

Section C Supplement

Heating, Ventilation and Air Conditioning (HVAC)

This Section Refers to the

20000-Series Cars and Onwards

1987 to 2000

With Microprocessor Controlled Climate Control



Air conditioning system

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Precautions

Danger – Exhaust gases

To ensure adequate ventilation, always open garage doors fully before starting the car in a garage, or any confined space.

The exhaust gases contain carbon monoxide (CO), which is odourless and invisible, but very poisonous.

Operating the air conditioning system increases the danger of these gases entering the car.

General precautions

Before commencing work on the electrical system it is recommended that either the battery master switch be turned to the OFF position or that the battery is disconnected.

If the master switch has to be left in the ON position or if the battery is left connected, the gear range selector lever must be placed in the park position and the gearchange isolating fuse (fuse A6) removed from fuseboard F2 at the main fuseboard. Then remove the ignition key.

Never disconnect the battery or switch off the battery master switch when the engine is running.

Always ensure correct polarity when making cable connections.

It is recommended that when carrying out tests on the car wiring, a good quality multi-meter is used. Never use generator type meters.

Do not use a test lamp on circuitry that contains electronic components, such as the air conditioning system.

When working on or in the vicinity of the air conditioning micro-processor, anti-static precautions, in particular the wearing of an anti-static wristband connected to a good earth, must be observed.

Special precautions

The refrigerant used in the air conditioning system is dichlorodifluoromethane (Refrigerant 12). It is supplied to the service network in disposable containers or metal drums.

When correctly handled the refrigerant is perfectly safe, however, incorrect handling could result in injury or accident.

The following precautions must always be observed.

1. Do not smoke in the vicinity of refrigerant or a refrigeration system.
2. Always wear safety glasses when working on a refrigeration system.
3. Store refrigerant containers upright and away from direct sunlight.
4. When transporting refrigerant, ensure that the containers are secured, remain upright and away from direct sunlight.
5. Ensure that caps are fitted to drums not in use.

6. Refrigerant containers must not be overfilled, increased pressure could cause an explosion.

7. To heat the drum when charging a system, immerse in warm water at a maximum temperature of 51°C (124°F).

Never place the drum on a hot surface or attempt to heat the drum by means of a blowlamp, etc.

8. Do not discharge refrigerant in confined spaces or near to exposed flames. Contact with exposed flames can produce a toxic gas.

Always keep refrigerant clear of engine air intakes.

9. Excessive heat applied to any part of the refrigeration system will create high pressures within the system. Therefore, welding, soldering, or brazing should not be carried out on the system, or to any adjacent part of the car.

First aid – Refrigerant burns

If the skin comes into contact with refrigerant, it should be bathed with clean cold water and medical attention sought immediately. Do not apply localized heat, hot dressings, etc.

If an eye should become affected by refrigerant, it must be immediately washed with clean cold water. The eye must not be rubbed as this will aggravate the injury.

After administering this emergency treatment a doctor should be consulted as soon as possible.



Electrical test and fault diagnosis

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Electrical test and fault diagnosis

Introduction

If an electrical fault is suspected on the air conditioning system it will be necessary to determine whether the fault is in the wiring of the air conditioning system or on the micro-processor board.

If it is determined that the fault is on the micro-processor board, the board must be replaced as it is a non-serviceable item.

The wiring can be tested using the air conditioning test box RH 9884. Alternatively, test the wiring using a good quality multi-meter capable of measuring continuity, resistance, and direct current voltage.

If using the test box it is recommended that the test procedures be carried out in full, noting any malfunction. On completion of the test box procedures, correct any malfunction by selecting the appropriate sub-heading under Test procedures using a multi-meter. Carry out that particular procedure before retesting the system with the test box.

When correcting a malfunction or carrying out the test procedures using a multi-meter, identification of cable routes and connections, also components, can be made using the wiring diagrams and component locations contained within this section.

When working on or in the vicinity of the air conditioning micro-processor, anti-static precautions, in particular, the wearing of an anti-static wristband connected to a good earth, must be observed.

To avoid damage to the mating surfaces of plug or socket connections it is recommended that meter probes, etc., are applied from the rear, cable entry side. It may be necessary to release the locking bar of the plug or socket to achieve this.

Where it is necessary to start the car engine, all normal workshop safety precautions must be observed.

Before commencing the test procedures always ensure that the battery is in a fully charged condition.


Test procedures using test box RH 9884

Initial procedure

1. Remove fuse A1 at fuseboard F1.
2. Disconnect both the left-hand and right-hand 18-way plugs at the micro-processor. To avoid damage to the board it will be necessary to hold the opposite end of the board when removing a plug.
3. With all switches on the test box in the up position, connect the test box as follows.
 - a. Connect the lead from the test box marked LEFT to the left-hand 18-way plug from the micro-processor.
 - b. Connect the lead from the test box marked RIGHT to the right-hand 18-way plug from the micro-processor.

- c. Ensure that the termination on the single red cable from the test box is insulated and free from any earth potential.
- d. Connect the single purple cable from the test box to a known, fused, 12 volts positive supply.
4. Select ON position at the POWER switch on the test box noting that.
 - a. Dependent on the position of the air conditioning function switch on the facia, the corresponding lamp on the test box will be illuminated.
 - b. When testing with a cold engine [engine coolant temperature below 44°C (111°F)] the 44°C lamp on the test box will be illuminated.
 - c. The ALT (alternator) lamp on the test box will only be illuminated when the engine is running.

Air conditioning function switch – To test

1. Select OFF position at the air conditioning function switch on the facia. The OFF lamp at the test box should illuminate.
2. Rotate the function switch from OFF through each position to the  (defrost) position. At each switch position the corresponding lamp on the test box should illuminate.

Fans control circuit – To test

1. Move the left-hand FAN CONTROL switch on the test box to the down (ON) position. The fans should operate at minimum speed.
2. From left to right select the down position on the four remaining FAN CONTROL switches noting that as each switch is operated the speed of the fans increases.
3. Switch OFF the left-hand FAN CONTROL switch. Both fans should stop.

Mode change actuator – To test

1. Move the MODE switch on the test box to the down position. The mode change actuator should operate, directing air to the facia position.
2. Move the MODE switch on the test box to the SCREEN (up) position. The mode change actuator should operate, directing air to the screen position.
3. Ensure that the mode change flap seals effectively, especially in the screen position.

Left-hand recirculation actuator – To test

1. Move the L.H. switch on the test box to the down position. The left-hand recirculation actuator should operate, directing air to the fresh air position.
2. Move the L.H. switch on the test box to the RECIRC (up) position. The actuator should operate, directing air to the recirculation position.
3. Ensure that the flap seals effectively, especially in the recirculation position.

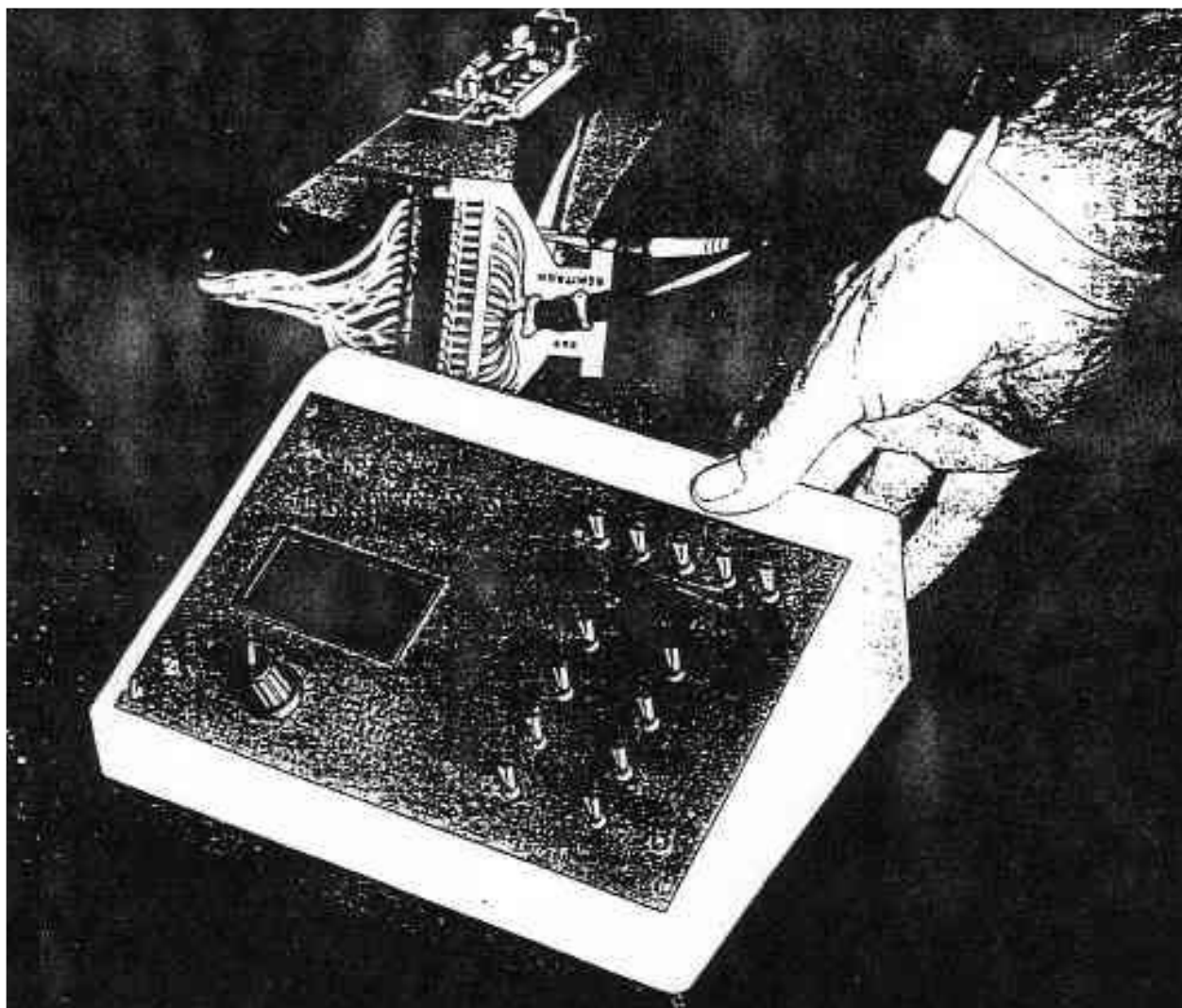


Fig. C4-1 Air conditioning system test box RH 9884

Right-hand recirculation actuator – To test

1. Move the R.H. switch on the test box to the down position. The right-hand recirculation actuator should operate, directing air to the fresh air position.
2. Move the R.H. switch on the test box to the RECIRC (up) position. The actuator should operate, directing air to the recirculation position.
3. Ensure that the flap seals effectively, especially in the recirculation position.

Lower quantity actuator – To test

1. Move the LOWER FLAP switch on the test box to the down position. The lower quantity actuator should operate, directing air to the lower outlets.
2. Move the LOWER FLAP switch on the test box to the SHUT (up) position. The lower quantity actuator should operate, closing off air from the lower outlets.
3. Ensure that the flap seals effectively, especially in the closed position.

Air conditioning temperature sensors – To test

1. Rotate the selector switch on the test box to the AMBIENT position. Read off the voltage.

Compare the voltage reading with the Temperature sensor voltage response graph and table given in figure C4-2. If the reading is within a $\pm 5\%$ tolerance the sensor is functioning correctly.

2. Repeat procedure 1 with the selector switch in the LOWER position.
3. Repeat procedure 1 with the selector switch in the TOP ROLL (solar) position.
4. Repeat procedure 1 with the selector switch in the UPPER position.

Screen-facia/recirc switch – To test

1. Press and hold the SCREEN-FACIA/RECIRC switch on the facia to the SCREEN/FACIA position. The SCREEN FACIA lamp on the test box should illuminate.

It should be noted that when carrying out this operation on certain 1987 model year cars the RECIRC lamp on the test box also illuminates but at a slightly lower intensity. If illumination of the lamp does occur, before continuing with the test procedure, the pink cables connected between the SCREEN-FACIA/RECIRC switch and the inner switch panel plug and socket 6-way must be disconnected and permanently removed.

2. Select the RECIRC position at the SCREEN-FACIA/RECIRC switch. The RECIRC lamp on the test box should illuminate.
3. Return the SCREEN-FACIA/RECIRC switch to the central position. The RECIRC lamp will be restored to its original condition, i.e. not necessarily extinguished.

Temperature selector controls test procedure

1. Rotate the selector switch on the test box to the REFERENCE position. Read off the voltage (approximately 2.5 volts).
2. Rotate the upper temperature selector on the facia to the mid-position and the selector switch on the test box to the UPPER SEL position. Read off the voltage. This output voltage should be within ± 0.5 volt of the reference voltage.
3. Rotate the lower temperature selector on the facia to the mid-position and the selector switch on the test box to the LOWER SEL position. Read off the voltage. This output voltage should be within ± 0.5 volt of the reference voltage.

Rear window demister and mirror heaters, compressor clutch, and water tap test procedure

1. Rotate the selector switch on the test box to the BAT. VOLTS position.
2. Move the H.R.W. switch to the down position. The voltage reading on the test box should decrease.
3. Move the H.R.W. switch to the up (off) position.
4. Move the COMP. CLUTCH switch to the down position. The compressor clutch in the engine compartment should be heard to operate.
5. Move the COMP. CLUTCH switch to the up (off) position.
6. Move the WATER TAP switch to the down position. The water tap situated in the engine compartment should operate.
7. Move the WATER TAP switch to the up (off) position.

Air conditioning coolant temperature switch – To test
This test must be carried out with a cold engine (i.e. engine coolant temperature below 44°C (111°F)).

1. The 44°C lamp on the test box will be illuminated.
2. Disconnect the coolant temperature switch on the thermostat housing. The 44°C lamp on the test box should extinguish.
3. Re-connect the coolant temperature switch.

Test procedures conclusion

1. Having verified the car wiring.
 - a. Disconnect the 12 volts positive supply to the test box.

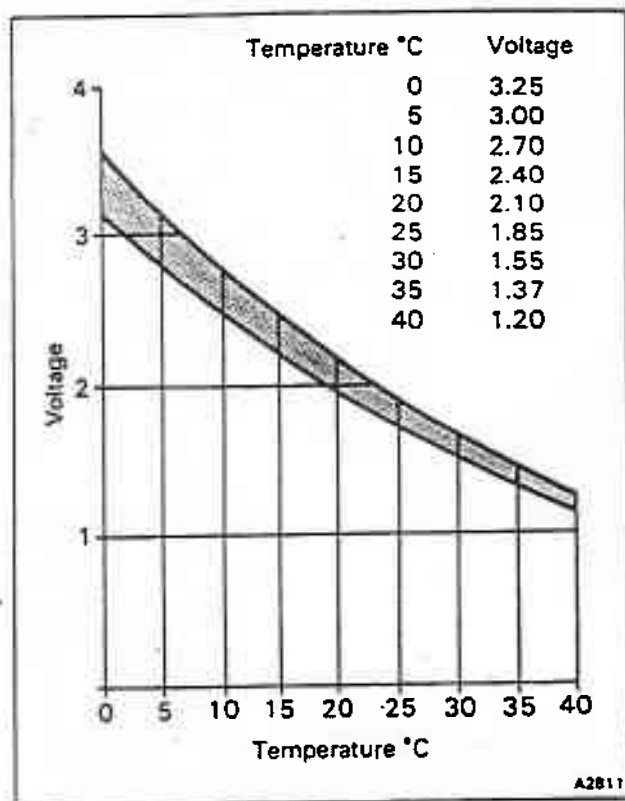


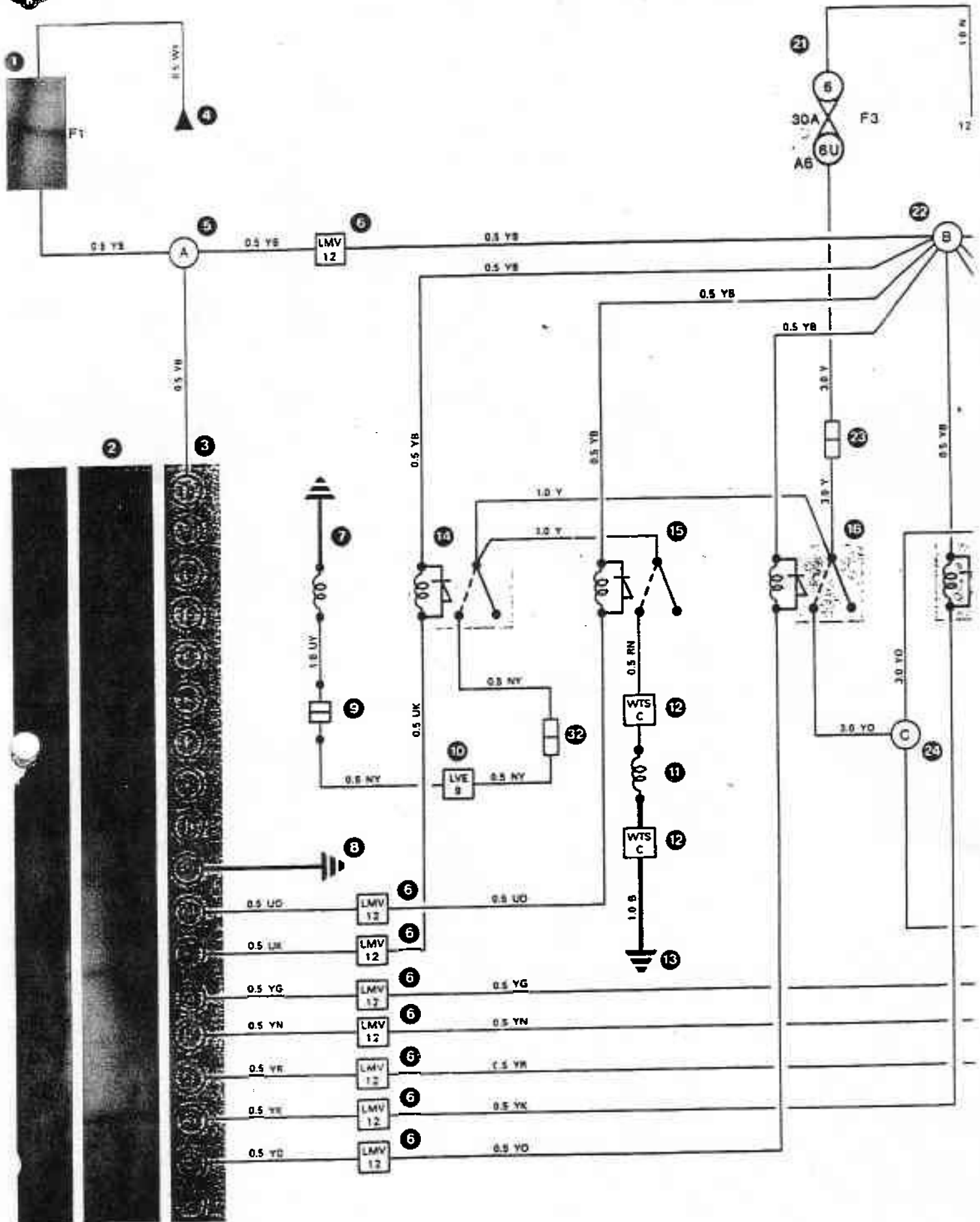
Fig. C4-2 Temperature sensor voltage response graph and table

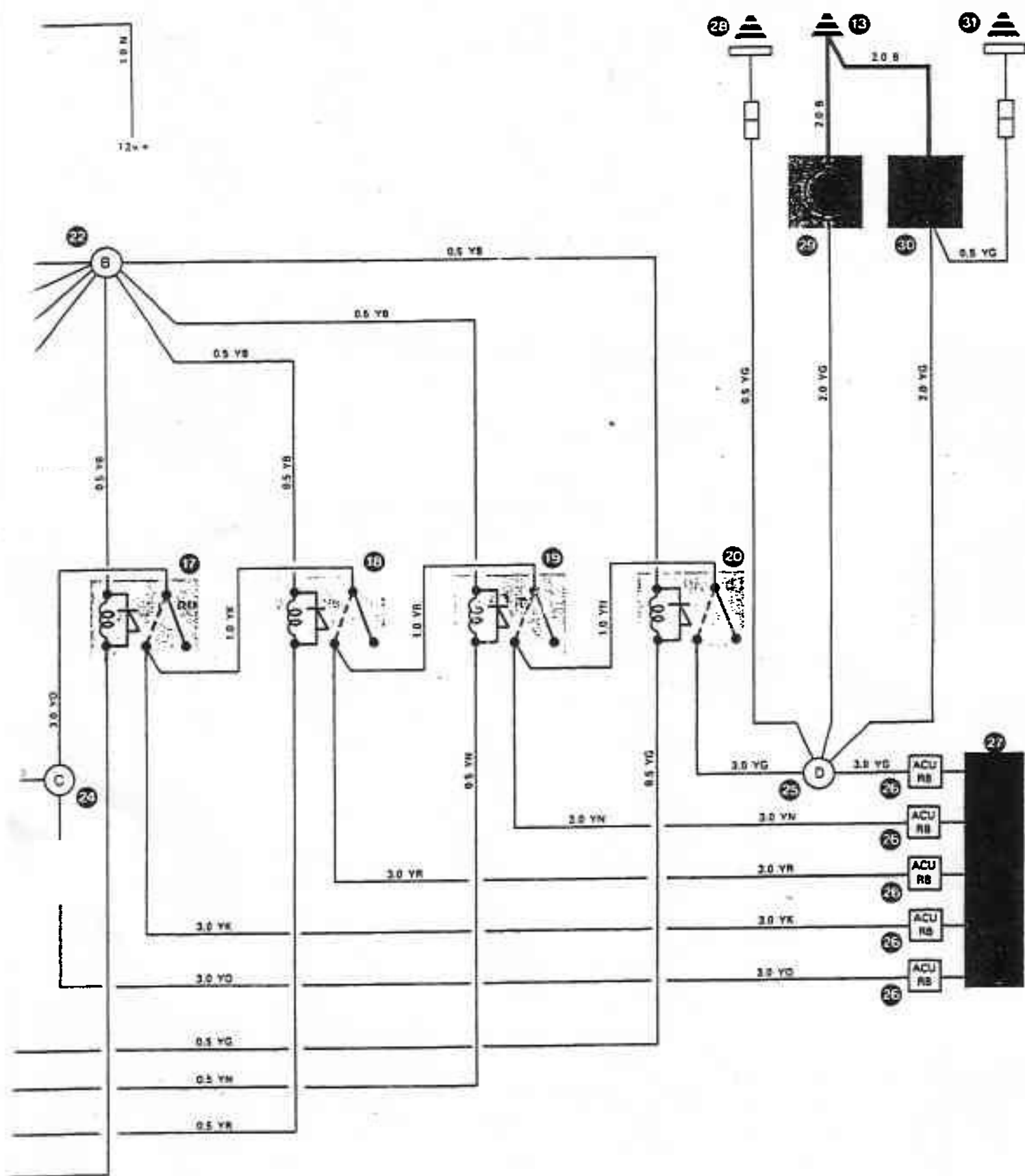
- b. Disconnect the test box.
 - c. Re-connect the 18-way plugs to the micro-processor.
 - d. Replace fuse A1 at fuseboard F1.
 2. Test the air conditioning system. If a malfunction is still apparent carry out the Micro-processor initializing procedure given under the heading Air conditioning micro-processor board.
- If correct operation of the upper and lower blend flap actuators is verified by the initializing procedure the fault will be on the micro-processor board. Therefore, fit a new board.
- If the correct operation of the upper and lower blend flap actuators cannot be verified by the initializing procedure, first substitute the actuator(s) to determine whether the fault is with the actuator(s) or on the micro-processor board. Renew as necessary.



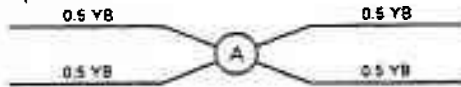
Fan control circuit

Wiring diagram and component location

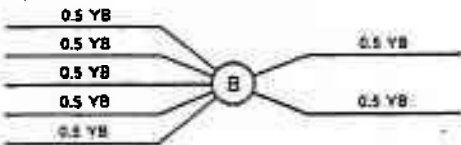




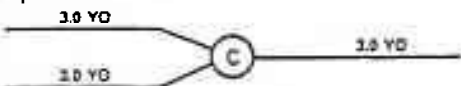
- 1 Fuseboard F1, fuse A1, 10 Amp
- 2 Air conditioning unit micro-processor
- 3 Air conditioning unit micro-processor plug 18-way – right-hand
- 4 12 volts positive supply when engine is running
- 5 Splice A



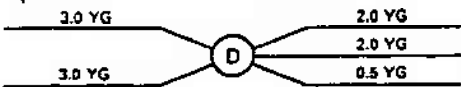
- 6 Left-hand main to valance loom plug and socket 12-way
- 7 Compressor clutch solenoid
- 8 Transmission tunnel earth point
- 9 Compressor ambient thermostat
- 10 Left-hand valance to engine loom plug and socket 9-way
- 11 Water tap solenoid
- 12 Water tap solenoid connection
- 13 Front valance earth point
- 14 Compressor clutch relay
- 15 Water tap relay
- 16 Fans control relay
- 17 Fan speed relay 4
- 18 Fan speed relay 3
- 19 Fan speed relay 2
- 20 Fan speed relay 1
- 21 Fuseboard F3, fuse A6, 30 Amp
- 22 Splice B



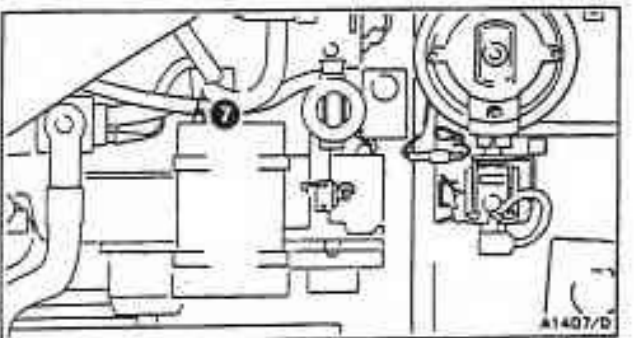
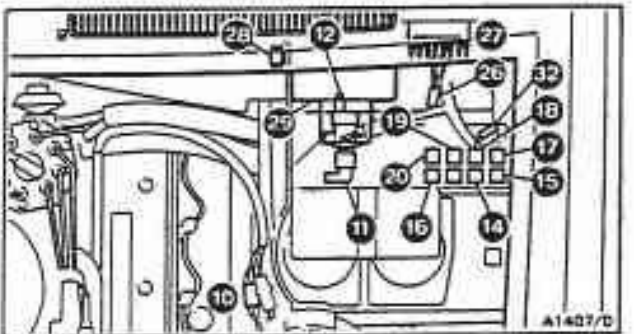
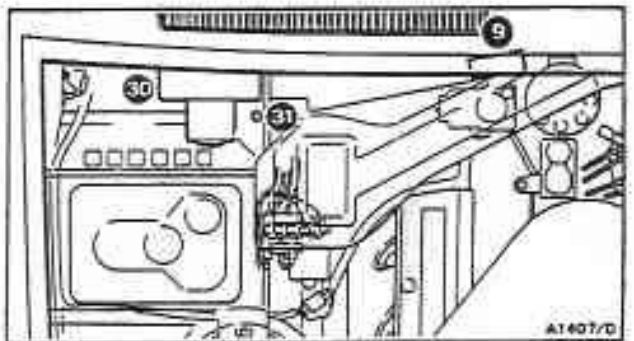
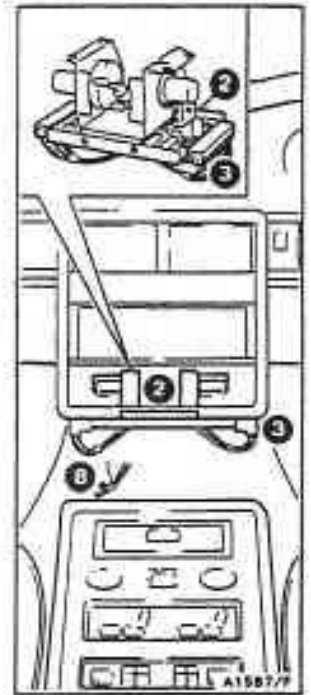
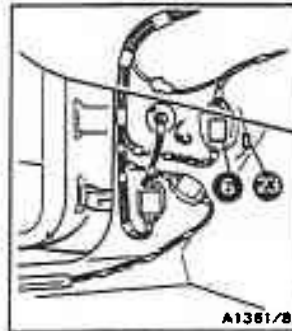
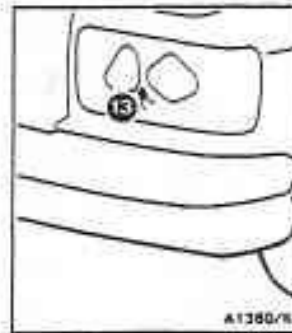
- 23 Left-hand main to valance loom connection
- 24 Splice C



- 25 Splice D



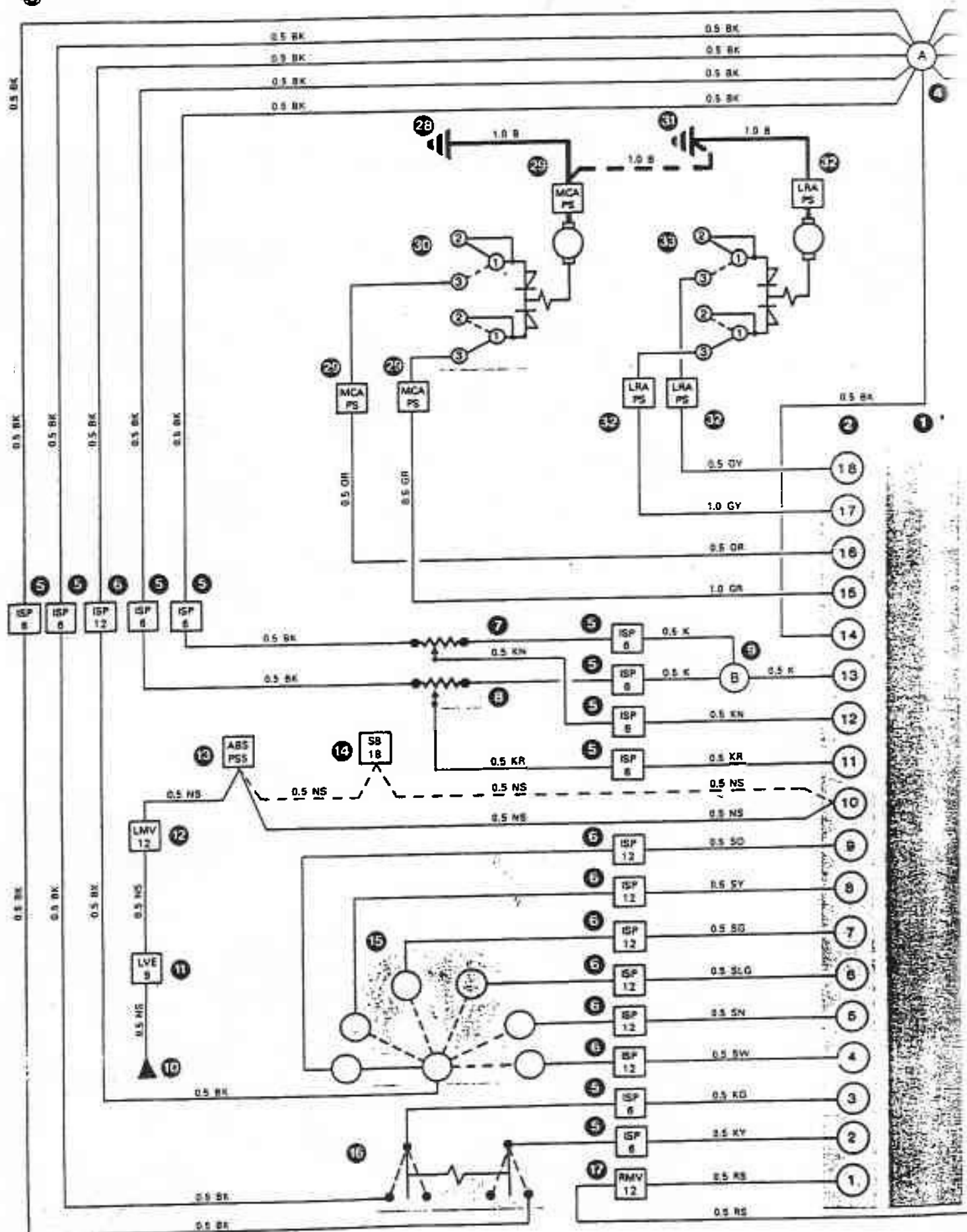
- 26 Air conditioning unit resistor block plug and socket
- 27 Air conditioning unit resistor block
- 28 Air conditioning fan suppressor – left-hand
- 29 Air conditioning fan – left-hand
- 30 Air conditioning fan – right-hand
- 31 Air conditioning fan suppressor – right-hand
- 32 Air conditioning loom to left-hand valance loom connection

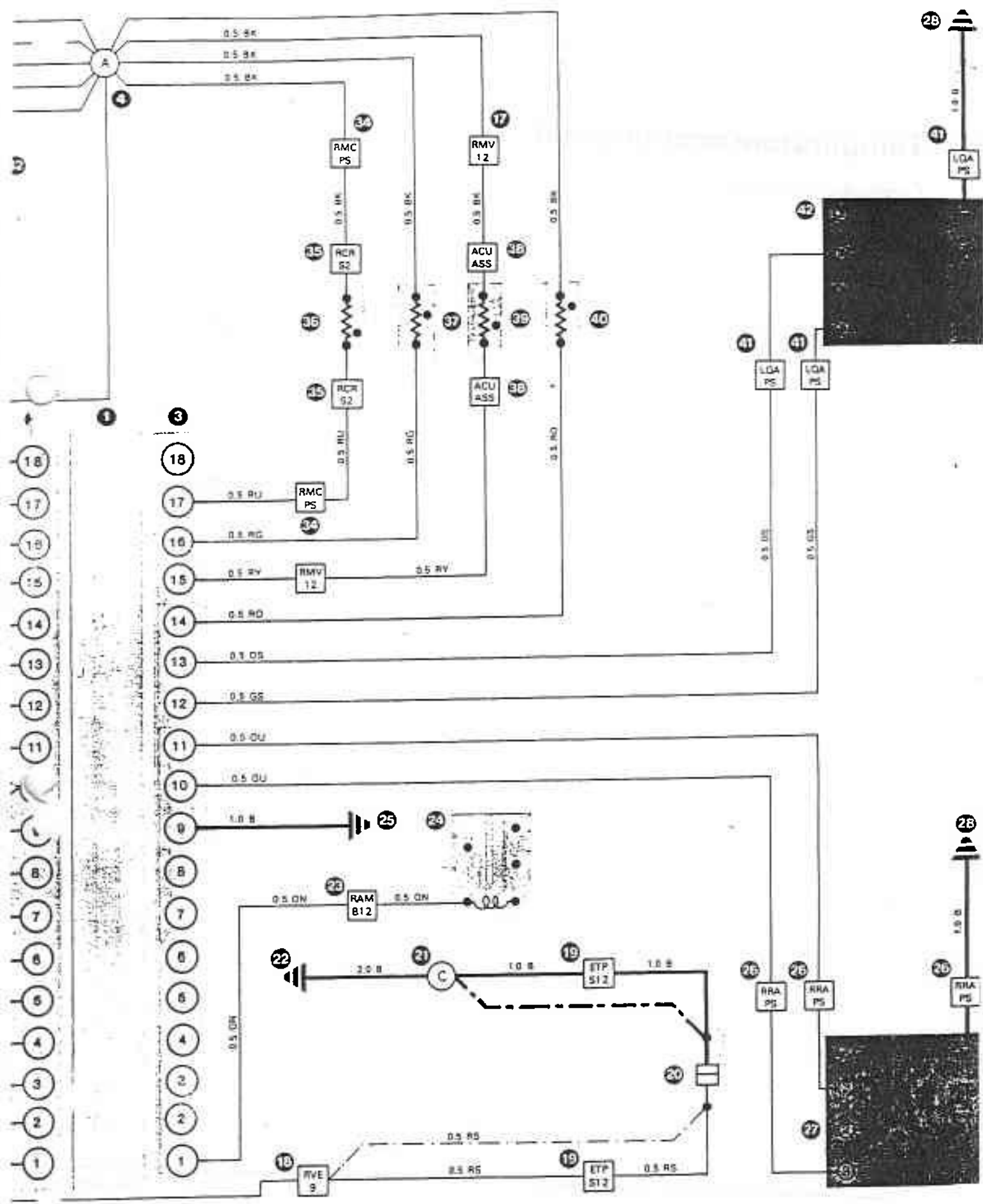




Temperature control circuit

Wiring diagram

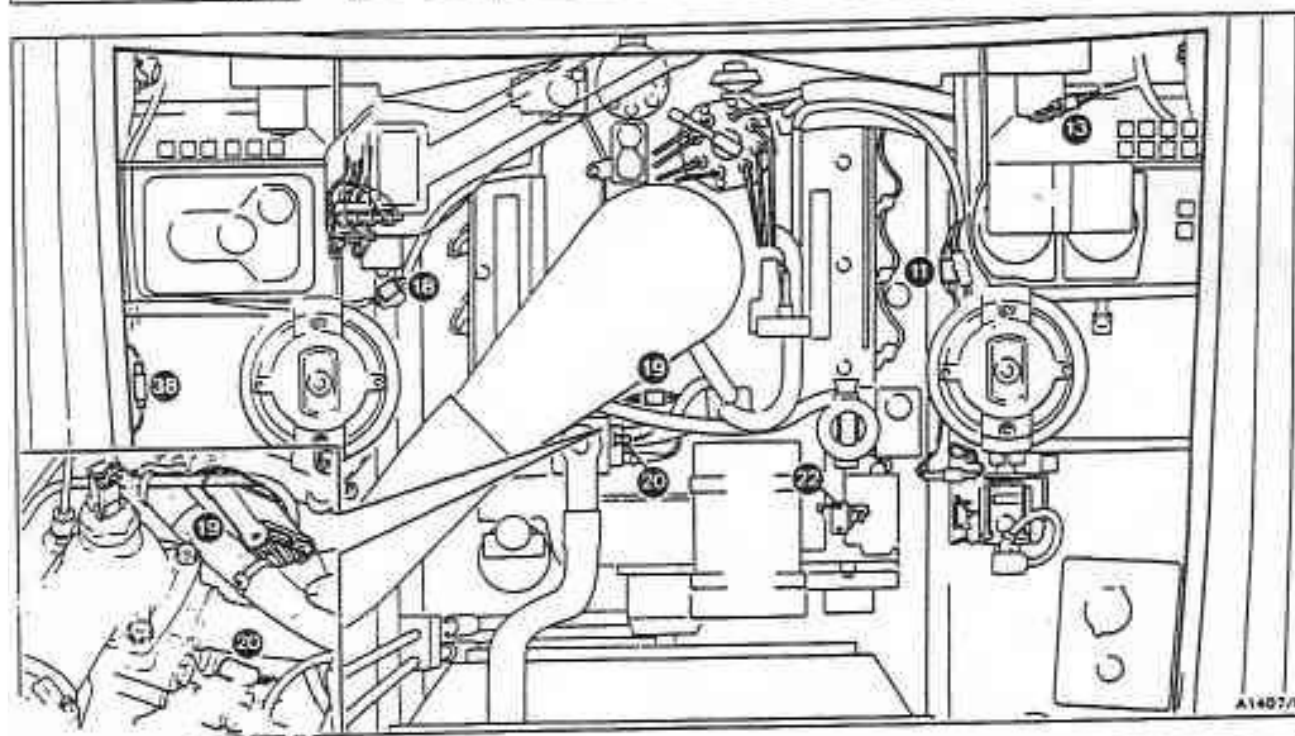
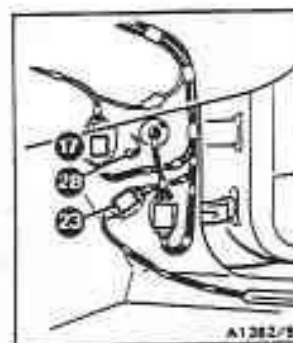
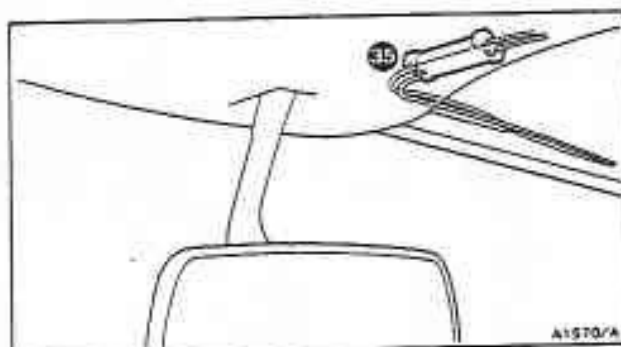
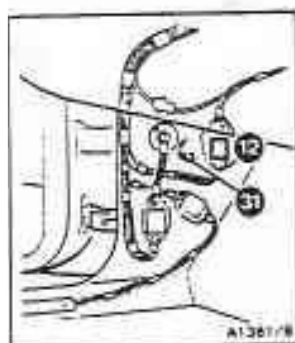
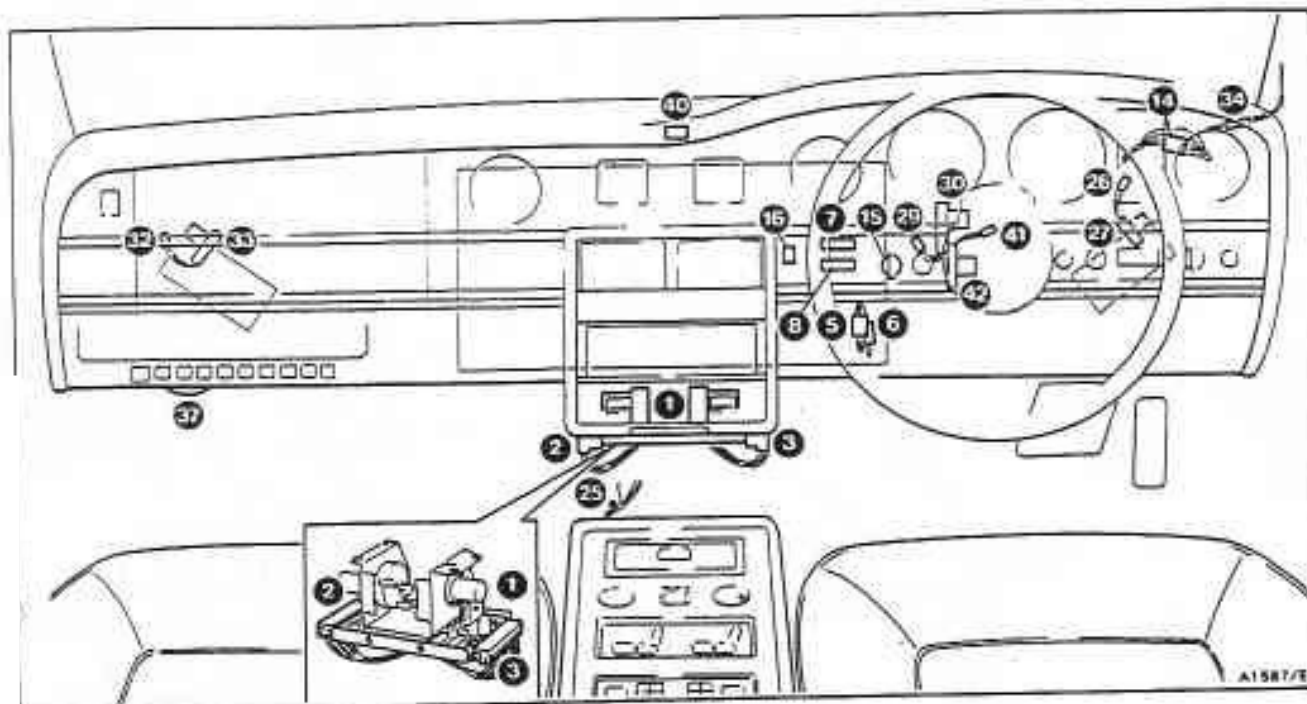




