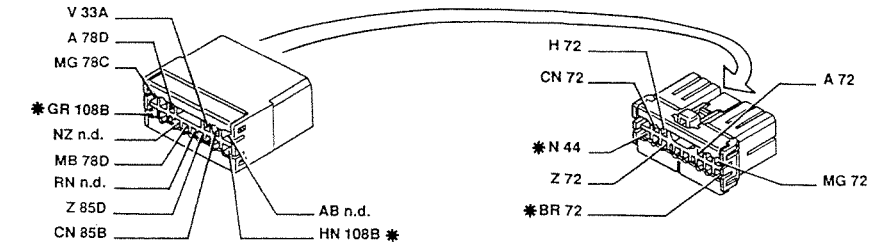
1 Left front light cluster
3 Left front earth
6 Left side turn signal
7 Battery
8 Main junction unit
9 Earth on body
10 Button on bonnet for activation of alarm
27 Right front earth
30 Right front light cluster
32A Connection between facia cable and left engine bay cable
33A Connection between facia cable and right engine bay cable
44 Power earth
68 Connection between facia lead and electronic injection lead
72 Fuel injection control unit
73 Secondary juntion unit
73B 60A fuse protecting I.G.E. control unit/junction unit
73C 30A fuse protecting ignition switch/car alarm
75 Junction unit (facia)
E1 Switch discharge connector
E2 Turn signal/hazard warning light flasher
88 Tester socket for Fiat/Lancia tester
90 Connection between facia cable and left front door cable
95 Left front door lock motor and left front door open warning light and alarm activation
96 Earth on carrier
97 Earth on floor pan
100 Connection between facia lead and left longitudinal lead
105 Ignition switch
107 Alarm control unit
108 Lancia CODE control unit

119B Connection between facia cable and right longitudinal cable
120 Connection between facia cable and right front door cable
126 Right front door lock motor and right front door open warning light and alarm activation
131 Earth on steering column mount
137 Luggage compartment tail-gate lock assembly
A Luggage compartment light switch and alarm activation
141 Connection between right longitudinal cable and right rear door cable
146 Right rear door lock motor and right door open/car alarm activated w/light and alarm activation
150 Connection between left longitudinal cable and left rear door
155 Left rear door lock motor and left rear door open/car alarm activated w/light and alarm activation
172 Right tail-light cluster on fixed part
173 Right rear earth
175 Connection between left longitudinal cable and tail-gate cable
176 Luggage compartment tail-gate cable connection
177 Left tail-light cluster on mobile part
178 Left rear earth
179 Left tail-light cluster on fixed part
199 Alarm siren
266 Infra-red ray receiver for alarm device
267 Volumetric sensors for alarm device
269 Connection between facia cable and receiver cable
297 Alarm / Lancia CODE device warning light

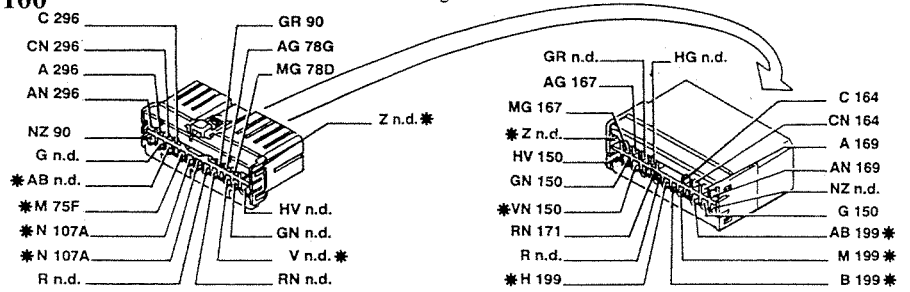
300 Central locking electronic control unit
341 Right side turn signal
345 Right front earth

N.D. Taped ultrasound welding in wiring bundle

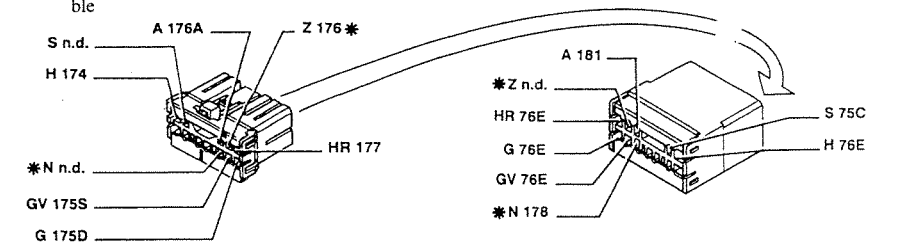
68 Connection between facia lead and electronic injection lead



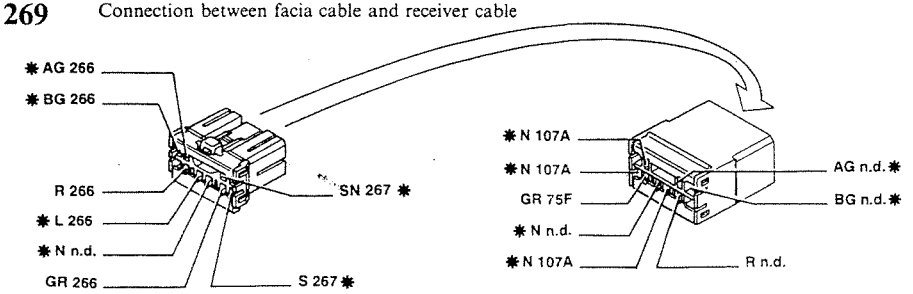
100 Connection between facia lead and left longitudinal lead



175 Connection between left longitudinal cable and tail-gate cable



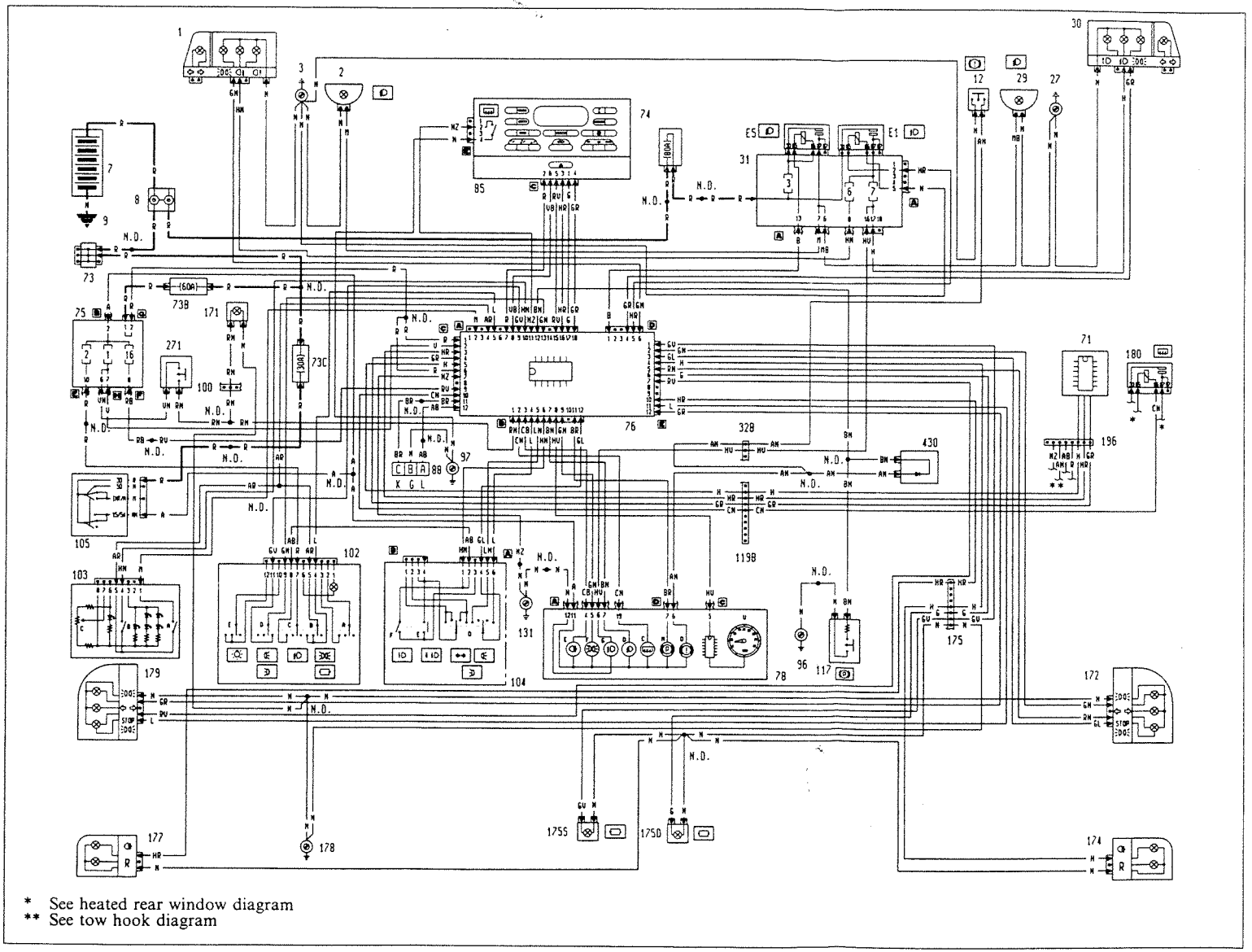
269 Connection between facia cable and receiver cable



* Wires involved in the wiring diagram are marked with an asterisk

P3U131N01

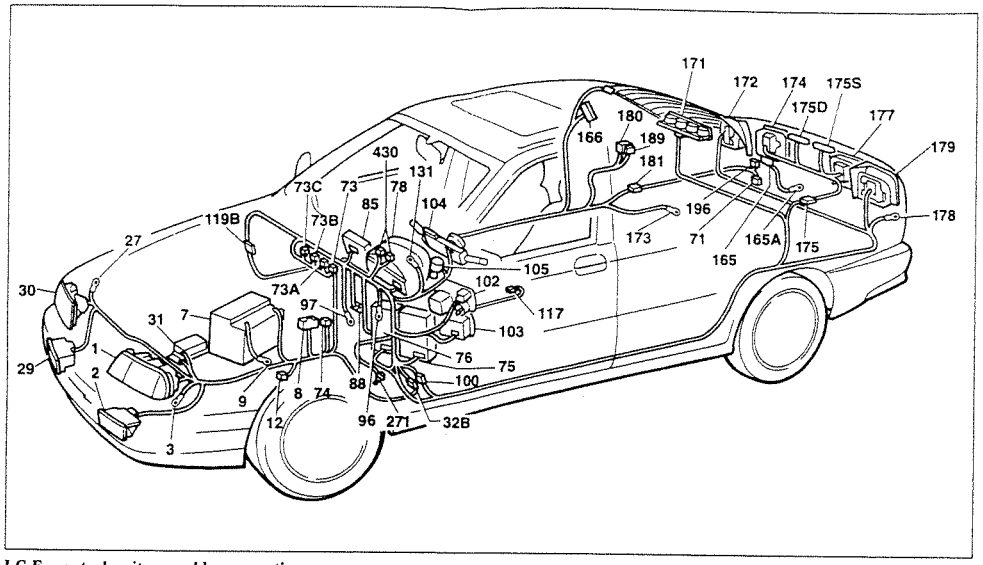
I.G.E. control unit assembly connections - (See key following diagrams)



* See heated rear window diagram
** See tow hook diagram

Updates diagram on page 71

P3U69AN01



P3U66AN01

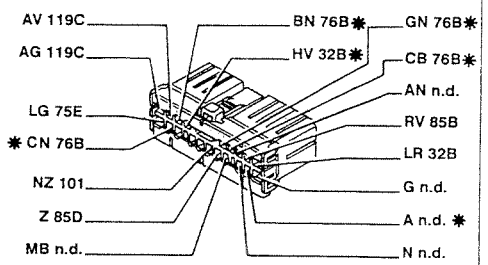
I.G.E. control unit assembly connections

Key to components

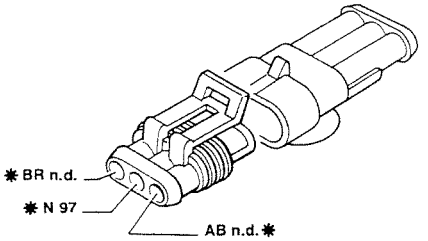
1 Left front light cluster
2 Left fog lamp
3 Left front earth
7 Battery
8 Main junction unit
9 Earth on body
12 Low brake fluid level indication sensor
27 Right front earth
29 Right fog lamp
30 Right front light cluster
31 Peripheral ECU (engine bay)
E1 Dipped beam relay
E5 Fog lamp relay
32B Connection between facia cable and left engine bay cable
71 Tow hook control unit
73 Secondary juntion unit
73A 80A rear service fuse
73B 60A fuse protecting I.G.E. control unit/junction unit
73C 30A fuse protecting ignition switch/car alarm
74 60A fuse protecting peripheral control unit (engine bay))
75 Junction unit (facia)
76 IGE control unit.
78 Instrument panel
C Heated rear windscreen warning light
D Fog lights warning light
E Rear fog lamps warning light
F Side lights warning light
N Handbrake warning light / IGE control unit.
O Insufficient brake fluid level warning light
U Electronic rev counter
85 Infocenter ECU
88 Tester socket for Fiat/Lancia tester
96 Earth on carrier
97 Earth on floor pan
100 Connection between facia lead and left longitudinal lead
102 Exterior lighting unit
103 Switch control unit
104 Stalk unit
105 Ignition switch
117 Hand brake warning light switch
119B Connection between facia cable and right longitudinal cable
131 Earth on steering column mount
165 Heated rear windscreen
165A Earth for heated rear windscreen
166 Amplifier for aerial on back window
171 Supplementary stop light indicator
172 Right tail-light cluster on fixed part
173 Right rear earth
174 Right tail-light cluster on mobile part
175 Connection between left longitudinal cable and tail-gate cable
175S Left number plate light
175D Right number plate light
177 Left tail-light cluster on mobile part
178 Left rear earth
179 Left tail-light cluster on fixed part
180 Heated back window relay
181 Connection between left longitudinal cable and right longitudinal cable
189 30A fuse for heated rear window
196 Wiring for trailer
271 Braking light switch
430 Handbrake on/low brake fluid level connection diode
N.D. Taped ultrasound welding in wiring bundle

3U66AN

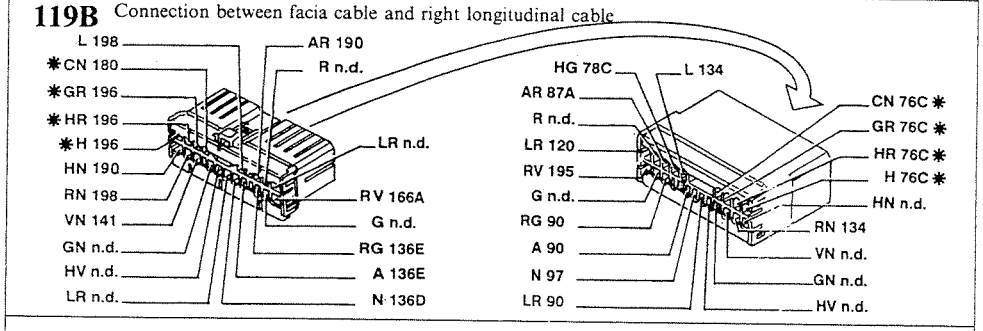
78A Instrument panel



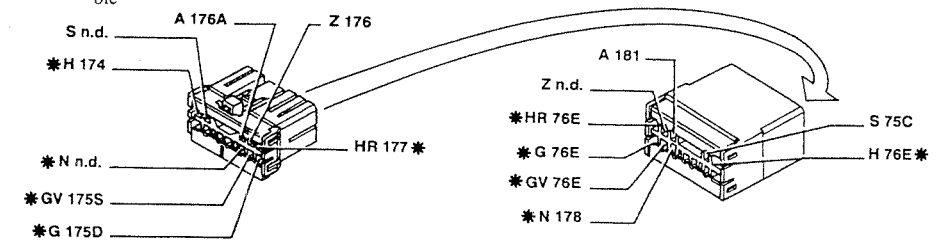
88 Diagnostic socket for Fiat/Lancia tester



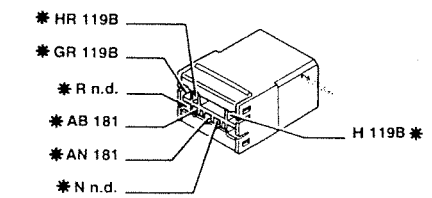
119B Connection between facia cable and right longitudinal cable



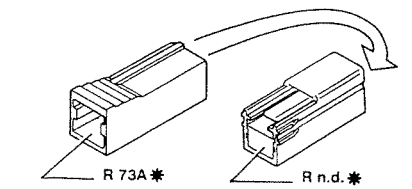
175 Connection between left longitudinal cable and tail-gate cable



119A Connection between facia cable and right longitudinal cable



196 Provision for trailer

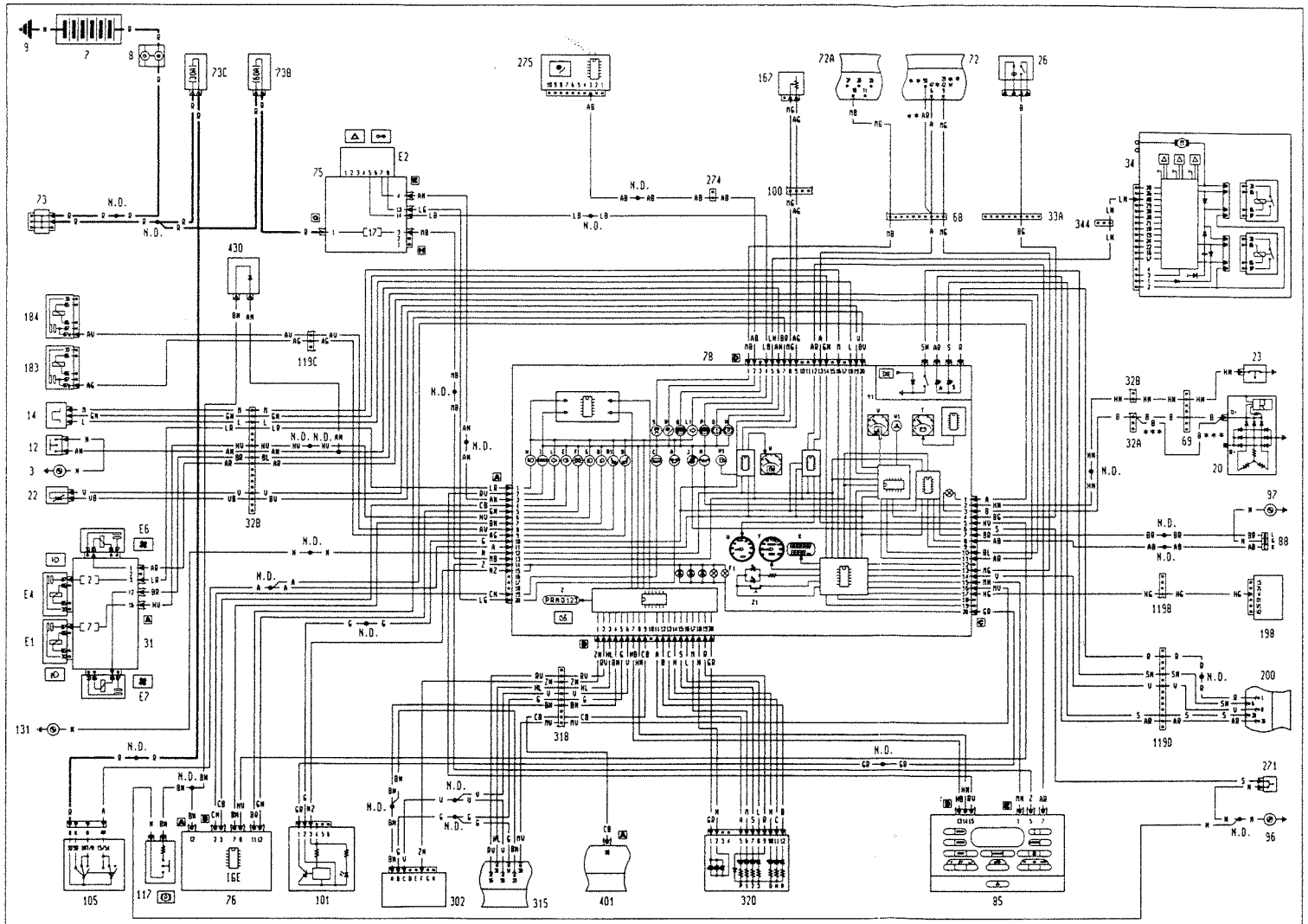


* Wires involved in the wiring diagram are marked with an asterisk

P3U139N01

3U67AN

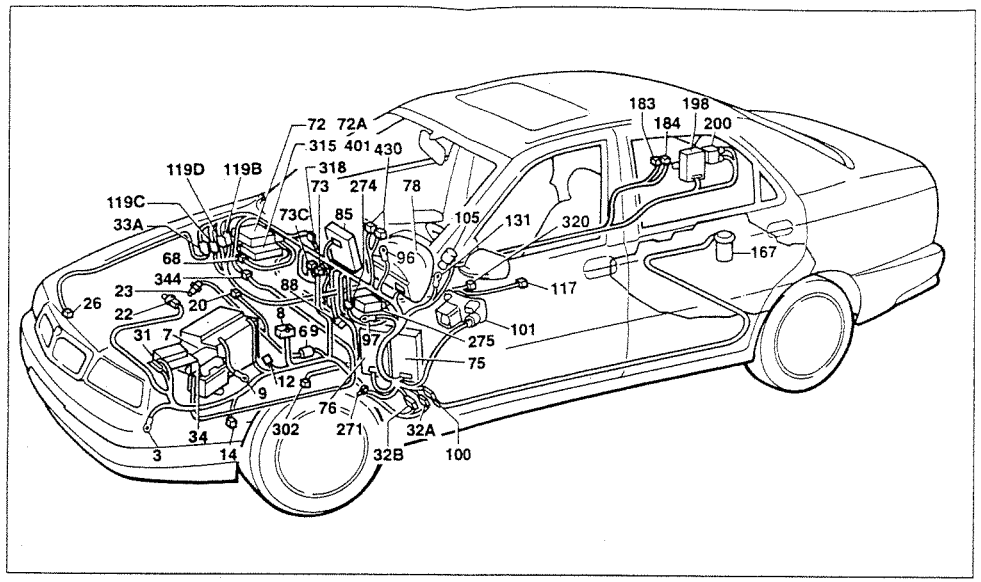
Instrument panel connections - (See key following diagrams)



* Connection variant for 2959 version
** Variant for version 2387 Td
*** Variant for version 1995 T / 2959

Updates diagram on page 75

P3U65AN01



P3U70AN01

Instrument panel connections

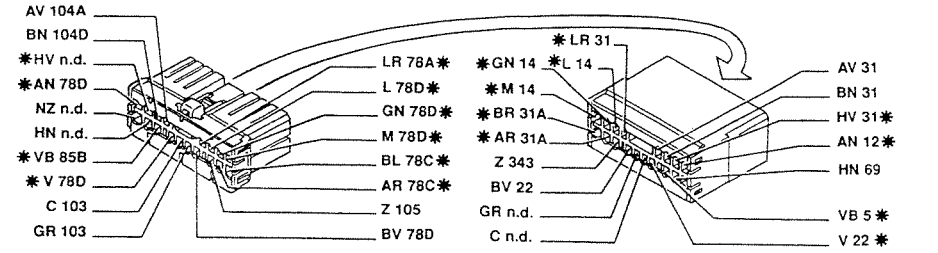
Key to components

3 Left front earth
7 Battery
8 Main junction unit
9 Earth on body
12 Low brake fluid level indication sensor
14 Pulse generator for speedometer signal
20 Alternator
22 Engine coolant temperature sender unit
23 Minimum engine oil pressure indicator sensor
26 Three stage pressure switch
31 Peripheral ECU (engine bay)
E1 Dipped beam relay
E4 Main beam relay
E6 Cooling fan high speed relay
E7 Cooling fan low speed relay

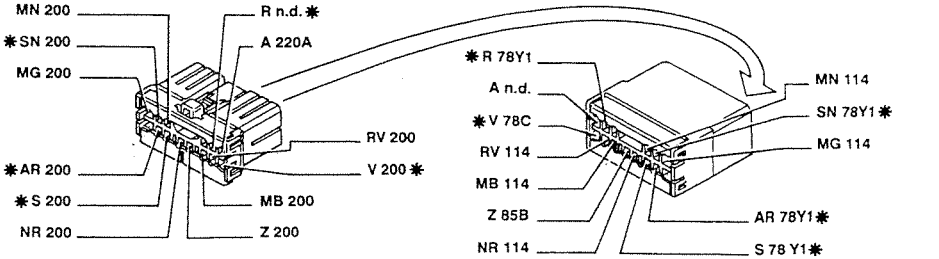
32A Connection between facia cable and left engine bay cable
32B Connection between facia cable and left engine bay cable
33A Connection between facia cable and right engine bay cable
34 Anti-lock brake hydraulic control unit (A.B.S.)
68 Connection between facia lead and electronic injection lead
69 Engine service lead connection
72 Fuel injection control unit
72A Fuel pump ECU (2387 Td)
73 Secondary juntion unit
73B 60A fuse protecting I.G.E. control unit/junction unit
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (facia)
E2 Turn signal/hazard warning light flasher
76 IGE control unit.
78 Instrument panel
85 Infocenter ECU
88 Tester socket for Fiat/Lancia tester
96 Earth on carrier
97 Earth on floor pan

100 Connection between facia lead and left longitudinal lead
101 Lighting dimmer
105 Ignition switch
117 Hand brake warning light switch
119B Connection between facia cable and r. longitudinal cable
119C Connection between facia cable and r. longitudinal cable
119D Connection between facia lead and right front door lead
131 Earth on steering column mount
167 Fuel level gauge
183 Relay for driver's side heat pad
184 Relay for passenger's side heat pad
198 Servotronic device electronic control unit
200 Electronic variable rate suspension control unit
271 Braking light switch
274 Connection between facia cable and air bag lead
275 Air-bag ECU
302 Switch control assembly
315 Electronic automatic transmission speed selection control unit (ZF)
318 Connection between electronic automatic transmission lead and facia lead
320 Electronic automatic transmission speed selection lever display
344 Facia cable connection with anti-lock brake cable (A.B.S.)
401 Electronic automatic transmission speed selection control unit (AISIN)
430 Handbrake on/low brake fluid level connection diode
N.D. Taped ultrasound welding in wiring bundle

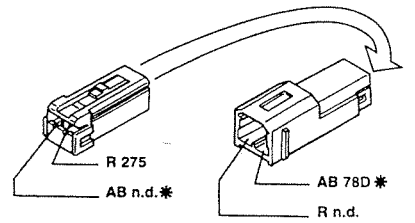
32B Connection between facia cable and left engine bay cable



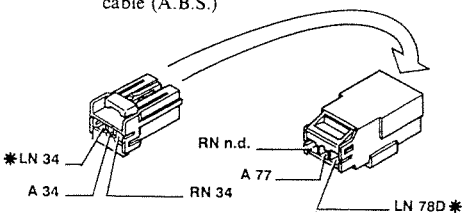
119D Connection between facia cable and right longitudinal cable



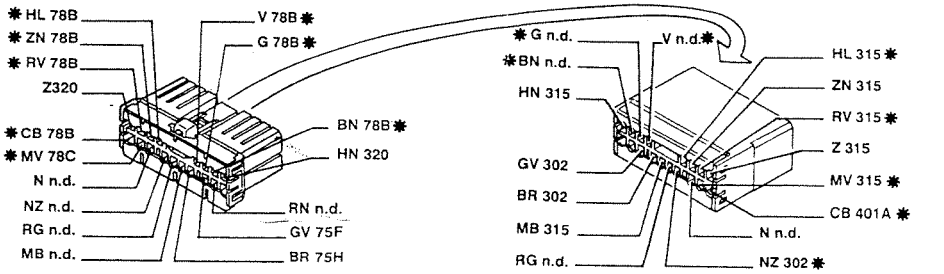
274 Connection between facia cable and air bag lead



344 Facia cable connection with anti-lock brake cable (A.B.S.)



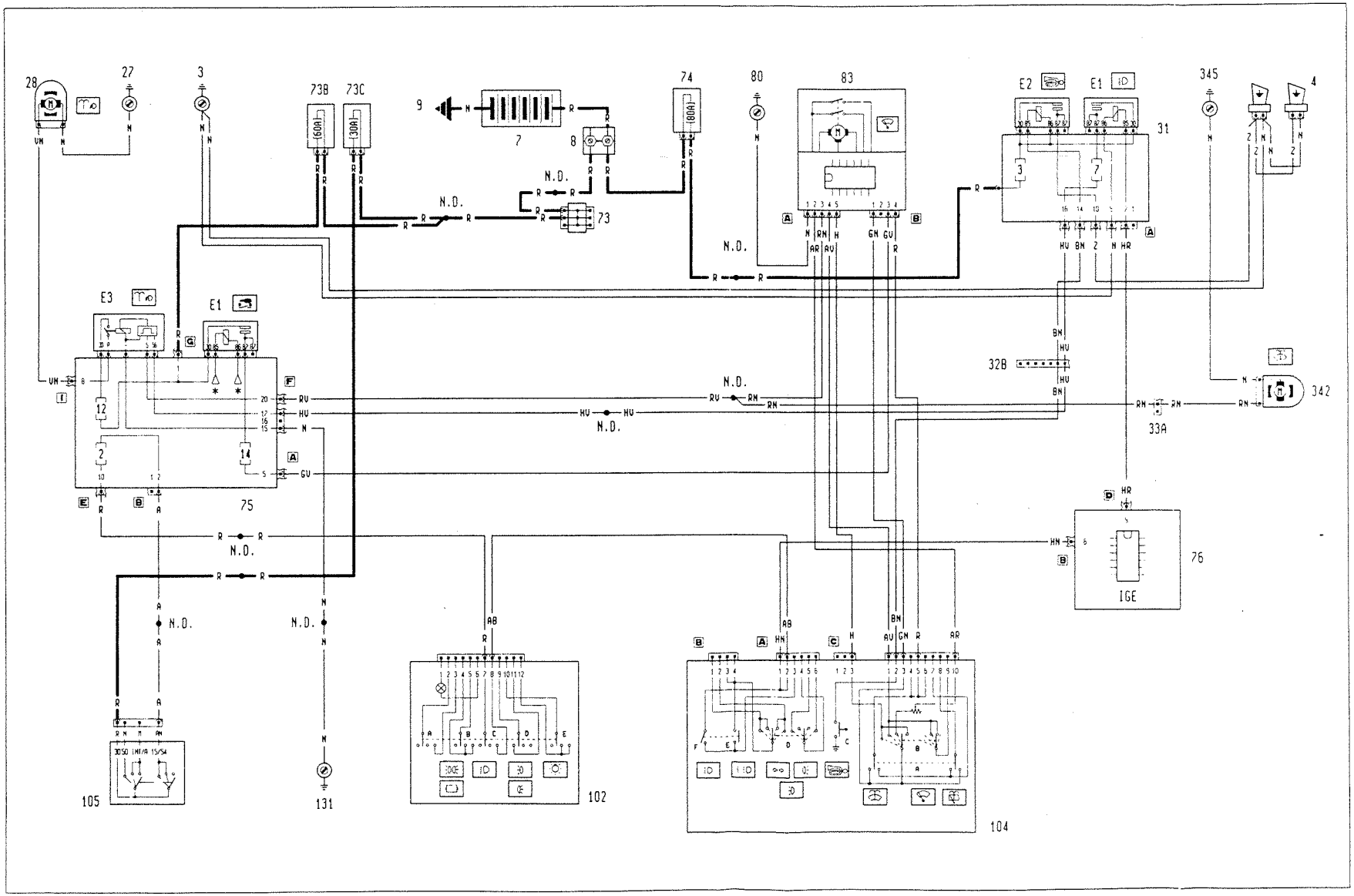
318 Connection between electronic automatic transmission lead and facia lead

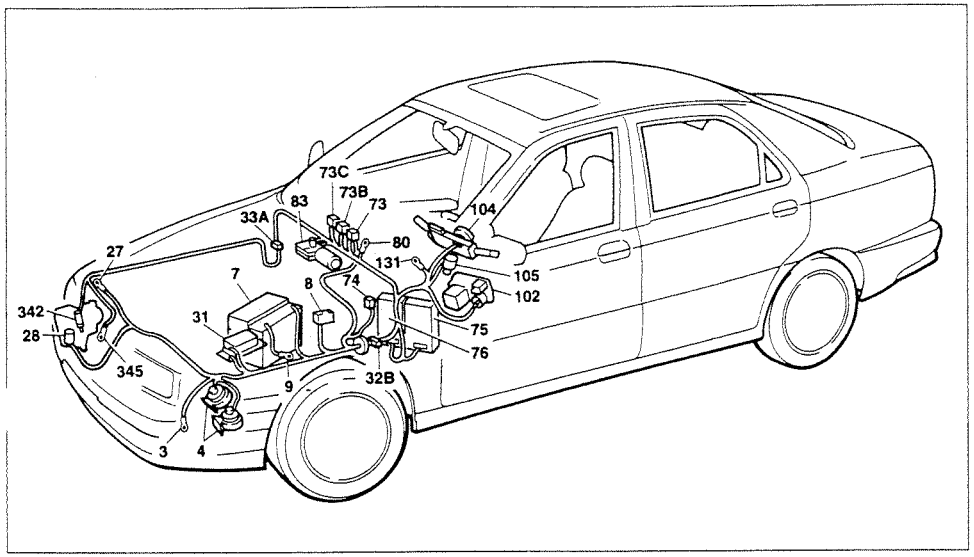


* Wires involved in the wiring diagram are marked with an asterisk

P3U147N01

Windscreen wash/wipe - Headlamp washer - Electric horns - (See key following diagrams)





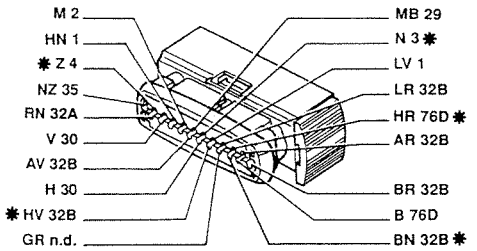
P3U074N01

Windscreen wash/wipe - Headlamp washer - Electric horns

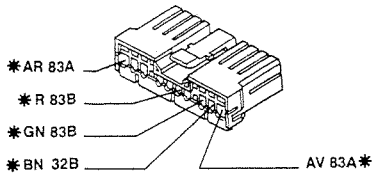
Key to components

3 Front left earth
4 Electric horns
7 Battery
8 Main connector block
9 Earth on body shell
27 Front right earth
28 Headlamp washer pump
31 Peripheral control unit (engine compartment)
E1 Dipped beam relay
E2 Horn relay
32B Connection between dashboard cable/left engine bay cable
33A Connection between dashboard cable/right engine bay cable
73 Secondary connector block
73B 60A fuse protecting I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/anti-theft device
74 60A fuse protecting peripheral control unit (engine compartment)
75 Junction unit (dashboard)
E1 Ignition switch discharge relay
E2 Direction indicators / hazard warning lights intermittent switch
76 I.G.E. control unit
80 Power earth on dashboard
83 Windscreen wiper control assembly
102 External lights controls
B Side lights / number plate lights switch
C Dipped beam / main beam headlamps switch
D Parking lights switch
E Symbols illumination switch
104 Stalk unit
A Windscreen washer / headlamp washer switch
B Windscreen wiper switch
C Horn button
D Direction indicators / parking lights switch
E Main beam headlamps flasher button
F Main beam headlamps switch
105 Ignition switch
131 Earth on steering column mounting
342 Electric windscreen washer pump
345 Front right earth
N.D. Ultrasound-soldered joint taped into wiring loom

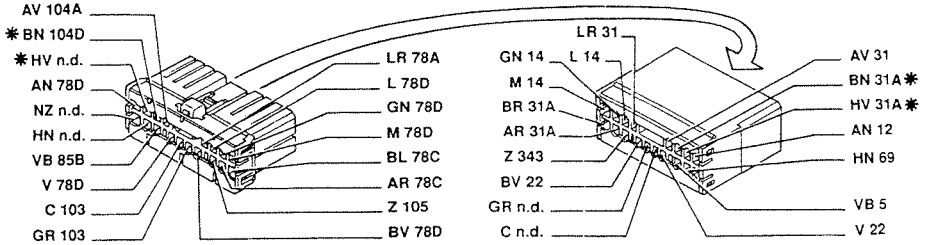
31A Peripheral control unit (engine bay)



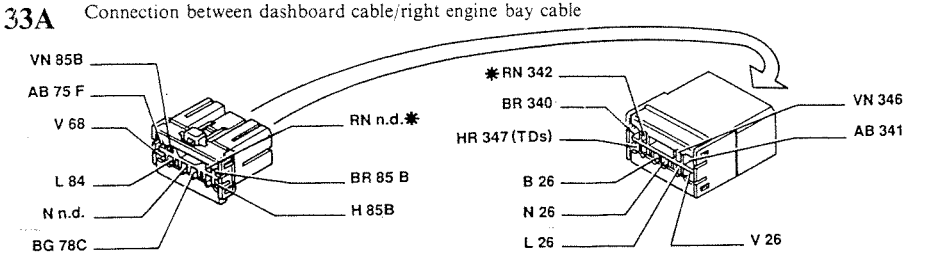
104D Stalk unit



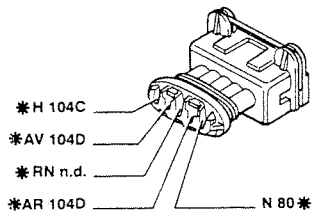
32B Connection between dahsboard cable/left engine bay cable



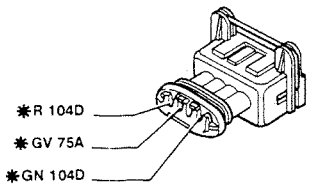
33A Connection between dashboard cable/right engine bay cable



83A Windscreen wiper control assembly



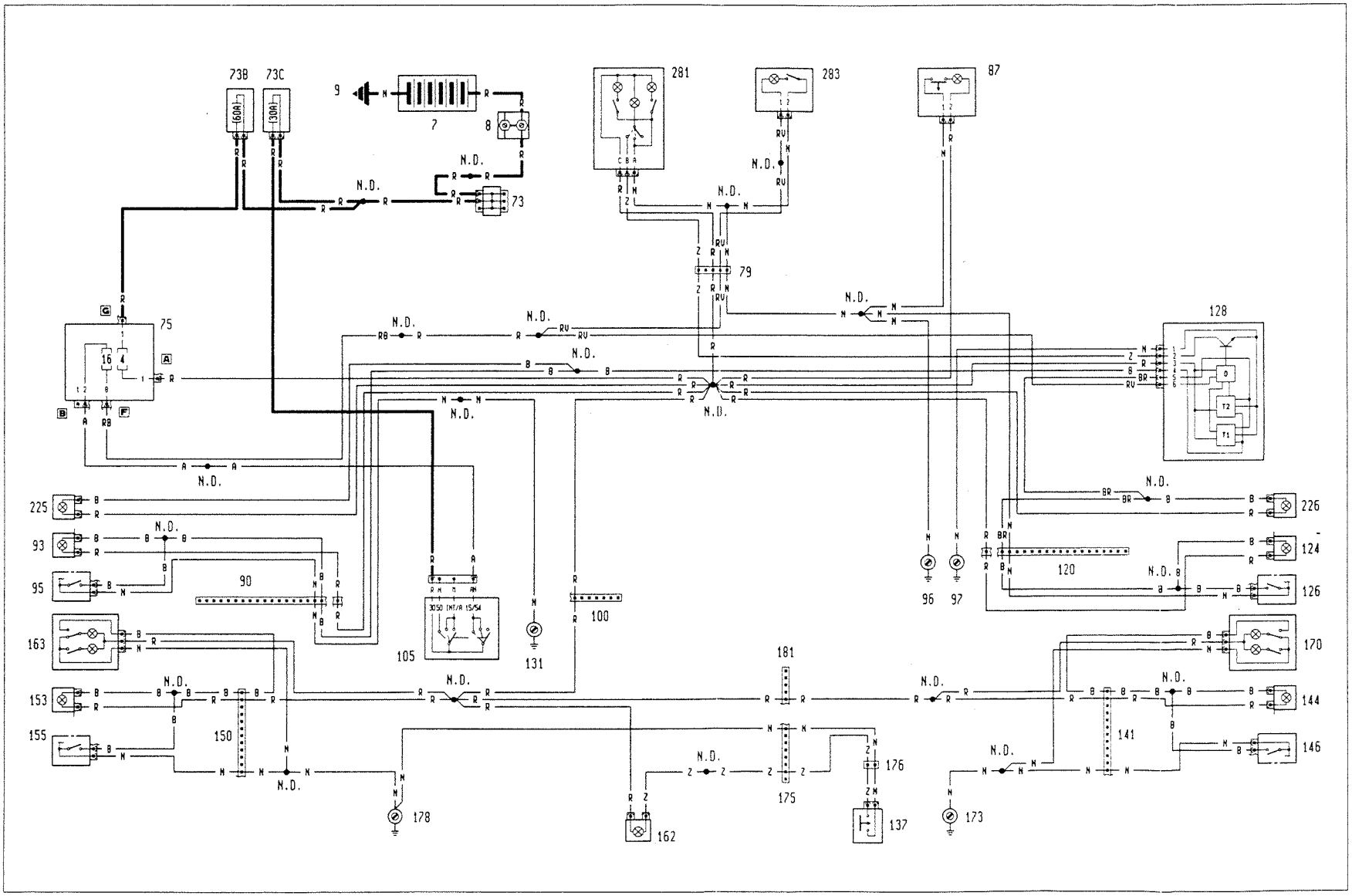
83B Windscreen wiper control assembly

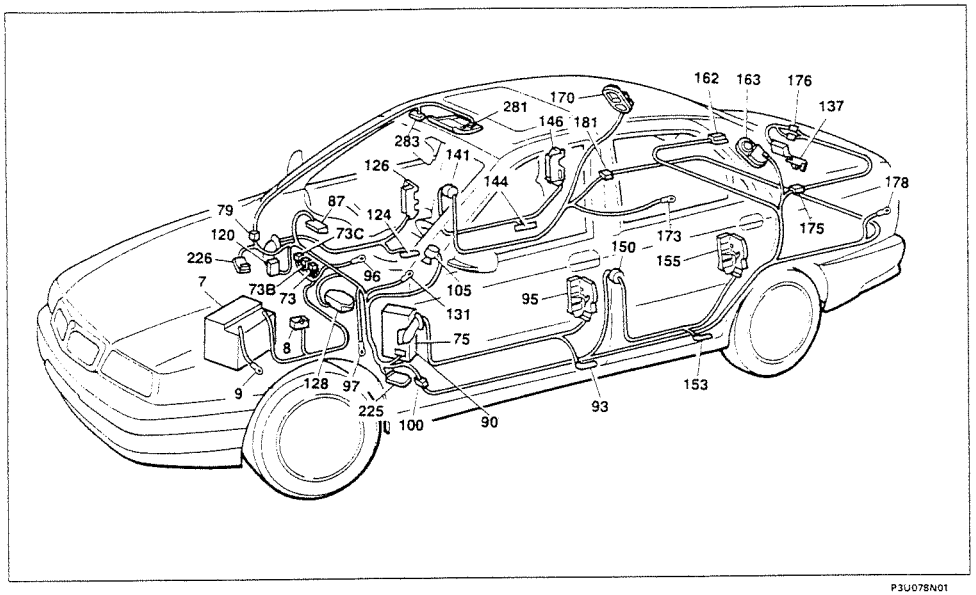


* The relevant cables on the wiring diagram are marked with an asterisk

P3U075N01

Car interior lighting - (See key following diagrams)





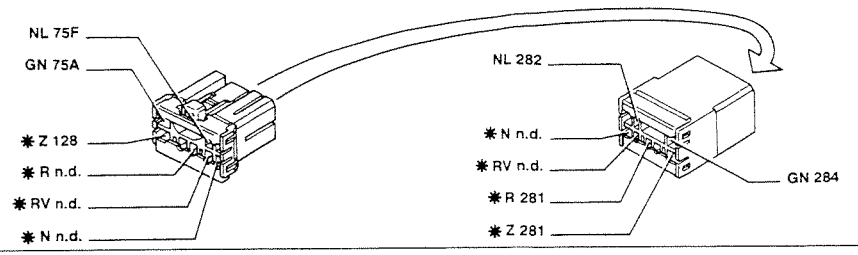
Car interior lighting

Key to components

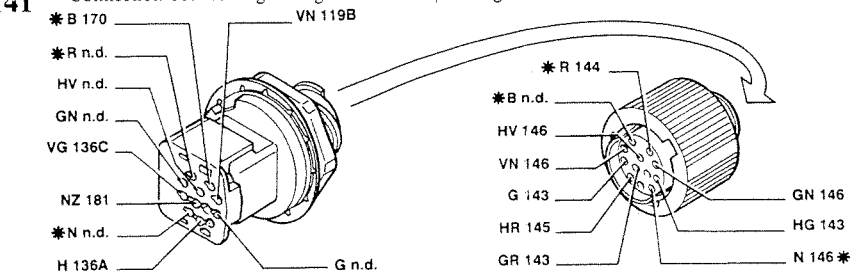
7 Battery
8 Main connector block
9 Earth on body shell
73 Secondary connector block
73B 60A fuse protecting I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (dashboard)
79 Connection between dashboard cable/courtesy light cable
87 Glove compartment lighting / boot unlock controls
90 Connection between dashboard cable/front left door cable
93 Puddle light on front left door
95 Front left door locking motor, front left door open indicator and anti-theft device on switch
96 Earth on carrier
97 Earth on floor
100 Connection between dashboard cable/left longitudinal cable
105 Ignition switch
120 Connection between dashboard cable/front right door cable
124 Puddle light on front right door
126 Front right door locking motor, front right door open indicator and anti-theft device on switch
128 Front courtesy light timer
131 Earth on steering column mounting
137 Boot lock assembly
141 Connection between right longitudinal cable/rear right door cable
144 Puddle light on rear right door
146 Rear right door locking motor, rear right door open indicator and anti-theft device on switch
150 Connection between left longitudinal cable/rear left door cable
153 Puddle light on rear left door
155 Rear left door locking motor, rear left door open indicator and anti-theft device on switch
162 Boot light
163 Rear left courtesy light
170 Rear right courtesy light
173 Rear right earth
175 Connection between left longitudinal cable/boot cable
176 Boot cables connection
178 Rear left earth
181 Connection between left longitudinal cable/right longitudinal cable
225 Left floor light
226 Right floor light
281 Front courtesy light
283 Illuminated sunshade, passenger's side

N.D. Ultrasound-soldered joint taped into wiring loom

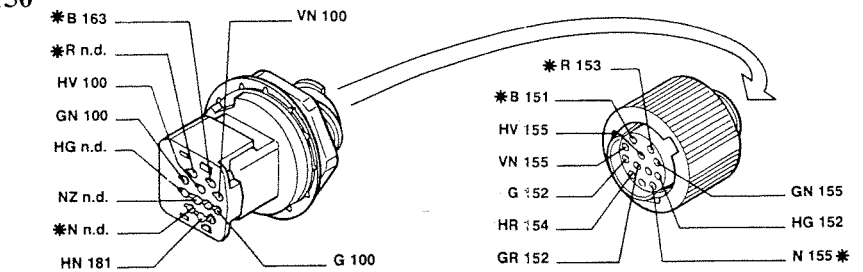
79 Connection between dashboard cable/courtesy light cable



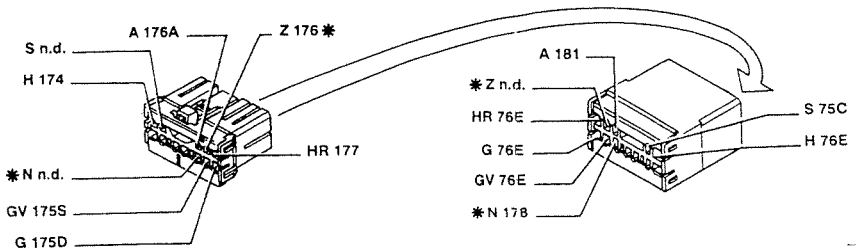
141 Connection between right longitudinal cable/rear right door cable



150 Connection between left longitudinal cable/rear left door cable



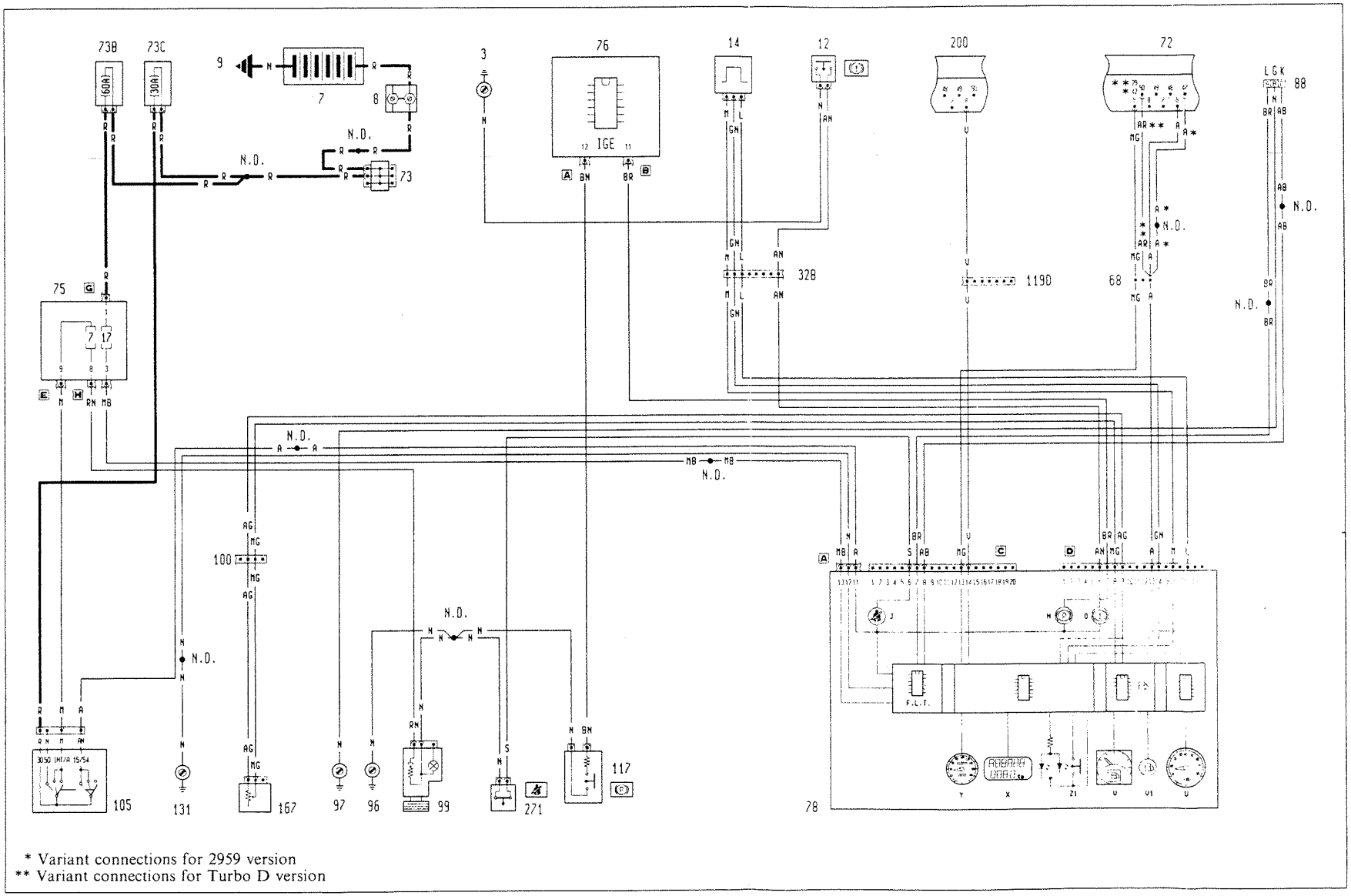
175 Connection between left longitudinal cable/boot cable



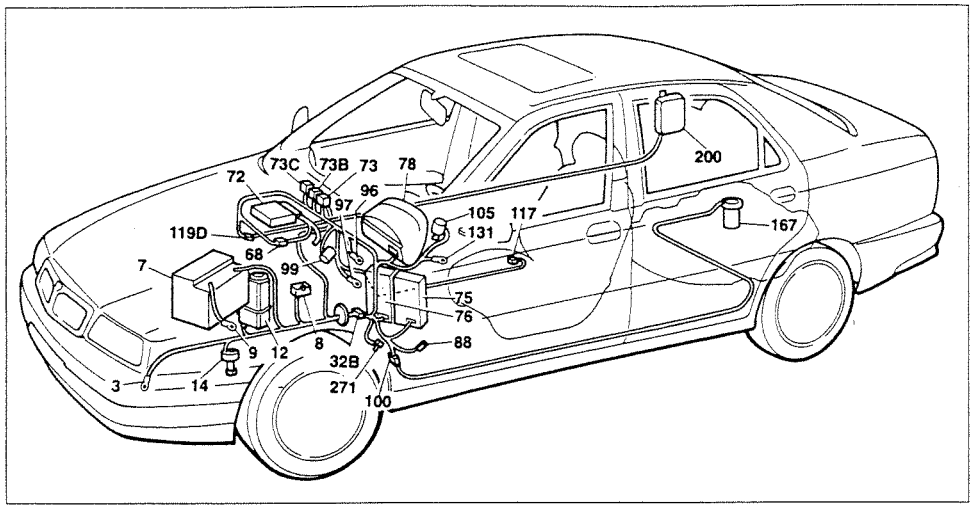
P3U079N01

* The relevant cables on the wiring diagram are marked with an asterisk

Fuel level gauge and reserve warning light - Handbrake warning light - Low brake fluid level warning light - Seat belt unfastened warning light - Speedometer - Total mileage counter/trip recorder and reset button - Rev counter - (See key following diagrams)



* Variant connections for 2959 version
** Variant connections for Turbo D version



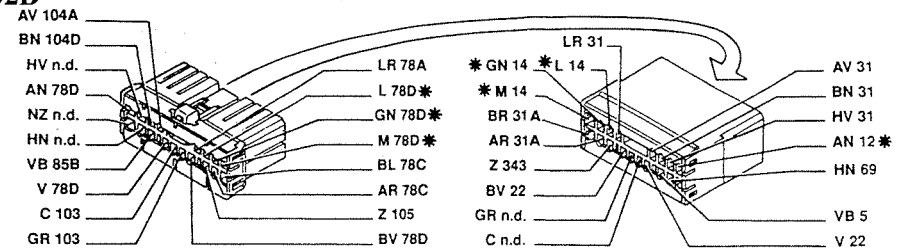
P3U082N01

Fuel level gauge and reserve warning light - Handbrake warning light - Low brake fluid level warning light - Seat belt unfastened warning light - Speedometer - Total mileage counter / trip recorder and reset button - Rev counter

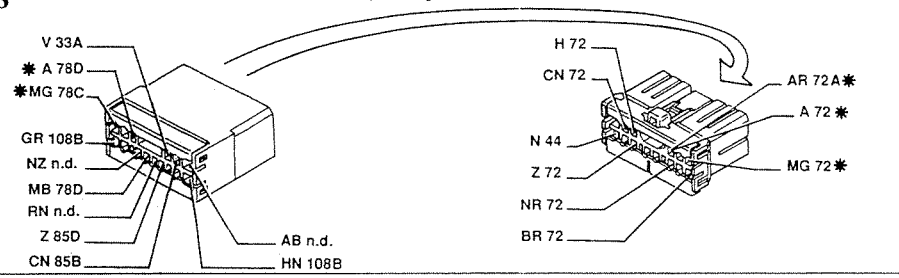
Key to components

3 Front left earth
7 Battery
8 Main connector block
9 Earth on body shell
12 Low brake fluid level sensor
14 Pulse generator for speedometer signal
32B Connection between dashboard cable/left engine bay cable
68 Connection between dashboard cable/fuel injection cable
72 Fuel injection control unit
73 Secondary connector block
73B 60A fuse protecting I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (dashboard)
76 I.G.E. control unit
78 Instrument panel
J Seat belt undone warning light
N Handbrake warning light / I.G.E. contorl unit
O Low brake fluid level warning light
U Electronic rev counter
V Fuel gauge
V1 Fuel reserve warning light
X Total mileage counter / trip recorder
Y Electronic speedometer
Z1 Trip computer reset button
88 Diagnostic socket for Fiat / Lancia tester
96 Earth on carrier
97 Earth on floor
99 Cigar lighter
100 Connection between dashboard cable/left longitudinal cable
105 Ignition switch
117 Handbrake on warning light switch
119D Connection between dashboard cable/right longitudinal cable
131 Earth on steering column mounting
167 Fuel gauge sender unit
200 Controlled damping suspension control unit
271 Stop lights switch
N.D. Ultrasound-soldered joint taped into wiring loom

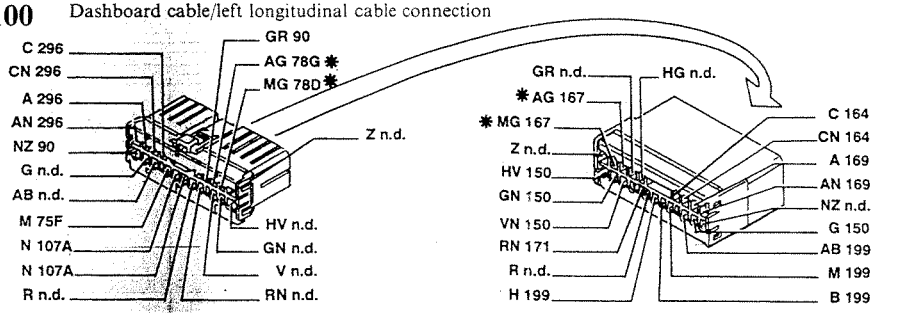
32B Connection between dashboard cable/left engine bay cable

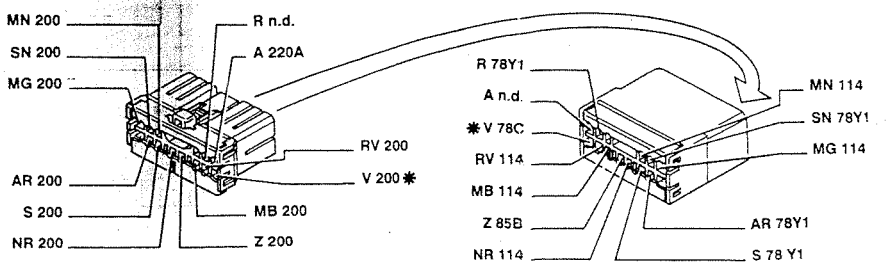


68 Connection between dashboard cable/fuel injection cable



100 Dashboard cable/left longitudinal cable connection



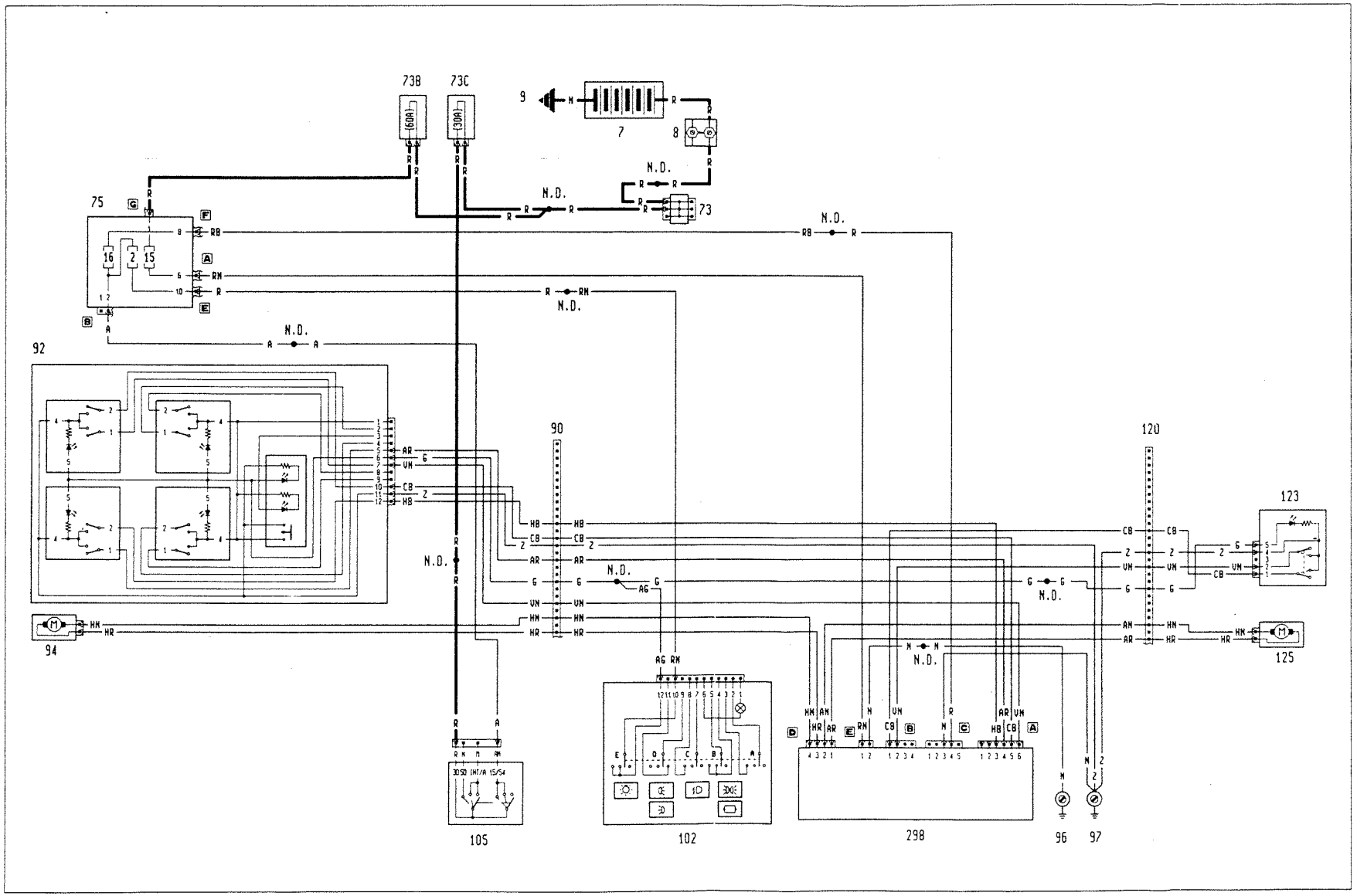


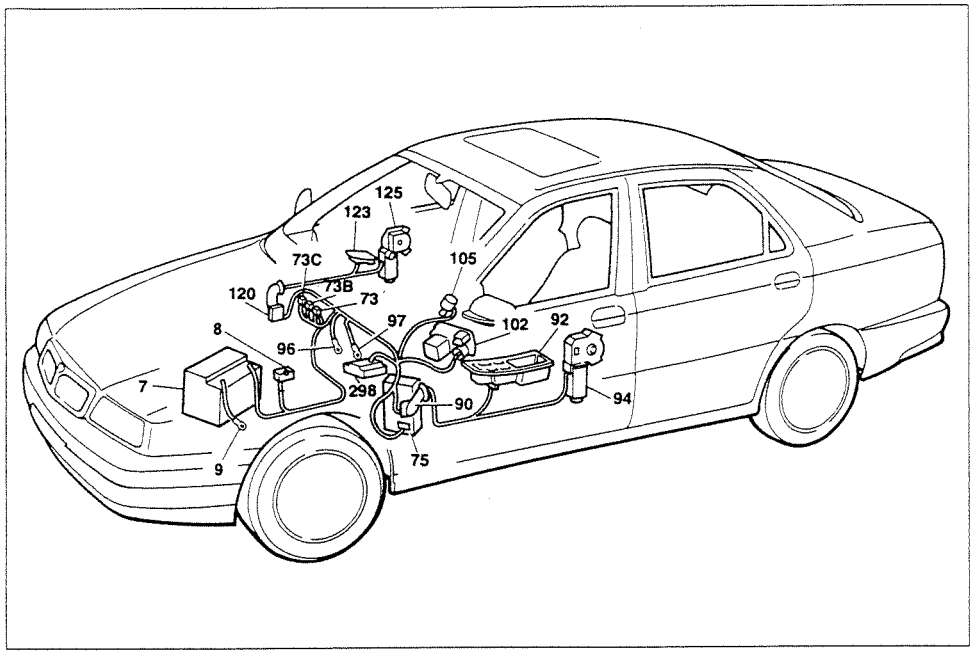
119D Connection between dashboard cable/right longitudinal cable

* The relevant cables on the wiring diagram are marked with an asterisk

3U083N01

Electric front windows - (See key following diagrams)





P3U086N01

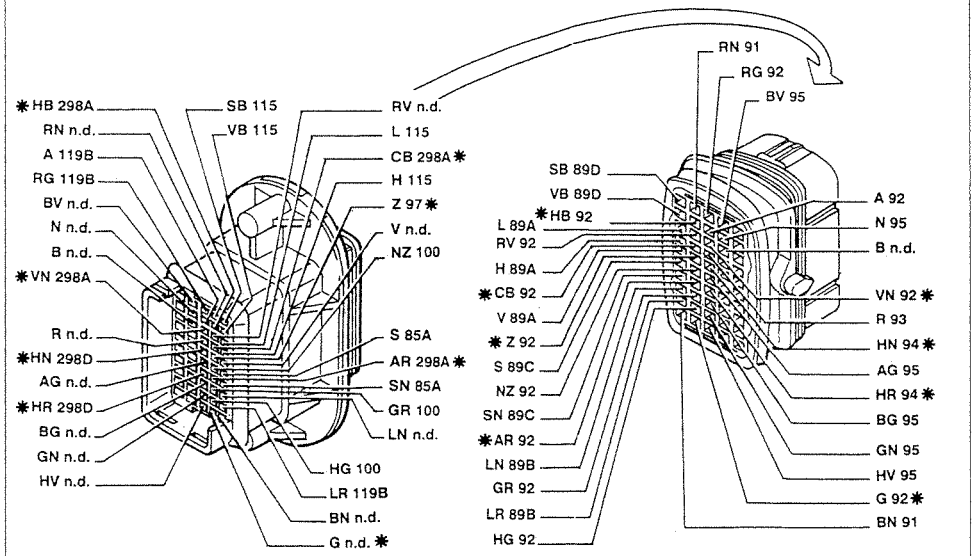
Electric front windows

Key to components

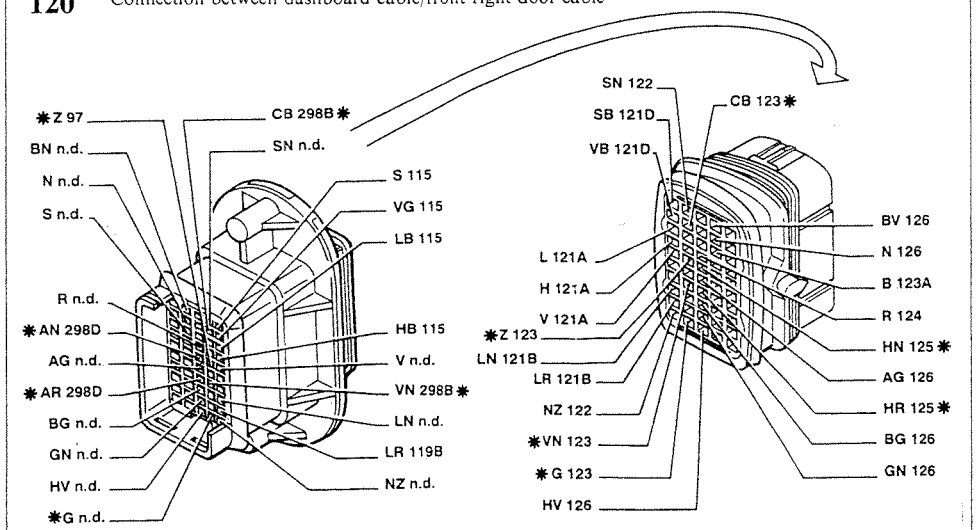
7 Battery
8 Main connector block
9 Earth on body shell
73 Secondary connector block
73B 60A fuse protecting I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (dashboard)
90 Connection between dashboard cable/front left door cable
92 Electric front windows / electric rear windows pushbutton unit on front left door
94 Front left electric window motor
96 Earth on carrier
97 Earth on floor
102 External lights controls
B Side lights / number plate lights switch
C Dipped beam / main beam headlamps switch
D Parking lights control switch
E Symbols illumination switch
105 Ignition switch
120 Connection between dashboard cable/front right door cable
123 Front right electric window pushbutton unit on front right door
125 Front right electric window motor
298 Electric front windows control unit

N.D. Ultrasound-soldered joint taped into wiring loom

90 Connection between dashboard cable/front left door cable



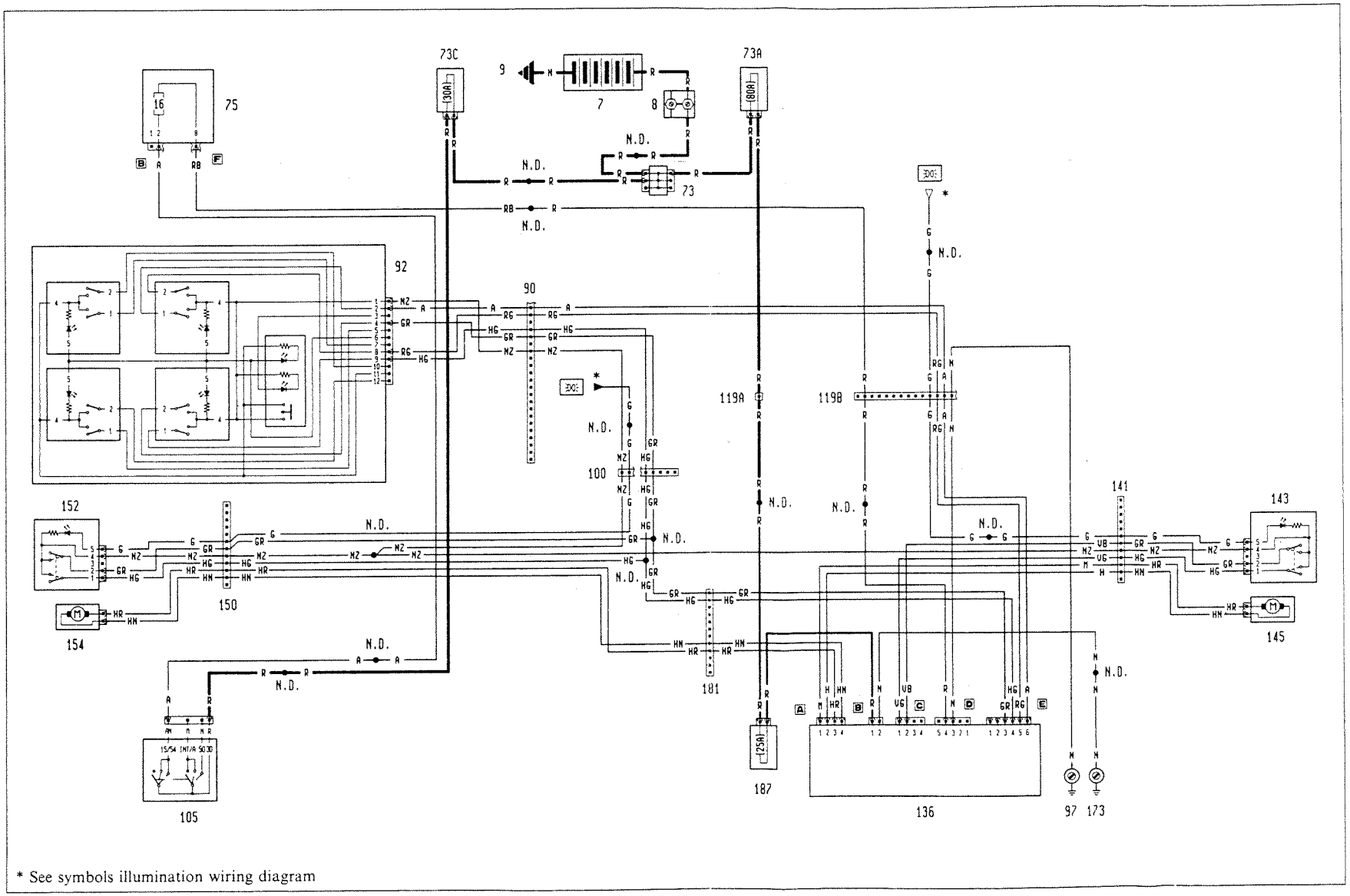
120 Connection between dashboard cable/front right door cable

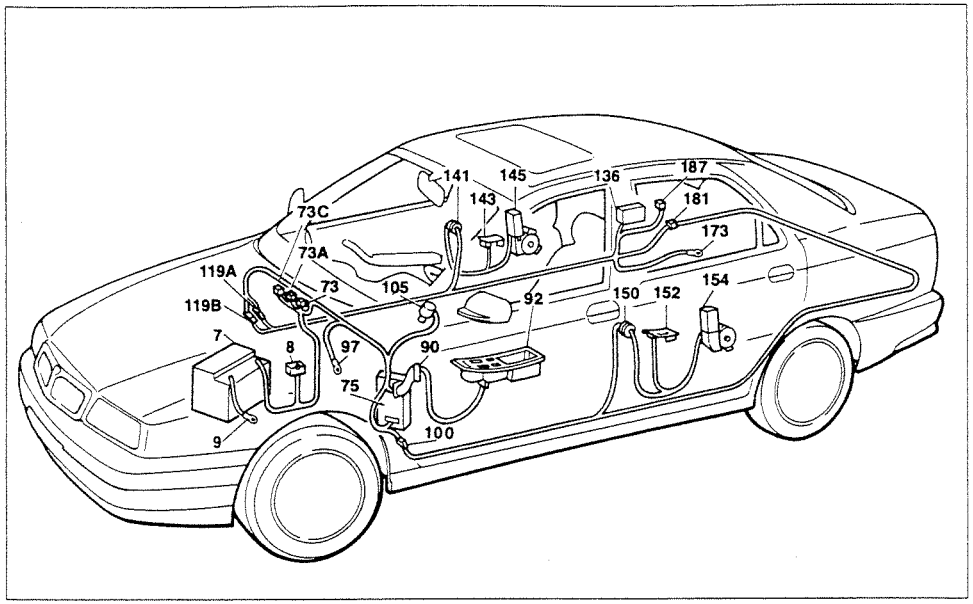


* The relevant cables on the wiring diagram are marked with an asterisk

P3U087N01

Electric rear windows - (See key following diagrams)





P3U090N01

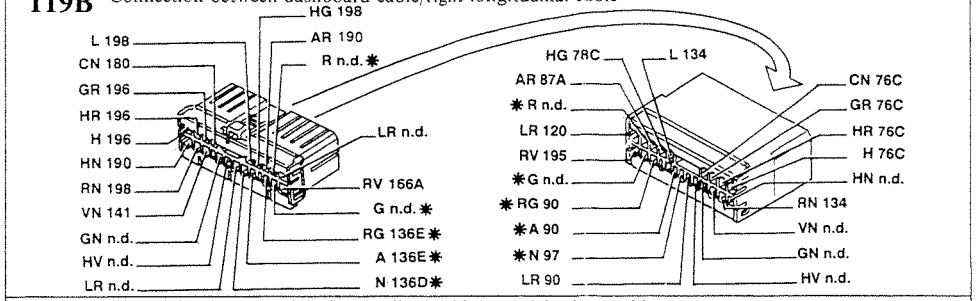
Electric rear windows

Key to components

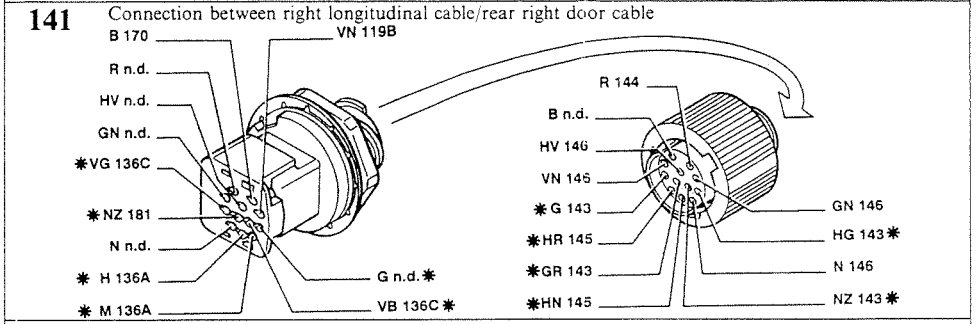
7 Battery
8 Main connector block
9 Earth on body shell
73 Secondary connector block
73A 80A fuse protecting rear services
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (dashboard)
90 Connection between dashboard cable/front left door cable
92 Electric front / rear windows pushbutton unit on front left door
97 Earth on floor
100 Connection between dashboard cable/left longitudinal cable
105 Ignition switch
119A Connection between dashboard cable/right longitudinal cable
119B Connection between dashboard cable/right longitudinal cable
136 Electric rear windows control unit
141 Connection between right longitudinal cable/rear right door cable
143 Rear right electric window pushbutton unit on rear right door
145 Rear right electric window motor
150 Connection between left longitudinal cable/rear left door cable
152 Rear left electric window pushbutton unit on rear left door
154 Rear left electric window motor
173 Rear right earth
181 Connection between left longitudinal cable/right longitudinal cable
187 25A fuse protecting electric rear windows control unit

N.D. Ultrasound-soldered joint taped into wiring loom

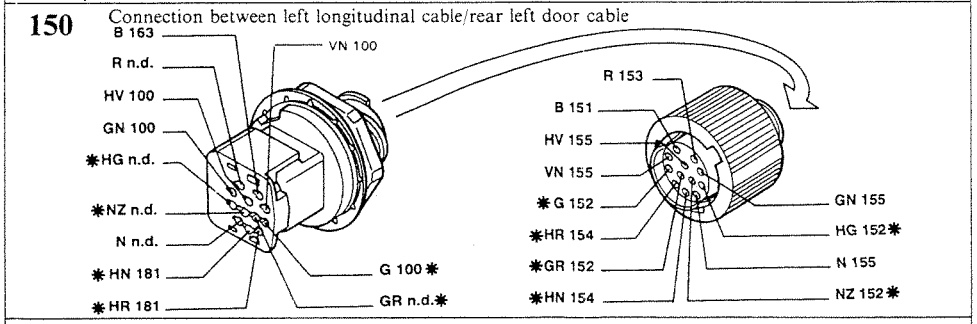
119B Connection between dashboard cable/right longitudinal cable



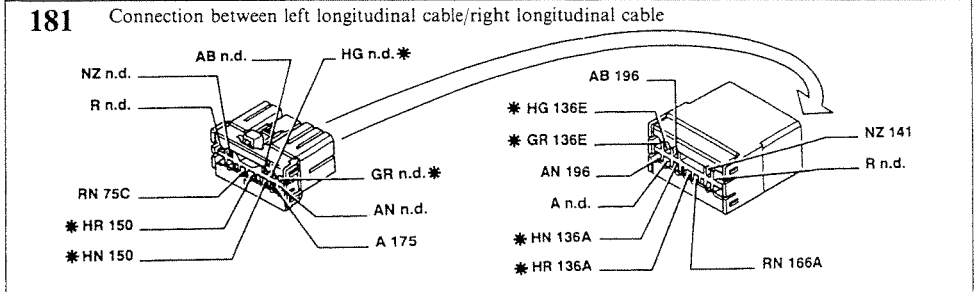
141 Connection between right longitudinal cable/rear right door cable



150 Connection between left longitudinal cable/rear left door cable



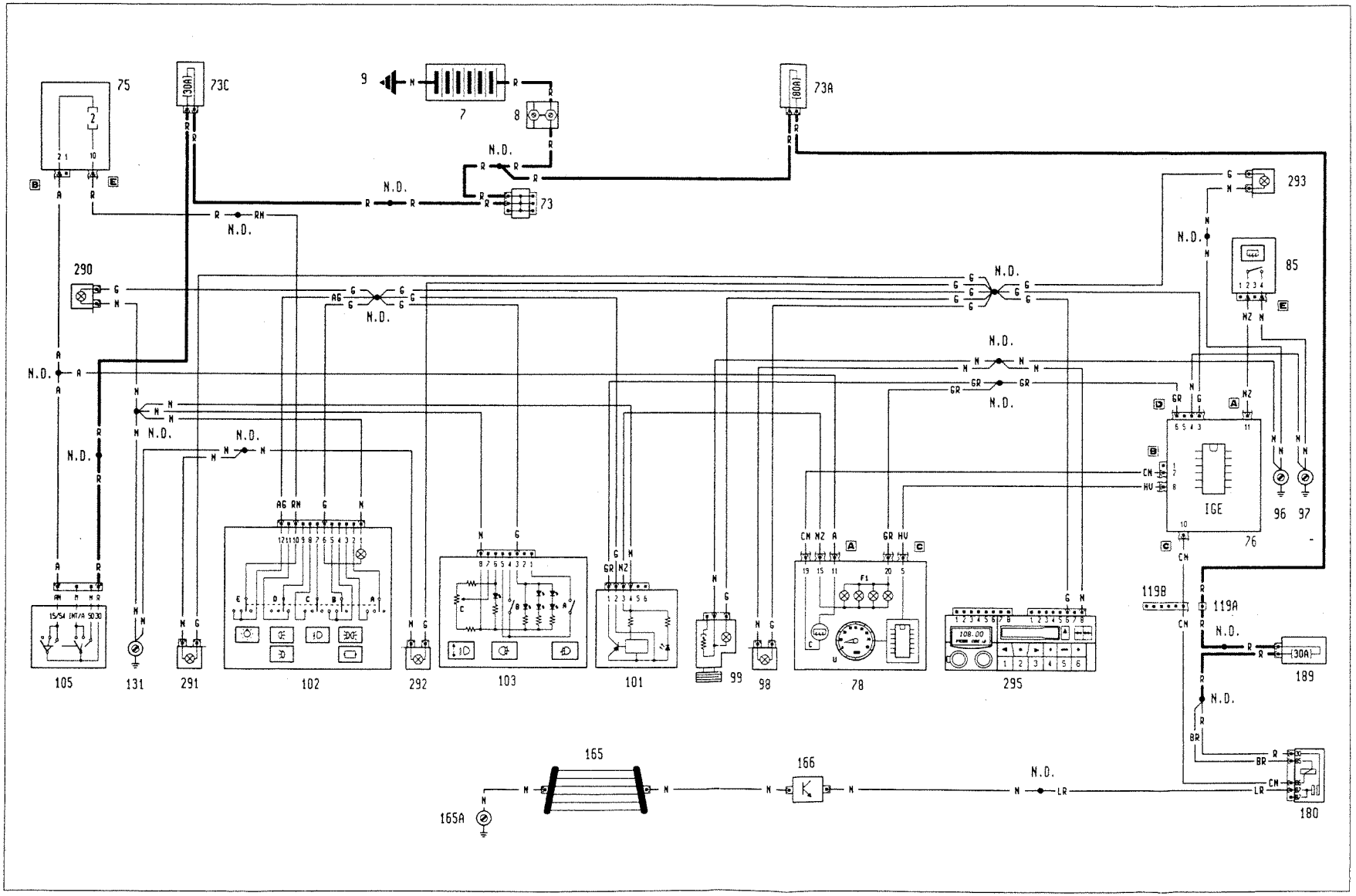
181 Connection between left longitudinal cable/right longitudinal cable

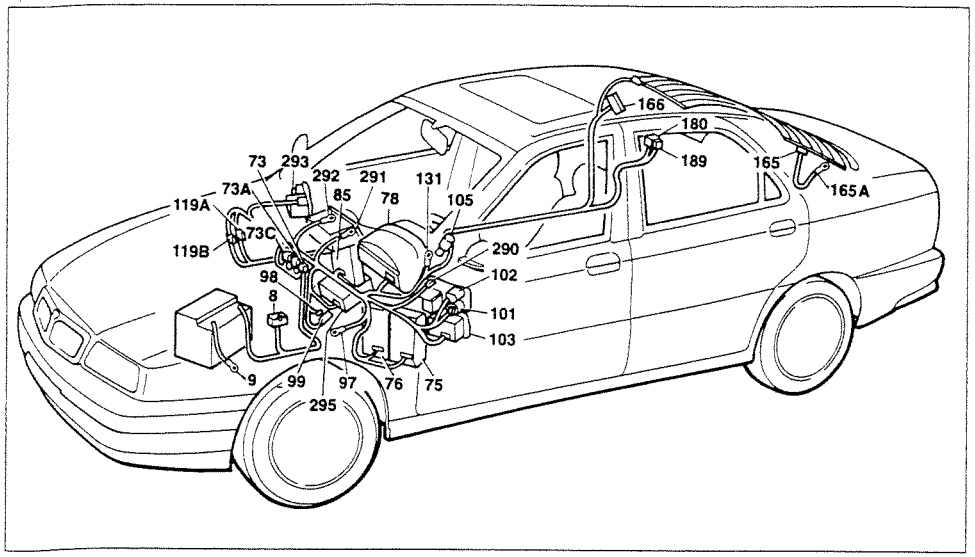


* The relevant cables on the wiring diagram are marked with an asterisk

P3U091N01

Symbol illumination - Heated rear window and warning light - (See key following diagrams)





P3U094N01

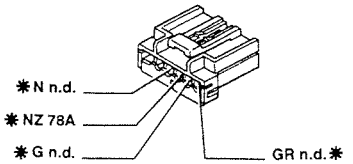
Symbol illumination - Heated rear window and warning light

Key to components

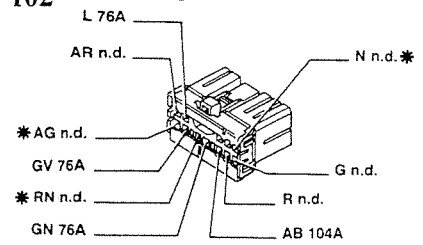
7 Battery
8 Main connector block
9 Earth on body shell
73 Secondary connector block
73A 80A fuse protecting rear services
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (dashboard)
76 I.G.E. control unit
78 Instrument panel
C Heated rear window warning light
F1 Instrument panel lighting bulbs
U Electronic rev counter
85 Infocenter control unit
96 Earth on carrier
97 Earth on floor
98 Ashtray light
99 Cigar lighter
101 Lighting brightness adjustment rheostat
102 External lights controls
B Side lights / number plate lights switch
C Dipped beam / main beam headlamps switch
D Parking lights switch
E Symbols lights switch
103 Switch control assembly
A Fog lamps control switch
B Rear fog lamps switch
C Headlamp adjustment device
105 Ignition switch
119A Connection between dashboard cable/right longitudinal cable
119B Connection between dashboard cable/right longitudinal cable
131 Earth on steering column mounting
165 Heated rear window
165A Earth for heated rear window
166 Amplifier for aerial built into rear window
180 Heated rear window relay
189 30A fuse protecting heated rear window
290 Front left air vent controls illumination
291 Central left air vent controls illumination
292 Central right air vent controls illumination
293 Front right air vent controls illumination
295 Radio cables connection

N.D. Ultrasound-soldered joint taped into wiring loom

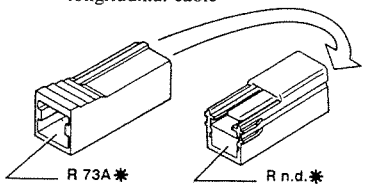
101 Lighting brightness adjustment rheostat



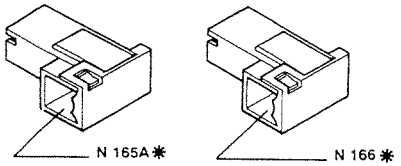
102 External lights controls



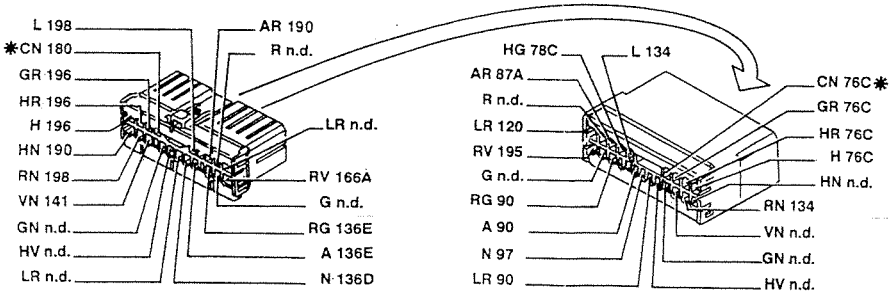
119A Connection between dashboard cable/right longitudinal cable



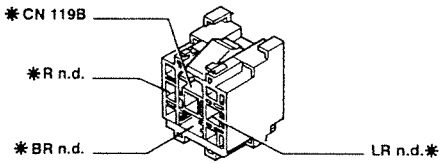
165 Heated rear window



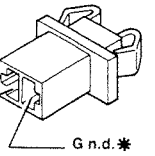
119B Connection between dashboard cable/right longitudinal cable



180 Heated rear window relay



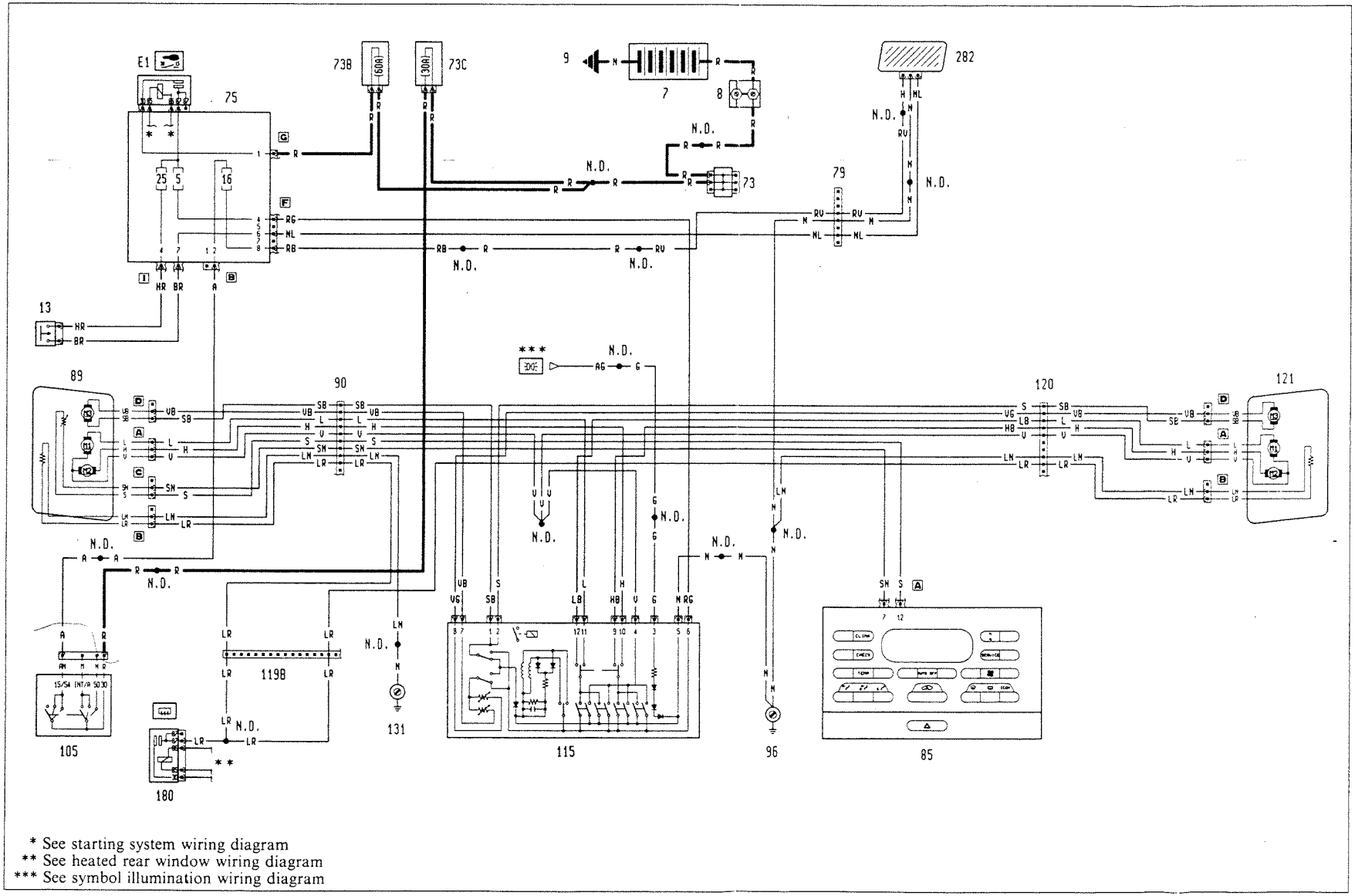
290 Front left air vent controls illumination



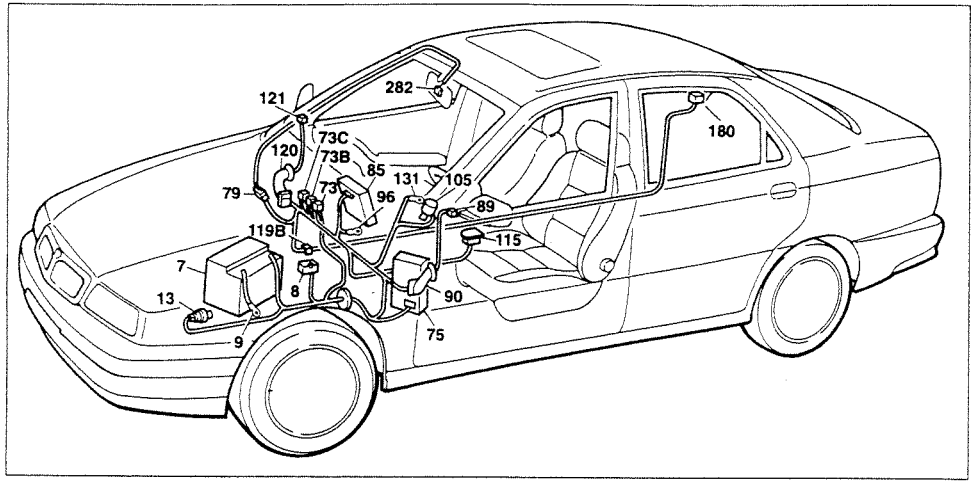
* The relevant cables on the wiring diagram are marked with an asterisk

P3U095N01

Electrically adjustable, heated and tilting external rearview mirrors - Electrochromic internal rearview mirror - (See key following diagrams)



* See starting system wiring diagram
** See heated rear window wiring diagram
*** See symbol illumination wiring diagram



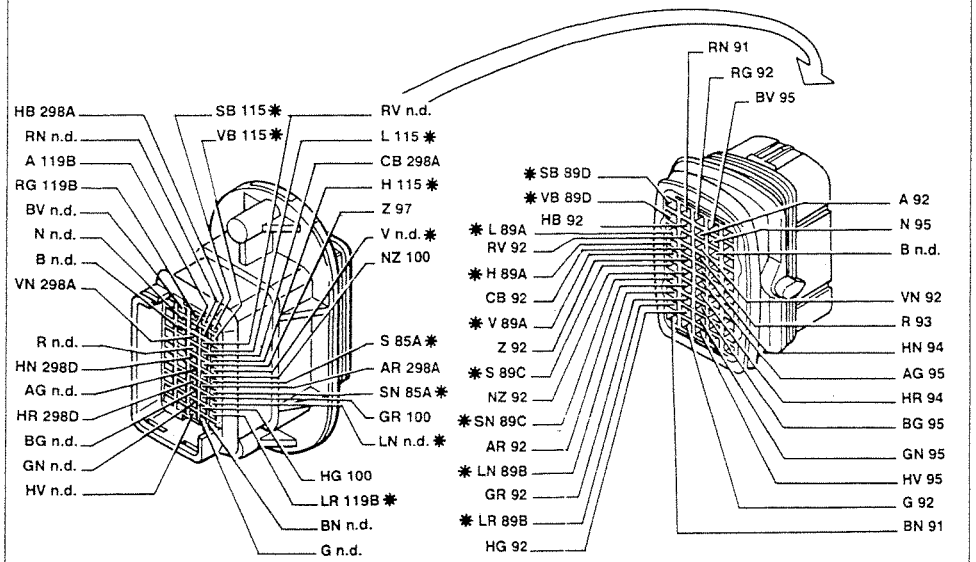
P3U098N01

Electrically-adjustable, heated and tilting external rearview mirrors - Electrochromic internal rearview mirror

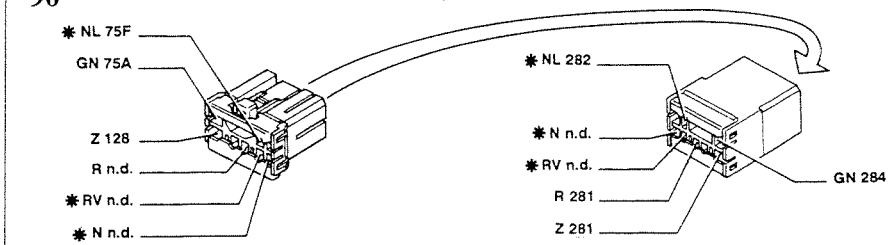
Key to components

7 Battery
8 Main connector block
9 Earth on body shell
13 Reversing lights switch
73 Secondary connector block
73A 80A fuse protecting rear services
73B 60A fuse protecting I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (dashboard)
E1 Ignition switch discharge relay
79 Connection between dashboard cable/courtesy light cable
85 Infocenter control unit
89 Left rearview mirror
A Left rearview mirror tilting motor
B Left rearview mirror vertical adjustment motor
C Left rearview mirror horizontal adjustment motor
D Left rearview mirror heating element
E External temperature sensor
90 Connection between dashboard/front left door cable
96 Earth on carrier
105 Ignition switch
115 Electrically-adjustable rearview mirror controls
119B Connection between dashboard cable/right longitudinal cable
120 Connection between dashboard cable/front right door cable
121 Right rearview mirror
A Right rearview mirror tilting motor
B Right rearview mirror vertical adjustment motor
C Right rearview mirror horizontal adjustment motor
D Right rearview mirror heating element
131 Earth on steering column mounting
180 Heated rear window relay
282 Internal electrochromic rearview mirror
N.D. Ultrasound-soldered joint taped into wiring loom

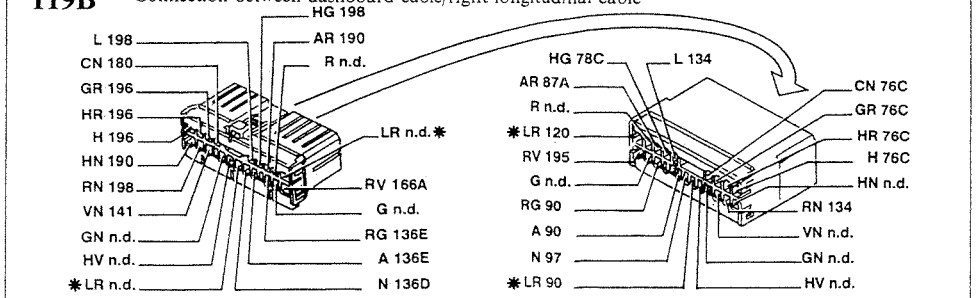
79 Connection between dashboard cable/courtesy light cable



90 Connection between dashboard cable/front left door cable



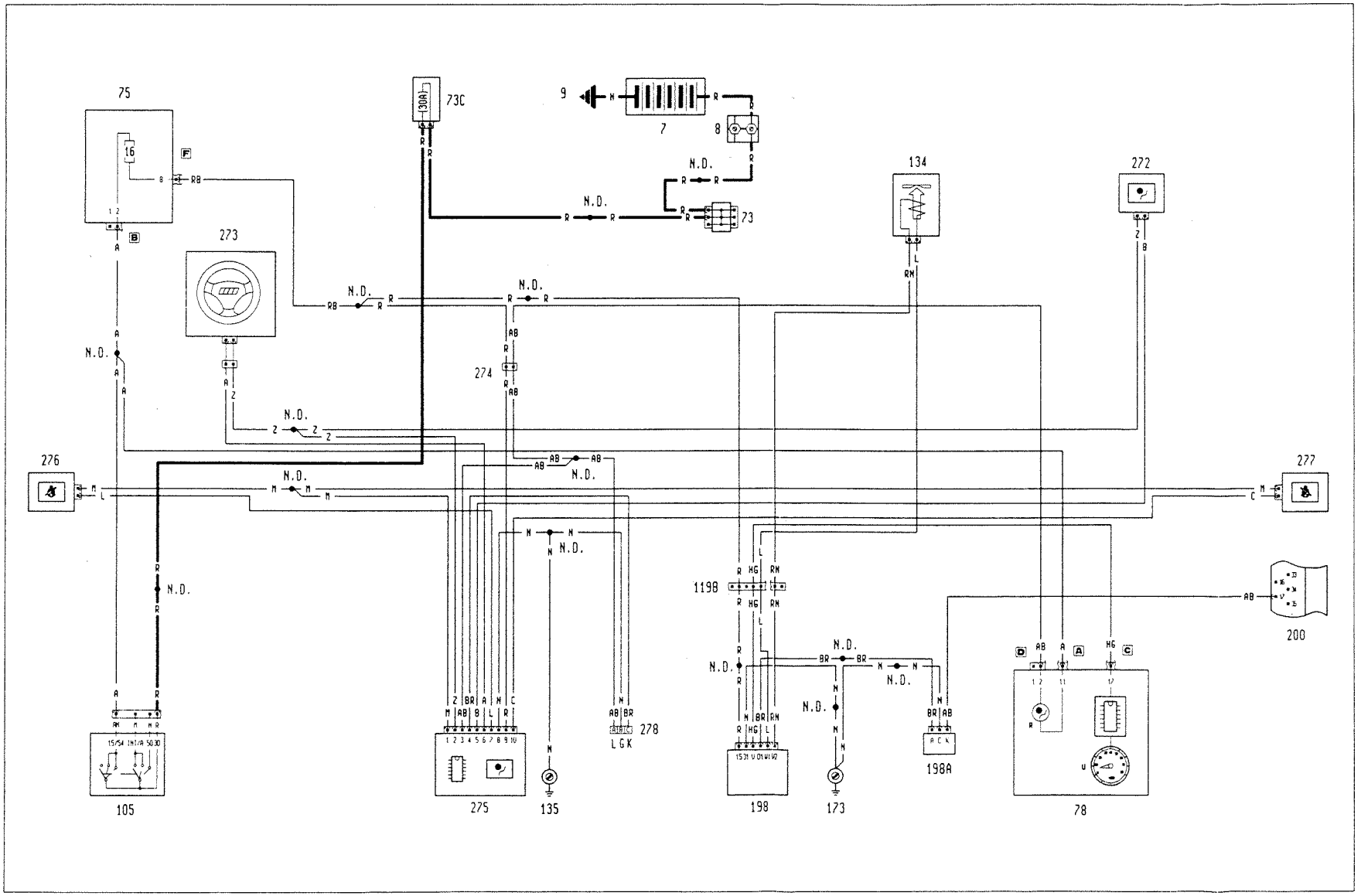
119B Connection between dashboard cable/right longitudinal cable



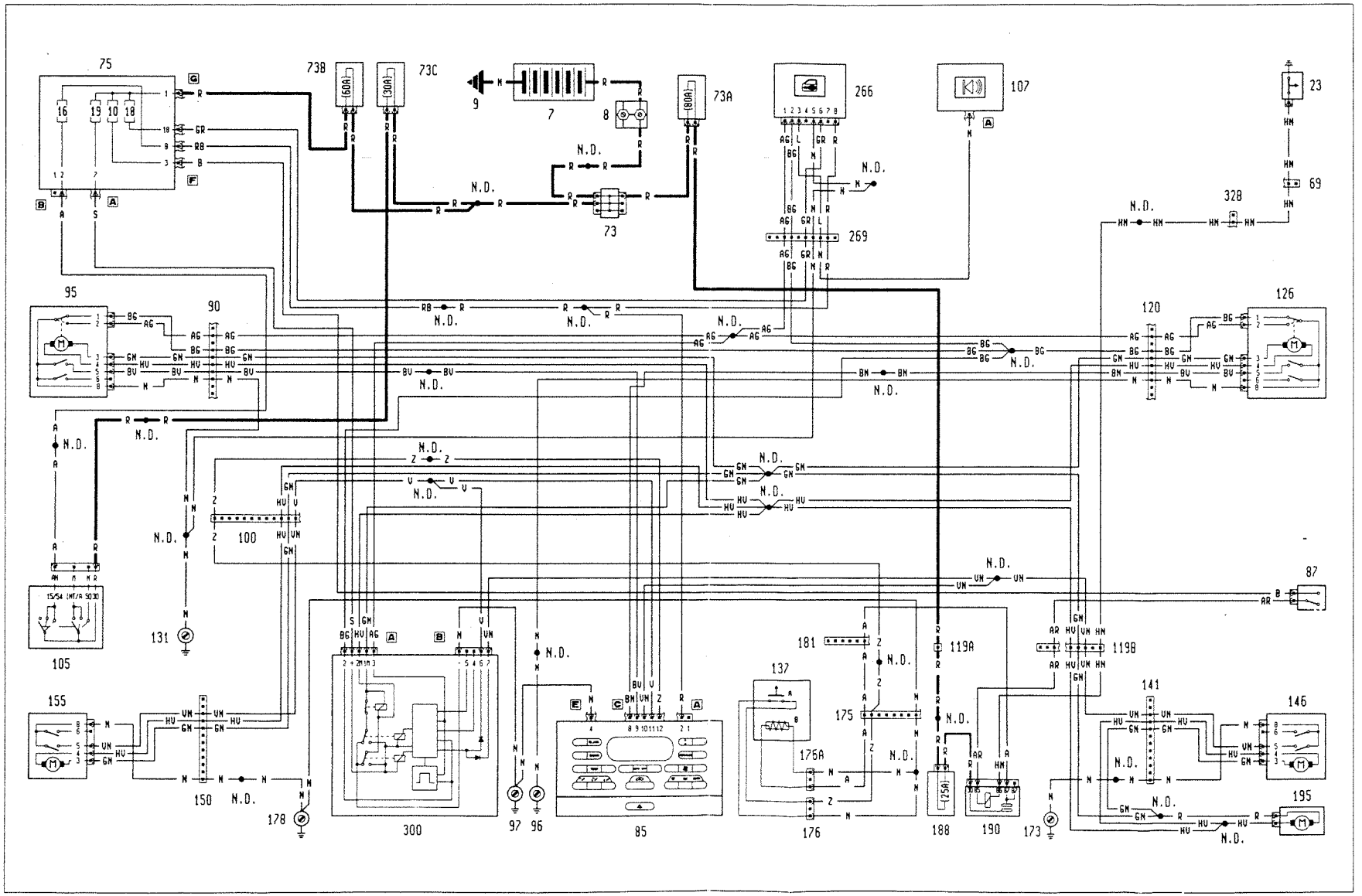
* The relevant cables on the wiring diagram are marked with an asterisk

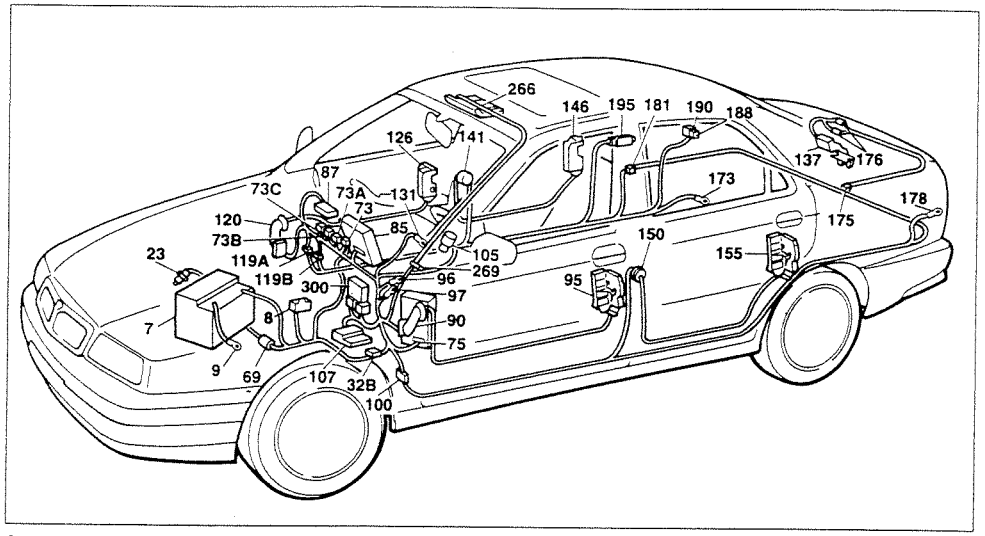
P3U099N01

Air Bag and fault warning light - Seat belt pretensioners - Servotronik system - (See key following diagrams)



Central door locking and doors open indication - (See key following diagrams)





P3U106N01

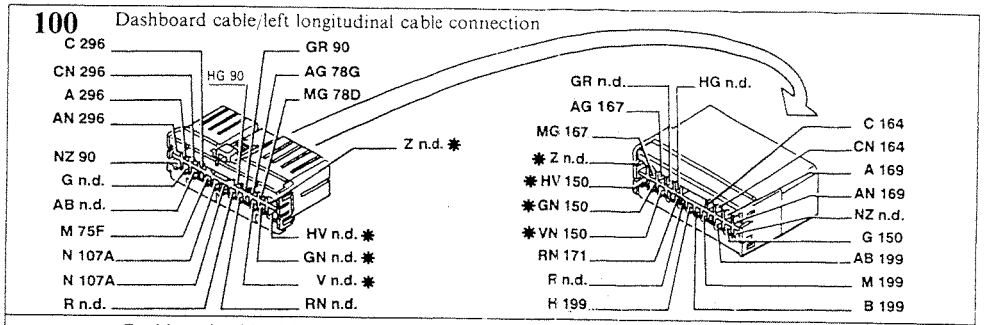
Central door locking and door open indication

Key to components

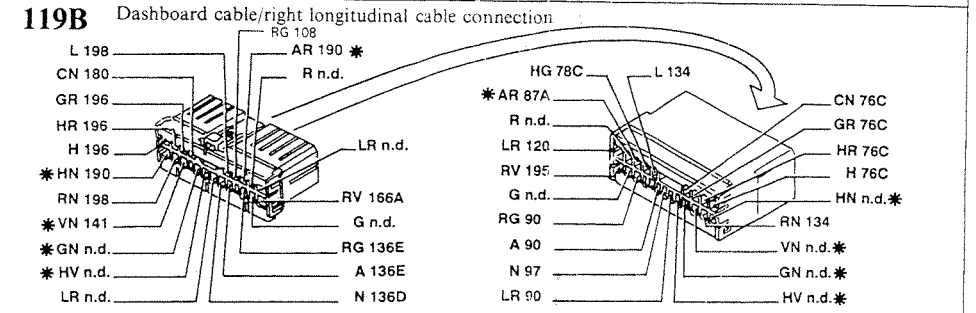
7 Battery
8 Main connector block
9 Earth on body shell
23 Low engine oil pressure sensor
32B Connection between dashboard cable/left engine bay cable
69 Engine services cable connection
73 Secondary connector block
73A 80A fuse protecting rear services
73B 60A fuse protecting I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (dashboard)
85 Infocenter control unit
87 Glove compartment light / boot unlock controls
90 Connection between dashboard cable/front left door cable
95 Front left door locking motor, front left door open indicator and anti-theft device on switch
96 Earth on carrier
97 Earth on floor
100 Connection between dashboard cable/left longitudinal cable
105 Ignition switch
107 Anti-theft device control unit
119A Connection between dashboard cable/right longitudinal cable
119B Connection between dashboard cable/right longitudinal cable
120 Connection between dashboard cable/front right door cable
126 Front right door locking motor, front right door open indicator and anti-theft device on switch
131 Earth on steering column mounting
137 Boot lock assembly
A Boot light switch and anti-theft device on switch
B Boot lock/unlock motor
141 Connection between right longitudinal cable and rear right door cable
146 Rear right door locking motor, rear right door open indicator and anti-theft device on switch
150 Connection between left longitudinal cable and rear left door
155 Rear left door locking motor, rear left door open indicator and anti-theft device on switch
173 Rear right earth
175 Connection between left longitudinal cable/boot cable
176 Boot cables connection
178 Rear left earth
181 Connection between left longitudinal cable/right longitudinal cable
188 25A fuse protectiong boot unlock electromagnet
190 Boot lock / unlock relay
195 Fuel flap unlock motor
266 Infrared receiver for anti-theft device
269 Connection between dashboard cable/receiver cable
300 Central door locking electronic control unit

N.D. Ultrasound-soldered joint taped in wiring loom

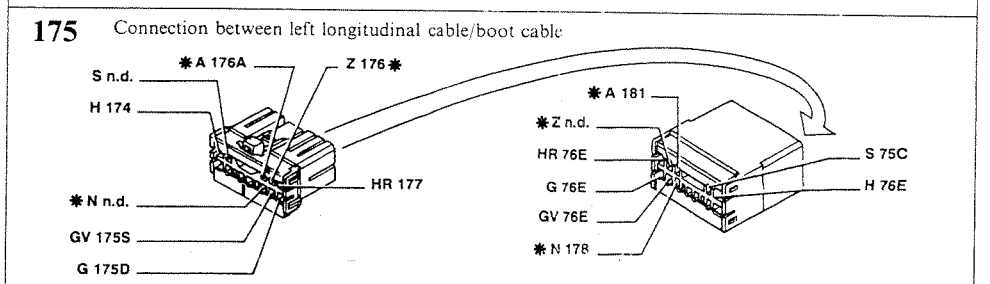
100 Dashboard cable/left longitudinal cable connection



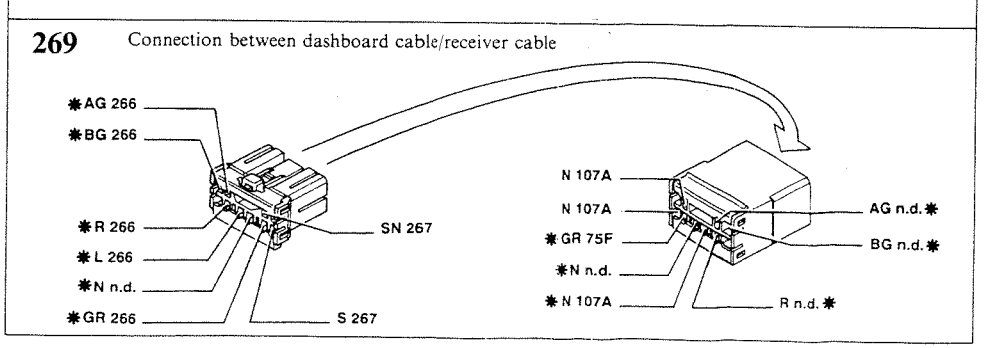
119B Dashboard cable/right longitudinal cable connection



175 Connection between left longitudinal cable/boot cable



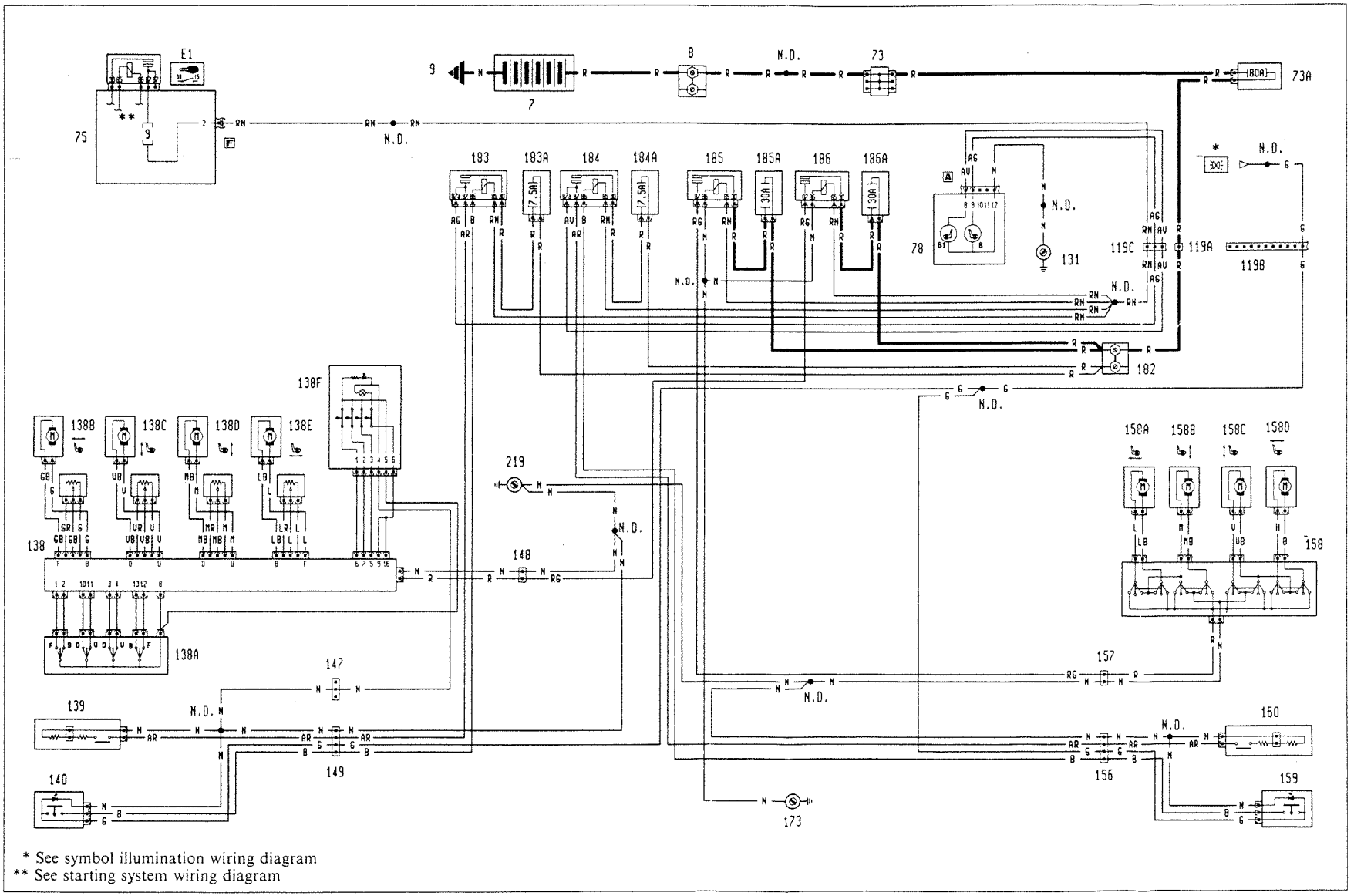
269 Connection between dashboard cable/receiver cable



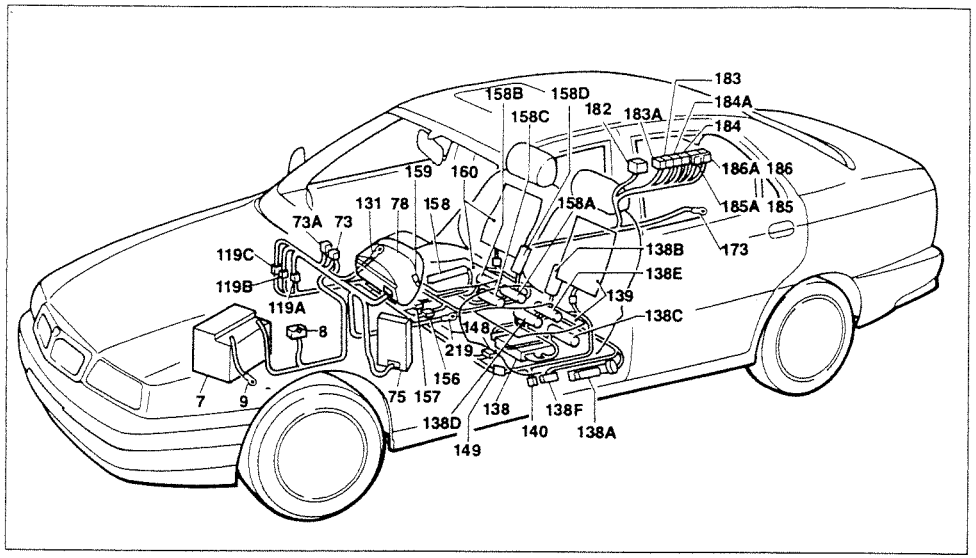
P3U107N01

* The relevant cables on the wiring diagram are marked with an asterisk

Electrically-adjustable and heated front seats - Driver's seat with memory - (See key following diagrams)



* See symbol illumination wiring diagram
** See starting system wiring diagram



P3U110N01

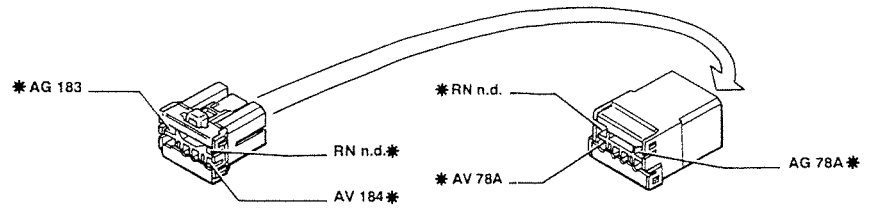
Electrically-adjustable and heated front seats - Driver's seat with memory

Key to components

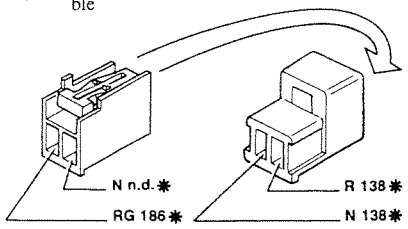
7 Battery
8 Main connector block
9 Earth on body shell
73 Secondary connector block
73A 80A fuse protecting rear services
75 Junction unit (dashboard)
E1 Ignition switch discharge relay
78 Instrument panel
B Driver's heated seat warning light
B1 Passenger's heated seat warning light
119A Connection between dashboard cable/right longitudinal cable
119B Connection between dashboard cable/right longitudinal cable
119C Connection between dashboard cable/right longitudinal cable
131 Earth on steering column mounting
138 Electronic control unit for driver's electrically-adjustable seat with memory
138A Pushbutton unit for driver's electrically-adjustable seat
138B Driver's squab adjustment motor
138C Driver's seat height adjustment motor
138D Driver's seat height adjustment motor
138E Driver's forward/backward adjustment motor
138F Pushbutton unit for driver's seat memory control
A Boot switch and anti-theft device on switch
B Boot lock/unlock motor
139 Driver's seat heating pad
140 Switch for driver's seat heating pad
148 Connection between left longitudinal cable/left seat cable
149 Connection between left longitudinal cable/left seat cable
156 Connection between right longitudinal cable/right seat cable
157 Connection between right longitudinal cable/right seat cable
158 Pushbutton unit for passenger seat electrical adjustment
158A Passenger seat forward/backward adjustment motor
158B Passenger seat height adjustment motor
158C Passenger seat height adjustment motor
158D Passenger squab adjustment motor
159 Passenger seat heating pad switch
160 Passenger seat heating pad
173 Rear right earth
182 Rear connector block
183 Relay for driver's heating pad
183A 7.5A fuse protecting driver's seat heating pad relay
184 Relay for passenger seat heating pad
184A 7.5A fuse protecting passenger seat heating pad relay
185 Relay for electrically-adjustable driver's seat
185A 30A fuse protecting electrically-adjustable passenger seat
186 Relay for electrically-adjustable passenger seat
186A 30A fuse protecting electrically-adjustable driver's seat
219 Earth on central console

N.D. Ultrasound-soldered joint taped in wiring loom

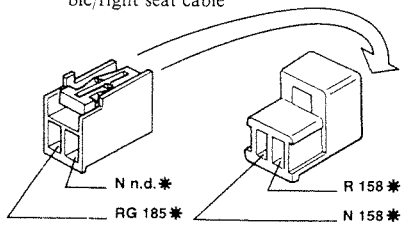
119C Dashboard cable/right longitudinal cable connection



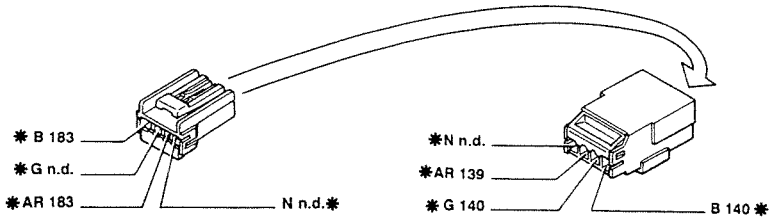
148 Connection between left cable/right seat cable



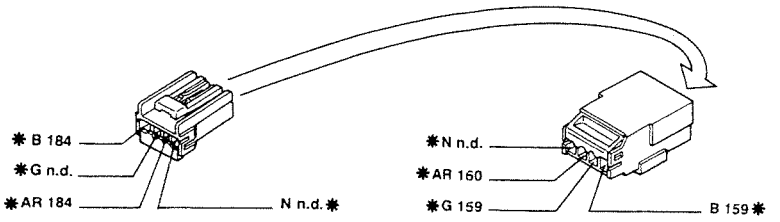
157 Connection between right longitudinal cable/right seat cable



149 Connection between left longitudinal cable/left seat cable



156 Connection between right longitudinal cable/right seat cable

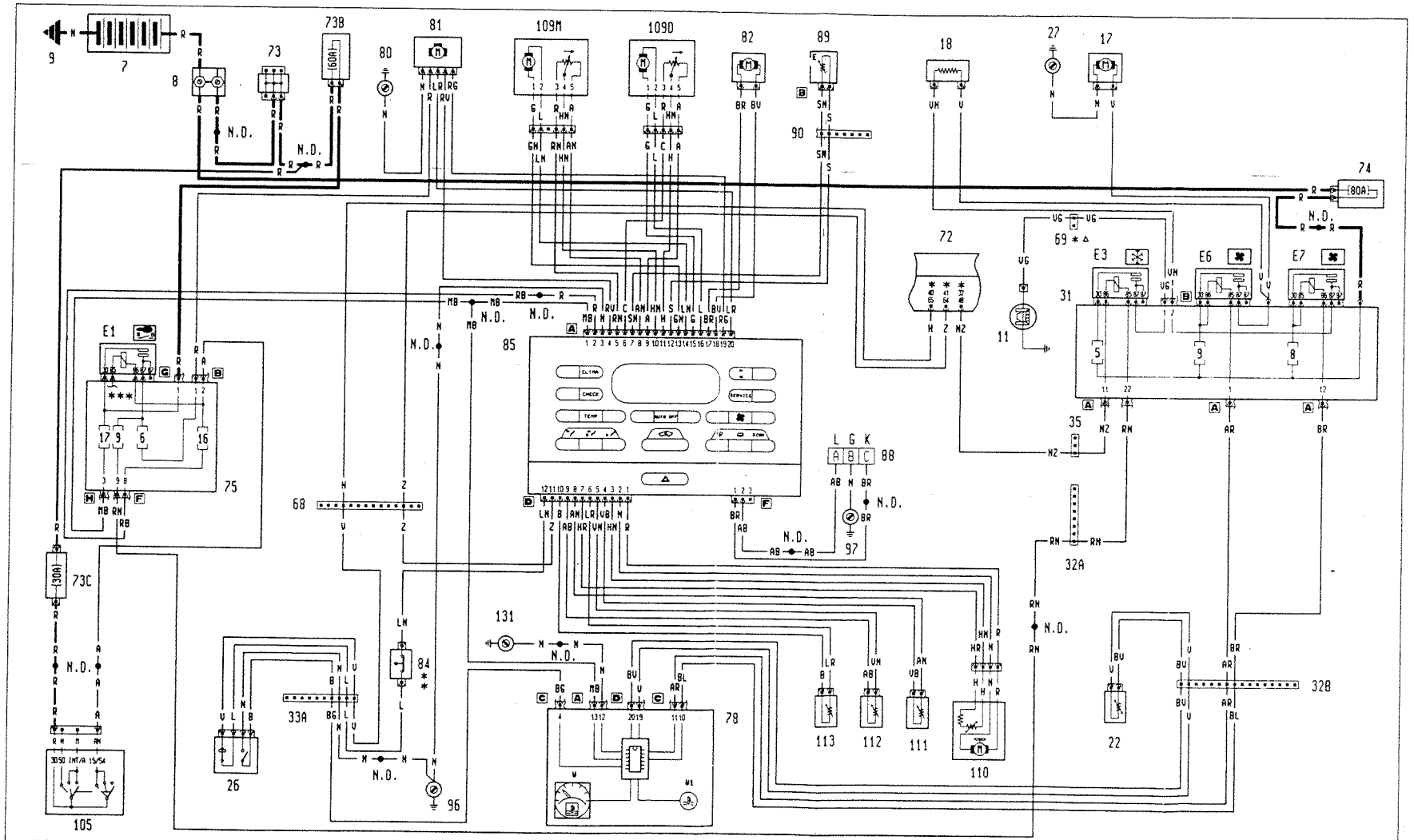


* The relevant cables on the wiring diagram are marked with an asterisk

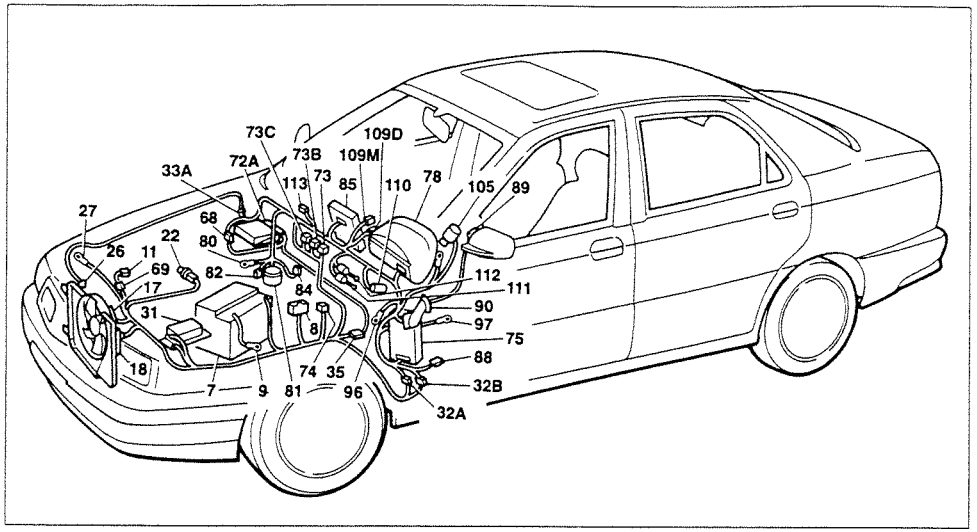
P3U111N01

Petrol versions

Automatic air conditioner - (See key following diagrams)



* Variant connections for 1998/2446 model
** Model 2959 only
*** See starting system diagram
*▲ Model 1998 T only



P3U114N01

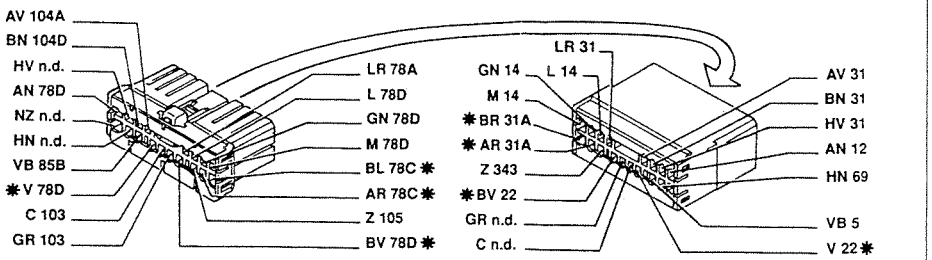
Petrol versions: Automatic air conditioner

Key to components

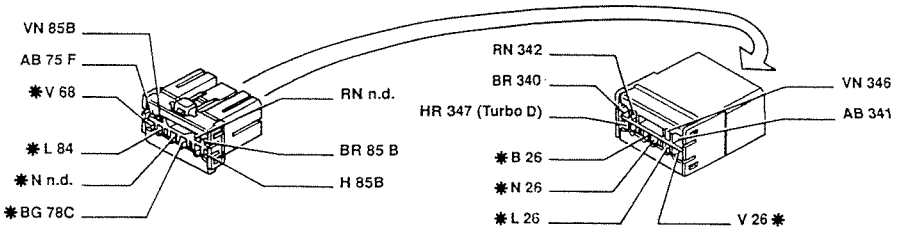
7 Battery
8 Main connector block
9 Earth on body shell
11 Air conditioner compressor coupling
17 1st engine cooling fan
18 Engine cooling fan speed resistor
22 Engine coolant temperature sender unit
26 Three-stage pressure switch
27 Front right earth
31 Peripheral control unit (engine compartment)
E3 Compressor coupling relay
E6 Engine cooling fan high speed relay
E7 Engine cooling fan low speed relay
32A Connection between dashboard cable/left engine bay cable
32B Connection between dashboard cable/left engine bay cable
33A Dashboard cable/right engine bay cable connection
35 Connection between engine bay cable/electronic fuel injection cable
68 Connection between dashboard cable/fuel injection cable
69 Engine services cable connection
72 Fuel injection control unit
73 Secondary connector block
73B 60A fuse protecting I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/anti-theft device
74 60A fuse protecting peripheral control unit (engine compartment)
75 Junction unit (dashboard)
E1 Ignition switch discharge relay
78 Instrument panel
W Water temperature gauge
W1 Maximum coolant temperature warning light
80 Power earth on dashboard
81 Climate control fan (brushless)
82 Air recirculation motor
84 Single-stage pressure switch (3000 i.e.)
85 Infocenter control unit
88 Diagnostic socket for Fiat / Lancia tester
89 Left rearview mirror
A Left rearview mirror tilting motor
B Left rearview mirror vertical adjustment motor
C Left rearview mirror horizontal adjustment motor
D Left rearview mirror heating element
90 Connection between dashboard cable/front left door cable
96 Earth on carrier
97 Earth on floor
105 Ignition switch
109D Distribution / mixing motor
109M Distribution / mixing motor
110 Car interior air temperature sensor
111 Mixed air sensor 1
112 Mixed air sensor 2
113 Solar temperature sensor
131 Earth on steering column mounting

N.D. Ultrasound-soldered joint taped in wiring loom

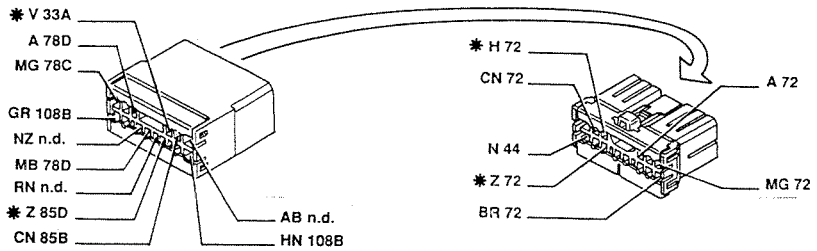
32B Connection between dashboard cable/left engine bay cable



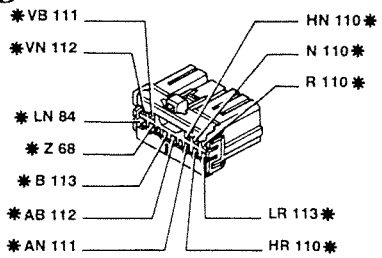
33A Dashboard cable/right engine bay cable connection



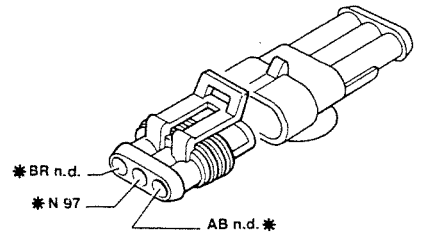
68 Connection between dashboard cable/fuel injection cable



85D Infocenter control unit



88 Diagnostic socket for Fiat/Lancia tester



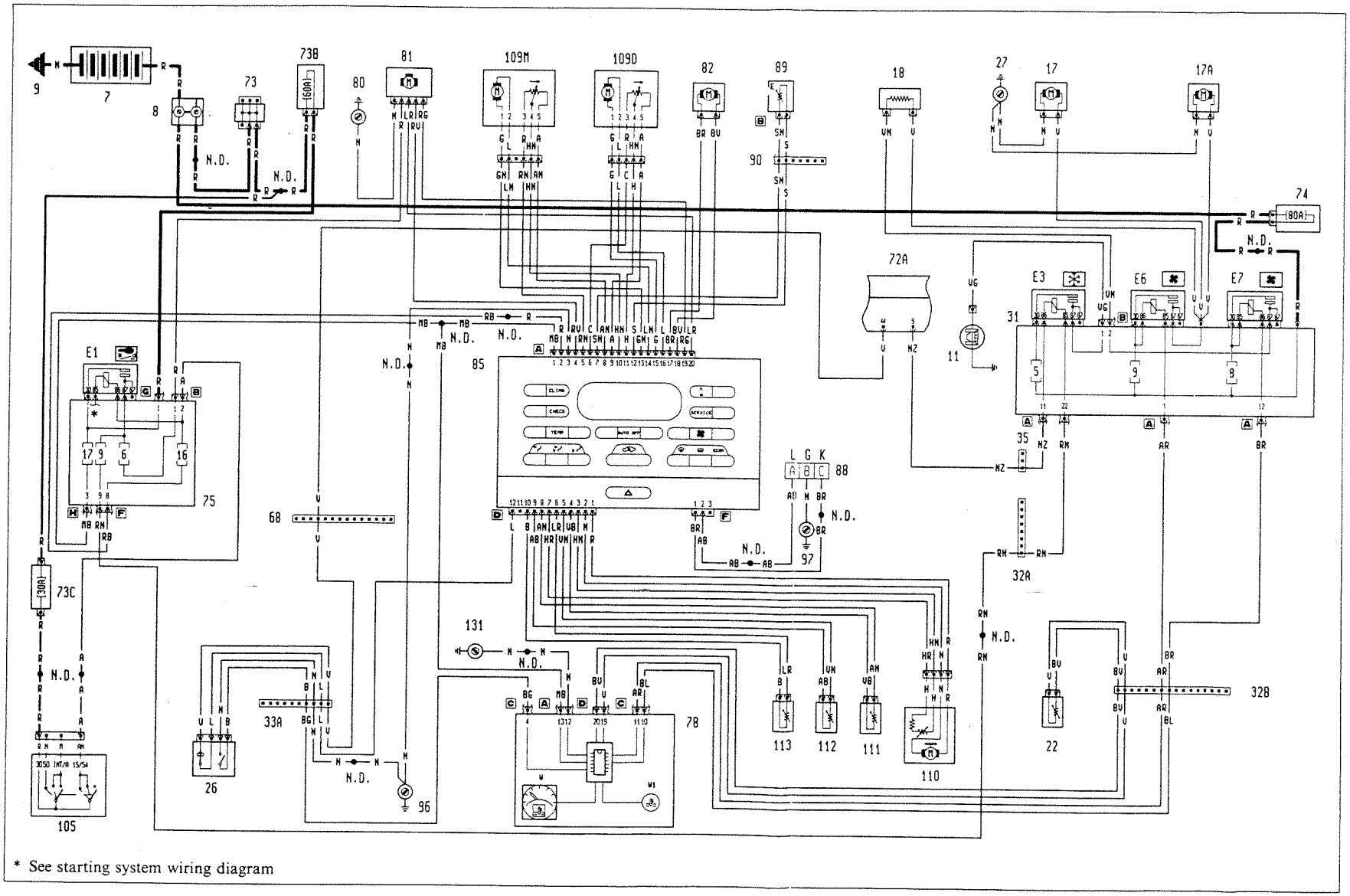
* The relevant cables on the wiring diagram are marked with an asterisk

P3U115N01

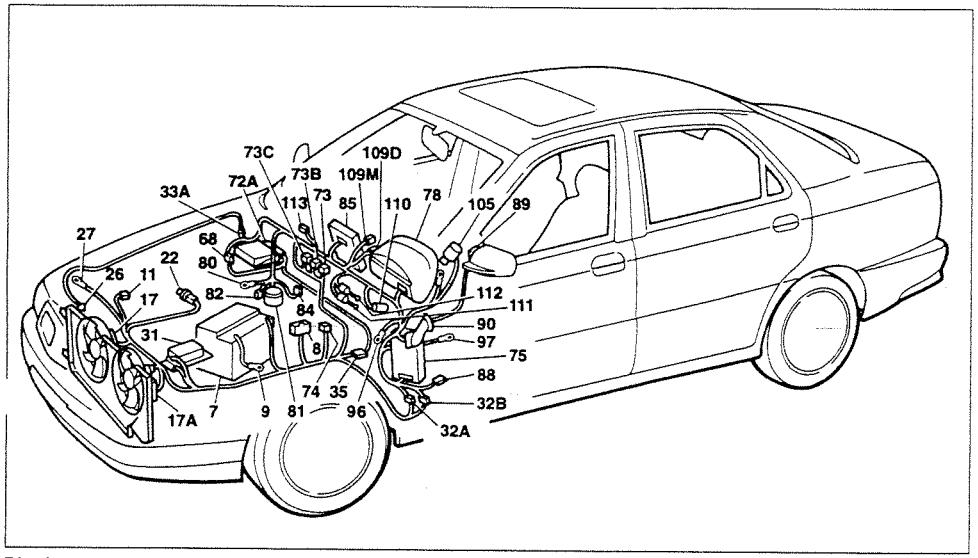
55.

