

REMOVING - REFITTING



Special operations involved in fitting
Grease the battery posts before fitting
the terminal rings.

Tightening torque for nut on positive
ring : 0.5 daN.m.

Tightening torque for battery isolator :
0.3 daN.m.

Battery fastenings : 1 daN.m.

FOR B/C/S 40 VEHICLES

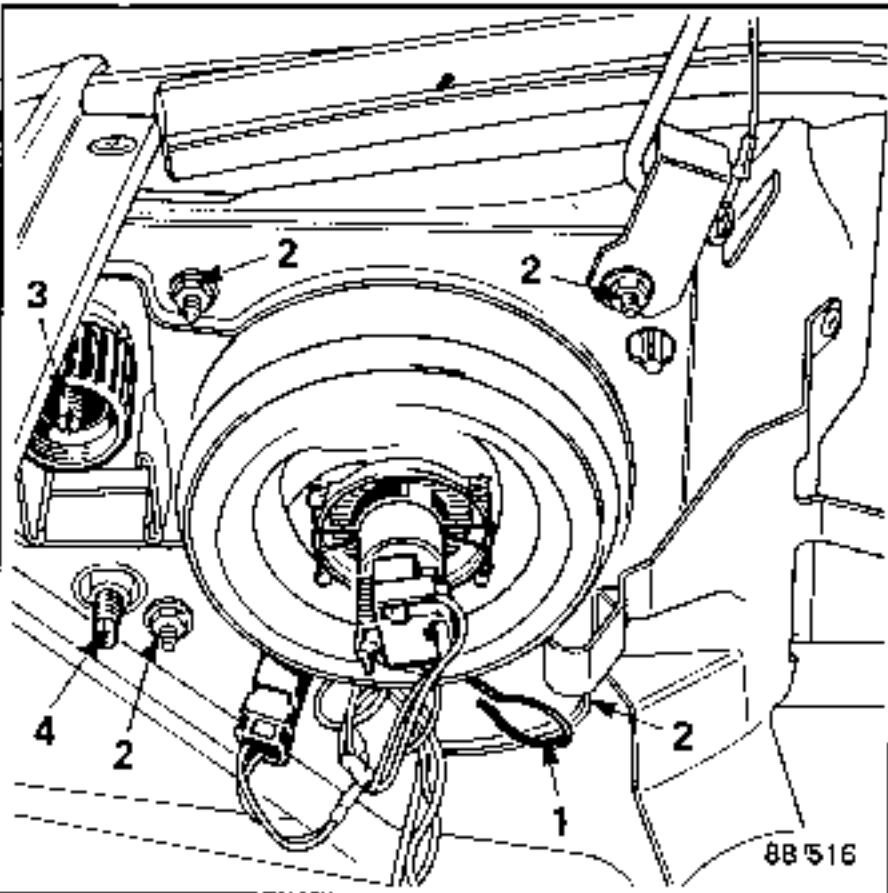
REMOVING - REFITTING

Disconnect the connectors.

Remove :

- the radiator grille and the three upper screws, unclip the bottom end,
- the direction indicator light by lifting the spring (1) and pulling forwards.
- the nuts (2).

Take out the beam unit.



Special operations during refitting

After refitting the beam units, they must be adjusted.

Adjusting :

Ensure that there is nothing in the vehicle.

The adjusting lever must be in the "vehicle unladen" position.

Turn screw (3) to adjust the height of the beam.

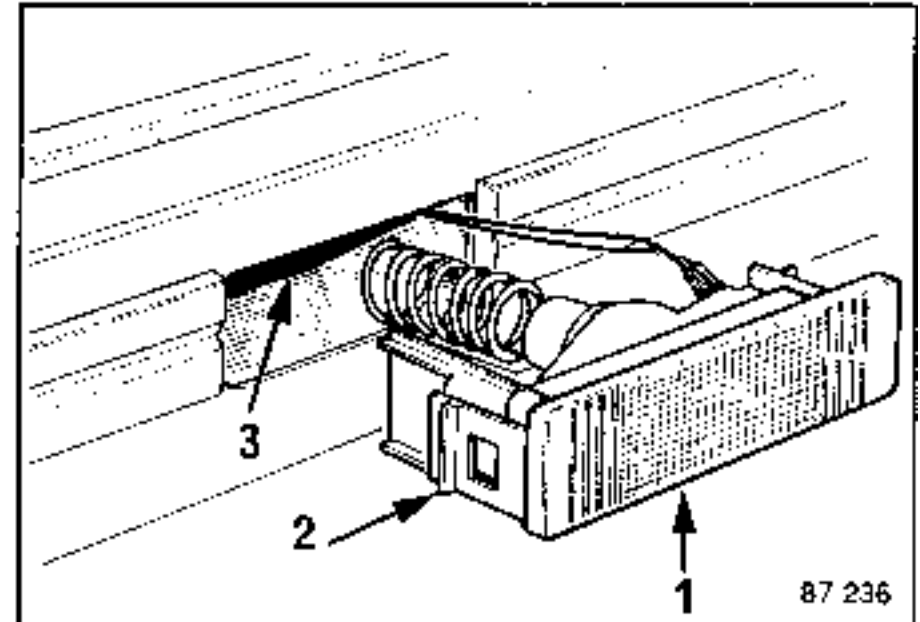
Turn screw (4) to adjust the beam laterally.

FOR F40 VEHICLES

Remove :

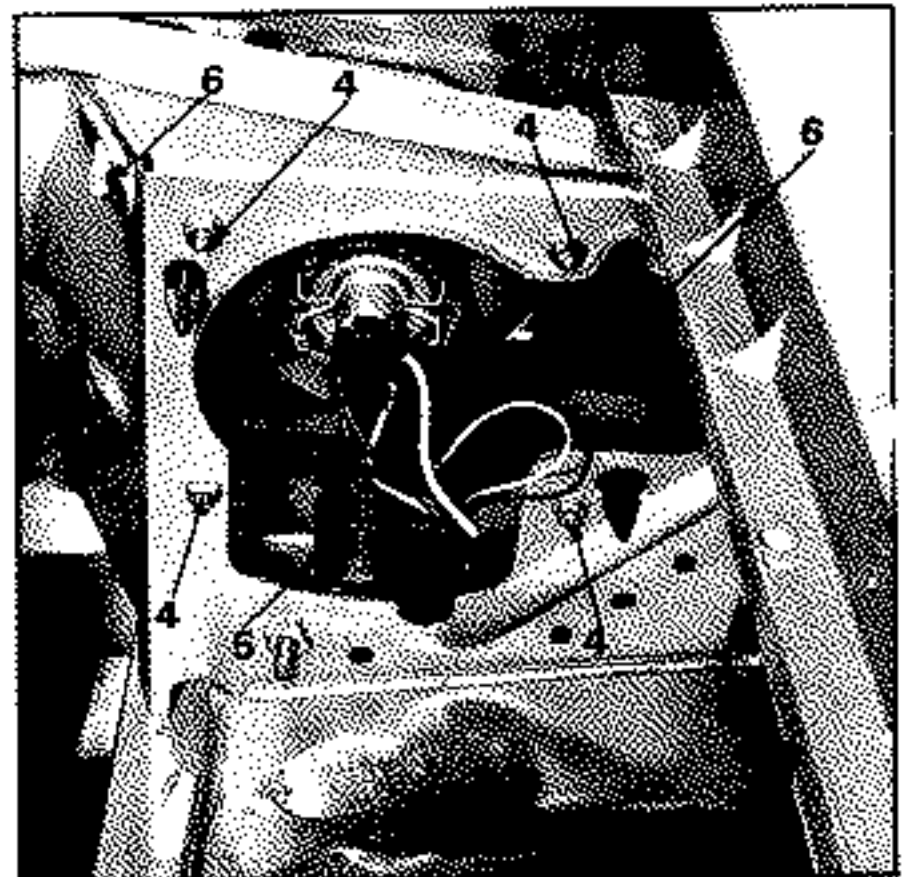
- the direction indicator lights.

Press lightly on (1) and free the tab (2) with a thin blade.



- Screw (3) at the bottom of the direction indicator location.
- The radiator grille upper fastenings.
- The radiator grille.
- The nuts (4).

Take out the beam unit.



Special operations during refitting

After refitting the beam units, they must be adjusted.

Adjusting :

- Ensure that there is nothing in the vehicle and that the adjusting lever is in the "vehicle unladen" position.
- Turn screw (5) to adjust the height of the beam.
- Turn screw (6) to adjust it laterally.

ON B/C/S VEHICLES

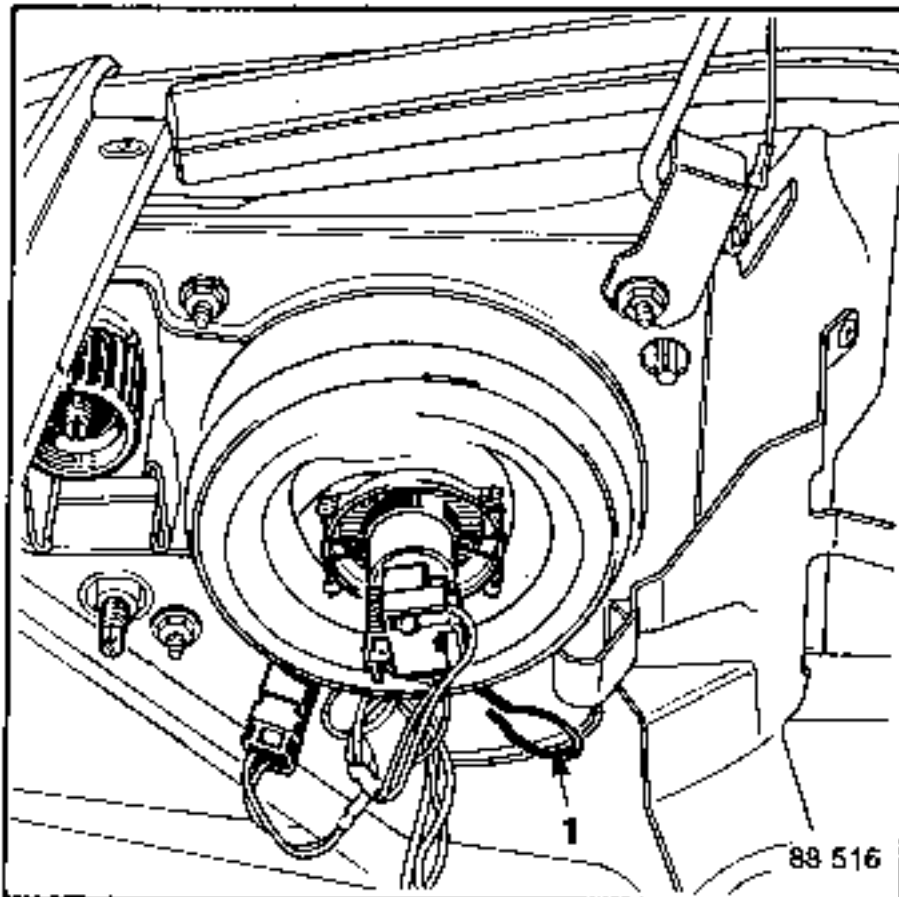
REMOVING - REFITTING

Free the spring (1).

Take out the light by pulling it forwards.

Special operations during refitting

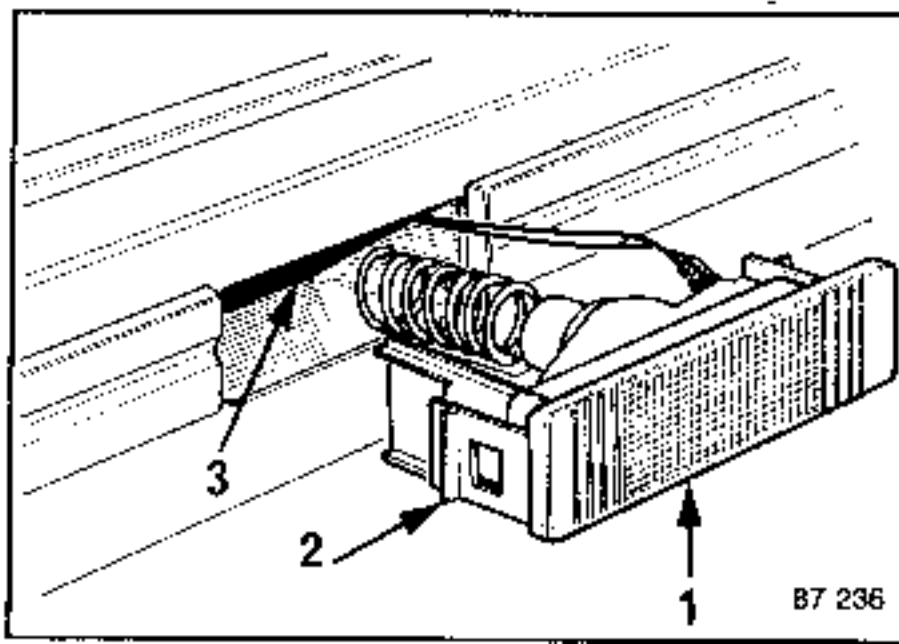
Ensure that the lugs at the bottom of the beam unit are correctly positioned.



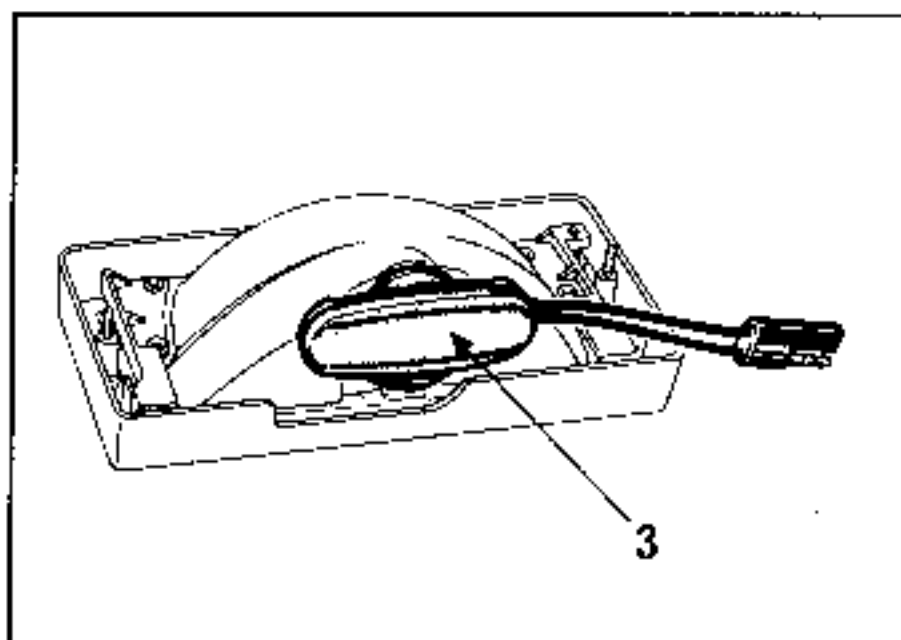
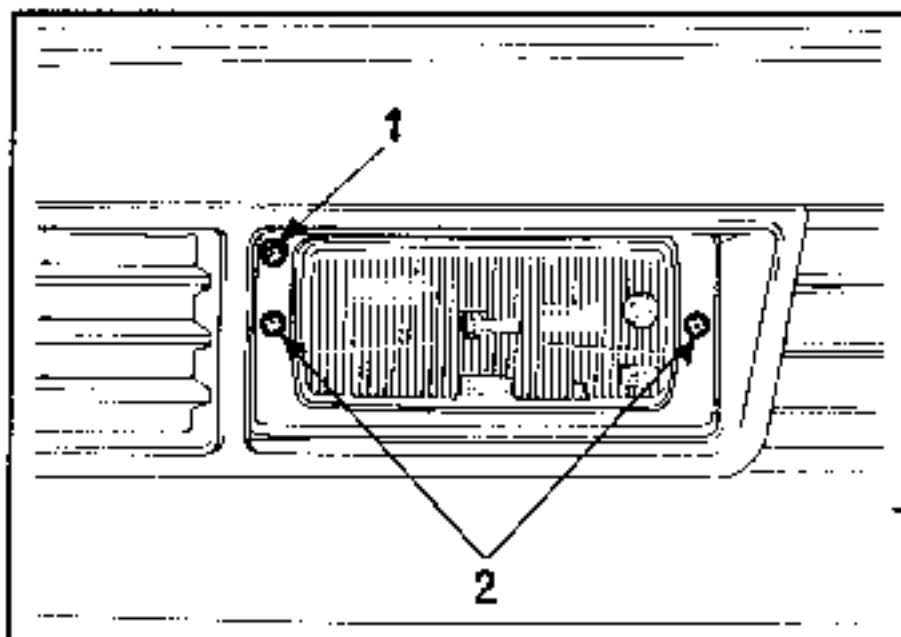
ON F40 VEHICLES

REMOVING

To remove the direction indicator lights, press lightly on (1) and free the lug (2) with a thin blade.



For vehicles fitted with foglights.



REMOVING

- Unscrew the securing screws (2).
- Remove the beam unit forwards.
- Disconnect the two wires.

Replacing the bulb

- Turn the bulb holder (3) through a quarter of a turn and remove it.
- Take out the bulb.
- Holding the new bulb with a cloth or piece of paper, slide it into its support.

Adjusting the Foglight

Adjust the height of the beam at screw (1).

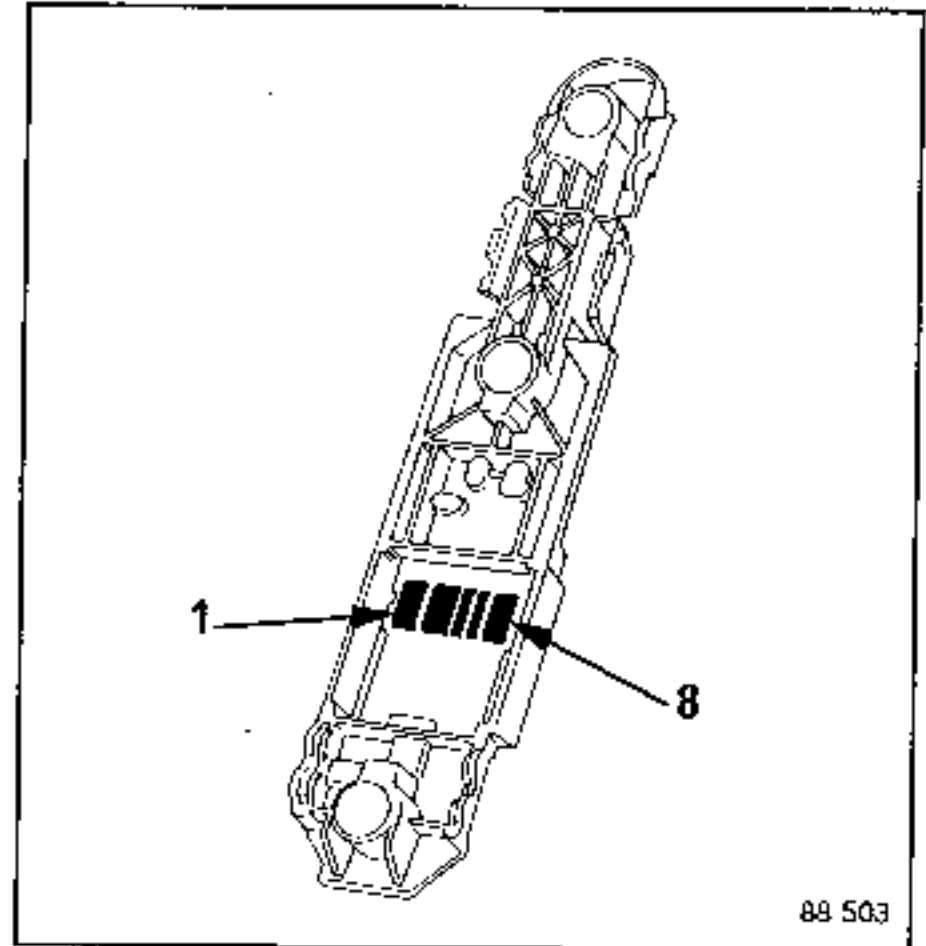
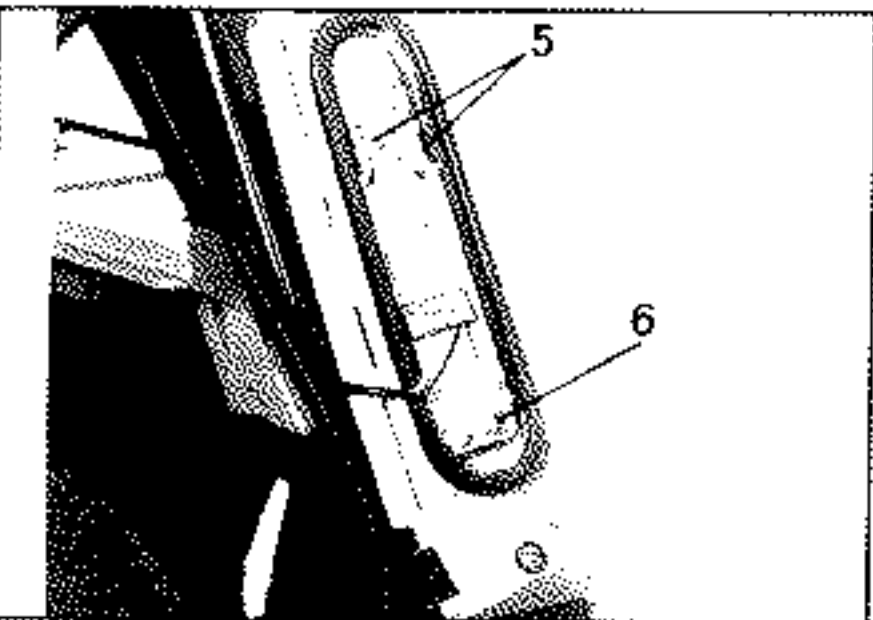
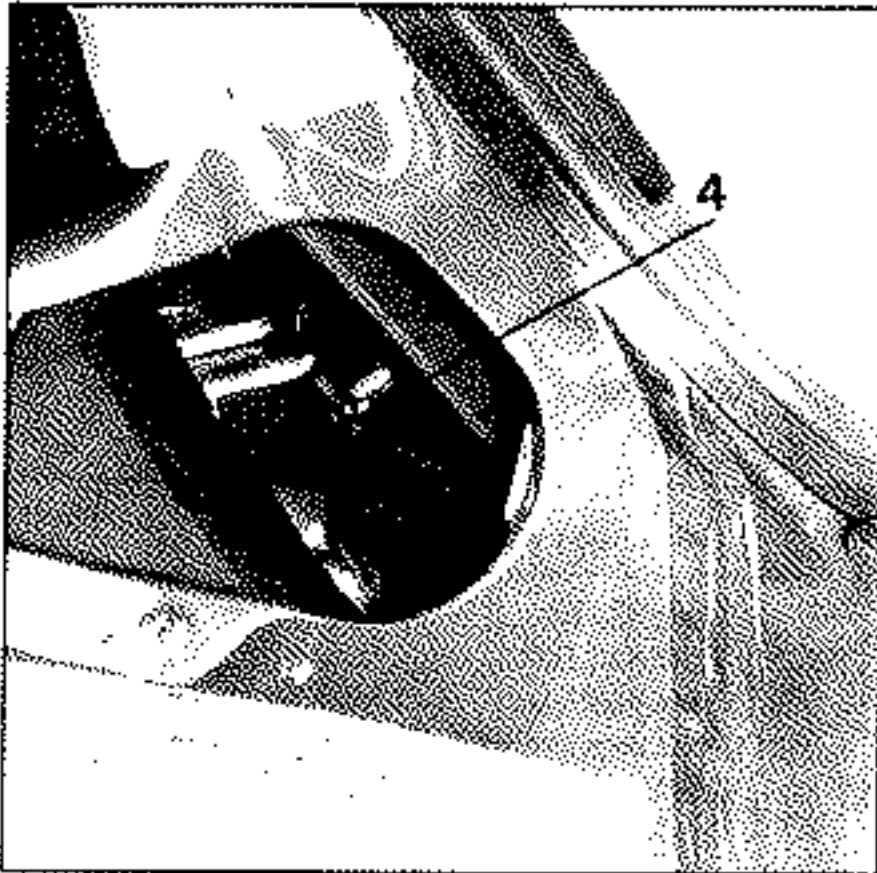
ON B/C/S 40 VEHICLES

REMOVING - REFITTING

Unscrew the wing nut (4) from inside the boot.