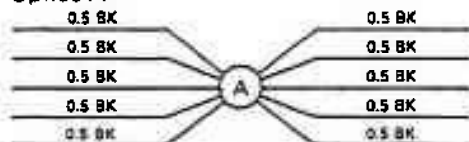


Temperature control circuit

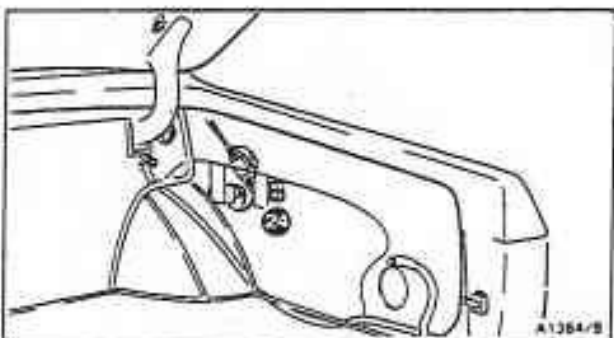
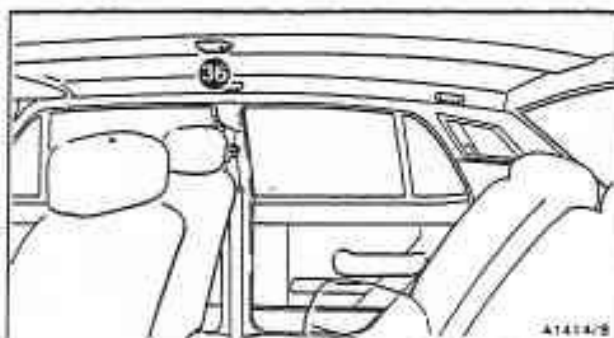
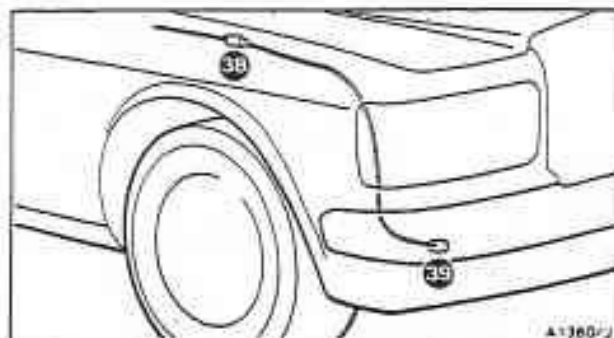
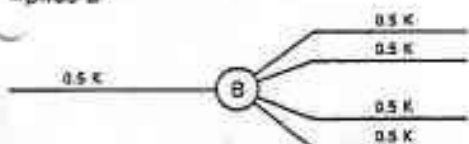
Component location



- 1 Air conditioning unit micro-processor
- 2 Air conditioning unit micro-processor plug 18-way – left-hand
- 3 Air conditioning unit micro-processor plug 18-way – right-hand
- 4 Splice A

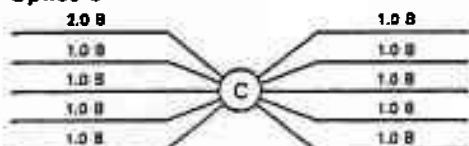


- 5 Inner switch panel plug and socket 6-way
- 6 Inner switch panel plug and socket 12-way
- 7 Upper temperature selector
- 8 Lower temperature selector
- 9 Splice B



- 10 Monitor supply from alternator (14 volts positive with engine running) to allow rear window and door mirror demisting
- 11 Left-hand valance to engine loom plug and socket 9-way
- 12 Left-hand main to valance loom plug and socket 12-way
- 13 Anti-lock braking system plug and socket 5-way
- 14 Switchbox plug and socket 18-way
- 15 Air conditioning control switch
- 16 Screen-facia/recirc switch
- 17 Right-hand main to valance loom plug and socket 12-way
- 18 Right-hand valance to engine loom plug and socket 9-way
- 19 Engine thermostat loom plug and socket 12-way
- 20 Coolant temperature switch

- 21 Splice C



- 22 Engine earth point
- 23 Right-hand 'A' post main to body loom plug and socket 12-way
- 24 Rear window demister relay – for details of the rear window demister and mirror heaters circuit refer to TSD 4701 Workshop Manual – Electrical, Section 16
- 25 Transmission tunnel earth point
- 26 Right-hand recirculation actuator plug and socket
- 27 Right-hand recirculation actuator
- 28 Right-hand 'A' post earth point
- 29 Mode change actuator plug and socket
- 30 Mode change actuator
- 31 Left-hand 'A' post earth point

- 32 Left-hand recirculation actuator plug and socket
- 33 Left-hand recirculation actuator
- 34 Right-hand main to cantrail loom plug and socket 6-way
- 35 Right-hand cantrail to sensor loom plug and socket 2-way
- 36 Cantrail sensor
- 37 Knee roll sensor
- 38 Air conditioning unit ambient sensor plug and socket
- 39 Ambient sensor
- 40 Top roll (solar) sensor
- 41 Lower quantity actuator plug and socket
- 42 Lower quantity actuator

— — — — — Denotes alternative cable route on Turbocharged cars

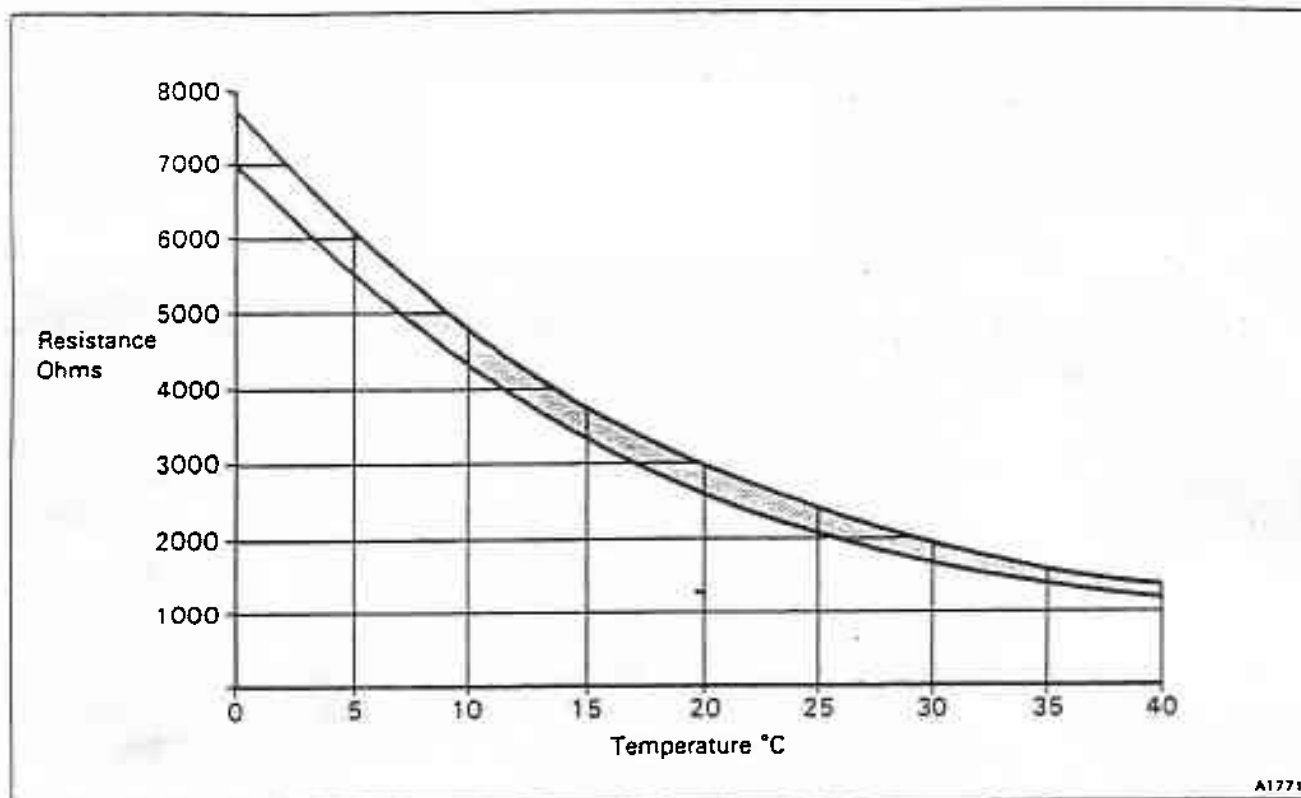


Fig. C4-3 Temperature sensor resistance graph

Lower quantity actuator – To test

Test procedure carried out at the right-hand 18-way plug.

1. Apply a known 12 volts positive supply to the green/slate cable at pin 12. The actuator should move the flap to the closed position.

Should the actuator fail to move.

- a. Ensure that there is a good earth connection to the actuator.
- b. Disconnect the 12 volts positive supply before checking the continuity of the green/slate cable to the actuator.
2. Apply a known 12 volts positive supply to the orange/slate cable at pin 13. The actuator should move the flap to the open position.

Should the actuator fail to move, disconnect the 12 volts positive supply before checking the continuity of the orange/slate cable to the actuator.

3. If no fault is found renew the actuator.

Air conditioning temperature sensors – To test

Test procedure carried out at the right-hand 18-way plug.

1. Disconnect the battery.
2. With the multi-meter set to ohms range.
 - a. Measure the resistance of each sensor between its connection at the plug (see item f) and a known earth point.
 - b. Compare the resistance measurement with the temperature/resistance graph shown in figure C4-3

- c. If the resistance falls to within $\pm 5\%$ of the graph reading, the sensor is operating correctly.

- d. If the graph reading is significantly outside the $\pm 5\%$ tolerance, renew the sensor.

- e. If a measurement cannot be obtained, check the continuity of the sensor wiring.

- f. Sensor connections.

Red/orange cable at pin 14 – Solar (top roll) sensor.

Red/yellow cable at pin 15 – Ambient sensor.

Red/green cable at pin 16 – Lower air (knee roll) sensor.

Red/blue cable at pin 17 – Upper air (roof) sensor.

3. Re-connect the battery.

Screen-facia/recirc switch – To test

Test procedure carried out at the left-hand 18-way plug.

1. Ensure the continuity of the pink/yellow cable at pin 2 to the black/pink cable at pin 14 when the SCREEN-FACIA/RECIRC switch is in the SCREEN-FACIA position.
2. Ensure the continuity of the pink/green cable at pin 3 to the black/pink cable at pin 14 when the SCREEN-FACIA/RECIRC switch is in the RECIRC position.

Temperature selector controls test procedure

Test procedure carried out at the left-hand 18-way plug.

1. Disconnect the battery.

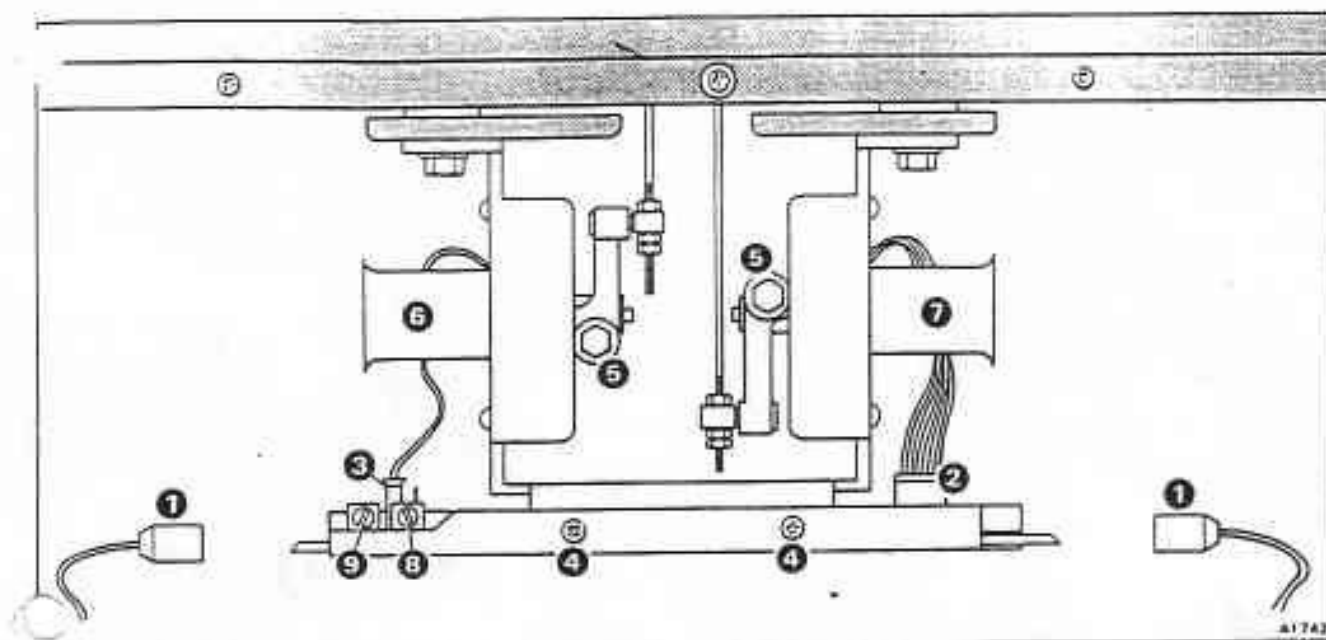


Fig. C4-4 Micro-processor and blend flap actuators assembly

2. With the multi-meter set to ohms range, measure the resistance from the pink cable at pin 13 to the black/pink cable at pin 14. The reading should be 500 Ω .

If a reading of 1000 Ω is recorded, one of the selector potentiometers is open circuit and must be replaced.

3. Rotate the lower temperature selector to the mid-position. Measure the resistance between the pink/red cable at pin 11 and the black/pink cable at pin 14. The reading should be 500 Ω .

Rotate the lower temperature selector ensuring that a lower reading is measured as the red section is exposed, and a higher resistance is measured as the blue section is exposed.

Rotate the upper temperature selector to the mid-position. Measure the resistance between the pink/brown cable at pin 11 and the black/pink cable at pin 14. The reading should be 500 Ω .

Rotate the upper temperature selector ensuring that a lower resistance is measured as the red section is exposed, and a higher resistance is measured as the blue section is exposed.

5. Re-connect the battery.

Rear window demister and mirror heaters, compressor clutch, and water tap test procedure
Test procedure carried out at the right-hand 18-way plug.

1. Remove fuse A1 at fuseboard F1.
2. Apply a known 12 volts positive supply to the yellow/black cable connection at terminal 1 of the fuseboard.
3. Apply a known earth to the following cables ensuring in each case that the appropriate relay energizes.

Orange/brown cable at pin 1 – rear window demister relay.

Blue/pink cable at pin 7 – compressor relay.

Blue/orange cable at pin 8 – water tap relay.

4. Should a relay not energize, first replace the relay and repeat the appropriate test.

If the relay still does not energize, disconnect the 12 volts positive supply before checking the continuity of the yellow/black cable from the fuse to the relay. If necessary, check the continuity of the appropriate cable to the other side of the relay coil (from the 18-way plug).

5. If all relays energize in procedure 3, and a fault is still suspected, refer to the appropriate wiring diagram for further details.

Note The wiring diagram for the compressor clutch and the water tap are contained within this section. However, the wiring diagram for the Rear window demister and mirror heaters circuit is contained in TSD 4701 Workshop Manual – Electrical, Section 16.

Air conditioning coolant temperature switch – To test
This test must be carried out with a cold engine [i.e. engine coolant temperature below 44°C (111°F)].

1. Check the continuity of the red/slate cable at pin 1 of the left-hand 18-way plug to a known earth point.
2. Disconnect the air conditioning coolant temperature switch and ensure that the red/slate cable now reads open circuit. Re-connect the switch.

Test procedures conclusion

1. Having verified the car wiring.
 - a. Ensure that all connections are remade.
 - b. If a fault has been found, retest the air conditioning system.

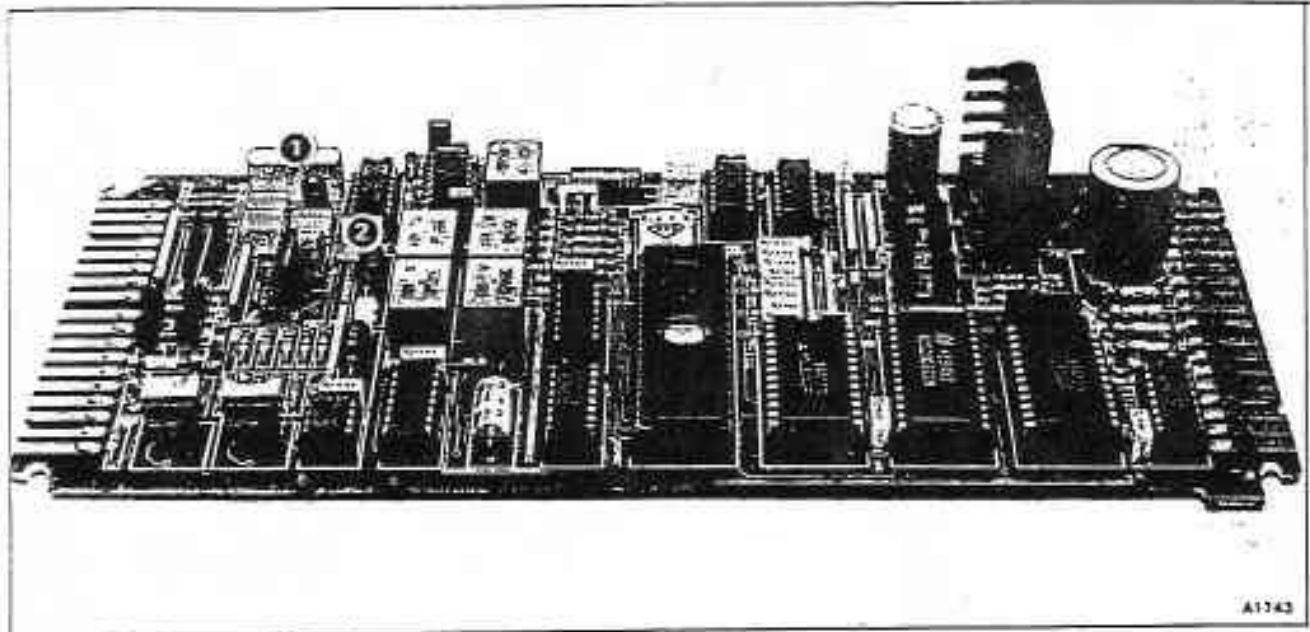


Fig. C4-5 Air conditioning micro-processor board

2. If no fault has been found and the air conditioning system circuitry is still faulty, replace the micro-processor board.

Air conditioning micro-processor board Handling precautions

The micro-processor board and connectors are durable if handled correctly. However, they are vulnerable to stray voltages, wrong polarity and especially static electricity. Therefore anti-static precautions, in particular the wearing of an anti-static wristband connected to a good earth, must be observed at all times.

The board is particularly vulnerable before the edge connectors are fitted (i.e. before it is earthed). Handling should therefore be kept to a minimum.

Boards must be stored in anti-static containers and kept dry and free from grease.

Micro-processor board – To remove (see fig. C4-4)

1. Remove fuse A1 at fuseboard F1.
2. To avoid damage when disconnecting or re-connecting a micro-processor board 18-way plug, it will be necessary to hold the opposite end of the board.

Disconnect both the left-hand and right-hand 18-way plugs from the micro-processor board (see item 1).

3. Disconnect the upper and lower blend flap actuator plugs from the micro-processor board (see items 2 and 3).
4. Remove the two setscrews securing the micro-processor board front retaining channel (see item 4). Remove the channel.
5. Lower the front edge of the micro-processor board and carefully withdraw.

Micro-processor board – To fit

Reverse Operations 2 to 5 inclusive of Micro-processor board – To remove. Then, carry out the Micro-processor initializing procedure.

Micro-processor initializing procedure (refer to figs. C4-4 and C4-5).

To carry out this procedure it may be necessary on some cars to remove the centre console. Refer to Chapter S of this manual for details.

1. Ensure that fuse A1 at fuseboard F1 is removed.
2. Ensure that the SCREEN-FACIA/RECIRC switch is set to the mid position.
3. Fit the micro-processor board test pins link RH 9884 DET 2 or bridge the test pins (see fig. C4-5 item 2).
4. Slacken the actuator arm securing bolts at the upper and lower blend flap actuators (see fig. C4-4 item 5).
5. Apply a known, fused, 12 volts positive supply to the yellow/black cable connection at the fuseboard.
If using test box RH 9884 with the purple cable connected to a 12 volts positive supply, the red cable from the test box can be connected to the yellow/black cable at the fuseboard. It should be noted that the large cables marked LEFT and RIGHT from the test box are not connected during this procedure.
6. Select OFF position at the air conditioning function switch on the facia. The lower blend flap actuator (see fig. C4-4 item 6) will operate and continue to operate during procedure 7.
7. Rotate the lower blend flap potentiometer (see fig. C4-4 item 8) throughout the full range of its travel, noting the portion of travel for which the LED (light emitting diode) on the micro-processor board (see fig. C4-5 item 1) illuminates.



Adjust the potentiometer to the centre of the illuminated portion of travel.

8. Select the ☐ (defrost) position at the air conditioning switch on the fascia. The upper blend flap actuator will operate and continue to operate during procedure 9.

9. Rotate the upper blend flap potentiometer (see fig. C4-4 item 9) throughout the full range of its travel, noting the portion of travel for which the LED on the micro-processor board illuminates.

Adjust the potentiometer to the centre of the illuminated portion of travel.

10. Remove the test pins link RH 9884 DET 2 or remove the bridge from the test pins.

11. Tighten the actuator arm securing bolts at the upper and lower blend flap actuators (see fig. C4-4 item 5).

12. Disconnect the 12 volts positive supply from fuse A1 yellow/black cable connection.


13. Replace fuse A1 at fuseboard F1.

14. Test the air conditioning system.

SZ Climate Control

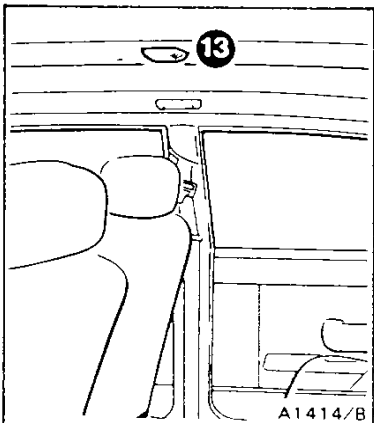
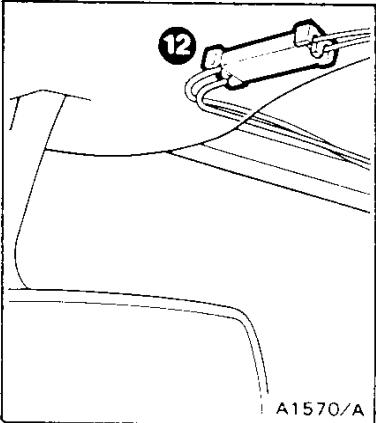
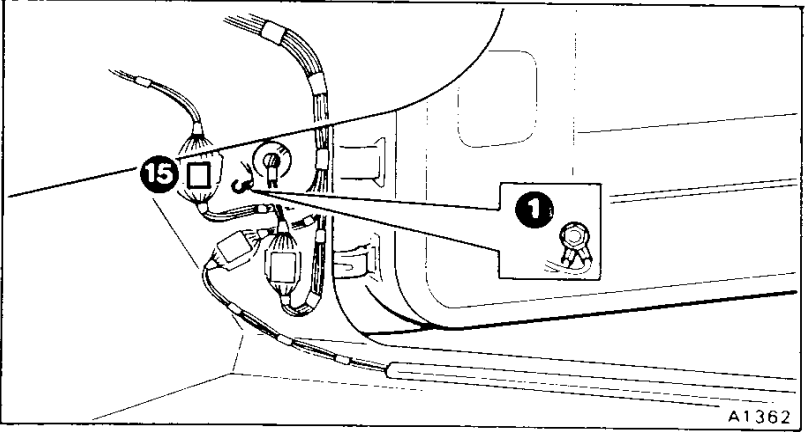
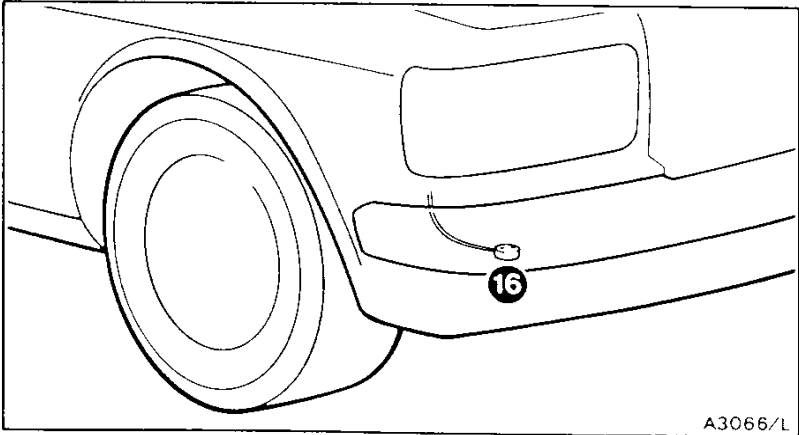
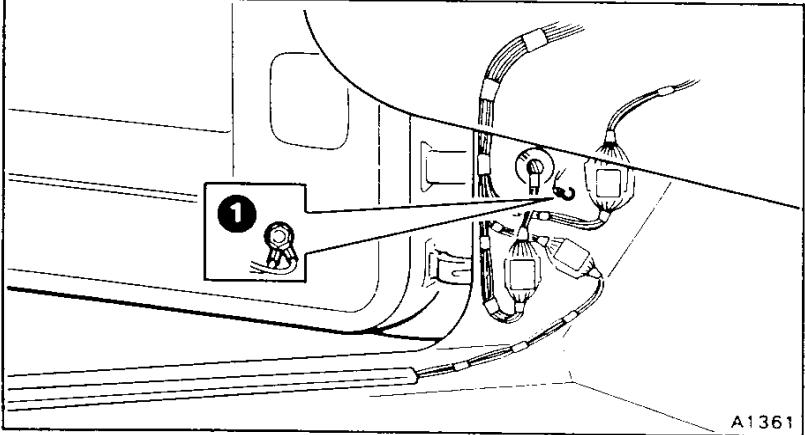
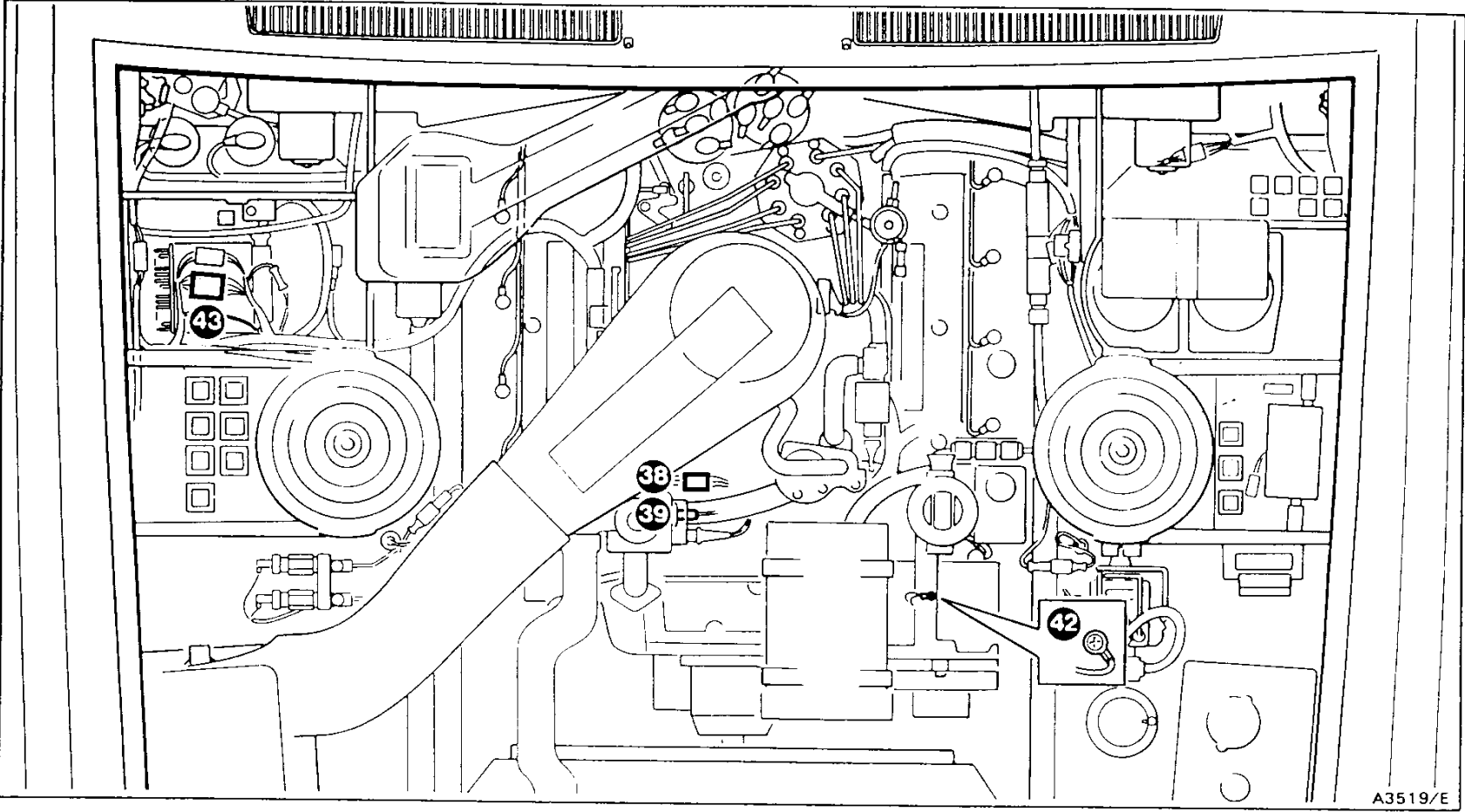
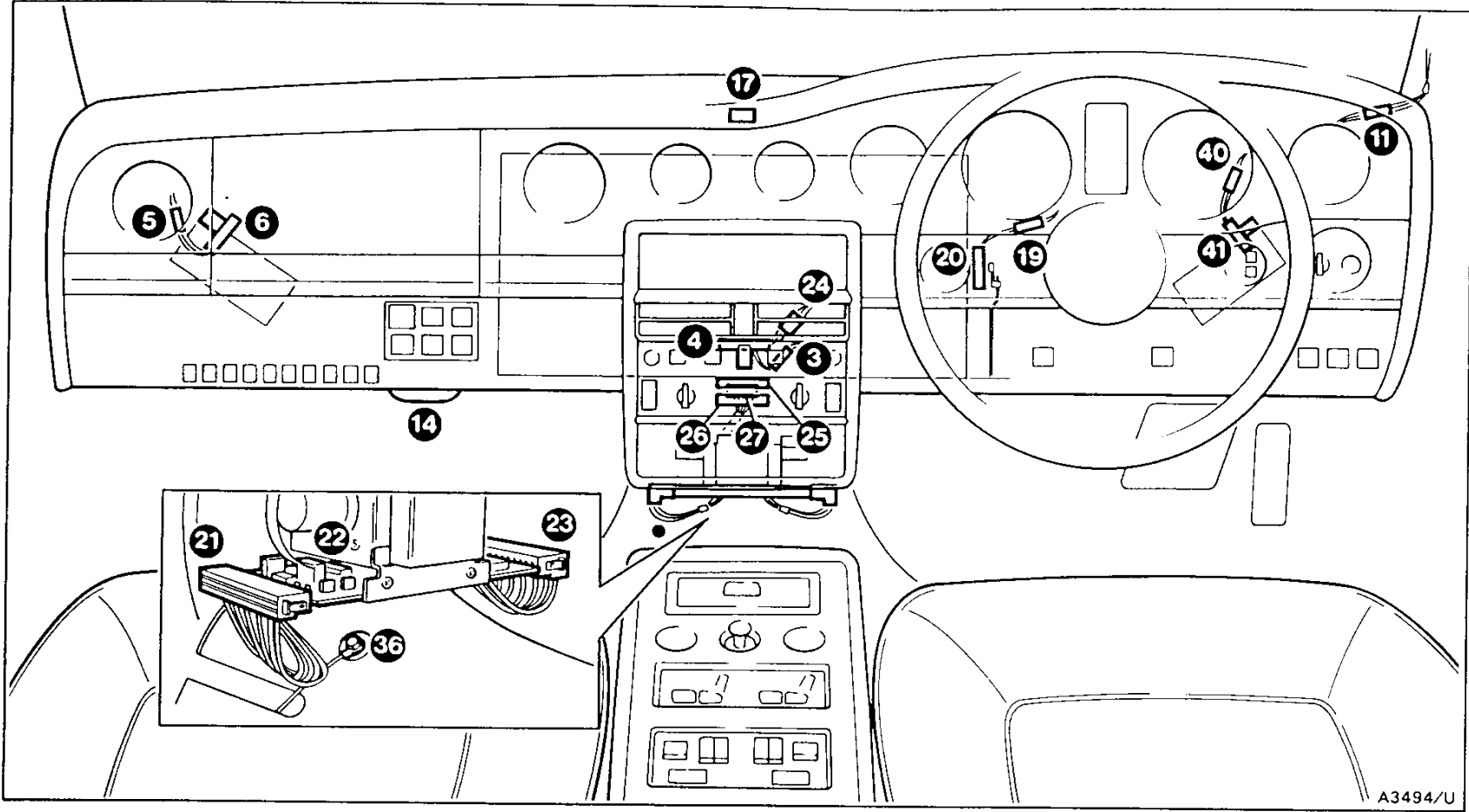
Cars 20,000-series and Prior to 50,000-Series Temperature and Fan Control Systems