Diesel versions

Automatic air conditioner - (See key following diagrams)



* See starting system wiring diagram



Diesel versions: Automatic air conditioner

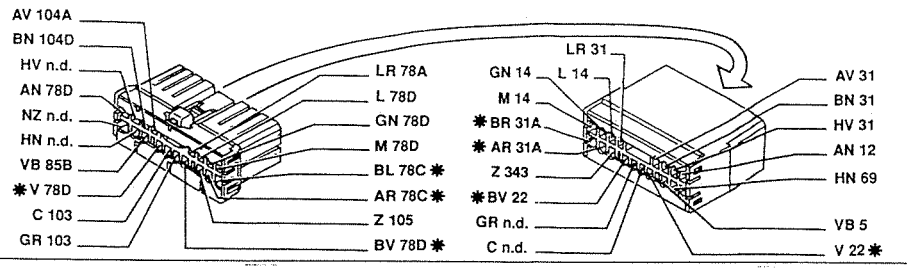
P3U118N01

Key to components

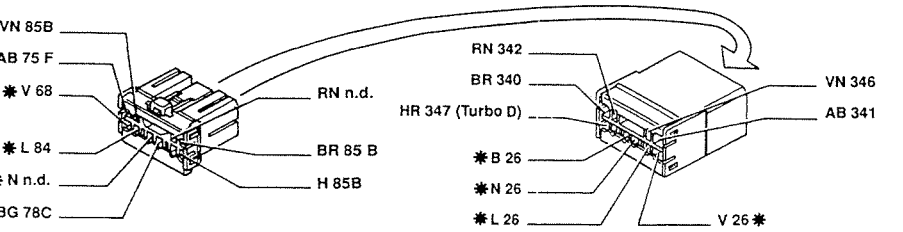
7 Battery
8 Main connector block
9 Earth on body shell
11 Air conditioner compressor coupling
17 1st engine cooling fan
17A 2nd engine cooling fan
18 Engine cooling fan speed resistor
22 Engine coolant temperature sender unit
26 Three-stage pressure switch
27 Front right earth
31 Peripheral control unit (engine compartment)
E3 Compressor coupling relay
E6 Engine cooling fan high speed relay
E7 Engine cooling fan low speed relay
32A Connection between dashboard cable/left engine bay cable
32B Connection between dashboard cable/left engine bay cable
33A Connection between dashboard cable/right engine bay cable
35 Connection between engine bay cable/electronic fuel injection cable
68 Connection between dashboard cable/fuel injection cable
72A Fuel pump electronic fuel injection control unit (2400 T.D.)
73 Secondary connector block
73B 60A fuse protecting I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/anti-theft device
74 60A fuse protecting peripheral control unit (engine compartment)
75 Junction unit (dashboard)
E1 Ignition switch discharge relay
78 Instrument panel
W Water temperature gauge
W1 Maximum coolant temperature warning light
80 Power earth on dashboard
81 Climate control fan (brushless)
82 Air recirculation motor
84 Single-stage pressure stage (3000 i.e.)
85 Infocenter control unit
88 Diagnostic socket for Fiat / Lancia tester
89 Left rearview mirror
A Left rearview mirror tilting motor
B Left rearview mirror vertical adjustment motor
C Left rearview mirror horizontal adjustment motor
D Left rearview mirror heating element
90 Connection between dashboard cable/front left door cable
96 Earth on carrier
97 Earth on floor
105 Ignition switch
109D Distribution / mixing motor
109M Distribution / mixing motor
110 Car interior air temperature sensor
111 Mixed air sensor 1
112 Mixed air sensor 2
113 Solar temperature sensor
131 Earth on steering column mounting

N.D. Ultrasound-soldered joint taped in wiring loom

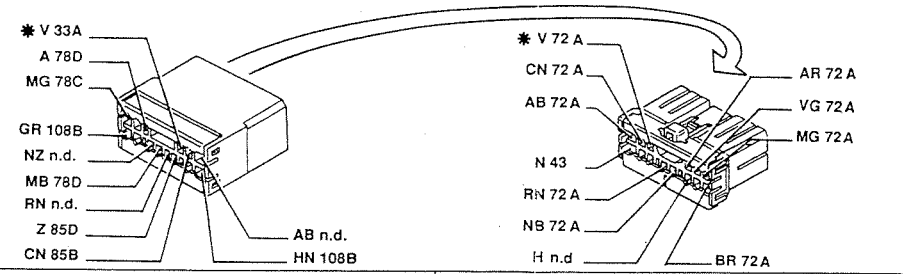
32B Connection between dashboard cable/left engine bay cable



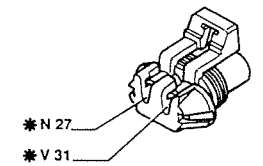
33A Dashboard cable/right engine bay cable connection



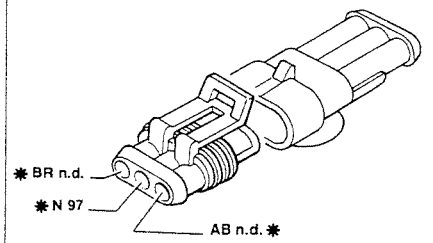
68 Connection between dashboard cable/fuel injection cable



17A 2nd engine cooling fan



88 Diagnostic socket for Fiat/Lancia tester

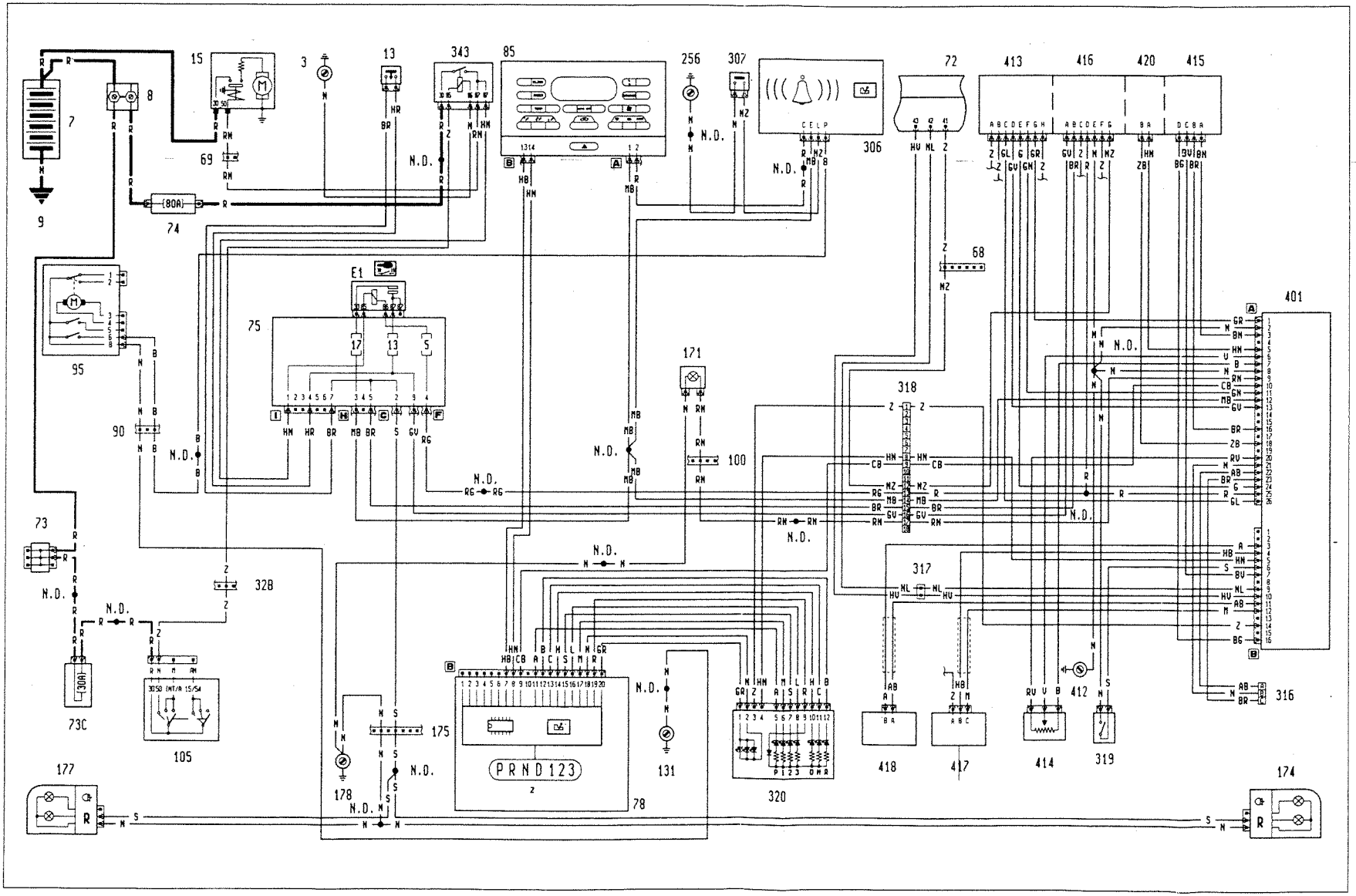


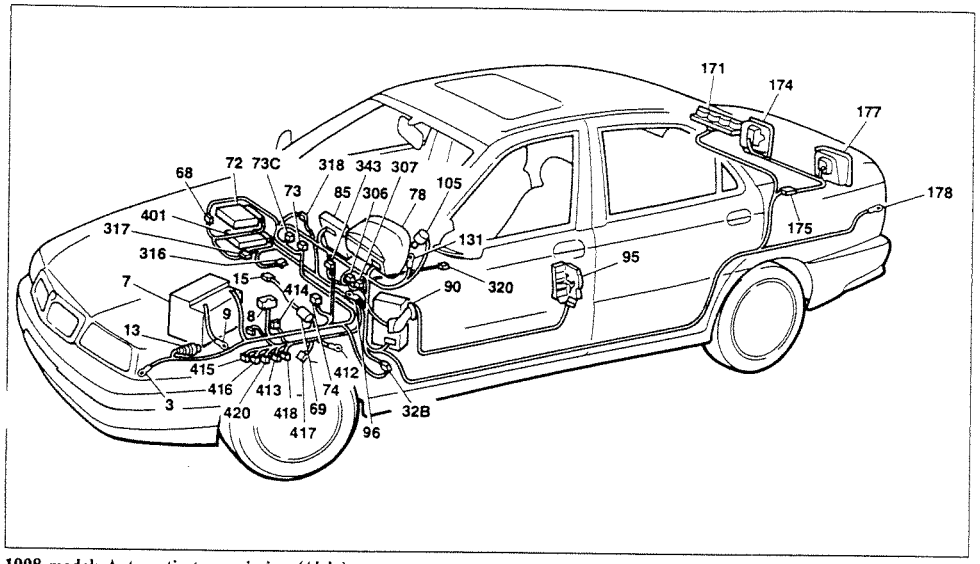
* The relevant cables on the wiring diagram are marked with an asterisk

P3U119N01

Model: 1998

Automatic transmission (Aisin) - (See key following diagrams)





1998 model: Automatic transmission (Aisin)

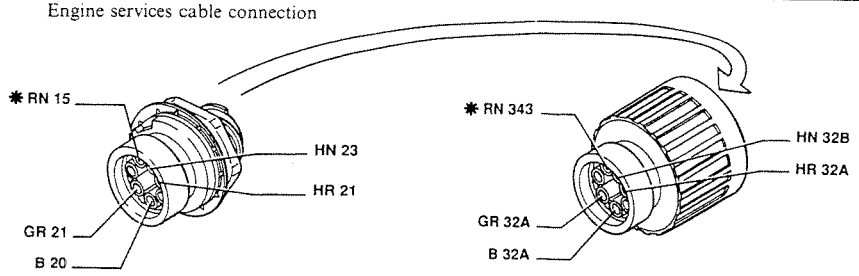
P3U122N01

Key to components

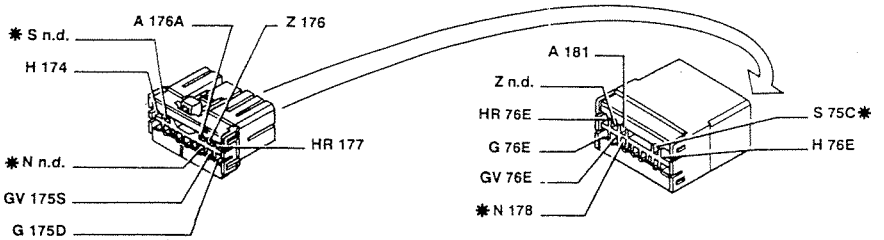
3 Front left earth
7 Battery
8 Main connector block
9 Earth on body shell
13 Reversing lights switch
15 Starter motor
32B Connection between dashboard cable/left engine bay cable
68 Connection between dashboard cable/fuel injection cable
69 Engine services cable connection
72 Fuel injection control unit
73 Secondary connector block
73C 30A fuse protecting ignition switch/anti-theft device
74 60A fuse protecting peripheral control unit (engine compartment)
75 Junction unit (dashboard)
E1 Ignition switch discharge relay
78 Instrument panel
Z Electronic automatic transmission gear selection display
85 Infocenter control unit
90 Connection between dashboard cable/front left door cable
95 Front left door locking motor, front left door open indicator and anti-theft device on switch
105 Ignition switch
131 Earth on steering column mounting
171 Additional stop lights indicator
174 Rear right lights cluster on moving part
175 Connection between left longitudinal cable/boot cable
177 Rear left lights cluster on moving part
178 Rear left earth
306 Horn, electronic automatic transmission
307 Electronic automatic transmission horn switch
316 Electronic automatic transmission diagnostic socket
317 Connection between automatic gearbox cable/fuel injection cable
318 Connection between electronic automatic transmission cable/dashboard cable
319 Kick-Down wiring
320 Embellishments on electronic automatic transmission gearchange lever
343 40A starter relay
401 Electronic automatic transmission (AISIN) gear selection control unit
412 Earth on bodywork
413 Connection to solenoid assembly
414 Throttle valve position potentiometer
415 Gear position selector
416 Gear position selector
417 Engine rpm sensor
418 Vehicle speed sensor
420 Automatic transmission fluid temperature sensor

N.D. Ultrasound-soldered joint taped in wiring loom

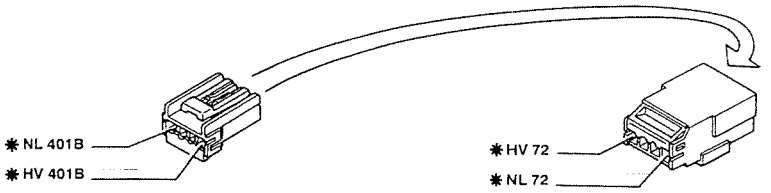
69 Engine services cable connection



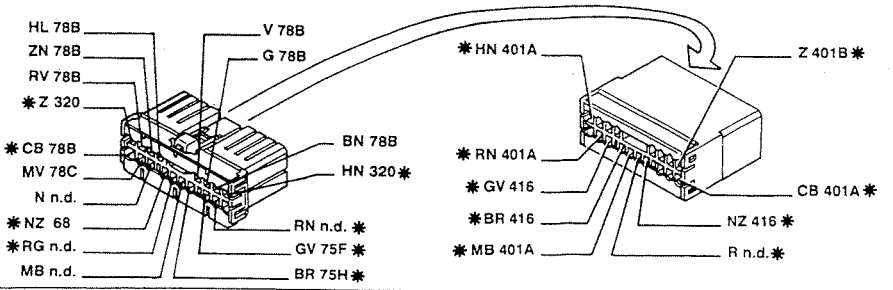
175 Connection between left longitudinal cable/boot cable



317 Connection between electronic automatic transmission/fuel injection cable



318 Connection between electronic automatic transmission/dashboard cable

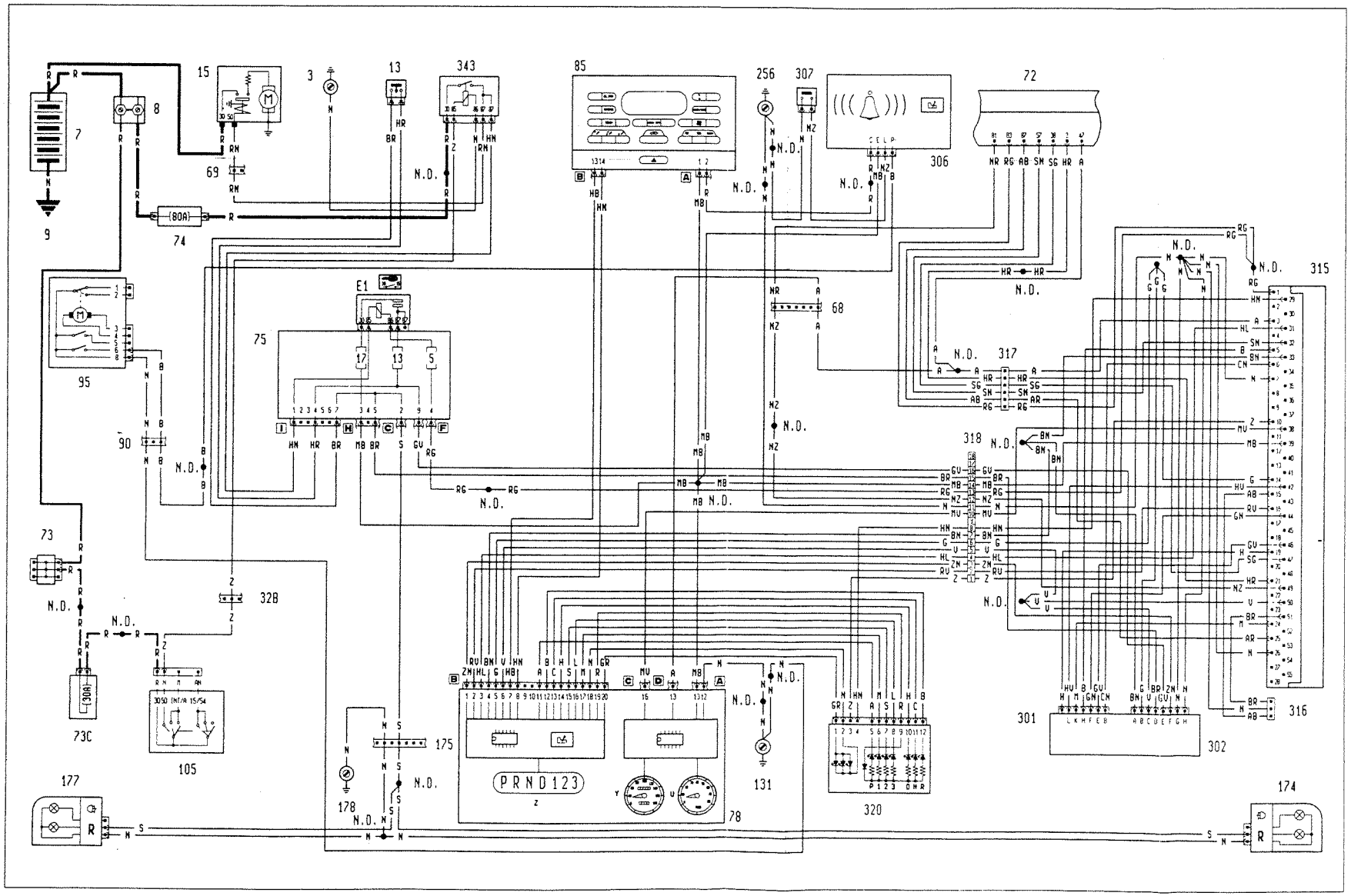


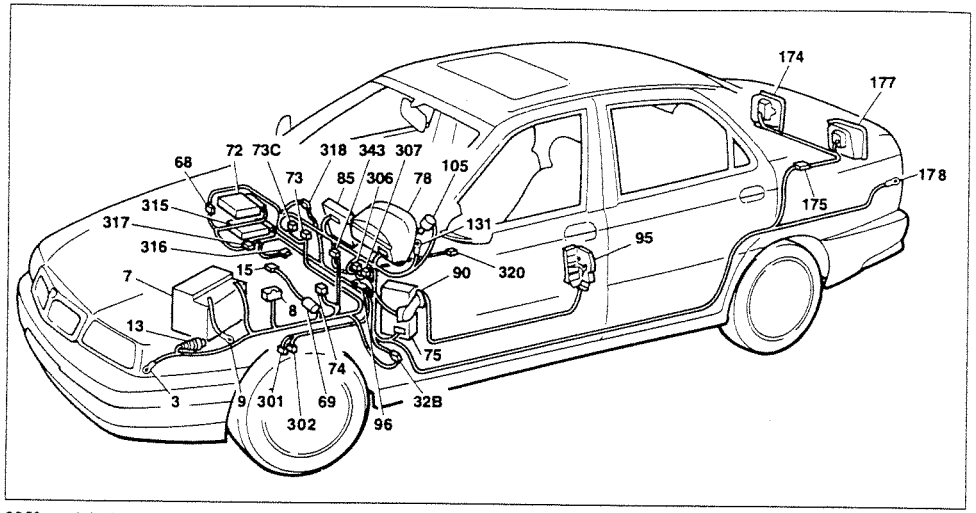
* The relevant cables on the wiring diagram are marked with an asterisk

P3U123N01

Model: 2959

Automatic transmission (ZF) - (See key following diagrams)





2959 model: Automatic transmission (ZF)

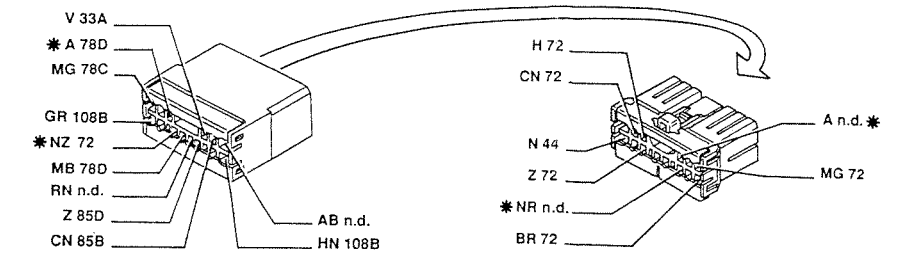
P3U126N01

Key to components

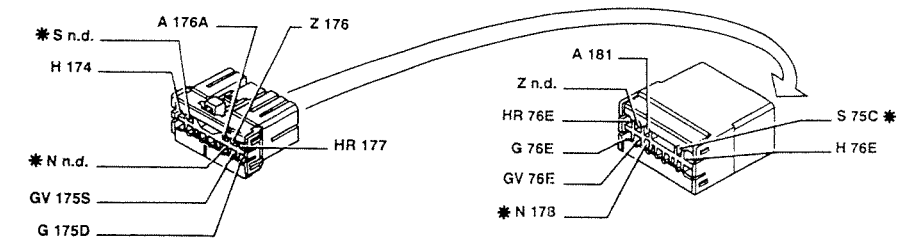
3 Front left earth
7 Battery
8 Main connector block
9 Earth on body shell
13 Reversing lights switch
15 Starter motor
32B Connection between dashboard cable/left engine bay cable
68 Connection between dashboard cable/fuel injection cable
69 Engine services cable connection
72 Fuel injection control unit
73 Secondary connector block
73C 30A fuse protecting ignition switch/anti-theft device
74 60A fuse protecting peripheral control unit (engine compartment)
75 Junction unit (dashboard)
E1 Ignition switch discharge relay
78 Instrument panel
U Electronic rev counter
Y Electronic speedometer
Z Electronic automatic transmission gear selection display
85 Infocenter control unit
90 Connection between dashboard cable/front left door cable
95 Front left door locking motor, front left door open indicator and anti-theft device on switch
96 Earth on carrier
105 Ignition switch
131 Earth on steering column mounting
174 Rear right lights cluster on moving part
175 Connection between left longitudinal cable/boot cable
177 Rear left lights cluster on moving part
178 Rear left earth
301 Solenoids assembly
302 Switch control assembly
306 Horn, electronic automatic transmission
307 Electronic automatic transmission horn switch
315 Electronic automatic transmission gear selection control unit (ZF)
316 Electronic automatic transmission diagnostic socket
317 Connection between automatic transmission cable/fuel injection cable
318 Connection between electronic automatic transmission cable/dashboard cable
320 Embellishments on electronic automatic transmission gearchange lever
343 40A starter relay

N.D. Ultrasound-soldered joint taped in wiring loom

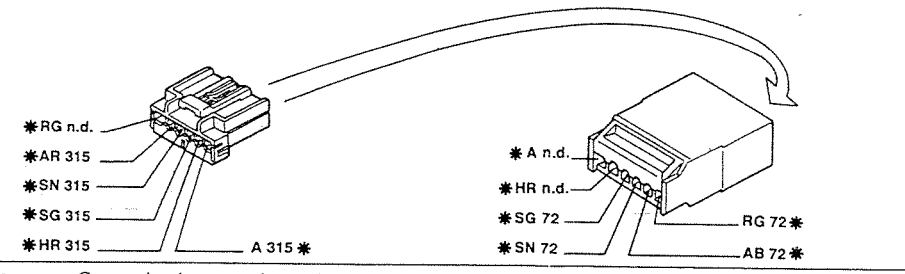
68 Connection between dashboard cables/fuel injection cables



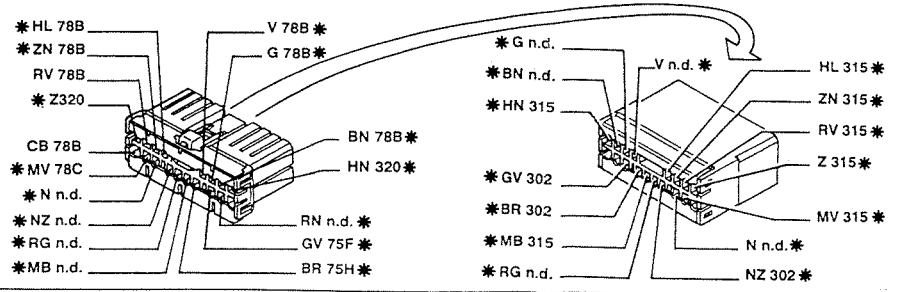
175 Connection between left longitudinal cable/boot cable



317 Connection between electronic automatic transmission cable/fuel injection cable



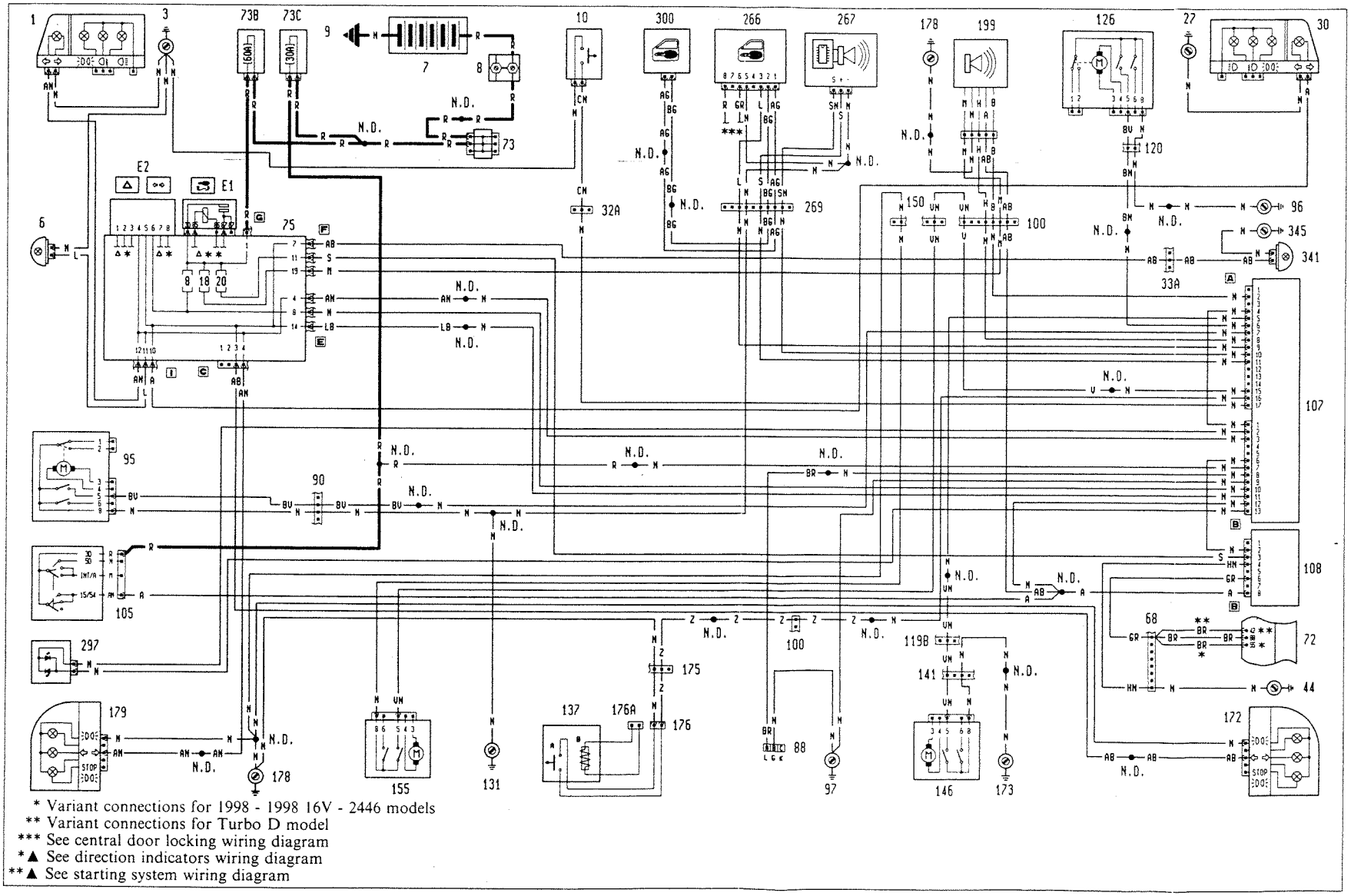
318 Connection between electronic automatic transmission cable/dashboard cable



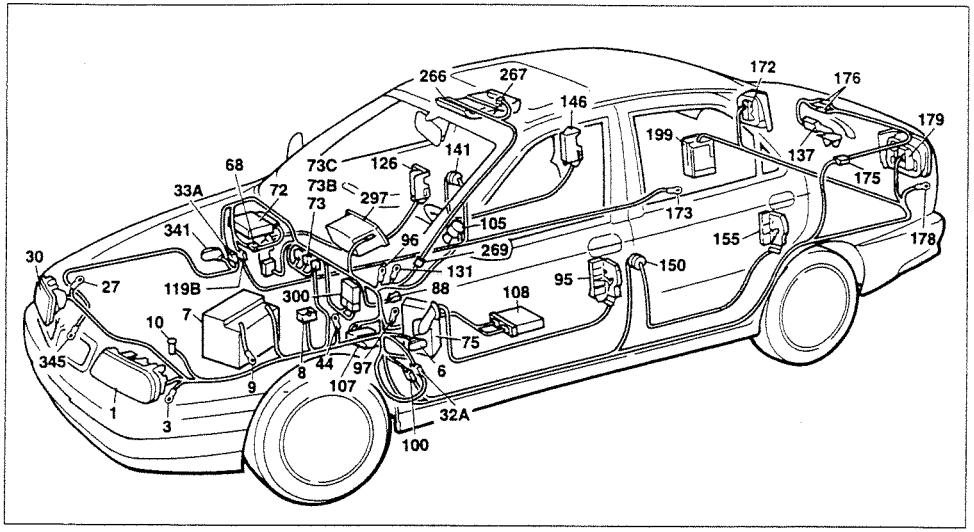
* The relevant cables on the wiring diagram are marked with an asterisk

P3U127N01

Anti-theft device - (See key following diagrams)



* Variant connections for 1998 - 1998 16V - 2446 models
** Variant connections for Turbo D model
*** See central door locking wiring diagram
*▲ See direction indicators wiring diagram
**▲ See starting system wiring diagram



P3U130N01

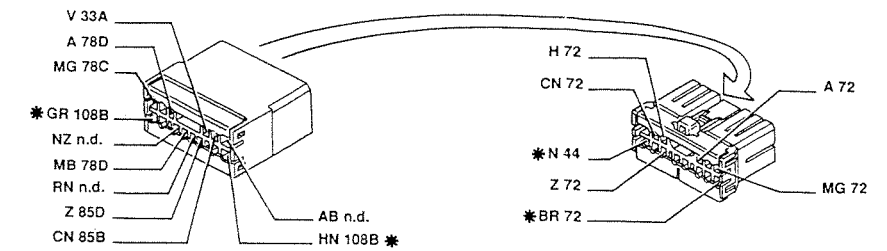
Anti-theft device

Key to components

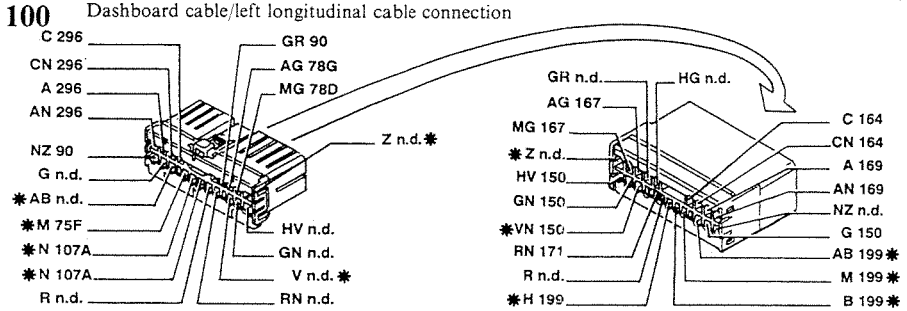
1 Front left lights cluster
3 Left front earth
6 Left side repeater
7 Battery
8 Main connector block
9 Earth on body shell
10 Button on bonnet for switching on anti-theft device
27 Front right earth
30 Front right lights cluster
32A Connection between dashboard cable/left engine bay cable
33A Connection between dashboard cable/right engine bay cable
44 Power earth
68 Connection between dashboard cable/fuel injection cable
72 Fuel injection control unit
73 Secondary connector block
73B 60A fuse protecting I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (dashboard)
E1 Ignition switch discharge relay
E2 Direction indicators / hazard lights intermittent switch
88 Diagnostic socket for Fiat / Lancia tester
90 Connection between dashboard cable/front left door cable
95 Front left door locking motor, front left door open indicator and anti-theft device on switch
96 Earth on carrier
97 Earth on floor
100 Connection between dashboard cable/left longitudinal cable
105 Ignition switch
107 Anti-theft device control unit
108 Immobilizer control unit
119B Connection between dashboard cable/right longitudinal cable
120 Connection between dashboard cable/front right door cable
126 Front right door locking motor, front right door open indicator and anti-theft device on switch
131 Earth on steering column mounting
137 Boot lock assembly
A Boot light switch and anti-theft device on switch
141 Connection between right longitudinal cable/rear right door cable
146 Rear right door locking motor, rear right door open indicator and anti-theft device on switch
150 Connection between left longitudinal cable/rear left door
155 Rear left door locking motor, rear left door open indicator and anti-theft device on switch
172 Rear right lights cluster on fixed part
173 Rear right earth
175 Connection between left longitudinal cable/boot cable
176 Boot cable connection
177 Rear left lights cluster on moving part
178 Rear left earth
179 Rear left lights cluster on fixed part
199 Anti-theft siren
266 Infrared receiver for anti-theft device
267 Volumetric sensors for anti-theft device
269 Connection between dashboard cable/receiver cable
297 Warning light for anti-theft device / immobilizer device
300 Central door locking electronic control unit
341 Right side repeater
345 Front right earth

N.D. Ultrasound-soldered joint taped in wiring loom

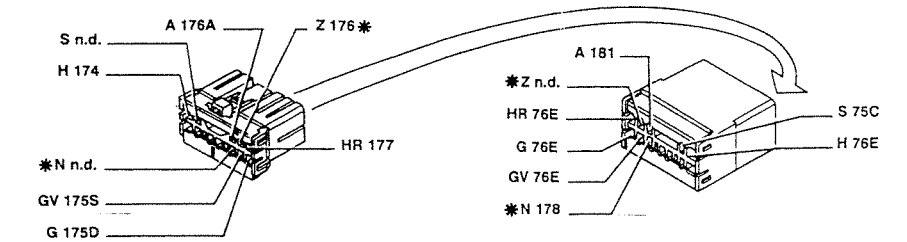
68 Connection between dashboard cable/fuel injection cable



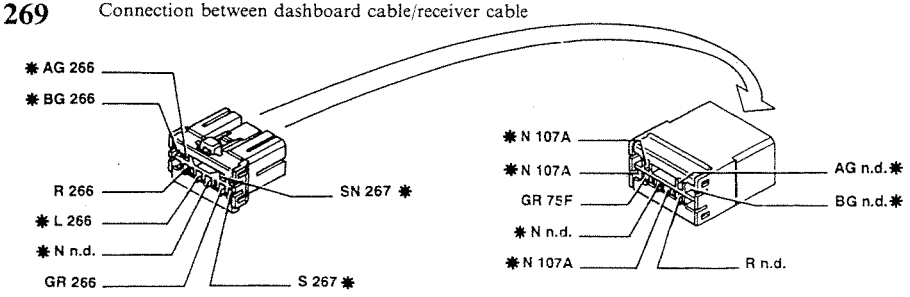
100 Dashboard cable/left longitudinal cable connection



175 Connection between left longitudinal cable/boot cable



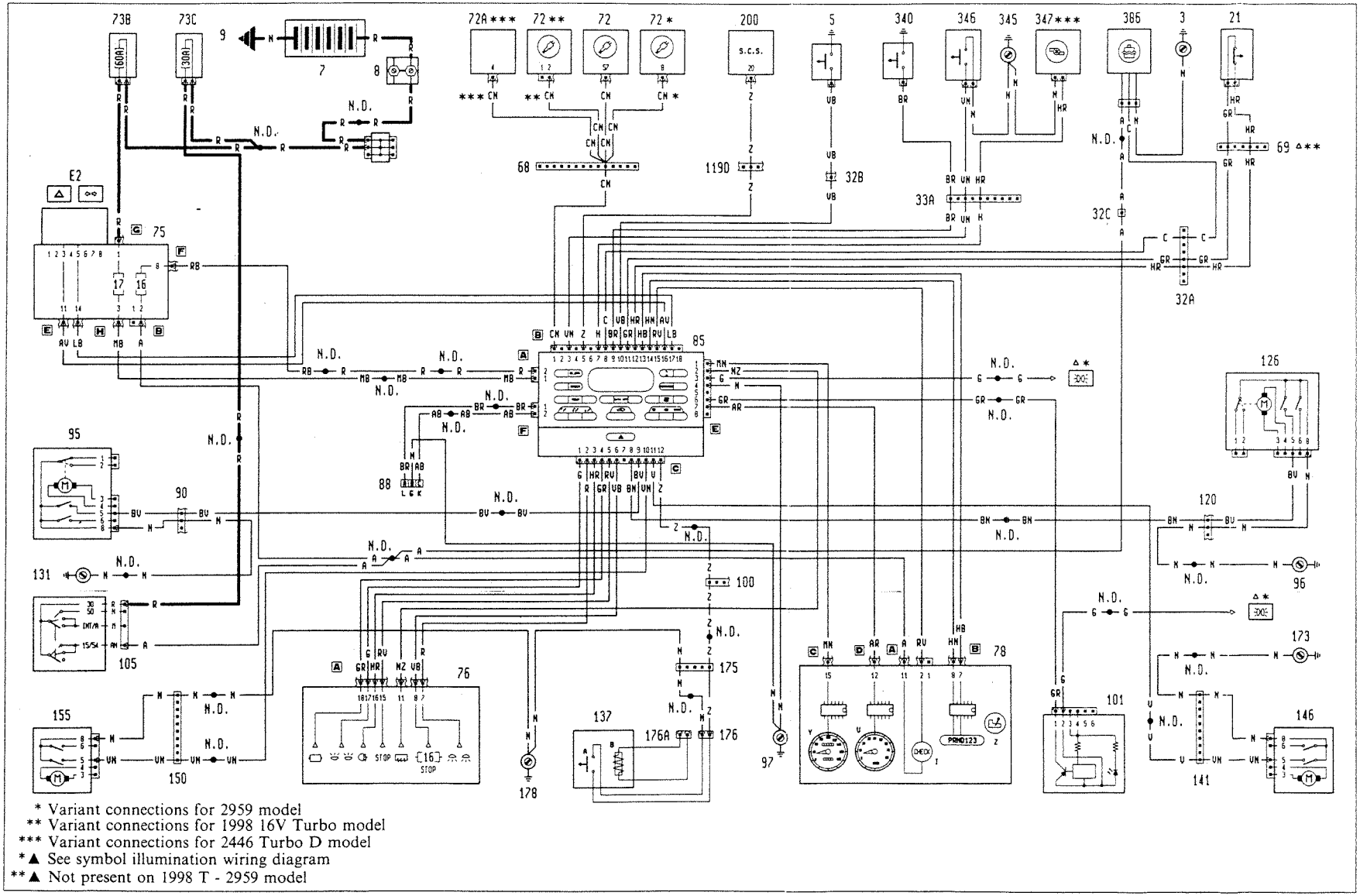
269 Connection between dashboard cable/receiver cable



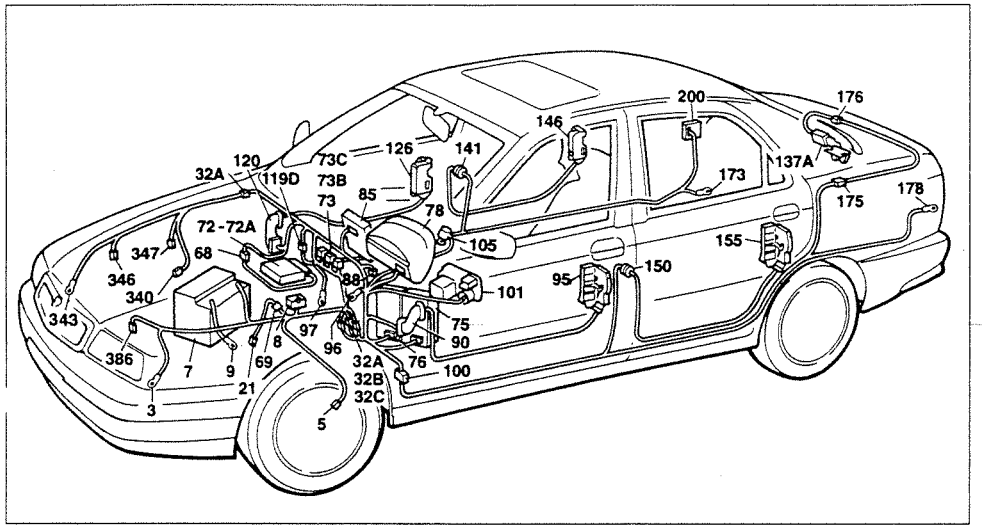
* The relevant cables on the wiring diagram are marked with an asterisk

P3U131N01

Complete Infocenter - (See key following diagrams)



* Variant connections for 2959 model
** Variant connections for 1998 16V Turbo model
*** Variant connections for 2446 Turbo D model
*▲ See symbol illumination wiring diagram
**▲ Not present on 1998 T - 2959 model



P3U134N01

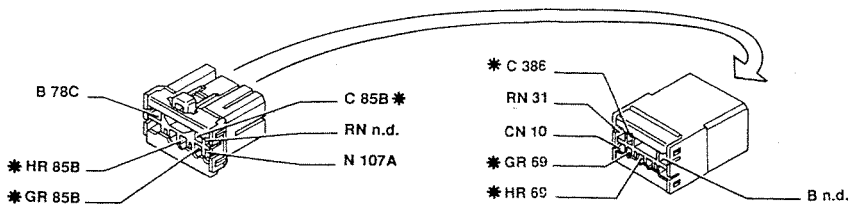
Complete Infocenter

Key to components

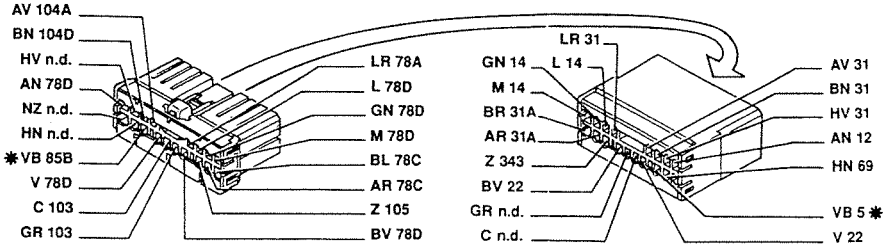
3 Front left earth
5 Front left brake pad wear sensor
7 Battery
8 Main connector block
9 Earth on body shell
21 Low engine oil level sensor
32A Connection between dashboard cable/left engine bay cable
32B Connection between dashboard cable/left engine bay cable
32C Connection between dashboard cable/left engine bay cable
33A Connection between dashboard cable/right engine bay cable
68 Connection between dashboard cable/fuel injection cable
69 Engine services cable connection
72 Fuel injection control unit
72A Fuel pump electronic control unit (2400 T.D.)
73 Secondary connector block
73B 60A fuse protecting I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (dashboard)
E2 Direction indicators / hazard lights intermittent switch
76 I.G.E. control unit
78 Instrument panel
I Check panel summary warning light
U Electronic rev counter
Y Electronic speedometer
Z Electronic automatic transmission gear selection display
85 Infocenter control unit
88 Diagnostic socket for Fiat / Lancia tester
90 Connection between dashboard cable/front left door cable
95 Front left door locking motor, front left door open indicator and anti-theft device on switch
96 Earth on carrier
97 Earth on floor
100 Connection between dashboard cable/left longitudinal cable
101 Illumination brightness adjustment rheostat
105 Ignition switch
119D Connection between dashboard cable/right longitudinal cable
120 Connection between dashboard cable/front right door cable
126 Front right door locking motor, front right door open indicator and anti-theft device on switch
131 Earth on steering column mounting
137 Boot lock assembly
A Boot light switch and anti-theft device on switch
141 Connection between right longitudinal cable/rear right doot cable
146 Rear left door locking motor, rear right door indicator and anti-theft device on switch
150 Connection between left longitudinal cable/rear left door cable
155 Rear left door locking motor, rear left door open indicator and anti-theft device on switch
173 Rear right earth
175 Connection between left longitudinal cable/boot cable
176 Boot cables connection
178 Rear left earth
200 Controlled damping suspension electronic control unit
340 Front right brake pad wear sensor
343 40A starter relay
346 Low engine coolant sensor
347 Turbo overpressure sender
386 Connection for cables to water-in-diesel filter sensor

N.D. Ultrasound-soldered joint taped in wiring loom

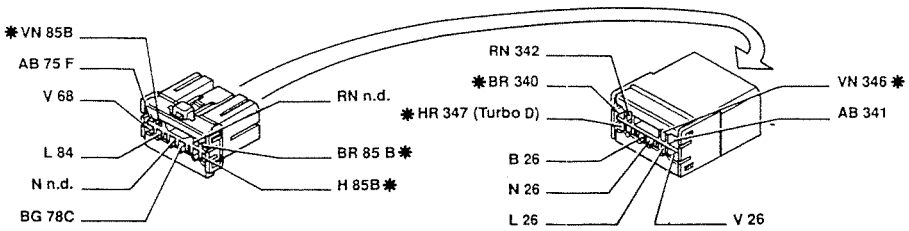
32A Connection between dashboard cable/left engine bay cable



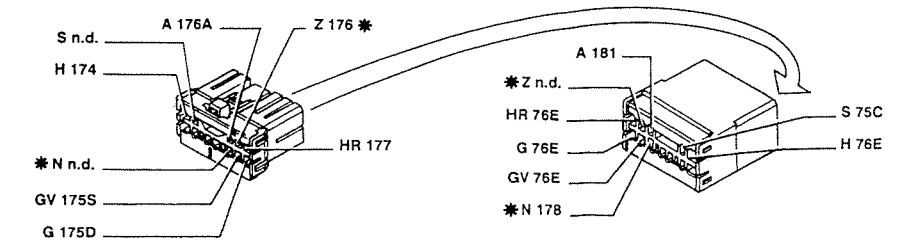
32B Connection between dashboard cable/left engine bay cable



33A Dashboard cable/right engine bay cable connection



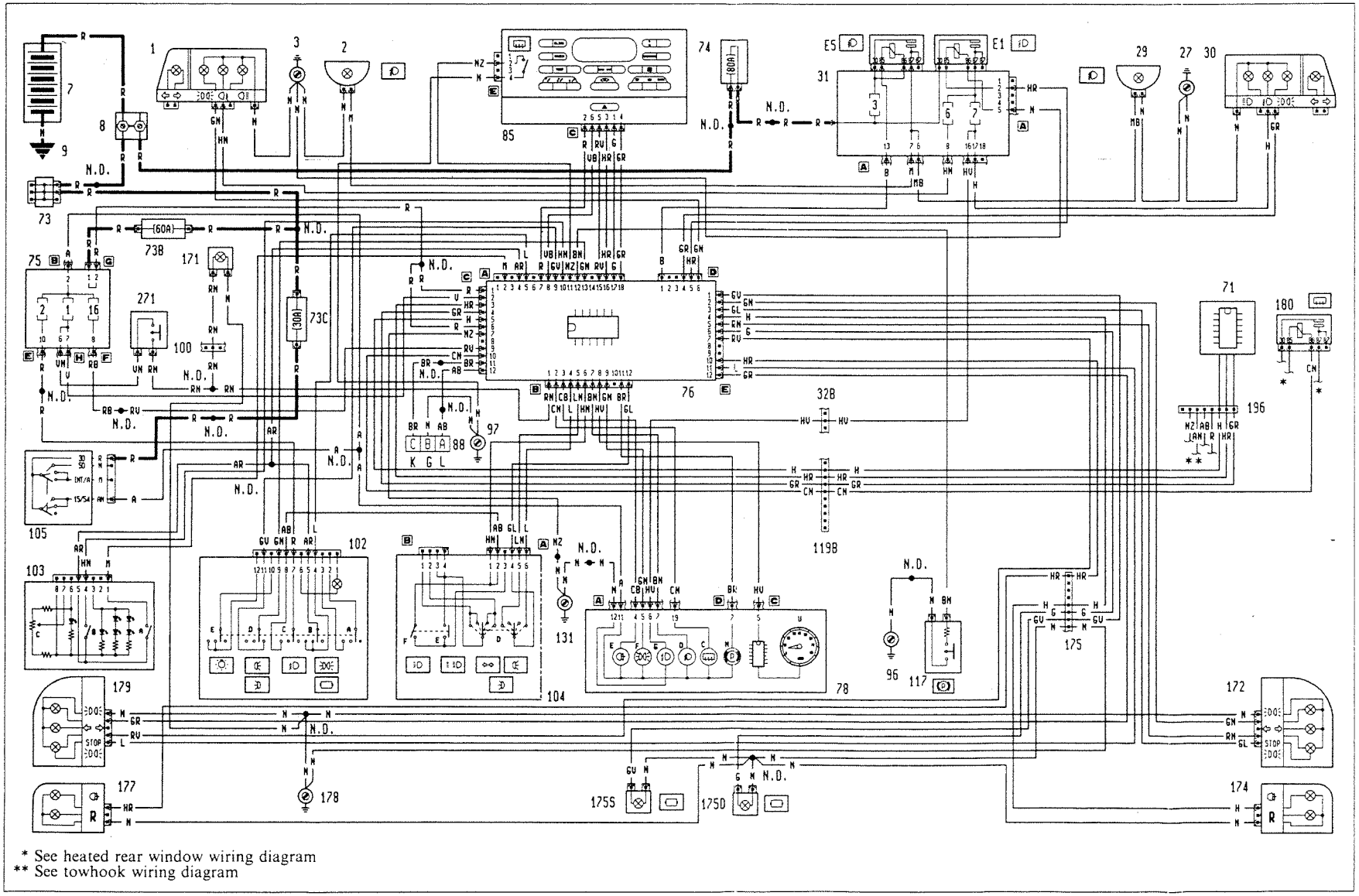
175 Connection between left longitudinal cable/boot cable



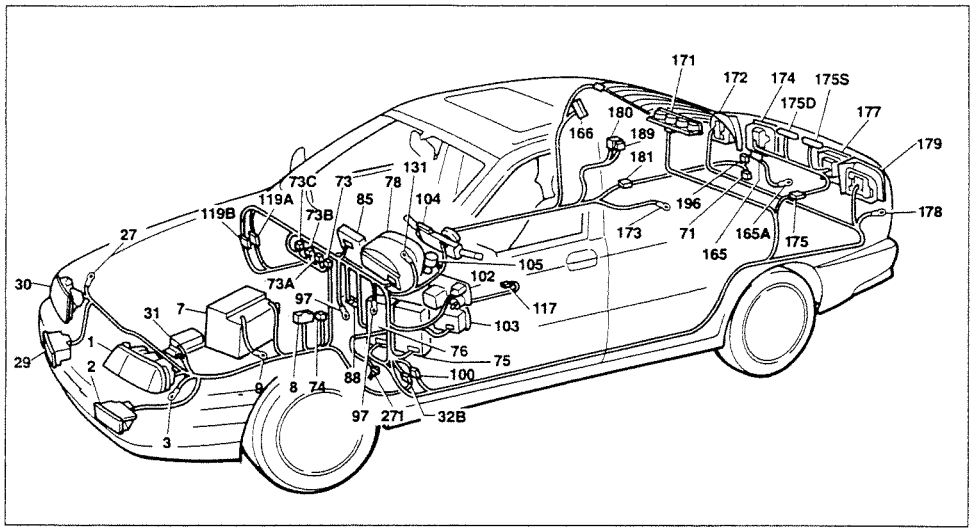
* The relevant cables on the wiring diagram are marked with an asterisk

P3U135N01

Complete I.G.E. unit connections - (See key following diagrams)



* See heated rear window wiring diagram
** See towhook wiring diagram



P3U138N01

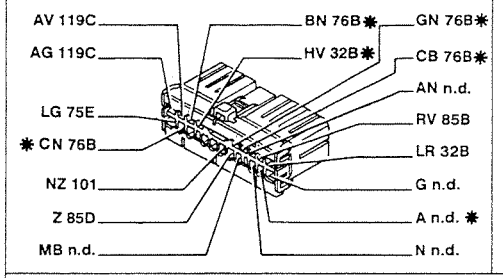
Complete I.G.E. unit connections

Key to components

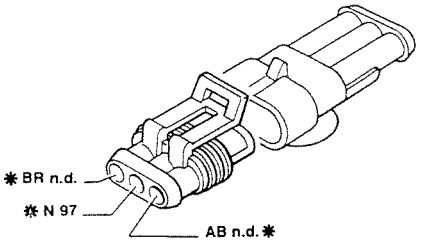
1 Front left lights cluster
2 Front left fog lamp
3 Front left earth
7 Battery
8 Main connector block
9 Earth on body shell
27 Front right earth
29 Front right fog lamp
30 Front right lights cluster
31 Peripheral control unit (engine compartment)
E1 Dipped beam relay
E5 Front fog lamp relay
32B Connection between dashboard cable/left engine bay cable
71 Towhook control unit
73 Secondary connector block
73A 80A fuse protecting rear services
73B 60A fuse protecting I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/anti-theft device
74 60A fuse protecting peripheral control unit (engine compartment)
75 Junction unit (dashboard)
76 I.G.E. control unit
78 Instrument panel
C Heated rear window warning light
D Front fog lamps warning light
E Rear fog lamps warning light
F Side lights warning light
N Handbrake warning light / I.G.E. control unit
U Electronic rev counter
85 Infocenter control unit
88 Diagnostic socket for Fiat / Lancia tester
96 Earth on carrier
97 Earth on floor
100 Connection between dashboard cable/left longitudinal cable
102 External lights controls
103 Switches control assembly
104 Stalk unit
105 Ignition switch
117 Handbrake on warning light switch
119B Connection between dashboard cable/right longitudinal cable
131 Earth on steering column mounting
165 Heated rear window
165A Earth for heated rear window
166 Amplifier for aerial built into rear window
171 Additional stop lights indicator
172 Rear right lights cluster on fixed part
173 Rear right earth
174 Rear right lights cluster on moving part
175 Connection between left longitudinal cable/boot cable
175D Right number plate light
175S Left number plate light
177 Rear left lights cluster on moving part
178 Rear left earth
179 Rear left lights cluster on fixed part
180 Heated rear window relay
181 Connection between left longitudinal cable/right longitudinal cable
189 30A fuse protecting heated rear window
196 Trailer wiring
271 Braking light switch

N.D. Ultrasound-soldered joint taped in wiring loom

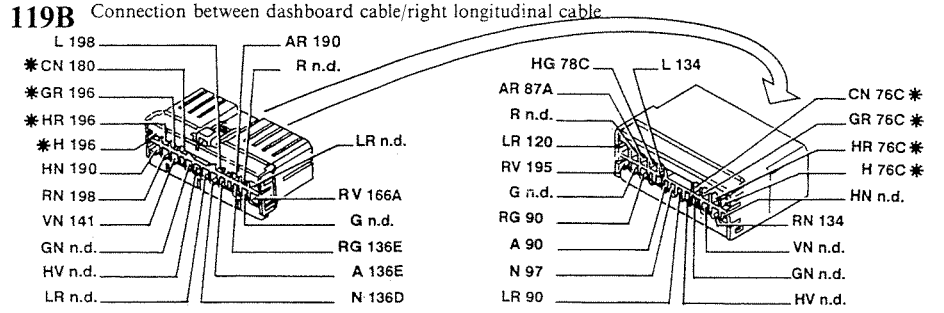
78A Instrument panel



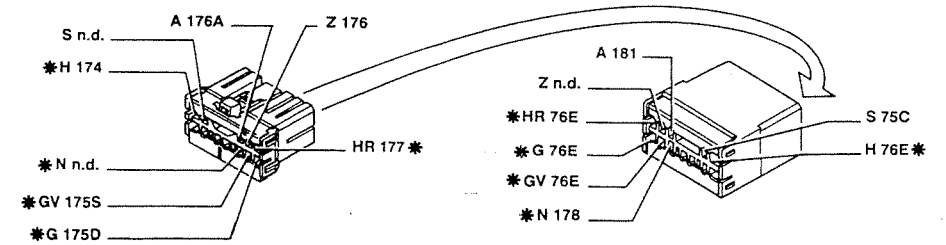
88 Diagnostic socket for Fiat/Lancia tester



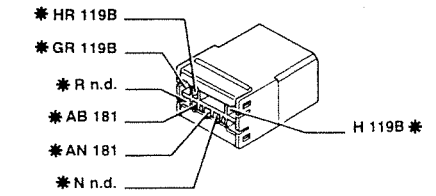
119B Connection between dashboard cable/right longitudinal cable



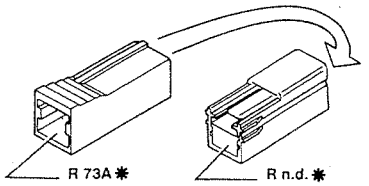
175 Connection between left longitudinal cable/boot cable



119A Connection between dashboard cable/right longitudinal cable



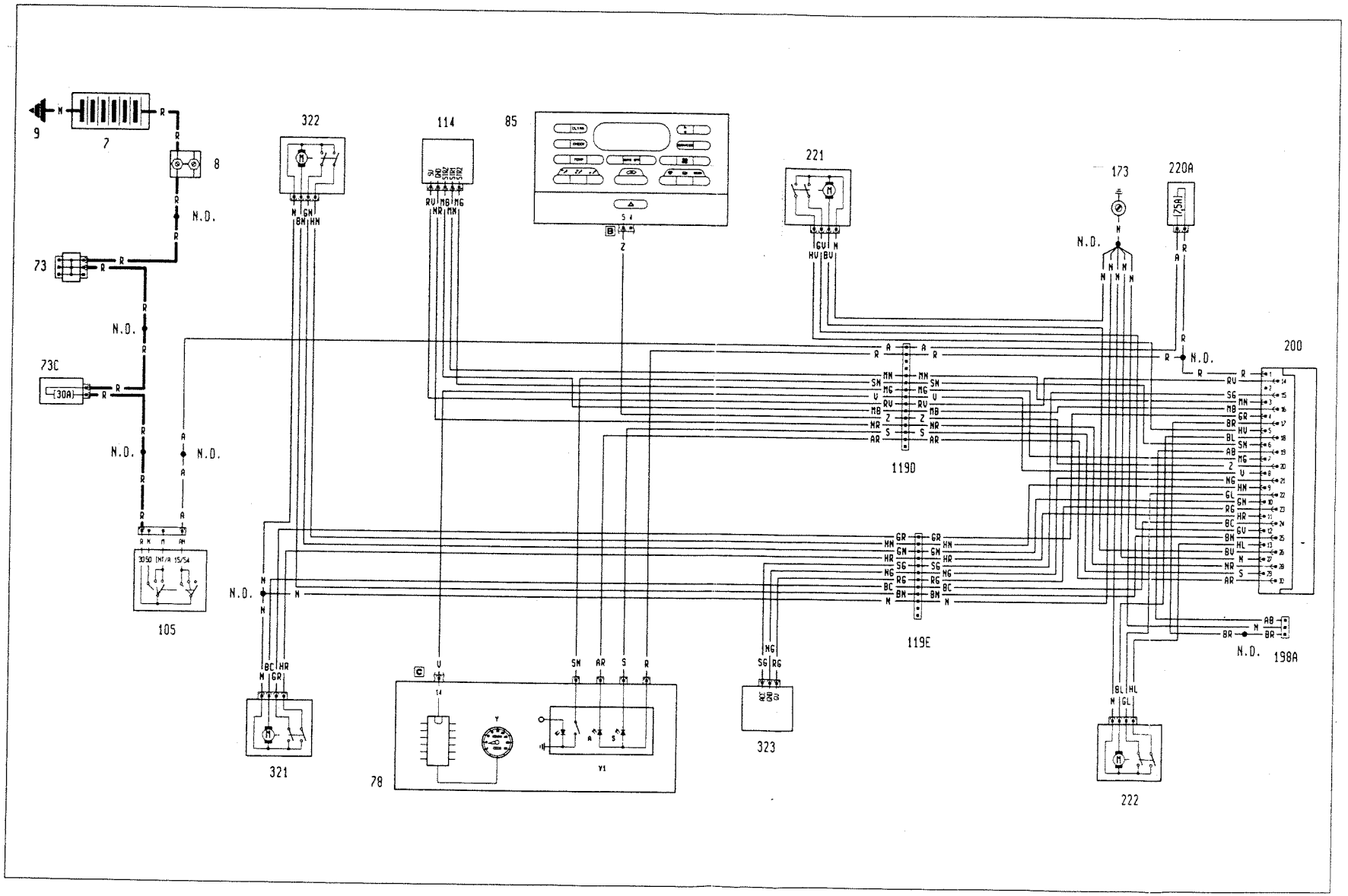
196 Trailer wiring

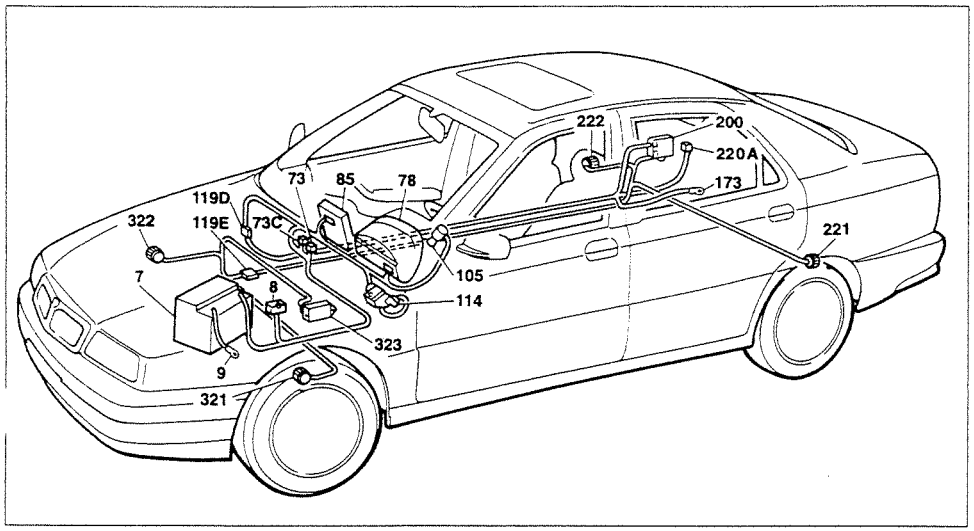


* The relevant cables on the wiring diagram are marked with an asterisk

P3U139N01

Controlled damping suspension system (C.D.S.) - (See key following diagrams)





P3U142N01

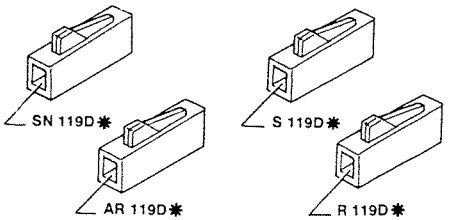
Controlled damping suspension system (C.D.S.)

Key to components

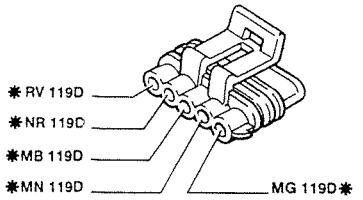
7 Battery
8 Main connector block
9 Earth on body shell
73 Secondary connector block
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (dashboard)
78 Instrument panel
Y Electronic speedometer
Y1 C.D.S. switch unit
85 Infocenter control unit
105 Ignition switch
114 Sensor on steering
119D Connection between dashboard cable/front right door cable
119E Connection between right longitudinal cable/right engine bay cable
173 Rear right earth
198A Diagnostic socket
200 Controlled damping suspension (C.D.S.) control unit
220A 7.5A fuse protecting C.D.S. system
221 Rear left controlled damping suspension motor
222 Rear right controlled damping suspension motor
321 Front left controlled damping suspension motor
322 Front right controlled damping suspension motor
323 Accelerometer for controlled damping suspension

N.D. Ultrasound-soldered joint taped in wiring loom

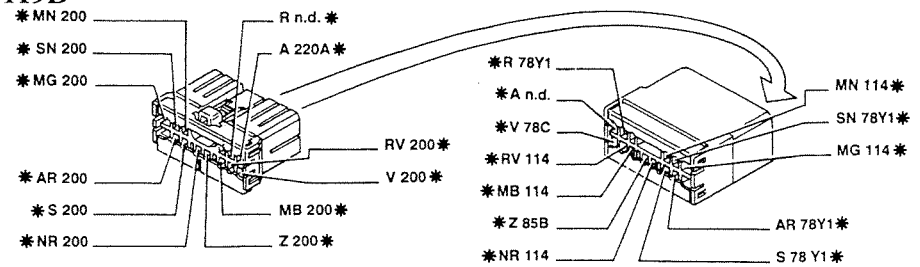
78Y1 Instrument panel



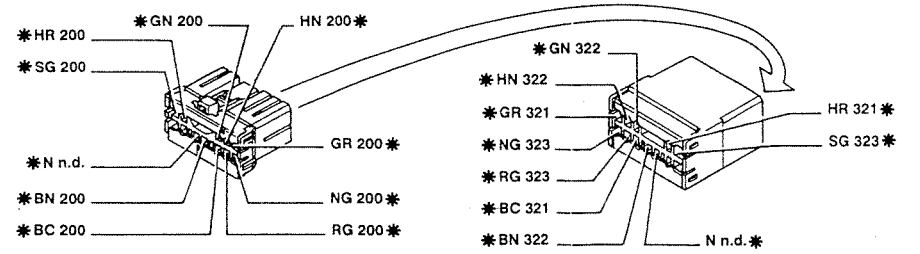
114 Sensor on steering



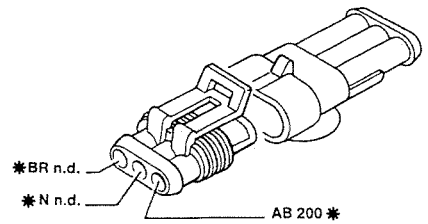
119D Connection between dashboard cable/right longitudinal cable



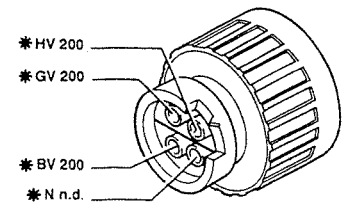
119E Connection between right longitudinal cable/right engine bay cable



198A Diagnostic socket



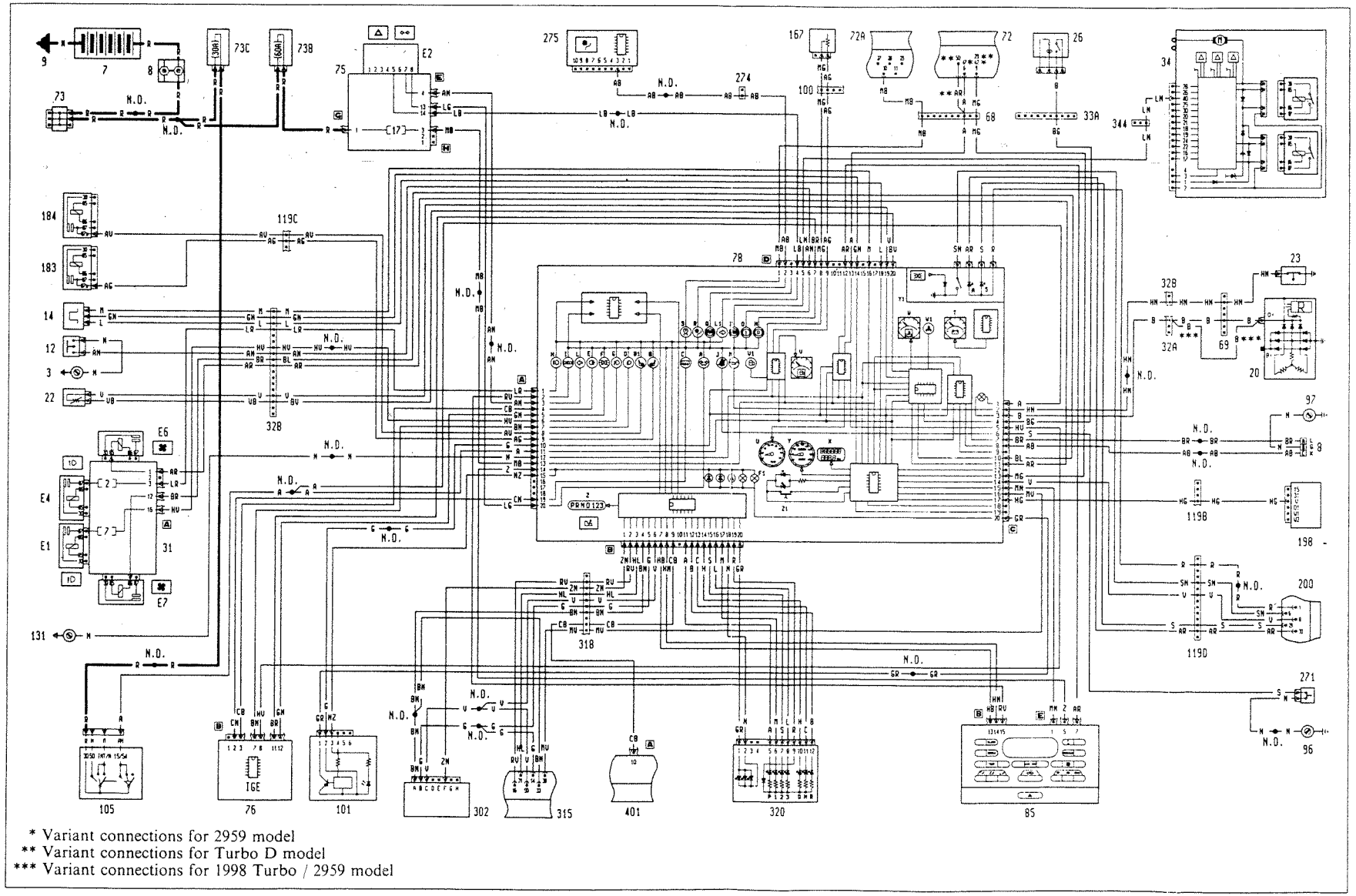
221 Rear left controlled damping suspension (C.D.S.) motor

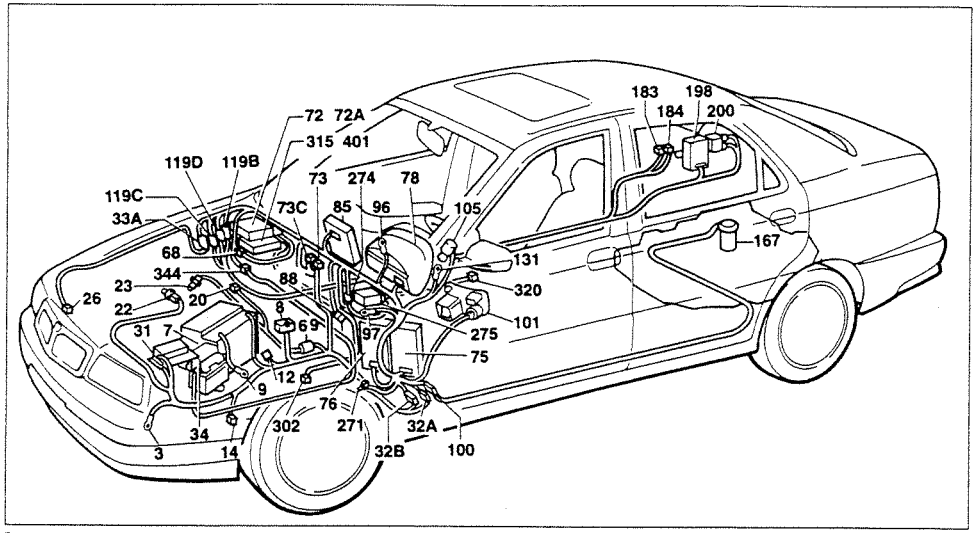


* The relevant cables on the wiring diagram are marked with an asterisk

P3U143N01

Instrument panel connections - (See key following diagrams)





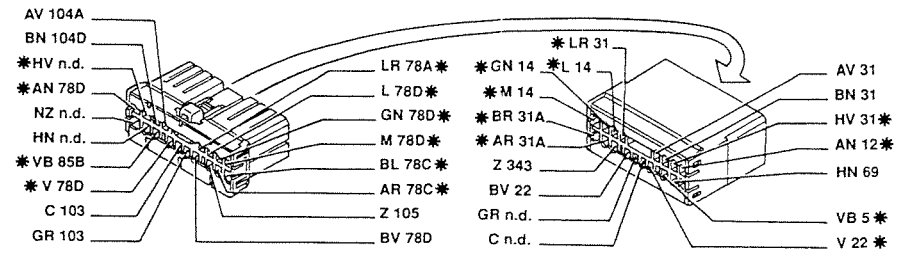
Instrument panel connections P3U146N01

Key to components

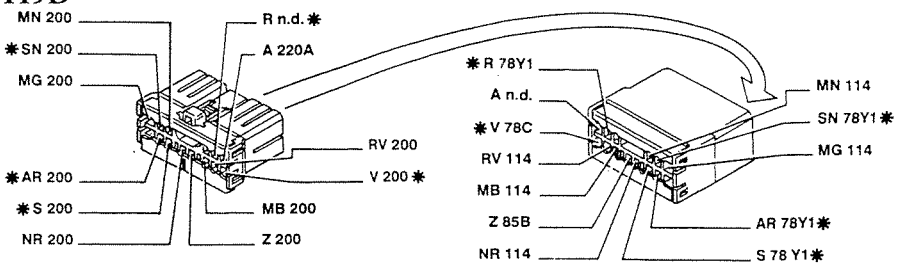
3 Front left earth
7 Battery
8 Main connector block
9 Earth on body shell
12 Low brake fluid level sensor
14 Pulse generator for speedometer signal
20 Alternator
22 Engine coolant temperature sender unit
23 Low engine oil pressure sensor
26 Three-stage pressure switch
31 Peripheral control unit (engine compartment)
E1 Dipped beam relay
E4 Main beam relay
E6 Engine cooling fan high speed control relay
E7 Engine cooling fan low speed control relay
32A Connection between dashboard cable/left engine bay cable
32B Connection between dashboard cable/left engine bay cable
33A Dashboard cable/right engine bay cable connection
34 Anti-lock braking system (A.B.S.) electrohydraulic control unit
68 Connection between dashboard cable/fuel injection cable
69 Engine services cable connection
72 Fuel injection control unit
72A Fuel pump electronic control unit (2400 T.D.)
73 Secondary connector block
73B 60A fuse protecting I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (dashboard)
E2 Direction indicators / hazard lights intermittent switch
76 I.G.E. control unit
78 Instrument panel
85 Infocenter control unit
88 Diagnostic socket for Fiat / Lancia tester
96 Earth on carrier
97 Earth on floor
100 Connection between dashboard cable/left longitudinal cable
101 Illumination brightness adjustment rheostat
105 Ignition switch
119B Connection between dashboard cable/right longitudinal cable
119C Connection between dashboard cable/right longitudinal cable
119D Connection between dashboard cable/front right door cable
131 Earth on steering column mounting
167 Fuel gauge sender unit
183 Driver's seat heating pad relay
184 Passenger seat heating pad relay
198 Servotronik electronic control unit
200 Controlled damping suspension (C.D.S.) electronic control unit
271 Stop lights switch
274 Dashboard cable/Air Bag cable connection
275 Air Bag control unit
302 Switches control assembly
315 Electronic automatic transmission (ZF) gear selection control unit
318 Connection between electronic automatic transmission cable/dashboard cable
320 Embellishments on electronic automatic transmission gearchange lever
344 Connection between dashboard cable/anti-lock braking system (A.B.S.) cable
401 Electronic automatic transmission (AISIN) gear selection control unit

N.D. Ultrasound-soldered joint taped in wiring loom

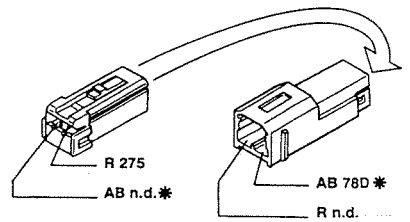
32B Connection between dashboard cable/left engine bay cable



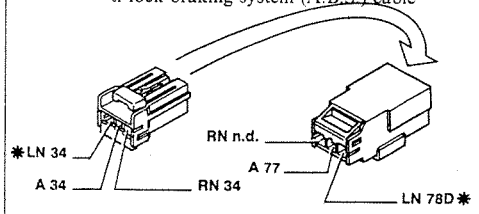
119D Dashboard cable/right longitudinal cable connection



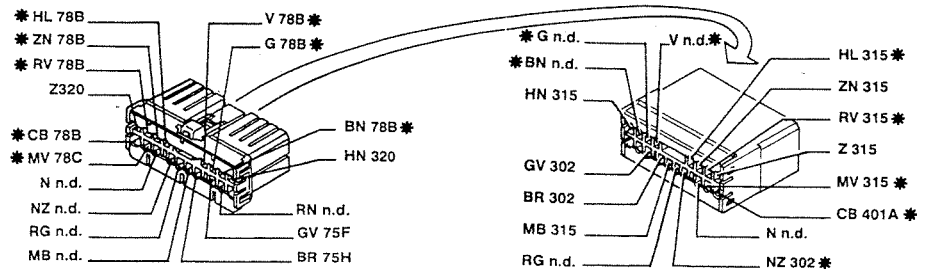
274 Connection between dashboard cable/Air Bag cable



344 Connection between dashboard cable/anti-lock braking system (A.B.S.) cable

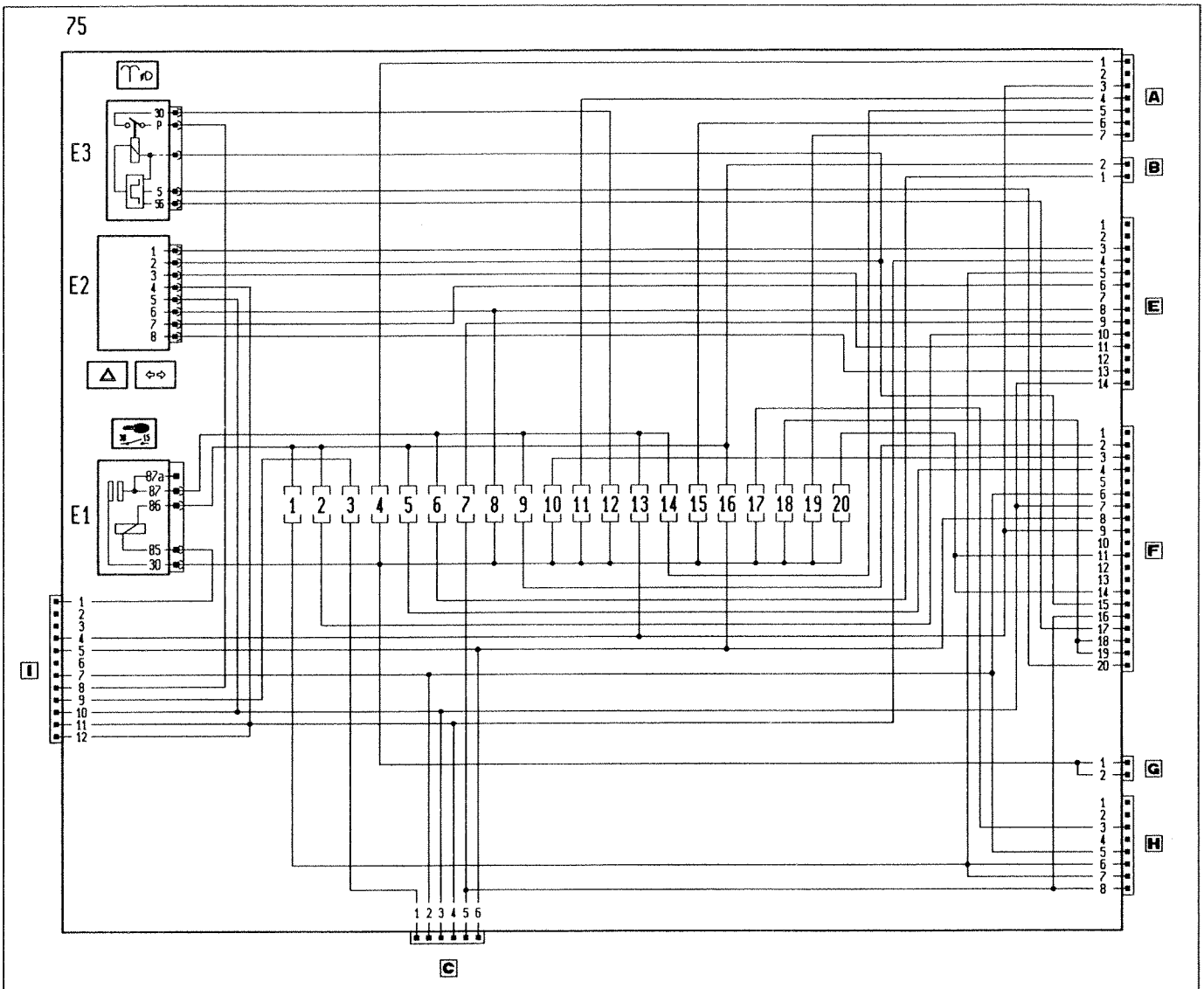


318 Connection between electronic automatic transmission cable/dashboard cable



* The relevant cables on the wiring diagram are marked with an asterisk P3U147N01

Junction unit (on dashboard) - (See key following diagrams)



E1 Ignition switch discharge relay
E2 Direction indicators/hazard lights intermittent switch
E3 Headlamp washer timer

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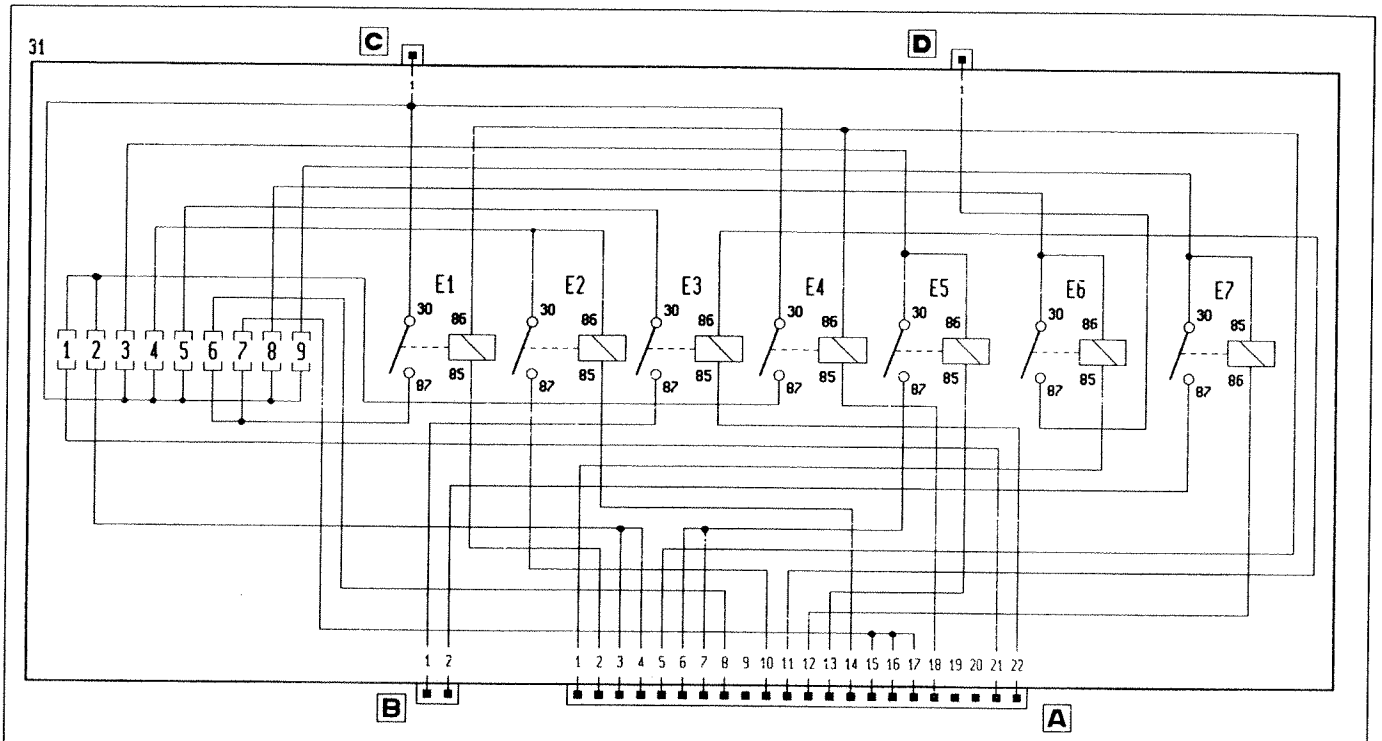
Peripheral control unit (on engine compartment) - (See key following diagrams)



E1 Dipped beam relay
E2 Horn relay
E3 Compressor coupling relay
E4 Main beam relay
E5 Front fog lamp relay
E6 Engine cooling fan high-speed relay
E7 Engine cooling fan low-speed relay

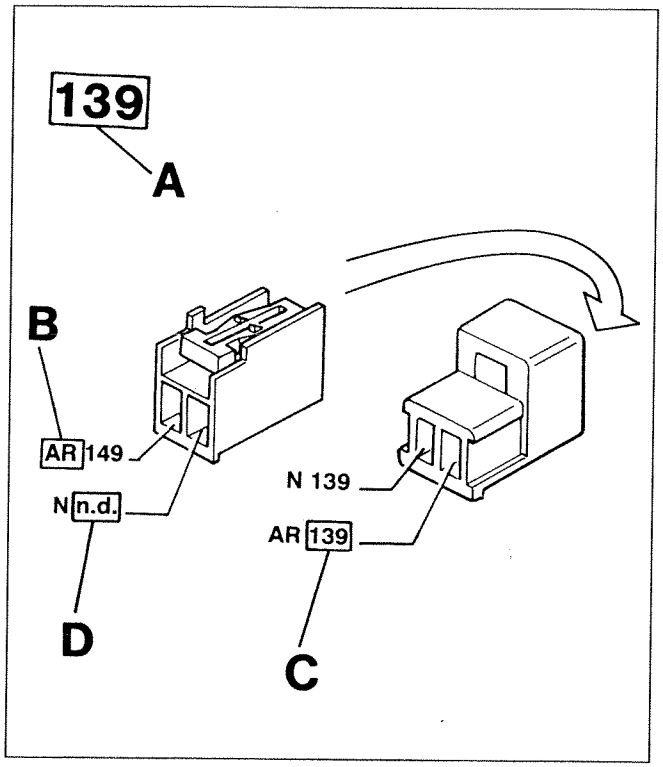
P3U150N01

CONNECTOR BLOCKS - CONTENTS

CONNECTOR BLOCKS - CONTENTS

INTRODUCTION

Interpretation of the codes on the connector blocks



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A Connector block identification number referring to the wiring diagrams

B Cable colour identification code (see table at bottom of page)

C Identification number of the destination block of the cable marked with the relevant code

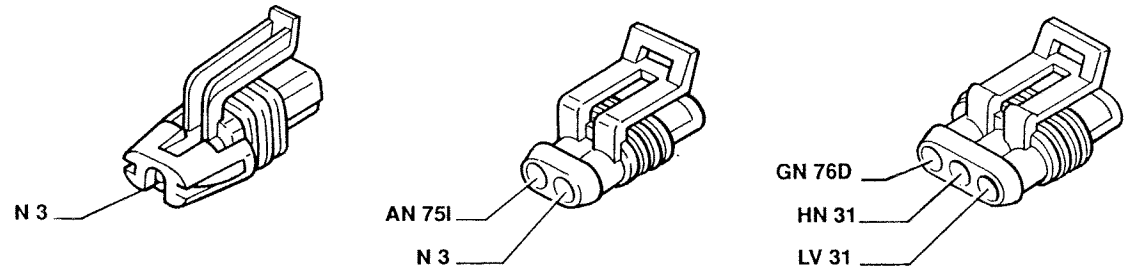
D The code n.d. identifies a connector block taped into the wiring loom

Cable colour codes

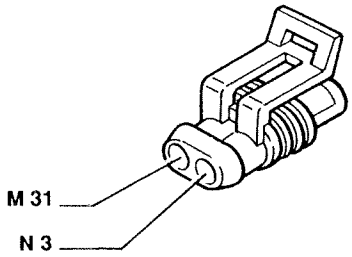
A	Light blue	BG	White-Yellow	LB	Blue-White
B	White	BL	White-Blue	LG	Blue-Yellow
C	Orange	BN	White-Black	LN	Blue-Black
G	Yellow	BR	White-Red	LR	Blue-Red
H	Grey	BV	White-Green	LV	Blue-Green
L	Blue	BZ	White-Violet	MB	Brown-White
M	Brown	CA	Orange-Light blue	MN	Brown-Black
N	Black	CB	Orange-White	NZ	Black-Violet
R	Red	CN	Orange-Black	RB	Red-White
S	Pink	GN	Yellow-Black	RG	Red-Yellow
V	Green	GL	Yellow-Blue	RN	Red-Black
Z	Violet	GR	Yellow-Red	RV	Red-Green
AB	Light blue-White	GV	Yellow-Green	SN	Pink-Black
AG	Light blue-Yellow	HG	Grey-Yellow	VB	Green-White
AN	Light blue-Black	HN	Grey-Black	VN	Green-Black
AR	Light blue-Red	HR	Grey-Red	VR	Green-Red
AV	Light blue-Green	HV	Grey-Green	ZB	Violet-White

Connector blocks

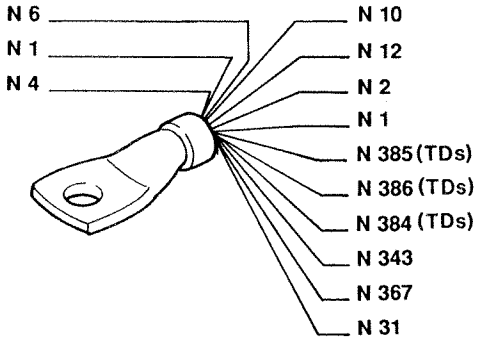
1 Front left lights cluster



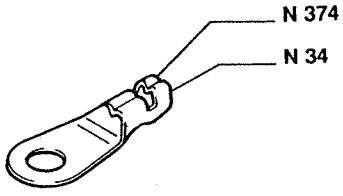
2 Front left fog lamp



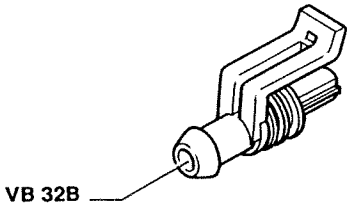
3 Front left earth



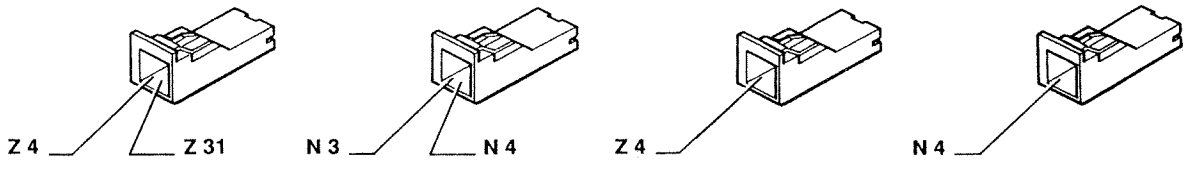
3A Front left earth for anti-lock braking system (A.B.S.)



5 Front left brake pad wear sensor



4 Electric horns



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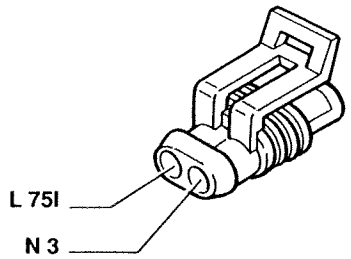
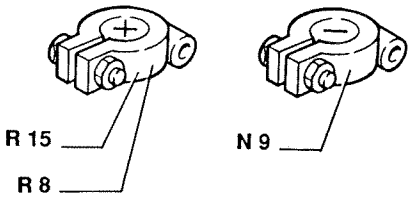
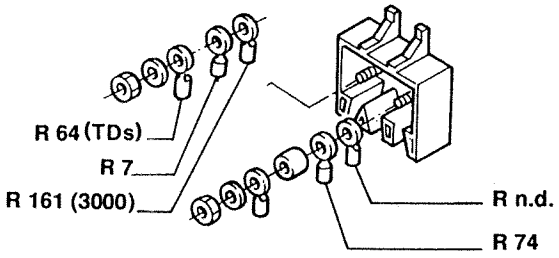
6 Left side repeater



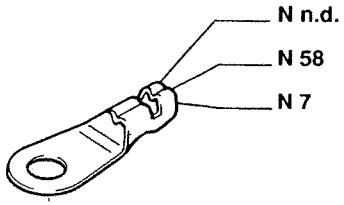
7 Battery



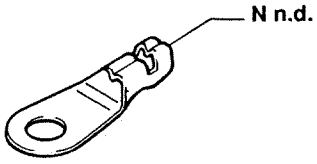
8 Main connector block



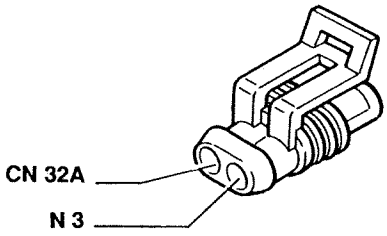
9 Earth on body shell



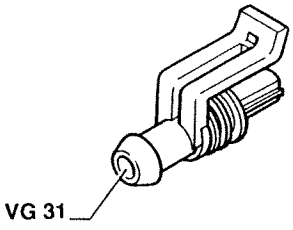
9A Earth on side for anti-lock braking system (A.B.S.)



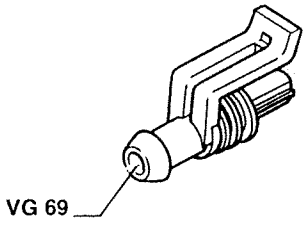
10 Button on bonnet for switching on anti-theft device



11 Air conditioner compressor coupling



11 Air conditioner compressor coupling (1998 T only)



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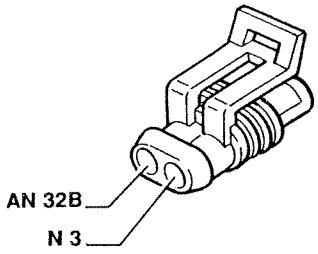
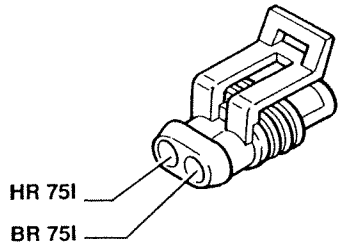
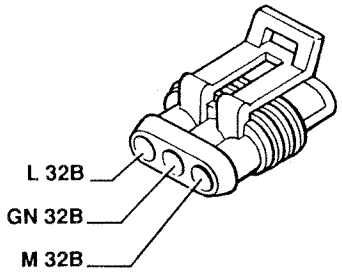
12 Low brake fluid level sensor



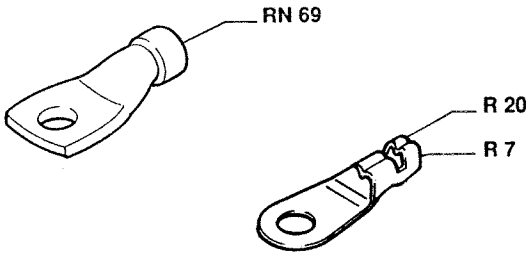
13 Reversing lights switch



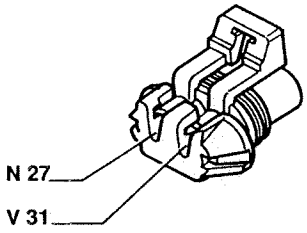
14 Pulse generator for speedometer signal



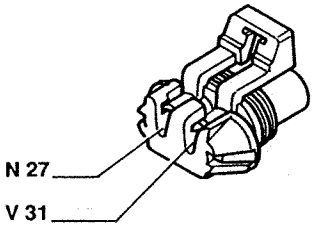
15 Starter motor



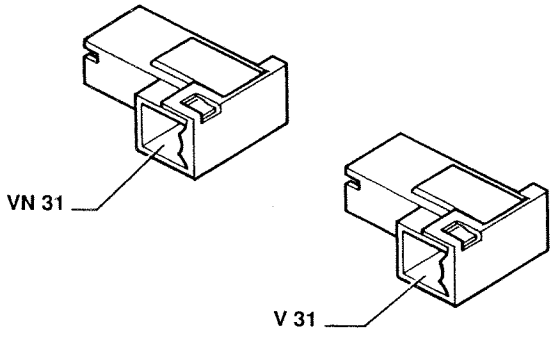
17 1st engine cooling fan



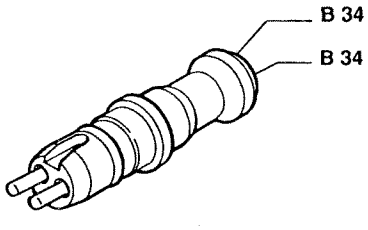
17A 2nd engine cooling fan



18 Engine cooling fan speed resistor



19 Sensor on front left wheel for anti-lock braking system (A.B.S.)



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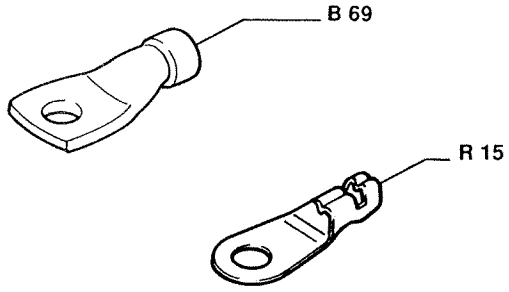
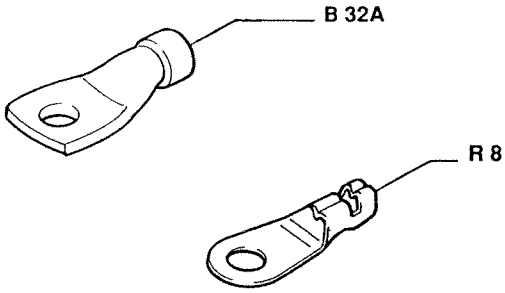
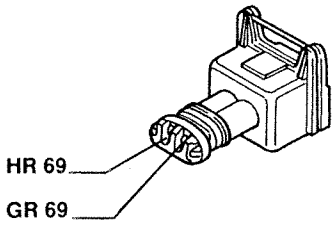
20 Alternator (1998 - 2446 - Tds only)



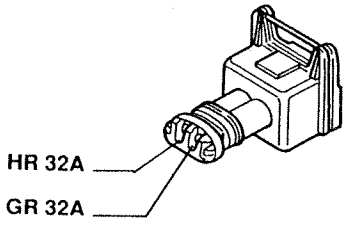
20 Alternator (2959 - 1998 T only)



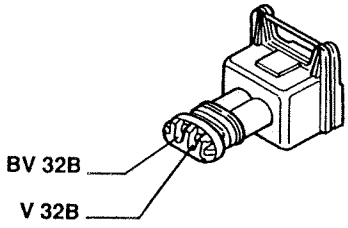
21 Low engine oil level sensor (1998 - 2446 - Tds only)



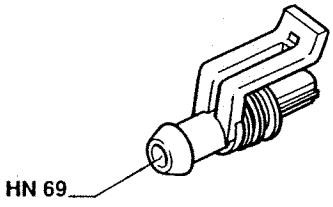
21 Low engine oil level sensor (2959 - 1998 T only)



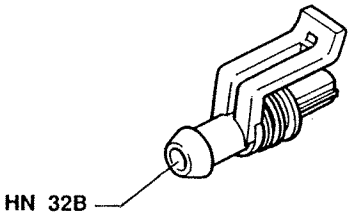
22 Engine coolant temperature sender unit



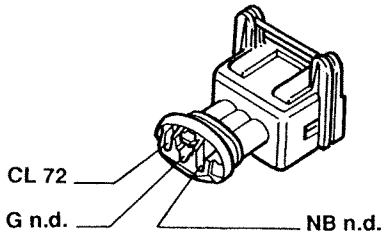
23 Low engine oil pressure sensor



23 Low engine oil pressure sensor (1998 T only)



24 Barometric capsule (1998 T only)



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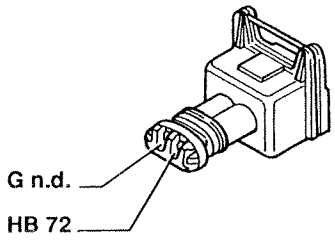
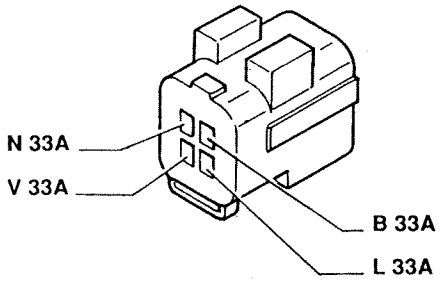
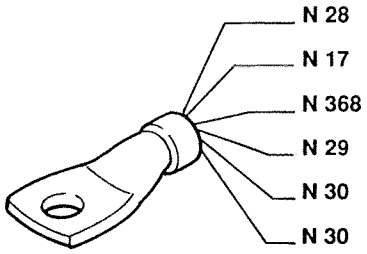
25 Air temperature sensor (1998 - 2446 - 2959 - 1998 T only)



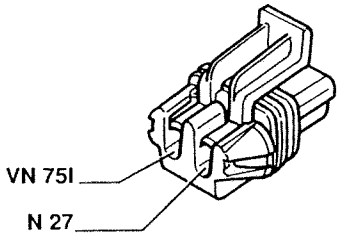
26 Three-stage pressure switch



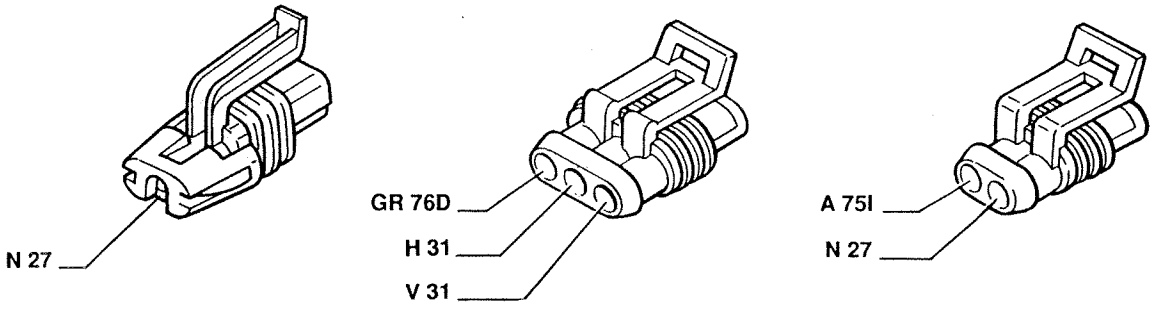
27 Front right earth



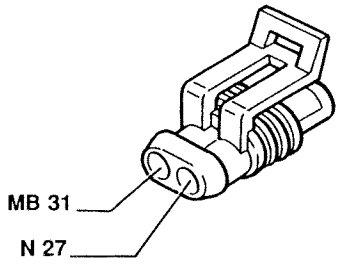
28 Headlamp washer pump



30 Front right lights cluster



29 Front right fog lamp



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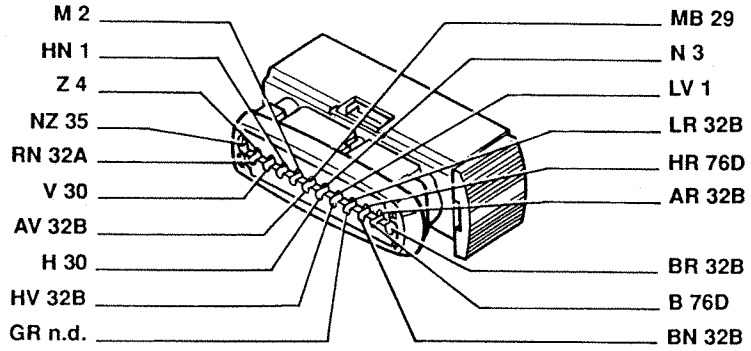
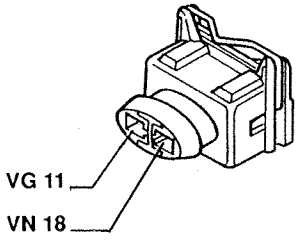
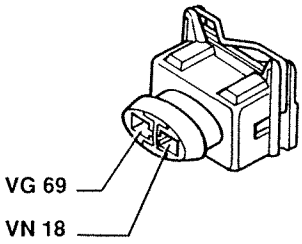
31 Peripheral control unit



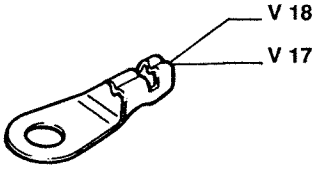
31 Peripheral control unit



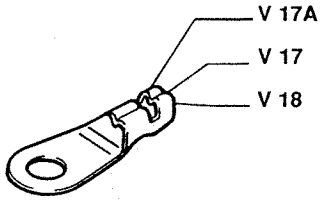
31 Peripheral control unit (1998 T only)



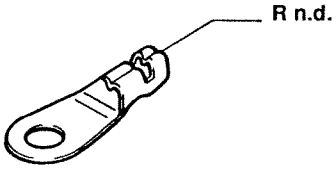
31 Peripheral control unit



31 Peripheral control unit (Tds only)



31 Peripheral control unit



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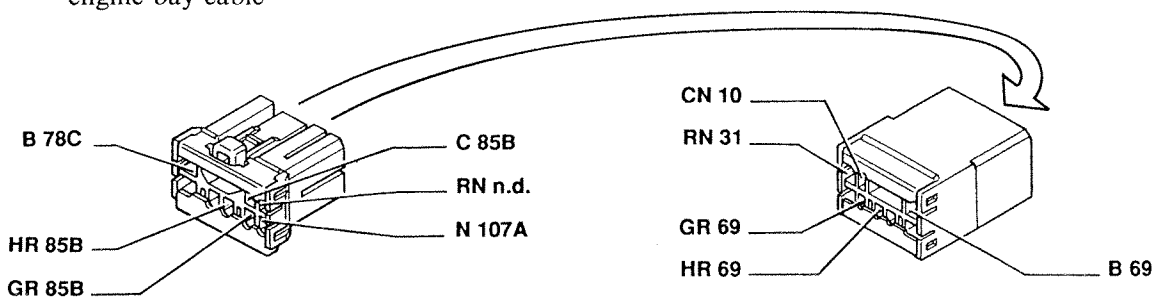
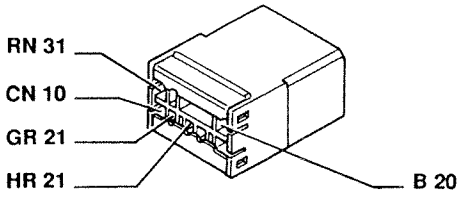
32A Connection between dashboard cable/left engine bay cable

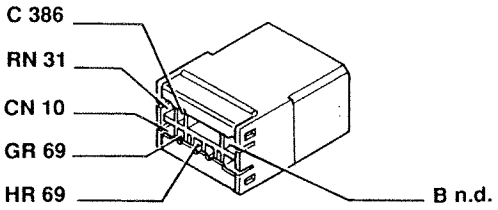
(1998 - 2446 only)



(2959 - 1998 T only)

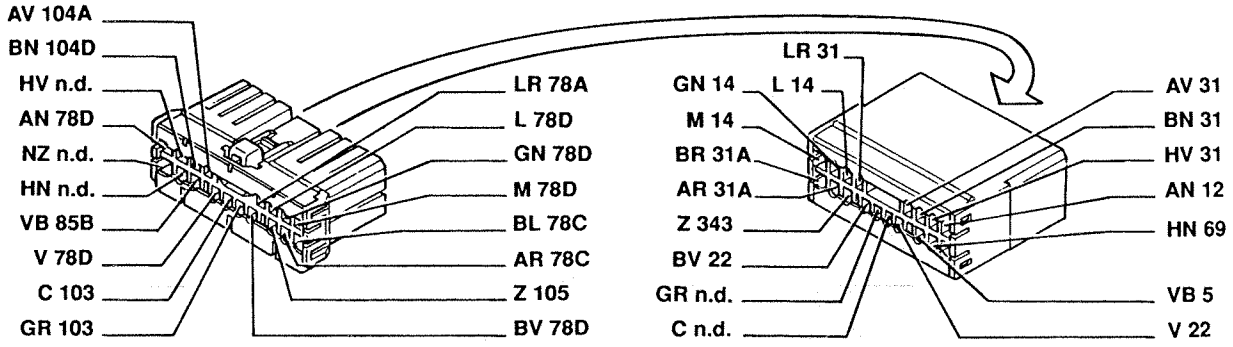


(Tds only)

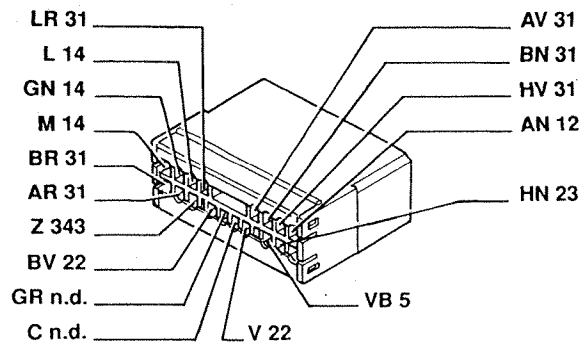


32B Connection between dashboard cable/left engine bay cable

(1998 - 2446 - 2959 - Tds only)

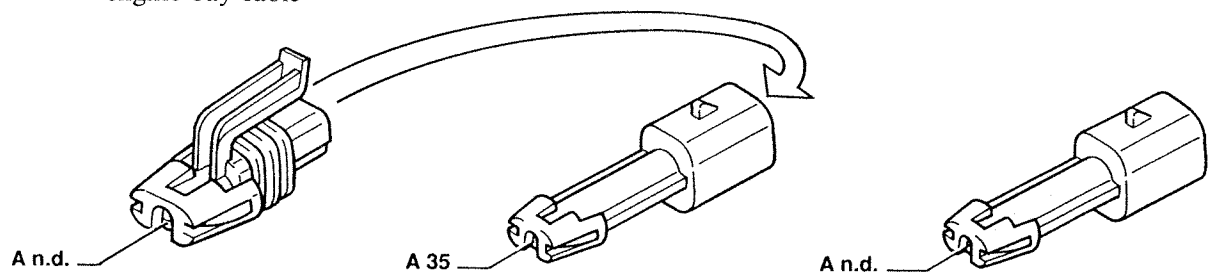


(1998 T only)

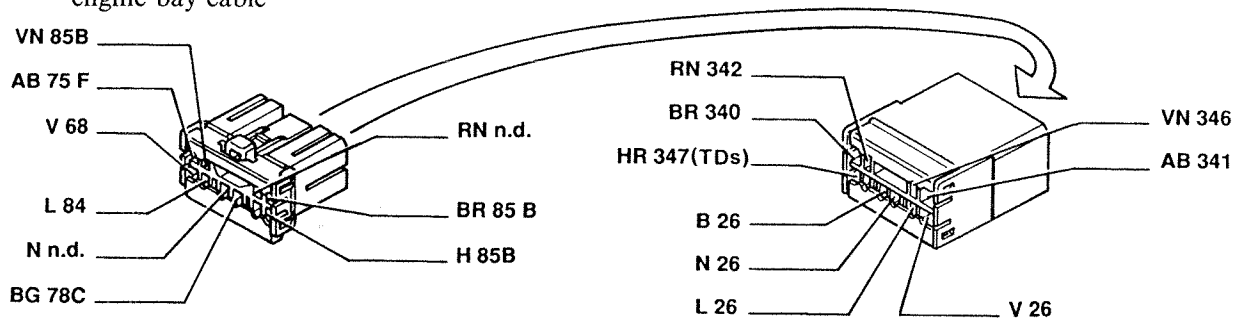


P3U159N01

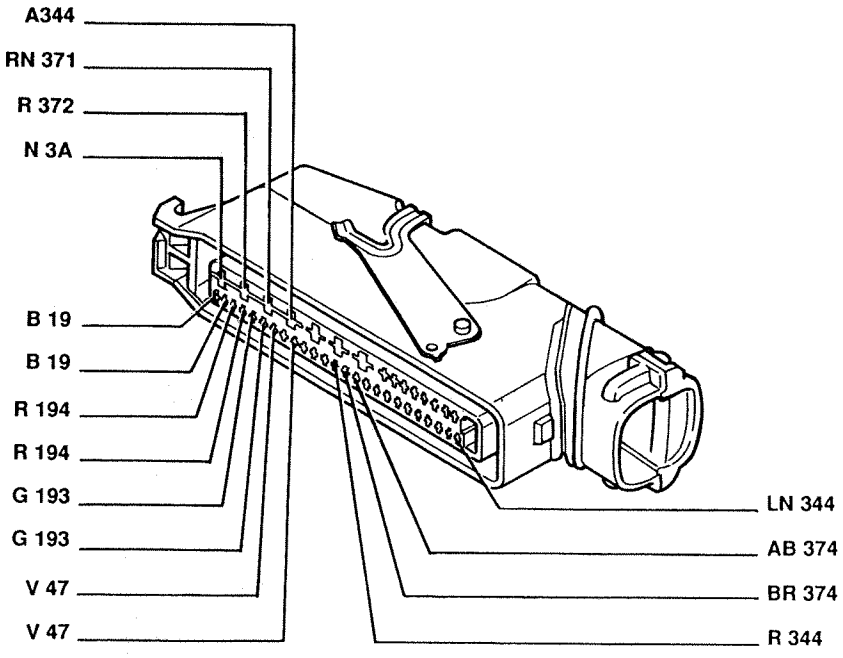
32C Connection between dashboard cable/left engine bay cable



33A Connection between dashboard cable/right engine bay cable

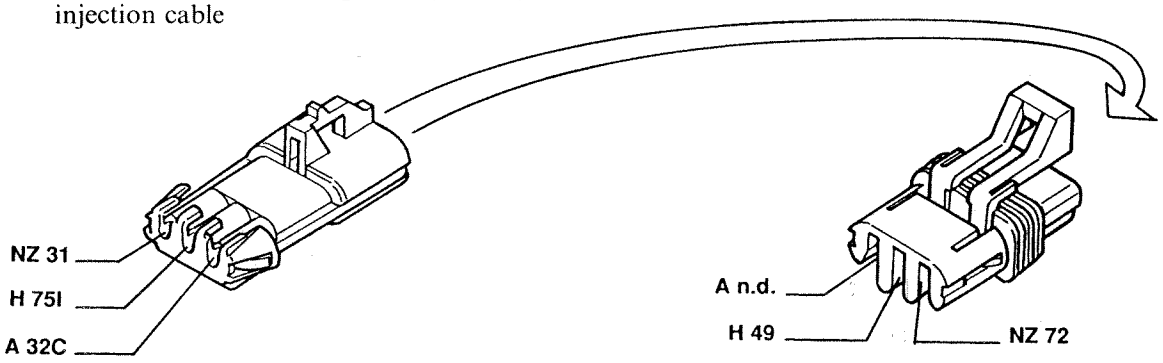


34 Anti-lock braking system (A.B.S.) electrohydraulic control unit

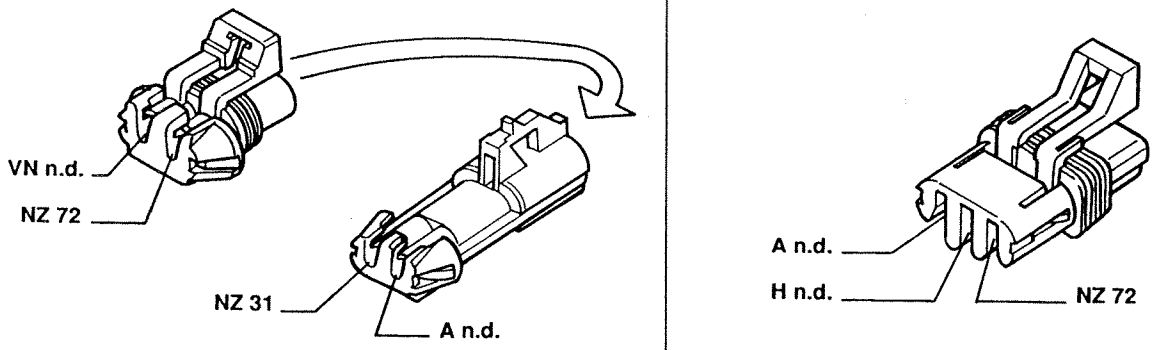


P3U160N01

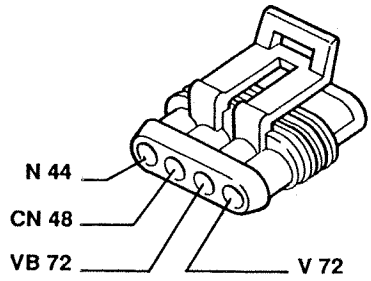
35 Connection between engine bay cable/fuel injection cable (1998 - 2446 - 1998 T only)



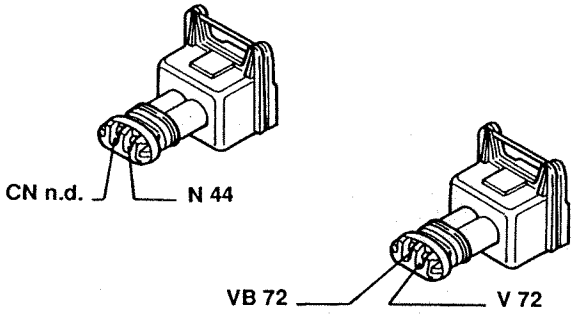
35 Connection between engine bay cable/fuel injection cable (Tds only) (2959 only)



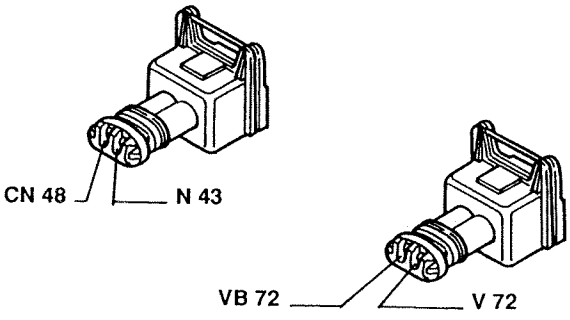
36 Heated Lambda probe (1998 - 2446 only)



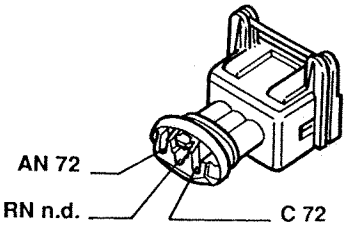
36 Heated Lambda probe (2959 only)



36 Heated Lambda probe (1998 T only)



37 Idle adjustment actuator



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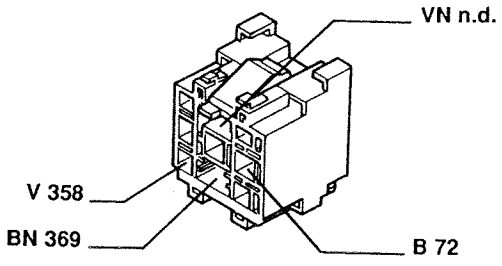
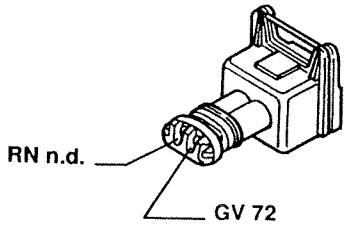
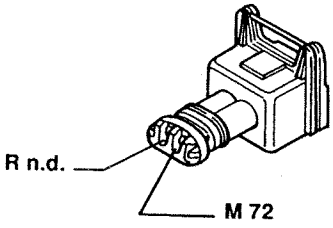
39 Inertial switch relay



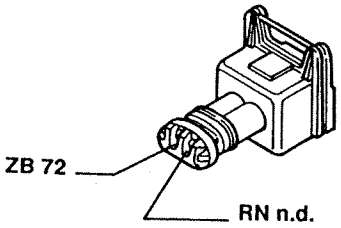
40 E.G.R. solenoid



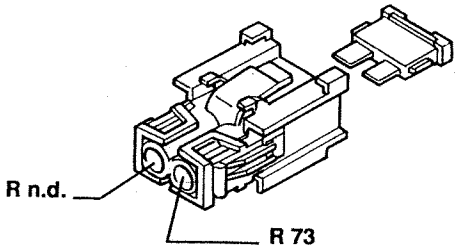
40 E.G.R. solenoid (Tds only)



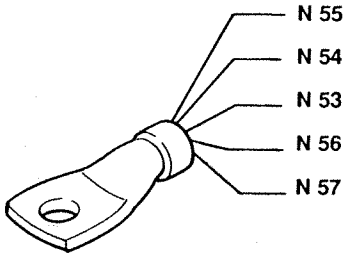
41 Petrol vapour shut-off solenoid



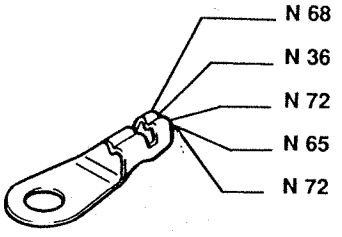
42 30A fuse protecting electronic fuel injection



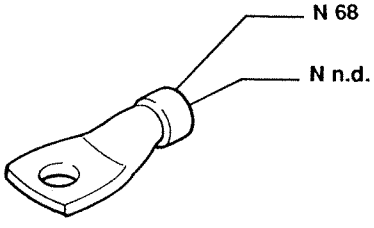
43 Electronic earth (1998 - 2446 - 2959 only)



43 Electronic earth (1998 T only)



43 Electronic earth (Tds only)



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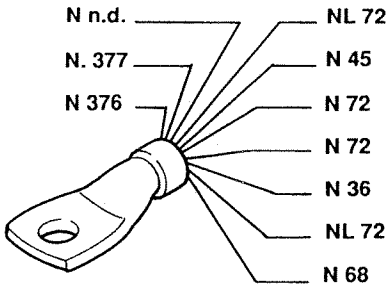
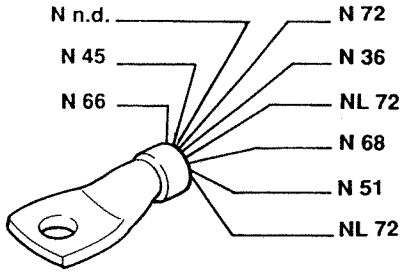
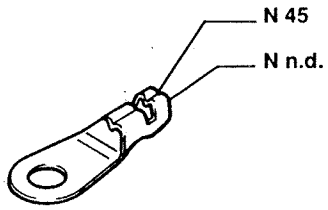
44 Power earth (1998 - 2446 only)



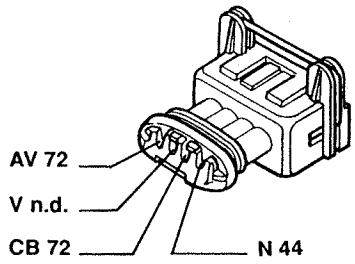
44 Power earth (2959 only)



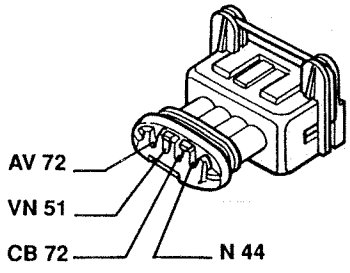
44 Power earth (1998 T only)



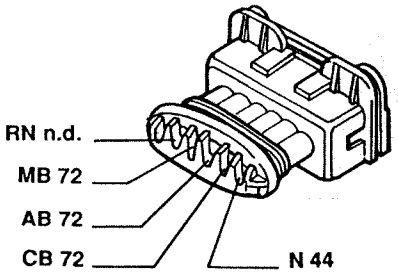
45 Air flow meter (1998 - 2446 only)



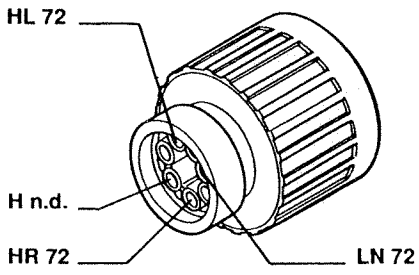
45 Air flow meter (2959 only)



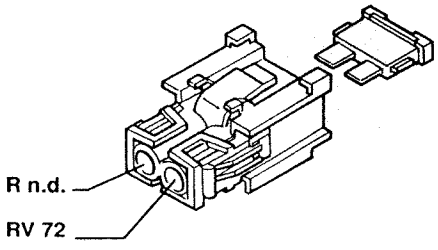
45 Air flow meter (1998 T only)



45 Air flow meter (Tds only)



46 7.5A fuse protecting electronic fuel injection



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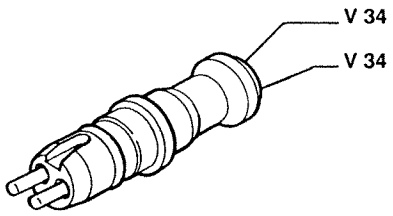
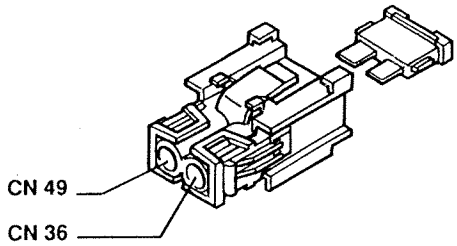
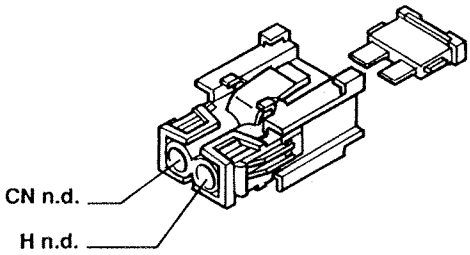
47 Sensor on front right wheel for anti-lock braking system (A.B.S.)



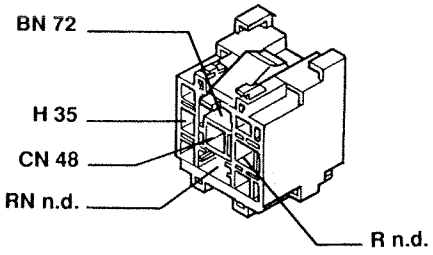
48 10A fuse protecting heated Lambda probe and air flow meter relay (1998 - 2446 - 1998 T only)



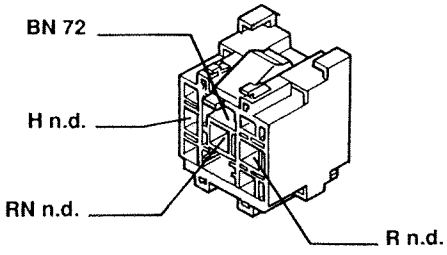
48 10A fuse protecting heated Lambda probe and air flow meter relay (2959 only)



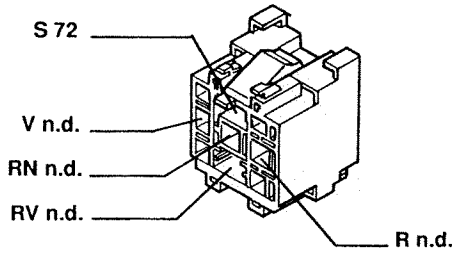
49 Relay for electric fuel pump and heated Lambda probe (1998 - 2446 - 1998 T)



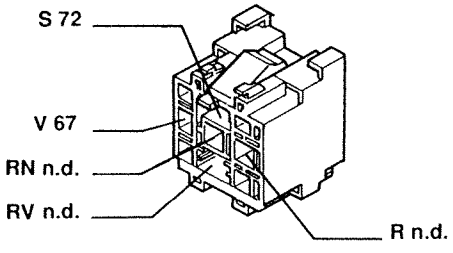
49 Relay for electric fuel pump and heated Lambda probe (2959)



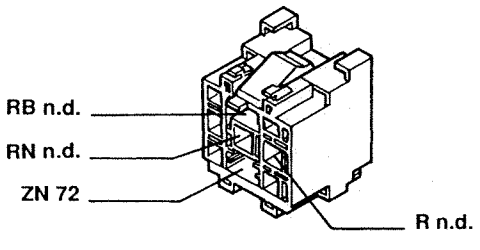
50 Electronic fuel injection relay (1998 - 2446 - 2959 only)



50 Electronic fuel injection relay (1998 T only)



50 Electronic fuel injection relay (Tds only)



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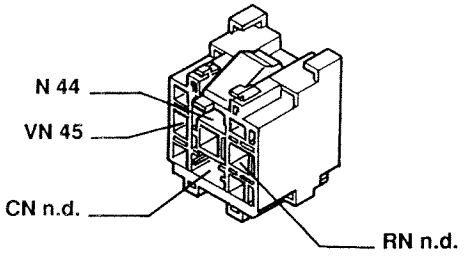
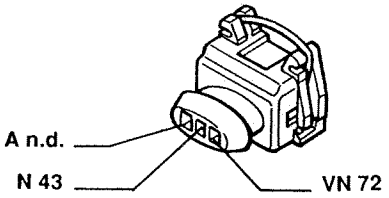
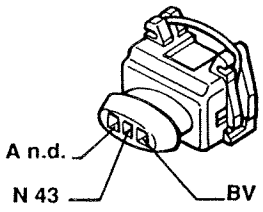
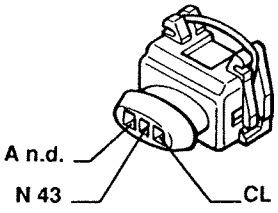
51 Air flow meter relay (2959 only)

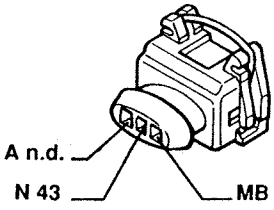


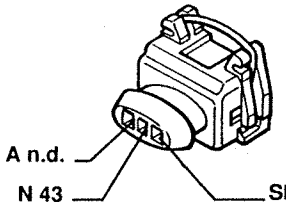
53-54-55-56-57 Ignition coils (1998 - 2446 only)



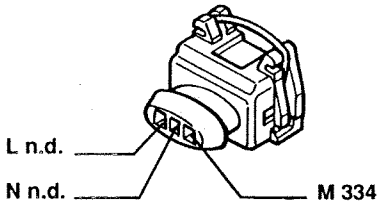


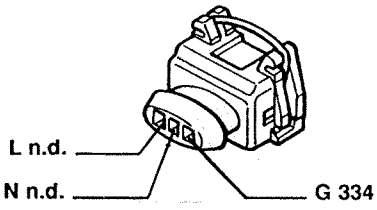


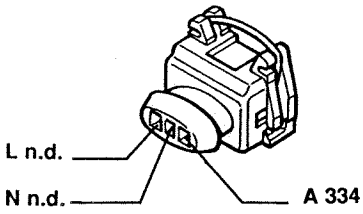


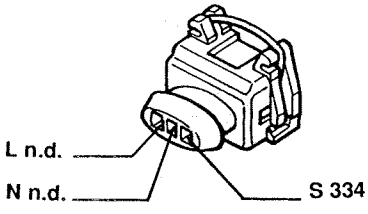


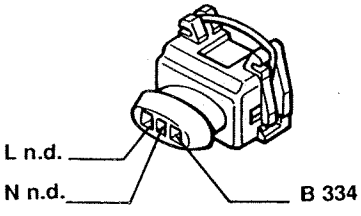
52-53-54-55-56-57 Ignition coils (2959 only)

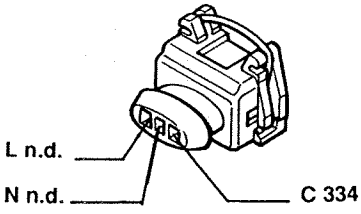












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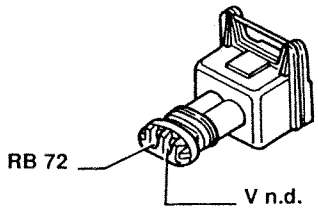
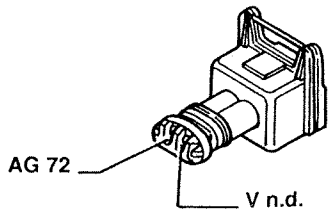
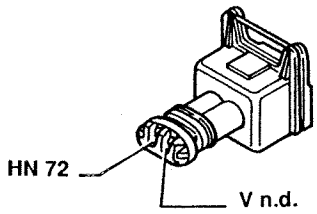
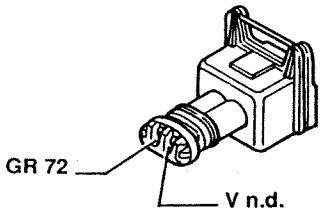
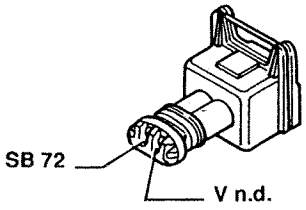
58 Fuel injectors (1998 - 2446 only)



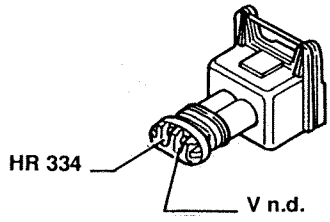


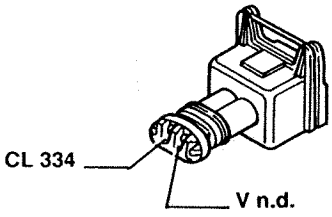


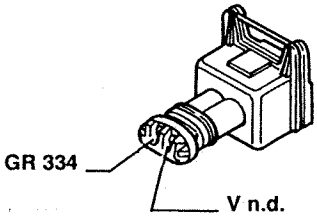


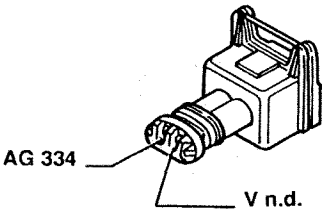


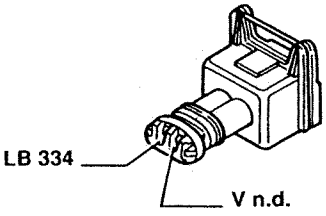
58 Fuel injectors (2959 only)

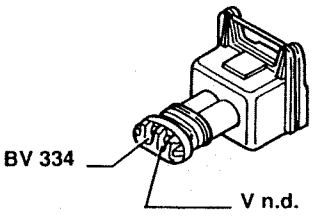












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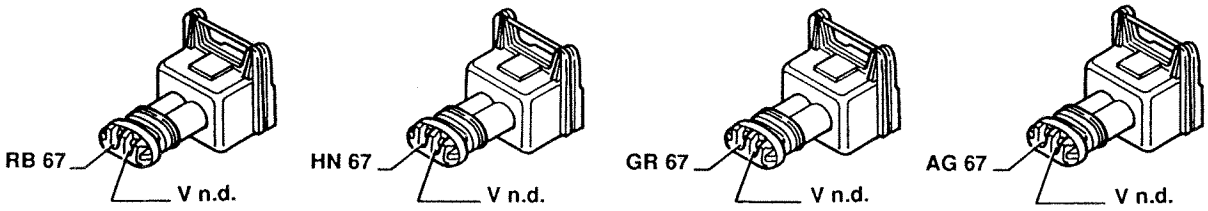
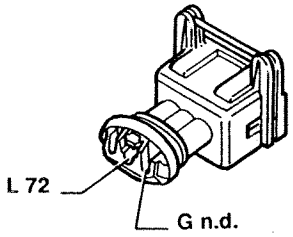
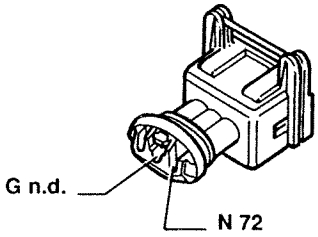
58 Fuel injectors (1998 T only)



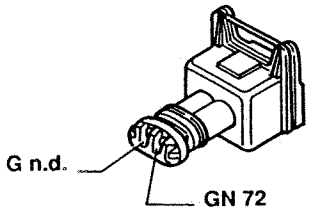
59 1st knock sensor



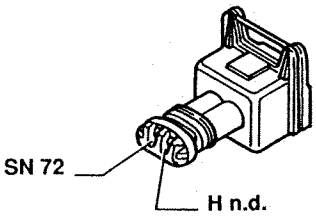
60 2nd knock sensor



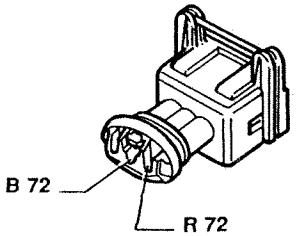
61 Engine coolant temperature sensor for electronic fuel injection



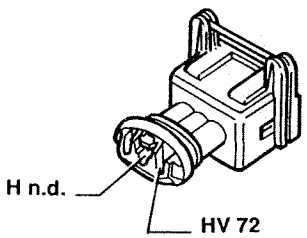
61 Engine coolant temperature sensor for electronic fuel injection (Tds only)



62 Rpm sensor



62 Rpm sensor (Tds only)



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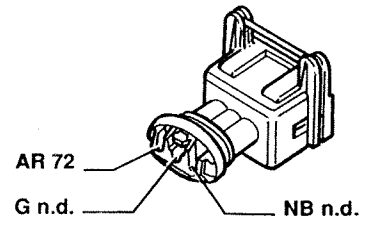
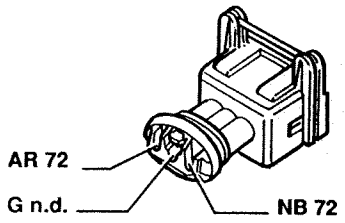
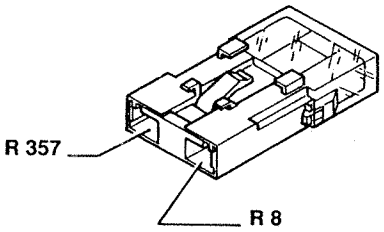
63 Potentiometer on throttle valve



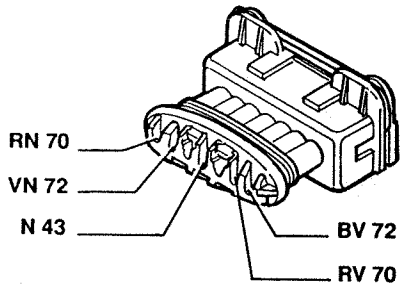
63 Potentiometer on throttle valve (2959 only)



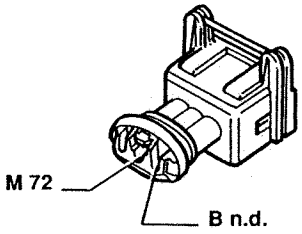
64 40A fuse protecting plug preheating (Tds only)



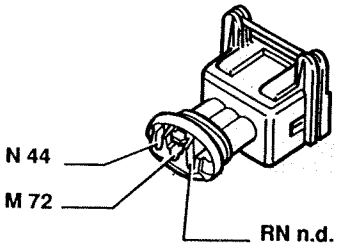
65 Power module (1998 T only)



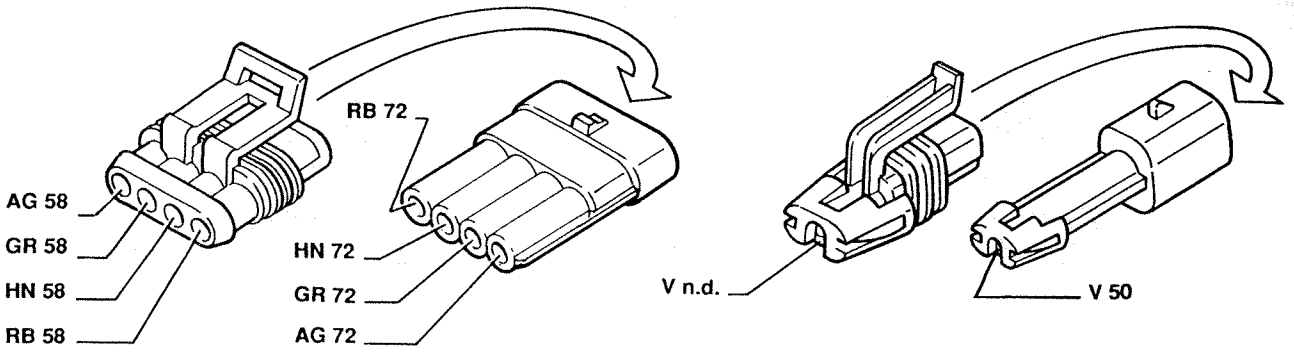
66 Timing sensor (1998 - 2446 - 1998 T only)



66 Timing sensor (2959 only)



67 Fuel injection cables connection (1998 T only)



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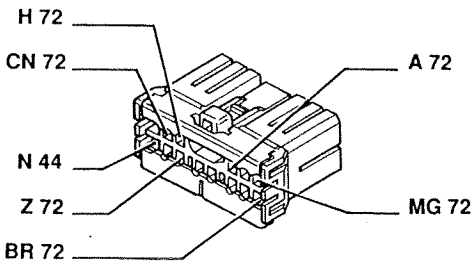
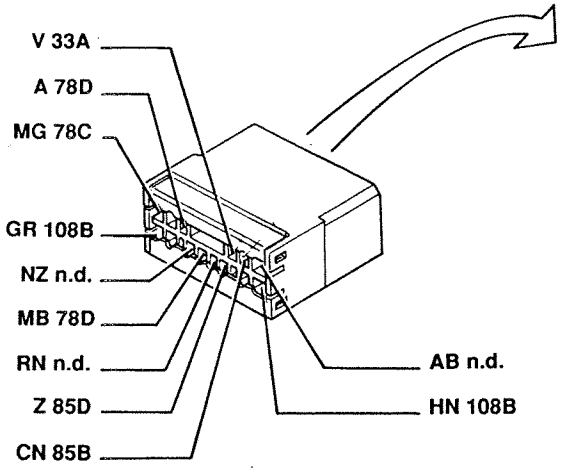
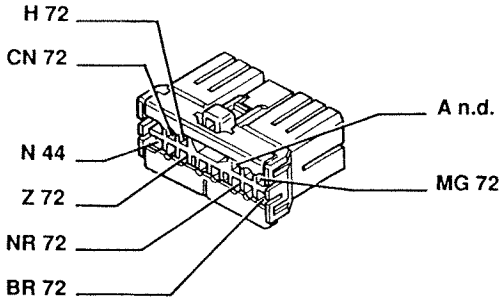
68 Connection between dashboard cable/fuel injection cable (1998 - 2446 only)



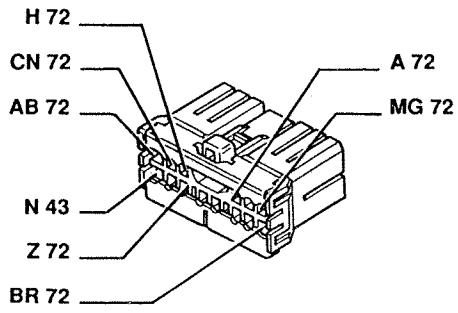
68 Connection between dashboard cable/fuel injection cable



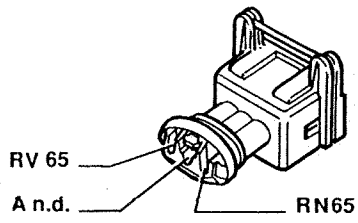
68 Connection between dashboard cable/fuel injection cable (2959 only)



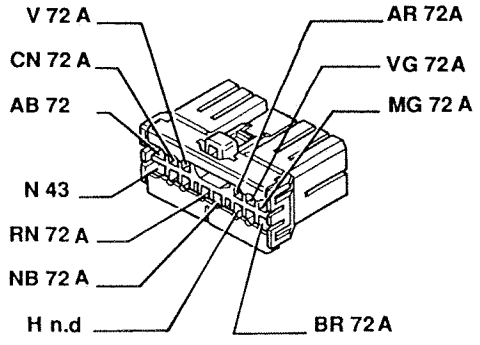
68 Connection between dashboard cable/fuel injection cable (1998 T only)



70 H.T. distributor (1998 T only)



68 Connection between dashboard cable/fuel injection cable (Tds only)



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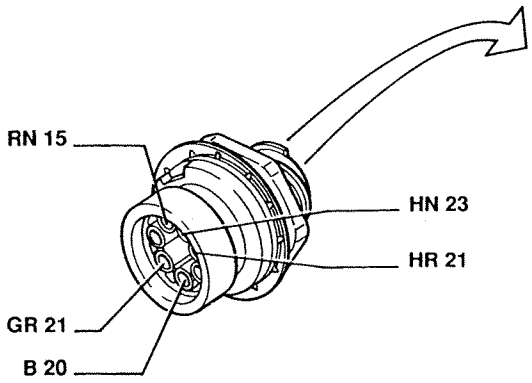
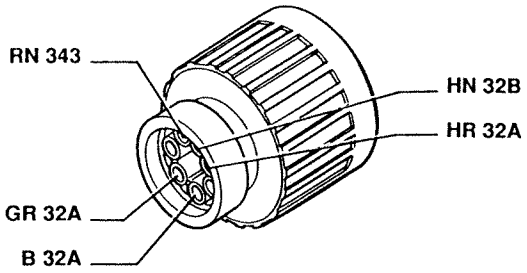
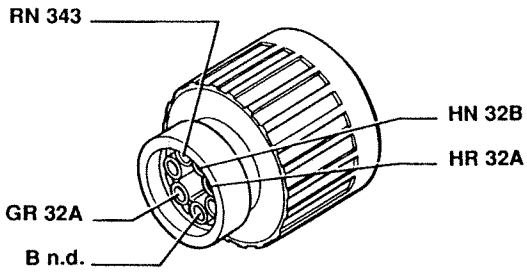
69 Engine services cable connection (1998 - 2446 - Tds only)



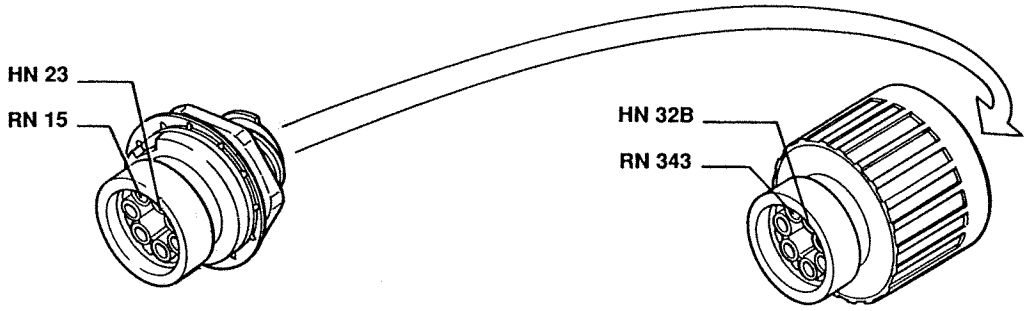
69 Engine services cable connection (1998 - 2446 only)



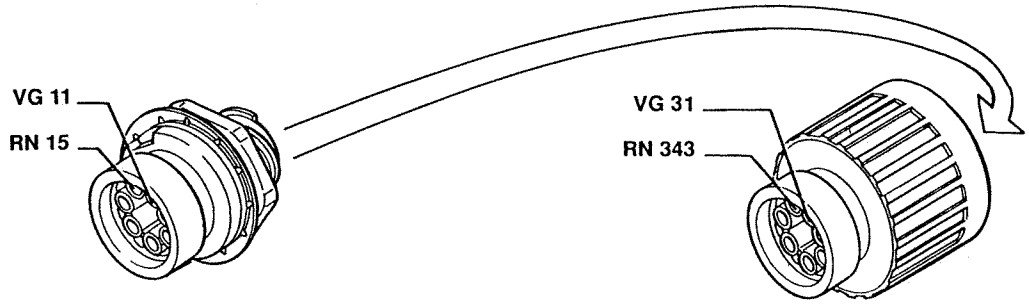
69 Engine services cable connection (Tds only)



69 Engine services cable connection (2959 only)



69 Engine services cable connection (1998 T only)



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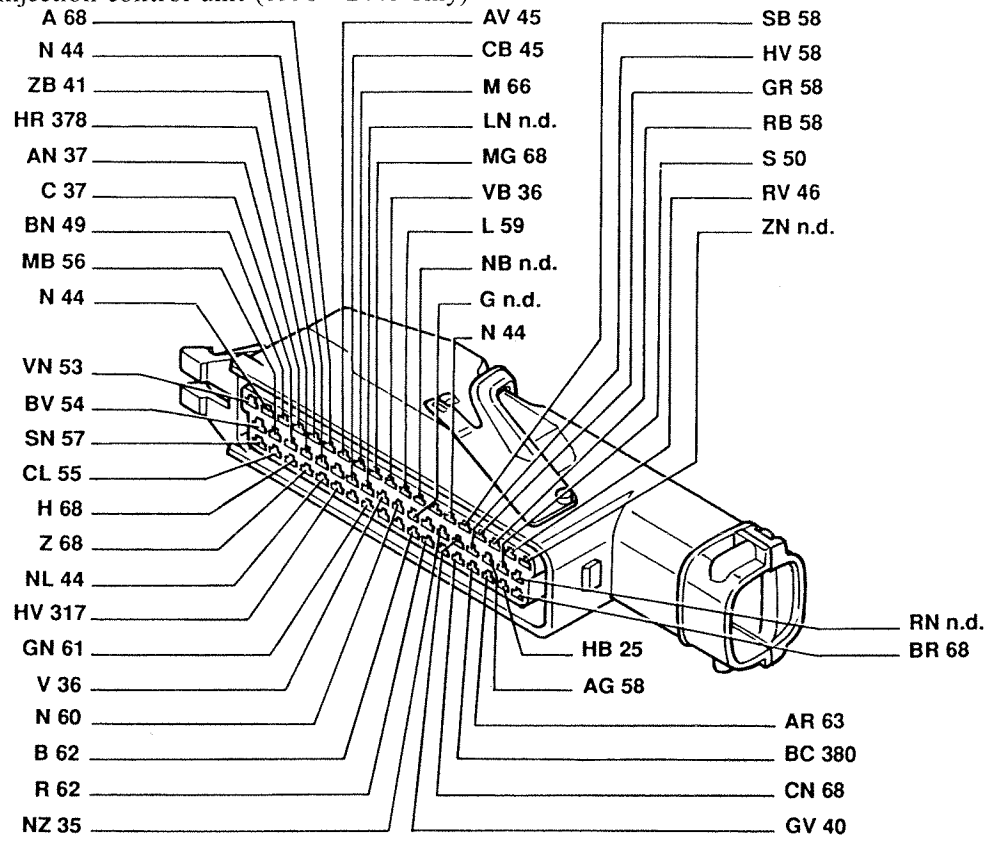
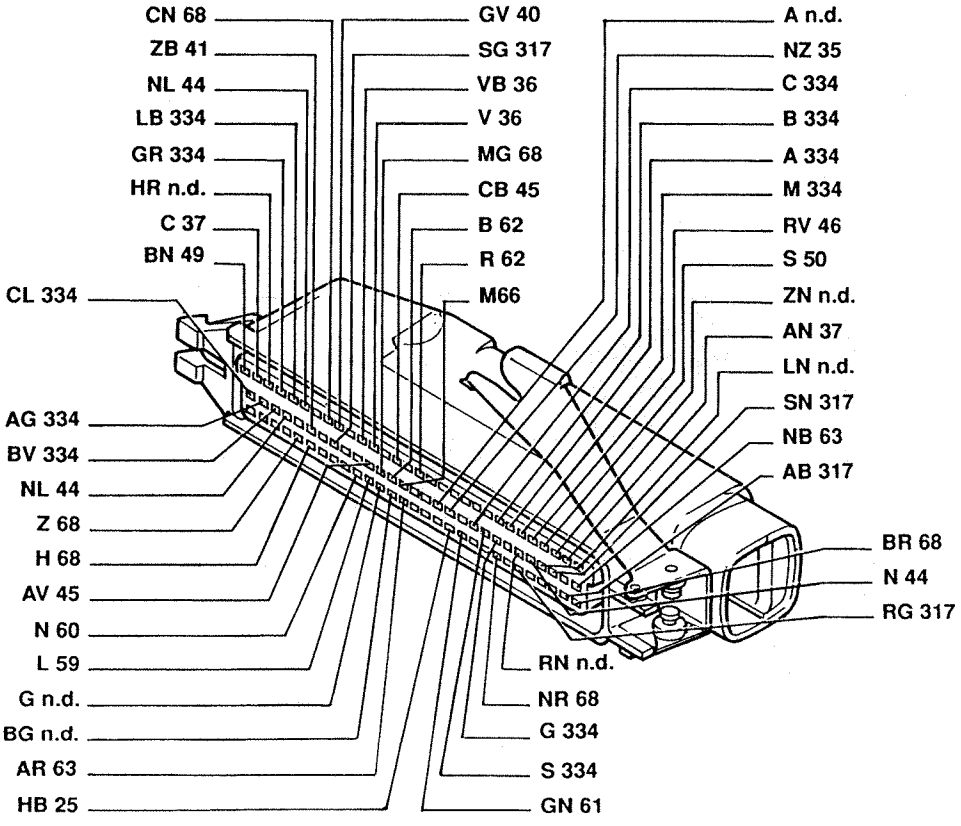
72 Fuel injection control unit (1998 - 2446 only)

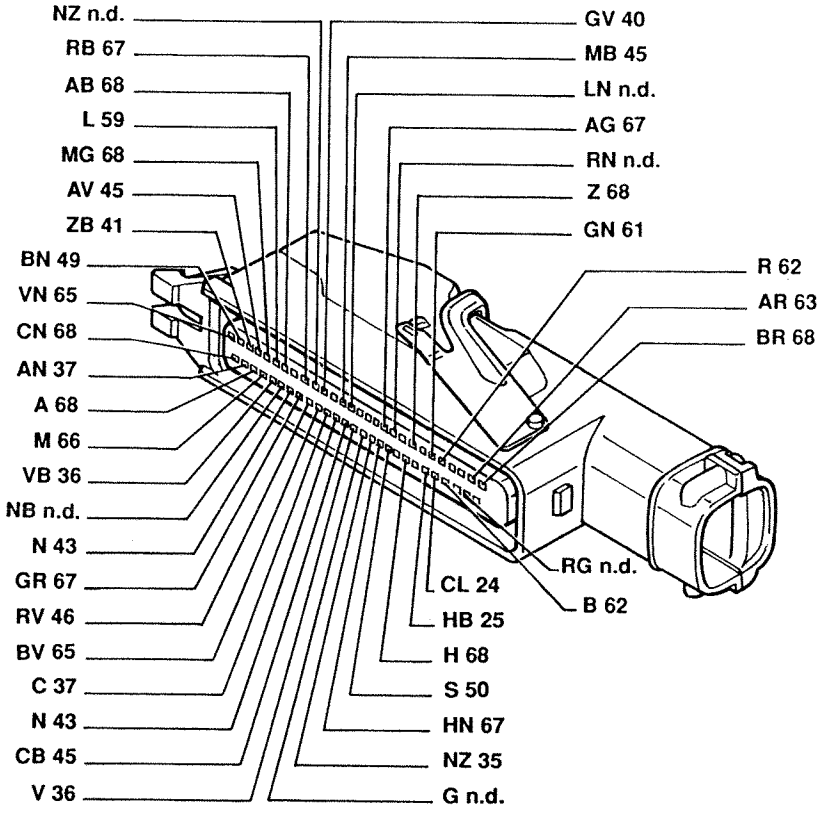


72 Fuel injection control unit (2959 only)

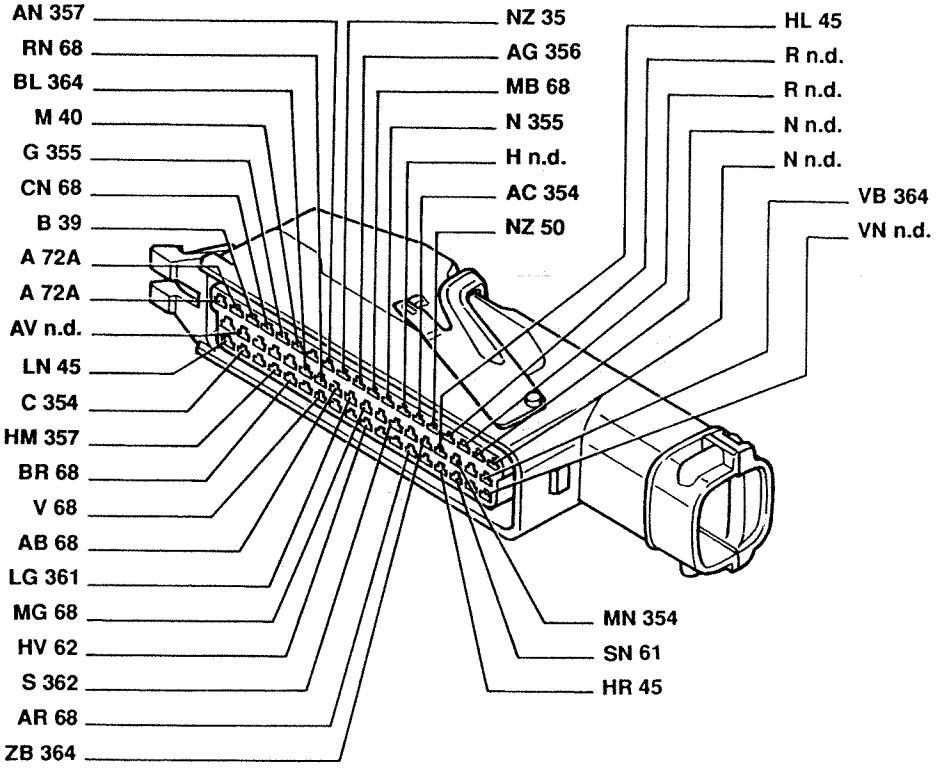


P3U171N01

72 Fuel injection control unit (1998 T only)

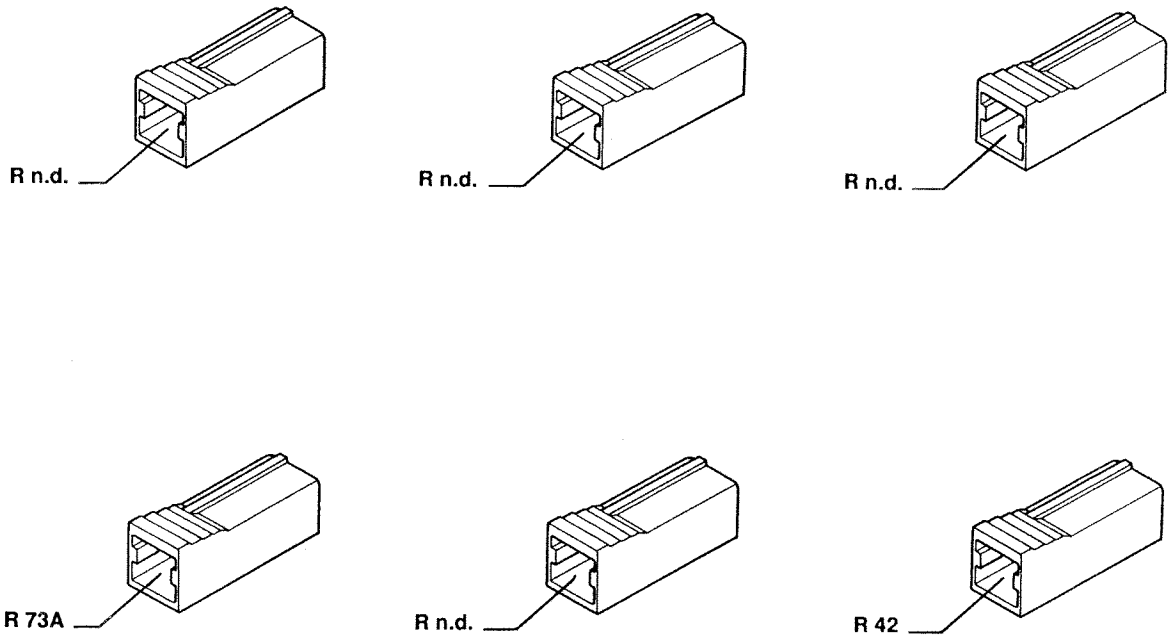


72A Fuel pump electronic control unit (Tds only)

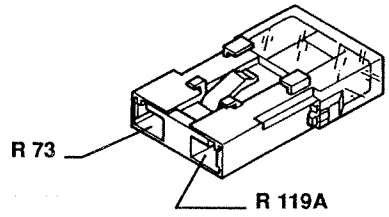


P3U172N01

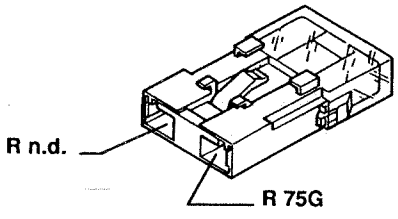
73 Secondary connector block



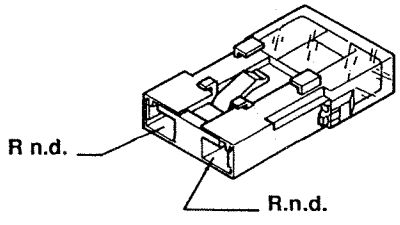
73A 80A fuse protecting rear services



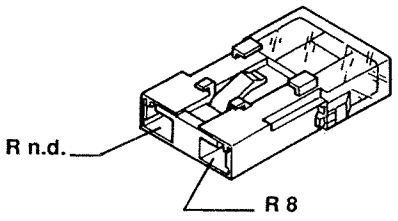
73B 60A fuse protecting I.G.E. control unit/junction unit



73C 30A fuse protecting ignition switch/anti-theft device

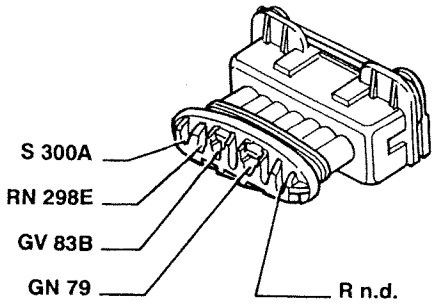


74 60A fuse protecting peripheral control unit

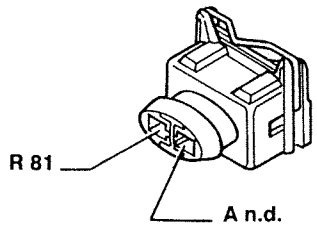


P3U173N01

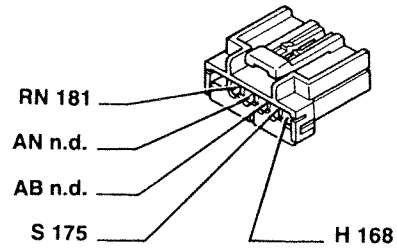
75A Junction unit (dashboard)



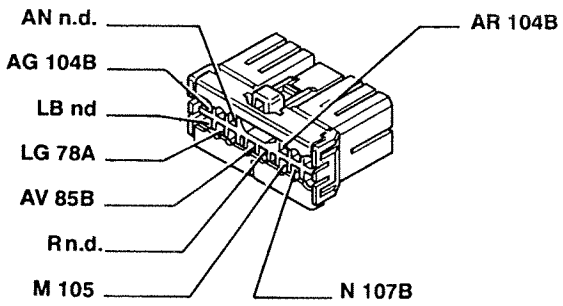
75B Junction unit (dashboard)



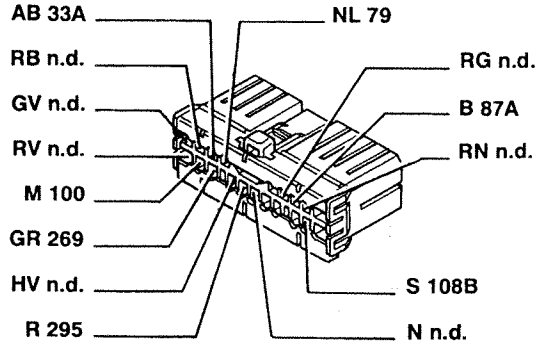
75C Junction unit (dashboard)



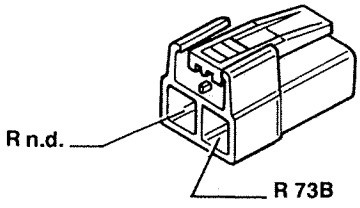
75E Junction unit (dashboard)



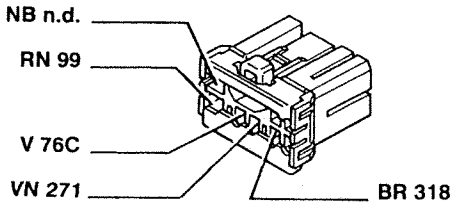
75F Junction unit (dashboard)



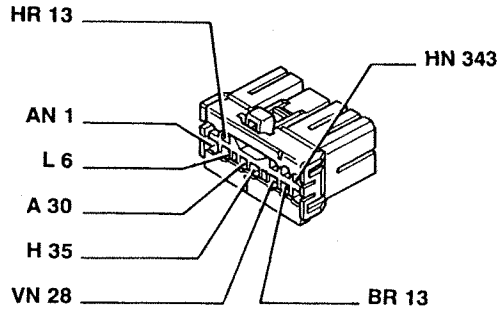
75G Junction unit (dashboard)



75H Junction unit (dashboard)



75I Junction unit (dashboard)



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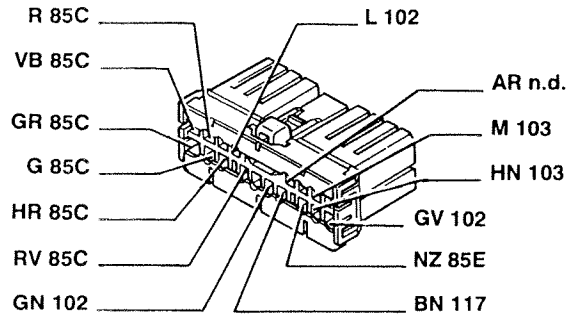
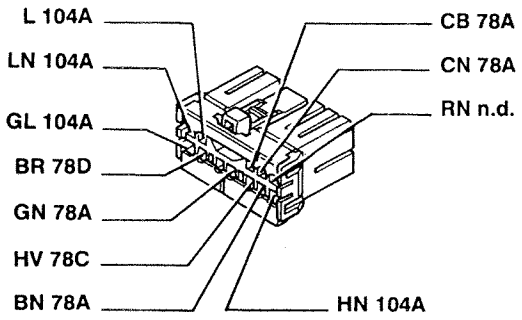
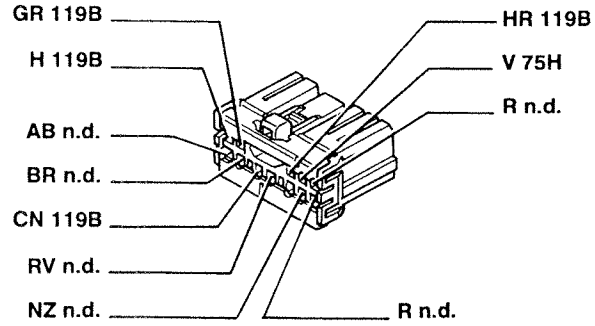
76A I.G.E. control unit



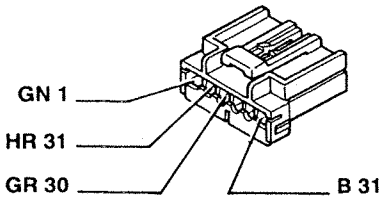
76B I.G.E. control unit



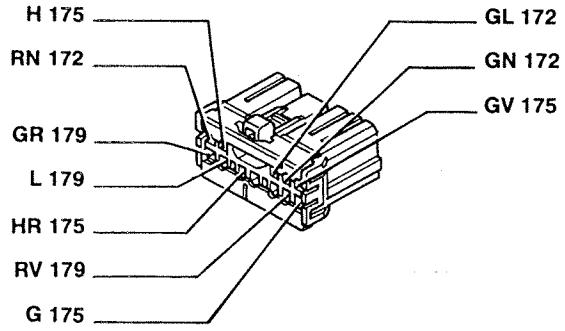
76C I.G.E. control unit



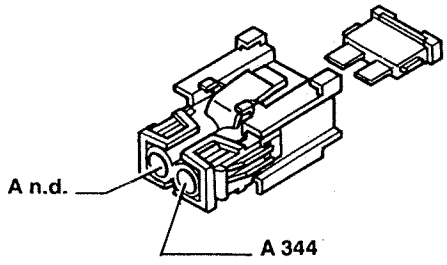
76D I.G.E. control unit



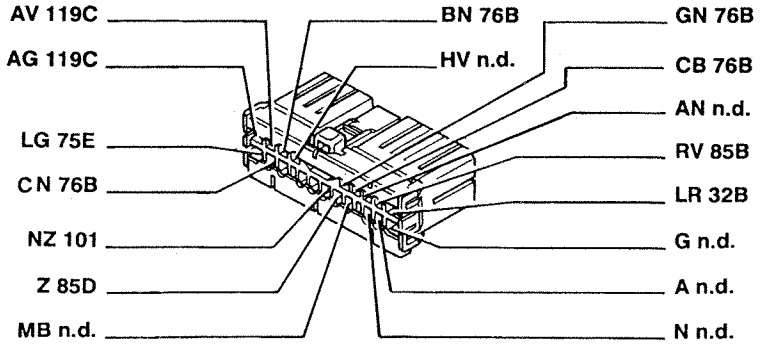
76E I.G.E. control unit



77 10A fuse protecting anti-lock braking system (A.B.S.)