Free the light unit (1) and turn it over.

Press the two plastic hooks (5) to separate the bulb holder from the reflector.



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RIGHT HAND CONNECTOR

Pin	Description
2	Stop light supply
4	Rear RH light supply
5	Rear RH dir. ind. supply
6	Reversing light (LHD*) rear foglight (RHD*)
7	Rear RH light earth

LEFT HAND CONNECTOR

Pin	Description
2	Stop light supply
4	Rear LH light supply
5	Rear LH dir. ind. supply
6	Rear foglight (LHD*)/reversing light (RHD*)
7	Rear LH light earth

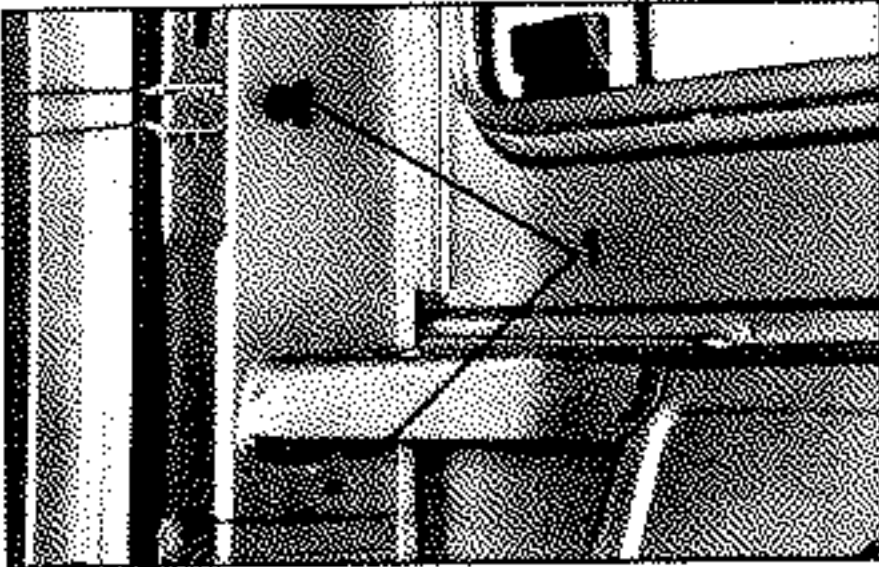
*LHD = Left hand drive
RHD = Right hand drive

ON F40 VEHICLES

REMOVING - REFITTING

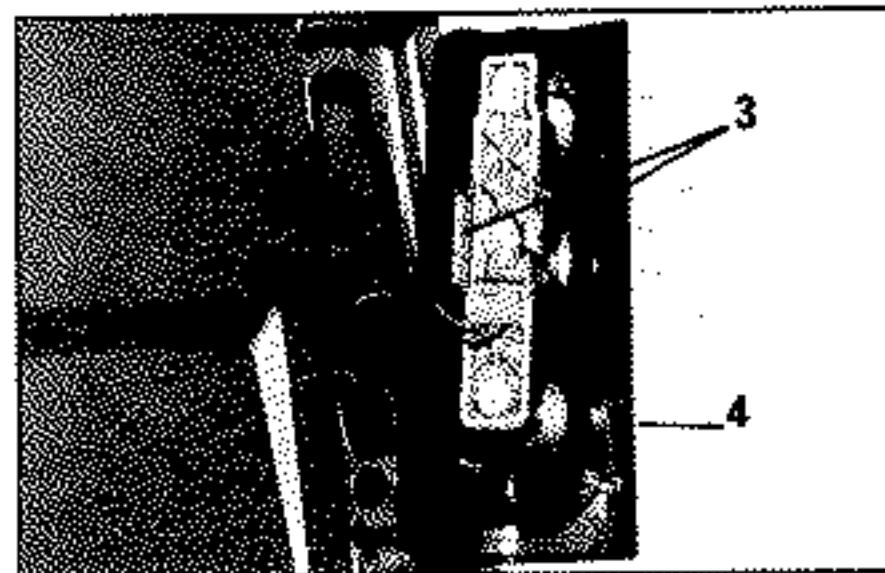
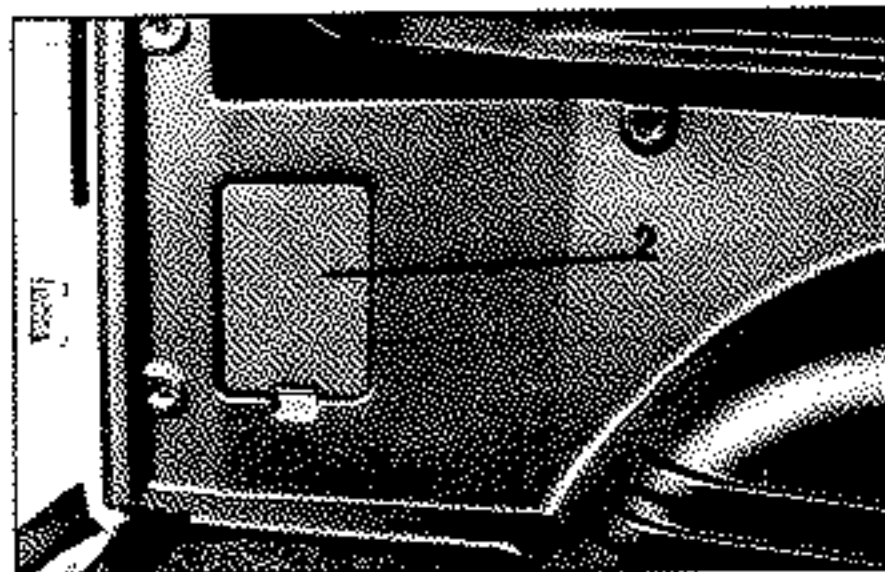
Versions without interior trim

Unscrew the two nuts (1) inside the boot.

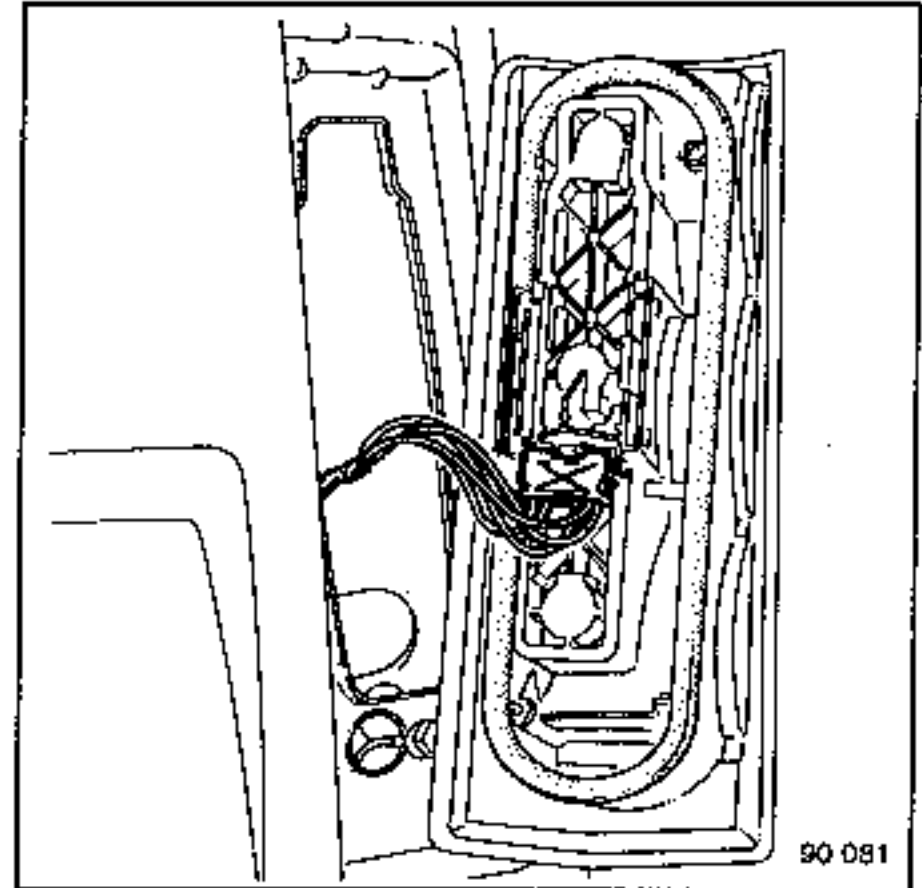


Versions with interior trim

Unclip cover (2) to gain access to the lower nut (1).



Free the light unit (4) and turn it over. Press the two plastic hooks (3) to separate the bulb holder from the reflector assembly.



RIGHT HAND CONNECTOR

Pin	Description
2	Stop light supply
4	Rear RH light supply
5	Rear RH dir. ind. supply
6	Reversing light (LHD*)/rear foglight (RHD*)
7	Rear RH light earth

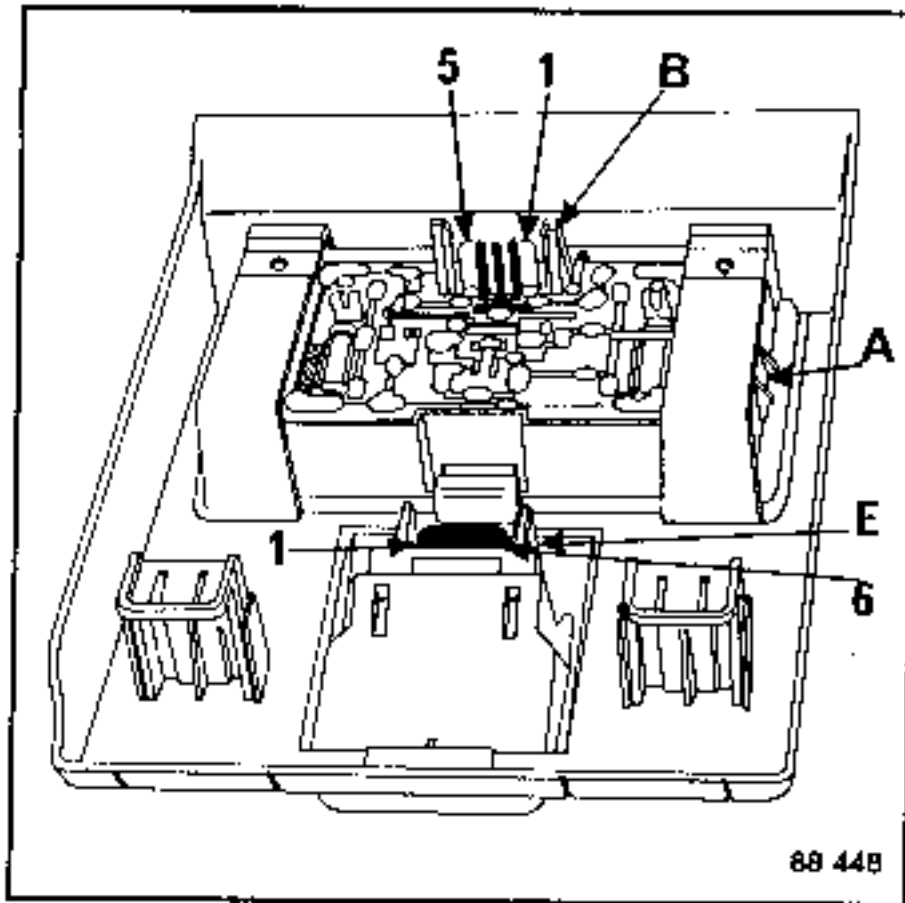
LEFT HAND CONNECTOR

Pin	Description
2	Stop light supply
4	Rear LH light supply
5	Rear LH dir. ind. supply
6	Rear foglight (LHD*)/reversing light (RHD*)
7	Rear LH light earth

*LHD = Left hand drive
RHD = Right hand drive

REMOVING

Release the tabs (A) to take out the interior lights.



INTERIOR LIGHT CONNECTOR (B)
Without IRC*

Pin	Description
1	Interior light earth
2	Interior light + before ig.switch
3	Door switch signal

With IRC*

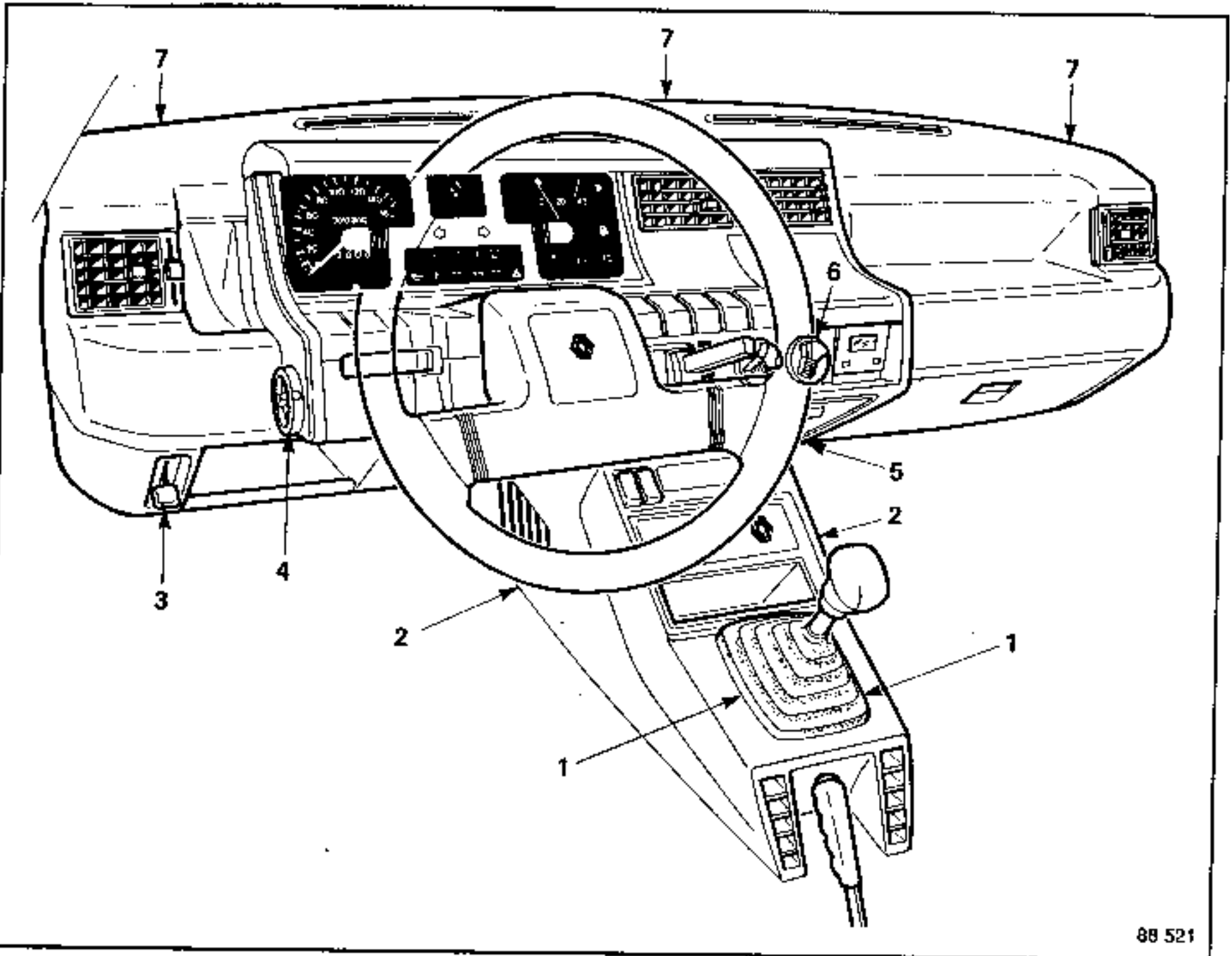
Pin	Description
2	Earth
3	+ before ignition switch
4	Door switch signal

IRC* CONNECTOR (E)

Pin	Description
1	Earth
2	EDLC* opening command
4	EDLC* closing command
6	+ before ignition switch

* IRC = Infra red control
EDLC = Electric door lock control

1st type fascia panel :



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REMOVING

Disconnect the battery.

Remove (depending on the version) :

- the console, two screws (1) under the gear shift boot and one screw (2) on either side,
- the choke control (3) (certain versions)
- the headlight adjusting knob (4) (certain versions),
- the two screws (5) from the ashtray,
- the heater controls (6) (see heating - air conditioning section),
- the RH and LH upper and lower body trim (see Bodywork Manual),

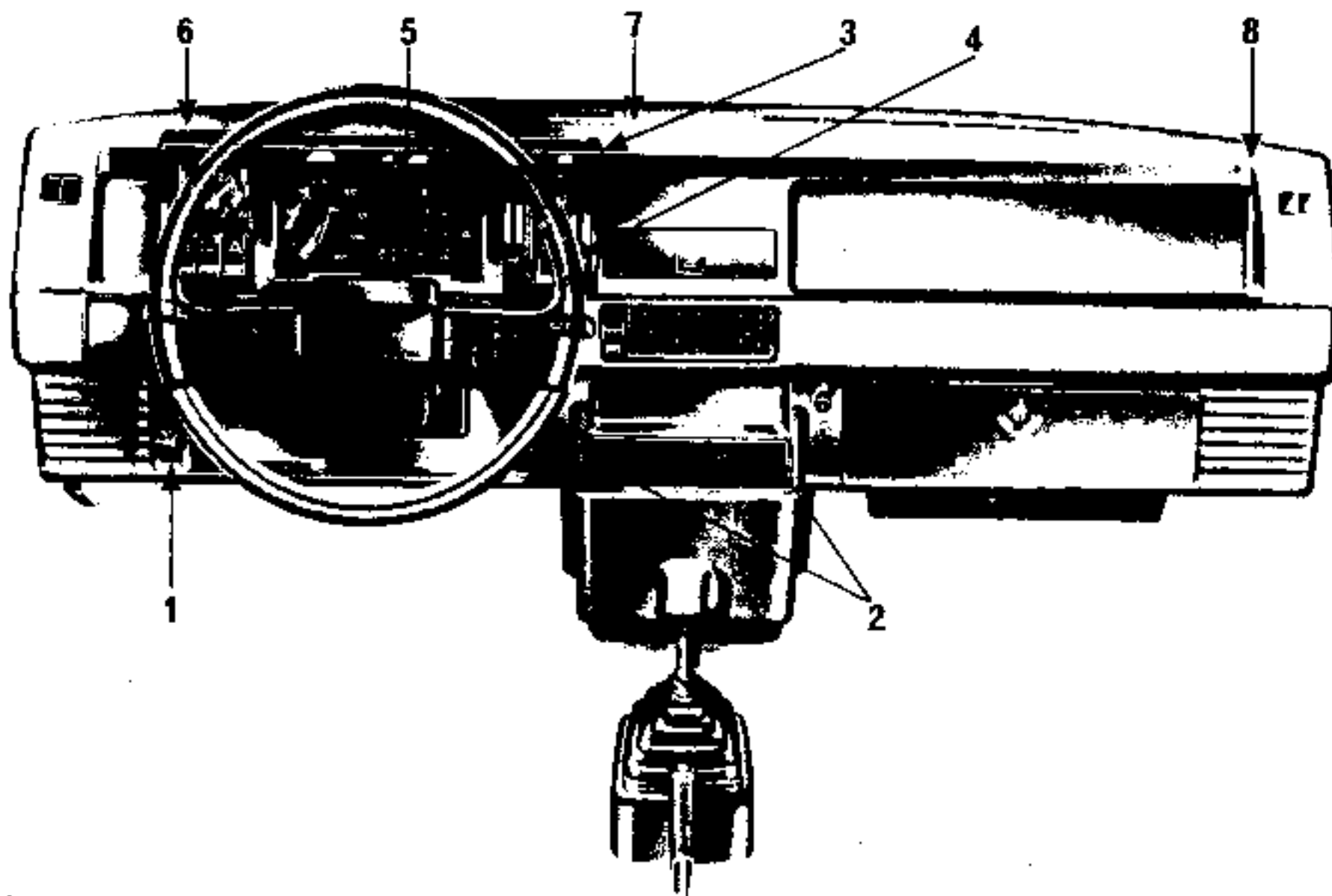
- the earth wires,
- the steering column (see "Front axle" section).

Disconnect the following connectors :

- rear RH and LH wiring,
- door switch,
- RH and LH door wiring,
- RH and LH side member wiring,
- heater wiring,
- stop switch wiring.

Remove the fascia panel vertically to free fastenings (7).

2nd type Fascia panel :



REMOVING - REFITTING

Disconnect the battery.

Remove (depending on the model) :

- the choke control (1),
- the two screws (2),
- the instrument panel visor (3),
- free the heater controls (4) (take out the lower screws and push it in to free the upper tabs),
- the RH and LH upper and lower body trim (see Bodywork Manual),

- the earth wires,
- the steering column,
- the instrument panel (5).