Temperature Control - Key to Component Locations and Wiring Diagramme

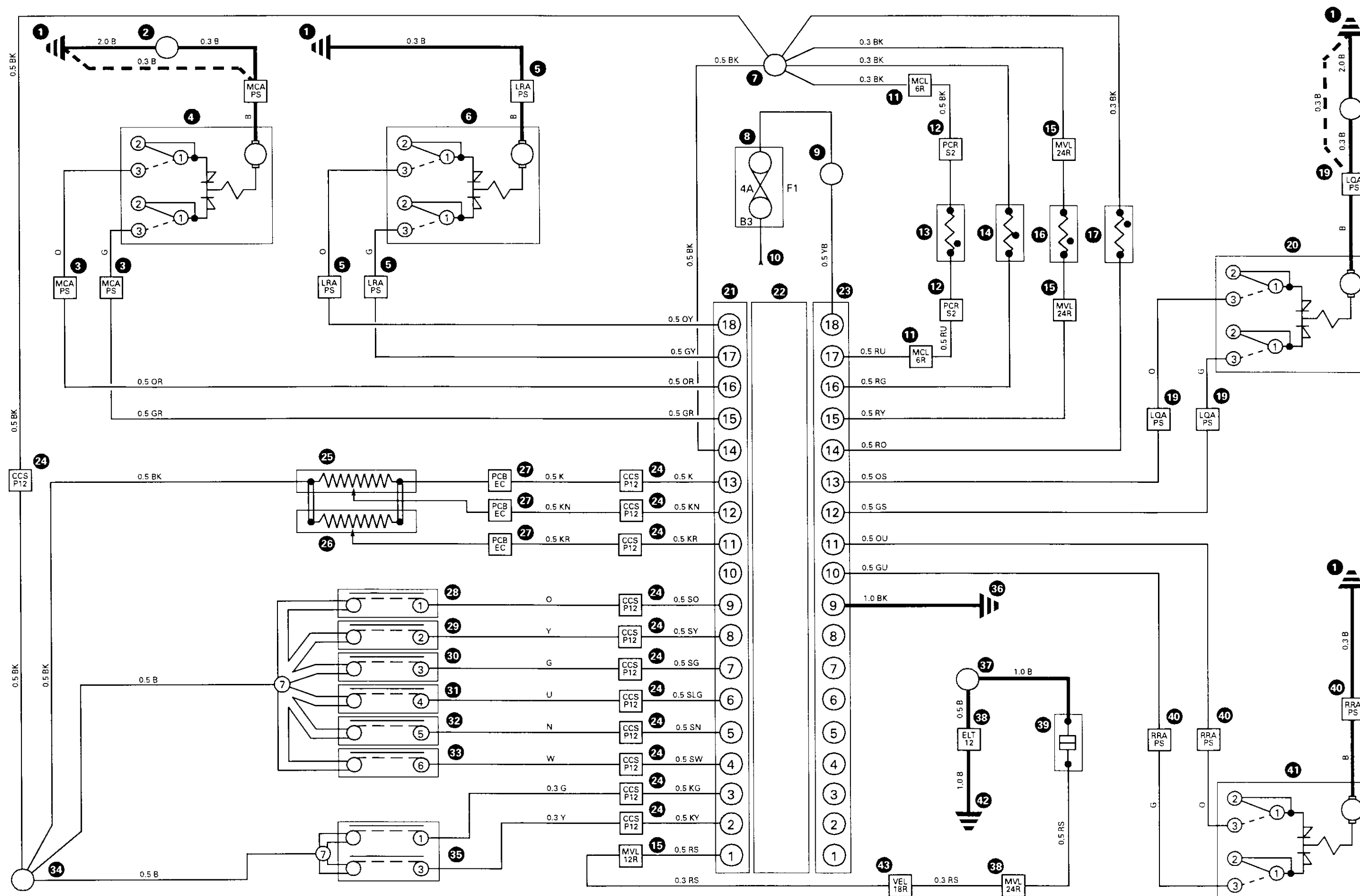
- 1) A' post earth points
 - 2) Splice 31
 - 3) Mode change actuator plug and socket
 - 4) Mode change actuator
 - 5) Left-hand recirculation actuator plug and socket
 - 6) Left-hand recirculation actuator
 - 7) Splice 42. Right-hand drive cars Splice 69. Left-hand drive cars
 - 8) Fuseboard F1, fuse A1, 4amp
 - 9) Splice 8. Right-hand drive cars Splice 70. Left-hand drive cars
 - 10) 12 volts positive supply when engine is running
 - 11) Main loom to cantrail loom plug and socket 6-way - right-hand side
 - 12) Cantrail loom to roof sensor loom plug and socket 2-way - right-hand side
 - 13) Roof sensor
 - 14) Knee roll sensor
 - 15) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
 - 16) Ambient air sensor
 - 17) Top roll (solar) sensor
 - 18) Splice 31
 - 19) Lower quantity actuator plug and socket
 - 20) Lower quantity actuator
 - 21) Air conditioning unit micro-processor plug 18-way - left-hand
 - 22) Air conditioning unit micro-processor
 - 23) Air conditioning unit micro-processor plug 18-way - right-hand
 - 24) Centre console switch panel plug and socket 12-way
 - 25) Upper temperature selector
 - 26) Lower temperature selector
 - 27) Printed circuit board edge connector 10-way
 - 28) Air conditioning system function switch - OFF position
 - 29) Air conditioning system function switch - ECON (economy) position
 - 30) Air conditioning system function switch - LOW position
 - 31) Air conditioning system function switch - AUTO (automatic) position
 - 32) Air conditioning system function switch - HIGH position
 - 33) Air conditioning system function switch - defrost position
- 
- 34) Splice 248
 - 35) Upper system override/recirculation (SCREEN- FACIA/RECIRC) switch
 - 36) Transmission tunnel earth point
 - 37) Splice 249
 - 38) Engine loom to thermostat loom plug and socket 12-way
 - 39) Air conditioning system coolant temperature switch
 - 40) Right-hand recirculation actuator plug and socket
 - 41) Right-hand recirculation actuator
 - 42) Engine earth point
 - 43) Valance loom to engine loom plug and socket 18-way - right-hand side

Cars 20,000-series and Prior to 50,000-Series

Temperature Control - Component Locations



Temperature Control - Wiring Diagramme



SZ Climate Control

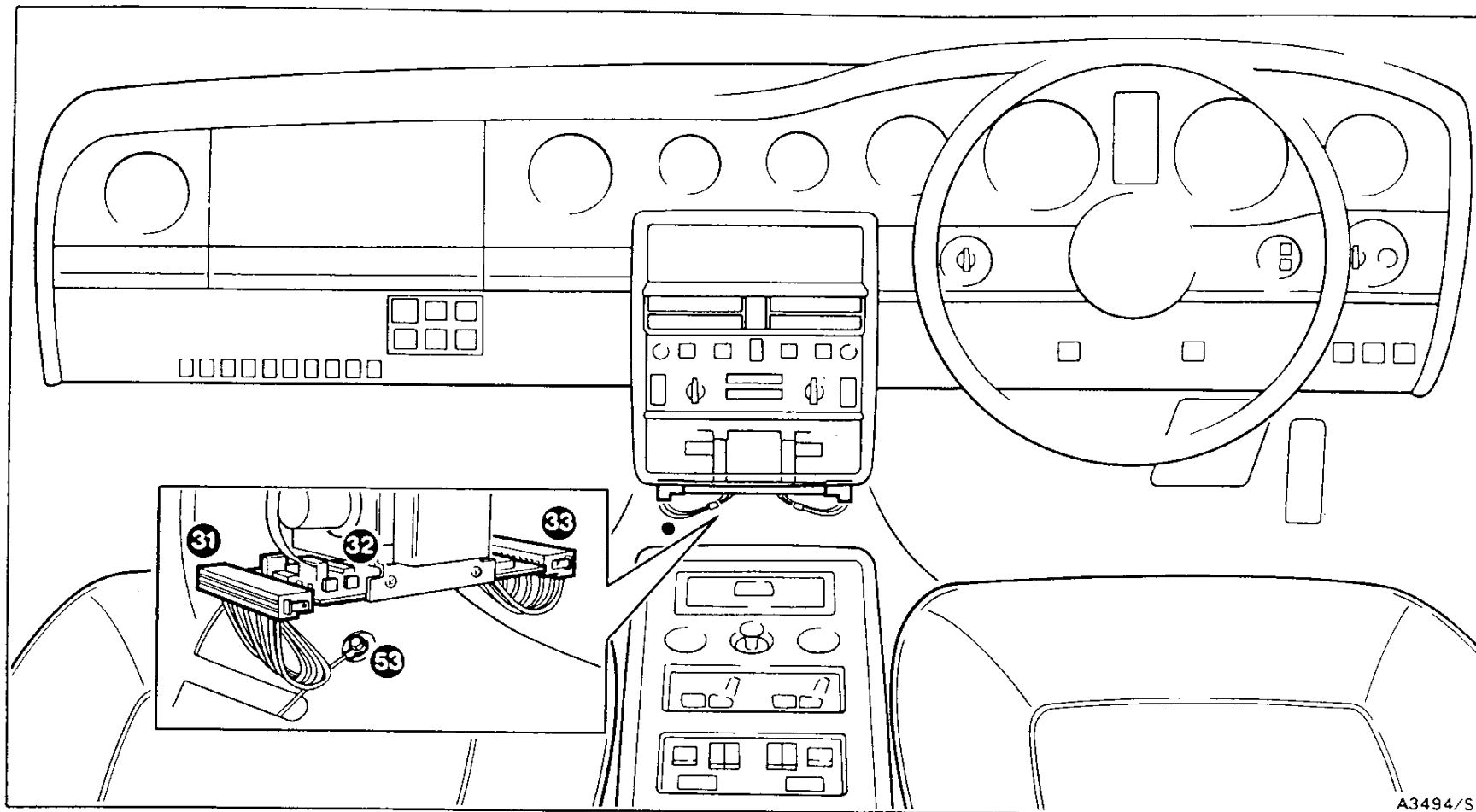
Cars 20,000-series and Prior to 50,000-Series Temperature and Fan Control Systems

Fan Control - Key to Component Locations and Wiring Diagramme

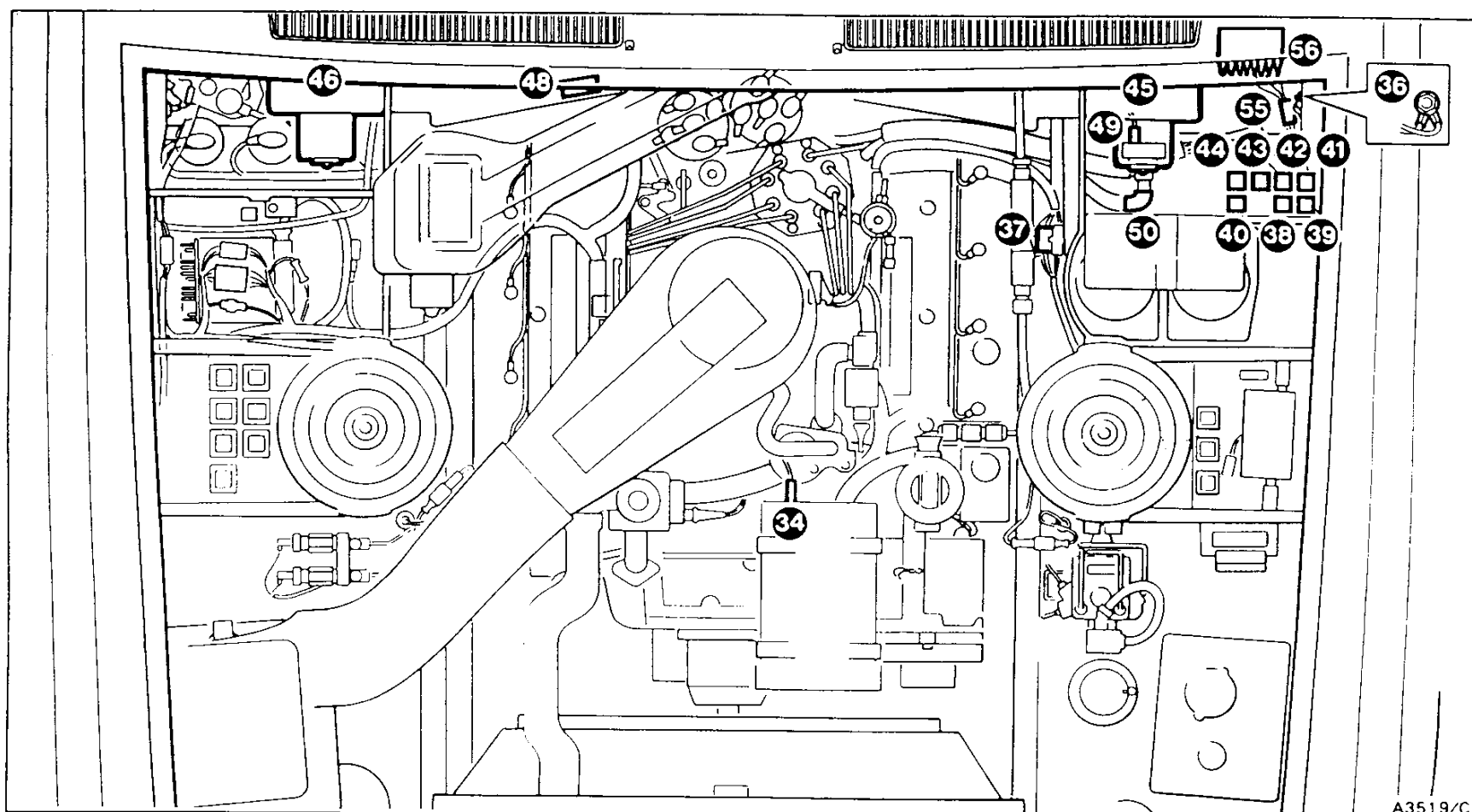
- 1) Monitor supply from alternator (14 volts positive with engine running) to allow rear window and door mirror demisting
- 2) 12 volts positive supply when engine is running
- 3) Fuseboard F1, fuse A1, 4 amp
- 4) Fuseboard F1, fuse C1, 30 amp
- 5) Main loom to body loom plug and socket 24-way - right-hand 'A' post
- 6) Rear window demister and mirror heaters relay
- 7) Rear window demister and mirror heaters fuse, 20 amp - located in the luggage compartment
- 8) Splice 35. Right-hand drive cars Splice 87. Left-hand drive cars
- 9) Right-hand body loom to cantrail loom plug and socket 3-way
- 10) Left-hand front door plug and socket 24-way
- 11) Left-hand front door plug and socket 12-way
- 12) Right-hand front door plug and socket 12-way
- 13) Right-hand front door plug and socket 24-way
- 14) Cantrail loom to header panel loom plug and socket 3-way - right-hand side
- 15) Mirror heater plug and socket 2-way
- 16) Mirror heater
- 17) Barrel connector
- 18) Rear window demister
- 19) Splice 129. Right-hand drive cars Splice 110. Left-hand drive cars
- 20) Splice 106. Right-hand drive cars Splice 132. Left-hand drive cars
- 21) Left-hand front door plug and socket 7-way
- 22) Left-hand front door plug and socket 5-way
- 23) Earth point - left-hand 'A' post
- 24) Right-hand front door plug and socket 5-way
- 25) Right-hand front door plug and socket 7-way
- 26) Earth point - right-hand 'A' post
- 27) Rear window demister earth point
- 28) Main loom to valance loom connector - left-hand 'A' post
- 29) Splice 8. Right-hand drive cars Splice 70. Left-hand drive cars
- 30) Main loom to valance loom plug and socket 12-way - left-hand 'A' post
- 31) Air conditioning unit micro-processor plug 18-way - left-hand
- 32) Air conditioning unit micro-processor
- 33) Air conditioning unit micro-processor plug 18-way - right-hand
- 34) Compressor clutch solenoid
- 35) Splice 169
- 36) Engine compartment earth point - left-hand valance
- 37) Valance loom to engine loom plug and socket 12-way - left-hand side
- 38) Compressor clutch relay
- 39) Water tap relay
- 40) Air conditioning fans control relay
- 41) Fans speed relay 4
- 42) Fans speed relay 3
- 43) Fans speed relay 2
- 44) Fans speed relay 1
- 45) Air conditioning fan - left-hand
- 46) Air conditioning fan - right-hand
- 47) Main loom to valance loom plug and socket 18-way - left-hand 'A' post
- 48) Compressor ambient thermostat
- 49) Water tap connection
- 50) Water tap solenoid
- 51) Splice 168
- 52) Splice 7. Right-hand drive cars Splice 44. Left-hand drive cars
- 53) Transmission tunnel earth point
- 54) Splice 170
- 55) Air conditioning unit resistor block plug and socket 5-way
- 56) Air conditioning unit resistor block

Cars 20,000-series and Prior to 50,000-Series

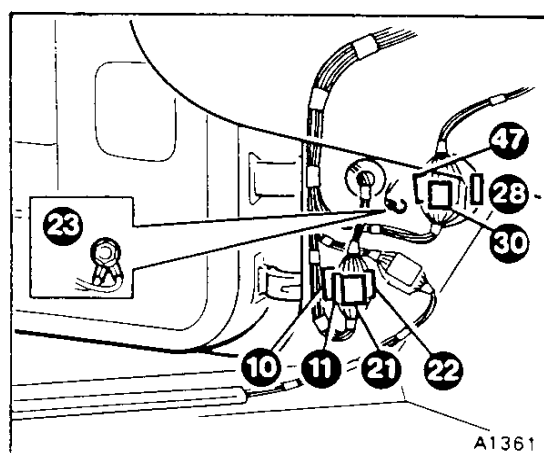
Fan Control - Component Locations



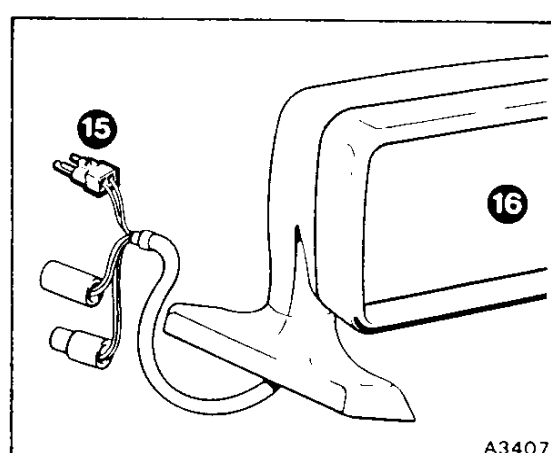
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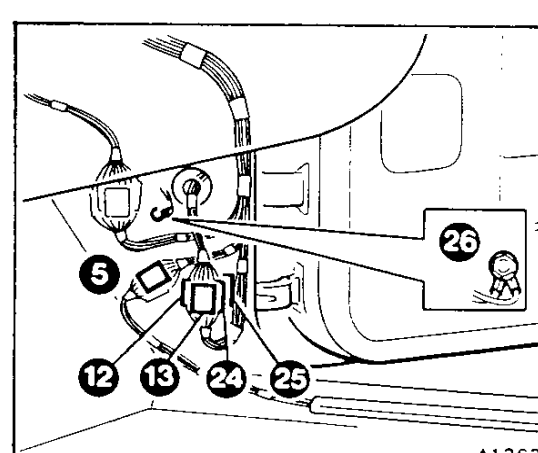
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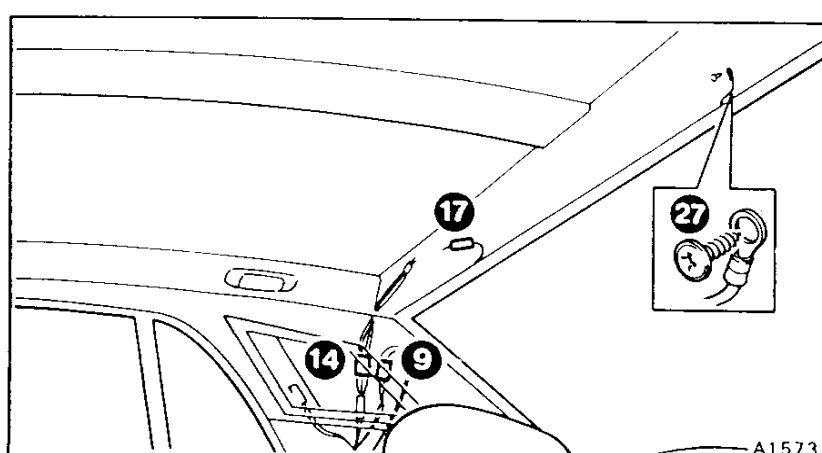
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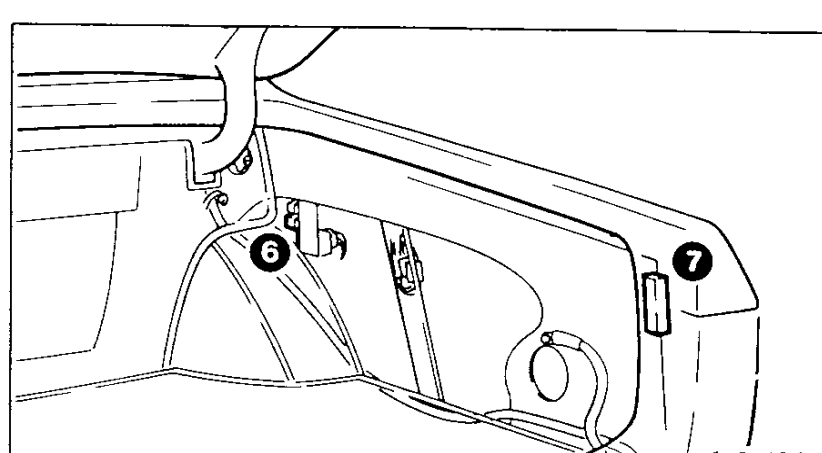
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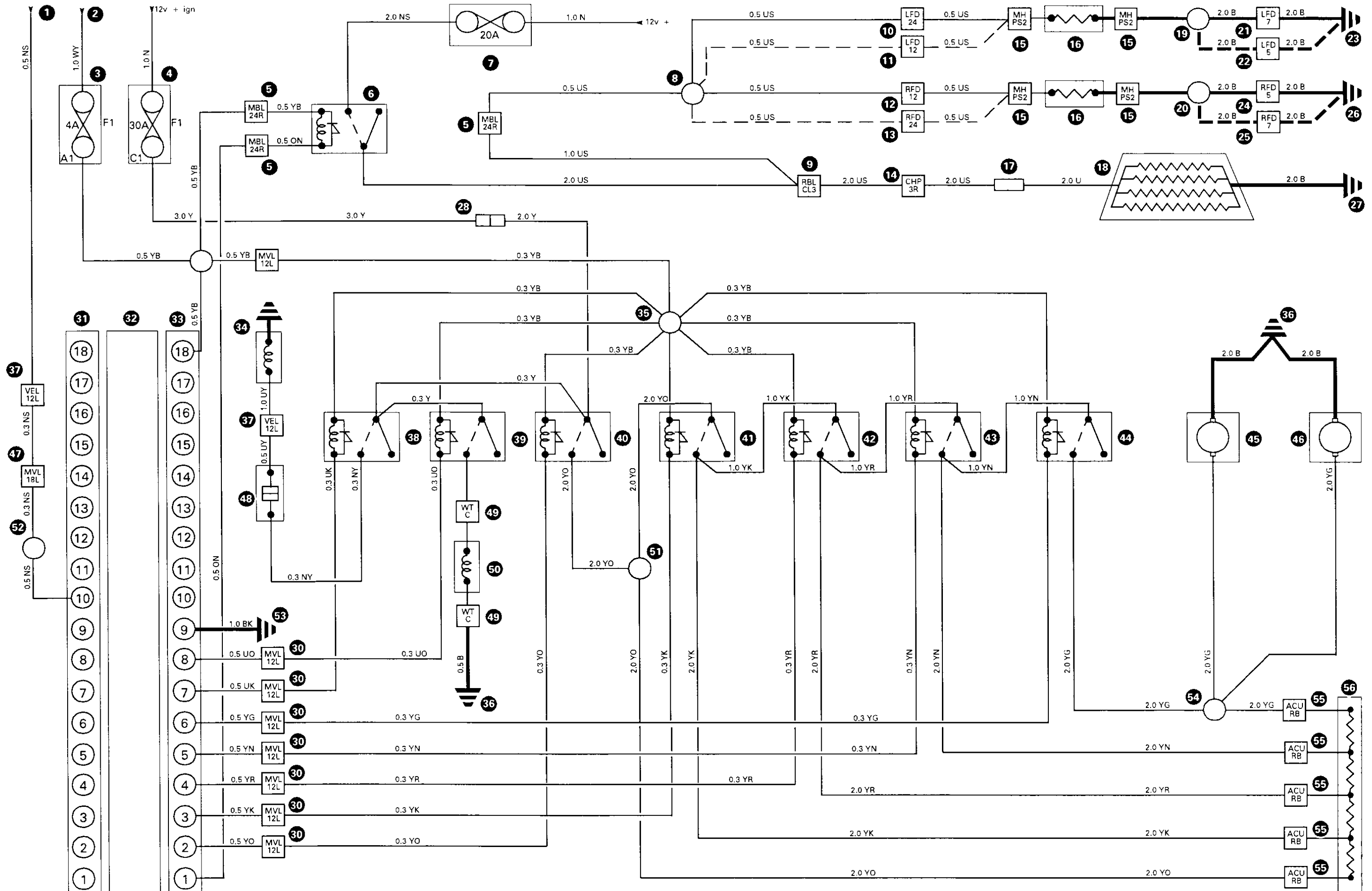


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A3140/W

Fan Control - Wiring Diagramme



Air conditioning

Applicable to

All Rolls-Royce and Bentley motor cars from vehicle identification number (VIN) *SCBZS0T03HCX20001*

Introduction

The purpose of this Product Support Information Sheet is to advise Service Personnel of a change of model of the air conditioning refrigeration compressor. The new compressor has been introduced from VIN *SCBZP03A6MCX35435*

Description

The new refrigeration compressor is a Sanden 709 model compressor and is almost identical in appearance to the Sanden 510 originally fitted. When the new compressor is mounted on the engine, the oil filler plug is now situated on the left-hand side of the unit (Sanden 510 oil filler plug was mounted on the top of the unit).

It will now be necessary to remove the compressor from the motor car to ascertain the correct oil content of 45cc. Place the compressor on a flat surface and the oil filler plug uppermost. The new compressor is a seven cylinder unit, but has an almost identical cubic capacity and as such it can be fitted to motor cars identified under the heading 'Applicable to' above.

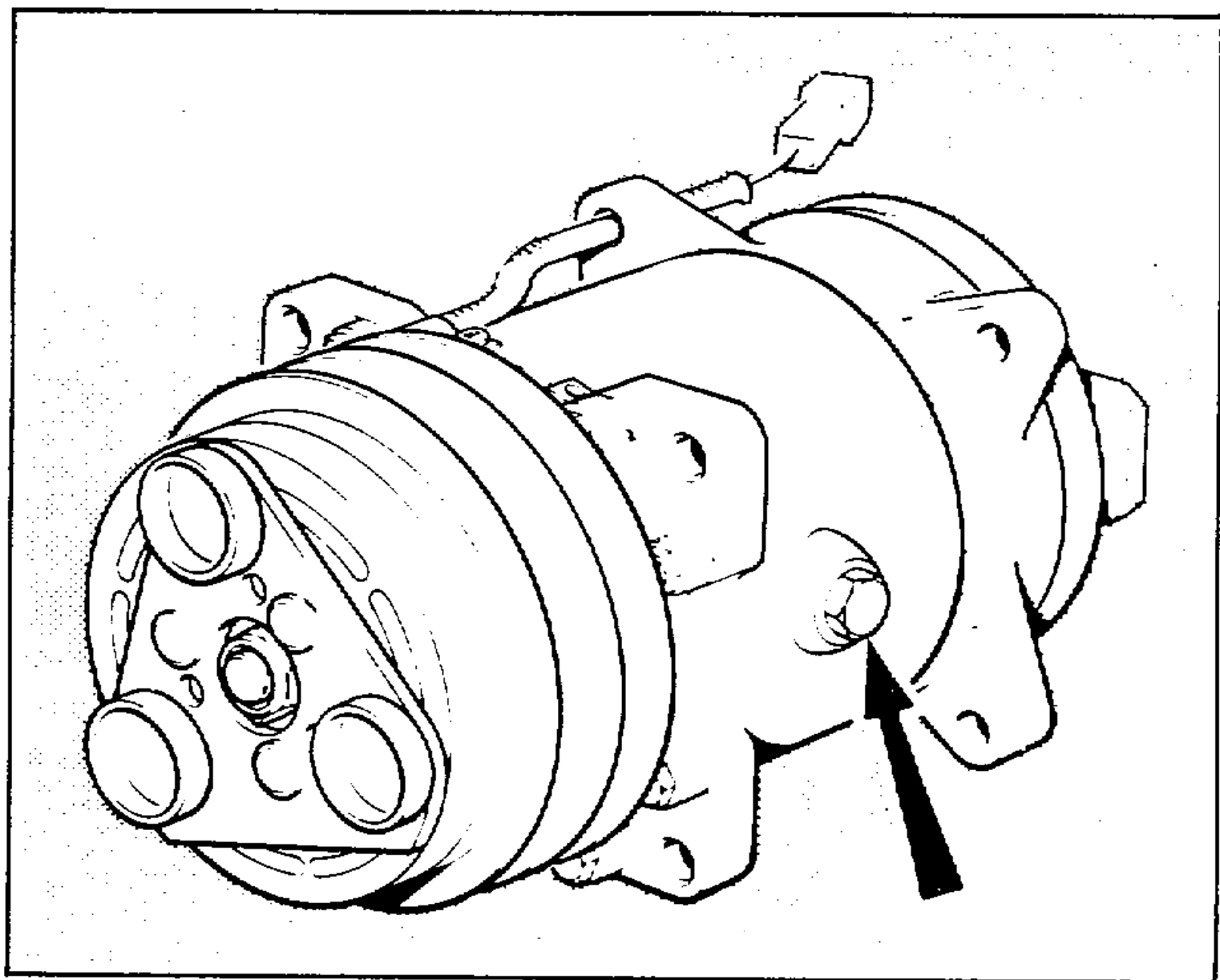
Defect and Repair code manual

Defect code	
04010100	
Repair Code	Time
04010100R	2.3 hours

Parts affected

Displaced part number	Description	New part number
UE 46000	Compressor	UD 73526
	Link Loom	UD 73924W

C11-1 Sanden 709 compressor



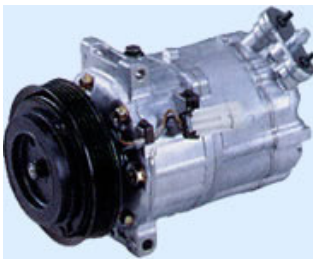


Automotive Systems

Compressor:

Swash Plate type/PX Series

Newly developed swash plate piston type PX series. It pursues high-speed durability and low NVH, thereby contributing to energy-conservation.



PXV Series

Internal control variable displacement
Next generation variable capacity
compressor equipped with state-of-the-art
technology.



PXE Series

External control variable displacement
This will contribute to power-conservation
(energy-efficiency) by enabling external
control without clutches.

Wobble plate type/SD series

It is highly valued by customers as a mainstay compressor with much improvement having been added in the twenty years since its initial development, as well as through the introduction of variable displacement type compressor.



SD5 Series

Fixed displacement
This is a basic model of Sanden
compressor and is well used continuously.



SD7 Series

Fixed displacement
Best-selling model being produced in
plants in Japan, South-East Asia, and the
Americas.



SDV Series

Internal control variable displacement
It provides comfortable space in the car
by constantly achieving stable power.



SDC Series

External control variable displacement
It provides comfortable space in the car
by constantly achieving stable power.

Scroll type/TR Series

Sanden started manufacturing of scroll compressor ahead of other makers in the world in 1981, and overseas auto manufacturers adopted it, thanks to its high efficiency, quietness, and super-high-speed durability.



TRSA Series

Fixed displacement
Next generation scroll compressor
pursuing reliability.



SHS

Electric driven type
Sanden electric driven compressor
eliminates gas leakage by offering the
possibility of seal-up; it has been made
smaller and lighter, thereby contributing to
environment conservation.

Heat Exchangers:

Evaporator

A plate and fin evaporator manufactured using state-of-the-art technologies with the thinnest core.



PAF38

- Its super-light weight has been achieved by creating as much space as possible with its core depth of 38mm
- High efficacy has been achieved thanks to uniform temperature distribution

Condenser

Sanden succeeded in uniform diversion of refrigerants by one caliper for the first time in the

Introduction

In addition to the main fuseboard, a number of smaller fuseblocks are located in the engine and luggage compartments of the car. The car's electrical system utilizes auto type fuses, each fuse being marked individually with its ampere rating.

For details of the precise location of all fuses and the electrical circuits they protect refer to the following information.

Main fuseboard

The main fuseboard, consisting of two fuse panels (F1 and F2), is concealed behind a hinged trim panel located directly below the facia stowage compartment. To gain access to the fuseboard, lower the trim panel by depressing the release button situated on the top roll side panel.

The circuits protected by each fuse can be identified by reference to the fuseboard identification label (see fig.

4-1

4-1 Fuseboard identification label 4-1). Spare fuses are provided; mounted horizontally above and below each panel of the fuseboard.

Circuit breaker

A circuit breaker containing a thermal cut-out switch and reset button is situated adjacent to the parking brake manual release lever. The circuit breaker protects the centralized door locking system. If the centralized door locking system fails to operate, allow approximately 20 seconds for the cut-out to cool then depress the reset button.

Engine compartment fuses

A fuseblock containing six 20 ampere fuses is located on the left-hand valance adjacent to the coolant expansion bottle (see fig.

4-2

4-2 Engine compartment fuses 4-2).

The circuits protected by these fuses are as follows.

Fuse No.	Fuse rating	Circuits protected
1	20 amp	Main beam headlamp - right-hand
2	20 amp	Main beam headlamp - left-hand
3	20 amp	Dipped beam headlamp - right-hand
4	20 amp	Dipped beam headlamp - left-hand
5	20 amp	Headlamps dim/dip facility or daytime running lamps
6	20 amp	Headlamps power wash (four door cars)

Luggage compartment fuses

Four door cars

A fuseblock containing one 10 ampere and five 20 ampere fuses is concealed behind the right-hand side trim panel. To gain access to the fuseblock, release the trim fastener adjacent to the rear lamp cluster and ease the panel away from the body (see fig.

4-3

4-3 Luggage compartment fuses 4-3).

The circuits protected by these fuses are as follows.

Fuse No.	Fuse rating	Circuits protected
1	20 amp	In-car entertainment and fuel filler door. Cellular telephone when fitted and anti- theft alarm system when fitted
2	20 amp	Anti-lock braking system
3	20 amp	Rear window demister and door mirror heaters.
		Cars conforming to an Australian, Canadian, New Zealand, or USA specification.
		On cars built prior to vehicle identification number (VIN) *SCAZN0 2D9LCX32565* this fuse also protects the stop lamps circuit. On cars built from this VIN the fuse (10 ampere) protecting the stop lamps circuit is located in a fuseholder situated directly below this 6-way fuseblock (see fig. 4-3, inset A)
4	20 amp	Adjustable rear seats when fitted
5	20 amp	In-car entertainment amplifier(s) when fitted
6	10 amp	Anti-lock braking system

On cars fitted with a Pioneer radio/cassette unit a fuseblock is mounted to the rear of the hinged luggage compartment front trim panel. The fuse(s) protects the radio/cassette unit amplifier(s) and associated components. To gain access to the fuseblock, release the two panel fasteners and lower the hinged panel (see fig.

4-4

4-4 Luggage compartment fuses 4-4).

One 4 ampere fuse protects systems fitted with the Pioneer KEH 8050 unit.

Two 4 ampere fuses protect systems fitted with the Pioneer KEX M700 (twin amplifier) unit.

Two door cars

A fuseblock containing two 10 ampere and three 20 ampere fuses is concealed behind the hinged section of the right-hand side trim panel. To gain access to the fuseblock, release the two panel fasteners and lower the panel (see fig.

4-5

4-5 Luggage compartment fuses 4-5, item 1).

The circuits protected by these fuses are as follows.

Fuse No.	Fuse rating	Circuits protected
1	10 amp	Stop lamps
2	20 amp	In-car entertainment amplifier(s) when fitted
3	-	Not used
4	10 amp	Anti-lock braking system
5	20 amp	Anti-lock braking system
6	20 amp	In-car entertainment and fuel filler door. Cellular telephone when fitted and anti- theft alarm system when fitted

On cars fitted with a Pioneer KEX M700 (twin amplifier) radio/cassette unit a fuseblock is mounted to the rear of the hinged side trim panel (see fig.

4-5

4-5 Luggage compartment fuses 4-5, item 2).

Two 4 ampere fuses protect the radio/cassette unit amplifiers and associated components.

Fault diagnosis

When diagnosing a fault, reference must be made to the appropriate wiring diagram. This will determine the number of fuses relating to a particular circuit.