78A Instrument panel



P3U175N01

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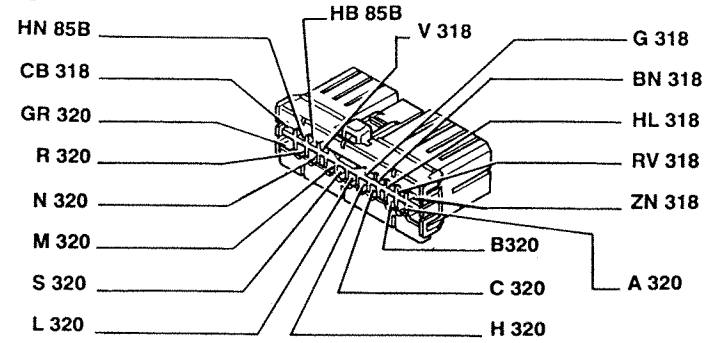
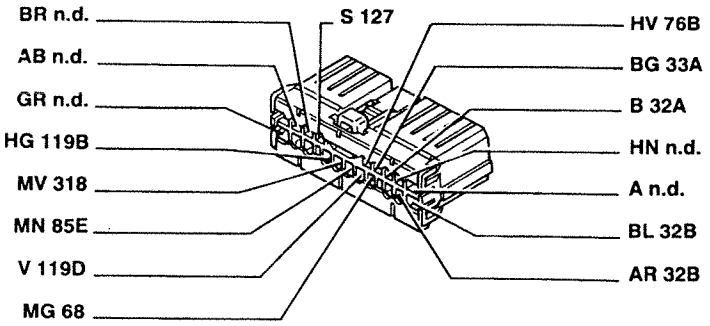
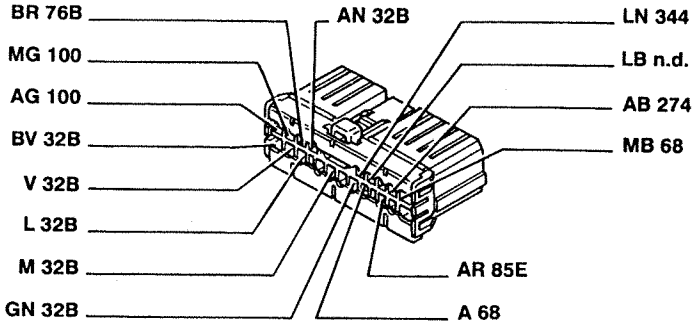
78B Instrument panel



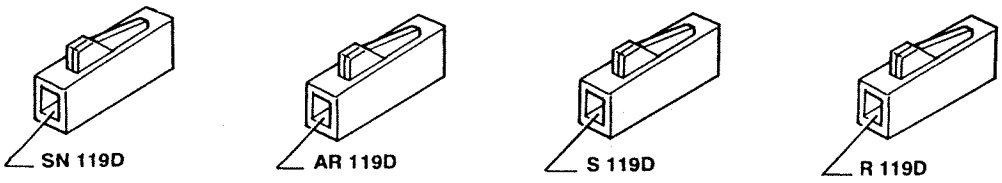
78C Instrument panel



78D Instrument panel

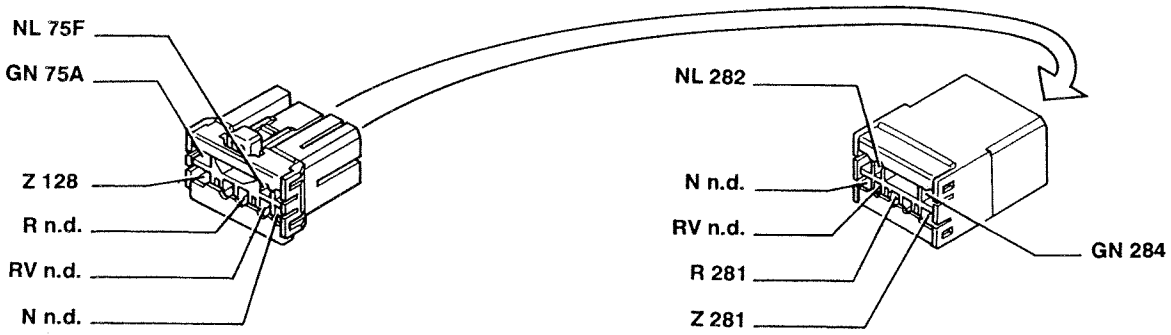


78Y1 Instrument panel

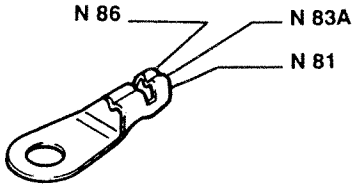


P3U176N01

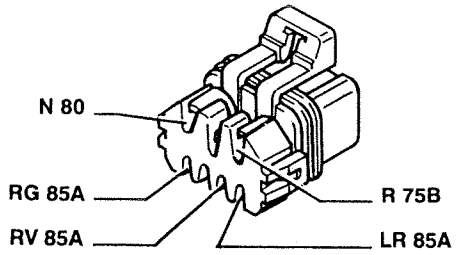
79 Connection between dashboard cable/courtesy light cable



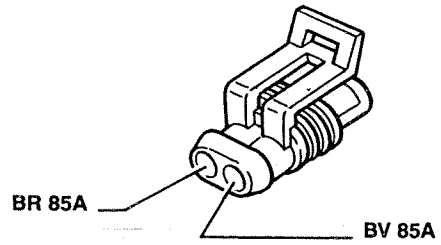
80 Power earth on dashboard



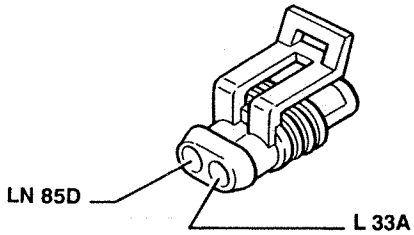
81 Climate control fan (brushless)



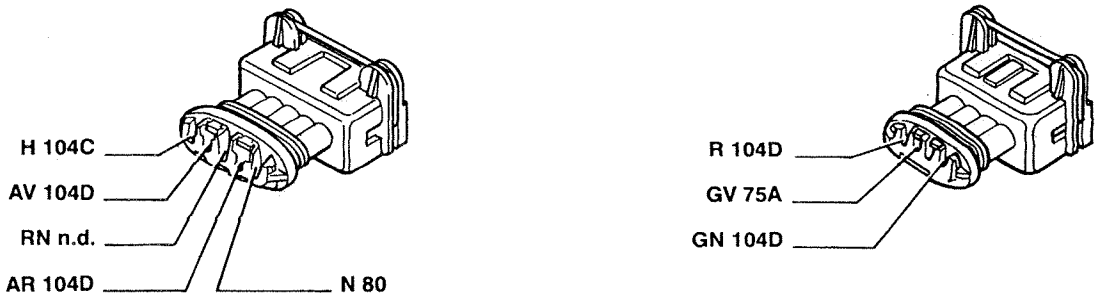
82 Air recirculation motor



84 Single-stage pressure switch (2959 only)



83 Windscreen wiper control assembly



P3U177N01

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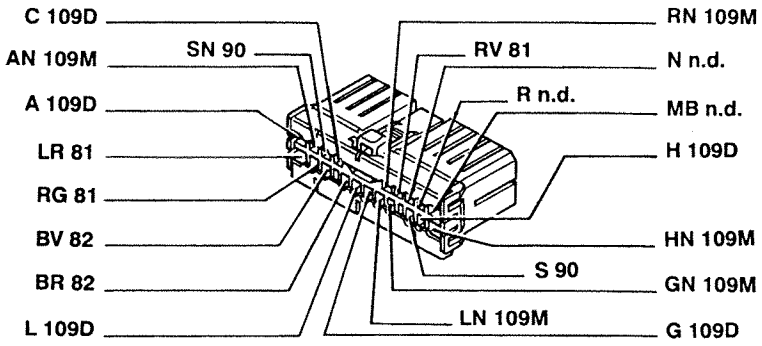
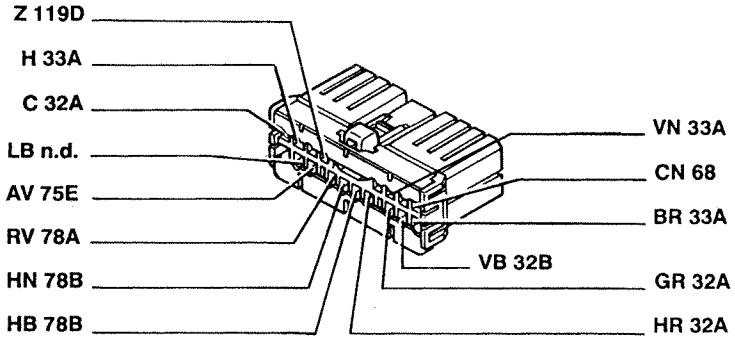
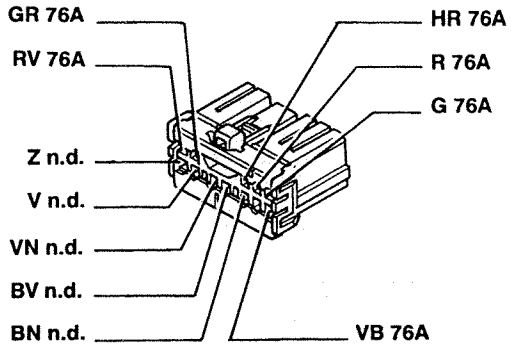
85A Infocenter control unit



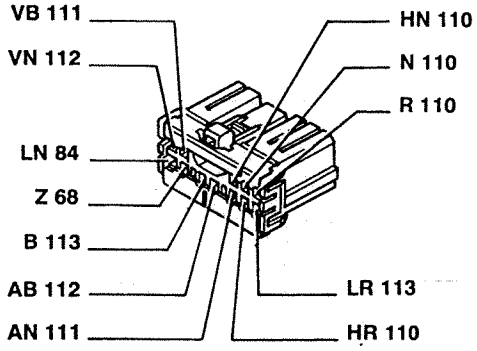
85B Infocenter control unit



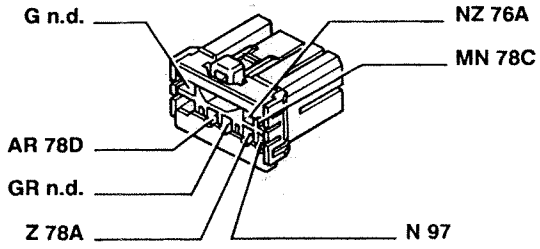
85C Infocenter control unit



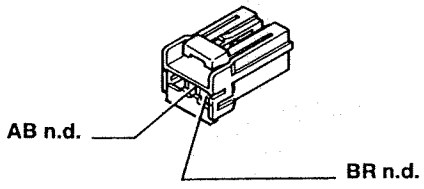
85D Infocenter control unit



85E Infocenter control unit

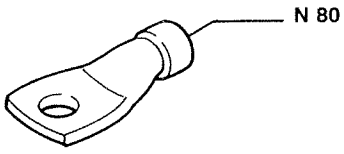


85F Infocenter control unit

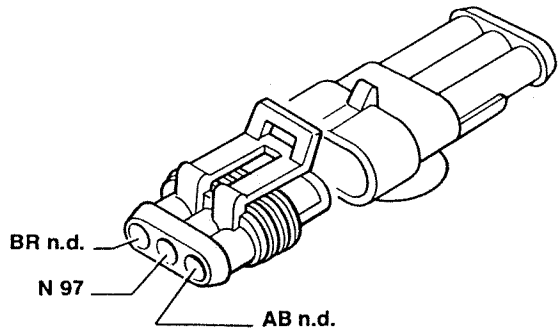


P3U178N01

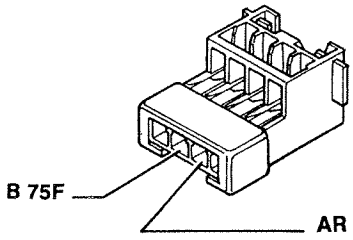
86 Power earth on dashboard

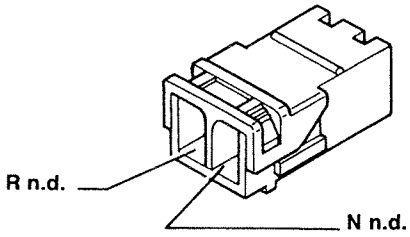


88 Diagnostic socket for Fiat/Lancia tester

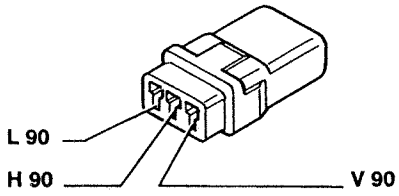


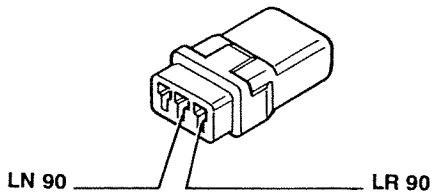
87 Glove compartment light/boot unlock controls

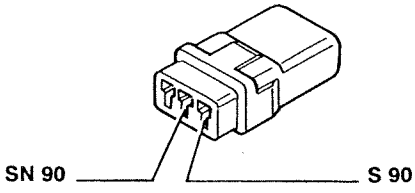


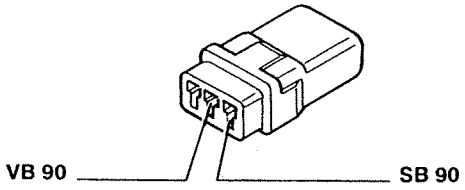


89 Left rearview mirror



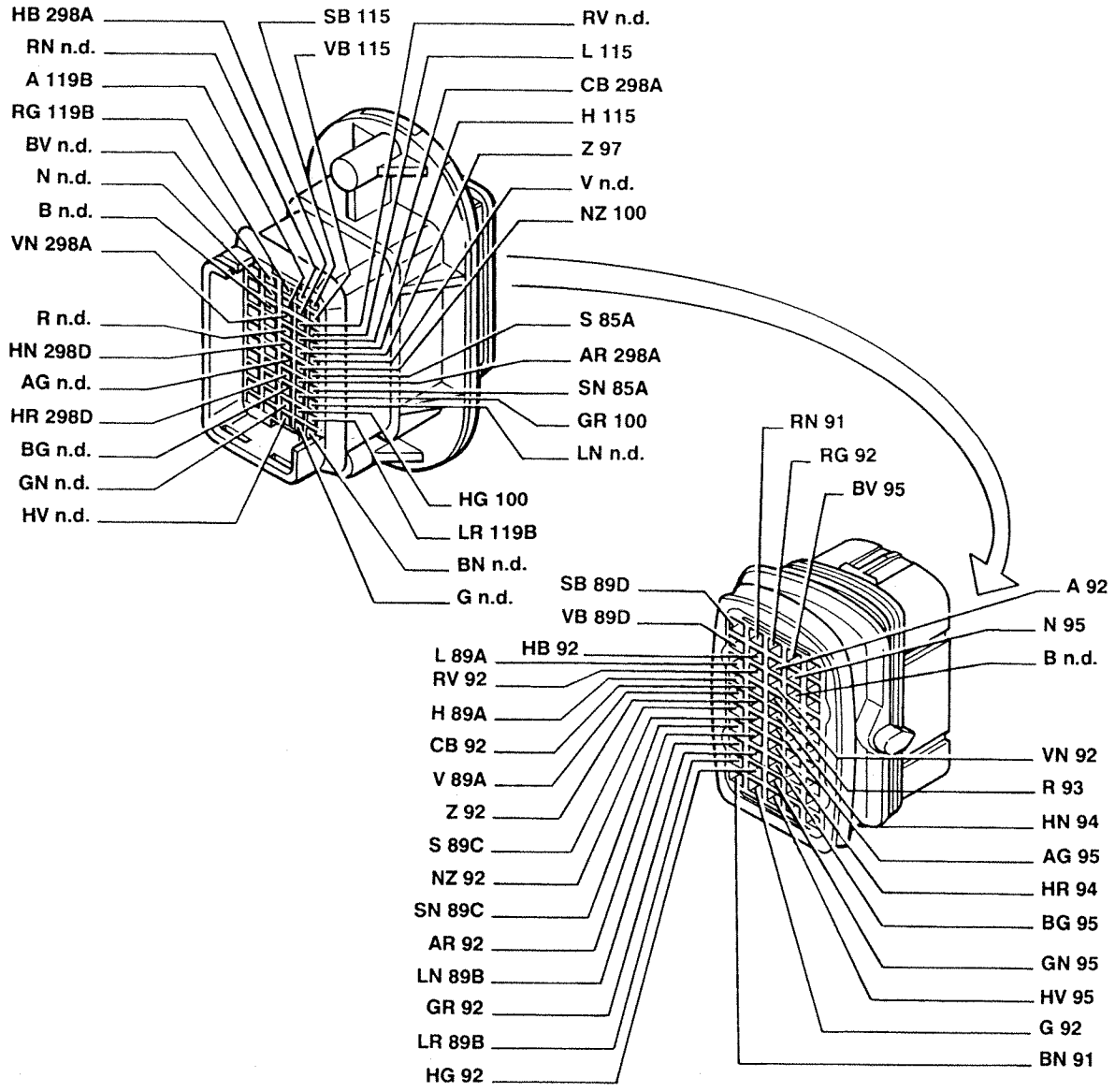




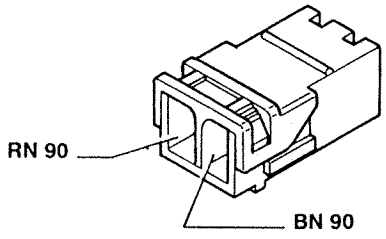


P3U179N01

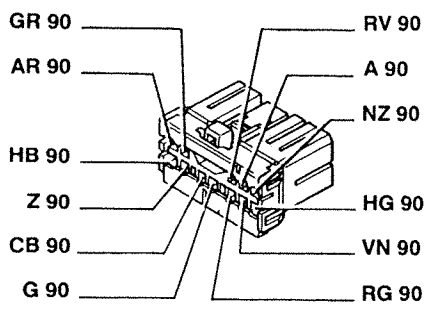
90 Connection between dashboard cable/front left door cable



91 Loudspeaker on front left door

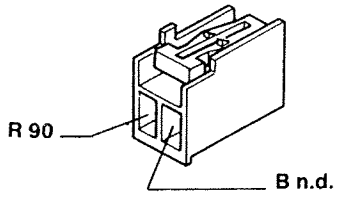


92 Front/rear electric windows pushbutton unit on front left door

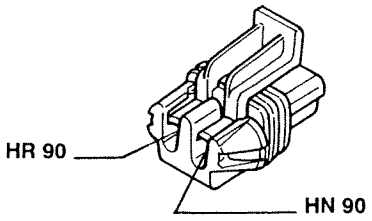


P3U180N01

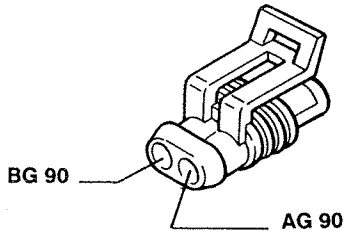
93 Puddle light on front left door

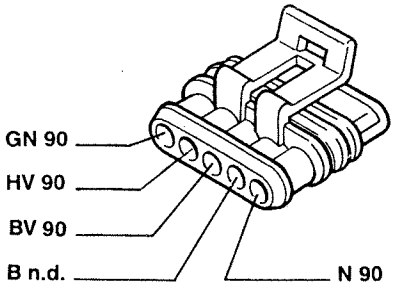


94 Front left electric window motor

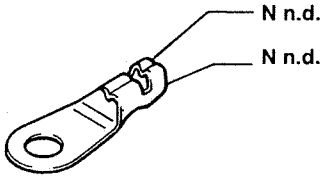


95 Front left door locking motor, front left door open indicator and anti-theft device on switch

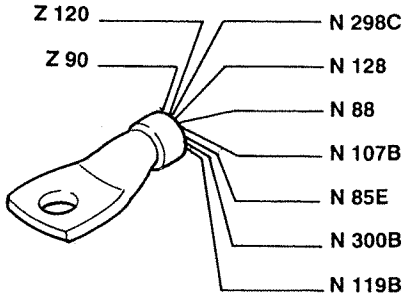




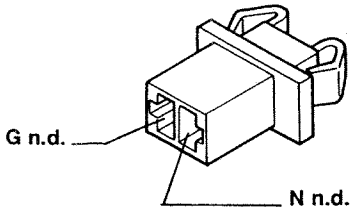
96 Earth on carrier



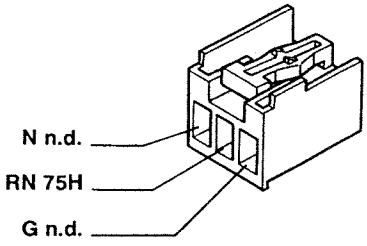
97 Earth on floor



98 Ashtray light



99 Cigar lighter



P3U181N01

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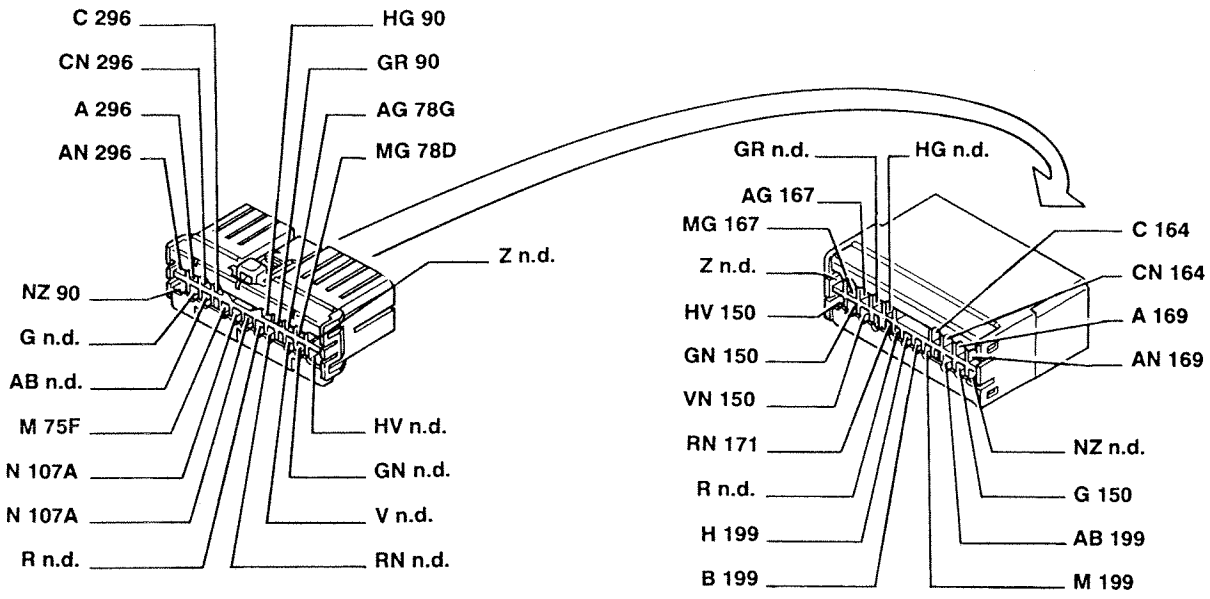
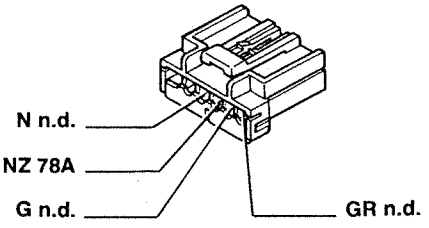
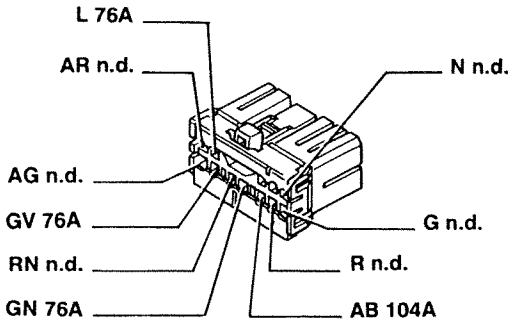
100 Connection between dashboard cable/left longitudinal cable



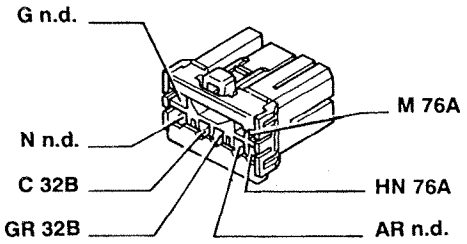
101 Illumination brightness adjustment rheostat



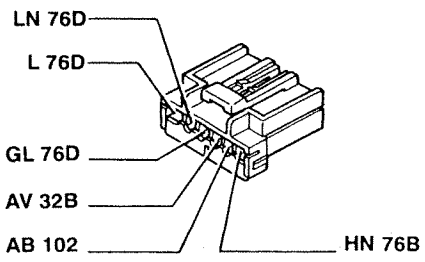
102 External lights controls



103 Switch control assembly

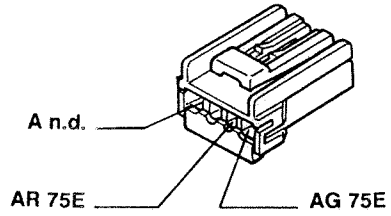


104A Stalk unit

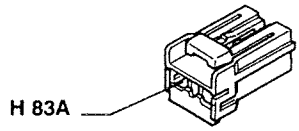


P3U182N01

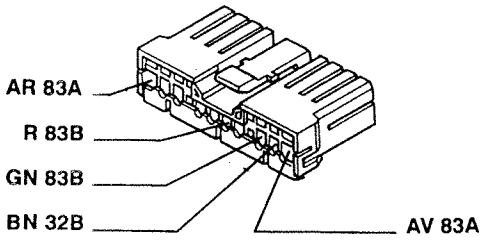
104B Stalk unit



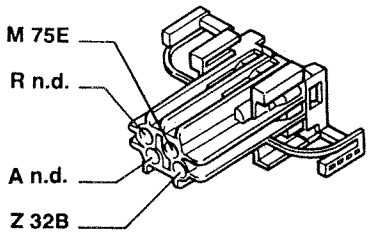
104C Stalk unit



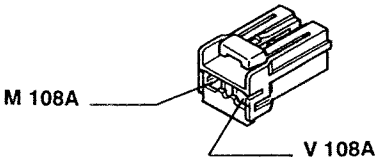
104D Stalk unit



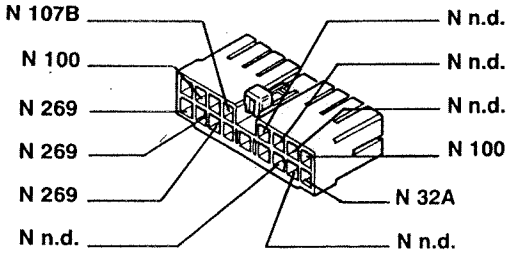
105 Ignition switch



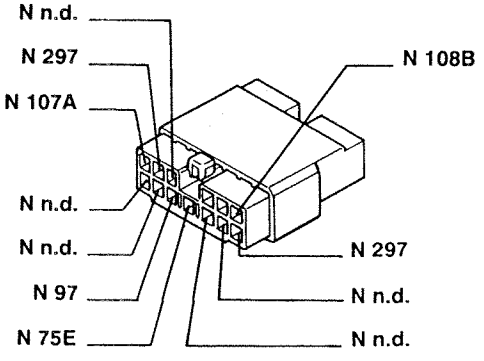
106 Immobilizer aerial



107A Anti-theft device control unit

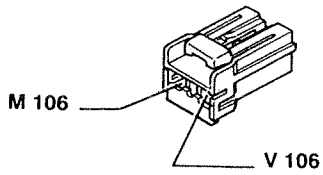


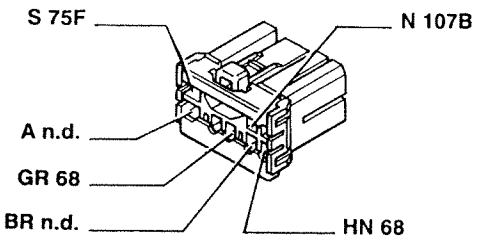
107B Anti-theft device control unit



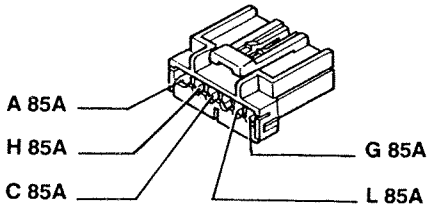
P3U183N01

108 Immobilizer control unit

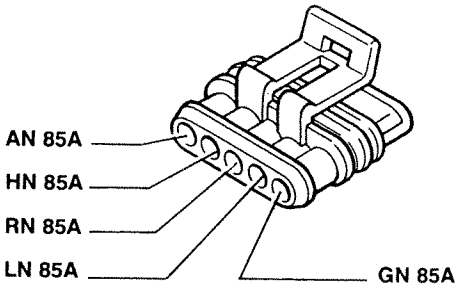




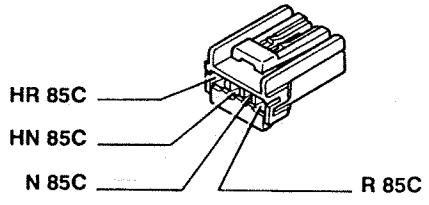
109D Distribution/mixing motor



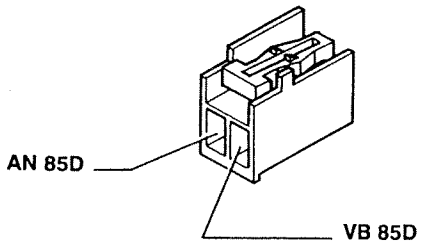
109M Distribution/mixing motor



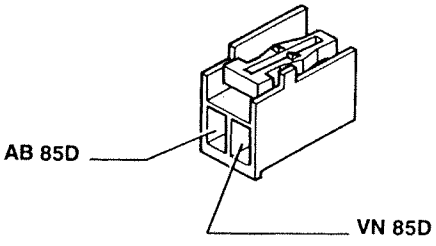
110 Car interior air temperature sensor



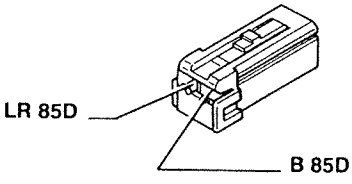
111 Mixed air sensor 1



112 Mixed air sensor 2

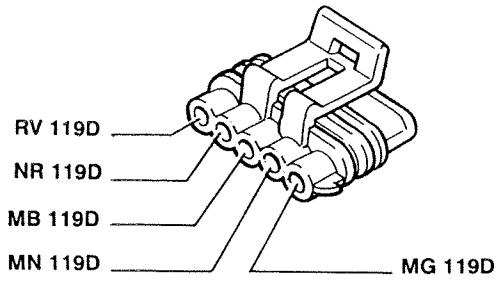


113 Solar temperature sensor

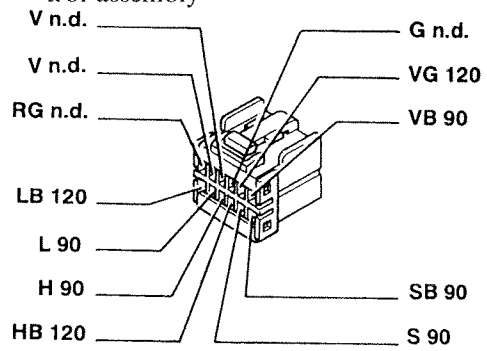


P3U184N01

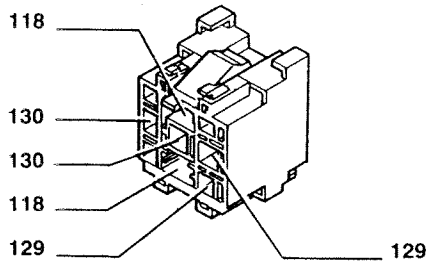
114 Sensor on steering



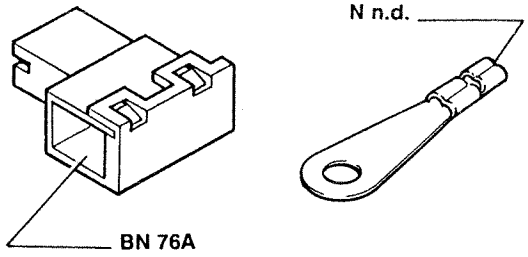
115 Electrically-adjustable rearview mirror control assembly



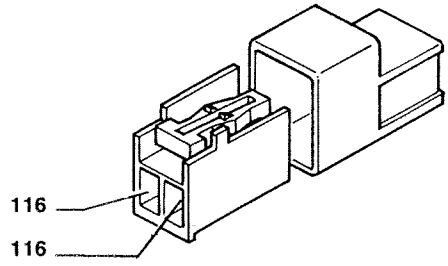
116 Electric sunroof electronic control unit



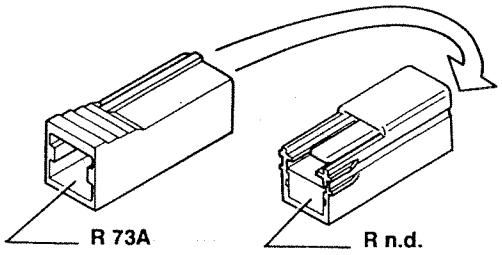
117 Hand brake on warning light switch



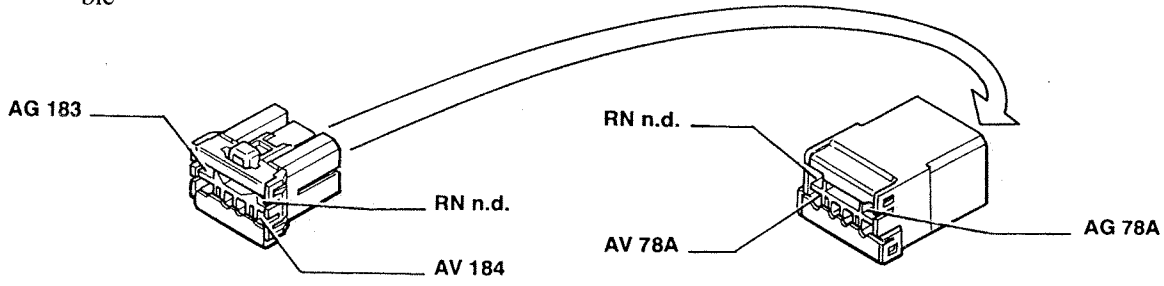
118 Electric sunroof motor



119A Connection between dashboard cable/right longitudinal cable



119C Connection between dashboard cable/right longitudinal cable



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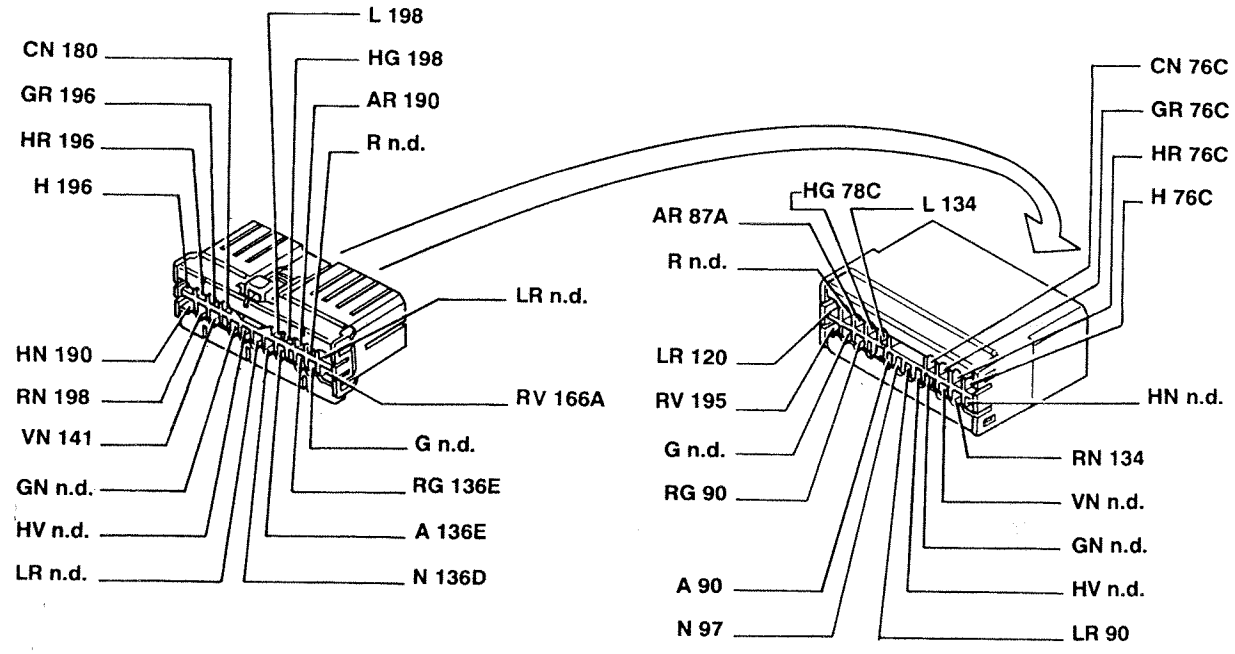
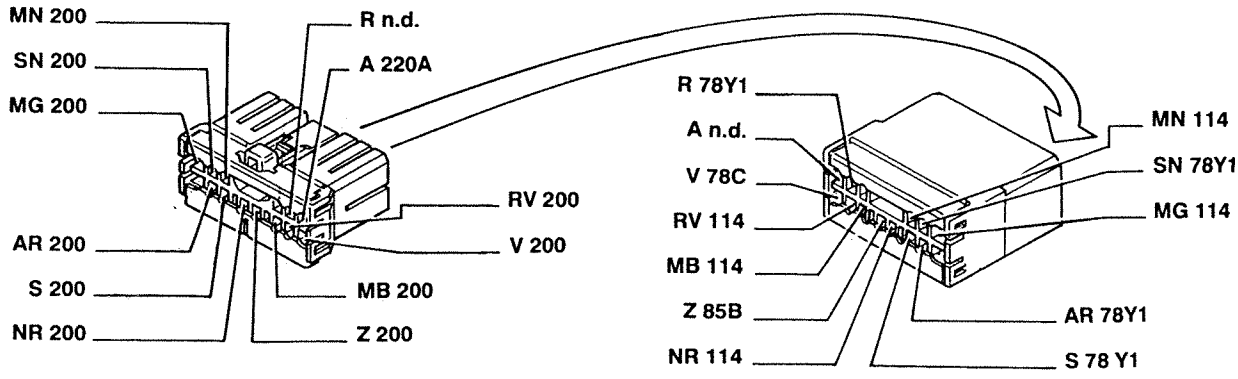
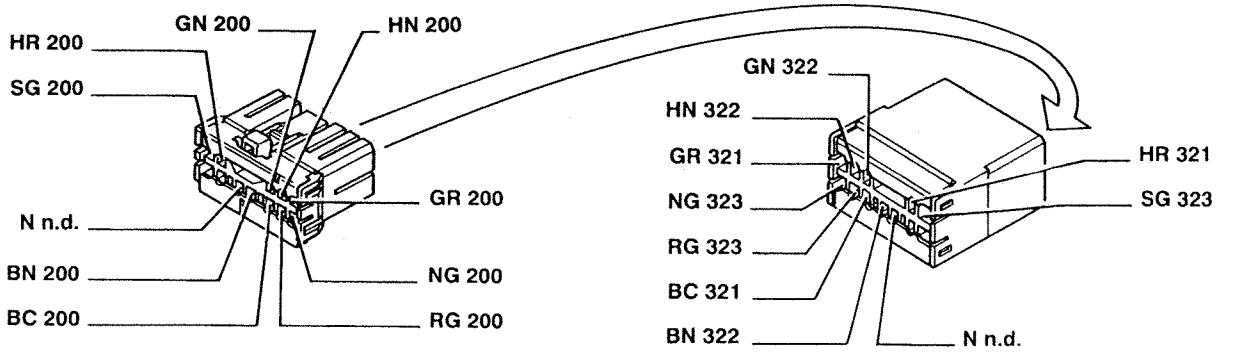
119B Dashboard cable/right longitudinal cable connection



119D Dashboard cable/right longitudinal cable connection



119E Right longitudinal cable/right engine bay cable connection



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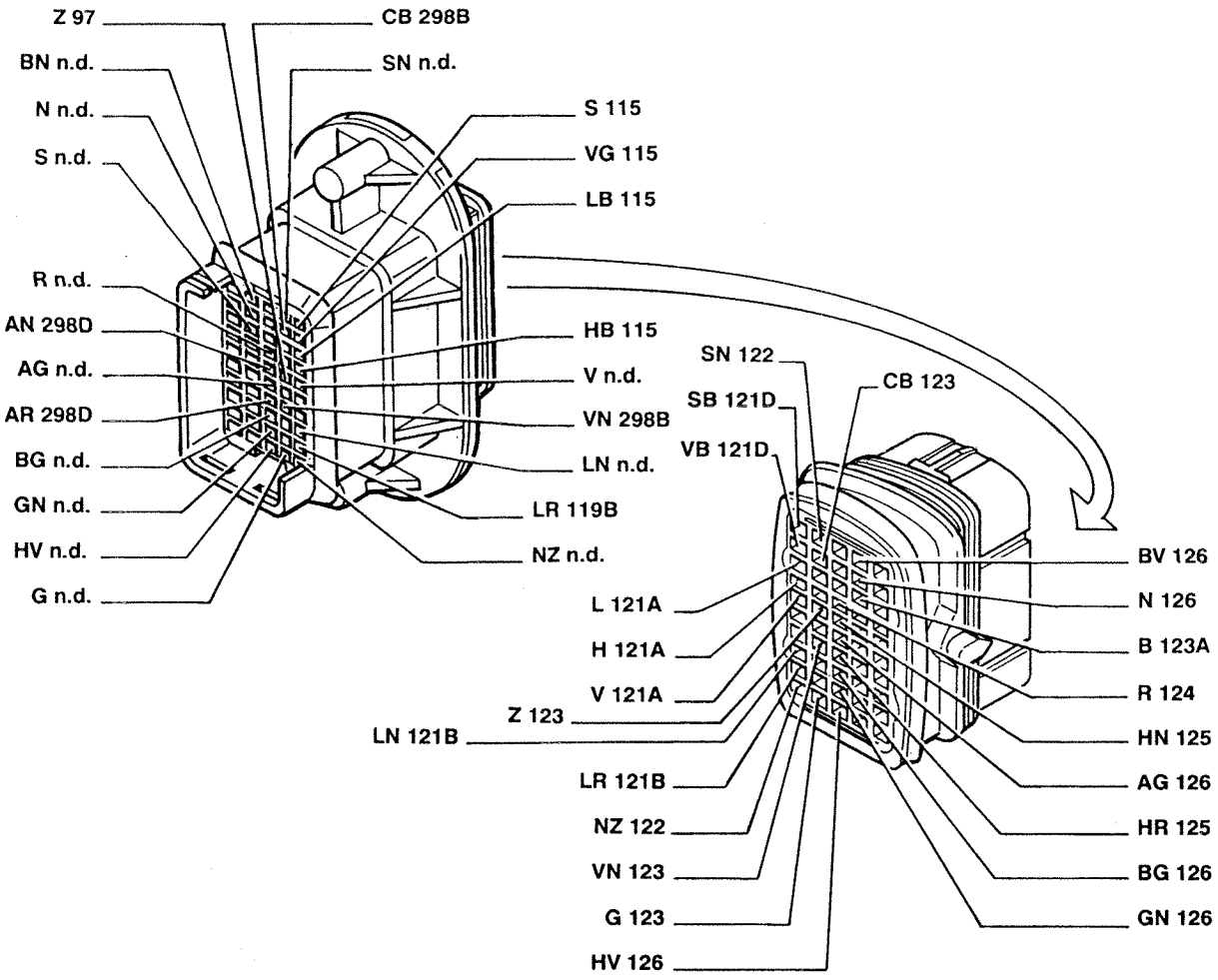
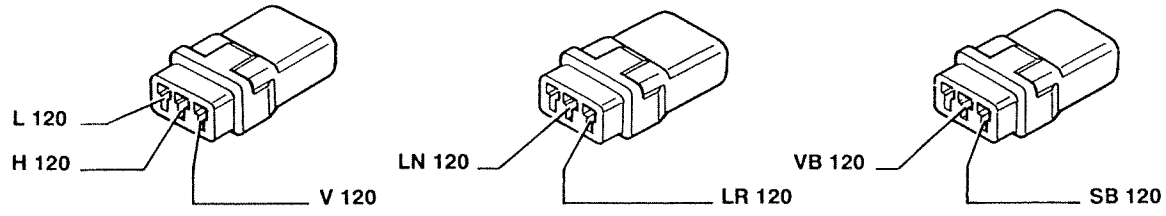
120 Connection between dashboard/front right door cable



121 Right rearview mirror



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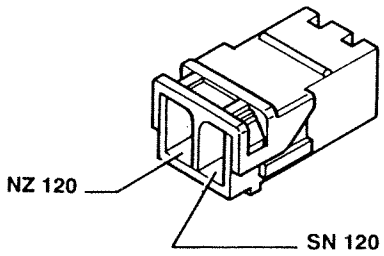
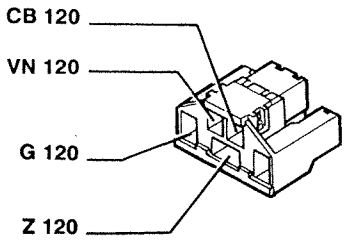
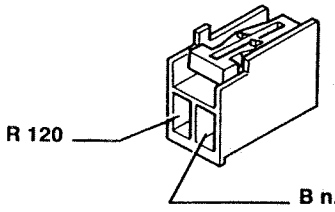
122 Loudspeaker on front right door



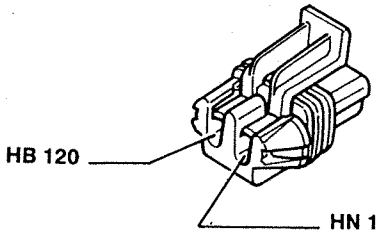
123 Front right electric window pushbutton unit on front right door



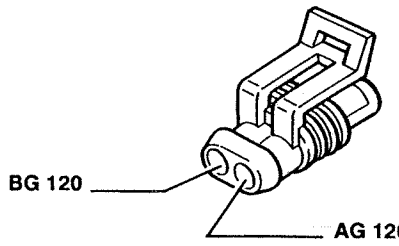
124 Puddle light on front right door

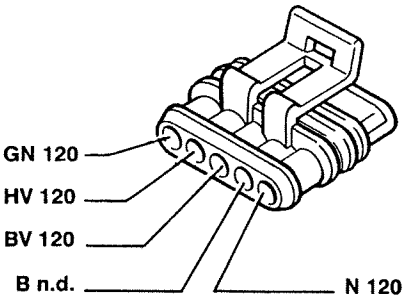


125 Front right electric window motor

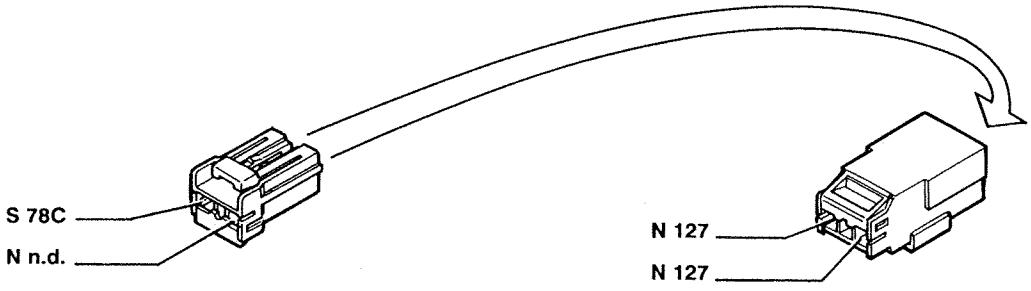


126 Front right door locking motor, front right door open indicator and anti-theft device on switch





127 Seat belts unfastened indicator switch



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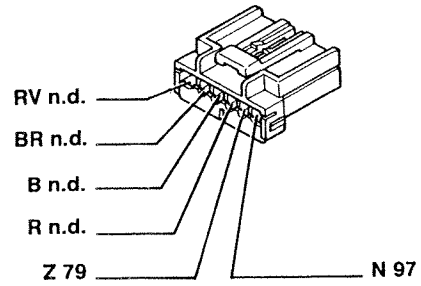
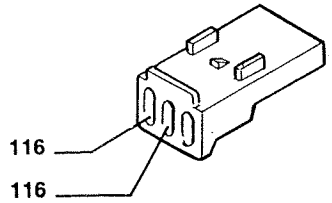
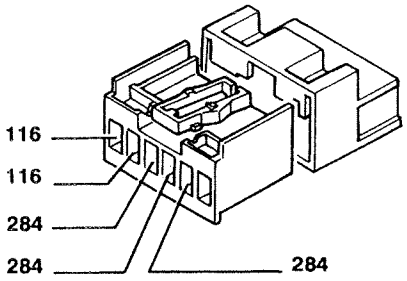
128 Front courtesy light timer



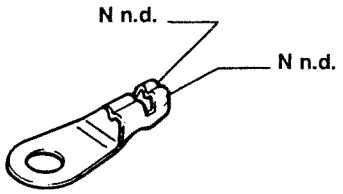
129 Electric sunroof limit switch



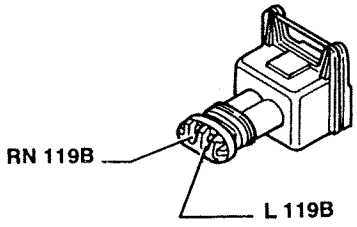
130 Electric sunroof button



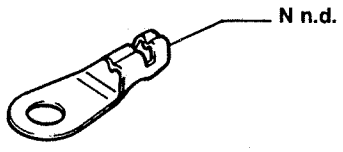
131 Earth on steering column mounting



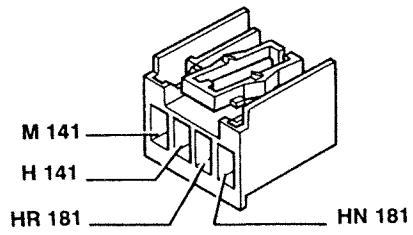
134 Servotronik solenoid



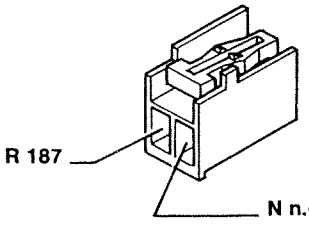
135 Earth on floor (Air Bag signal)



136A Electric rear windows control unit



136B Electric rear windows control unit



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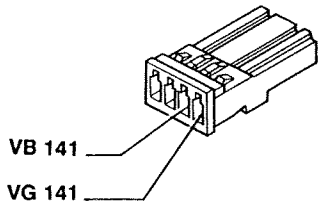
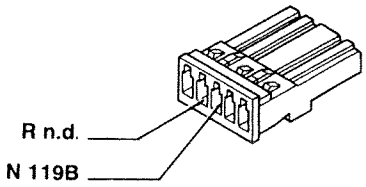
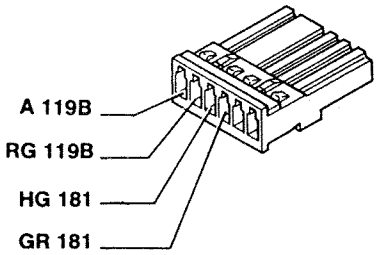
136C Electric rear windows control unit



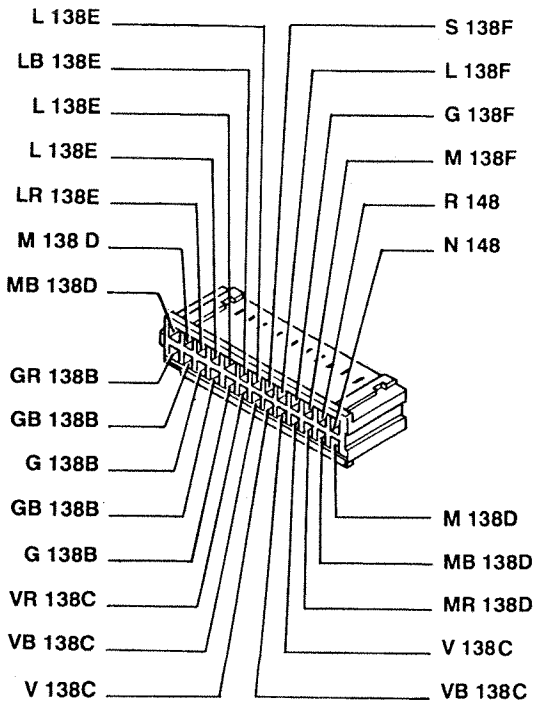
136D Electric rear windows control unit



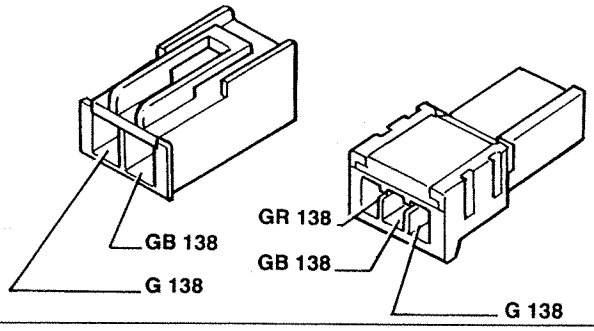
136E Electric rear windows control unit



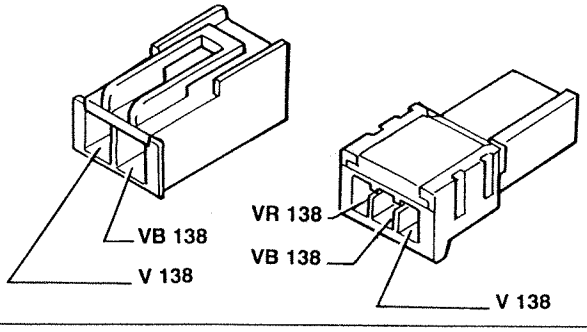
138 Electronic control unit for driver's electrically-adjustable seat with memory



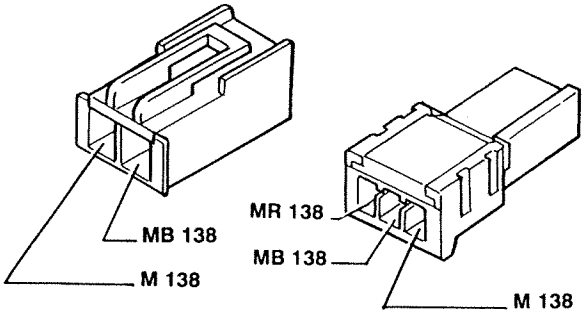
138B Driver's seat squab adjustment motor



138C Driver's seat rear height adjustment motor



138D Driver's seat front height adjustment motor



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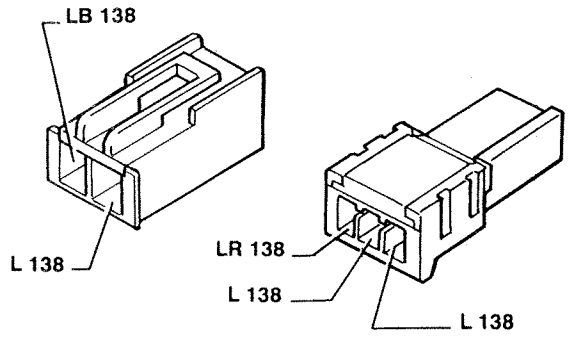
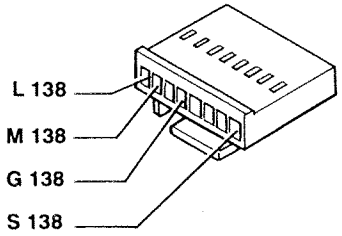
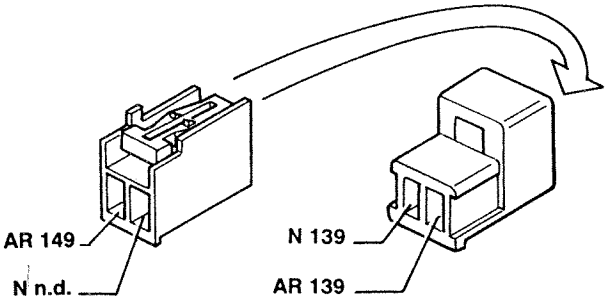
138E Driver's seat forward/backward adjustment motor



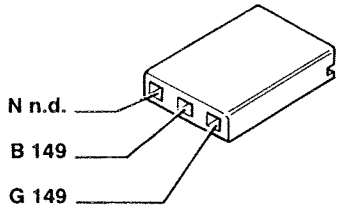
138F Driver's seat memory control pushbutton unit



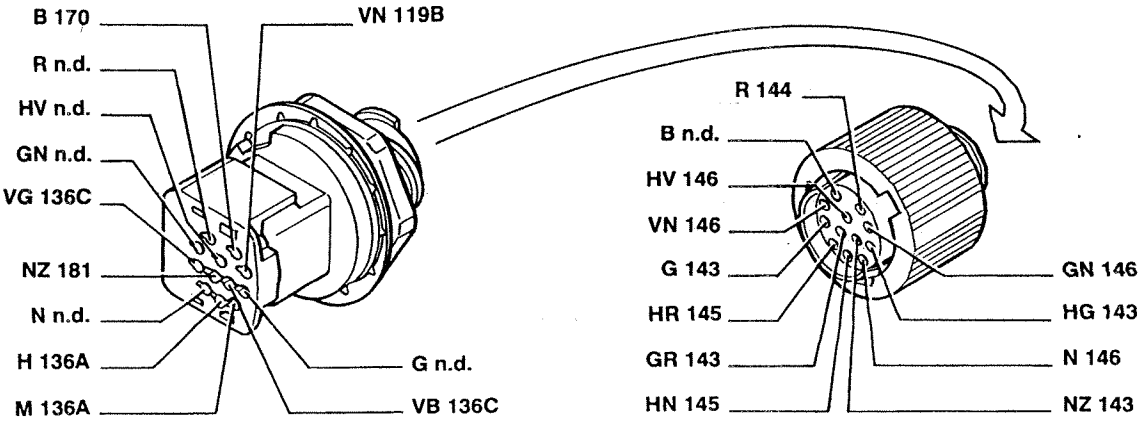
139 Driver's seat heating pad



140 Switch for driver's seat heating pad



141 Connection between right longitudinal cable/rear right door cable



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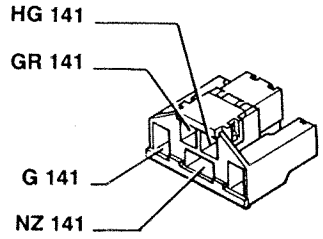
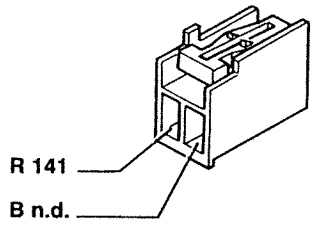
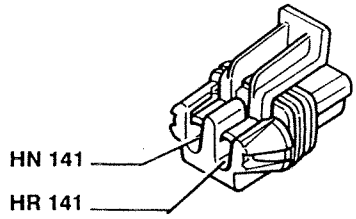
143 Rear right electric window pushbutton unit on rear right door



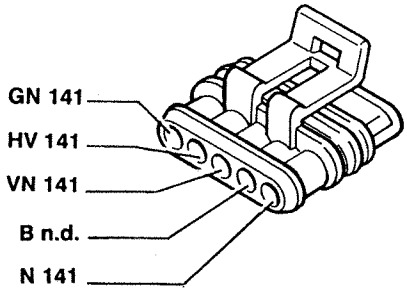
144 Puddle light on rear right door



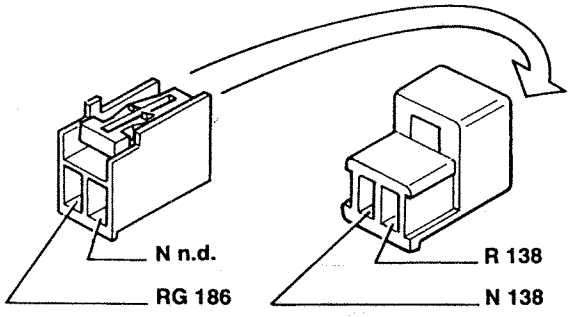
145 Rear right electric window motor



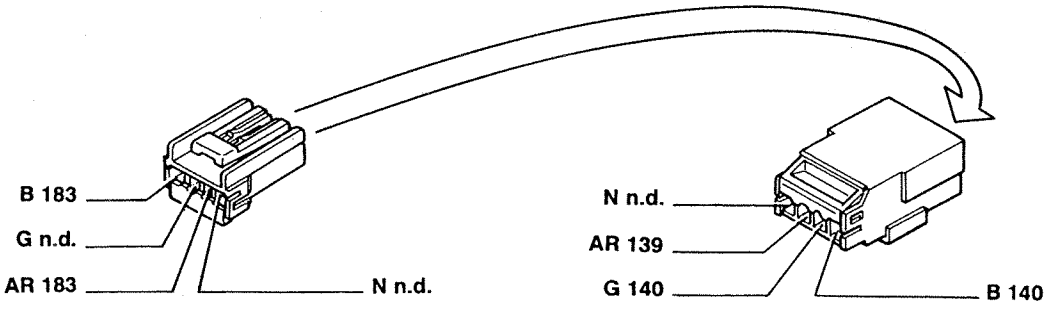
146 Rear right door locking motor, rear right door open indicator and anti-theft device on switch



148 Connection between left longitudinal cable/left seat cable



149 Connection between left longitudinal cable/left seat cable



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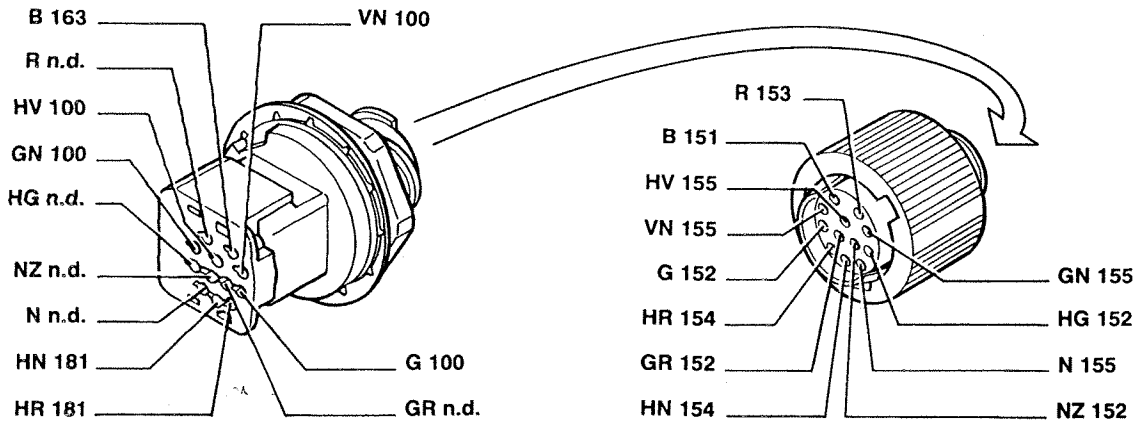
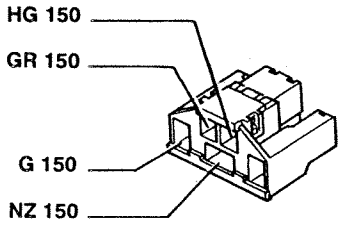
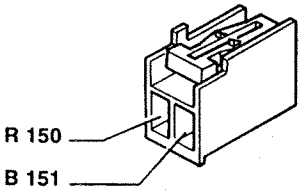
150 Connection between left longitudinal cable/rear left door cable



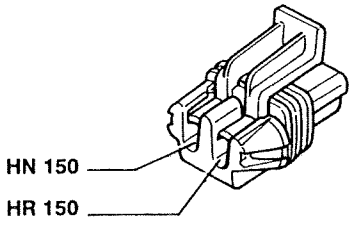
152 Rear left electric window pushbutton unit on rear left door



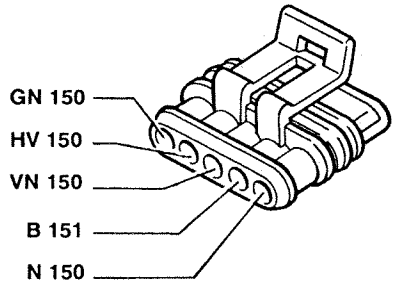
153 Puddle light on rear left door



154 Rear left electric window motor



155 Rear left door locking motor, rear left door open indicator and anti-theft device on switch



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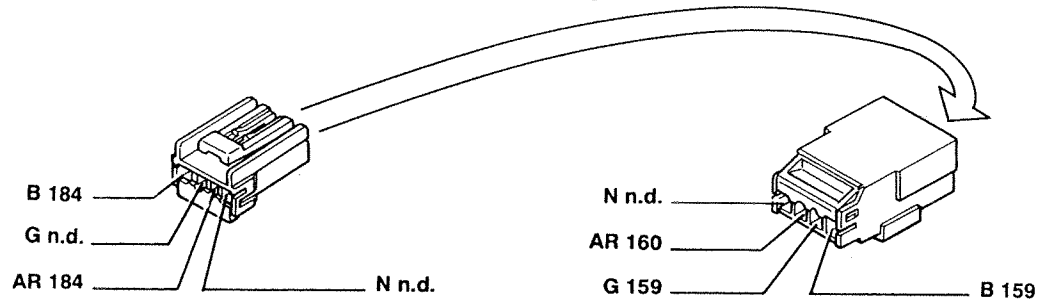
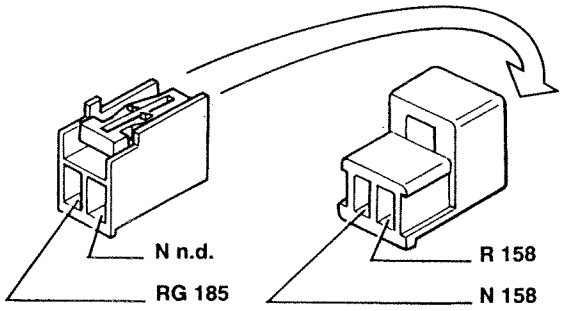
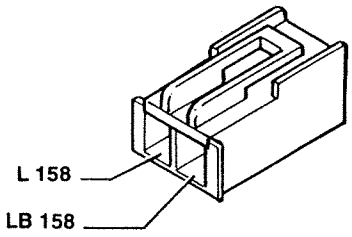
156 Connection between right longitudinal cable/right seat



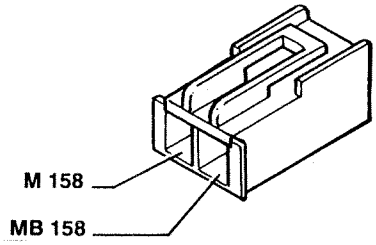
157 Connection between right longitudinal cable/right cable



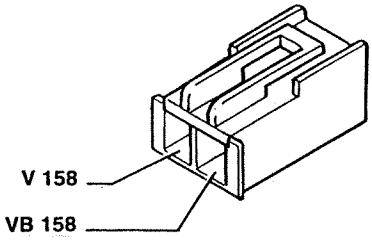
158A Passenger seat forward/backward adjustment motor



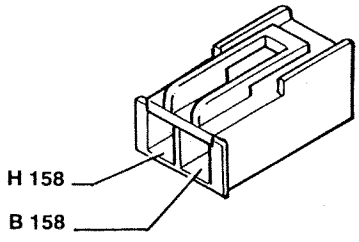
158B Passenger seat rear height adjustment motor



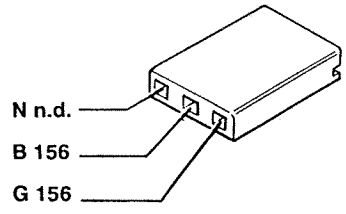
158C Passenger seat front height adjustment motor



158D Passenger seat squab adjustment motor



159 Switch for passenger seat heating pad



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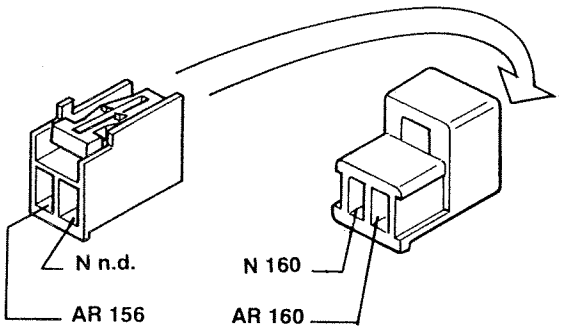
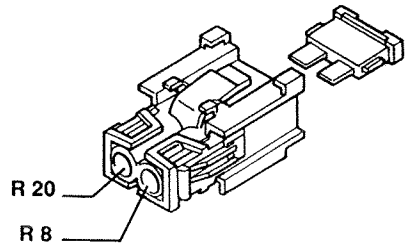
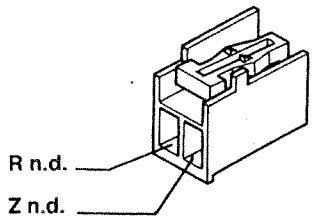
160 Passenger seat heating pad



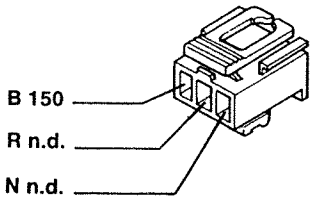
161 100A fuse protecting alternator (2959 - 1998 T only)



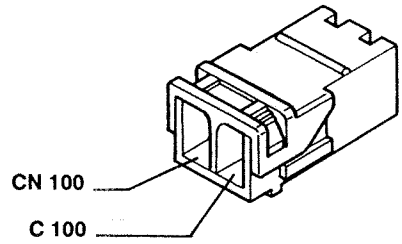
162 Boot light



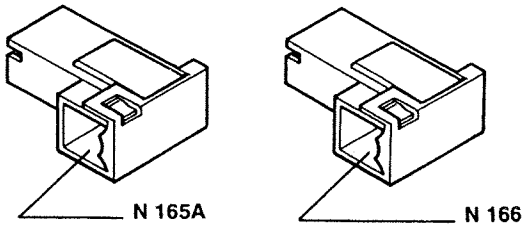
163 Rear left courtesy light



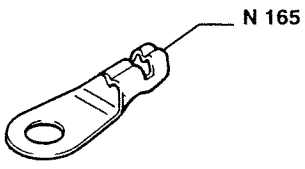
164 Rear left loudspeaker



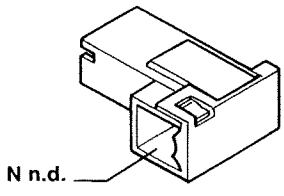
165 Heated rear window



165A Earth for heated rear window



166 Amplifier for aerial on rear window



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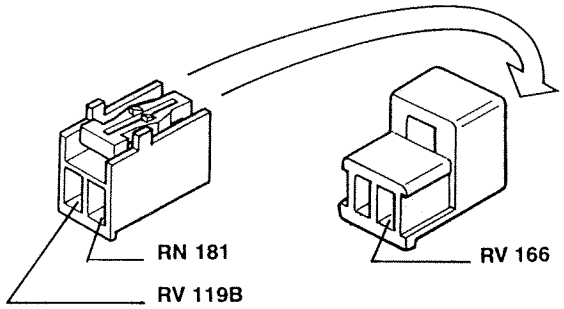
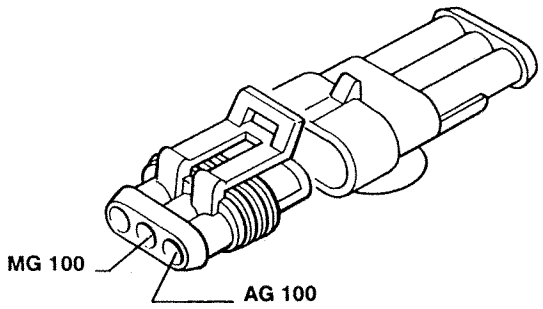
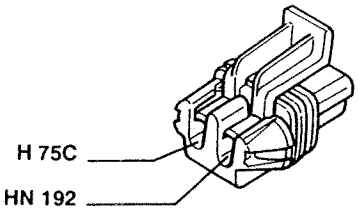
166A Rear cables connection on rear window



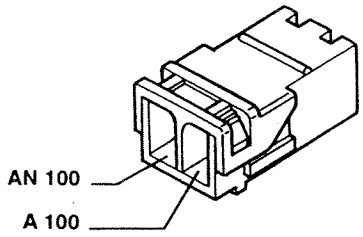
167 Fuel gauge sender unit



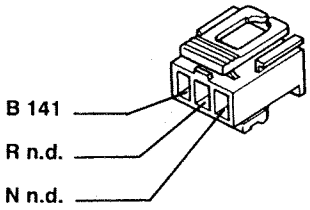
168 Electric fuel pump



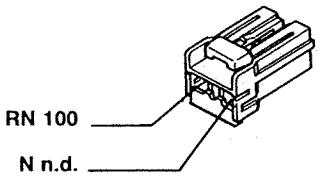
169 Rear right loudspeaker



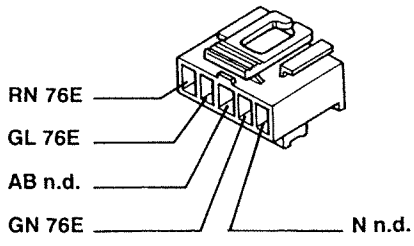
170 Rear right courtesy light



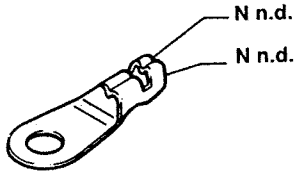
171 Additional stop lights indicator



172 Rear right lights cluster on fixed part



173 Rear right earth



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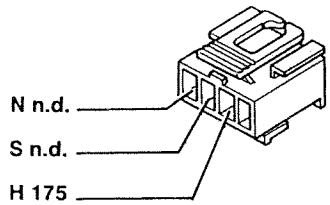
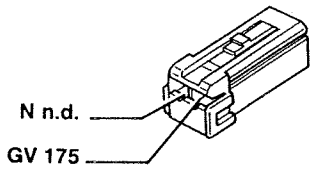
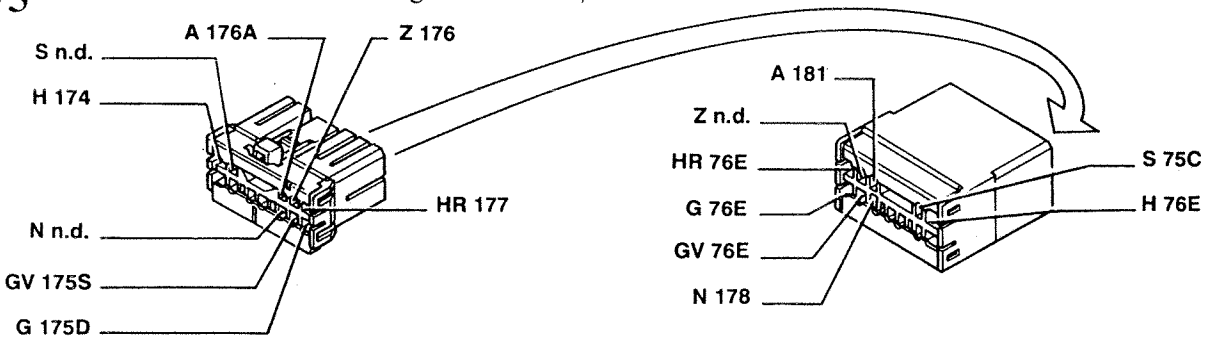
174 Rear right lights cluster on moving part



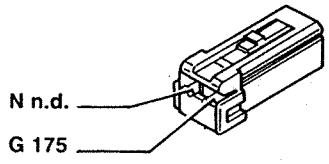
175S Left number plate light



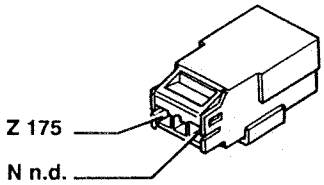
175 Connection between left longitudinal cable/boot cable



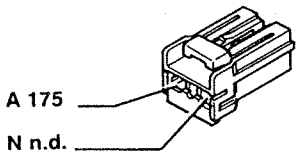
175D Right number plate light



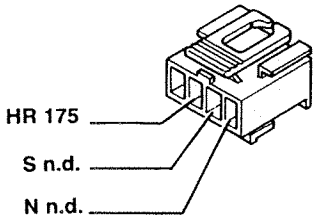
176 Boot lock/unlock motor



176A Boot lock/unlock motor



177 Rear left lights cluster on moving part



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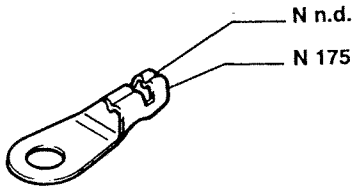
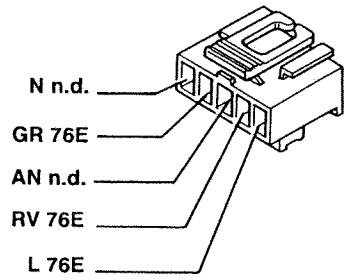
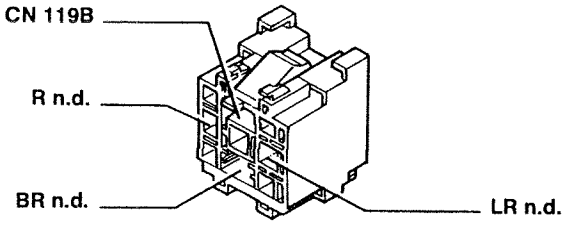
178 Rear left earth



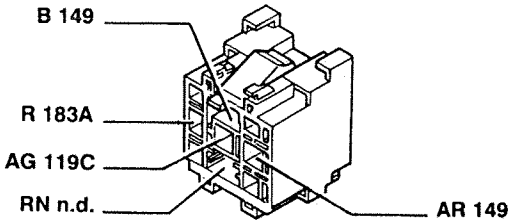
179 Rear left lights cluster on fixed part



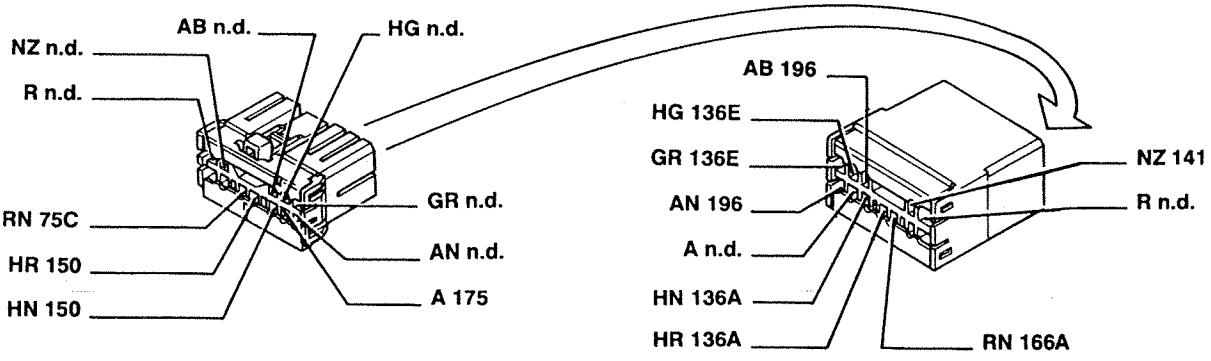
180 Heated rear window relay



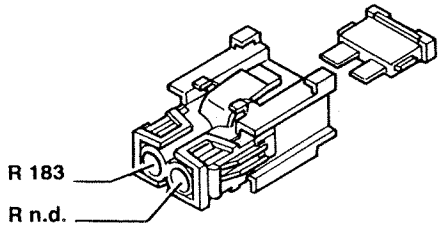
183 Relay for driver's seat heating pad



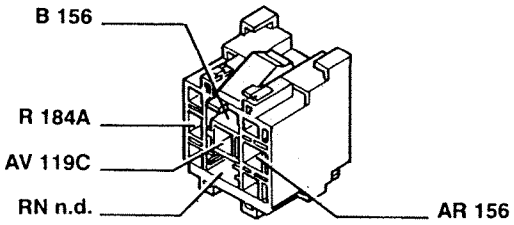
181 Connection between left longitudinal cable/right longitudinal cable



183A 7.5A fuse protecting relay on driver's seat heating pad



184 Relay for passenger seat heating pad



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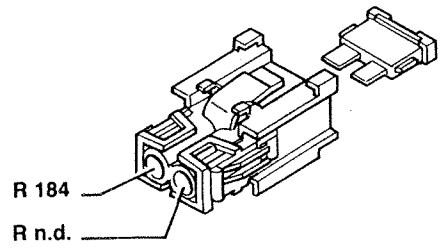
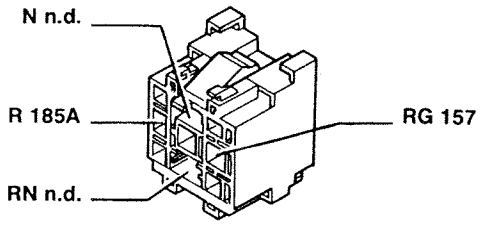
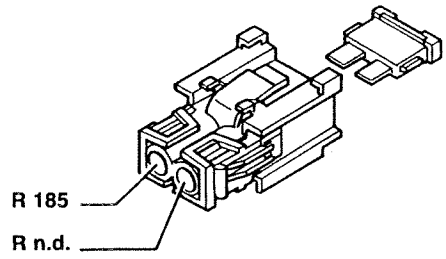
184A 7.5A fuse protecting relay on passenger seat heating pad



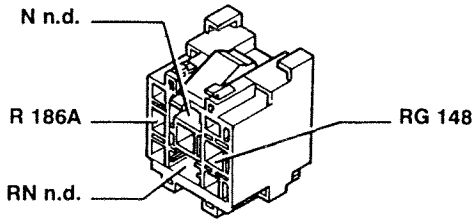
185 Relay for electrically-adjustable driver's seat



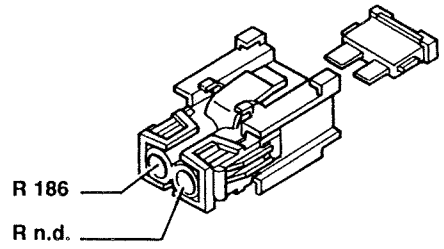
185A 30A fuse protecting electrically-adjustable passenger seat



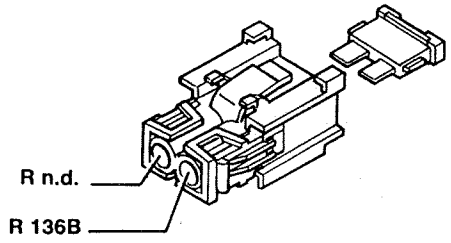
186 Relay for electrically-adjustable passenger seat



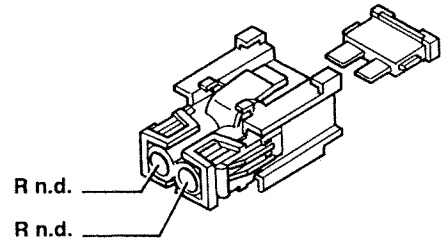
186A 30A fuse protecting electrically-adjustable driver's seat



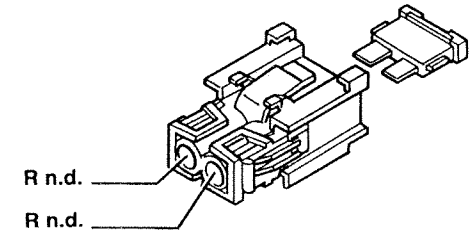
187 25A fuse protecting electric rear windows control unit



188 25A fuse protecting boot unlock electromagnet



189 30A fuse protecting heated rear window



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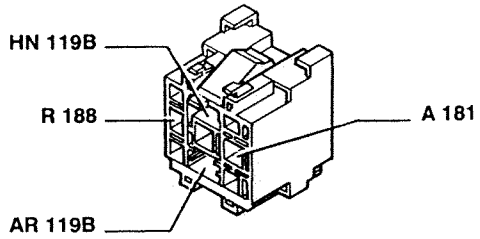
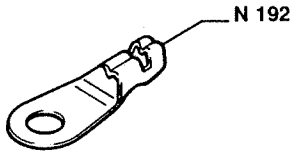
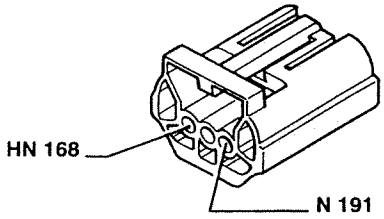
190 Boot lock/unlock relay



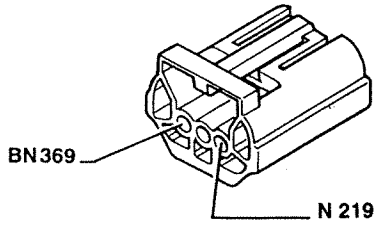
191 Inertial switch earth



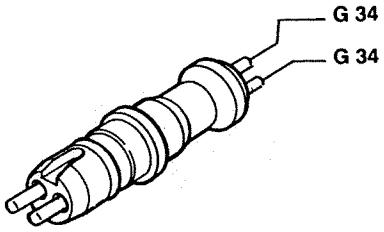
192 Inertial switch



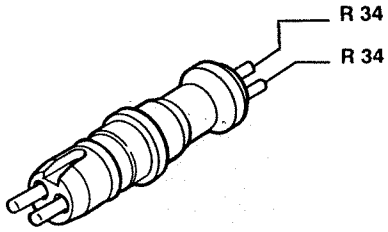
192 Inertial switch (2400 Turbo D only)



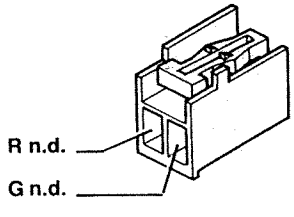
193 Sensor on rear left wheel for anti-lock braking system (A.B.S.)



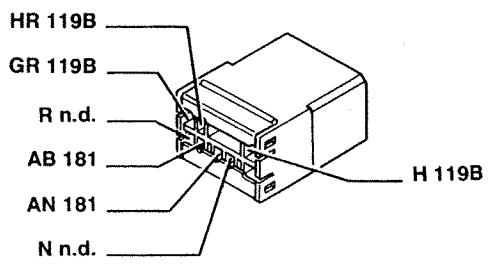
194 Sensor on rear right wheel for anti-lock braking system (A.B.S.)



195 Fuel flap lock motor



196 Trailer wiring



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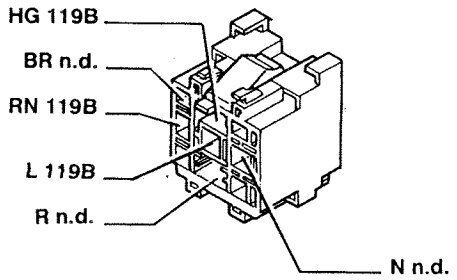
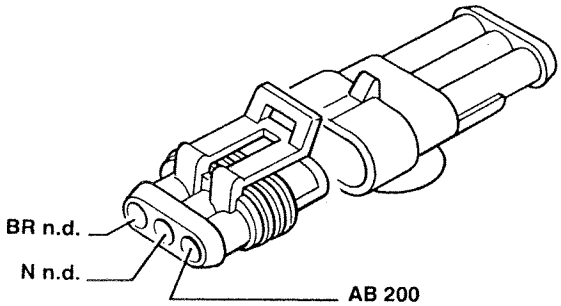
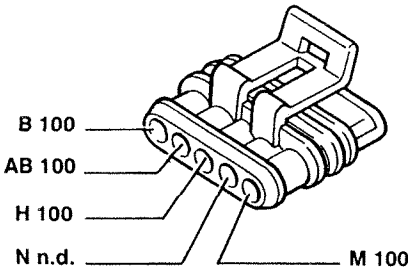
198 Servotronic electronic control unit



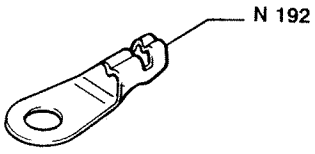
198A Diagnostic socket



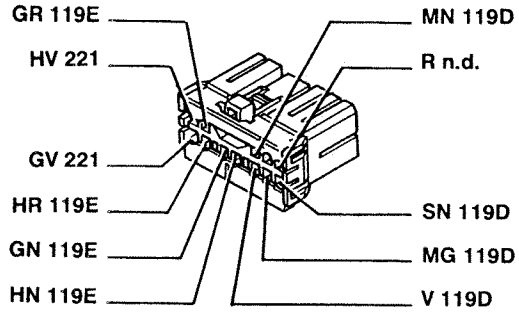
199 Anti-theft siren

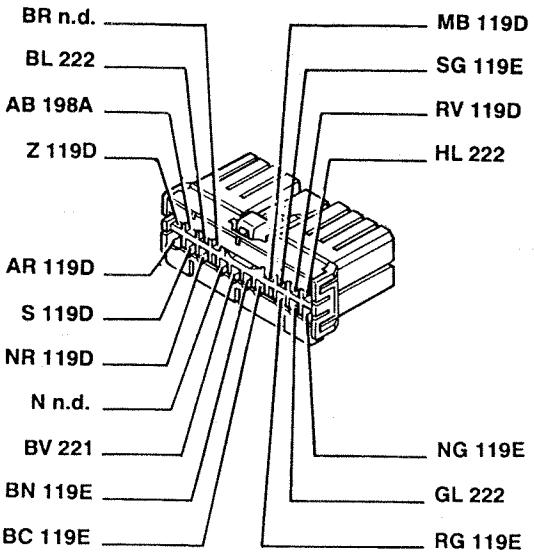


219 Earth on central console (Tds only)

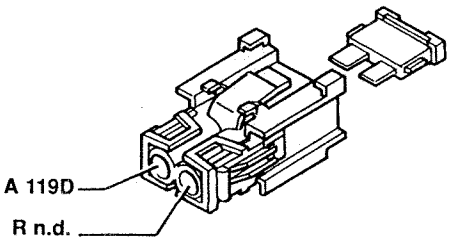


200 Controlled damping suspension (C.D.S.) electronic control unit





220A 7.5A fuse protecting controlled damping suspension system (C.D.S.)



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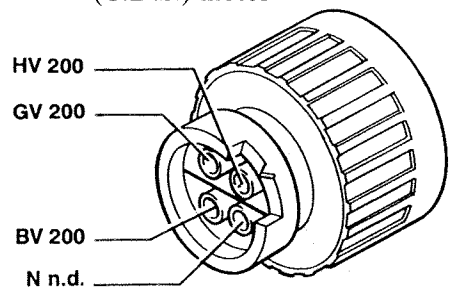
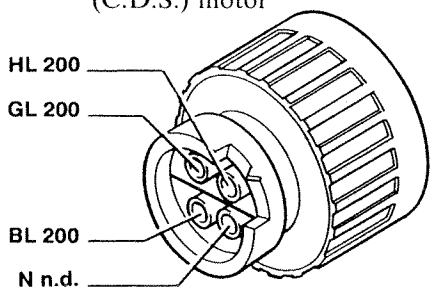
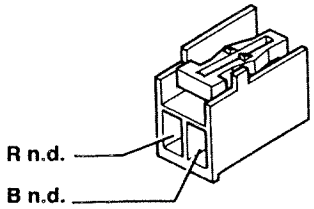
221 Rear left controlled damping suspension (C.D.S.) motor



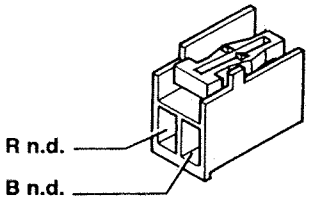
222 Rear right controlled damping suspension (C.D.S.) motor



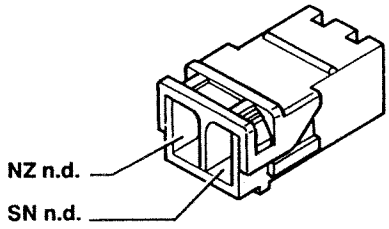
225 Left floor light



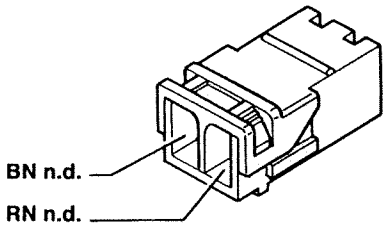
226 Right floor light



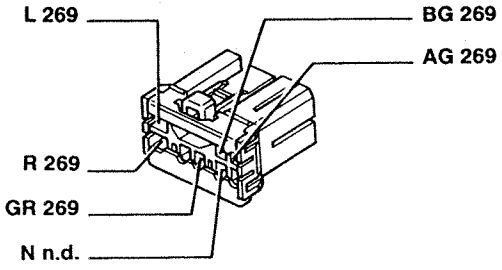
227 Front right loudspeaker



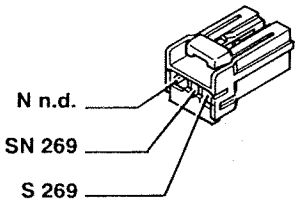
228 Front left loudspeaker



266 Infrared receiver for anti-theft device



267 Volumetric sensors for anti-theft device



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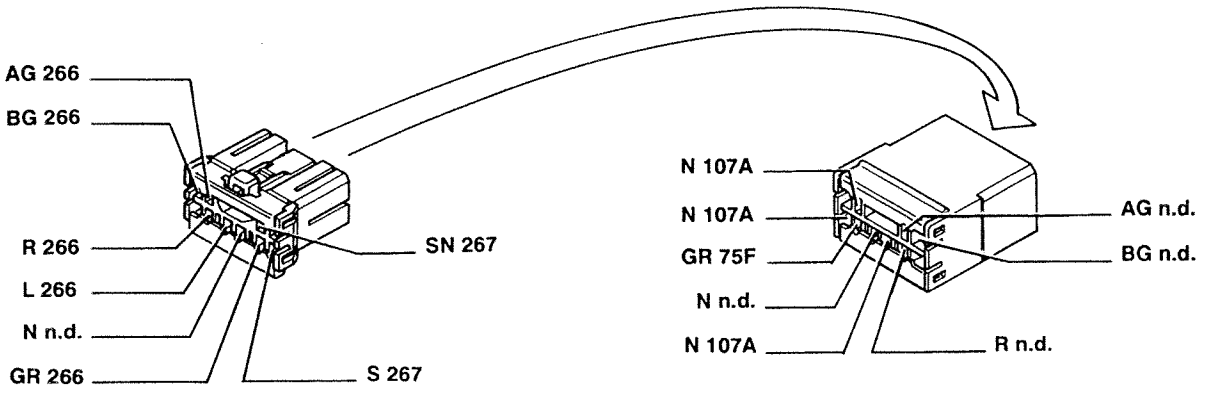
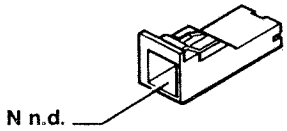
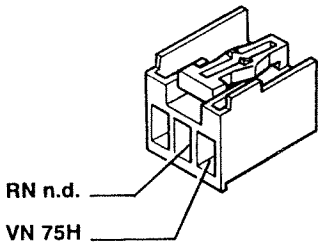
269 Connection between dashboard cable/receiver cable



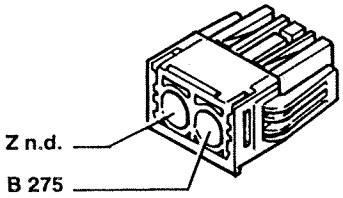
270 Earth on steering column



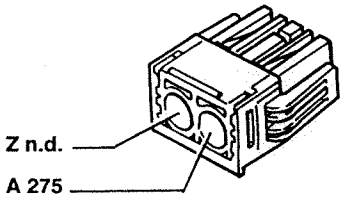
271 Stop lights switch



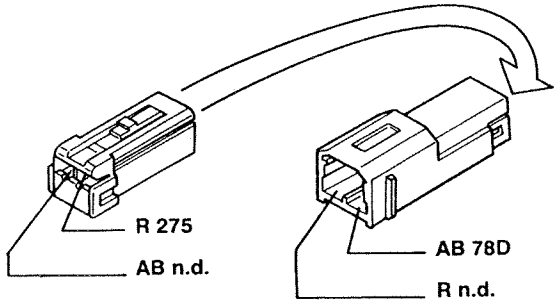
272 Driver's Air Bag connection



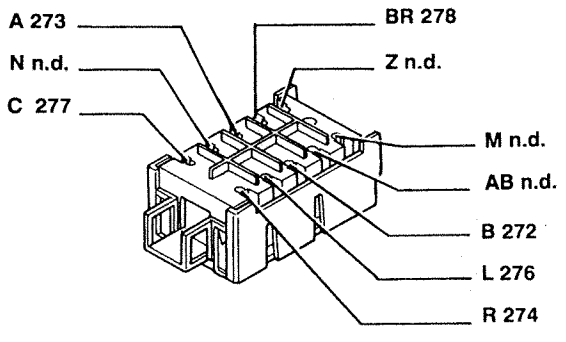
273 Passenger's Air Bag connection



274 Connection between dashboard cable/Air Bag cable



275 Air Bag control unit



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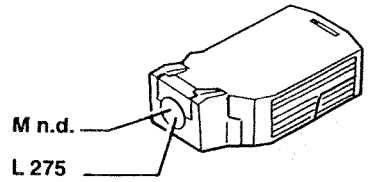
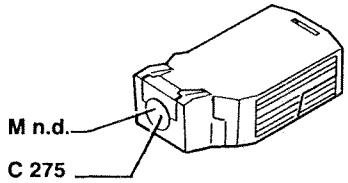
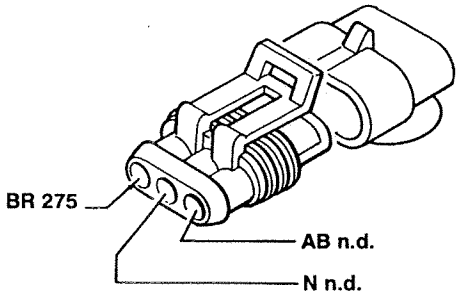
276 Left seat belt pretensioner



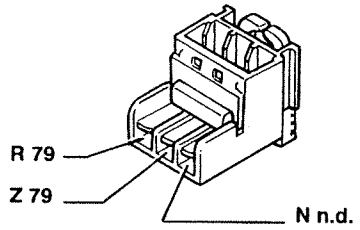
277 Right seat belt pretensioner



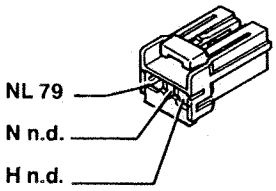
278 Diagnostic socket for Air Bag



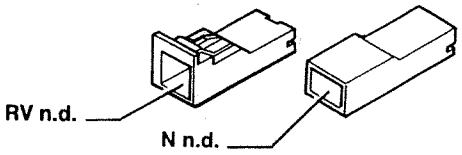
281 Front courtesy light



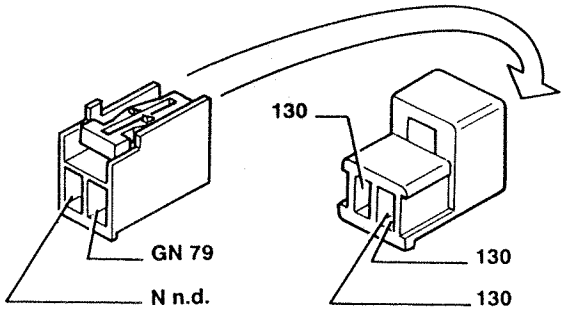
282 Internal electrochromic rearview mirror



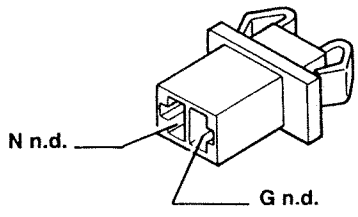
283 Illuminated passenger shade



284 Wiring for electric sunroof



290 Illumination for front left air vent controls



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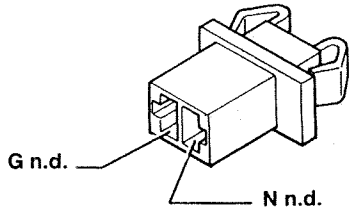
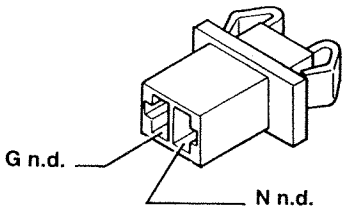
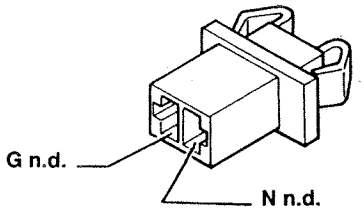
291 Illumination for central left air vent controls



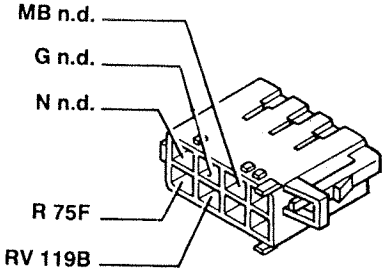
292 Illumination for central right air vent controls



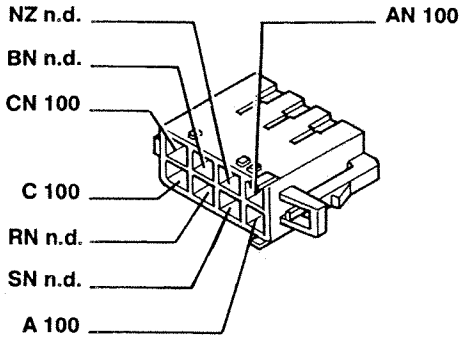
293 Illumination for front right air vent controls



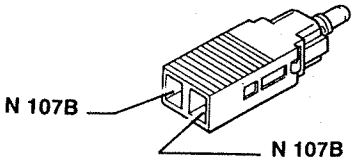
295 Radio cables connection



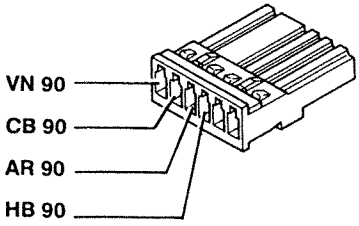
296 Radio cables connection



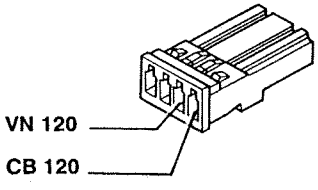
297 Warning light for anti-theft device/Immobilizer device



298A Electric front windows control unit



298B Electric front windows control unit



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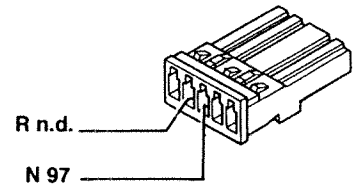
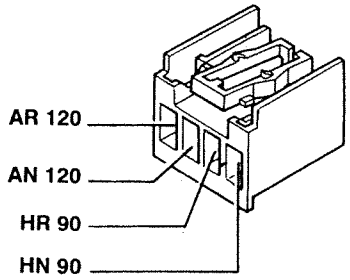
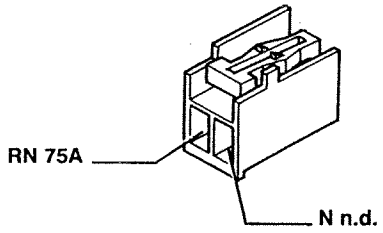
298C Front electric windows control unit



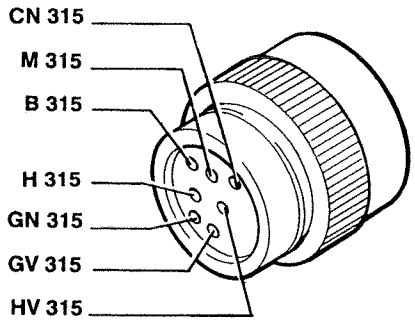
298D Front electric windows control unit



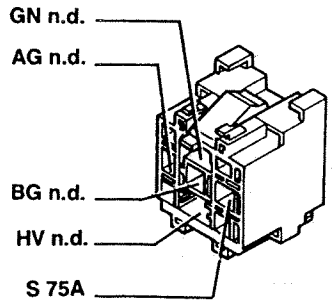
298E Front electric windows control unit

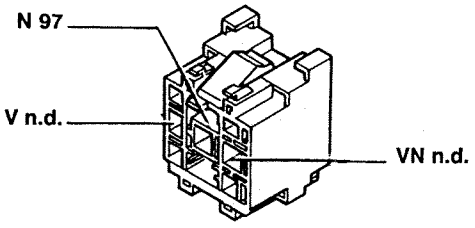


301 Solenoids assembly

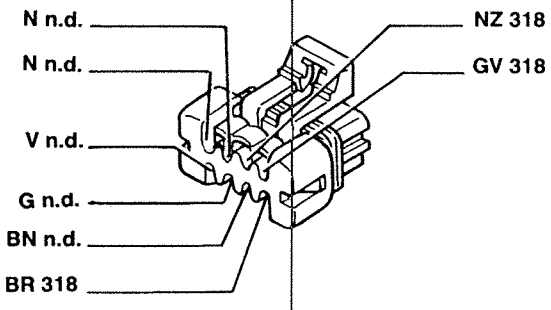


300 Central door locking electronic control unit





302 Switches control assembly



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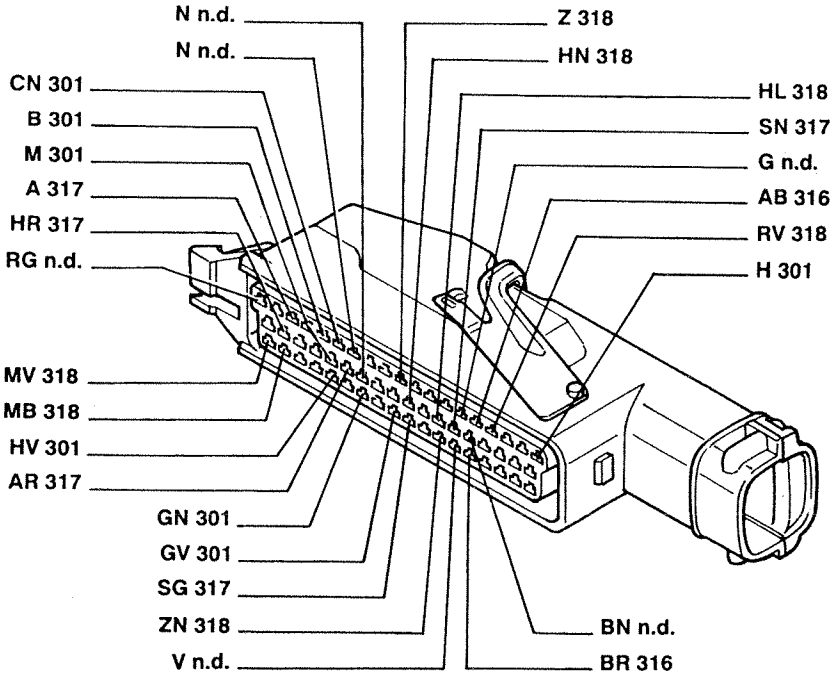
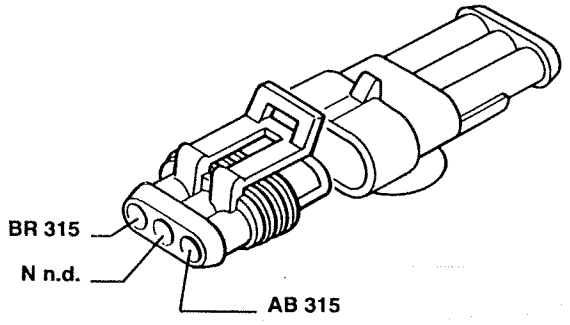
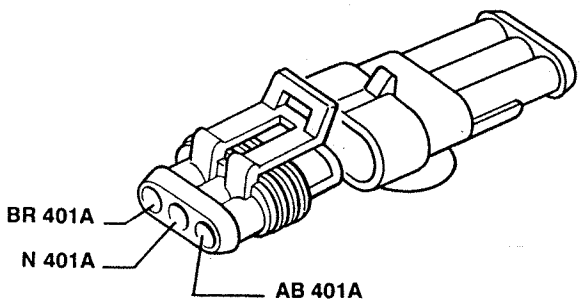
315 Electronic automatic transmission gear selection control unit (2959 only))



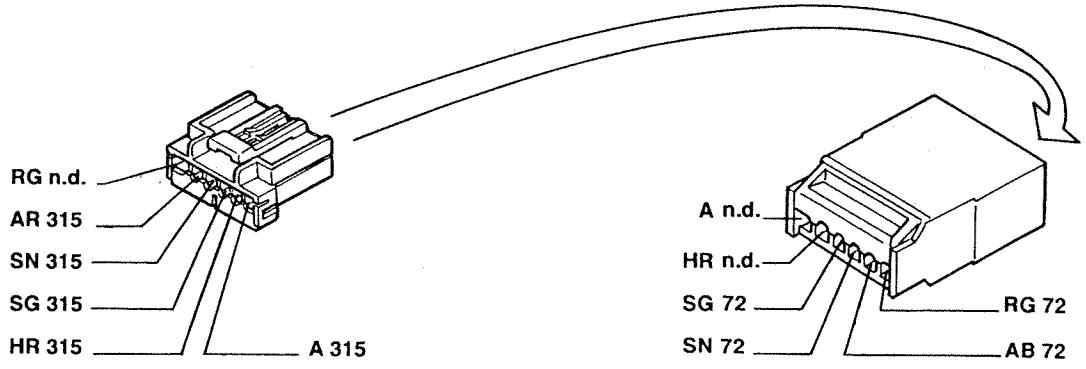
316 Diagnostic socket for electronic automatic transmission (2959 only)



316 Diagnostic socket for electronic automatic gearbox (1998 only)

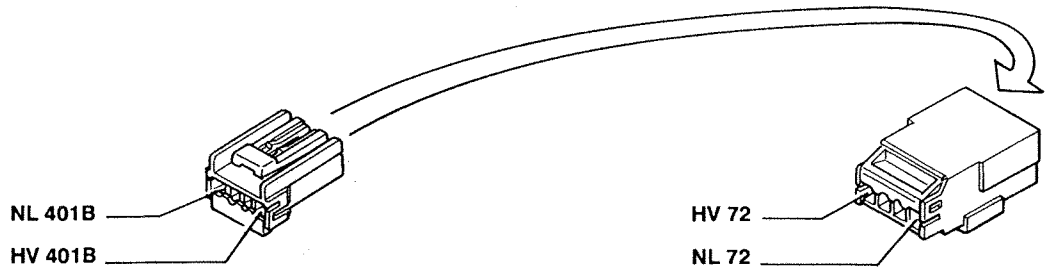


317 Connection between electronic automatic transmission cable/fuel injection cable (2959 only)

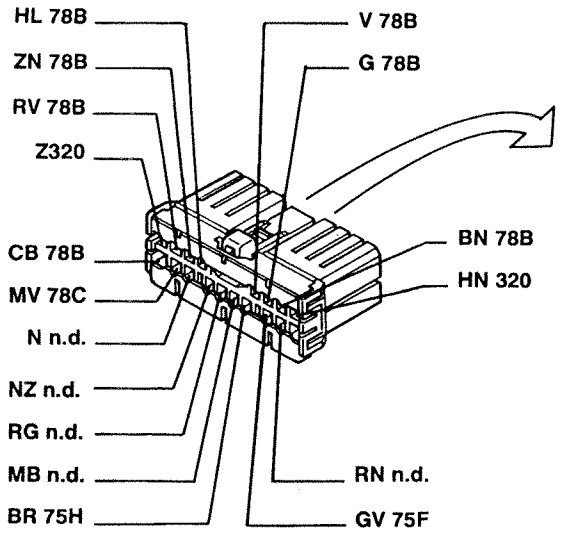


P3U207N01

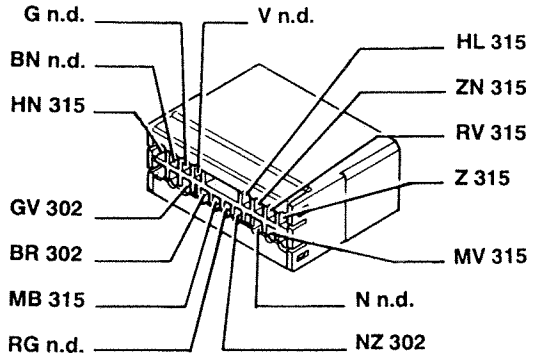
317 Connection between electronic automatic transmission cable/fuel injection cable (1998 only)



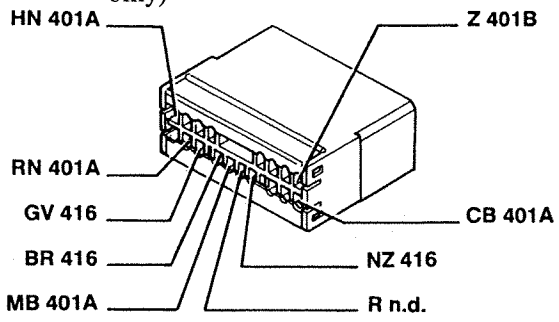
318 Connection between electronic automatic transmission cable/dashboard cable



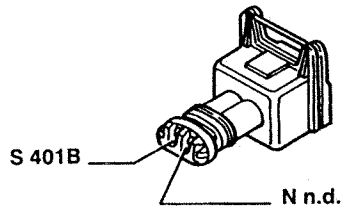
318 Connection between electronic automatic transmission/dashboard cable (2959 only)



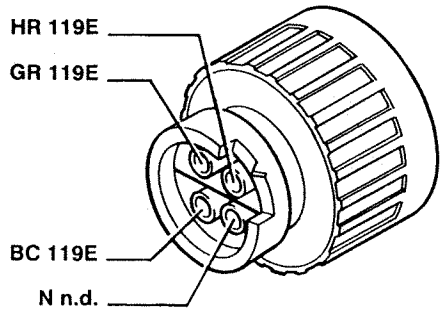
318 Connection between electronic automatic transmission cable/dashboard cable (1998 only)



319 Kick-Down wiring (1998 only)

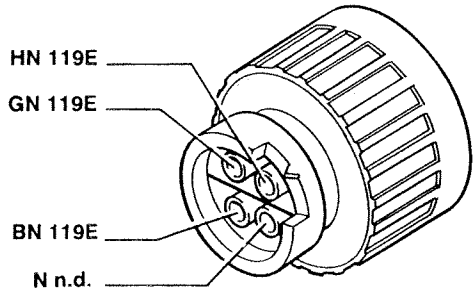


321 Front left controlled damping suspension (C.D.S.) motor

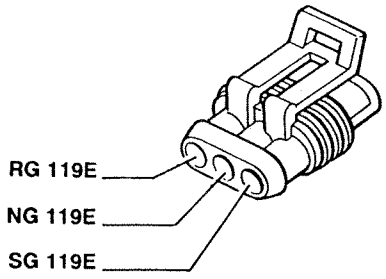


P3U208N01

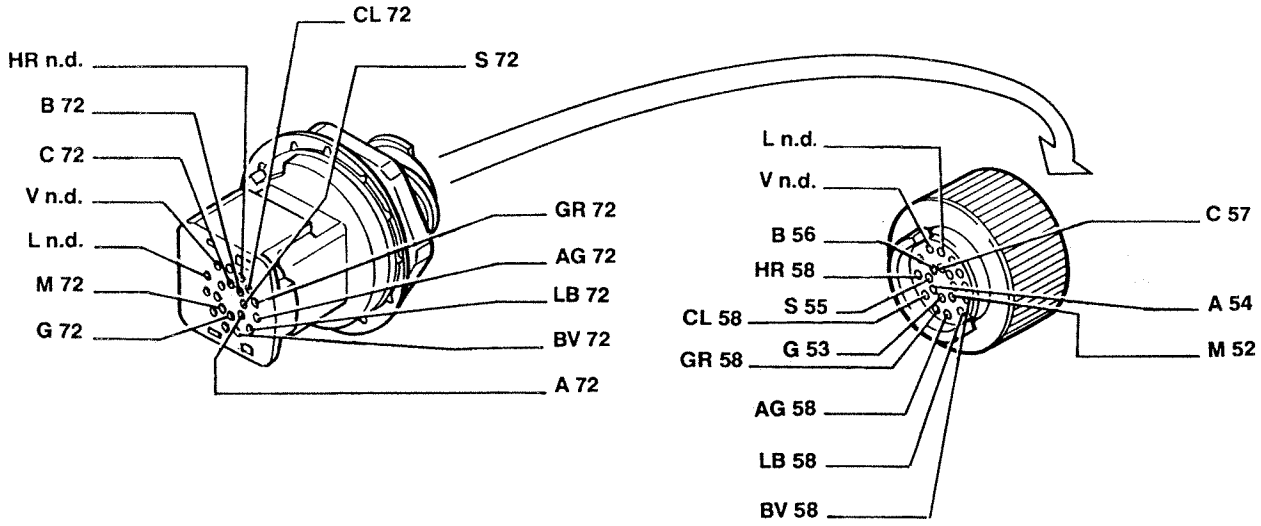
322 Front right controlled damping suspension (C.D.S.) motor



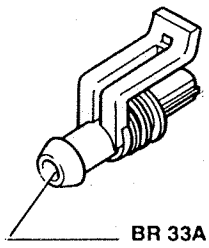
323 Accelerometer for controlled damping suspension (C.D.S.)



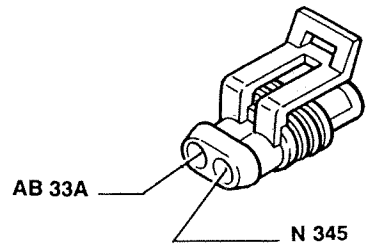
334 Connection between fuel injection cable/fuel injector flange (2959 only)



340 Front right brake pad wear sensor

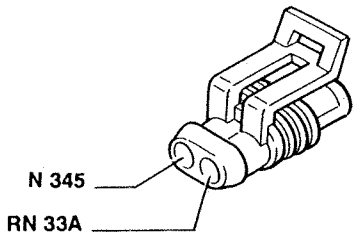


341 Right side repeater

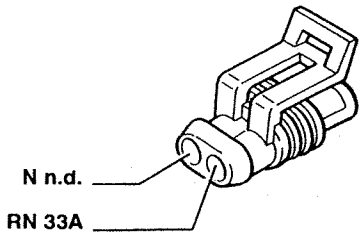


P3U209N01

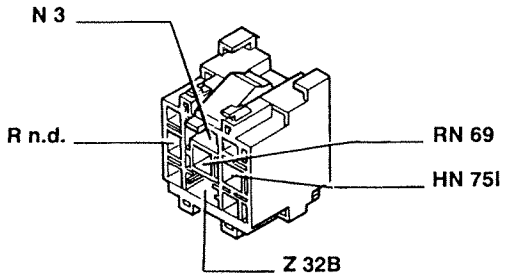
342 Electric windscreen washer pump



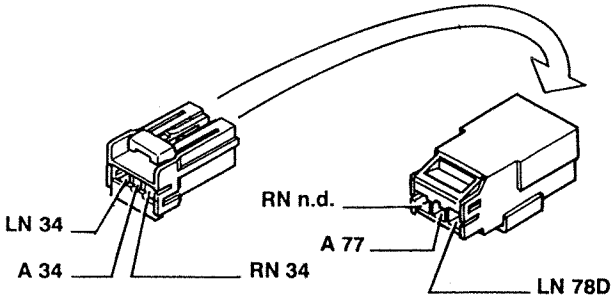
342 Electric windscreen washer pump (Tds only)



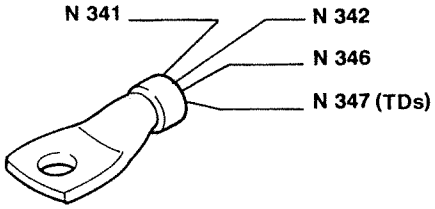
343 40A starter relay



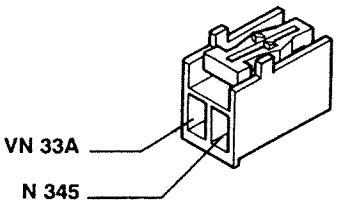
344 Connection between dashboard cable/anti-lock braking system (A.B.S.) cable



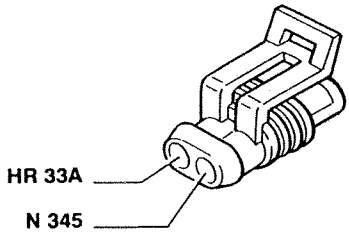
345 Front right earth



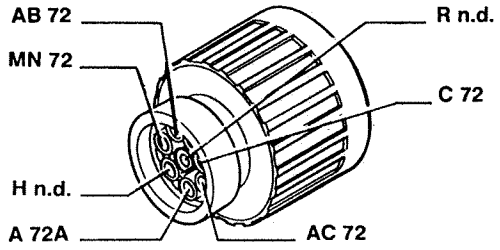
346 Low engine coolant level sensor



347 Turbo overpressure sender unit (Tds only)



354 Diesel fuel pump (Tds only)



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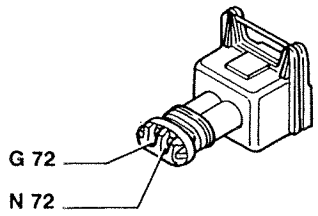
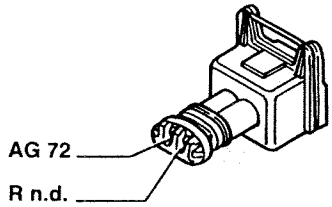
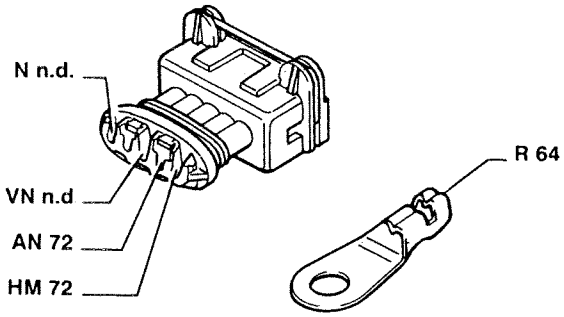
355 Intrumented injector (Tds only)



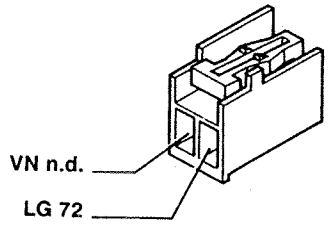
356 Solenoid on diesel pump (Tds only)



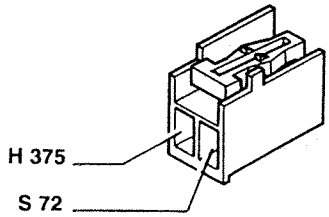
357 Plug preheating control unit (Tds only)



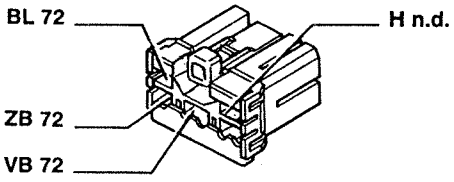
361 Switch on clutch pedal (Tds only)



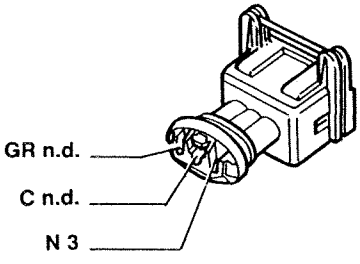
362 Switch on pedal (Tds only)



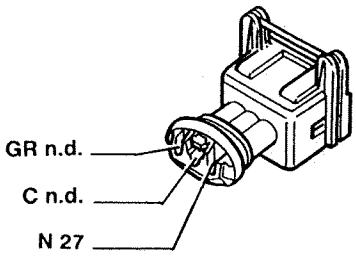
364 Potentiometer on accelerator pedal (Tds only)



367 Left headlamp adjuster



368 Right headlamp adjuster



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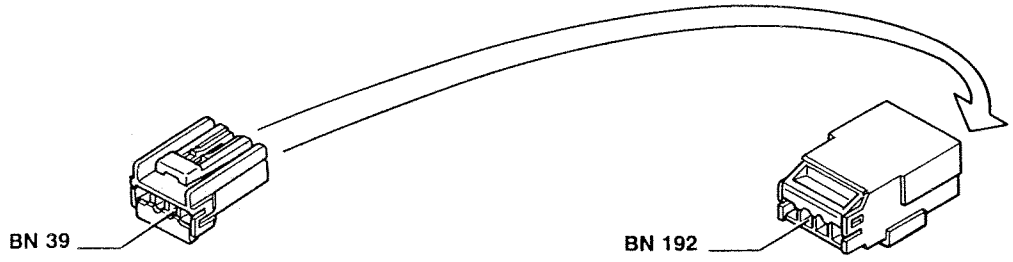
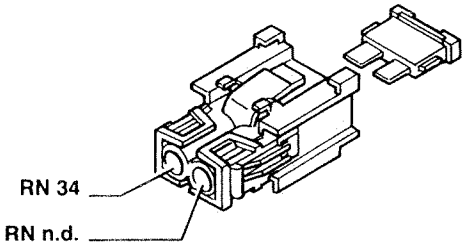
55.

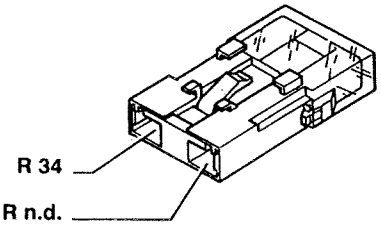
369 Connection between fuel injection cable/left longitudinal cable (Tds only)



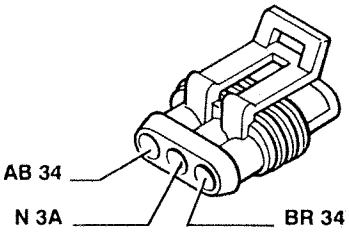
371 25A fuse protecting anti-lock braking system (A.B.S.)



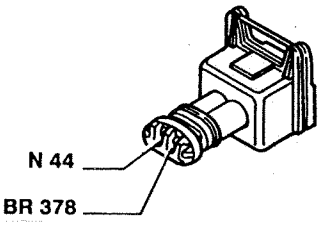
372 50A fuse protecting anti-lock braking system (A.B.S.)



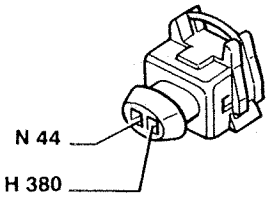
374 Diagnostic socket for Fiat/Lancia tester



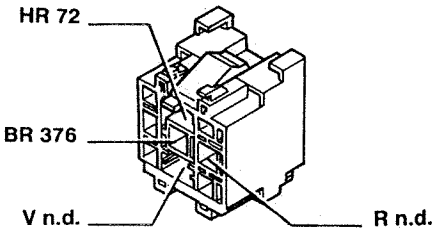
376 Modular manifold solenoid



377 Timing variator



378 Modular manifold relay



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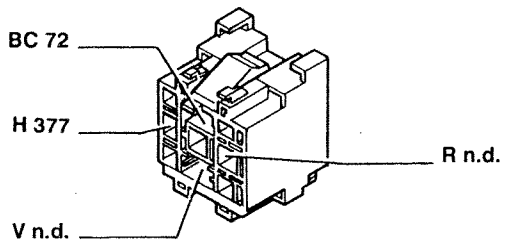
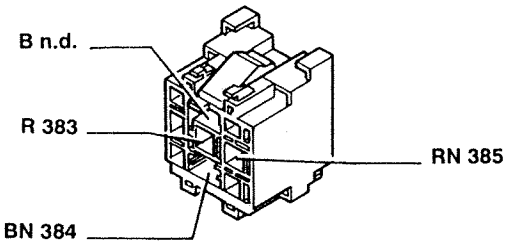
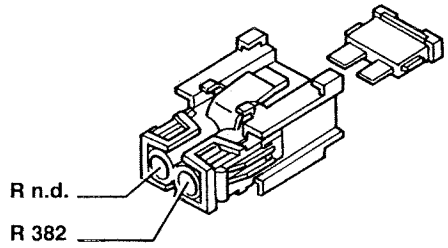
380 Timing variator relay



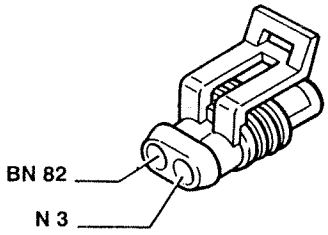
382 Relay for heated diesel filter (Tds only)



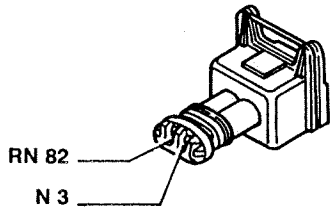
383 15A fuse protecting heated diesel filter (Tds only)



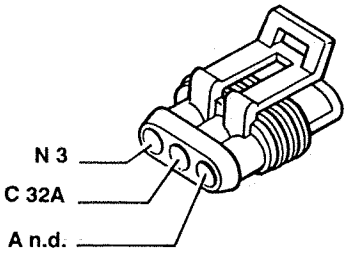
384 Heated diesel filter thermal contact (Tds only)



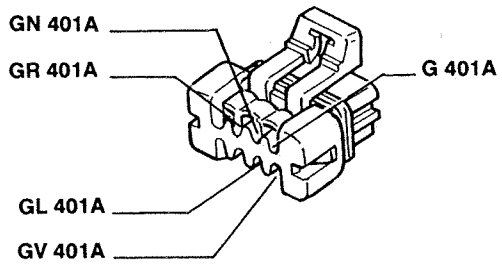
385 Diesel filter heating resistor (Tds only)



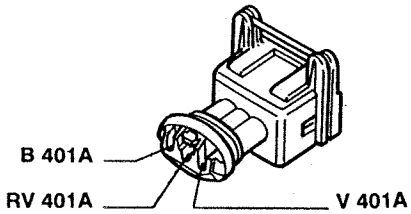
386 Cable connection to water in diesel filter sensor (Tds only)



413 Connection to solenoid assembly (1998 only)



414 Throttle valve position potentiometer (1998 only)



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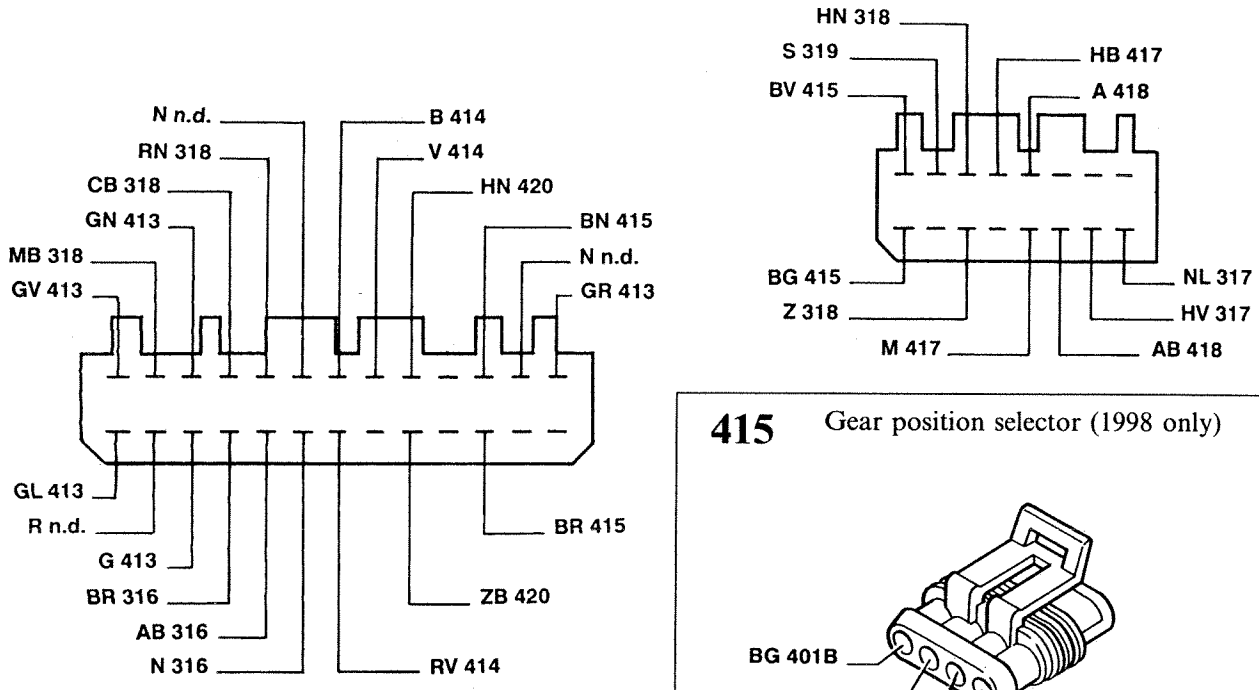
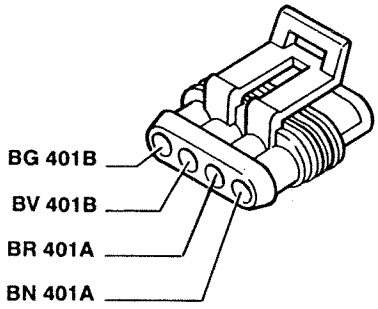
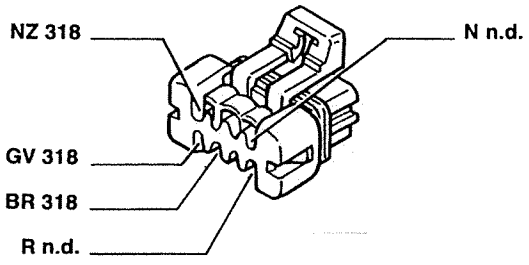
401 Electronic automatic transmission gear selection control unit (1998 only))



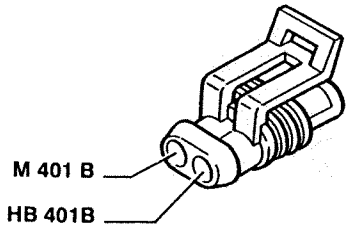
415 Gear position selector (1998 only)



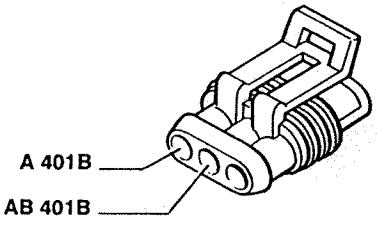
416 Gear position selector (1998 only)



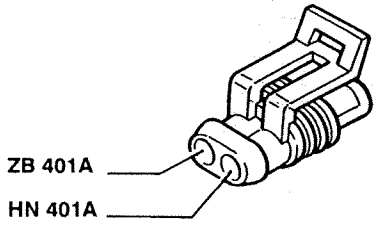
417 Engine rpm sensor (1998 only)



418 Vehicle speed sensor (1998 only)



420 Automatic transmission fluid temperature sensor (1998 only)



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Key

55.