Disconnect the following connectors :

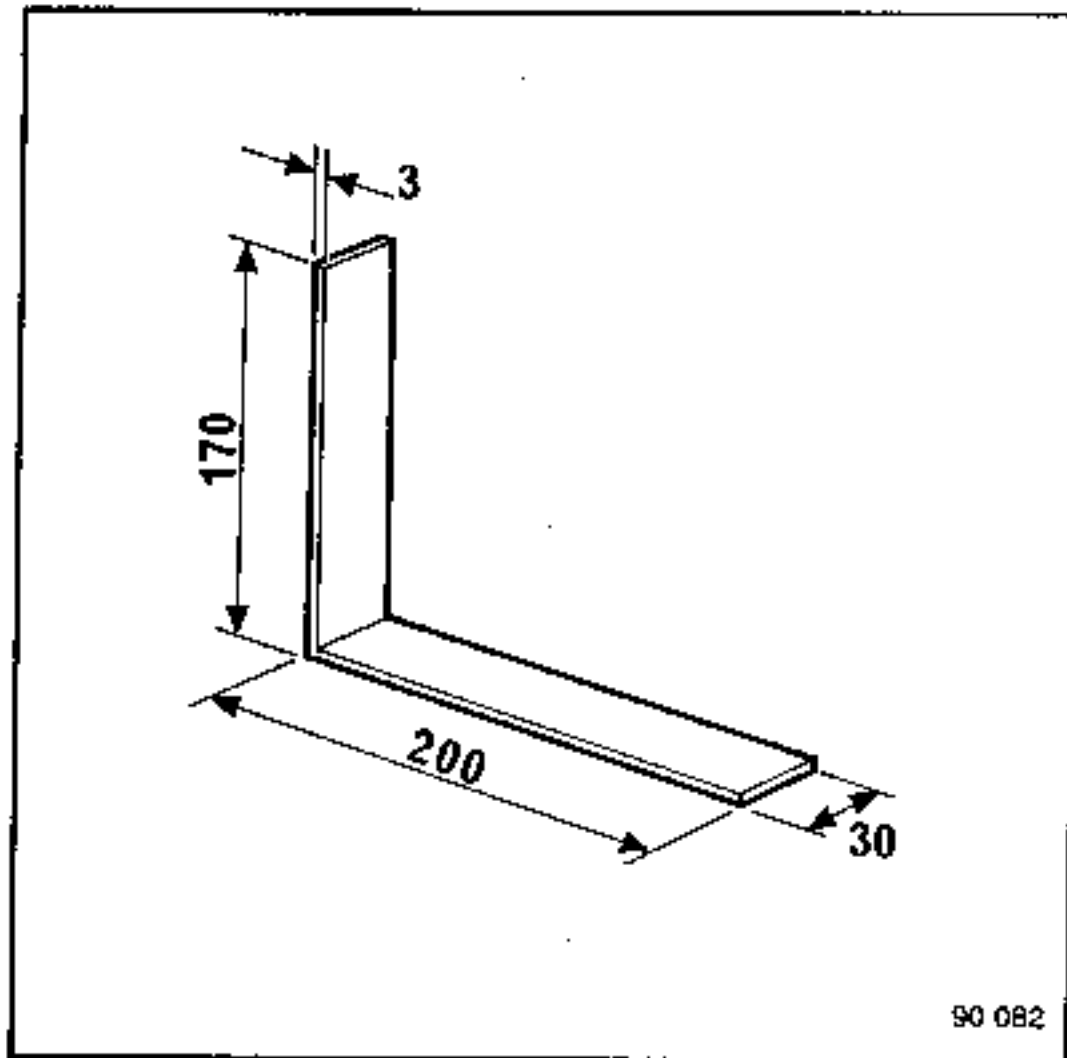
- rear RH and LH wiring,
- door switches,
- RH and LH door wiring,
- RH and LH side member wiring,
- stop switch wiring.

Using a tool manufactured locally (see drawing on following page), lever out the fastenings (6) and (7) access to which can be gained through the instrument panel location and fastening (8) by lifting the fascia panel vertically and taking it out.

Special operation during refitting :

Ensure that the cables lie in their original positions and that the connectors are fully connected.

Drawing of special tool for removing the 2nd
type fascia panel.

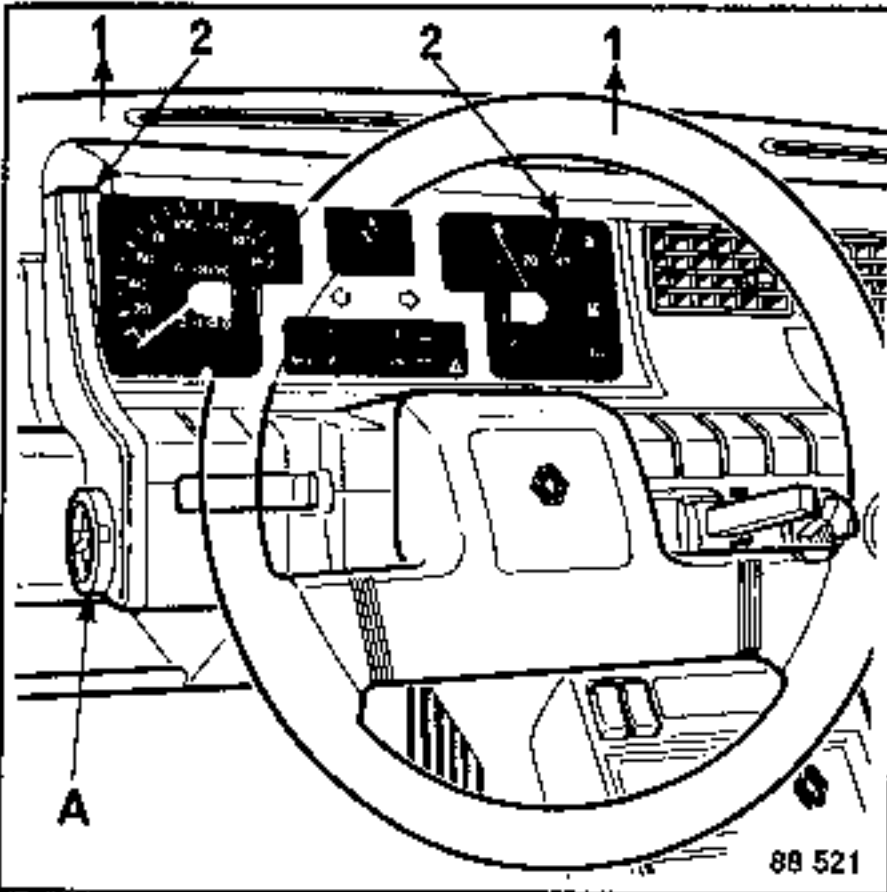


REMOVING - REFITTING THE 1st TYPE

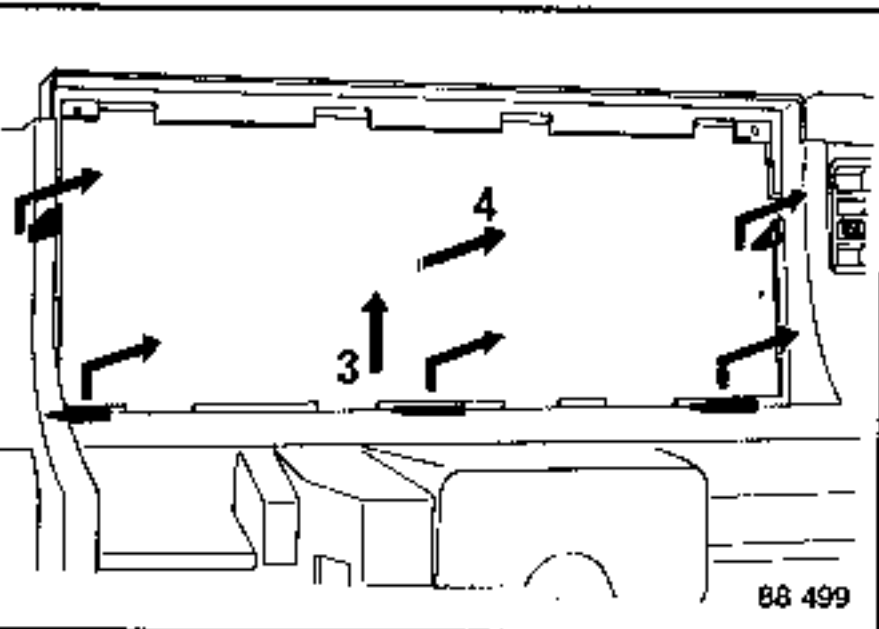
Disconnect the battery.

Remove :

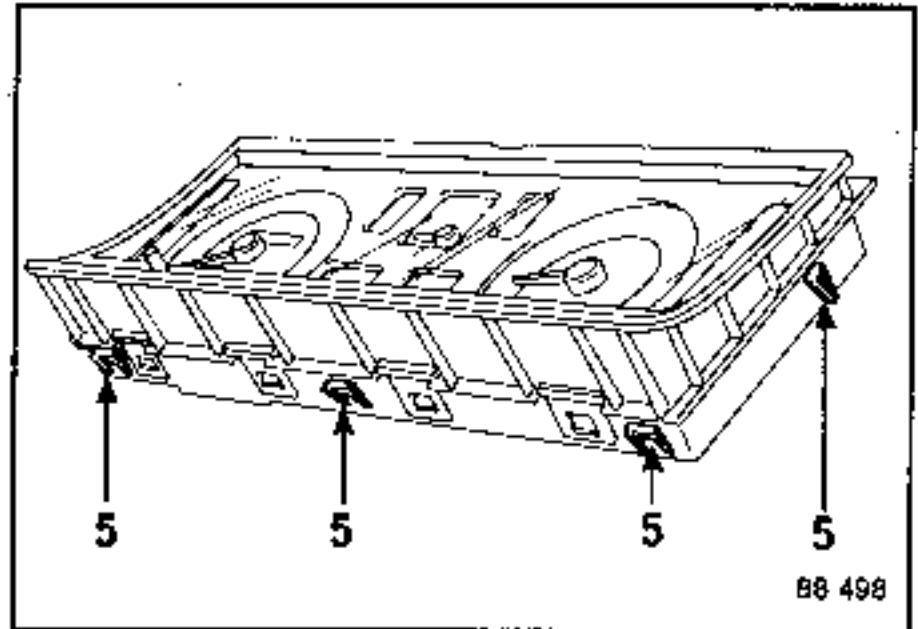
- the visor by pulling it upwards (1),
- the two screws (2).



Lift the instrument panel (3) as far as it will go by passing the hand through glove compartment hole (A).



Take out the instrument panel (4) holding it up to free the tabs (5).



Disconnect :

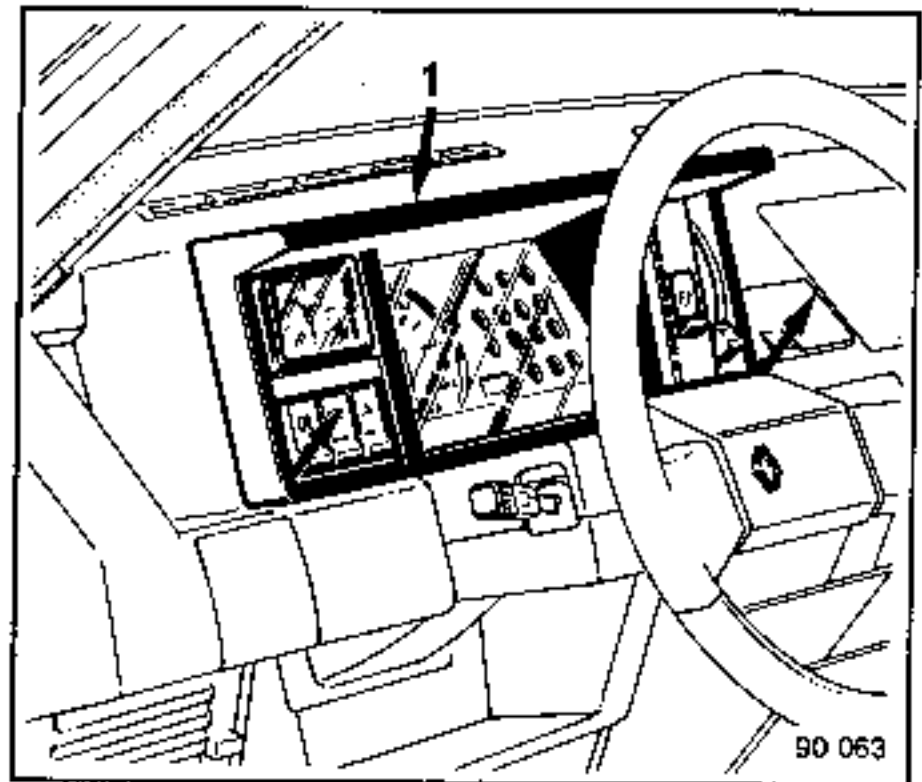
- the speedometer drive cable,
- the connectors.

REMOVING - REFITTING THE 2nd TYPE

Disconnect the battery.

Remove :

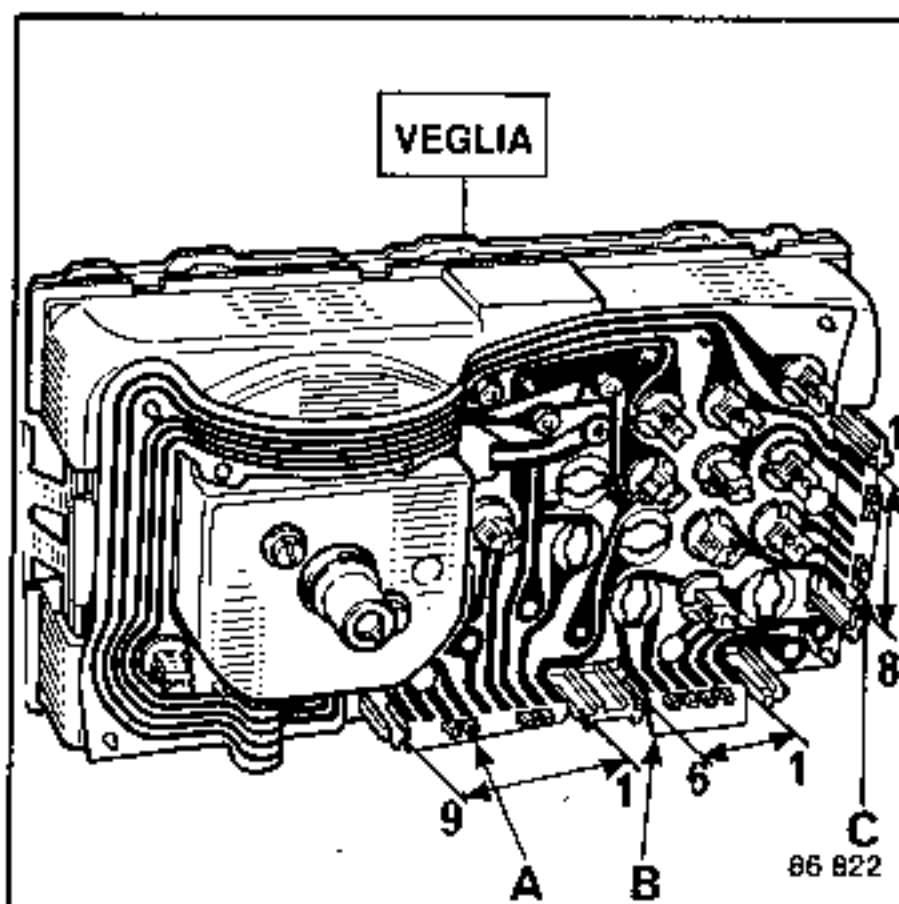
- the visor (1) by swinging its bottom upwards,



- the lower casing and disconnect the speedometer drive cable.

Take out the instrument panel and disconnect the connectors.

Connector connections



Connector A

1. Direction indicator light repeater
2. Dipped beam warning light
3. Brake pad wear warning light
4. Instrument panel lighting
5. Coolant temperature warning light
6. Fuel gauge
7. Oil pressure warning light
8. Hand brake and brake fluid level warning light
9. Charge/discharge warning light

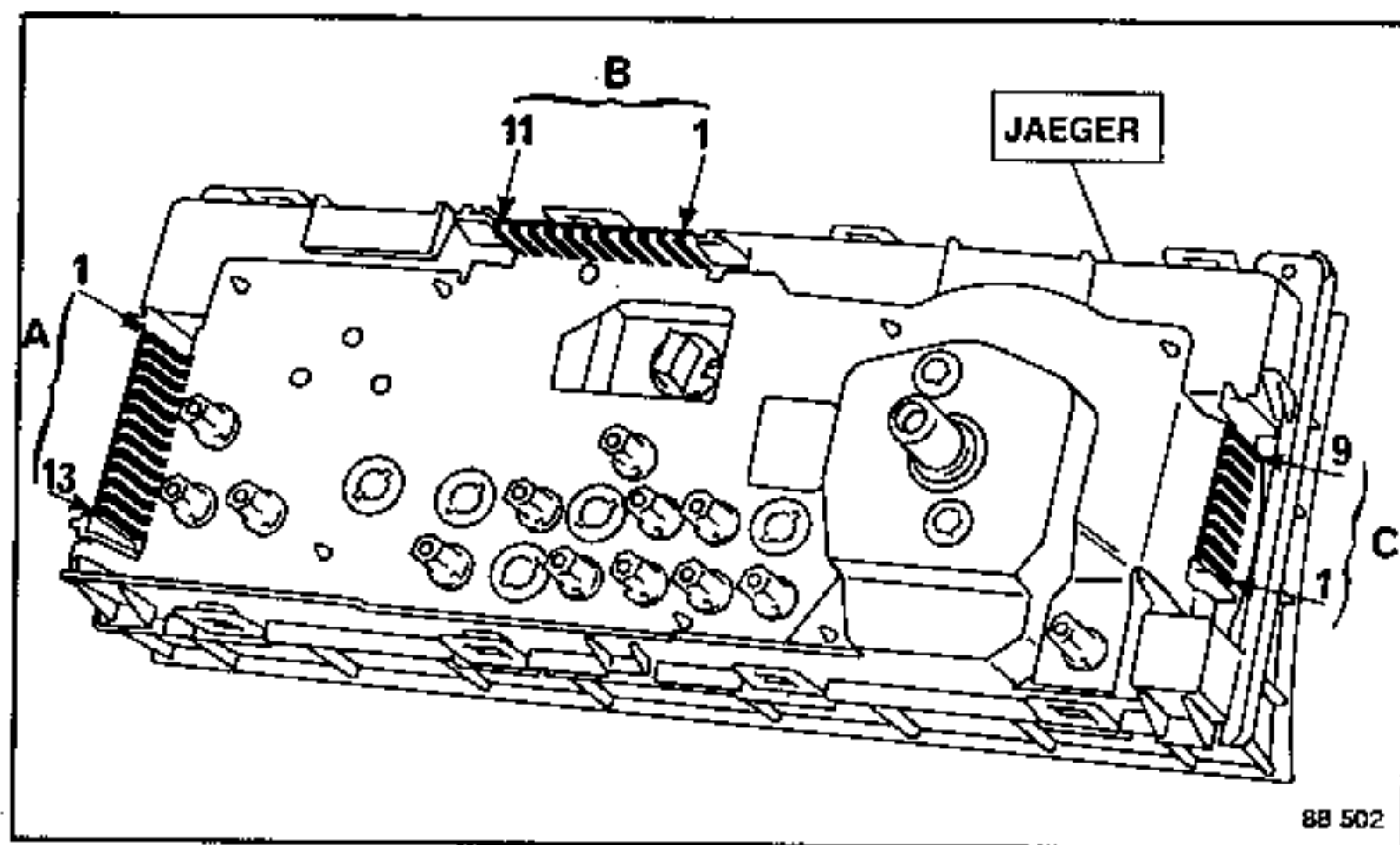
Connector B

1. Not used
2. Not used
3. Pre-heater plug warning light (diesel)
4. + after ignition switch pre-heater warning light (diesel)
5. + after ignition switch minimum fuel level warning light
6. Minimum fuel level warning light

Connector C

1. + after ignition switch panel
2. Choke warning light
3. Not used
4. Rear foglight warning light
5. Hazard warning light repeater
6. Heated rear screen warning light
7. Full beam warning light
8. Instrument panel earth

Connector connections



Connector A

1. Charge/discharge warning light
2. Hand brake and fluid level warning light
3. Pre-heater warning light
4. Hazard warning light repeater
5. Full beam warning light
6. Not used
7. Not used
8. Fuel level warning light
9. Not used
10. Warning light after ignition switch
11. Not used
12. Not used
13. Dipped beam warning light

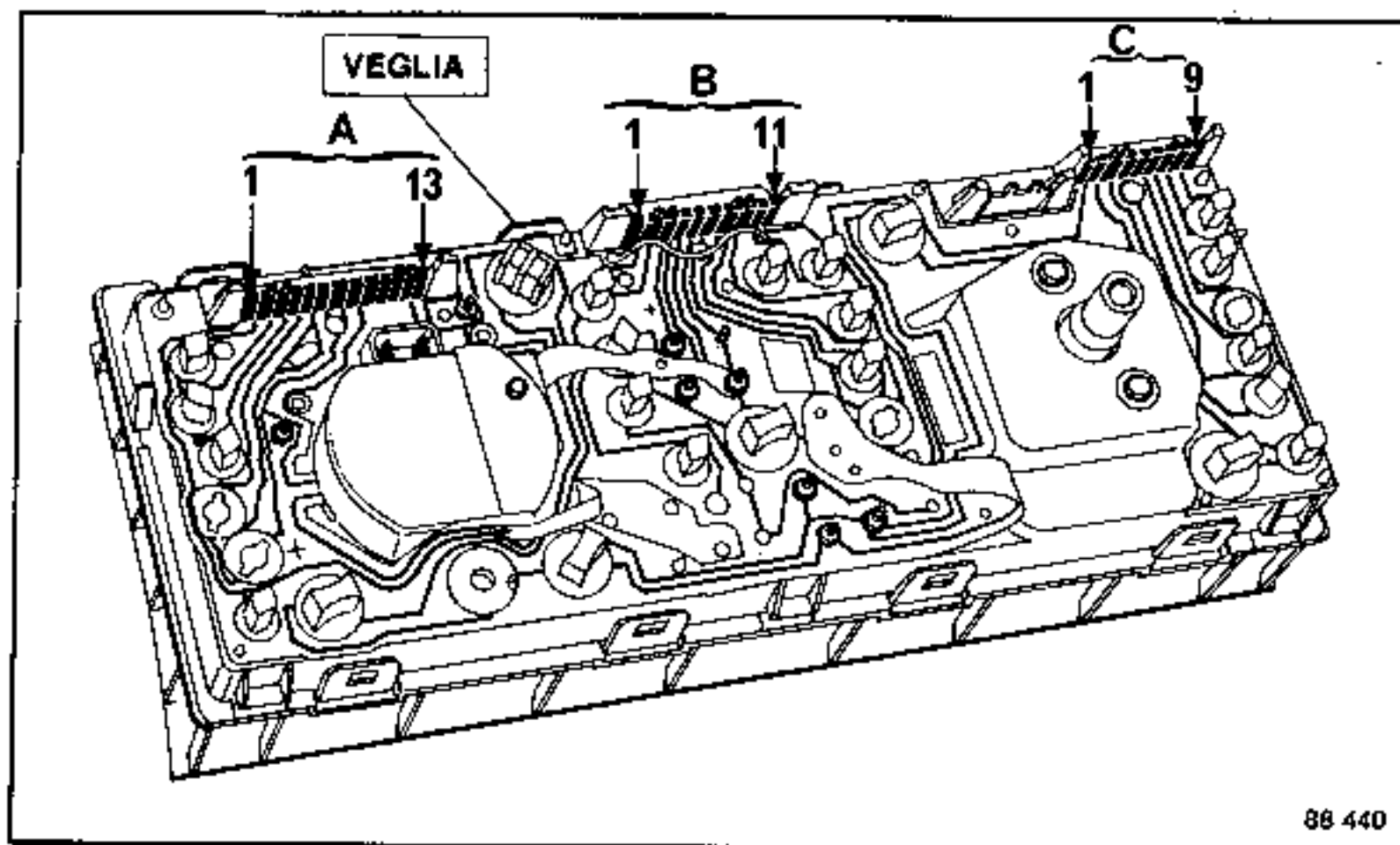
Connector B

1. Not used
2. Fuel gauge
3. Heated rear screen warning light
4. Not used
5. Not used
6. Not used
7. Direction indicator repeater
8. Not used
9. Not used
10. Not used
11. Not used