	1	2	3	4	5	6	7	8	9
A	4	4	4	4	4	4	4	4	4
B	20		20	20	20		20		25
C	30		30		30		30		30

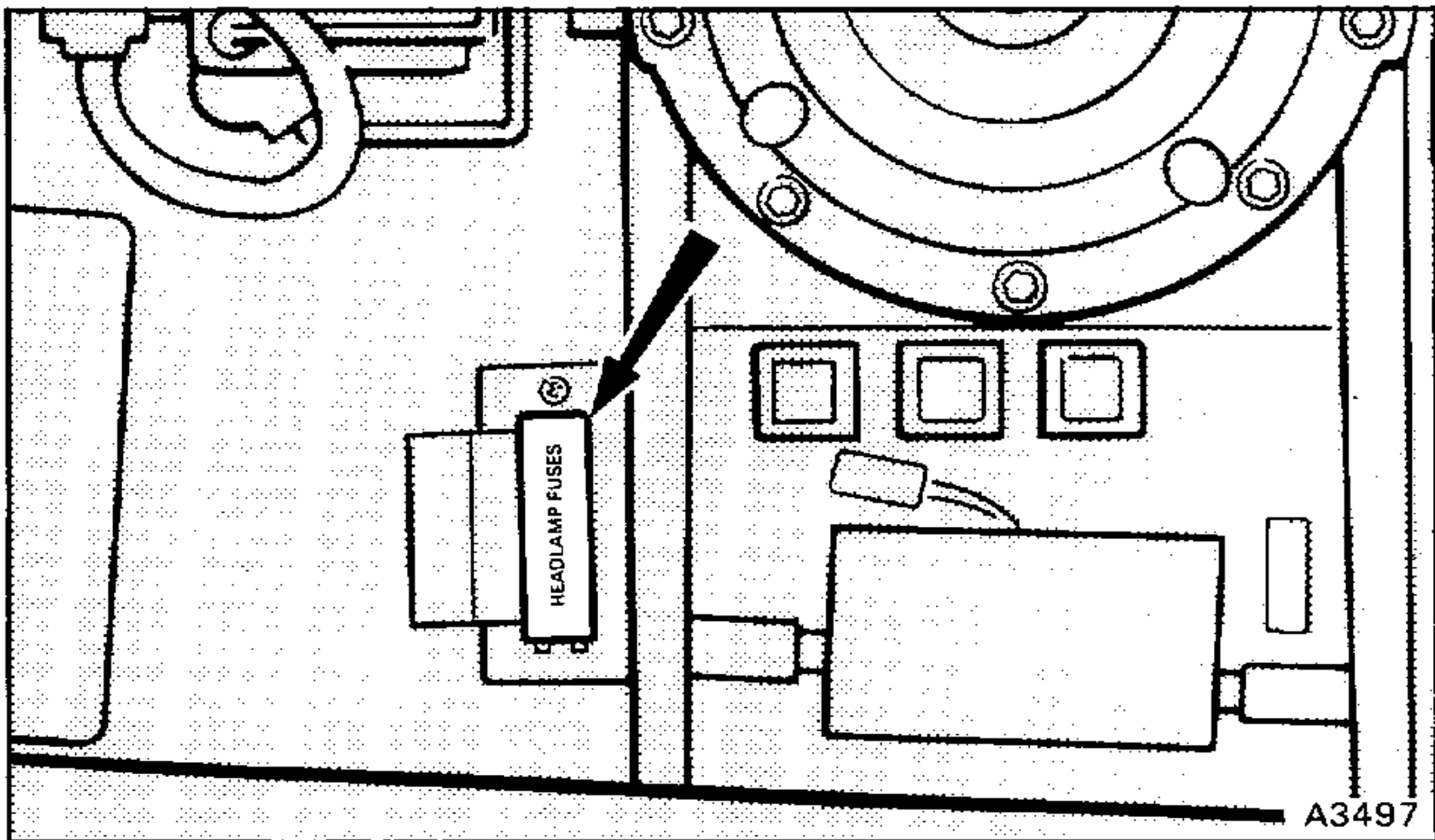
- A1 ACU CONTROL
- A2 CDL CONTROL
- A3 ICE
- A4 CELLULAR TELEPHONE WHEN FITTED
- A5 PANEL LAMPS
- A6 REAR FOG LAMPS WHEN FITTED
- A7 LH TAIL LAMPS
- A8 RH TAIL LAMPS
- A9 PARKING LAMPS
- B1 GEAR SELECTOR
- B2

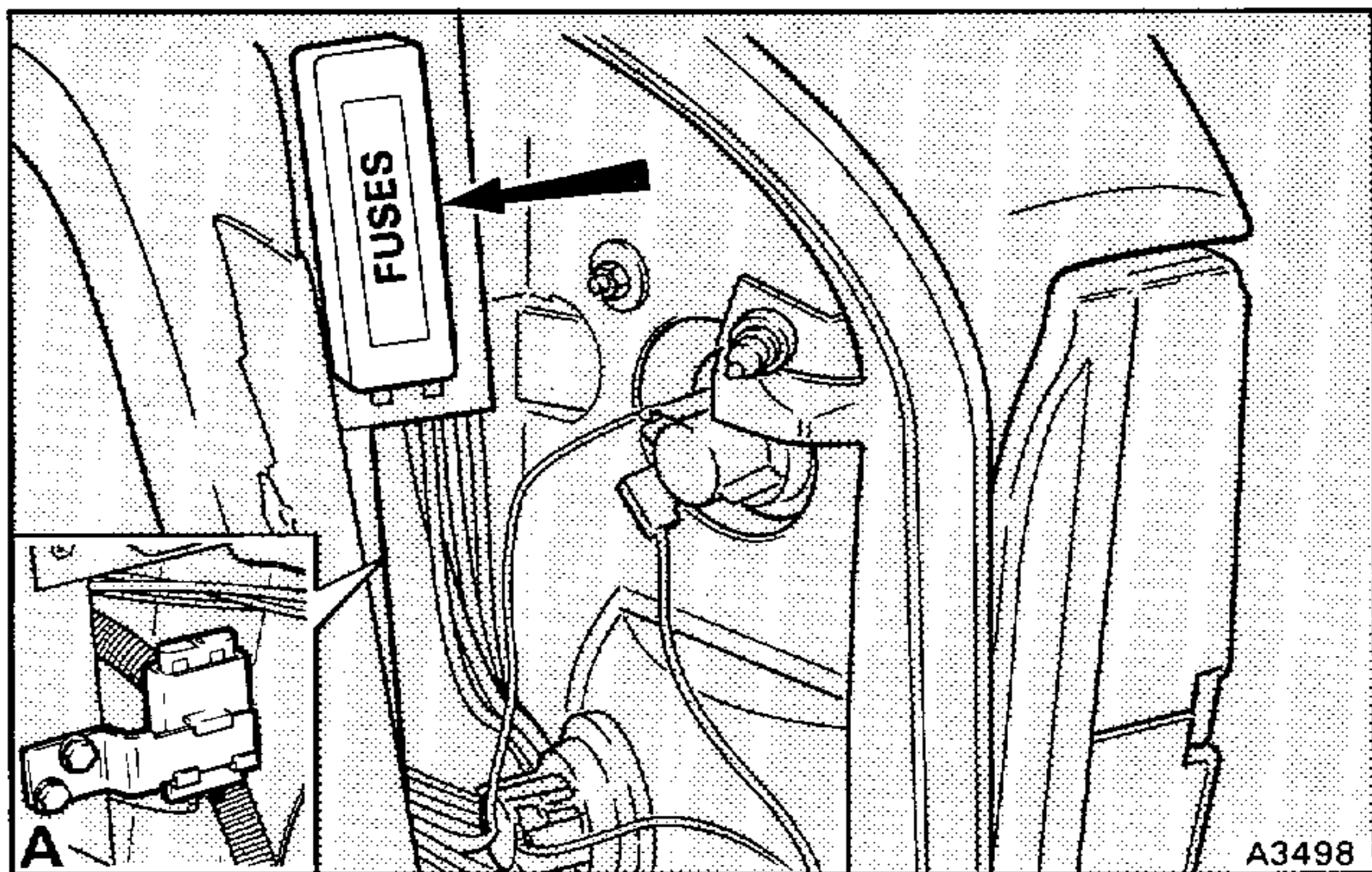
- B3 CIGAR LIGHTER
- B4 IGNITION
- B5 HAZARD WARNING
- B6
- B7 ENGINE COOLING FANS
- B8
- B9 ENGINE MANAGEMENT
- C1 ACU FANS
- C2
- C3 LH FRONT WINDOW
- C4
- C5 LH REAR WINDOW
- C6
- C7 RH FRONT WINDOW
- C8
- C9 RH REAR WINDOW

	1	2	3	4	5	6	7	8	9
A	10		10	10	10		10		10
B	20		20		20		20		20
C		30	30	30		30	30	30	

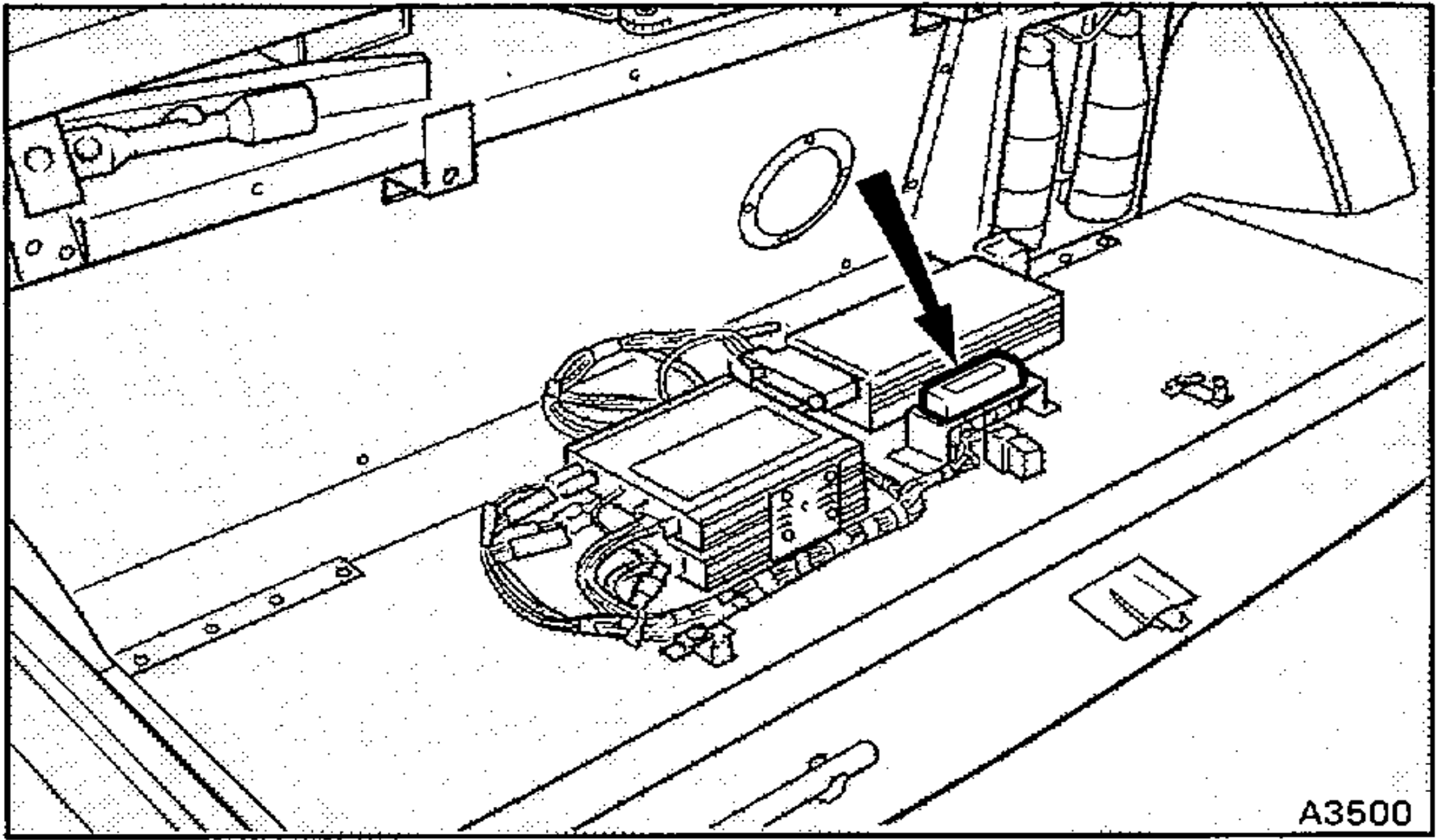
- A1 INTERIOR LAMPS
- A2
- A3 ICE
- A4 KICKDOWN
- A5 CELLULAR TELEPHONE WHEN FITTED
- A6
- A7 INSTRUMENTS
- A8
- A9 DIRECTION INDICATORS
- B1 STOP LAMPS & CRUISE
- B2
- B3 HORNS

- B4
- B5 VARIABLE DAMPING WHEN FITTED
- B6
- B7 WIPERS
- B8
- B9 FRONT FOG LAMPS WHEN FITTED
- C1
- C2 DRIVERS SEAT
- C3 DRIVERS SEAT
- C4 DRIVERS SEAT HEATER LUMBAR WHEN FITTED
- C5
- C6 PASSENGER SEAT
- C7 PASSENGER SEAT
- C8 PASSENGER SEAT HEATER LUMBAR WHEN FITTED
- C9

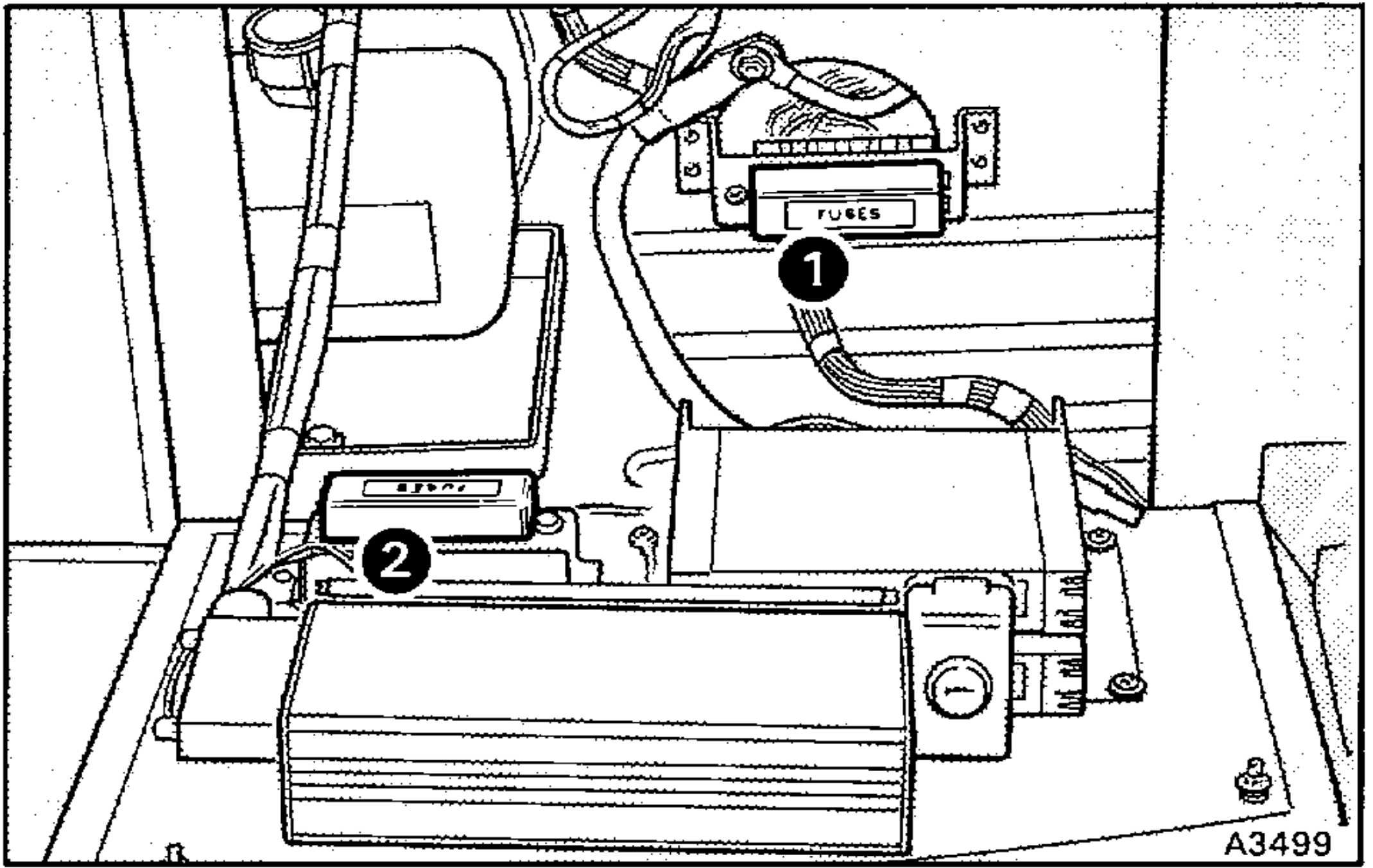




A3498



A3500



A3499

Fuse identification

Introduction

In addition to the main fuseboard, a number of smaller fuseblocks are located in the engine and luggage compartments of the car. The car's electrical system utilizes auto type fuses, each fuse being marked individually with its ampere rating.

For details of the precise location of all fuses and the electrical circuits they protect refer to the following information.

Main fuseboard

The main fuseboard, consisting of two fuse panels (F1 and F2), is concealed behind a hinged trim panel located directly below the facia stowage compartment. To gain access to the fuseboard, lower the trim panel by depressing the release button situated on the top roll side panel.

The circuits protected by each fuse can be identified by reference to the appropriate fuseboard identification label (see fig.

4-1

4-1 Fuseboard identification label 4-1 or fig. 4-2). Spare fuses are provided; mounted horizontally above and below each panel of the fuseboard.

Engine compartment fuses

A fuseblock containing six 20 ampere fuses is located on the left-hand valance adjacent to the coolant expansion bottle (see fig.

4-3

4-3 Engine compartment fuses 4-3).

The circuits protected by these fuses are as follows.

Fuse No.	Fuse rating	Circuits protected
1	20 amp	Main beam headlamp - right-hand
2	20 amp	Main beam headlamp - left-hand
3	20 amp	Dipped beam headlamp - right-hand
4	20 amp	Dipped beam headlamp - left-hand
5	20 amp	Headlamps dim/dip facility or daytime running lamps
6	20 amp	Headlamps power wash (when applicable)

Luggage compartment fuses

Four door and Continental R cars

A fuseblock containing two 10 ampere and four 20 ampere fuses is concealed behind the right-hand side trim panel. To gain access to the fuseblock, release the trim fastener adjacent to the rear lamp cluster and ease the panel away from the body (see fig.

4-5

4-5 Luggage compartment fuses 4-5).

The circuits protected by these fuses are as follows.

Fuse No.	Fuse rating	Circuits protected
1	20 amp	In-car entertainment control, fuel filler door, clock, anti-theft alarm system, front seats (four door cars), and cellular telephone (when fitted)
2	20 amp	Anti-lock braking system
3	20 amp	Rear window demister, door mirror heaters, and anti-theft alarm system remote control - radio frequency type
4	20 amp	In car entertainment
5	10 amp	Engine management system
6	10 amp	Anti-lock braking system

Also, a fuseholder is mounted to the rear of the hinged luggage compartment front trim panel. The fuse protects the radio/cassette unit and compact disc player (when fitted) amplifier and associated components. To gain access to the fuseholder, release the two panel fasteners and lower the hinged panel (see fig.

4-4

4-4 Luggage compartment fuses 4-4).

On Four door cars a 10 ampere fuse protects systems fitted with a radio/cassette unit. A 20 ampere fuse protects systems fitted with a radio/cassette unit and compact disc player.

On Continental R cars a 10 ampere fuse protects systems fitted with a radio/cassette unit and compact disc player.

Convertible cars

A fuseblock containing one 4 ampere, two 10 ampere, and three 20 ampere fuses is concealed behind the hinged section of the right-hand side trim panel. To gain access to the fuseblock release the two panel fasteners and lower the panel (see fig.

4-7

4-7 Luggage compartment fuses 4-7, item 1).

The circuits protected by these fuses are as follows.

Fuse No.	Fuse rating	Circuits protected
1	20 amp	In-car entertainment control, fuel filler door, clock, anti-theft alarm system, and cellular telephone (when fitted)
2	20 amp	Anti-lock braking system
3	4 amp	Anti-theft alarm system remote control - radio frequency type
4	20 amp	In car entertainment
5	10 amp	Engine management system
6	10 amp	Anti-lock braking system

Also, adjacent to the fuseblock are three fuseholders which contain two 10 ampere fuses and one 20 ampere fuse (see fig.

4-7

4-7 Luggage compartment fuses 4-7, item 2). The two 10 ampere fuses protect the power operated hood lift circuit. The 20 ampere fuse protects the rear window demister and door mirror heaters. A 50 ampere fuse is situated above the hood hydraulic pump reservoir (see fig. 4-7, item 3), this fuse protects the hood lift motor.

In addition to the luggage compartment fuses listed above, a one ampere in-line fuse is situated behind the luggage compartment front trim panel (see fig.

4-6

4-6 Luggage compartment fuses 4-6). This fuse protects the hood micro-processor.

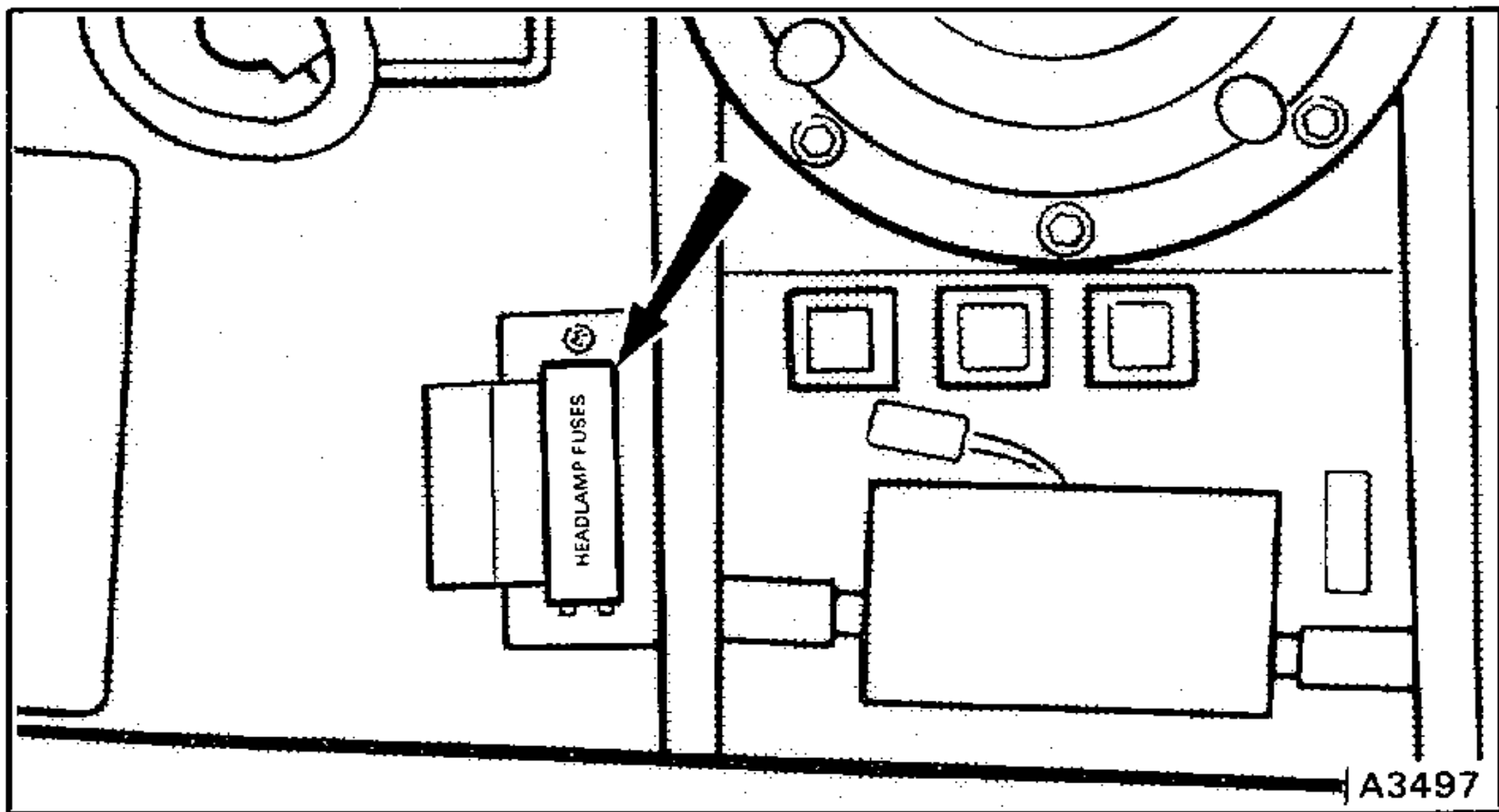
Fault diagnosis

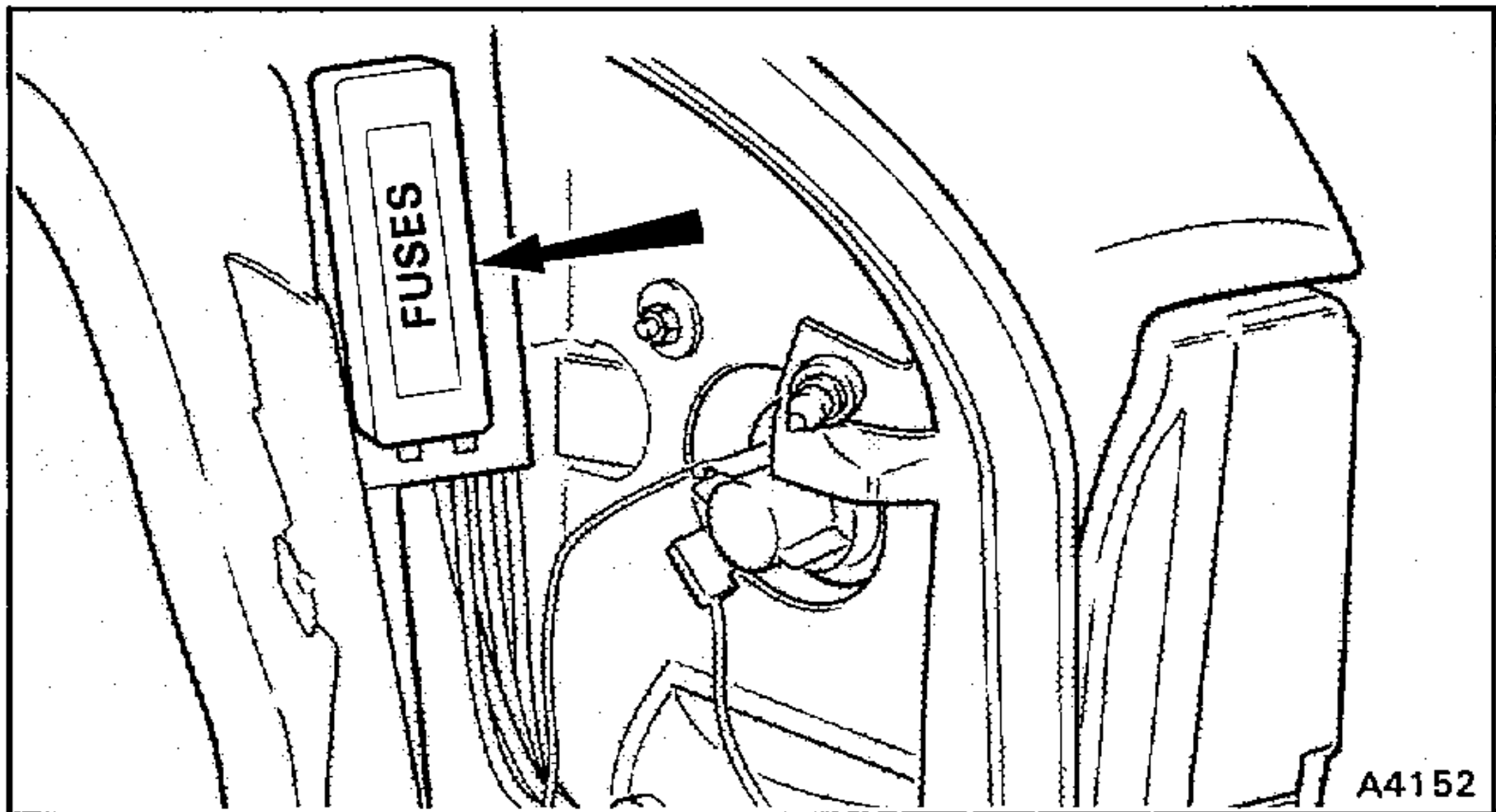
When diagnosing a fault, reference must be made to the appropriate wiring diagram. This will determine the number of fuses relating to a particular circuit.