1 Front left lights cluster
2 Front left fog lamp
3 Front left earth
3A Front left earth for anti-lock braking system (A.B.S.)
4 Electric horns
5 Front left brake pad wear sensor
6 Left side repeater
7 Battery
8 Main connector block
9 Earth on body shell
9A Earth on side for anti-lock braking system (A.B.S.)
10 Button on bonnet for switching on anti-theft device
11 Air conditioner compressor coupling
12 Sensor for low brake fluid level indicator
13 Reversing lights switch
14 Pulse generator for speedometer signal
15 Starter motor
16 Spark plugs
17 1 Engine cooling fan
17A 2 Engine cooling fan
18 Resistor for engine cooling fan speed
19 Sensor on front left wheel for anti-lock braking system (A.B.S.)
20 Alternator
21 Sensor for low engine oil level indicator
22 Engine coolant temperature sender unit
23 Sensor for low engine oil pressure indicator
24 Barometric capsule
25 Air temperature sensor
26 Three-stage pressure switch
27 Front right earth
28 Headlamp washer pump
29 Front right fog lamp
30 Front right lights cluster
31 Peripheral control unit (engine compartment)
E1 Dipped beam relay
E2 Horn relay
E3 Compressor coupling control relay
E4 Main beam relay
E5 Front fog lamps relay
E6 Relay controlling engine cooling fan high speed
E7 Relay controlling engine cooling fan low speed
32A Connection between dashboard cable/left engine compartment cable
32B Connection between dashboard cable/left engine compartment cable
32C Connection between dashboard cable/left engine compartment cable
33A Connection between dashboard cable/right engine compartment cable
34 Electrohydraulic control unit for anti-lock braking system (A.B.S.)
35 Connection between engine compartment cable/electronic fuel injection cable
36 Heated Lambda probe
37 Engine idle adjustment actuator
38 Earth for electronic fuel injection
39 Relay for inertial switch
40 E.G.R. solenoid
41 Petrol vapour shut-off solenoid
42 30A fuse protecting electronic fuel injection
43 Electronic earth
44 Power earth
45 Air flow meter
46 7.5A fuse protecting electronic fuel injection
47 Sensor on front right wheel for anti-lock braking system (A.B.S.)
48 10A fuse protecting heated Lambda probe and air flow meter relay
49 Relay controlling electric fuel pump and heated Lambda probe
50 Relay controlling electronic fuel injection
51 Relay controlling air flow meter
52 Ignition coil
53 Ignition coil
54 Ignition coil
55 Ignition coil
56 Ignition coil
57 Ignition coil
58 Fuel injectors
59 1 Knock sensor
60 2 Knock sensor
61 Engine coolant temperature sensor for electronic fuel injection
62 Rpm sensor
63 Potentiometer on throttle valve
64 40A fuse protecting plug preheating
65 Power module
66 Timing sensor
67 Electronic fuel injection cables connection
68 Connection between dashboard cable/electronic fuel injection cable
69 Engine services cable connection
70 H.T. distributor
71 Towhook control unit
72 Fuel injection control unit
72A Electronic control unit for fuel pump (2400 T.D.)
73 Secondary connector block
73A 80A fuse protecting rear services
73B 60A fuse protecting I.G.E. control unit / fuse and relay unit
73C 30A fuse protecting ignition switch / anti-theft device
74 60A fuse protecting peripheral control unit (engine compartment)
75 Fuse and relay unit (dashboard)
E1 Ignition switch discharge relay
E2 Indicators / hazard warning lights intermittent switch
E3 Headlamp washer timer
76 I.G.E. control unit
77 10A fu
(A.B.S.
78 Instrun
A Tra
B Dri
B1 Pas
C He
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79 Dashbo
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81 Climate
82 Air rec
83 Windsc
84 Single-
85 Infocen
86 Power
87 Lightin
unlocki
88 Diagno
89 Left rea
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B Mot
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77 10A fuse protecting anti-lock braking system (A.B.S.)
78 Instrument panel
A Trailer direction indicator warning light
B Driver's heated seat warning light
B1 Passenger's heated seat warning light
C Heated rear window warning light
D Front fog lamps warning light
E Rear fog lamps warning light
F Parking lights warning light
F1 Panel lighting bulbs
G Dipped beam headlamps warning light
H Main beam headlamps warning light
I Check panel summary warning light
L Left direction indicator warning light
L1 Right direction indicator warning light
J Seat belt undone warning light
K Low generator charging warning light
M Low engine oil pressure warning light
N Handbrake / I.G.E. control unit warning light
O Low brake fluid level warning light
P Anti-lock braking system fault warning light
Q A.S.R. fault warning light
R Air Bag system fault warning light
S Heater plugs warning light
T Voltmeter
U Electronic rev counter
V Fuel gauge
V1 Fuel reserve warning light
X Total mileage / trip recorder display
Y Electronic speedometer
Y1 S.C.S. switches unit
W Water temperature gauge
W1 Maximum coolant temperature warning light
Z Electronic transmission gear selection display
Z1 Trip computer reset button
79 Dashboard cable/courtesy light cable connection
80 Power earth on dashboard
81 Climate control fan (Brushless)
82 Air recirculation motor
83 Windscreen wiper control assembly
84 Single-stage pressure switch (3000 i.e.)
85 Infocenter control unit
86 Power earth on dashboard
87 Lighting for glove compartment / controls for unlocking boot
88 Diagnostic socket for Fiat / Lancia tester
89 Left rearview mirror
A Motor for folding left rearview mirror
B Motor for vertical adjustment of left rearview mirror
C Motor for horizontal adjustment of left rearview mirror
D Heating element for left rearview mirror
E External temperature sensor
90 Connection between dashboard cable/front left door cable
91 Loudspeaker on front left door
92 Front / rear electric windows pushbutton unit on front left door
93 Puddle light on front left door
94 Front left electric window motor
95 Front left door locking motor and front left door open / anti-theft device "on" indicator
96 Earth on carrier
97 Earth on floor
98 Ashtray light
99 Cigar lighter
100 Connection between dashboard cable/left longitudinal cable
101 Lighting brightness adjustment rheostat
102 External lights controls unit
B Side lights / number plate lights switch
C Dipped beam headlamps / main beam headlamps switch
D Parking lights switch
E Symbols lights control switch
103 Switch control unit
A Front fog lamps switch
B Rear fog lamps switch
C Headlamp adjustment control unit
104 Stalk unit
A Windscreen washer / headlamp washer switch
B Windscreen wiper switch
C Horn button
D Direction indicators / parking lights switch
E Main beam headlamp flasher button
F Main beam headlamps switch
105 Ignition switch
106 Immobilizer aerial
107 Anti-theft device control unit
108 Immobilizer control unit
109D Distribution / mixing motor
109M Distribution / mixing motor
110 Car interior air temperature sensor
111 Mixed air temperature sensor 1
112 Mixed air temperature sensor 2
113 Solar temperature sensor
114 Sensor on steering column
115 Electrically-adjustable rearview mirrors control unit
116 Electronic control unit for electric sunroof
117 Hand brake on warning light switch
118 Electric sunroof motor
119A Connection between dashboard cable/right longitudinal cable
119B Connection between dashboard cable/right longitudinal cable
119C Connection between dashboard cable/right longitudinal cable
119D Connection between dashboard cable/front right door cable
119E Connection between right longitudinal cable/right engine compartment cable
120 Connection between dashboard cable/front right door cable
121 Right rearview mirror
A Motor for folding right rearview mirror
B Motor for vertical adjustment of right rearview mirror
C Motor for horizontal adjustment of right rearview mirror
D Heating element for right rearview mirror
122 Loudspeaker on front right door
123 Front right electric window pushbutton unit on front right door
124 Puddle light on front right door
125 Front right electric window motor
126 Front right door locking motor and front right door open / anti-theft device "on" indicator
127 Switch for seat belts unfastened indicator
128 Front courtesy light timer
129 Electric sunroof limit switch
130 Electric sunroof control button
131 Earth on steering column mounting
132 Stop lights switch
134 Wervotronik solenoid
135 Earth on floor (Air Bag signal)
136 Rear electric windows control unit
137 Boot lock assembly
A Boot light and anti-theft device "on" switch
B Boot lock/unlock motor
138 Electronic control unit for driver's electrically-adjustable seat with memory
138A Driver's electrically-adjustable seat control pushbutton unit
138B Driver's seat squab adjustment motor
138C Driver's seat height adjustment motor
138D Driver's seat height adjustment motor
138E Driver's seat forward/backward adjustment motor
138F Driver's seat memorization control pushbutton unit
139 Driver's seat heating pad
140 Driver's seat heating pad switch
141 Connection between right longitudinal cable/rear right door cable
143 Rear right electric window pushbutton unit on rear right door
144 Puddle light on rear right door
145 Rear right electric window motor
146 Rear right door locking motor and rear right door open / anti-theft device "on" indicator
147 Front left seat cables connection
148 Connection between left longitudinal cable/left seat cable
149 Connection between left longitudinal cable/left seat cable
150 Connection between left longitudinal cable/left boot cable
151 Radio amplifier
152 Rear left electric window pushbutton unit on rear left door
153 Puddle light on rear left door
154 Rear left electric window motor
155 Rear left door locking motor and rear left door open and anti-theft device "on" indicator
156 Connection between right longitudinal cable/right seat cable
157 Connection between right longitudinal cable/right seat cable
158 Pushbutton unit controlling passenger's electrically-adjustable seat
158A Passenger's seat forward-backward adjustment motor
158B Passenger's seat height adjustment motor
158C Passenger's seat height adjustment motor
158D Passenger's seat squab adjustment motor
159 Switch for passenger's seat heating pad
160 Passenger's seat heating pad
161 100 A fuse protecting alternator
162 Boot light
163 Rear left courtesy light
164 Rear left loudspeaker
165 Heated rear window
165A Earth for heated rear window
166 Amplifier for aerial on rear window
166A Rear cables connection on rear window
167 Fuel gauge sender unit
168 Electric fuel pump
169 Rear right loudspeaker
170 Rear right courtesy light
171 Additional stop lights warning light
172 Rear right lights cluster on fixed part
173 Rear right earth
174 Rear right lights cluster on moving part
175 Connection between left longitudinal cable/-boot cable
175D Left number plate light

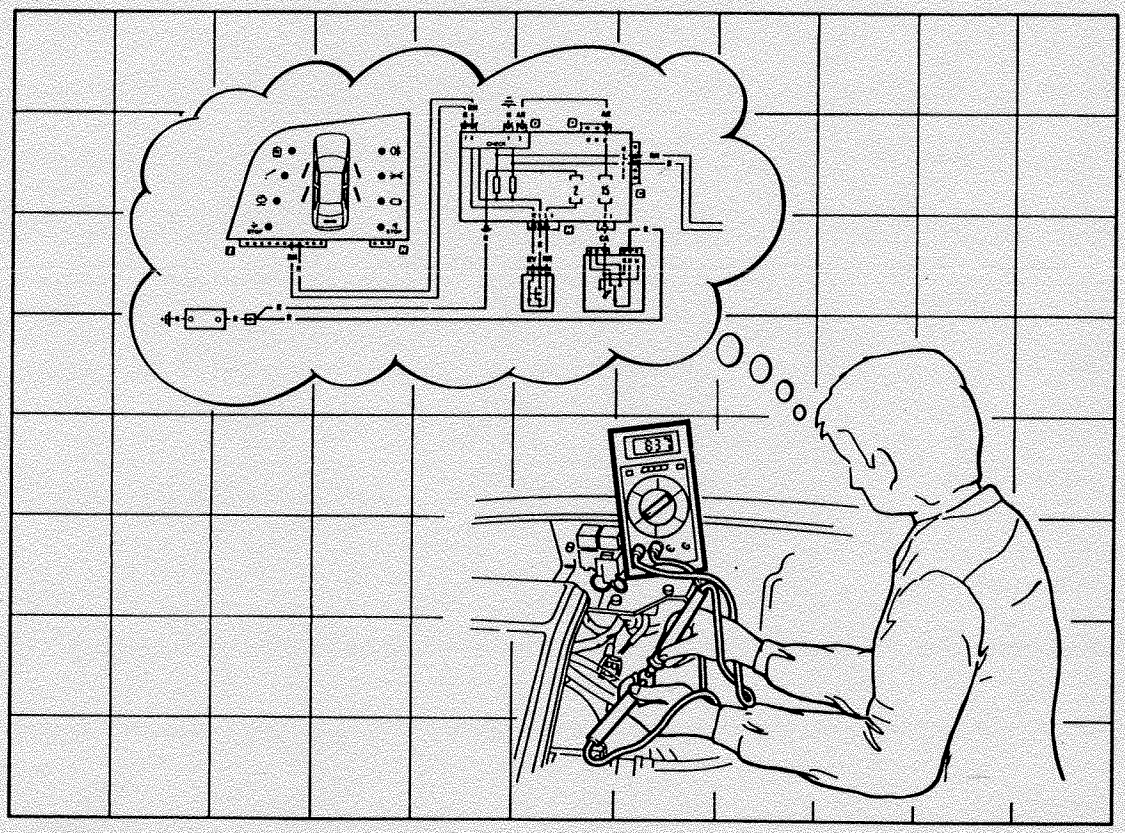
175S Right number plate light
176 Boot lock / unlock motor
177 Rear left lights cluster on moving part
178 Rear left earth
179 Rear left lights cluster on fixed part
180 Heated rear window relay
181 Connection between left longitudinal cable/right longitudinal cable
182 Rear connector block
183 Relay for driver's seat heating pad
183A 7.5 A fuse protecting driver's seat heating pad
184 Relay for passenger's seat heating pad
184A 7.5 A fuse protecting passener's seat heating pad relay
185 Relay for driver's electrically-adjustable seat
185A 30A fuse protecting passenger's electrically-adjustable seat
186 Relay for passenger's electrical seat
186A 30A fuse protecting driver's electrically-adjustable seat
187 25A fuse protecting rear electric windows control unit
188 25A fuse protecting boot unlock solenoid
189 30A fuse protecting heated rear window
190 Relay for boot lock/unlock control
191 Earth for inertial switch
192 Inertial switch
193 Sensor on rear left wheel for anti-lock braking system (A.B.S.)
194 Sensor on rear right wheel for anti-lock braking system (A.B.S.)
195 Fuel flap unlock motor
196 Trailer wiring
197 Electronic aerial
198 Servotronik electronic control unit
198A Diagnostic socket
199 Anti-theft siren
200 Electronic control unit for controlled-damping suspension (C.D.S.)
219 Earth on central console
220A 7.5 A fuse protecting C.D.S. system
221 Motor for rear left controlled-damping suspension (C.D.S.)
222 Motor for rear right controlled-damping suspension (C.D.S.)
225 Left floor light
226 Right floor light
227 Front right loudspeaker
228 Front left loudspeaker
266 Infrared receiver for anti-theft device
267 Volumetric sensors for anti-theft device
269 Dashboard cable/receiver cable connection
270 Earth on steering column
271 Stop lights switch
272 Driver's Air Bag connection
273 Passenger's Air Bag connection
274 Dashboard cable/Air Bag cable connection
275 Air Bag control unit
276 Left seat belt pretensioner
277 Right seat belt pretensioner
278 Diagnostic socket for Air Bag
281 Front courtesy light
282 Internal electrochromic rearview mirror
283 Passenger's illuminated shade
284 Wiring for electric sunroof
290 Light for front left air vent controls
291 Light for central left air vent controls
292 Light for central right air vent controls
293 Light for front right air vent controls
294 Light for rear air vent controls
295 Radio cables connection
296 Radio cables connection
297 Warning light for anti-theft device / immobilizer device
298 Front electric windows control unit
300 Central door locking electronic control unit
301 Solenoids assembly
302 Switch assembly
306 Electronic automatic transmission acoustic signal
307 Electronic automatic transmission acoustic signal switch
308 Wiring for mapping
315 Gear selection control unit for electronic automatic transmission (ZF)
316 Diagnostic socket for electronic automatic transmission
317 Connection between electronic automatic transmission cable/electronic fuel injection cable
318 Connection between electronic automatic transmission cable/dashboard cable
319 Kick-down wiring
320 Embellishments on electronic automatic transmission gearchange lever
321 Motor for front left controlled-damping suspension (C.D.S.)
322 Motor for front right controlled-damping suspension (C.D.S.)
323 Accelerometer for controlled damping suspension (C.D.S.)
333 FIS relay
334 Connection between electronic fuel injection cable/fuel injectors flange
340 Front right brake pad wear sensor
341 Right side repeater
342 Electric windscreen washer pump
343 40A starting relay
344 Connection between dashboard cable/anti-lock braking system (A.B.S.) cable
345 Front right earth
346 Sensor for low engine coolant level
347 Turbo overpressure sender unit
354 Diesel fuel pump
355 Instrumented fuel injector
356 Solenoid on diesel fuel pump
357 Plug preheating control unit
358 Engine cut out solenoid on injection pump
359 Heater plugs
360 Heater plugs flange
361 Switch on clutch pedal
362 Switch on pedal
364 Potentiometer on accelerator pedal
367 Left headlamp adjuster
368 Right headlamp adjuster
369 Connection between electronic fuel injection cable/left longitudinal cable
371 25A fuse protecting anti-lock braking system (A.B.S.)
372 50A fuse protecting anti-lock braking system (A.B.S.)
374 Diagnostic socket for Fiat / Lancia tester
376 Modular manifold solenoid
377 Timing variator
378 Modular manifold relay
379 Secondary air pump relay
380 Relay for timing variator
381 30A fuse protecting air pump
382 Relay controlling heated diesel filter (P.T.C.)
383 15A fuse protecting heated diesel filter (P.T.C.)
384 Heated diesel filter (P.T.C.) thermal switch
385 Diesel filter (P.T.C.) heating element
386 Connection for water in diesel filter sensor cables
401 Gear selection control unit for electronic automatic transmission (AISIN)
409 Electronic injection cable connection
411 Connection between dashboard cable/electronic automatic transmission cable
412 Earth on bodywork
413 Connection to solenoid assembly
414 Throttle valve position potentiometer
415 Gear position selector
416 Gear position selector
417 Engine rpm sensor
418 Vehicle speed sensor
420 Auto. transmission fluid temperature sensor

Cable colour codes

A Light blue
B White
C Orange
G Yellow
H Grey
L Blue
M Brown
N Black
R Red
S Pink
V Green
Z Violet
AB Light blue-White
AG Light blue-Yellow
AN Light blue-Black
AR Light blue-Red
AV Light blue-Violet
BG White-Yellow
BL White-Blue
BN White-Black
BR White-Red
BV White-Green
BZ White-Violet
CA Orange-Light blue
CB Orange-White
CN Orange-Black
GN Yellow-Black
GL Yellow-Blue
GR Yellow-Red
GV Yellow-Green
HG Grey-Yellow
HN Grey-Black
HR Grey-Red
HV Grey-Green
LB Blue-White
LG Blue-Yellow
LN Blue-Black
LR Blue-Red
LV Blue-Green
MB Brown-White
MN Brown-Black
NZ Black-Violet
RB Red-White
RG Red-Yellow
RN Red-Black
RV Red-Green
SN Pink-Black
VB Green-White
VN Green-Black
VR Green-Red
ZB Violet-White

Analytical charts

Elctrical equipment fault diagnosis



P3M000N01

The information in this publication is intended as a guide and could be superseded by modifications introduced by the Manufacturer at any time for technical and commercial reasons or in accordance with local regulations.

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Analytical charts

Elctrical equipment fault diagnosis

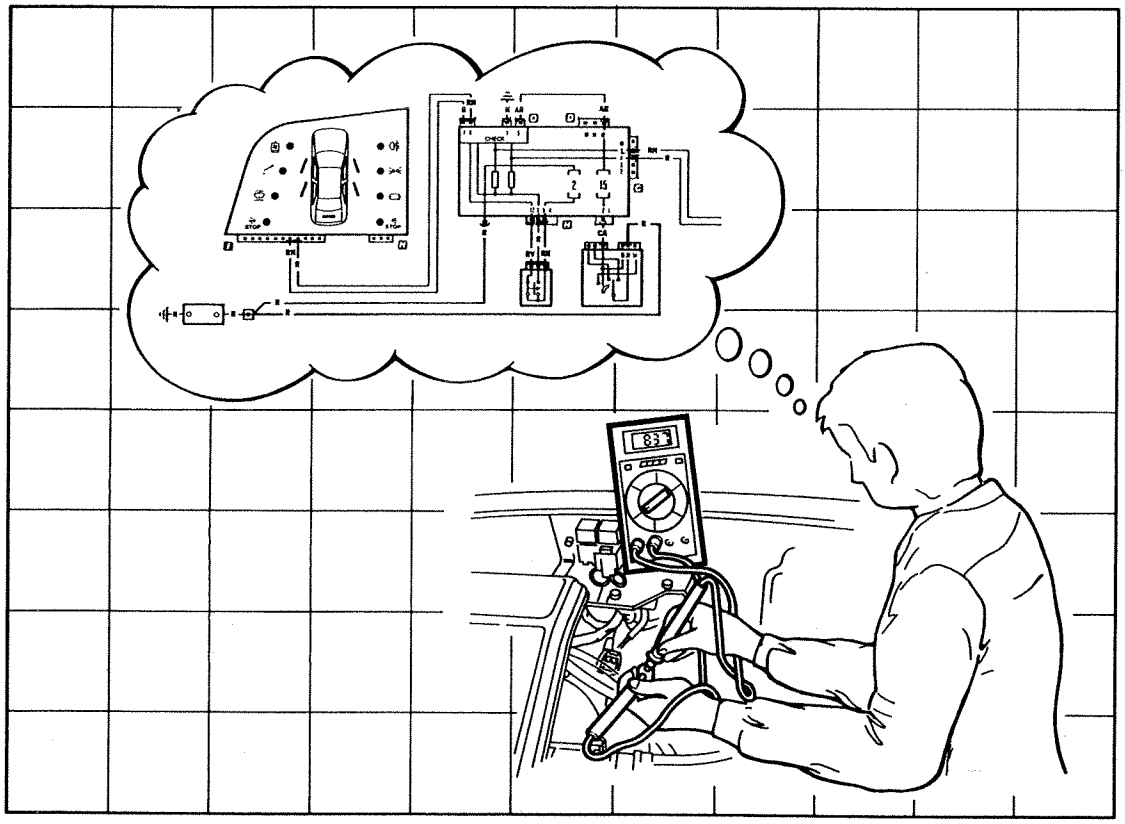

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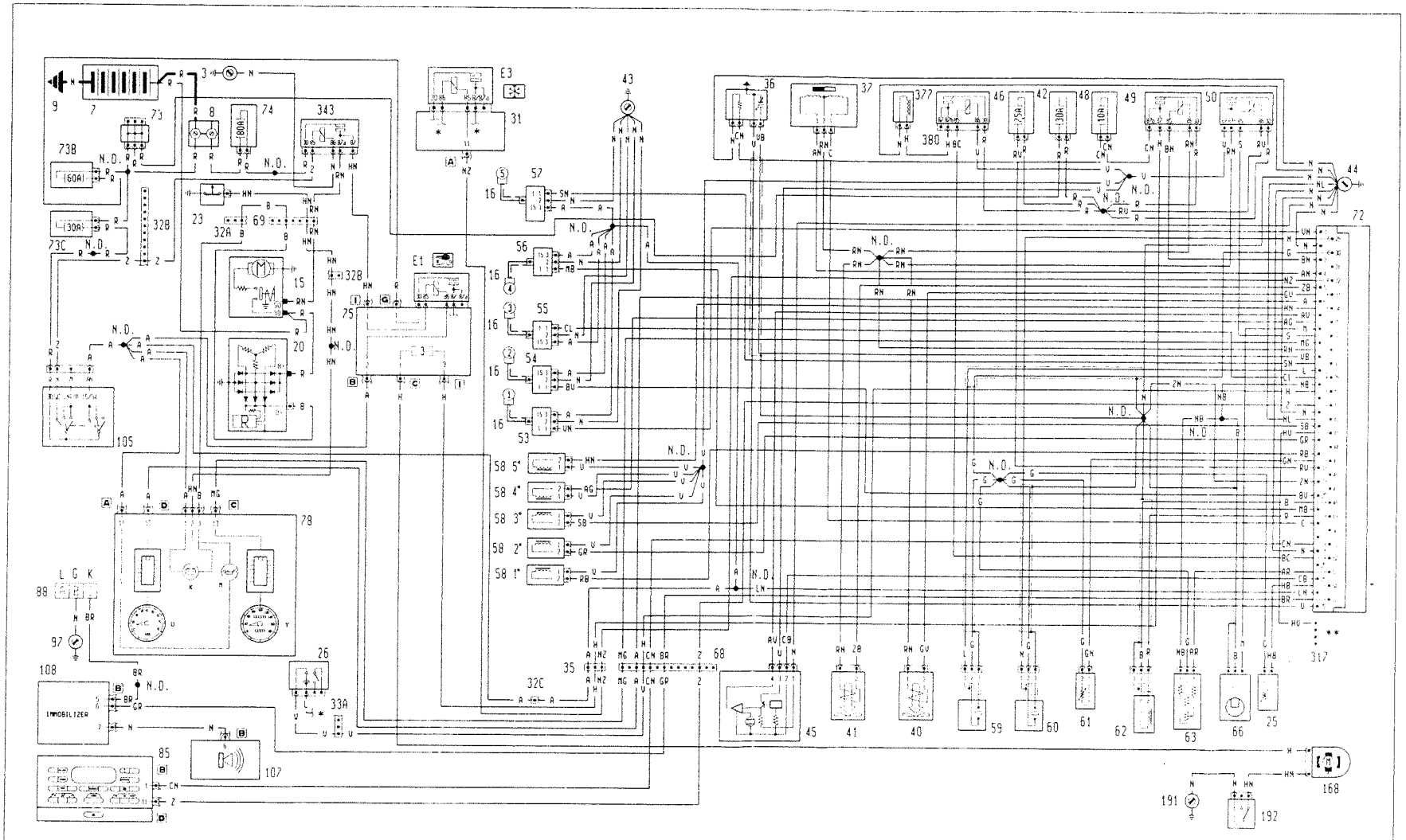
Chart No.	Functions concerned
Chart 1 (page 1)	**1998 Motronic - 2446 Motronic version** Starting system - Motronic 2.10.3 electronic ignition and fuel injection - Recharging system and warning light - Low engine oil pressure warning light - Fuel injection fault warning light
Chart 2 (page 9)	**2959 Motronic version** Starting system - Motronic electronic ignition and fuel injection - Recharging system and warning light - Low engine oil pressure warning light - Fuel injection fault warning light
Chart 3 (page 17)	**2387 Turbo D version** Starting system - MSA 11.310 fuel pump electronic control unit - Recharging system and warning light - Low engine oil pressure warning light - Fuel injection fault warning light - Plug preheating warning light
Chart 4 (page 23)	Car interior lighting
Chart 5 (page 33)	Electric front windows
Chart 6 (page 41)	Electric rear windows
Chart 7 (page 49)	Air Bag and fault warning light - Seat belt pretensioners - Servotronik device
Chart 8 (page 53)	Central door locking and doors open indicators
Chart 9 (page 67)	Anti-lock braking system (A.B.S.)
Chart 10 (page 73)	Electrically-adjustable and heated front seats

Starting system - Motronic 2.10.3 electronic ignition and fuel injection - Recharging system and warning light - Low engine oil pressure warning light - Fuel injection fault warning light - (See key following diagrams)

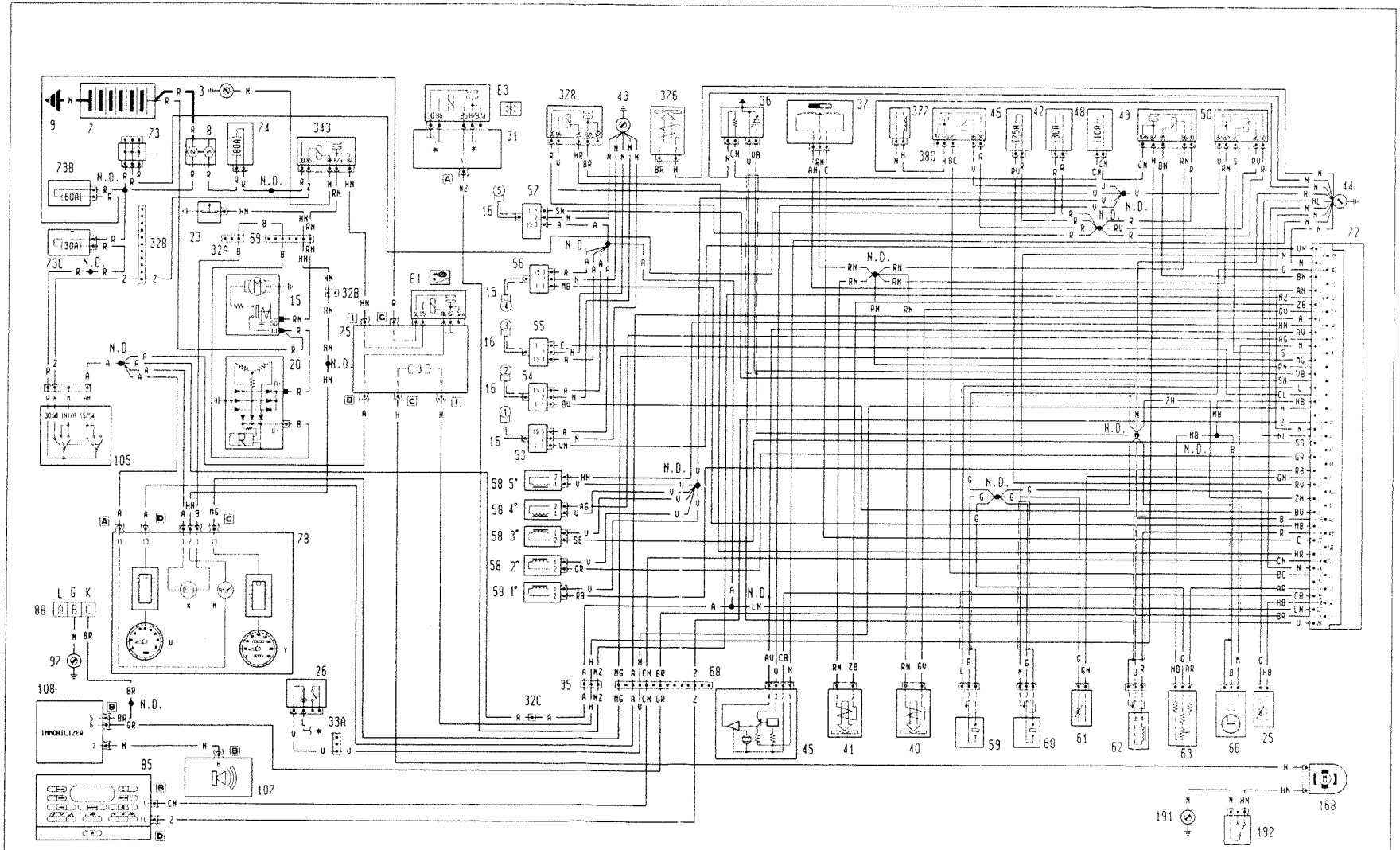


* See air conditioner wiring diagram
** See automatic transmission wiring diagram

3U221N

55.

Starting system - Motronic 2.10.3 electronic ignition and fuel injection - Recharging system and warning light - Low engine oil pressure warning light - Fuel injection fault warning light - (See key following diagrams)



* See air conditioner wiring diagram

3U222N

Alternator not recharging

Check tension of alternator drive belt → Not OK → Readjust the belt tension using the special tool

↓

OK

↓

Connect to wire colour R between battery 7 and alternator 20 a clip-on ammeter in direct current, and check that the maximum current delivered, with 50% of services activated, corresponds to that stated in Unit 00,55 of the repair manual → Not OK → Overhaul the alternator in accordance with the repair manual

↓

OK

↓

Connect voltmeter between the cable of the alternator 20 and an earth, with " ENGINE OFF " → Not OK → Recharge the battery

↓

OK

↓

Check that the alternator-battery conductors are secure

3U223N

55D.

Battery recharging warning light stays off

Connect voltmeter between wire colour B on the alternator 20 and an earth → Not OK → Overhaul or replace alternator 20 or repair wire colour R between alternator and battery 7

↓ OK

↓

Check for presence of voltage on wire colour B pin 3 of connector 32A → Not OK → The wire colour B between the alternator 20 and connector 32A is broken, so repair it

↓ OK

↓

Check for presence of voltage on wire colour B of connector C on instrument panel 78 → Not OK → Replace warning light K or overhaul or replace panel

↓ OK

↓

Check continuity of wire colour B between connector C of panel 78 and alternator → Not OK → Repair wire colour B

3U224N

Starter motor does not work

Connect voltmeter between wire colour RN of starter motor 15 and an earth (this should be done during starting)	Not OK	Overhaul or replace ignition switch 105 or repair wire colour RN between motor 15 and relay 343
OK		
Connect voltmeter between wire of starter motor RN and an earth	Not OK	Repair wire colour R between motor 15 and battery 7 or recharge the battery
OK		
Remove relay 343 and bridge pins 87 and 87a of connector	OK	Replace relay
Not OK		
Check condition of starter motor 15	Not OK	Overhaul or replace starter motor 15

Preliminary checks before connecting Fiat Lancia Tester

Check condition of fuse 3 in fuse and relay unit 75	Not OK	Check for presence of short circuit in system and replace fuse 3
OK		
Check condition of relay 49	Not OK	Replace relay 49

3U225N

55D.

OK

⬇

Check continuity of wire colour H between connector I pin 9 of fuse and relay unit 75 and relay 49 ➡ Not OK ➡ Repair wire colour H

⬇

OK

⬇

Check condition of fuse 48 ➡ Not OK ➡ Check for presence of short circuit in system, and replace fuse 48

⬇

OK

⬇

Check condition of relay 50 ➡ Not OK ➡ Replace relay 50

⬇

OK

⬇

Check continuity of wire colour V between relay 50 pin 87 and fuel injector assembly ➡ Not OK ➡ Repair wire colour V between relay 50 and fuel injectors

⬇

OK

⬇

Check condition of fuses 42 and 46 ➡ Not OK ➡ Check for presence of short circuit in system, and replace fuses 42 and 46

⬇

OK

⬇

Check continuity of wire colour RV between fuse 46 and pin 18 of fuel injection electronic control unit 72 ➡ Not OK ➡ Repair wire colour RV between fuse 46 and control unit 72

⬇

3U226N

OK

↓

Check continuity of wires colour N and NL on earths 43 and 44 → Not OK → Repair wires colour N and NL or check that the earth points 43 and 44 are tight

↓

OK

↓

Check condition of wire colour H connector C pin 1 between fuse and relay unit 75 and electric fuel pump 168 → Not OK → Repair wire colour H

↓

OK

↓

Check condition of inertial switch 192 → Not OK → Overhaul or replace switch 192

↓

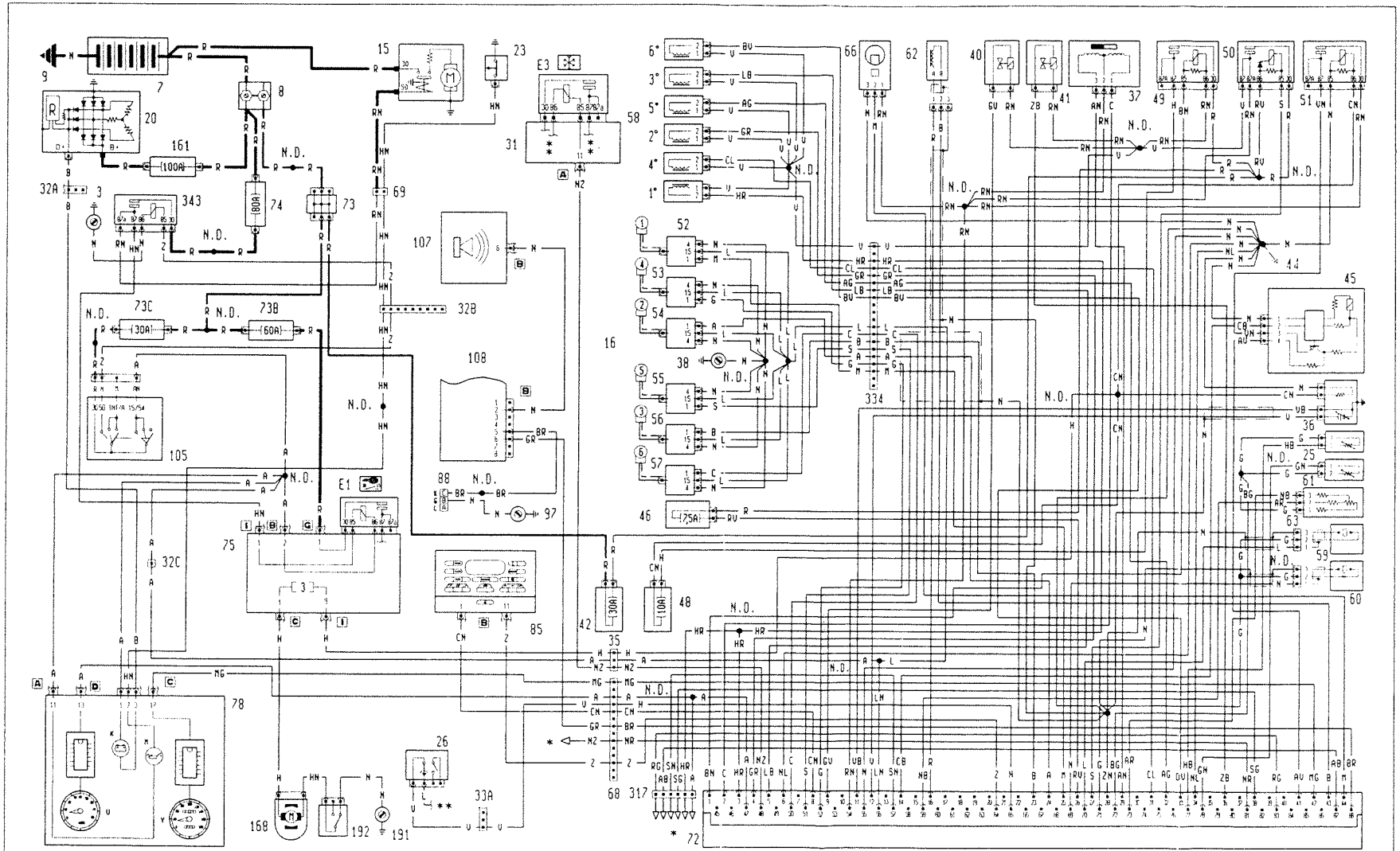
OK

↓

Connect up to diagnostic connector 88 and continue the procedure with the relevant instruments

3U227N

Starting system - Motronic electronic ignition and fuel injection - Recharging system and warning light - Low engine oil pressure warning light - Fuel injection fault warning light - (See key following diagrams)



* See automatic transmission wiring diagram
** See air conditioner wiring diagram

3U229N

Alternator not recharging

Check tension of alternator drive belt → Not OK → Readjust the belt tension using the special tool

↓ OK

↓ Connect to wire colour R between battery 7 and alternator 20 a clip-on ammeter in direct current, and check that the maximum current delivered, with 50% of services activated, corresponds to that stated in Unit 00,55 of repair manual → Not OK → Overhaul the alternator in accordance with the repair manual

↓ OK

↓ Connect voltmeter between the wire of alternator 20 and an earth with "ENGINE OFF" → Not OK → Recharge the battery

↓ OK

↓ Check that the alternator-battery conductors are secure

3U231N

55D.

Battery recharging warning light stays off

Connect voltmeter between wire colour B on the alternator 20 and an earth → Not OK → Overhaul or replace alternator 20 or repair wire colour R between alternator and battery 7

↓

OK

↓

Check for presence of voltage on wire colour B pin 3 of connector 32A → Not OK → The wire colour B between alternator 20 and connector 32A is broken, so repair it

↓

OK

↓

Check for presence of voltage on wire colour B of connector C on instrument panel 78 → Not OK → Replace warning light K or overhaul or replace panel

↓

OK

↓

Check continuity of wire colour B between connector C of panel 78 and alternator → Not OK → Repair wire colour B

3U232N

Starter motor does not work

Connect voltmeter between wire colour RN of starter motor 15 and an earth (this should be done during starting) → Not OK → Overhaul or replace ignition switch 105 or repair wire colour RN between engine 15 and relay 343

↓

OK

↓

Connect voltmeter between the wire of starter motor RN and an earth → Not OK → Repair wire colour R between engine 15 and battery 7 or recharge the battery

↓

OK

↓

Remove relay 343 and bridge pins 87 and 87a of connector → OK → Replace relay

↓

Not OK

↓

Check condition of starter motor 15 → Not OK → Overhaul or replace starter motor 15

Preliminary checks before connecting Fiat Lancia Tester

Check condition of fuse 3 in fuse and relay unit 75 → Not OK → Check for presence of short circuit in system and replace fuse 3

↓

Not OK

↓

Check condition of relay 49 → Not OK → Replace relay 49

↓

3U233N

55D.

OK

↓

Check continuity of wire colour H between fuse 3 in fuse and relay unit 75 and relay 49 → Not OK → Repair wire colour H

↓

OK

↓

Check condition of fuses 42, 46 and 48 → Not OK → Check for presence of short circuit in system, and replace fuses 42, 46 and 48

↓

OK

↓

Check condition of contactors 50 and 51 → Not OK → Replace contactors 50 and 51

↓

OK

↓

Check for presence of voltage on wire colour R of relay 50 or on wire colour RN of relay 51 → Not OK → Repair wires colour R or RN or replace relay 50 and 51

↓

OK

↓

Check continuity of wire colour RV between fuse 46 and pin 26 of electronic fuel injection control unit 72 → Not OK → Repair wire colour RV between fuse 46 and control unit 72

↓

OK

↓

3U234N

Check condition of wire colour H connector C pin 1 between fuse and relay unit 75 and electric fuel pump 168 → Not OK → Repair wire colour H

↓

OK

↓

Check condition of inertial switch 192 → Not OK → Overhaul or replace switch 192

↓

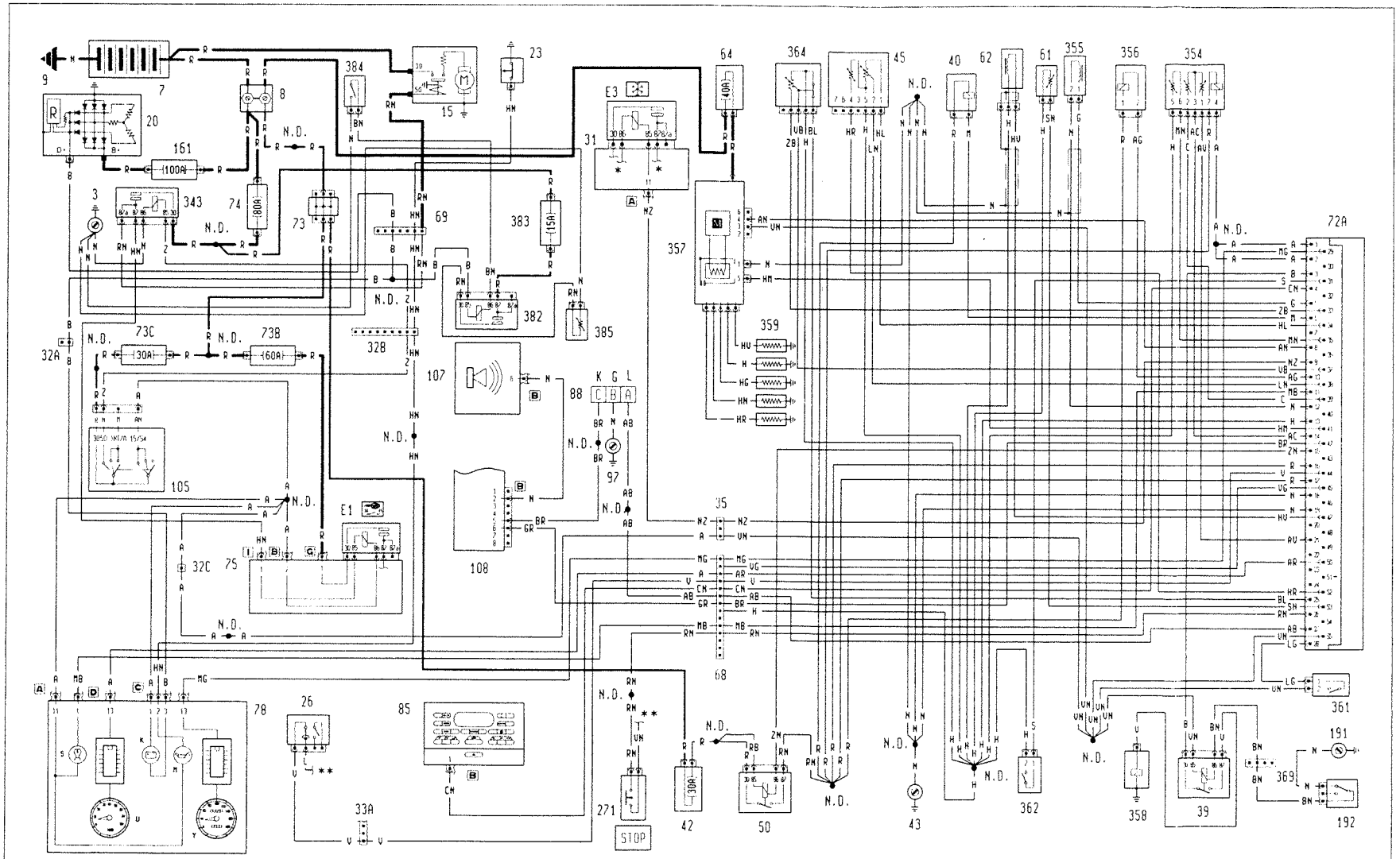
OK

↓

Connect up to diagnostic connector 88 and continue the procedure with the relevant instruments

3U235N

Starting system - MSA11-310 fuel pump electronic control unit - Recharging system and warning light - Low engine oil pressure warning light - Fuel injection fault warning light - Plug preheating warning light - (See key following diagrams)



* See air conditioner wiring diagram
** See stop lights wiring diagram

3U237N

Alternator not recharging

Check tension of alternator drive belt → Not OK → Readjust the belt tension using the special tool

↓

OK

↓

Connect to wire colour R between battery 7 and alternator 20 a clip-on ammeter in direct current, and check that the maximum current delivered, with 50% of services activated, correponds to that stated in Unit 00,55 of repair manual → Not OK → Overhaul the alternator in accordance with the repair manual

↓

OK

↓

Connect voltmeter between the wire of the alternator 20 and an earth with "ENGINE OFF" → Not OK → Recharge the battery

↓

OK

↓

Check that the alternator-battery conductors are secure

3U239N

55D.

Battery recharging warning light stays off

Connect voltmeter between wire colour B on alternator 20 and an earth → Not OK → Overhaul or replace alternator 20 or repair wire colour R between alternator and battery 7

↓

OK

↓

Check for presence of voltage on wire colour B pin 3 of connector 32A → Not OK → The wire colour B between alternator 20 and connector 32A is broken, so repair it

↓

OK

↓

Check for presence of voltage on wire colour B of connector C on instrument panel 78 → Not OK → Replace warning light K or overhaul or replace panel

↓

OK

↓

Check continuity of wire colour B between connector C of panel 78 and alternator → Not OK → Repair wire colour B

3U240N

Starter motor does not work

Connect voltmeter between wire colour RN of starter motor 15 and an earth (this should be done during starting) → Not OK → Overhaul or replace ignition switch 105 or repair wire colour RN between engine 15 and relay 343

↓

OK

↓

Connect voltmeter between the wire of the starter motor RN and an earth → Not OK → Repair wire colour R between engine 15 and battery 7 or recharge the battery

↓

OK

↓

Remove relay 343 and bridge pins 87 and 87a of connector → OK → Replace relay

↓

Not OK

↓

Check condition of starter motor → Not OK → Overhaul or replace starter motor 15

Preliminary checks before connecting Fiat Lancia Tester

Check condition of fuel injection relay 50 → Not OK → Replace relay 50

↓

OK

↓

Check continuity of wire colour R between plug preheating control unit 357 and fuse 64 → Not OK → Repair wire colour R

↓

3U241N

55D.

OK

⬇

Check condition of fuse 64 ➡ Not OK ➡ Check for presence of short circuit in system, and replace fuse 64

⬇

OK

⬇

Check condition of relay 382 ➡ Not OK ➡ Replace relay 382

⬇

OK

⬇

Check continuity of wire colour BN between relay 39 and inertial switch 192 ➡ Not OK ➡ Repair wire colour BN

⬇

OK

⬇

Check condition of inertial switch 192 ➡ Not OK ➡ Overhaul or replace inertial switch 192

⬇

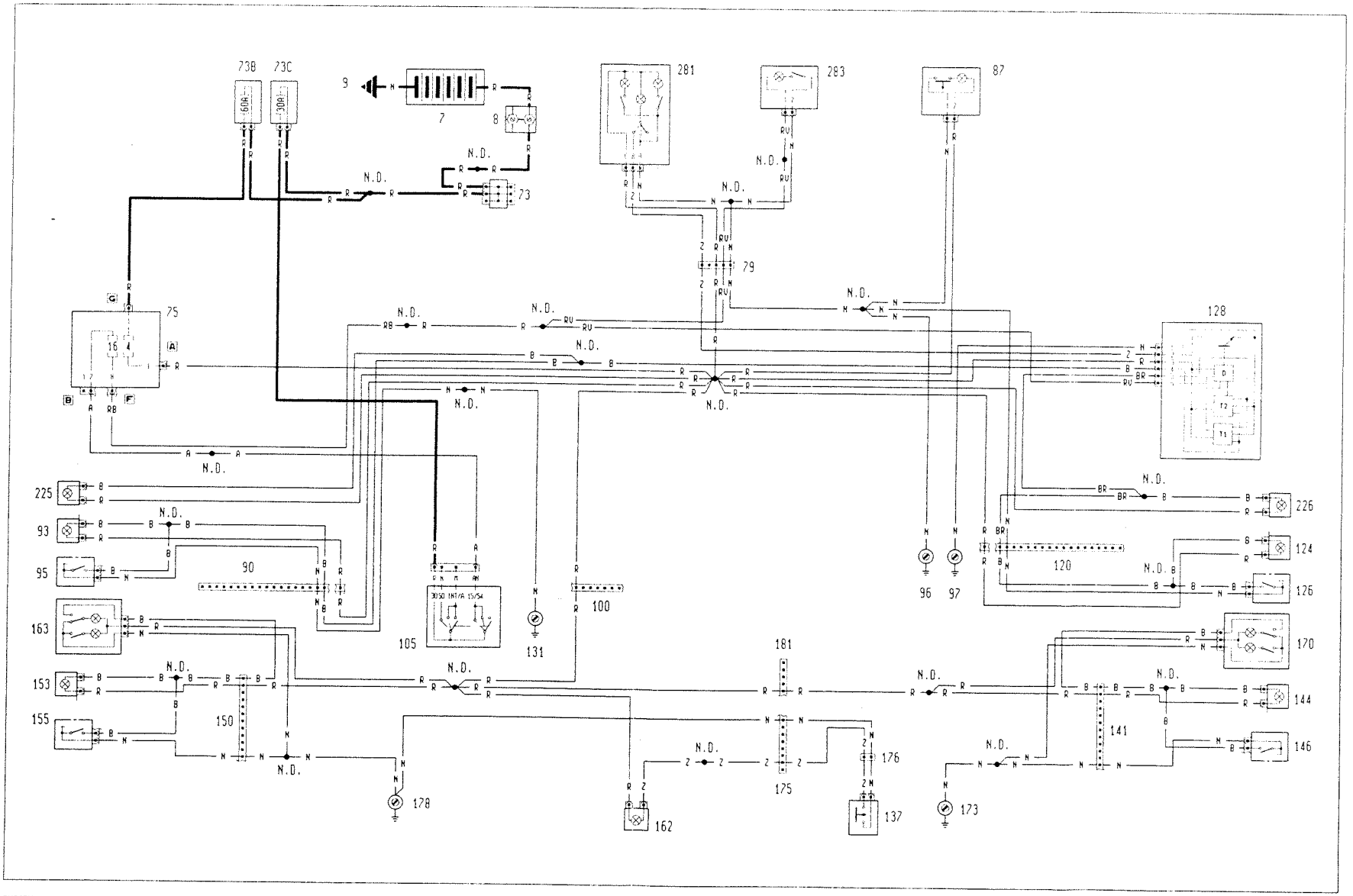
OK

⬇

Connect up to the diagnostic connector 88 and continue the procedure with the relevant instruments

3U242N

Car interior lighting - (See key following diagrams)



3U243N

Car interior lighting does not work

Check condition of fuse 4 in fuse and relay unit 75 → Non OK → Check for presence of short circuit in system and replace fuse 4

↓

OK

↓

Check condition of fuse and relay unit 75 → Not OK → Overhaul or replace fuse and relay unit 75

Car interior courtesy light does not work

Connect cable colour N on courtesy light 281 with an earth → OK → Repair wire colour N between courtesy light 281 and earth 96

↓

Not OK

↓

Check continuity of wire colour R between courtesy light 281 and connector 79 → Not OK → Repair wire colour R

↓

OK

↓

Check condition of courtesy light 281 → Not OK → Overhaul or replace courtesy light 281

↓

OK

↓

Check continuity of wire colour R between connector 79 and fuse and relay unit 75 → Not OK → Repair wire colour R

↓

3U245N

OK

Check condition of fuse and relay unit 75 → Not OK → Overhaul or replace fuse and relay unit 75

Ceiling spot light does not work

Check bulb condition → Not OK → Replace bulb

OK

Check condition of spot light button in courtesy light 281 → Not OK → Overhaul or replace button

OK

Check condition of courtesy light 281 → Not OK → Overhaul or replace courtesy light 281

Front courtesy light does not work when operated manually

Check bulb condition → Not OK → Replace bulb

OK

Connect cable colour R on front courtesy light 281 with an earth → OK → Repair wire colour R between courtesy light 281 and ultra-sound-soldered joint

3U246N

OK

↓

Check condition of switch inside courtesy light 281 → Not OK → Replace switch

↓

OK

↓

Check condition of front courtesy light 281 → Not OK → Overhaul or replace front courtesy light 281

Front left courtesy light does not work when operated manually

Check bulb condition → Not OK → Replace bulb

↓

OK

↓

Check condition of bulb holder → Not OK → Overhaul or replace bulb holder

↓

OK

↓

Connect cable colour R of front left courtesy light 163 → OK → Repair wire colour R between courtesy light 163 and ultrasound-soldered joint

↓

Not OK

↓

3U247N

55D.

Check for presence of voltage on wire colour R of courtesy light 163 → Not OK → Repair wire colour R between ultrasound-soldered joint and connector 100

↓

OK

↓

Check condition of courtesy light 163 → Not OK → Overhaul or replace courtesy light 163

Rear right courtesy light does not work

Check bulb condition → Not OK → Replace bulb

↓

OK

↓

Check condition of bulb holder → Not OK → Overhaul or replace bulb holder

↓

OK

↓

Connect cable colour N of rear right courtesy light 170 with an earth → OK → Repair wire colour N between courtesy light 170 and ultrasound-soldered joint

↓

Not OK

↓

Check for presence of voltage on wire colour R of courtesy light 170 → Not OK → Repair wire colour R between ultrasound-soldered joint and courtesy light 170

↓

3U248N

OK

Check condition of courtesy light 170 → Not OK → Overhaul or replace courtesy light 170

Car interior lighting does not work in time-lagged condition

Check for presence of voltage on wire colour R pin 3 of timer 128 → Not OK → Repair wire colour R between timer 128 and ultrasound-soldered joint

OK

Connect cable colour N pin 1 of timer 128 with an earth → OK → Repair wire colour N between timer 128 and earth 97

Not OK

Check for presence of voltage on wire colour RV pin 6 of timer 128 → Not OK → Repair wire colour RV between timer 128 and ultrasound-soldered joint

OK

Check condition of timer 128 → Not OK → Replace timer 128

3U249N

55D.

Front courtesy light does not work in time-lagged condition

Connect cable colour Z on courtesy light 281 with an earth → Not OK → Overhaul or replace courtesy light 281

↓ OK

↓

Connect cable colour Z on connector 79 with an earth → Not OK → Repair wire colour Z between connector 79 and courtesy light 281

↓ OK

↓

Connect cable colour Z pin 2 of timer 128 with an earth → Not OK → Repair wire colour Z between timer 128 and connector 79

↓ OK

↓

Check condition of timer 128 → Not OK → Replace timer 128

Glove compartment light does not work

Check for presence of voltage on wire colour R of glove compartment light unit 87 → Not OK → Repair wire colour R between the unit 87 and ultrasound-soldered joint

↓ OK

↓

3U250N

Check bulb condition → Not OK → Replace bulb

↓ OK

↓ Connect cable colour N on lock assembly 87 with an earth → Not OK → Overhaul or replace button or lock assembly 87

↓ OK

↓ Check condition of wire colour N between assembly 87 and ultrasound-soldered joint → Not OK → Repair wire colour R between courtesy light 163 and courtesy light 281

Luggage compartment light does not work

Check bulb condition → Not OK → Replace bulb

↓ OK

↓ Check condition of wire colour R on luggage compartment light bulb 162 → Not OK → Repair wire colour R

↓ OK

↓ Connect cable colour Z on bulb 162 with an earth → Not OK → Overhaul or replace bulb holder 162

↓

3U251N

55D.

OK

⬇

Connect cable colour Z on connector 175 with an earth ➡ Not OK ➡ Repair wire colour Z between connector 175 and bulb 162

⬇

OK

⬇

Connect cable colour Z on connector 176 with an earth ➡ Not OK ➡ Repair wire colour Z between connector 176 and connector 175

⬇

OK

⬇

Connect jumper between cables coloured Z and N on switch 137 ➡ OK ➡ Replace switch 137

⬇

Not OK

⬇

Connect cable colour N on connector 176 with an earth ➡ Non OK ➡ Check condition of wires colour Z and N between connector 176 and switch 137

⬇

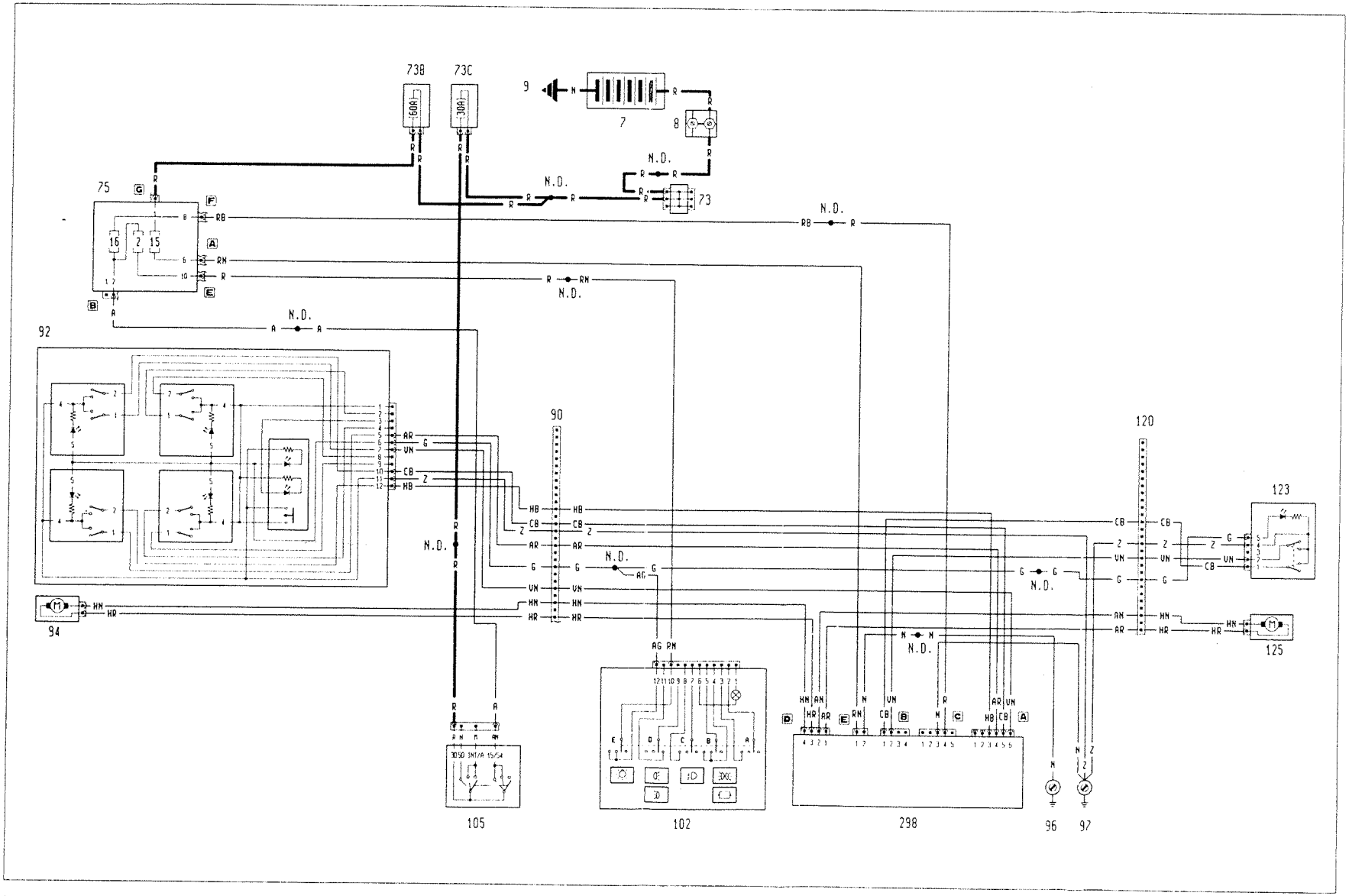
OK

⬇

Check condition of wire colour N between connector 176 and earth 178 ➡ Not OK ➡ Repair wire colour N

3U252N

Electric front windows - (See key following diagrams)



3U253N

Electric front windows do not work

Check condition of fuse 16 in fuse and relay unit → Not OK → Check for presence of short circuit in system and replace fuse 16

↓ OK

↓ Check condition of fuse 15 in fuse and relay unit 75 → Not OK → Check for presence of short circuit in system and replace fuse 15

↓ OK

↓ Check for presence of voltage on wire colour RB pin 8 of connector F of fuse and relay unit 75 → Not OK → Overhaul or replace fuse and relay unit 75

↓ OK

↓ Check for presence of voltage on wire colour R pin 4 of connector C of electric windows control unit 278 → Not OK → Repair wires colour R / RB between control unit 298 and fuse and relay unit 75

↓ OK

↓ Check for presence of voltage on wire colour RN pin 6 of connector A of fuse and relay unit 75 → Not OK → Overhaul or replace fuse and relay unit 75

↓ OK

↓ Check for presence of voltage on wire colour RN pin 1 of connector E of control unit 298 → Not OK → Repair wire colour RN between fuse and relay unit 75 and control unit 298

↓

3U255N

OK

↓

Connect cable colour N on pin 3 connector C of control unit 298 with an earth → OK → Repair wire colour N between control unit 298 and earth 97

↓

Not OK

↓

Connect cable colour N on pin 2 connector E of control unit 298 with an earth → OK → Repair wire colour N between control unit 298 and earth 97

↓

Not OK

↓

Check condition of control unit 298 → Not OK → Overhaul or replace control unit 298

Front left electric window does not work

Disconnect connector D from control unit 298, connect an ohmmeter between wires coloured HN and HR and check condition of wires and front electric window motor 94 → Not OK → Repair wires colour HN / HR or replace motor 94

↓

OK

↓

Connect cable colour HB on pin 12 of electric windows pushbutton unit 92 with an earth → OK → Overhaul or replace pushbutton unit 92

↓

Not OK

↓

3U256N

Connect cable colour HB on pin 3 connector A of control unit 298 with an earth → OK → Repair wire colour HB between control unit 298 and pushbutton unit

↓ Not OK

↓

Connect cable colour AR on pin 5 of electric windows pushbutton unit 92 with an earth → OK → Repair wire colour AR between control unit 298 and pushbutton unit

↓ Not OK

↓

Connect cable colour AR on pin 4 connector A of control unit 298 with an earth → OK → Repair wire colour AR between control unit 298 and pushbutton unit

↓ Not OK

↓

Check condition of pushbutton unit 92 → Not OK → Overhaul or replace pushbutton unit 92

↓ OK

↓

Check condition of electric windows control unit 298 → Not OK → Overhaul or replace control unit 298

3U257N

Front right electric window does not work

Disconnect connector D from control unit 298 from its seating, connect ohmmeter between wires coloured AN and AR and check condition of wires and right electric window motor 125 → Not OK → Repair wires AN/AR or HN/HR, or replace motor 125

↓

OK

↓

Connect cable colour CB on pin 10 of electric windows pushbutton unit 92 with an earth → OK → Overhaul or replace pushbutton unit 92

↓

Not OK

↓

Connect cable colour CB on pin 5 connector A of control unit 298 with an earth → OK → Repair wire colour CB between control unit 298 and pushbutton unit 92

↓

Not OK

↓

Connect cable colour AR on pin 5 of electric windows pushbutton unit 92 with an earth → OK → Overhaul or replace pushbutton unit 92

↓

Not OK

↓

Connect cable colour AR on pin 4 connector A of control unit 298 with an earth → OK → Repair wire colour AR between control unit 298 and pushbutton unit 92

↓

3U258N

Not OK

↓

Check condition of pushbutton unit 92 → Not OK → Overhaul or replace pushbutton unit 92

↓

OK

↓

Check condition of electric windows control unit 298 → Not OK → Overhaul or replace control unit 298

↓

OK

↓

Connect cable colour Z on front right pushbutton unit 123 with an earth → OK → Repair wire colour Z between pushbutton unit 123 and earth 97

↓

Not OK

↓

Connect jumper between cables coloured VN and CB on pushbutton unit 123, disconnect connector B on control unit 298, connect ohmmeter between wires colour VN and CB and check condition of wires → Not OK → Repair wire colour VN and CB between pushbutton unit 123 and control unit 298

↓

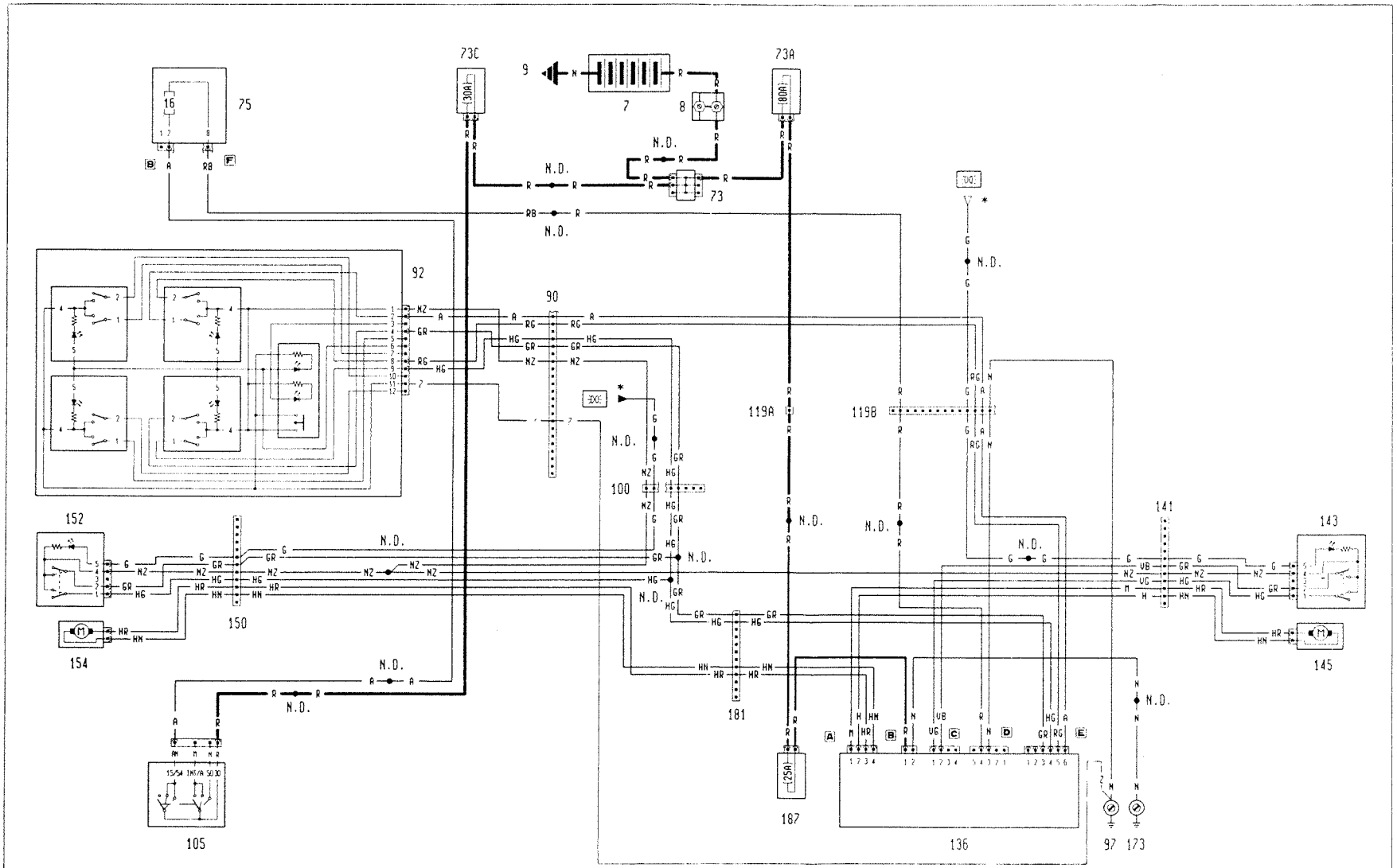
OK

↓

Check condition of pushbutton unit 123 → Not OK → Overhaul or replace pushbutton unit 123

3U259N

Electric rear windows - (See key following diagrams)



3U261N

Rear electric windows do not work

Check condition of fuse 187 → Not OK → Check for presence of short circuit in system and replace fuse 187

↓ OK

Check for presence of voltage on fuse 187 → Not OK → Repair wire colour R between fuse 187 and fuse 73A

↓ OK

Check for presence of voltage on wire colour R pin 1 connector B of rear electric windows control unit 136 → Not OK → Repair wire colour R between control unit 136 and fuse 187

↓ OK

Check for presence of voltage on wire R pin 4 of connector D of control unit 136 → Not OK → Repair wire colour R between control unit 136 and control unit 75 connector F

↓ OK

Connect cable colour N pin 3 connector D of control unit 136 → OK → Repair wire colour N between control unit 136 and earth 97

↓ Not OK

Check condition of control unit 136 → Not OK → Overhaul or replace control unit 136

↓

3U263N

55D.

OK

⬇

Check condition of electric rear windows exclusion switch in pushbutton unit 92 ➡ Not OK ➡ Overhaul or replace switch

⬇

OK

⬇

Check condition of pushbutton unit 92 ➡ Not OK ➡ Overhaul or replace pushbutton unit 92

Rear left electric window does not work when controlled from either pushbutton unit

Disconnect connector A from electric windows control unit 136, connect ohmmeter between wires colour HN and HR and check condition of wires and rear left electric window motor 154 ➡ Not OK ➡ Repair wires colour HN / HR or replace motor 154

⬇

OK

⬇

Check condition of control unit 136 ➡ Not OK ➡ Overhaul or replace control unit 136

Rear right electric window does not work when controlled from either pushbutton unit

Disconnect connector A from electric windows control unit 136, connect ohmmeter between wires colour M and H and check condition of wires and rear right electric window motor 145 ➡ Not OK ➡ Repair wires colour M / H or HN / HR or replace motor 145

⬇

OK

⬇

3U264N

Check condition of control unit 136	Not OK	Overhaul or replace control unit 136

Rear left electric window does not work when controlled from front pushbutton unit

Bridge alternately the wires colour HG and GR on connector 100 with an earth	OK	Repair wires colour HG or GR between connector 100 and pushbutton unit 92 or overhaul pushbutton unit 92

Not OK

Check condition of wires colour HG and HR between connector 100 and ultrasound-soldered joint	Not OK	Repair wires colour HG or HR

Rear left electric window does not work when controlled from rear left pushbutton unit

Bridge alternately wires colour GR and HG on connector 150 with an earth	OK	Repair wires colour HG or GR between connector 150 and pushbutton unit 152 or replace pushbutton unit 152

Not OK

Check continuity of wires colour GR and HG between connector 150 and ultrasound-soldered joint	Not OK	Repair wires colour HG or GR

Rear right electric window does not work when controlled from front pushbutton unit

Bridge alternately wires colour RG and A pin 5 and 6 connector E of electric windows control unit 136 with an earth	Not OK	Check or replace control unit 136

3U265N

55D.

OK

⬇

Bridge alternately wires colour RG and A on connector 119B with an earth ➡ Not OK ➡ Repair wires colour RG or A between connector 119B and control unit 136

⬇

OK

⬇

Bridge alternately wires colour RG and A on connector 90 with an earth ➡ Not OK ➡ Repair wires colour RG or A between connector 90 and connector 119B

⬇

OK

⬇

Bridge alternately wires colour RG and A on pushbutton unit 92 with an earth ➡ Not OK ➡ Repair wires colour RG or A between pushbutton unit 92 and connector 90

⬇

OK

⬇

Check condition of pushbutton unit 92 ➡ Not OK ➡ Overhaul or replace pushbutton unit 92

Rear right electric window does not work when controlled from rear pushbutton unit

Bridge alternately wires colour VG and VB pin 1 and 2 connector C of rear electric windows control unit 136 with an earth ➡ Not OK ➡ Overhaul or replace control unit 136

⬇

OK

⬇

3U266N

Bridge alternately wires colour VG and VB on connector 141 with an earth → Not OK → Repair wires colour VG or VB between connector 141 and control unit 136

↓

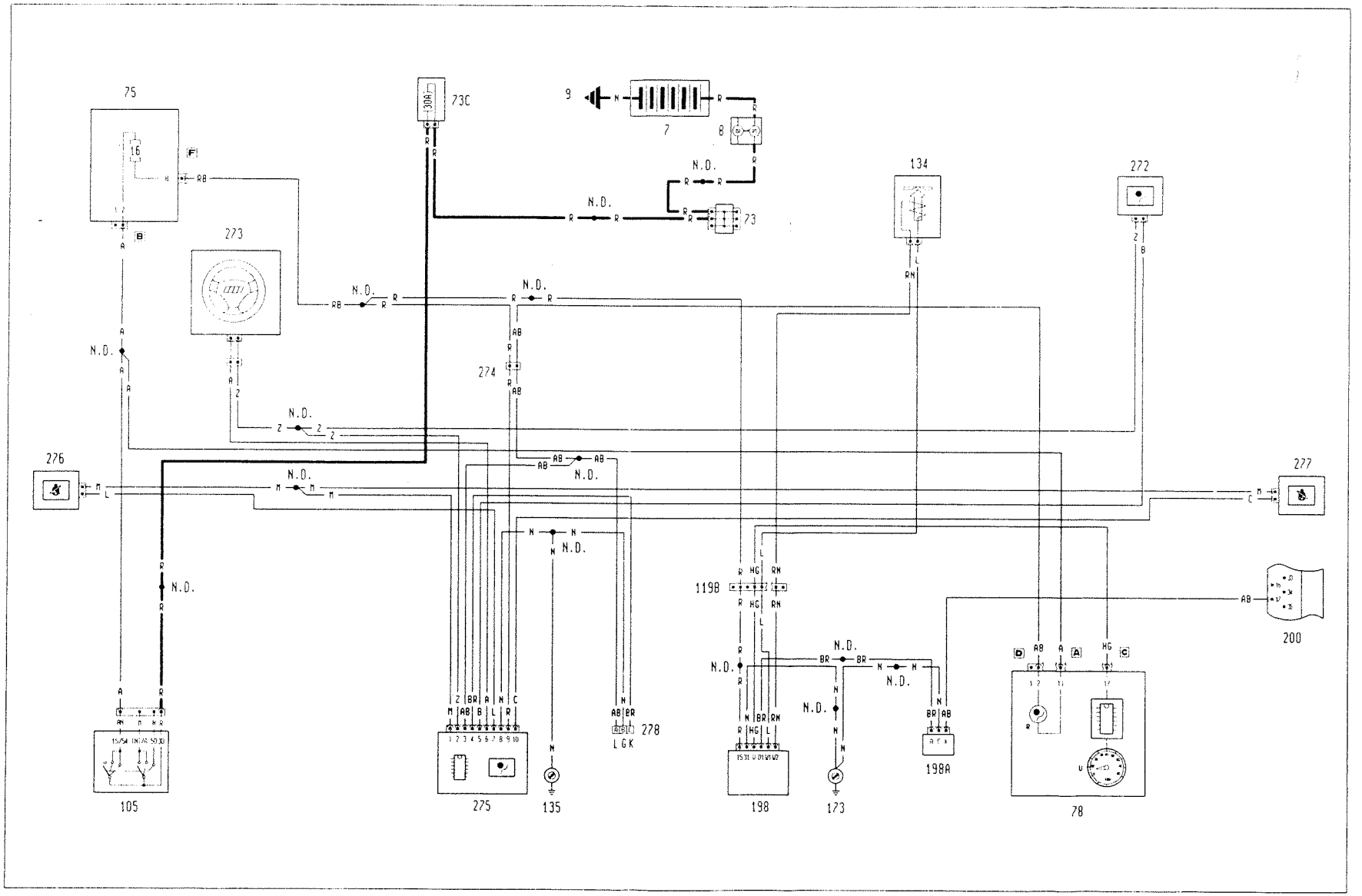
OK

↓

Connect jumper between cables coloured HG and GR on pushbutton unit 143 with an earth → Not OK → Repair wires colour VG or VB between pushbutton unit 143 and connector 141 or replace pushbutton unit 143

3U267N

Air Bag and fault warning light - Seat belt pretensioners - Servotronik device - (See key following diagrams)



3U269N

Preliminary checks on the Air Bag system

Check continuity of wire colour RB between connector F pin 8 of fuse and relay unit 75 and Air Bag control unit 275 → Not OK → Repair wire colour RB

↓ OK

↓ Check continuity of wire colour N between control unit 275 and earth 135 → Not OK → Repair wire colour N

↓ OK

↓ Check condition of warning light R inside the panel 78 → Not OK → Replace warning light R

↓ OK

↓ Check continuity of wires colour Z and B between control unit 272 and control unit 275 → Not OK → Repar wires colour Z or B

↓ OK

↓ Check continuity of wires colour A and Z between control unit 273 and control unit 275 → Not OK → Repair wires colour A and Z

↓ OK

↓ Connect up to diagnostic socket 278 and continue the procedure with the Fiat Lancia Tester

3U271N

55D.

Preliminary checks on the SERVOTRONIK

Disconnect connector from component 134 and bridge the 2 wires colour RN and L → Not OK → Repair wires colour RN or L

↓

OK

↓

Check continuity of wires colour RN or L between solenoid 134 and control unit 198 → Not OK → Repair wires colour RN or L

↓

OK

↓

Check for presence of voltage on wire colour R of component 198 → Not OK → Repair wire colour R

↓

OK

↓

Connect cable colour N of pin 31 of control unit 198, with an earth → Not OK → Repair wire colour N

↓

OK

↓

Check continuity of wire colour HG between panel 78 connector C pin 17 and control unit 198 → Not OK → Repair wire colour HG

↓

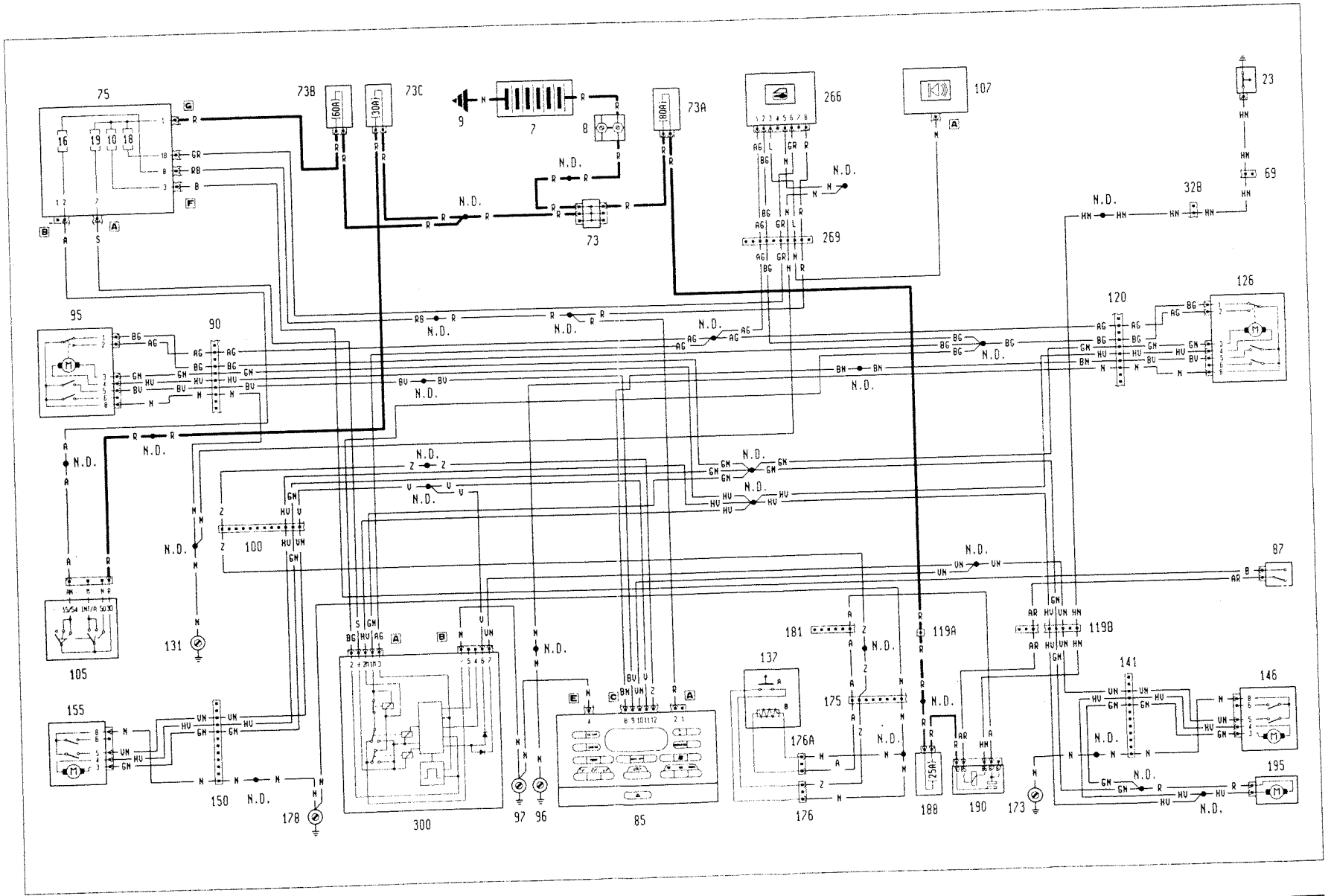
OK

↓

Connect up to the diagnostic socket 198A and continue the procedure with the Fiat Lancia Tester

3U272N

Central door locking and doors open indicators - (See key following diagrams)



3U273N

Central door locking system does not work

Check condition of fuse 19 in fuse and relay unit 75 → Not OK → Check for presence of short circuit in system and replace fuse 19

↓ OK

↓ Connect cable colour N of connector B on central door locking control unit 300, with an earth → OK → Repair wire colour N between control unit 300 and earth 97

↓ Not OK

↓ Check for presence of voltage on wire colour S of connector A on control unit 300 → Not OK → Repair wire colour S between control unit 300 and fuse and relay unit 75, connector A or overhaul fuse and relay unit 75

↓ OK

↓ Check condition of central door locking control unit 300 → Not OK → Replace control unit 300

Central door locking system is not actuated by the receiver

Check charge of accumulator inside the remote control → Not OK → Replace accumulator

↓ OK

↓ Check condition of remote control → Not OK → Replace remote control

↓

3U275N

OK

↓

Check for presence of voltage on wire colour R, pin 8 of the central door locking receiver 266 → Not OK → Repair wire colour R between receiver 266 and ultrasound-soldered joint

↓

OK

↓

Connect cable colour N, pin 5 of receiver 266 with an earth → OK → Repair wire colour N between receiver 266 and ultrasound-soldered joint

↓

Not OK

↓

Check condition of fuse 18 in fuse and relay unit 75 → Not OK → Check for presence of short circuit in system and replace fuse 18

↓

OK

↓

Check for presence of voltage on wire GR, pin 6 of receiver 266 → Not OK → Repair wire colour GR between receiver 266 and fuse and relay unit 75 connector F

Central door locking system does not lock the doors

Connect cable colour AG, connector A of central door locking control unit 300 with an earth → Not OK → Repair wire colour AG

↓

OK

↓

Check condition of wire HV, connector A of control unit 300 and ultrasound-soldered joint → Not OK → Repair wire colour HV

↓

3U276N

OK

Check condition of control unit 300 → Not OK → Replace control unit 300

Central door locking system does not lock the doors via the receiver

Connect cable colour AG on connector 269 with an earth → Not OK → Repair wire colour AG between connector 269 and ultrasound-soldered joint

OK

Connect cable colour AG, pin 1 of receiver 266 with an earth → Not OK → Repair wire colour AG between receiver 266 and connector 269

OK

Check condition of receiver 266 → Not OK → Replace receiver 266

Central door locking system does not lock the doors via the left lock

Connect cable colour AG on connector 90 with an earth → Not OK → Repair wire colour AG between connector 90 and ultrasound-soldered joint

OK

Connect cable colour AG, pin 2 of left lock assembly 95 with an earth → Not OK → Repair wire colour AG between lock 95 and connector 90

3U277N

OK

↓

Check condition of lock 95 → Not OK → Replace lock 95

Central door locking system does not lock the doors via the right lock

Connect cable colour AG on connector 120 with an earth → Not OK → Repair wire colour AG between connector 120 and ultrasound-soldered joint

↓

OK

↓

Connect cable colour AG, pin 2 of right lock assembly 126 with an earth → Not OK → Repair wire colour AG between lock 126 and connector 120

↓

OK

↓

Check condition of lock 126 → Not OK → Replace lock 126

Central door locking system does not unlock the doors

Connect cable colour BG of connector A on central door locking control unit 300, with an earth → OK → Repair wire colour BG between control unit 300 and ultrasound-soldered joint

↓

Not OK

↓

Check for presence of voltage on wire colour GN between control unit 300 and ultrasound-soldered joint → Not OK → Repair wire colour GN

↓

3U278N

OK

Check condition of control unit 300 → Not OK → Replace control unit 300

Central door locking system does not unlock the doors via the receiver

Connect cable colour BG on connector 269 with an earth → Not OK → Repair wire colour BG between connector 269 and ultrasound-soldered joint

OK

Connect cable colour BG, pin 2 of receiver 266 with an earth → Not OK → Repair wire colour BG between receiver 266 and connector 269

OK

Check condition of receiver 266 → Not OK → Replace receiver 266

Central door locking system does not unlock the doors via the left lock

Connect cable colour BG on connector 90 with an earth → Not OK → Repair wire colour BG between connector 90 and ultrasound-soldered joint

OK

Connect cable colour BG, pin 1 of left lock assembly 95 with an earth → Not OK → Repair wire colour BG between lock 95 and connector 90

3U279N

OK

↓

Check condition of lock 95 → Not OK → Replace lock 95

Central door locking system does not unlock the doors via the right lock

Connect cable colour BG on connector 120 with an earth → Not OK → Repair wire colour BG between connector 90 and ultrasound-soldered joint

↓

OK

↓

Connect cable colour BG of right lock assembly 126 with an earth → Not OK → Repair wire colour BG between lock 126 and connector 120

↓

OK

↓

Check condition of lock 126 → Not OK → Replace lock 126

Front left door locking motor does not work

Check condition of wires colour GN and HV between front left lock 95 and ultrasound-soldered joint → Not OK → Repair wire colour GN or HV

↓

OK

↓

Check condition of front left lock assembly 95 → Not OK → Overhaul or replace lock 95

3U280N

Front right door locking motor does not work

Check condition of wires colour GN and HV between front right lock 126 and ultra-sound-soldered joint → Not OK → Repair wire colour GN or HV

↓

OK

↓

Check condition of front right lock assembly 126 → Not OK → Overhaul or replace lock 126

Rear left door locking motor does not work

Check condition of wires colour GN and HV between rear left lock 155 and ultra-sound-soldered joint → Not OK → Repair wire colour GN or HV

↓

OK

↓

Check condition of rear left lock assembly 155 → Not OK → Overhaul or replace lock 155

Rear right door locking motor does not work

Check condition of wires colour GN and HV between rear right lock 146 and ultra-sound-soldered joint → Not OK → Repair wire colour GN or HV

↓

OK

↓

Check condition of rear left lock assembly 146 → Not OK → Overhaul or replace lock 146

3U281N

55D.

Fuel flap lock/unlock motor does not work

Check condition of wires colour GN and HV between fuel flap lock/unlock motor 195 and ultrasound-soldered joint → Not OK → Repair wire colour GN or HV

↓ OK

↓ Check condition of fuel flap lock/unlock motor 195 → Not OK → Overhaul or replace motor 195

Boot lock/unlock motor does not work

Connect jumper between cables coloured AR and B on relay 87 → Not OK → Replace relay

↓ OK

↓ Check condition of fuse 188 → Not OK → Check for presence of short circuit in system and replace fuse 188

↓ OK

↓ Check condition of fuse 10 in fuse and relay unit 75 → Not OK → Check for presence of short circuit in system and replace fuse 10

↓ OK

↓ Check for presence of voltage on wire colour R of fuse 188 → Not OK → Repair wire colour R between fuse 188 and ultrasound-soldered joint

↓ OK

↓

3U282N

Check for presence of voltage on wire colour R, pin 30 of relay 190	Not OK	Repair wire colour R between fuse 188 and relay 190
OK		
Check for presence of voltage on wire colour B, of switch 87	Not OK	Repair wire colour B between switch 87 and fuse and relay unit 75 connector F
OK		
Hold switch 87 pressed down and check for presence of voltage on wire AR, pin 85 of relay 190	Not OK	Repair wire colour AR between switch 87 and relay 190
OK		
Connect cable colour HN, pin 86 on relay 190 with an earth	Not OK	Repair wire colour HV between relay 190 and ultrasound-soldered joint
OK		
Holding the button 87 pressed down, check for presence of voltage on wire colour A, pin 87 of relay 190	Not OK	Replace relay 190
OK		
Holding the button 87 pressed down, check for presence of voltage on wire colour A, of connector 176	Not OK	Repair wire colour HV between relay 190 and ultrasound-soldered joint

3U283N

OK

↓

Check condition boot lock/ unlock winding 187B → Not OK → Replace winding 187B

Infocenter does not indicate front left door open

Connect cable colour BV, pin 9, connector A of Infocenter 85 with an earth → Not OK → Check condition of Infocenter 85

↓

OK

↓

Check condition of wire colour BV, pin 9 connector A between control unit 85 and ultrasound-soldered joint → Not OK → Repair wire colour BV

Infocenter does not indicate front right door open

Connect cable colour BN, pin 8, connector A of Infocenter 85 with an earth → Not OK → Check condition of Infocenter 85

↓

OK

↓

Check condition of wire colour BN, pin 8 connector A between control unit 85 and ultrasound-soldered joint → Not OK → Repair wire colour BN

3U284N

Infocenter does not incidate rear left door open

Connect cable colour V, pin 11, connector A of Infocenter 85 with an earth → Not OK → Check condition of Infocenter 85

↓

OK

↓

Check condition of wire colour V, pin 11 connector A between control unit 85 and ultrasound-soldered joint → Not OK → Repair wire colour V

Infocenter does not indicate rear right door open

Connect cable colour VN, pin 10, connector A of Infocenter 85 with an earth → Not OK → Check condition of Infocenter 85

↓

OK

↓

Check condition of wire colour VN, pin 10 connector A between control unit 85 and ultrasound-soldered joint → Not OK → Repair wire colour VN

Infocenter does not indicate boot open

Connect cable colour Z, pin 12, connector A of Infocenter 85 with an earth → Not OK → Check condition of Infocenter 85

↓

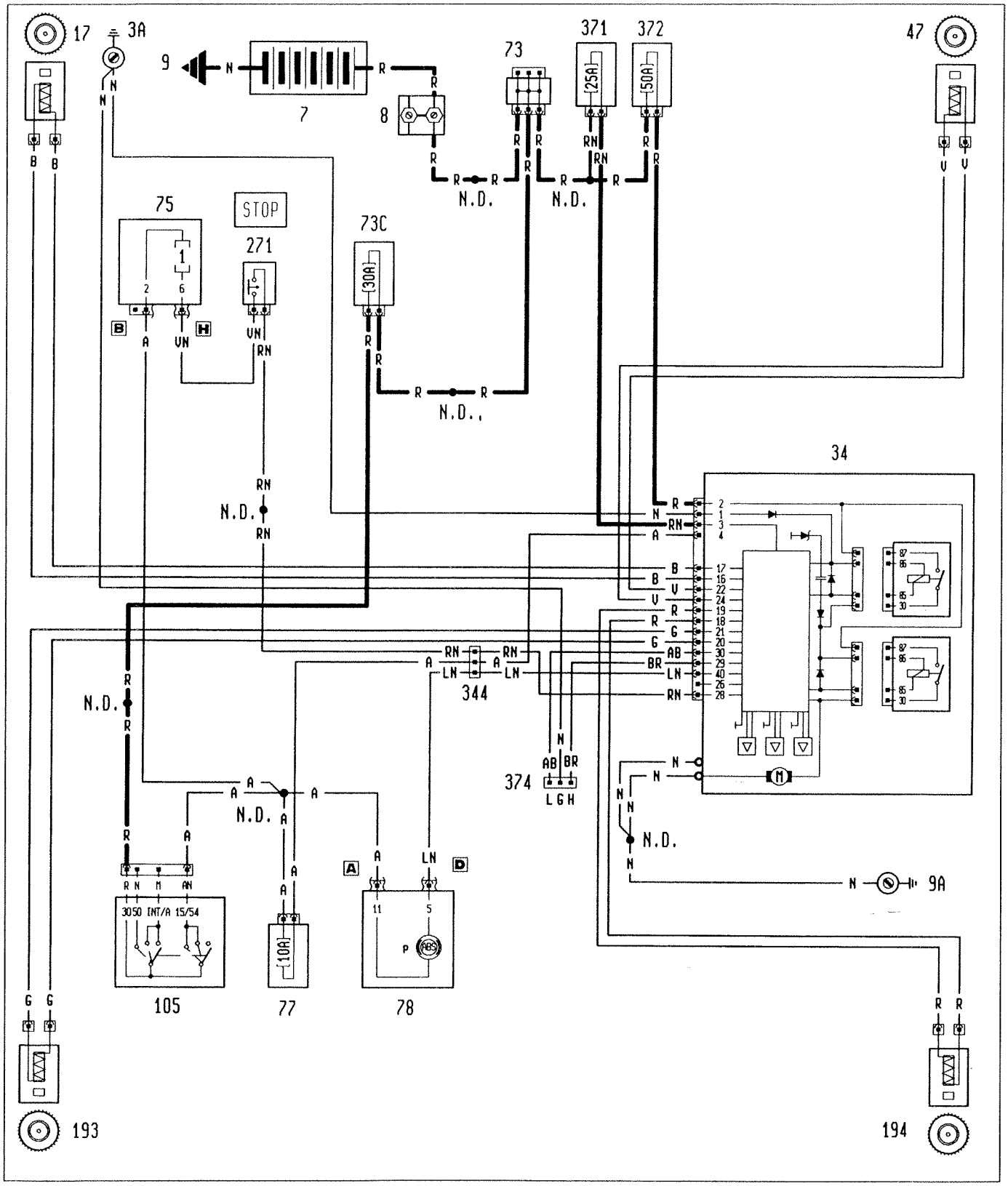
OK

↓

Check condition of wire colour Z, pin 12 connector A between control unit 85 and ultrasound-soldered joint → Not OK → Repair wire colour Z

3U285N

Anti-lock braking system (A.B.S.) - (See key following diagrams)



A.B.S. does not work

Check condition of fuses 371 and 372 → Not OK → Check for presence of short circuit in system and replace fuse 371 or 372

↓ OK

↓ Check continuity of wire colour R between A.B.S. control unit 34 and fuse 372 → Not OK → Repair wire colour R

↓ OK

↓ Check continuity of wire colour N between control unit 34 and earth 9A → Not OK → Repair wire colour N

↓ OK

↓ Check condition of relays in A.B.S. control unit 34 → Not OK → Replace relays on control unit 34

↓ OK

↓ Connect up to diagnostic connector 374 and continue the check with the relevant instruments

3U289N

55D.

A.B.S. fault warning light stays on

Disconnect connectors A and D from instrument panel 78 → Not OK → Overhaul or replace instrument panel 78

↓ OK

↓

Disconnect wire colour LN from connection between dashboard cable/A.B.S. cable 344 → Not OK → Repair wire colour LN between panel 78 and connector 344

↓ OK

↓

Disconnect wire colour LN on pin 40 of A.B.S. control unit 34 → Not OK → Repair wire colour LN between connection 344 and control unit 34

↓ OK

↓

Connect up to diagnostic connector 374 and continue the check with the relevant instruments

A.B.S. fault warning light does not work

Check condition of warning light P inside instrument panel 78 → Non OK → Replace warning light P

↓ OK

↓

3U290N

Connect cable colour A on A.B.S. control unit 34 with an earth → OK → Connect up to diagnostic socket 374 and continue the procedure with the Fiat Lancia Tester

↓

Not OK

↓

Connect cable colour LN in connector D of panel 78 with an earth → OK → Overhaul or replace panel 78

↓

Not OK

↓

Check for presence of voltage of wire colour A on connector A of panel 78 → OK → Repair wire colour A

↓

Not OK

↓

Check condition of fuse 77 → Not OK → Check for presence of short circuit in system and replace fuse 77

↓

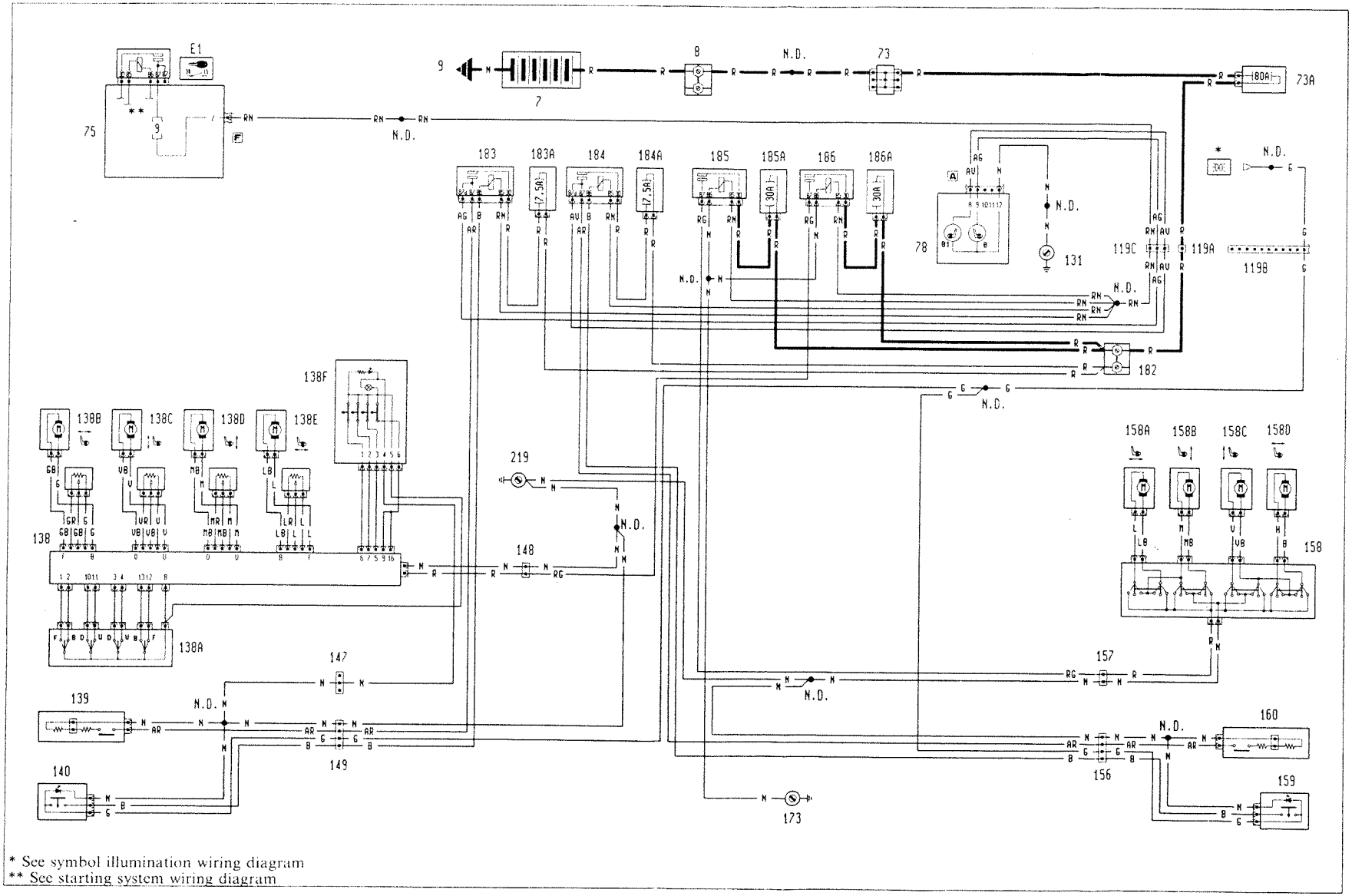
OK

↓

Check continuity of wire colour A between fuse 77 and connection 344 → Not OK → Repair wire colour A

3U291N

Electrically-adjustable and heated front seat - Driver's seat with memory - (See key following diagrams)



* See symbol illumination wiring diagram
** See starting system wiring diagram

3U293N

Electrically-adjustable and heated seats do not work

Check condition of fuse 9 in fuse and relay unit 75 → Not OK → Check for presence of short circuit in system and replace fuse 9

↓

OK

↓

Check for presence of voltage on wire colour RN of connector 119C → Not OK → Repair wire colour RN between connector 119C and ultrasound-soldered joint

↓

OK

↓

Check condition of wire colour RN between connector 119C and ultrasound-soldered joint → Not OK → Repair wire colour RN

Left electrically-adjustable seat does not work

Check condition of fuse 186A → Not OK → Check for presence of short circuit in system and replace fuse 186A

↓

OK

↓

Check for presence of voltage of wire colour R on fuse 186A → Not OK → Repair wire colour R between fuse 186A and ultrasound-soldered joint 182

↓

OK

↓

Connect cable colour N on left electrically-adjustable seat control unit 138 with an earth → OK → Repair wire colour N between control unit 138 and earth 219

↓

3U295N

55D.

OK

⬇

Connect cable colour N pin 86 of relay 186 with an earth ➡ OK ➡ Repair wire colour N between relay 186 and ultrasound-soldered joint

⬇

Not OK

⬇

Check for presence of voltage on wire colour RN pin 85 of relay 186 ➡ Not OK ➡ Repair wire colour R between relay 186 and ultrasound-soldered joint

⬇

OK

⬇

Check condition of relay 186 ➡ Not OK ➡ Replace relay 186

⬇

OK

⬇

Check for presence of voltage of wire colour RG on connector 148 ➡ Not OK ➡ Repair wire colour RG between connector 148 and relay 186

⬇

OK

⬇

Check for presence of voltage on wire colour R of control unit 138 ➡ Not OK ➡ Repair wire colour R between control unit 138 and connector 148

⬇

OK

⬇

Check condition of control unit 138 ➡ Not OK ➡ Replace control unit 138

3U296N

Right electrically-adjustable seat does not work

Check condition of fuse 185A → Not OK → Check for presence of short circuit in system and replace fuse 185A

↓

OK

↓

Check for presence of voltage on wire colour R pin 30 of relay 185 → Not OK → Repair wire colour R between fuse 185A and relay 185

↓

OK

↓

Check for presence of voltage on wire colour RN pin 85 of relay 185 → Not OK → Repair wire colour RN between relay 185 and ultrasound-soldered joint

↓

OK

↓

Connect cable colour N pin 86 of relay 185 with an earth → Not OK → Repair wire colour N between relay 185 and ultrasound-soldered joint

↓

OK

↓

Check for presence of voltage on wire colour RG of connector 157 → Not OK → Repair wire colour RG between connector 157 and relay 185

↓

OK

↓

Check condition of relay 185 → Not OK → Replace relay 185

↓

3U297N

55D.

OK

⬇

Connect cable colour N on connector 157 with an earth ➡ OK ➡ Repair wire colour N between connector 157 and ultrasound-soldered joint

⬇

Not OK

⬇

Check for presence of voltage on wire colour R of pushbutton unit 158 ➡ Not OK ➡ Repair wire colour R between pushbutton unit 158 and connector 157

Left seat heating pad does not work

Check condition of fuse 183A ➡ Not OK ➡ Check for presence of short circuit in system and replace fuse 183A

⬇

OK

⬇

Connect jumper between cables coloured B and G on left heating pad exclusion button 140 ➡ OK ➡ Replace button 140

⬇

Not OK

⬇

Check for presence of voltage on wire colour R pin 30 of relay 183 ➡ Not OK ➡ Repair wire colour R between fuse 183A and relay 183

⬇

OK

⬇

Check for presence of voltage on wire colour RN pin 85 of relay 183 ➡ Not OK ➡ Repair wire colour RN between relay 183 and ultrasound-soldered joint

⬇

3U298N

OK

⬇

Check for presence of voltage on wire colour AR of connector 149 ➡ Not OK ➡ Repair wire colour AR between connector 149 and relay 183

⬇

OK

⬇

Check for presence of voltage on wire colour AR of left seat heating pad 139 ➡ Not OK ➡ Repair wire colour AR between heating pad 139 and connector 149

⬇

OK

⬇

Connect cable colour N on button 140 with an earth ➡ OK ➡ Repair wire colour N between button 140 and ultrasound-soldered joint

⬇

Not OK

⬇

Connect cable colour N of heating pad 139 with an earth ➡ OK ➡ Repair wire colour N between heating pad 139 and ultrasound-soldered joint

⬇

Not OK

⬇

Connect cable colour B on connector 149 with an earth ➡ OK ➡ Repair wire colour B between connector 149 and button 140

⬇

Not OK

⬇

3U299N

Connect cable colour B pin 86 of relay 183 with an earth → OK → Repair wire colour B between relay 183 and connector 149

↓ Not OK

↓ Check condition of heating pad 139 → Not OK → Replace heating pad 139

↓ OK

↓ Check condition of relay 183 → Not OK → Replace relay 183

Right seat heating pad does not work

Check condition of fuse 184A → Not OK → Check for presence of short circuit in system and replace fuse 184A

↓ OK

↓ Connect jumper between cables coloured B and G on right heating pad exclusion button 159 → OK → Replace button 159

↓ Not OK

↓ Check for presence of voltage on wire colour R pin 30 of relay 184 → Not OK → Repair wire colour R between fuse 184A and relay 184

↓ OK

↓

3U300N

Check for presence of voltage on wire colour RN pin 85 of relay 184 → Not OK → Repair wire colour RN between relay 184 and ultrasound-soldered joint

↓

OK

↓

Check for presence of voltage on wire colour AR of connector 156 → Not OK → Repair wire colour AR between connector 156 and relay 184

↓

OK

↓

Check for presence of voltage on wire colour AR of right seat heating pad 160 → Not OK → Repair wire colour AR between heating pad 160 and connector 156

↓

OK

↓

Connect cable colour N on button 159 with an earth → OK → Repair wire colour N between button 159 and ultrasound-soldered joint

↓

Non OK

↓

Connect cable colour N of heating pad 160 with an earth → OK → Repair wire colour N between heating pad 160 and ultrasound-soldered joint

↓

Not OK

↓

Connect cable colour B on connector 159 with an earth → OK → Repair wire colour B between connector 159 and button 156

↓

3U301N

Not OK

↓

Connect cable colour B pin 86 of relay 184 with an earth → OK → Repair wire colour B between relay 184 and connector 156

↓

Not OK

↓

Check condition of heating pad 160 → Not OK → Replace heating pad 160

↓

OK

↓

Check condition of relay 184 → Not OK → Replace relay 184

Right seat heating pad warning light does not work

Check for presence of voltage on wire colour AV of connector 119C → Not OK → Repair wire colour AV between connector 119C and relay 184

↓

OK

↓

Check for presence of voltage on wire colour AV pin 8 connector A of instrument panel 78 → Not OK → Repair wire colour AV between instrument panel 78 and connector 119C

↓

OK

↓

Check condition of warning light B1 in instrument panel 78 → Not OK → Replace warning light B1

↓

3U302N

OK

↓

Check condition of instrument panel 78 → Not OK → Overhaul or replace instrument panel 78

Left seat heating pad warning light does not work

Check for presence of voltage on wire colour AG of connector 119C → Not OK → Repair wire colour AG between connector 119C and relay 183

↓

OK

↓

Check for presence of voltage on wire colour AG pin 9 connector A of instrument panel 78 → Not OK → Repair wire colour AG between instrument panel 78 and connector 119C

↓

OK

↓

Check condition of warning light B in instrument panel 78 → Not OK → Replace warning light B

↓

OK

↓

Check condition of instrument panel 78 → Not OK → Overhaul or replace instrument panel 78

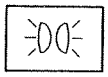
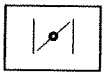
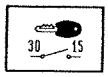
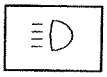
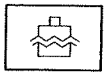
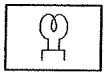
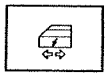
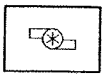
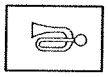
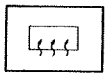
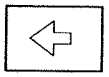
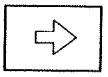
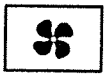
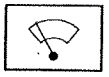
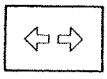
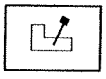
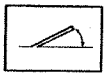
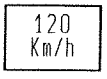
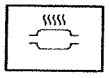
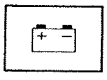
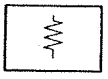
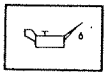
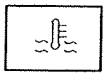
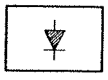
3U303N

page

DESCRIPTION	ENGINE TYPE				
	1998	2446	1995T	2959	2387 Td
Preparation for medium level radio	5	5	5	5	5
Preparation for high level radio	7	7	7	7	7
Starting - Motronic electronic ignition and injection - Recharging and warning light -Insufficient engine oil pressure warning light - Injection system failure warning light				9	
Starting - MSA11-310 fuel pump electronic control unit - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light - Heater plugs warning light					11
Direction indicators and warning light - Hazard warning lights and warning light - Braking lights - Reversing lights	13	13	13	13	13
Fuel level gauge and reserve warning light - Handbrake warning light - Insufficient brake fluid level warning light - Seat belt unfastened warning light - Speedometer - Milometer and trip meter and zeroing button - Rev counter - Current socket - Voltmeter	15	15	15	15	15
Ideogram lights - Heated rear windscreen and warning light	17	17	17	17	17
Version with alarm: central locking and doors ajar signal	19	19	19	19	19
Version without alarm: central locking and doors ajar signal - Doors locked device	21	21	21	21	21
Complete inforcenter	23	23	23	23	23
Air-bag and failure warning light - Seat belt pre-tensioners- Servotronic	25	25	25	25	25

NOTE The numbers in the table correspond to the electrical equipment page number in the manual

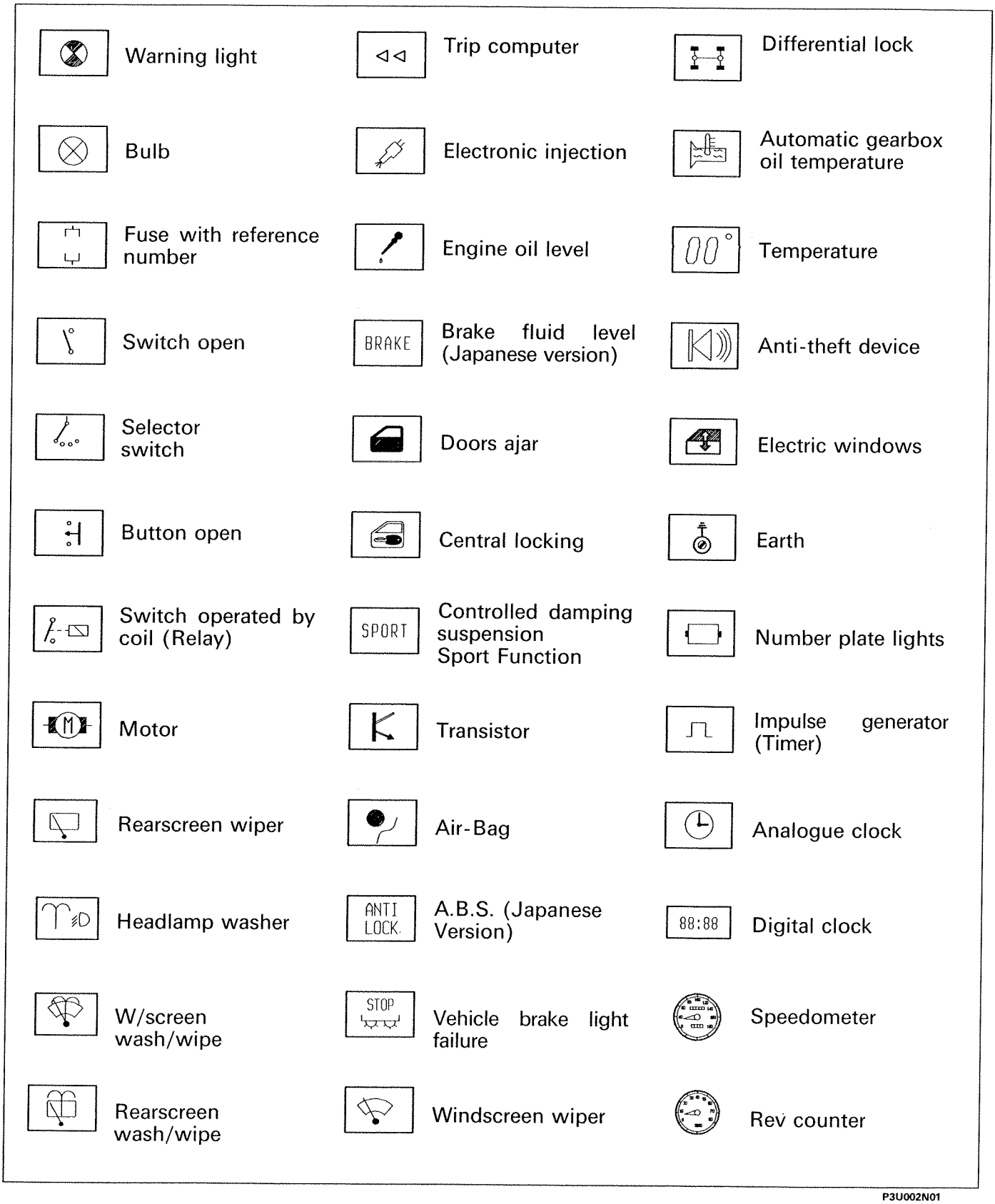
Electrical symbols

 Positions	 Cold starting (choke)	 Switch discharge
 Main beam h/lamps	 Water in fuel filter	 Dipped headlamps
 Heated seat	 Heater plugs	 Direction indicators signalling with central locking
 Seat belts	 Turbocharging pressure	 Electric horns
 Heated r. w/screen	 Rear fog lamp	 Left direction ind.
 Handbrake applied and insufficient brake fluid level	 Fog light	 Right direction ind.
 A.B.S.	 Brake pad wear	 Engine cooling
 Hazard warning	 Turbocharging pressure	 Windscreen wiper
 Direction ind.	 Automatic gearbox oil temperature	 Electric sun roof
 Handbrake and insufficient brake fluid level	 Speed limits	 Catalytic silencer temperature
 Recharging	 Fuel level	 Resistance
 Engine oil pressure	 Engine coolant temperature	 Diode

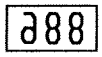
P3U001N01

55.

Electrical symbols

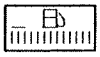


P3U002N01



Digital speedometer

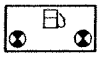
Digital rev counter



Digital fuel level gauge

Analogue fuel level gauge

Analogue engine coolant temperature gauge



Econometer

Digital engine temperature gauge

Engine oil temperature

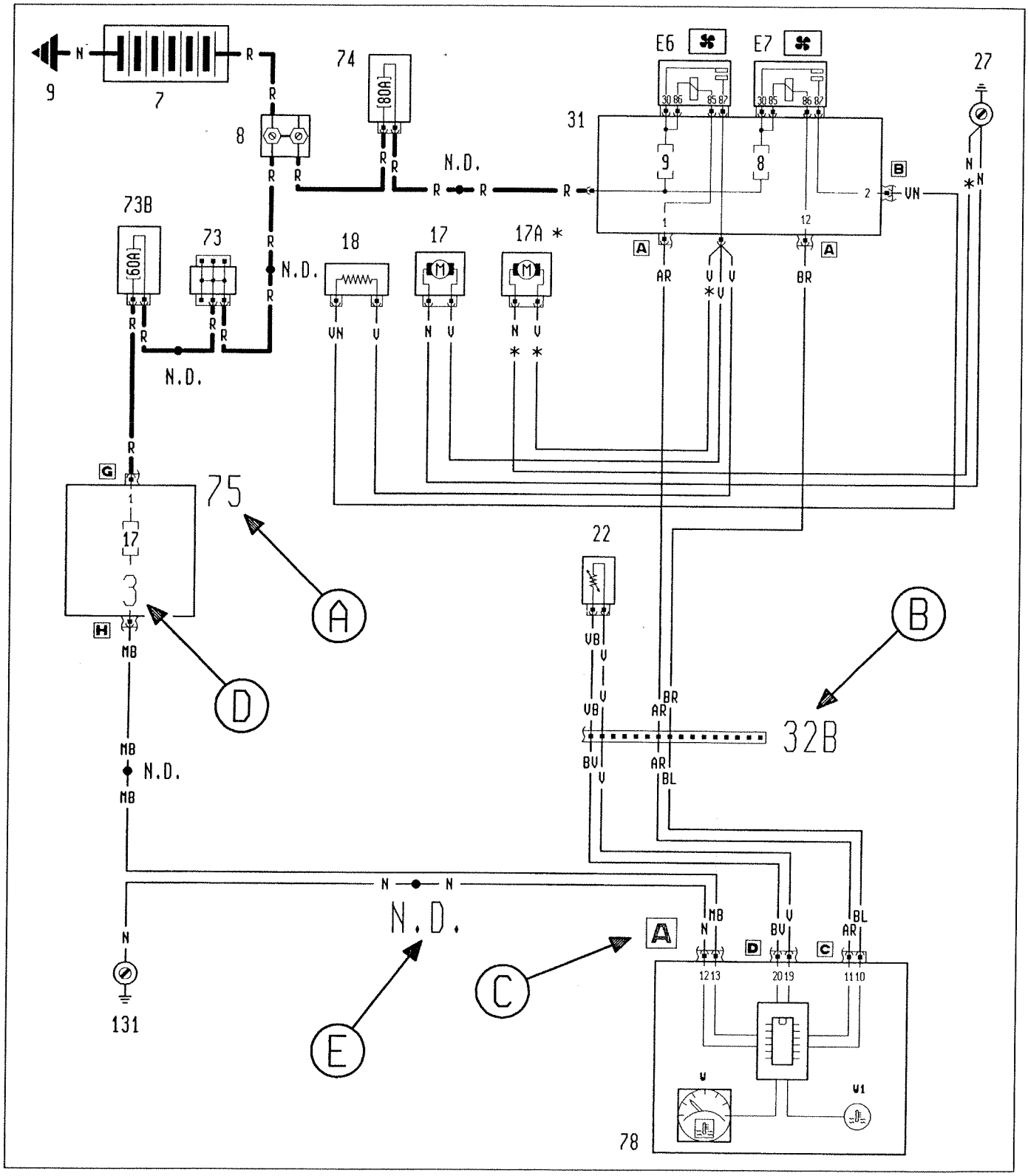
Engine oil pressure gauge

Voltmeter

P3U003N01

55.

Interpretation of wiring diagram

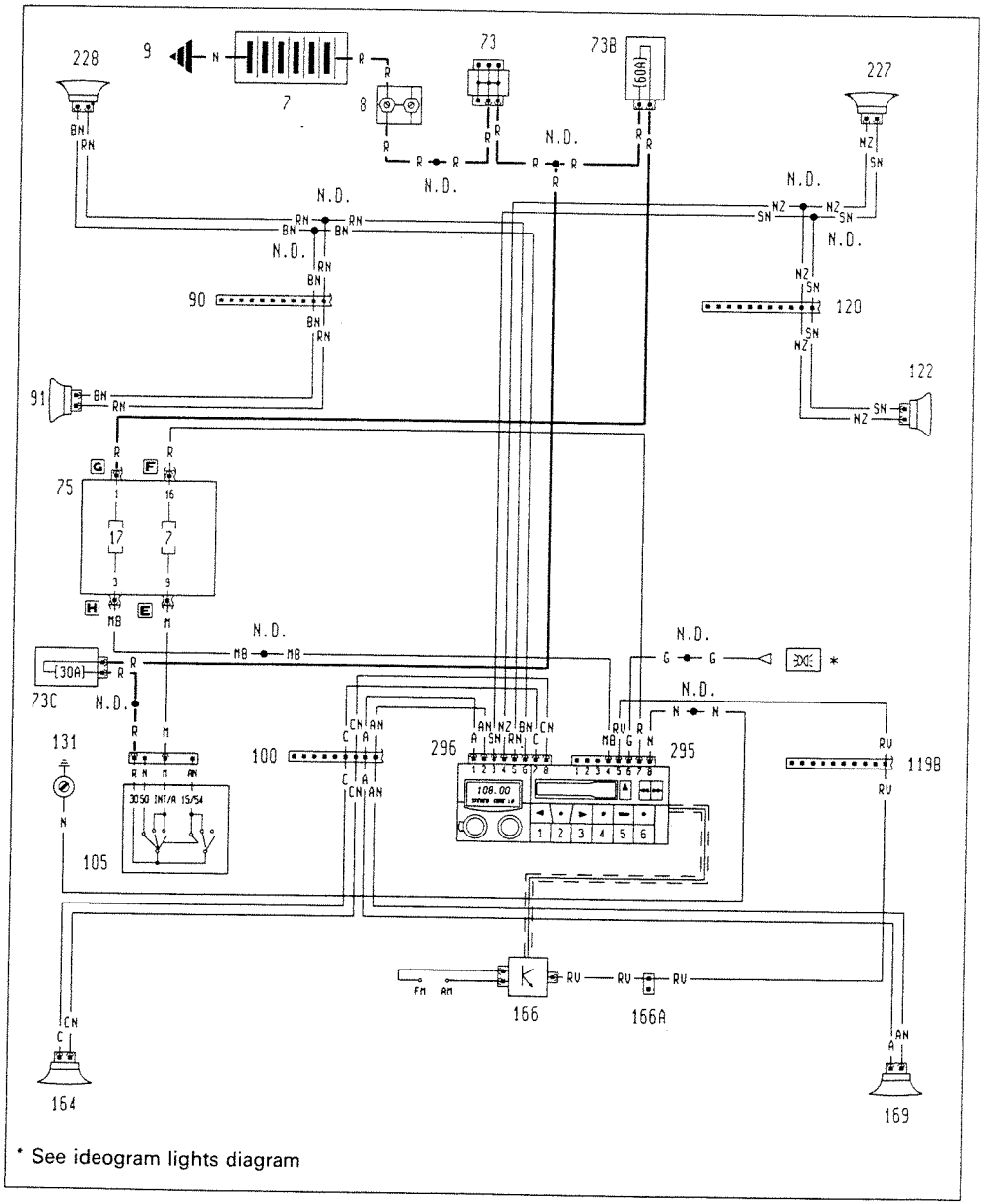


P3U004N01

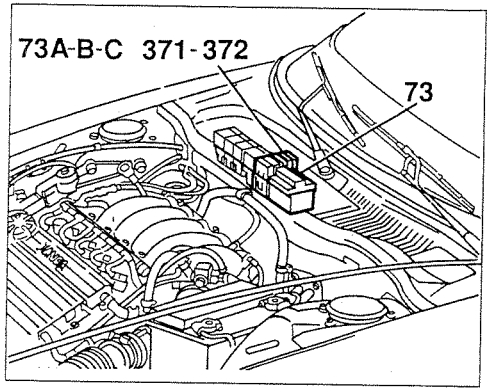
Reference key

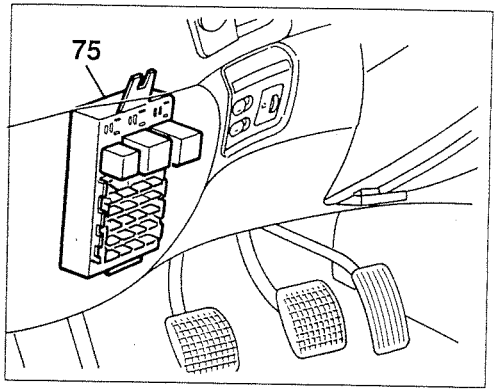
A Component number
B Connection number
C Identification of connector at component
D Connecting pin number
E Ultrasound welding taped in cable loom

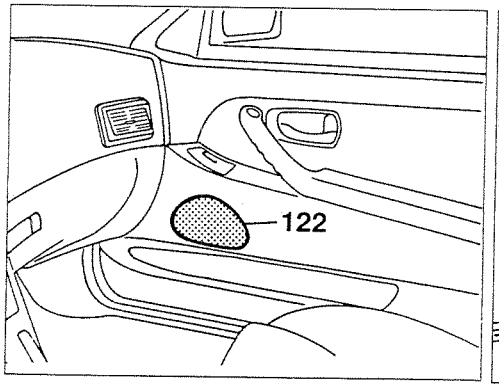
Preparation for medium level radio

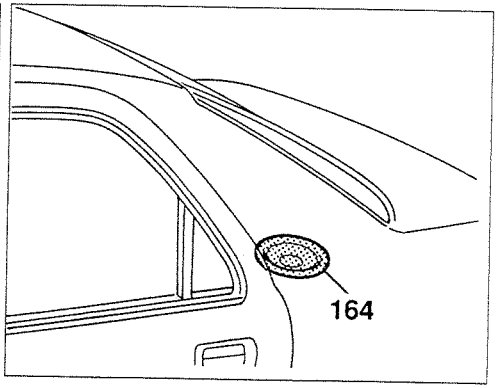


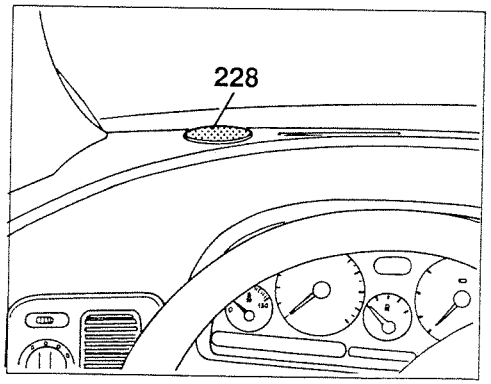
Preparation for medium level radio

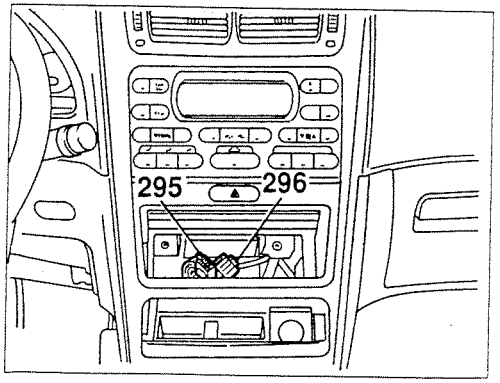




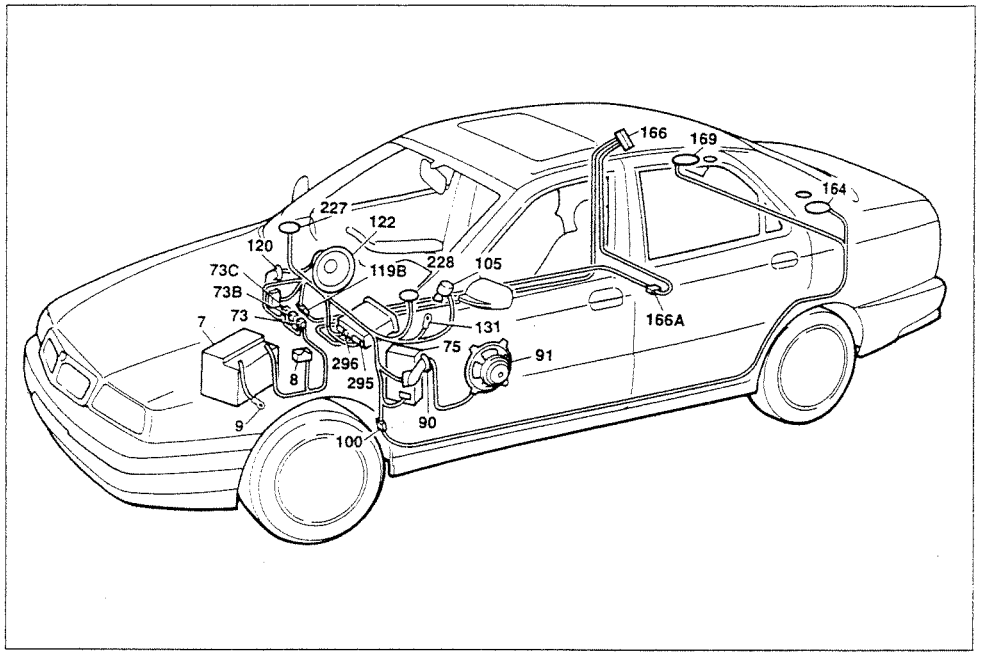








P3U014N01



P3U07IL01

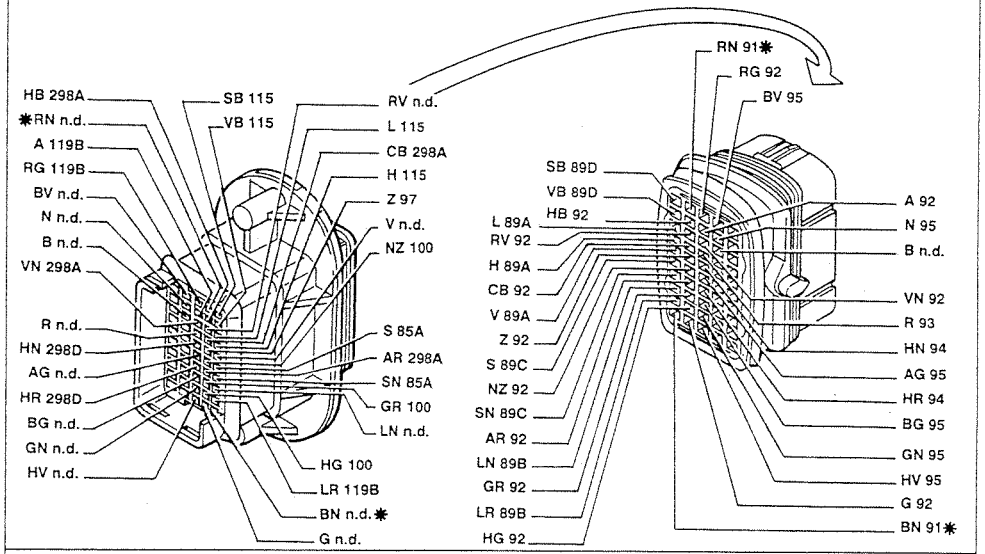
Preparation for medium level radio

Components key

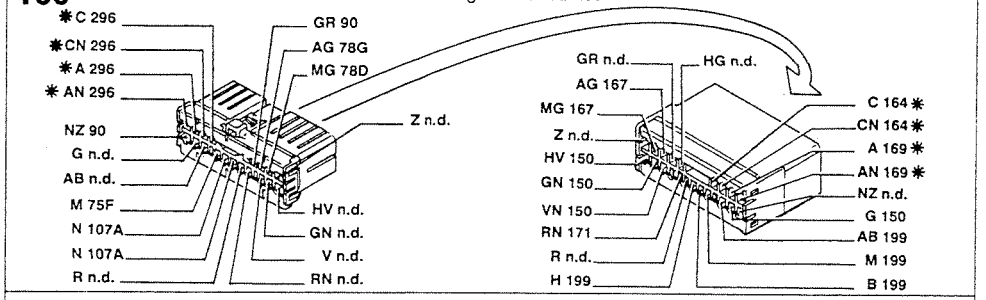
7 Battery
8 Main connector block
9 Earth on bodyshell
73 Secondary connector block
73B 60A protective fuse for I.G.E. control unit/junction unit
73C 30A fuse protecting ignition switch / anti-theft device
75 Junction unit (dashboard)
90 Connection between dashboard and left front door cables
91 Speaker in left front door
100 Connection between dashboard and left longitudinal cables
105 Ignition switch
119B Connection between dashboard and right longitudinal cables
120 Connection between dashboard and right front door cables
122 Speaker in right front door
131 Earth on steering column support
164 Left rear speaker
166 Amplifier for aerial in rearscreen
166A Rear cables connection in rearscreen
169 Right rear speaker
227 Right front speaker
228 Left front speaker
295 Radio cables connection
296 Radio cables connection

N.D. Ultrasound welding taped in cable loom

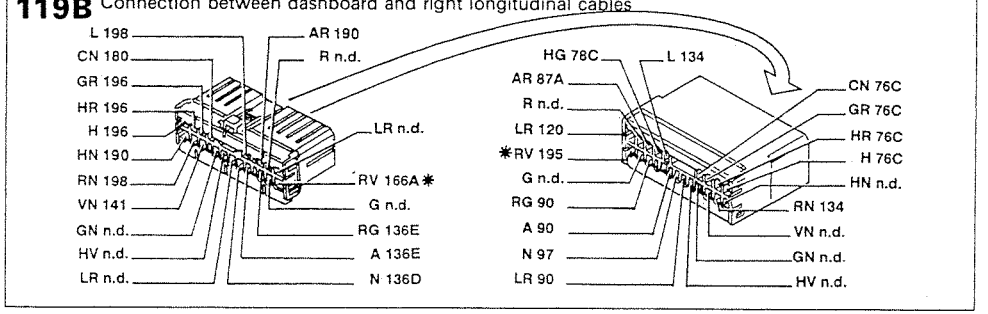
90 Connection between dashboard and left front door cables



100 Connection between dashboard and left longitudinal cables



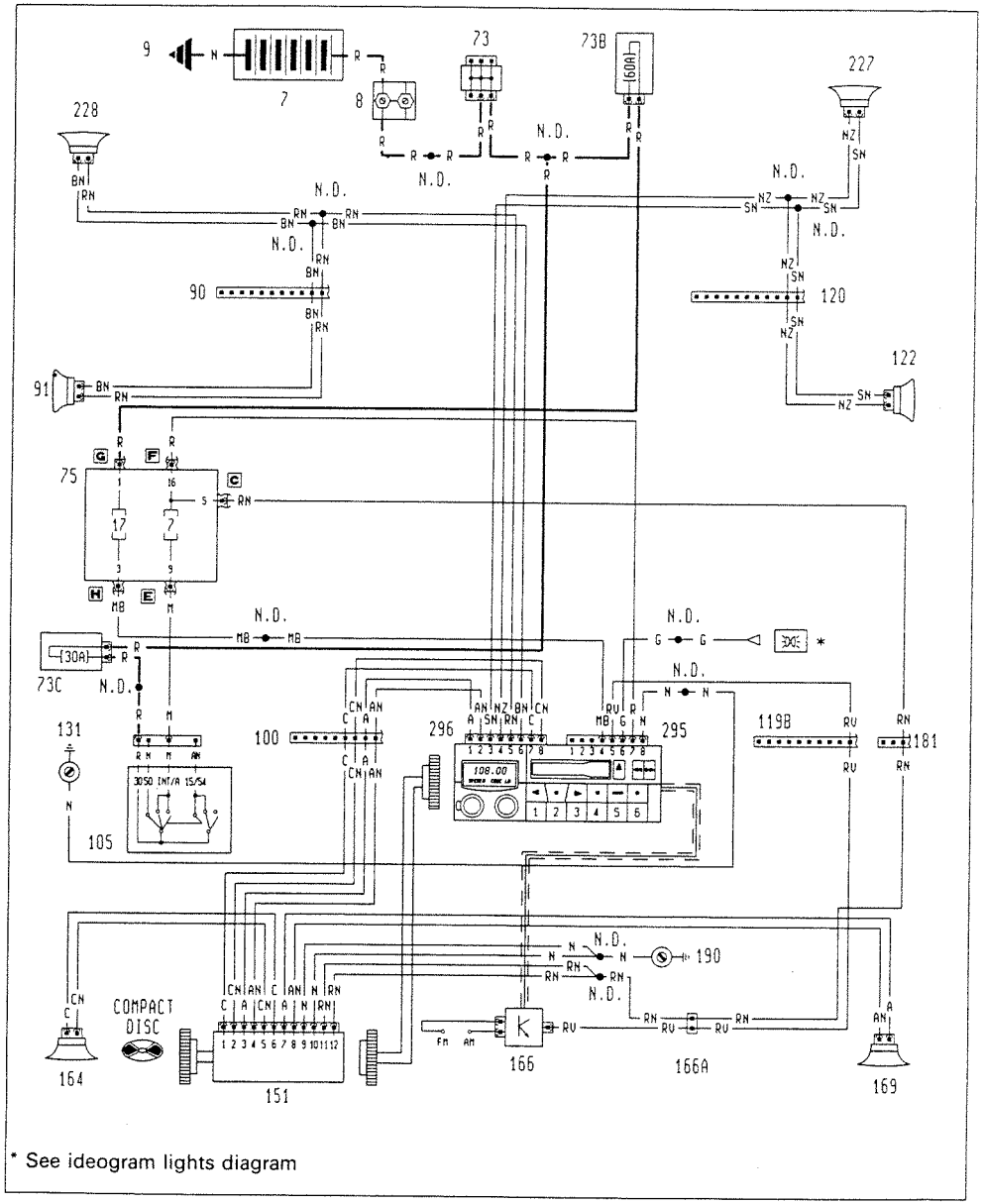
119B Connection between dashboard and right longitudinal cables



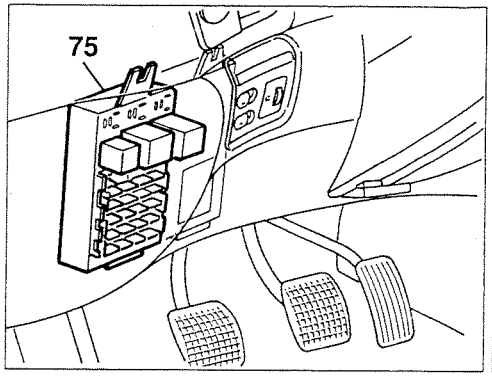
P3U016N01

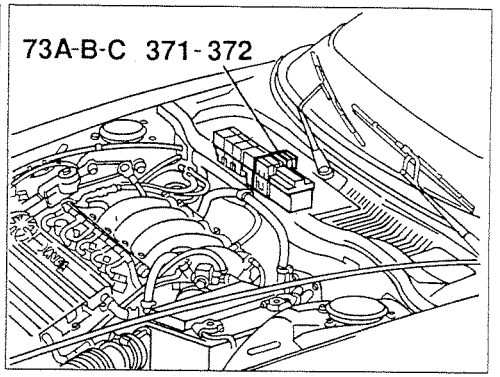
* The cables in the wiring diagram are marked with an asterisk

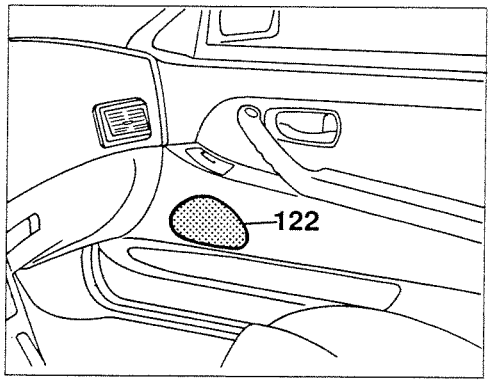
Preparation for high level car radio -

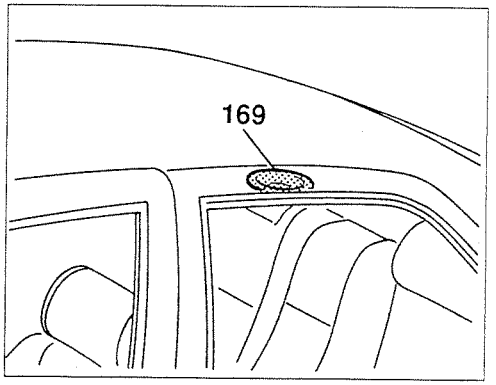


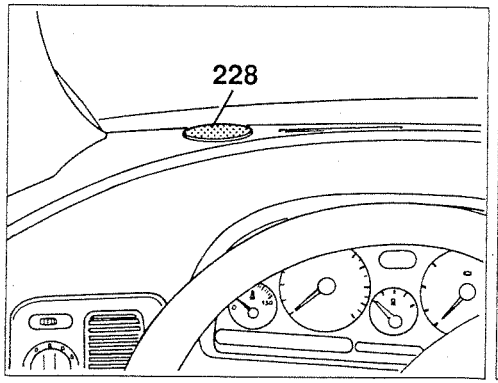
Preparation for high level car radio -

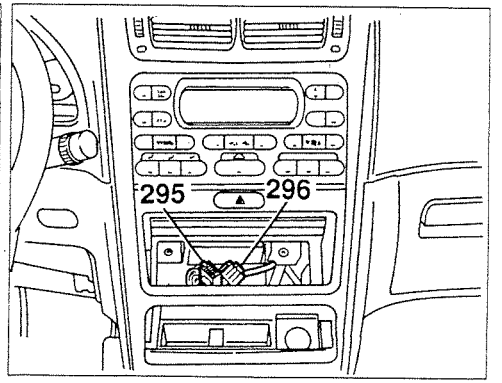




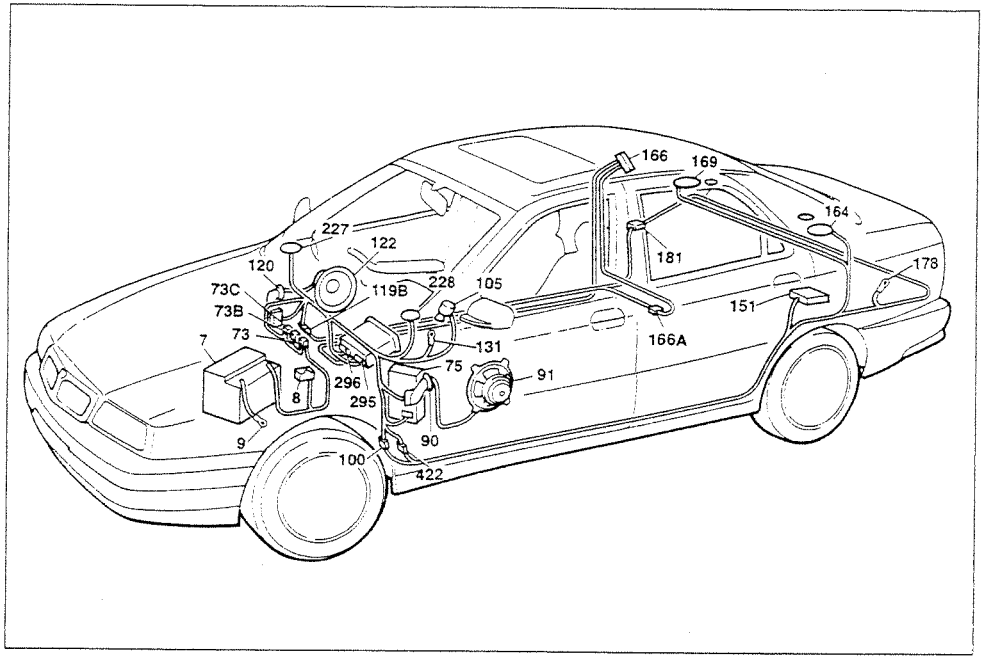








P3U018N01



P3U11IL01

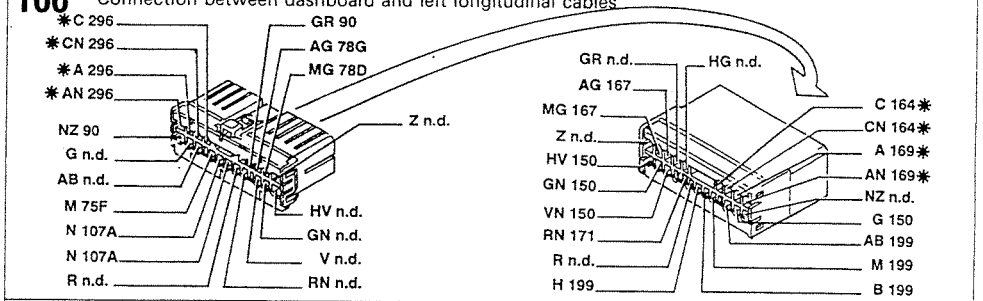
Preparation for high level car radio

Components key

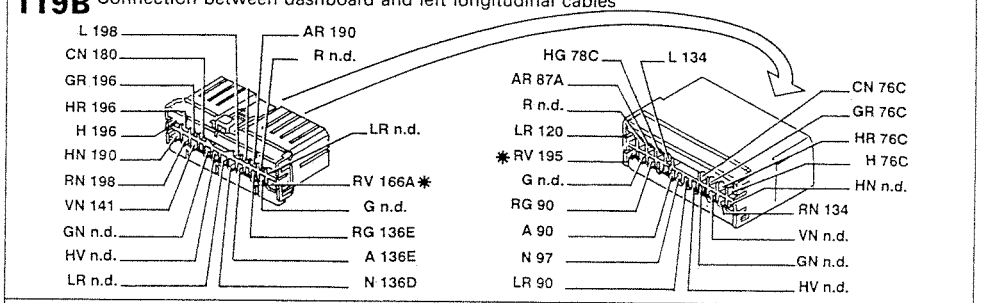
7 Battery
8 Main connector block
9 Earth on bodyshell
73 Secondary connector block
73B 60A protective fuse for I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch / alarm device
75 Junction unit (dashboard)
90 Connection between dashboard and left front door cables
91 Speaker in left front door
100 Connection between dashboard and left longitudinal cables
105 Ignition switch
119B Connection between dashboard and right longitudinal cables
120 Connection between dashboard and right front door cables
122 Speaker in right front door
131 Earth on steering column support
151 Amplifier for radio
164 Left rear speaker
166 Amplifier for aerial in rearscreen
166A Rear cables connection in rearscreen
169 Right rear speaker
178 Left rear earth
181 Connection between left longitudinal and right longitudinal cables
227 Right front speaker
228 Left front speaker
295 Radio cables connection
296 Radio cables connection
422 Connection between dashboard and left longitudinal cables

N.D. Ultrasound welding taped in cable loom

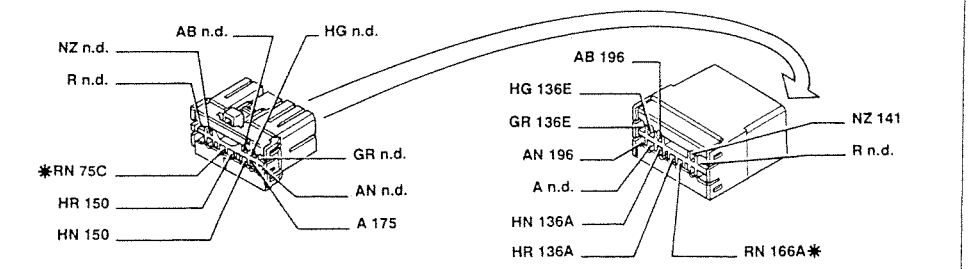
100 Connection between dashboard and left longitudinal cables



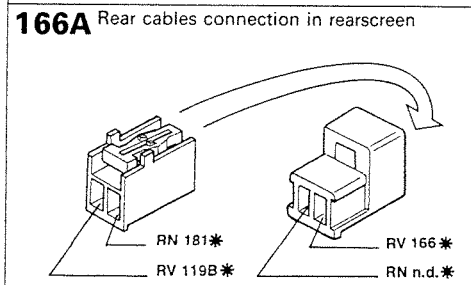
119B Connection between dashboard and left longitudinal cables



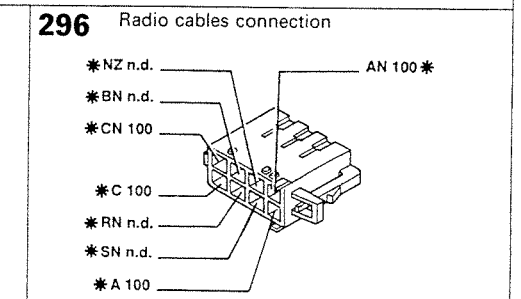
181 Connection between left longitudinal and right longitudinal cables



166A Rear cables connection in rearscreen



296 Radio cables connection

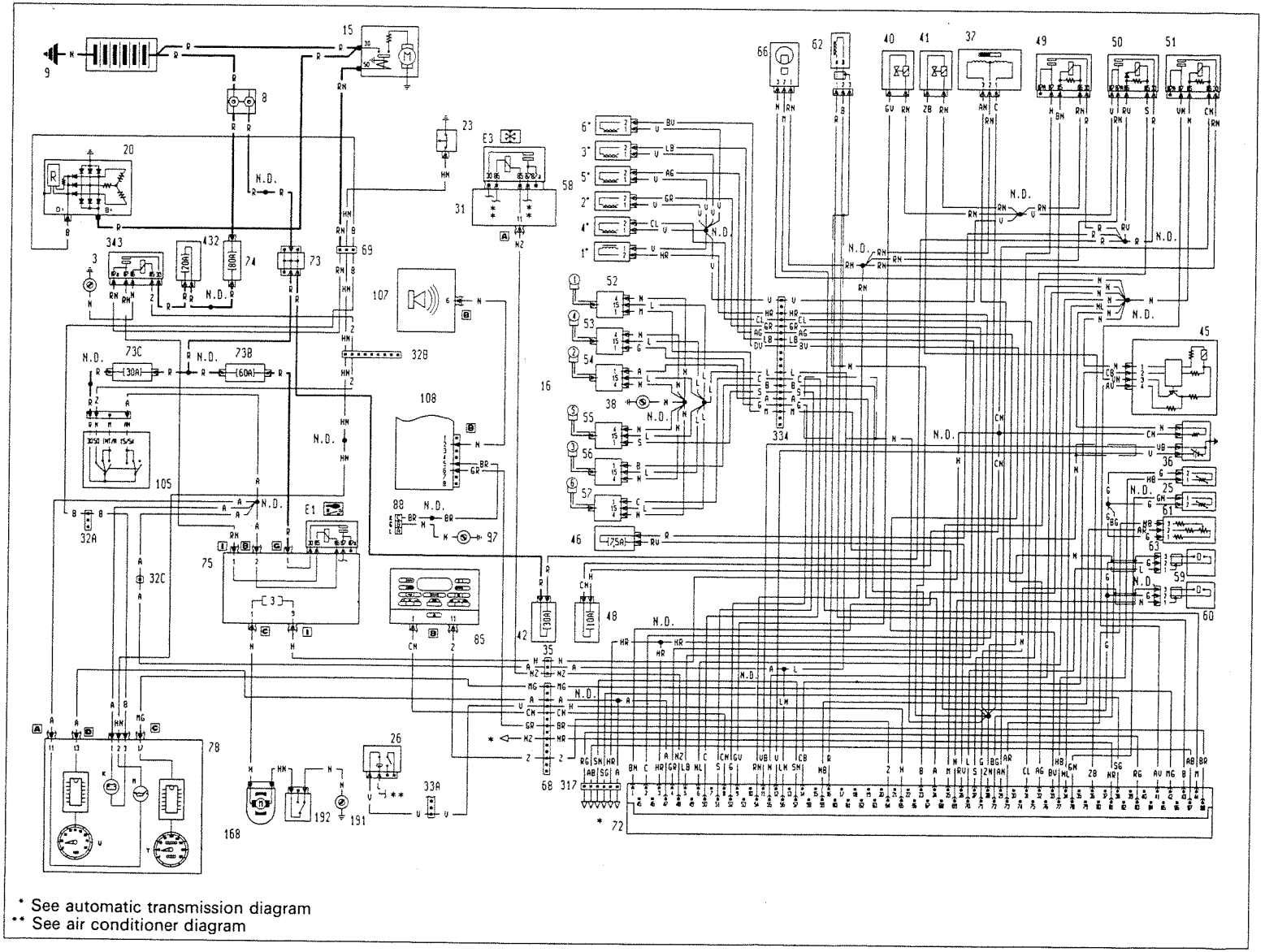


* The cables in the wiring diagram, are marked with an asterisk

P3U020N01

Version: 2959

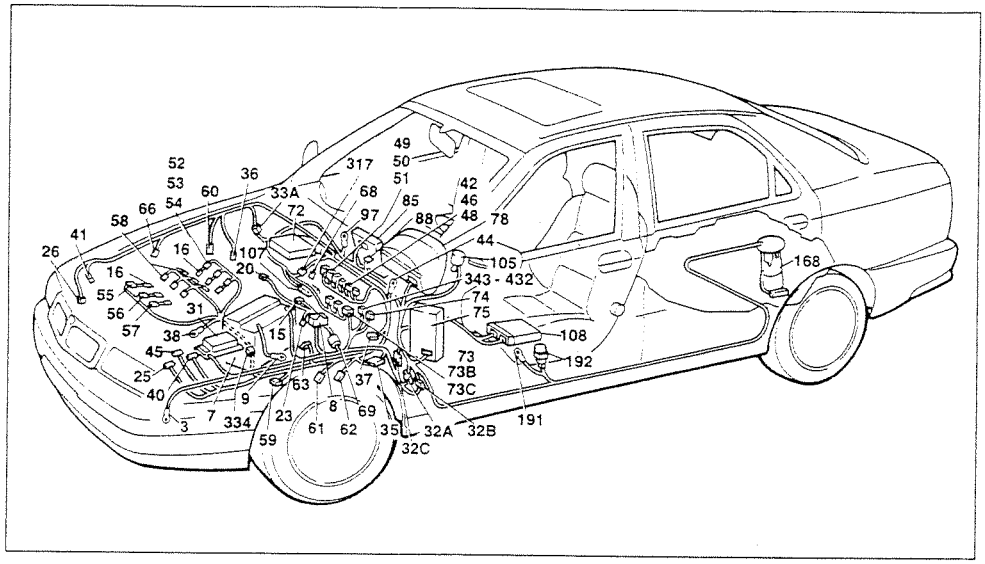
Starting - Motronic electronic ignition and injection - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light -



* See automatic transmission diagram
** See air conditioner diagram

P3U13IL01

3U13IL



P3U14IL01

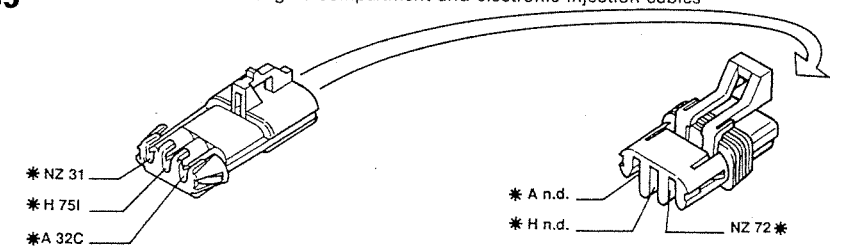
Version 2959: Starting - Motronic electronic ignition and injection - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light

Components key

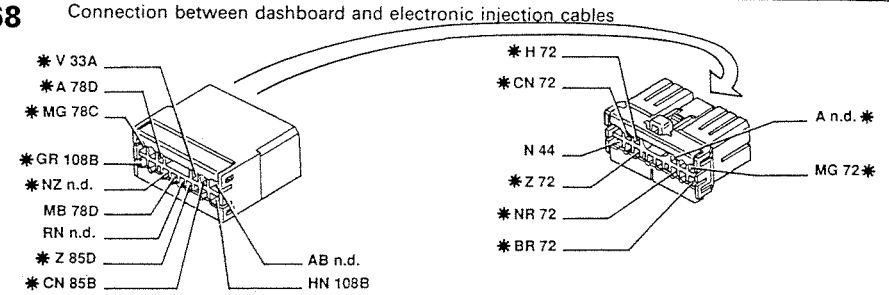
3 Left front earth
7 Battery
8 Main connector block
9 Earth on bodyshell
15 Starter motor
16 Spark plugs
20 Alternator
23 Engine oil minimum pressure sensor
25 Air temperature sensor
26 Three stage pressure switch
31 Peripheral control unit (engine compartment)
E3 Compressor couping relay feed
32A Connection between dashboard and left engine compartment cables
32B Connection between dashboard and left engine compartment cables
32C Connection between dashboard and left engine compartment cables
33A Connection between dashboard and right engine compartment cables
35 Connection between engine compartment and electronic injection cables
36 Heated Lambda sensor
37 Idle adjustment actuator
38 Earth for electronic injection
40 E.G.R. solenoid valve
41 Petrol vapour cut out solenoid valve
42 30A fuse protecting electronic injection
44 Power earth
45 Air flow meter
46 7.5A fuse protecting electronic injection
48 10A fuse protecting heated Lambda sensor and air flow meter relay
49 Electric fuel pump and heated Lambda sensor relay feed
50 Electronic injectionsystem relay feed
51 Air flow meter relay feed
52 Ignition coil
53 Ignition coil
54 Ignition coil
55 Ignition coil
56 Ignition coil
57 Ignition coil
58 Injectors
59 1st Detonation sensor
60 2nd Detonation sensor
61 Electronic injection engine coolant temperature sensor
62 Rpm sensor
63 Potentiometer on butterfly valve
66 Timing sensor
68 Connection between dashboard and electronic injection cables
69 Connection for engine service cables
72 Fuel injection control unit
73 Secondary connector block
73B 60A protective fuse for I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/alarm device
74 60A protective fuse for peripheral control unit (engine compartment)
75 Junction unit (dashboard)
E1 Ignition discharge relay
78 Instrument panel
K Battery recharging warning light
M Insufficient engine oil pressure warning light
U Electronic rev counter
Y Electronic tachometer
85 Infocenter control unit
88 Diagnostic socket for Fiat / Lancia tester
97 Earth on floor
105 Ignition switch
107 Alarm control unit
108 Lancia CODE control unit
119B Connection between dashboard and right longitudinal cables
168 Electric fuel pump
191 Earth for inertia switch
192 Inertia switch
317 Connection between automatic transmission and electronic injection cables
334 Connection between electronic injection cable and injector bridge
343 40A starter relay
432 20A protective fuse ignition switch relay feed

N.D. Ultrasound welding taped in cable loom

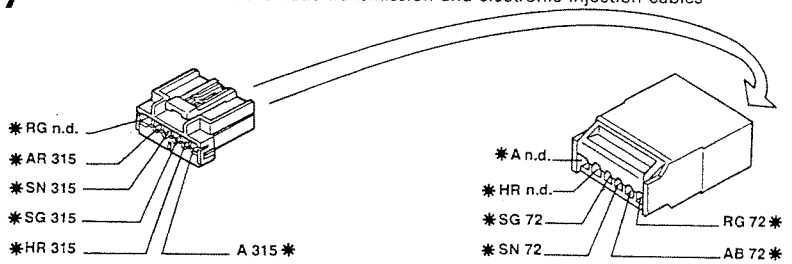
35 Connection between engine compartment and electronic injection cables



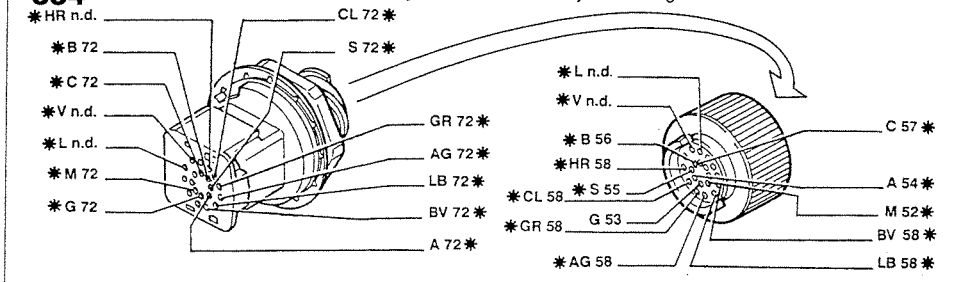
68 Connection between dashboard and electronic injection cables



317 Connection between automatic transmission and electronic injection cables



334 Connection between electronic injection cable and injector bridge

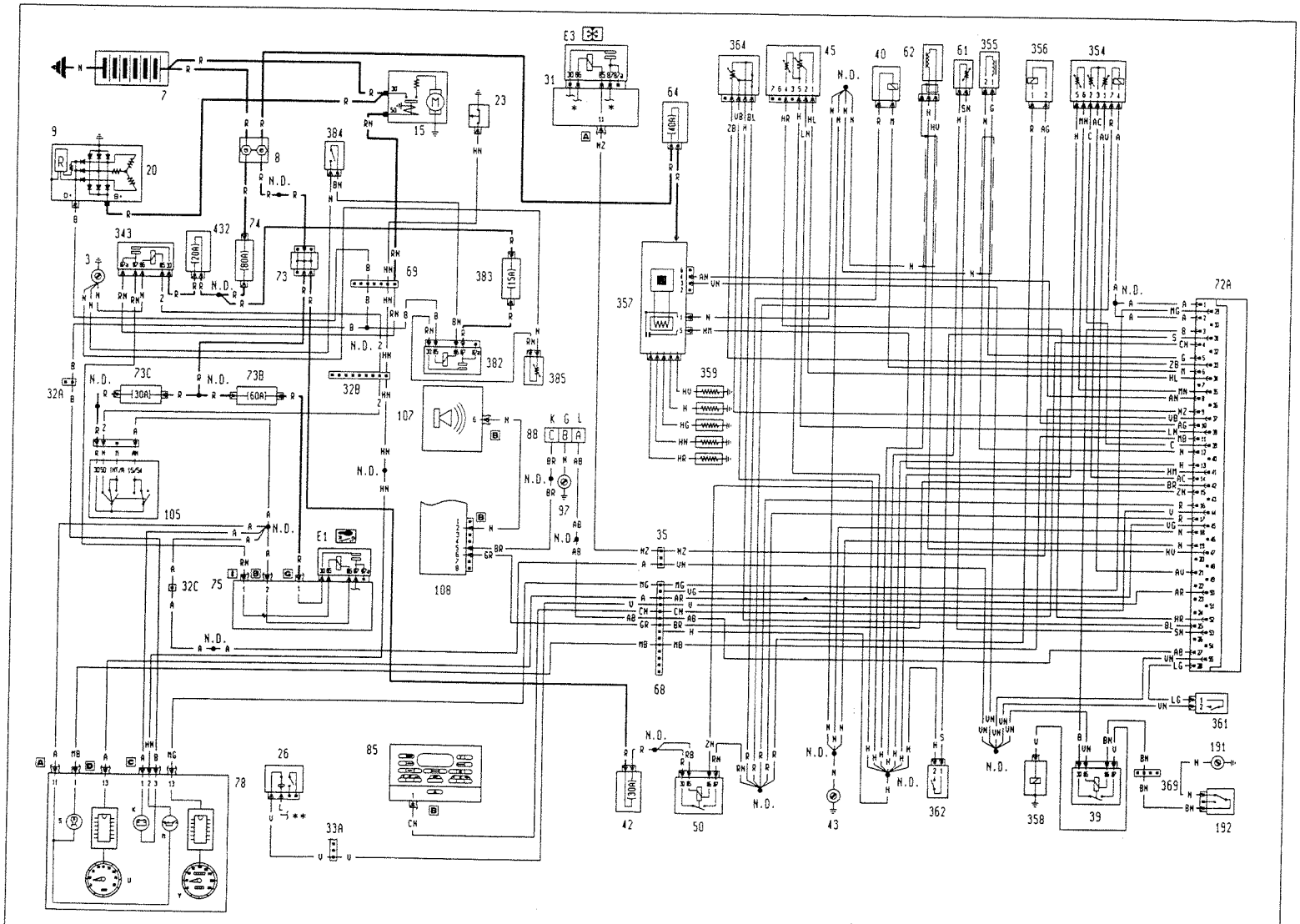


* The cables in the wiring diagram, are marked with an asterisk

P3U055N01

Version: 2387 Td

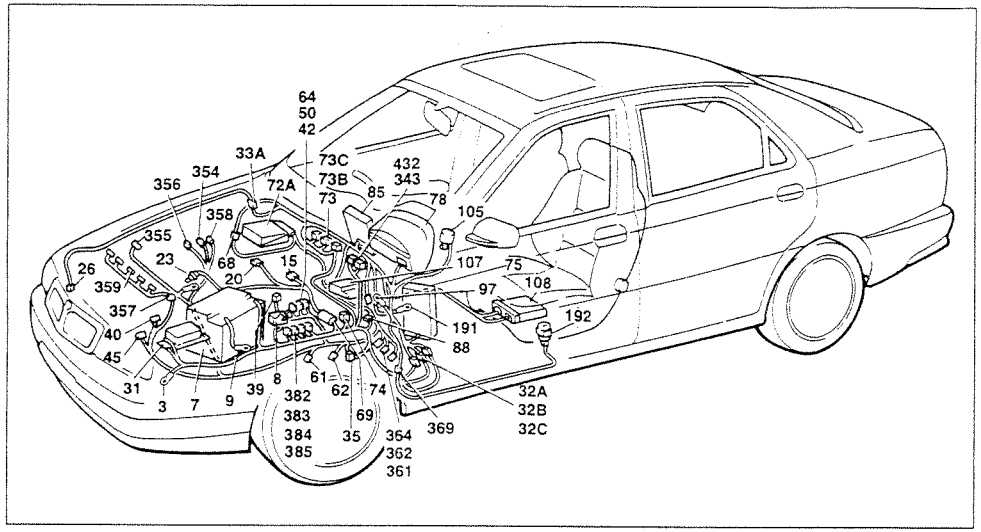
Starting - MSA11-310 fuel pump electronic control unit - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light - Heater plugs control unit and warning light



* See air conditioner diagram

3U17IL

P3U17IL01



P3U18IL01

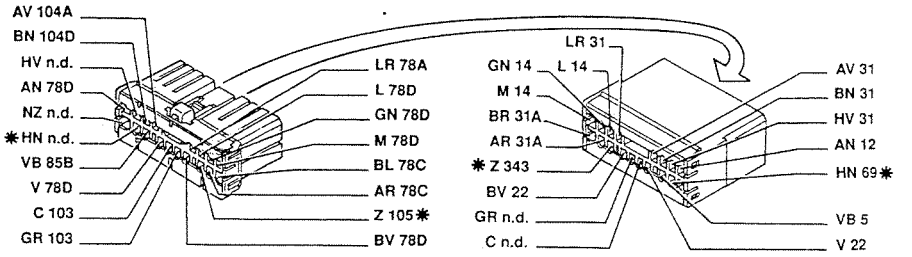
Version 2387 Td: Starting - MSA11-310 fuel pump electronic control unit - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light - Heater plugs control unit and warning light

Components key

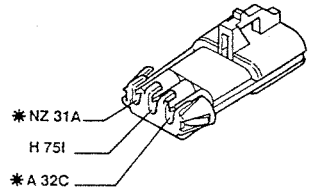
3 Left front earth
7 Battery
8 Main connector block
9 Earth on bodyshell
15 Starter motor
20 Alternator
23 Switch signalling minimum engine oil pressure
26 Three stage pressure switch
31 Peripheral control unit (engine compartment)
E3 Compressor coupling relay feed
32A Connection between dashboard and left engine compartment cables
32B Connection between dashboard and left engine compartment cables
32C Connection between dashboard and left engine compartment cables
33A Connection between dashboard and right engine compartment cables
35 Connection between engine compartment and electronic injection cables
39 Relay for inertia switch
40 E.G.R. solenoid valve
42 30A fuse protecting electronic injection
43 Electronic earth
45 Air flow meter
50 Electronic injection system relay feed
61 Electronic injection engine coolant temperature sensor
62 Rpm sensor
64 40A fuse protecting heater plugs
68 Connection between dashboard and electronic injection cables
69 Connection for engine service cables
72A Fuel pump control unit
73 Secondary connector block
73B 60A protective fuse for I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/alarm device
74 60A protective fuse for peripheral control unit (engine compartment)
75 Junction unit (dashboard)
E1 Ignition discharge relay
78 Instrument panel
K Battery recharging warning light
M Insufficient engine oil pressure warning light
S Heater plugs warning light
U Electronic rev counter
Y Electronic tachometer
85 Inforcenter control unit
88 Diagnostic socket for Fiat/Lancia tester
97 Earth on floor
105 Ignition switch
107 Alarm control unit
108 Lancia CODE control unit
191 Earth for inertia switch
192 Inertia switch
343 40A starter relay
354 Electric diesel pump
355 Injector
356 Solenoid valve on diesel pump
357 Heater plugs control unit
358 Engine cut out solenoid on injection pump
359 Heater plugs
361 Switch on clutch pedal
362 Switch on pedal
364 Potentiometer on accelerator pedal
369 Connection between electronic injection and left longitudinal cables
382 Heated diesel filter relay feed (P.T.C.)
383 15A fuse protecting heated diesel filter (P.T.C.)
384 Heated diesel filter thermal contact (P.T.C.)
385 Heated diesel filter resistance (P.T.C.)
386 Connection for cables to water in fuel filter sensor
432 20A protective fuse ignition switch relay feed

N.D. Ultrasound welding taped in cable loom

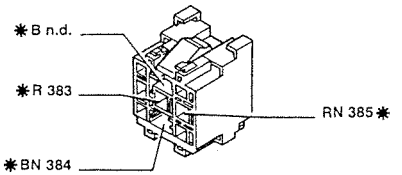
32B Connection between dashboard and left engine compartment cables (only for 2387 Tds)



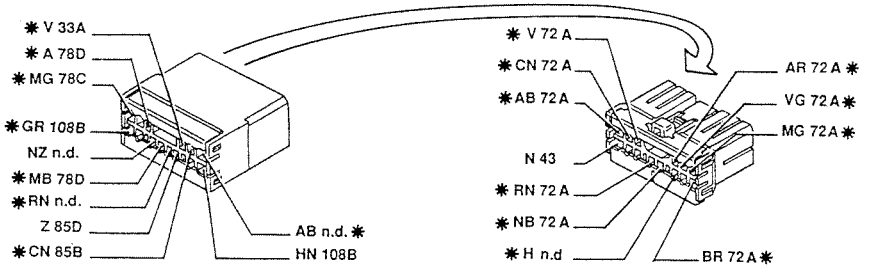
35 Connection between engine compartment and electronic injection cables



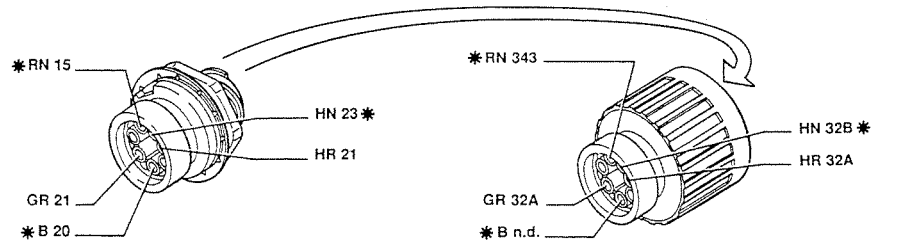
382 Heated diesel filter relay feed (P.T.C.)