Connector C

1. Panel lighting
2. Panel earth
3. Rear foglight warning light
4. Brake pad wear warning light
5. Choke warning light
6. Not used
7. Not used
8. Oil pressure warning light
9. Coolant temperature warning light

Connector connections



88 440

Connector A

1. Hazard warning light repeater
2. Brake pad wear warning light
3. Minimum coolant warning light
4. Minimum windscreen washer fluid warning light
5. Pre-heater warning light
6. Automatic transmission warning light
7. Not used
8. Tachometer
9. Oil pressure
10. Not used
11. Not used
12. Not used
13. Fuel gauge

Connector B

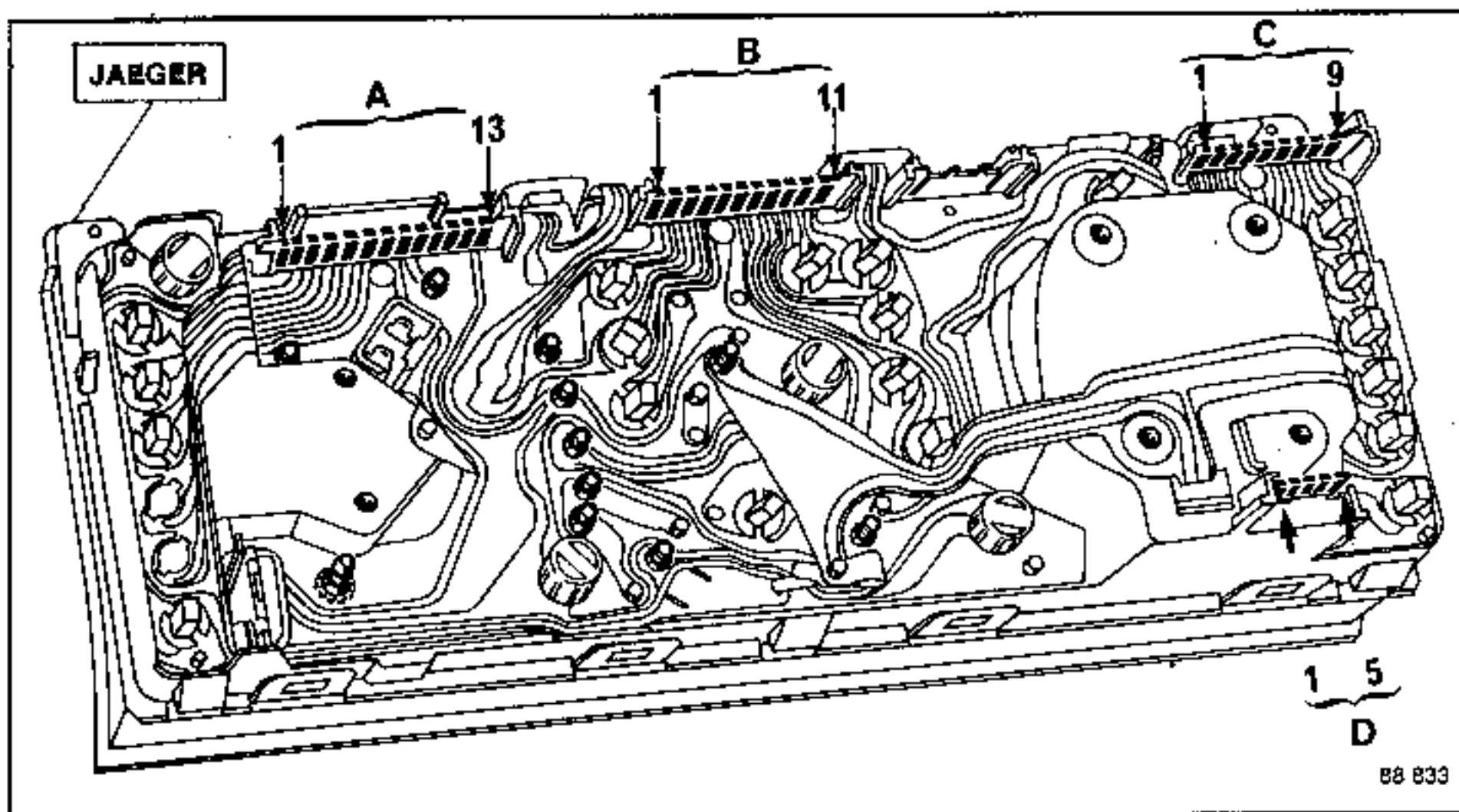
1. Minimum fuel warning light
2. Oil pressure warning light
3. + after ignition switch
4. Choke warning light
5. RH repeater through LH dir. ind.
6. Not used
7. LH repeater through RH dir. ind.
8. Coolant temperature warning light
9. Hand brake and brake fluid warning light
10. Not used
11. Charge/discharge warning light

Connector C

1. Coolant temperature indicator
2. Panel lighting
3. Full beam warning light
4. Dipped beam warning light
5. Sidelight warning light
6. Front foglight warning light
7. Rear foglight warning light
8. Heated rear screen warning light
9. Panel earth

Connector connections

C 405



Connector A

1. Hazard warning light repeater
2. Brake pad wear warning light
3. Coolant min. level warning light
4. Windscreen washer fluid warning light
5. Not used
6. Not used
7. Not used
8. Tachometer
9. Oil pressure
10. Not used
11. Not used
12. Not used
13. Fuel gauge

Connector B

1. Minimum fuel warning light
2. Oil pressure warning light
3. + after ignition switch
4. Choke warning light
5. Left hand direction indicator repeater
6. Not used
7. RH direction indicator repeater
8. Coolant temperature warning light
9. Hand brake and pressure drop warning light. Brake fluid level warning light
10. Not used
11. Charge/discharge warning light

Connector C

1. Coolant temperature indicator
2. Panel lighting
3. Full beam warning light
4. Dipped beam warning light
5. Sidelight warning light
6. Front foglight warning light
7. Rear foglight warning light
8. Heated rear screen warning light
9. Panel earth

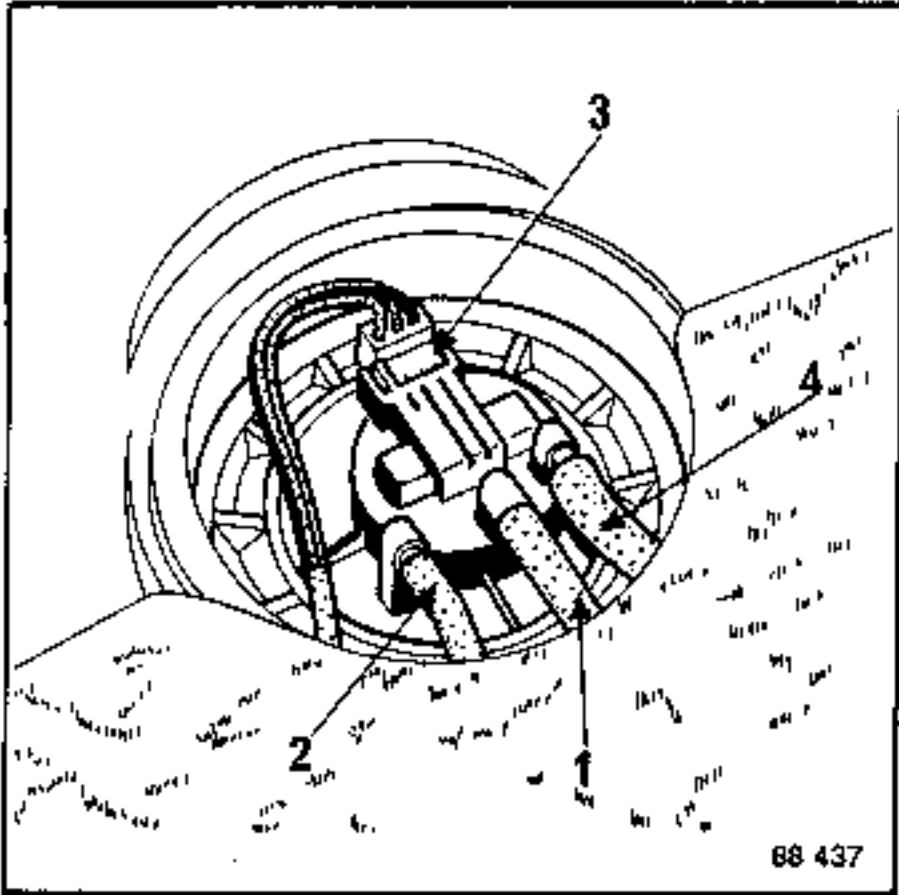
Connector D

1. Speed signal for computer
2. Sensor
3. Not used
4. Sensor screening
5. Sensor

REMOVING

Do not use a screwdriver and a hammer to unscrew the unit, there is a risk of damaging the lugs on the plastic nut and the sensor itself.

Access : Tilt forward the rear seat and take out the plug.

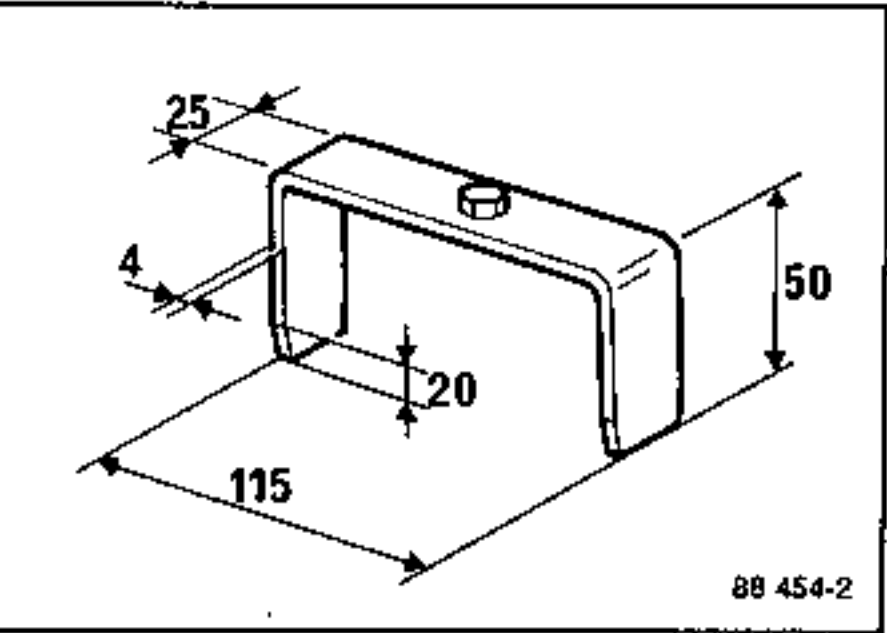


- 1 - Output pipe
- 2 - Return pipe
- 3 - Connector
- 4 - Vent

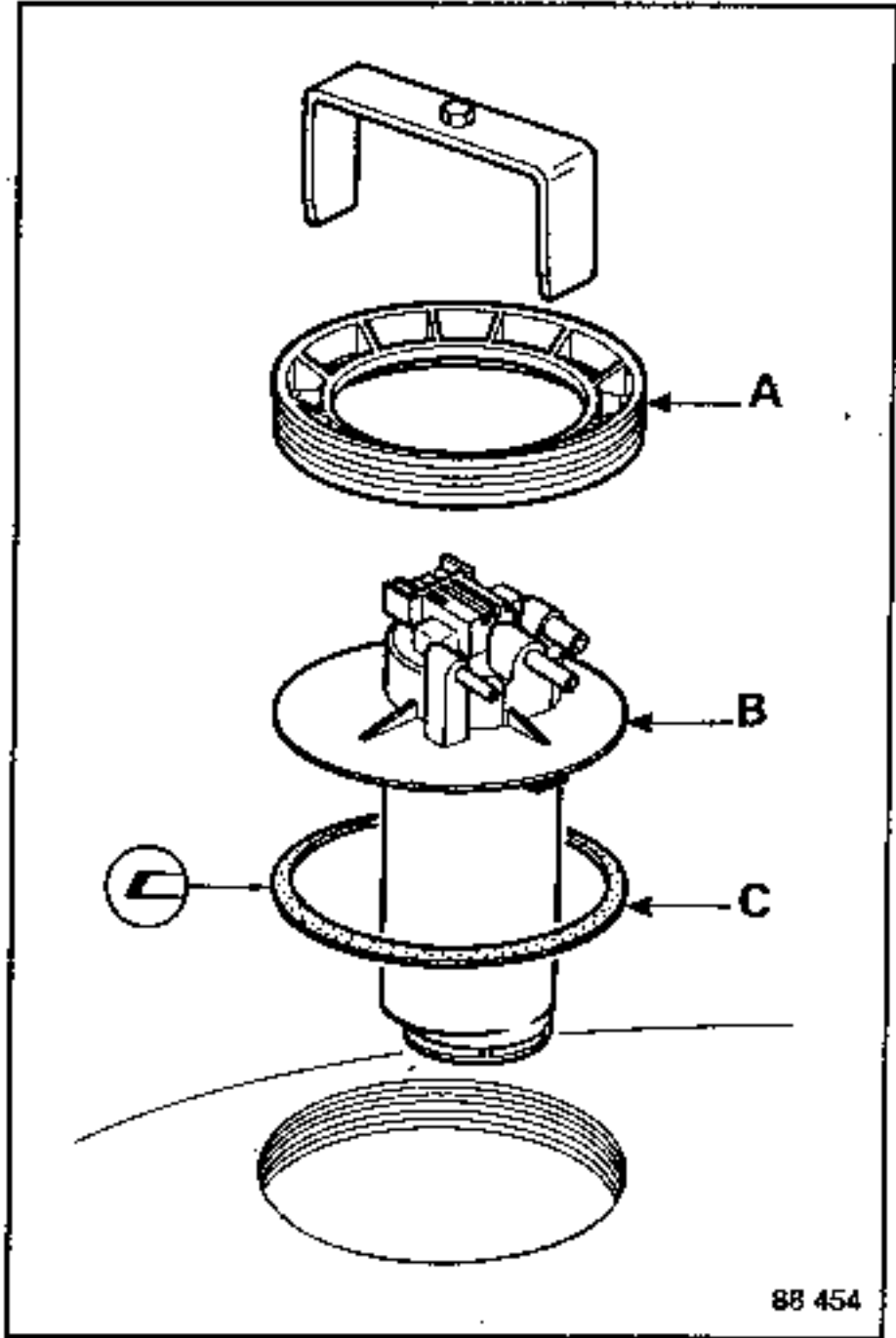
REFITTING

Make up a tool, locally, to apply the required torque (3 daN.m). This torque must be correct.

Drawing of tool

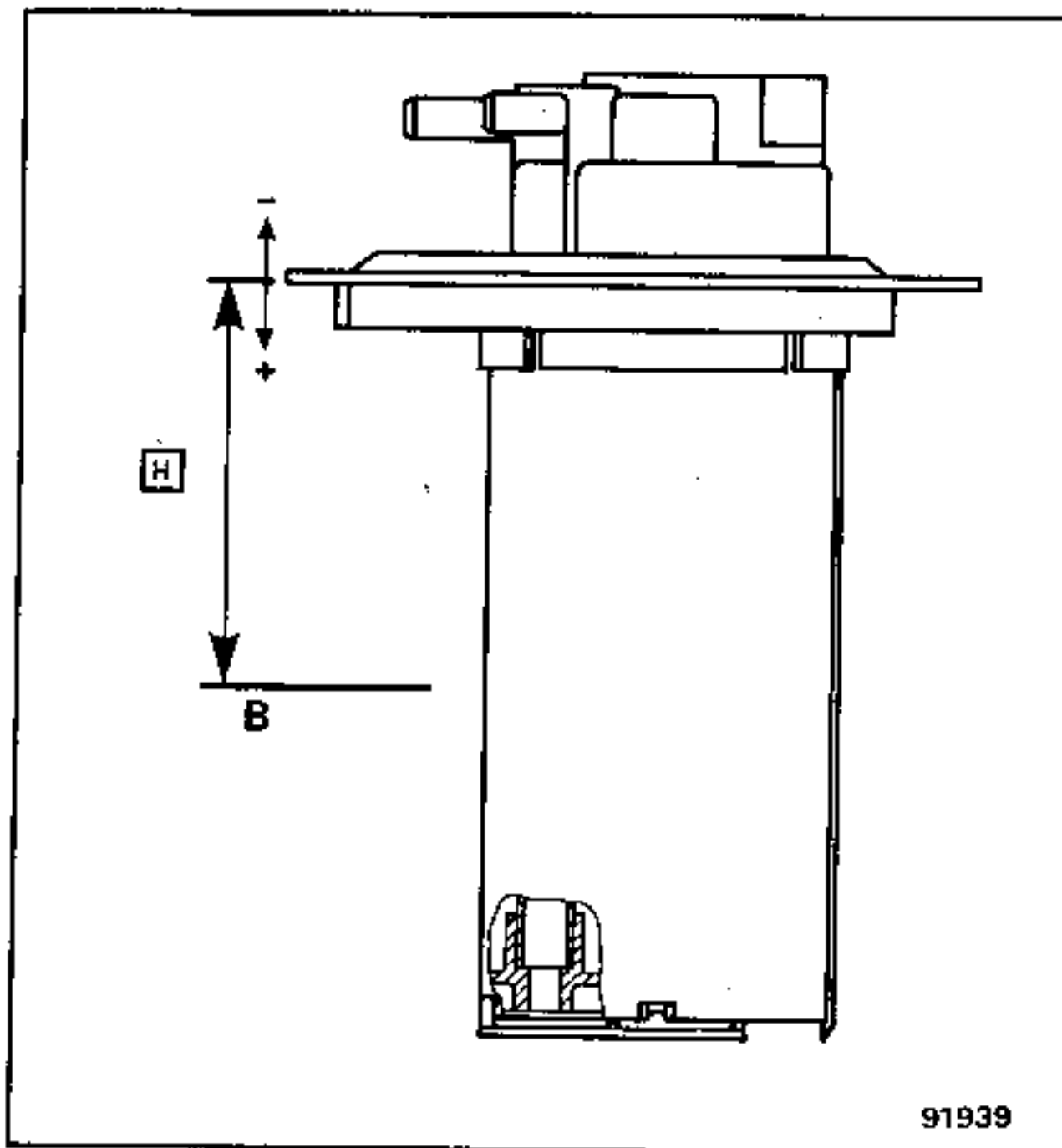


Drill a hole in the centre of a piece of flat bar 25 x 4 x 210 mm and weld a 13 mm hexagon bolt to the bar. Fold it to form a U section. Fit it so that it enters the slots in the plastic nut.



- A - Nut
- B - Tank unit
- C - Seal

CHECKING



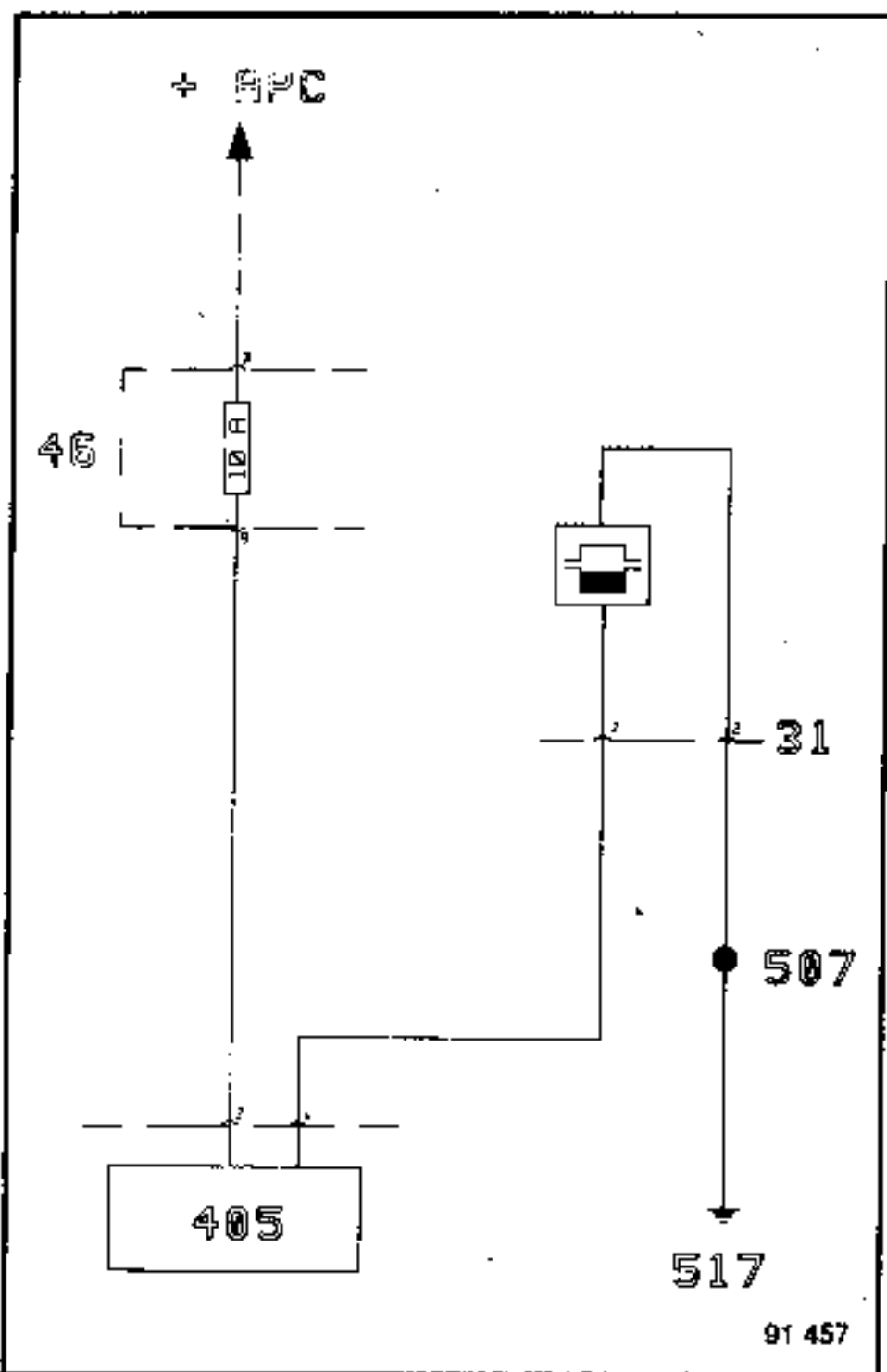
H Height
B fuel level

TANK UNIT	
Height H in mm	Resistance in ohms
Top stop less than -4	$7 \Omega \pm \text{MAXI}$
24*	$63 \Omega \pm 10$
51,5*	$105 \Omega \pm 5$
87*	$155 \Omega \pm 10$
107,5*	$215 \Omega \pm 20$
Bottom stop more than 113	$280 \Omega \pm \text{MINI}$

* These figures are given as an indication only. Check the variation in the resistance by moving the float.