Four door cars and Convertible cars

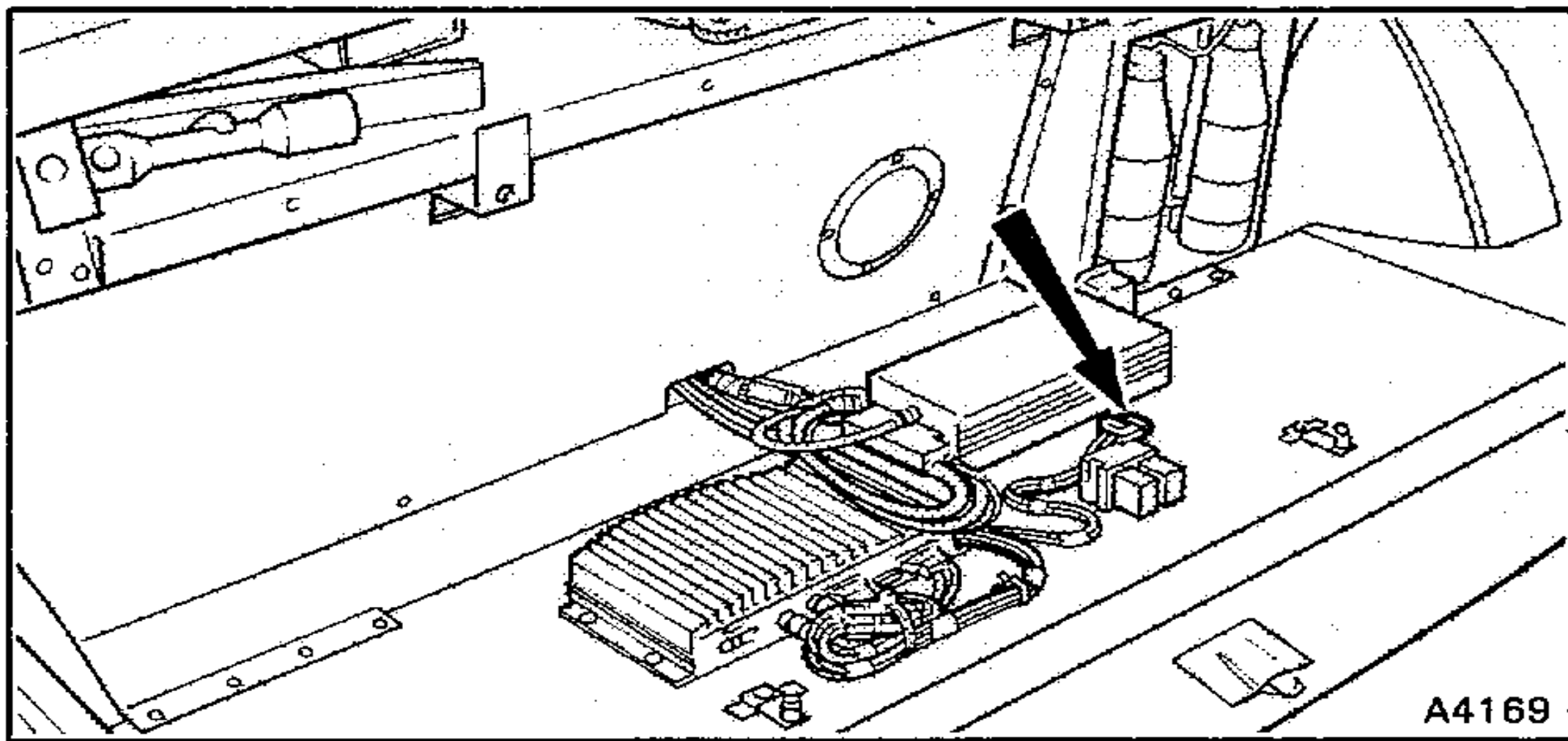
see Fig. 4-2

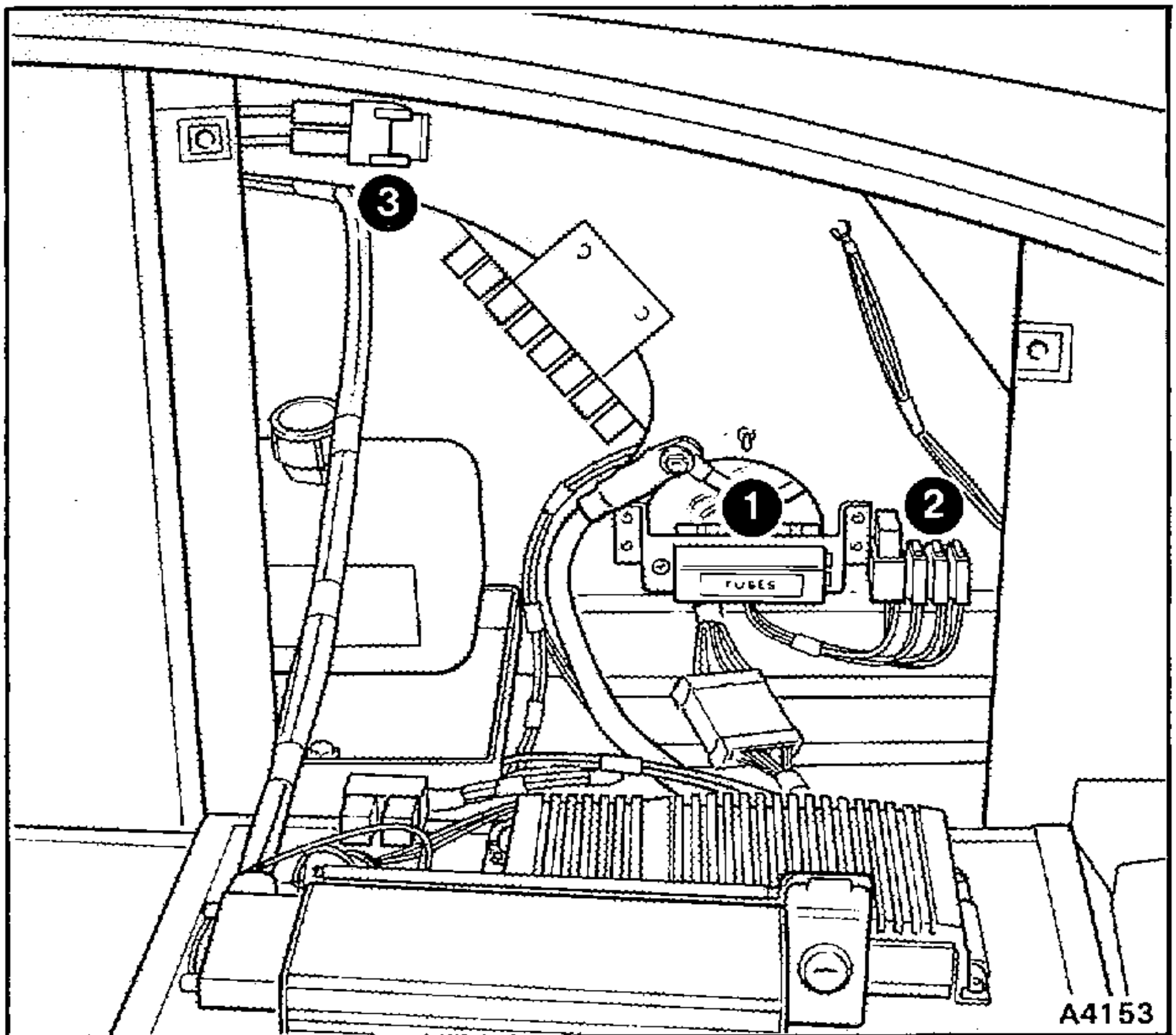
4-2 Fuseboard identification label



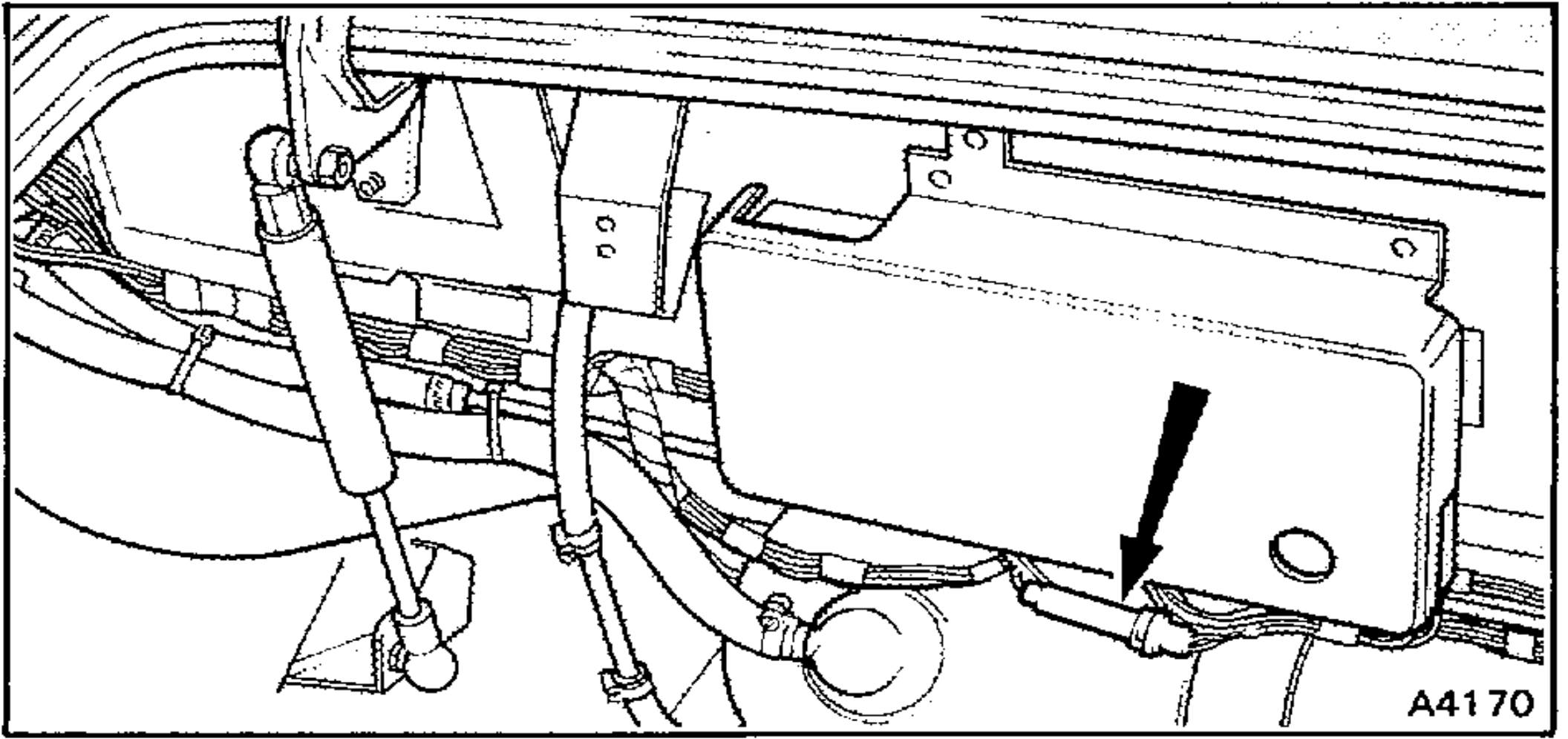


A4152





A4153



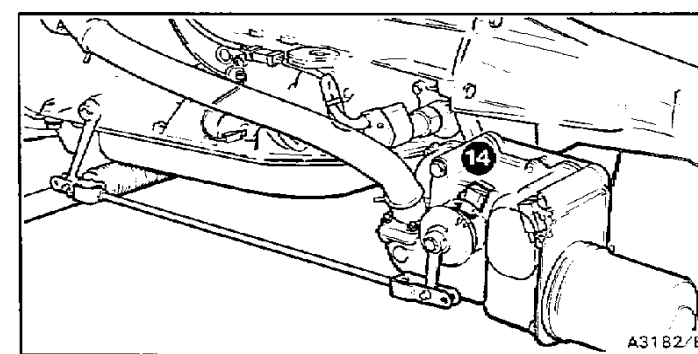
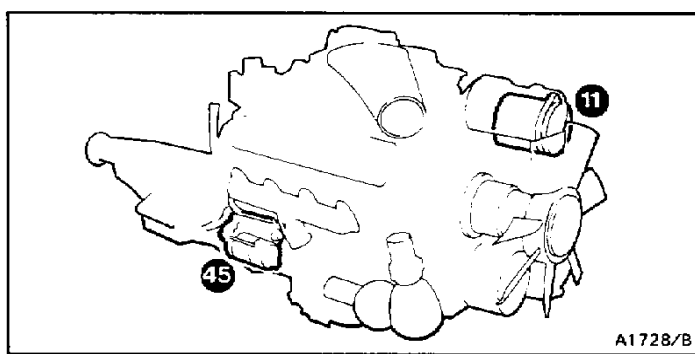
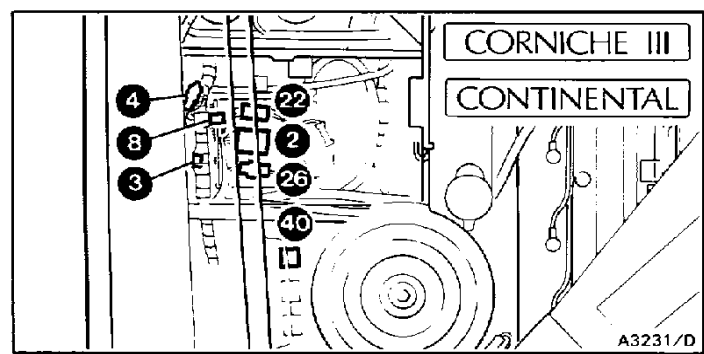
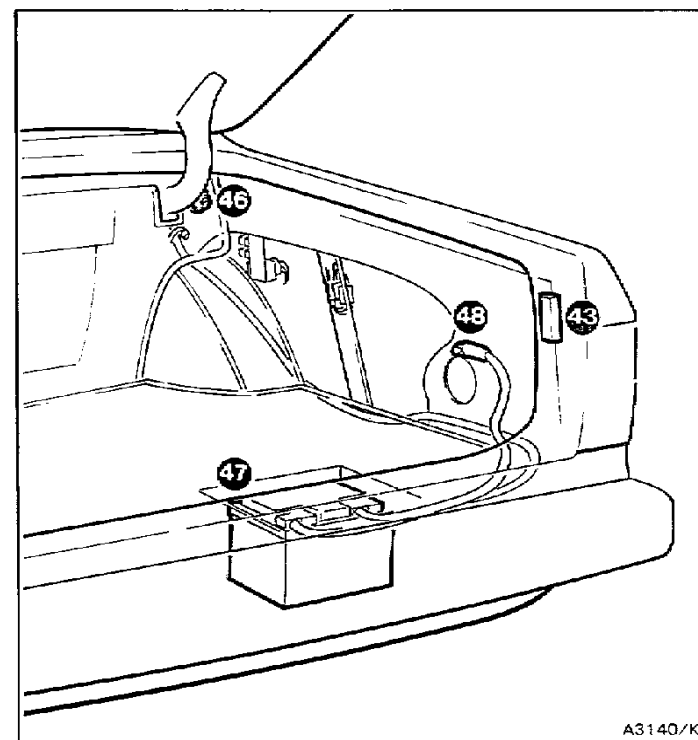
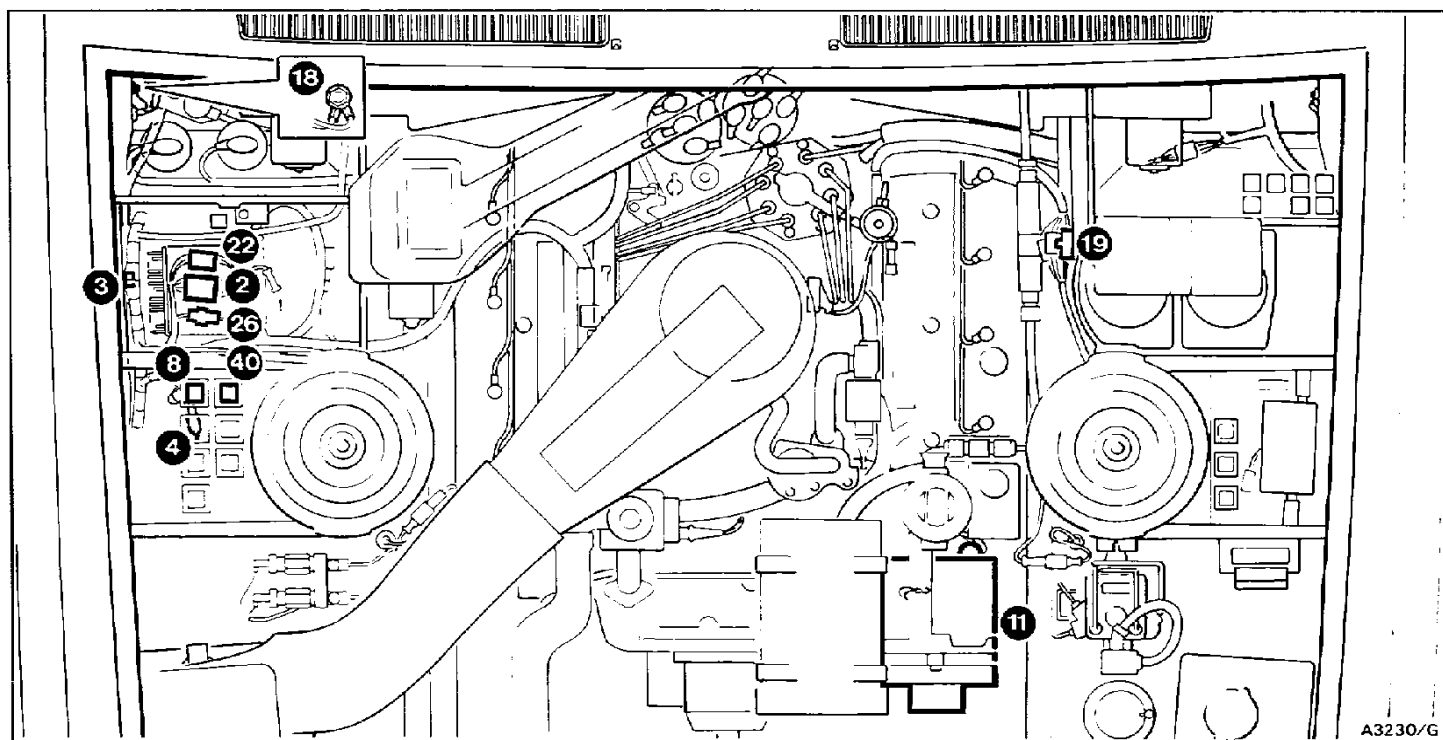
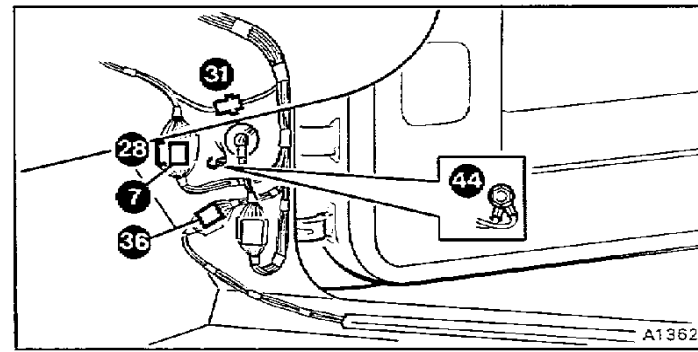
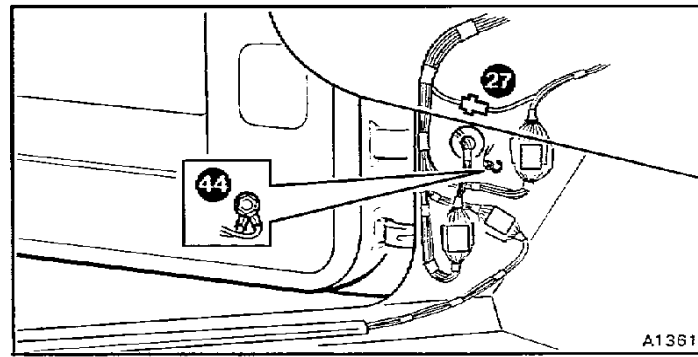
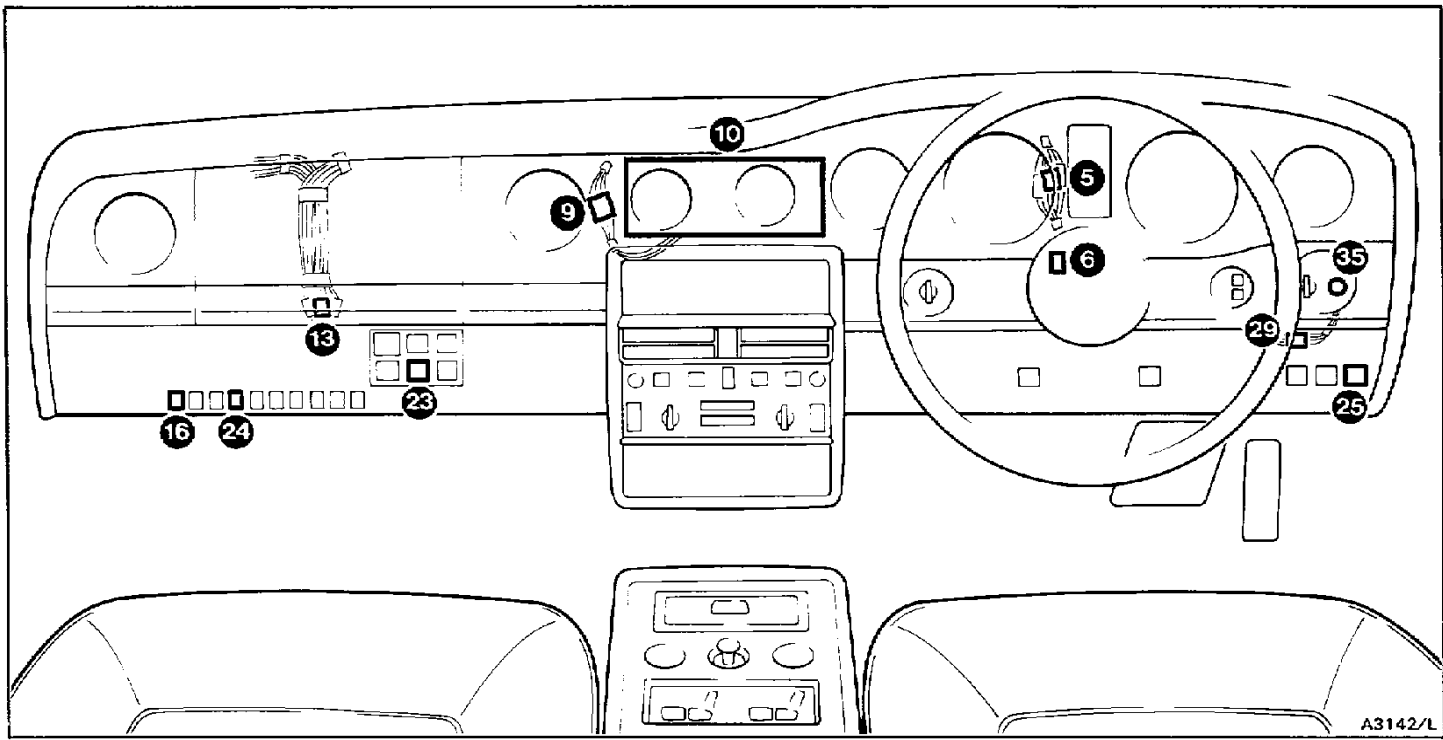
Starting system (Key to 8-3)

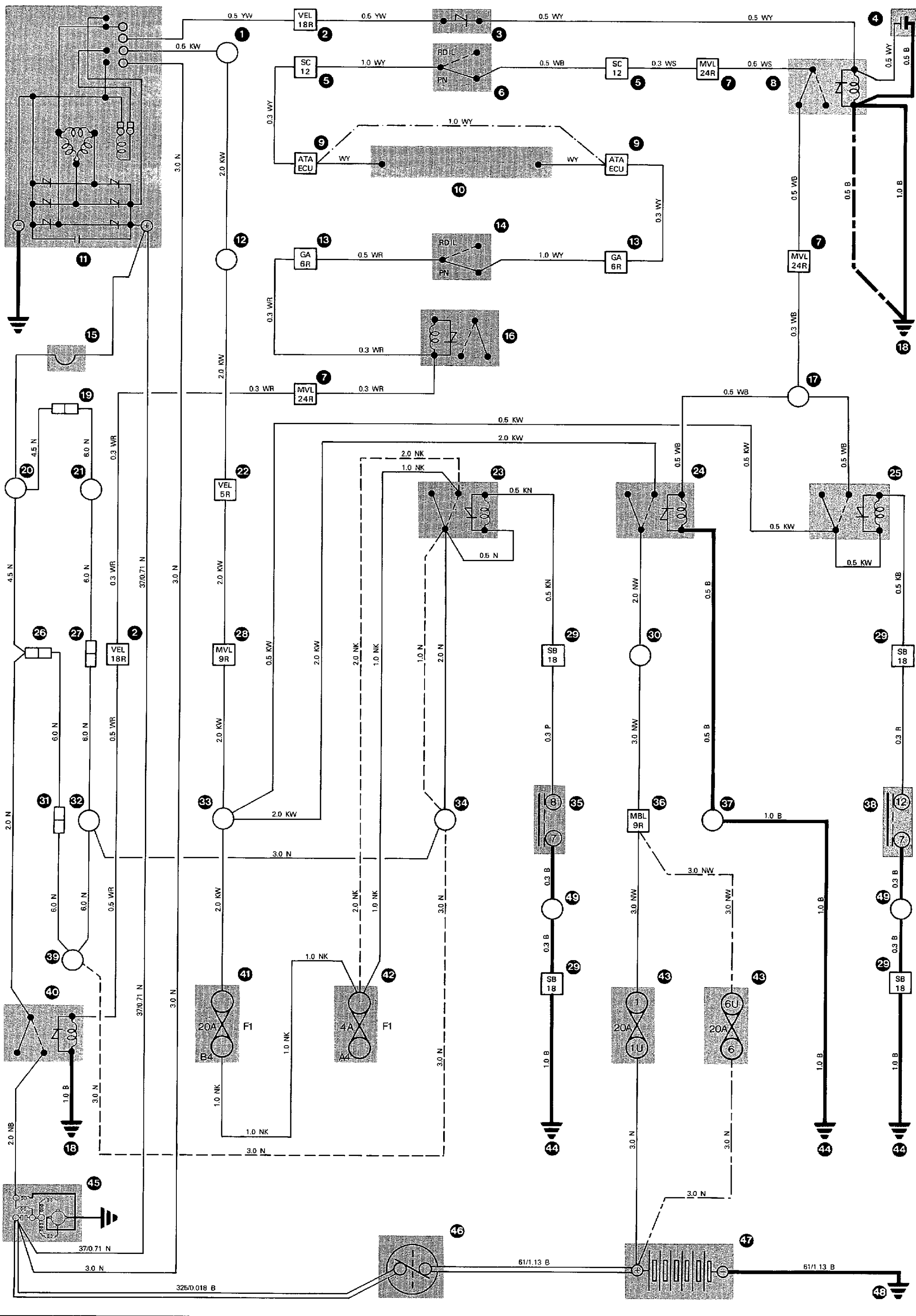
Component Locations

- 1) Splice 198
- 2) Valance loom to engine loom plug and socket 18-way - right-hand side
- 3) Starter motor inhibit relay diode
- 4) Starter motor inhibit relay capacitor
- 5) Steering column plug and socket 12-way
- 6) Neutral start micro-switch - steering column
- 7) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
- 8) Starter motor inhibit relay
- 9) Anti-theft alarm electronic control unit plug and socket 18-way
- 10) Anti-theft alarm electronic control unit - when fitted
- 11) Alternator
- 12) Splice 193
- 13) Gearchange actuator plug and socket 6-way - red
- 14) Neutral start micro-switch - gearchange actuator
- 15) Fusible link - at alternator
- 16) Air conditioning unit control relay
- 17) Splice 27. Right-hand drive cars Splice 56. Left-hand drive cars
- 18) Engine compartment earth point - right-hand valance
- 19) Valance loom to engine loom 60 amp connector - left-hand side
- 20) Splice 197
- 21) Splice 173. Four door cars Splice 184. Two door cars
- 22) Valance loom to engine loom plug and socket 5-way - right-hand side
- 23) Ignition relay 1
- 24) Cranking interlock relay
- 25) Start relay
- 26) Valance loom to engine loom 60 amp connector - right-hand side
- 27) Main loom to valance loom 60 amp connector - left-hand 'A' post
- 28) Main loom to valance loom plug and socket 9-way - right-hand 'A' post
- 29) Switchbox plug and socket 18-way
- 30) Splice 32. Right-hand drive cars Splice 84. Left-hand drive cars
- 31) Main loom to valance loom 60 amp connector - right-hand 'A' post
- 32) Splice 9. Right-hand drive cars Splice 45. Left-hand drive cars
- 33) Splice 19. Right-hand drive cars Splice 67. Left-hand drive cars
- 34) Splice 10. Right-hand drive cars Splice 81. Left-hand drive cars
- 35) Ignition switch - switchbox
- 36) Main loom to body loom plug and socket 9-way - right-hand 'A' post
- 37) Splice 1. Right-hand drive cars Splice 80. Left-hand drive cars
- 38) Starter switch - switchbox
- 39) Splice 33. Right-hand drive cars Splice 77. Left-hand drive cars
- 40) Starter motor relay
- 41) Fuseboard F1, fuse B4, 20 amp
- 42) Fuseboard F1, fuse A4, 4 amp
- 43) Memories fuse, 20 amp - located in the luggage compartment
- 44) 'A' post earth points
- 45) Starter motor
- 46) Battery master switch. Cars other than those conforming to a West German specification
- 47) Battery
- 48) Battery earth point
- 49) Splice 264

Note:
.
Denotes link cable on cars other than those fitted with an anti-theft alarm system

Note:
.
Alternative cable route on Two door cars





Starting system (Key to 8-3)

Component location

- 1) Steering column plug and socket 12-way
- 2) Neutral start micro-switch - steering column
- 3) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
- 4) Valance loom to engine loom plug and socket 24-way - right-hand side
- 5) Valance loom to engine loom plug and socket 12-way - left-hand side
- 6) Centralized door locking/anti-theft alarm system electronic control unit socket 26-way - yellow
- 7) Centralized door locking/anti-theft alarm system electronic control unit. For further information reference should be made to the wiring diagrams contained within Section 20
- 8) Starter motor inhibit relay
- 9) Main loom to valance loom plug and socket 24-way - left-hand 'A' post
- 10) Gearchange actuator plug and socket 6-way - red
- 11) Neutral start micro-switch - gearchange actuator
- 12) Centralized door locking/anti-theft alarm system electronic control unit socket 26-way - biue
- 13) Engine compartment earth point - right-hand valance
- 14) Splice 1. Right-hand drive cars Splice 98. Left-hand drive cars
- 15) 'A' post earth points
- 16) Air conditioning unit control relay
- 17) Splice 43. Right-hand drive cars Splice 102. Left-hand drive cars
- 18) Splice 13. Right-hand drive cars Splice 78. Left-hand drive cars
- 19) Alternator connection
- 20) Splice 29. Right-hand drive cars Splice 71. Left-hand drive cars
- 21) Fusible link - at alternator
- 22) Valance loom to engine loom 60 amp connector - left-hand side
- 23) Splice 216
- 24) Cranking interlock relay
- 25) Start relay
- 26) Rear windows isolation relay
- 27) Splice 262
- 28) Main loom to valance loom 60 amp connector - left-hand 'A' post
- 29) Splice 34. Right-hand drive cars Splice 101. Left-hand drive cars
- 30) Splice 22. Right-hand drive cars Splice 93. Left-hand drive cars
- 31) Switchbox plug and socket 18-way
- 32) Starter switch - switchbox
- 33) Engine run timer electronic control unit plug and socket 5-way
- 34) Engine run timer electronic control unit
- 35) Valance loom to engine loom 60 amp connector - right-hand side
- 36) Splice 7. Right-hand drive cars Splice 86. Left-hand drive cars
- 37) Main loom to valance loom 60 amp connector - right-hand 'A' post
- 38) Splice 11. Right-hand drive cars Splice 92. Left-hand drive cars
- 39) Valance loom to engine loom plug and socket 7-way - right-hand side
- 40) Main loom to body loom plug and socket 9-way - right-hand 'A' post
- 41) Main loom to air bag link loom plug and socket 5-way
- 42) Main loom to valance loom plug and socket 9-way - right-hand 'A' post
- 43) Splice 525
- 44) Splice 12. Right-hand drive cars Splice 68. Left-hand drive cars
- 45) Starter motor solenoid relay
- 46) Luggage compartment fuseboard, fuse 1, 20 amp
- 47) Main fuseboard F2, fuse A2, 20 amp
- 48) Driver's air bag electronic control unit - when fitted
- 49) Main fuseboard F1, fuse A8, 10 amp
- 50) Main fuseboard F2, fuse A4, 25 amp
- 51) Fuel pumps cut-off switch - open circuit when actuated. Press to reset
- 52) Starter motor
- 53) Fuel pumps relay
- 54) K-Motronic electronic control unit - pin 12. The pink/brown cable at this pin applies an earth to the fuel pumps relay via the K-Motronic electronic control unit during engine cranking and engine running. For further information reference should be made to TSD 5001 Engine Management Systems Manual
- 55) Battery master switch. Cars other than those conforming to a German specification
- 56) Battery
- 57) Battery earth point

Note:
.
Denotes link cable on cars other than those fitted with a driver's air bag restraint system

01/07/09 TSD 5136





The Rolls-Royce Owners' Club of Australia

Technical Library



Rolls-Royce and Bentley Four Door Cars From \$Z Chassis 30,000 Windscreen Wipers and Windscreen Washers

Note: 20,000-series cars are similar, but the control relays 1, 2 and 3 are located on the left-hand valence by the spring tower, and the windscreen washers operate directly from the stalk button.

Rolls-Royce and Bentley Four Door SZ Cars

from Chassis 30,000 Onwards

Windscreen Wipers and Windscreen Washers

Off position 1

Circuit description

There are two wiring diagrams shown for the OFF position, one on page 16-3, the other on page 16-5. Whilst following this circuit description it will be necessary to refer to both diagrams.

With the windscreen wipers control switch set to the OFF position, the green and purple cables at the wipers switch are interconnected (see item 42b). If the windscreen wiper system is operating and OFF position is then selected, the wiper motor continues to rotate until the motor sets the 'On screen' park switch (within the motor assembly) to the park position. This breaks the 12 volts positive supply to the coil of relay 1, thereby de-energizing the relay and removing the 12 volts positive supply from the slow speed brush of the wiper motor.

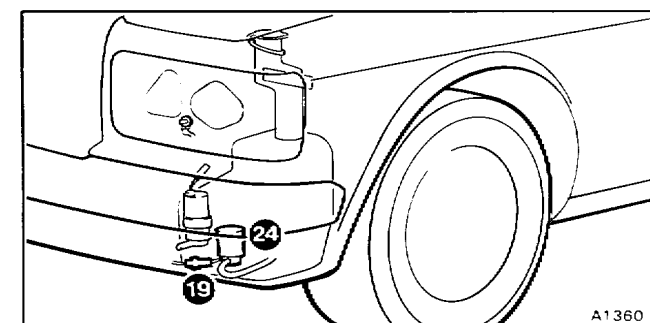
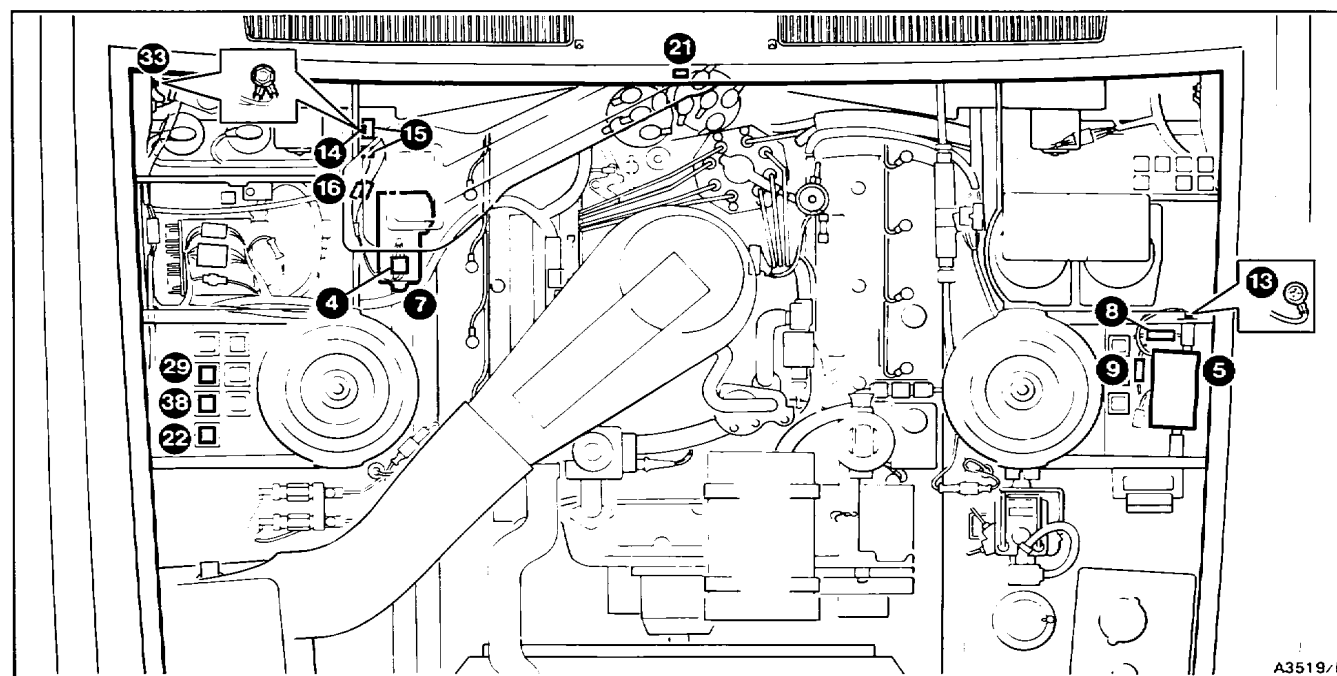
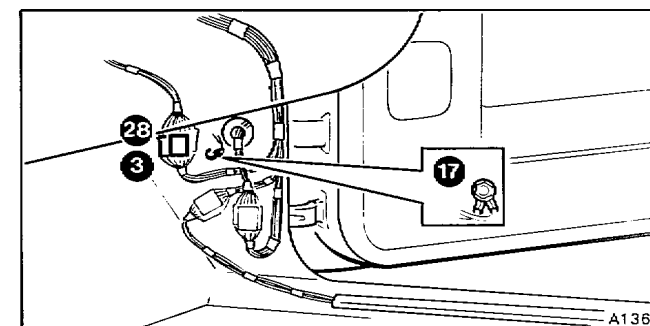
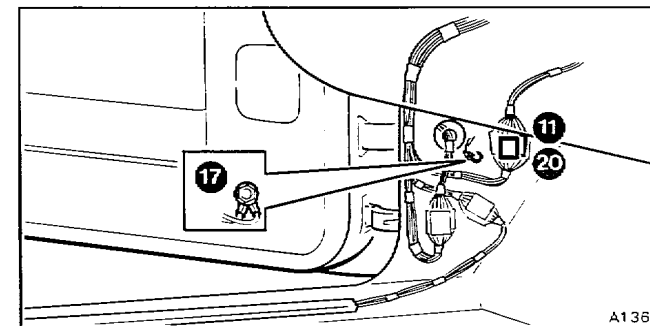
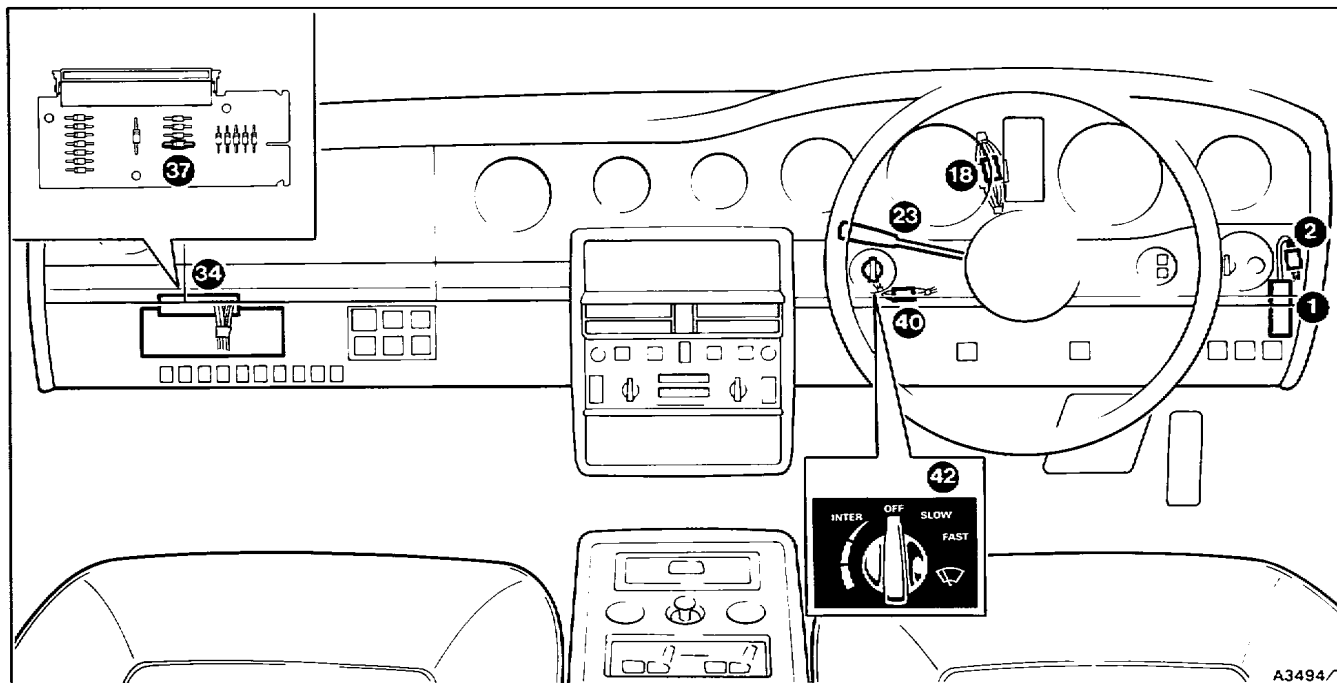
The slow speed brush of the wiper motor now finds an earth path through the normally closed contacts of relays 3 and 1 to the valance earth point.

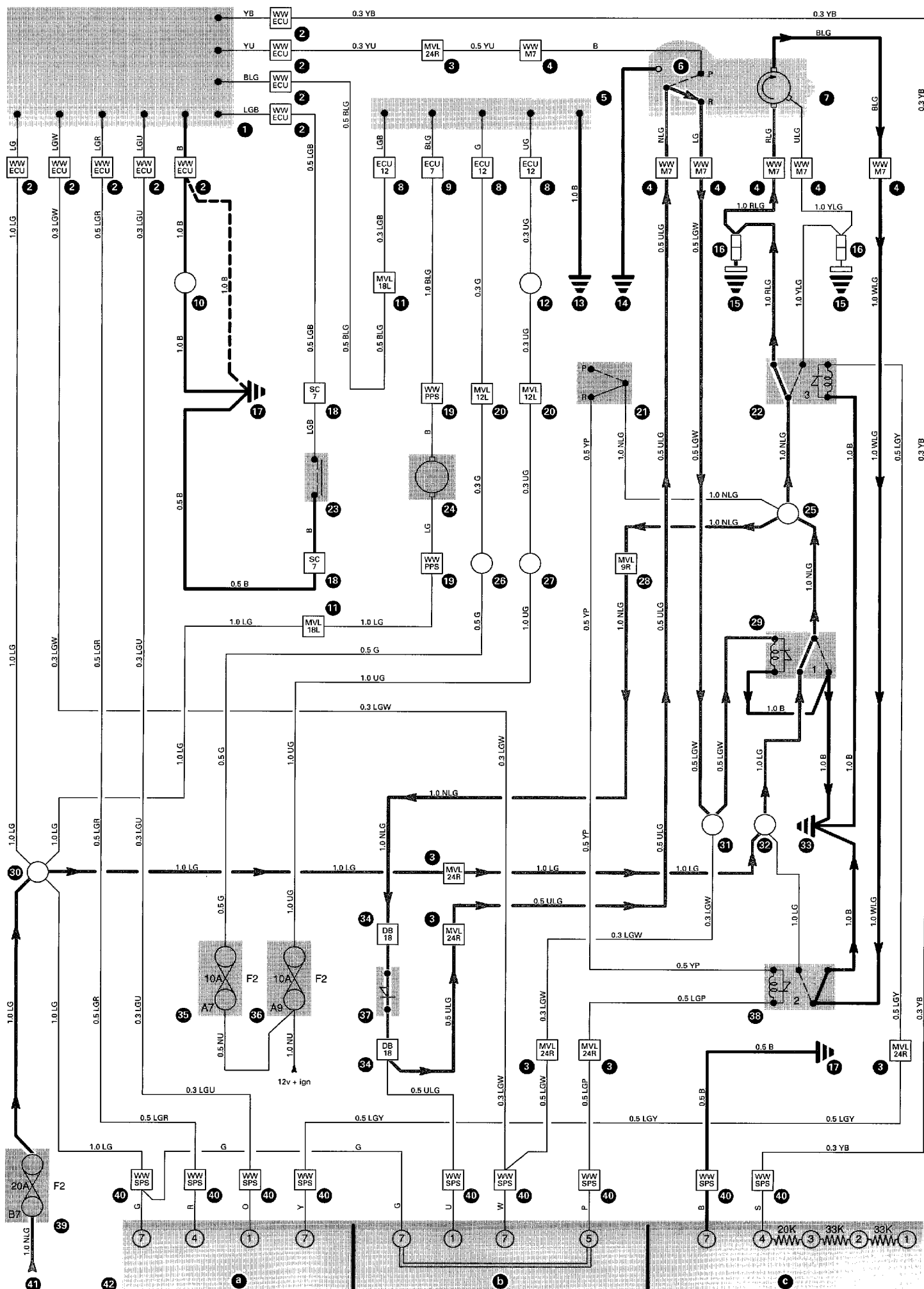
The coil of relay 2 receiving a 12 volts positive supply from the wipers switch (see item 42b), finds an earth path via the run position of the 'Off screen' park switch, thereby energizing relay 2. This provides a 12 volts positive supply through the normally open contacts of relay 2 to the wiper motor. At this point the motor reverses direction, causing the 'Off screen' park switch to be set to the park position. With the switch in this position the earth path to the coil of relay 2 is disconnected, causing the motor to stop immediately (the windscreen wiper blades being in the 'Off screen' park position).

Component locations

Wiring diagram

- 1) Windscreen wipers electronic control unit
- 2) Windscreen wipers electronic control unit plug and socket 12-way
- 3) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
- 4) Windscreen wipers motor plug and socket 7-way
- 5) Headlamps electronic control unit
- 6) 'On screen' park switch - located within the windscreen wipers motor
- 7) Windscreen wipers motor
- 8) Headlamps electronic control unit plug and socket 12-way
- 9) Headlamps electronic control unit plug and socket 7-way
- 10) Splice 36
- 11) Main loom to valance loom plug and socket 18-way - left-hand 'A' post
- 12) Splice 172
- 13) Headlamps electronic control unit earth point
- 14) Windscreen wipers motor earth point
- 15) Windscreen wipers motor suppressor
- 16) Windscreen wipers motor suppressor connector
- 17) 'A' post earth points
- 18) Steering column plug and socket 7-way
- 19) Windscreen washers pump plug and socket
- 20) Main loom to valance loom plug and socket 12-way - left-hand 'A' post
- 21) 'Off screen' park switch
- 22) Windscreen wipers relay 3
- 23) Windscreen wash/wipe switch - steering column
- 24) Windscreen washers pump
- 25) Splice 163
- 26) Splice 18. Right-hand drive cars Splice 58. Left-hand drive cars
- 27) Splice 5. Right-hand drive cars Splice 53. Left-hand drive cars
- 28) Main loom to valance loom plug and socket 9-way - right-hand 'A' post
- 29) Windscreen wipers relay 1
- 30) Splice 25. Right-hand drive cars Splice 55. Left-hand drive cars
- 31) Splice 165
- 32) Splice 164
- 33) Engine compartment earth point - right-hand valance
- 34) Diode board plug 18-way
- 35) Fuseboard F2, fuse A7, 10 amp
- 36) Fuseboard F2, fuse A9, 10 amp
- 37) Diode - diode board
- 38) Windscreen wipers relay 2
- 39) Fuseboard F2, fuse B7, 20 amp
- 40) Windscreen wipers switch plug and socket 12-way
- 41) 12 volts positive supply when ignition switch is in the ACC or RUN position
- 42) Windscreen wipers control switch
- 42a Wafer switch 2
- 42b Wafer switch 3
- 42c Wafer switch 1





Off position 1

Circuit description

There are two wiring diagrams shown for the OFF position, one on page 16-3, the other on page 16-5. Whilst following this circuit description it will be necessary to refer to both diagrams.

With the windscreen wipers control switch set to the OFF position, the green and purple cables at the wipers switch are interconnected (see item 42b). If the windscreen wiper system is operating and OFF position is then selected, the wiper motor continues to rotate until the motor sets the 'On screen' park switch (within the motor assembly) to the park position. This breaks the 12 volts positive supply to the coil of relay 1, thereby de-energizing the relay and removing the 12 volts positive supply from the slow speed brush of the wiper motor.