68 Connection between dashboard and electronic injection cables



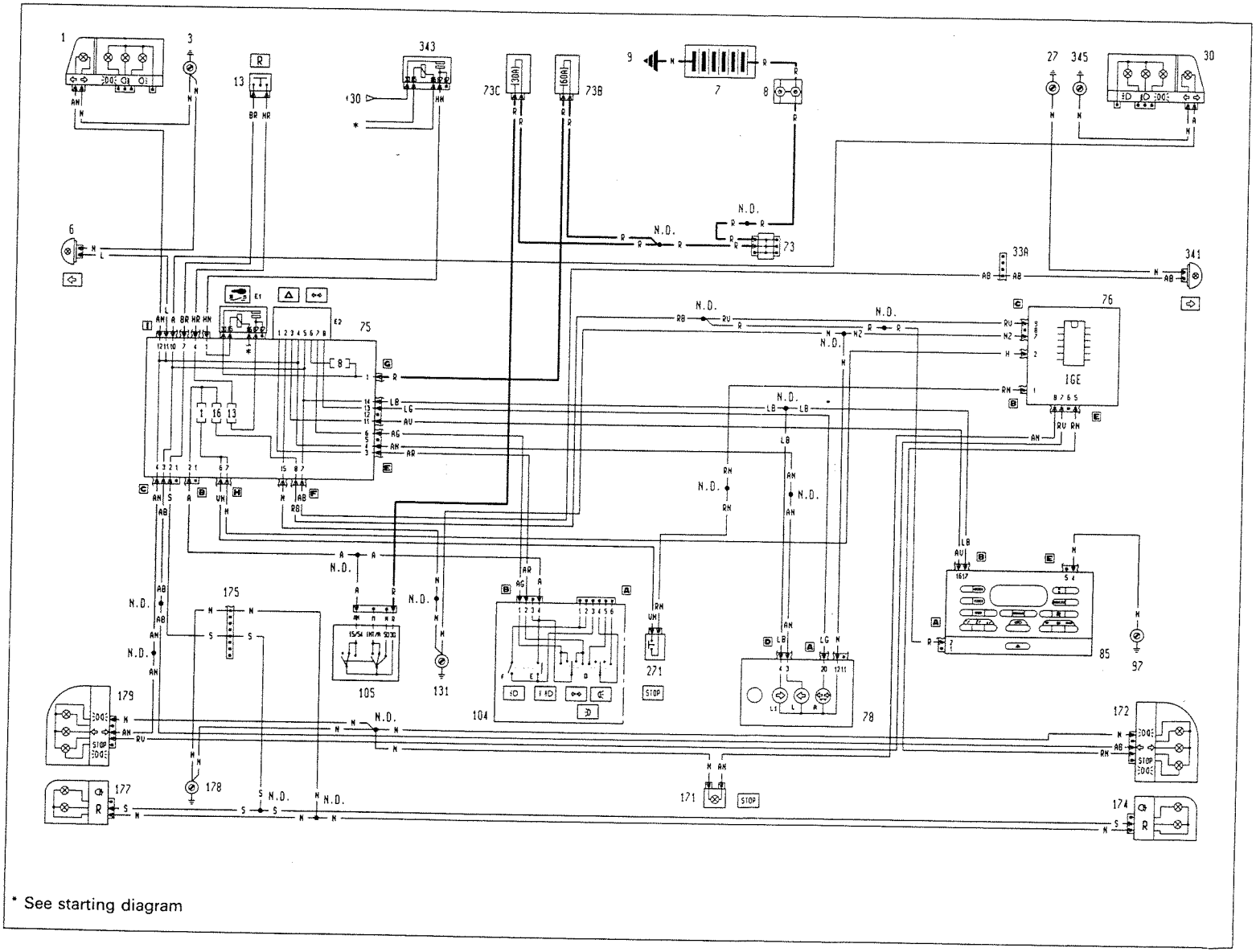
69 Connection for engine serivces cables



* The cables in the wiring diagram, are marked with an asterisk

P3U059N01

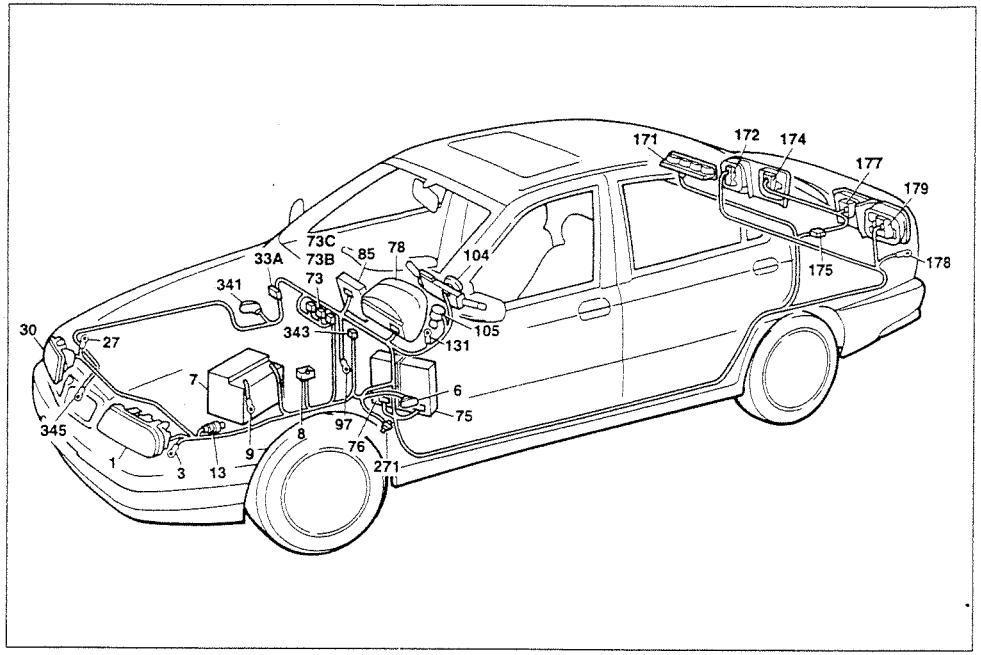
Direction indicators and warning light - Hazard warning lights and warning light - Braking lights - Reversing lights - Direction indicators/hazard warning lights towing warning light



* See starting diagram

3U211L

P3U211L01



P3U22IL01

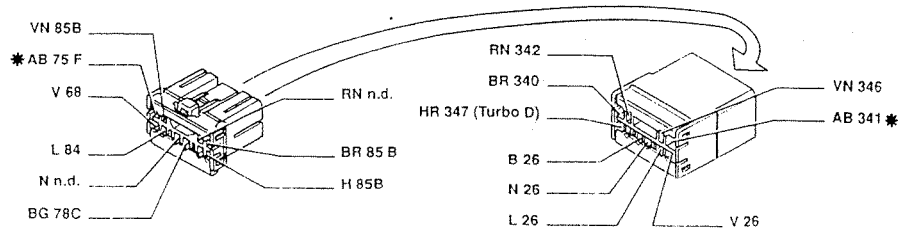
Direction indicators and warning light - Hazard warning lights and warning light - Braking lights - Reversing lights - Direction indicators/hazard warning warning lights for trailer

Components key

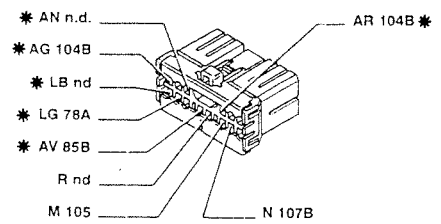
1 Left front light cluster
3 Left front earth
6 Left side direction indicator
7 Battery
8 Main connector block
9 Earth on bodyshell
13 Reversing lights switch
27 Right front earth
30 Right front light cluster
33A Connection between dashboard and right engine compartment cables
73 Secondary connector block
73B 60A protective fuse for I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (dashboard)
E2 Intermittent device for direction indicators/-hazard warning lights
76 I.G.E. control unit
78 Instrument panel
A Trailer direction indicators warning light
L Left direction indicator warning light
L1 Right direction indicator warning light
85 Infocenter control unit
97 Earth on floor
104 Steering column switch unit
D Switch for direction indicators/parking lights
E Flasher
F Main beam headlamps control switch
105 Ignition switch
131 Earth on steering column support
171 Additional brake lights indicator
172 Right rear light cluster on fixed section
174 Right rear light cluster on movable section
175 Connection between left longitudinal and tailgate cables
177 Left rear light cluster on movable section
178 Left rear earth
179 Left rear light cluster on fixed section
271 Brake lights switch
341 Right side direction indicator
343 40A starter relay
345 Right front earth

N.D. Ultrasound welding taped in cable loom

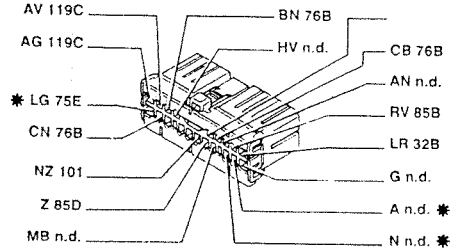
33A Connection between dashboard and right engine compartment cables



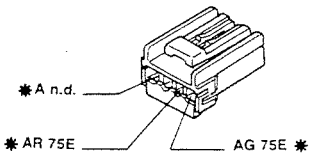
75E Junction unit (dashboard)



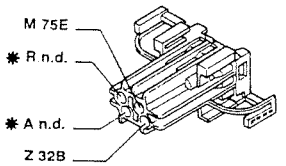
78A Instrument panel



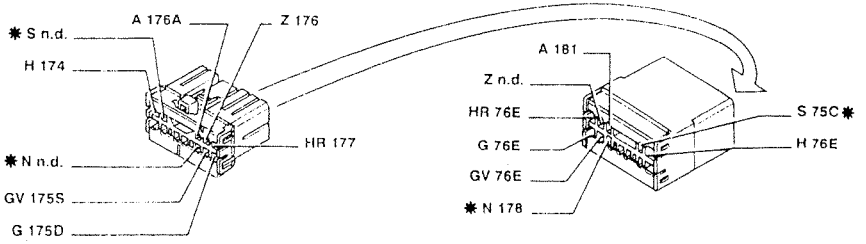
104B Steering column switch unit



105 Ignition switch



175 Connection between left longitudinal and tailgate cables



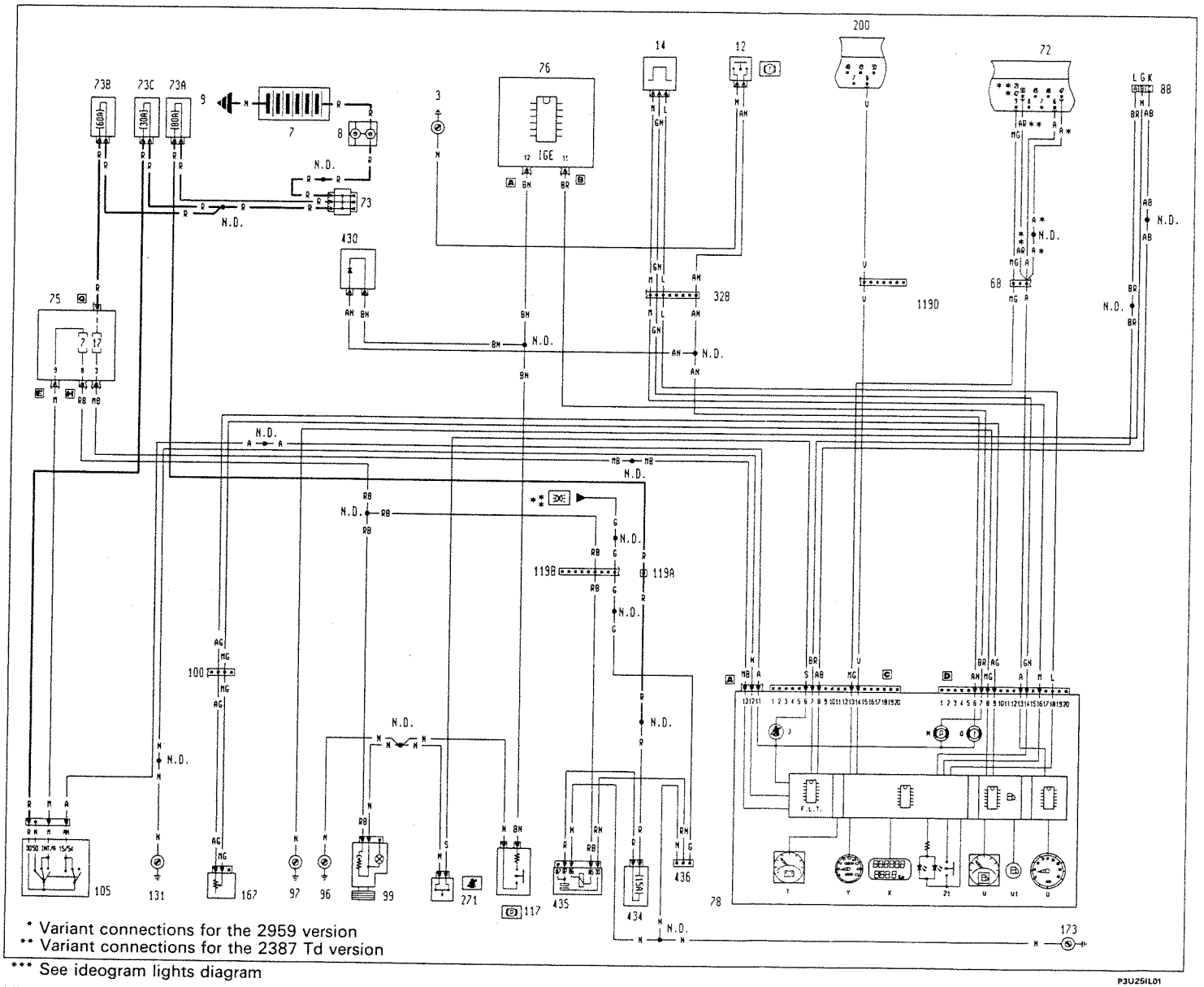
P3U23IL01

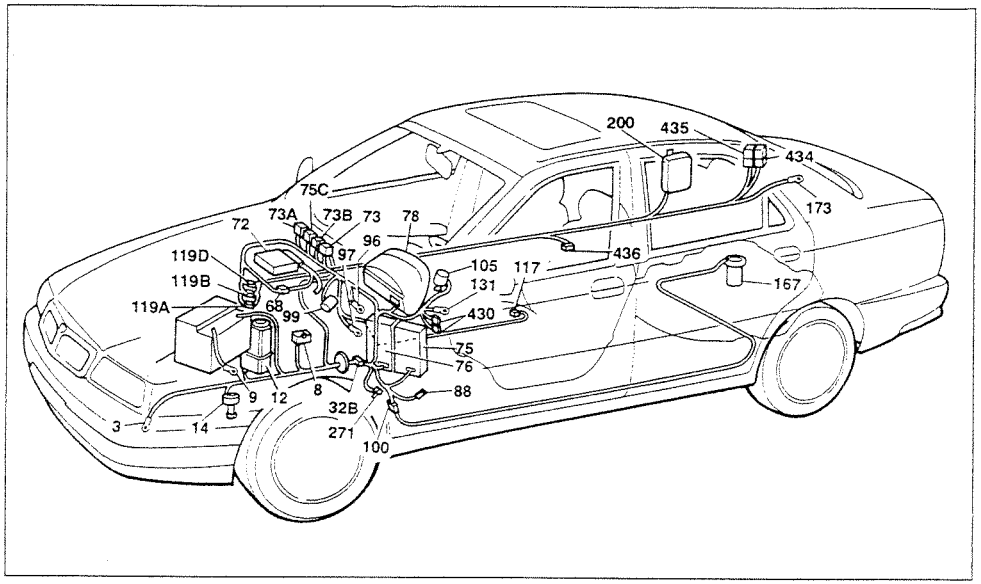
* The cables in the wiring diagram, are marked with an asterisk

3U22IL

3U23IL

Fuel level gauge and reserve warning light - Handbrake warning light - Insufficient brake fluid level warning light - Seat belt unfastened warning light - Speedometer - Milometer/trip meter and zeroing button - Rev counter - Current socket - Voltmeter





P3U26IL01

Fuel level gauge and reserve warning light - Handbrake warning light - Insufficient brake fluid level warning light - Seat belt unfastened warning light - Speedometer - Milometer/trip meter and zeroing button - Rev counter - Current socket - Voltmeter

Components key

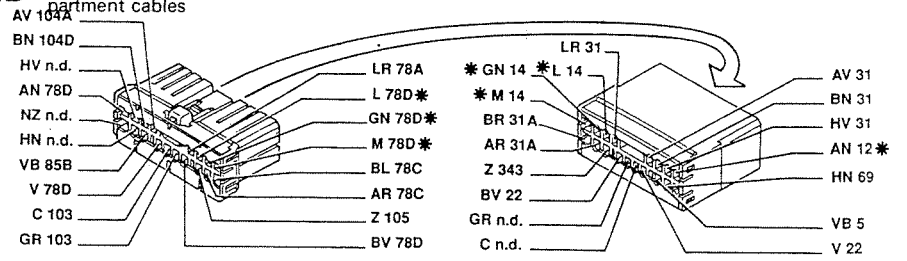
3 Left front earth
7 Battery
8 Main connector block
9 Earth on bodyshell
12 Insufficient brake fluid level sensor
14 Impulse generator for speedometer signal
32B Connection between dashboard and left engine compartment cables
68 Connection between dashboard and electronic injection cables
72 Fuel injection control unit
73 Secondary connector block
73A 80A fuse protecting services
73B 60A protective fuse for I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/alarm device

75 Junction unit (dashboard)
76 I.G.E. control unit
78 Instrument panel
J Seat belts not fastened warning light
N Handbrake applied / I.G.E. control unit warning light
O Insufficient brake fluid level warning light
T Voltmeter
U Electronic rev counter
V Fuel level gauge
V1 Fuel reserve warning light
X Milometer/trip meter
Y Electronic tachometer
Z1 Trip meter zeroing button

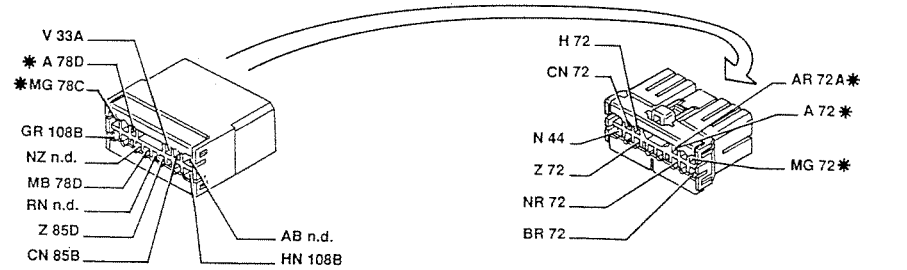
88 Diagnostic socket for Fiat/Lancia tester
96 Earth on carrier
97 Earth on floor
99 Cigar lighter
100 Connection between dashboard and left longitudinal cables
105 Ignition switch
117 Switch signalling handbrake applied
119A Connection between dashboard and right longitudinal cables
119B Connection between dashboard and right longitudinal cables
119D Connection between dashboard and right front door cables
131 Earth on steering column support
167 Fuel level gauge
173 Right rear earth
200 Controlled damping suspension electronic control unit (S.C.S)
271 Brake lights switch
430 Hanbrake applied/insufficient brake fluid system connecting diode
434 15A fuse protecting current socket
435 Current socket relay feed
436 Current socket

N.D. Ultrasound welding taped in cable loom

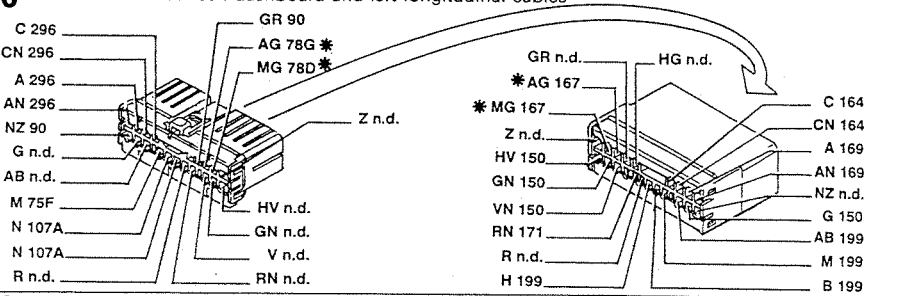
32B Connection between dashboard and left engine compartment cables



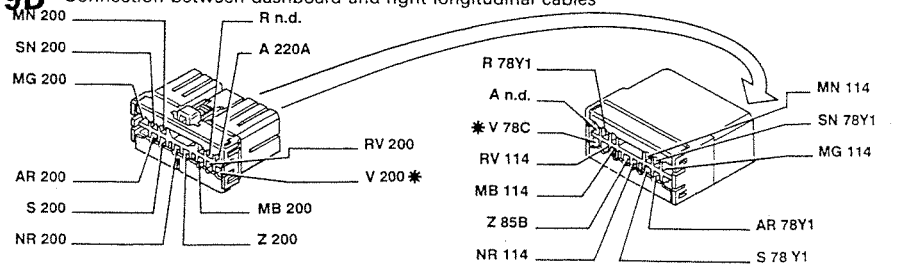
68 Connection between dash. & electronic injection cables



100 Connection between dashboard and left longitudinal cables



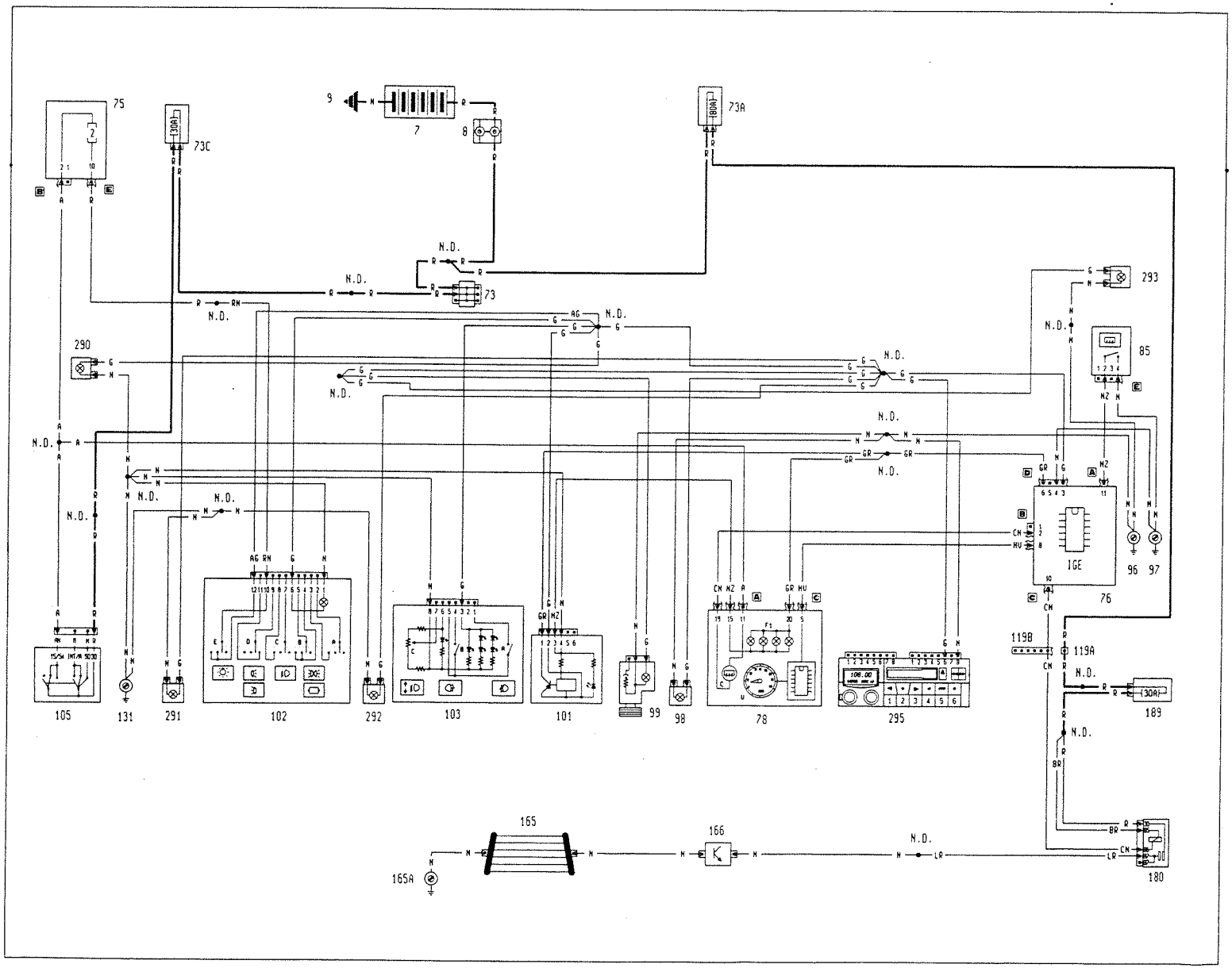
119D Connection between dashboard and right longitudinal cables

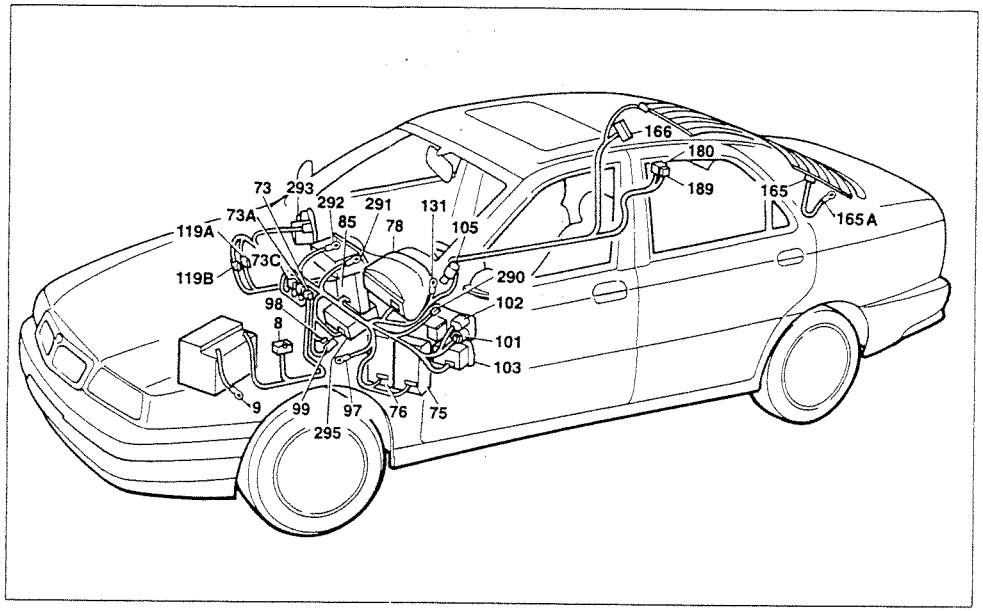


* The cables in the wiring diagram, are marked with an asterisk

P3U083N01

Ideogram lights - Heated rear windscreen and warning light -





P3U094N01

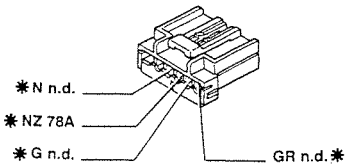
Ideogram lights - Heated rear windscreen and warning light

Components key

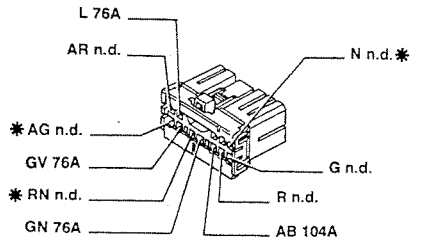
7 Battery
8 Main connector block
9 Earth on bodyshell
73 Secondary connector block
73A 80A fuse protecting rear serivces
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (dashboard)
76 I.G.E. control unit
78 Instrument panel
C Heated rear windscreen warning light
F1 Instrument panel light bulbs
U Electronic rev counter
85 Infocenter control unit
96 Earth on carrier
97 Earth on floor
98 Ashtray light
99 Cigar lighter
101 Light dimmer
102 External light controls
B Side lights / no. plate lights switch
C Dipped beam headlamps / main beam headlamps switch
D Parking lights switch
E Ideogram lights switch
103 Switch control unit
A Fog lights switch
B Rear fog lamps control switch
C Headlamp alignment correcter unit
105 Ignition switch
119A Connection between dashboard and right longitudinal cables
119B Connection between dashboard and right longitudinal cables
131 Earth on steering column support
165 Heated rear windscreen
165A Earth for heated rear windscreen
166 Amplifier for aerial in rearscreen
180 Heated rear windscreen relay feed
189 30A fuse protecting heated rear windscreen
290 Left front air vent controls light
291 Left centre air vent controls light
292 Right centre air vent controls light
293 Right front air vent controls light
295 Radio cables connection

N.D. Ultrasound welding taped in cable loom

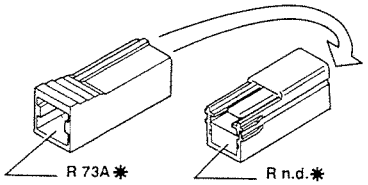
101 Light dimmer



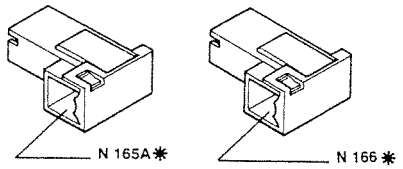
102 External light controls



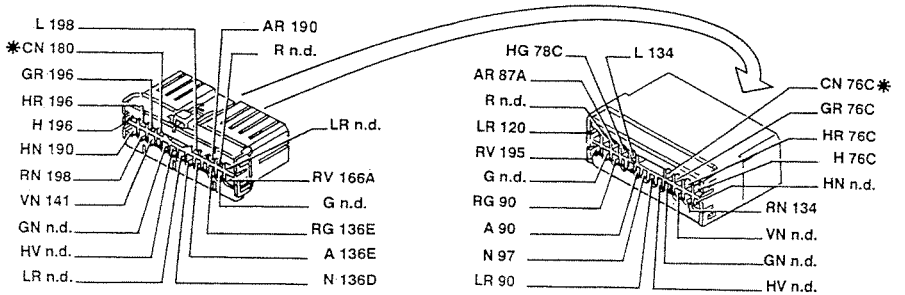
119A Connection between dashboard and right longitudinal cables



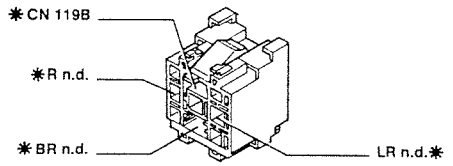
165 Heated rear windscreen



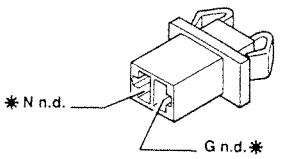
119B Connection between dashboard and right longitudinal cables



180 Heated rear windscreen relay feed



290 Left front air vent controls light

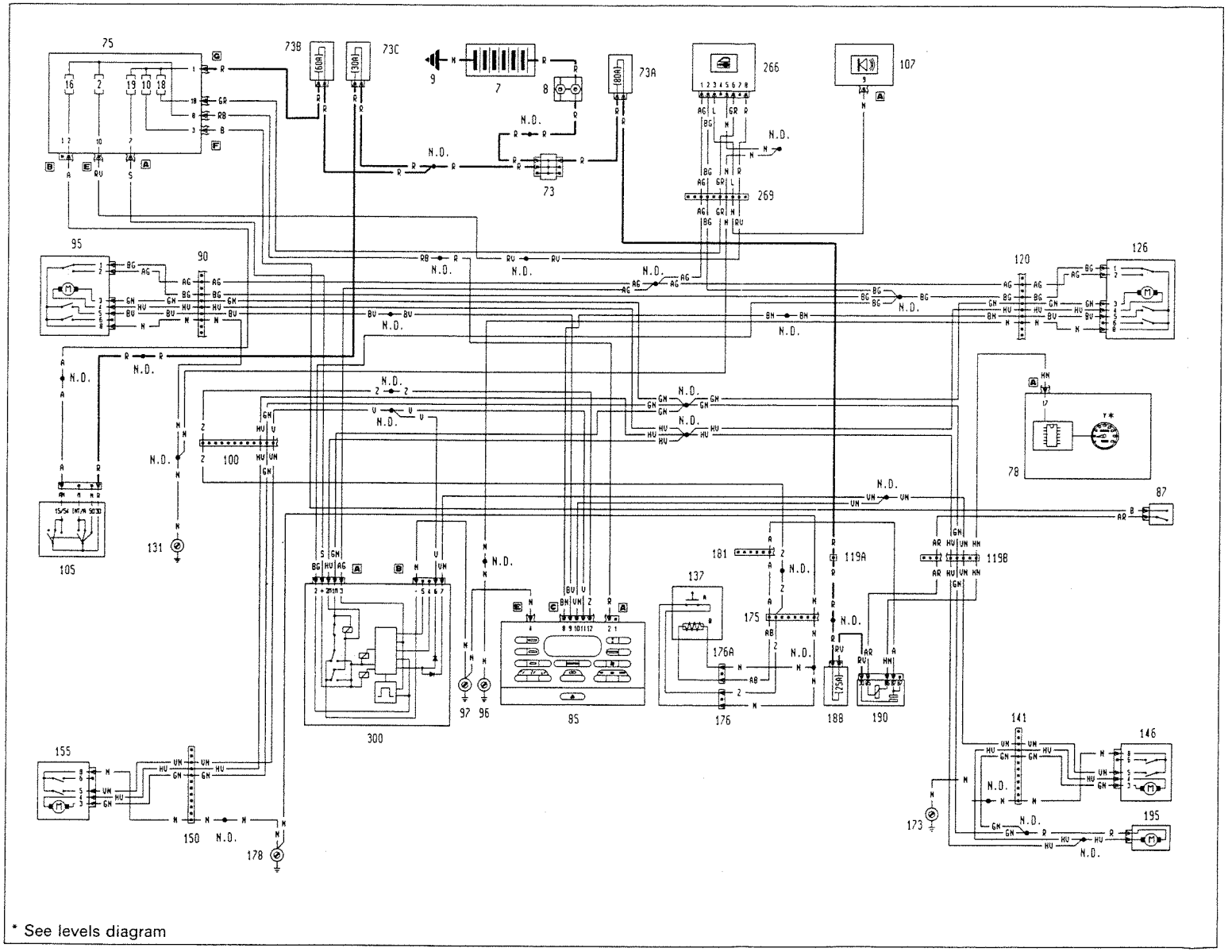


* The cables in the wiring diagram, are marked with an asterisk

P3U095N01

Version with alarm

Central locking and doors ajar signal -

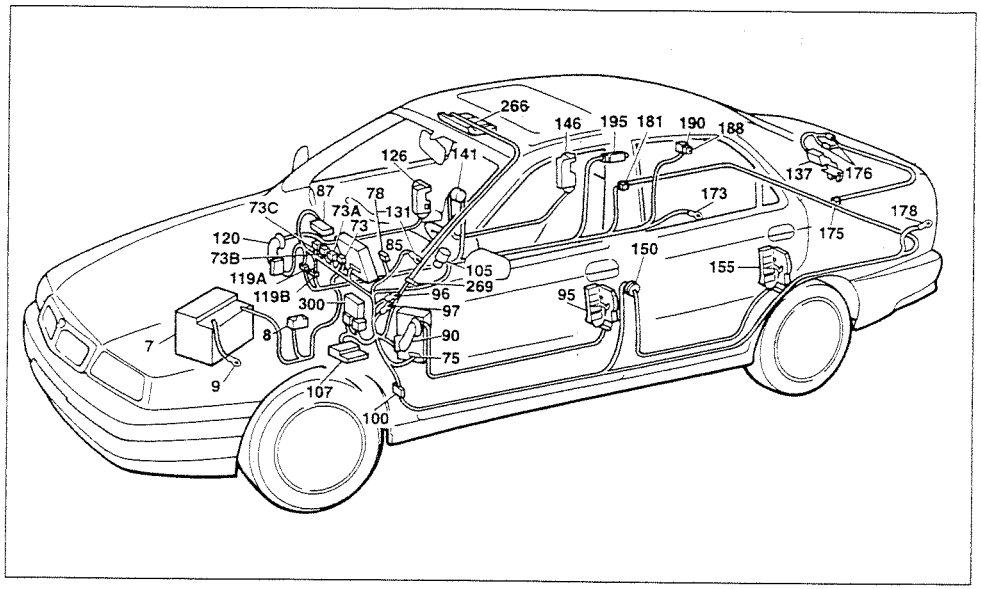


* See levels diagram

P3U33IL01

3U33IL

55.



P3U34IL01

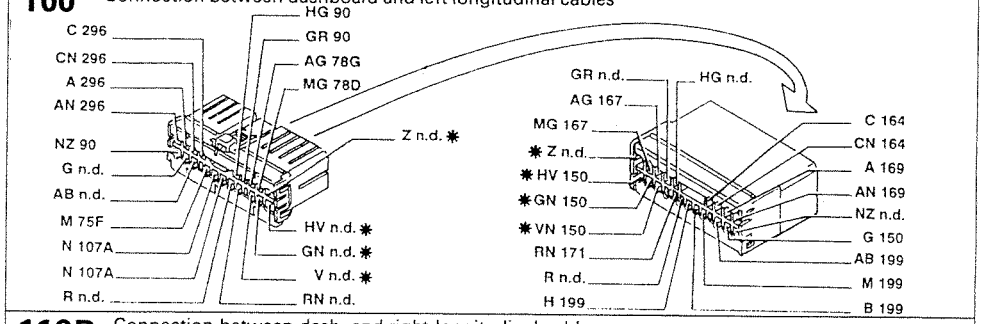
Version with alarm: Central locking and doors ajar signal

Components key

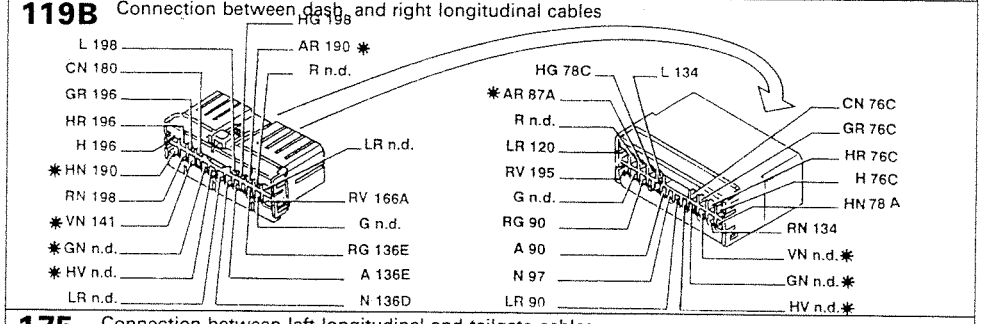
7 Battery
8 Main connector block
9 Earth on bodyshell
73 Secondary connector block
73A 80A fuse protecting rear services
73B 60A protective fuse for I.G.E. control unit/junction unit
73C 30A fuse protecting ignition switch/alarm device
75 Junction unit (dashboard)
78 Instrument panel:
Y Electronic tachometer
85 Infocenter control unit
87 Glove compartment / boot lid release light
90 Connection between dashboard and left front door cables
95 Left front central locking geared motor and left front door ajar signal and alarm device on
96 Earth on carrier
97 Earth on floor
100 Connection between dashboard and left longitudinal cables
105 Ignition switch
107 Alarm control unit
119A Connection between dashboard and right longitudinal cables
119B Connection between dashboard and right longitudinal cables
120 Connection between dashboard and right front door cables
126 Right front central locking geared motor and right front door ajar signal and alarm device on
131 Earth on steering column support
137 Tailgate lock assembly
A Luggage compartment courtesy light switch and alarm on
B Tailgate locking/unlocking motor
141 Connection between right longitudinal and right rear door cables
146 Right rear door central locking geared motor and right rear door ajar signal and alarm device on
150 Connection between left longitudinal and left rear door cables
155 Left rear door central locking geared motor and left rear door ajar and alarm device on
173 Right rear earth
175 Connection between left longitudinal and tailgate cables
176 Tailgate cables connection
178 Left rear earth
181 Connection between left longitudinal and right longitudinal cables
188 25A fuse protecting luggage compartment release electro-magnet
190 Tailgate locking / unlocking relay
195 Fuel filler flap release motor
266 Infra red receiver for alarm device
269 Connection between dashboard and receiver cables
300 Central locking electronic control unit

N.D. Ultrasound welding taped in cable loom

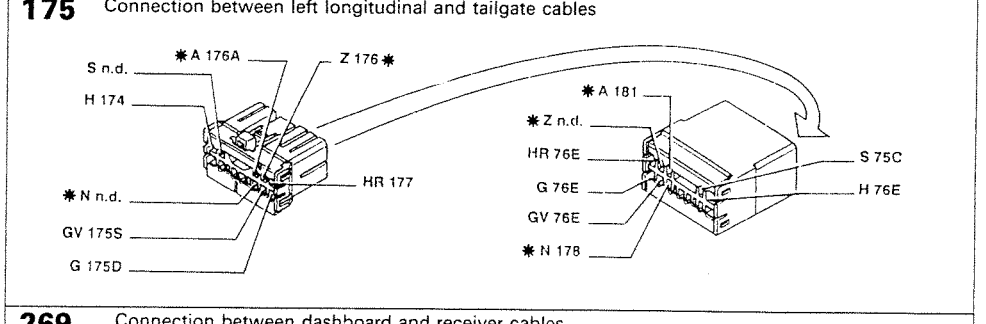
100 Connection between dashboard and left longitudinal cables



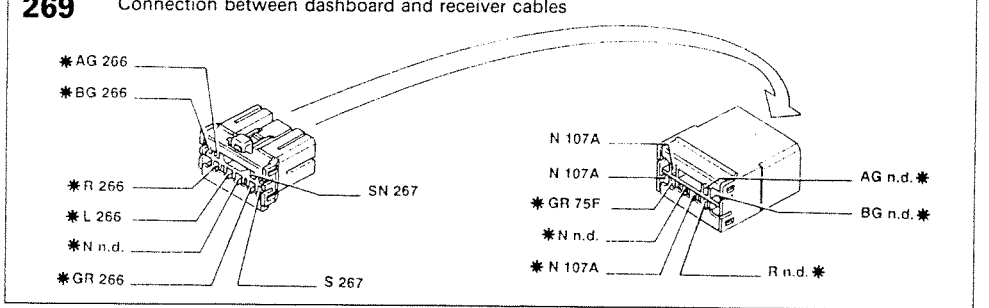
119B Connection between dash and right longitudinal cables



175 Connection between left longitudinal and tailgate cables



269 Connection between dashboard and receiver cables

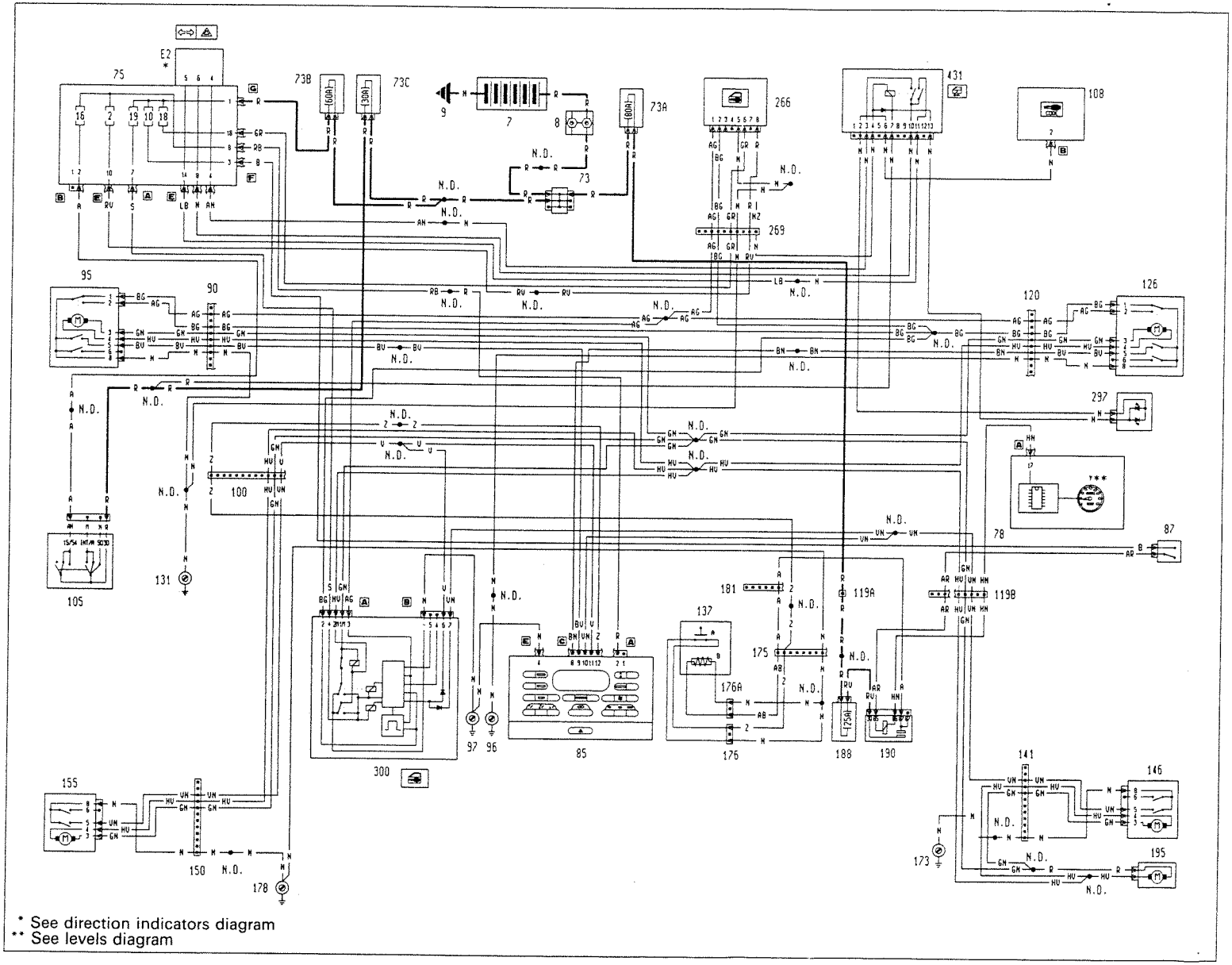


P3U35IL01

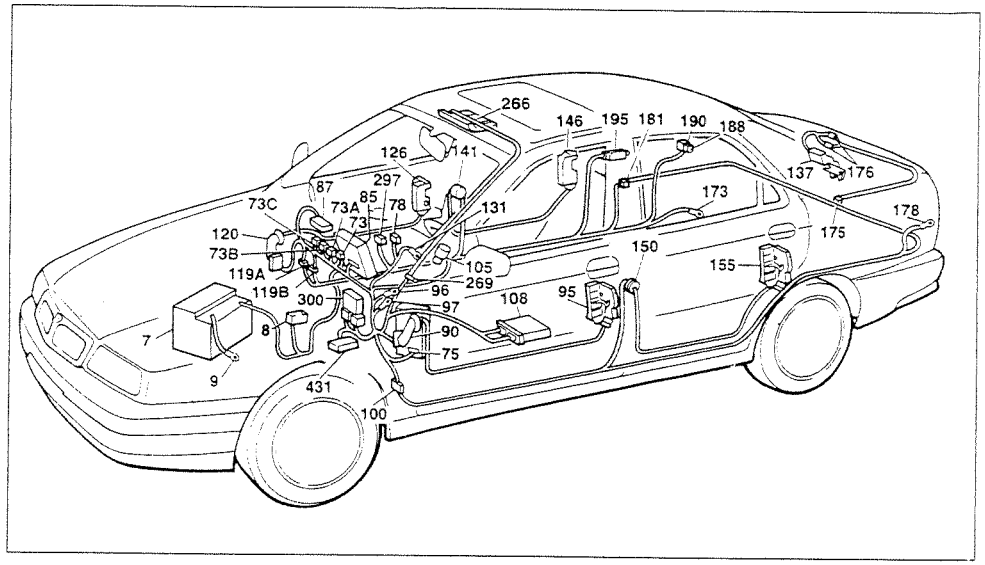
* The cables in the wiring diagram, are marked with an asterisk

Version without alarm

Central locking and doors ajar signal - Doors locked device -



55.



P3U38IL01

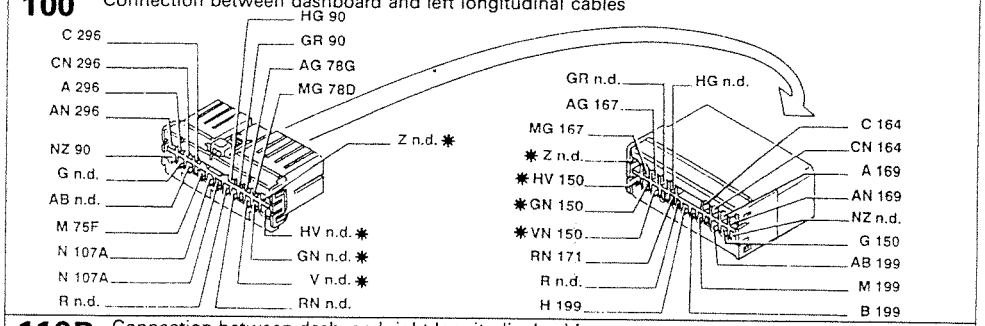
Version without alarm: Central locking and doors ajar signal - Doors locked device

Components key

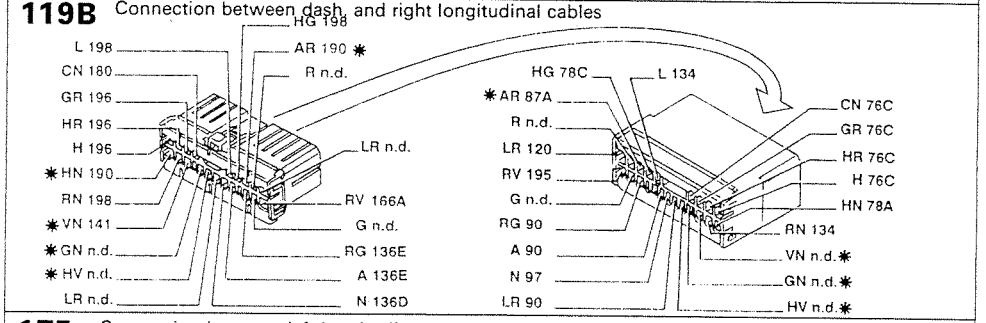
7 Battery
8 Main connector block
9 Earth on bodyshell
73 Secondary connector block
73A 80A fuse protecting rear services
73B 60A protective fuse for I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/alarm device
75 Junction unit (dashboard)
E2 Intermit. device for direction ind./hazard w/lights
78 Instrument panel:
Y Electronic tachometer
85 Infocenter control unit
87 Glove compartment / boot release light
90 Connection between dashboard and left front door cables
95 Left front central locking geared motor and left front door ajar signal and alarm device on
96 Earth on carrier
97 Earth on floor
100 Connection between dashboard and left longitudinal cables
105 Ignition switch
108 Immobilizer control unit
119A Connection between dashboard and right longitudinal cables
119B Connection between dashboard and right longitudinal cables
120 Connection between dashboard and right front door cables
126 Right front central locking geared motor and right front door ajar signal and alarm device on
131 Earth on steering column support
137 Tailgate lock assembly
A Luggage compartment courtesy light switch and alarm on
B Tailgate locking/unlocking motor
141 Connection between right longitudinal and right rear door cables
146 Right rear door central locking geared motor and right rear door ajar signal and alarm device on
150 Connection between left longitudinal and left rear door cables
155 Left rear door central locking geared motor and left rear door ajar signal and alarm device on
173 Right rear earth
175 Connection between left longitudinal and tailgate cables
176 Tailgate cables connection
178 Left rear earth
181 Connection between left longitudinal and right longitudinal cables
188 25A fuse protecting boot release electro-magnet
190 Tailgate locking / unlocking relay
195 Fuel filler flap release motor
266 Infra red receiver for alarm device
269 Connection between dashboard and receiver cables
297 Anti-theft device/Lancia CODE warning light
300 Central locking electronic control unit
431 Direction indicators operation with doors locked device

N.D. Ultrasound welding taped in cable loom

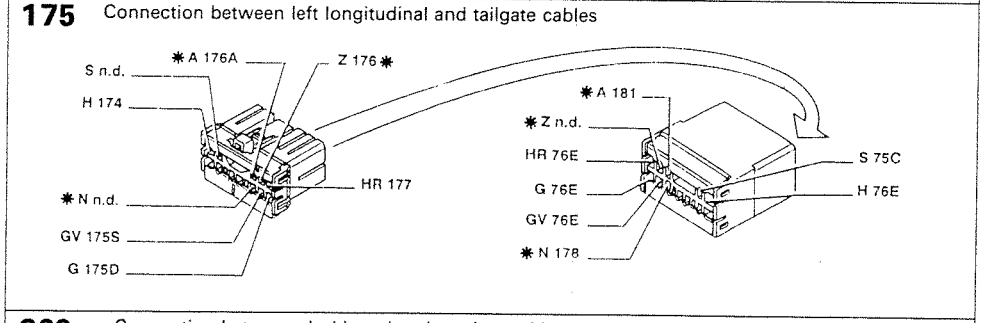
100 Connection between dashboard and left longitudinal cables



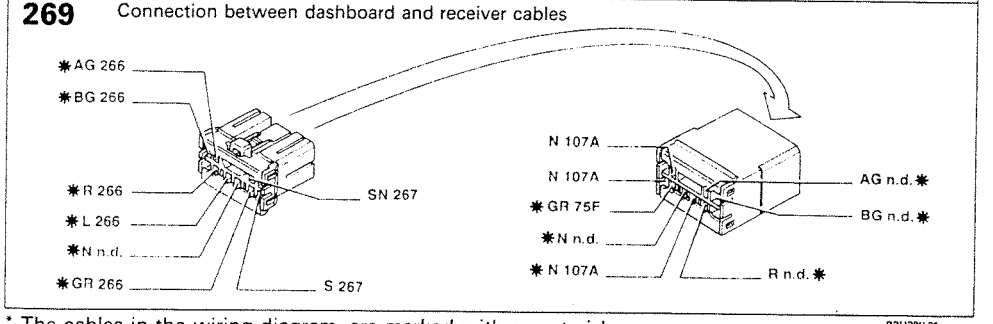
119B Connection between dash and right longitudinal cables



175 Connection between left longitudinal and tailgate cables



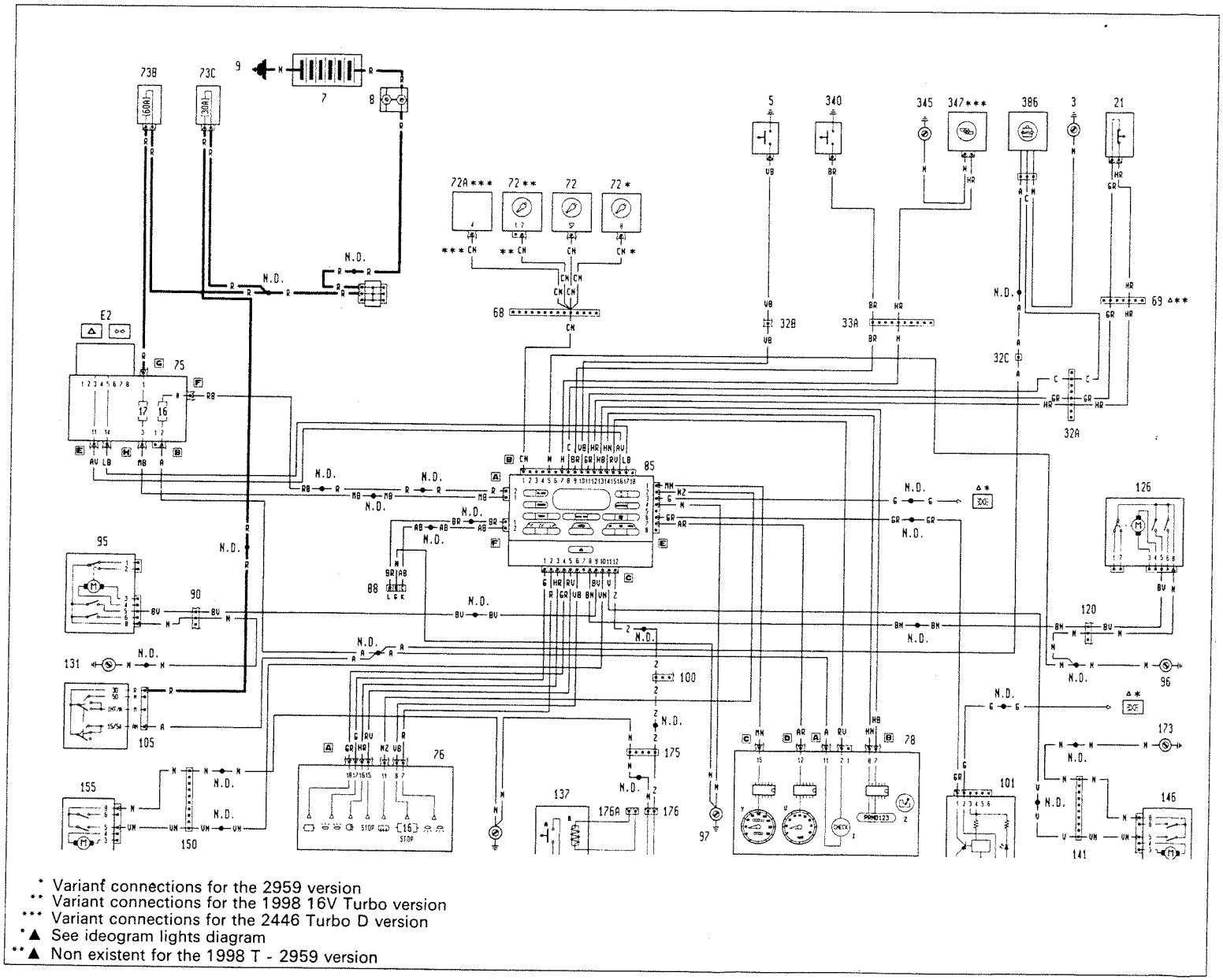
269 Connection between dashboard and receiver cables



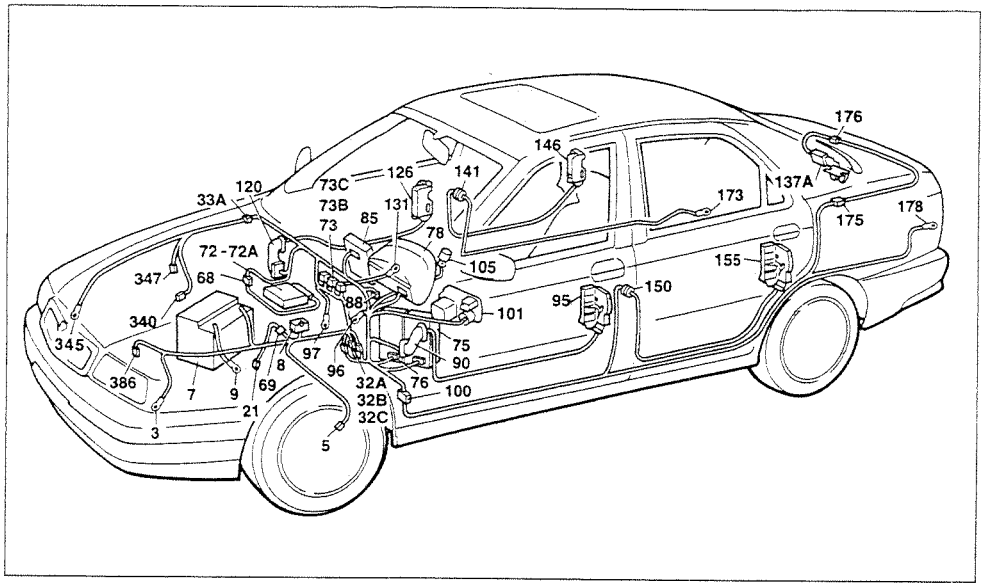
P3U39IL01

* The cables in the wiring diagram, are marked with an asterisk

Complete infocenter -



P3U41IL01



P3U42IL01

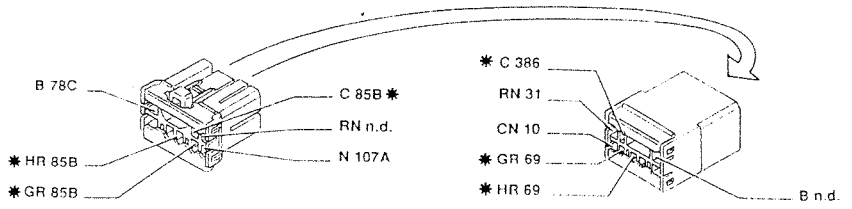
Complete infocenter

Components key

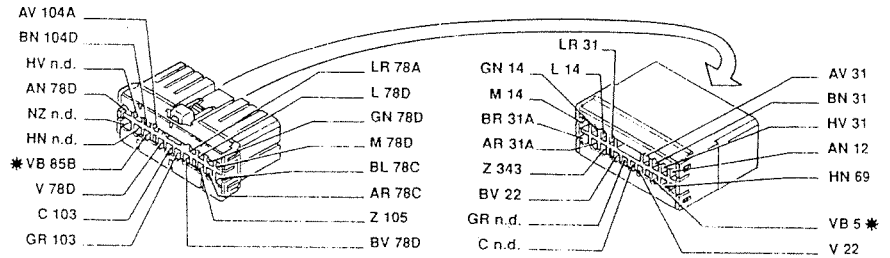
3 Left front earth
5 Left front brake pad wear sensor
7 Battery
8 Main connector block
9 Earth on bodyshell
21 Minimum engine oil level sensor
32A Connection between dash. & left engine compart. cables
32B Connection between dash. & left engine compart. cables
32C Connection between dash. & left engine compart. cables
33A Connection between dash. & right engine compart. cables
68 Connection between dashboard and electronic injection cables
69 Engine services cable connection
72 Fuel injection control unit
72A Fuel pump electronic control unit (2400 T.D.)
73 Secondary connector block
73B 60A protective fuse for I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (dashboard)
E2 Intermit. device for direction ind./hazard w/lights
76 I.G.E. control unit
78 Instrument panel
! Check summary warning light
U Electronic rev counter
Y Electronic tachometer
Z Electronic automatic gearbox gear selector display
85 Infocenter control unit
88 Diagnostic socket for Fiat / Lancia tester
90 Connection between dashboard and left front door cables
95 Left front central locking geared motor and left front door ajar signal and anti-theft device on
96 Earth on carrier
97 Earth on floor
100 Connection between dashboard and left longitudinal cables
101 Light dimmer
105 Ignition switch
120 Connection between dashboard and right front door cables
126 Right front central locking geared motor and right front door ajar signal and anti-theft device on
131 Earth on steering column support
137 Tailgate lock assembly
A Luggage compartment courtesy light switch and anti-theft device on
141 Connection between right longitudinal and right rear door cables
146 Right rear door central locking geared motor and right rear door ajar signal and anti-theft device on
150 Connection between left longitudinal and left rear door cables
155 Left rear door central locking geared motor and left rear door ajar signal and anti-theft device on
173 Right rear earth
175 Connection between left longitudinal and tailgate cables
176 Tailgate cables connection
178 Left rear earth
340 Right front brake pad wear sensor
343 40A starter relay
347 Excess turbocharging pressure sender unit
386 Connection for cables to water in fuel filter sensor

N.D. Ultrasound welding taped in cable loom

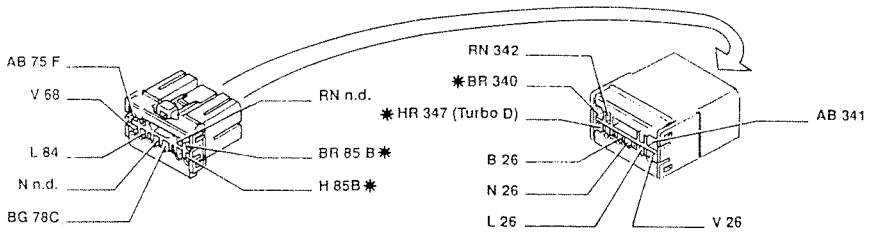
32A Connection between dash. & left engine comp. cables



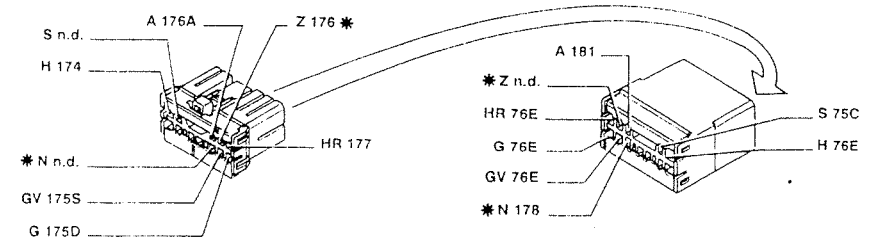
32B Connection between dash. & left engine comp. cables



33A Connection between dash. & right engine comp. cables



175 Connection between left longitudinal and tailgate cables



P3U43IL01

* The cables in the wiring diagram, are marked with an asterisk

3U42IL

DESCRIPTION	ENGINE TYPE				
	1998	2446	1995T	2959	2387 Td
Preparation for middle range radio	5	5	5	5	5
Preparation for top of the range radio	7	7	7	7	7
Starting - Motronic electronic ignition and injection - Recharging and warning light -Insufficient engine oil pressure warning light - Injection system failure warning light				9	
Starting - MSA11-310 fuel pump electronic control unit - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light - Heater plugs warning light					11
Direction indicators and warning light - Hazard warning lights and warning light - Braking lights - Reversing lights	13	13	13	13	13
Fuel level gauge and reserve warning light - Handbrake warning light - Insufficient brake fluid level warning light - Seat belt unfastened warning light - Speedometer - Milometer/trip meter and zeroing button - Rev counter - Current socket - Voltmeter	15	15	15	15	15
Ideogram lights - Heated rear windscreen and warning light	17	17	17	17	17
Version with alarm: central locking and signalling of doors open	19	19	19	19	19
Version without alarm: central locking and signalling of doors open - Doors locked device	21	21	21	21	21
Complete Inforcenter	23	23	23	23	23
Air-bag and failure warning light - Seat belt pre-tensioners - Servotronic	25	25	25	25	25
Preparation for middle range radio - Preparation for radiotelephone	26/1	26/1	26/1	26/1	26/1
Preparation for top of the range radio	26/3	26/3	26/3	26/3	26/3

NOTE *The numbers in the table correspond to the electrical equipment page number in the manual*

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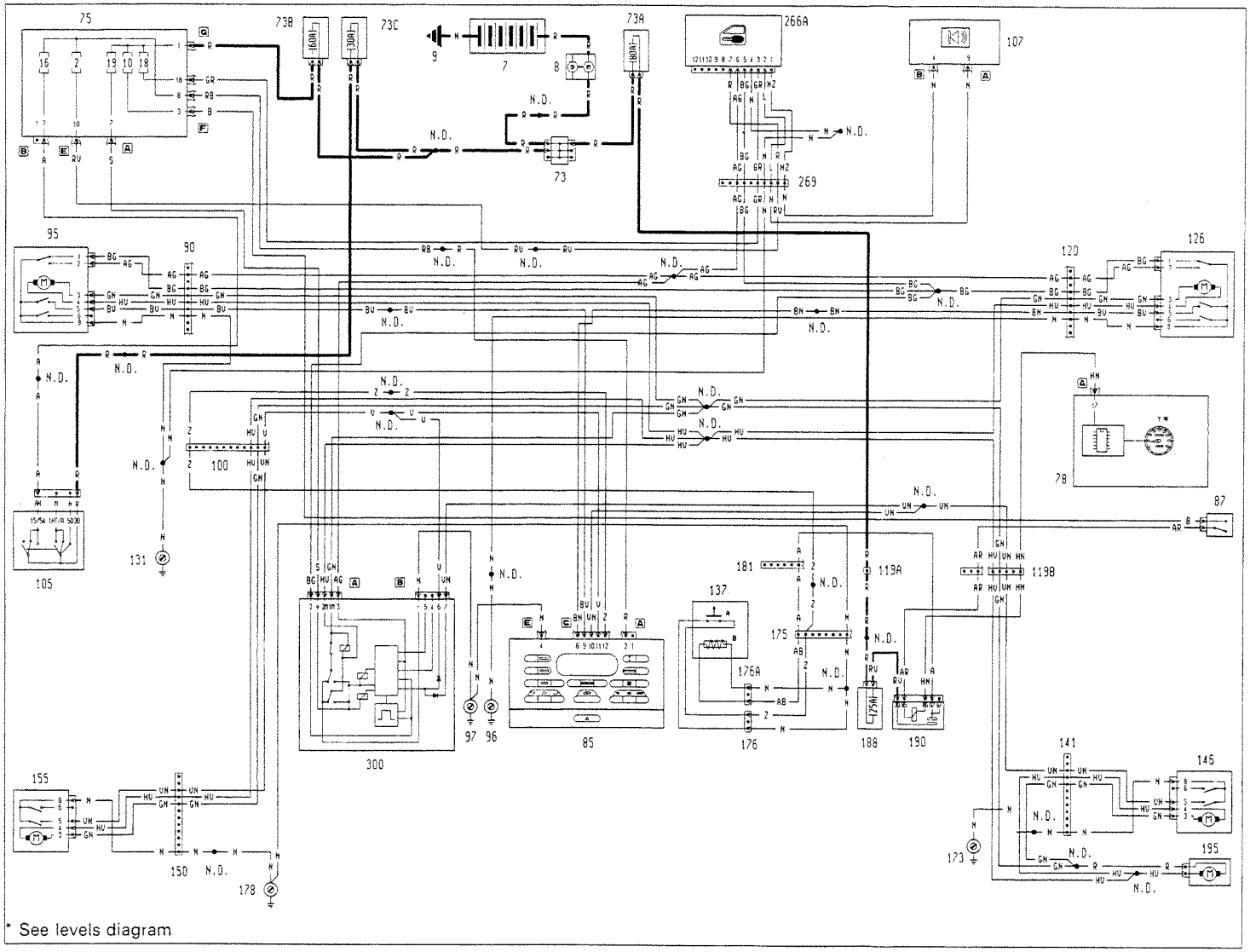
55.

DESCRIPTION	ENGINE TYPE				
	1998	2446	1995T	2959	2387 Td
Version with radiofrequency receiver and alarm: Central locking and signalling of doors open	26/5	26/5	26/5	26/5	26/5
Version without alarm: Operation device Central locking and signalling of doors open - Doors locked signal	26/7	26/7	26/7	26/7	26/7
Alarm with radiofrequency receiver	26/9	26/9	26/9	26/9	26/9
Starting - MSA11-310 fuel pump electronic control unit - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light - Heater plugs warning light (version with hot wire flow meter)					26/11

NOTE *The numbers in the table correspond to the electrical equipment page number in the manual*

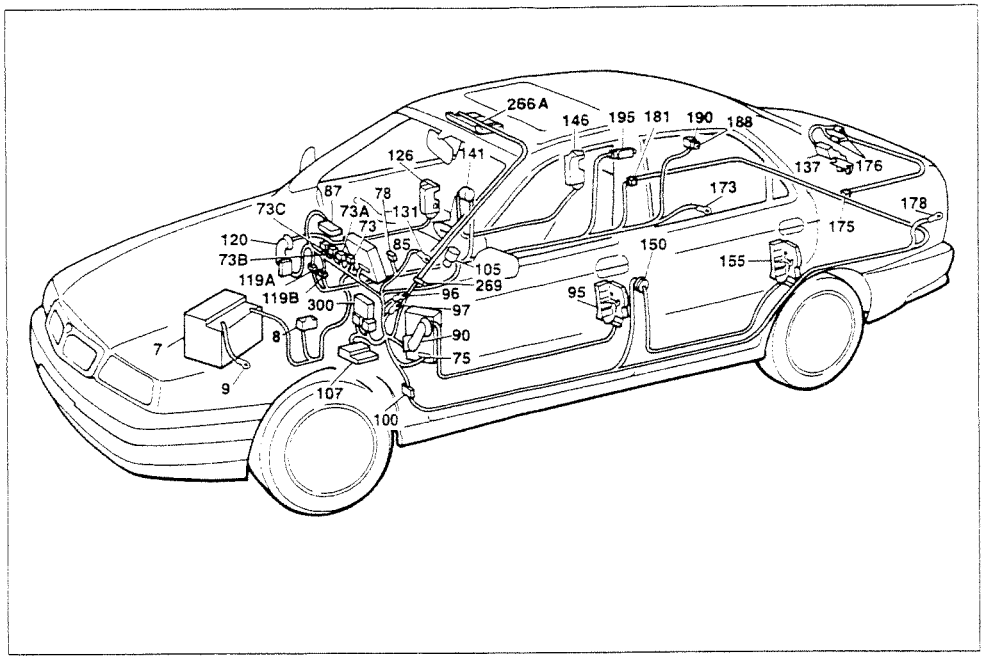
Version with alarm and radio frequency receiver

Central locking and doors ajar signal



* See levels diagram

3U811L



P3U47IL08

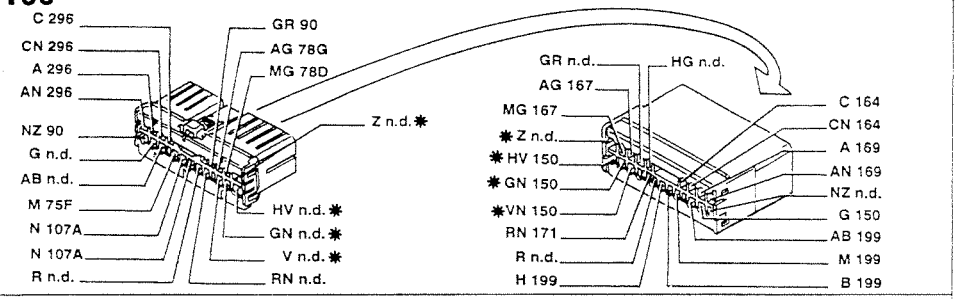
Version with alarm and radio frequency receiver: Central locking and doors ajar signal

Components key

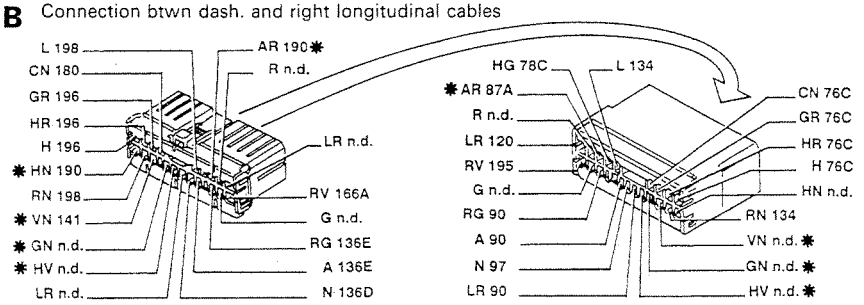
7 Battery
8 Main connector block
9 Earth on bodyshell
73 Secondary connector block
73A 80A fuse protecting rear services
73B 60A protective fuse for I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/alarm device
75 Junction unit (dashboard)
78 Instrument panel:
Y Electronic tachometer
85 Infocenter control unit
87 Glove compartment light / controls for boot release
90 Connection between dashboard and left front door cables
95 Left front central locking geared motor and left front door ajar signal and alarm device on
96 Earth on carrier
97 Earth on floor
100 Connection between dashboard and left longitudinal cables
105 Ignition switch
107 Alarm device control unit
119A Connection between dashboard and right longitudinal cables
119B Connection between dashboard and right longitudinal cables
120 Connection between dashboard and right front door cables
126 Right front central locking geared motor and right front door ajar signal and alarm device on
131 Earth on steering column support
137 Tailgate lock assembly
A Luggage compartment courtesy light switch and alarm engagement
B Tailgate locking/unlocking motor
141 Connection between right longitudinal and right rear door cables
146 Right rear door central locking geared motor and right rear door open signal and alarm on
150 Connection between left longitudinal and left rear door cables
155 Left rear door central locking geared motor and left rear door open signal and alarm on
173 Right rear earth
175 Connection between left longitudinal and tailgate cables
176 Tailgate cables connection
178 Left rear earth
181 Connection between left longitudinal and right longitudinal cables
188 25A fuse protecting boot release electro-magnet
190 Tailgate locking / release relay
195 Fuel filler flap release motor
266A Radio frequency receiver for alarm device
269 Connection between dashboard and receiver cables
300 Central locking electronic control unit

N.D. Ultrasound welding taped in cable loom

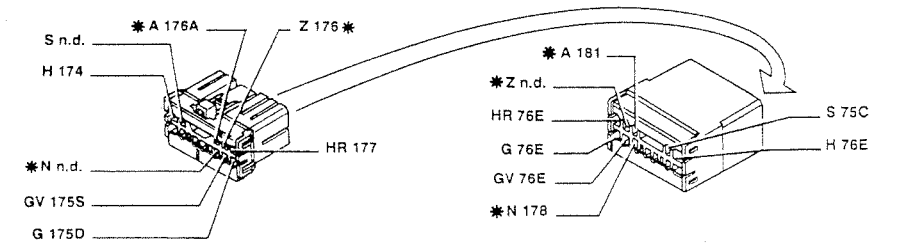
100 Connection between dashboard and left longitudinal cables



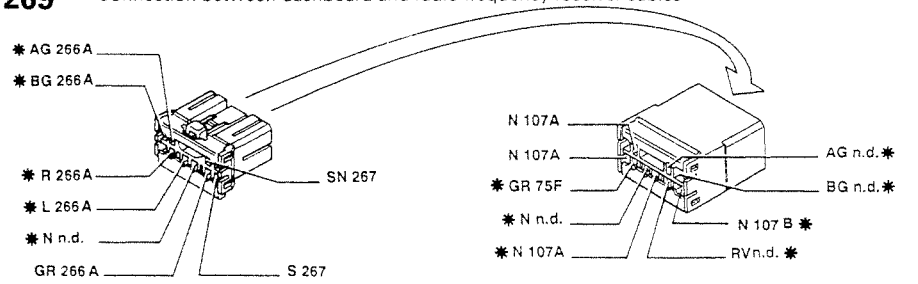
119B Connection btwn dash. and right longitudinal cables



175 Connection between left longitudinal and tailgate cables



269 Connection between dashboard and radio frequency receiver cables

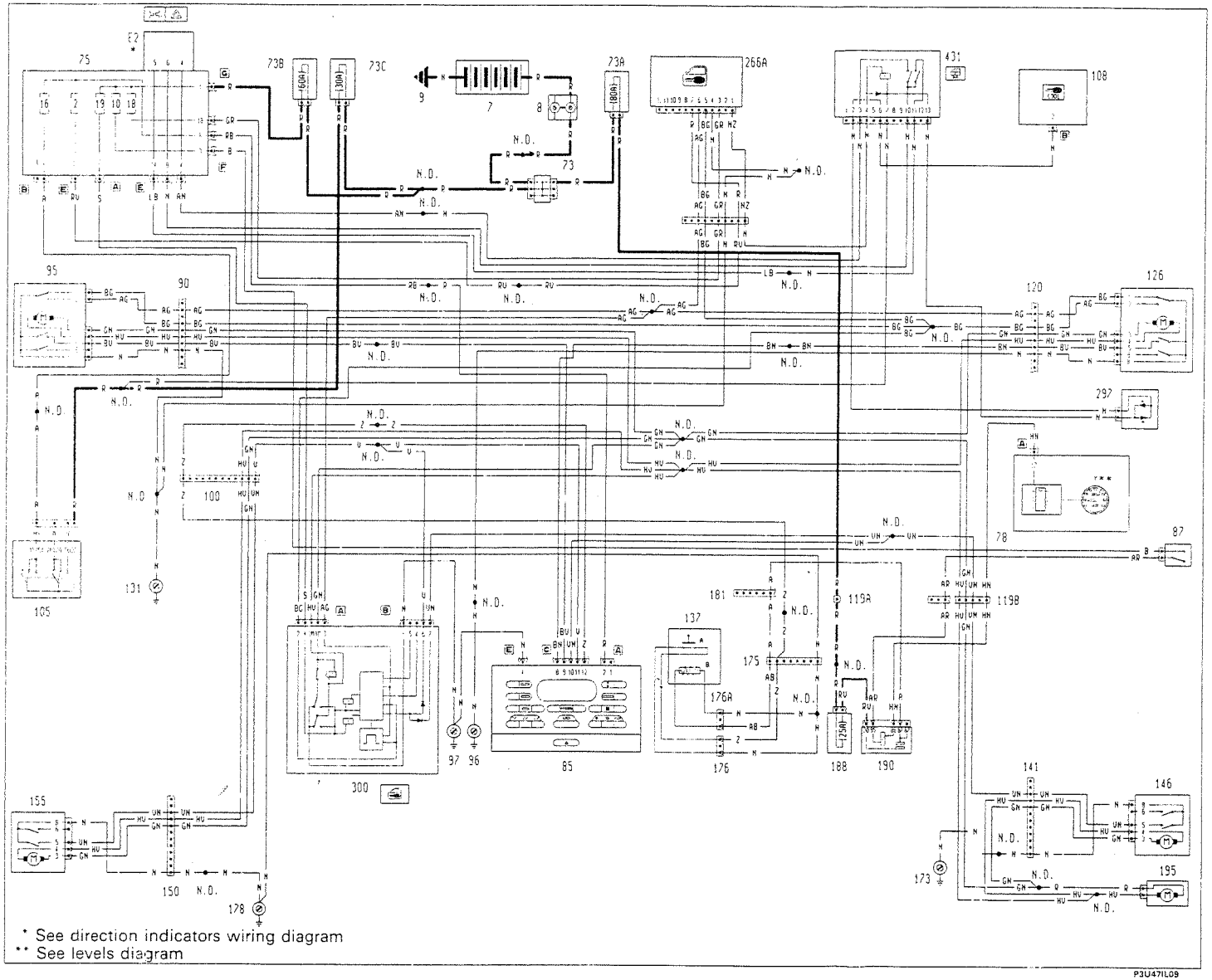


P3U47IL07

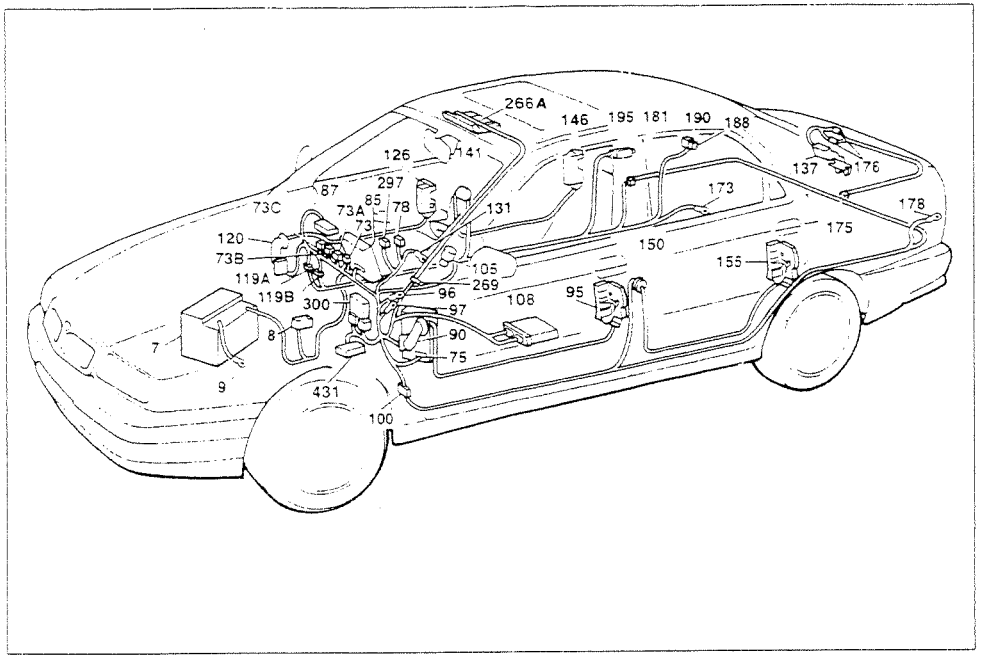
✱ The cables in the wiring diagram, are marked with an asterisk

Version without alarm

Central locking and doors open signal - Door closing device



3U85IL



P3U47IL11

Version without alarm: Central locking and signalling of doors open - Door closing device

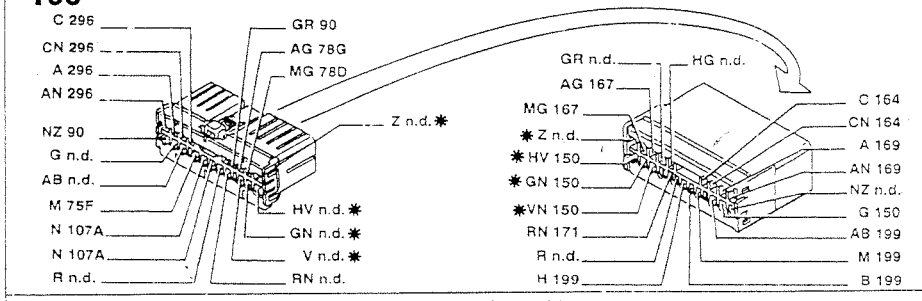
Components key

7 Battery
8 Main connector block
9 Earth on bodyshell
73 Secondary connector block
73A 80A fuse protecting rear services
73B 60A protective fuse for I G E control unit / junction unit
73C 30A fuse protecting ignition switch/alarm device
75 Junction unit (dashboard)
E2 Intermittent device for direction indicators/hazard warning lights
78 Instrument panel.
Y Electronic tachometer
85 Infocenter control unit
87 Glove compartment light / controls for boot release
90 Connection between dashboard and left front door cables
95 Left front central locking geared motor and left front door open signal and alarm on
96 Earth on carrier
97 Earth on floor
100 Connection between dashboard and left longitudinal cables
105 Ignition switch
108 LANCIA-Code control unit
119A Connection between dashboard and right longitudinal cables
119B Connection between dashboard and right longitudinal cables
120 Connection between dashboard and right front door cables
126 Right front central locking geared motor and right front door open signal and alarm device on
131 Earth on steering column support
137 Tailgate lock assembly
A Luggage compartment courtesy light switch and alarm on
B Tailgate locking/unlocking motor
141 Connection between right longitudinal and right rear door cables
146 Right rear door central locking geared motor and right rear door open signal and alarm device on
150 Connection between left longitudinal and left rear door cables
155 Left rear door central locking geared motor and left rear door open signal and alarm device on
173 Right rear earth
175 Connection between left longitudinal and tailgate cables
176 Tailgate cables connection
178 Left rear earth
181 Connection between left longitudinal and right longitudinal cables
188 25A fuse protecting boot release electro-magnet
190 Tailgate locking / release relay
195 Fuel filler flap release motor
266 Radio frequency receiver for alarm device
269 Connection between dashboard and receiver cables
297 Anti-theft device/Lancia CODE warning light
300 Central locking electronic control unit
431 Direction indicators control device with doors closed

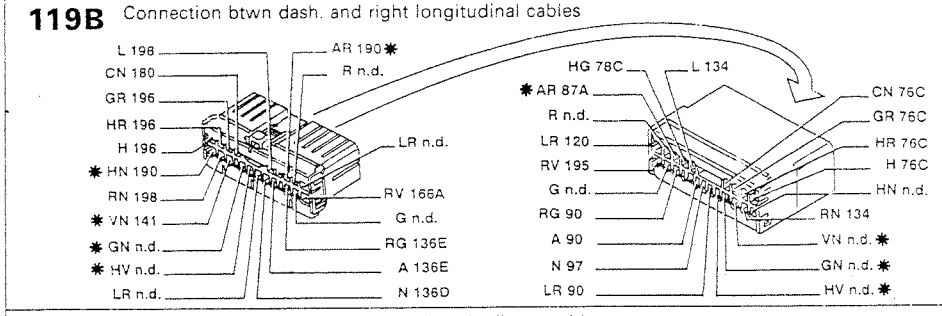
N.D. Ultrasound welding taped in cable loom

3U87IL

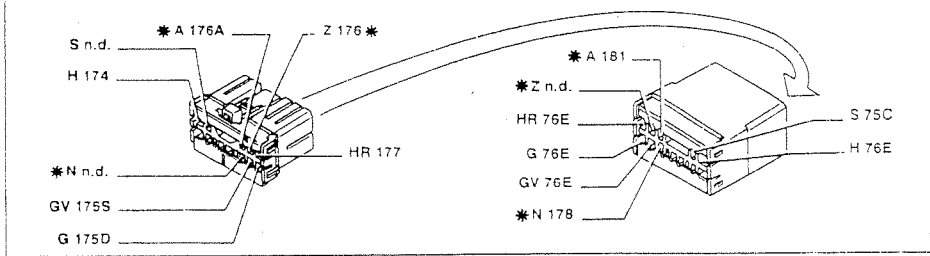
100 Connection between dashboard and left longitudinal cables



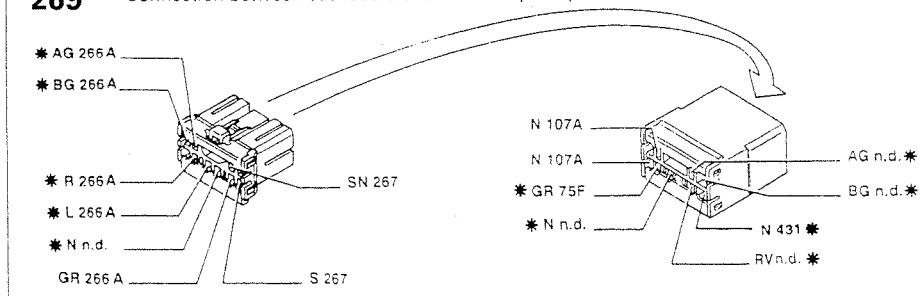
119B Connection btwn dash. and right longitudinal cables



175 Connection between left longitudinal and tailgate cables



269 Connection between dashboard and radio frequency receiver cables

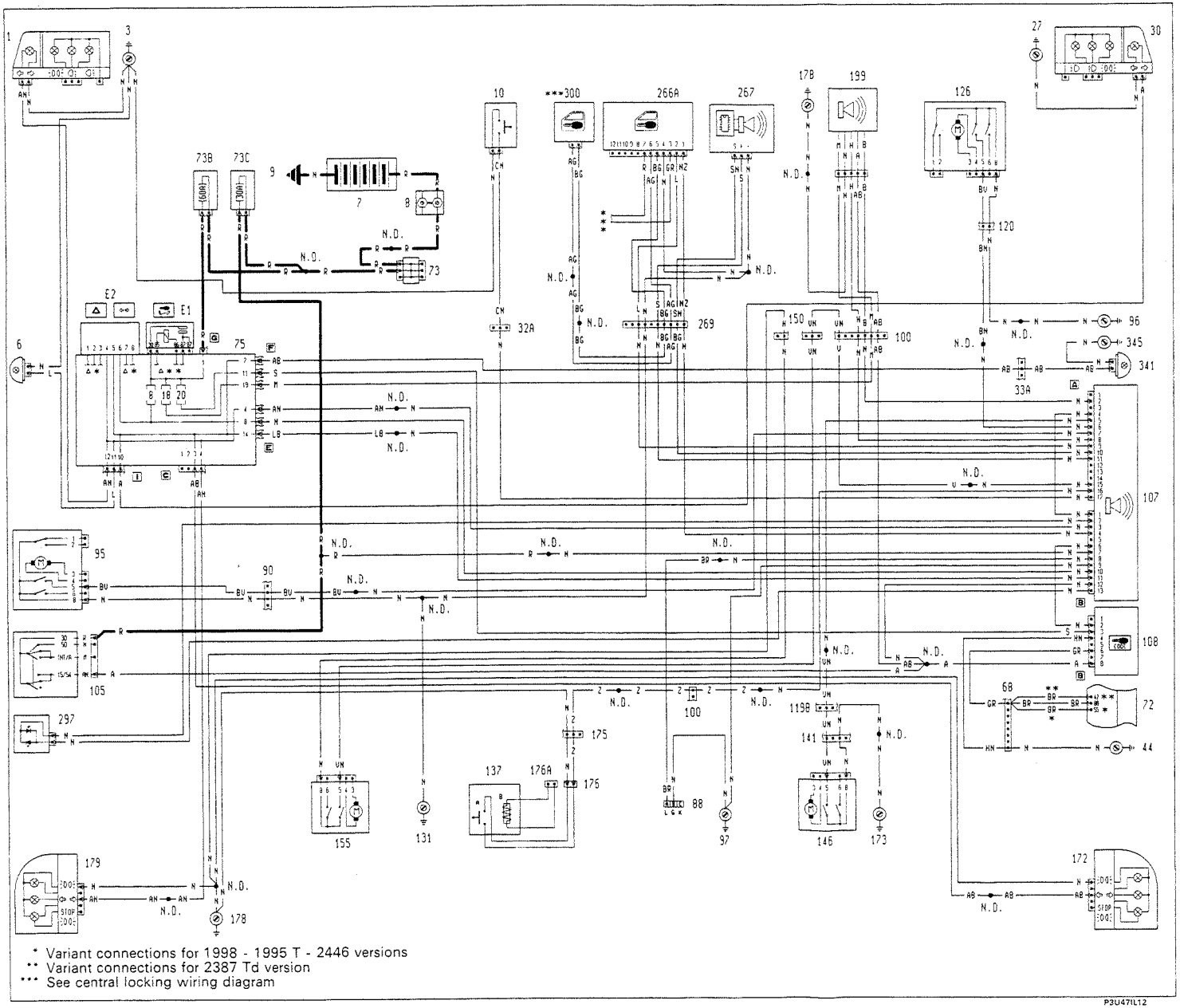


P3U47IL10

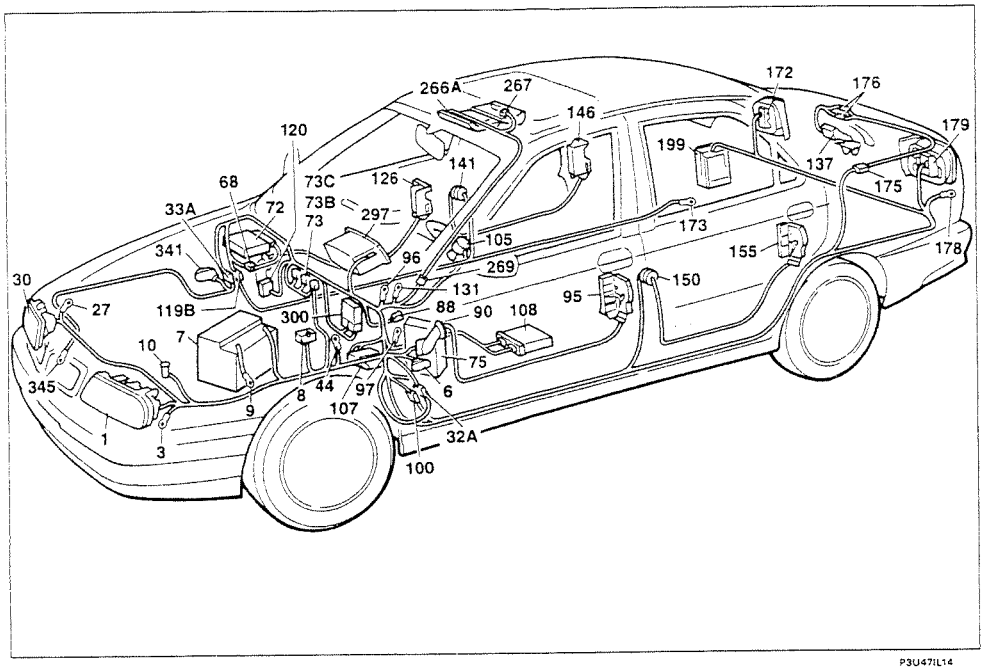
* The cables in the wiring diagram, are marked with an asterisk

3U86IL

Alarm device with radiofrequency receiver



3U891L



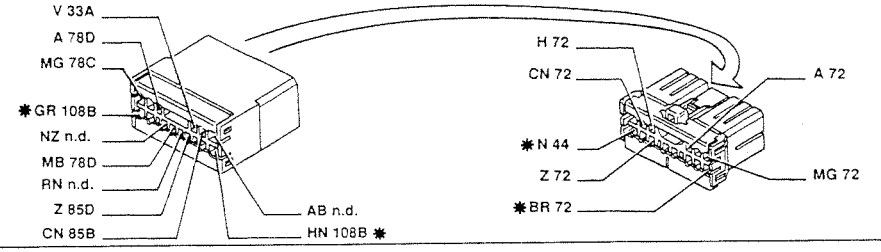
P3U47IL14

Alarm device with radio frequency receiver

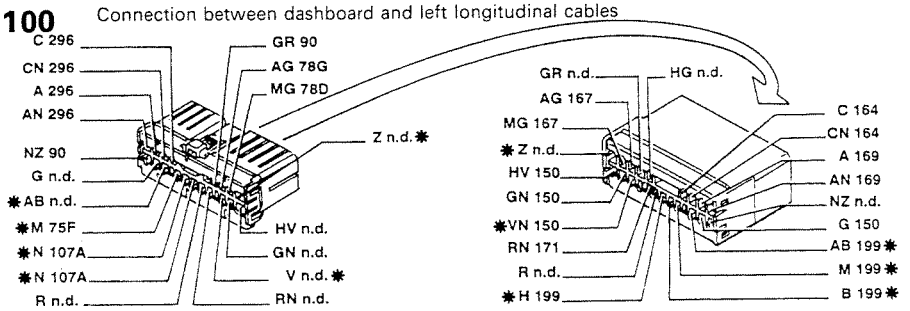
Components key

1 Left front light cluster
3 Left front earth
6 Left side direction indicator
7 Battery
8 Main connector block
9 Earth on bodyshell
10 Button on bonnet lid for engaging alarm device
27 Right front earth
30 Right front light cluster
32A Connection between dashboard and left engine compartment cables
33A Connection between dashboard & right engine compartment cables
44 Power earth
68 Connection between dashboard and electronic injection cables
72 Fuel injection control unit
73 Secondary connector block
73B 60A protective fuse for I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/alarm device
75 Junction unit (dashboard)
E1 Ignition discharge relay
E2 Intermittent device for direction indicators / hazard warning lights
88 Diagnostic socket for Fiat / Lancia tester
90 Connection between dashboard and left front door cables
95 Left front central locking geared motor and left front door open signal and alarm device on
96 Earth on carrier
97 Earth on floor
100 Connection between dashboard and left longitudinal cables
105 Ignition switch
107 Alarm control unit
108 Lancia CODE control unit
119B Connection between dashboard and right longitudinal cables
120 Connection between dashboard and right front door cables
126 Right front central locking geared motor and right front door open signal and alarm device on
131 Earth on steering column support
137 Tailgate lock assembly
A Luggage compartment courtesy light switch and alarm on
141 Connection between right longitudinal and right rear door cables
146 Right rear door central locking geared motor and right rear door open signal and alarm device on
150 Connection between left longitudinal and left rear door cables
155 Left rear door central locking geared motor and left rear door open signal and alarm device on
172 Right rear light cluster on fixed section
173 Right rear earth
175 Connection between left longitudinal and tailgate cables
176 Tailgate cables connection
177 Left rear light cluster on moving section
178 Left rear earth
179 Left rear light cluster on fixed section
199 Alarm
266 Radio frequency receiver for alarm device
267 Volumetric sensors for alarm device
269 Connection between dashboard and receiver cables
297 Alarm / LANCIA Code warning light
300 Central locking electronic control unit
341 Right side direction indicator
345 Right front earth
N.D. Ultrasound welding taped in cable loom

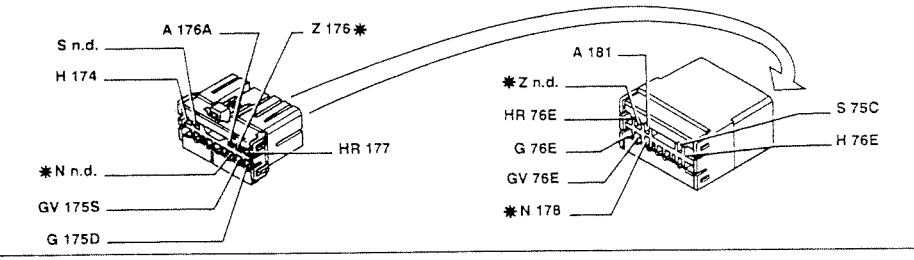
68 Connection between dash. & electronic injection cables



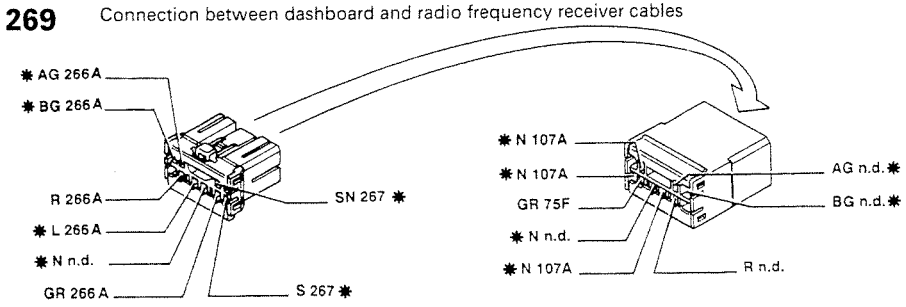
100 Connection between dashboard and left longitudinal cables



175 Connection between left longitudinal and tailgate cables



269 Connection between dashboard and radio frequency receiver cables



P3U47IL13

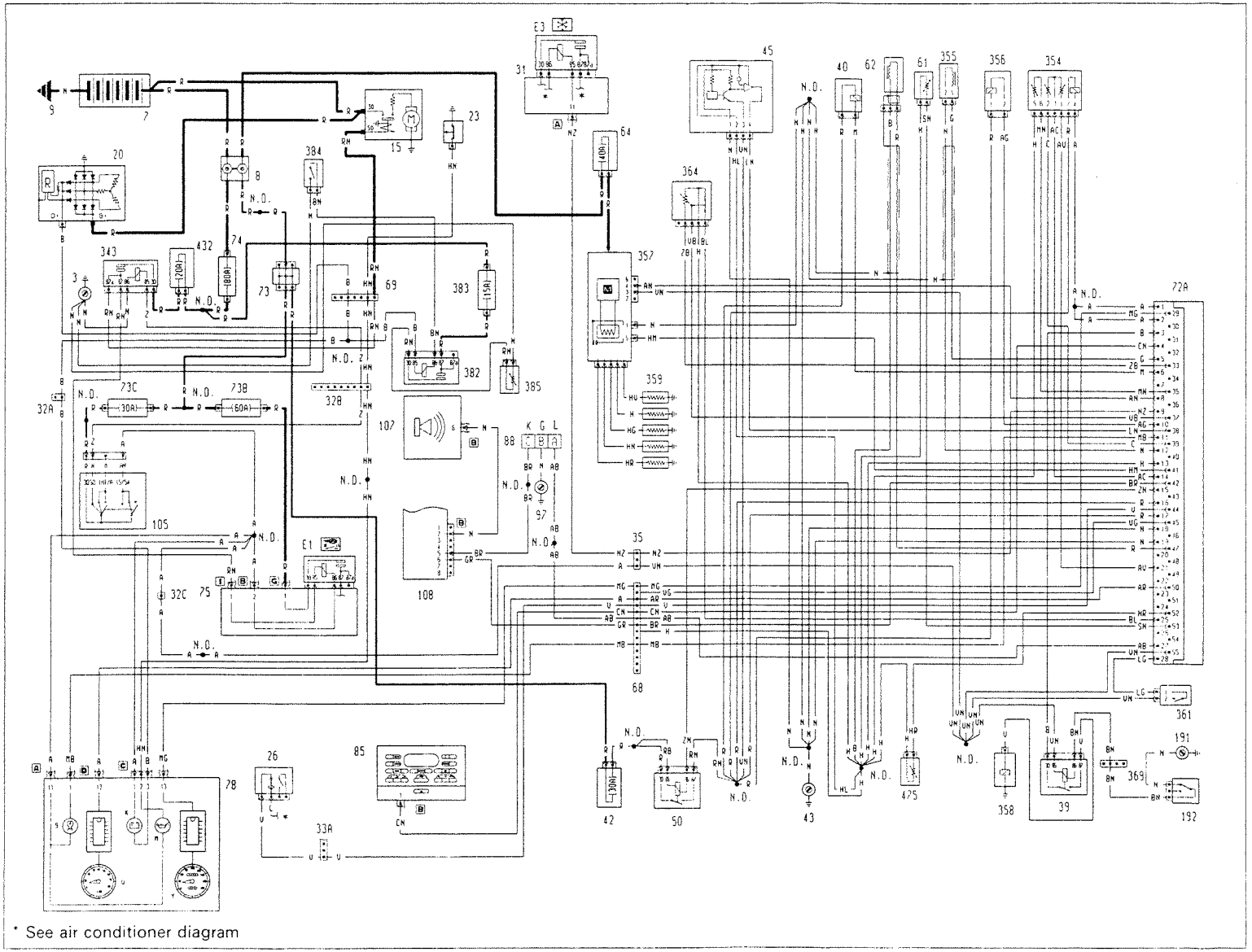
* The cables in the wiring diagram, are marked with an asterisk

3U91IL

3U90IL

Version: 2387 Td

Starting - MSA11-310 fuel pump electronic control unit - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light - Heater plugs control unit and warning light (version with hot wire flow meter)



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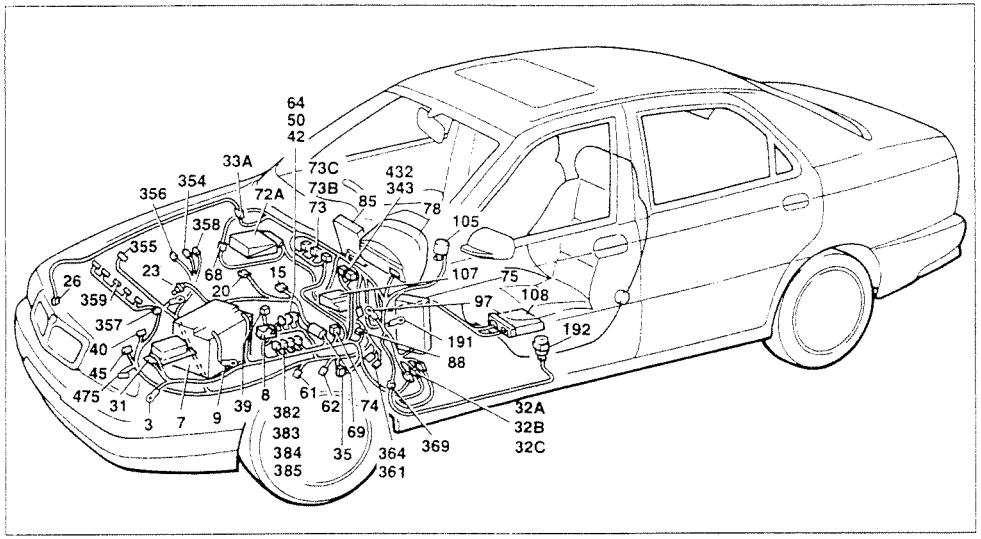


P3U47IL16

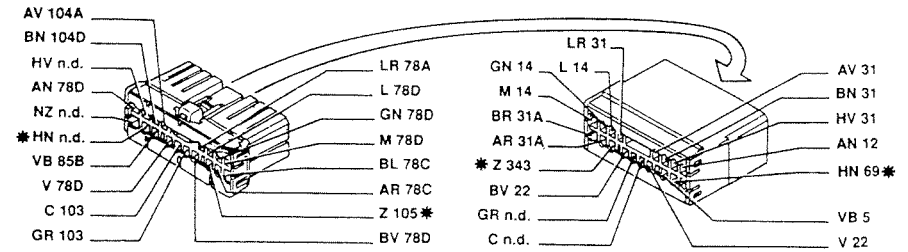
2387 Td version: Starting - MSA11-310 fuel pump electronic control unit - Recharging and warning light - Insufficient engine oil pressure warning light - Injection system failure warning light - Heater plugs control unit and warning light

Components key

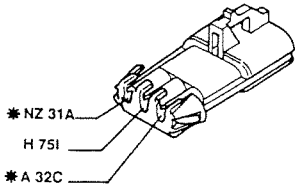
3 Left front earth
7 Battery
8 Main connector block
9 Earth on bodyshell
15 Starter motor
20 Alternator
23 Switch signalling low engine oil pressure
26 Three stage pressure switch
31 Peripheral control unit (engine compartment)
E3 Compressor coupling relay feed
32A Connection between dashboard and left engine compartment cables
32B Connection between dashboard and left engine compartment cables
32C Connection between dash. & left engine comp. cables
33A Connection between dash. & right engine comp. cables
35 Connection between engine compartment and electronic injection cables
39 Relay for inertia switch
40 E.G.R. solenoid valve
42 30A fuse protecting electronic injection
43 Electronic earth
45 Air flow meter
50 Electronic injection system relay feed
61 Electronic injection engine coolant temperature sensor
62 Rpm sensor
64 40A fuse protecting heater plugs
68 Connection btwn dashb. & electronic injection cables
69 Engine services cables connection
72A Fuel pump control unit
73 Secondary connector block
73B 60A protective fuse for I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch/alarm
74 60A protective fuse for peripheral control unit (engine compartment)
75 Junction unit (dashboard)
E1 Ignition discharge relay
78 Instrument panel
K Battery recharging warning light
M Insufficient engine oil pressure warning light
S Heater plugs warning light
U Electronic rev counter
Y Electronic tachometer
85 Infocenter control unit
88 Diagnostic socket for Fiat/Lancia tester
97 Earth on floor
105 Ignition switch
107 Alarm control unit
108 Lancia CODE control unit
191 Earth for inertia switch
192 Inertia switch
343 40A starter relay
354 Electric diesel pump
355 Instrument injector
356 Solenoid valve on diesel pump
357 Heater plugs control unit
358 Engine cut out solenoid on injection pump
359 Heater plugs
361 Switch on clutch pedal
364 Potentiometer on accelerator pedal
369 Connection between electronic injection and left longitudinal cables
382 Heated diesel filter relay feed (P.T.C.)
383 15A fuse protecting heated diesel filter (P.T.C.)
384 Heated diesel filter thermal contact (P.T.C.)
385 Heated diesel filter resistance (P.T.C.)
386 Connection for cables to water in fuel filter sensor
432 20A protective fuse for ignition switch relay
475 Air temperature sensor

N.D. Ultrasound welding taped in cable loom

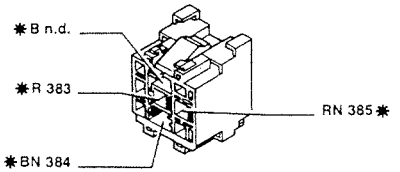
32B Connection between dashboard and left engine compartment cables (only for 2387 Tds)



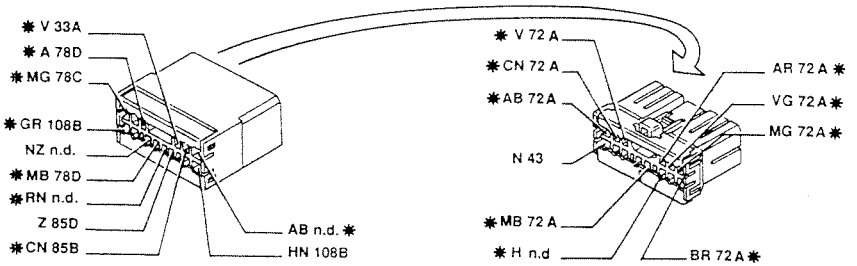
35 Connection between engine compartment and electronic injection cables



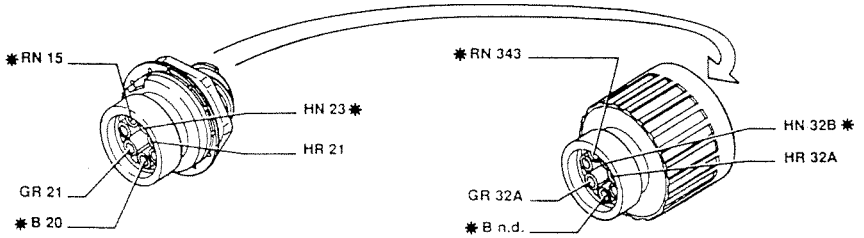
382 Heated diesel filter relay feed (P.T.C.)



68 Connection between dashboard and electronic injection cables



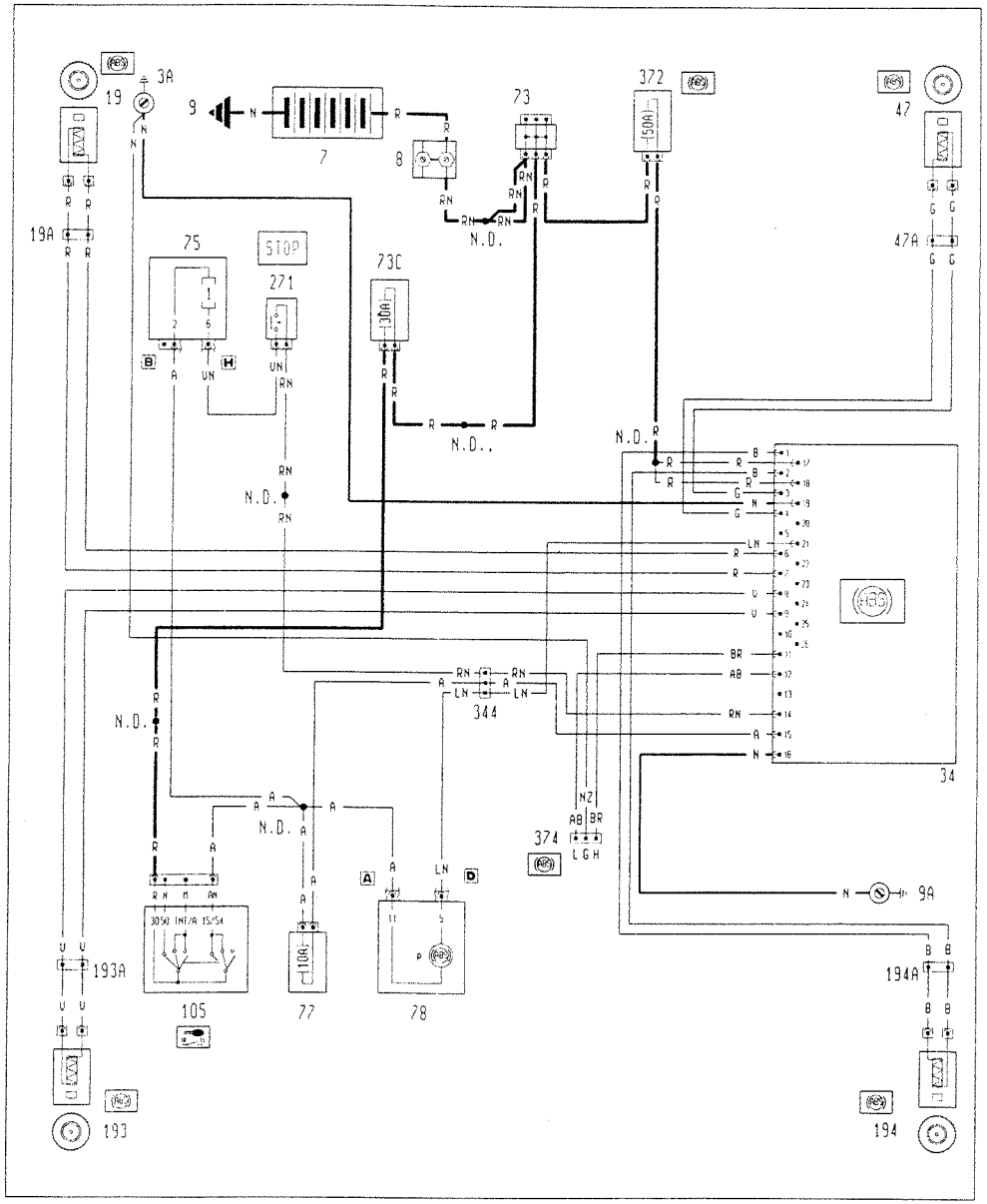
69 Engine services cables connection



* The cables in the wiring diagram, are marked with an asterisk

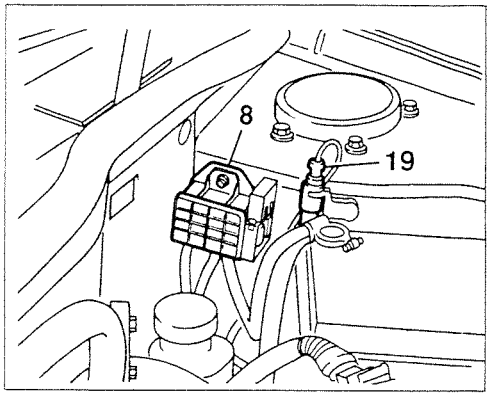
P3U47IL17

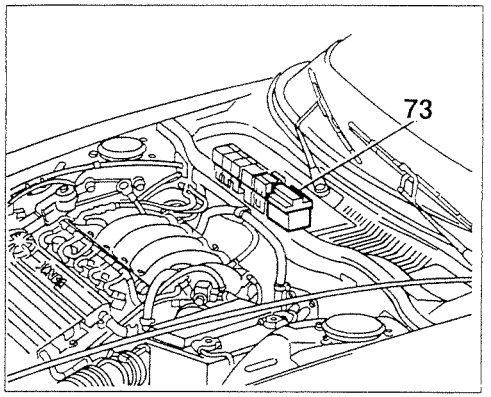
Anti-lock brakes (A.B.S. 5.3) - (See key at end of wiring diagrams)

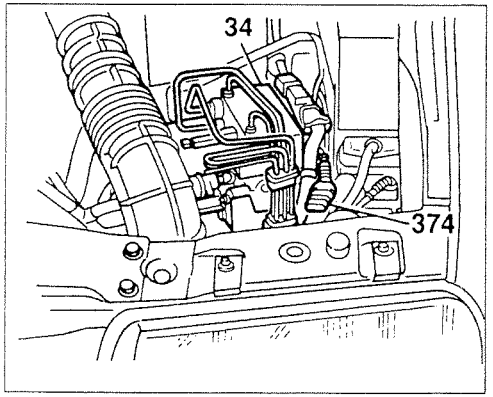


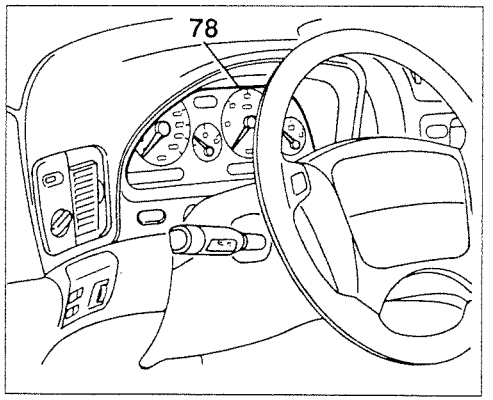
P3U47IL15

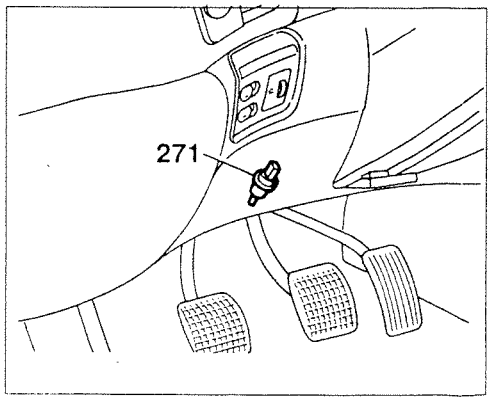
Anti-lock brakes (A.B.S.)

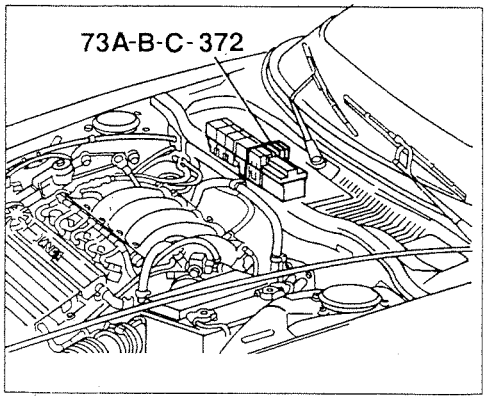




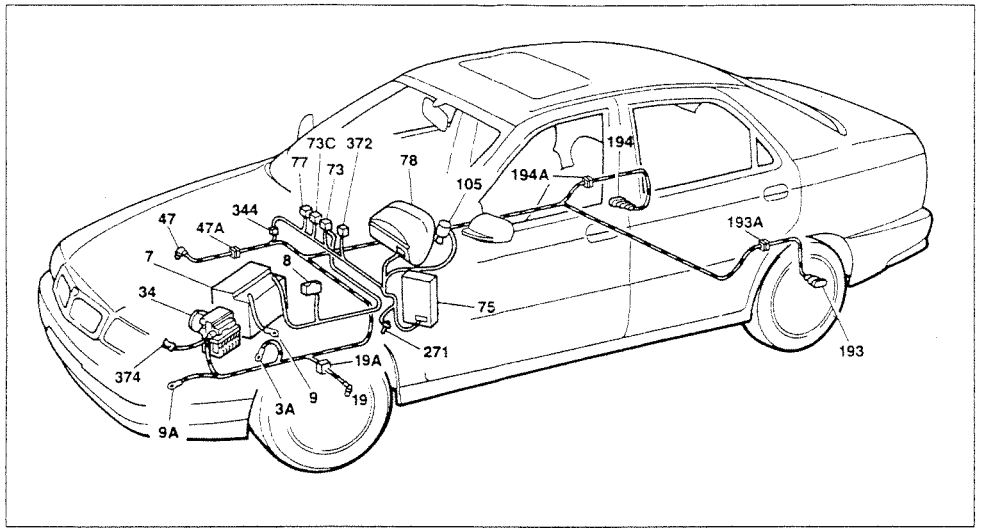








P3U47IL16



P3U47IL19

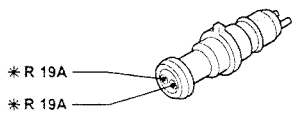
Anti-lock brakes (A.B.S. 5.3)

Components key

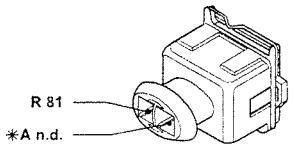
3A Left front earth for anti-lock brakes (A.B.S.)
7 Battery
8 Main connector block
9 Earth on bodyshell
9A Earth on side panel for anti-lock brakes (A.B.S.)
19 Sensor on left front wheel for anti-lock brakes (A.B.S.)
19A Connection for cable for sensor on left front wheel for anti-lock brakes (A.B.S.)
34 Anti-lock braking system electronic control unit (A.B.S.)
47 Sensor on right front wheel for anti-lock brakes (A.B.S.)
47A Conection for cable for sensor on right front wheel for anti-lock brakes (A.B.S.)
73 Secondary connector block
73C 30A fuse protecting ignition switch / anti-theft device
75 Junction unit (dashboard)
77 10A fuse protecting anti-lock brakes (A.B.S.)
78 Instrument panel
P Anti-lock braking system failure warning light (A.B.S.)
105 Ignition switch
193 Sensor on left rear wheel for anti-lock brakes (A.B.S.)
193A Connection for cable for sensor on left rear wheel for anti-lock brakes (A.B.S.)
194 Sensor on right rear wheel for anti-lock brakes (A.B.S.)
194A Connection for cable for sensor on right rear wheel for anti-lock brakes (A.B.S.)
271 Brake lights switch
344 Connection between dashboard and anti-lock brakes cables (A.B.S.)
372 50A fuse protecting anti-lock brakes (A.B.S.)
374 Diagnostic socket for Fiat / Lancia Tester
N.D. Ultrasound welding taped in cable loom

3U73IL

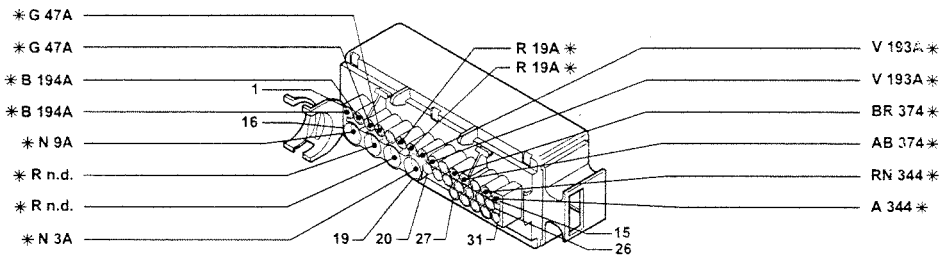
19 Sensor on left front wheel for anti-lock brakes (A.B.S.)



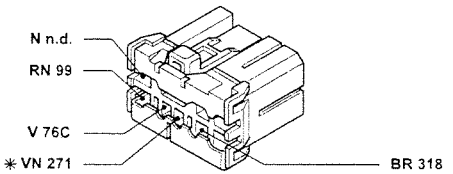
75B Junction unit (dashboard)



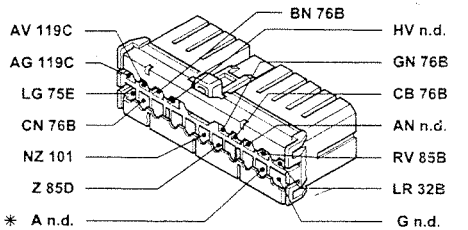
34 Anti-lock brakes electro-hydraulic control unit (A.B.S.)