Driving school vehicles produced since the 87 model year are equipped with a sensor for detecting the presence of water in the fuel filter

CIRCUIT DIAGRAM



Key

- 31 - Instrument panel connector
- 46 - Accessory plate connections
- 405 - Water in fuel sensor
- 507 - Connection
- 517 - Earth on front LH pillar
- A - Water in fuel warning light
- +APC - + after ignition switch

PRINCIPLE OF OPERATION

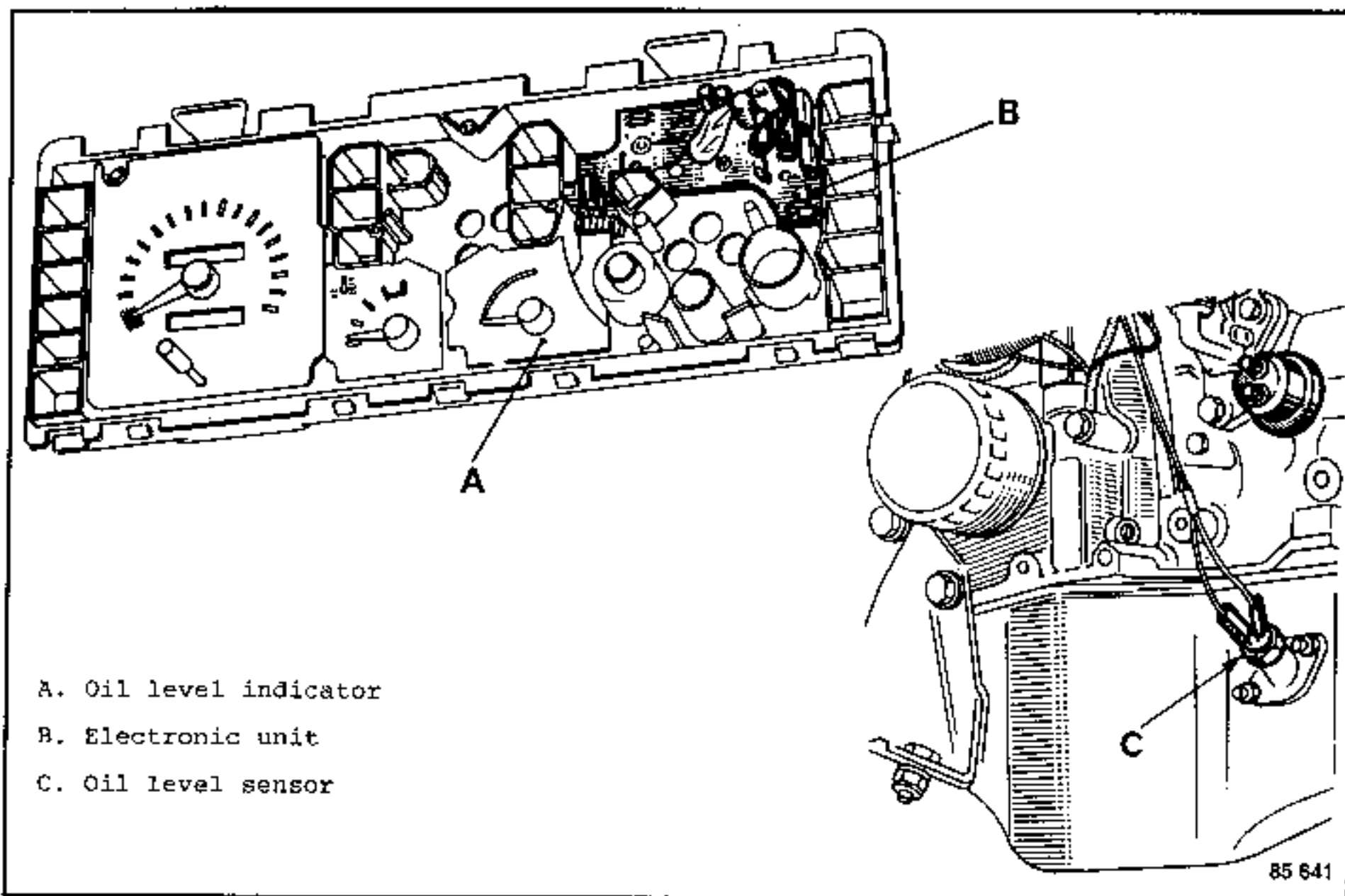
The indicator consists of :

- a stack pipe with a circuit breaker in it.
- a float which is weighted so that it remains in suspension between the layer of fuel and the layer of water.

When the water level reaches a pre-determined figure, the float reaches the height of the circuit breaker and closes it by means of a magnetic field. The electrical circuit is therefore made and the signal is sent to the instrument panel to illuminate a warning light.

When this warning light switches on, it is essential for the water in the fuel filter to be drained off.

DESCRIPTION



PRINCIPLE OF OPERATION

The oil level sensor consists of a high resistance wire. The thermal conductability of the wire is different depending on whether it is immersed in a liquid or in air.

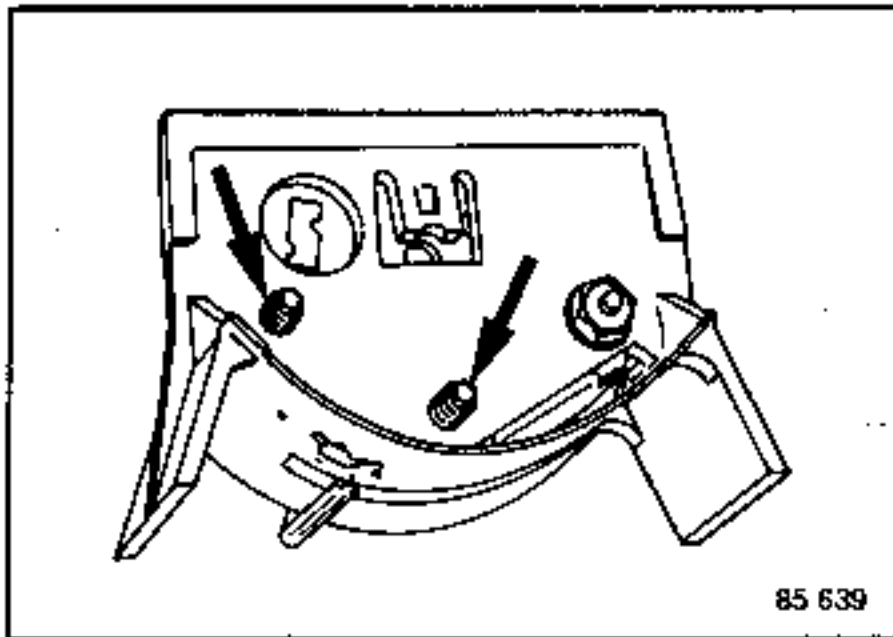
When the ignition is switched on, the oil pressure warning light also switches on and an electronic unit (in the instrument panel) passes a current through the terminals of the oil level sensor. After a fixed time, a voltage difference is established across the sensor terminals and this differs depending on the extent to which the sensor is immersed in the oil. This voltage difference is registered by the electronic unit and it, in turn, sends a corresponding signal to the oil level indicator.

When the engine is running and the oil pressure reaches the required level, the pressure switch cuts the warning light circuit and also cuts out the electronic unit so that the oil level indicator no longer operates.

CHECKING

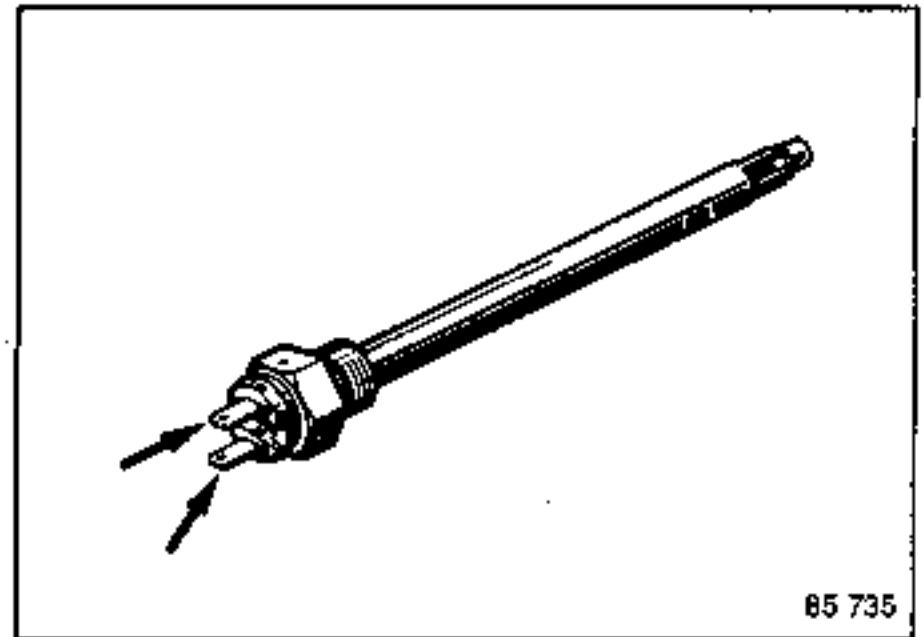
OIL LEVEL INDICATOR UNIT

- Remove the indicator before testing it.
- Connect an ohmmeter across its two terminals. The pointer should move.



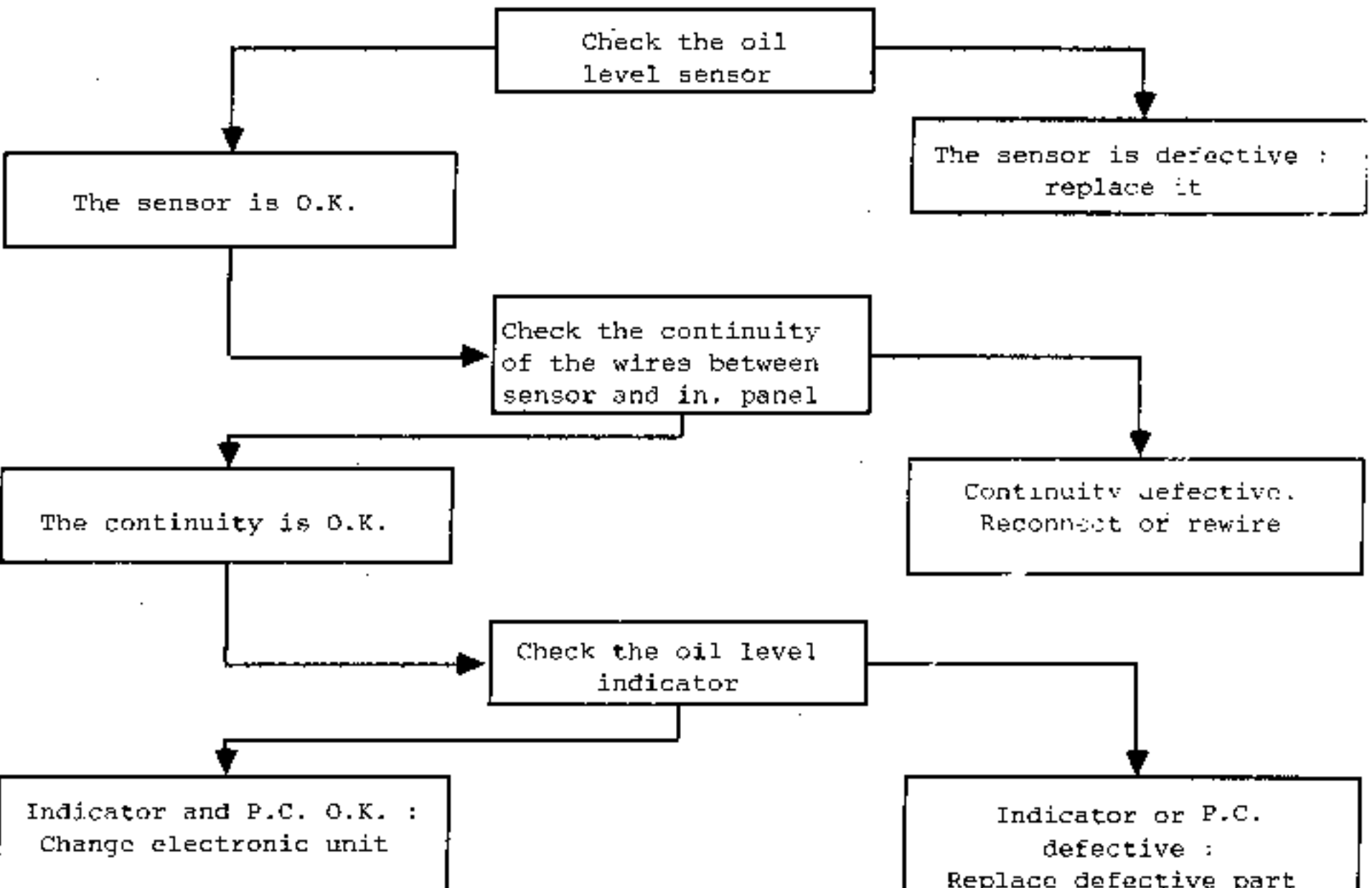
OIL LEVEL SENSOR

Connect an ohmmeter across the oil level sensor terminals. The pointer should move.



FAULT FINDING

The oil level sensor only operates when the ignition is first switched on (and the oil pressure warning light is on).



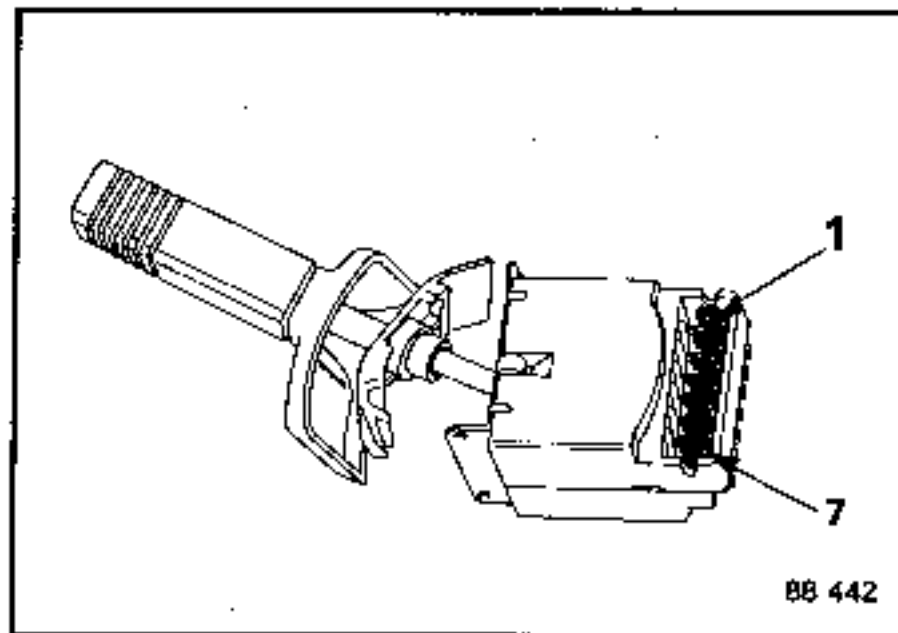
REMOVING - REFITTING - CONNECTIONS

Disconnect the battery.

Remove :

- the lower casing,
- the two securing screws,
- the switch.

Remove the connector.



BB 442

Without timed sweep

Pin	Description
2	High speed
3	+ after ignition switch
4	Low speed
5	Fixed parked position
7	+ windscreen washer pump

With timed sweep

Pin	Description
1	Sweep timer input
2	High speed
3	+ after ignition switch
4	Low speed
5	Park/timer +
6	+, w.w. control after ig. switch
7	+ windscreen washer pump

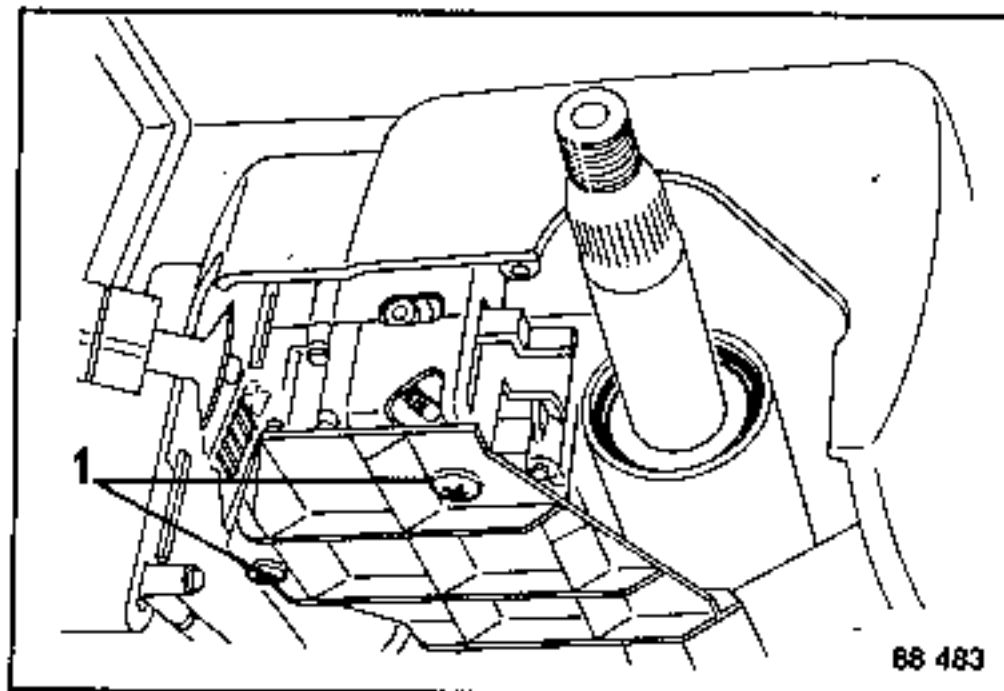
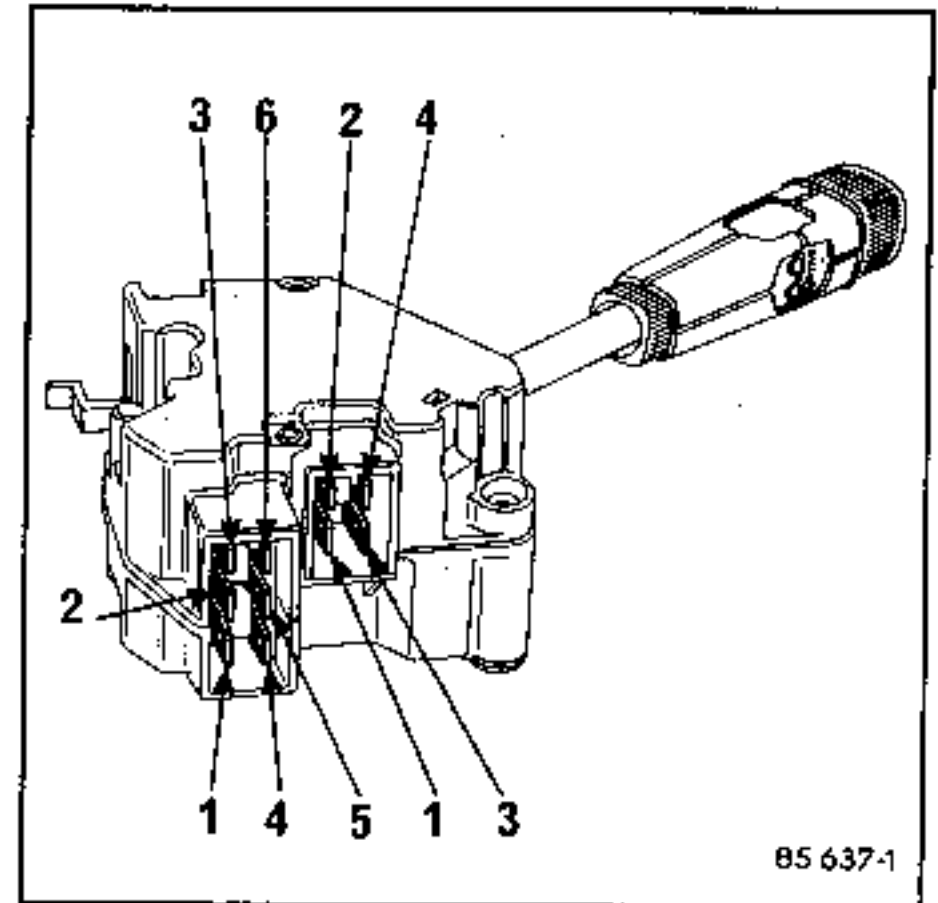
REMOVING - REFITTING - CONNECTIONS

Disconnect the battery.

Remove :

- the steering wheel,
- the lower ball casing,
- the two screws securing the switch (1),
- the three screws securing the fascia panel to the steering column,
- the two steering column securing bolts.

Loosen the two nuts on the steering column to free the switch and disconnect the connectors.