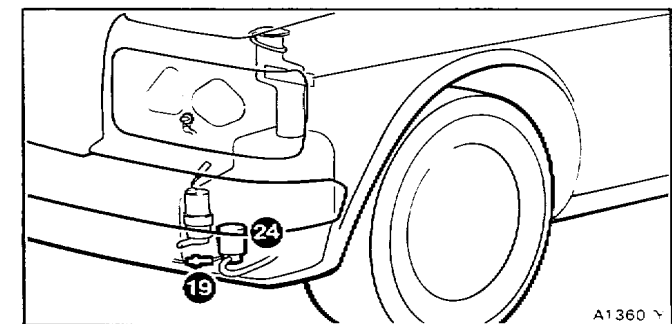
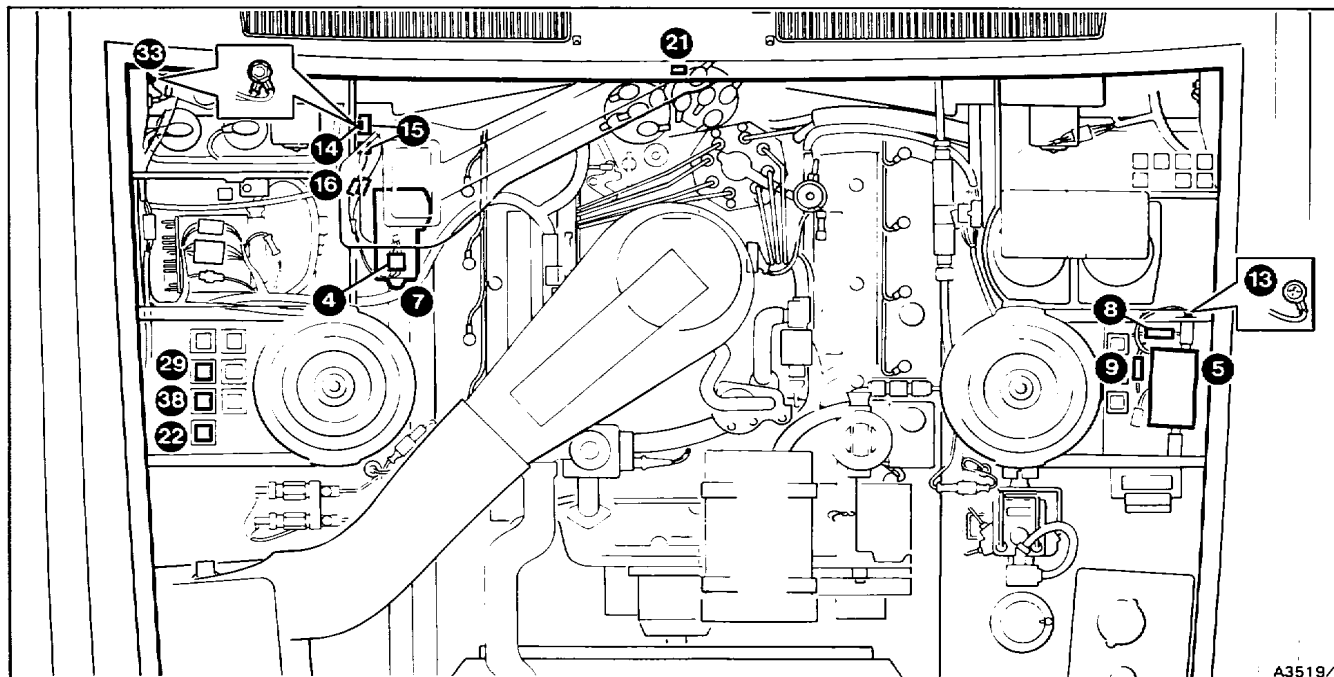
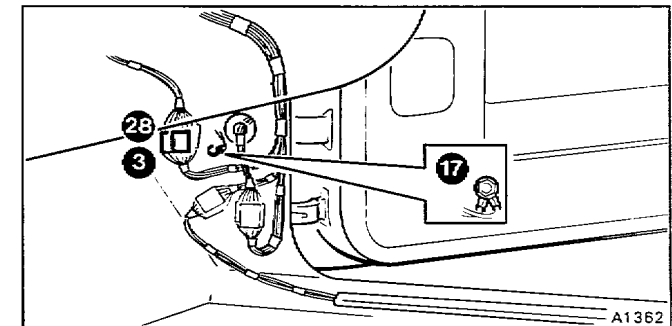
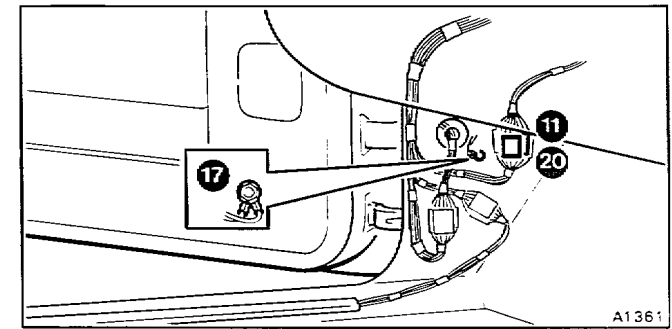
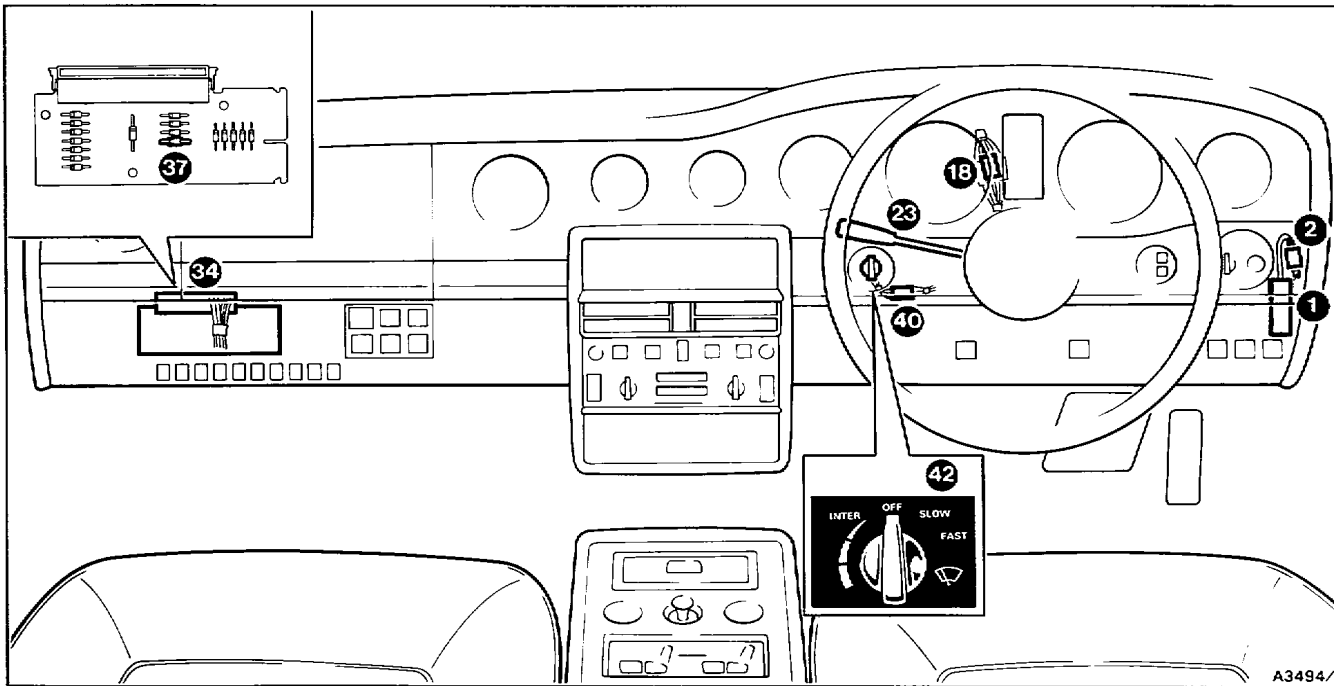
The slow speed brush of the wiper motor now finds an earth path through the normally closed contacts of relays 3 and 1 to the valance earth point.

The coil of relay 2 receiving a 12 volts positive supply from the wipers switch (see item 42b), finds an earth path via the run position of the 'Off screen' park switch, thereby energizing relay 2. This provides a 12 volts positive supply through the normally open contacts of relay 2 to the wiper motor. At this point the motor reverses direction, causing the 'Off screen' park switch to be set to the park position. With the switch in this position the earth path to the coil of relay 2 is disconnected, causing the motor to stop immediately (the windscreen wiper blades being in the 'Off screen' park position).

Component locations

Wiring diagram

- 1) Windscreen wipers electronic control unit
 - 2) Windscreen wipers electronic control unit plug and socket 12-way
 - 3) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
 - 4) Windscreen wipers motor plug and socket 7-way
 - 5) Headlamps electronic control unit
 - 6) 'On screen' park switch - located within the windscreen wipers motor
 - 7) Windscreen wipers motor
 - 8) Headlamps electronic control unit plug and socket 12-way
 - 9) Headlamps electronic control unit plug and socket 7-way
 - 10) Splice 36
 - 11) Main loom to valance loom plug and socket 18-way - left-hand 'A' post
 - 12) Splice 172
 - 13) Headlamps electronic control unit earth point
 - 14) Windscreen wipers motor earth point
 - 15) Windscreen wipers motor suppressor
 - 16) Windscreen wipers motor suppressor connector
 - 17) 'A' post earth points
 - 18) Steering column plug and socket 7-way
 - 19) Windscreen washers pump plug and socket
 - 20) Main loom to valance loom plug and socket 12-way - left-hand 'A' post
 - 21) 'Off screen' park switch
 - 22) Windscreen wipers relay 3
 - 23) Windscreen wash/wipe switch - steering column
 - 24) Windscreen washers pump
 - 25) Splice 163
 - 26) Splice 18. Right-hand drive cars Splice 58. Left-hand drive cars
 - 27) Splice 5. Right-hand drive cars Splice 53. Left-hand drive cars
 - 28) Main loom to valance loom plug and socket 9-way - right-hand 'A' post
 - 29) Windscreen wipers relay 1
 - 30) Splice 25. Right-hand drive cars Splice 55. Left-hand drive cars
 - 31) Splice 165
 - 32) Splice 164
 - 33) Engine compartment earth point - right-hand valance
 - 34) Diode board plug 18-way
 - 35) Fuseboard F2, fuse A7, 10 amp
 - 36) Fuseboard F2, fuse A9, 10 amp
 - 37) Diode - diode board
 - 38) Windscreen wipers relay 2
 - 39) Fuseboard F2, fuse B7, 20 amp
 - 40) Windscreen wipers switch plug and socket 12-way
 - 41) 12 volts positive supply when ignition switch is in the ACC or RUN position
 - 42) Windscreen wipers control switch
- 42a Wafer switch 2
 - 42b Wafer switch 3
 - 42c Wafer switch 1



Slow speed - Operated from the windscreen wipers control switch

Circuit description

With the windscreen wipers control switch set to the SLOW position, a 12 volts positive supply from fuse B7 at fuseboard F2 is directed through the wipers switch (see item 42b) to energize relay 1. This allows a 12 volts positive supply to pass through the normally open contacts of relay 1, and via the normally closed contacts of relay 3, to the slow speed brush of the wiper motor. The earth path for the wiper motor is via the normally closed contacts of relay 2 to the valance earth point.

Component locations

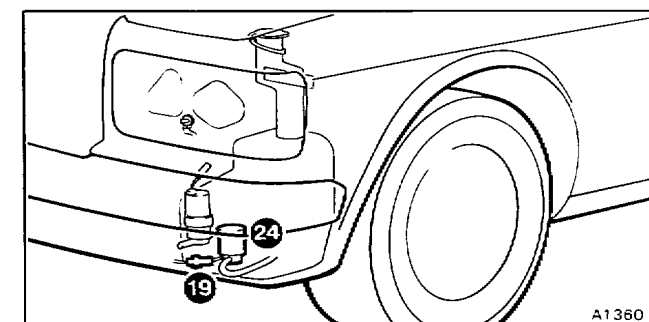
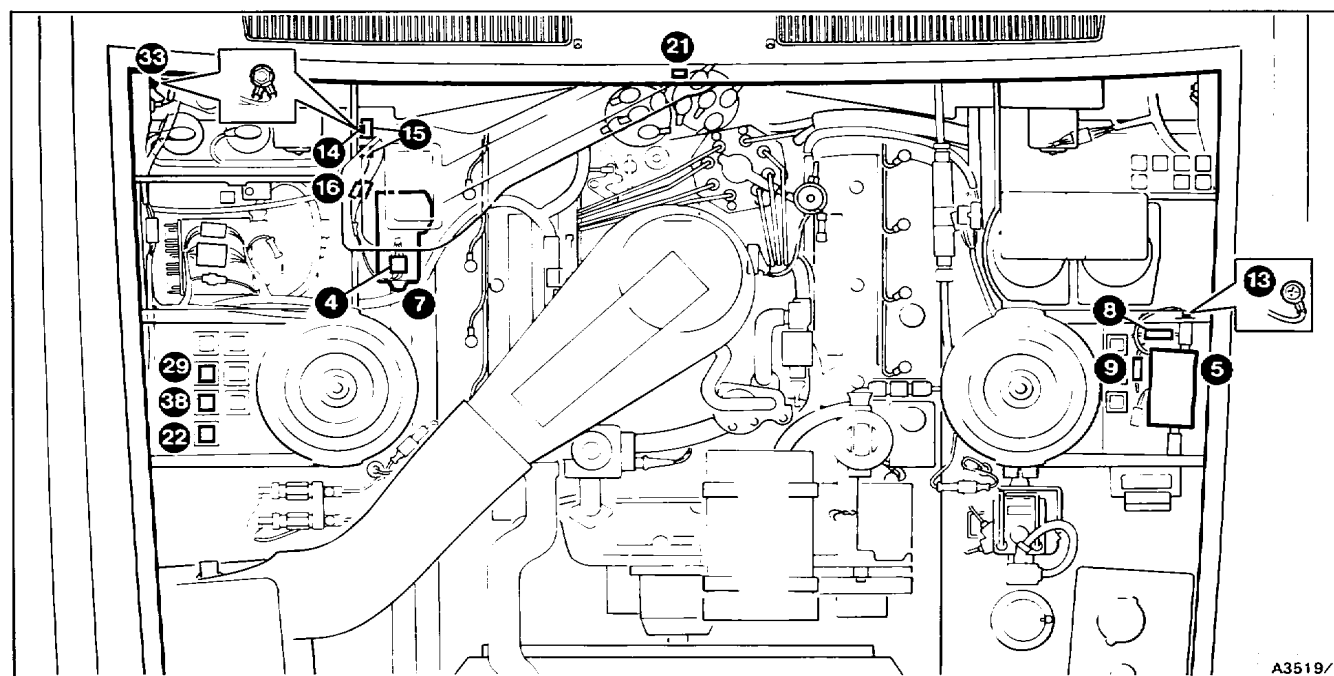
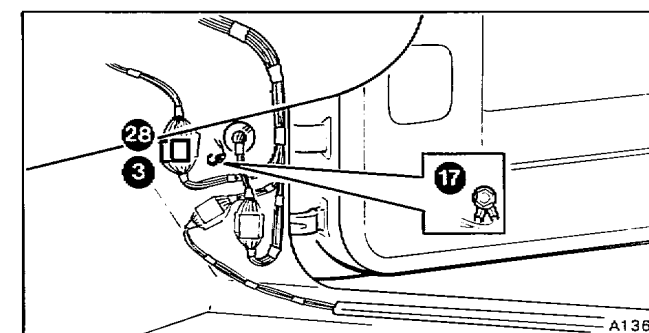
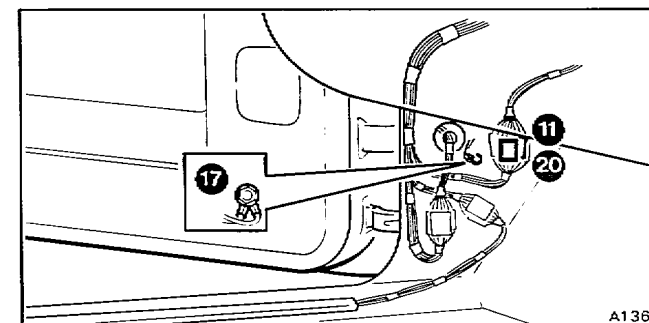
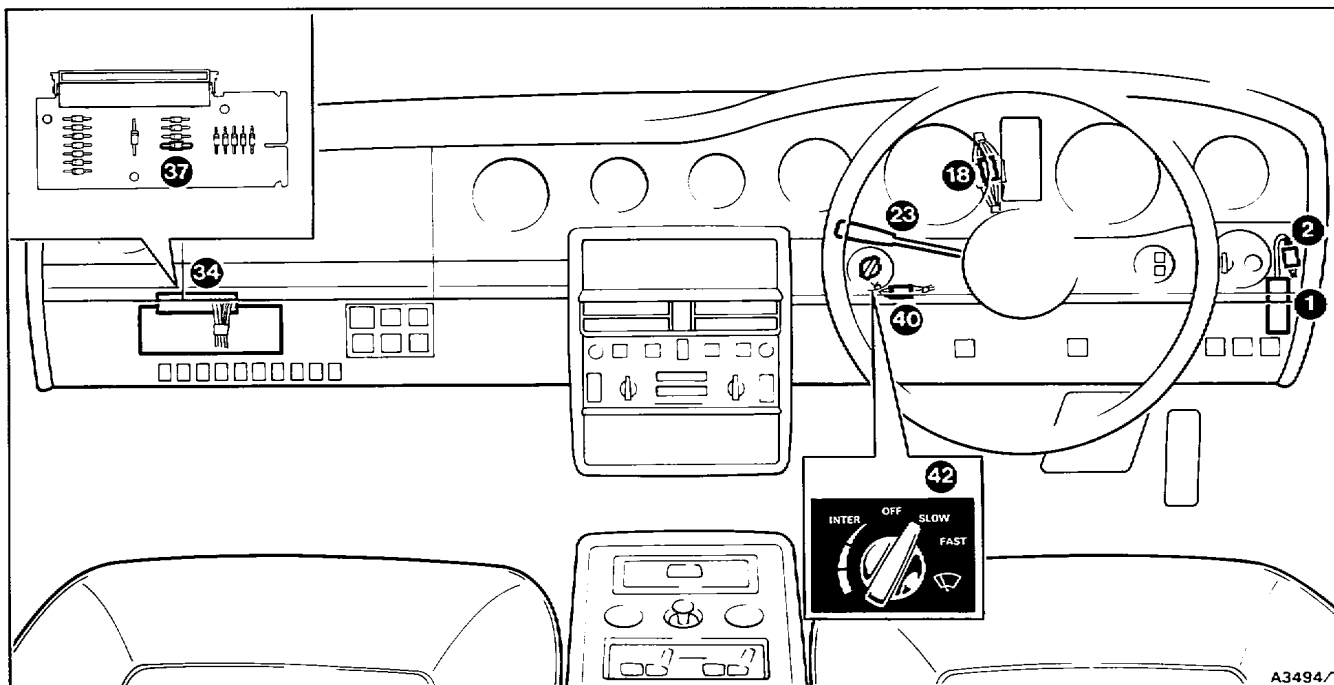
Wiring diagram

- 1) Windscreen wipers electronic control unit
- 2) Windscreen wipers electronic control unit plug and socket 12-way
- 3) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
- 4) Windscreen wipers motor plug and socket 7-way
- 5) Headlamps electronic control unit
- 6) 'On screen' park switch - located within the windscreen wipers motor
- 7) Windscreen wipers motor
- 8) Headlamps electronic control unit plug and socket 12-way
- 9) Headlamps electronic control unit plug and socket 7-way
- 10) Splice 36
- 11) Main loom to valance loom plug and socket 18-way - left-hand 'A' post
- 12) Splice 172
- 13) Headlamps electronic control unit earth point
- 14) Windscreen wipers motor earth point
- 15) Windscreen wipers motor suppressor
- 16) Windscreen wipers motor suppressor connector
- 17) 'A' post earth points
- 18) Steering column plug and socket 7-way
- 19) Windscreen washers pump plug and socket
- 20) Main loom to valance loom plug and socket 12-way - left-hand 'A' post
- 21) 'Off screen' park switch
- 22) Windscreen wipers relay 3
- 23) Windscreen wash/wipe switch - steering column
- 24) Windscreen washers pump
- 25) Splice 163
- 26) Splice 18. Right-hand drive cars Splice 58. Left-hand drive cars
- 27) Splice 5. Right-hand drive cars Splice 53. Left-hand drive cars
- 28) Main loom to valance loom plug and socket 9-way - right-hand 'A' post
- 29) Windscreen wipers relay 1
- 30) Splice 25. Right-hand drive cars Splice 55. Left-hand drive cars
- 31) Splice 165
- 32) Splice 164
- 33) Engine compartment earth point - right-hand valance
- 34) Diode board plug 18-way
- 35) Fuseboard F2, fuse A7, 10 amp
- 36) Fuseboard F2, fuse A9, 10 amp
- 37) Diode - diode board
- 38) Windscreen wipers relay 2
- 39) Fuseboard F2, fuse B7, 20 amp
- 40) Windscreen wipers switch plug and socket 12-way
- 41) 12 volts positive supply when ignition switch is in the ACC or RUN position
- 42) Windscreen wipers control switch

Note:

The windscreen wipers control switch is a mechanically linked, 3-level wafer switch

- 42a Wafer switch 2
- 42b Wafer switch 3
- 42c Wafer switch 1



Slow speed - Operated from the windscreen wash/wipe switch

Circuit description

With the windscreen wipers control switch set to the OFF position, slow speed operation of the windscreen wipers can be obtained by depressing the wash/wipe switch very briefly (for a period of less than one second). The windscreen wipers system will continue to operate until the wash/wipe switch is again very briefly depressed (for less than one second).

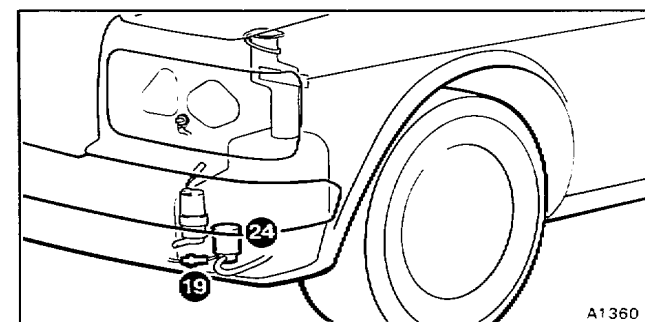
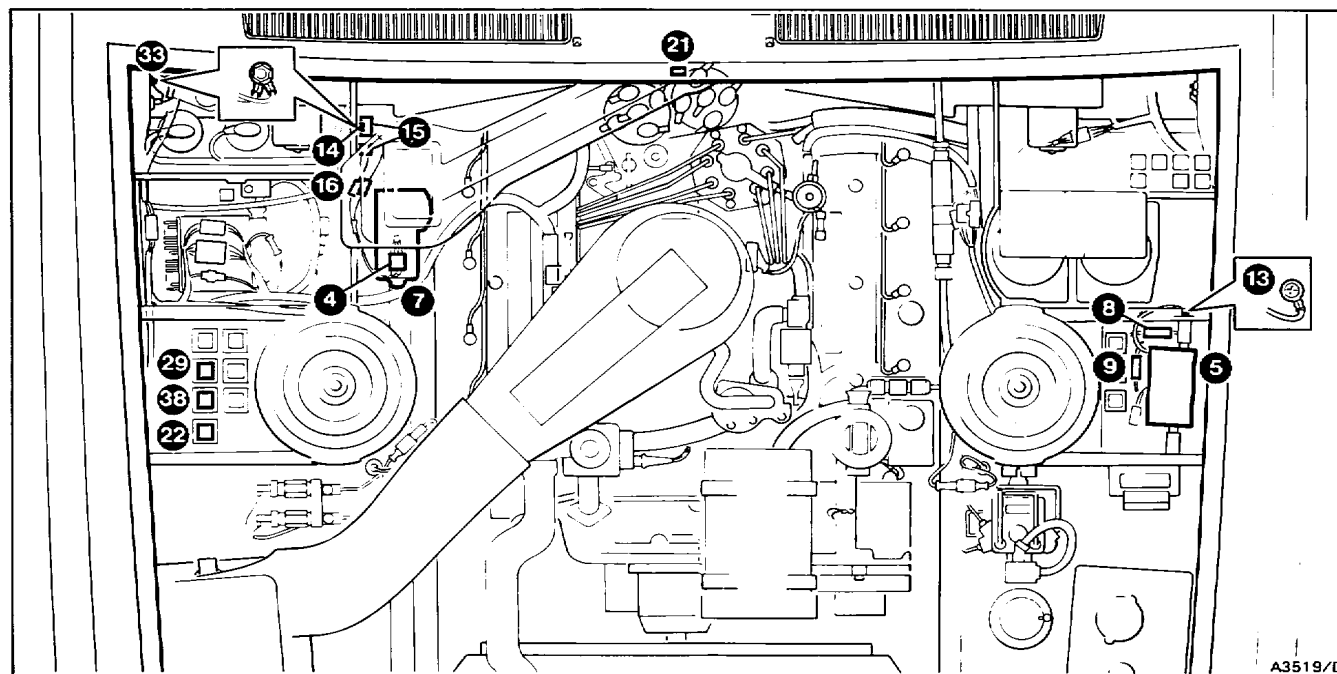
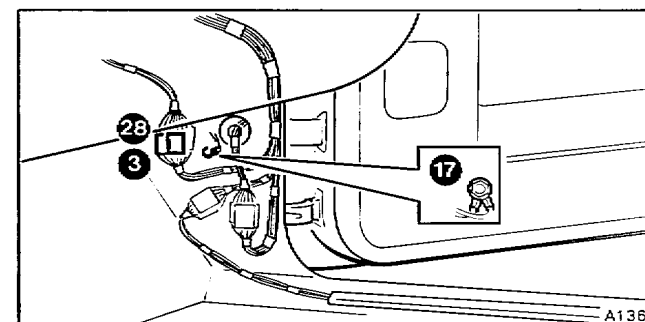
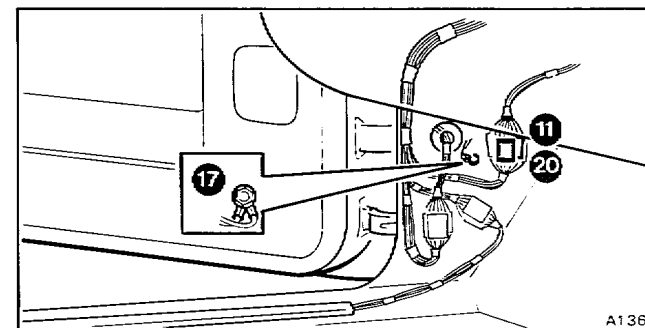
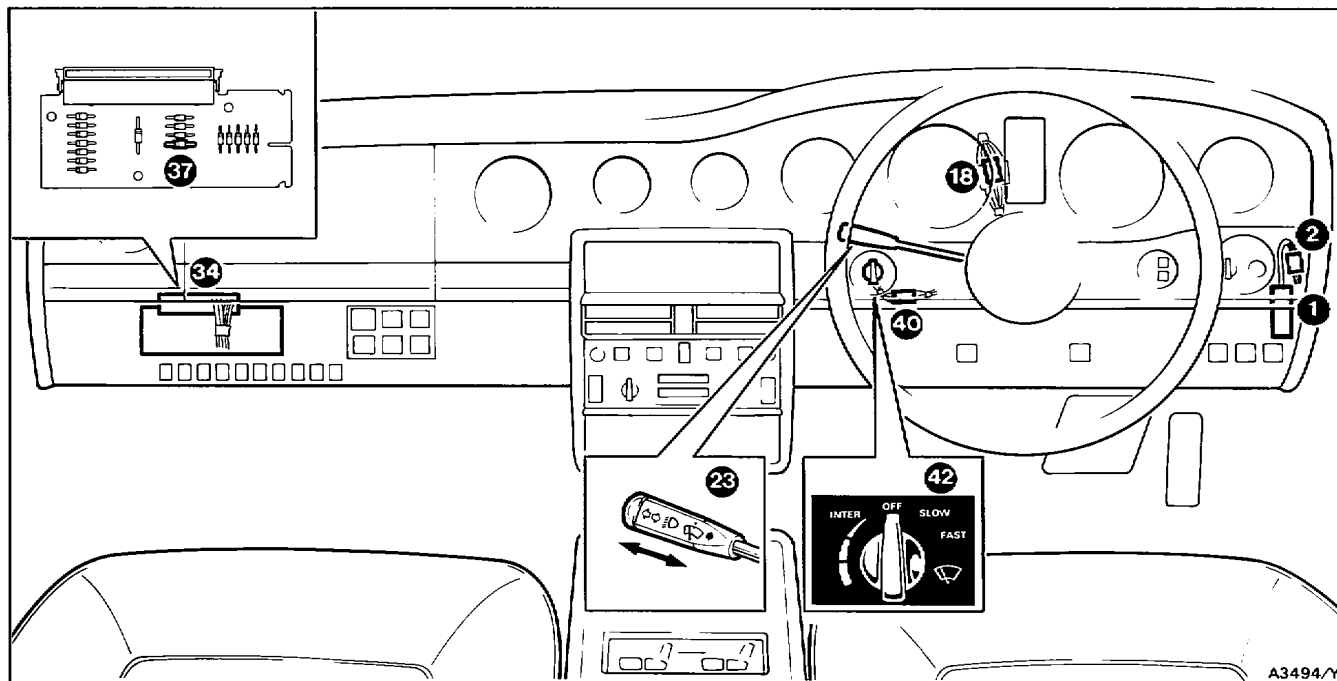
Depressing the wash/wipe switch to obtain slow speed operation of the windscreen wipers provides an earth path for the light green/black cable at the windscreen wipers electronic control unit. In response to this signal, the windscreen wipers electronic control unit provides a 12 volts positive supply on the light green/white cable to energize relay 1. With this relay energized, a 12 volts positive supply is directed through the normally open contacts of the relay, and via the normally closed contacts of relay 3, to the slow speed brush of the wiper motor. The earth path for the wiper motor is directed through the normally closed contacts of relay 2 to the valance earth point.

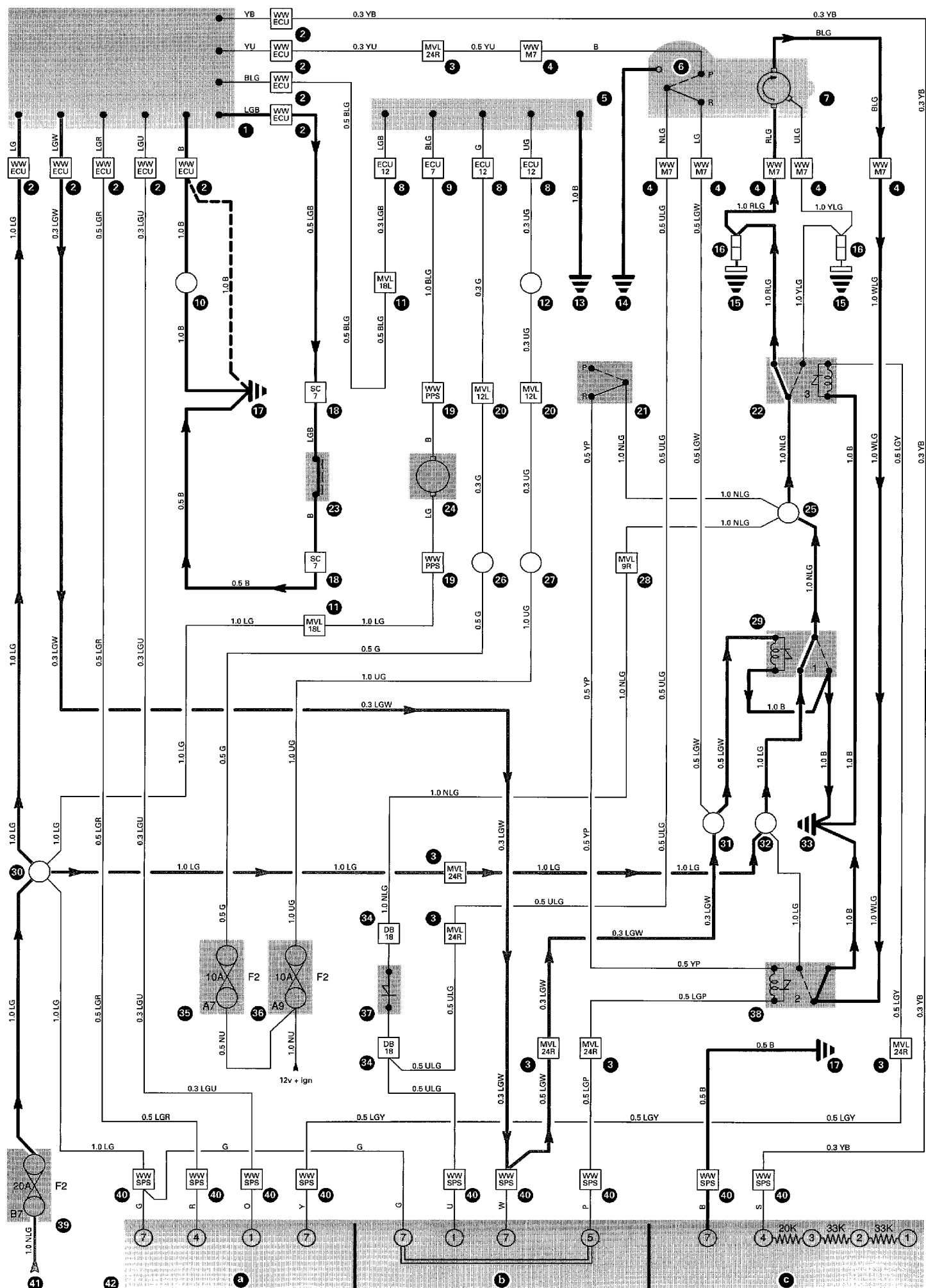
When the switch is briefly depressed a second time, the windscreen wipers electronic control unit removes the 12 volts positive supply from the light green/white cable causing the system to revert to the OFF position.

Component location

Wiring diagram

- 1) Windscreen wipers electronic control unit
 - 2) Windscreen wipers electronic control unit plug and socket 12-way
 - 3) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
 - 4) Windscreen wipers motor plug and socket 7-way
 - 5) Headlamps electronic control unit
 - 6) 'On screen' park switch - located within the windscreen wipers motor
 - 7) Windscreen wipers motor
 - 8) Headlamps electronic control unit plug and socket 12-way
 - 9) Headlamps electronic control unit plug and socket 7-way
 - 10) Splice 36
 - 11) Main loom to valance loom plug and socket 18-way - left-hand 'A' post
 - 12) Splice 172
 - 13) Headlamps electronic control unit earth point
 - 14) Windscreen wipers motor earth point
 - 15) Windscreen wipers motor suppressor
 - 16) Windscreen wipers motor suppressor connector
 - 17) 'A' post earth points
 - 18) Steering column plug and socket 7-way
 - 19) Windscreen washers pump plug and socket
 - 20) Main loom to valance loom plug and socket 12-way - left-hand 'A' post
 - 21) 'Off screen' park switch
 - 22) Windscreen wipers relay 3
 - 23) Windscreen wash/wipe switch - steering column
 - 24) Windscreen washers pump
 - 25) Splice 163
 - 26) Splice 18. Right-hand drive cars Splice 58. Left-hand drive cars
 - 27) Splice 5. Right-hand drive cars Splice 53. Left-hand drive cars
 - 28) Main loom to valance loom plug and socket 9-way - right-hand 'A' post
 - 29) Windscreen wipers relay 1
 - 30) Splice 25. Right-hand drive cars Splice 55. Left-hand drive cars
 - 31) Splice 165
 - 32) Splice 164
 - 33) Engine compartment earth point - right-hand valance
 - 34) Diode board plug 18-way
 - 35) Fuseboard F2, fuse A7, 10 amp
 - 36) Fuseboard F2, fuse A9, 10 amp
 - 37) Diode - diode board
 - 38) Windscreen wipers relay 2
 - 39) Fuseboard F2, fuse B7, 20 amp
 - 40) Windscreen wipers switch plug and socket 12-way
 - 41) 12 volts positive supply when ignition switch is in the ACC or RUN position
 - 42) Windscreen wipers control switch
- . 42a Wafer switch 2
 - . 42b Wafer switch 3
 - . 42c Wafer switch 1





Fast speed

Circuit description

With the windscreen wipers control switch set to the FAST position, a 12 volts positive supply from fuse B7 at fuseboard F2 is directed through the wipers switch (see item 42b) to energize relay 1 and close the normally open contacts. The 12 volts positive supply from fuse B7 at fuseboard F2 is also directed through the wipers switch (see item 42a) to energize relay 3. With relays 1 and 3 energized, a 12 volts positive supply is passed through the normally open contacts of the relays to the fast speed brush of the wiper motor. The earth path for the wiper motor is via the normally closed contacts of relay 2 to the valance earth point.