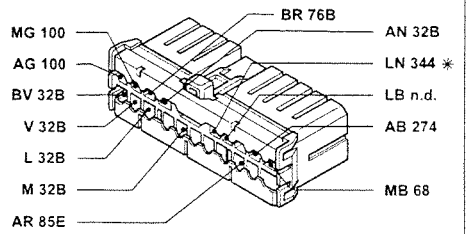
75H Junction unit (dashboard)



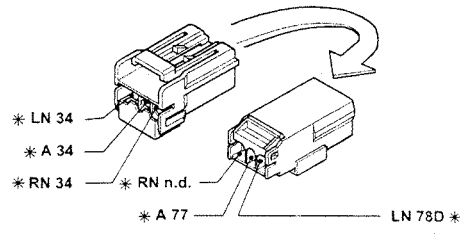
78A Instrument panel



78D Instrument panel



344 Connection between dashboard and anti-lock brakes cables (A.B.S.)



* The cables in the wiring diagram, are marked with an asterisk

P3U47IL18

3U74IL

COMPONENTS KEY:

1 Left front light cluster
3 Left front earth
3A Left front earth for anti-lock brakes (A.B.S.)
5 Left front brake pad wear sensor
6 Left side direction indicator
7 Battery
8 Main connector block
9 Earth on bodyshell
9A Earth on bodyshell
12 Insufficient brake fluid level sensor
13 Reversing lights switch
14 Impulse generator for speedometer signal
15 Starter motor
16 Spark plugs
19 Sensor on left front wheel for anti-lock brakes (A.B.S.)
19A Connection for cable for sensor on left front wheel for anti-lock brakes (A.B.S.)
20 Alternator
21 Minimum engine oil level sensor
23 Sensor signalling minimum engine oil pressure
25 Air temperature sensor
26 Three stage pressure switch
27 Right front earth
30 Right front light cluster
31 Peripheral control unit (engine compartment)
E3 Compressor coupling relay feed
32A Connection between dashboard and left engine compartment cables
32B Connection between dashboard and left engine compartment cables
32C Connection between dashboard and left engine compartment cables
33A Connection between dashboard and right engine compartment cables
34 Anti-lock brakes electronic control unit (A.B.S.)
35 Connection between engine compartment and electronic injection cables
36 Heated Lambda sensor
37 Idle adjustment actuator
38 Earth for electronic injection
39 Relay for inertia switch
40 E.G.R. solenoid valve
41 Petrol vapour cut out solenoid valve
42 30A fuse protecting electronic injection
43 Electronic earths

3U531L

44 Power earth
45 Air flow meter
46 7.5A protecting electronic injection
47 Sensor on right front wheel for anti-lock brakes (A.B.S.)
47A Connection for cable for sensor on right front wheel for anti-lock brakes (A.B.S.)
48 10A fuse protecting heated Lambda sensor and air flow meter relay
49 Electric fuel pump and heated Lambda sensor relay feed
50 Electronic injection system relay feed
51 Air flow meter relay feed
52 Ignition coil
53 Ignition coil
54 Ignition coil
55 Ignition coil
56 Ignition coil
57 Ignition coil
58 Injectors
59 1st Detonation sensor
60 2nd Detonation sensor
61 Engine coolant temperature sensor for electronic injection
62 Rpm sensor
63 Potentiometer on butterfly valve
64 40A fuse protecting heater plugs
66 Timing sensor
68 Connection between dashboard and electronic injection cables
69 Engine services cable connection
72 Fuel injection control unit
72 Fuel pump electronic control unit (2378 Td)
73 Secondary connector block
73A 80A fuse protecting rear services
73B 60A protective fuse for I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch / alarm
74 60A protective fuse for peripheral control unit (engine compartment)
75 Junction unit (dashboard)
E1 Ignition discharge relay
E2 Intermittent device for direction indicators / hazard warning lights
76 I.G.E. control unit
77 10A fuse protecting anti-lock brakes (A.B.S.)
78 Instrument panel
A Trailer direction indicator warning light
B1 Passenger's side heated seat warning light
C Heated rear windscreen warning light
F1 Instrument panel light bulbs
I Check summary warning light
L Left direction indicator warning light

3U541L

L1 Right direction indicator warning light
J Seat belts not fastened warning light
K Battery recharging warning light
M Insufficient engine oil pressure warning light
N Handbrake warning light/ I.G.E. control unit
O Insufficient brake fluid level warning light
P Warning light signalling anti-lock brakes failure (A.B.S.)
S Heater plugs warning light
T Voltmeter
U Electronic rev counter
V Fuel level gauge
V1 Fuel reserve warning light
X Milometer/trip meter
Y Electronic tachometer
Z Electronic automatic transmission gear selector display
Z1 Trip computer zeroing button
85 Infocenter control unit
87 Light for glove compartment/controls for boot release
88 Diagnostic socket for Fiat/Lancia tester
90 Connection between dashboard and left front door cables
91 Speaker in left front door
95 Left front central locking geared motor and signalling of left front door open and alarm on
96 Earth on carrier
97 Earth on floor
98 Ashtray light
99 Cigar lighter
100 Connection between dashboard and left longitudinal cables
101 Light dimmer
102 Exterior lights control unit
B Switch for side lights/number plate lights
C Switch for dipped beam headlamps/-main beam headlamps
D Switch for parking lights
E Switch for ideogram lights
103 Switch control unit
A Fog lights switch
B Rear fog lamps control switch
C Headlamp alignment unit
104 Steering column switch unit
D Switch for direction indicators /parking lights
E Main beam headlamps flasher button
F Switch for main beam head-lamps
105 Ignition switch
107 Alarm control unit
108 Lancia CODE control unit
117 Switch signalling handbrake applied

119A Connection between dashboard and right longitudinal cables
119B Connection between dashboard and right longitudinal cables
119D Connection between dashboard and right longitudinal cables
120 Connection between dashboard and right front door cables
122 Speaker in right front door
126 Right front central locking geared motor and signalling of right front door open and alarm on
131 Earth on steering column support
134 Servotronic solenoid valve
135 Earth on floor for AIR-BAG signal
137 Tailgate lock assembly
A Switch for luggage compartment courtesy light switch and alarm
B Tailgate locking/unlocking motor
141 Connection between right longitudinal and right rear door cables
146 Right rear door central locking geared motor and signalling of right rear door open and alarm on
150 Connection between left longitudinal and left rear door cables
151 Amplifier for radio
153 Light in left rear door
155 Left rear door central locking geared motor and signalling of left rear door open and alarm on
164 Left rear speaker
165 Heated rear windscreen
165A Earth for heated rear windscreen
166 Amplifier for aerial in rearscreen
166A Rear cables connection in rearscreen
167 Fuel level gauge
168 Electric fuel pump
169 Right rear speaker
171 Additional brake lights warning light
172 Right rear light cluster on fixed section
173 Right rear earth
174 Right rear light cluster on moving section
175 Connection between left longitudinal and tailgate cables

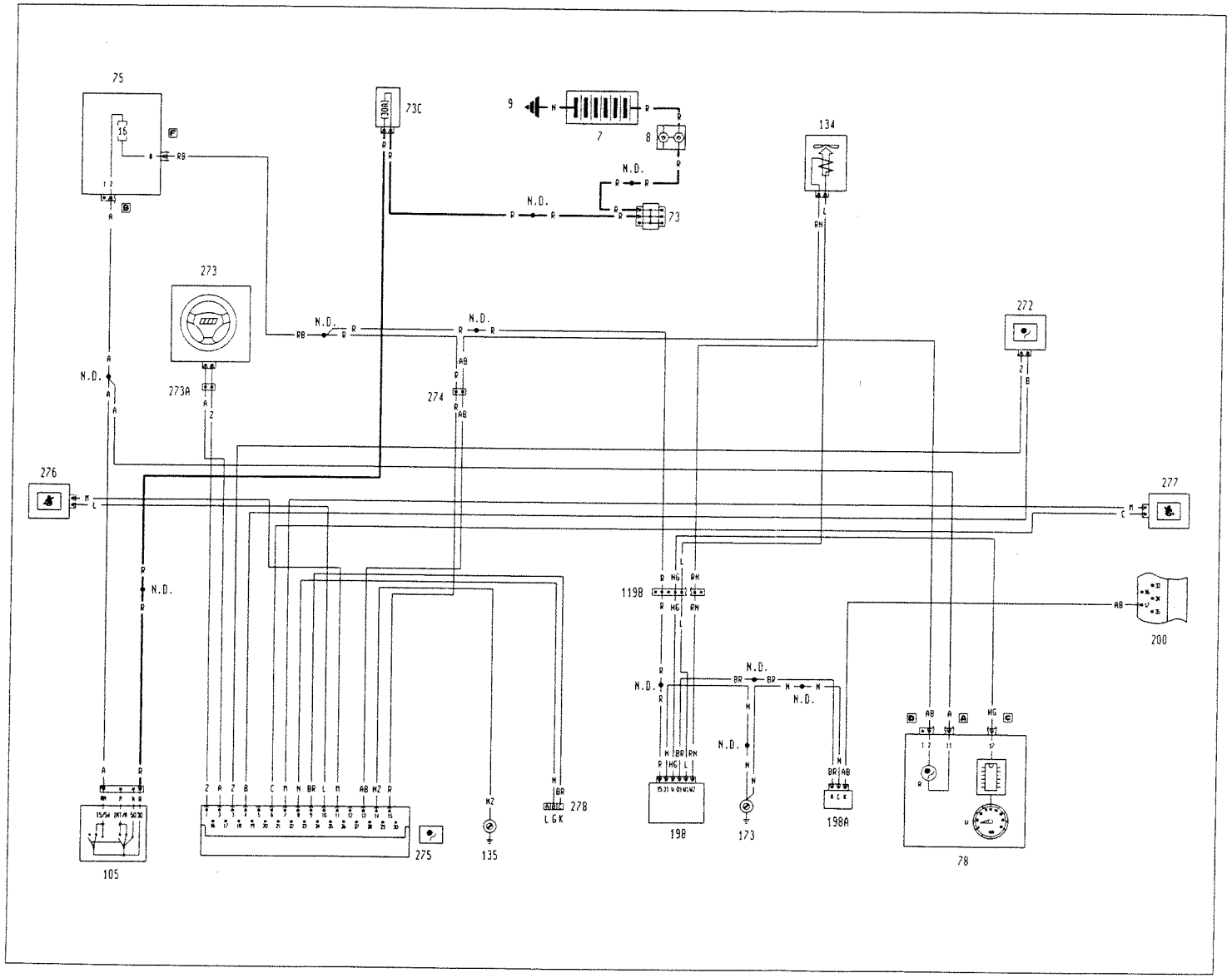
119A Connection between dashboard and right longitudinal cables
119B Connection between dashboard and right longitudinal cables
119D Connection between dashboard and right longitudinal cables
120 Connection between dashboard and right front door cables
122 Speaker in right front door
126 Right front central locking geared motor and signalling of right front door open and alarm on
131 Earth on steering column support
134 Servotronic solenoid valve
135 Earth on floor for AIR-BAG signal
137 Tailgate lock assembly
A Switch for luggage compartment courtesy light switch and alarm
B Tailgate locking/unlocking motor
141 Connection between right longitudinal and right rear door cables
146 Right rear door central locking geared motor and signalling of right rear door open and alarm on
150 Connection between left longitudinal and left rear door cables
151 Amplifier for radio
153 Light in left rear door
155 Left rear door central locking geared motor and signalling of left rear door open and alarm on
164 Left rear speaker
165 Heated rear windscreen
165A Earth for heated rear windscreen
166 Amplifier for aerial in rearscreen
166A Rear cables connection in rearscreen
167 Fuel level gauge
168 Electric fuel pump
169 Right rear speaker
171 Additional brake lights warning light
172 Right rear light cluster on fixed section
173 Right rear earth
174 Right rear light cluster on moving section
175 Connection between left longitudinal and tailgate cables
176 Tailgate cables connection
177 Left rear light cluster on moving section
178 Left rear earth
179 Left rear light cluster on fixed section
180 Heated rear windscreen relay feed
181 Connection between left longitudinal and right longitudinal cables
188 25A fuse protecting boot release electro-magnet
189 30A fuse protecting heated rear windscreen
190 Tailgate locking/unlocking relay feed
191 Earth for inertia switch
192 Inertia switch
193 Sensor on left rear wheel for anti-lock brakes (A.B.S.)
193A Connection for cable for sensor on left rear wheel for anti-lock brakes (A.B.S.)
194 Sensor on right rear wheel for anti-lock brakes (A.B.S.)
194A Connection for cable for sensor on right rear wheel for anti-lock brakes (A.B.S.)
195 Fuel filler flap release motor
198 Servotronic electronic control unit
198A Diagnostic socket
200 Controlled damping suspension electronic control unit (S.C.S)
227 Right front speaker
228 Left front speaker
266 Infra red receiver for alarm
269 Connection between dashboard and receiver cables
271 Brake lights switch
272 Driver's AIR-BAG connection
273 Passenger AIR-BAG connection
273A Connection for clock spring
274 Connection between dashboard and AIR-BAG cables
275 AIR-BAG control unit
276 Left seat belt pre-tensioner
277 Right seat belt pre-tensioner
278 Diagnostic socket for AIR-BAG
290 Left front air vent controls light
291 Left centre air vent controls light
292 Right centre air vent controls light
293 Right front air vent controls light
295 Radio cables connection
296 Radio cables connection
297 Warning light for alarm/LANCIA Code
300 Central locking electronic control unit
317 Connection between electronic automatic transmission and electronic injection cables
334 Connection between electronic injection cable and injector bridge
340 Right front brake pad wear sensor
341 Right side direction indicator
343 40A starter relay
344 Connection between dashboard and anti-lock brakes cables (A.B.S.)
345 Right front earth
347 Excess turbocharging pressure sender unit
354 Electric diesel pump
355 Instrument injector
356 Solenoid valve on diesel pump
357 Heater plugs control unit
358 Engine cut out solenoid on injection pump
359 Heater plugs
361 Switch on clutch pedal
362 Switch on pedal
364 Potentiometer on accelerator pedal
369 Connection between electronic injection and left longitudinal cables
374 Diagnostic socket for anti-lock braking system (A.B.S.)
382 Heated diesel filter relay feed (P.T.C.)
383 15A fuse protecting heated diesel filter (P.T.C.)
384 Heated diesel filter thermal contact (P.T.C.)
385 Heated diesel filter resistance (P.T.C.)
386 Connection for cables to water in fuel filter sensor
422 Connection between dashboard and left longitudinal cables
430 Diode connecting handbrake applied/insufficient brake fluid level
431 Direction indicators operation with doors locked
432 20A protective fuse for ignition switch relay
434 15A fuse protecting current socket
435 Current socket relay feed
436 Current socket
N.D. Ultrasound welding taped in cable loom

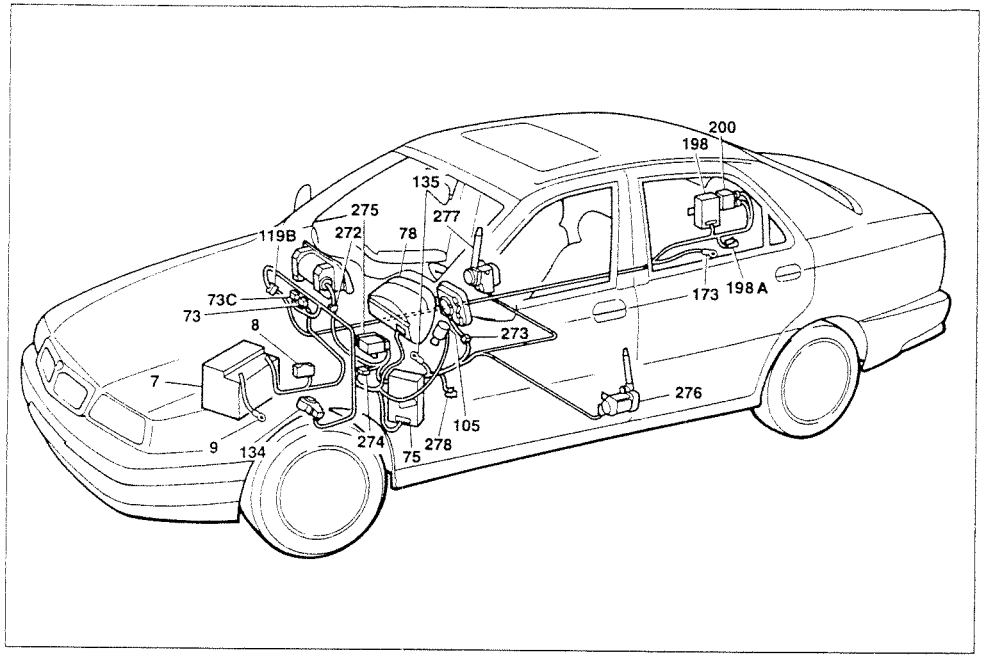
Cable colour code

A	Light blue	GN	Yellow/Black
B	White	GL	Yellow/Blue
C	Orange	GR	Yellow/Red
G	Yellow	GV	Yellow/Green
H	Grey	HG	Grey/Yellow
L	Blue	HN	Grey/Black
M	Brown	HR	Grey/Red
N	Black	HV	Grey/Green
R	Red	LB	Blue/White
S	Pink	LG	Blue/Yellow
V	Green	LN	Blue/Black
Z	Violet	LR	Blue/Red
AB	Light blue/White	LV	Blue/Green
AG	Light blue/Yellow	MB	Brown/White
AN	Light blue/Black	MN	Brown/Black
AR	Light blue/Red	NZ	Black/Violet
AV	Light blue/Violet	RB	Red/White
BG	White/Yellow	RG	Red/Yellow
BL	White/Blue	RN	Red/Black
BN	White/Black	RV	Red/Green
BR	White/Red	SN	Pink/Black
BV	White/Green	VB	Green/White
BZ	White/Violet	VN	Green/Black
CA	Orange/Light blue	VR	Green/Red
CB	Orange/White	ZB	Violet/White
CN	Orange/Black		

CONNECTOR BLOCKS

Air-bag and failure warning light - Seat belt pre-tensioners - Servotronic device - (See key at end of wiring diagrams)





P3U102N01

Air-bag and failure warning light - Seat belt pre-tensioners - Servotronic device

Components key

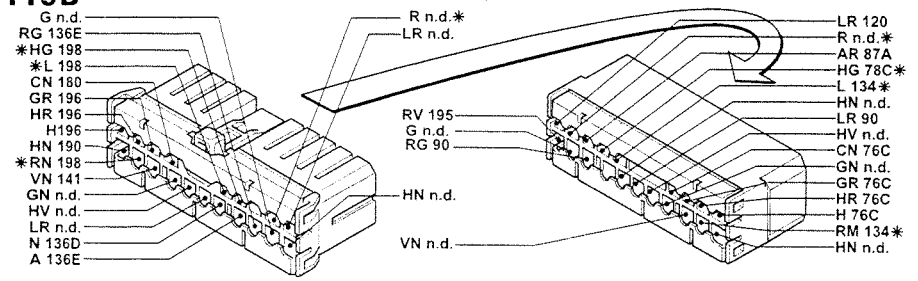
7 Battery
8 Main connector block
9 Earth on bodyshell
73 Secondary connector block
73C 30A fuse protecting ignition switch/anti-theft device
75 Junction unit (dashboard)
78 Instrument panel
R AIR-BAG device failure warning light
U Electronic rev counter
105 Ignition switch
119B Connection between dashboard and right longitudinal cables
134 Servotronic solenoid valve
135 Earth on floor (signal for AIR-BAG)
173 Right rear earth
198 Servotronic electronic control unit
198A Diagnostic socket
200 Controlled damping suspension electronic control unit (S.C.S)

272 Driver's AIR-BAG connection
273 Passenger AIR-BAG connection
274 Connection btwn dash. and AIR-BAG cables
275 AIR-BAG control unit
276 Left seat belt pre-tensioner
277 Right seat belt pre-tensioner
278 Diagnostic socket for AIR-BAG

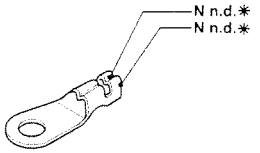
N.D. Ultrasound welding taped in cable loom

3U461L

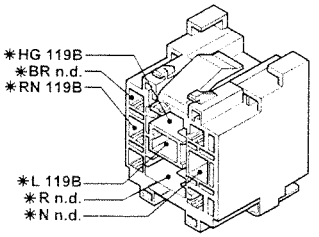
119B Connection between dashboard and right longitudinal cables



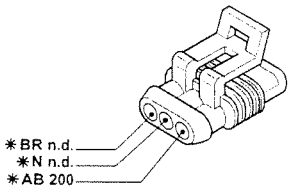
173 Right rear earth



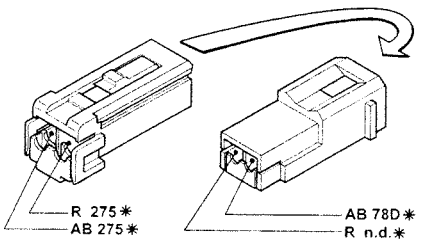
198 Servotronic electronic control unit



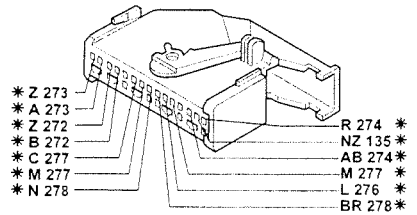
198A Diagnostic socket



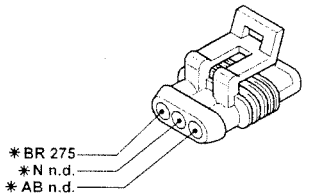
274 Con. btwn dash. & AIR-BAG cables



275 AIR-BAG control unit



278 Diagnostic socket for AIR-BAG



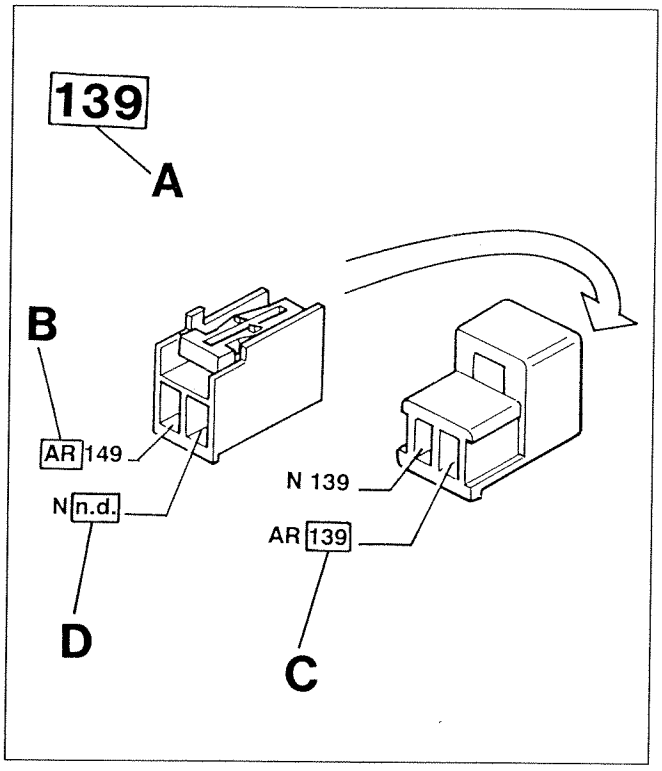
* The cables in the wiring diagram, are marked with an asterisk

P3U471L01

3U471L

INTRODUCTION

Interpretation of the codes at the connector blocks



P3U152N01

A Identification N° of connector block with reference to wiring diagrams

B Cable colour identification code (see table at the foot of the page)

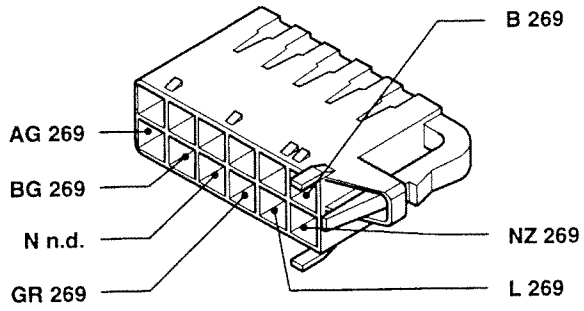
C Identification N° of connector block for cable marked with appropriate code

D The n.d. code (connector block) identifies ultrasound welding taped in the cable loom

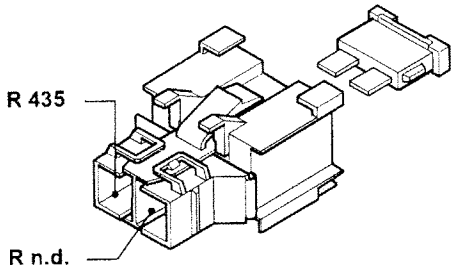
Cable colour code

A	Light blue	**BG**	White-Yellow	**LB**	Blue-White
B	White	**BL**	White-Blue	**LG**	Blue-Yellow
C	Orange	**BN**	White-Black	**LN**	Blue-Black
G	Yellow	**BR**	White-Red	**LR**	Blue-Red
H	Grey	**BV**	White-Green	**LV**	Blue-Green
L	Blue	**BZ**	White-Violet	**MB**	Brown-White
M	Brown	**CA**	Orange-Light blue	**MN**	Brown-Black
N	Black	**CB**	Orange-White	**NZ**	Black-Violet
R	Red	**CN**	Orange-Black	**RB**	Red-White
S	Pink	**GN**	Yellow-Black	**RG**	Red-Yellow
V	Green	**GL**	Yellow-Blue	**RN**	Red-Black
Z	Violet	**GR**	Yellow-Red	**RV**	Red-Green
AB	Light blue-White	**GV**	Yellow-Green	**SN**	Pink-Black
AG	Light blue-Yellow	**HG**	Grey-Yellow	**VB**	Green-White
AN	Light blue-Black	**HN**	Grey-Black	**VN**	Green-Black
AR	Light blue-Red	**HR**	Grey-Red	**VR**	Green-Red
AV	Light blue-Green	**HV**	Grey-Green	**ZB**	Violet-White

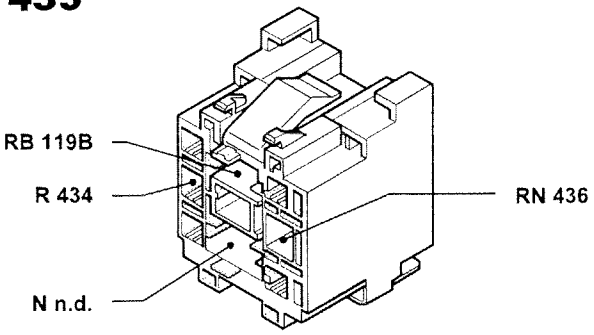
266A Radio frequency receiver for alarm device



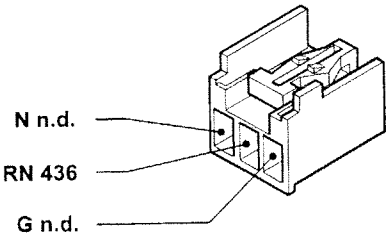
434 15A protective fuse for current socket



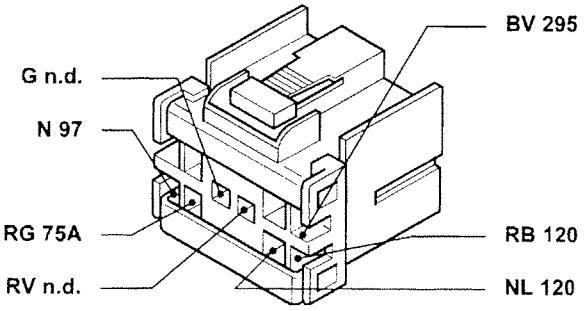
435 Current socket relay feed



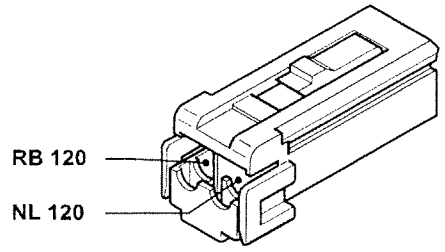
436 Current socket



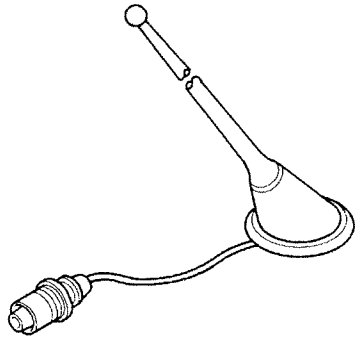
437 Preparation for radio telephone



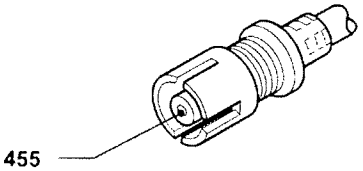
438 Two function speaker for radio and radio telephone in right front door



455 Radio telephone aerial



456 Connector for radio telephone aerial



P3U51IL01

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COMPONENTS KEY:

1 Left front light cluster
3 Left front earth
5 Left front brake pad wear sensor
6 Left side direction indicator
7 Battery
8 Main connector block
9 Earth on bodyshell
12 Insufficient brake fluid level sensor
13 Reversing lights switch
14 Impulse generator for speedometer signal
15 Starter motor
16 Spark plugs
20 Alternator
21 Minimum engine oil level sensor
23 Minimum engine oil pressure sensor
25 Air temperature sensor
26 Three stage pressure switch
27 Right front earth
30 Right front light cluster
31 Peripheral control unit (engine comp.)
E3 Compressor coupling relay feed
32A Connection between dashboard and left engine compartment cables
32B Connection between dashboard and left engine compartment cables
32C Connection between dashboard and left engine compartment cables
33A Connection between dashboard and right engine compartment cables
35 Connection between engine compartment and electronic injection cables
36 Heated Lambda sensor
37 Idle adjustment actuator
38 Earth for electronic injection
39 Relay for inertia switch
40 E.G.R. solenoid valve
41 Petrol vapour cut out solenoid valve
42 30A fuse protecting electronic injection
43 Electronic earths
44 Power earth
45 Air flow meter
46 7.5 A fuse protecting electronic injection
48 10A fuse protecting heated Lambda sensor and air flow meter relay
49 Electric fuel pump and heated Lambda sensor relay feed
50 Electronic injection system relay feed
51 Air flow meter relay feed
52 Ignition coil
53 Ignition coil
54 Ignition coil
55 Ignition coil
56 Ignition coil
57 Ignition coil
58 Injectors
59 1st Detonation sensor
60 2nd Detonation sensor
61 Engine coolant temperature sensor for electronic injection
62 Rpm sensor
63 Potentiometer on butterfly valve
64 40A fuse protecting heater plugs
66 Timing sensor
68 Connection between dashboard and electronic injection cables
69 Engine service cables connection
72 Fuel injection control unit
72 Fuel pump electronic control unit (2378 Td)
73 Secondary connector block
73A 80A fuse protecting rear services
73B 60A protective fuse for I.G.E. control unit / junction unit
73C 30A fuse protecting ignition switch / alarm device
74 60A protective fuse for peripheral control unit (engine compartment)
75 Junction unit (dashboard)
E1 Ignition discharge relay
E2 Intermittent device for direction indicators / hazard warning lights
76 I.G.E. control unit
78 Instrument panel
A Trailer direction indicators warning light
B1 Passenger's side heated seat warning light
C Heated rear windscreen warning light
F1 Instrument panel light bulbs
I Check summary warning light
L Left direction indicator warning light
L1 Right direction indicator warning light
J Seat belts not fastened warning light
K Battery recharging warning light
M Insufficient engine oil pressure warning light
N Handbrake applied / I.G.E. control unit warning light
O Insufficient brake fluid level warning light
S Heater plugs warning light
T Voltmeter
U Electronic rev counter
V Fuel level gauge
V1 Fuel reserve warning light
X Milometer/trip meter
Y Electronic tachometer
Z Electronic automatic transmission gear selector display
Z1 Trip computer zeroing button
85 Infocenter control unit
87 Glove compartment/boot release controls light
88 Diagnostic socket for Fiat/Lancia tester
90 Connection between dashboard and left front door cables
91 Speaker in left front door
95 Left front central locking geared motor and left front door ajar signal and alarm on
96 Earth on carrier
97 Earth on floor
98 Ashtray light
99 Cigar lighter
100 Connection between dashboard and left longitudinal cables
101 Light dimmer
102 External light controls
B Side lights/no. plate lights switch
C Dipped headlamps/main beam headlamps control switch
D Parking lights control switch
E Ideogram light switch
103 Switch control unit
A Fog lights switch
B Rear fog lamps control switch C Headlamp alignment control panel
104 Steering column switch unit
D Direction indicators / parking lights control switch
E Main beam headlamps flasher
F Main beam headlamps control switch
105 Ignition swit
107 Alarm contro
108 Lancia CODE
117 Switch signa
119A Connection right longitu
119B Connection right longitu
119D Connection right longitu
120 Connection b front door ca
122 Speaker in ri
126 Right front c and right fror on
131 Earth on stee
134 Servotronic s
135 Earth on floo signal
137 Tailgate lock
A Luggage c switch and al
B Tailgate lo
141 Connection b and right rear
146 Right rear do motor and rigl alarm on
150 Connection b and left rear c
151 Amplifier for
153 Road illumina
155 Left rear door and left rear d
164 Left rear spea
165 Heated rear v
165A Earth for hea
166 Amplifier for
166A Rear cables c
167 Fuel level gau
168 Electric fuel p
169 Right rear spe
171 Additiona bra
172 Right rear lig
173 Right rear ear

105 Ignition switch
107 Alarm control unit
108 Lancia CODE control unit
117 Switch signalling handbrake applied
119A Connection between dashboard and right longitudinal cables
119B Connection between dashboard and right longitudinal cables
119D Connection between dashboard and right longitudinal cables
120 Connection between dashboard and right front door cables
122 Speaker in right front door
126 Right front central locking geared motor and right front door ajar signal and alarm on
131 Earth on steering column support
134 Servotronic solenoid valve
135 Earth on floor for AIR-BAG signal
137 Tailgate lock assembly
A Luggage compartment courtesy light switch and alarm on
B Tailgate locking/unlocking motor
141 Connection between right longitudinal and right rear door cables
146 Right rear door central locking geared motor and right rear door ajar signal and alarm on
150 Connection between left longitudinal and left rear door cables
151 Amplifier for radio
153 Road illumination light in left rear door
155 Left rear door central locking geared motor and left rear door ajar signal and alarm on
164 Left rear speaker
165 Heated rear windscreen
165A Earth for heated rear windscreen
166 Amplifier for aerial in rearscreen
166A Rear cables connection in rearscreen
167 Fuel level gauge
168 Electric fuel pump
169 Right rear speaker
171 Additiona brake lights indicator
172 Right rear light cluster on fixed section
173 Right rear earth
174 Right rear light cluster on movable section
175 Connection between left longitudinal and tailgate cables
176 Tailgate cables connection
177 Left rear light cluster on movable section
178 Left rear earth
179 Left rear light cluster on fixed section
180 Heated rear windscreen relay feed
181 Connection between left longitudinal and right longitudinal cables
188 25A fuse protecting boot release electro-magnet
189 30A fuse protecting heated rear windscreen
190 Tailgate locking/unlocking relay feed
191 Earth for inertia switch
192 Inertia switch
195 Fuel filler flap release motor
198 Servotronic electronic control unit
198A Diagnostic socket
200 Controlled damping suspension electronic control unit (S.C.S)
227 Right front speaker
228 Left front speaker
266 Infra red receiver for alarm device
269 Connection between dashboard and receiver cables
271 Brake lights switch
272 Driver's AIR-BAG connection
273 Passenger AIR-BAG connection
273A Connection for device with clock spring
274 Connection between dashboard and AIR-BAG cables
275 AIR-BAG control unit
276 Left seat belt pre-tensioner
277 Right seat belt pre-tensioner
278 Diagnostic socket for AIR-BAG
290 Left front air vent controls light
291 Left centre air vent controls light
292 Right centre air vent controls light
293 Right front air vent controls light
295 Radio cables connection
296 Radio cables connection
297 Alarm device / LANCIA code warning light
300 Central locking electronic control unit
317 Connection between electronic automatic transmission and electronic injection cables
334 Connection between electronic injection cable and injector bridge
340 Right front brake pad wear sensor
341 Right side direction indicator
343 40A starting relay
345 Right front earth
347 Excess turbocharger pressure sender unit
354 Electric diesel pump
355 Instrument injector
356 Solenoid valve on diesel pump
357 Heater plugs control unit
358 Engine cut out solenoid on injection pump
359 Heater plugs
361 Switch on clutch pedal
362 Switch on pedal
364 Potentiometer on accelerator pedal
369 Connection between electronic injection and left longitudinal cables
382 Heated diesel filter relay feed (P.T.C.)
383 15A fuse protecting heated diesel filter (P.T.C.)
384 Heated diesel filter thermal contact (P.T.C.)
385 Diesel filter heating resistance (P.T.C.)
386 Connection for cables to water in fuel filter sensor
422 Connection between dashboard and left longitudinal cables
430 Diode connecting handbrake applied/insufficient brake fluid system
431 Direction indicators with doors closed device
432 20A protective fuse ignition switch relay feed
434 15A fuse protecting current socket
435 Current socket relay feed
436 Current socket

Cable colour code

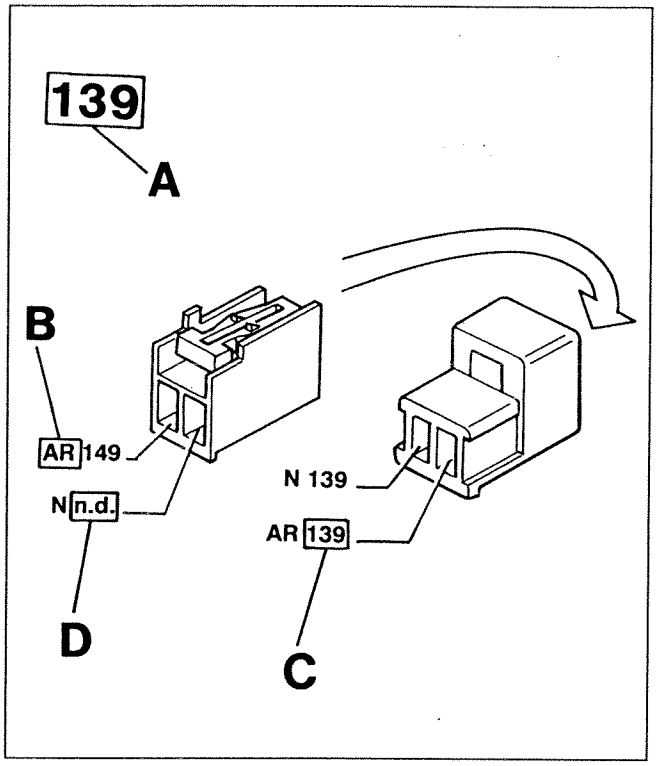
A	Light blue	**GN**	Yellow/Black
B	White	**GL**	Yellow/Blue
C	Orange	**GR**	Yellow/Red
G	Yellow	**GV**	Yellow/Green
H	Grey	**HG**	Grey/Yellow
L	Blue	**HN**	Grey/Black
M	Brown	**HR**	Grey/Red
N	Black	**HV**	Grey/Green
R	Red	**LB**	Blue/White
S	Pink	**LG**	Blue/Yellow
V	Green	**LN**	Blue/Black
Z	Violet	**LR**	Blue/Red
AB	Light blue/White	**LV**	Blue/Green
AG	Light blue/Yellow	**MB**	Brown/White
AN	Light blue/Black	**MN**	Brown/Black
AR	Light blue/Red	**NZ**	Black/Violet
AV	Light blue/Violet	**RB**	Red/White
BG	White/Yellow	**RG**	Red/Yellow
BL	White/Blue	**RN**	Red/Black
BN	White/Black	**RV**	Red/Green
BR	White/Red	**SN**	Pink/Black
BV	White/Green	**VB**	Green/White
BZ	White/Violet	**VN**	Green/Black
CA	Orange/Light blue	**VR**	Green/Red
CB	Orange/White	**ZB**	Violet/White
CN	Orange/Black		

CONNECTOR BLOCK CONTENTS

CONNECTOR BLOCK CONTENTS

INTRODUCTION

Interpretation of codes on connection blocks



P3U152N01

At Identification no. of connection block for wiring diagrams

B Wiring colour identification code (see table at end of page)

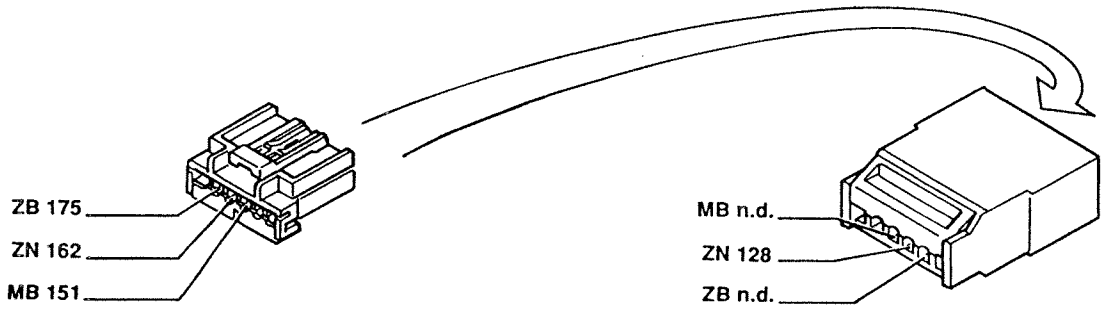
C Identification number of target block of cable marked with the relavent code

D The code n.d. identifies a connection block taped into the wiring harness

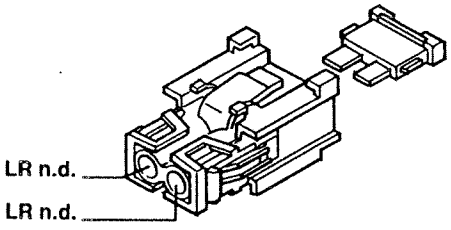
Cable colour codes

At	Light blue	**BG**	White-Yellow	**LB**	Blue-White
B	White	**BL**	White-Blue	**LG**	Blue-Yellow
C	Orange	**BN**	White-Black	**LN**	Blue-Black
D	Yellow	**BR**	White-Red	**LR**	Blue-Red
H	Grey	**BV**	White-Green	**LV**	Blue-Green
L	Blue	**BZ**	White-Violet	**MB**	Brown-White
M	Brown	**CA**	Orange-Light blue	**MN**	Brown-Black
N	Black	**CB**	Orange-White	**NZ**	Black-Violet
R	Red	**CN**	Orange-Black	**RB**	Red-White
S	Pink	**GN**	Yellow-Black	**RG**	Red-Yellow
V	Green	**GL**	Yellow-Blue	**RN**	Red-Black
Z	Violet	**GR**	Yellow-Red	**RV**	Red-Green
AB	Light blue-White	**GV**	Yellow-Green	**SN**	Pink-Black
AG	Light blue-Yellow	**HG**	Grey-Yellow	**VB**	Green-White
AN	Light blue-Black	**HN**	Grey-Black	**VN**	Green-Black
AR	Light blue-Red	**HR**	Grey-Red	**VR**	Green-Red
AV	Light blue-Green	**HV**	Grey-Green	**ZB**	Violet-White

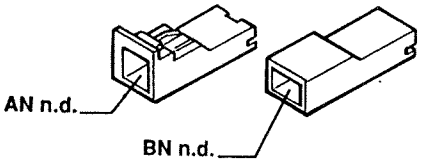
422 Connection between facia lead and left longitudinal lead



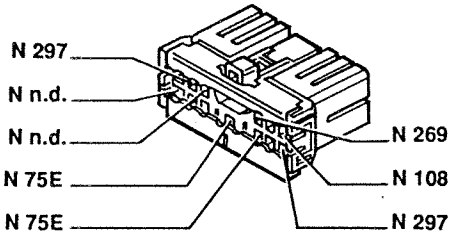
429 7.5A heated door mirror fuse



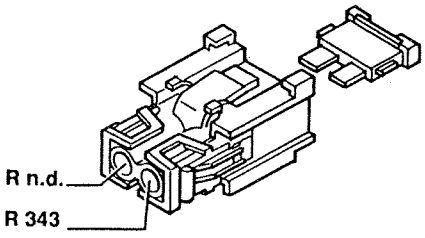
430 Handbrake on/low brake fluid level connection diode



431 Turn signal and door closure control device



432 20A ignition switch control relay fuse



P3U75AN01

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3

KEY TO COMPONENTS:

1 Left front light cluster
2 Left fog lamp
3 Left front earth
6 Left side turn signal
7 Battery
8 Main junction unit
9 Earth on body
10 Button on bonnet for activation of alarm
12 Low brake fluid level indication sensor
13 Reversing lights switch
14 Pulse generator for speedometer signal
15 Starter motor
16 Spark plugs
20 Alternator
22 Engine coolant temperature sender unit
23 Minimum engine oil pressure indicator sensor
24 Barometric capsule
25 Air temperature sensor
26 Three stage pressure switch
27 Right front earth
29 Right fog lamp
30 Right front light cluster
31 Peripheral ECU (engine bay)
E1 Dipped beam relay
E3 Compressor coupling control relay
E4 Main beam relay
E5 Fog lamp relay
E6 Cooling fan high speed relay
E7 Engine fan low speed relay
32A Connection between facia cable and left engine bay cable
32B Connection between facia cable and left engine bay cable
32C Connection between facia cable and left engine bay cable
33A Connection between facia cable and right engine bay cable
34 Anti-lock brake hydraulic control unit (A.B.S.)
35 Connection between engine bay cable and electronic injection cable
36 Hot Lambda probe
37 Idle adjustment actuator
38 Earth for electronic injection
39 Relay for inertia switch
40 EGR device control solenoid.
41 Fuel vapour cut-off solenoid
42 30A fuse for electronic injection system
43 Electronic earths
44 Power earth
45 Air flow meter (Debimeter)
46 7.5A electronic injection system fuse
48 10A hot lambda probe and air flow meter relay fuse (Debimeter)
49 Fuel pump control relay and hot Lambda probe
50 Electronic injection system control relay
51 Air flow meter control relay (Debimeter)
52 Ignition coil
53 Ignition coil
54 Ignition coil
55 Ignition coil
56 Ignition coil
57 Ignition coil
58 Injectors
59 1 Knock sensor
60 2 Knock sensor
61 Engine coolant temperature sensor for electronic injection
62 Rpm sensor
63 Potentiometer on throttle valve
64 40A glow plug fuse
66 Timing sensor
68 Connection between facia lead and electronic injection lead
69 Engine service lead connection
70 HT distributor.
71 Tow hook control unit
72 Fuel injection control unit
72A Fuel pump ECU (2378 Td)
73 Secondary juntion unit
73A 80A rear service fuse
73B 60A fuse protecting I.G.E. control unit/junction unit
73C 30A switch protection fuse for ignition/alarm device
74 60A fuse protecting peripheral control unit (engine bay))
75 Junction unit (facia)
E1 Switch discharge connector
E2 Turn signal/hazard warning light flasher
76 IGE control unit.
78 Instrument panel
A Trailer turn signal warning light
B Driver's side heated seat warning light
B1 Passenger side heated seat warning light
C Heated rear windscreen warning light
D Fog lights warning light
E Rear fog lamps warning light
F Side lights warning light
F1 Instrument panel light bulb
G Dipped beam warning light
H Main beam headlamps warning light
I Check warning light
L Left turn signal warning light
L1 Right turn signal warning light
J Seat belt undone warning light
K Battery recharging warning light
M Insufficient engine oil pressure warning light
N Handbrake warning light / I.G.E. ECU
O Insufficient brake fluid level warning light
P ABS failure warning light (A.B.S.)
Q ASR failure warning light
R Air-bag failure warning light
S Heater plugs warning light
T Voltmeter
U Electronic rev counter
V Fuel level gauge
V1 Fuel reserve warning light
X Mileometer/trip counter display
Y Electronic tachometer
Y1 SCS switch unit.
W Water temperature gauge
W1 Maximum coolant temperature warning light
Z Electronic automatic transmission gear selection display
Z1 Trip computer reset button
79 Connection between facia cable and courtesy light cable
85 Infocenter ECU
87 Glove compartment / boot release control lighting
88 Tester socket for Fiat/Lancia tester
89 Left door mirror
A Left door mirror fold-down motor
B Left door mirror vertical positioning motor
C Left door mirror horizontal positioning motor
D Left door mirror heater coil
E Outdoor temperature sensor
90 Connection between facia cable and left front door cable
91 Speaker on left hand front door
93 Puddle light on left front door
95 Left front door lock motor and left front door open indicator and alarm activation
96 Earth on carrier
97 Earth on floor pan
99 Cigar lighter
100 Connection between facia lead and left longitudinal lead
101 Lighting dimmer
102 Exterior lighting unit
B Side light/number plate light switch
C Dipped beam/main beam switch
D Parking light switch
E Symbol light control switch
103 Switch control unit
A Fog lamp switch
B Rear fog lamp switch
C Headlamp alignment corrector control unit
104 Stalk unit
A Windscreen washer / headlamp washer control stalk
B Windscreen wiper control stalk
C Horn button
D Turn signal/parking light stalk
E Main beam flasher button
F Main beam control switch
105 Ignition switch
106 Lancia CODE device aerial
107 Alarm control unit
108 Lancia CODE control unit
115 Electrically-adjustable door mirror control unit
117 Hand brake warning light switch
119A Connection between facia cable and right longitudinal cable
119B Connection between facia cable and right longitudinal cable
119C Connection between facia cable and right longitudinal cable
119D Connection between facia cable and right longitudinal cable
120 Connection between facia cable and right front door cable
121 Right door mirror
A Right door mirror fold-down motor
B Right door mirror horizontal positioning motor
C Right door mirror horizontal positioning motor
D Right door mirror heater coil
122 Speaker on right hand front door
124 Puddle light on right front door
126 Right front door lock motor and right front door open indicator and alarm device activation
128 Timer controlling front/boot courtesy light
131 Earth on steering column mount
137 Luggage compartment tail-gate lock assembly
A Luggage compartment light switch and alarm activation
B Tail-gate lock/release motor
141 Connection between right longitudinal cable and right rear door cable
144 Puddle light on right rear door
146 Right rear door lock motor and right door open/car alarm activated w/light
150 Conne
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151 Ampli
153 Puddl
155 Left r
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161 100A
162 Lugg
163 Left r
164 Left h
165 Heate
165A Earth
166 Ampli
166A Rear
167 Fuel
168 Electr
169 Right
170 Right
171 Suppl
172 Right
173 Right
174 Right
175 Conne
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175S Left r
175D Right
176 Lugg
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178 Left r
179 Left t
180 Heate
181 Conne
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183 Relay
184 Relay
188 25A h
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189 30A h
190 Lugg
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191 Earth
192 Inerti
195 Fuel
196 Provis
198 Servo
199 Alarm
200 Electr
unit
225 Left f
226 Right
227 Right
228 Left f
266 Infra-
267 Volun
269 Conn
cable

103 Switch control unit
A Fog lamp switch
B Rear fog lamp switch
C Headlamp alignment corrector control unit
104 Stalk unit
A Windscreen washer / headlamp washer control stalk
B Windscreen wiper control stalk
C Horn button
D Turn signal/parking light stalk
E Main beam flasher button
F Main beam control switch
105 Ignition switch
106 Lancia CODE device aerial
107 Alarm control unit
108 Lancia CODE control unit
115 Electrically-adjustable door mirror control unit
117 Hand brake warning light switch

119A Connection between facia cable and right longitudinal cable
119B Connection between facia cable and right longitudinal cable
119C Connection between facia cable and right longitudinal cable
119D Connection between facia cable and right longitudinal cable
120 Connection between facia cable and right front door cable
121 Right door mirror
A Right door mirror fold-down motor
B Right door mirror horizontal positioning motor
C Right door mirror horizontal positioning motor
D Right door mirror heater coil

122 Speaker on right hand front door
124 Puddle light on right front door
126 Right front door lock motor and right front door open indicator and alarm device activation
128 Timer controlling front/boot courtesy light
131 Earth on steering column mount
137 Luggage compartment tail-gate lock assembly
A Luggage compartment light switch and alarm activation
B Tail-gate lock/release motor

141 Connection between right longitudinal cable and right rear door cable
144 Puddle light on right rear door
146 Right rear door lock motor and right door open/car alarm activated w/light

150 Connection between left longitudinal cable and left rear door cable
151 Amplifier for car radio
153 Puddle light on left rear door
155 Left rear door lock motor and left rear door open/car alarm activated w/light and alarm activation
161 100A alternator fuse
162 Luggage compartment lighting
163 Left rear courtesy light for car interior
164 Left hand rear speaker
165 Heated rear windscreen
165A Earth for heated rear windscreen
166 Amplifier for aerial on back window
166A Rear cable connection on rear window
167 Fuel level gauge
168 Electric fuel pump
169 Right hand rear speaker
170 Right rear courtesy light for vehicle interior
171 Supplementary stop light indicator
172 Right tail-light cluster on fixed part
173 Right rear earth
174 Right tail-light cluster on mobile part
175 Connection between left longitudinal cable and tail-gate cable
175S Left number plate light
175D Right number plate light
176 Luggage compartment tail-gate cable connection
177 Left tail-light cluster on mobile part

178 Left rear earth
179 Left tail-light cluster on fixed part
180 Heated back window relay
181 Connection between left longitudinal cable and right longitudinal cable
183 Relay for driver's side heat pad
184 Relay for passenger's side heat pad
188 25A luggage compartment release electromagnetic fuse

189 30A heated rear window fuse
190 Luggage compartment tail-gate lock/release control relay
191 Earth for inertia switch
192 Inertia switch
195 Fuel flap release motor
196 Provision for trailer
198 Servotronic device electronic control unit
199 Alarm siren
200 Electronic variable rate suspension control unit
225 Left floor light
226 Right floor light
227 Right front speaker
228 Left front loudspeaker
266 Infra-red ray receiver for alarm device
267 Volumetric sensors for alarm device
269 Connection between facia cable and receiver cable

271 Braking light switch
274 Connection between facia cable and air bag lead
275 Air-bag ECU
281 Front courtesy light for car interior
282 Interior chrome-plated mirror
283 Lighted panel on passenger side
295 Radio cable connection
296 Radio cable connection
297 Alarm / Lancia CODE device warning light
300 Central locking electronic control unit
301 Solenoid unit
302 Switch control assembly
306 Electronic automatic transmission acoustic alarm
307 Electronic automatic transmission acoustic alarm switch
315 Electronic automatic transmission speed selection control unit (ZF)
316 Electronic automatic transmission tester socket
317 Connection between electronic automatic transmission and injection lead
318 Connection between electronic automatic transmission lead and facia lead
319 Provision for Kick-Down
320 Electronic automatic transmission speed selection lever display
334 Connection between electronic injection lead and injector braid
341 Right side turn signal
343 40A starter relay
344 Facia cable connection with anti-lock brake cable (At.B.S.)
345 Right front earth
354 Diesel pump
355 Injector with controls
356 Solenoid on diesel pump
357 Glow plug system control unit
358 Engine cut out solenoid on injection pump
359 Glow plugs
361 Switch on clutch pedal
362 Switch on pedal
364 Potentiometer on accelerator pedal
369 Connection between electronic injection lead and left longitudinal lead
376 Modular manifold solenoid
377 Timing variator
378 Modular manifold control relay
380 Relay for timing variator
382 Hot diesel filter control relay (P.T.C.)
383 15A hot diesel filter fuse (P.T.C.)

384 Thermal contact for hot diesel filter (P.T.C.)
385 Diesel filter heater coil (P.T.C.)
386 Cable connection to water in diesel filter sensor

401 Electronic automatic transmission speed selection control unit (AISIN)
412 Earth on bodywork
413 Connection to solenoid assembly
414 Throttle valve position potentiometer
415 Speed position selector
416 Speed position selector
417 Engine rpm sensor
418 Vehicle speed sensor sensor
420 Automatic transmission fluid temperature sensor
422 Connection between facia cable and left longitudinal cable
429 7.5A heated door mirror fuse
430 Handbrake on/low brake fluid level connection diode
431 Turn signal and door closure control device
432 20A ignition switch control relay fuse

Cable colour codes

At Light blue	GN Yellow-Black
B White	GL Yellow-Blue
C Orange	GR Yellow-Red
D Yellow	GV Yellow-Green
H Grey	HG Grey-Yellow
L Blue	HN Grey-Black
M Brown	HR Grey-Red
N Black	HV Grey-Green
R Red	LB Blue-White
S Pink	LG Blue-Yellow
V Green	LN Blue-Black
Z Violet	LR Blue-Red
AB Light blue-White	LV Blue-Green
AG Light blue-Yellow	MB Brown-White
AN Light blue-Black	MN Brown-Black
AR Light blue-Red	NZ Black-Violet
AV Light blue-Violet	RB Red-White
BG White-Yellow	RG Red-Yellow
BL White-Blue	RN Red-Black
BN White-Black	RV Red-Green
BR White-Red	SN Pink-Black
BV White-Green	VB Green-White
BZ White-Violet	VN Green-Black
CA Orange-Light blue	VR Green-Red
CB Orange-White	ZB Violet-White
CN Orange-Black	

The information contained in this publication is purely indicative and could be out of date following modifications made by the Manufacturer, at any time, for technical or commercial reasons or in order to conform to legal requirements in the various countries.

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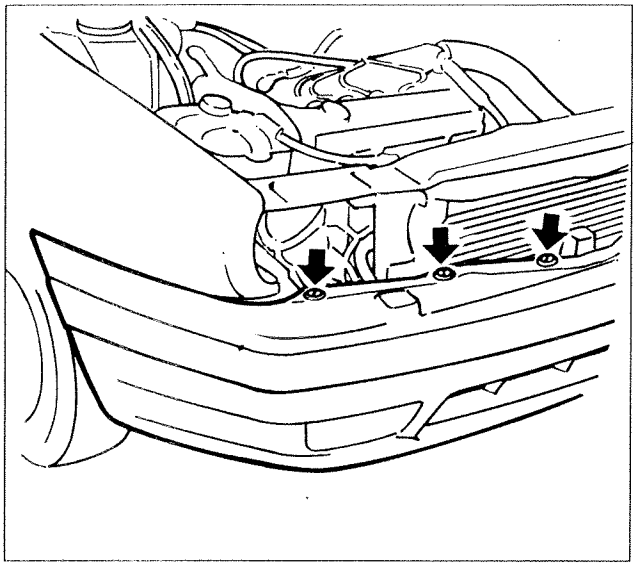
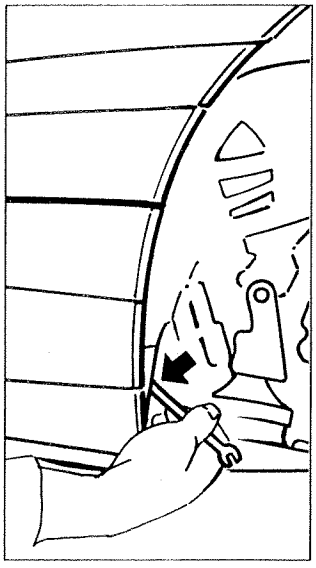


P3U001M01

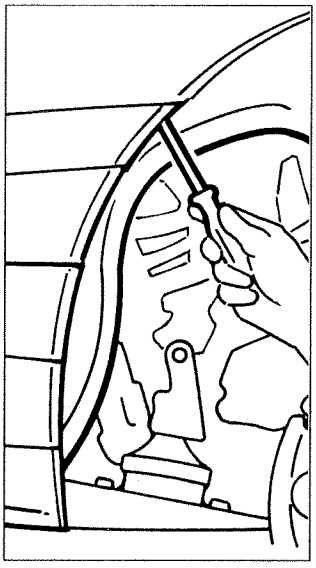
FRONT BUMPER

Removing-refitting

- Remove the light clusters and the front fog lights as described in section 55 of this manual;
- under the upper bolts fixing the front bumper;

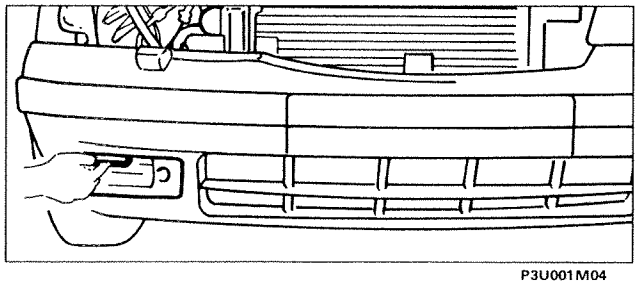


P3U001M02

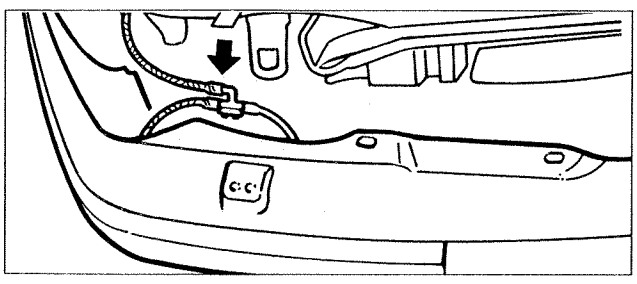


P3U001M03

- loosen the nut fixing the bumper to the wheel arch liner;
- move the wheel arch liner aside to gain access to the fixing bolt underneath;



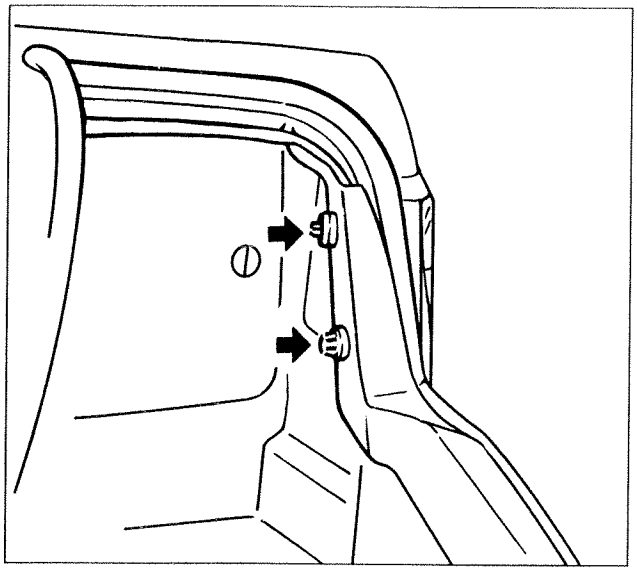
P3U001M04



P3U001M05

- undo the bolts fixing the rear bumper located in the fog lamp housings;
- remove the front bumper from the bodyshell, disconnecting the pipe for the headlamp wiper unit.

NOTE *To refit, simply reverse the order of the operations carried out for the removal.*

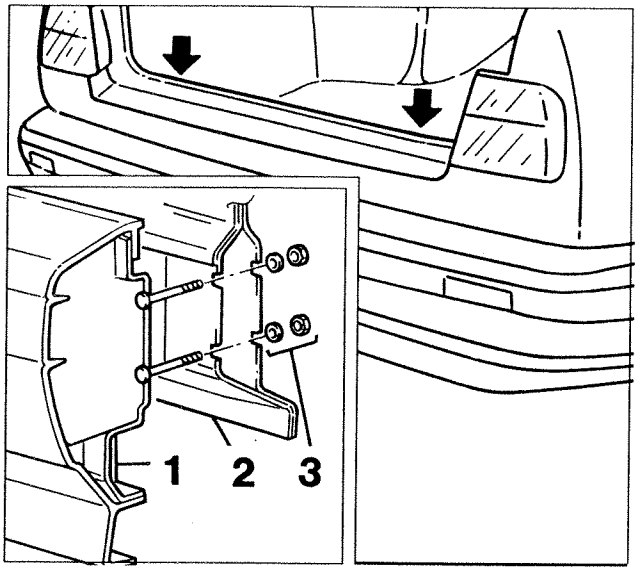


P3U002M01

REAR BUMPER

Removing-refitting

- Raise the boot lid;
- undo the plastic fixing plugs for the trim inside the luggage compartment;
- remove the trim;

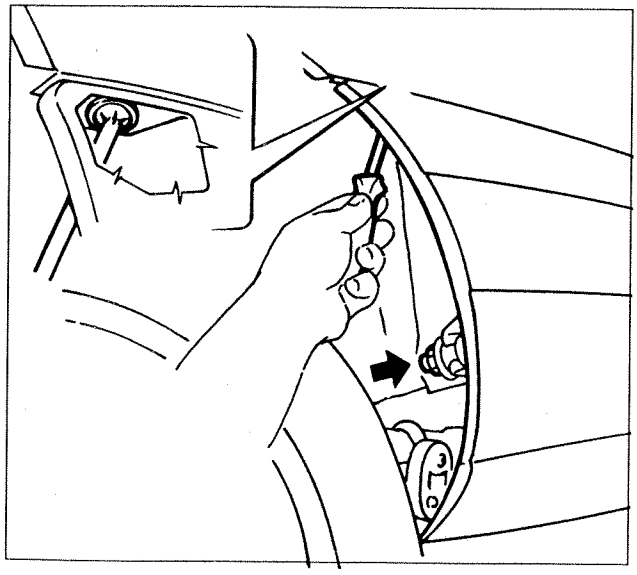


P3U002M03

P3U002M02

- move the luggage compartment lining aside, then undo the nuts fixing the bumper to the rear cross member;

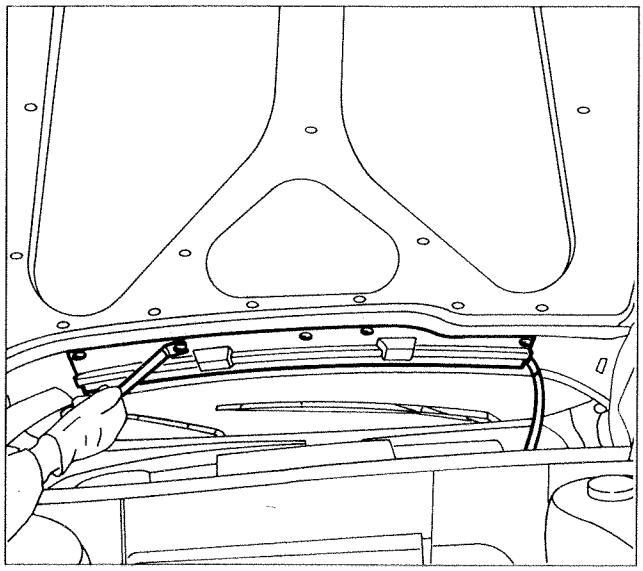
NOTE *The inset shows the section of the rear bumper (1), the rear cross member (2) and the fixings (3).*



P3U002M04

- undo the bolts and the nuts fixing the rear bumper to the wheel arch liners;
- remove the rear bumper from the bodyshell.

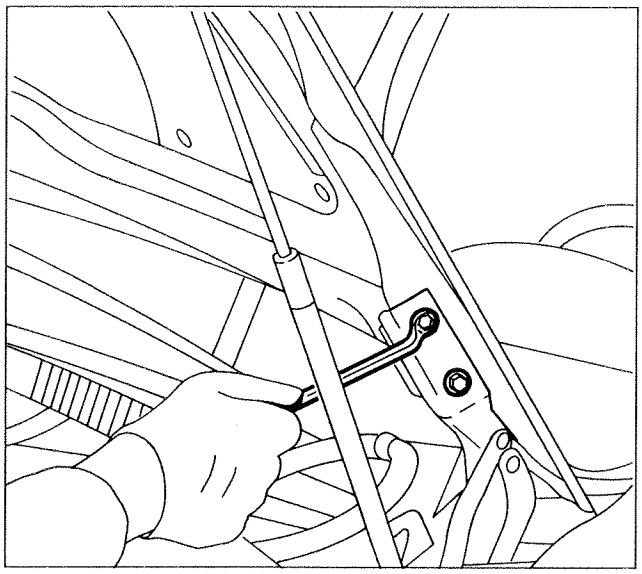
NOTE *To refit, simply reverse the order of the operations carried out for the removal.*



P3U003M01

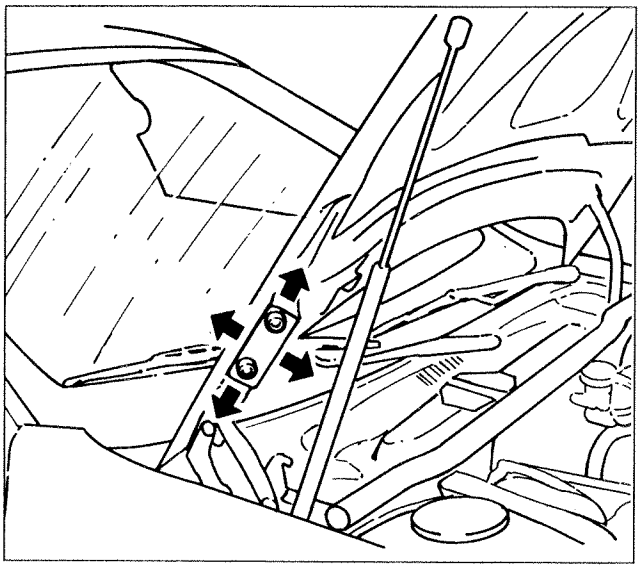
REMOVING-REFITTING

- Raise the bonnet lid, then using tool 1878077000, remove the buttons fixing the windscreen washer pipe shield;
- disconnect the windscreen washer pipes;



P3U003M02

- disconnect the supporting shock absorbers, then undo the bolts fixing the hinges to the bonnet lid;
- remove the bonnet lid, with the help of a second operator;
- when the refitting is complete, fully tighten the bolts fixing the hinges to the bonnet lid.



P3U003M03

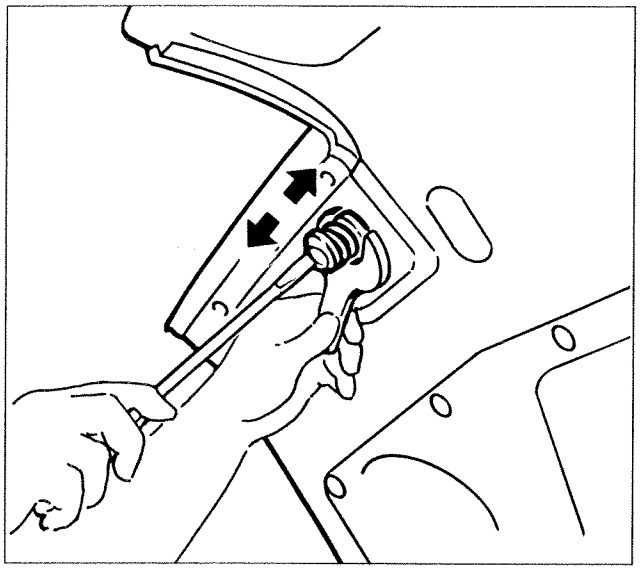
ADJUSTMENTS

Adjusting position of bonnet lid

- Loosen the bolts fixing the hinges, then adjust the position of the bonnet lid;

NOTE *The arrows indicate the points for fixing the bumper to the bodyshell.*

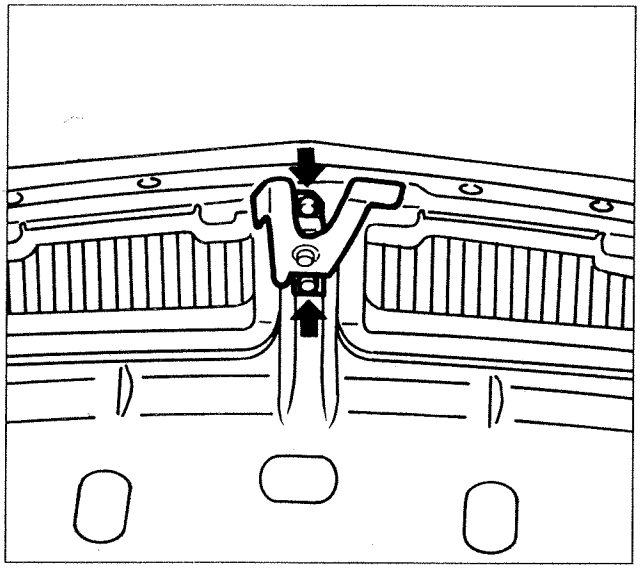
- when the adjustment is complete, fully tighten the bolts fixing the hinges.



P3U004M01

Adjusting bonne lid vertical position device

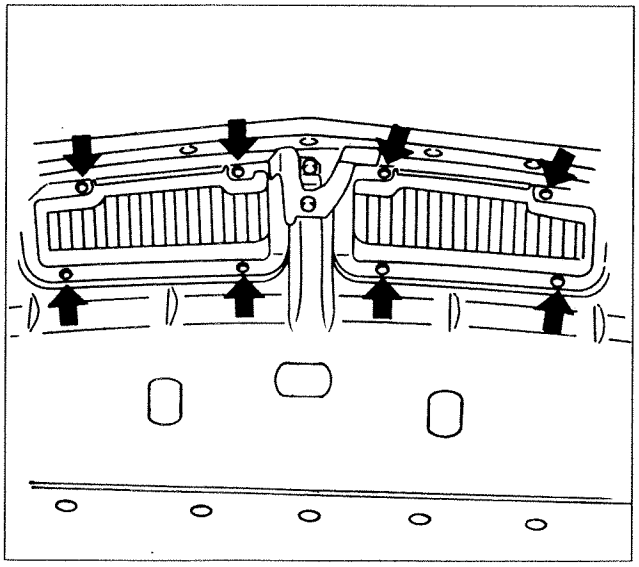
Working as illustrated in the diagram, adjust the vertical position of the bonnet lid; it is possible to carry out the same adjustment by rotating the rubber mountings located at the edges of the engine compartment.



P3U004M02

Removing-refitting bonnet lid closing device

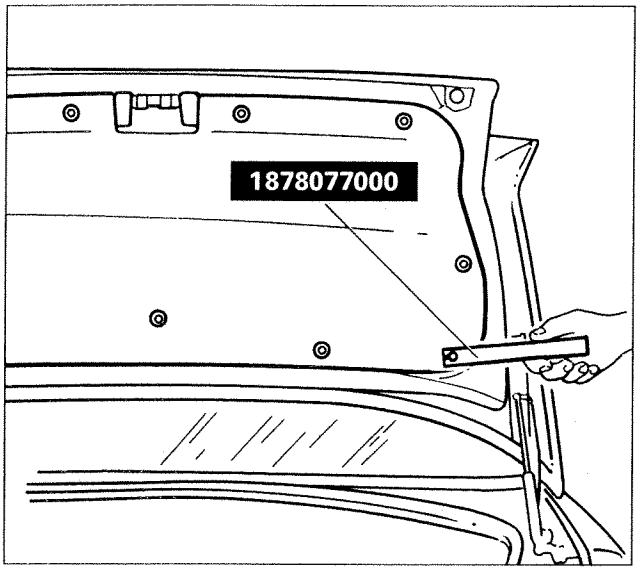
Remove the closing device by undoing the fixing bolts shown by the arrows.



P3U004M03

Removing-refitting grille

Raise the bonnet lid, then remove the grille by undoing the fixing bolts shown by the arrows.

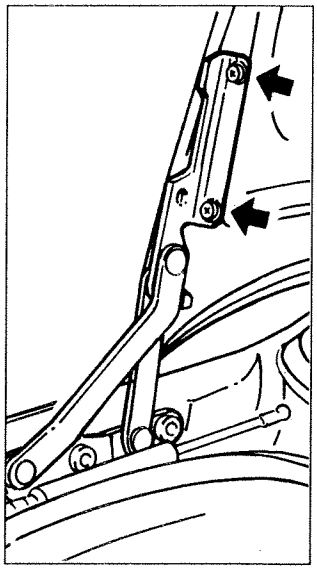


P3U005M01

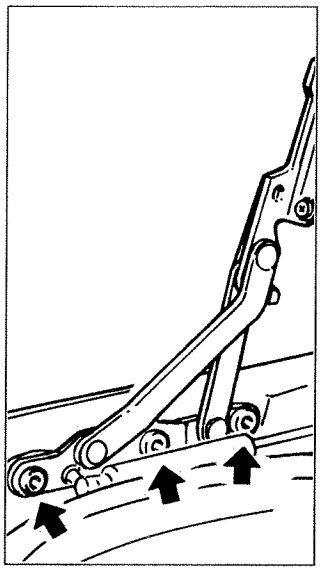
REMOVING-REFITTING BOOT LID AND HINGE

Removing

- Raise the boot lid, then using tool 1878077000, remove the buttons fixing the boot lid interior lining;
- remove the lining from the boot lid;
- disconnect the supply connectors for the light clusters and the lock;
- remove the cable loom from inside the boot lid box section;

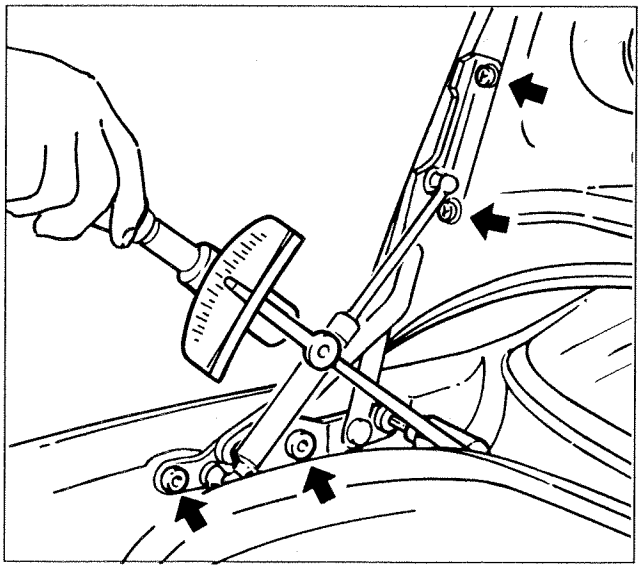


P3U005M02



P3U005M03

- disconnect the shock absorbers supporting the boot lid;
- undo the bolts fixing the hinges to the boot lid;
- remove the boot lid, with the help of a second operator;
- remove the hinge for the boot lid undoing the fixing bolts shown in the right inset.

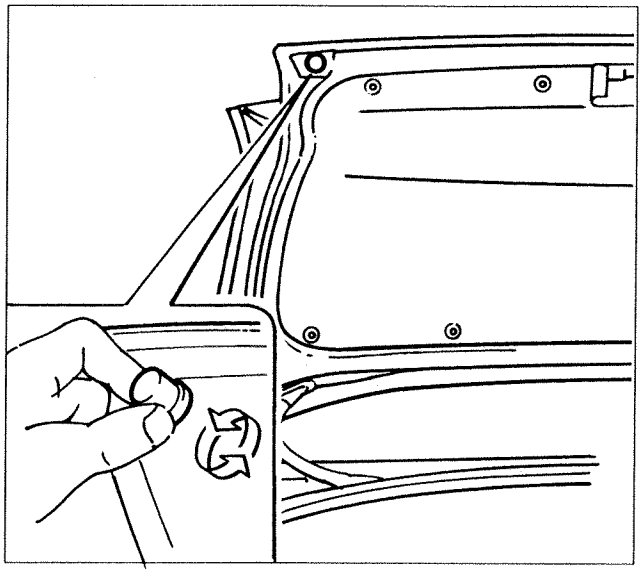


P3U005M04

Refitting

Simply reverse the order of the operations carried out for the removal, then adjust the boot lid (see page 6).

NOTE *Tighten the bolts fixing the hinges to the boot lid to a torque of 0.8 da Nm and the bolts fixing the hinges to the bodyshell to a torque of 2.7 da Nm.*



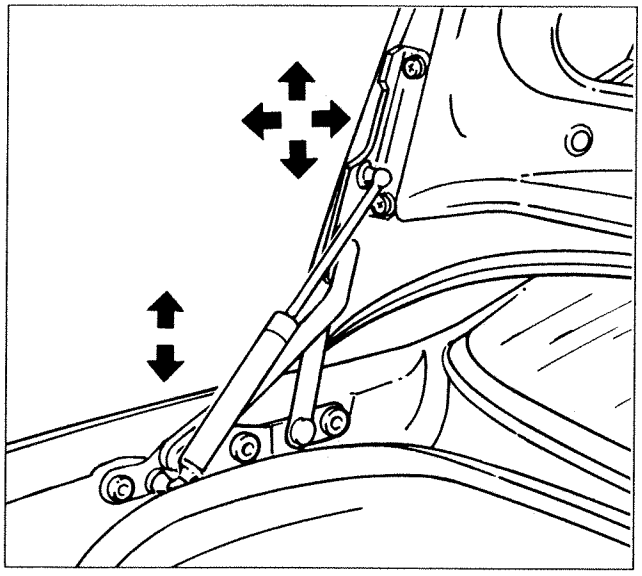
P3U006M01

ADJUSTMENTS

Adjusting position of boot lid buffers

Suitably rotate the rubber buffers located at the edges of the boot lid.

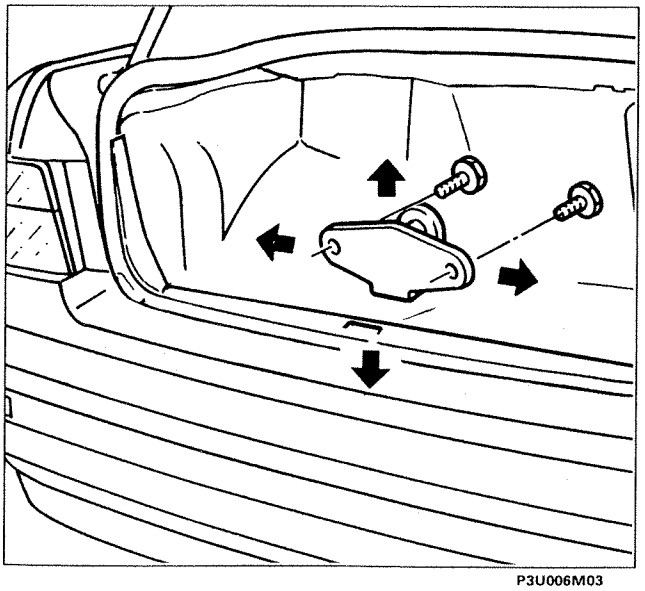
If the buffers are not correctly adjusted then either the boot lid may be forced or the clearance for the closing mechanism will be too large causing damage to the lid.



P3U006M02

Adjusting vertical and horizontal position of boot lid

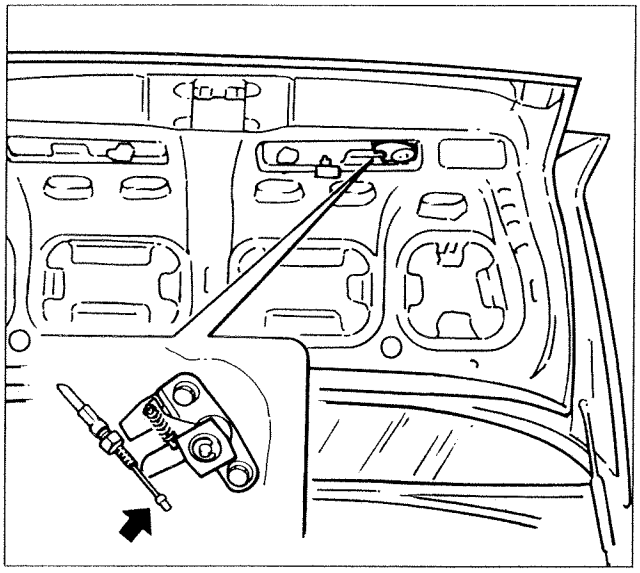
NOTE *The arrows indicate the possible movements for the adjustment.*



P3U006M03

Removing-refitting and adjusting position of boot lid lock striker

NOTE *The arrows indicate the possible movements for the adjustment.*



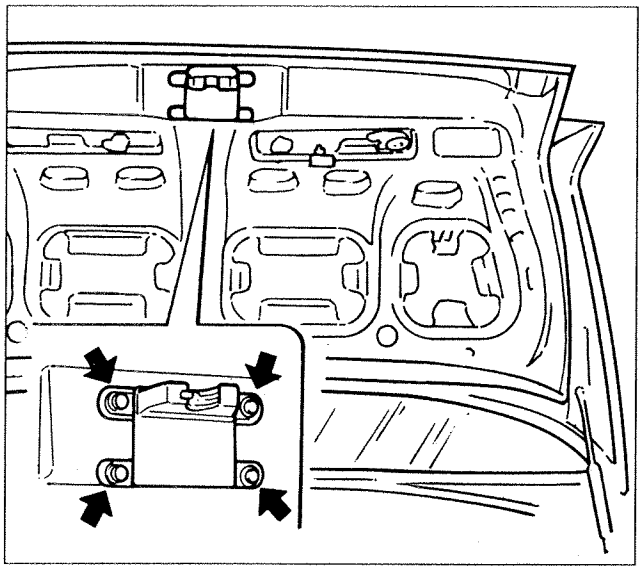
P3U007M01

REMOVING-REFITTING BOOT LID LOCK

Removing

Before removing the boot lid lock it is necessary to:

- raise the boot lid, then using tool 1878077000, remove the fixing buttons and remove the boot lid interior lining, as described on page 5;
- release the rod opening/closing the boot lid from its housing;
- disconnect the electrical connectors suppling the central locking motor;

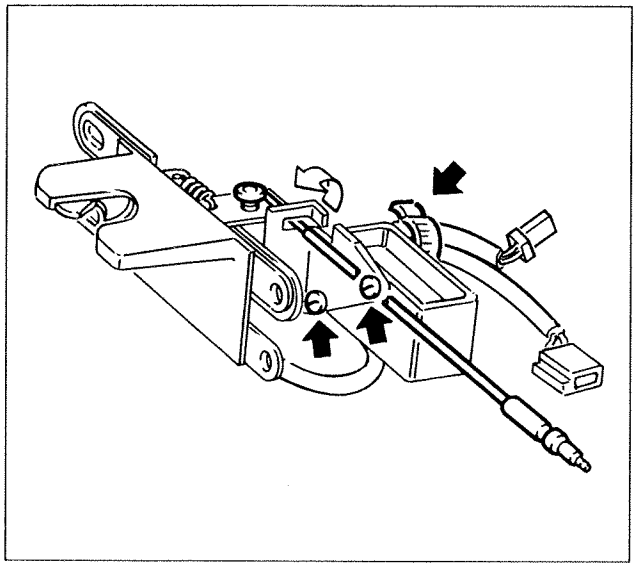


P3U007M02

- remove the lock for the boot lid undoing the fixing bolts shown in the diagram.

Refitting

NOTE *To refit, simply reverse the order of the operations carried out for the removal.*

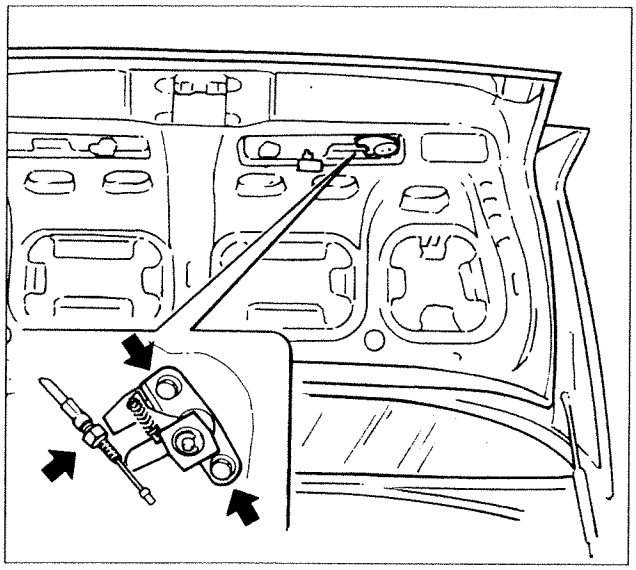


P3U007M03

Removing-refitting boot lid lock rod and central locking motor

Before removing the boot lid lock rod it is necessary to:

- remove the lock as described above;
- release the rod from the lock attachment system;
- remove the rod from the lock attachment system, then undo the bolts fixing the central locking motor;
- disconnect the band for the electric cables, then separate the central locking motor.



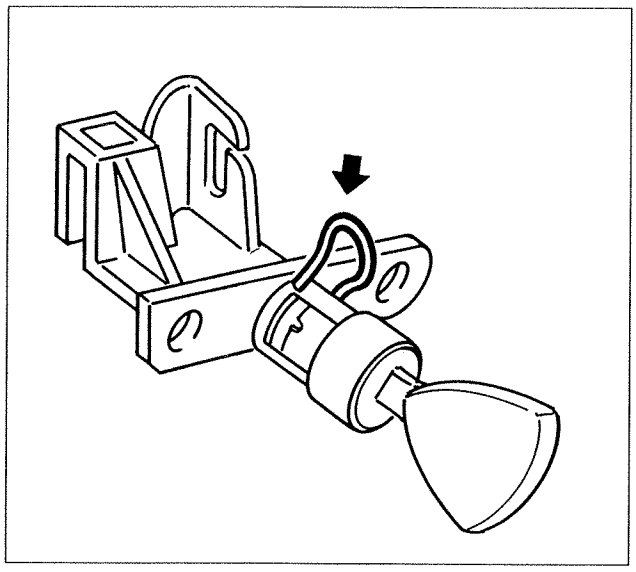
P3U008M01

REPLACING LOCK BARREL

Order of operations

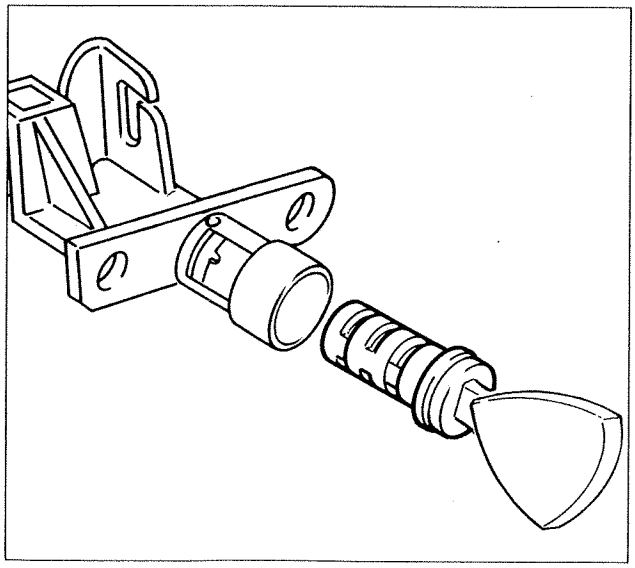
Before replacing the lock barrel it is necessary to:

- raise the boot lid, then using tool 1878077000, remove the fixing buttons and remove the boot lid interior lining, as described on page 5;
- release the rod and undo the bolts bolts the lock barrel to the boot lid;



P3U008M02

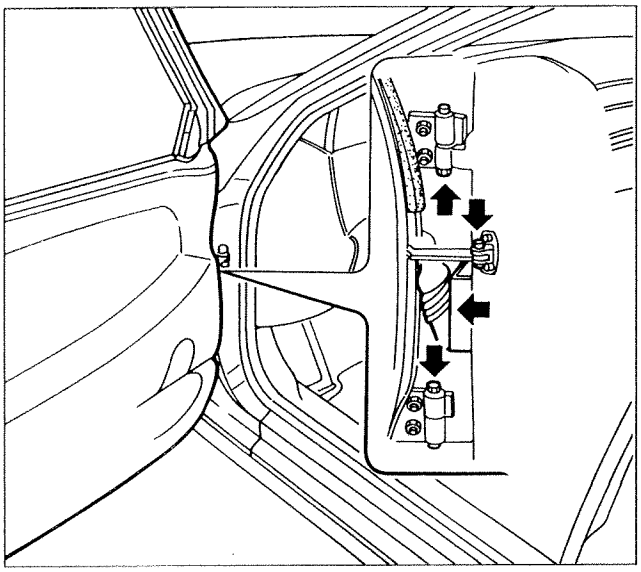
- insert the key in the barrel, then extract the circlip shown;



P3U008M03

- extract the barrel, then replace it.

NOTE *To refit, simply reverse the order of the operations carried out for the removal.*

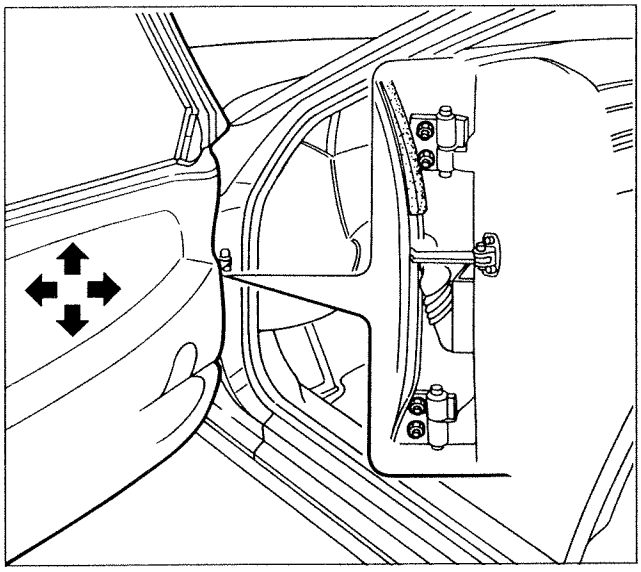


P3U009M01

REMOVING - REFITTING FRONT DOOR

- Disconnect the connector suppling the door electrical devices;
- remove the flexible pin for the door check strap using tool 1878081000;
- remove the door undoing the fixing bolts shown.

NOTE *To refit, simply reverse the order of the operations carried out for the removal, fully tightening the bolts fixing the hinges to the door (torque figure: 1.5 daNm).*

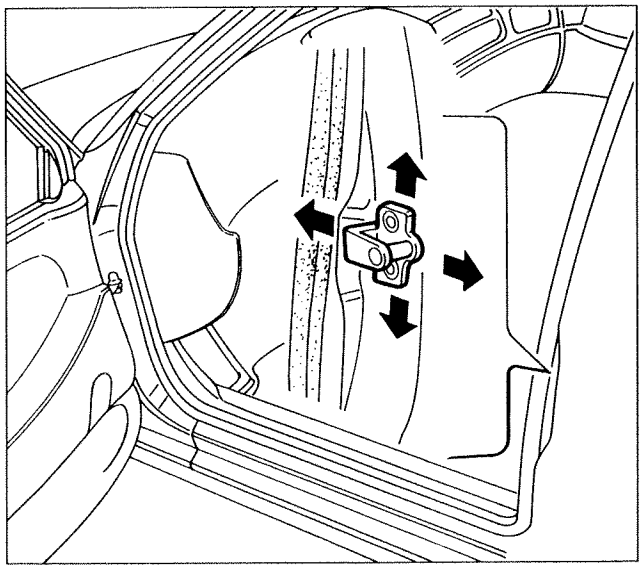


P3U009M02

Adjusting front door

- Loosen the nuts fixing the hinge to the door;
- adjust the position of the door;
- when the adjustment is complete, tighten the nuts fixing the hinge to the door to the recommended torque (2 da Nm).

NOTE *The arrows indicate the possible movements for the adjustment.*

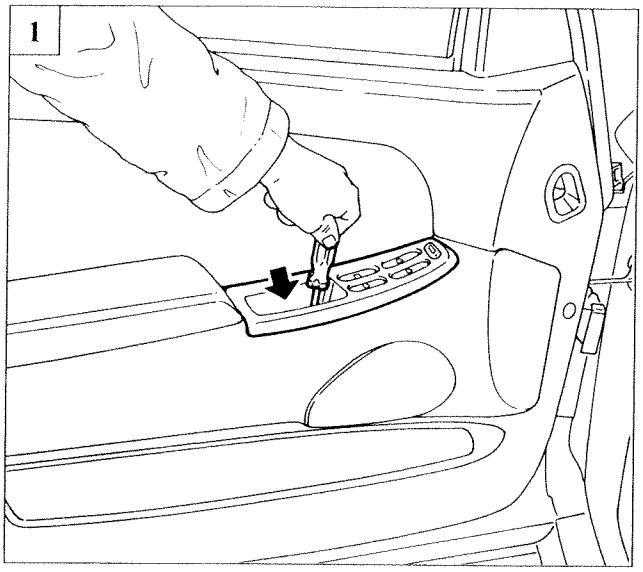


P3U009M03

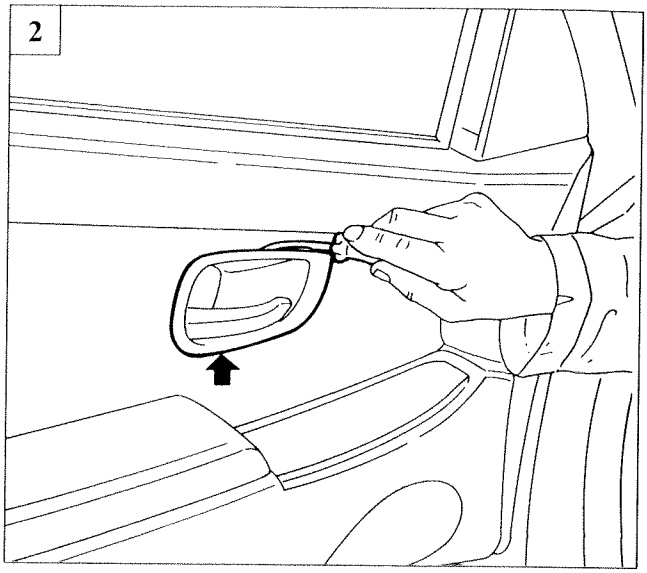
Removing-refitting and adjusting position of door lock striker

- Loosen the bolts fixing the striker and adjust its position;
- when the adjustment is complete, fully tighten the bolts fixing the striker (torque figure: 2.5 daNm).

NOTE *The arrows indicate the possible movements for the adjustment.*



P3U010M01



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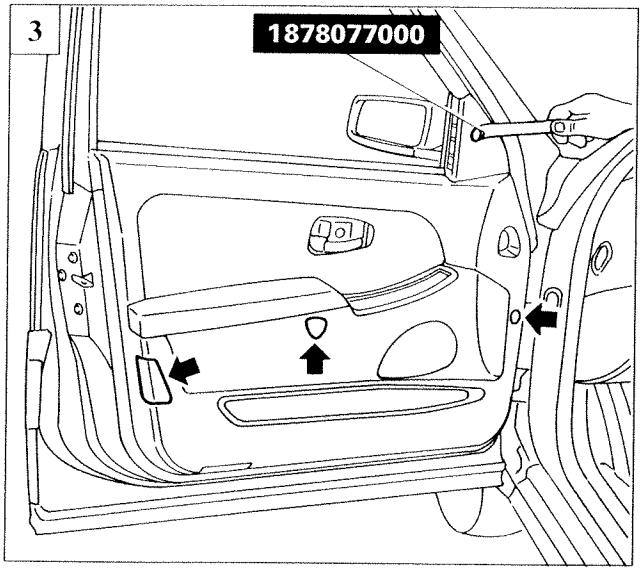
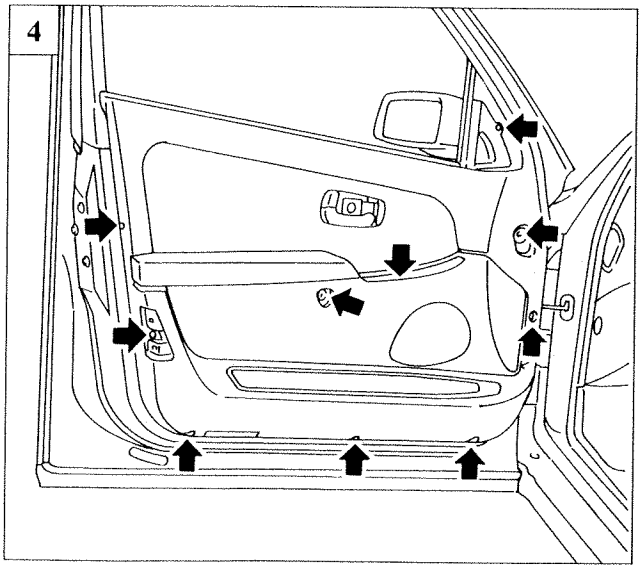


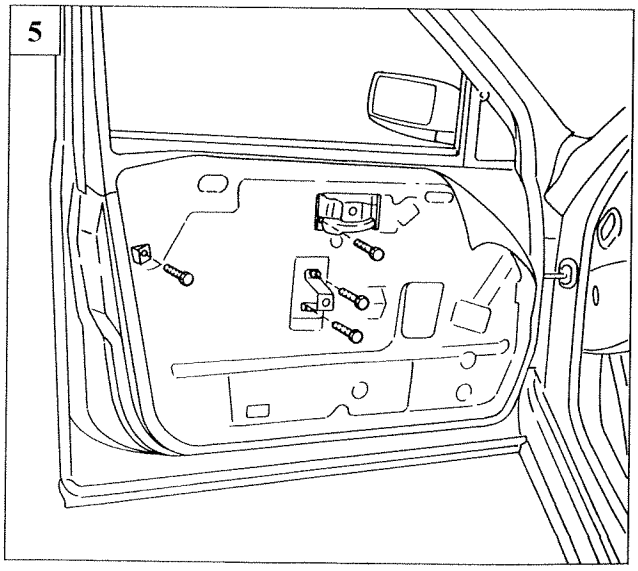
P3U010M03

REMOVING-REFITTING DOOR PANEL AND PROTECTIVE LINING

1. Undo the bolts shown then remove the window opening device after having disconnected the connector.
2. Working on the retaining tabs, extract the escutchion releasing it from the door opening control lever.
3. Remove the external rear view mirror trim using tool 1878077000, then remove the lens cover and the trims shown in the diagram.
4. Remove the door lining panel from the bodyshell, undoing the fixing bolts shown and the lower courtesy light connector.
5. Remove the brackes, move the interior handle aside undoing the bolt then unstick the protective door lining.



P3U010M04



P3U010M05

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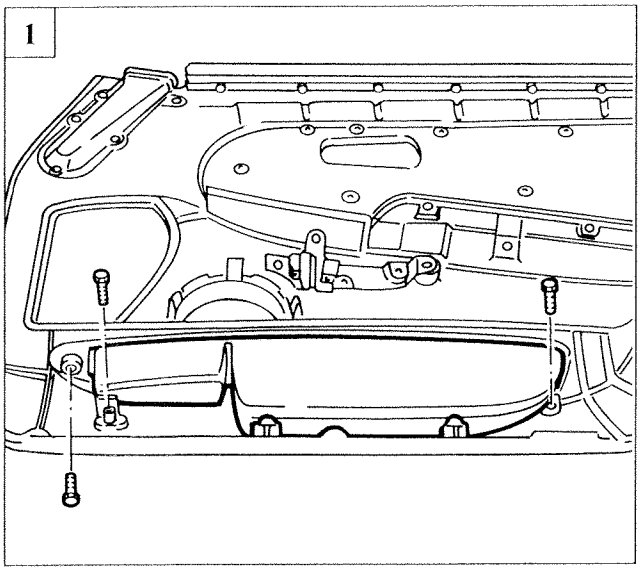

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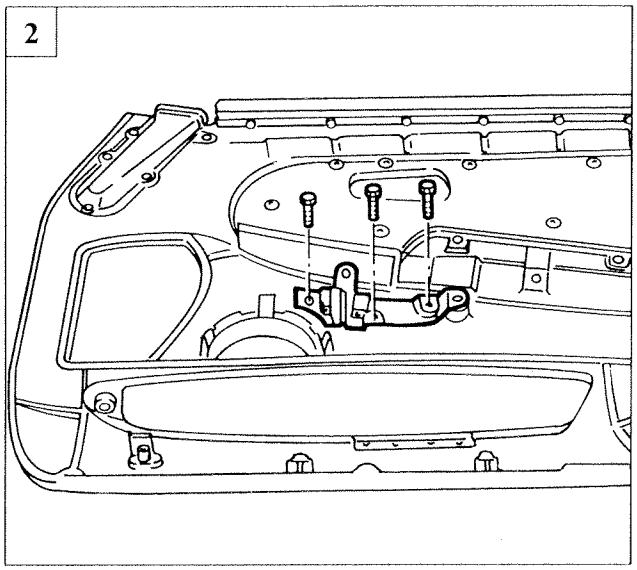

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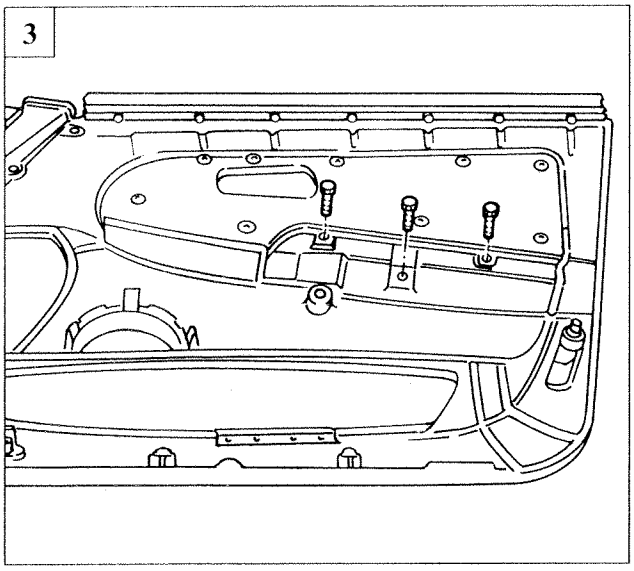


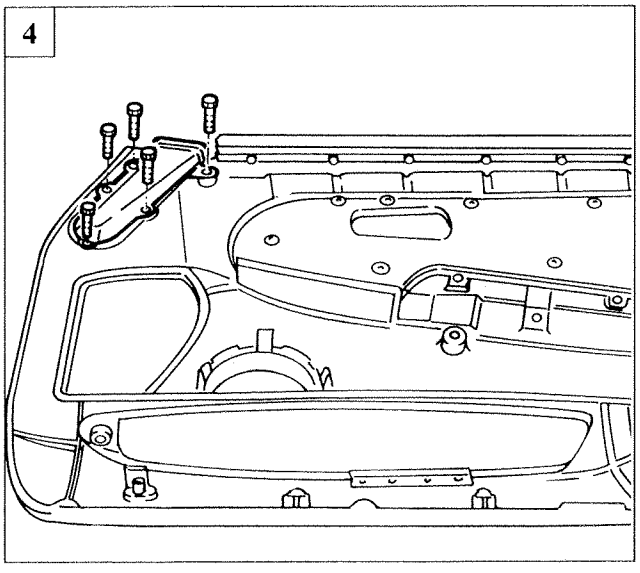
P3U011M03

DISMANTLING-REASSEMBLING DOOR PANEL

1. Working from the inside of the panel, undo the bolts shown and remove the oddments pocket.
2. Undo the bolts shown, then remove the window opening supporting bracket.
3. Undo the bolts shown and remove the armrest trim.
4. Undo the bolts shown then remove the external rear view mirror air duct.
5. Undo the bolts shown then remove the glass scraper trim complete with the relevant guide.

These dismantling operations should be carried out with the panel removed from the door, except for the speaker grille and the lower courtesy light.

4



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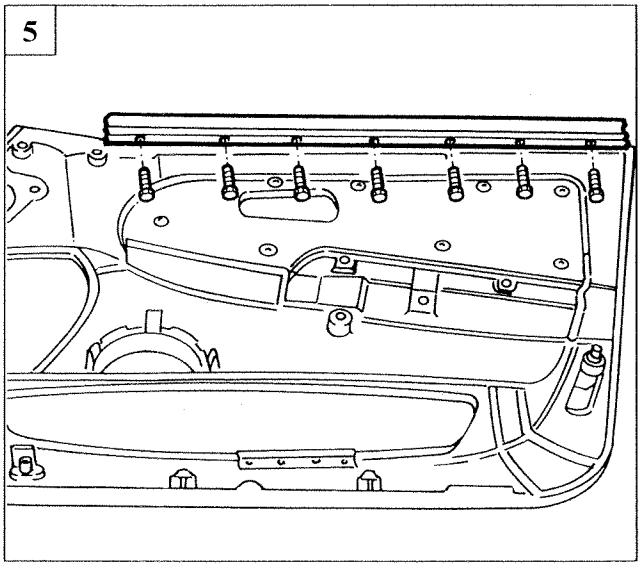

P3U011M05

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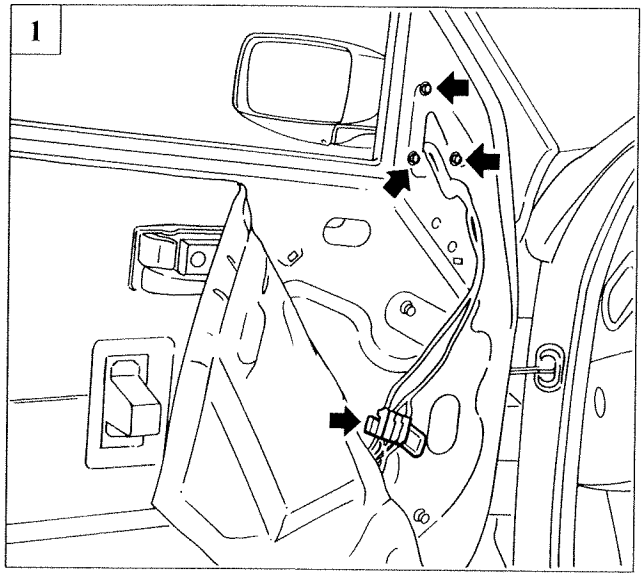


P3U012M01

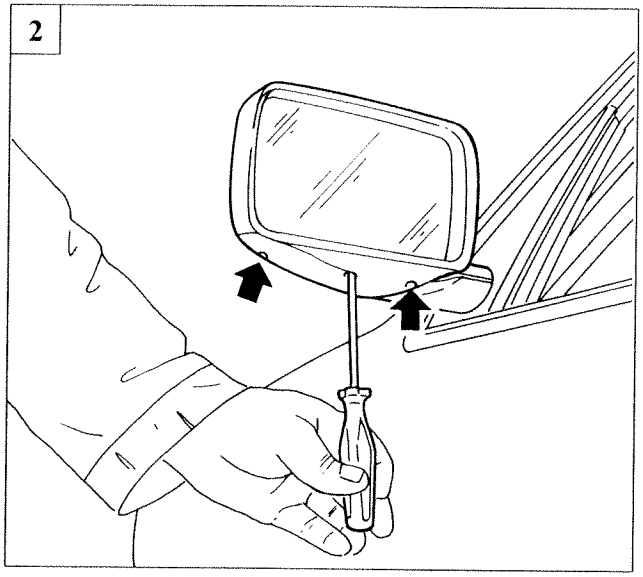
EXTERNAL REAR VIEW MIRROR

Removing-refitting

- Remove the door lining panel as described on page 10;
- partly unstick the protective door panel;
- disconnect the mirror connectors.

1. Remove the external rear view mirror undoing the fixing nuts shown.

2



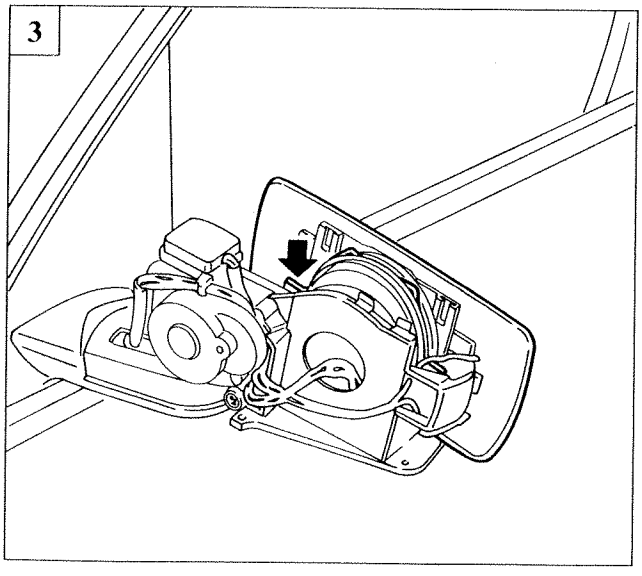
P3U012M02

Replacing mirror adjustment motor

2. Remove the lining from the mirror undoing the fixing bolts shown.
3. Press on the retaining spring and separate the mirror from the support underneath.
4. Undo the bolts fixing the motor to the support, then disconnect the supply connector for the motor for adjusting the rear view mirror and remove it from the support.

NOTE *When refitting suitably reverse the order of the operations carried out for the removal.*

3



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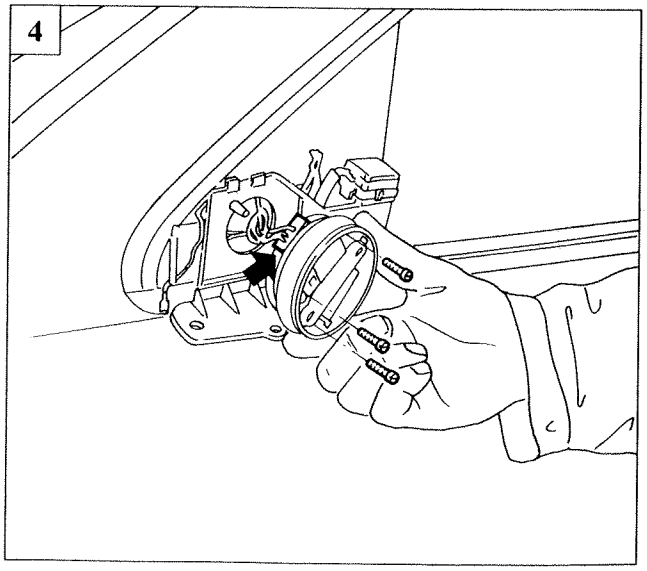

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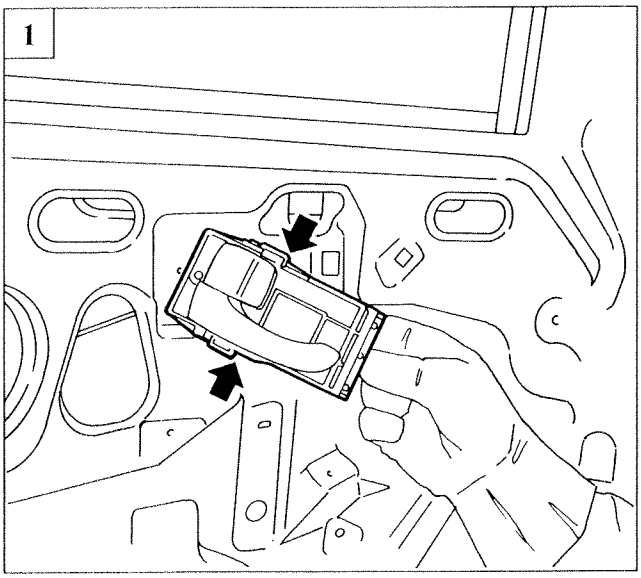

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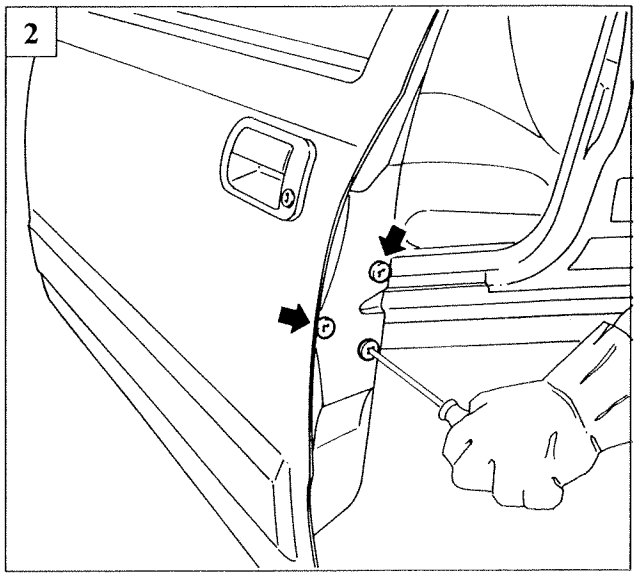

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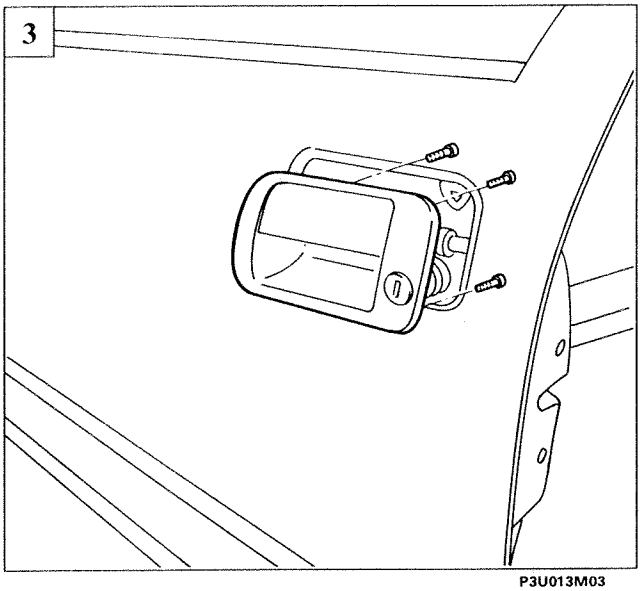

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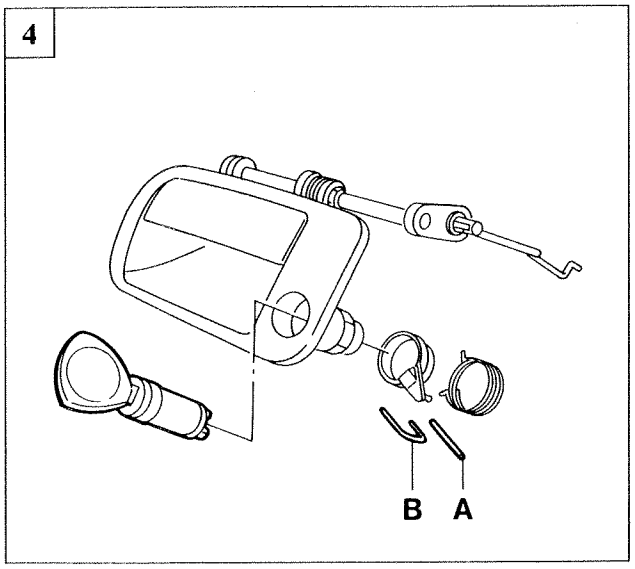


P3U013M04

REMOVING - REFITTING DOOR LOCK

Remove the door panel lining as described on page 10.

1. Move the door opening control lever aside, then disconnect the lock control rods releasing them from the attachment points.
2. Disconnect the connector operating the central locking then remove the lock undoing the fixing bolts shown.

REMOVING - REFITTING DOOR OUTER HANDLE

3. Remove the door lock then undo the bolts fixing the handle to the door.

REPLACING DOOR LOCK BARREL

4. Remove the door handle, insert the key in the lock barrel then remove the pin (A) and the lock retaining spring (B) and extract the barrel from its housing.

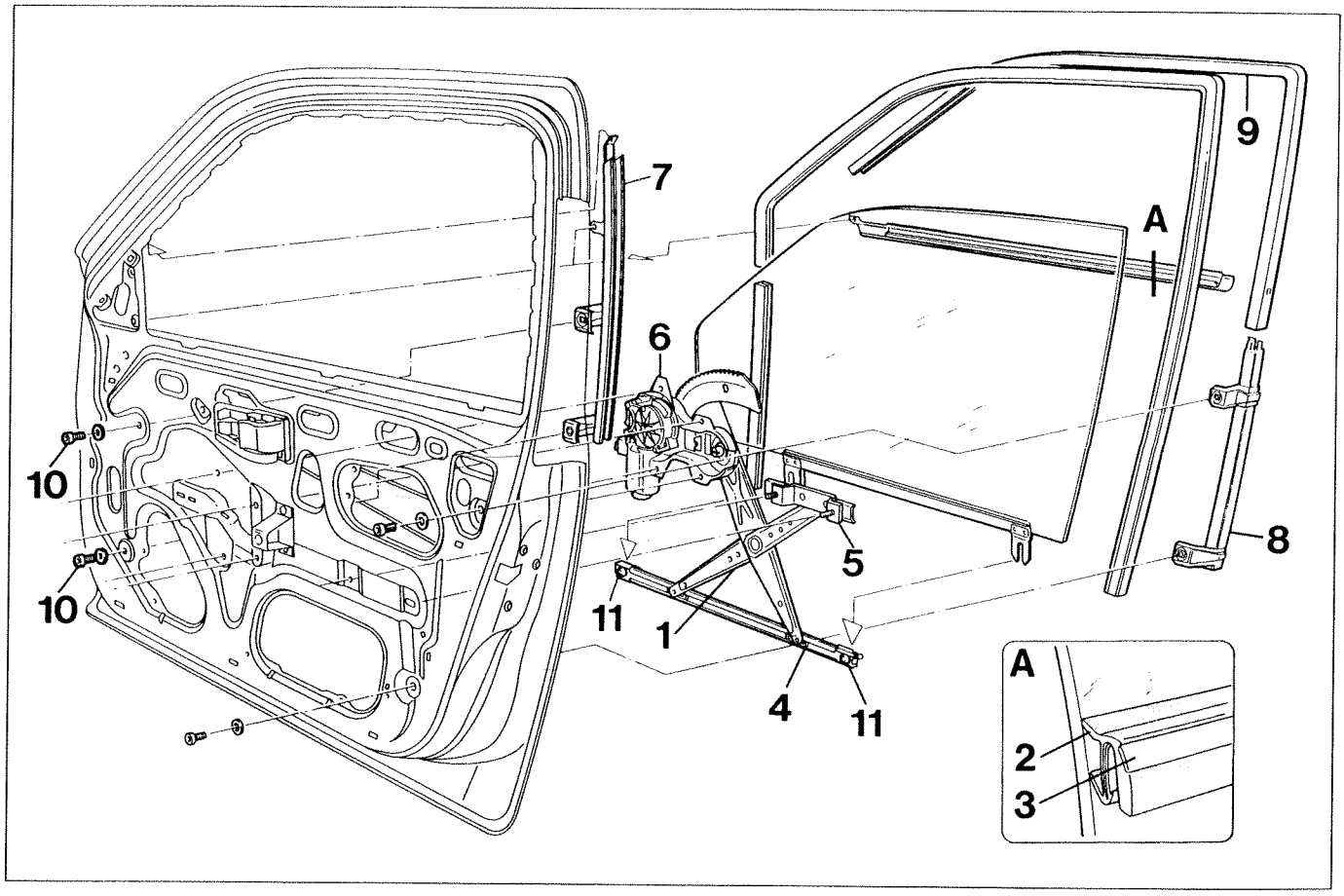
NOTE *When refitting suitably reverse the order of the operations carried out for the removal.*

REMOVING-REFITTING LOWERING WINDOW

Remove the door panel and protective cover, following the instructions given on page 10, then lower the window until it is in the end of travel position.
Undo the bolts (10) fixing the left window guide, then move it slightly away from its housing, undo the bolts 911) fixing the window to the lower guide and then extract the window from the door.

REMOVING-REFITTING WINDOW OPENING DEVICE

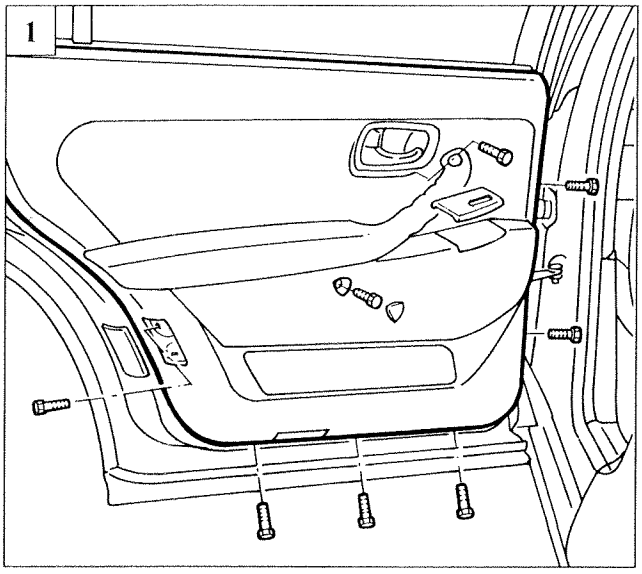
The vehicle is equipped with electrically operated pantograph type windows (1); once the door lining panel has been removed and the electrical parts disconnected the window opening device (6) can be removed; the latter is fixed to the bodyshell of the door by six nuts: two on the upper guide (5) and four on the window opening motor support (6), then remove the window opening device from the vehicle.



P3U014M01

1. Pantograph
2. Glass scraper
3. Trim
4. Window attachment lower guide
5. Upper guide
6. Window opening motor
7. Left hand drive
8. Right lower guide
9. Right upper guide
10. Bolts fixing left window guide
11. Bolts fixing window to pantograph lower guide

1



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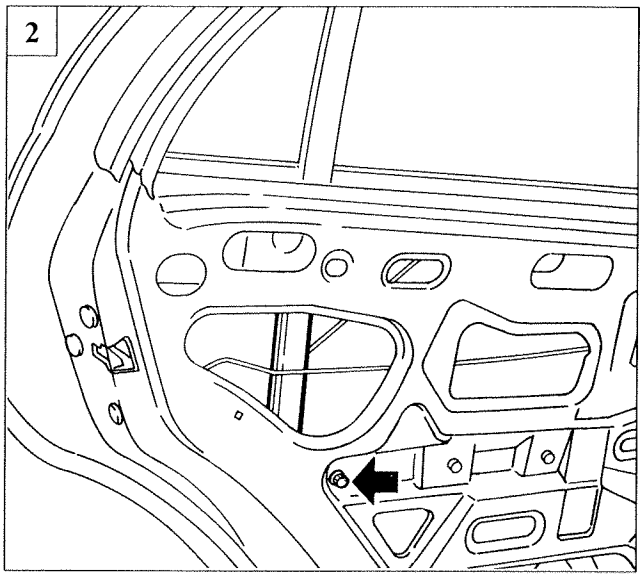

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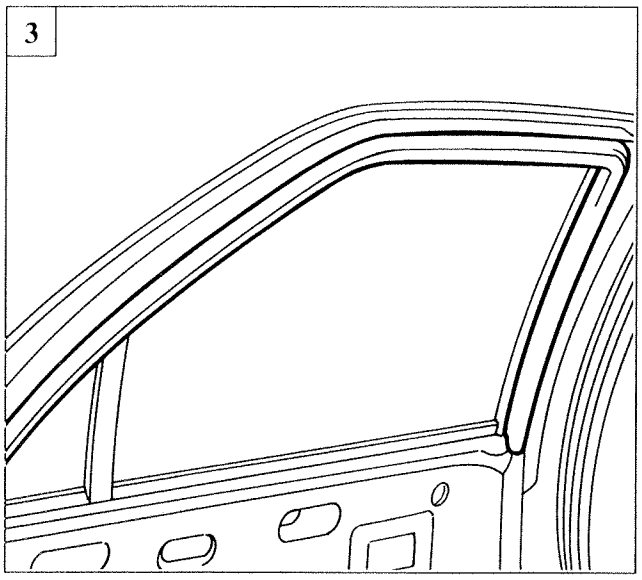


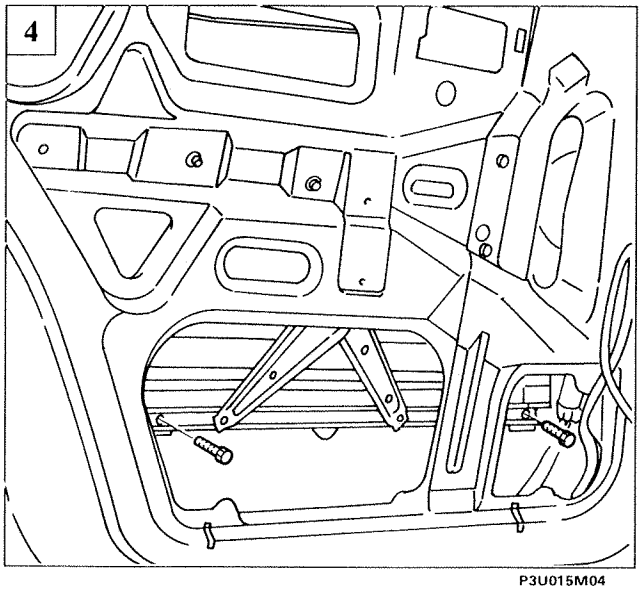
P3U015M03

REMOVING - REFITTING LOWERING WINDOW GLASS

1. Remove the panel and the protective door lining.
2. Remove the lower window guide undoing the fixing bolt shown.
3. Remove the window housing perimeter trim.
4. Undo the bolts fixing the window to the lower pantograph guide.
5. Extract the window from its housing.

NOTE *To refit suitably reverse the order of the operations carried out for the removal.*

4



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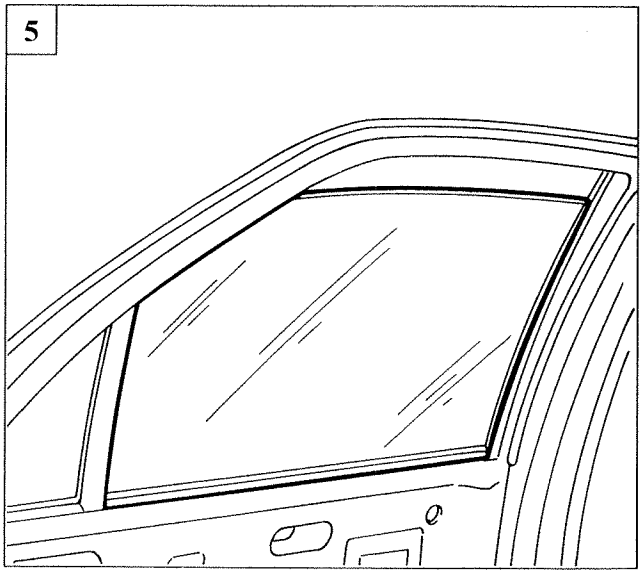

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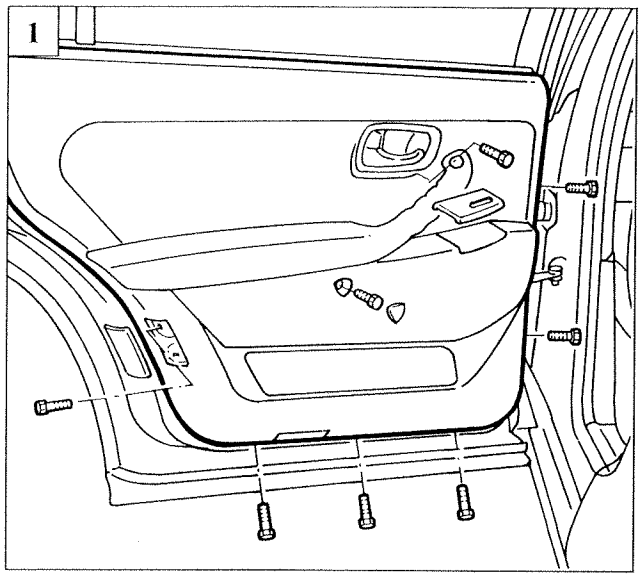

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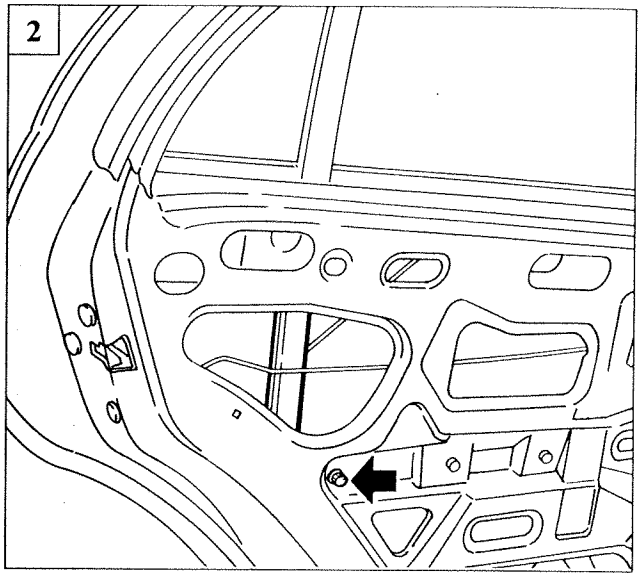

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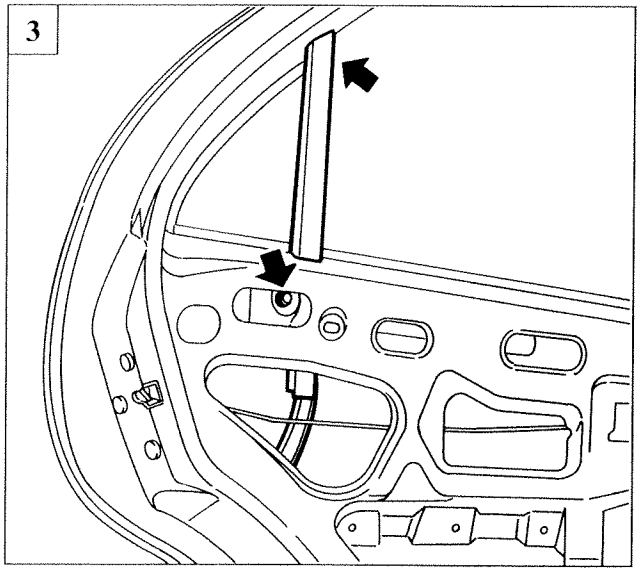
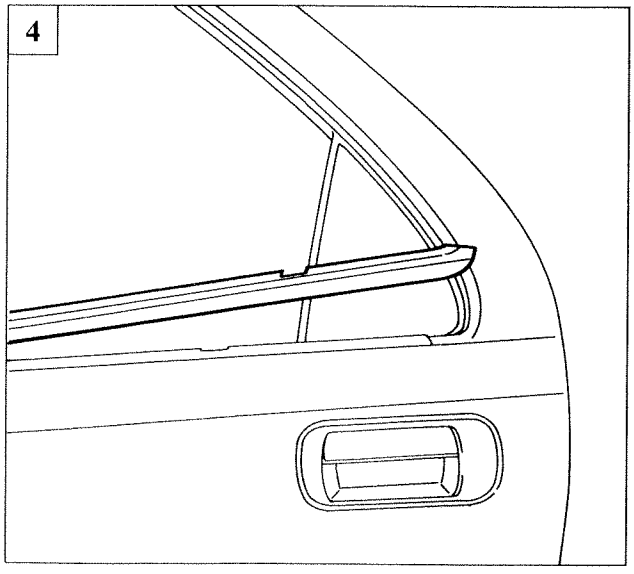


P3U016M01

REMOVING-REFITTING FIXED WINDOW

1. Remove the door panel and protective lining.
2. Remove the lower guide undoing the fixing bolt shown and releasing it from the internal trim.
3. Remove the window housing perimeter trim, releasing it from the retaining springs, then remove the upper window guide undoing the bolts shown.
4. Remove the glass scraper trim.
5. Extract the window from its housing as appropriate.

NOTE *To refit suitably reverse the order of the operations carried out for the removal.*



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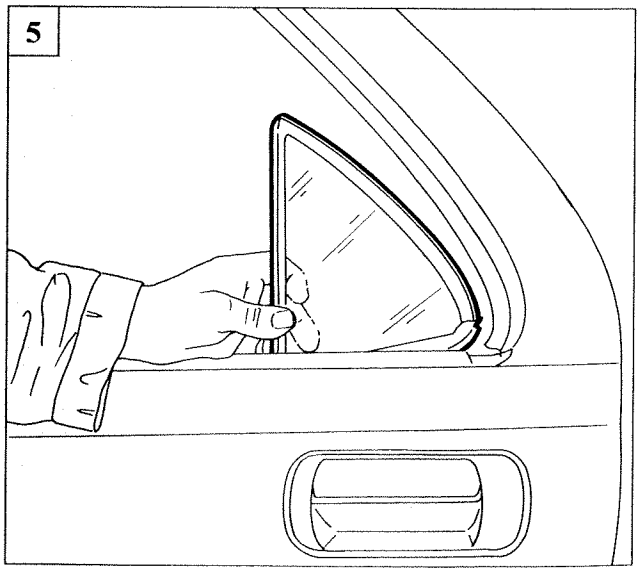

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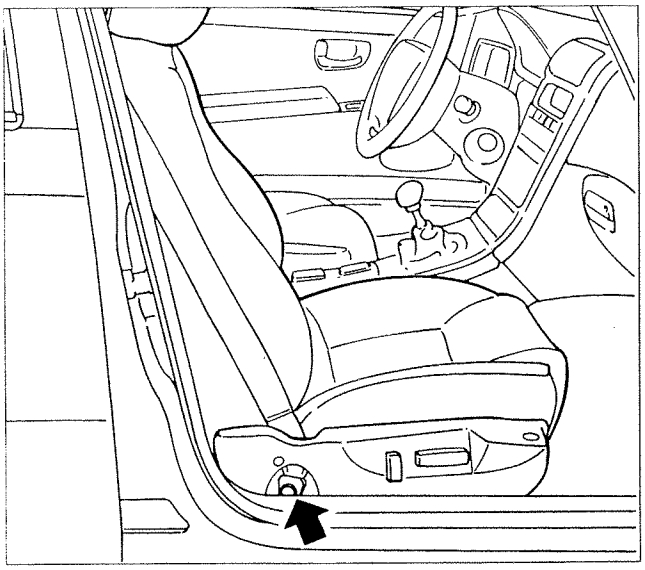

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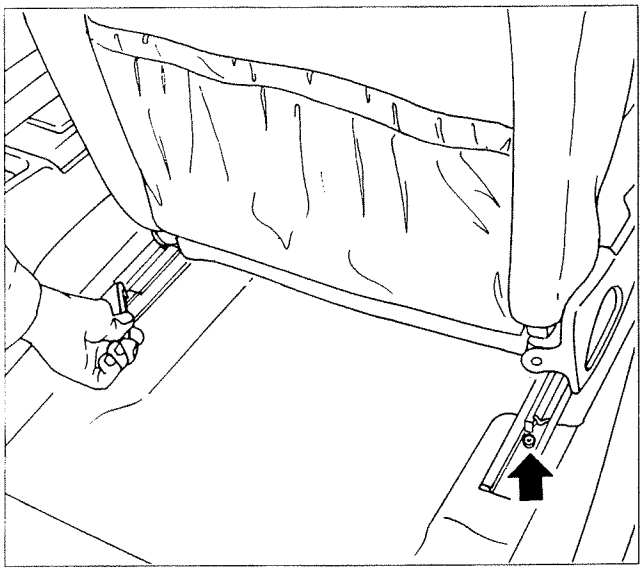

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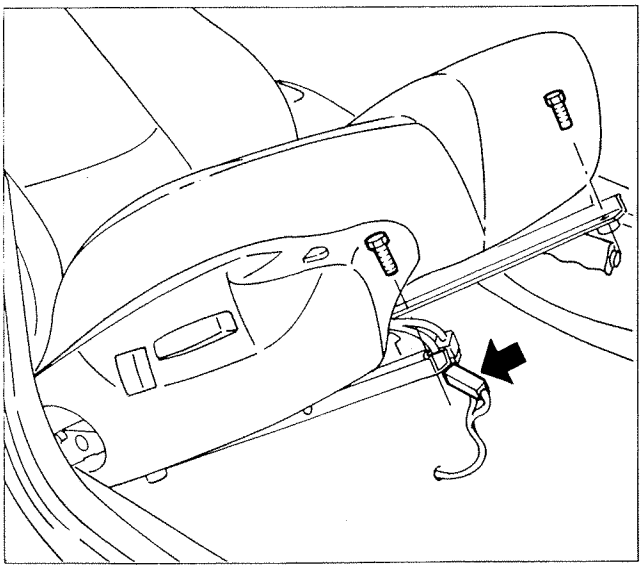


P3U017M03

REMOVING - REFITTING FRONT SEAT

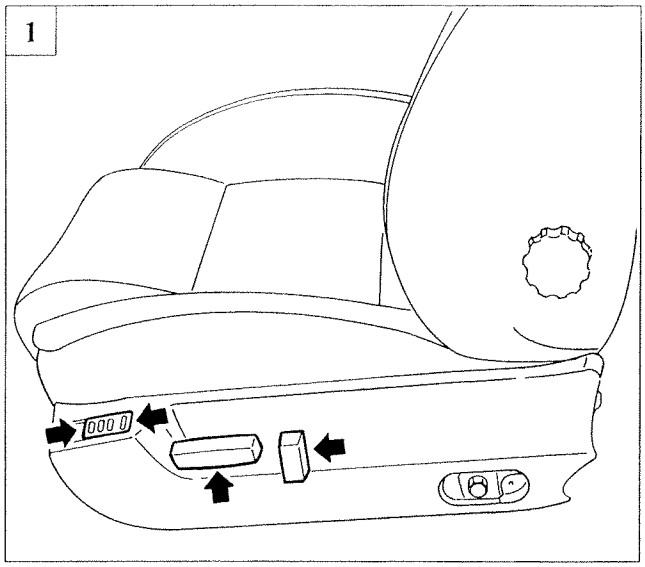
NOTE *As far as front seats with Side bags are concerned, refer to the LANCIA k Service Manual 4th Volume Section 55 - Electrical equipment - Air-bag new features (Print no. 506.475/25)*

Order of operations

- Undo the bolt fixing the seat belt to the seat;
- place the seat in the "completely forwards" end of travel position, then undo the bolts fixing the seat guides to the floor;
- place the seat in the "fully retracted" end of travel position, then remove the seat from the vehicle undo the bolts fixing the seat guides to the floor and disconnecting the connections.

NOTE *To refit, simply reverse the order of the operations carried out for the removal.*

70.



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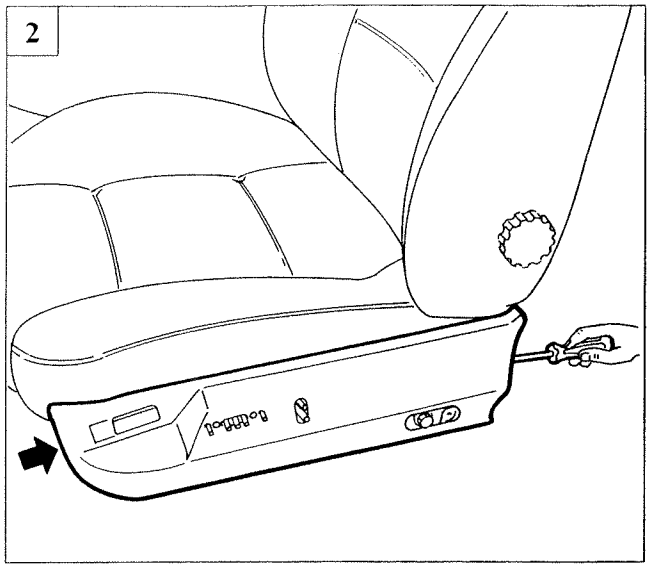

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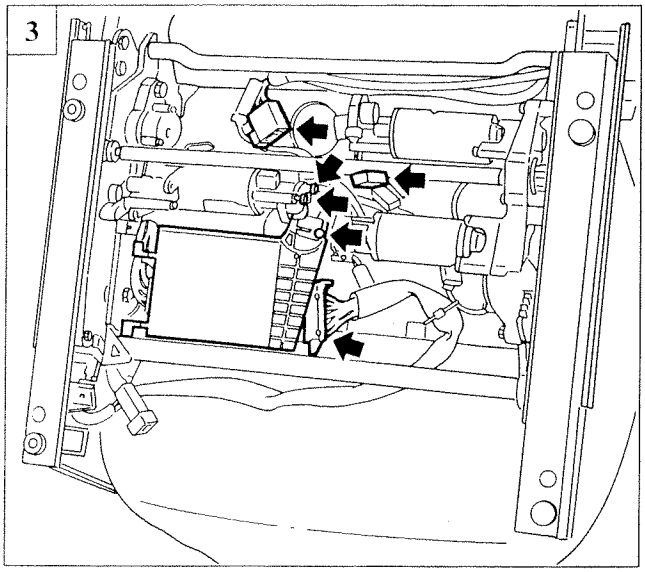
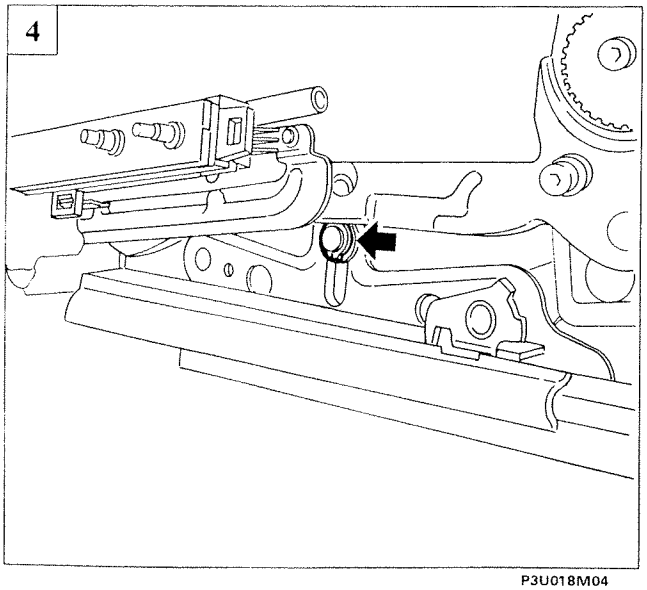


P3U018M03

DISMANTLING - REASSEMBLING FRONT SEAT

1. Remove the controls for operating the seat, extracting them from the seat then, acting on the retaining tabs and disconnecting the connector, remove the seat memorizing control panel.
2. Remove the lower trim for the seat, undoing the fixing bolts.
3. Remove the seat electronic control unit, undoing the bolts and disconnecting the connections shown.
4. Remove the flexible washer shown.
5. Remove the motor assembly for moving the seat in a rear vertical direction, disconnecting the connections and the bolts shown and moving the seat guide slightly outwards.



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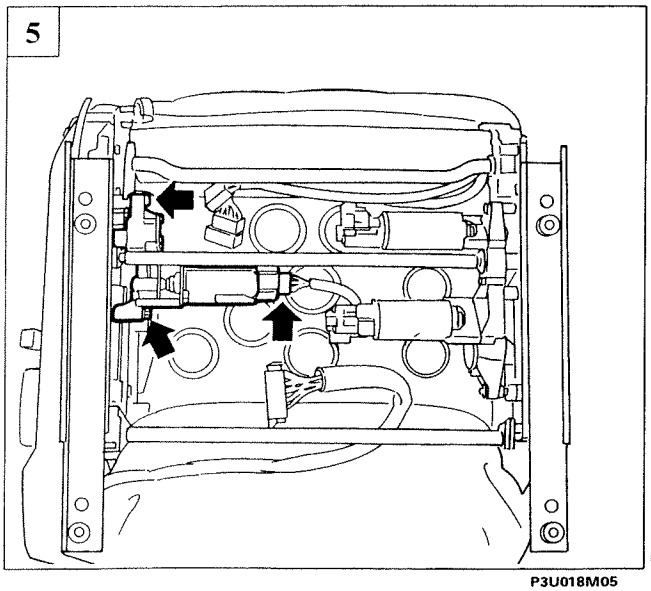

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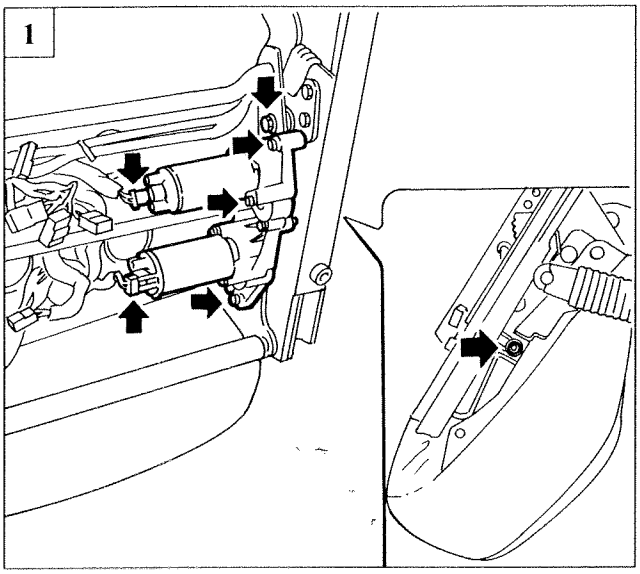

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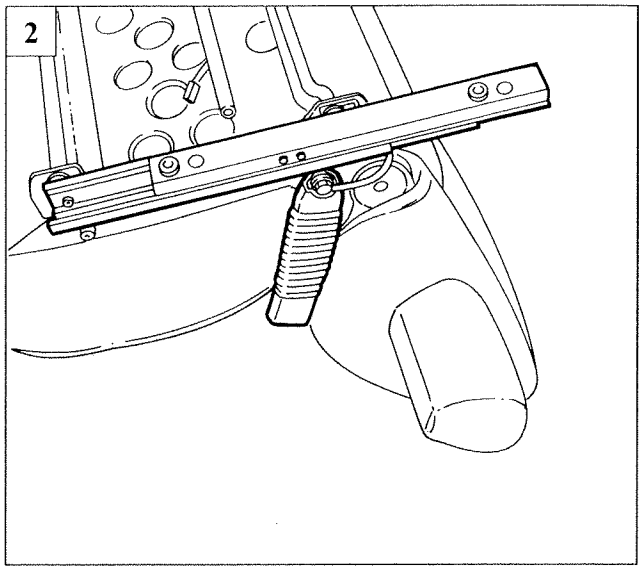

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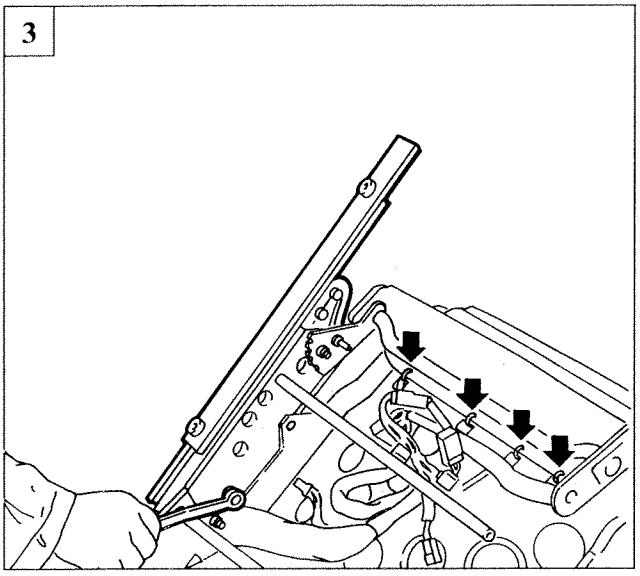
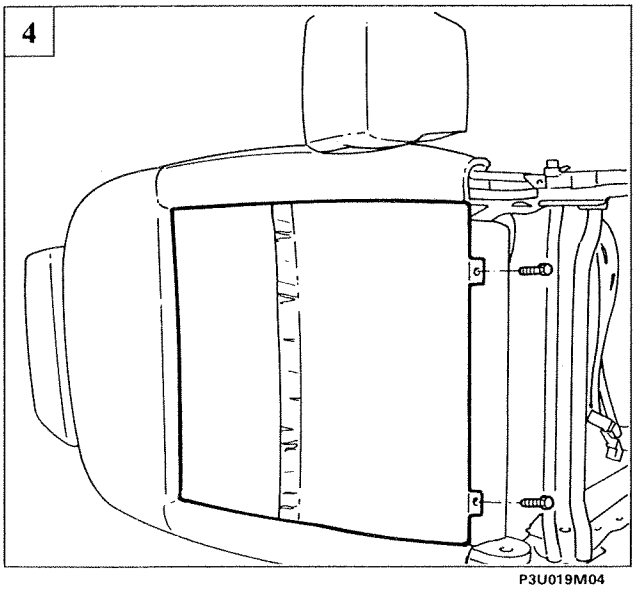


P3U019M03

1. Remove the motor for moving the seat in a frontwards vertical and lengthwise direction, undoing the fixing bolts, the connections and the flexible washer shown in the inset.
2. Remove the seat belt attachment system, undoing the fixing bolt, then remove the right guide.
3. Remove the left hand drive undoing the nut fixing the guide to the frame, then remove the seat cover acting on the attachment systems, to remove the upholstery, then disconnect the connection on the backrest upholstery.
4. Remove the backrest cover, undoing the fixing bolts shown.
5. Remove the motor for adjusting the seat backrest, undoing the fixing bolts and disconnecting the relevant connection.



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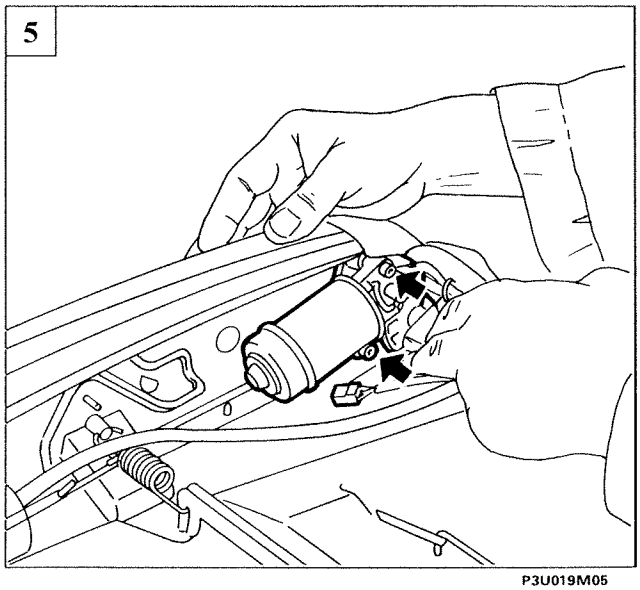
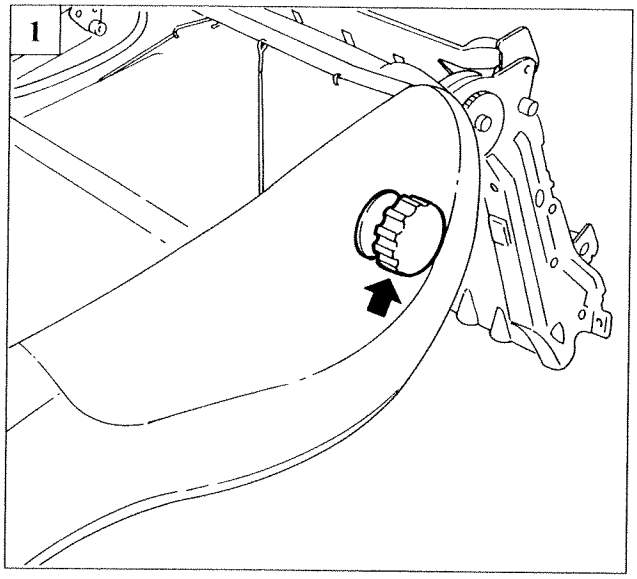
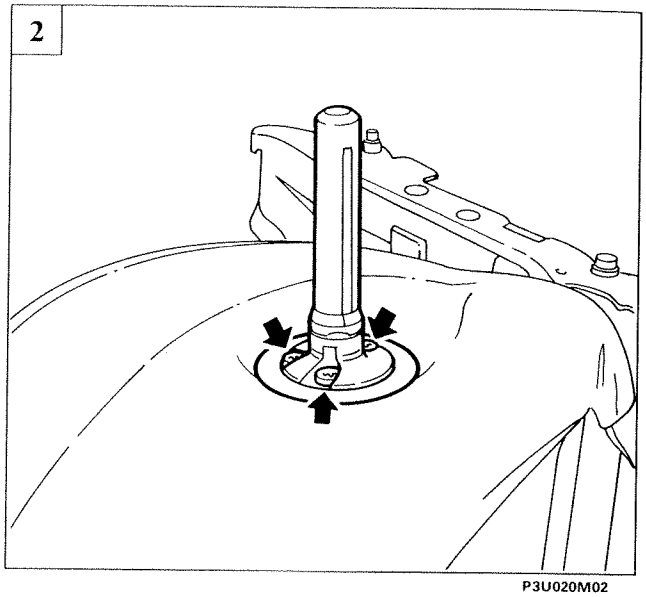
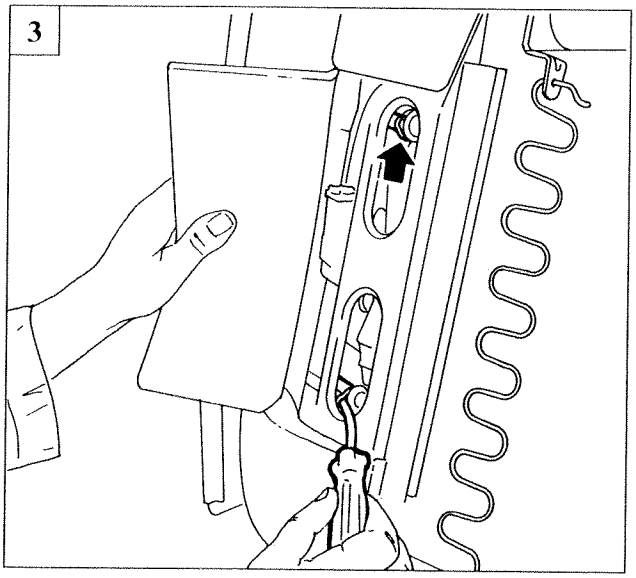


P3U019M05

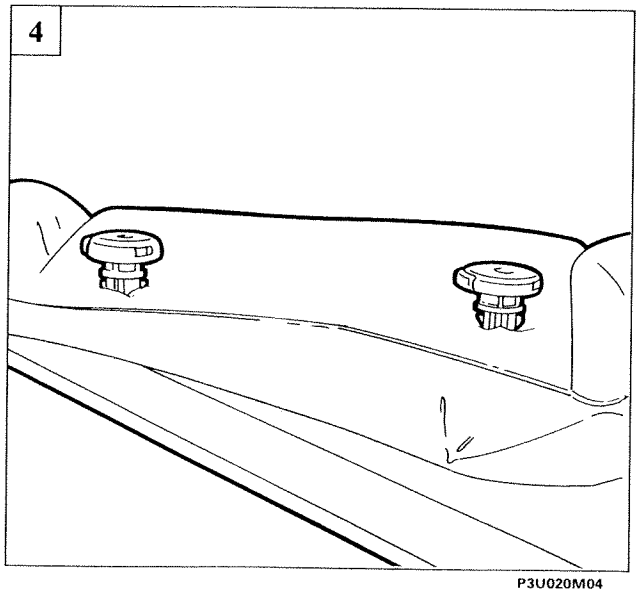


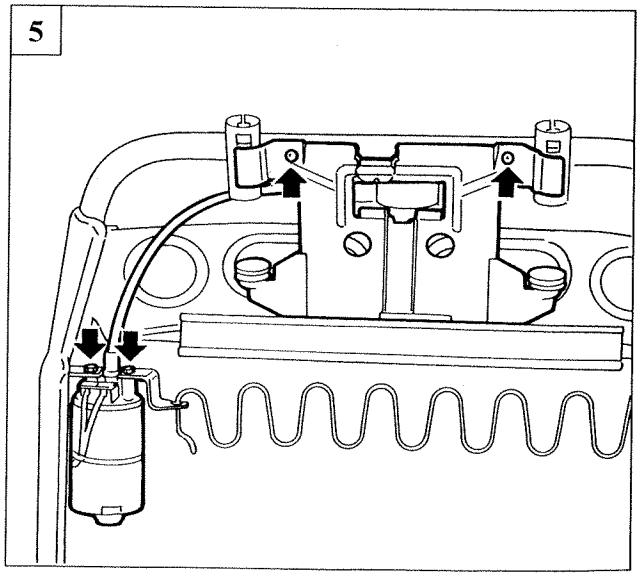


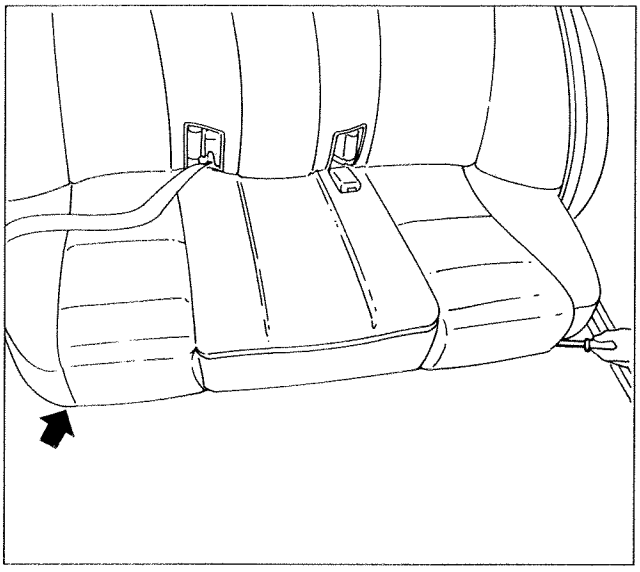


1. Remove the lumbar adjustment knob releasing it from the retaining spring.
2. Remove armrest and housing, undoing the fixing bolts shown.
3. Working from inside the backrest, remove the head restraint raising the springs attaching it to the frame.
4. Remove the backrest cover removing the head restraint housings releasing it from the attachment system, then remove the upholstery.
5. Remove the head restraint operating assembly undoing the motor fixing bolts and the rivets shown.

NOTE *When refitting suitably reverse the order of the operations carried out for the removal.*





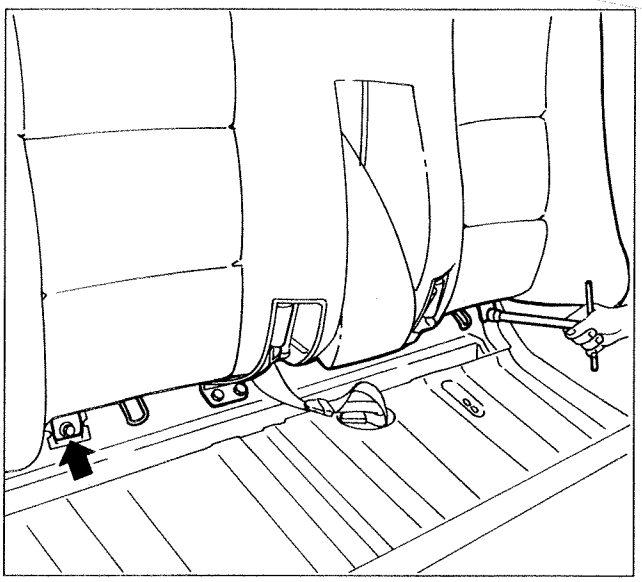


P3U021M01

REMOVING-REFITTING REAR SEAT

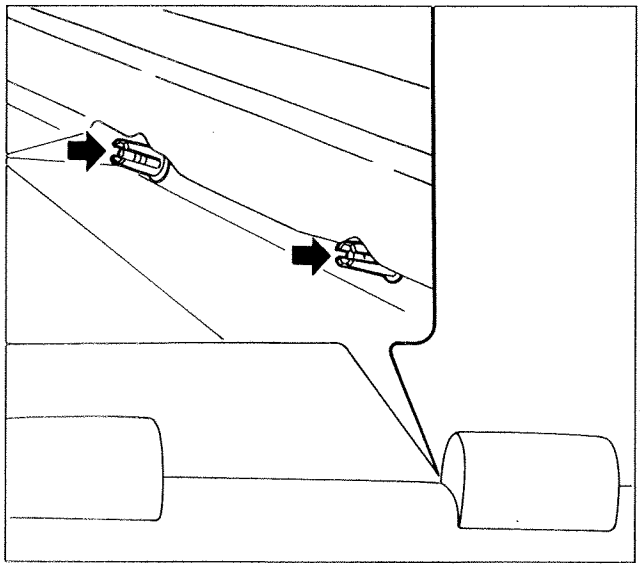
Order of operations

- Remove the rear cushion acting on the attachment system as shown in the diagram;



P3U021M02

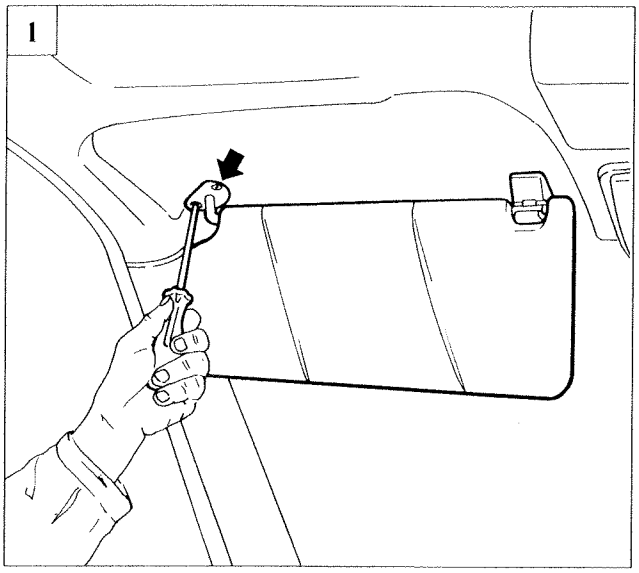
- remove rear backrest undoing the fixing bolts shown, then lift it up from the attachment points on the rear parcel shelf;



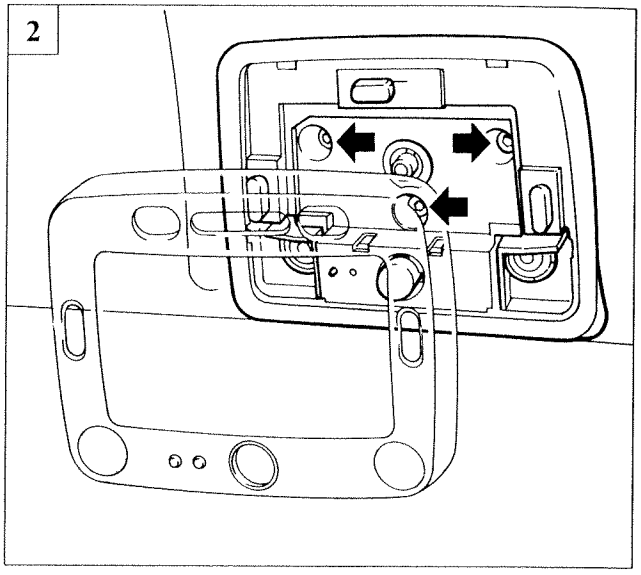
P3U021M03

- remove the head restraints acting on the pins shown (this operation can only be carried out with the backrest removed).