Lighting connector

Pin	Description
1	Full beam
2	Dipped beam
3	+ after ignition switch
4	Sidelights

Direction indicator - horn connector

Pin	Description
1	Horn
2	Rear foglight output*
3	+ before ignition switch
4	RH direction indicator
5	Flasher unit
6	LH direction indicator

* On certain versions

REMOVING - REFITTING - CONNECTIONS

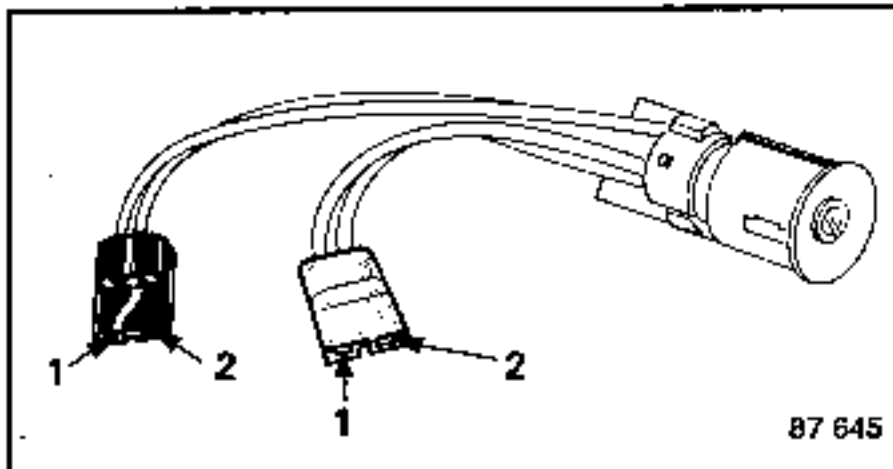
Disconnect the battery.

Remove :

- the steering column (see "Front axle" section),
- the switch securing screw.

Place the key in the "garage" position and remove it.

Press on the retaining tags and take out the switch.



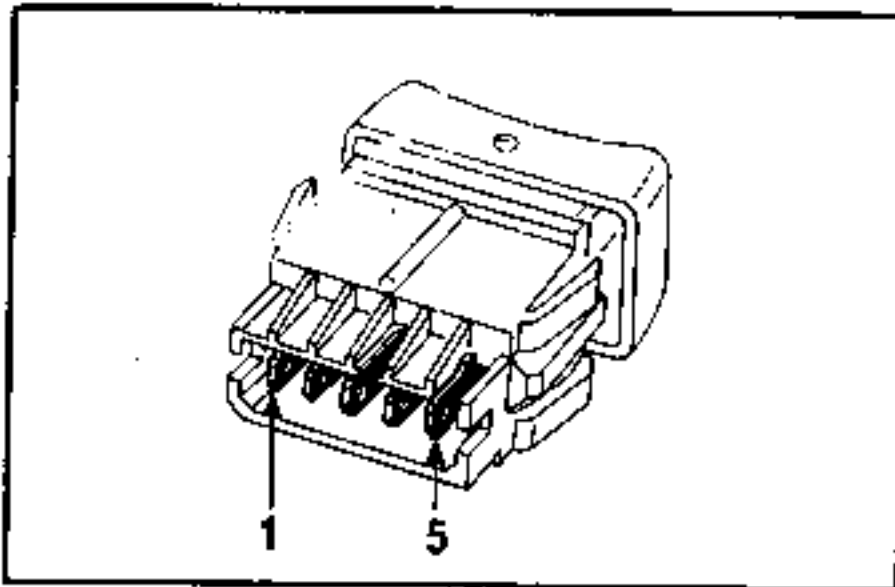
Black connector

Pin	Description
1	+ before ignition switch
2	Starter signal

Grey connector

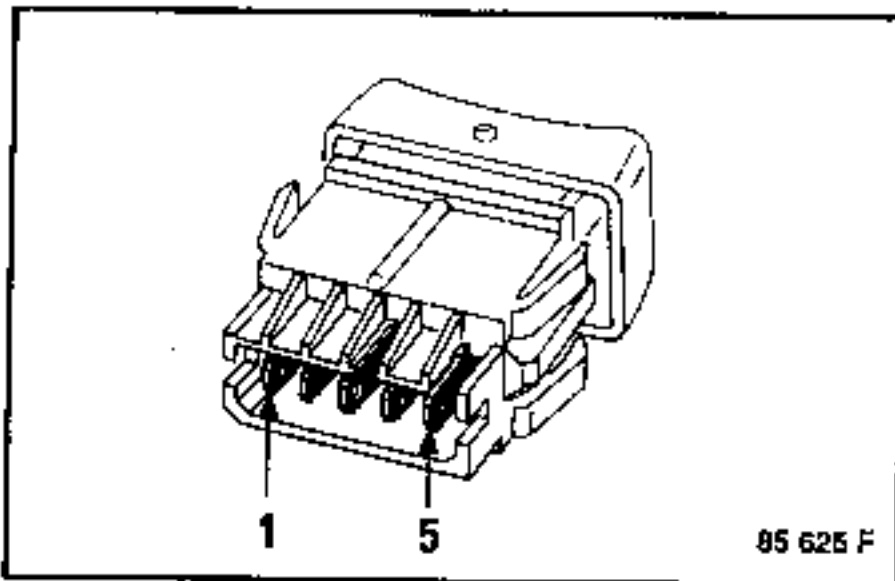
Pin	Description
1	Supply + Accessories
2	Supply + After ignition switch

E.D.L. CONTROL CONNECTIONS
(Electric door locks)



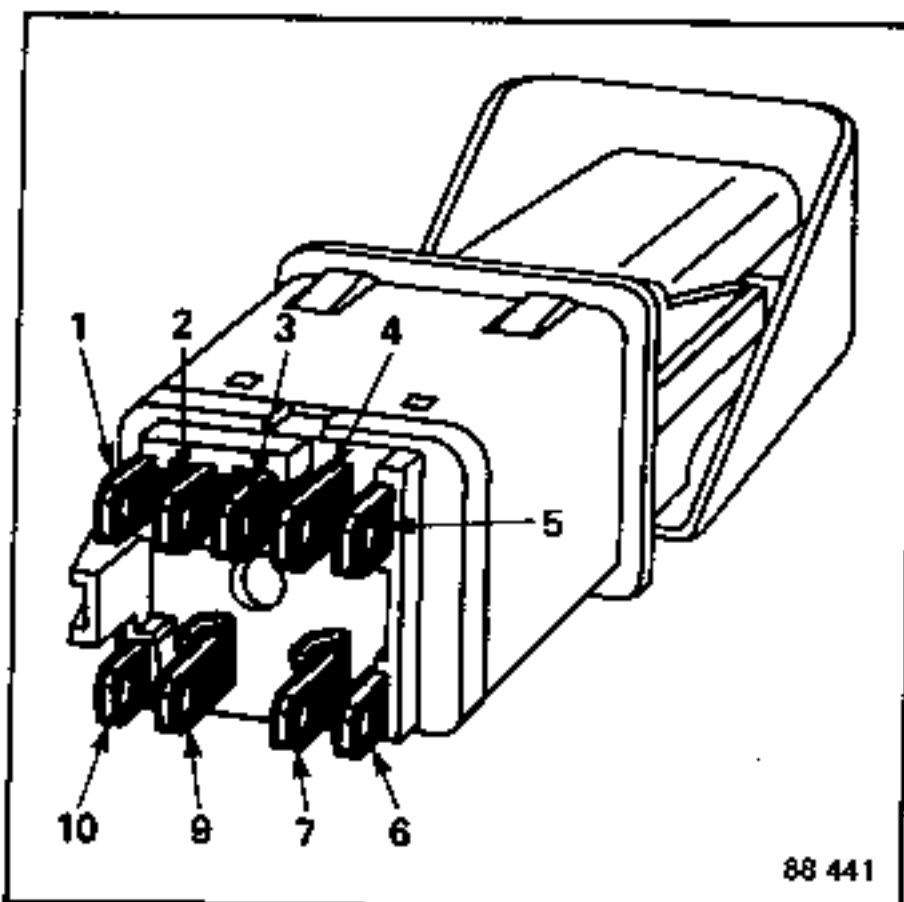
Pin	Description
1	E.D.L. close
2	Switch light earth
3	+ before ignition switch
4	Switch light
5	E.D.L. open

WINDOW WINDER CONTROL



Pin	Description
1	Motor + or -
2	Switch light earth
3	+ after ignition switch
4	Switch light
5	Motor + or -

HAZARD WARNING LIGHT SWITCH



HAZARD WARNING LIGHT CONTROL

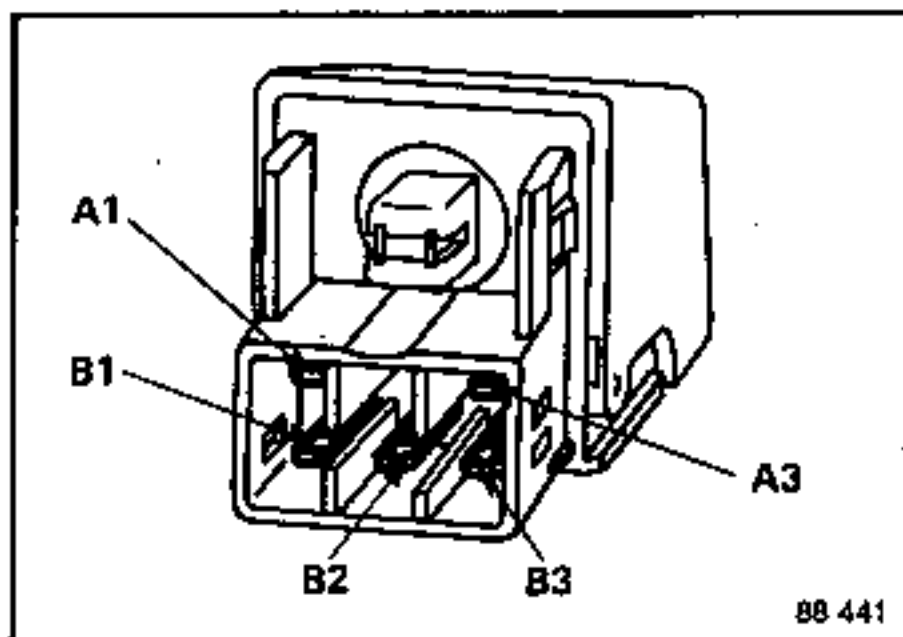
Push button switch

Pin	Description
1	RH direction indicator lights
2	LH direction indicator lights
3	Light earth
4	+ before ignition switch
5	+ accessories
6	+ flasher unit fuse
7	Switch light
9	Flashing signal at switch
10	Repeater light

Rocker switch

Pin	Description
1	+ accessories
2	+ before ignition switch
3	+ flasher unit fuse
4	Repeater light
5	RH dir. ind. light
6	LH dir. ind. light
7	Flashing signal at switch

CONNECTIONS



Heated rear screen switch

Pin	Description
A1.	Switch light
A3.	Earth
B1.	+ after ignition switch
B2.	Heated rear screen
B3.	Warning light

Rear foglight switch

Pin	Description
A1.	Switch light
A3.	Earth
B1.	Supply (through dipped beam)
B2.	Foglight (through fuse)
B3.	Warning light

Rear screen wiper switch

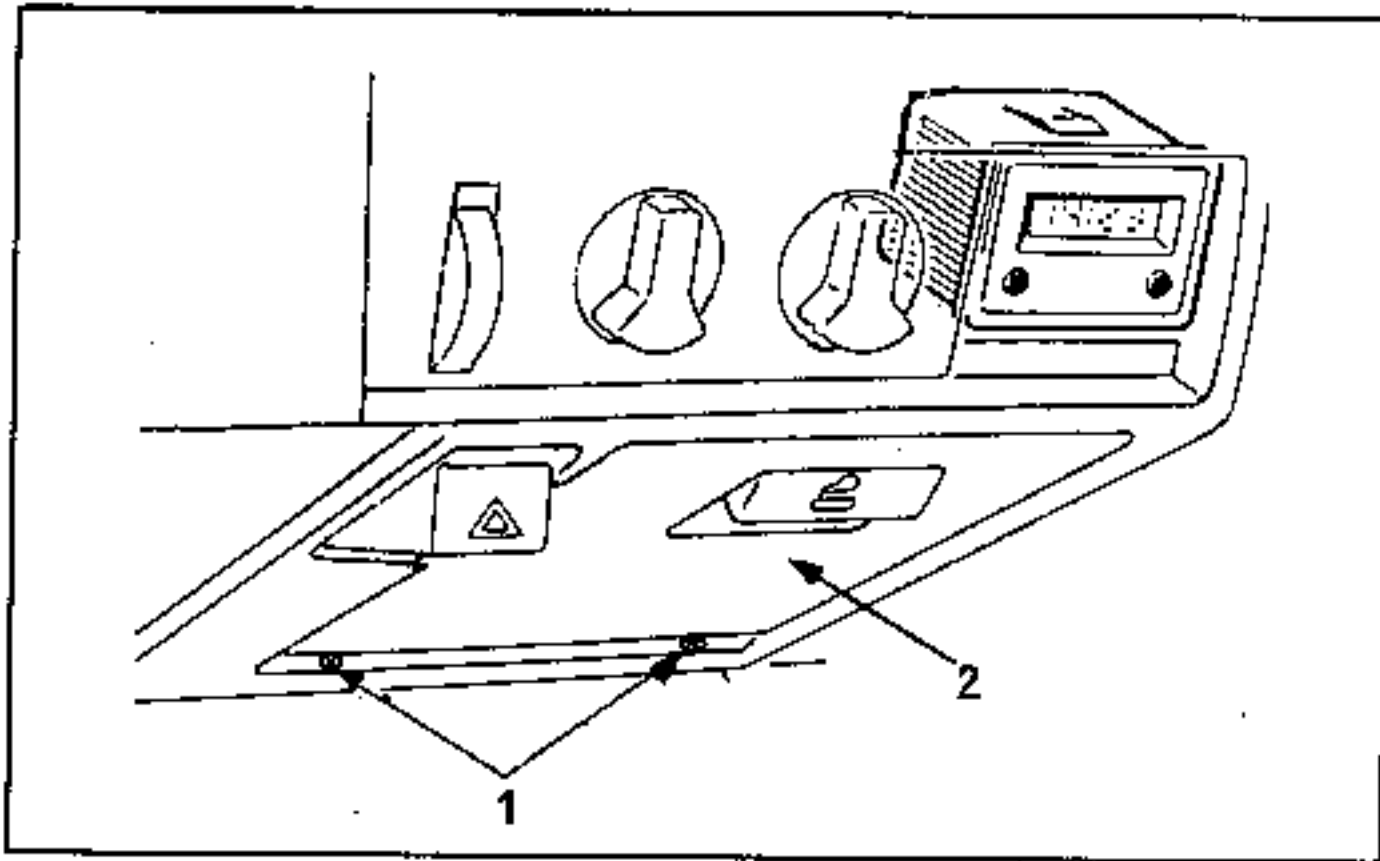
Pin	Description
A1.	Switch light
A3.	Earth
B1.	+ after ignition switch
B2.	Not used
B3.	Motor

Rear screen washer pump switch

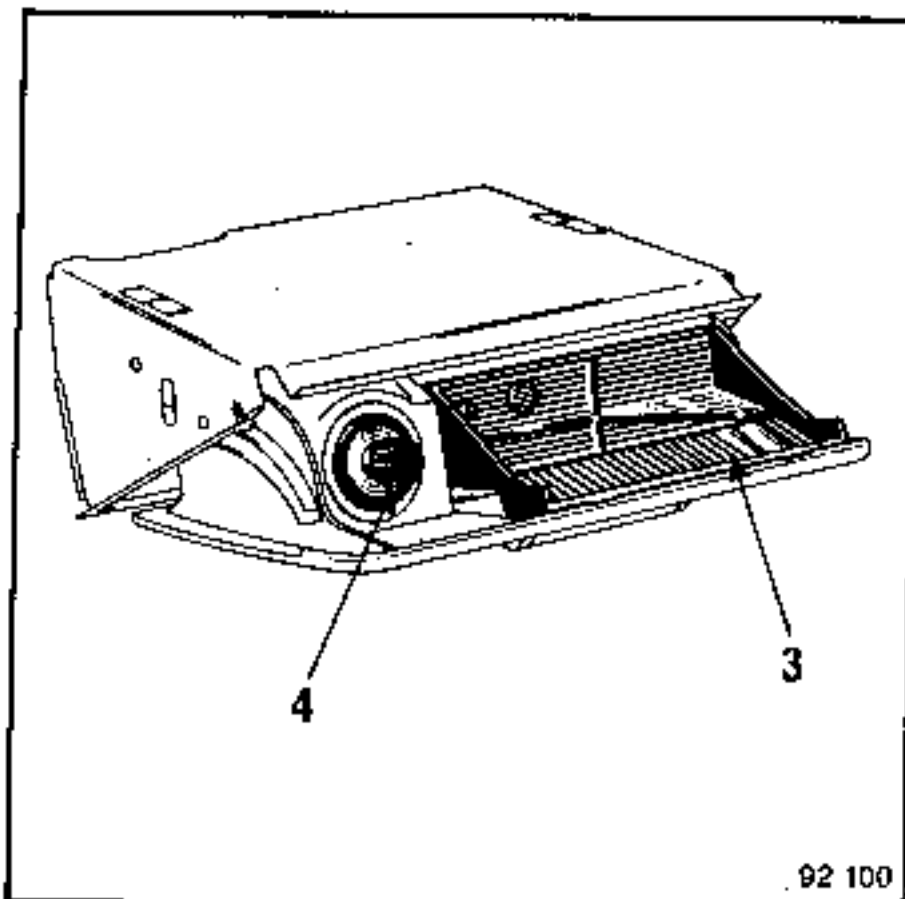
Pin	Description
A1.	Switch light
A3.	Earth
B1.	+ after ignition switch
B2.	Not used
B3.	Pump

REMOVING - REFITTING

- Unscrew the two securing screws (1).



- Remove the cigar lighter-ashtray assembly (2) by unscrewing screws (1).
- Disconnect the two connectors behind the cigar lighter.
- Remove the ashtray-cigar lighter cover.



92 100

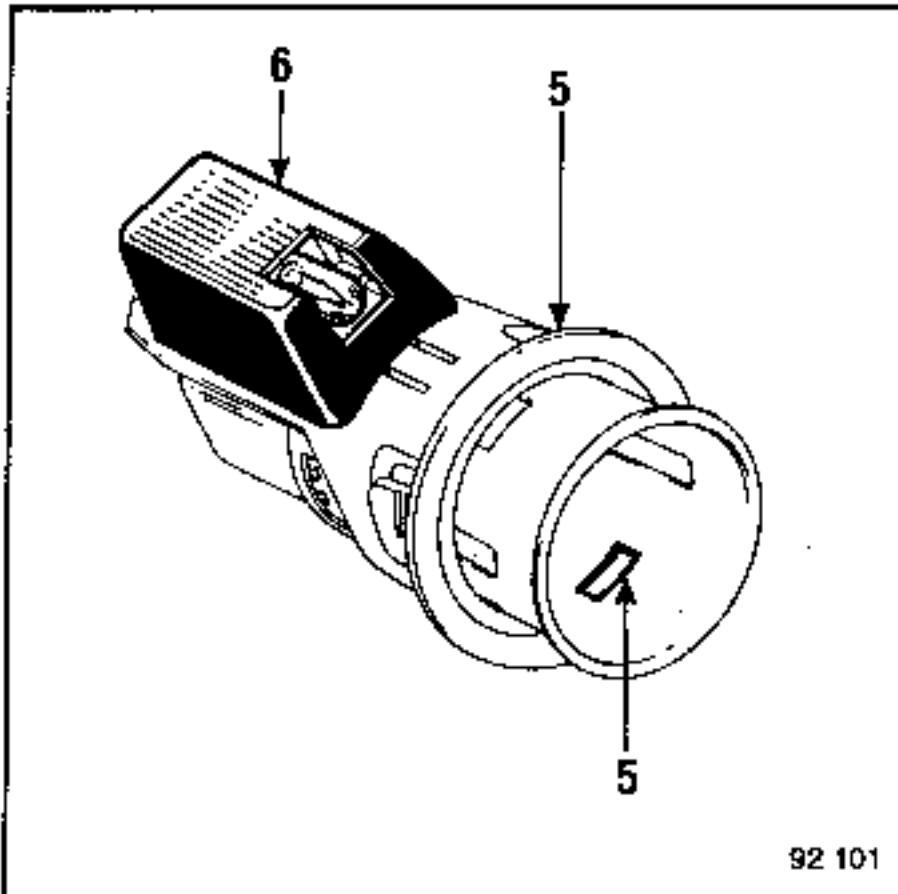
- Remove the ashtray (3) and the cigar lighter (4).
- To remove the fixed part of the cigar lighter, push the rear of the casing whilst unclipping the 2 studs (5).

The cigar lighter will come out together with its connector.

- Take out the plastic bulb holder around the cigar lighter body also by pushing from the back.
- To gain access to the small bulb, remove the black cover (6) by lifting its front end and pulling it backwards.

Refitting :

Carry out the removing operations in reverse.



REMOVING THE DRIVING SCHOOL UNIT

So that the direction indicator and headlight controls, on the steering wheel operate correctly after removing the driving school unit (for resale of the vehicle), carry out the following operations :

- Disconnect the battery.
- Remove the instructor's control unit.
- disconnect the black connector (double 7 pin).