Component locations

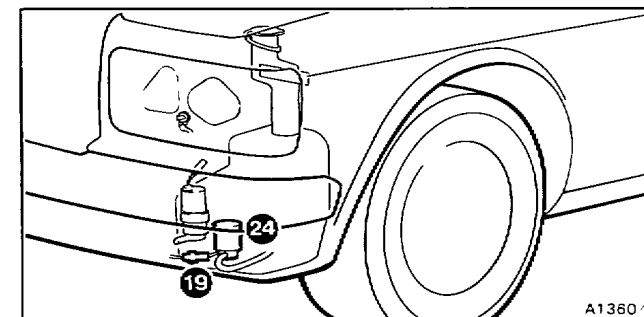
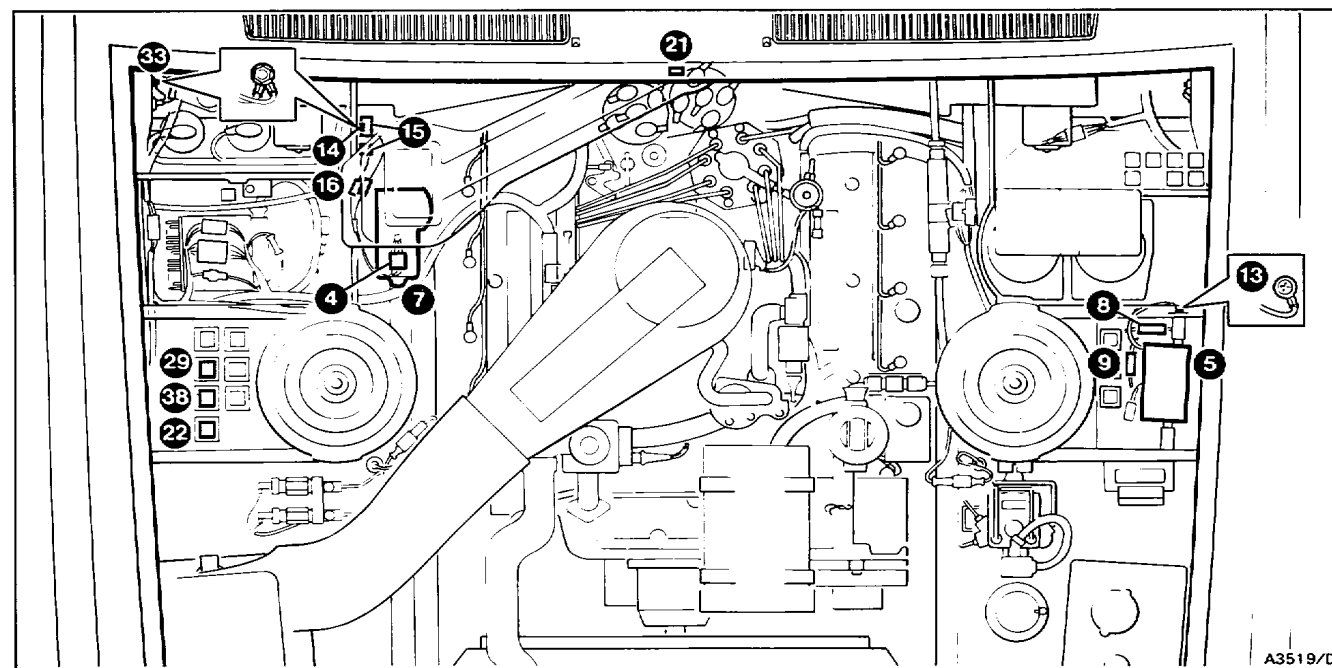
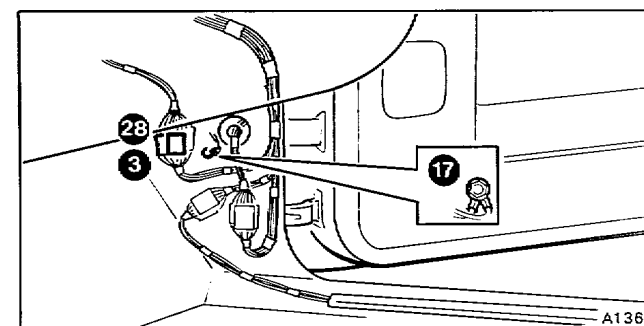
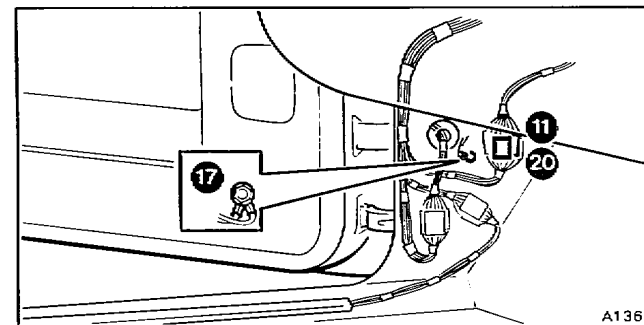
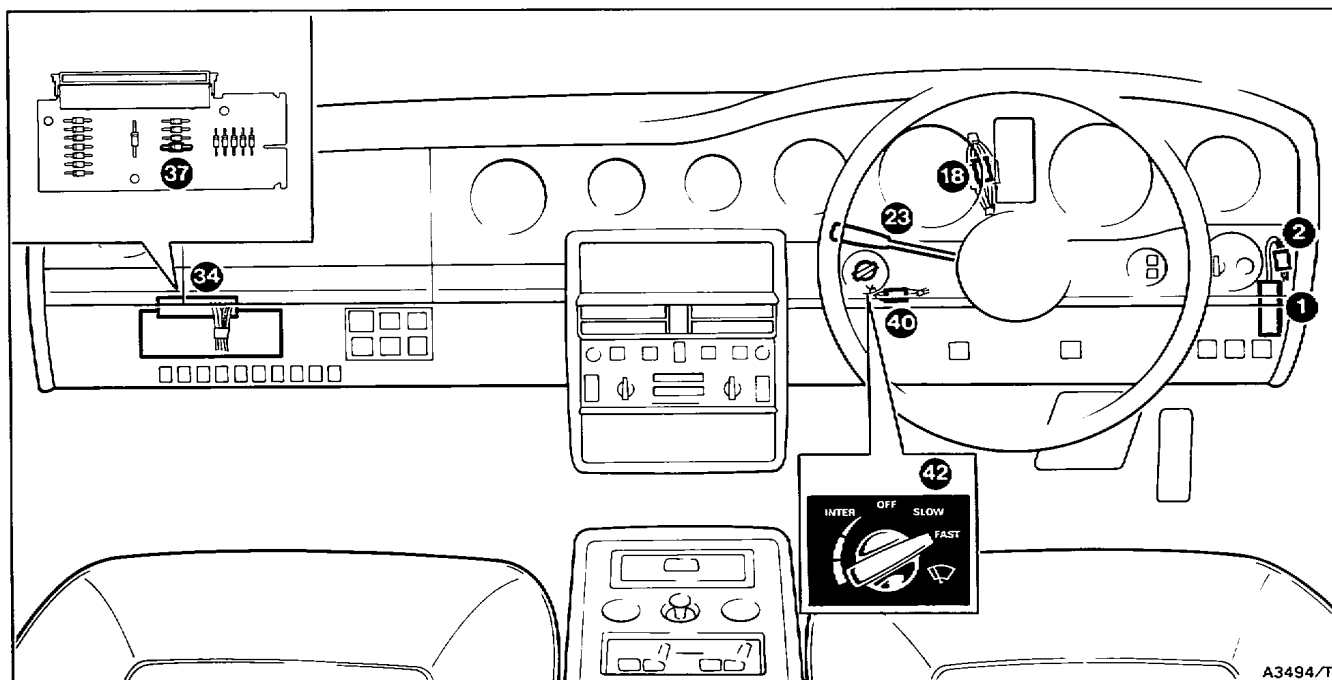
Wiring diagram

- 1) Windscreen wipers electronic control unit
- 2) Windscreen wipers electronic control unit plug and socket 12-way
- 3) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
- 4) Windscreen wipers motor plug and socket 7-way
- 5) Headlamps electronic control unit
- 6) 'On screen' park switch - located within the windscreen wipers motor
- 7) Windscreen wipers motor
- 8) Headlamps electronic control unit plug and socket 12-way
- 9) Headlamps electronic control unit plug and socket 7-way
- 10) Splice 36
- 11) Main loom to valance loom plug and socket 18-way - left-hand 'A' post
- 12) Splice 172
- 13) Headlamps electronic control unit earth point
- 14) Windscreen wipers motor earth point
- 15) Windscreen wipers motor suppressor
- 16) Windscreen wipers motor suppressor connector
- 17) 'A' post earth points
- 18) Steering column plug and socket 7-way
- 19) Windscreen washers pump plug and socket
- 20) Main loom to valance loom plug and socket 12-way - left-hand 'A' post
- 21) 'Off screen' park switch
- 22) Windscreen wipers relay 3
- 23) Windscreen wash/wipe switch - steering column
- 24) Windscreen washers pump
- 25) Splice 163
- 26) Splice 18. Right-hand drive cars Splice 58. Left-hand drive cars
- 27) Splice 5. Right-hand drive cars Splice 53. Left-hand drive cars
- 28) Main loom to valance loom plug and socket 9-way - right-hand 'A' post
- 29) Windscreen wipers relay 1
- 30) Splice 25. Right-hand drive cars Splice 55. Left-hand drive cars
- 31) Splice 165
- 32) Splice 164
- 33) Engine compartment earth point - right-hand valance
- 34) Diode board plug 18-way
- 35) Fuseboard F2, fuse A7, 10 amp
- 36) Fuseboard F2, fuse A9, 10 amp
- 37) Diode - diode board
- 38) Windscreen wipers relay 2
- 39) Fuseboard F2, fuse B7, 20 amp
- 40) Windscreen wipers switch plug and socket 12-way
- 41) 12 volts positive supply when ignition switch is in the ACC or RUN position
- 42) Windscreen wipers control switch

Note:

The windscreen wipers control switch is a mechanically linked, 3-level wafer switch

- 42a Wafer switch 2
- 42b Wafer switch 3
- 42c Wafer switch 1



Intermittent operation

Circuit description

There are four selected switch positions for intermittent operation of the windscreen wipers. Intermittent operation of the wipers gives one complete wipe at pre-set intervals of approximately 4, 7, 14, or 21 seconds. The time intervals increase as the switch is rotated anti-clockwise.

Whenever the windscreen wipers switch is set to an INTER (intermittent) position, the red and orange cables are interconnected at the wipers switch (see item 42a). Also, when the wipers switch is in an intermittent position, a 12 volts positive supply from fuse B7 at fuseboard F2 is directed through the wipers switch (see item 42b) to the 'On screen' park switch.

In addition, dependent upon the intermittent position selected, the slate and black cables are interconnected via a series of resistors as shown in the adjacent illustration.

Whenever the red and orange cables are interconnected, the windscreen wipers electronic control unit provides a 12 volts positive supply on the light green/white cable to energize relay 1. With this relay energized, a 12 volts positive supply is directed through the normally open contacts of the relay, and via the normally closed contacts of relay 3, to the slow speed brush of the wiper motor.

The earth path for the wiper motor is directed through the normally closed contacts of relay 2 to the valance earth point. The motor then rotates.

After one wipe cycle, the motor sets the 'On screen' park switch (within the motor assembly) to the park position. A 12 volts positive supply is then fed via the park switch to the windscreen wipers electronic control unit. In response to this input, the electronic control unit switches off the 12 volts positive supply to the coil of relay 1 causing the motor to stop immediately (the windscreen wiper blades being in the 'On screen' park position).

After the appropriate time delay, the windscreen wipers electronic control unit again provides a 12 volts positive supply on the light green/white cable causing the cycle to be repeated.

Component locations

Wiring diagram

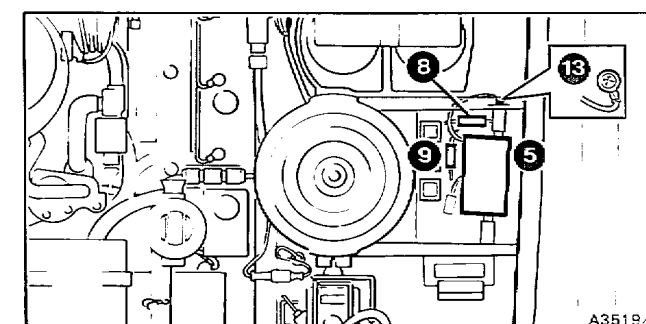
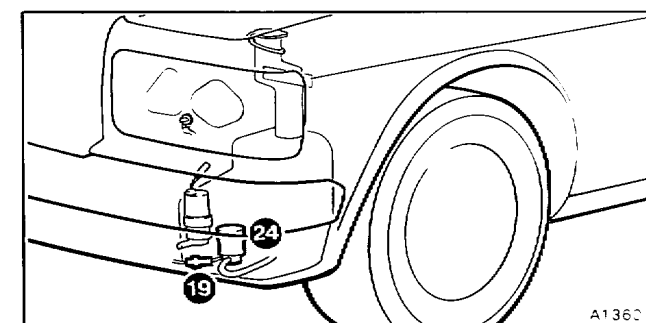
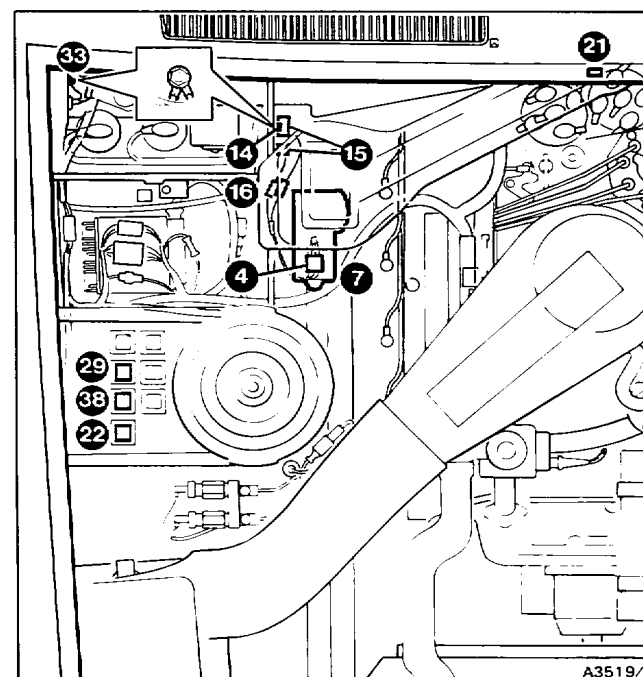
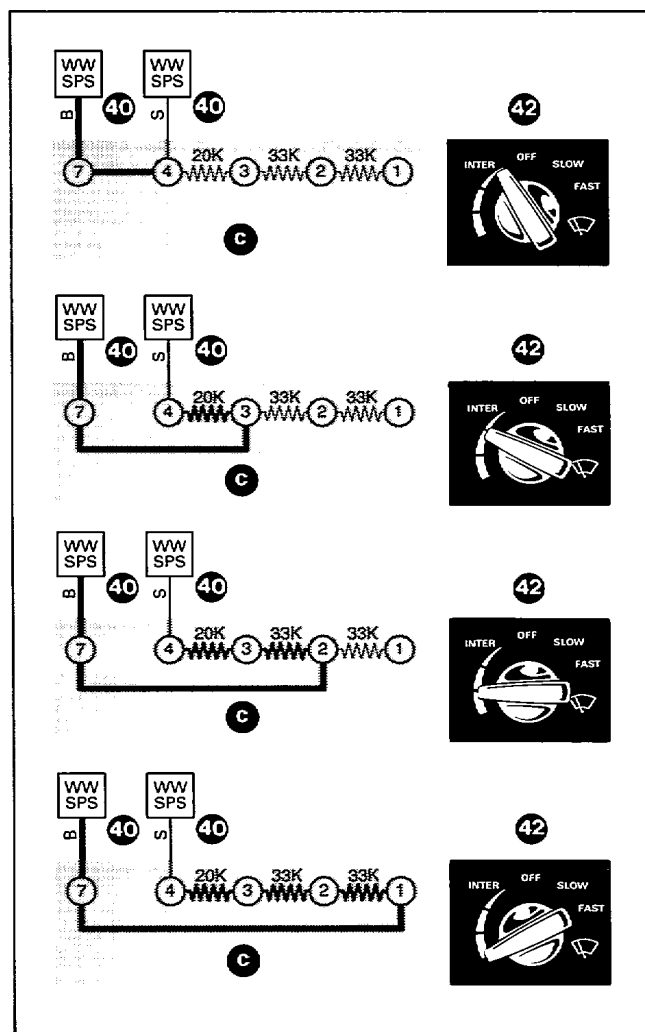
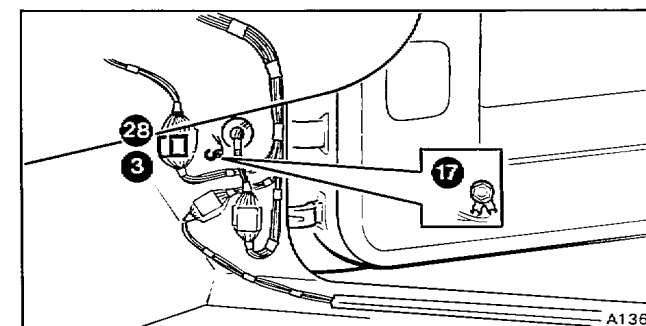
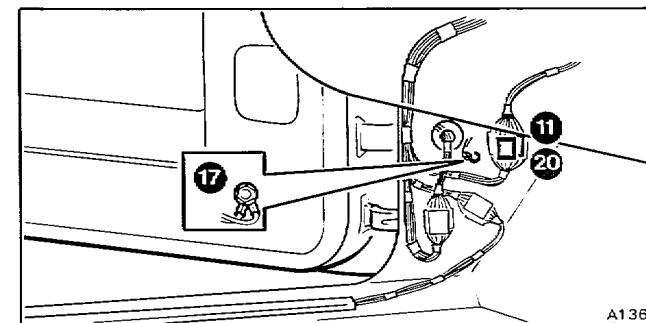
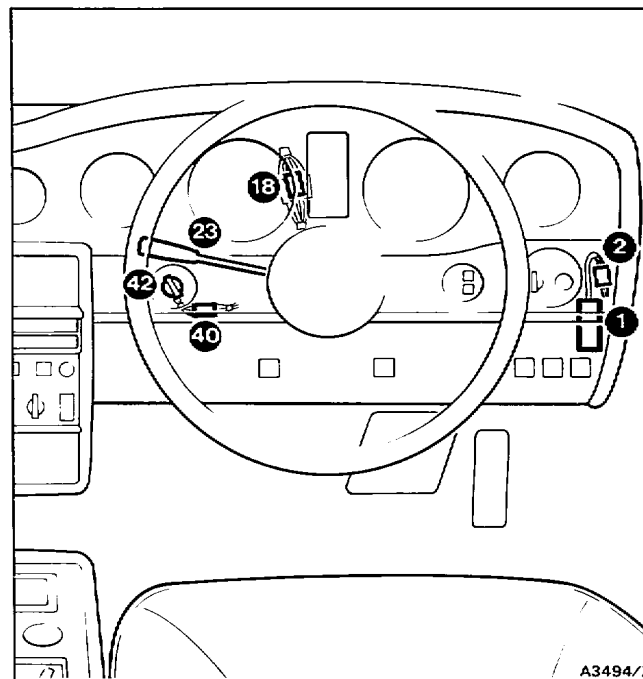
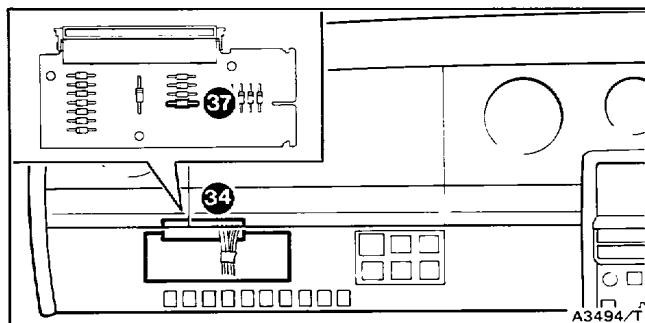
- 1) Windscreen wipers electronic control unit
- 2) Windscreen wipers electronic control unit plug and socket 12-way
- 3) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
- 4) Windscreen wipers motor plug and socket 7-way
- 5) Headlamps electronic control unit
- 6) 'On screen' park switch - located within the windscreen wipers motor
- 7) Windscreen wipers motor
- 8) Headlamps electronic control unit plug and socket 12-way
- 9) Headlamps electronic control unit plug and socket 7-way
- 10) Splice 36
- 11) Main loom to valance loom plug and socket 18-way - left-hand 'A' post
- 12) Splice 172
- 13) Headlamps electronic control unit earth point
- 14) Windscreen wipers motor earth point
- 15) Windscreen wipers motor suppressor
- 16) Windscreen wipers motor suppressor connector
- 17) 'A' post earth points
- 18) Steering column plug and socket 7-way
- 19) Windscreen washers pump plug and socket
- 20) Main loom to valance loom plug and socket 12-way - left-hand 'A' post
- 21) 'Off screen' park switch
- 22) Windscreen wipers relay 3
- 23) Windscreen wash/wipe switch - steering column
- 24) Windscreen washers pump
- 25) Splice 163
- 26) Splice 18. Right-hand drive cars Splice 58. Left-hand drive cars
- 27) Splice 5. Right-hand drive cars Splice 53. Left-hand drive cars
- 28) Main loom to valance loom plug and socket 9-way - right-hand 'A' post
- 29) Windscreen wipers relay 1
- 30) Splice 25. Right-hand drive cars Splice 55. Left-hand drive cars
- 31) Splice 165
- 32) Splice 164
- 33) Engine compartment earth point - right-hand valance
- 34) Diode board plug 18-way
- 35) Fuseboard F2, fuse A7, 10 amp
- 36) Fuseboard F2, fuse A9, 10 amp
- 37) Diode - diode board
- 38) Windscreen wipers relay 2

- 39) Fuseboard F2, fuse B7, 20 amp
- 40) Windscreen wipers switch plug and socket 12-way
- 41) 12 volts positive supply when ignition switch is in the ACC or RUN position
- 42) Windscreen wipers control switch

Note:

The windscreen wipers control switch is a mechanically linked, 3-level wafer switch

- 42a Wafer switch 2
- 42b Wafer switch 3
- 42c Wafer switch 1



Wash/wipe operation

Circuit description

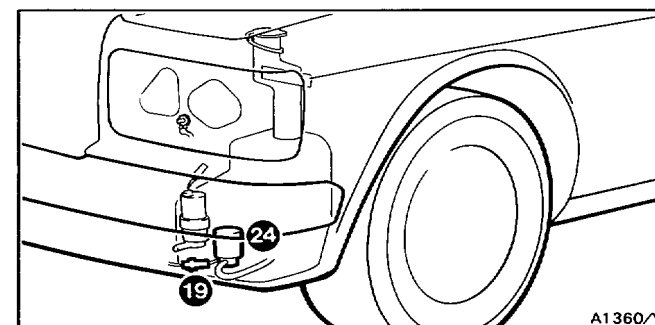
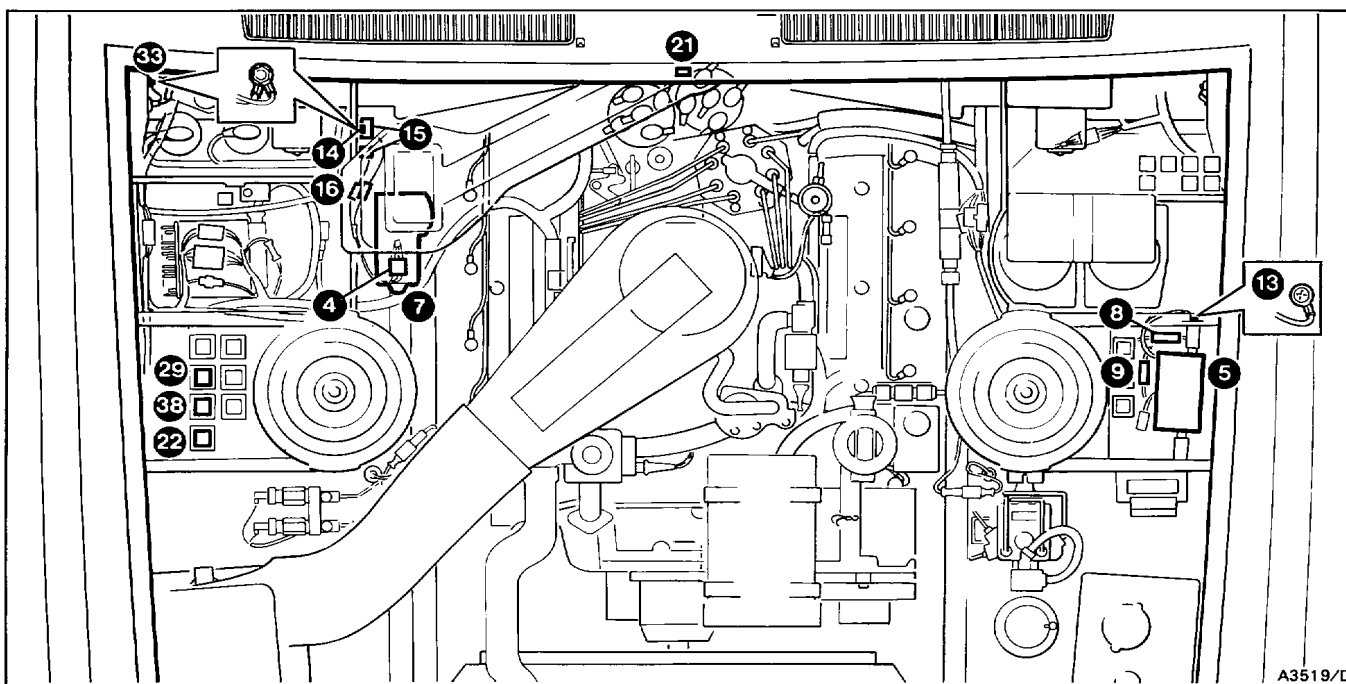
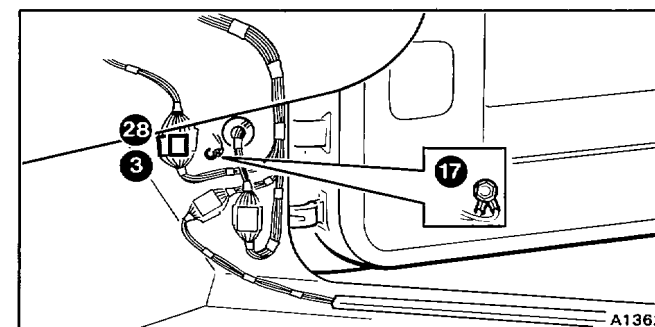
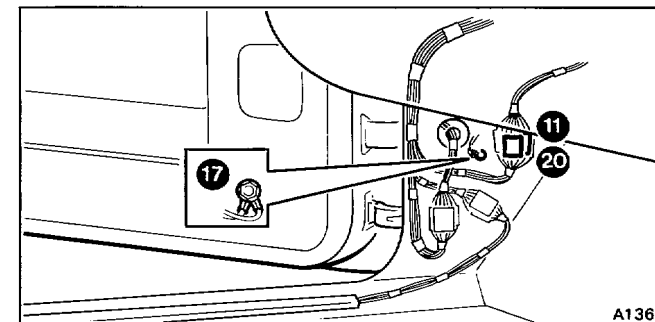
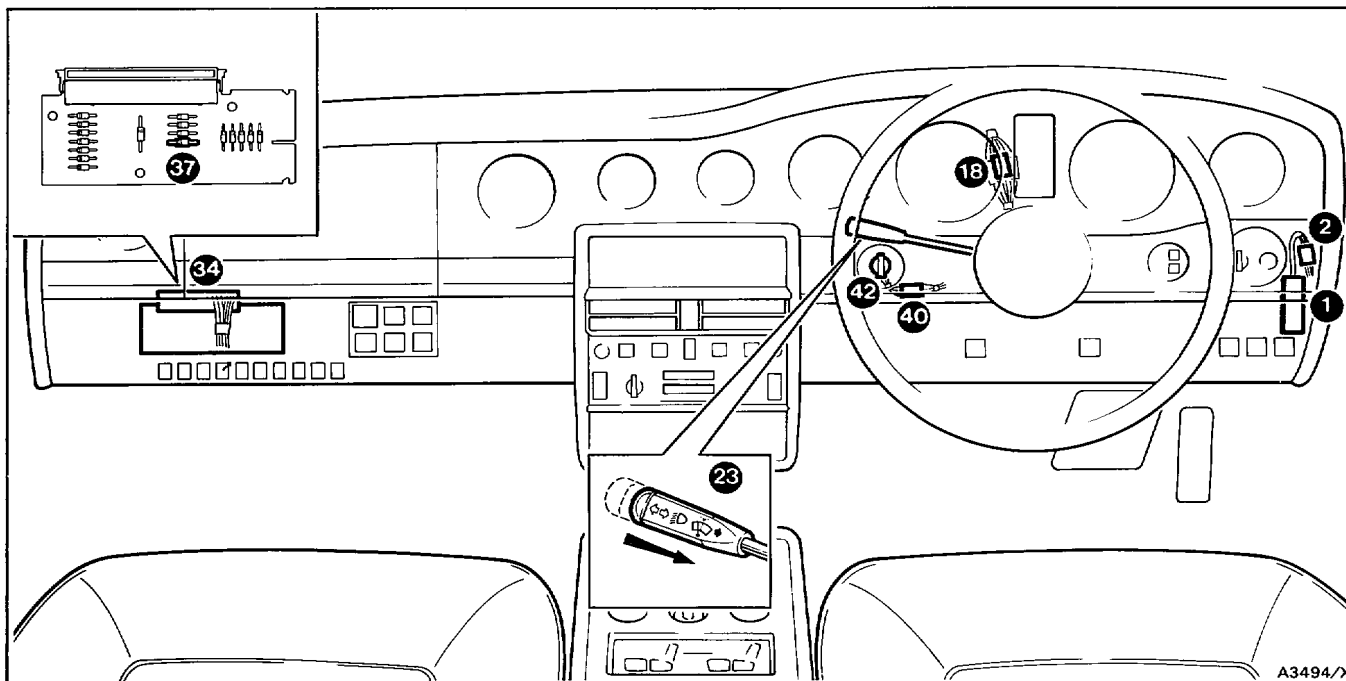
With the ignition switch in the RUN position, the windscreen washers pump receives a 12 volt positive supply from fuse B7 at fuseboard F2. Depressing the wash/wipe switch provides an earth path for the light green/black cable at the windscreen wipers electronic control unit. When the switch is depressed for a period of more than one second, the windscreen wipers electronic control unit applies an earth to the light green/black cable at the headlamps electronic control unit. In response to this signal, the headlamps electronic control unit provides an earth path for the windscreen washers pump. The pump now operates. If the switch is held depressed for a further one second, the windscreen wipers electronic control unit provides a 12 volts positive supply on the light green/white cable to energize relay 1. This allows a 12 volts positive supply to pass through the normally open contacts of relay 1, and via the normally closed contacts of relay 3, to the slow speed brush of the wiper motor. The earth path for the wiper motor is directed through the normally closed contacts of relay 2 to the valance earth point.

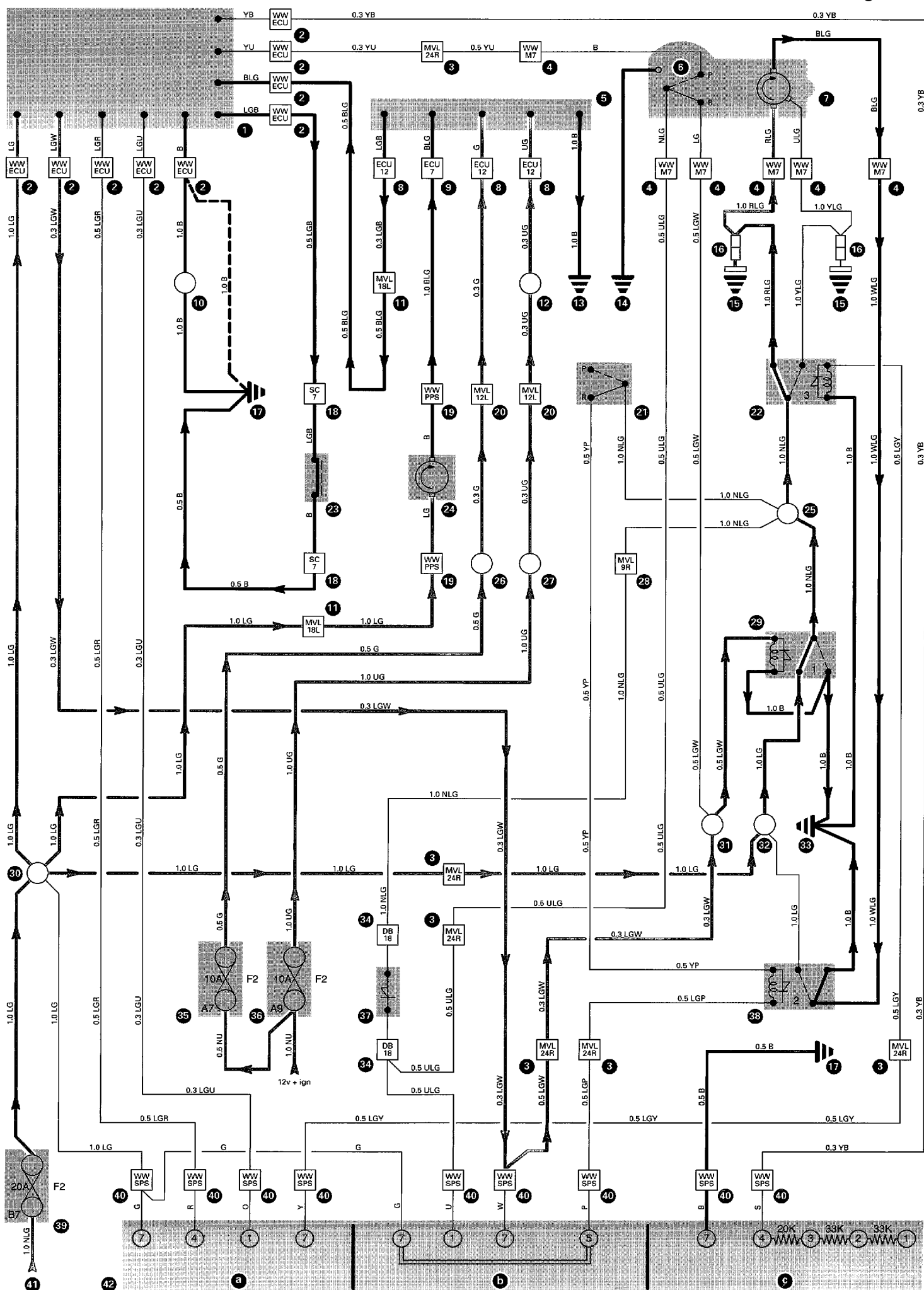
On releasing the wash/wipe switch the windscreen washers pump stops immediately, but the windscreen wipers electronic control unit maintains the 12 volts positive supply on the light green/white cable for a further five seconds, causing the wiper motor to complete approximately five cycles. The wipe cycle ends with the wiper blades in the parked position, details of which are shown in the diagrams for the OFF position.