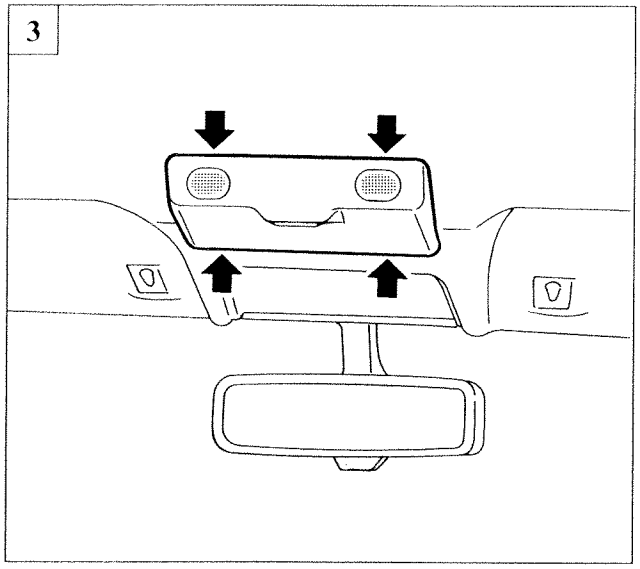
NOTE *To refit simply reverse the order of the operations carried out for the removal.*



P3U022M01



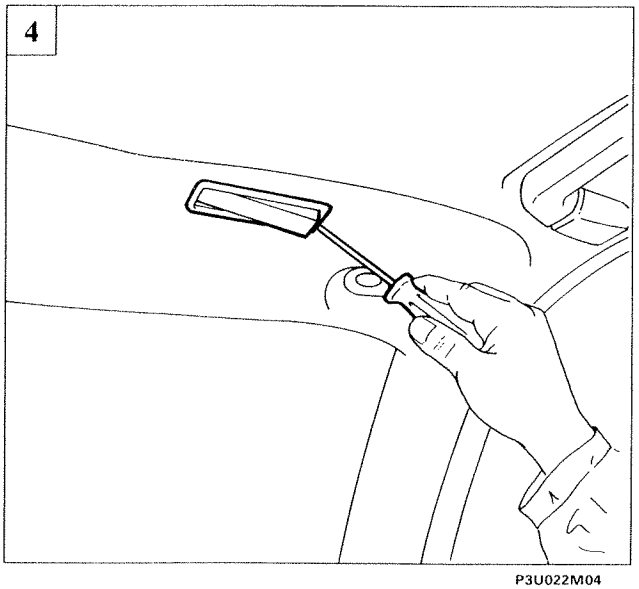
P3U022M02



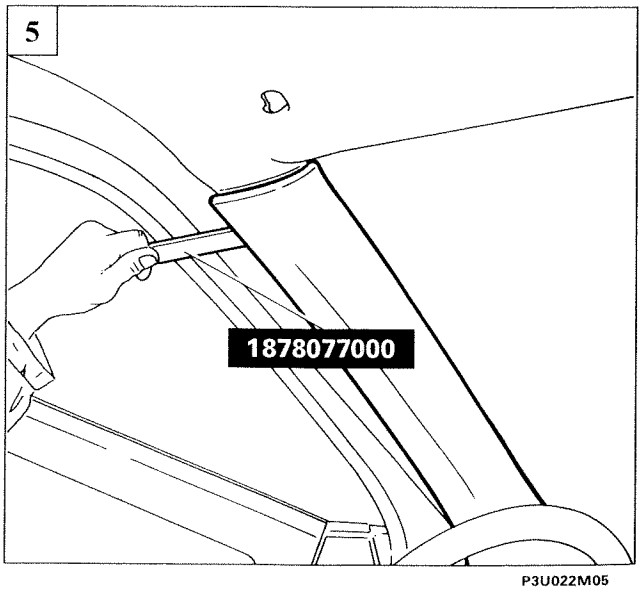
P3U022M03

REMOVING - REFITTING ROOF LINING

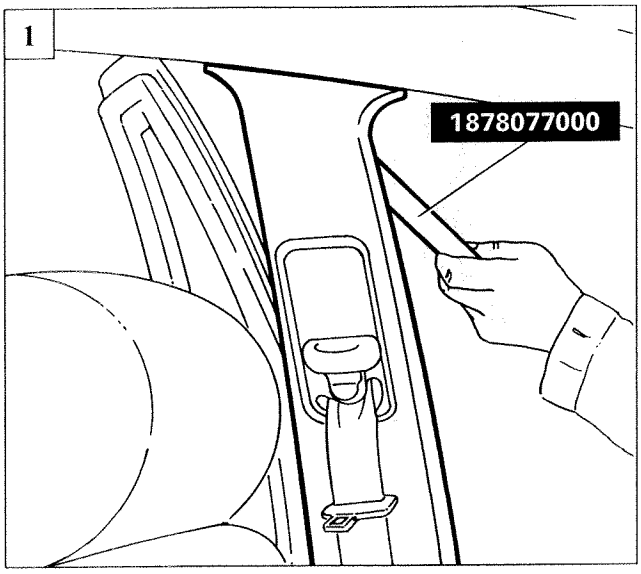
1. Remove the sun visors after having undone the appropriate fixing bolts.
2. Remove the courtesy light after having removed the lens cover, undone the bolts fixing the courtesy light to the lining and disconnected the approrpriate connectors.
3. Remove the front courtesy light for the ultrasound sensors, acting on the retaining tabs and disconnecting the appropriate connector.
4. Remove the courtesy light for the right sun visor mirror, acting on the appropriate tabs and disconnecting the connector.
5. Using tool 1878077000 remove the front pillar covers after having partly remove the door housing trims.



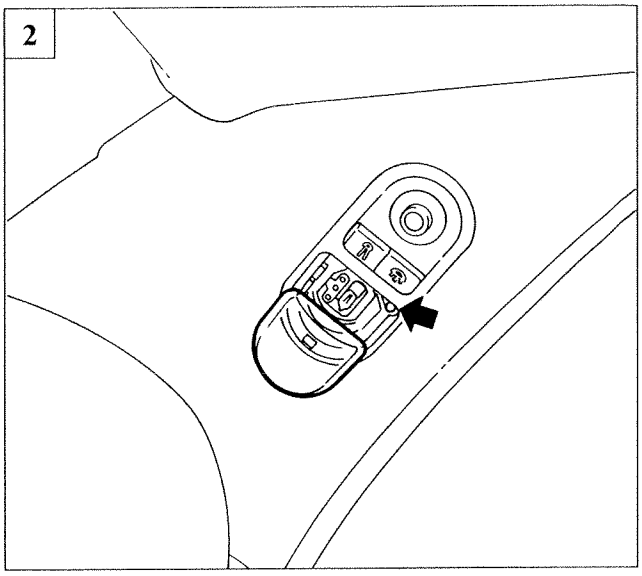
P3U022M04



P3U022M05



P3U023M01



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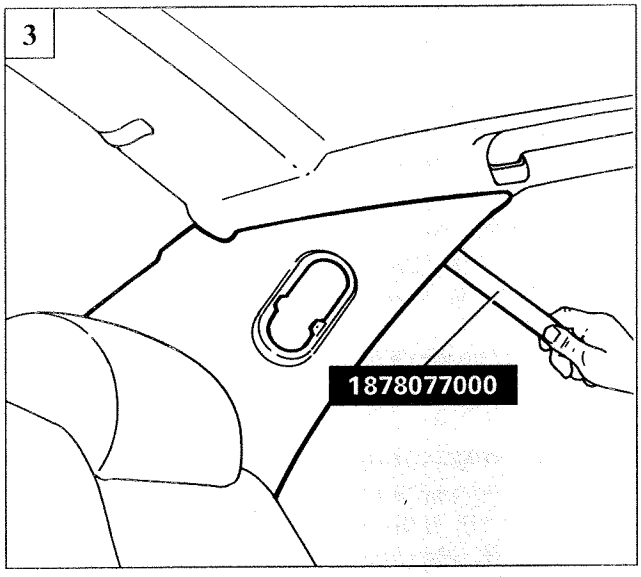
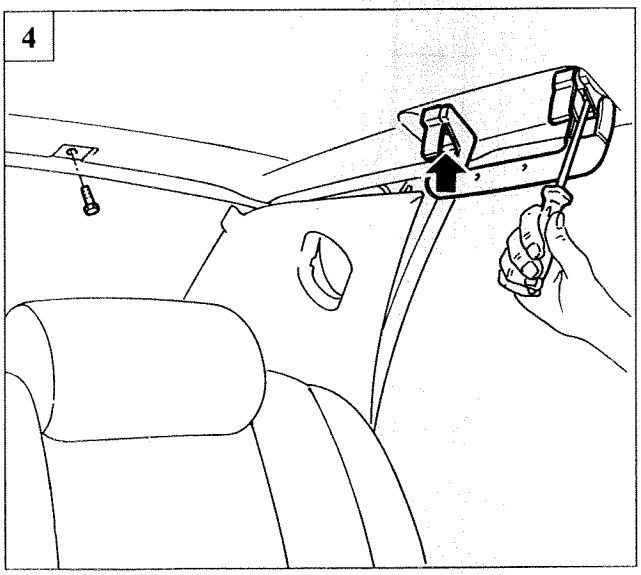


P3U023M03

1. Partly remove the centre pillar covers using tool 1878077000.
2. Remove the courtesy lights in the rear pillar covers, removing the lens covers, the fixing bolts and the connectors.
3. Using tool 1878077000 move the rear pillar covers away from the roof lining.
4. Remove the attachments for the sun blind and the passenger grab handles, undoing the appropriate fixing bolts.
5. Remove the roof lining extracting it from the rear door of the vehicle.

NOTE *When refitting, suitably reverse the order of the operations carried out for the removal.*



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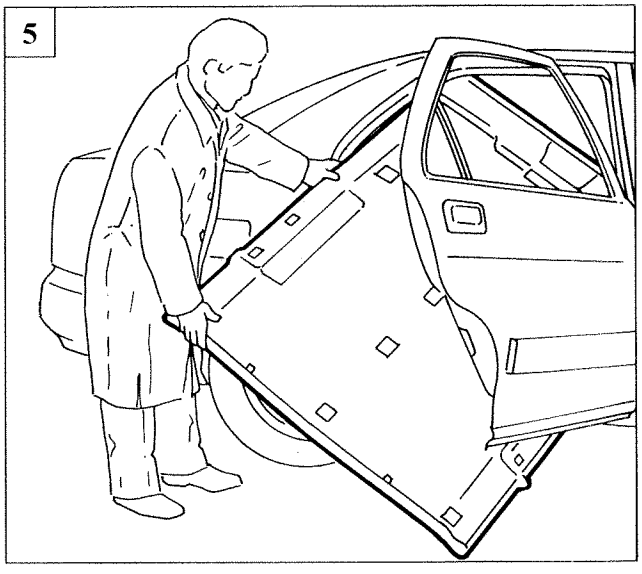

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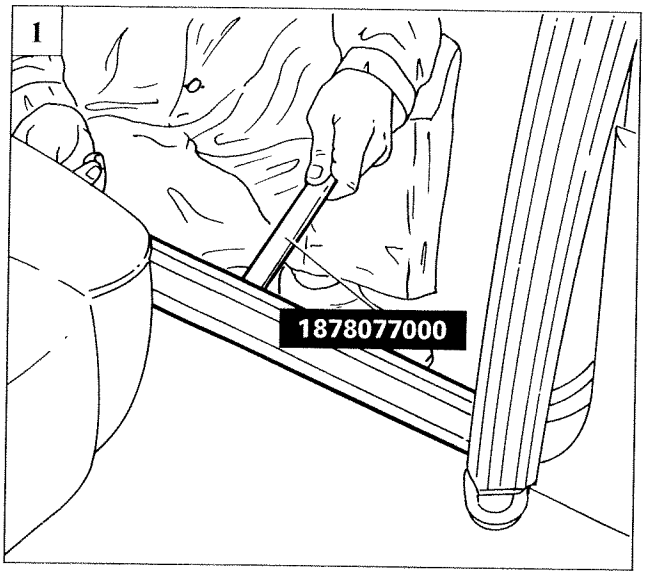
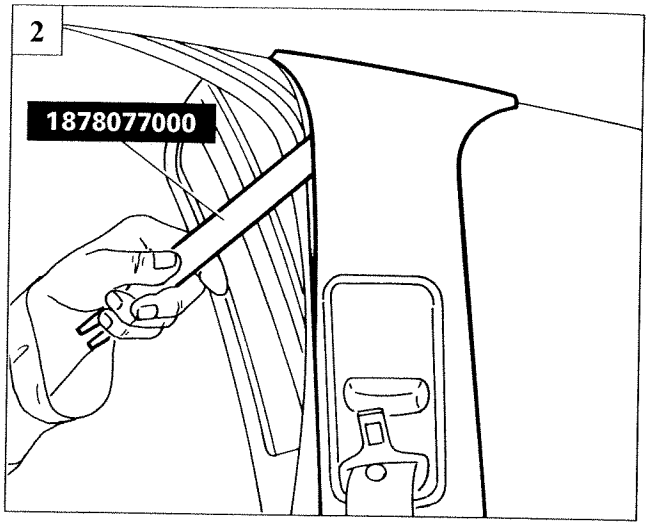


P3U024M01



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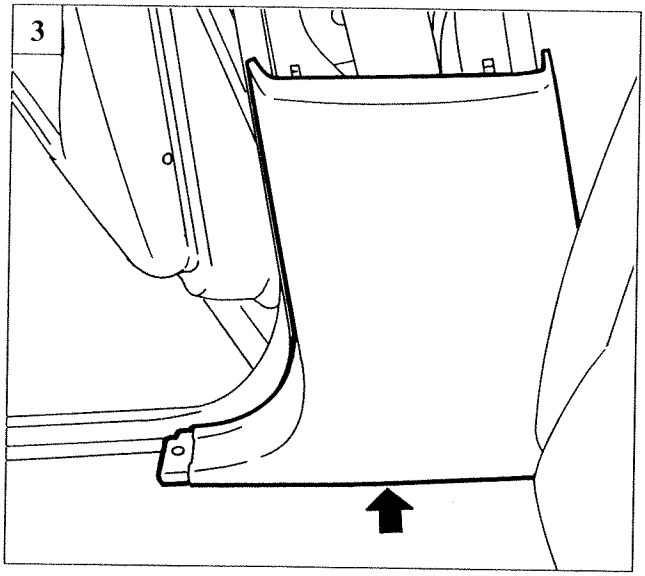
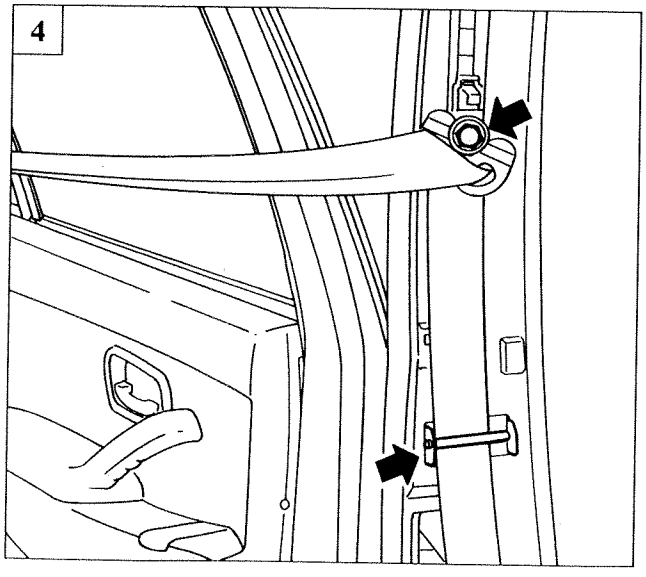


P3U024M03

REMOVING-REFITTING FRONT SEAT BELTS

1. Remove the bolt fixing the belt to the seat as illustrated on page 17, then remove the door panel linings, releasing them from the fixing springs, using tool 1878077000.
2. Remove the pillar cover using tool 1878077000, after having moved the door seals aside.
3. Remove the lower lining shown.
4. Undo the upper bolt fixing the belt, then remove the retaining spring and release the belt.
5. Remove the seat belt, removing the connection and the fixing bolt shown.

NOTE *When refitting, simply reverse the order of the operations carried out for the removal, fully tightening the bolts fixing the reel to the door pillar (torque figure: 5 daNm).*



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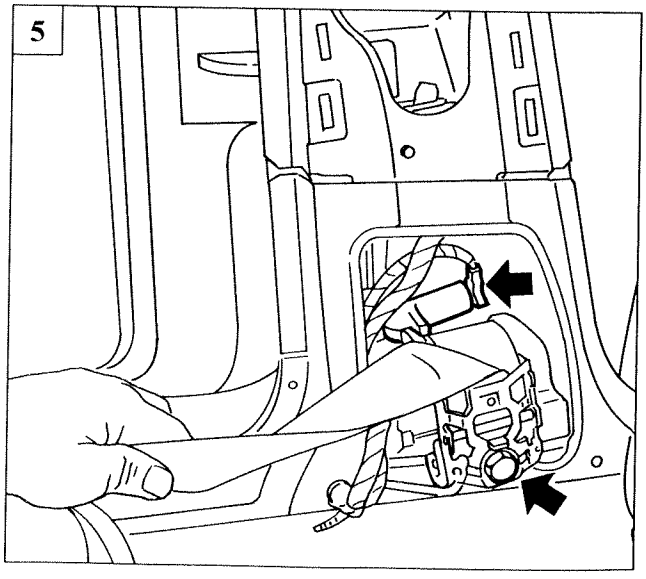

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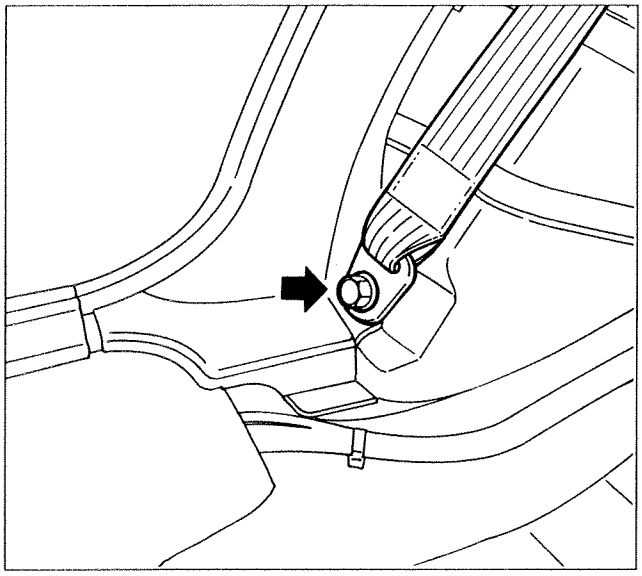
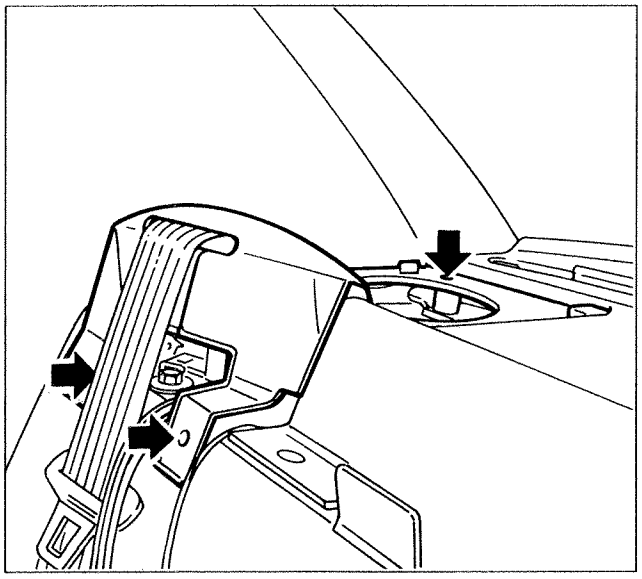


P3U025M01

REMOVING-REFITTING REAR SEAT BELTS

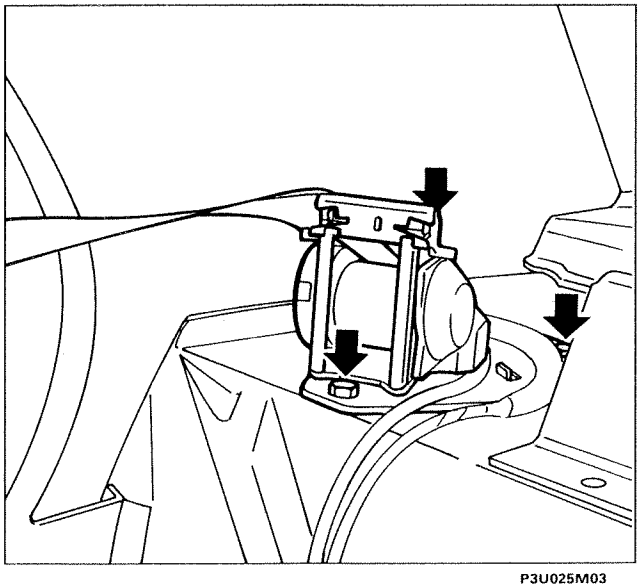
Order of operations

- Remove the rear seat backrest as described on page 21, then undo the bolt fixing the seat belt to the rear wheel arch;



P3U025M02

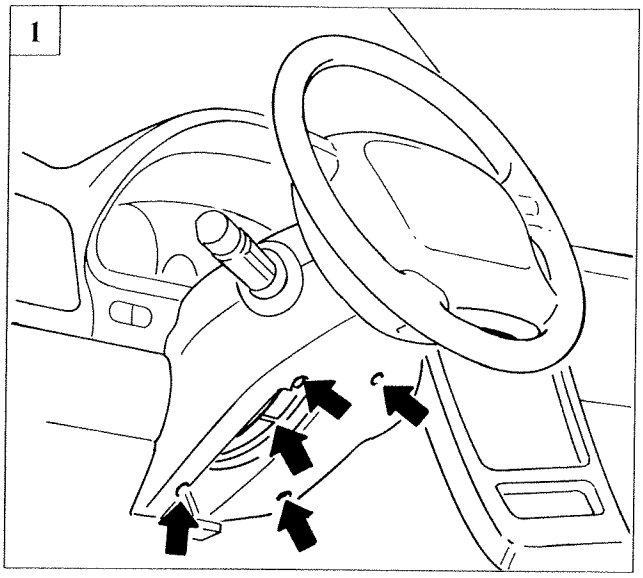
- raise the speaker grille, undo the bolts shown and remove the reel cover removing the belt;



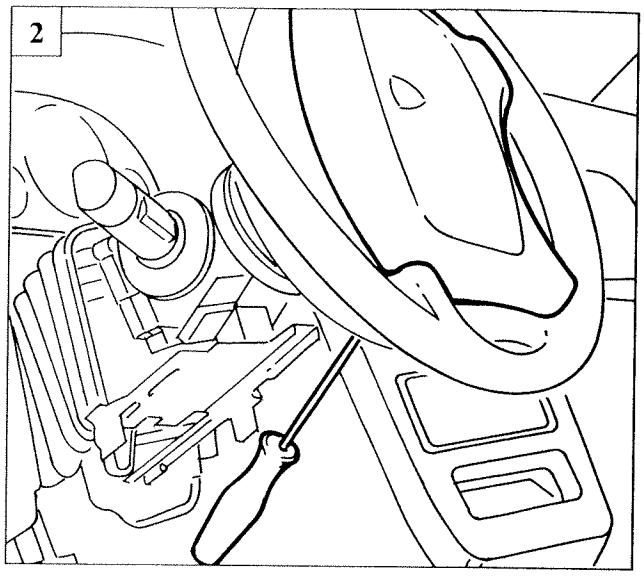
P3U025M03

- remove the reel from the bodyshell, undoing the bolts shown.

NOTE *To refit simply reverse the order of the operations carried out for the removal, fully tightening the bolts fixing the reel to the bodyshell (torque figure: 5 daNm).*



P3U026M01



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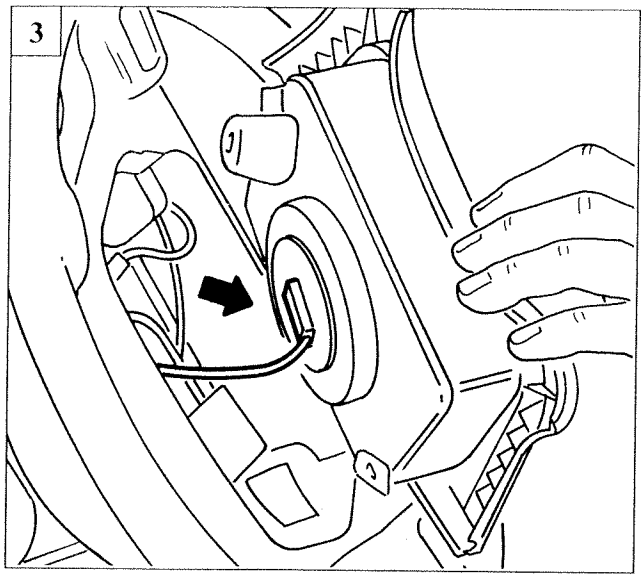
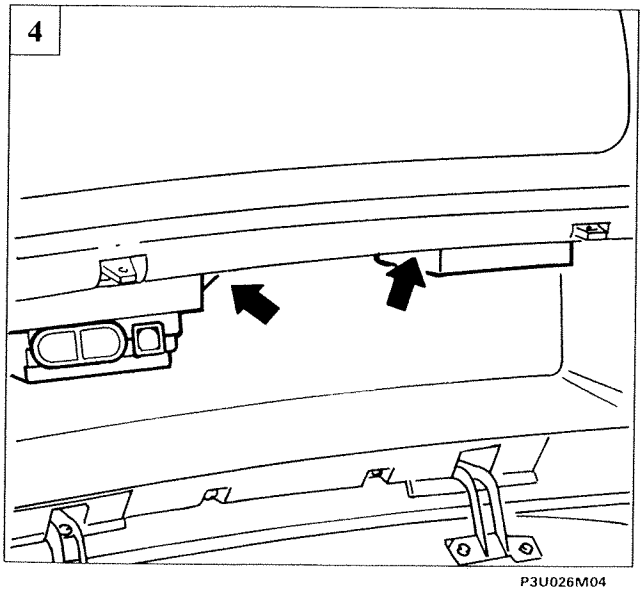


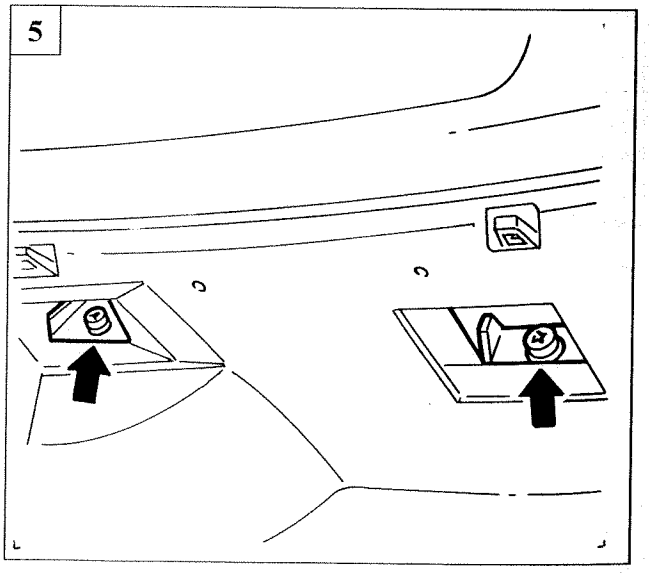
P3U026M03

REMOVING-REFITTING DASHBOARD

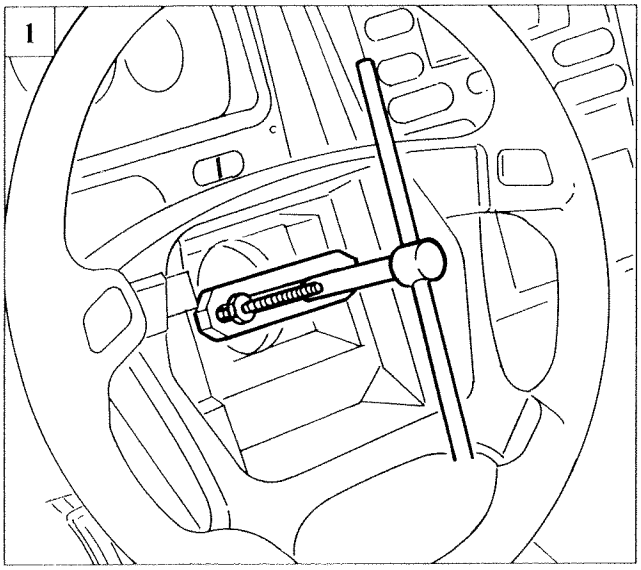
1. Undo the bolts shown, then remove the upper and lower covers for the steering column.
2. Undo the bolts fixing the air bag to the steering wheel.
3. Remove the air bag from the steering wheel, following the instructions given in section 55 - Electrical equipment.
4. Using leverage, remove the cover shown and the boot lid/fuel filler flap opening controls, then disconnect the supply connector.
5. Undo at the points shown and remove the passenger air bag.



P3U026M04



P3U026M05



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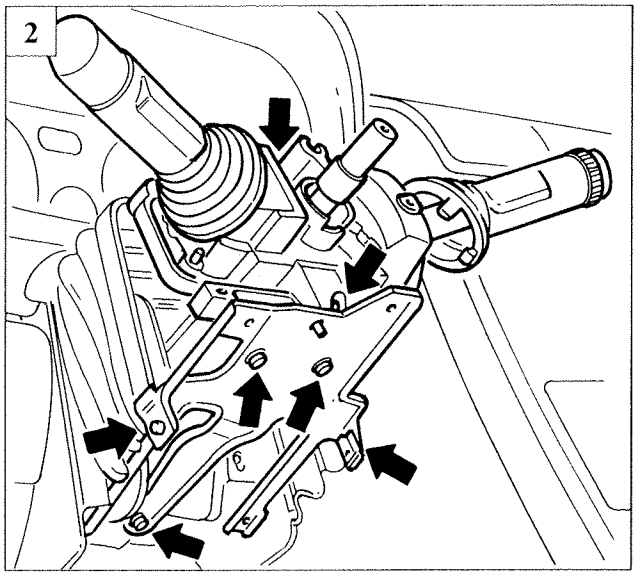

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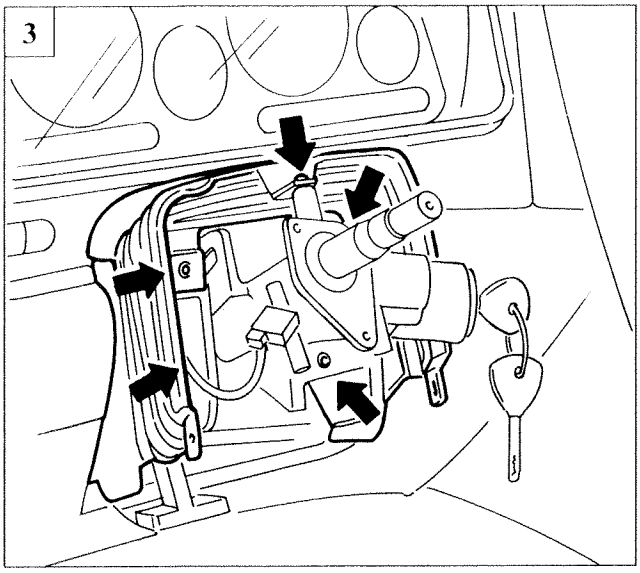
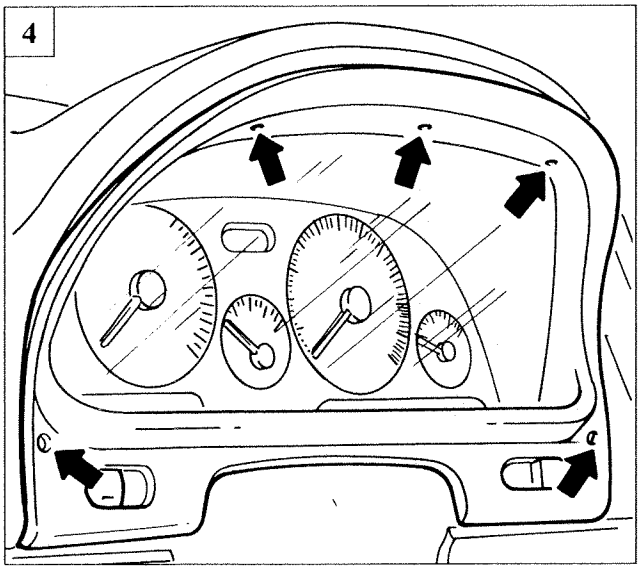


P3U027M03

1. Remove the steering wheel using an appropriate extractor, then disconnect the connector for the spiral device (clock-spring).
2. Remove the plate supporting the steering column covers, after having undone the relevant bolts, then remove the steering column switch unit and disconnect the connectors.
3. Remove the protective boot.
4. Remove the instrument panel, disconnecting the connectors and undoing the bolts shown.
5. Undo at the points shown and remove the front tunnel cover.



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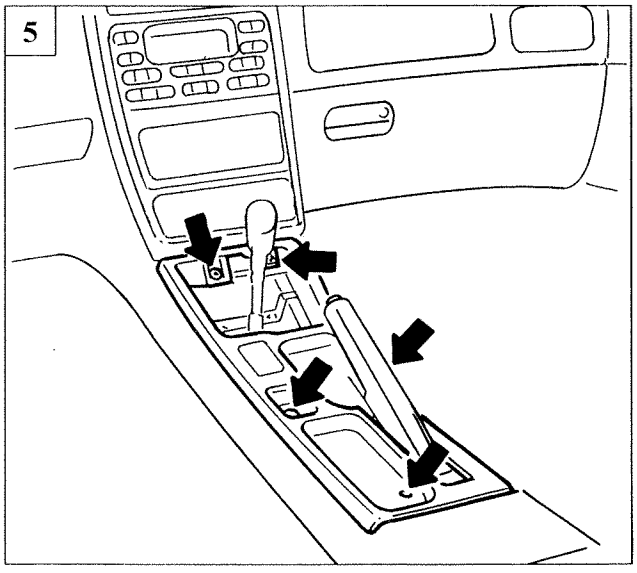

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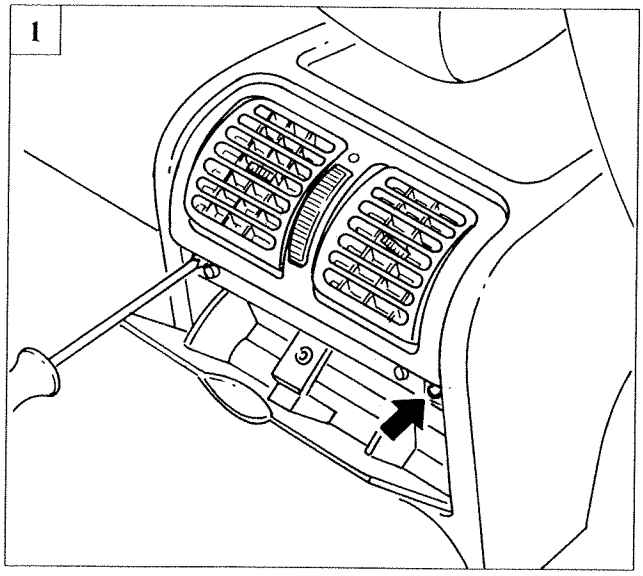

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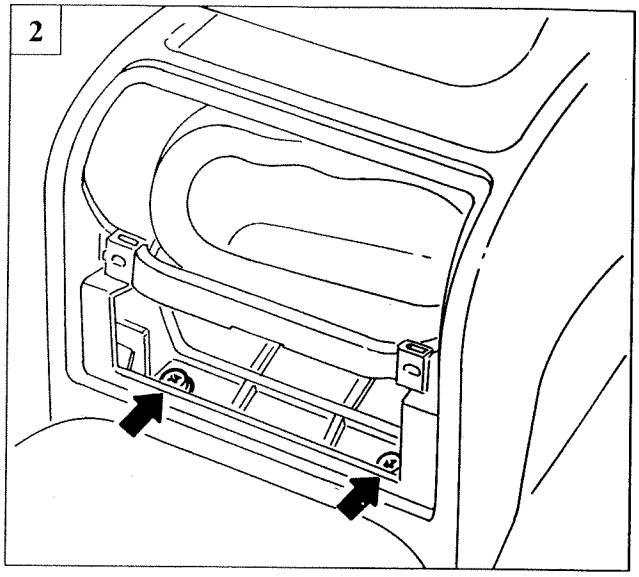

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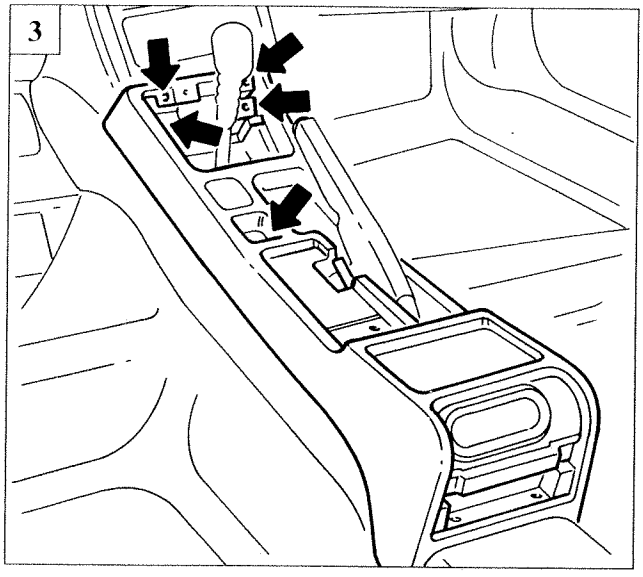
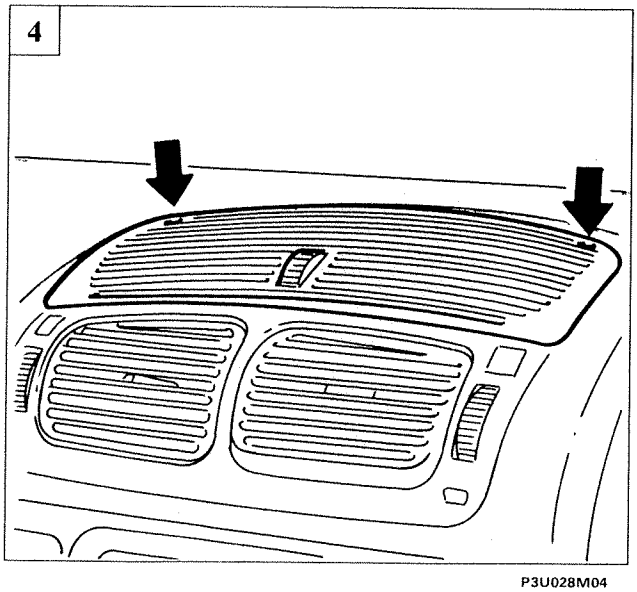


P3U028M03

1. Remove the rear air ventilation vents.
2. Undo the rear bolts fixing the tunnel cover.
3. Fold back the seat, then remove the tunnel cover, undoing the bolts shown.
4. Remove the upper centre air vent grille from the dashboard.
5. Remove centre air vent grille from the dashboard.



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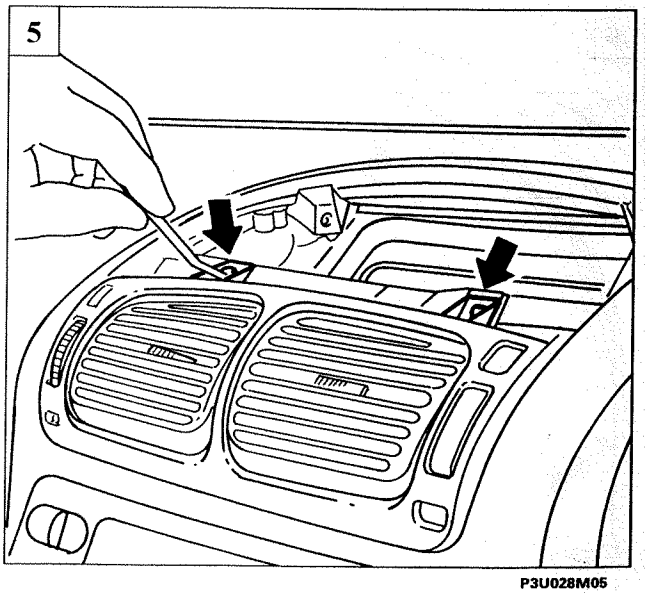
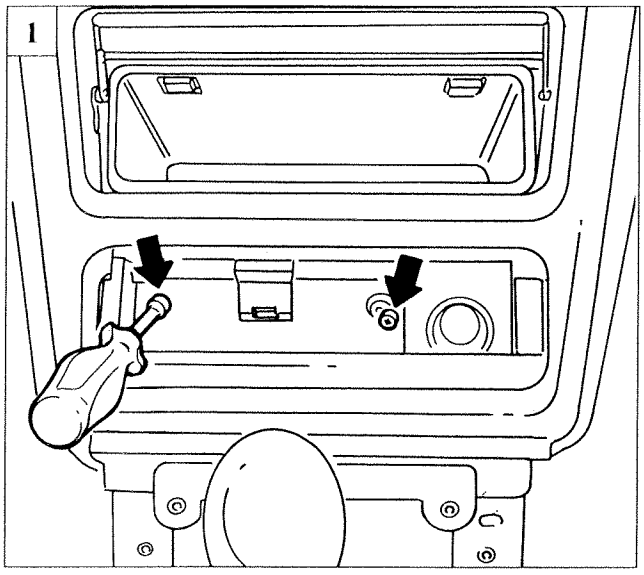


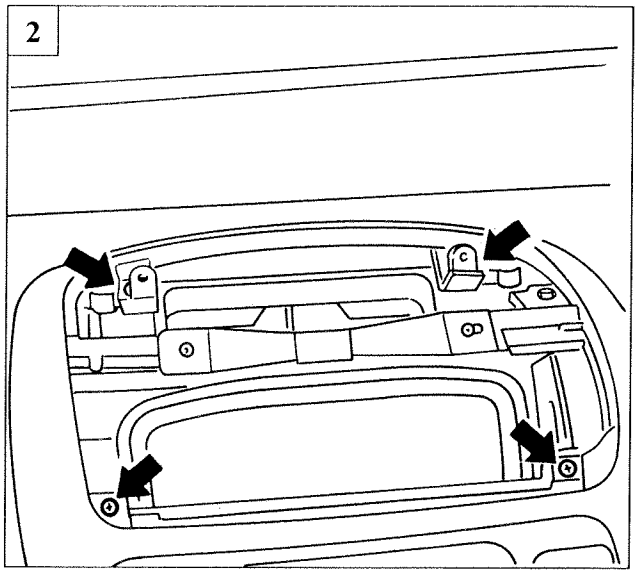
P3U028M05

1



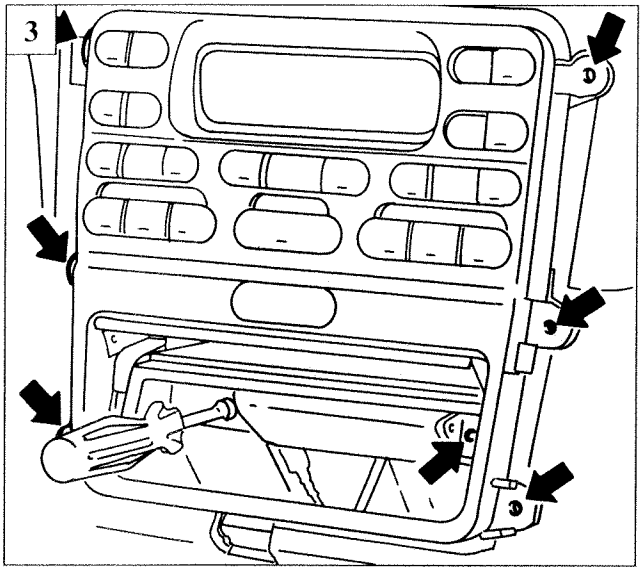
P3U029M01

2



P3U029M02

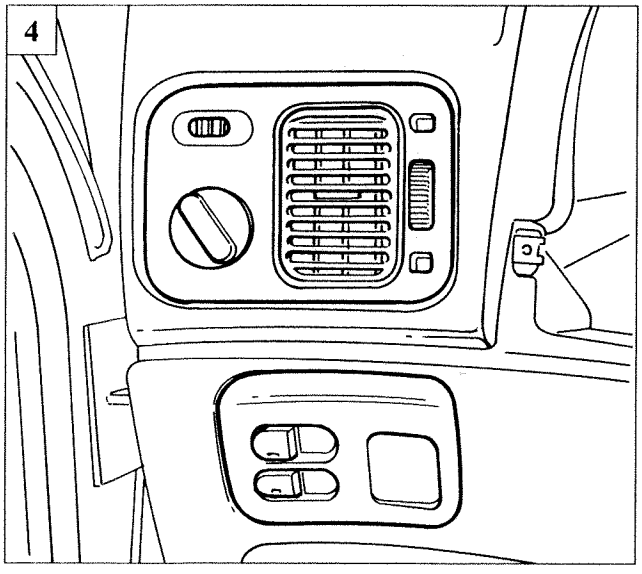
3



P3U029M03

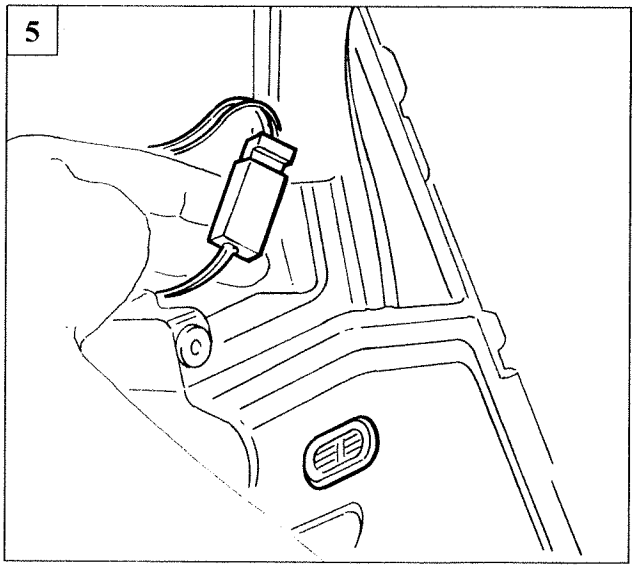
1. Remove the radio housing and the ashtray, then undo the bolts underneath.
2. Undo the fixing bolts and remove the centre cowling.
3. Undo at the points shown and disconnect the connectors, then remove the "Infocenter" control unit.
4. Remove the driver's side air vent grille, disconnecting the connectors, then remove the headlamp adjustment knob.
5. Disconnect the connector for the vehicle interior air temperature sensor.

4



P3U029M04

5



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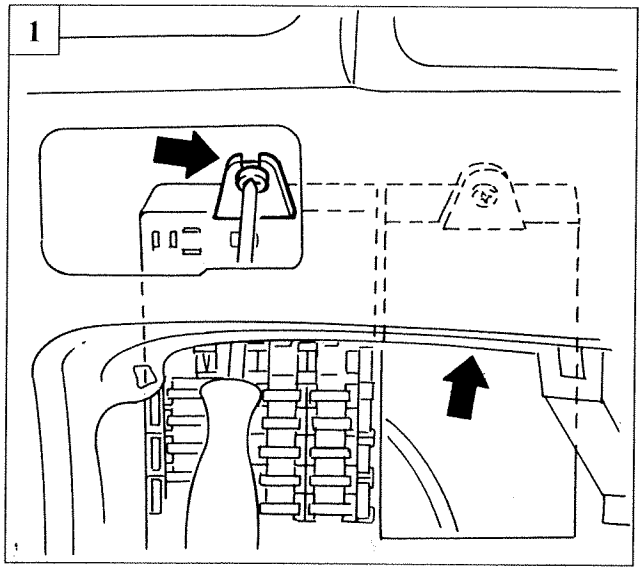
1



P3U030M01

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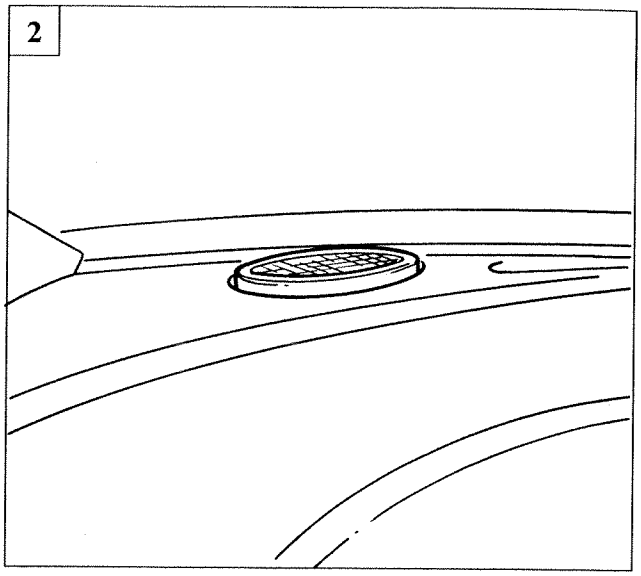
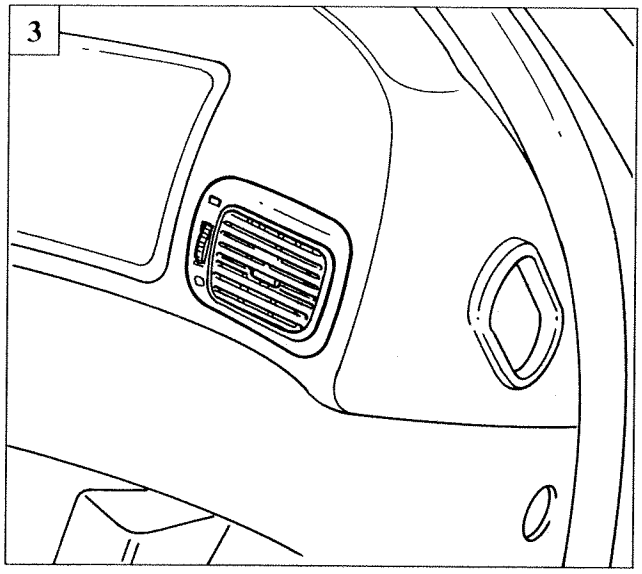


P3U030M02

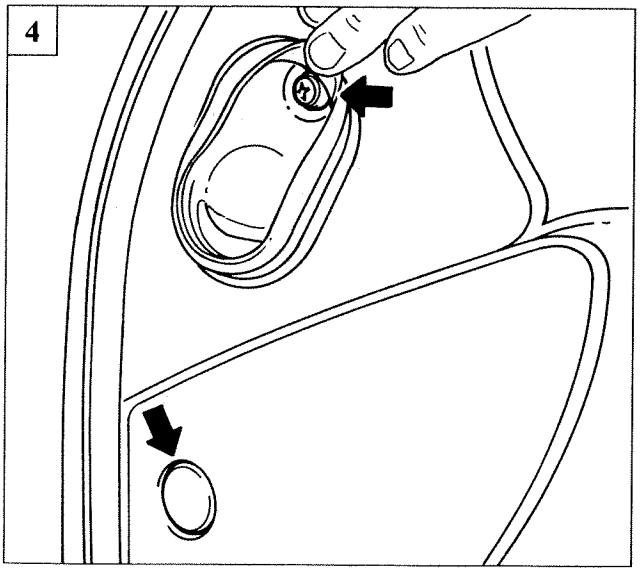
3



P3U030M03

1. Undo the fixing bolts and disconnect the connectors, then remove the fuse control box and the IGE control unit.
2. Remove the driver and passenger side speaker grilles.
3. Remove the passenger side air vent.
4. Remove the side vent, acting on the fixing bolt; also remove the fixing cover shown; these operations are carried out on the driver and passenger sides.
5. Undo the fixing bolts underneath; proceed in the same way for the passenger side.

4



P3U030M04

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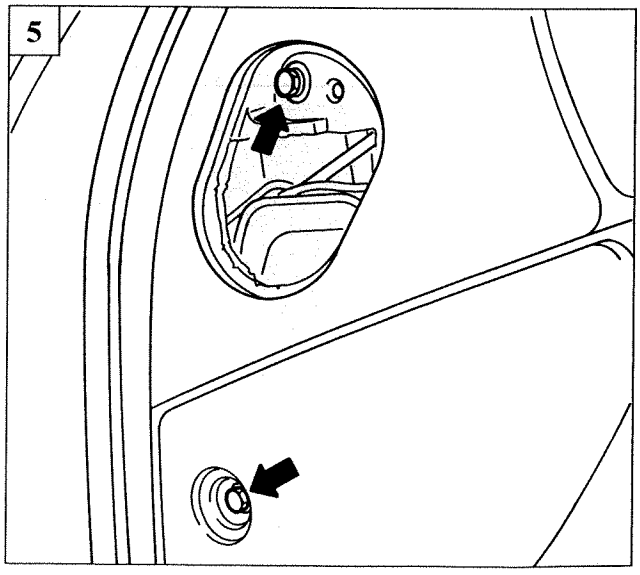

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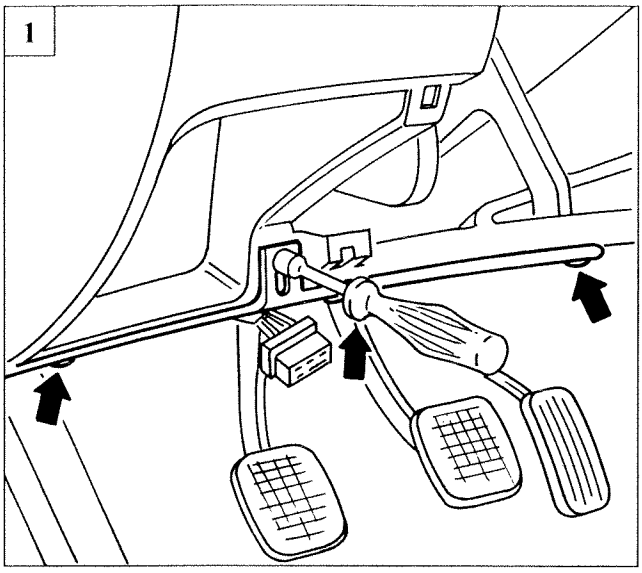

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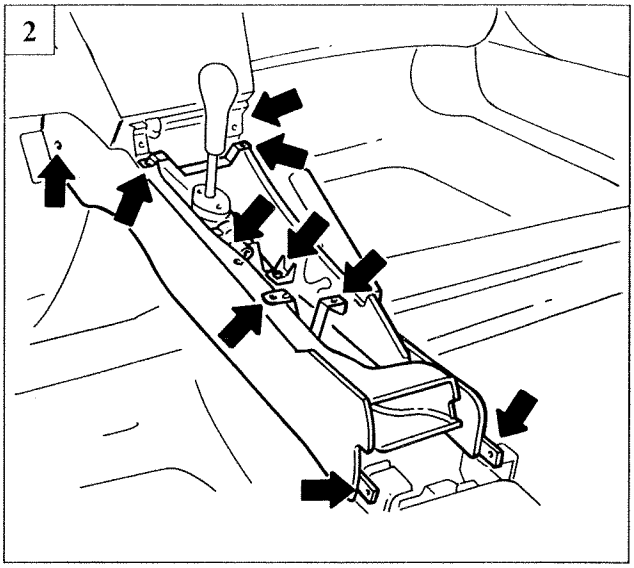

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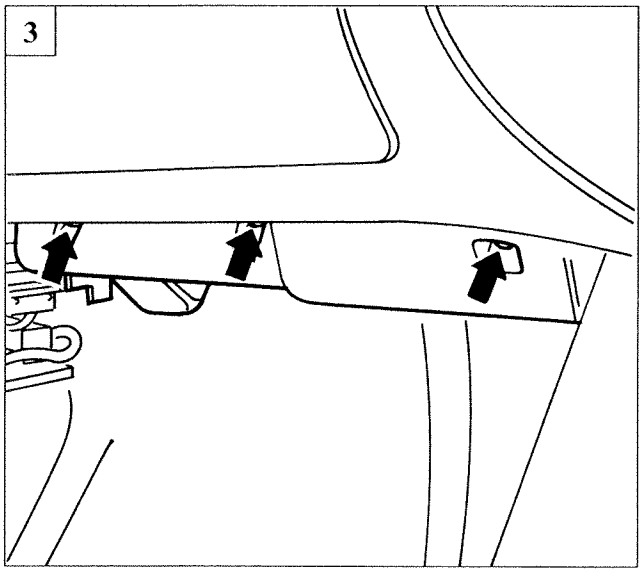
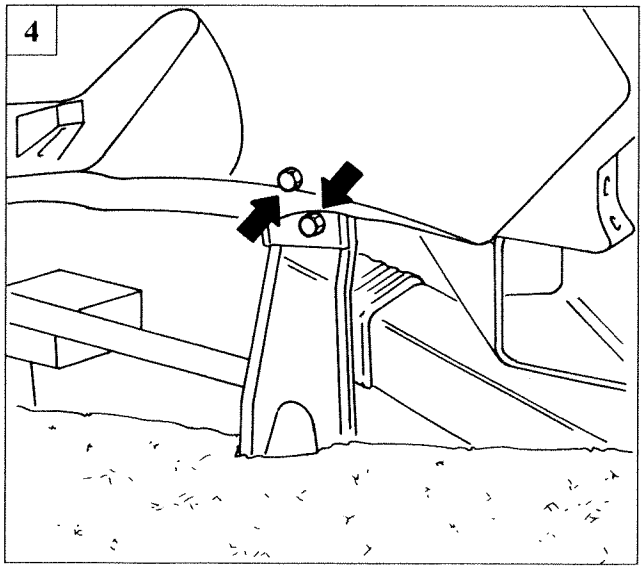


P3U031M03

1. Undo the nut fixing the dashboard support, remove the two plugs shown in order to remove the driver side protective partition, disconnect the connector for the pedals courtesy light and undo the bolt located above the brake pedal.
2. Undo at the points shown and remove the tunnel cover.
3. Remove the passenger side protective partition, working at the points shown.
4. Undo the fixing bolts shown in the lower part of the dashboard.
5. Undo the fixing bolts located in the upper centre part of the dashboard.

4



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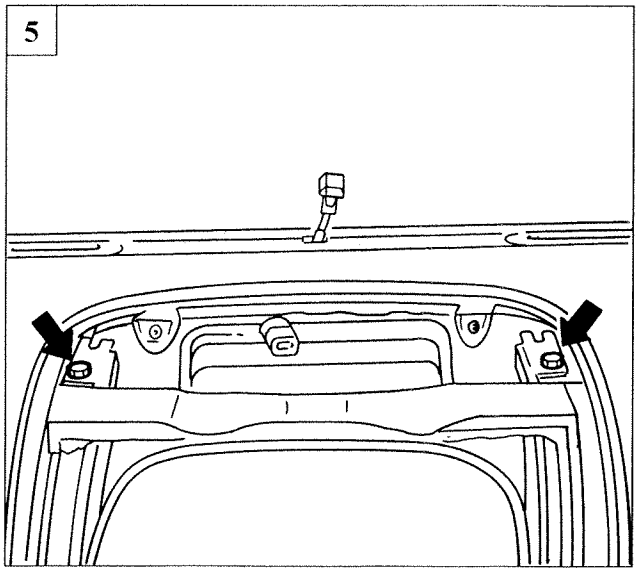

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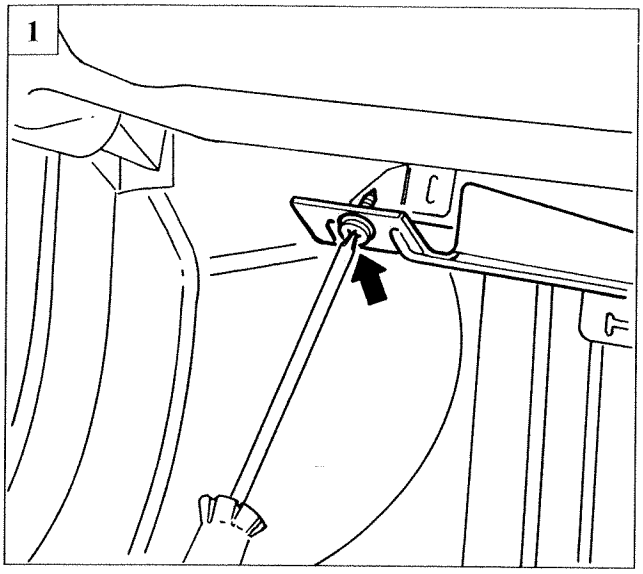

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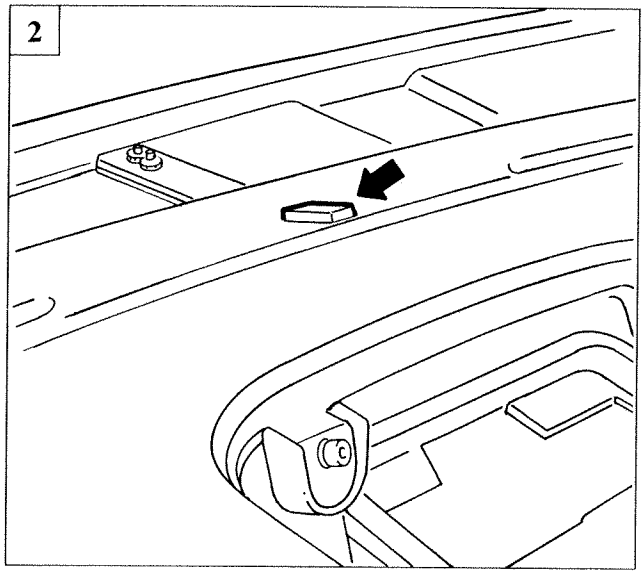
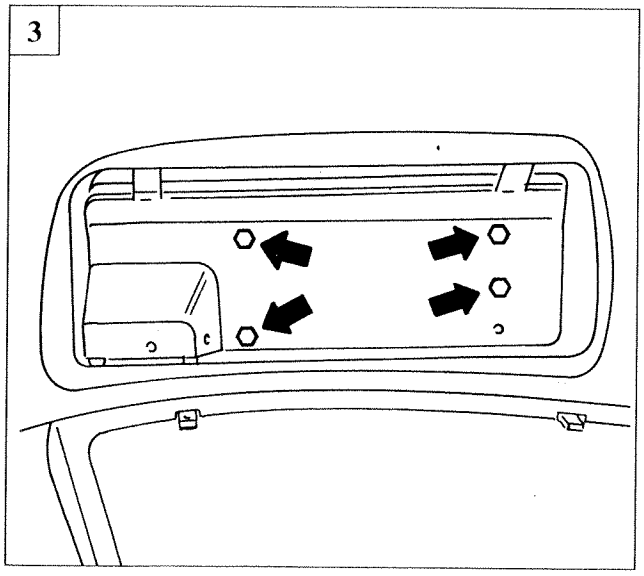


P3U032M02

1. Undo the fixing bolt located in the lower part of the dashboard, driver side.
2. Remove the sun radiation sensor, after having disconnected the appropriate connector.
3. Undo the fixing bolts, located in the passenger air bag housing.
4. Loosen the bolts shown, remove the windscreen pillar covers; with the help of a second operator, remove the dashboard and extract it from the vehicle.



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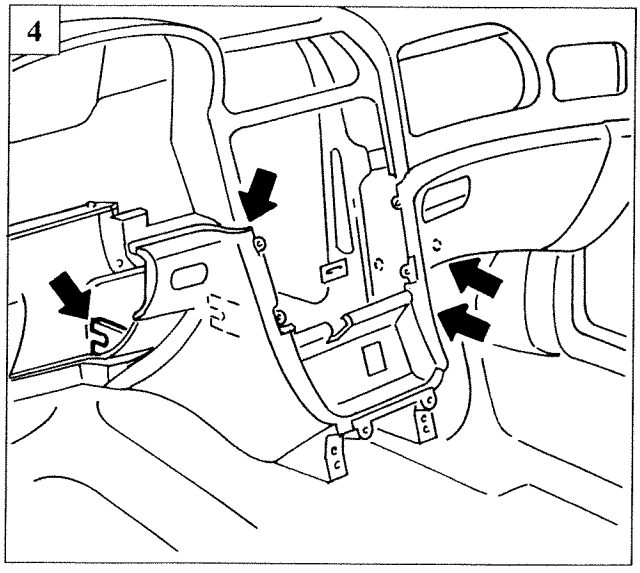

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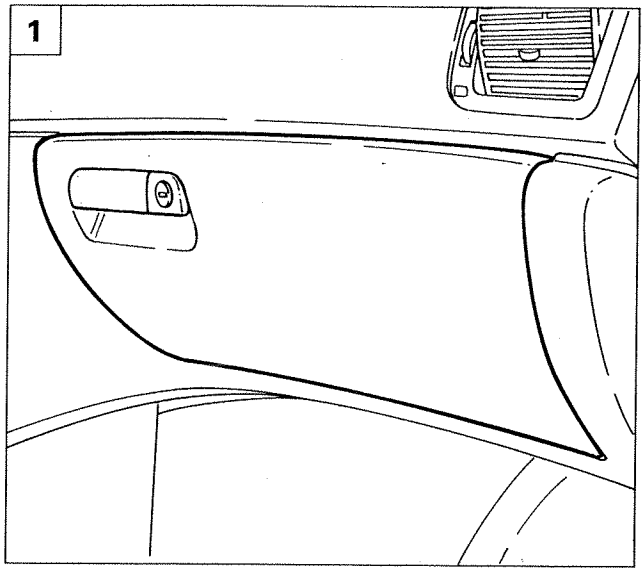

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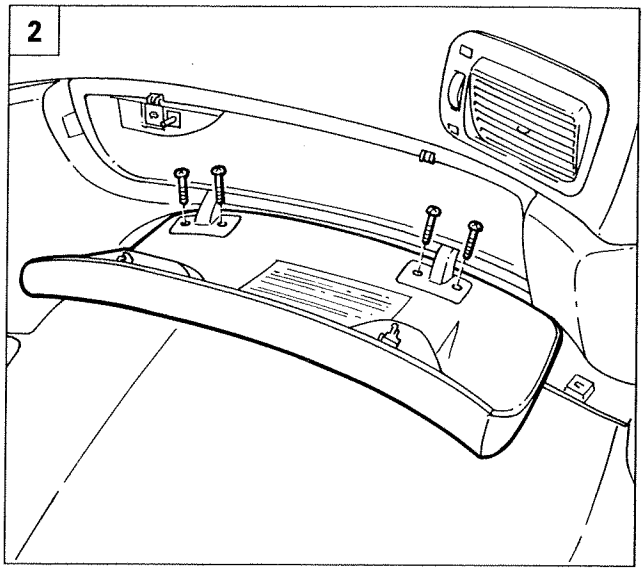

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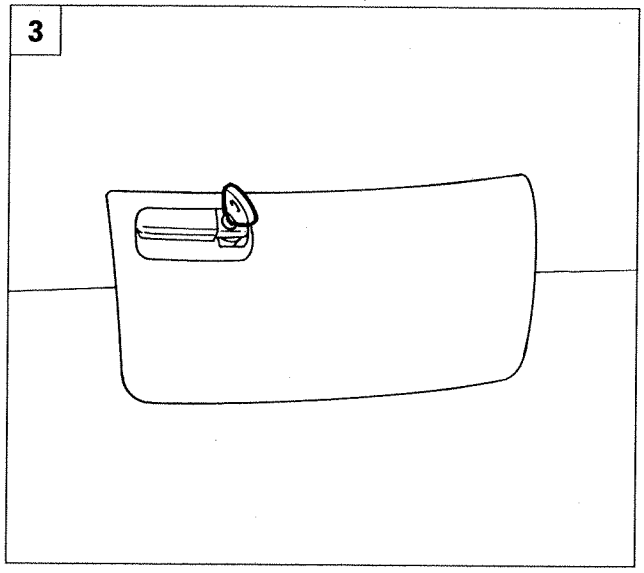


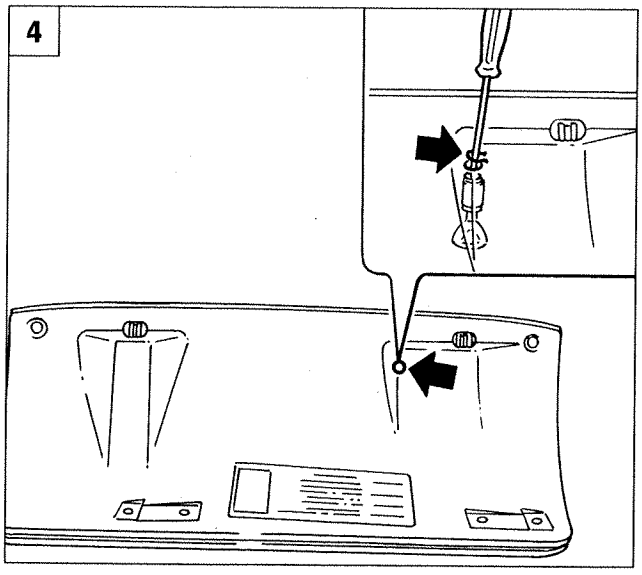
P3U321M03

REPLACING GLOVE COMPARTMENT LOCK BARREL

1. Open the glove compartment flap.
2. Undo the bolts fixing the glove compartment flap to the dashboard cover.
3. Insert the key in the lock barrel.
4. Move the lock barrel circlip, working via the opening shown by the arrow.
5. Extract the barrel, then replace it.

NOTE *To refit, simply reverse the order of the operations carried out for the removal.*

4



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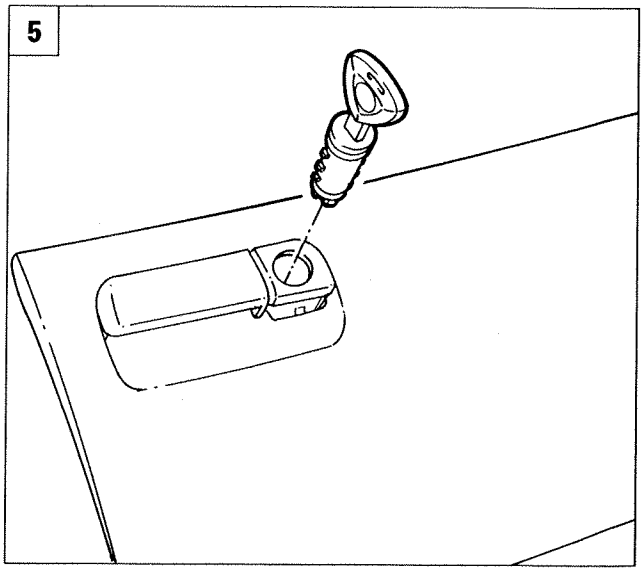

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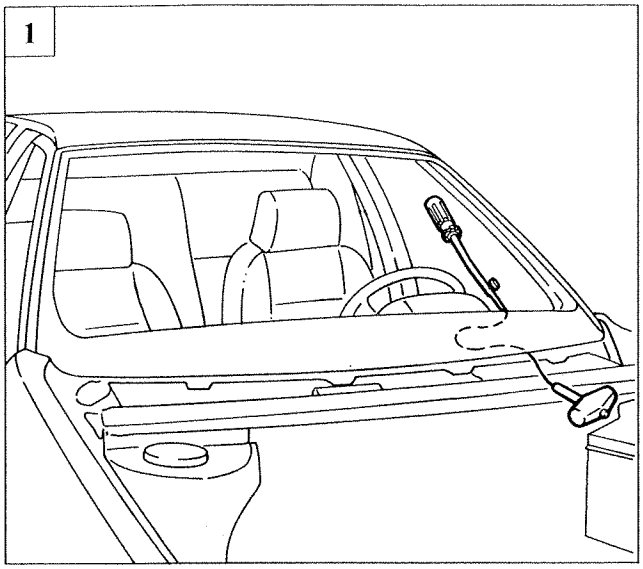

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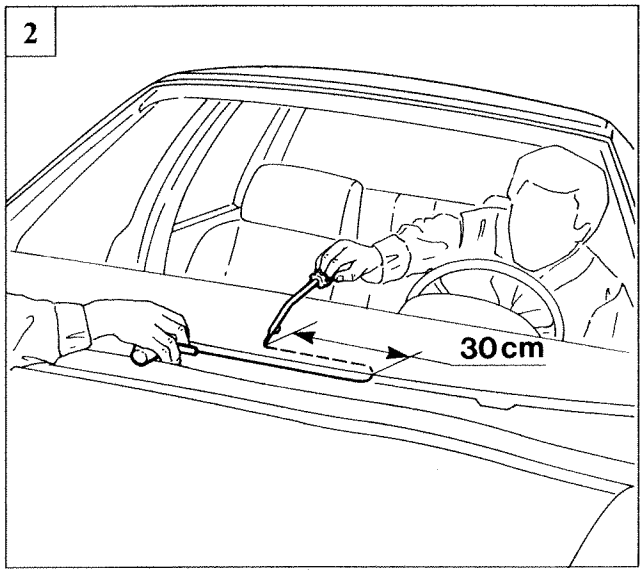

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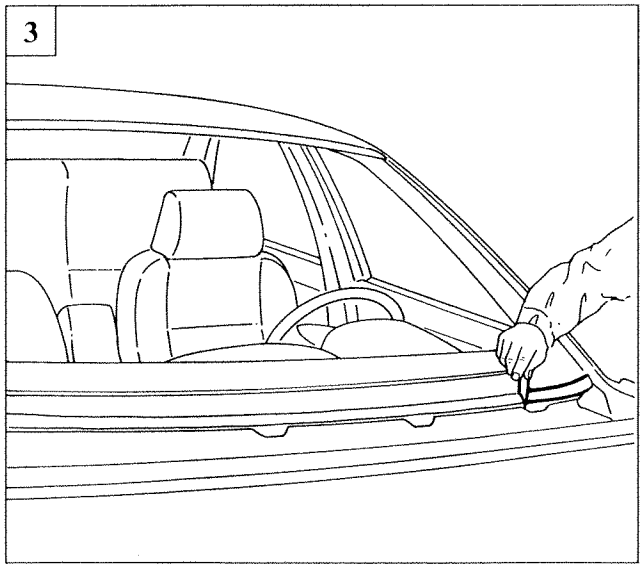


P3U033M03

REPLACING FRONT WINDOW (WINDSCREEN))

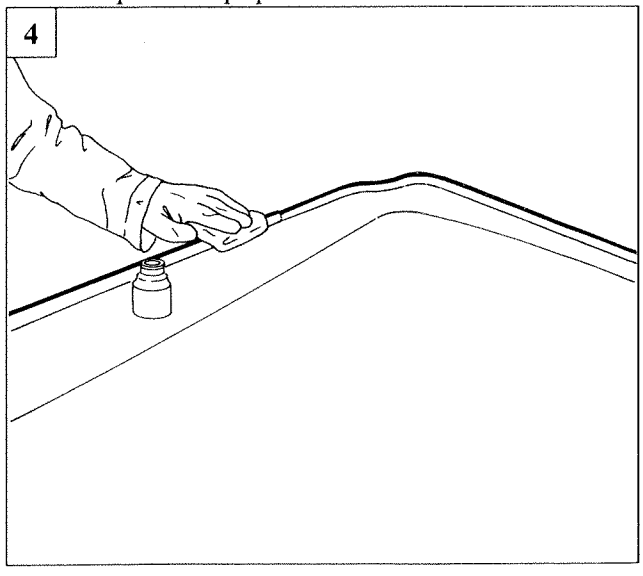
Use a cloth to protect the dashboard and the parts which could be damaged during the cutting operations and fitting of the window and protect the area along the edge of the window housing with adhesive tape to prevent the paintwork from being damaged.

Before starting the operation of replacing the window, disconnect the negative battery lead and remove the following components:
bonnet lid, windscreen wiper blades, door seals, pillar covers, lower window lining, courtesy light, sun visors, grab handles and interior rear view mirror, then lower the roof lining and move it away using special wedges, then proceed as described below:

Order of operations

1. Introduce one end of the wire through the sealant bead, then fix the retaining tool and the traction handle.
2. With the help of a second operator working from inside the vehicle, position the retaining tool at the edge of the window housing about 30 cm from the wire fixing point, suitably manoeuvre the traction handle following the window sourround and cut the sealant bead, then remove the window using the special suction pads.
3. Remove the traces of sealant from the window housing using a special scraper, then using heptane and disposable paper, de-grease the part which was treated previously.
4. De-grease the window using heptane and disposable paper.

4



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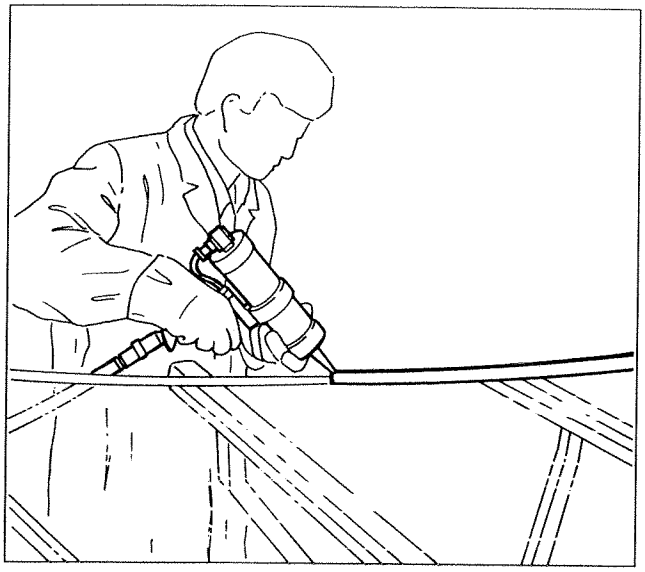


P3U034M01

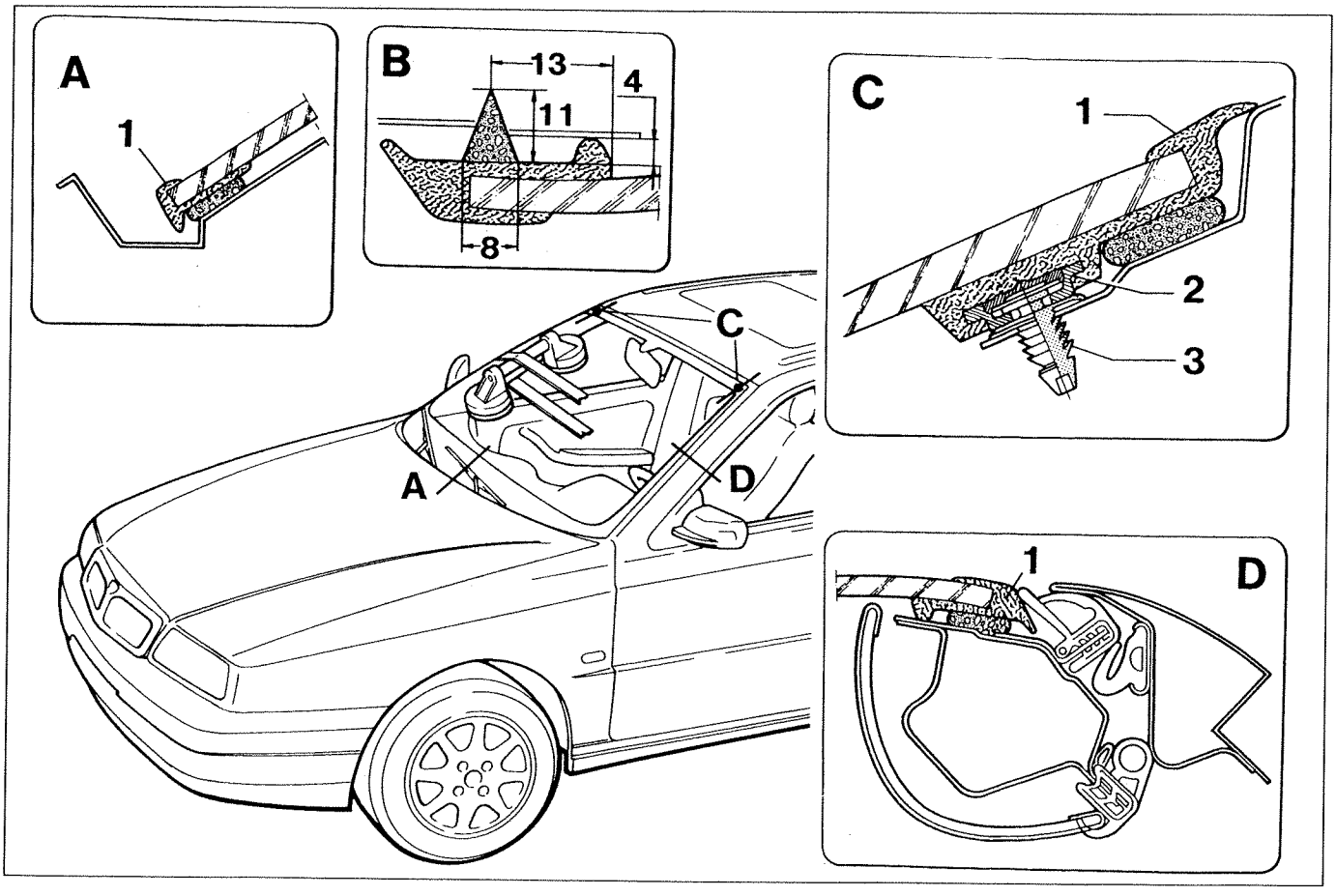
- using a spray gun apply the sealant to the pressed window seal;

NOTE *The distances relating to the size of the bead and the distance to be maintained from the bodyshell are given in the inset (B) in the diagram below, polyurethane single-component type sealant helps in eliminating the possibility of water penetration.*

- position the window in its housing; there are two housings (2) stuck in the two upper corners of the window for inserting the finned pins (3) which act as a reference for fitting the windscreen; using the special suction pads and belts, keep the window under pressure for at least 6 hours.

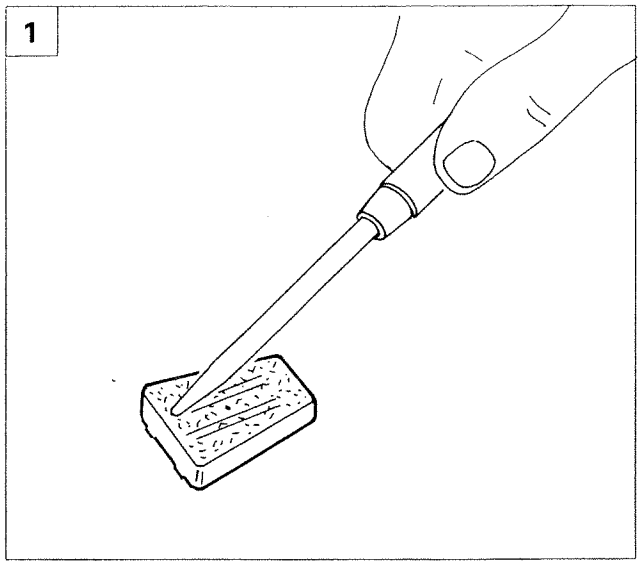
The diagram below illustrates the elements of which the windscreen is composed

A. Section of pressed seal (1) on the lower edge of the window
B. Sealant distances
C. Section of housings (2) and window and pressed seal (1) finned adjustment pins (3) in the upper corners of the window
D. Section of the pillar for the pressed seal (1)



P3U034M02

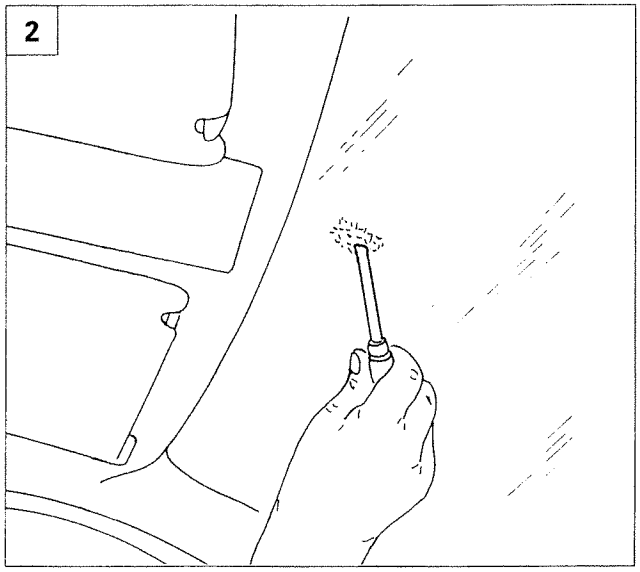
STICKING THE INTERIOR REAR VIEW MIRROR SUPPORT PLATE



P3U034M03

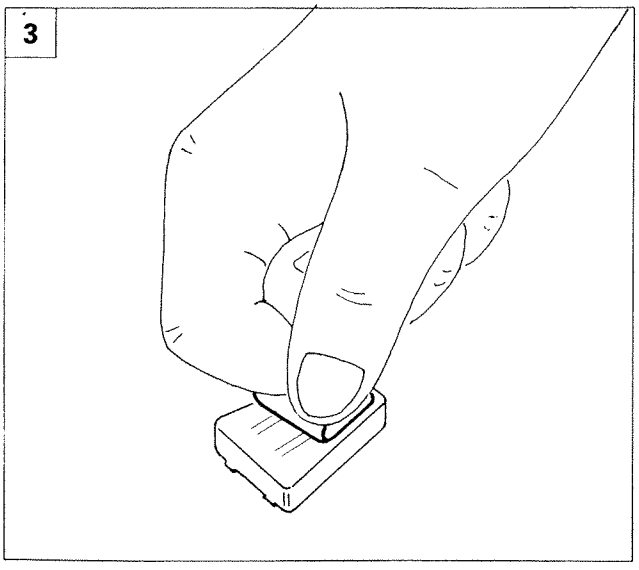
If the support plate becomes unstuck, proceed with refitting it, following the procedure described below.

1. Remove any residues of adhesive from the plate. Thoroughly degrease the surface of the palte which matches with the window using disposable paper soaked in heptane.



P3U034M04

2. Remove any residues of adhesive from the window. Thoroughly degrease the surface of the window which matches with the plate using disposable paper soaked in heptane.



P3U034M05

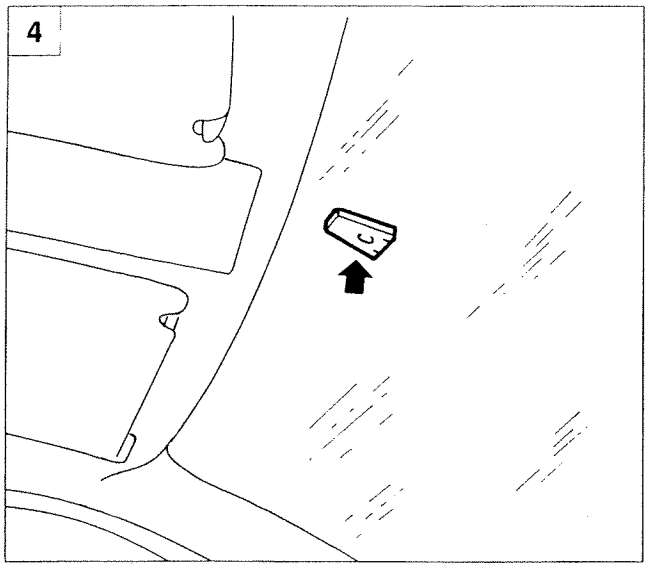
3. Cut the treated nylon fabric to the dimensions of the plate.

NOTE ***The fabric should be handled with clean, not greasy hands.***

Distribute the adhesive evenly on the plate (2-3 drops). Then place the fabric, which has been cut to size, on top.

Use ADHESIVE KIT RVM n°16914 LOCTITE (part n° 71712580) or a similar product.

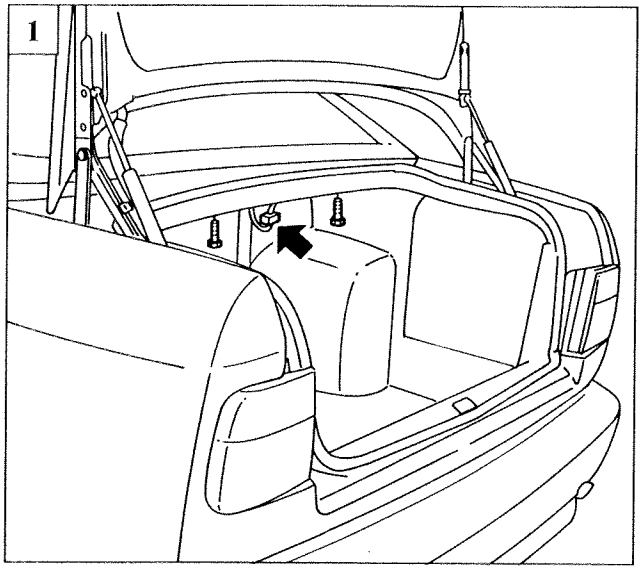
70.



4. Position the plate on the window within 30 seconds and keep it in place for at least 30 seconds, exerting gentle manual pressure.

NOTE ***The body of the rear view mirror can be fitted on the plate after 15-30 minutes.***

1



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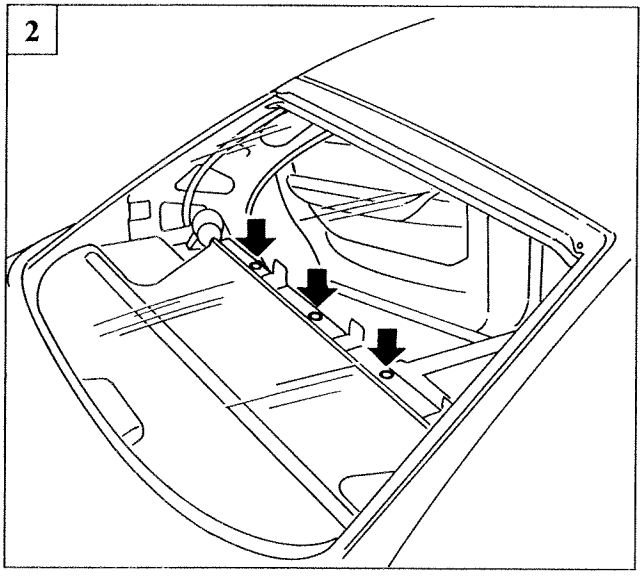

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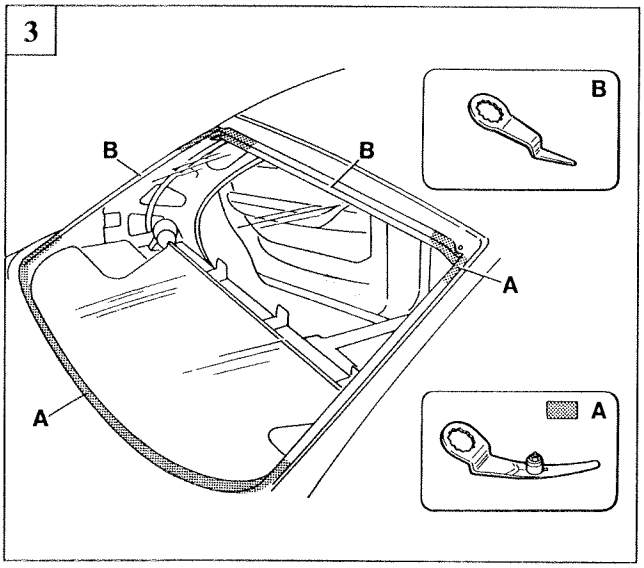


P3U035M05

REPLACING REAR WINDOW GLASS (REARSCREEN)

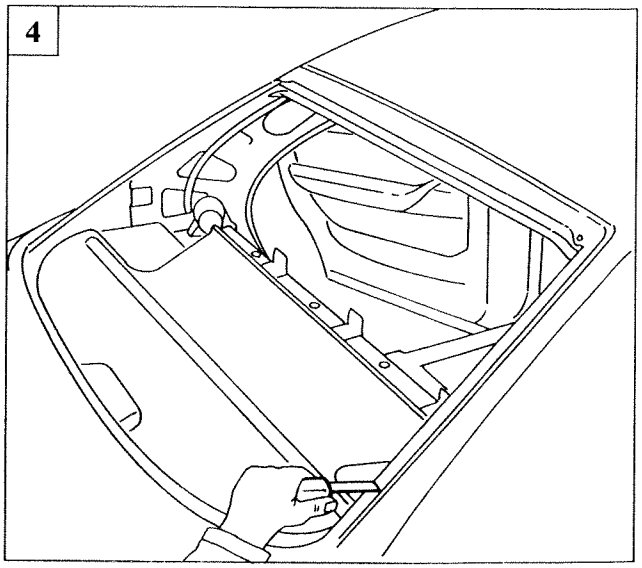
Using a cloth protect the parts which could be damaged during the operations of cutting and fitting the window glass and, using adhesive tape, protect the area of the window glass housing to prevent the paintwork from being damaged.

Before beginning the operations of replacing the window glass, disconnect the negative battery lead and remove the following components:
rear seat, rear pillar covers, seat belt reel cover, rear passenger grab handles, hooks for sun blinds, disconnect the connections for the heated rear windscreen, lower the roof lining and move it away using special wedges, then proceed as described below:

Order of operations

1. Working from inside the luggage compartment disconnect the connections for the additional brake lights and undo the bolts fixing the rear parcel shelf to the bodyshell.
2. Remove the rear parcel shelf using tool 1878077000 to remove the fixing buttons.
3. Working from inside the passenger compartment using a vibrating knife and blades 1878091000, then cut the sealant using blade (A) in the areas shaded in the diagram and blade (B) in the remaining areas.
4. Remove the traces of sealant from the window glass housing using a special scraper, then using heptane and disposable paper, degrease the previously treated area.

4



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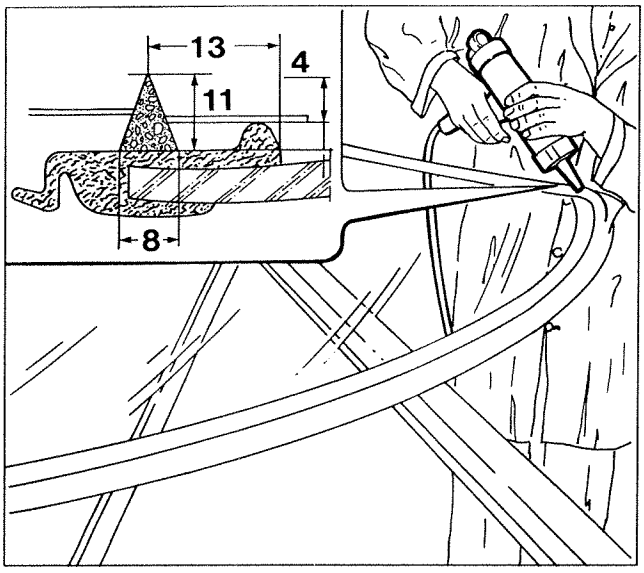
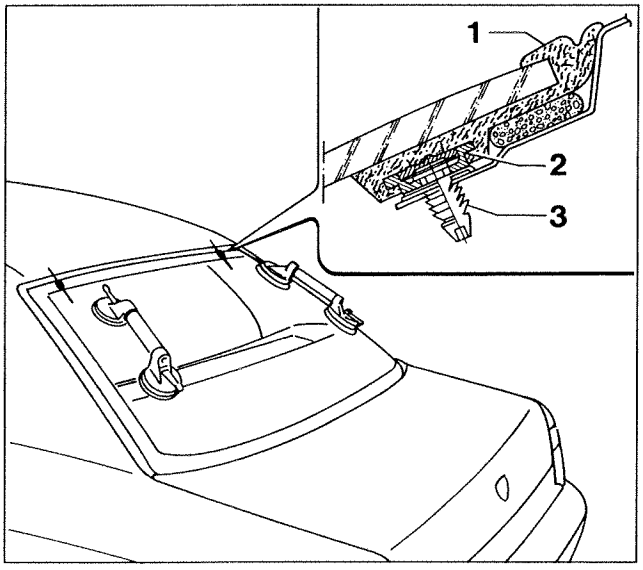


P3U036M01

- Using a spray gun apply the sealant to the pressed window seals;

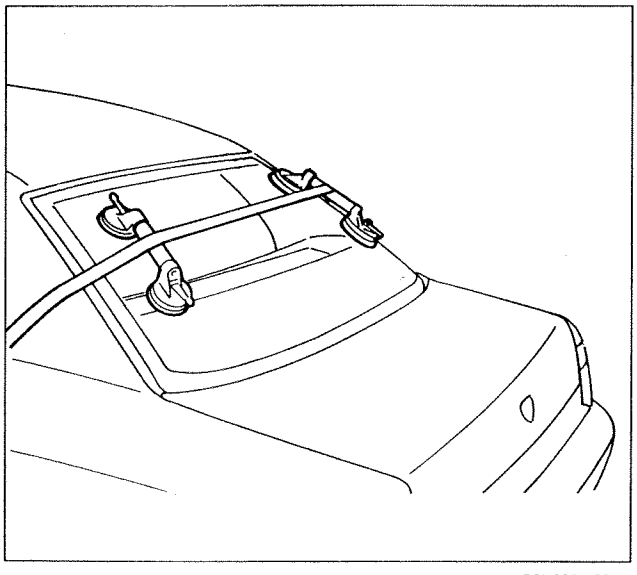
NOTE *The distances relating to the dimensions of the bead and the distance to maintain from the bodyshell are given in the diagram inset, the sealant is a single-component, polyurethane type which contributes to eliminating the possibility of water penetration.*



P3U036M02

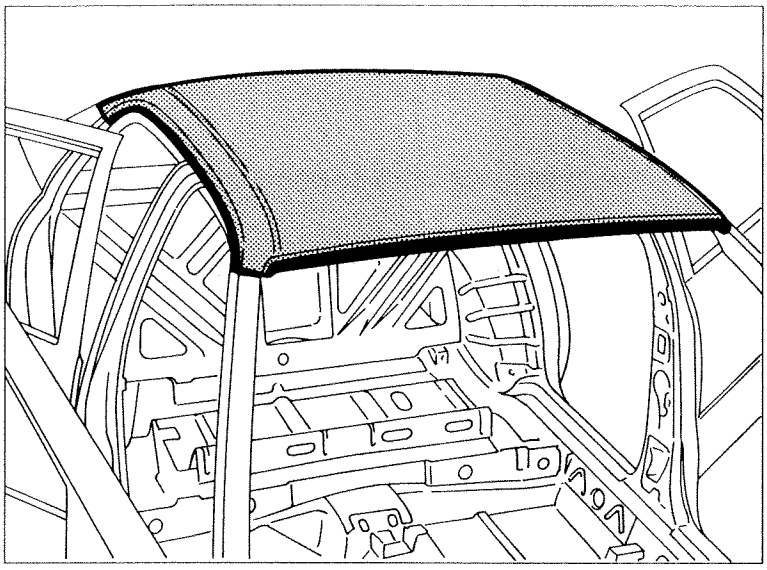
- Position the crystal in its housing; there are two housings in the top two corners of the window for the finned pins which act as references when fitting the rearscreen;

NOTE *The section of rear windscreen components, pressed seal (1), housing for inserting the finned pin (2), finned pin (3) are shown.*



P3U036M03

- Using the special suction pads and belts, keep the window glass under pressure for at least 6 hours.



P3U037M01

REPLACING VEHICLE ROOF PANEL (7090A 58)*

(*) This number indicates the operation code contained in the Flat rate manual.

The component for which the replacement procedure is given is highlighted in the diagram at the side.

PRELIMINARY PROCEDURES

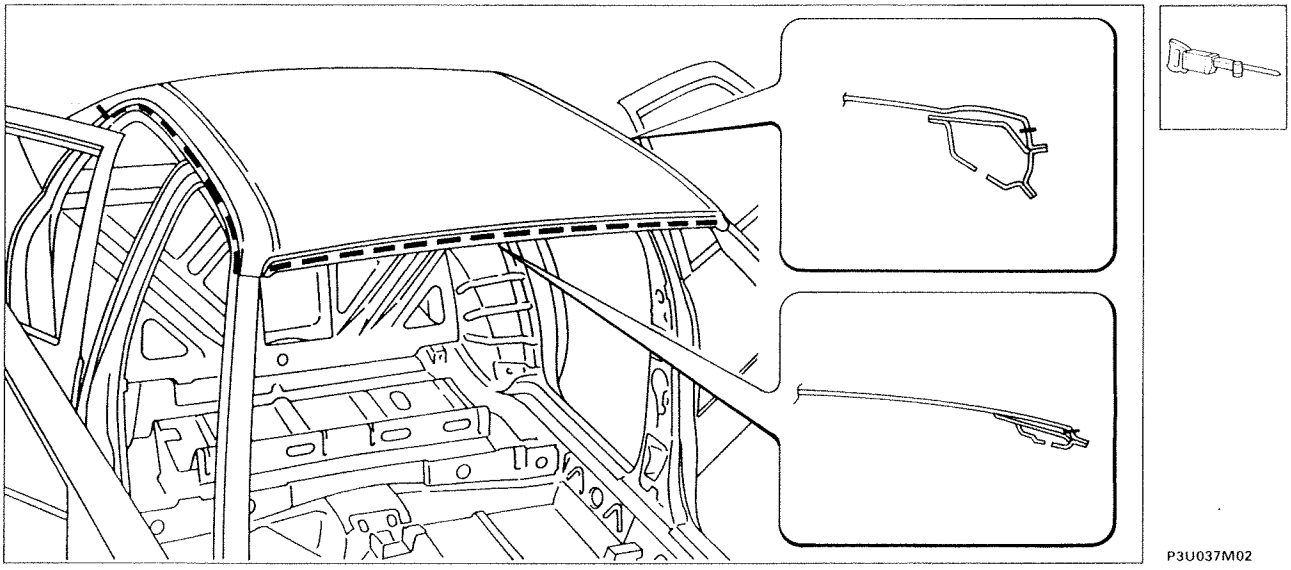
Establish the extent of the damage, check if there are distortions to the connected components by checking the bodyshell alignment figures given on page 77, using suitable methods (jigs, templates or gauges). Carry out any straightening operations required to the bodyshell before cutting the component. After this operation check that the components not being replaced are intact.

PRELIMINARY DISMANTLING

Remove the moving parts of the bodywork and interior fittings, which could impede the repair operations or be damaged during them.

REMOVING

Cut the vehicle roof panel using a power saw following the dotted lines shown in the diagram below. The most important sections of the body panel are shown in order to allow the operator to adjust the position and the depth of the cutting so as not to damage the panels underneath.



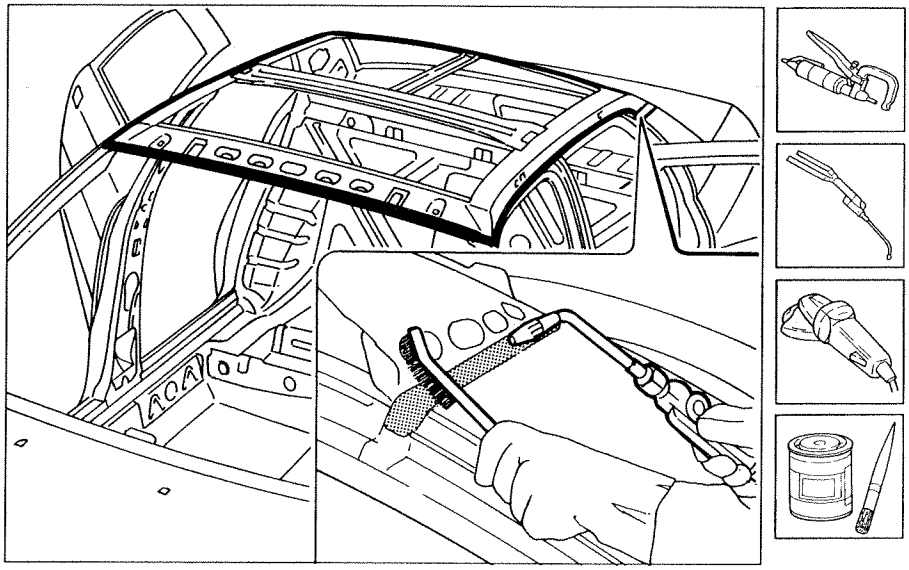
P3U037M02

When carrying out the operations described, adhere strictly to the safety procedures. Protective shoes, ear-muffs and gloves should be worn during the cutting operations, welding masks and gloves during the welding operations, and a protective mask and gloves during the painting operations.

70.

Removing off cuts and preparing edges of bodyshell

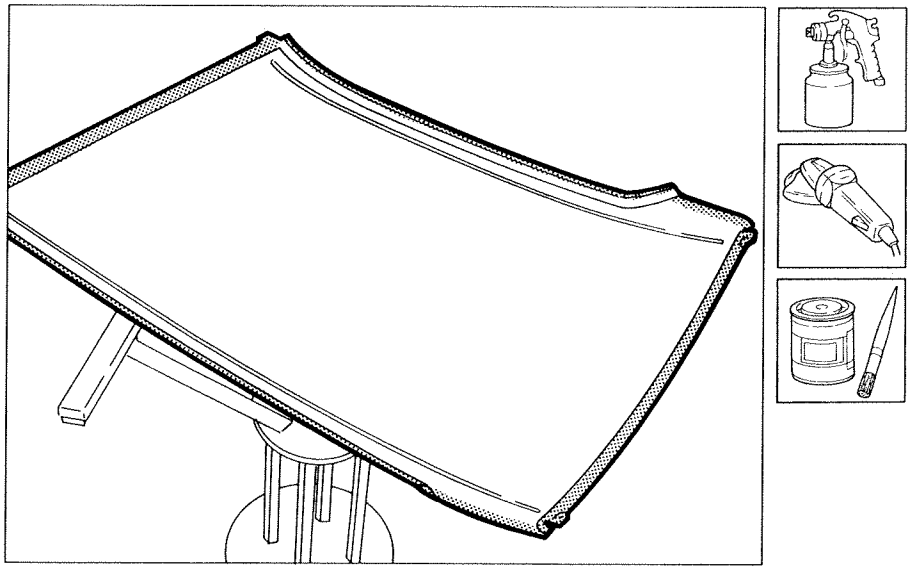
1. Remove the weld points along the entire perimeter of the edge of the bodyshell using a special cutter, with the exception of the section by the front and rear pillars.
2. Remove the metal off cuts using pliers.
3. Remove the metal off cuts by the front and rear pillars using an oxyacetylene canister and brush.
4. Straighten the edges with a hammer and dolly block.
5. Remove the weld residues using a disc grinder.
6. Apply IVI Epox epoxide primer or an electro-weldable galvanized paint or an equivalent product, to the previously ground areas.



P3U038M01

Preparing the spare part

1. Apply a base coat using a spray gun.
2. Remove the anti-corrosion treatment from the entire perimeter of the inner and outer part of the replacement part using a disc grinder.
3. Use the electro-galvanized paint on the edges in contact with the bodyshell.

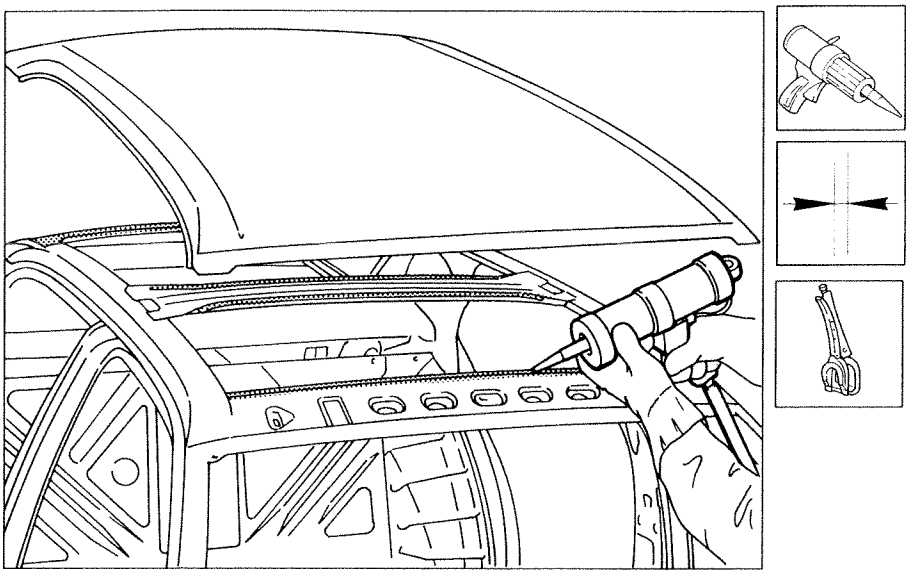


P3U038M02

Positioning the replacement part

1. Renew the sealant on the bodyshell ribs, using IVI acrylic type sealant 854210 or an equivalent product.

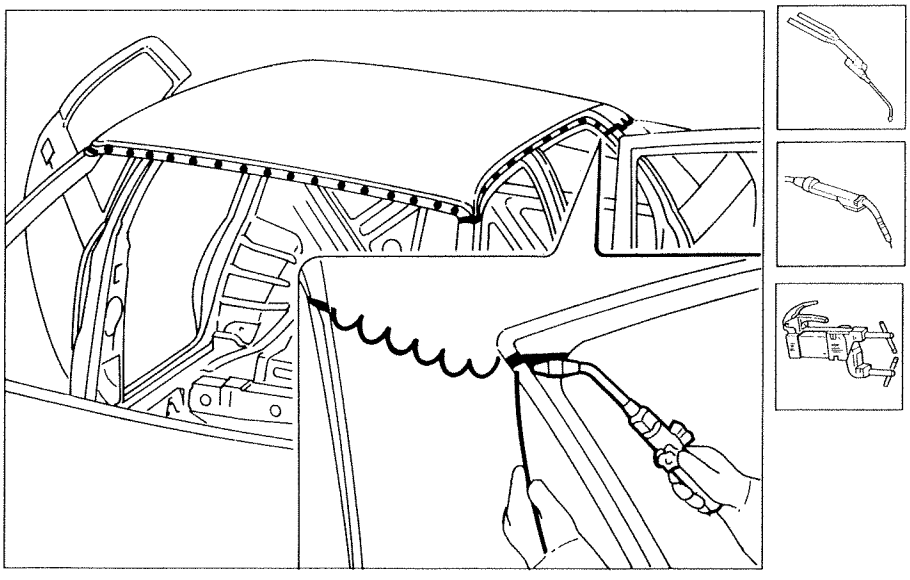
2. Carefully place thè replacment part in position.
3. Check that the roof panel is perfectly positioned on the bodyshell.
4. Fix the replacement part to the bodyshell using special self-locking clamps.



P3U039M01

Welding the spare part

1. Carry out the brass welding using an oxyacetylene canister at the corners of the front and rear roof pillars.
2. Use a MIG welder on the edge of the rear roof pillars.
3. Using a spot welder continue the operation along the entire contact edge between the roof panel and the bodyshell.



P3U039M02

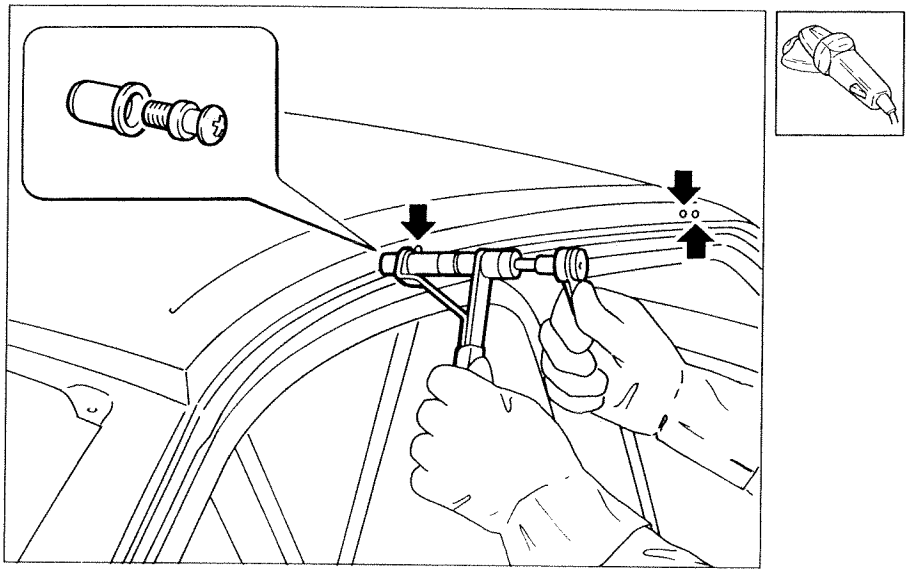
MIG welding

Spot welding

Brass welding

Finishing operations

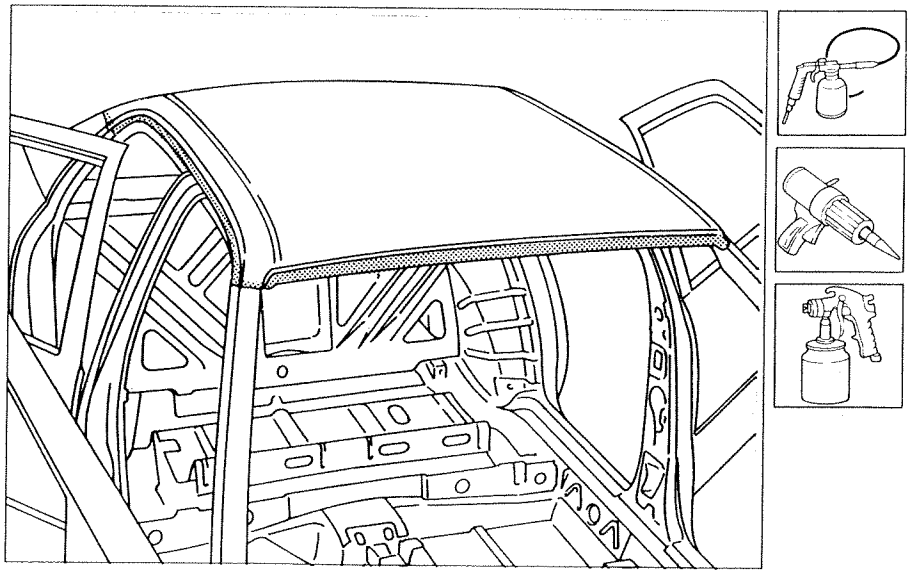
1. Using a hammer and dolly block correct any distortions to the panel.
2. Remove any weld slag using a disc grinder.
3. Fit the threaded rivets and the bolts for the roof rack attachments in the holes shown in the diagram using the special tool.



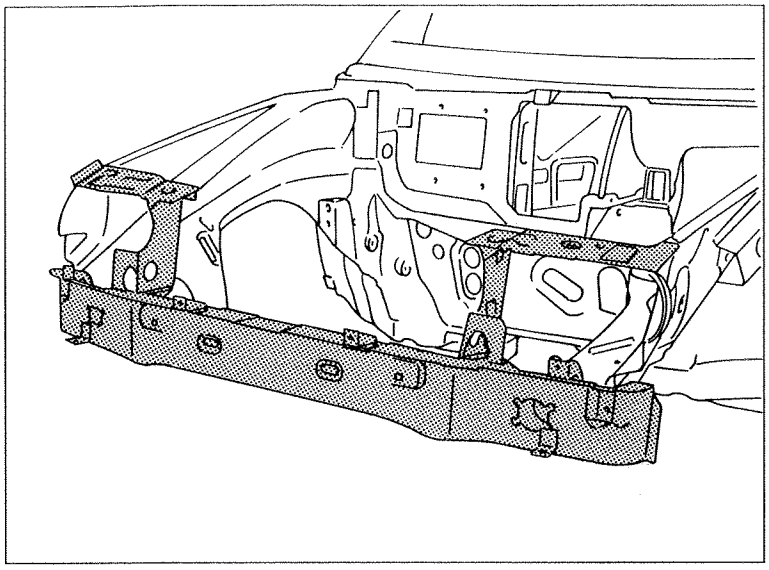
P3U040M01

Protection

1. Apply the electro-phoretic protective treatment to the areas previously welded.
2. Seal the joins between the roof panel and the bodyshell using IVI 854210 type transparent acrylic sealant or an equivalent product.
3. Proceed with the painting and waxing stages.



P3U040M02



P3U041M01

REPLACING FRONT CROSS MEMBER LINING (7090G 07)*

(*) This number indicates the operation code contained in the Flat rate manual.

The component for which the replacement procedure is given is highlighted in the diagram at the side.

PRELIMINARY PROCEDURES

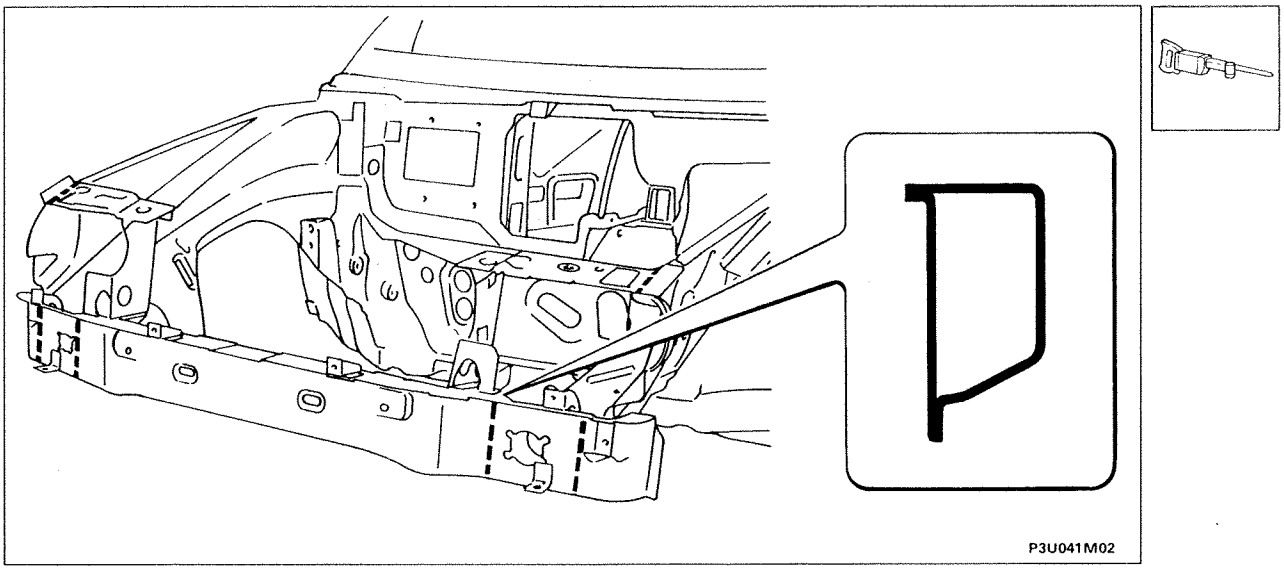
Establish the extent of the damage, check if there are distortions to the connected components by checking the bodyshell alignment figures given on page 77, using the appropriate methods (jigs, templates and gauges). Carry out any straightening operations required to the bodyshell before cutting the component.
After this operation check that the components not being replaced are in tact.

PRELIMINARY DISMANTLING

Remove the moving parts of the bodywork and interior fittings, which could impede the repair operations or be damaged during them.

REMOVING

Cut the front cross member cover using a power saw following the dotted lines shown in the diagram below. The most important sections of the body panel are shown in order to allow the operator to adjust the position and the depth of the cutting so as not to damage the panels underneath.

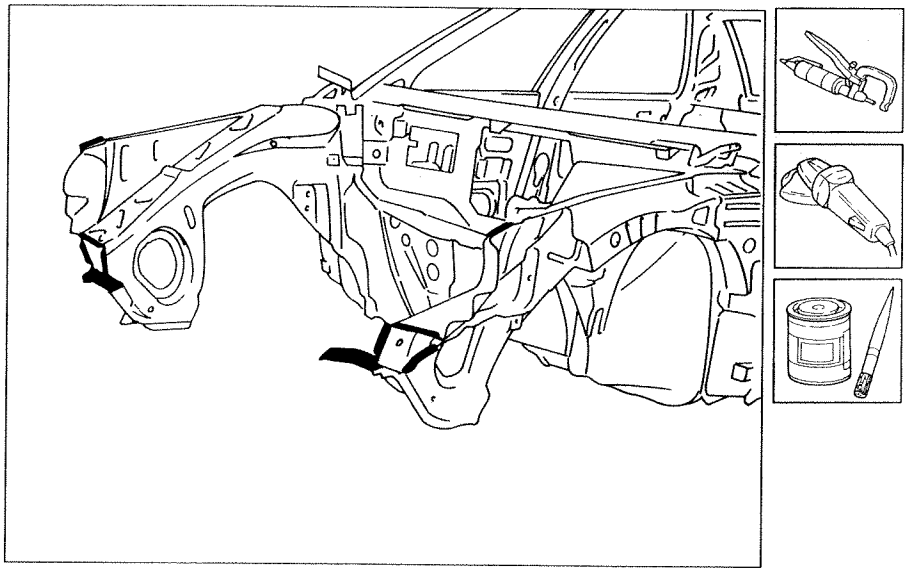


P3U041M02

When carrying out the operations described, adhere strictly to the safety procedures. Protective shoes, ear-muffs and gloves should be worn during the cutting operations, welding masks and gloves during the welding operations, and a protective mask and gloves during the painting operations.

Removing off cuts and preparing edges of bodyshell

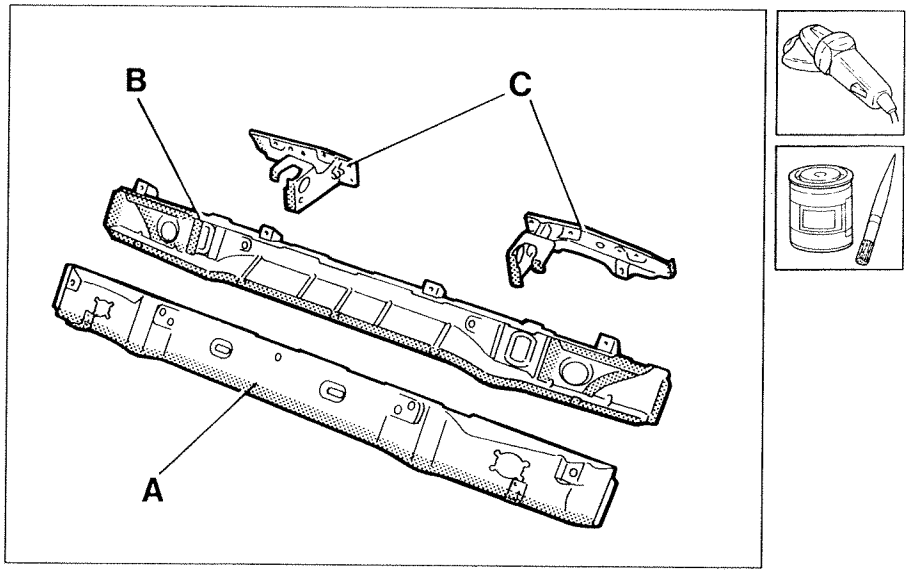
1. Remove the weld points along the entire perimeter of the edge of the bodyshell, using a special cutter.
2. Remove the metal off cuts using pliers.
3. Straighten the edges with a hammer and dolly block.
4. Remove the weld residues using a disc grinder.
5. Apply the IVI Epox epoxide type primer or an electro-weldable galvanized paint or an equivalent product, to the areas previously ground.



P3U042M01

Preparing the replacement parts

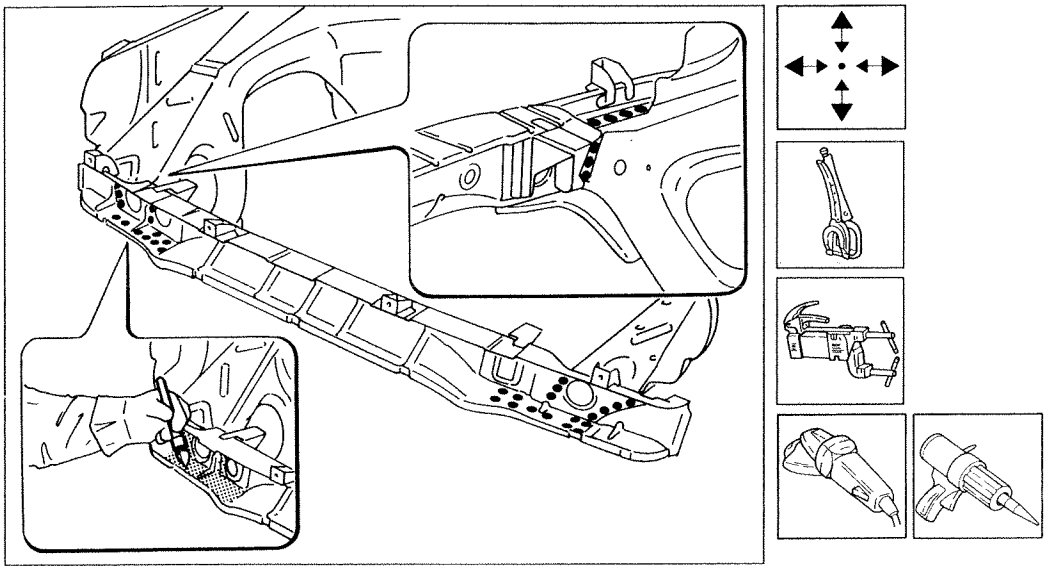
1. Outer cross member lining (A). Inner cross member lining (B). Headlamp housings (C).
2. Using a disc grinder, remove the anti-corrosion treatment from the entire perimeter on the inside and the outside of the replacement parts.
3. Use electro-galvanizing paint on the edges in contact with the bodyshell.



P3U042M02

Positioning and first welding and sealing stage for the internal cross member lining

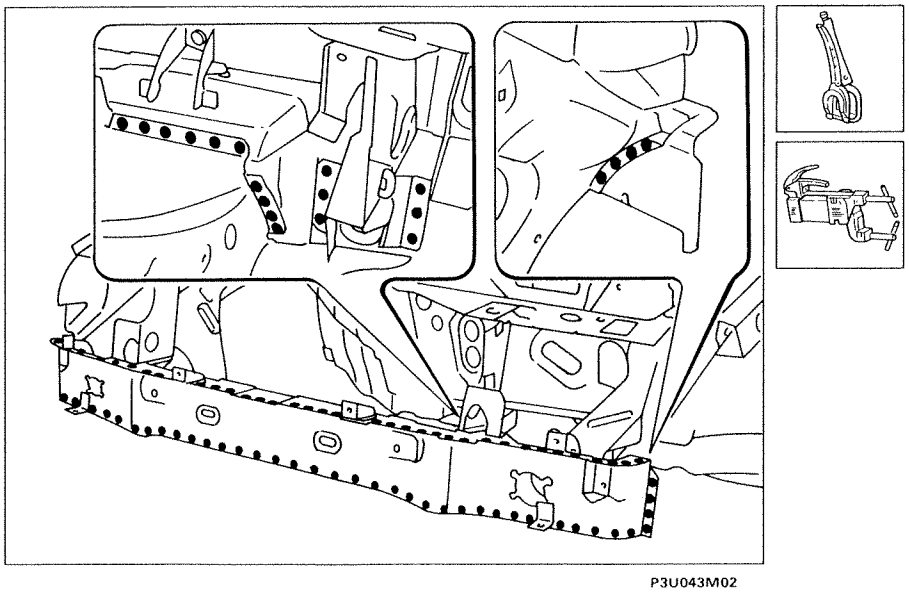
1. Carefully position the internal cross member lining on the bodyshell.
2. Check that the replacement part is perfectly positioned in relation to the side members.
3. Fix the replacement part to the bodyshell using special self-locking clamps.
4. Carry out the spot welding between the replacement part and the bodyshell side members.
5. Remove any weld slag using a disc grinder.
6. Apply IVI 854210 transparent acrylic sealant or an equivalent product to the previously treated areas.



P3U043M01

Continuation of positioning replacement parts and final welding

1. Position the external cross member lining on the bodyshell using the special self-locking clamps.
2. Carry out the spot welding by the edges in contact with the internal cross member lining.
3. Position the headlamp housings in the bodyshell, using the special self-locking clamps.
4. Use the spot welder on the contact edges between the headlamp housing, the internal cross member lining and the bodyshell.



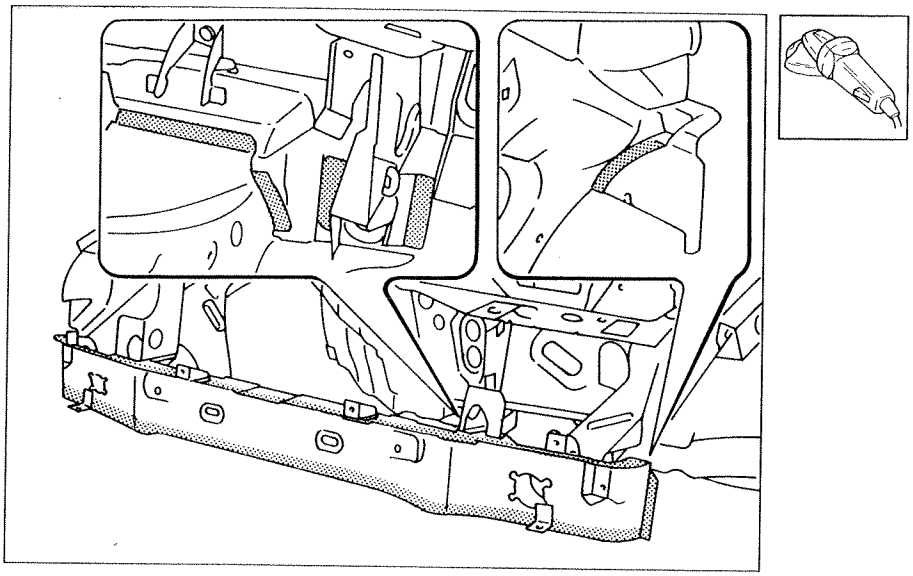
P3U043M02

●●● Spot welding

70.

Finishing operations

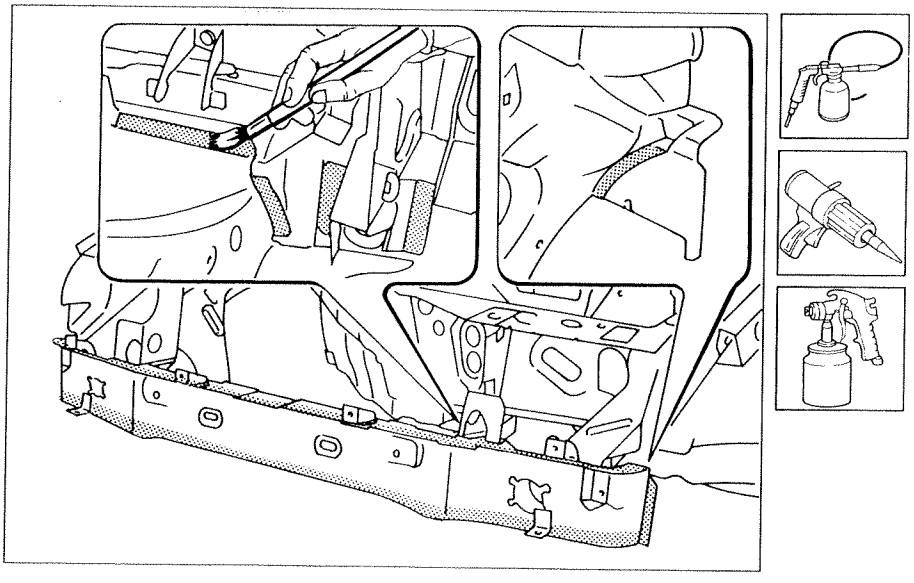
1. Correct any distortions to the panel using a hammer and dolly block.
2. Remove any weld slag using a disc grinder.



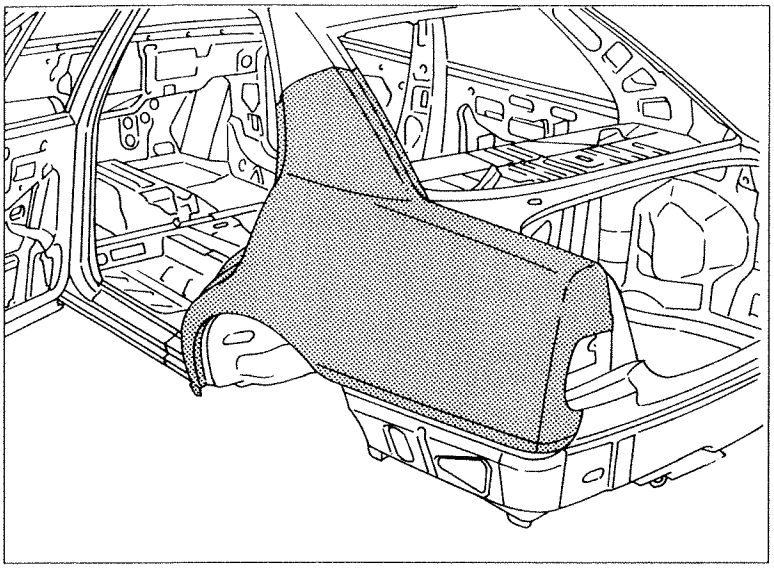
P3U044M01

Protection

1. Apply the electro-phoretic treatment to the areas previously welded.
2. Seal the joins between the roof panel and the bodyshell using IVI 854210 transparent acrylic sealant or an equivalent product.
3. Proced with the painting and waxing stage.



P3U044M02



P3U045M01

REPLACING REAR WING (7090A 54)*

(*) This number indicates the operation code contained in the Flat rate manual.

The component for which the replacement procedure is given is highlighted in the diagram at the side.

PRELIMINARY PROCEDURES

Establish the extent of the damage, check if there are distortions to the connected components by checking the bodyshell alignment figures given on page 77, using suitable methods (jigs, templates or gauges). Carry out any straightening operations required to the bodyshell before cutting the component. After this operation check that the components not being replaced are intact.

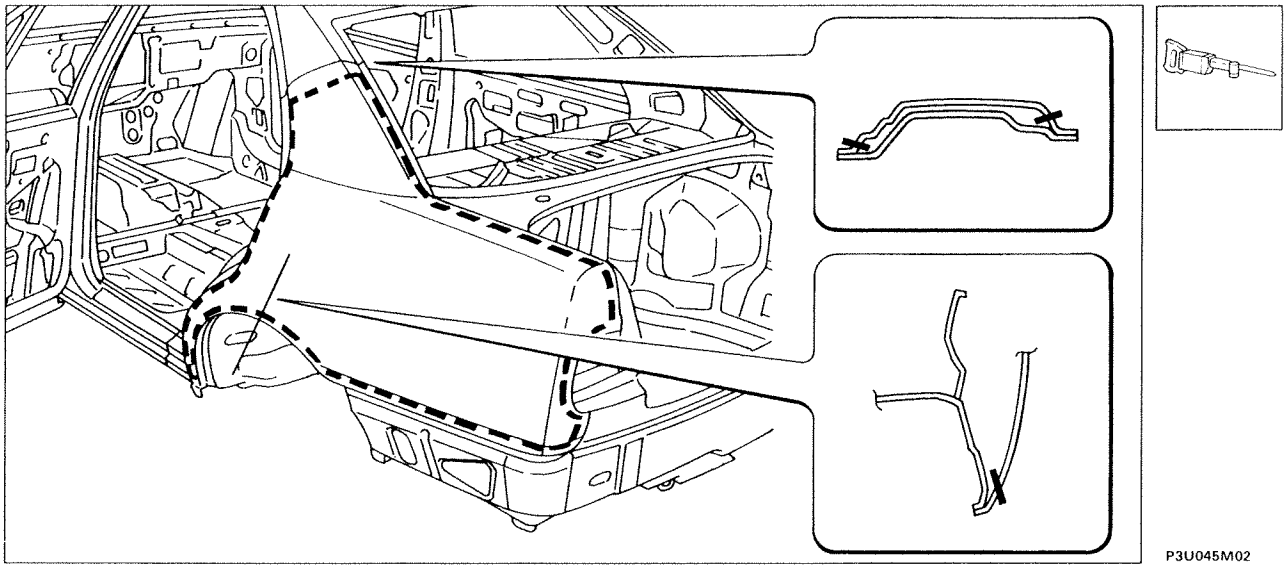
PRELIMINARY DISMANTLING

Remove the moving parts of the bodywork and interior fittings, which could impede the repair operations or be damaged during them.

REMOVING

Cut the rear wing using a power saw following the dotted lines shown in the diagram below.

The most important sections of the body panel are shown in order to allow the operator to adjust the position and the depth of the cutting so as not to damage the panels underneath.

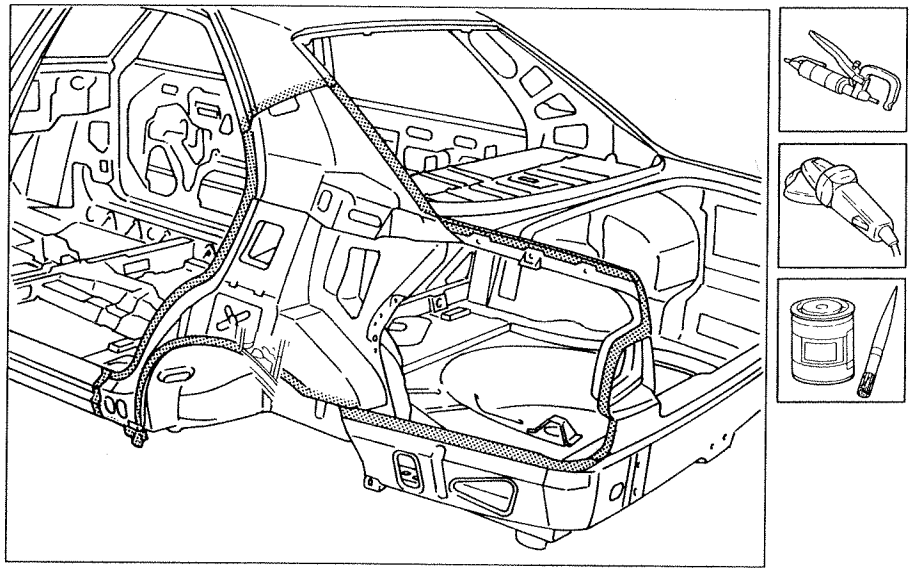


P3U045M02

When carrying out the operations described, adhere strictly to the safety procedures. Protective shoes, ear-muffs and gloves should be worn during the cutting operations, welding masks and gloves during the welding operations, and a protective mask and gloves during the painting operations.

Removing off cuts and preparing edges of bodyshell

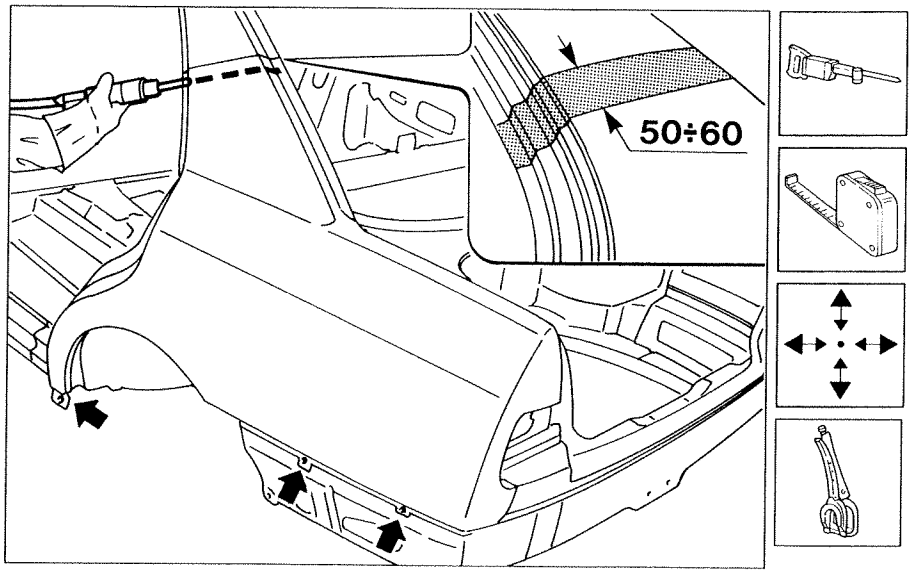
1. Remove the weld points along the entire perimeter of the edge of the bodyshell, using a special cutter.
2. Remove the metal off cuts using pliers.
3. Straighten the edges with a hammer and dolly block.
4. Remove the weld residues using a disc grinder.
5. Apply the IVI Epox epoxide type primer or an electro-weldable galvanized paint or an equivalent product, to the areas previously ground.



P3U046M01

Adjusting the replacement part

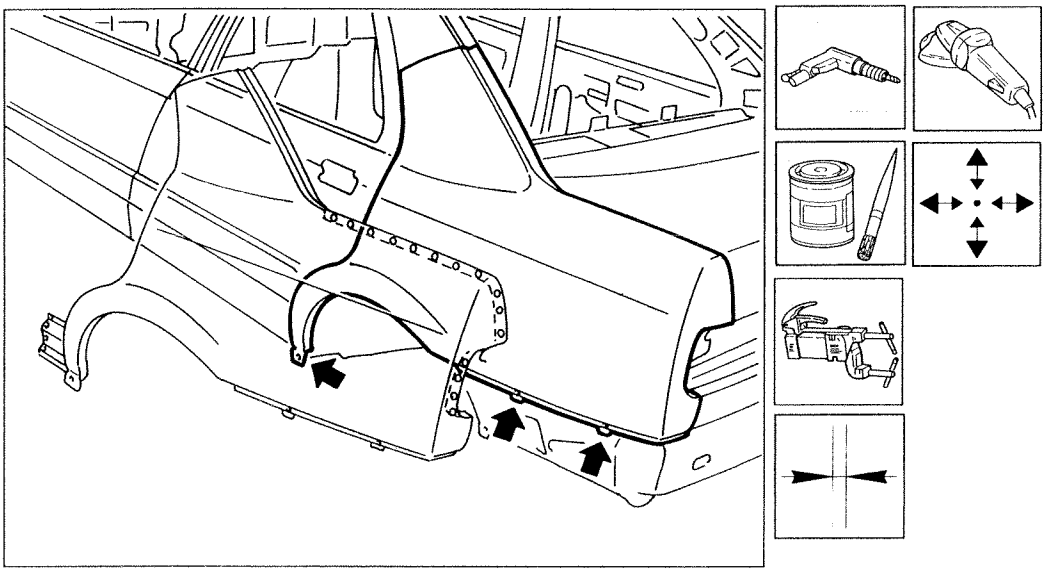
1. Cut the upper part of the replacement part then place it in position so that it adheres perfectly to the bodyshell.
2. Check that the when the wing is superimposed on the bodyshell is projects about 50 - 60 mm.
3. Check that the centering holes, shown by the arrows, are correctly positioned.
4. Fix the replacement part using the special self-locking clamps.
5 Cut the two edges of the panel so that the join line is perfect.



P3U046M02

Preparing the spare part and checking the correct positioning on the bodyshell

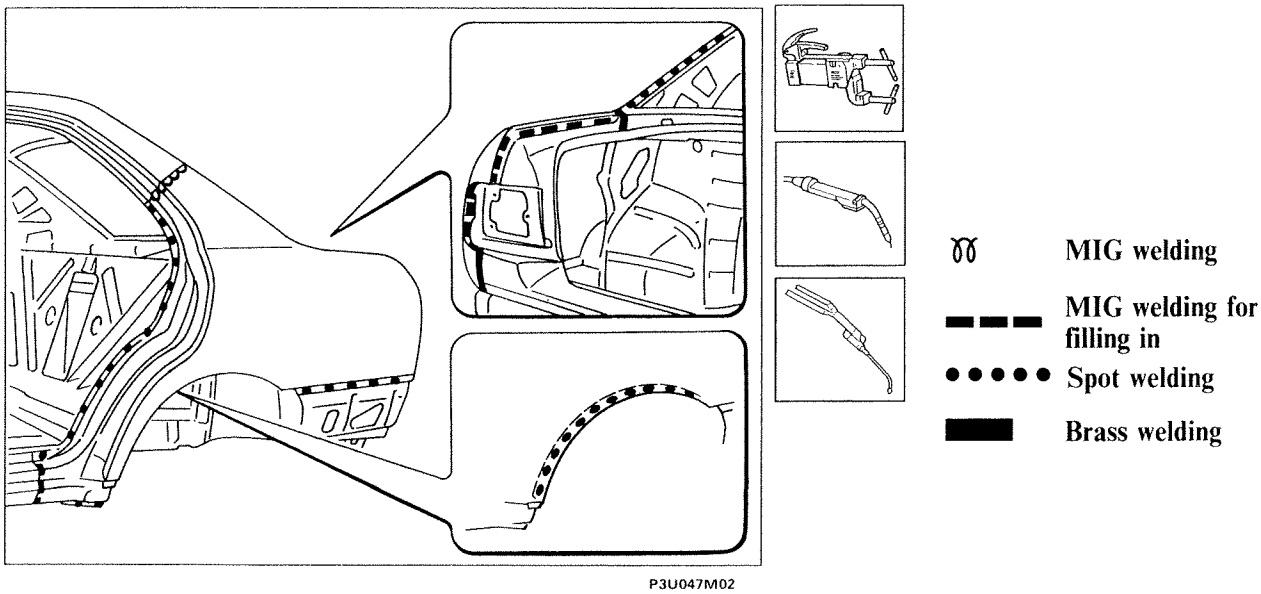
1. Make equidistant openings in the edges of the replacement part as shown in the diagram.
2. Using a disc grinder, remove the anti-corrosion treatment from the entire perimeter of the inside and outside of the replacement part.
3. Use electro-galvanizing paint on the edges in contact with the bodyshell.
4. Position the replacement part in place and check the adjustment openings shown by the arrows.
5. Tack the replacement part carrying out several spot welds.
6. Fit the boot lid, close the door and check the alignment and uniformity of the surrounding opening.



P3U047M01

Welding the spare part

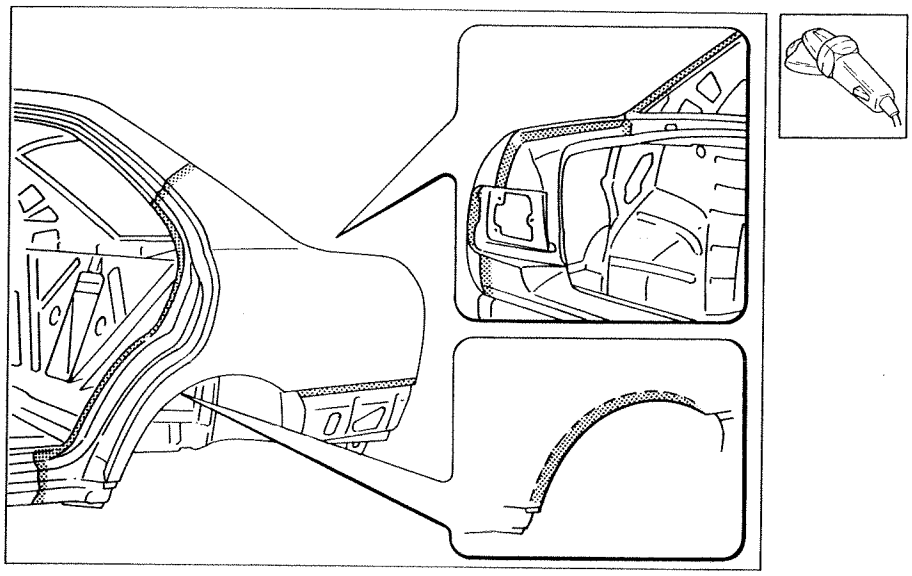
1. Carry out spot welding on the edges of the door seal, wheel arch, rear cross member and rearscreen housing.
2. Use a MIG welder between the underdoor side member and the wing and between the wing and the bodyshell.
3. Carry out brass welding using an oxyacetylene canister by the rearscreen and luggage compartment housing.



P3U047M02

Finishing operations

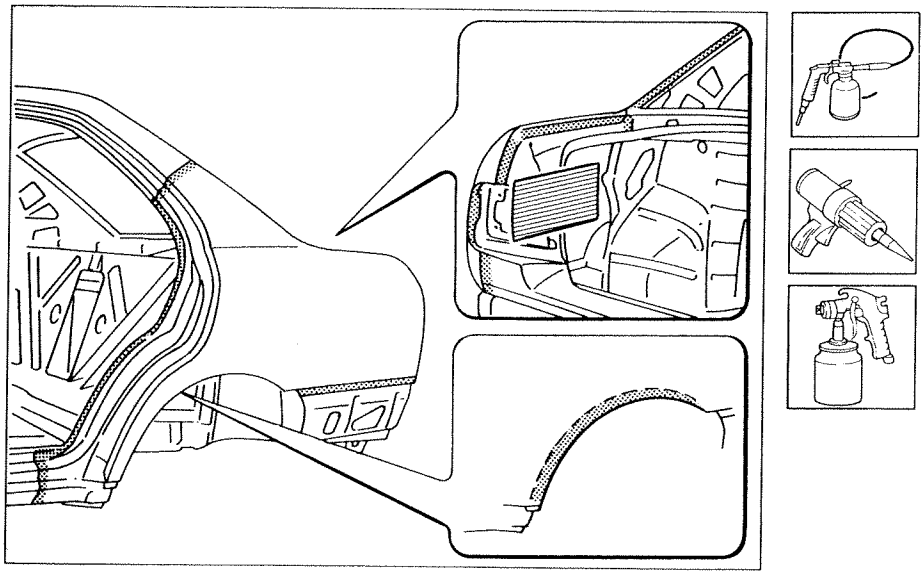
1. Correct any distortions to the panel using a hammer and dolly block.
2. Remove any weld slag using a disc grinder.



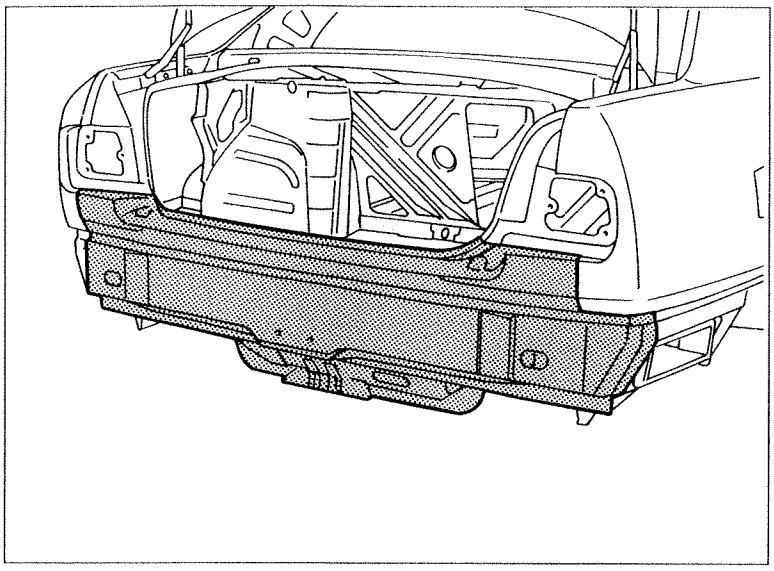
P3U048M01

Protection

1. Apply the electro-phoretic protection to the areas previously welded.
2. Seal the joins between the wing and the bodyshell using IVI 854210 transparent acrylic sealant or an equivalent product.
3. Apply the damping panels.
4. Proceed with the painting and waxing stage.



P3U048M02



P3U049M01

REPLACING REAR CROSS MEMBER LINING (7090A 46)*

(*) This number indicates the operation code contained in the Flat rate manual.

The component for which the replacement procedure is given is highlighted in the diagram at the side.

PRELIMINARY PROCEDURES

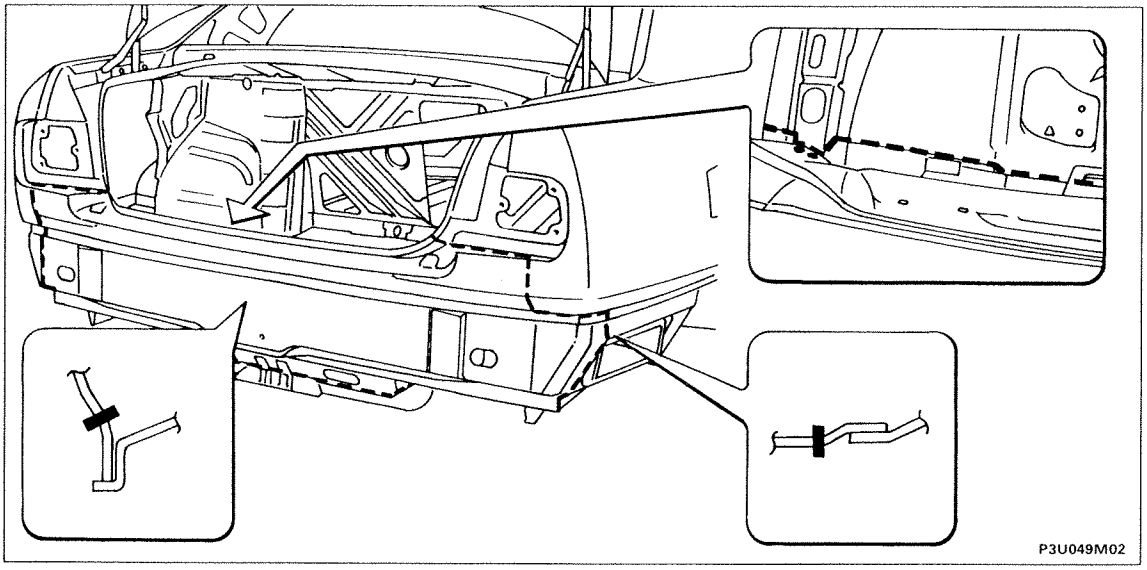
Establish the extent of the damage, check if there are distortions to the connected components by checking the bodyshell alignment figures given on page 77, using suitable methods (jigs, templates or gauges).
Carry out any straightening operations required to the bodyshell before cutting the component.
After this operation check that the components not being replaced are intact.

PRELIMINARY DISMANTLING

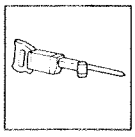
Remove the moving parts of the bodywork and interior fittings, which could impede the repair operations or be damaged during them.