Interconnect the following terminals :

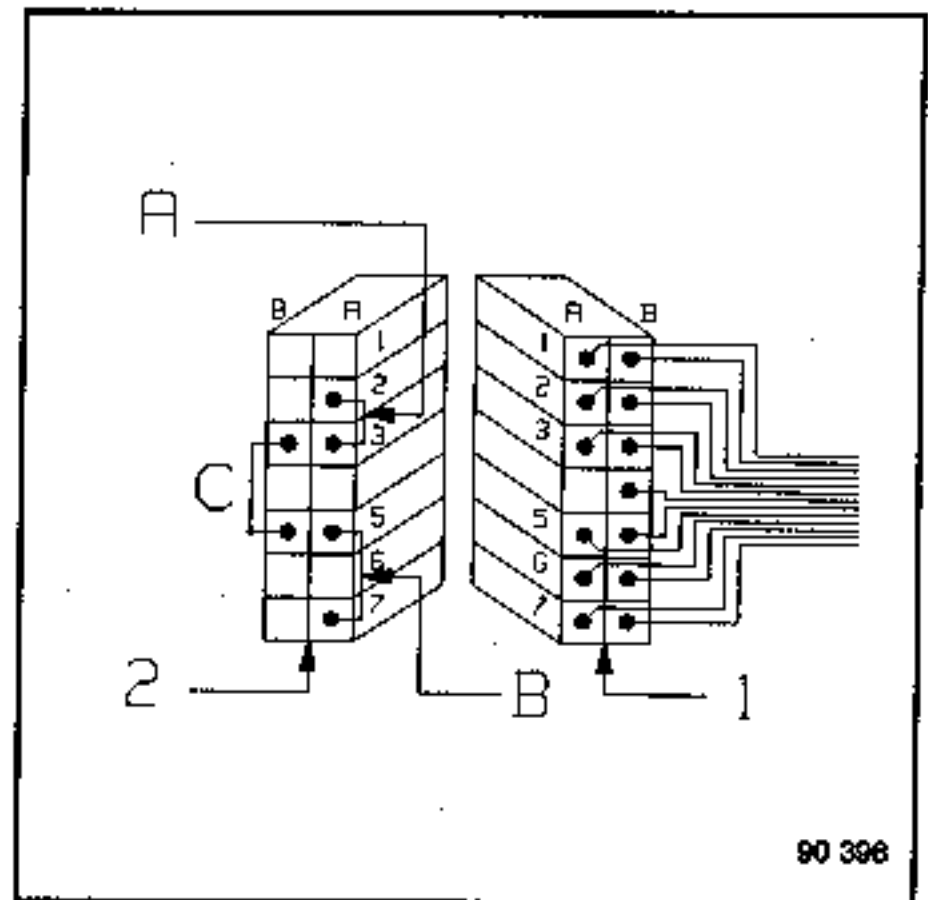
A : 2A and 3A for the switch supply.

B : 5A and 7A for the sidelights.

C : 3B and 5B for the flasher unit.

1 : Engine front harness.

2 : Junction block to be added providing cross connections A - B - C.



After having removed the driving school unit, fit the cover part no. : 77 01 405 919.

NOTE : If the vehicle is equipped with a system of dipped headlights connected to the windscreen wiper high speed one must, in addition to the above instructions, remove the sidelight relay (563) which is on the relay support plate.

DRIVING SCHOOL VERSION

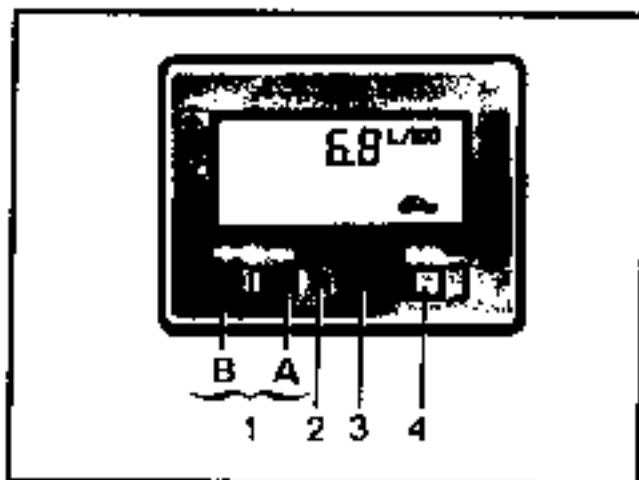
GENERAL

The data provided is as follows :

- the time,
- the amount of fuel consumed,
- the average consumption,
- the consumption at that moment,
- the average speed,
- the distance covered,
- the time elapsed.

This data is calculated from the information received from two sensors :

- a flowmeter providing one pulse every 80 mm³ of fuel consumed,
- a speed sensor providing one pulse every 0.2 meters of road covered.



1. Display selection key
2. Hour setting key
3. Minute setting key
4. "Start pulse" initiating key

- The time is permanently displayed even when the vehicle is not being driven.
- When the ignition is switched on, the amount of fuel consumed is the first item displayed.

OPERATION

Ignition off
Hours, minutes.

10:30

Ignition on
Fuel consumed
(in litres)
(or gallons)

20.18

1st pressure on B
Average consumption
since the "Start Pulse"
(in lit/100 km)
(or miles per gallon)

6.3

2nd pressure on B *
Consumption at that
point (in lit/100 km)

6.8

3rd pressure on B
Average speed since
"Start Pulse"
(in km/hr) (or mph)

108.3

4th pressure on B
Distance covered since
"Start Pulse"
(in km) (or miles)

320.3

5th pressure on B
Time elapsed since
"Start Pulse"
(in hours and minutes).

3:25

6th pressure on B
Hours, minutes.

ZEROING - "START PULSE"

By pressing on key 4, all the various memories are returned to zero.

* Not for UK

NOTE :

If the maximum capacity of the computer in any of the readings is exceeded, all the indicators return to zero (Start Pulse).

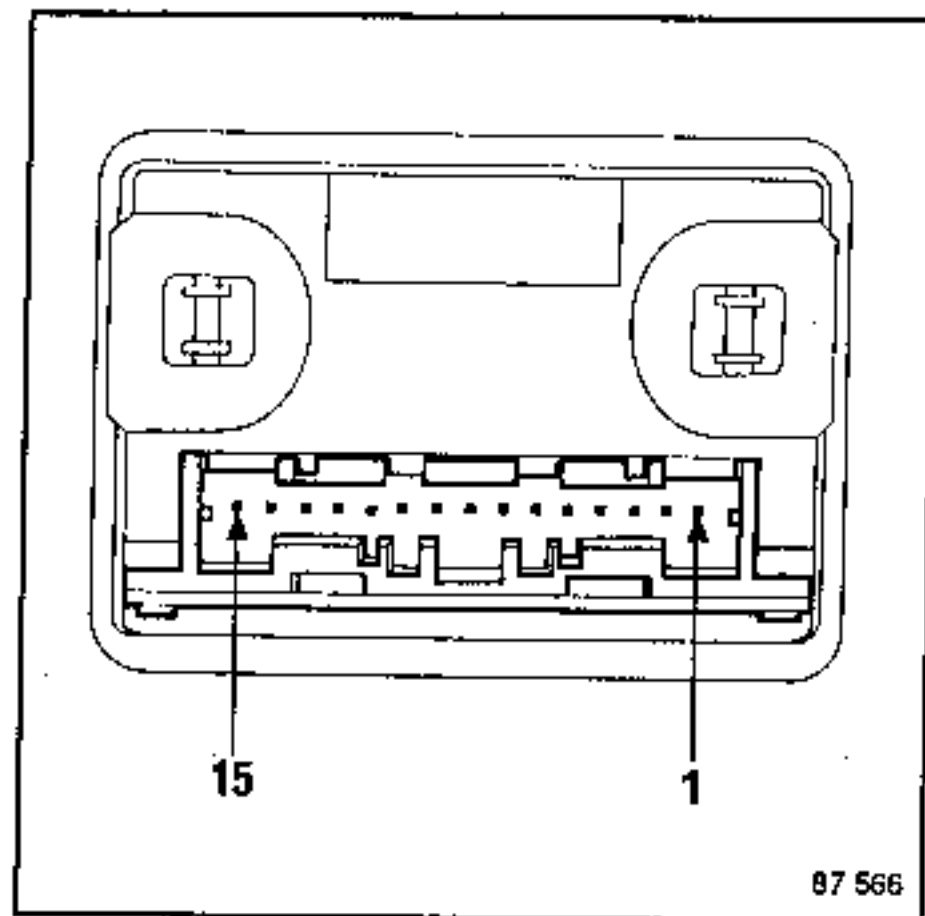
After the current has been switched off (by disconnecting the battery) press key 4 to stop the display flashing and restart all the functions.

Correct the hour and minutes display.

Connections

CONNECTOR

Pin	Description
1.	Not connected
2.	+ bulbs = + accessories
3.	Not connected
4.	+ before ignition switch
5.	+ after ignition switch
6.	Speed data
7.	Not connected
8.	Not connected
9.	Flowmeter data
10.	Not connected
11.	Not connected
12.	Trip computer earth
13.	Flowmeter - (*)
14.	Not connected
15.	Speed sensor - (*)



87 566

(*) Electronic earths passing through the trip computer.

The "fascia panel" earth is connected to the front right hand door pillar and distributed to the various sensors through the trip computer.

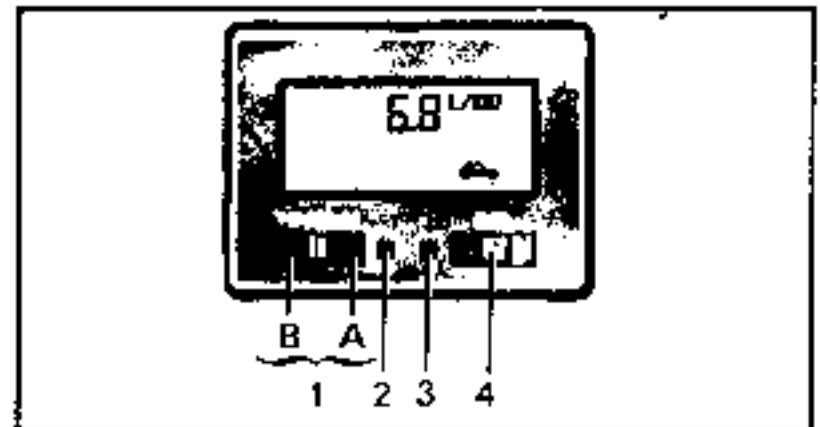
DEFECT DETECTION

The trip computer memorises any flowmeter sensor defects and causes all the displays other than the time to flash.

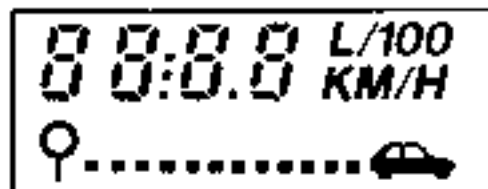
NOTE : For speed sensor defects, see the section : Checking the speed sensor.

FAULT FINDING SEQUENCE

- disconnect the battery (negative post),
- press key (4) (Start Pulse) for 30 seconds,
- reconnect the battery,
- switch on the ignition.



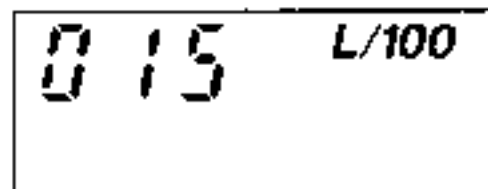
1) Check the display



All sections should flash.

2) Check the flowmeter

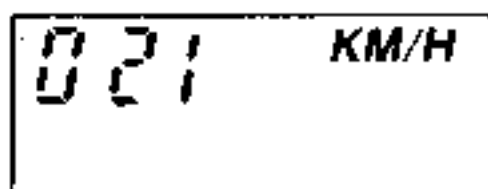
Press key 1 side B.



Frequency of pulses received from the flowmeter (more than 0 when the engine is running).

3) Check the speed sensor (with the vehicle moving)

Press key 1 side A.



Frequency of pulses received from the speed sensor (more than 0 when the vehicle is moving).

REMOVING - REFITTING

Disconnect the battery.

Remove :

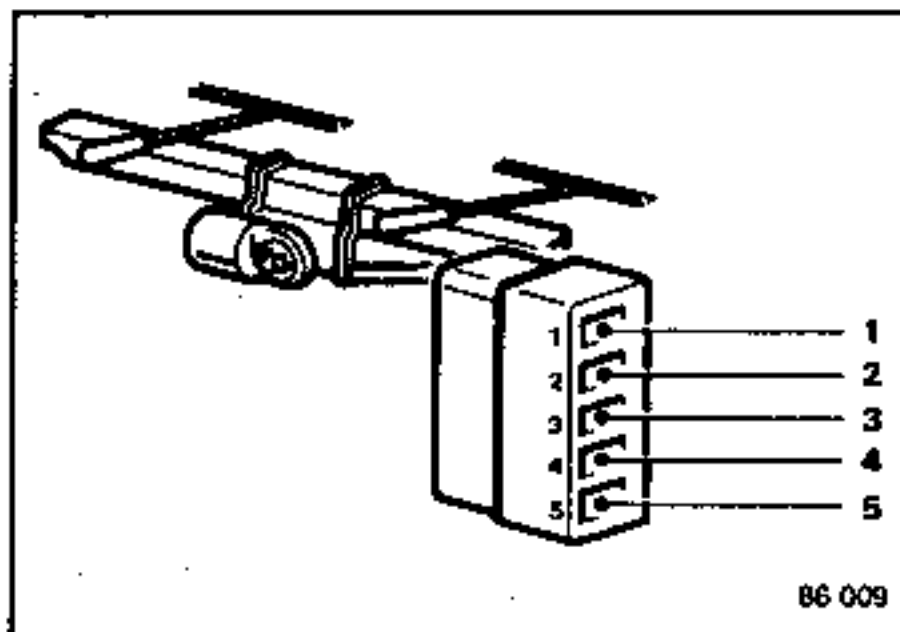
- the wiper arms,
- the outer securing nuts (1),
- the electrical junction block (2),
- the plate securing screw (3).

Take out the mechanism.

REFITTING

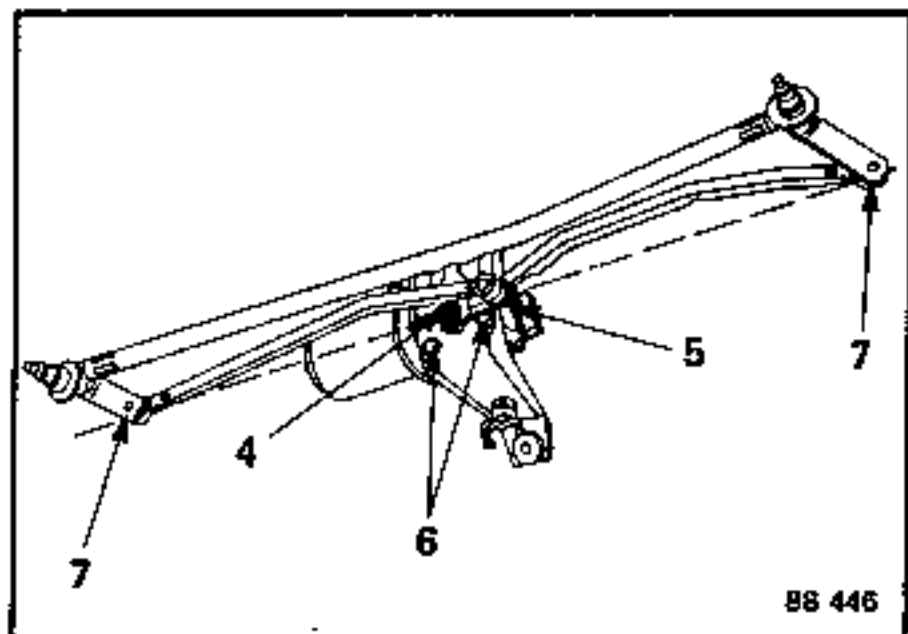
Reconnect the junction block after refitting the mechanism.

Check that the motor is in the fixed park position before refitting the wiper arms.



1. Windscreen wiper high speed
2. Windscreen wiper motor earth
3. + fixed park position
4. Windscreen wiper low speed
5. Fixed park position

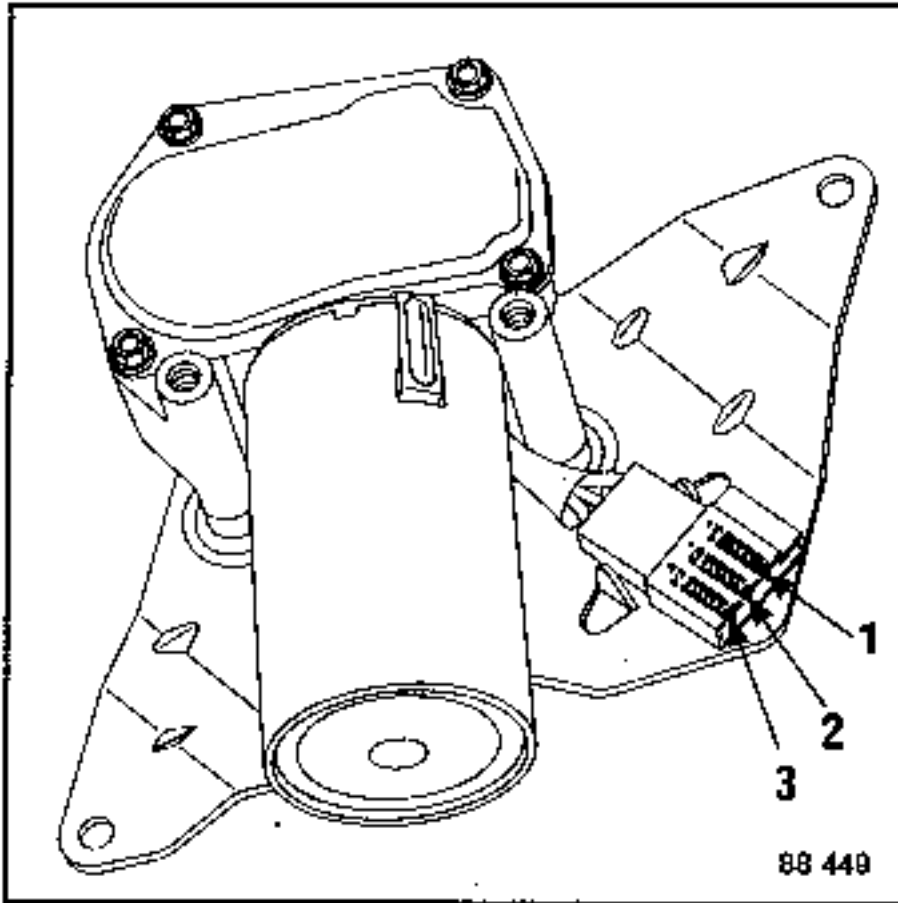
REMOVING AND REFITTING THE MOTOR (after removing the mechanism)



Unscrew the securing nut (4) from the drive link (5).

Remove the three screws (6) that secure the motor in place and take out the motor.

On refitting, check that the drive link (5) is correctly aligned with an imaginary line passing through the two points (7) when the motor is in the fixed park position.



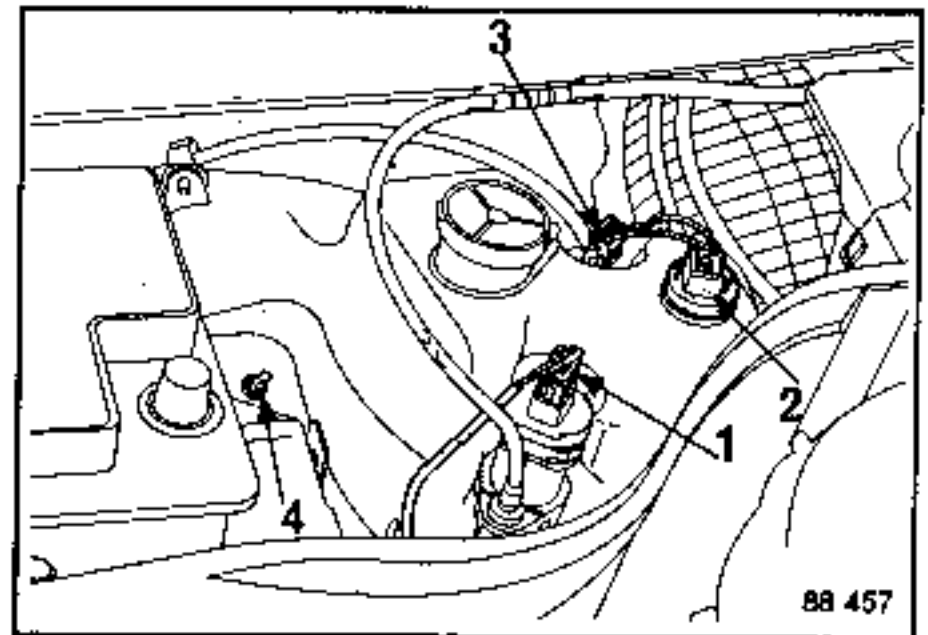
Pin	Description
1	+ motor
2	Motor earth
3	+ fixed park

Screen washers

REMOVING - REFITTING

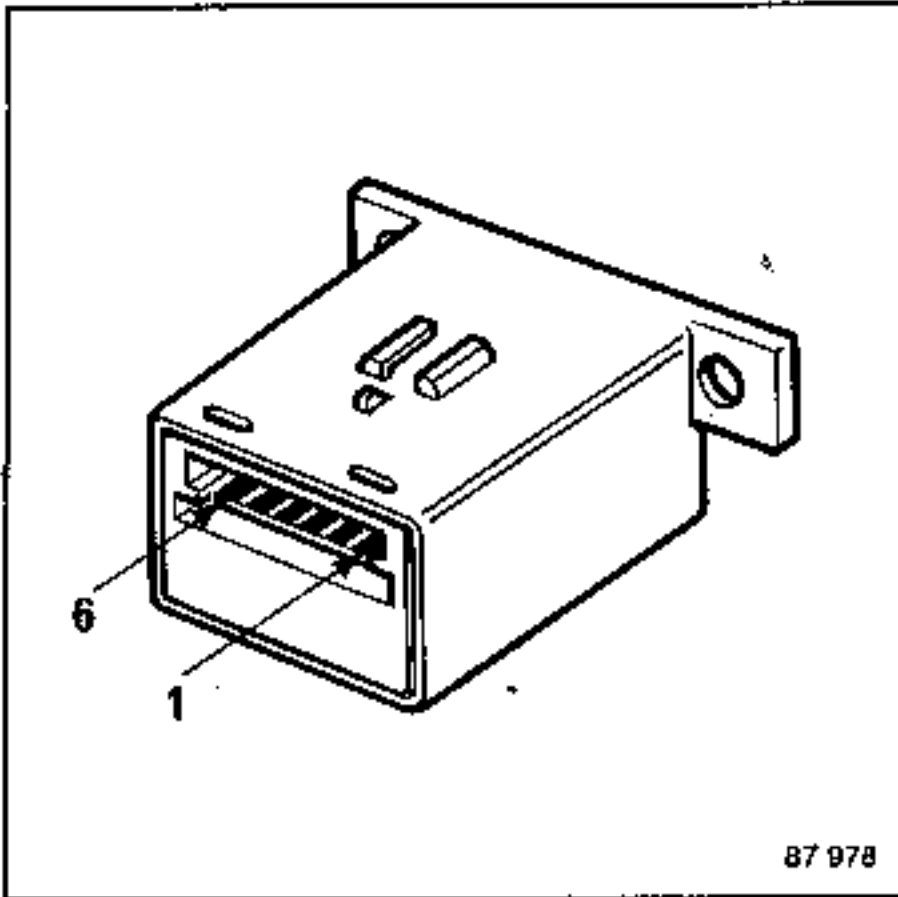
Disconnect :

- the washer-pump connector (1),
- the minimum level connector (2),
- the rear screen pump connector (3),
- the securing nut (4),
- the pipes.