REMOVING

Cut the rear cross member cover using a power saw following the dotted lines shown in the diagram below, remove the weld points for the floor panel side members.
The most important sections of the body panel are shown in order to allow the operator to adjust the position and the depth of the cutting so as not to damage the panels underneath.



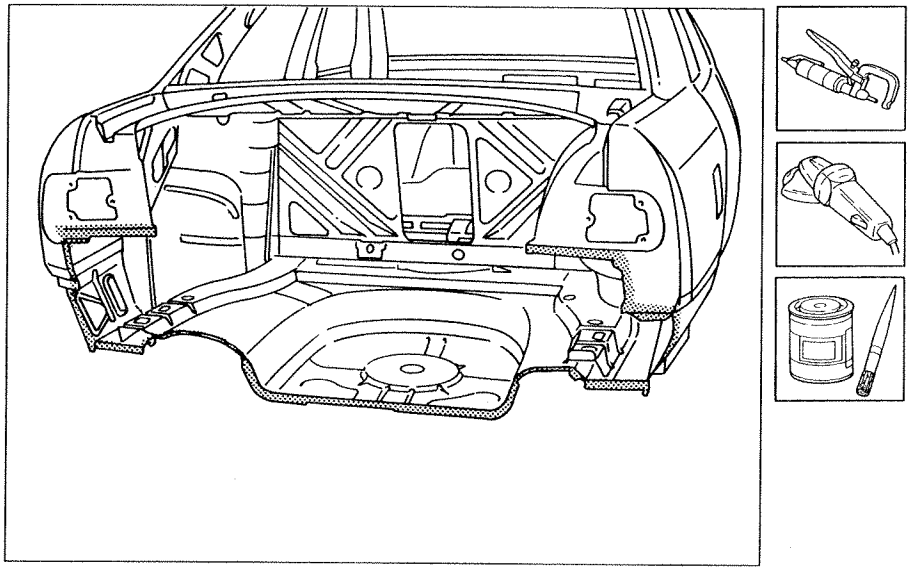
P3U049M02



When carrying out the operations described, adhere strictly to the safety procedures. Protective shoes, ear-muffs and gloves should be worn during the cutting operations, welding masks and gloves during the welding operations, and a protective mask and gloves during the painting operations.

Removing off cuts and preparing edges of bodyshell

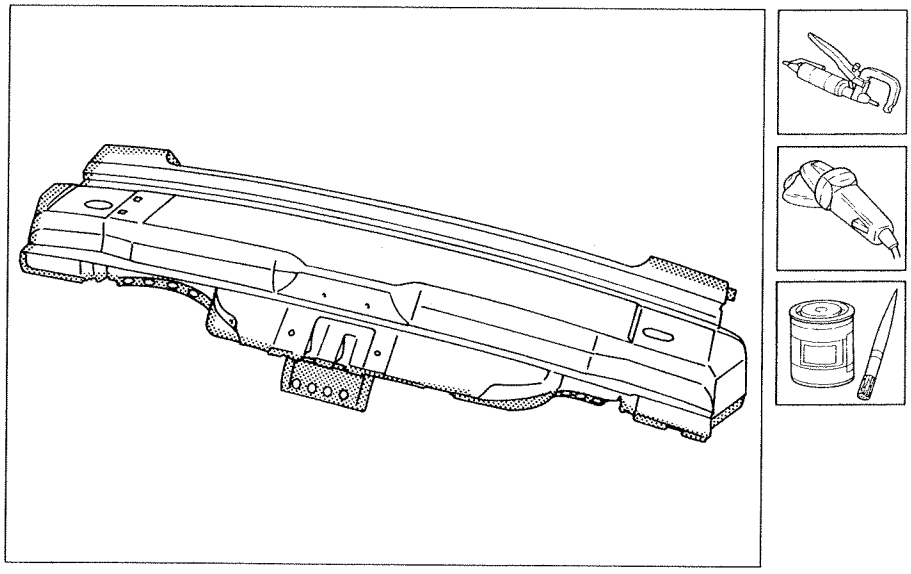
1. Remove the weld points along the entire perimeter of the edge of the bodyshell, using a special cutter.
2. Remove the metal off cuts using pliers.
3. Straighten the edges with a hammer and dolly block.
4. Remove the weld residues using a disc grinder.
5. Apply the IVI Epox epoxide type primer or an electro-weldable galvanized paint or an equivalent product, to the areas previously ground.



P3U050M01

Preparing the spare part

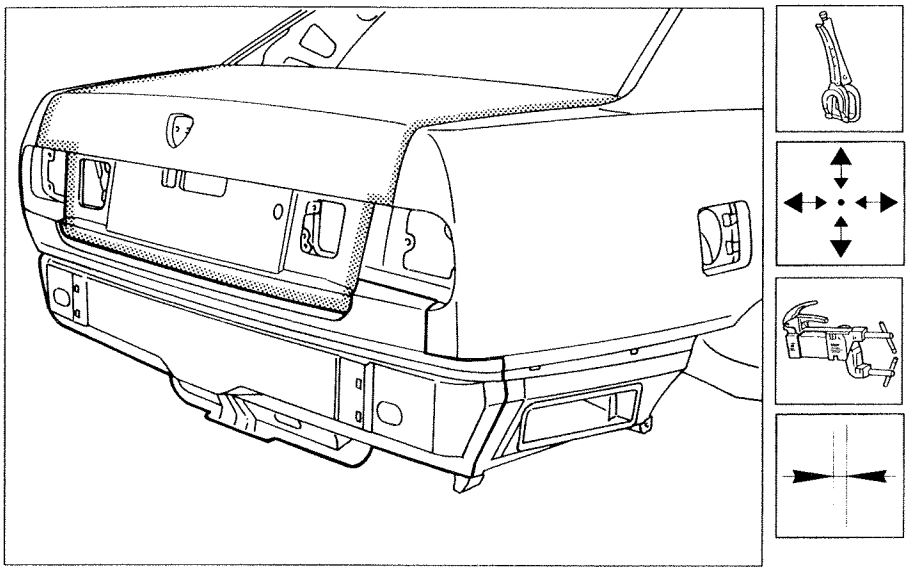
1. Make equidistant holes in the edges of the replacement part as shown in the diagram.
2. Using a disc grinder, remove the anti-corrosion treatment from the entire perimeter of the inside and outside of the replacement part.
3. Use electro-galvanizing paint on the previously treated edges.



P3U050M02

Positioning the replacement part

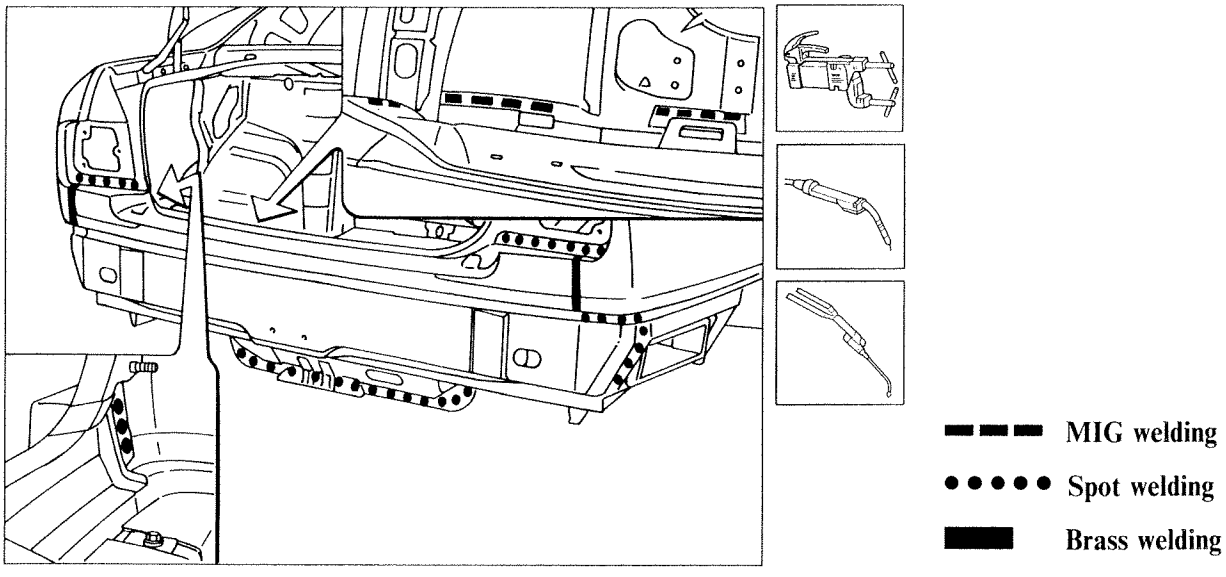
1. Carefully place the replacement part in position .
2. Check that the cross member lining is perfectly positioned.
3. Fix the replacement part to the bodyshell using the special self-locking clamps.
4. Tack the replacment part using several spot welds.
5. Close the boot lid and check the alignment and uniformity of the surrounding opening.



P3U051M01

Welding the spare part

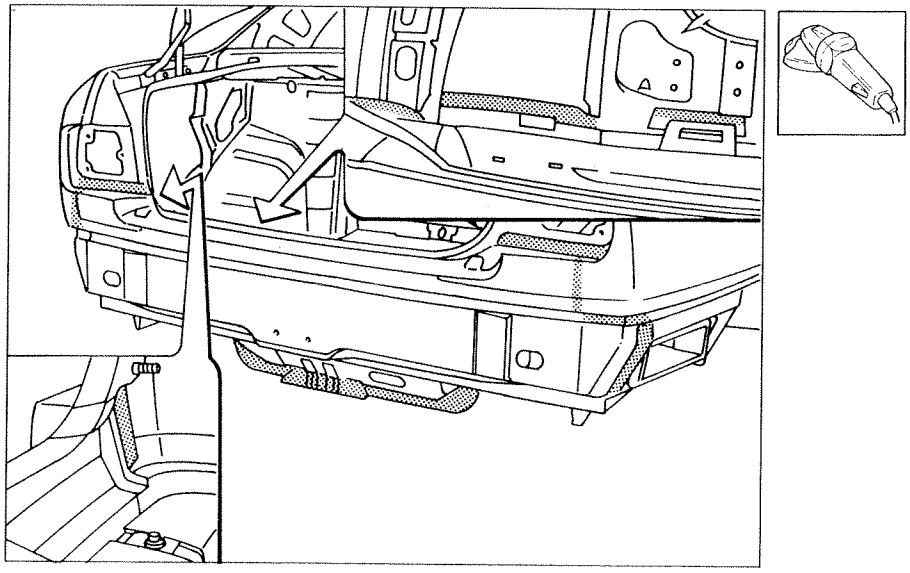
1. Carry out spot welding by the light clusters.
2. Continue the spot welding on the contact edges near the spare wheel housing and the rear wings.
3. Using a MIG welder fill the holes made previously in the replacement part.
4. Carry out brass welding using an oxyacetylene canister by the contact edges between the cross member and the wings.



P3U051M02

Finishing operations

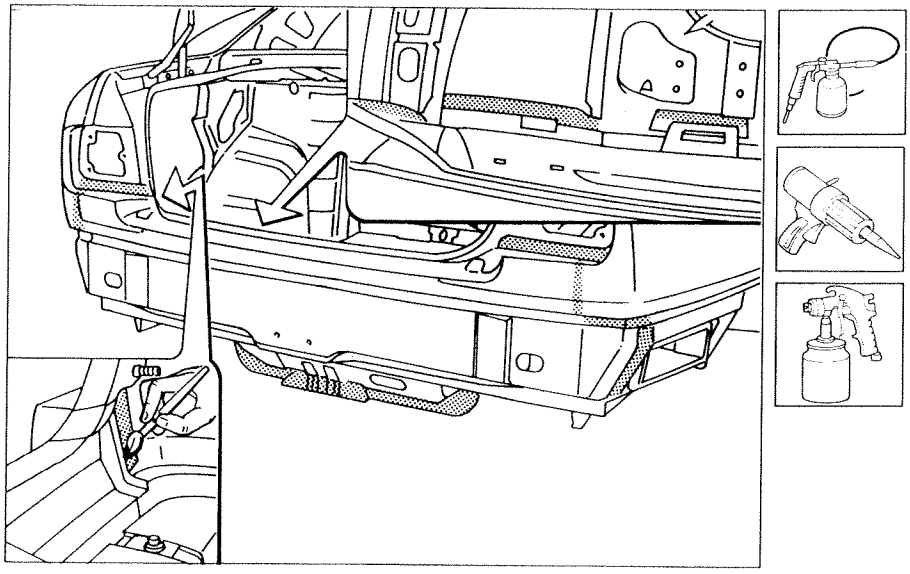
1. Correct any distortions to the panel using a hammer and dolly block.
2. Remove any weld slag using a disc grinder.



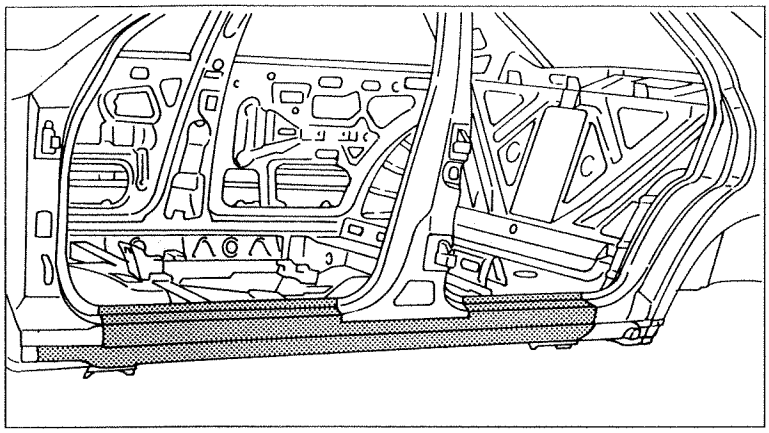
P3U052M01

Protection

1. Apply the electro-phoretic protective treatment to the areas previously welded.
2. Seal the joins between the rear cross member cover and the bodyshell using IVI 854210 transparent acrylic sealant or an equivalent product.
3. Proceed with the painting and waxing stage.



P3U052M02



P3U053M01

REPLACING UNDERDOOR SIDE MEMBER (7090G 50)*

(*) This number indicates the operation code contained in the Flat rate manual.

The component for which the replacement procedure is given is highlighted in the diagram at the side.

PRELIMINARY PROCEDURES

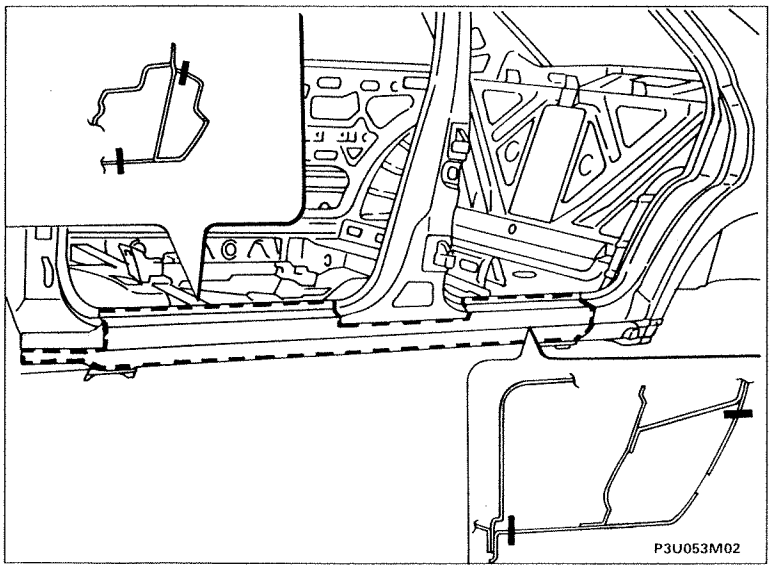
Establish the extent of the damage, check if there are distortions to the connected components by checking the bodyshell alignment figures given on page 77, using suitable methods (jigs, templates or gauges).
Carry out any straightening operations required to the bodyshell before cutting the component.
After this operation check that the components not being replaced are intact.

PRELIMINARY DISMANTLING

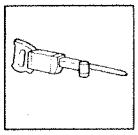
Remove the moving parts of the bodywork and interior fittings, which could impede the repair operations or be damaged during them.

REMOVING

Cut the underdoor side member using a chisel and hammer (upper area) and power saw (lower area), following the dotted lines shown in the diagram below.
The most important sections of the body panel are shown in order to allow the operator to adjust the position and the depth of the cutting so as not to damage the panels underneath.



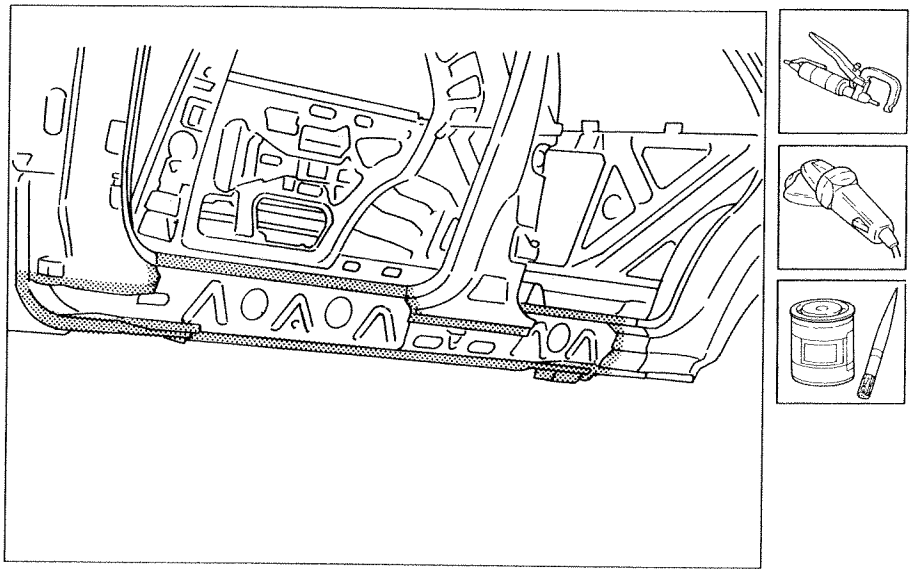
P3U053M02



When carrying out the operations described, adhere strictly to the safety procedures. Protective shoes, ear-muffs and gloves should be worn during the cutting operations, welding masks and gloves during the welding operations, and a protective mask and gloves during the painting operations.

Removing off cuts and preparing edges of bodyshell

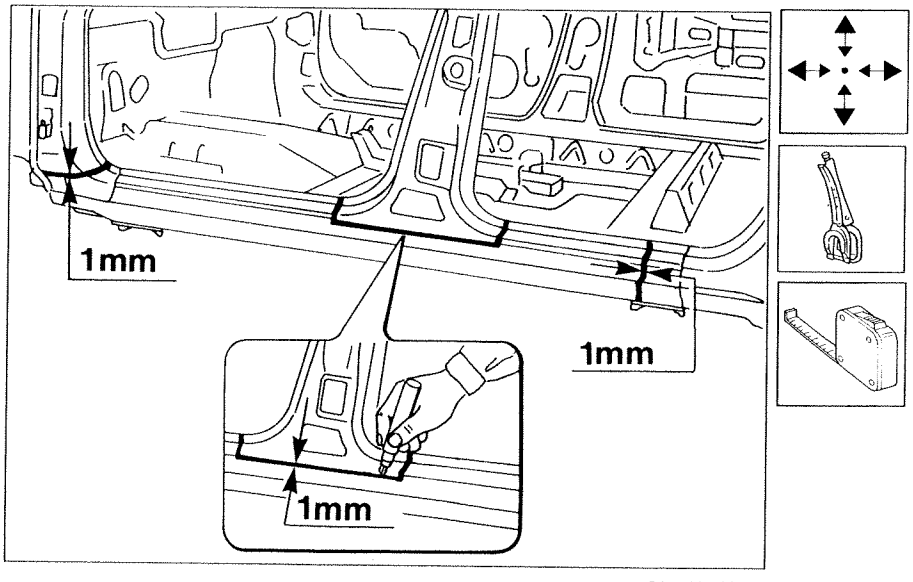
1. Remove the weld points along the entire perimeter of the edge of the bodyshell, using a special cutter.
2. Remove the metal off cuts using pliers.
3. Straighten the edges with a hammer and dolly block.
4. Remove the weld residues using a disc grinder.
5. Apply the IVI Epox epoxide type primer or an electro-weldable galvanized paint or an equivalent product, to the areas previously ground.



P3U054M01

Adjusting replacement part and finishing bodyshell pillars

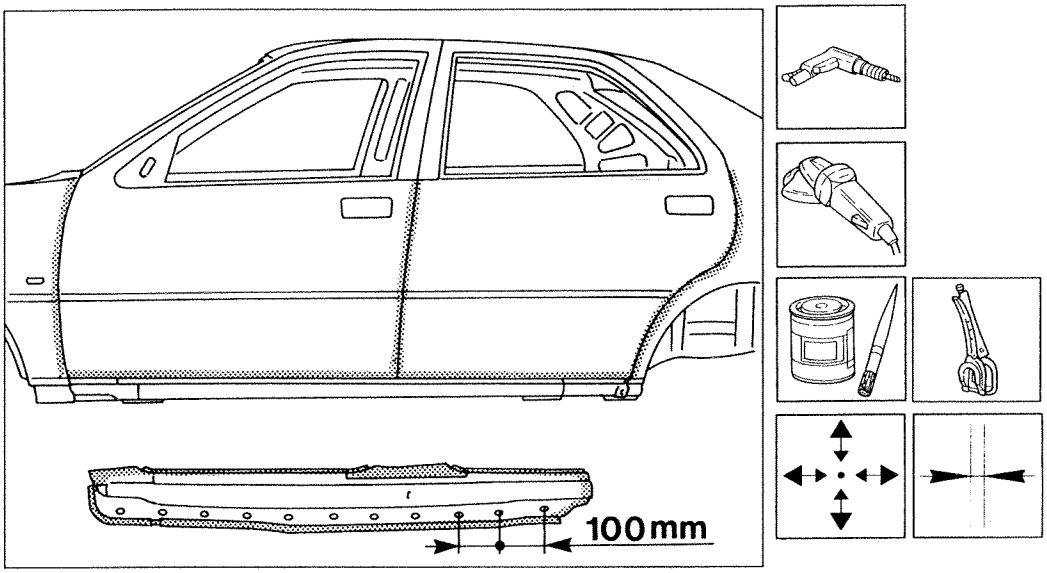
1. Place the replacement part in position and fix it using the special self-locking clamps.
2. Trace the profile of the replacement part on the bodyshell using a brush by the pillars, leaving a distance of 1 mm between the profile of the replacement part and the bodyshell.
3. Remove the replacement part and using body panel shears cut the excess from the edges of the bodyshell along the previously created line.



P3U054M02

Preparing the spare part and checking the correct positioning on the bodyshell

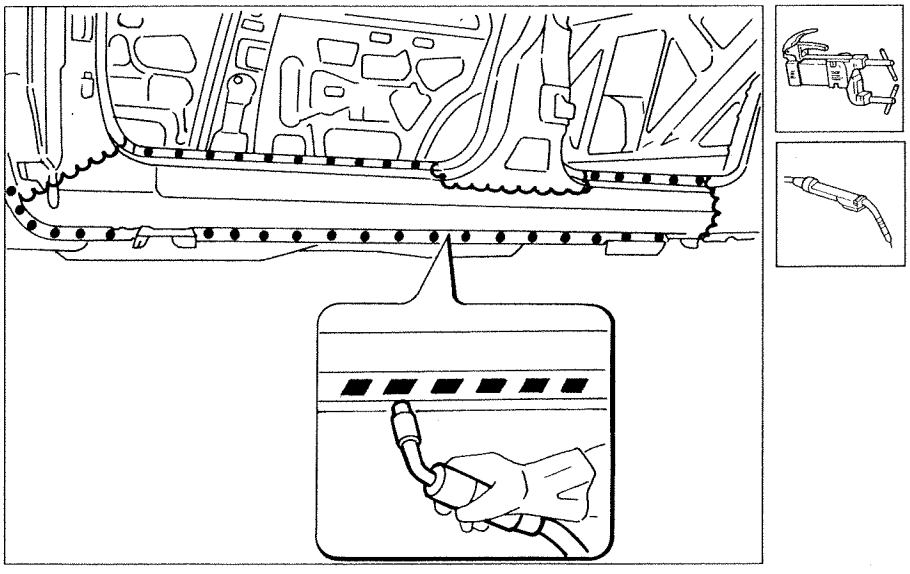
1. Make equidistant holes along the entire lower edge of the replacement part.
2. Using a disc grinder, remove the anti-corrosion treatment from the entire perimeter of the inside and outside of the replacement part.
3. Use electro-galvanizing paint on the edges in contact with the bodyshell.
4. Position the replacement part in place and fix it using the special self-locking clamps.
5. Fit the doors and check the alignment and uniformity of the surrounding opening.



P3U055M01

Welding the spare part

1. Carry out spot welding on the upper and lower edges of the underdoor side member and the bodyshell.
2. Use a MIG welder by the bodyshell pillars.
3. Use a MIG welder to fill the openings previously made in the replacement part.



P3U055M02

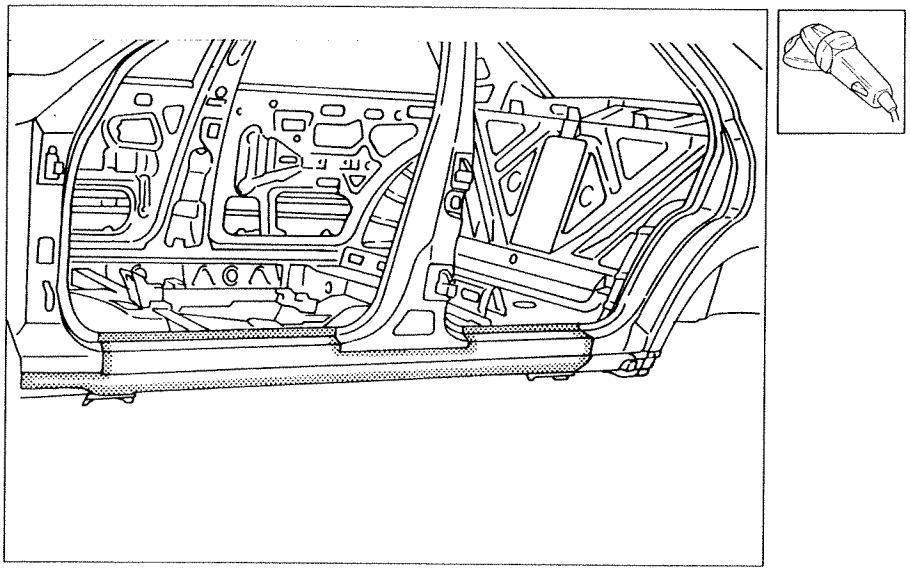
MIG welding

Spot welding

MIG welding for filling in

Finishing operations

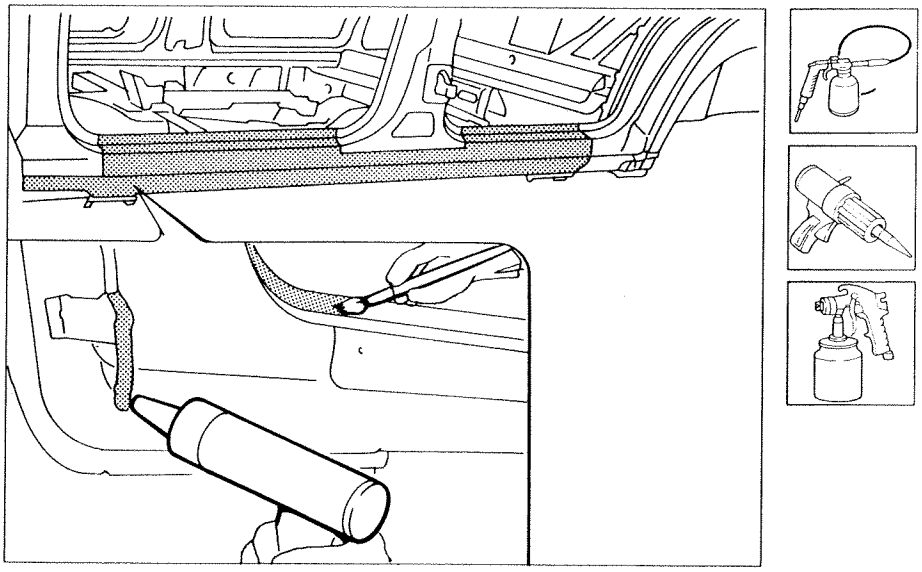
1. Correct any distortions to the panel using a hammer and dolly block.
2. Remove any weld slag using a disc grinder.



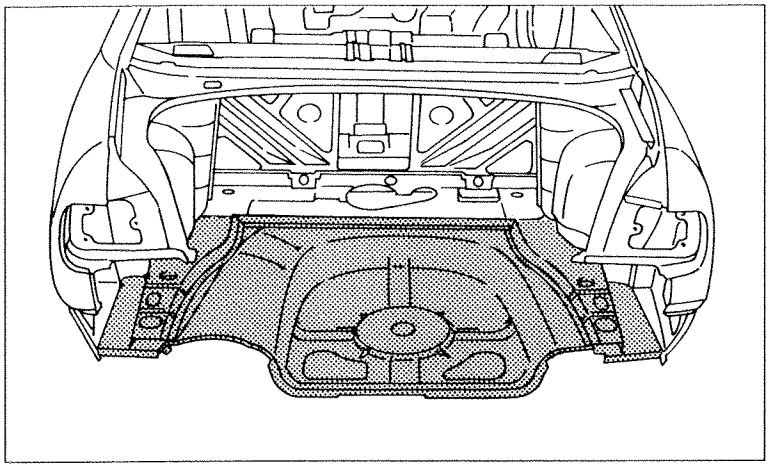
P3U056M01

Protection

1. Apply the electro-phoretic protective treatment to the areas previously welded.
2. Seal the joins between the underdoor side member and the bodyshell, using IVI 854210 transparent acrylic sealant or an equivalent product.
3. Apply high consistency filler to the area in contact with the wing.
4. Proceed with the painting and waxing stage.



P3U056M02



P3U057M01

PARTIAL REPLACMENT OF REAR FLOOR PANEL (7090G 90)*

(*) This number indicates the operation code contained in the Flat rate manual.

The component for which the replacement procedure is given is highlighted in the diagram at the side.

PRELIMINARY PROCEDURES

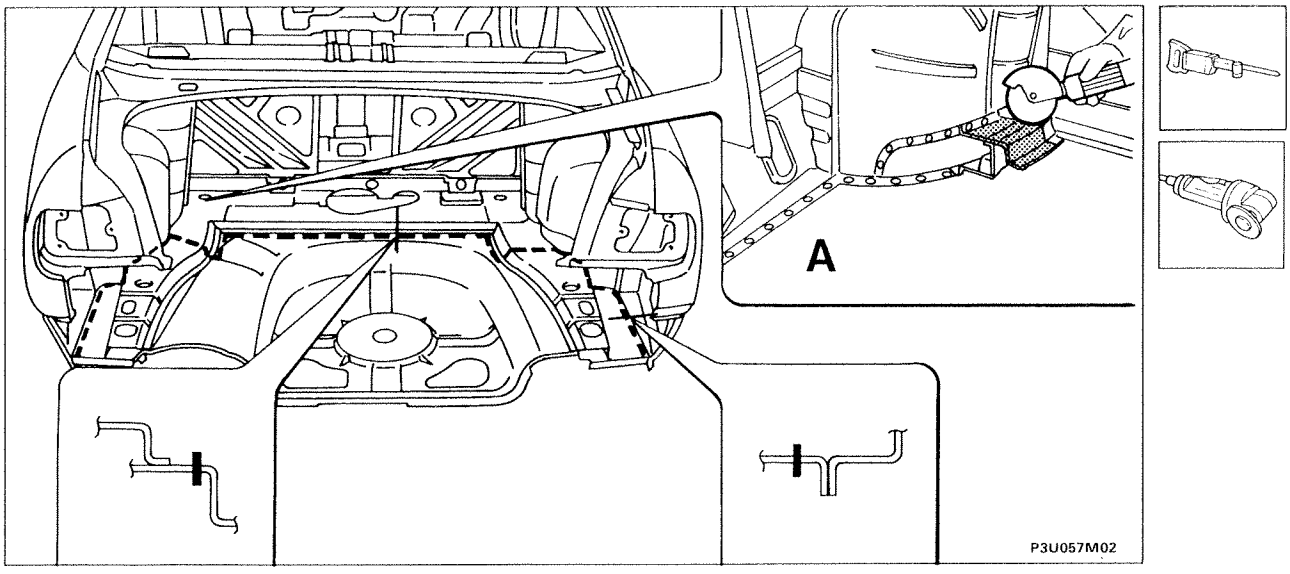
Establish the extent of the damage, check if there are distortions to the connected components by checking the bodyshell alignment figures given on page 77, using suitable methods (jigs, templates or gauges).
Carry out any straightening operations required to the bodyshell before cutting the component.
After this operation check that the components not being replaced are intact.

PRELIMINARY DISMANTLING

Remove the moving parts of the bodywork and interior fittings, which could impede the repair operations or be damaged during them.

REMOVING

Cut the floor panel using a power saw following the dotted lines shown in the diagram below, finish the cutting of the floor panel using a circular blade saw offset in relation to the internal floor reinforcement as shown in the inset (A).
The most important sections of the body panel are shown in order to allow the operator to adjust the position and the depth of the cutting so as not to damage the panels underneath.

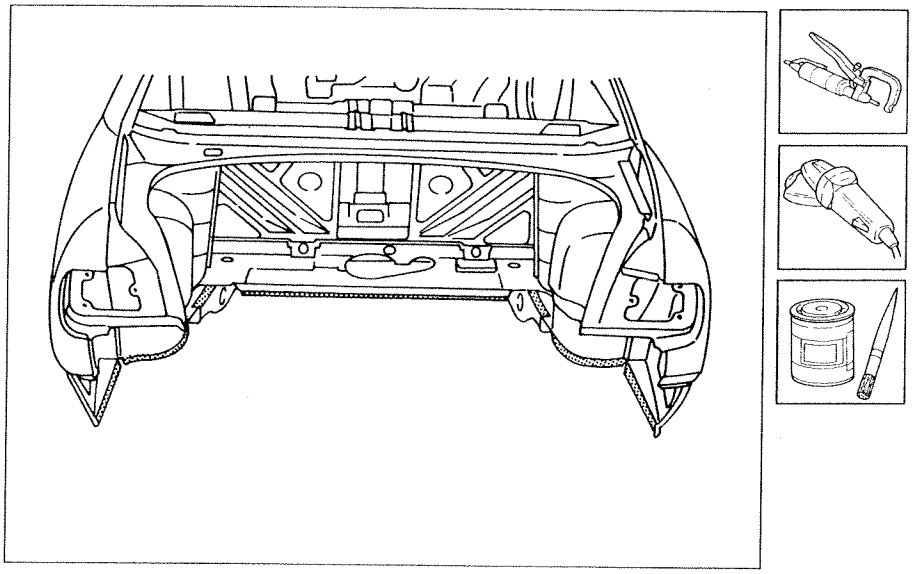


P3U057M02

When carrying out the operations described, adhere strictly to the safety procedures. Protective shoes, ear-muffs and gloves should be worn during the cutting operations, welding masks and gloves during the welding operations, and a protective mask and gloves during the painting operations.

Removing off cuts and preparing edges of bodyshell

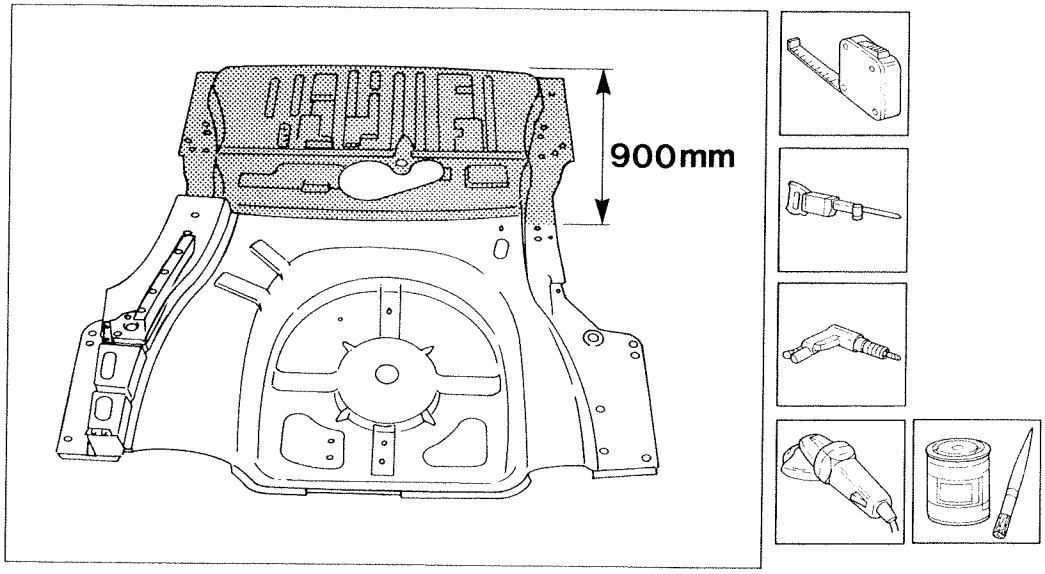
1. Remove the weld points along the entire perimeter of the edge of the bodyshell, using a special cutter.
2. Remove the metal off cuts using pliers.
3. Straighten the edges with a hammer and dolly block.
4. Remove the weld residues using a disc grinder.
5. Apply the IVI Epox epoxide type primer or an electro-weldable galvanized paint or an equivalent product, to the previously ground areas.



P3U058M01

Preparing the replacment part

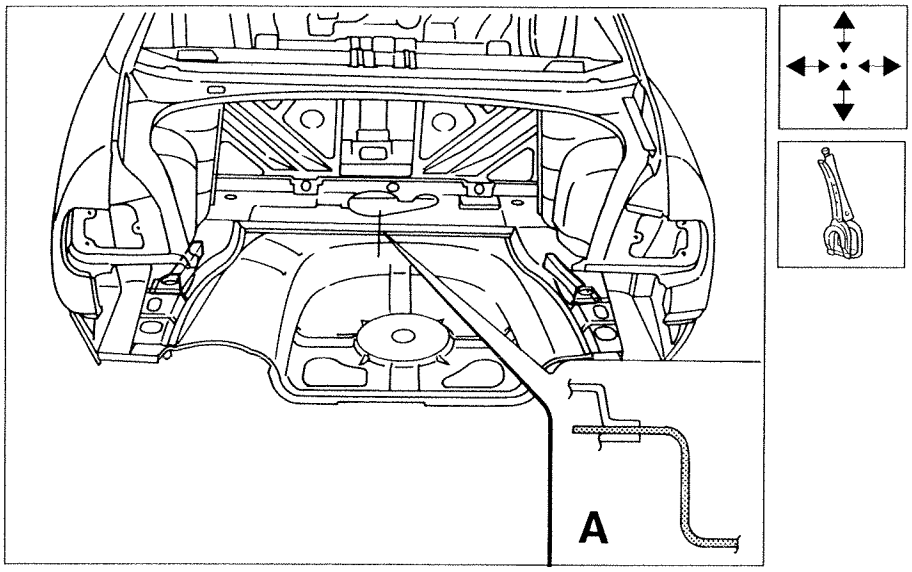
1. Cut the floor panel and remove the part shown in the diagram.
2. Make equidistant holes in the edges of the side members and the internal reinforcements.
3. Using a disc grinder, remove the anti-corrosion treatment from the entire perimeter of the inside and outside of the replacement parts.
4. Use electro-galvanizing paint on the previously ground areas.



P3U058M02

Positioning the replacement part

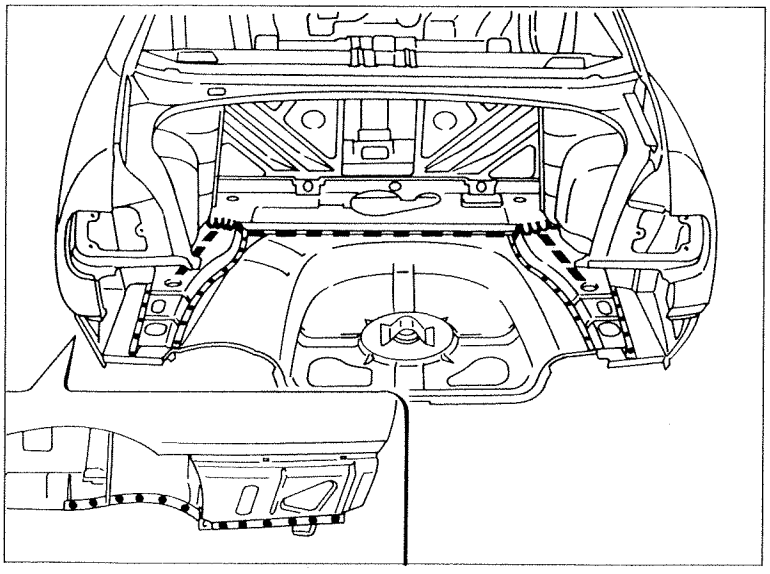
1. Carefully place the replacement part in position inserting it between the two edges of the bodyshell, (see section A).
2. Position the side members, after having fitted the internal reinforcements.
3. Fix the replacement parts to the bodyshell using the special self-locking clamps.



P3U059M01

Welding the spare part

1. Using a MIG welder fill the holes previously made in the bodyshell.
2. Continue the continuous welding on the edges in contact with the side member reinforcements and the holes made previously in the replacement parts.
3. Using a MIG welder fill the holes in the side members and the reinforcments.
4. Using a spot welder weld the entire perimeter in contact with the bodyshell and the contact edges between the side members and the floor panel, then renew the brackets under the floor and the spare wheel.



P3U059M02

MIG welding for filling in

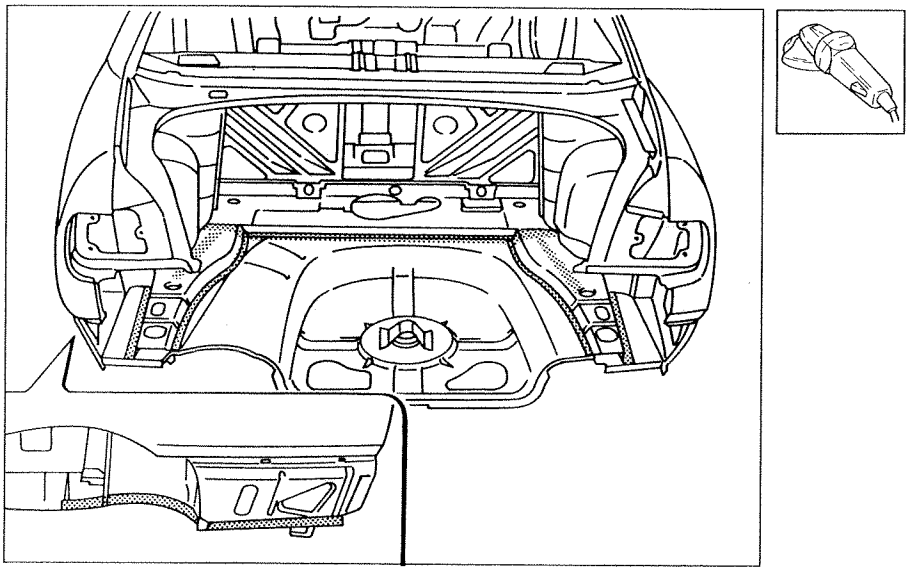
Spot welding

Brass welding

MIG welding

Finishing operations

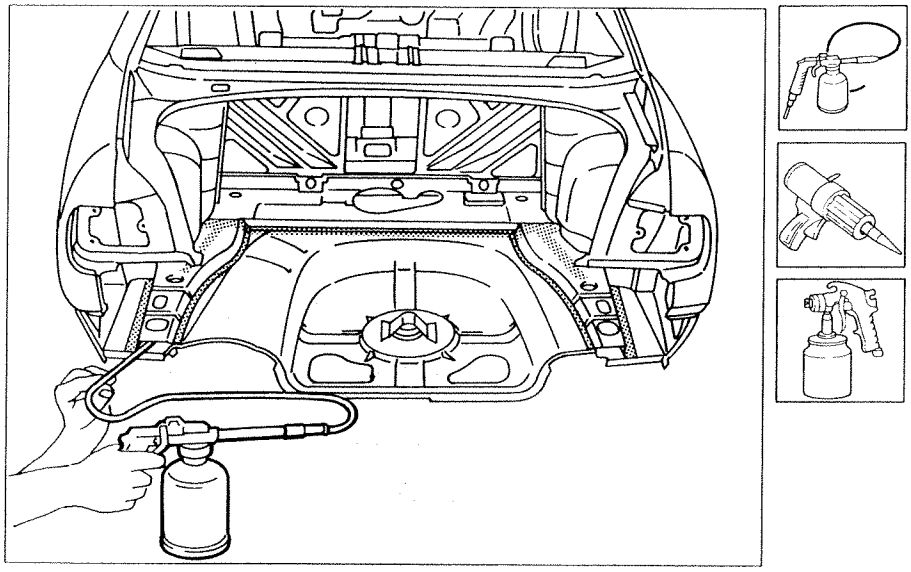
1. Correct any distortions to the panel using a hammer and dolly block.
2. Remove any weld slag using a disc grinder.



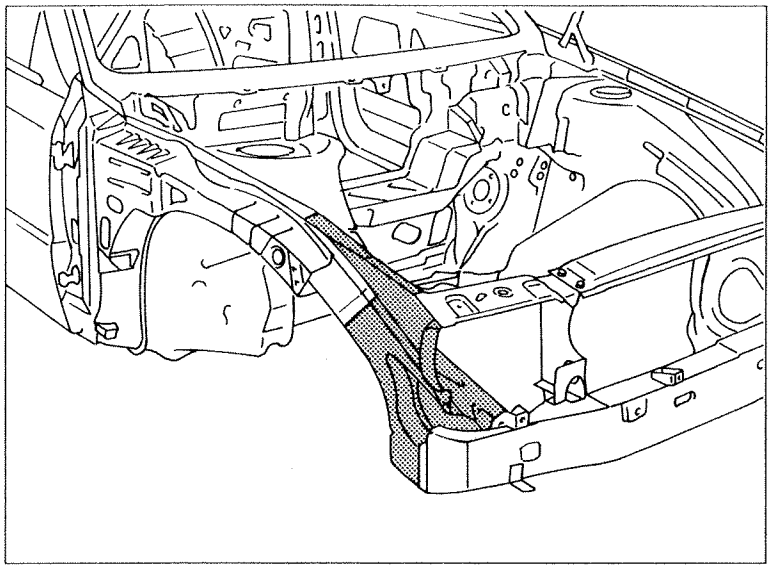
P3U060M01

Protection

1. Apply the electro-phoretic protective treatment to the areas previously welded.
2. Seal the joins between the side member and the floor panel and all the previously made welds, using IVI 854210 transparent acrylic sealant or an equivalent product.
3. Proceed with the painting stage.
4. Apply the wax based oil protection to the inside of the side members.



P3U060M02



P3U061M01

PARTIAL REPLACEMENT OF FRONT SIDE PANEL (7080G 12)*

(*) This number indicates the operation code contained in the Flat rate manual.

The component for which the replacement procedure is given is highlighted in the diagram at the side.

PRELIMINARY PROCEDURES

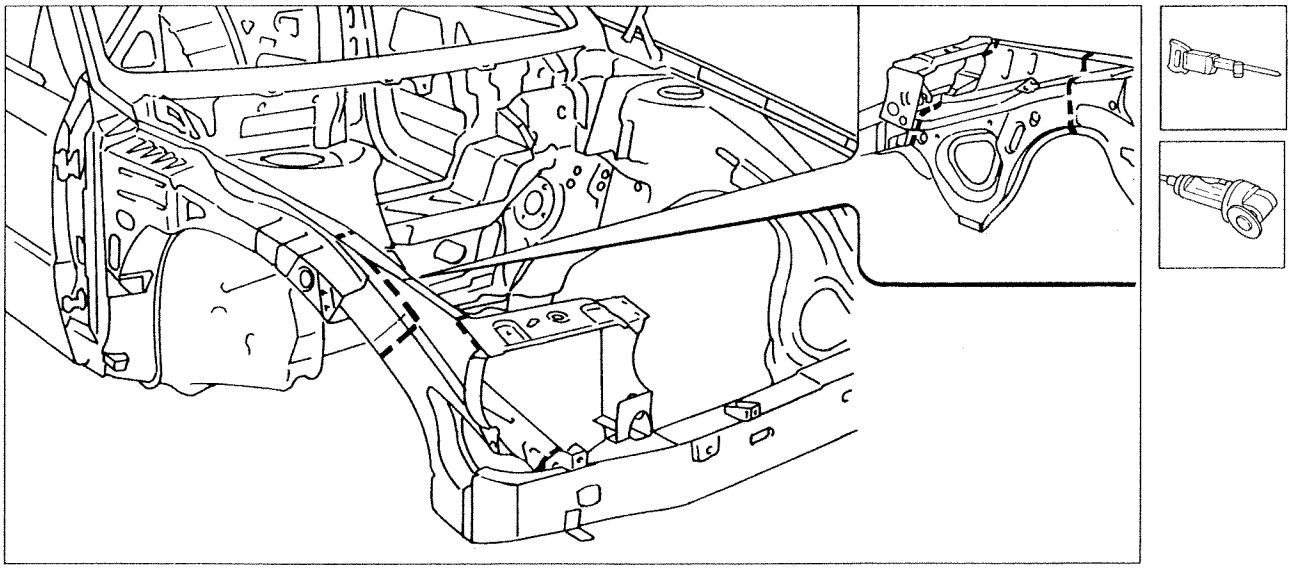
Establish the extent of the damage, check if there are distortions to the connected components by checking the bodyshell alignment figures given on page 77, using suitable methods (jigs, templates or gauges).
Carry out any straightening operations required to the bodyshell before cutting the part.
After this operation check that the components not being replaced are intact.

PRELIMINARY DISMANTLING

Remove the moving parts of the bodywork and interior fittings, which could impede the repair operations or be damaged during them.

REMOVING

Cut the front side panel using a power saw following the dotted lines shown in the diagram below, cut the front side panel from the inside of the vehicle in a position which is offset in relation to the outside cut.

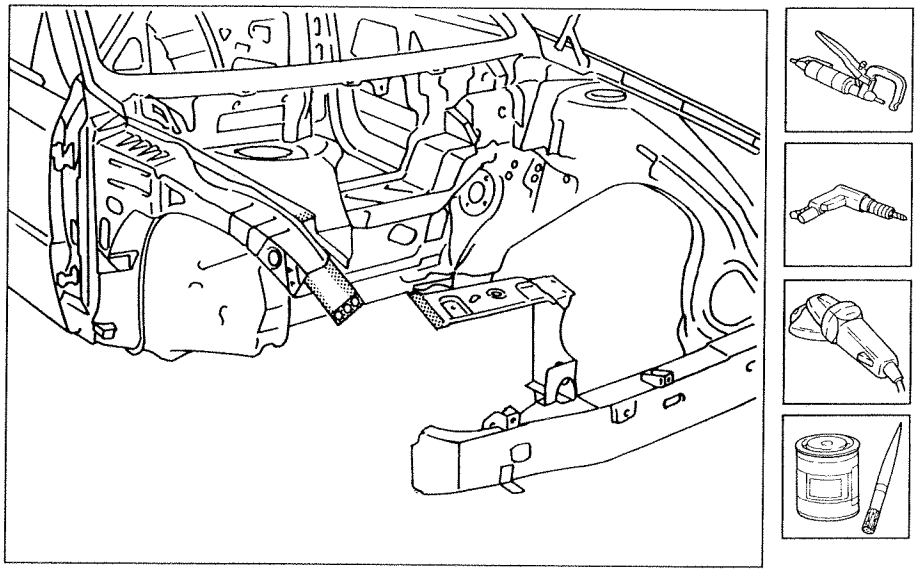


P3U061M02

When carrying out the operations described, adhere strictly to the safety procedures. Protective shoes, ear-muffs and gloves should be worn during the cutting operations, welding masks and gloves during the welding operations, and a protective mask and gloves during the painting operations.

Removing off cuts and preparing edges of bodyshell

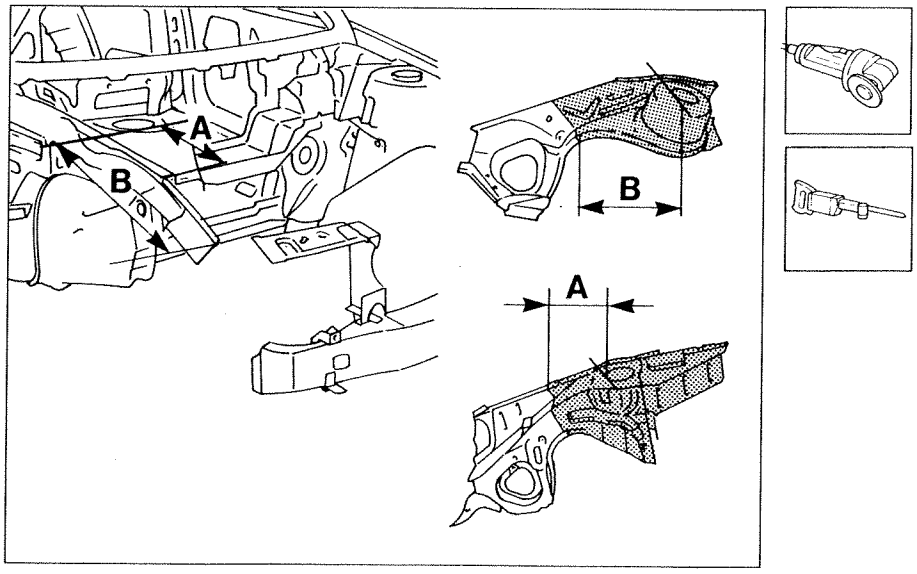
1. Remove the weld points along the entire perimeter of the edge of the bodyshell, using a special cutter.
2. Remove the metal off cuts using pliers.
3. Straighten the edges with a hammer and dolly block.
4. Make equidistant holes in the contact edge of the front cross member cover.
5. Remove the weld residues using a disc grinder.
6. Apply the IVI Epox epoxide type primer or an electro-weldable galvanized paint or an equivalent product, to the areas previously ground.



P3U062M01

Adjusting the replacement part

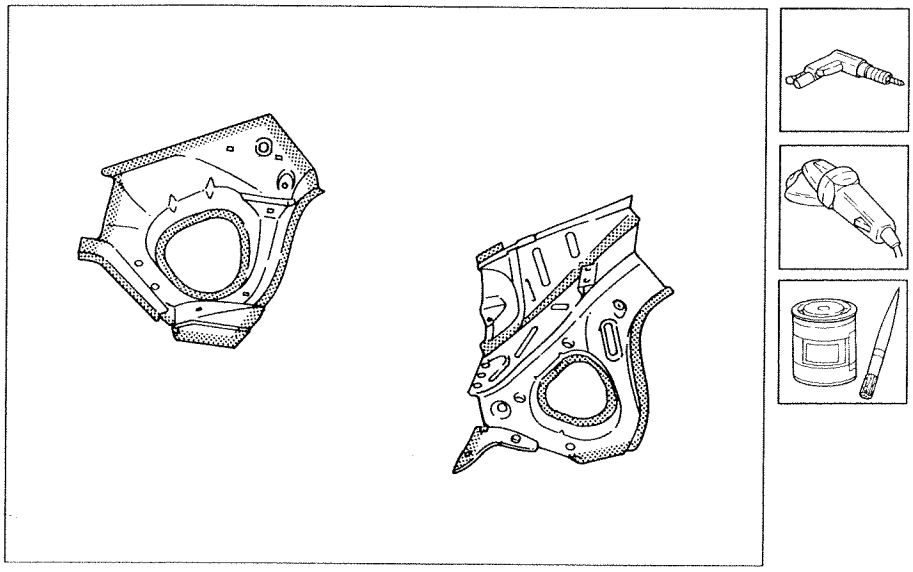
1. Measure the distances for the remaining panel on the bodyshell, (A = 280mm)-(B = 500mm).
2. Cut the replacement parts on the basis of the distances previously measured on the bodyshell.



P3U062M02

Preparing the replacement part

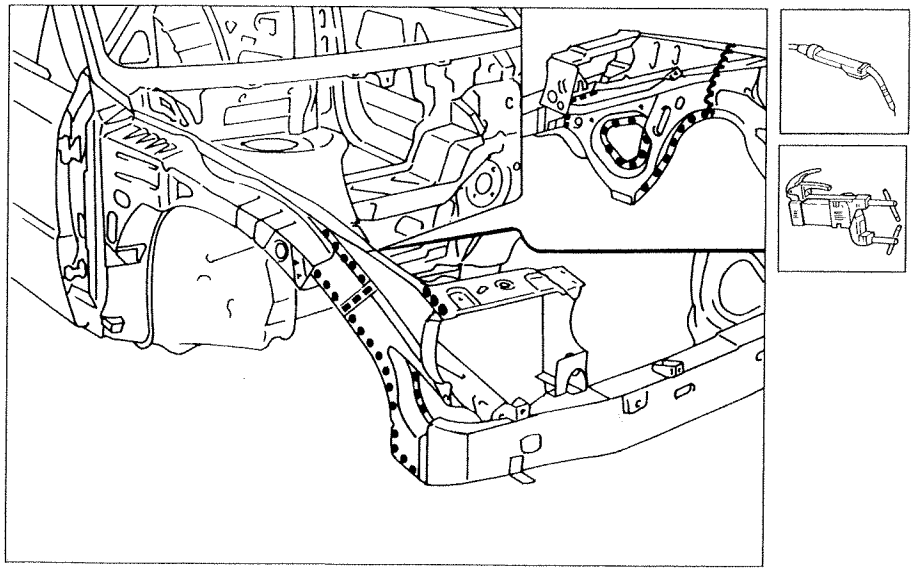
1. Make equidistant holes in the attachment edge of the front cross member.
2. Using a disc grinder, remove the anti-corrosion treatment from the entire perimeter of the inside and outside of the replacement parts.
3. Use electro-galvanizing paint on the edges in contact with the bodyshell.



P3U063M01

Welding the spare part

1. Using a MIG welder fill the holes previously made in the bodyshell and the replacement part.
2. Continue the welding using the MIG welder on the bodyshell and the internal panel.
3. Using a spot welder complete the welding operation along the entire contact edge between the side panel, the front cross member cover and the headlamp housing.



P3U063M02

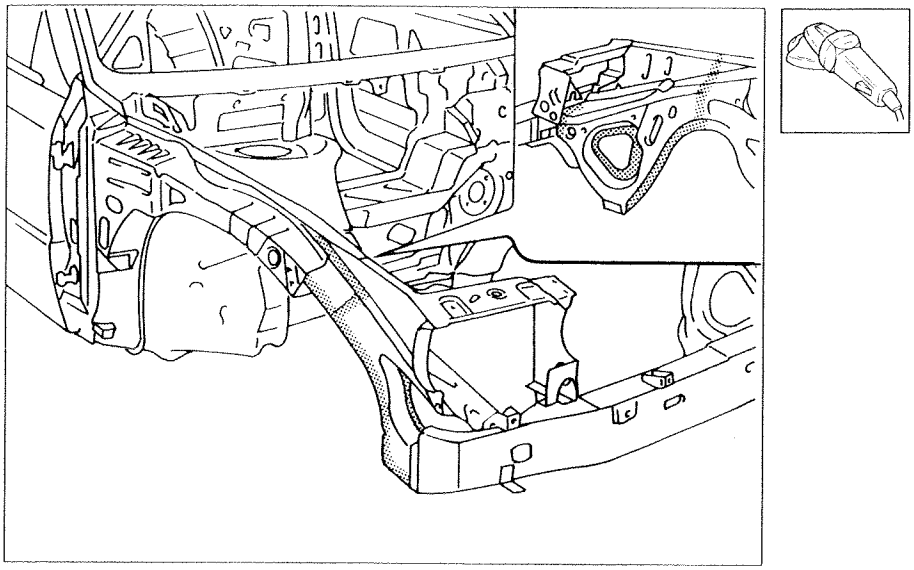
MIG welding

Spot welding

MIG welding for filling in

Finishing operations

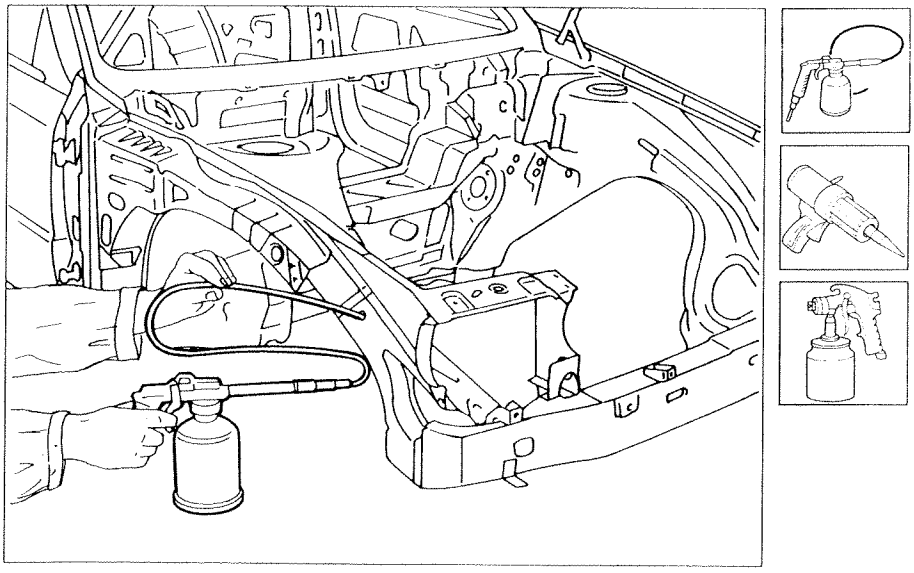
1. Correct any distortions to the panel using a hammer and dolly block.
2. Remove any weld slag using a disc grinder.



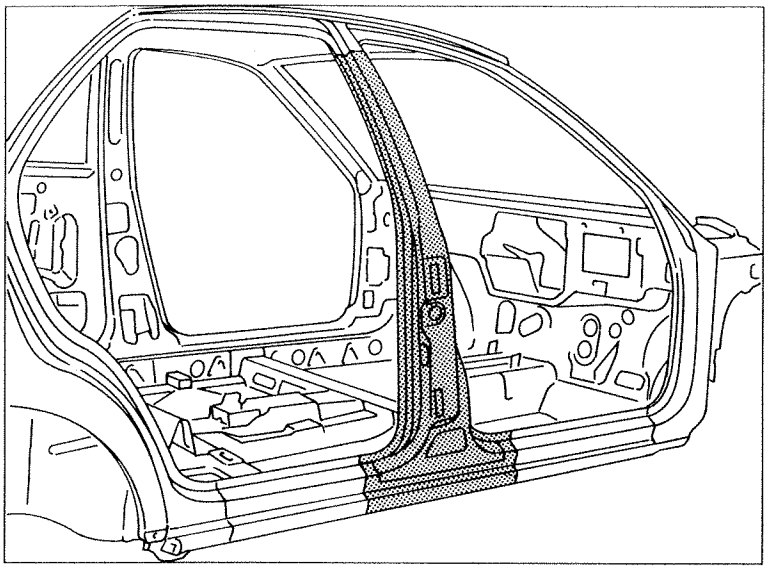
P3U064M01

Protection

1. Apply the electro-phoretic protective treatment to the area previously welded.
2. Seal the joins between side panel, the front cross member cover, the headlamp housing and the bodyshell using IVI 854210 transparent acrylic sealant or an equivalent product.
3. Proceed with the painting stage.
4. Apply the wax based protective inside the side panel.



P3U064M02



P3U065M01

REPLACING CENTRE PILLAR (7090G 40)*

(*) This number indicates the operation code contained in the Flat rate manual.

The component for which the replacement procedure is given is highlighted in the diagram at the side.

PRELIMINARY PROCEDURES

Establish the extent of the damage, check if there are distortions to the connected components by checking the bodyshell alignment figures given on page 77, using suitable methods (jigs, templates or gauges).
Carry out any straightening operations required to the bodyshell before cutting the component.
After this operation check that the components not being replaced are intact.

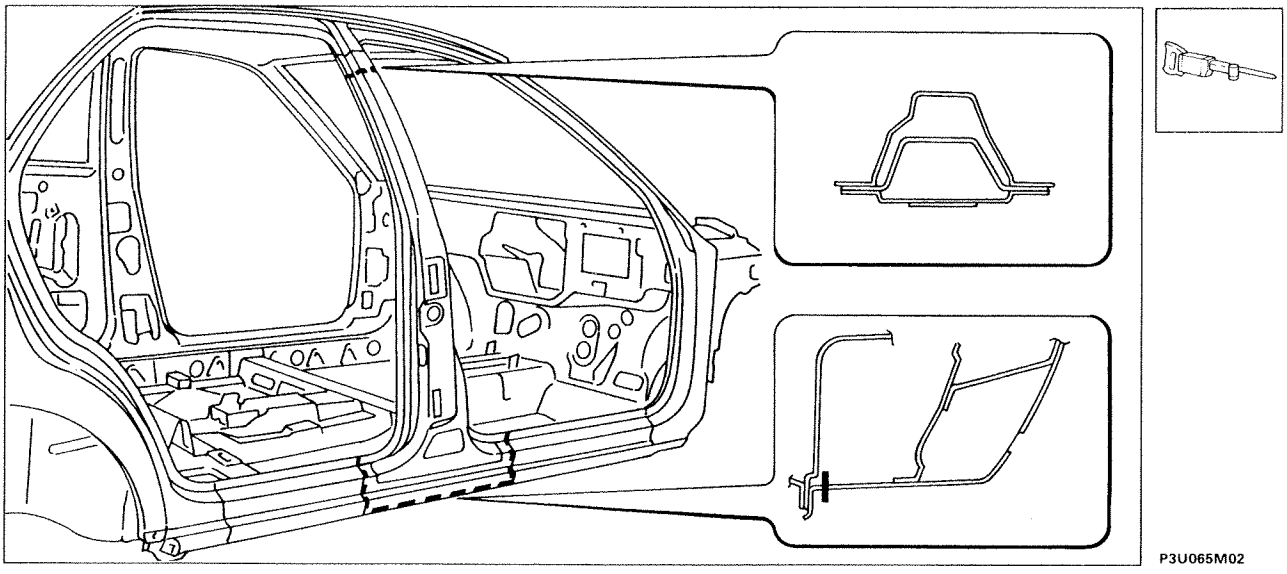
PRELIMINARY DISMANTLING

Remove the moving parts of the bodywork and interior fittings, which could impede the repair operations or be damaged during them.

REMOVING

Cut the centre pillar using a power saw following the dotted lines shown in the diagram below.

The most important sections of the body panel are shown in order to allow the operator to adjust the position and the depth of the cutting so as not to damage the panels underneath.

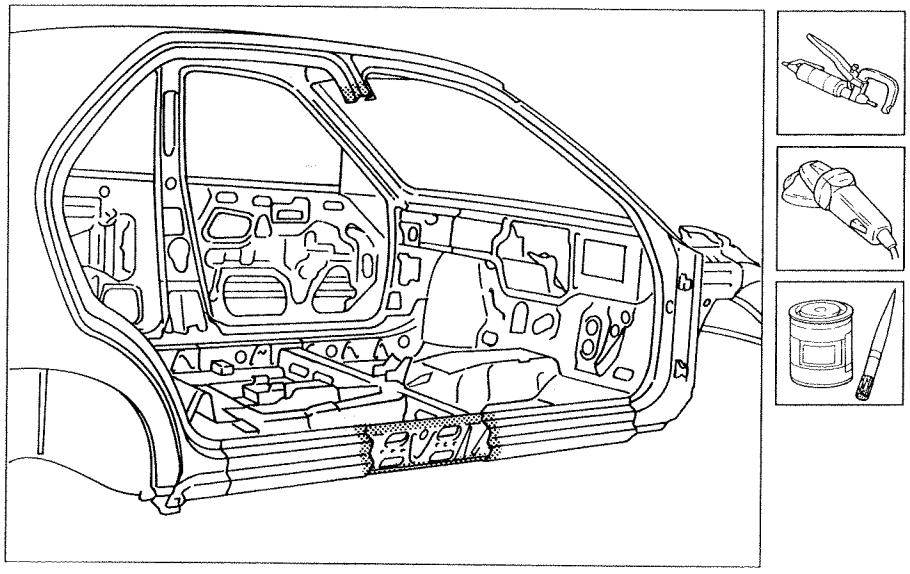


P3U065M02

When carrying out the operations described, adhere strictly to the safety procedures. Protective shoes, ear-muffs and gloves should be worn during the cutting operations, welding masks and gloves during the welding operations, and a protective mask and gloves during the painting operations.

Removing off cuts and preparing edges of bodyshell

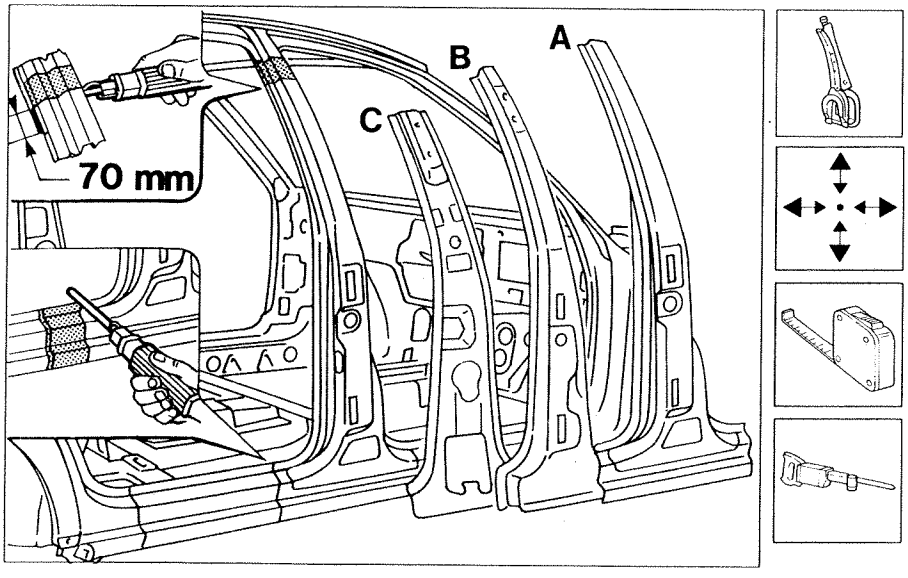
1. Remove the weld points along the entire perimeter of the edge of the bodyshell, using a special cutter.
2. Remove the metal off cuts using pliers.
3. Straighten the edges with a hammer and dolly block.
4. Remove the weld residues using a disc grinder.
5. Apply the IVI Epox epoxide type primer or an electro-weldable galvanized paint or an equivalent product, to the areas previously ground.



P3U066M01

Adjusting the replacement parts on the bodyshell

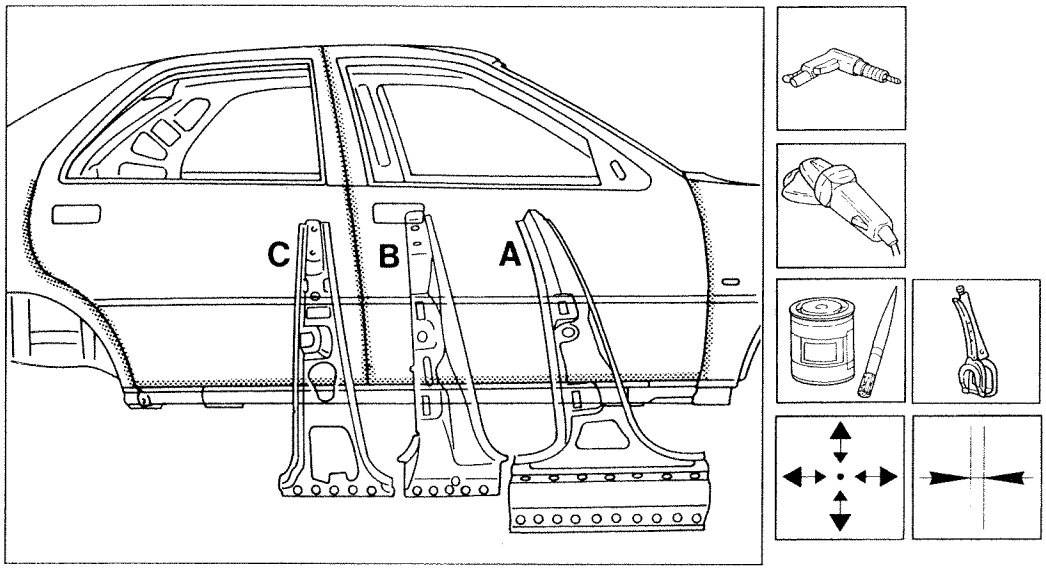
1. Outer pillar (A), intermediate pillar (B), inner pillar (C).
2. Position the outer pillar on the bodyshell using self-locking clamps and check that when the replacement part is superimposed on the bodyshell it projects around 50 mm.
3. Cut the edges of the panel and remove the excess (shown by the shaded area in the diagram) so that the join for the outer pillar is perfect, leaving about 70 mm of the bodyshell intermediate pillar.



P3U066M02

Preparing the spare part and checking the correct positioning on the bodyshell

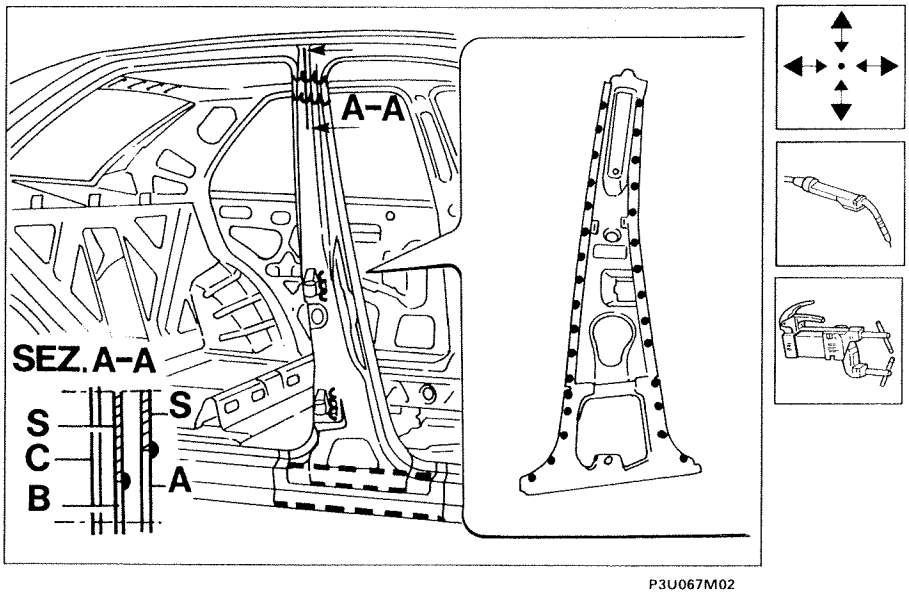
1. Make equidistant holes in the edges of the replacement part as shown in the diagram.
2. Using a disc grinder, remove the anti-corrosion treatment from the entire perimeter of the inside and outside of the replacement parts.
3. Use the electro-galvanizing paint on the edges in contact with the bodyshell.
4. Offer up the replacement parts using the special self-locking clamps.
5. Fit the front door and the door seal and check the alignment and the uniformity of the surrounding opening.



P3U067M01

Welding the replacement parts

1. Position the intermediate pillar and using a MIG welder fill the previously made holes and continuously weld the upper edge of the bodyshell.
2. Position the outer pillar and using the MIG welder fill the previously made holes and continuously weld the upper edge and the edges in contact with the underdoor side member.
3. Position the inner pillar and using a MIG welder fill the previously made holes, use the spot welder on the side edges and the join bewteen the three pillars, then weld the door hinges, using the MIG welder, section A-A represents the weld between the bodyshell and the replacement parts. A = Outer pillar, B = Intermediate pillar, C = Inner pillar, S = Bodyshell.



P3U067M02

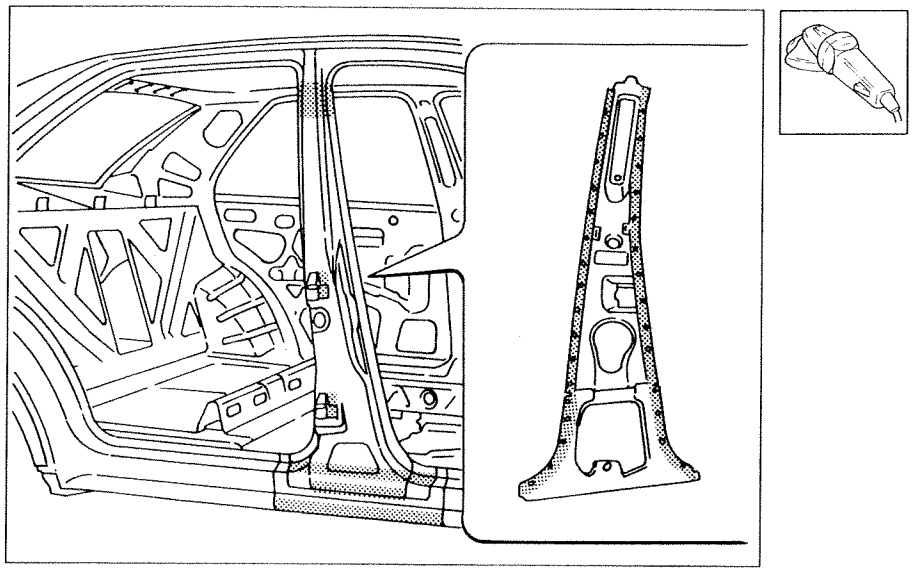
MIG welding

Spot welding

MIG welding for filling in

Finishing operations

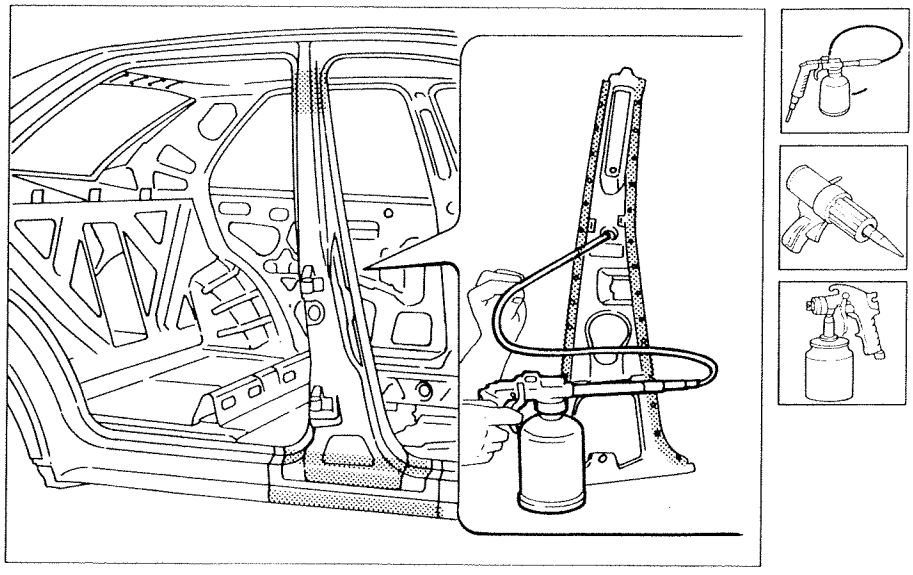
1. Correct any distortions to the panel using a hammer and dolly block.
2. Remove any weld slag using a disc grinder.



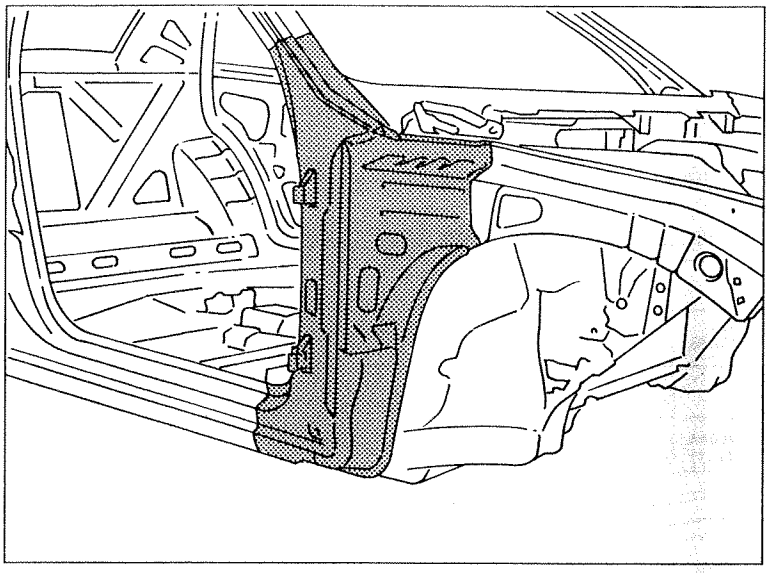
P3U068M01

Protection

1. Apply the electro-phoretic protective treatment to the areas previously welded.
2. Seal the joins between the pillars and the bodyshell using IVI 854210 transparent acrylic sealant or an equivalent product.
3. Proceed with the painting stage.
4. Apply wax based oil protective to the inside of the centre pillar.



P3U068M02



P3U069M01

REPLACING FRONT PILLAR (7090G 30)*

(*) This number indicates the operation code contained in the Flat rate manual.

The component for which the replacement procedure is given is highlighted in the diagram at the side.

PRELIMINARY PROCEDURES

Establish the extent of the damage, check if there are distortions to the connected components by checking the bodyshell alignment figures given on page 77, using suitable methods (jigs, templates or gauges).
Carry out any straightening operations required to the bodyshell before cutting the component.
After this operation check that the components not being replaced are intact.

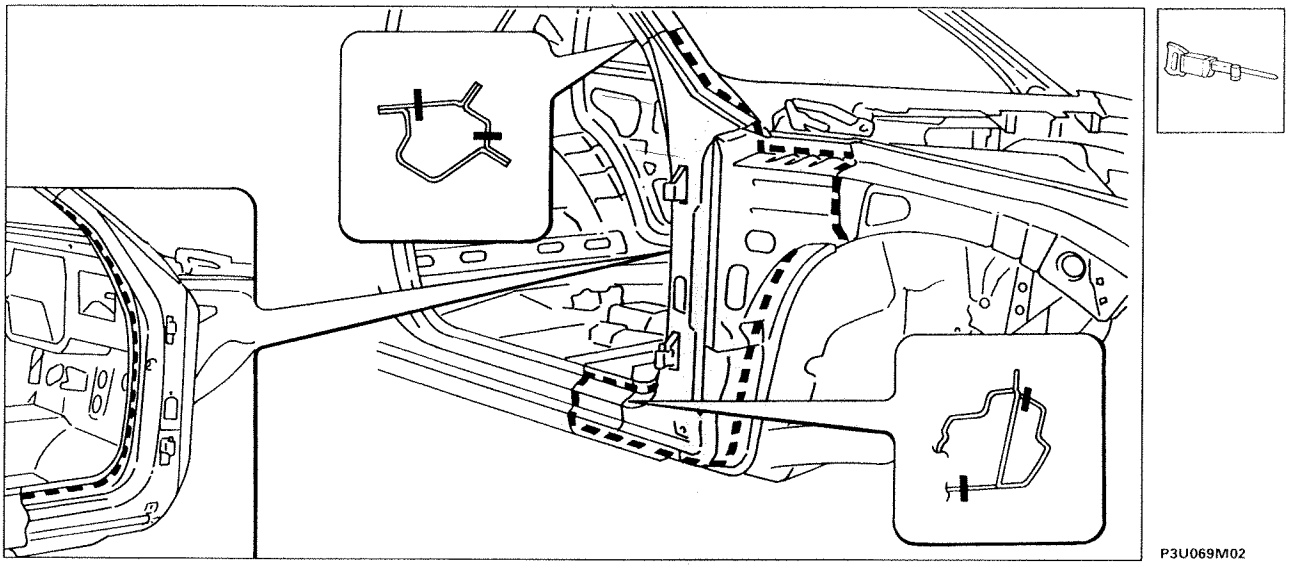
PRELIMINARY DISMANTLING

Remove the moving parts of the bodywork and interior fittings, which could impede the repair operations or be damaged during them.

REMOVING

Cut the centre pillar using a power saw following the dotted lines shown in the diagram below.

The most important sections of the body panel are shown in order to allow the operator to adjust the position and the depth of the cutting so as not to damage the panels underneath.

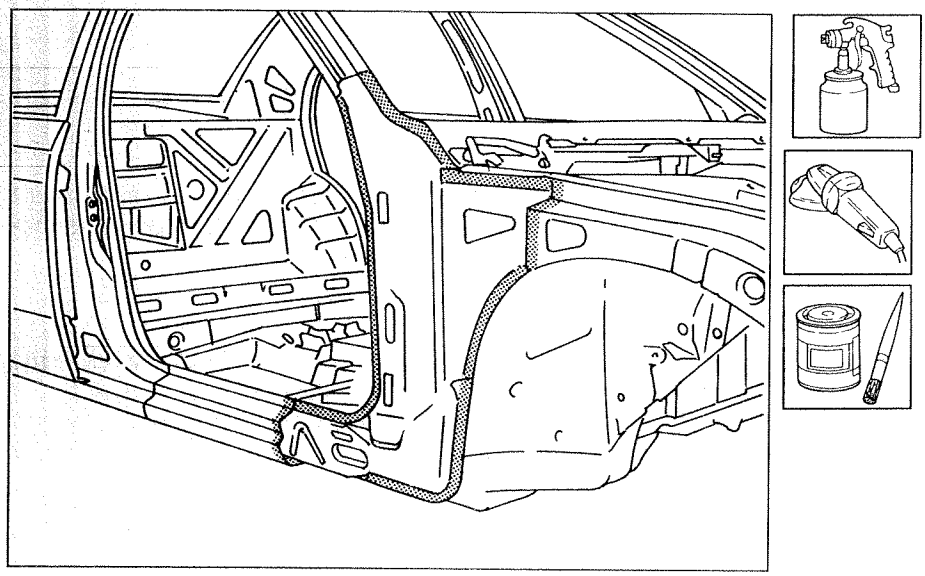


P3U069M02

When carrying out the operations described, adhere strictly to the safety procedures. Protective shoes, ear-muffs and gloves should be worn during the cutting operations, welding masks and gloves during the welding operations, and a protective mask and gloves during the painting operations.

Removing off cuts and preparing edges of bodyshell

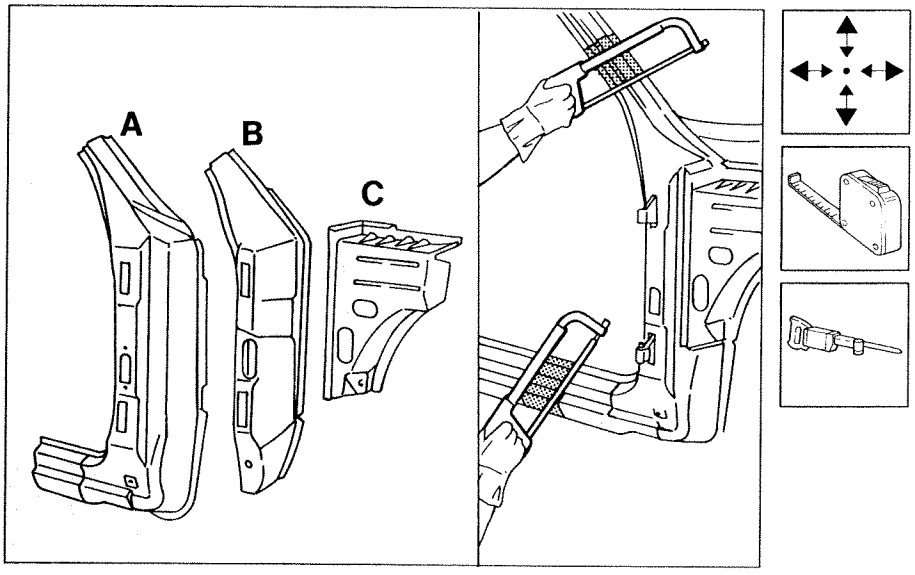
1. Remove the weld points along the entire perimeter of the edge of the bodyshell, using a special cutter.
2. Remove the metal off cuts using pliers.
3. Straighten the edges with a hammer and dolly block.
4. Remove the weld residues using a disc grinder.
5. Apply the IVI Epox epoxide type primer or an electro-weldable galvanized paint or an equivalent product, to the areas previously ground.



P3U070M01

Adjusting the replacements parts on the bodyshell

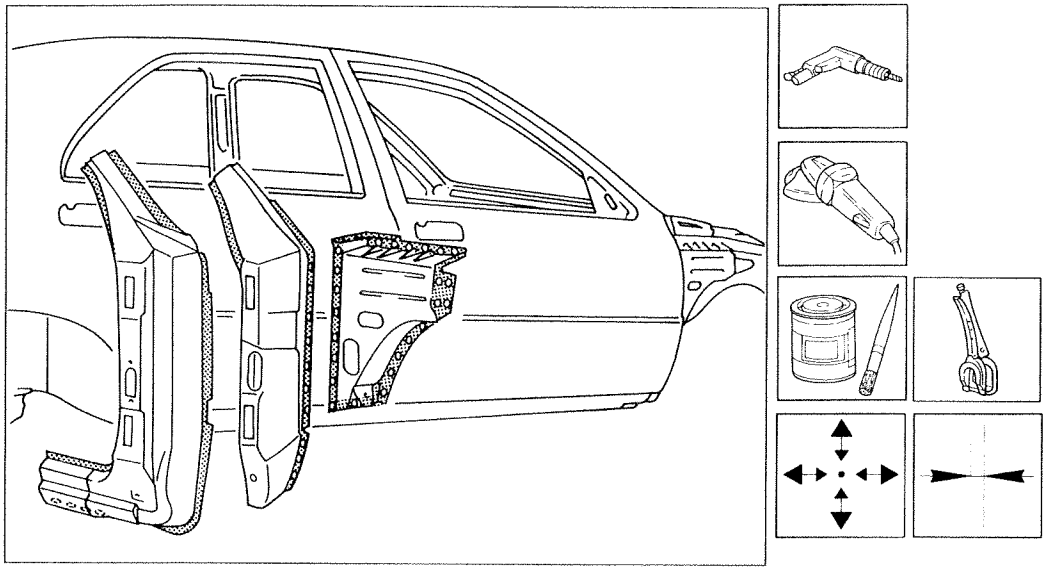
1. Outer pillar (A), inner pillar (B), reinforcement (C).
2. Position the outer pillar on the bodyshell and cut the edges of the panel and remove the excess (shown in the diagram by the shaded area) so that the join is perfect.



P3U070M02

Preparing the spare part and checking the correct positioning on the bodyshell

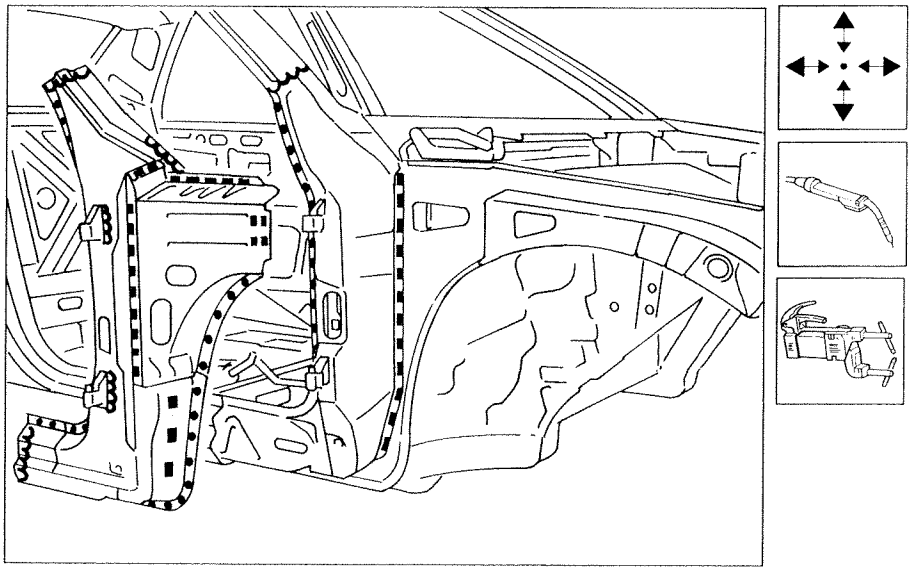
1. Make equidistant holes in the edges of the replacement part as shown in the diagram.
2. Using a disc grinder, remove the anti-corrosion treatment from the entire perimeter on the inside and outside of the replacement parts.
3. Use electro-galvanizing paint on the edges in contact with the bodyshell.
4. Offer up the replacement parts using the special self-locking clamps and weld the hinges.
5. Fit the front door and the door seal and check the alignment and the uniformity of the surrounding opening.



P3U071M01

Welding the replacement parts

1. Position the inner pillar and using a MIG welder fill the previously made holes, continuously weld the upper edge of the bodyshell.
2. Position the outer pillar and using the MIG welder fill the previously made holes, continuously weld the upper edge and the edges in contact with the underdoor side member, then using a spot welder weld along the door seal.
3. Position the reinforcement and using a MIG welder fill the previously made holes, use the spot welder for the lower edge.



MIG welding

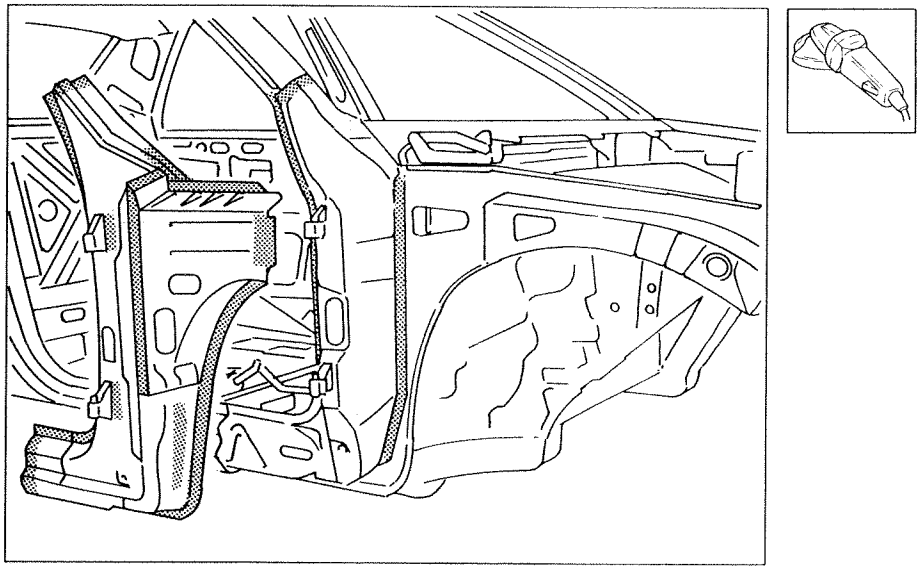
Spot welding

MIG welding for filling in

P3U071M02

Finishing operations

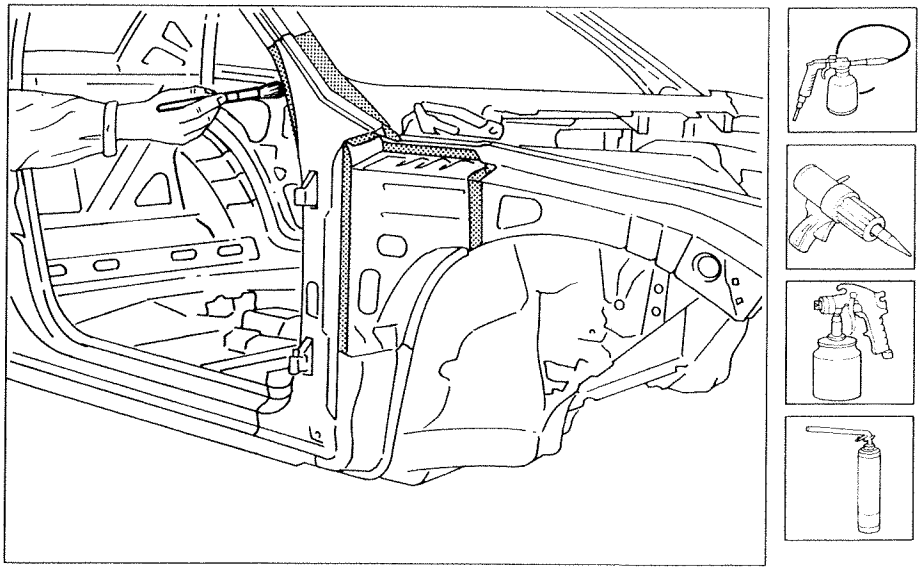
1. Correct any distortions to the panel using a hammer and dolly bloc.
2. Remove any weld slag using a disc grinder.



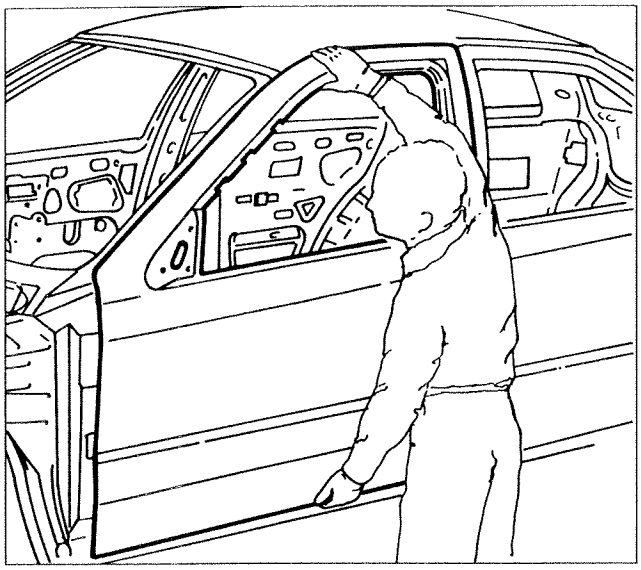
P3U072M01

Protection

1. Apply the electro-phoretic protective treatment to the previously welded areas.
2. Seal the joins between the pillars and the bodyshell, using IVI 854210 transparent acrylic sealant or an equivalent product.
3. Proceed with the painting stage.
4. Apply wax based oil protective and foam inside the front pillar.



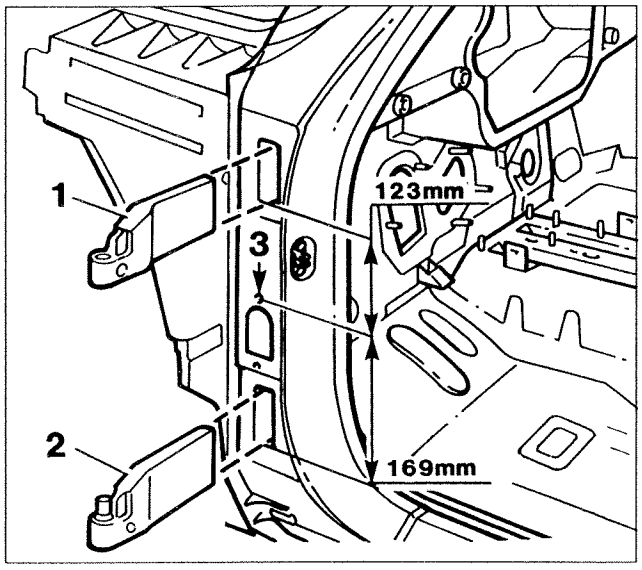
P3U072M02



P3U072M03

REPLACING THE FIXED HINGES

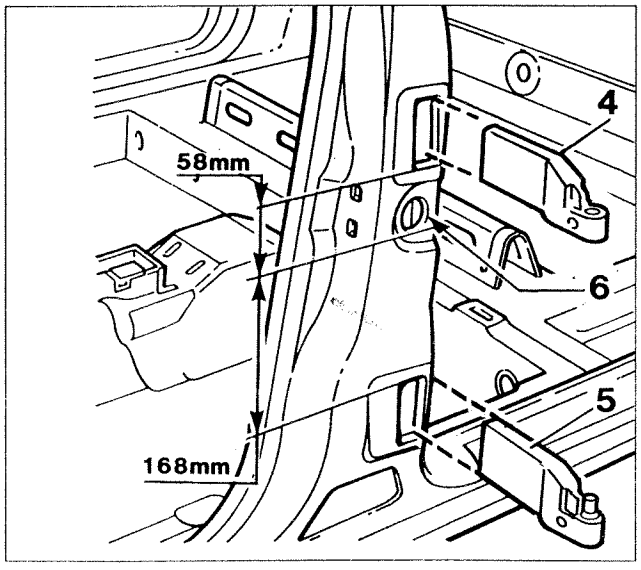
If the doors are being replaced, proceed as described below:
- remove the front wheel arch liner and the wing following the procedures given in the appropriate pages in the "LANCIA k" Service Manual (specific operation for the front doors);
- offer up the door, fitted with hinges (1) and (2), to be welded to the pillar, on the bodyshell;
- temporarily position the hinges (1) and (2) on the pillar, following the distances given in diagrams A and B; check that the alignment with the bodyshell is correct;
- remove the door and complete the welding of the hinges (1) and (2);
- refit the door.



P3U072M04

Reference distances for positioning half-hinges on bodyshell front pillar

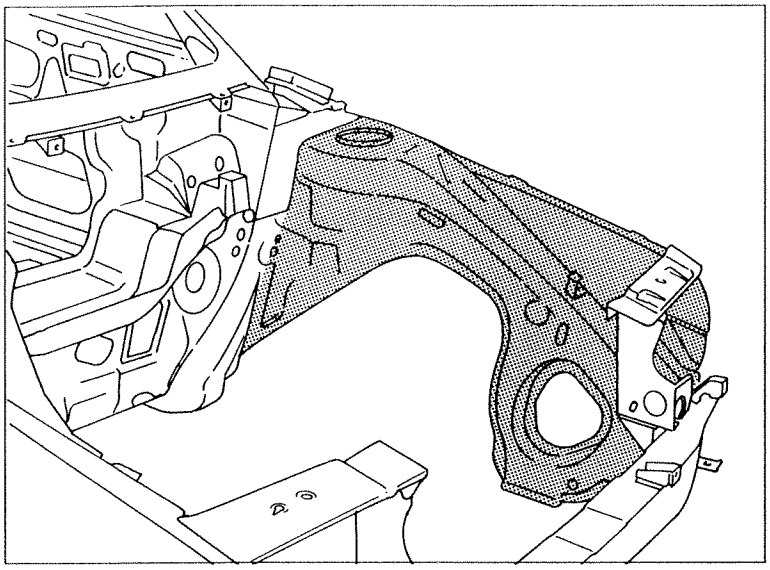
1. Upper hinge
2. Lower hinge
3. Upper opening for fixing cable conduit



P3U072M05

Reference distances for positioning hinges on bodyshell centre pillar

4. Upper hinge
5. Lower hinge
6. Opening for cable conduit


P3U073M01

REPLACING FRONT SIDE PANEL (7090G 10)*

(*) This number indicates the operation code contained in the Flat rate manual.

The component for which the replacement procedure is given is highlighted in the diagram at the side.

PRELIMINARY PROCEDURES

Establish the extent of the damage, check if there are distortions to the connected components by checking the bodyshell alignment figures given on page 77, using suitable methods (jigs, templates or gauges).
Carry out any straightening operations required to the bodyshell before cutting the component.
After this operation check that the components not being replaced are intact.

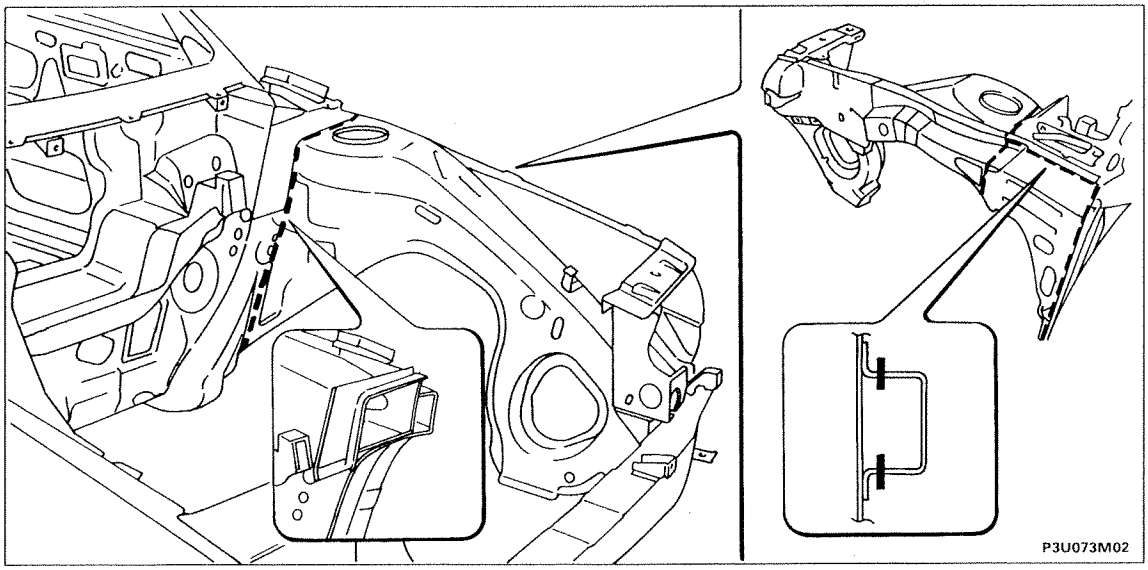
PRELIMINARY DISMANTLING

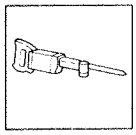
Remove the moving parts of the bodywork and interior fittings, which could impede the repair operations or be damaged during them.

REMOVING

Cut the centre pillar using a power saw following the dotted lines shown in the diagram below.

The most important sections of the body panel are shown in order to allow the operator to adjust the position and the depth of the cutting so as not to damage the panels underneath.


P3U073M02

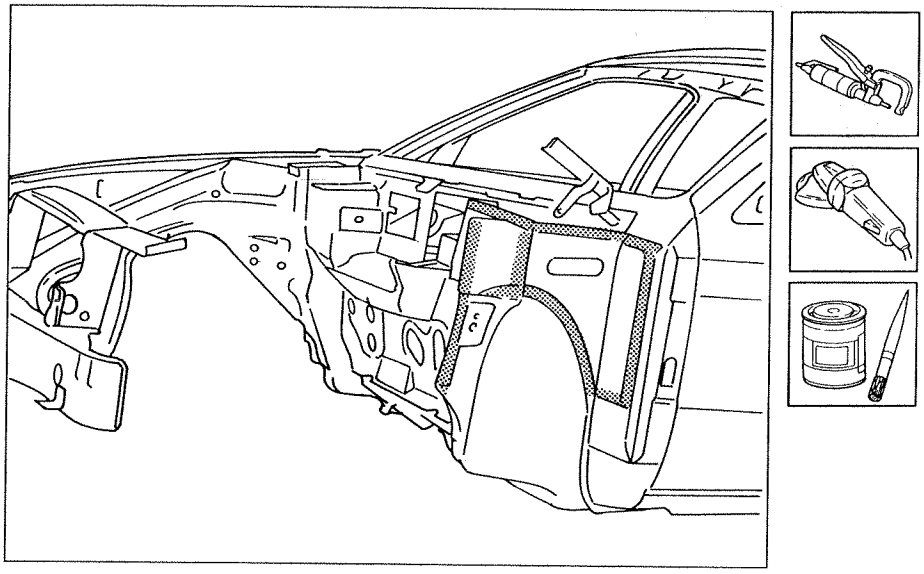


When carrying out the operations described, adhere strictly to the safety procedures. Protective shoes, ear-muffs and gloves should be worn during the cutting operations, welding masks and gloves during the welding operations, and a protective mask and gloves during the painting operations.

70.

Removing off cuts and preparing edges of bodyshell

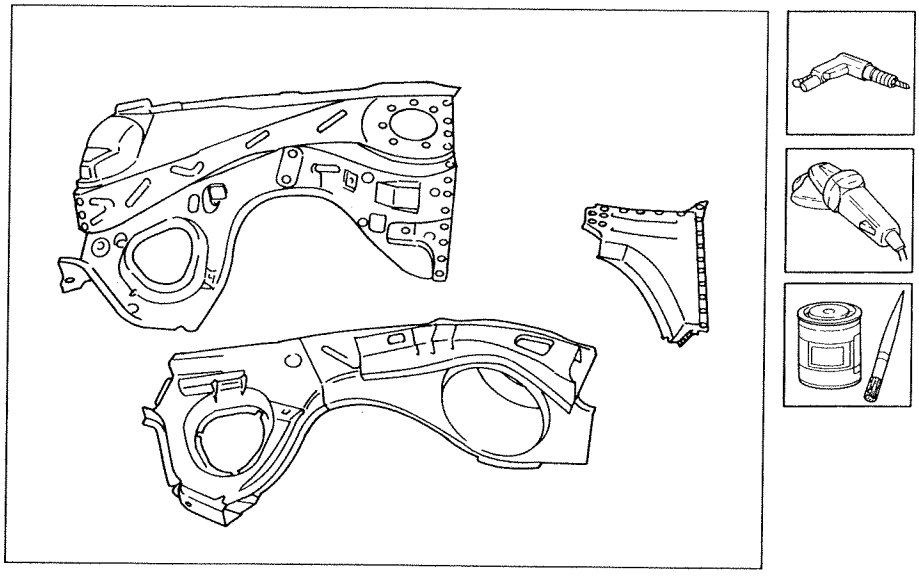
1. Remove the weld points along the entire perimeter of the edge of the bodyshell, using a special cutter.
2. Remove the metal off cuts using pliers.
3. Straighten the edges with a hammer and dolly block.
4. Remove the weld residues using a disc grinder.
5. Apply the IVI Epox epoxide type primer or an electro-weldable galvanized paint or an equivalent product, to the areas previously ground.



P3U074M01

Preparing the spare part

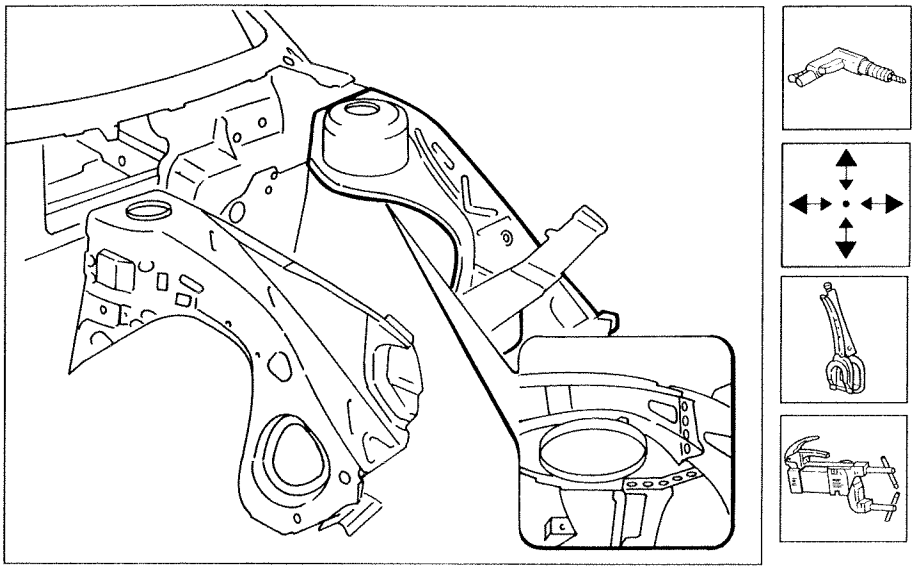
1. Make equidistant holes in the edges of the replacement part as shown in the diagram.
2. Using a disc grinder, remove the anti-corrosion treatment from the entire perimeter of the inside and outside of the replacement part.
3. Use electro-galvanizing paint on the previously treated edges.



P3U074M02

Positioning the replacement part

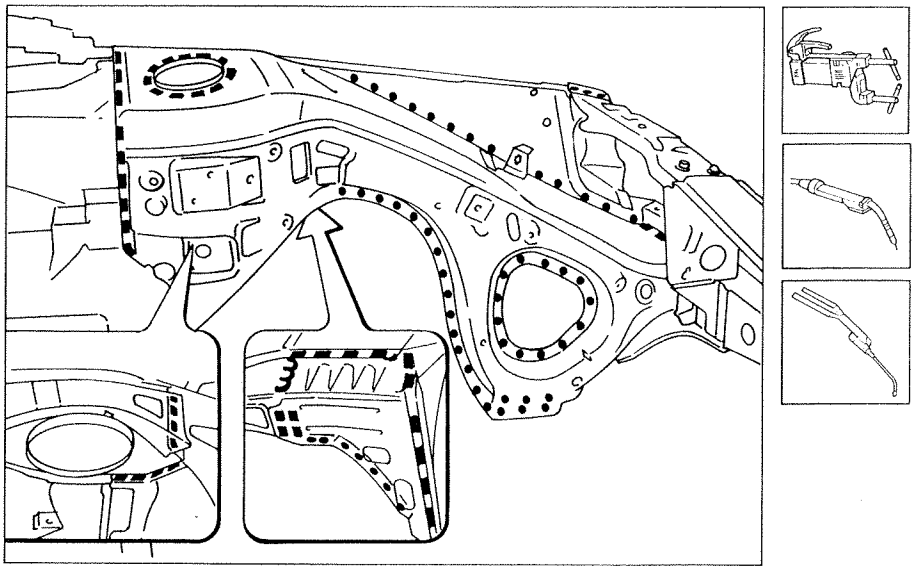
1. Carefully place the lower replacement part in position, after having made the equidistant holes in the edges of the bodyshell.
2. Place the upper replacement part in position.
3. Check that the cross member lining is perfectly positioned.
4. Fix the replacement part to the bodyshell using the special self-locking clamps.
5. Tack the replacment part using several spot welds.



P3U075M01

Welding the spare part

1. Carry out spot welding by the light clusters.
2. Continue the spot welding on the contact edges near the spare wheel housing and the rear wings.
3. Using a MIG welder fill the holes previously made in the replacement part.
4. Using a MIG welder carry out continuous welding on the contact edge between the reinforcement and the bodyshell.



P3U075M02

MIG welding

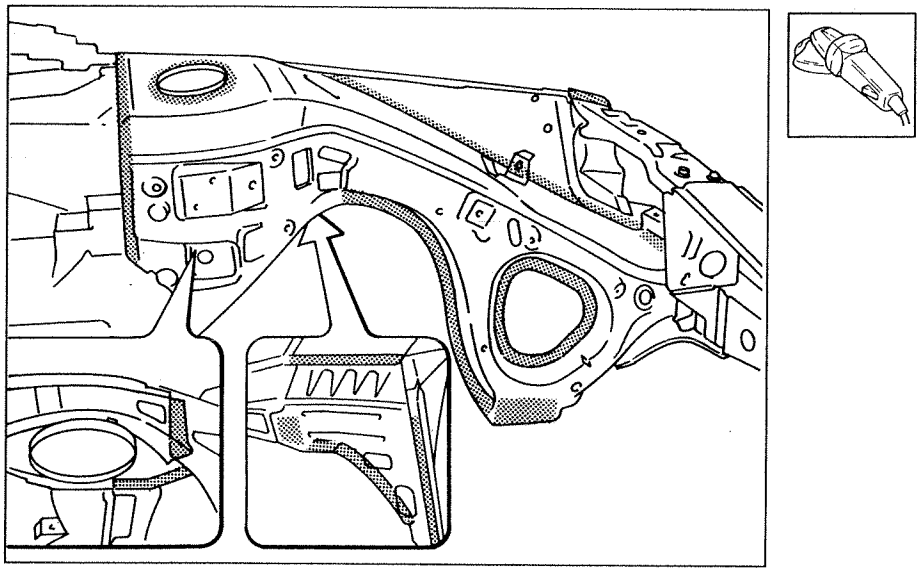
Spot welding

MIG welding for filling in

70.

Finishing operations

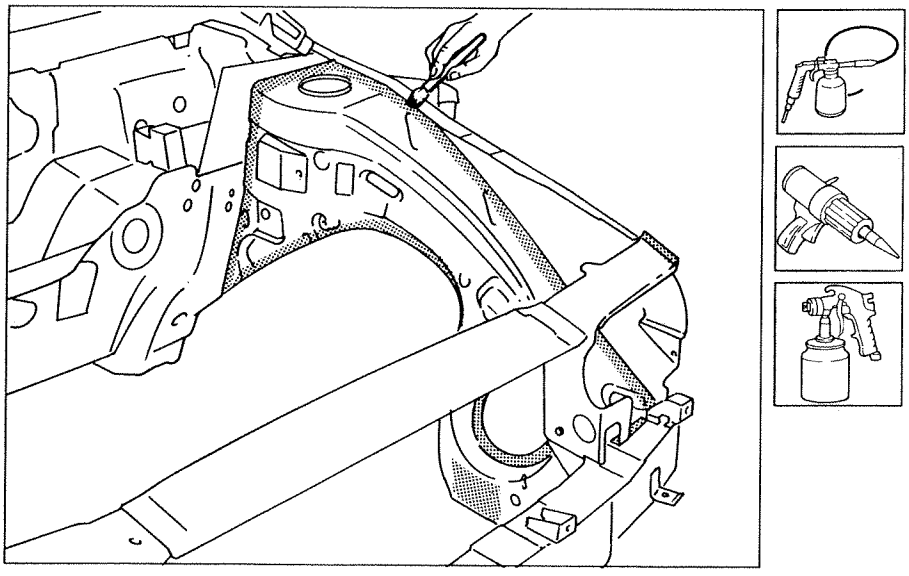
1. Correct any distortions to the panel using a hammer and dolly block.
2. Remove any weld slag using a disc grinder.



P3U076M01

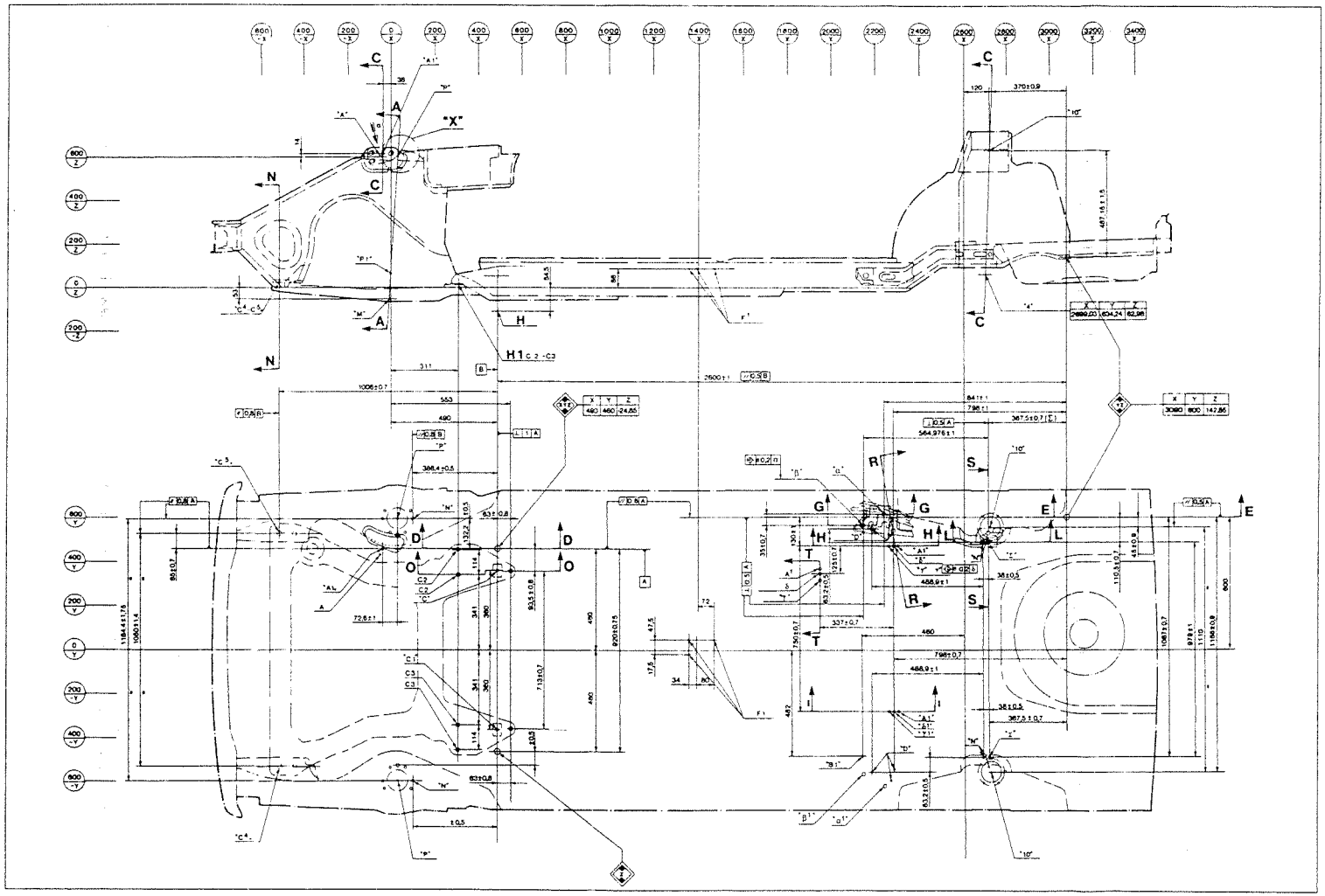
Protection

1. Apply the electro-phoretic protective treatment to the areas previously welded
2. Seal the joins between the side member and the bodyshell, using IVI 854210 transparent acrylic sealant or an equivalent product.
3. Proceed with the painting stage.
4. Apply wax based oil protective to the inside of the side member



P3U076M02

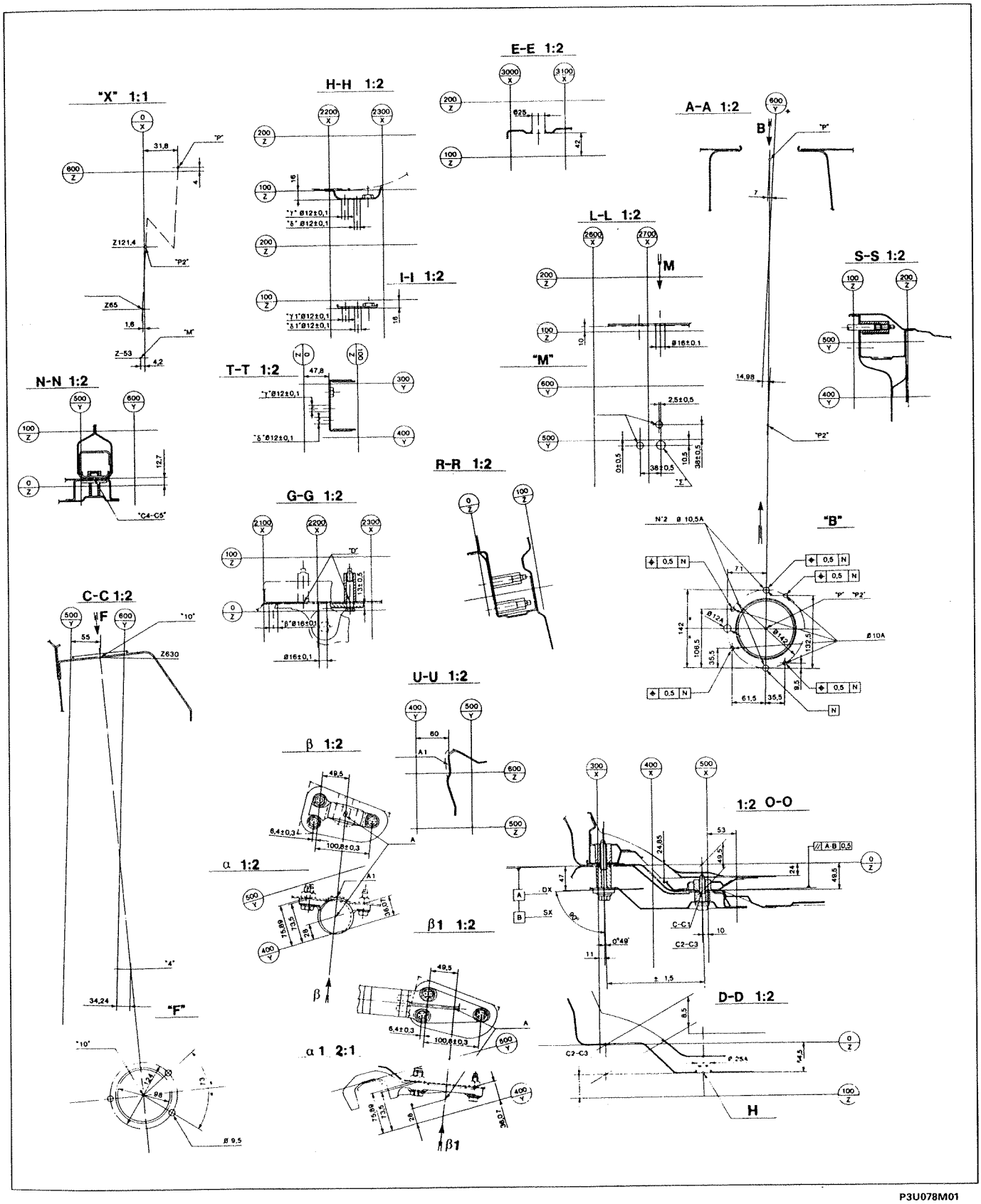
DIAGRAM FOR CHECKING UNDERBODY

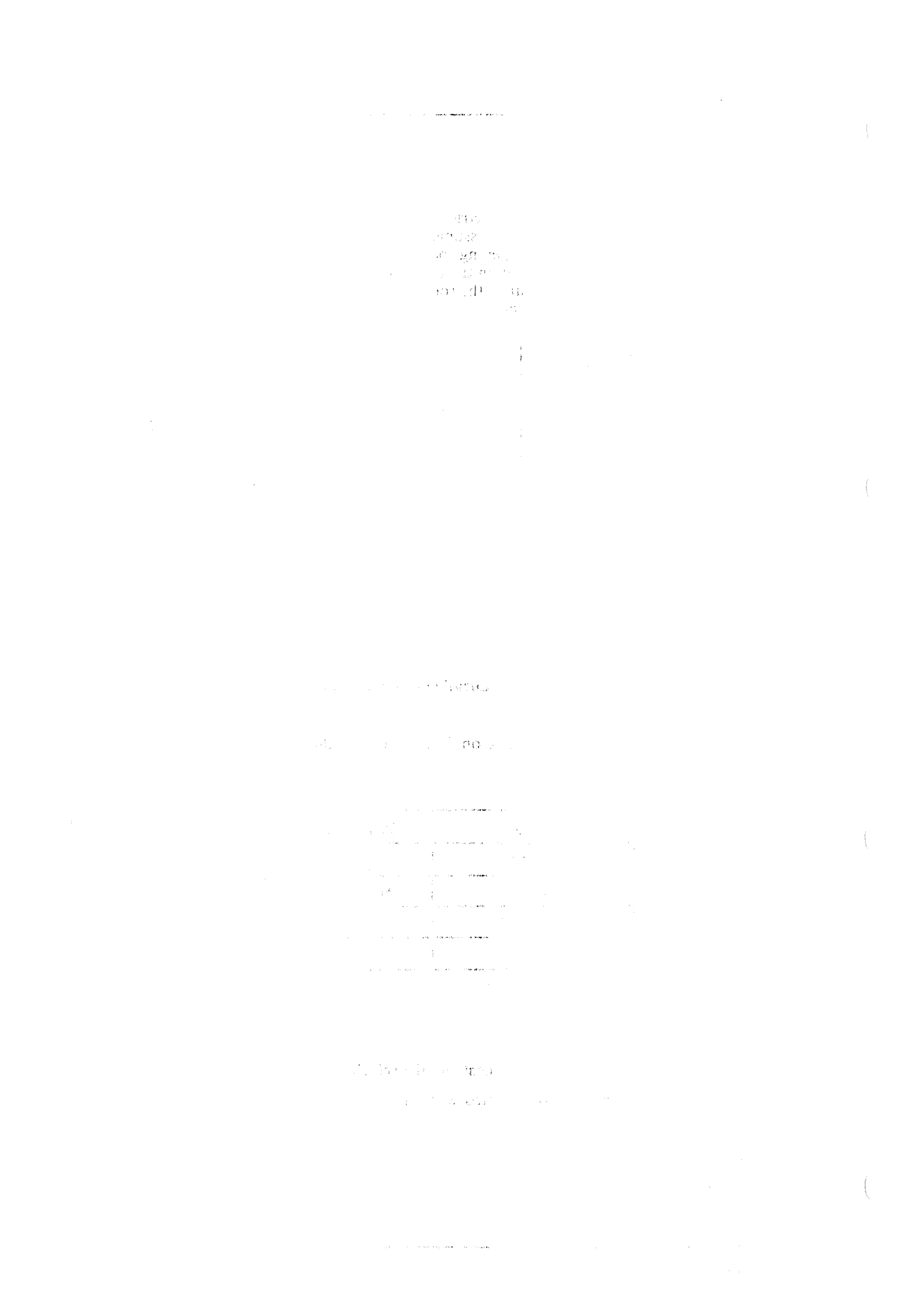


P3U15AM01

NOTE Valid for points D - N - A - B

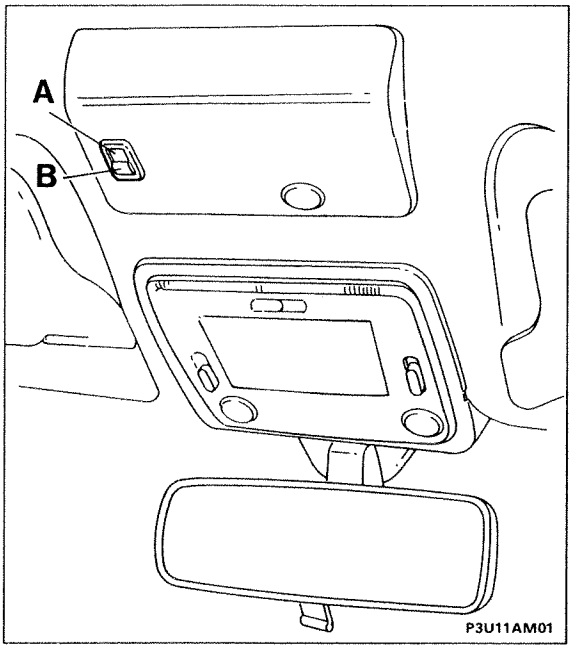
α,β Centering holes for fixing right side strut
α1-β1 Centering holes for fixing left side strut
D Longitudinal strut attachment
B Fixings for silencer and exhaust pipe
N Attachment for rear suspension cross member
Centering holes for attaching rear suspension cross member
C Attachment for engine support frame
H Primary hole
H1 Between primary hole and points C2-C3
10 Attachment for rear suspension shock absorber
P Attachment for front suspension shock absorber
A1 Fixings for fuel tank
Centering holes for fuel tank, right side
Centering holes for fuel tank, left side
F1 Attachment for handbrake lever support


"X" 1:1
H-H 1:2
E-E 1:2
A-A 1:2
L-L 1:2
S-S 1:2
I-I 1:2
T-T 1:2
N-N 1:2
R-R 1:2
G-G 1:2
"B"
C-C 1:2
U-U 1:2
β 1:2
α 1:2
β1 1:2
α 1 2:1
1:2 O-O
D-D 1:2
"F"
H
"M"
"P"
"P2"
"C4-C5"
Z121,4
Z65
Z-53
Z630
34,24
N°2 ø 10,5A
ø10A
P3U078M01



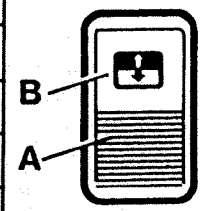
OPERATION OF SUN ROOF

The sun roof fitted is the metal type and it is electrically operated.
The sliding mechanisms for the roof allow it to assume to different types of position:
- one "retracted" position which allows the opening (partial or complete) of the roof with it sliding until it disappears completely into the housing between the roof lining and the roof panel;
- one "hinged" position which allows the rear of the roof to be raised and the flow of air into the passenger compartment with a gentle ventilation effect.



Location of push button for operating the sun roof

The sun roof is operated by a push button located on the front trim of the roof lining and the operation is described in the table below:

Initial position	Operation	Position obtained	
Retracted opening	Press "B"	Closed	
Closed	Press "B"	Hinged opening	
Hinged opening	Press "A"	Closed	
Closed	Press "A"	Retracted opening	

Operations of removing-refitting sun roof components on the vehicle

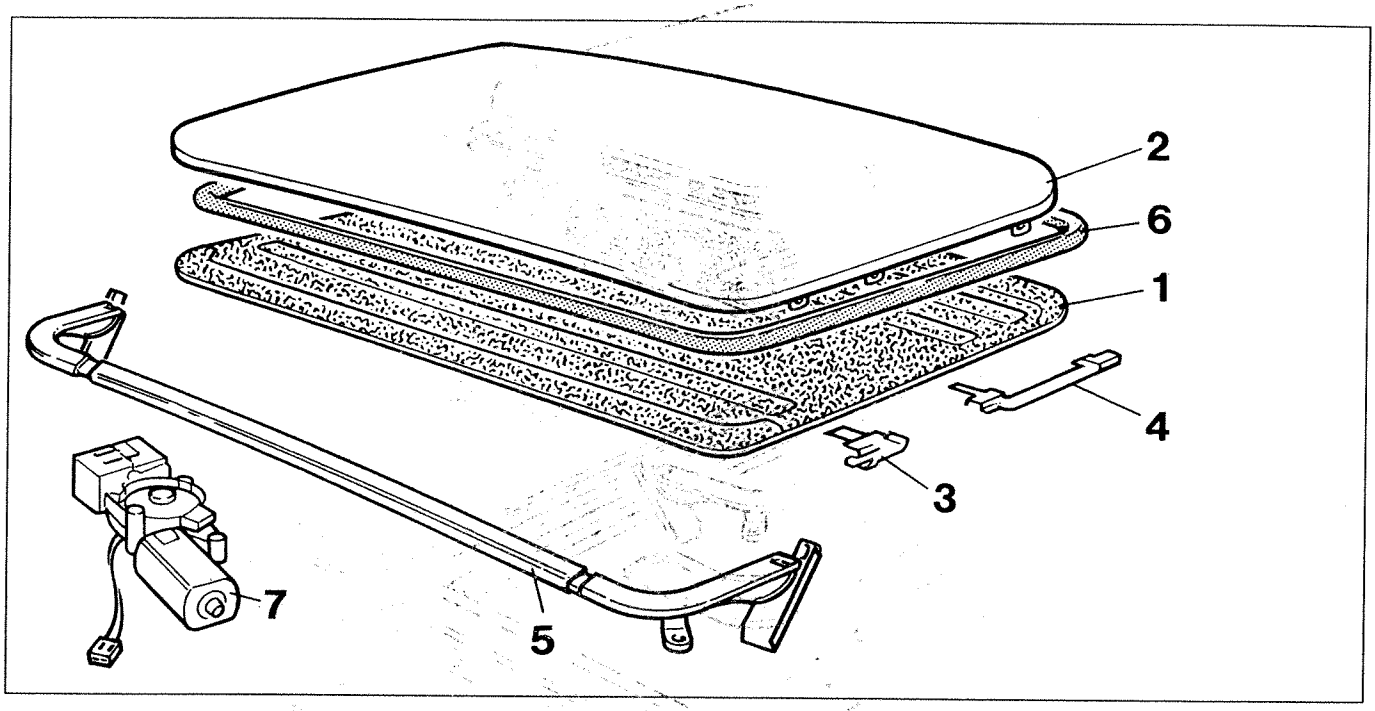
The following components can be removed-refitted with the assembly fitted in the vehicle:

- Metal panel
- Sun roof lining
- Electric motor
- Spoiler

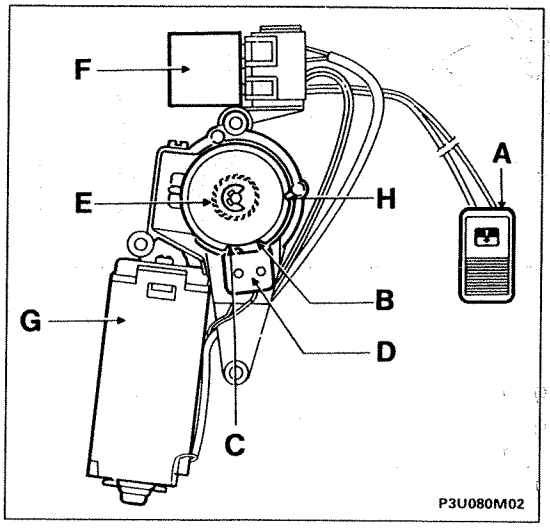
Removing/refitting metal panel and sun roof lining

In order to replace the metal panel proceed as follows:
- Position the roof in the retracted position (about 100 mm) and release the roof lining (1) retaining springs;
- position the roof in the hinged position and push the roof lining towards the rear of the vehicle;
- undo the bolts fixing the metal panel (2) from the pantograph device;
- extract the sun roof lining from the assembly;
- break the two front supporting springs (3);
- rotate the lining and release the two retaining springs (4) positioned at the rear;

In order to remove the spoiler (5) undo the fixing bolts;
The water/air/dust seal (6) around the metal panel is fitted along the perimeter of the panel.



P3U080M01



P3U080M02

Electric operating motor

If the electric motor (G) has to be removed, when refitting, adjust the control devices:
- Manually position the metal panel for the sun roof in the hinged position.
- Act on the control button for the motor (A) in the hinged position (B) as shown in the diagram, then proceed to refit the motor in its housing.

Motor components:

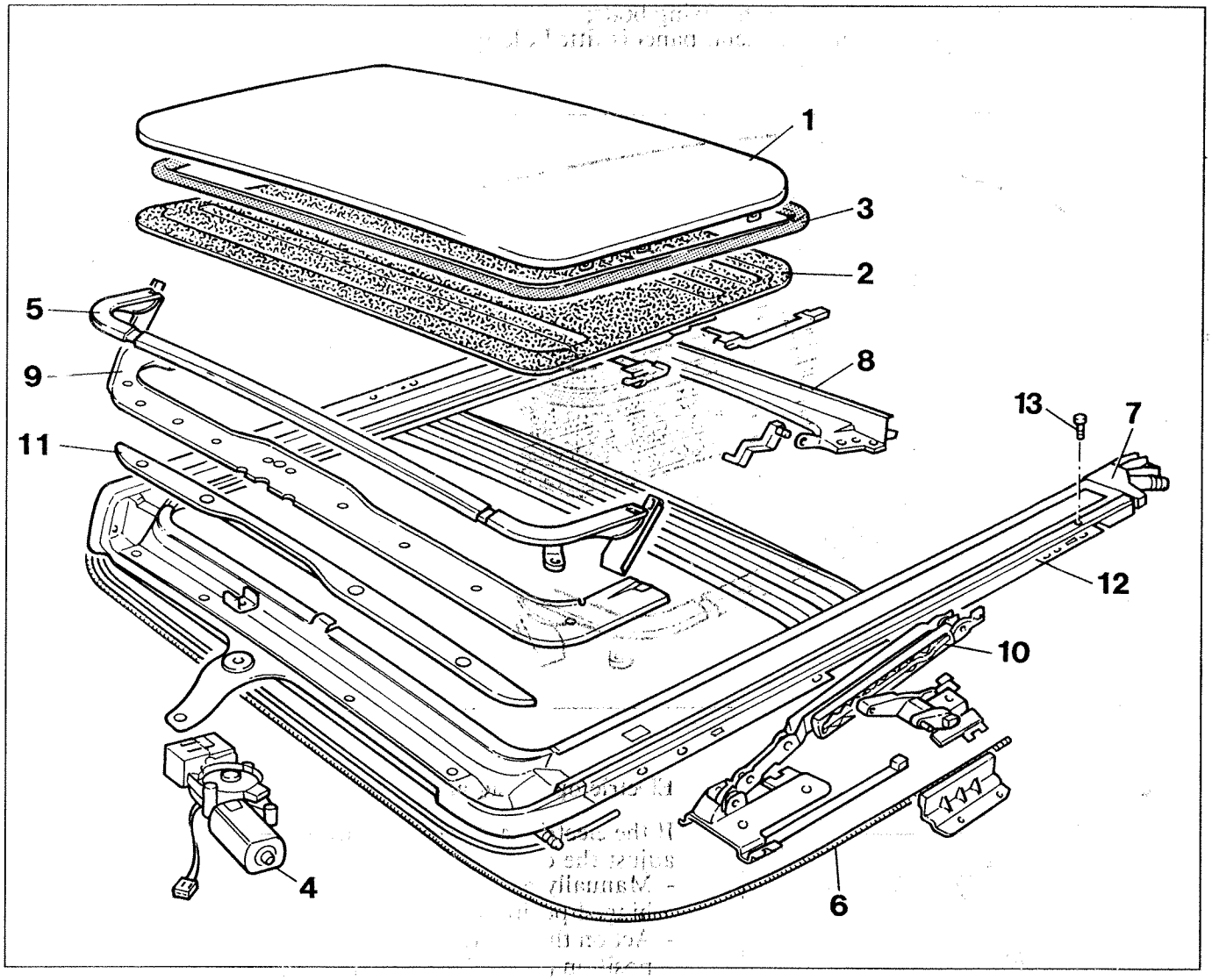
A. Control button
B. Hinged position
C. Retracted position
D. Microswitch
E. Operating cam
F. Relay
G. Motor
H. Closed position

Removing-refitting sun roof assembly

In order to remove the assembly the roof lining has to be removed from the vehicle, undo the bolts fixing the assembly and release the electric operating motor wiring.

Operations of removing and refitting sun roof components with the assembly removed

In order to remove the sun roof components, carry out the operations already described on the previous pages (operations on the vehicle) then proceed as follows:
- Remove the guide/water drain terminals (7) stuck with betaseal type polyurethane sealant.
- Undo the two worm screws (13).
- Release the water drip channel (8) from the two pantographs,
- Using a lever push the pantographs towards the rear part (10).
- Remove the flexible racks (6).

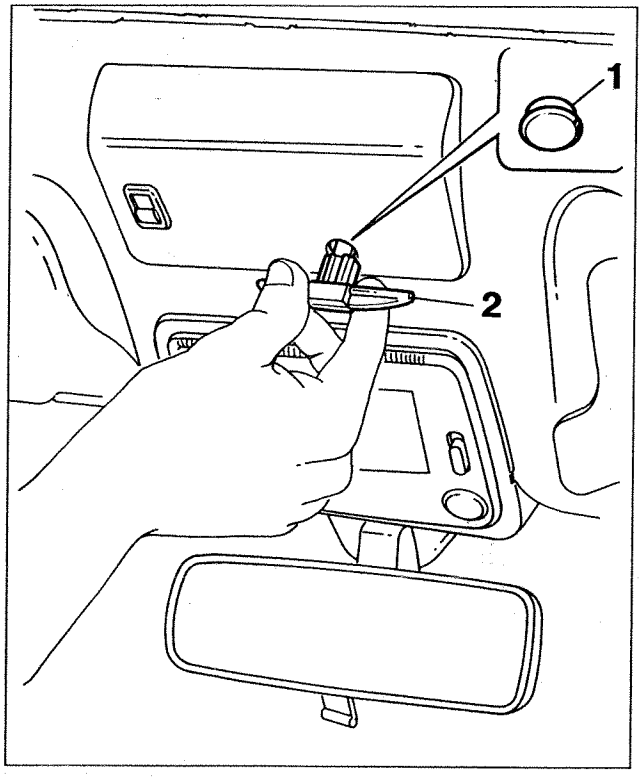


P3U081M01

Sun roof components

1. Metal panel
2. Roof lining
3. Seal
4. Electric motor
5. Spoilér
6. Flexible rack
7. Guide/drain terminals
8. Drip channel
9. Upper guide
10. Pantograph device
11. Lower guide
12. Frame
13. Worm screws

When refitting lubricate the sliding components with MOLYKOTE PG 30 L type grease or an equivalent product.

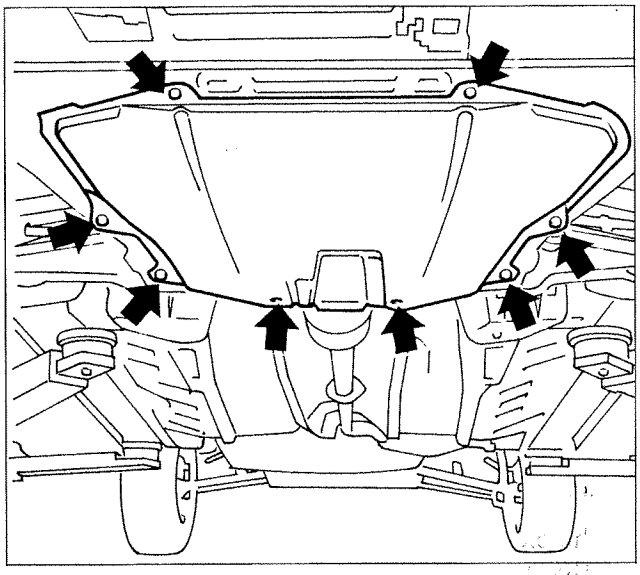


P3U082M01

Emergency manoeuvre

The electric device for opening the sun roof is fitted with a manually operated system for use in emergencies. Proceed as follows in such cases:

- Remove the plug (1);
- Insert a "T" spanner (2) and rotate in a clockwise or anti-clockwise direction, as required.



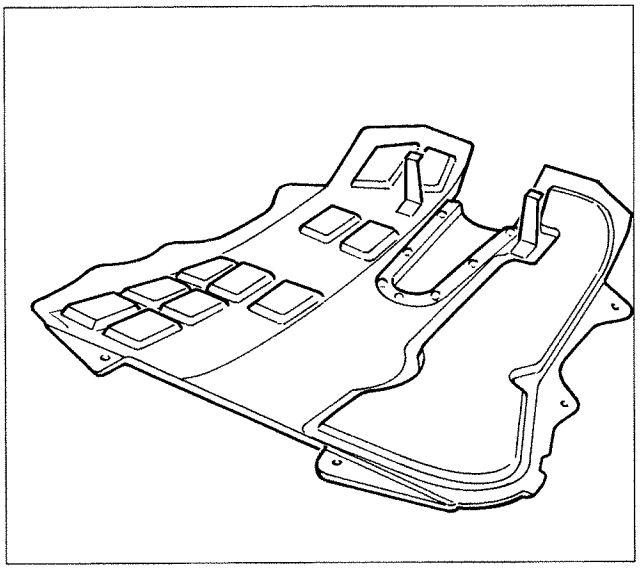
P3U083M01

REMOVING-REFITTING

Position the vehicle on a lift and loosen the bolts fixing the front wheels. Raise the vehicle and remove the wheels.

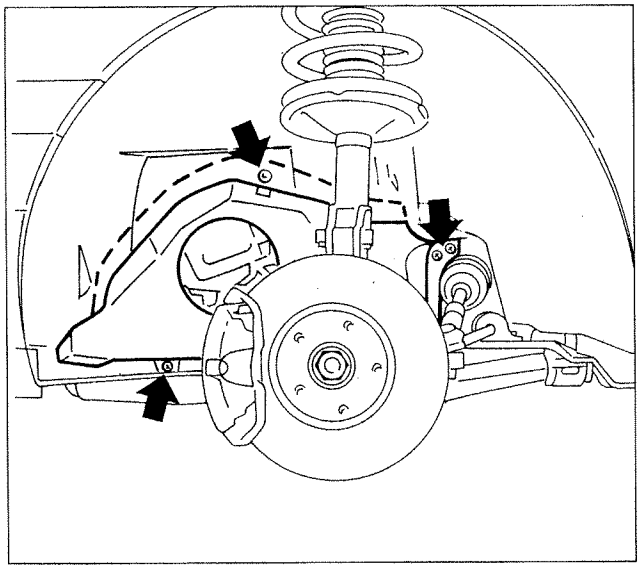
Lower engine compartment panel

1 Undo the bolts shown and remove the lower engine compartment panel.



P3U083M02

2. Check that the sound insulation lining is intact; if this is not the case, the panel must be replaced; to refit it, proceed reversing the order of the operations carried out for the removal.



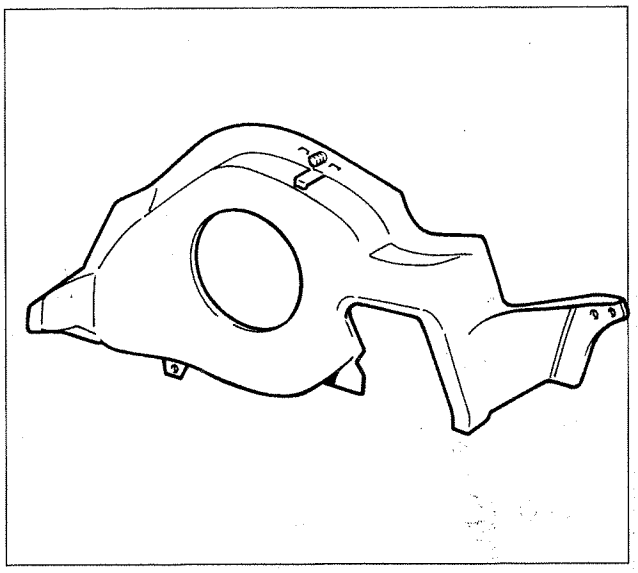
P3U083M03

Left wheel arch lower sound insulation lining

3. Undo the bolts shown and remove the lining, detaching the left wheel arch linder without actually removing it.

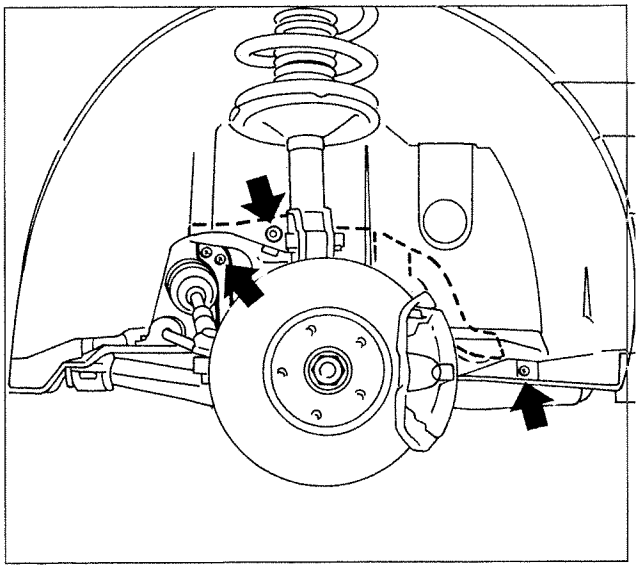
3U086M

70.



P3U084M01

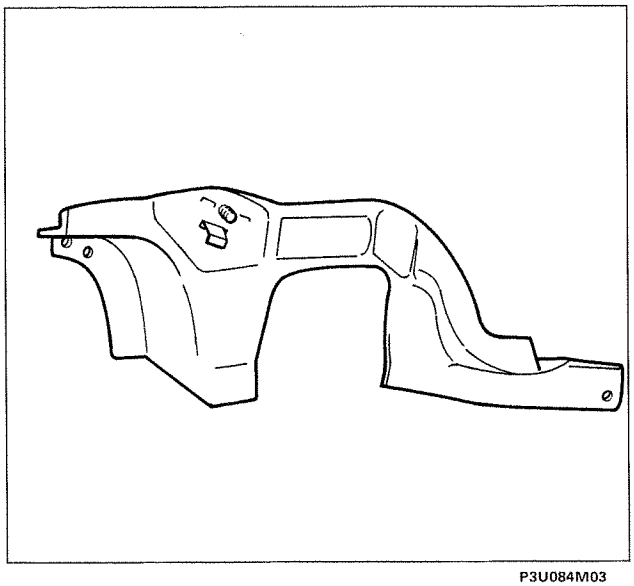
1. Check that the lining is intact; if this is not the case, it must be replaced; to refit, reverse the order of the operations carried out for the removal.



P3U084M02

Right wheel arch linder lower sound insulation lining

2. Undo the bolts shown and remove the lining, without removing the right wheel arch liner.



P3U084M03

3. Check that the lining is intact; if this is not the case, it must be replaced; to refit, reverse the order of the operations carried out for the removal.

3U087M