Connector 1 or 3

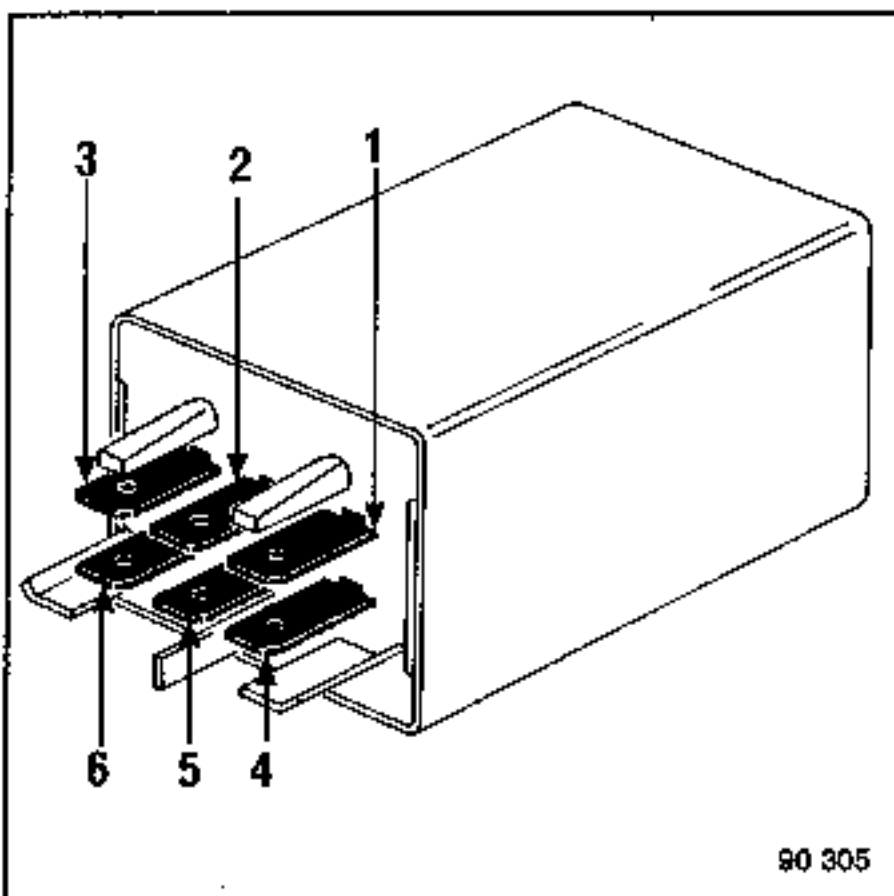
Pin	Description
1	Pump earth
3	+ pump



Front or rear screen wiper timer connections :

Pin	Description
1	Earth
2	+ washer pump
3	Timer control
4	Wiper fixed park position
5	+ after ignition switch
6	Timed output to motor

Door lock timer relay



Timed period : 3 seconds ⁺ 1

Connections :

Pin	Description
1	Closing control
2	Timer earth
3	Opening control
4	E.D.L.* motor closing supply
5	+ before ignition switch
6	E.D.L.* motor opening supply

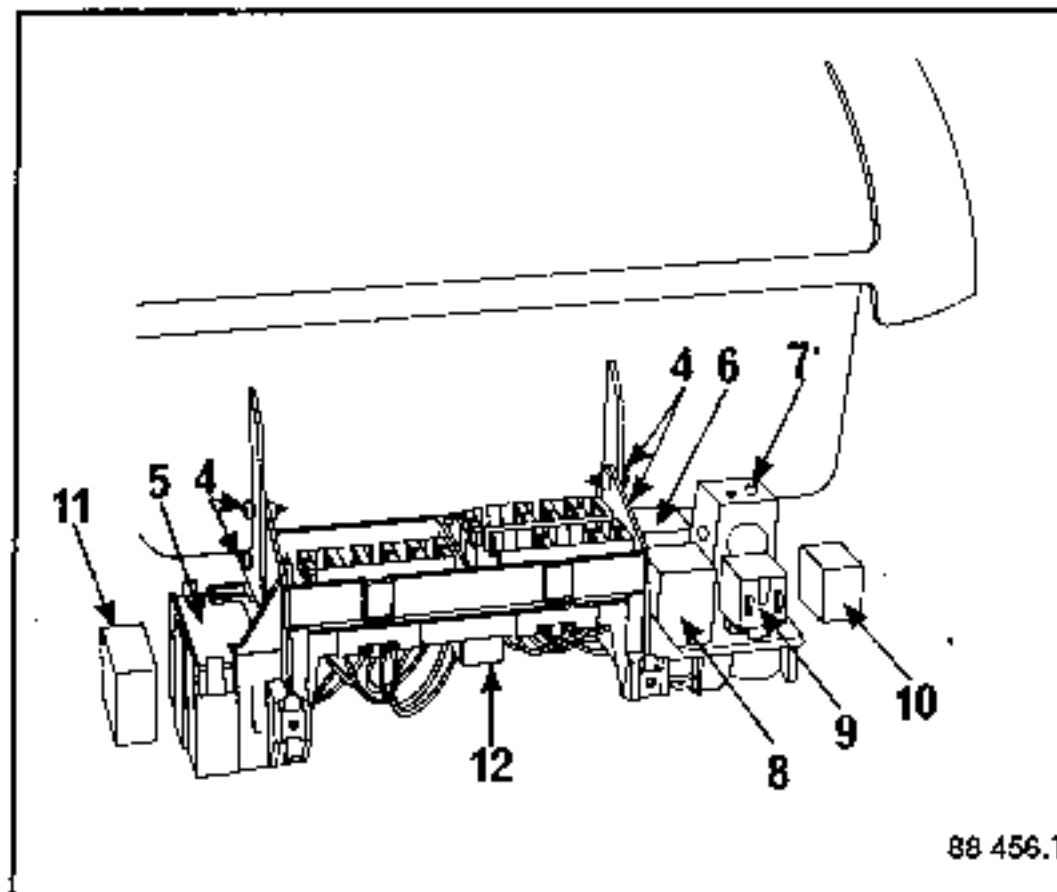
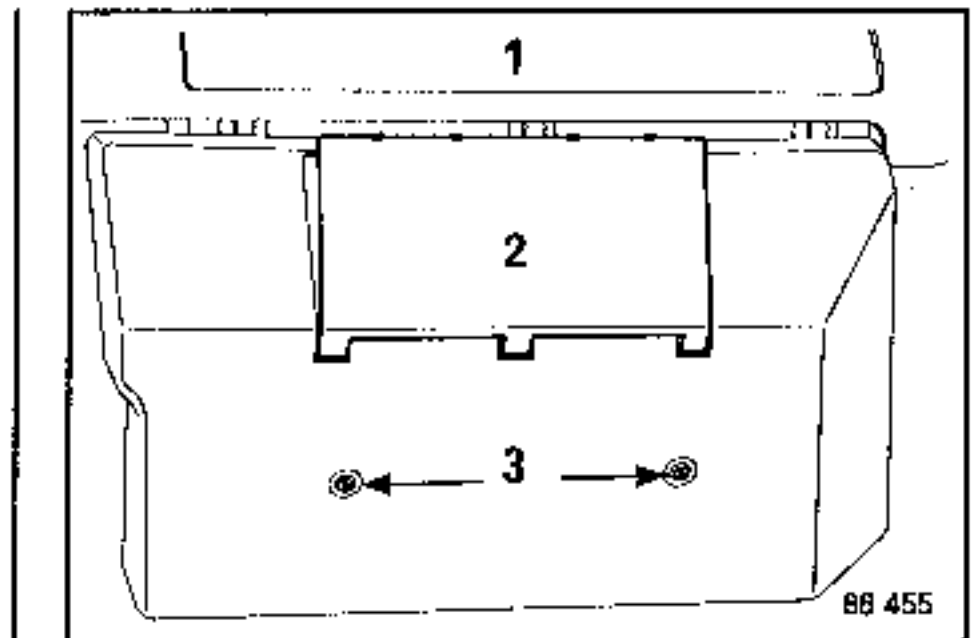
* E.D.L.: Electric door locks

REMOVING - REFITTING

Disconnect the battery.

Remove :

- under the glove compartment (1),
- under the fuse box (2), the two screws (3).



The 4 screws (4)

*

RELAY POSITIONS

- 5. Windscreen wiper timer
- 6. Lighting warning buzzer or sidelights relay
- 7. Electric door lock timer
- 8. Direction indicator flasher unit
- 9. Rear foglight relay
- 10. Main lighting relay (Sweden, Norway)
- 11. Dipped beam relay (Sweden, Norway)
- 12. Rear screen wiper timer

REPAIRING

The heated rear screen consists of a screen printed element applied to the inside face of the screen. Any accidental cut in it would render ineffective the part of the circuit affected.

The point at which the break occurs can be found with a voltmeter.

Such breakages can be repaired with special heated rear screen varnish supplied under the part no. 77 01 421 135 (2 g bottle).

Determining the exact point of the breakage with a voltmeter.

Switch on the ignition.

Switch on the supply to the heated rear screen.

Detection between lines B and A.

Connect the + wire of the voltmeter to the + supply terminal of the screen.

Place the negative wire of the voltmeter on a filament on the negative side of the screen (line B). At this point the voltage should be roughly the battery output voltage.

Move the - wire towards line A (arrow) : the voltage should gradually fall.

If the voltage falls suddenly, the filament is broken at that point (carry out the same operation on each filament).

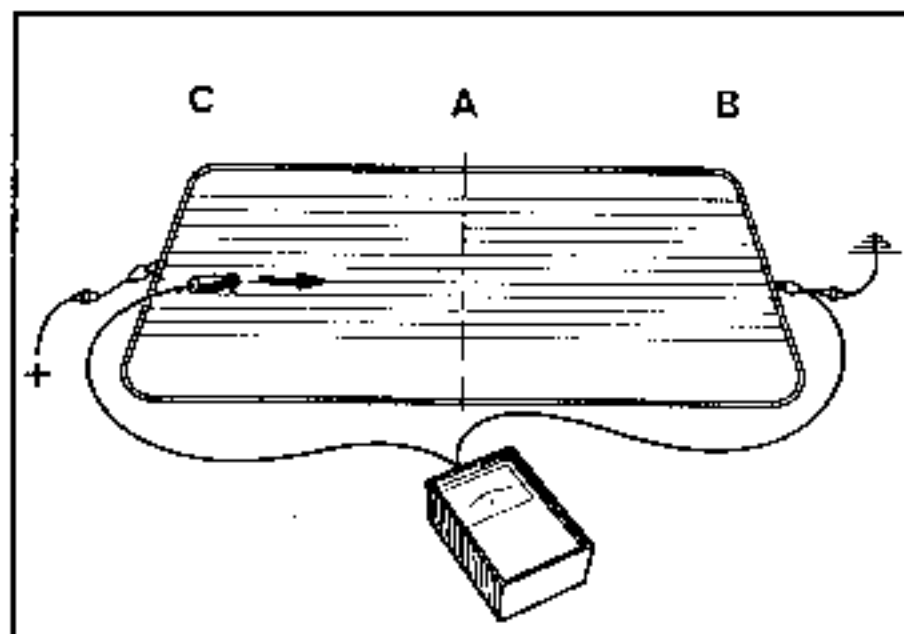
Detection between lines C and A

Connect the - wire of the voltmeter to the screen - terminal.

Place the + wire of the voltmeter on a filament on the + terminal side of the screen (line C). The voltage should be roughly the battery output voltage.

Move the + wire towards line A (arrow) : the voltage should gradually fall.

If the voltage falls suddenly, the filament is broken at that point (carry out this operation on each filament).

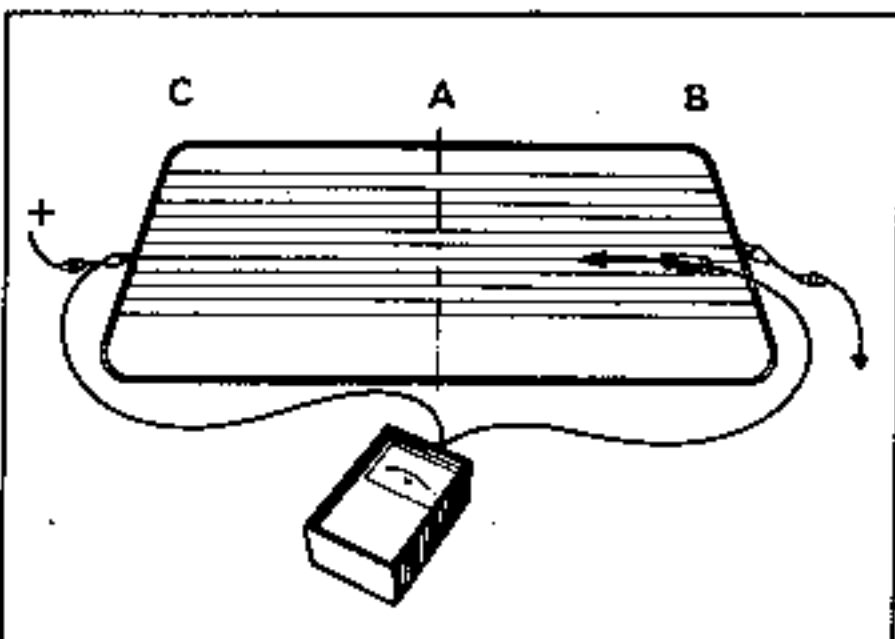


REPAIRING A FILAMENT

Clean the area to be treated locally to remove all dust or grease using, preferably, alcohol or a glass cleaner and wiping it with a dry clean cloth.

To obtain a neat repair, apply adhesive tape of the cellotape type on either side of the area to be repaired leaving the conductor filament uncovered.

Before using the varnish, shake the bottle to mix in any silver particles that are deposited at the bottom of it.

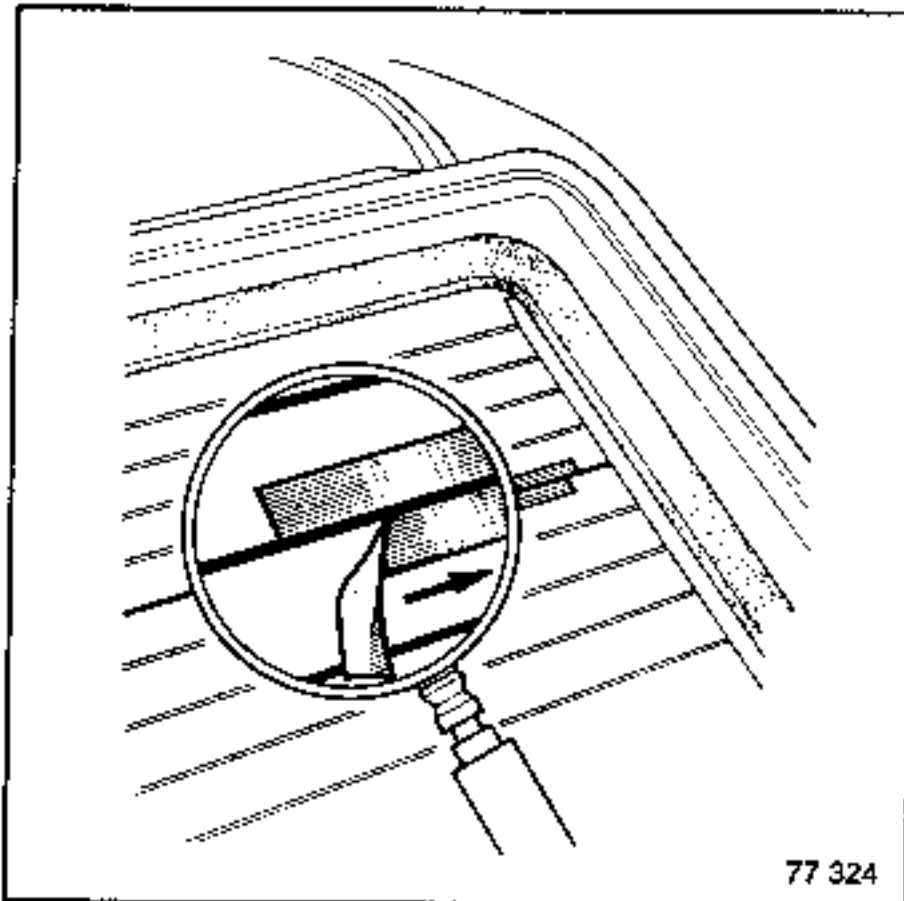


REPAIRING

With a fine brush, apply a sufficient thickness of the varnish to carry out the repair. If several coats are required, leave time between each coat for the varnish to dry and do not apply more than three coats.

Should there be any runs, they can be removed with the point of a knife or a razor blade but only after leaving the product to dry, fully, for several hours.

The adhesive tape used as a guide is not to be removed until approximately one hour after application. The tape is to be pulled off perpendicular to the filament in the direction shown by the arrow. The varnish, if applied at an ambient temperature of 20°C, will be fully dry in three hours. At lower temperatures the drying time will be slightly longer.

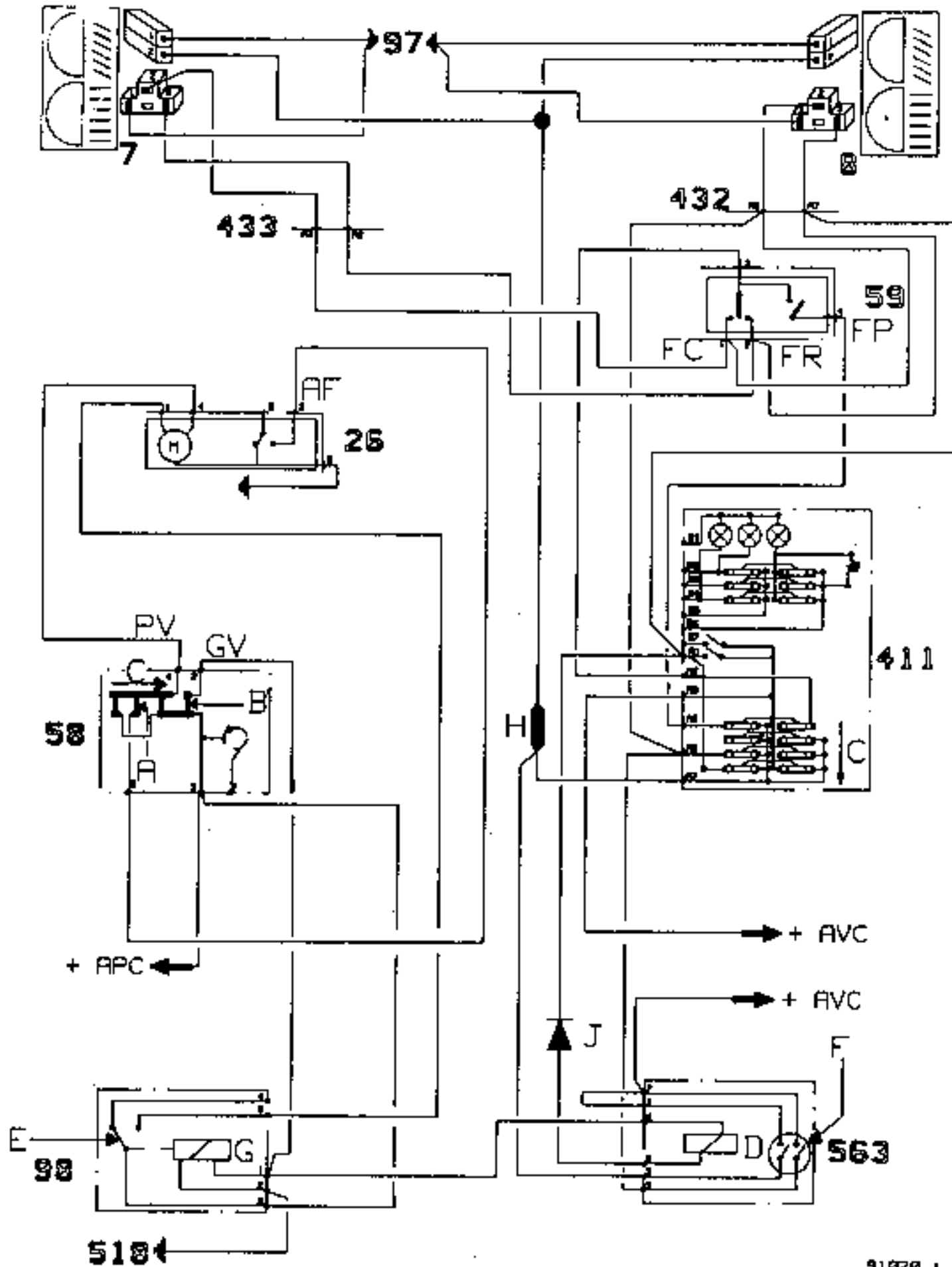


You will find below two circuit diagrams that show how this system works. The first is specified for Renault 5 models, at the start of the 1987 model year. The second, on the following page, is specified only for Renault 5 (the last models manufactured), a modification having been introduced to switch off the dipped beams when the headlights are moved to full beam.

[illegible]

MODIFICATION - SPECIAL RENAULT 5 DRIVING SCHOOL FEATURES

CIRCUIT DIAGRAM



KEY TO SPECIFIC DRIVING SCHOOL DIPPED BEAM ARRANGEMENT

<p>7 - Sidelight/dipped beam unit, LH</p> <p>8 - Sidelight/dipped beam unit, RH</p> <p>26 - Windscreen wiper motor</p> <p>58 - Wiper/washer control</p> <p>59 - Light switch</p> <p>97 - Bodywork earth</p> <p>98 - Windscreen wiper high speed relay</p> <p>411 - Driving school control unit</p> <p>432 - Front RH wiring connection</p> <p>433 - Front LH wiring connection</p> <p>518 - Front RH pillar earth</p> <p>563 - Sidelight/dipped beam relay</p>	<p>AF - Fixed park</p> <p>PV - Low speed</p> <p>GV - High speed</p> <p>FP - Sidelights</p> <p>FC - Dipped beams</p> <p>+APC - + After ignition switch</p> <p>+AVC - + Before ignition switch</p> <p>C - Switch movement</p> <p>H - Sidelight fuse</p> <p>J - Diode</p>
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PRINCIPLE OF OPERATION OF THE SPECIFIC DRIVING SCHOOL DIPPED BEAM HEADLIGHTS

The sidelights and dipped beam headlights operate, in conjunction with the windscreen wiper high speed as follows :

- The switch is moved from A to B (following movement) C of the wash/wipe control (58).
- Coil (G) on the windscreen wiper high speed relay (98) and coil (D) on the sidelight relay (563) are supplied with current.
- Motor (M) on the windscreen wipers (26) is supplied with current in the high speed mode.
- Contact (E) on the windscreen wiper high speed relay (98) and contacts (F) on the side-light relay (563) close .

The sidelights and dipped beam headlights are switched on.

Diode J switches off the dipped beams when the headlights are selected into the full beam position.