Component locations

Wiring diagram

- 1) Windscreen wipers electronic control unit
 - 2) Windscreen wipers electronic control unit plug and socket 12-way
 - 3) Main loom to valance loom plug and socket 24-way - right-hand 'A' post
 - 4) Windscreen wipers motor plug and socket 7-way
 - 5) Headlamps electronic control unit
 - 6) 'On screen' park switch - located within the windscreen wipers motor
 - 7) Windscreen wipers motor
 - 8) Headlamps electronic control unit plug and socket 12-way
 - 9) Headlamps electronic control unit plug and socket 7-way
 - 10) Splice 36
 - 11) Main loom to valance loom plug and socket 18-way - left-hand 'A' post
 - 12) Splice 172
 - 13) Headlamps electronic control unit earth point
 - 14) Windscreen wipers motor earth point
 - 15) Windscreen wipers motor suppressor
 - 16) Windscreen wipers motor suppressor connector
 - 17) 'A' post earth points
 - 18) Steering column plug and socket 7-way
 - 19) Windscreen washers pump plug and socket
 - 20) Main loom to valance loom plug and socket 12-way - left-hand 'A' post
 - 21) 'Off screen' park switch
 - 22) Windscreen wipers relay 3
 - 23) Windscreen wash/wipe switch - steering column
 - 24) Windscreen washers pump
 - 25) Splice 163
 - 26) Splice 18. Right-hand drive cars Splice 58. Left-hand drive cars
 - 27) Splice 5. Right-hand drive cars Splice 53. Left-hand drive cars
 - 28) Main loom to valance loom plug and socket 9-way - right-hand 'A' post
 - 29) Windscreen wipers relay 1
 - 30) Splice 25. Right-hand drive cars Splice 55. Left-hand drive cars
 - 31) Splice 165
 - 32) Splice 164
 - 33) Engine compartment earth point - right-hand valance
 - 34) Diode board plug 18-way
 - 35) Fuseboard F2, fuse A7, 10 amp
 - 36) Fuseboard F2, fuse A9, 10 amp
 - 37) Diode - diode board
 - 38) Windscreen wipers relay 2
 - 39) Fuseboard F2, fuse B7, 20 amp
 - 40) Windscreen wipers switch plug and socket 12-way
 - 41) 12 volts positive supply when ignition switch is in the ACC or RUN position
 - 42) Windscreen wipers control switch
- . 42a Wafer switch 2
 - . 42b Wafer switch 3
 - . 42c Wafer switch 1





Window lifts - Right-hand drive cars

Key to 20R1 Component Locations and 20R2 Wiring Diagramme

- 1) Earth point - left-hand 'A' post
- 2) Splice 105
- 3) Earth point - right-hand 'A' post
- 4) Left-hand front door plug and socket 7-way
- 5) Window lift 'up' relay
- 6) Window lift 'down' relay
- 7) Right-hand front door plug and socket 24-way
- 8) Right-hand front door plug and socket 5-way
- 9) Splice 106
- 10) Splice 129
- 11) Connect yellow/red and brown/pink cables together on cars conforming to a Japanese or United Kingdom specification
- 12) Window lift motor plug and socket
- 13) Fuseboard F1, fuse C3, 30 amp
- 14) Fuseboard F1, fuse C7, 30 amp
- 15) One shot window lift electronic control unit
- 16) One shot window lift electronic control unit base
- 17) Left-hand front door window lift switches
- 18) Window lift motor
- 19) Right-hand front door plug and socket 12-way
- 20) Parameter code connectors
- 21) Connect black/white cable to black/brown cable on cars conforming to an Australian specification
- 22) Connect black/blue cable to black/brown cable on cars other than those conforming to an Australian specification
- 23) Window lifts relay or relay base
- 24)
-

On cars conforming to a Japanese or United Kingdom specification the window lifts relay is not fitted and the black cable from terminal 8 and the black/slate cables from terminal 2 are connected together at the relay base

- 25) Fuseboard F2, fuse A9, 10 amp
- 26) 12 volts positive supply when engine is running
- 27) Splice 16
- 28) Fuseboard F2, fuse A1, 10 amp
- 29) Diode board plug 18-way
- 30) Left-hand front door plug and socket 24-way
- 31) Splice 36
- 32) Driver's door switch relay
- 33) Splice 5
- 34) Splice 1
- 35) Interior lamps switch plug and socket - driver's door
- 36) Interior lamps switch - driver's door
- 37) Driver's door window lifts switches
- 38) Rear window lifts isolation relay
- 39) Main loom to body loom plug and socket 5-way - left-hand 'A' post
- 40) Main loom to body loom plug and socket 12-way - left-hand 'A' post
- 41) Centre console switch panel plug and socket 24-way
- 42) Printed circuit board connection
- 43) Rear window lifts isolation switch
- 44) Main loom to body loom plug and socket 18-way - right-hand 'A' post
- 45) Main loom to body loom plug and socket 9-way - right-hand 'A' post
- 46) Left-hand rear door plug and socket 5-way
- 47) Left-hand rear door plug and socket 6-way
- 48) Right-hand rear door plug and socket 6-way
- 49) Right-hand rear door plug and socket 5-way
- 50) Left-hand rear door window lift switches
- 51) Fuseboard F1, fuse C5, 30 amp
- 52) Fuseboard F1, fuse C9, 30 amp
- 53) Right-hand rear door window lift switches
- 54) Splice 150
- 55) Splice 149
- 56) Splice 246

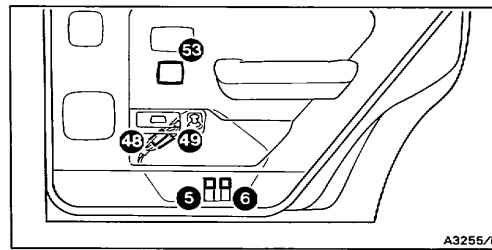
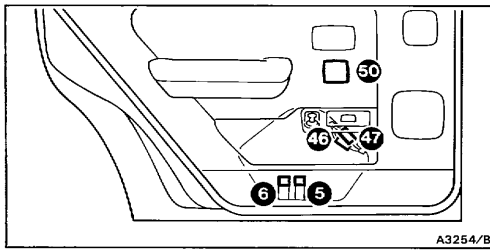
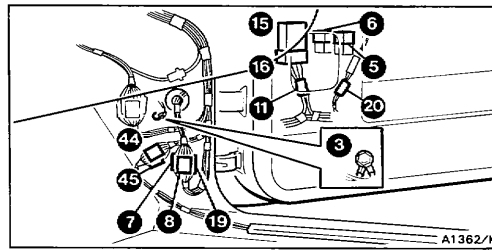
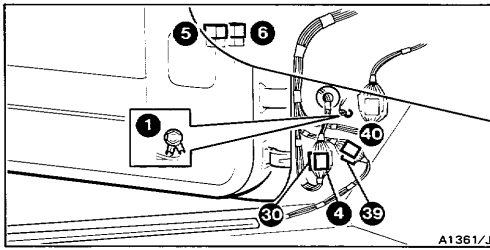
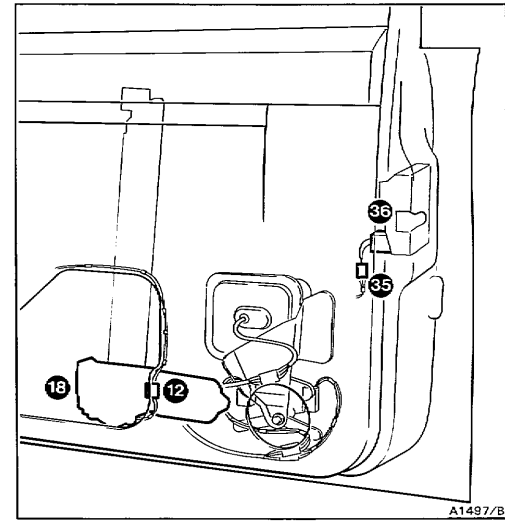
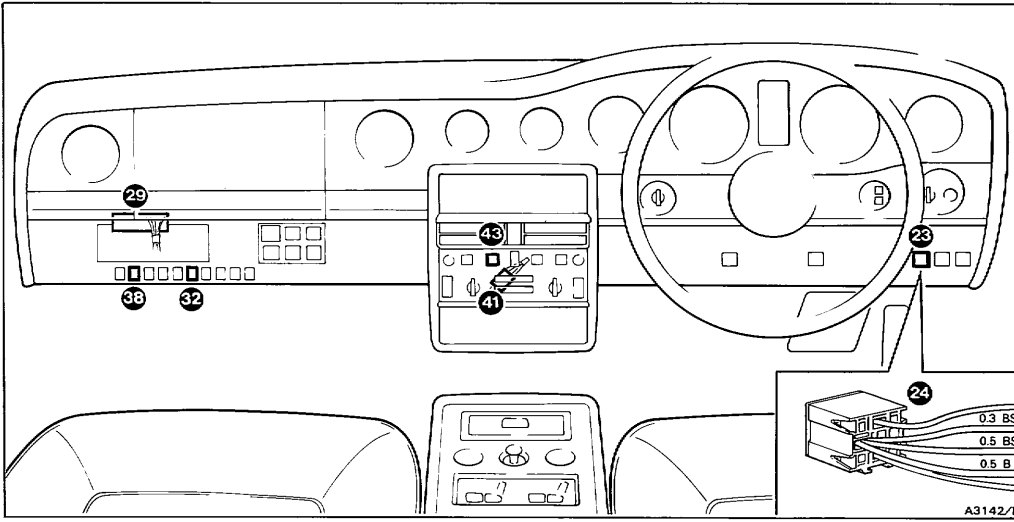


Figure 20R1

This is a detailed electrical wiring diagram for a vehicle, likely a truck or heavy-duty car, based on the components and wire gauges shown. The diagram is organized into several main sections:

- Top Section:** Features a 12V battery (12v + and 12v -) and a 30A fuse (F1). It includes a horn (HORN) and a set of headlights (LHD 7, RHD 7) with various wire colors (0.5 YP, 1.0 YP, 1.0 B, 0.5 W, 0.5 U, 0.5 G, 0.5 R, 0.5 BS, 0.5 PG, 0.5 PR, 0.5 NK, 0.5 BN, 0.5 KR, 0.5 KG, 0.5 BY, 0.5 Y, 0.5 B, 0.5 UG, 0.5 WG, 0.5 WR, 0.5 YW, 0.5 YB, 0.5 YG, 0.5 YR, 0.5 YW, 0.5 YB, 0.5 YG, 0.5 YR).
- Middle Section:** Contains a central control unit (WLM PS) and a set of speakers (MBL 12L, MBL 12R). It also shows a set of taillights (LRD 6, LRD 5) and a set of fog lights (F1, F2). The diagram includes numerous relays (RFD 24, RFD 12, RFD 5, RFD 8, RFD 19, RFD 20, RFD 21, RFD 22, RFD 23, RFD 24, RFD 25, RFD 26, RFD 27, RFD 28, RFD 29, RFD 30, RFD 31, RFD 32, RFD 33, RFD 34, RFD 35, RFD 36, RFD 37, RFD 38, RFD 39, RFD 40, RFD 41, RFD 42, RFD 43, RFD 44, RFD 45, RFD 46, RFD 47, RFD 48, RFD 49, RFD 50, RFD 51, RFD 52, RFD 53, RFD 54, RFD 55, RFD 56, RFD 57, RFD 58, RFD 59, RFD 60, RFD 61, RFD 62, RFD 63, RFD 64, RFD 65, RFD 66, RFD 67, RFD 68, RFD 69, RFD 70, RFD 71, RFD 72, RFD 73, RFD 74, RFD 75, RFD 76, RFD 77, RFD 78, RFD 79, RFD 80, RFD 81, RFD 82, RFD 83, RFD 84, RFD 85, RFD 86, RFD 87, RFD 88, RFD 89, RFD 90, RFD 91, RFD 92, RFD 93, RFD 94, RFD 95, RFD 96, RFD 97, RFD 98, RFD 99, RFD 100) and a set of fuses (F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11, F12, F13, F14, F15, F16, F17, F18, F19, F20, F21, F22, F23, F24, F25, F26, F27, F28, F29, F30, F31, F32, F33, F34, F35, F36, F37, F38, F39, F40, F41, F42, F43, F44, F45, F46, F47, F48, F49, F50, F51, F52, F53, F54, F55, F56, F57, F58, F59, F60, F61, F62, F63, F64, F65, F66, F67, F68, F69, F70, F71, F72, F73, F74, F75, F76, F77, F78, F79, F80, F81, F82, F83, F84, F85, F86, F87, F88, F89, F90, F91, F92, F93, F94, F95, F96, F97, F98, F99, F100).
- Bottom Section:** Shows a set of speakers (MBL 12L, MBL 12R) and a set of taillights (LRD 6, LRD 5). It also includes a set of fog lights (F1, F2) and a set of relays (RFD 24, RFD 12, RFD 5, RFD 8, RFD 19, RFD 20, RFD 21, RFD 22, RFD 23, RFD 24, RFD 25, RFD 26, RFD 27, RFD 28, RFD 29, RFD 30, RFD 31, RFD 32, RFD 33, RFD 34, RFD 35, RFD 36, RFD 37, RFD 38, RFD 39, RFD 40, RFD 41, RFD 42, RFD 43, RFD 44, RFD 45, RFD 46, RFD 47, RFD 48, RFD 49, RFD 50, RFD 51, RFD 52, RFD 53, RFD 54, RFD 55, RFD 56, RFD 57, RFD 58, RFD 59, RFD 60, RFD 61, RFD 62, RFD 63, RFD 64, RFD 65, RFD 66, RFD 67, RFD 68, RFD 69, RFD 70, RFD 71, RFD 72, RFD 73, RFD 74, RFD 75, RFD 76, RFD 77, RFD 78, RFD 79, RFD 80, RFD 81, RFD 82, RFD 83, RFD 84, RFD 85, RFD 86, RFD 87, RFD 88, RFD 89, RFD 90, RFD 91, RFD 92, RFD 93, RFD 94, RFD 95, RFD 96, RFD 97, RFD 98, RFD 99, RFD 100).

The diagram is a complex network of wires, with each wire labeled with its gauge and color. The components are arranged in a logical manner, with the battery and alternator at the top, the control unit in the middle, and the lights and speakers at the bottom. The diagram is a technical drawing, with all components and wires clearly labeled and connected.

Window lifts - Left-hand drive cars

Key to 20L1 Component Locations and 20L2 Wiring Diagramme

- 1) Earth point - left-hand 'A' post
- 2) Splice 109
- 3) Earth point - right-hand 'A' post
- 4) Window lift 'up' relay
- 5) Window lift 'down' relay
- 6) Left-hand front door plug and socket 24-way
- 7) Right-hand front door plug and socket 7-way
- 8) Splice 110
- 9) Left-hand front door plug and socket 5-way
- 10) Splice 132
- 11) One shot window lift electronic control unit base
- 12) Connect yellow/red and brown/pink cables together on cars conforming to a Japanese or Middle East specification
- 13) One shot window lift electronic control unit
- 14) Fuseboard F1, fuse C3, 30 amp
- 15) Fuseboard F1, fuse C7, 30 amp
- 16) Window lift motor plug and socket
- 17) Parameter code connectors
- 18) Connect black/blue cable to black/brown cable on cars other than those conforming to a Canadian or USA specification
- 19) Connect black/white cable to black/brown cable on cars conforming to a Canadian or USA specification
- 20) Left-hand front door plug and socket 12-way
- 21) Right-hand front door window lift switches
- 22) Window lift motor
- 23) 12 volts positive supply when engine is running
- 24) Fuseboard F2, fuse A9, 10 amp
- 25) Fuseboard F2, fuse A1, 10 amp
- 26) Splice 83
- 27)

On cars conforming to a Japanese or Middle East specification the window lifts relay is not fitted and the black cable from terminal 8 and the black/slate cables from terminal 2 are connected together at the relay base

- 28) Window lifts relay or relay base
- 29) Right-hand front door plug and socket 24-way
- 30) Diode board plug 18-way
- 31) Splice 52
- 32) Splice 53
- 33) Splice 47
- 34) Driver's door switch relay
- 35) Splice 80
- 36) Interior lamps switch plug and socket - driver's door
- 37) Interior lamps switch - driver's door
- 38) Driver's door window lifts switches
- 39) Rear window lifts isolation relay
- 40) Main loom to body loom plug and socket 5-way - left-hand 'A' post
- 41) Main loom to body loom plug and socket 12-way - left-hand 'A' post
- 42) Rear window lifts isolation switch
- 43) Printed circuit board connection
- 44) Centre console switch panel plug and socket 24-way
- 45) Main loom to body loom plug and socket 18-way - right-hand 'A' post
- 46) Main loom to body loom plug and socket 9-way - right-hand 'A' post
- 47) Left-hand rear door plug and socket 5-way
- 48) Left-hand rear door plug and socket 6-way
- 49) Right-hand rear door plug and socket 6-way
- 50) Right-hand rear door plug and socket 5-way
- 51) Left-hand rear door window lift switches
- 52) Fuseboard F1, fuse C5, 30 amp
- 53) Fuseboard F1, fuse C9, 30 amp
- 54) Right-hand rear door window lift switches
- 55) Splice 150
- 56) Splice 149
- 57) Splice 246

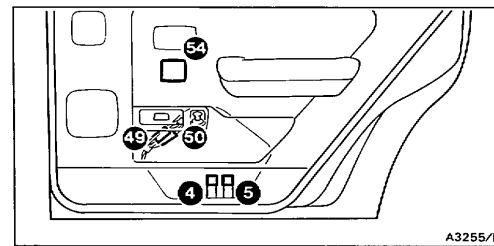
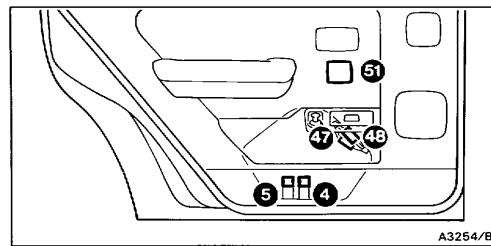
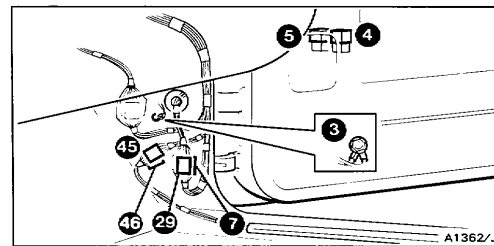
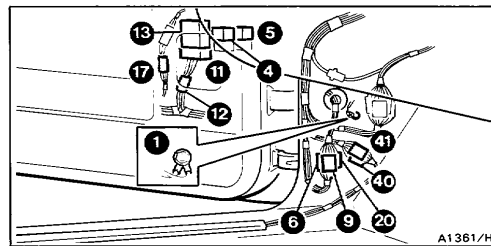
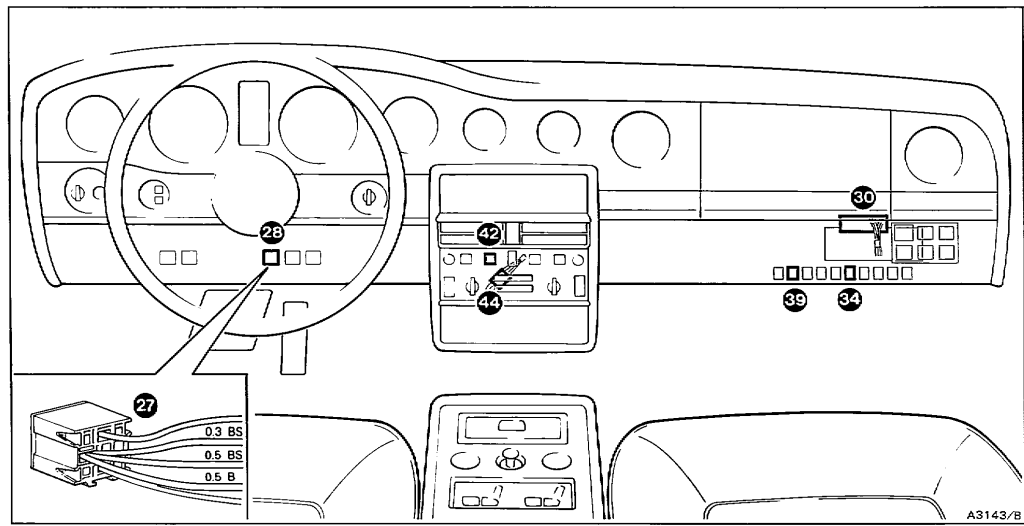
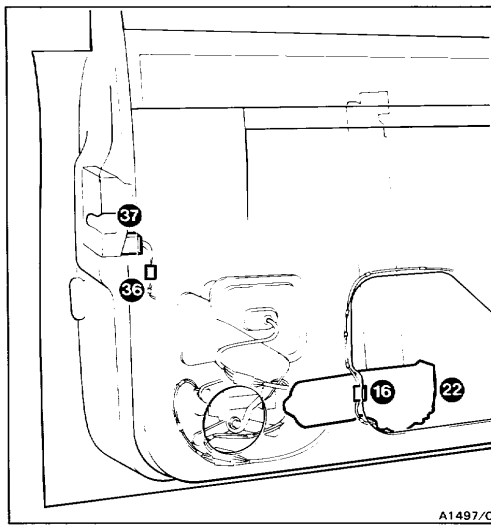
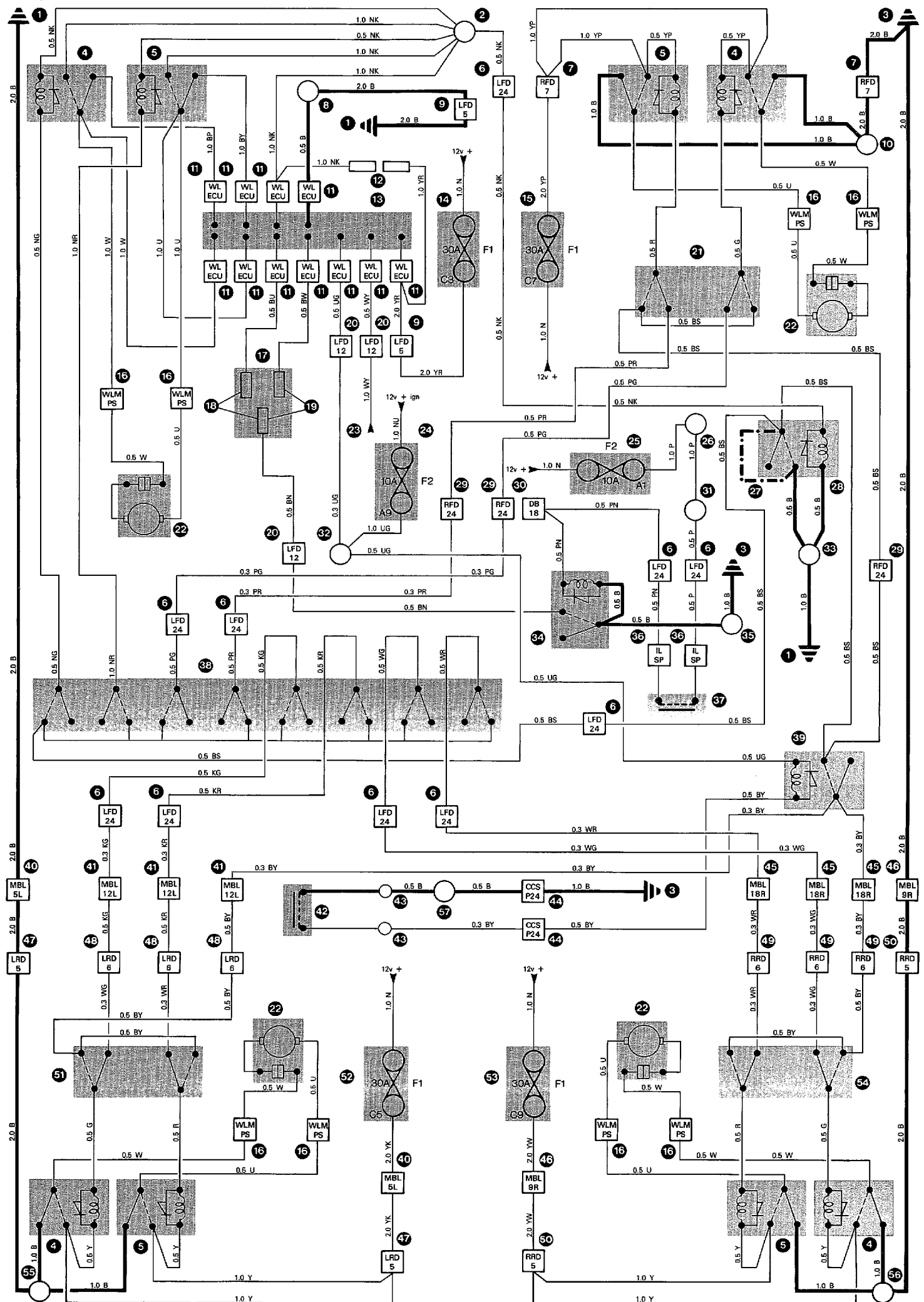


Figure 20L1

Figure 20L2





The Rolls-Royce Owners' Club of Australia

Technical Library



Rolls-Royce and Bentley Four Door Cars From SZ Chassis 30,000 Section 29 Memory Seats and Door Mirrors

Driver's seat and rear view door mirrors - Right-hand drive cars

Driver's seat/door mirrors memory - To reactivate

Should the battery leads be disconnected for 4 weeks or longer, the driver's seat/door mirrors position memory function will be lost.

If this has occurred, it will be necessary to reactivate the memory by tapping-in the memory code as follows.

Warning:
When the seat/door mirrors memory is reactivated, the seat will move immediately and automatically to set adjustment positions, then the door mirrors will move automatically to set adjustment positions. It is essential that contact with the seat is avoided when carrying out the following procedure.

Ensure that the gear range selector lever is in park, then turn the ignition switch to either the ACC or RUN position. Briefly depress the MEM (memory) button five times on the driver's seat control panel then immediately depress the numbered store/recall buttons on the same panel in the sequence 4-3-3-4.

A selected seat position can then be stored in the memory as described below. Switch off the ignition.

Driver's seat/door mirrors position memory

When the optimum, personal seat position has been found, it can be stored in the memory circuit and recalled as required. Personal seat positions for four persons can be stored in the memory.

The driver's seat position memory is linked to the electrically operated door mirrors. This enables the mirrors to be set to match a driver's personal seat position and recalled together with the set seat position when required. Therefore, before storing a driver's personal seat position into the memory, adjust the door mirrors for optimum rearward vision.

The seat adjustment, door mirror adjustment, and memory switches will only operate when the ignition switch is in either the ACC or RUN position. To operate the memory function the gear range selector lever must also be in the park position.

To store a selected seat position, first press the switch marked MEM situated on the driver's seat control panel. This will activate the memory which will then remain receptive for a period of five seconds. During this period, press one of the four numbered personal allocation switches. The personal seat/door mirrors position data, will then be stored in the memory until new data is programmed into the memory by repeating the storage procedure for a new seat position.

To recall the stored position, ensure that the gear range selector lever is in the park position, then press and hold down the personal allocation switch until the seat/door mirrors have reached their programmed positions. Seat/door mirrors movement can be stopped at any time by releasing the switch.

Adjustments that are made to a seat position or to the door mirrors using the control switches independently, will not affect the memory.

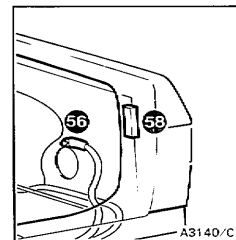
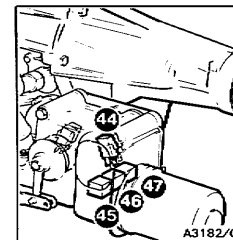
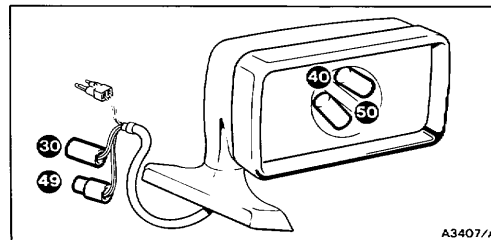
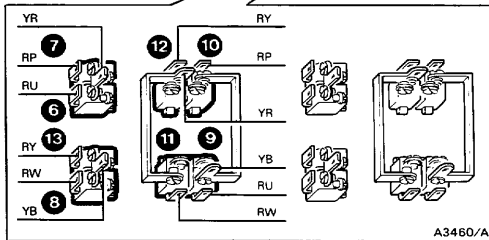
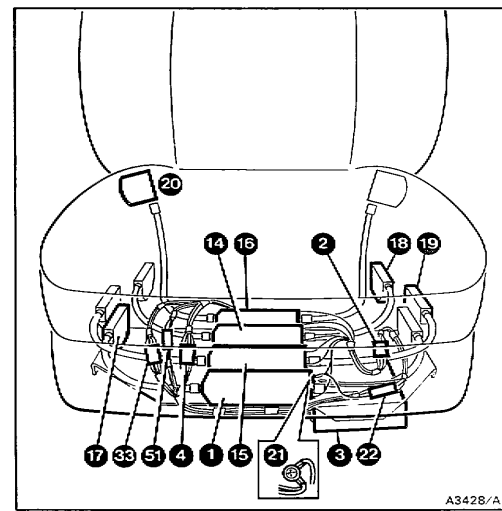
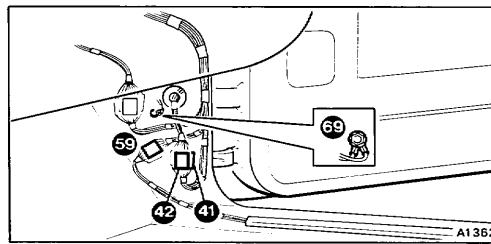
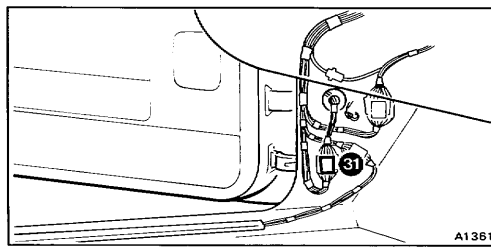
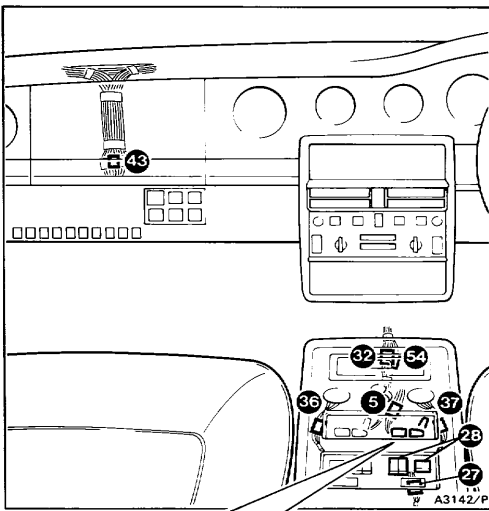
Warning:
Do not adjust the driver's seat whilst the car is in motion

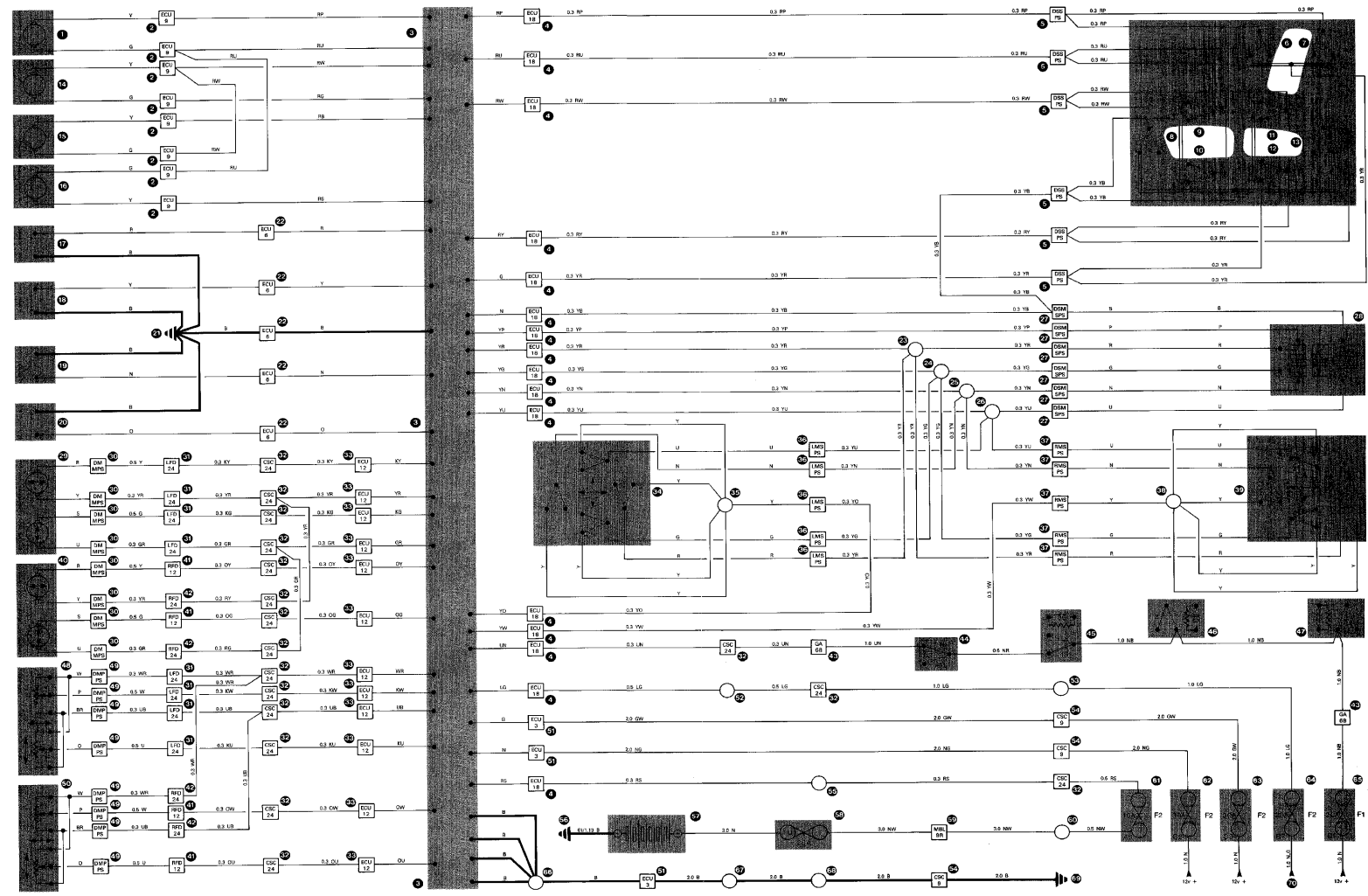
Component locations

Wiring diagram

- 1) Seat motor, controlling front up/down tilt
- 2) Driver's seat/mirrors memory electronic control unit plug and socket 9-way
- 3) Driver's seat/mirrors memory electronic control unit
- 4) Driver's seat/mirrors memory electronic control unit plug and socket 18-way
- 5) Driver's seat switches plug and socket 6-way
- 6) Seat switch, controlling seat squab rake - forward tilt
- 7) Seat switch, controlling seat squab rake - rear tilt
- 8) Seat switch, controlling forward travel
- 9) Seat switch, controlling front up tilt
- 10) Seat switch, controlling front down tilt
- 11) Seat switch, controlling rear up tilt
- 12) Seat switch, controlling rear down tilt
- 13) Seat switch, controlling reverse travel
- 14) Seat motor, controlling rear up/down tilt
- 15) Seat motor, controlling forward/reverse travel
- 16) Seat motor, controlling forward/rear seat squab rake
- 17) Seat gearbox position sensor for front up/down tilt
- 18) Seat gearbox position sensor for rear up/down tilt
- 19) Seat gearbox position sensor for forward/reverse travel
- 20) Seat gearbox position sensor for forward/rear seat squab rake
- 21) Earth point - seat base
- 22) Driver's seat/mirrors memory electronic control unit plug and socket 6-way
- 23) Splice 207
- 24) Splice 209
- 25) Splice 206
- 26) Splice 208
- 27) Driver's seat/mirrors memory switches plug and socket 12-way
- 28) Driver's seat/mirrors memory switches
- 29) Left-hand door mirror motors
- 30) Door mirror motors plug and socket 4-way
- 31) Left-hand front door plug and socket 24-way
- 32) Main loom to centre stowage compartment loom plug and socket 24-way
- 33) Driver's seat/mirrors memory electronic control unit plug and socket 12-way
- 34) Left-hand door mirror switches
- 35) Splice 263
- 36) Left-hand door mirror switches plug and socket 6-way
- 37) Right-hand door mirror switches plug and socket 6-way
- 38) Splice 262
- 39) Right-hand door mirror switches
- 40) Right-hand door mirror motors
- 41) Right-hand front door plug and socket 12-way
- 42) Right-hand front door plug and socket 24-way
- 43) Gearchange actuator plug and socket 6-way - blue
- 44) Gearchange actuator micro-switch
- 45) Gearchange actuator relay 1
- 46) Gearchange actuator relay 2
- 47) Gearchange actuator relay 3
- 48) Left-hand door mirror potentiometers
- 49) Door mirror potentiometers plug and socket 4-way
- 50) Right-hand door mirror potentiometers
- 51) Driver's seat/mirrors memory electronic control unit plug and socket 3-way
- 52) Splice 211
- 53) Splice 25
- 54) Main loom to centre stowage compartment loom plug and socket 9-way
- 55) Splice 210
- 56) Battery earth point
- 57) Battery
- 58) Memories fuse, 20 amp - located in the luggage compartment
- 59) Main loom to body loom plug and socket 9-way - right-hand 'A' post
- 60) Splice 32
- 61) Fuseboard F2, fuse A5, 10 amp
- 62) Fuseboard F2, fuse C2, 30 amp
- 63) Fuseboard F2, fuse C3, 30 amp

- 64) Fuseboard F2, fuse B7, 20 amp
- 65) Fuseboard F1, fuse B1, 20 amp
- 66) Splice 260
- 67) Splice 214
- 68) Splice 212
- 69) Earth point - right-hand 'A' post
- 70) 12 volts positive supply when ignition switch is in the ACC or RUN position





SZ Cars from Chassis 30,000 Onwards

Driver's seat and rear view door mirrors - Left-hand drive cars

Driver's seat/door mirrors memory - To reactivate

Should the battery leads be disconnected for 4 weeks or longer, the driver's seat/door mirrors position memory function will be lost.

If this has occurred, it will be necessary to reactivate the memory by tapping-in the memory code as follows.

When the seat/door mirrors memory is reactivated, the seat will move immediately and automatically to set adjustment positions, then the door mirrors will move automatically to set adjustment positions. It is essential that contact with the seat is avoided when carrying out the following procedure.

Ensure that the gear range selector lever is in park, then turn the ignition switch to either the ACC or RUN position. Briefly depress the MEM (memory) button five times on the driver's seat control panel then immediately depress the numbered store/recall buttons on the same panel in the sequence 4-3-3-4.

A selected seat position can then be stored in the memory as described below. Switch off the ignition.

Driver's seat/door mirrors position memory

When the optimum, personal seat position has been found, it can be stored in the memory circuit and recalled as required. Personal seat positions for four persons can be stored in the memory.

The driver's seat position memory is linked to the electrically operated door mirrors. This enables the mirrors to be set to match a driver's personal seat position and recalled together with the set seat position when required. Therefore, before storing a driver's personal seat position into the memory, adjust the door mirrors for optimum rearward vision.

The seat adjustment, door mirror adjustment, and memory switches will only operate when the ignition switch is in either the ACC or RUN position. To operate the memory function the gear range selector lever must also be in the park position.

To store a selected seat position, first press the switch marked MEM situated on the driver's seat control panel. This will activate the memory which will then remain receptive for a period of five seconds. During this period, press one of the four numbered personal allocation switches. The personal seat/door mirrors position data, will then be stored in the memory until new data is programmed into the memory by repeating the storage procedure for a new seat position.

To recall the stored position, ensure that the gear range selector lever is in the park position, then press and hold down the personal allocation switch until the seat/door mirrors have reached their programmed positions. Seat/door mirrors movement can be stopped at any time by releasing the switch.

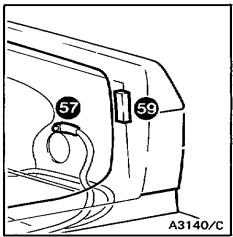
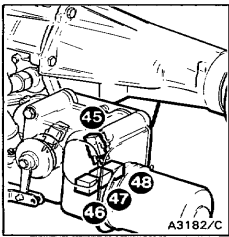
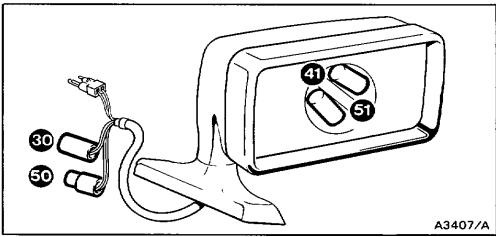
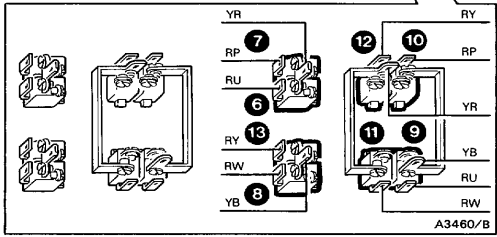
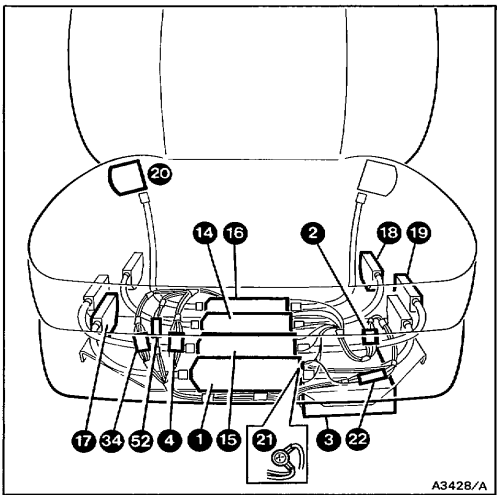
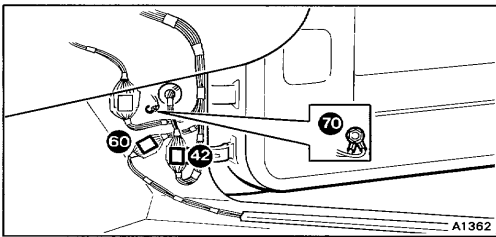
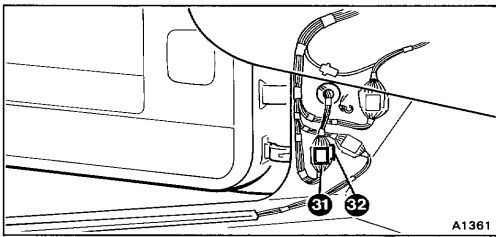
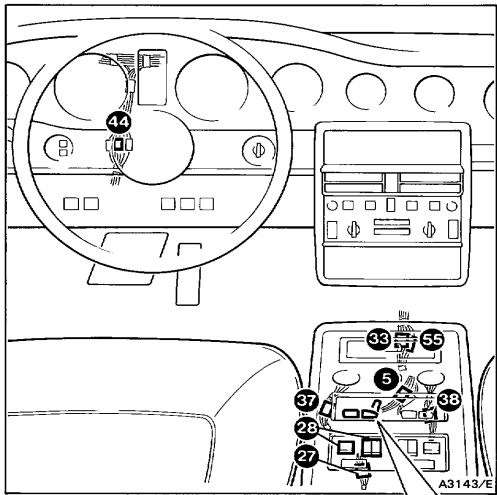
Adjustments that are made to a seat position or to the door mirrors using the control switches independently, will not affect the memory.

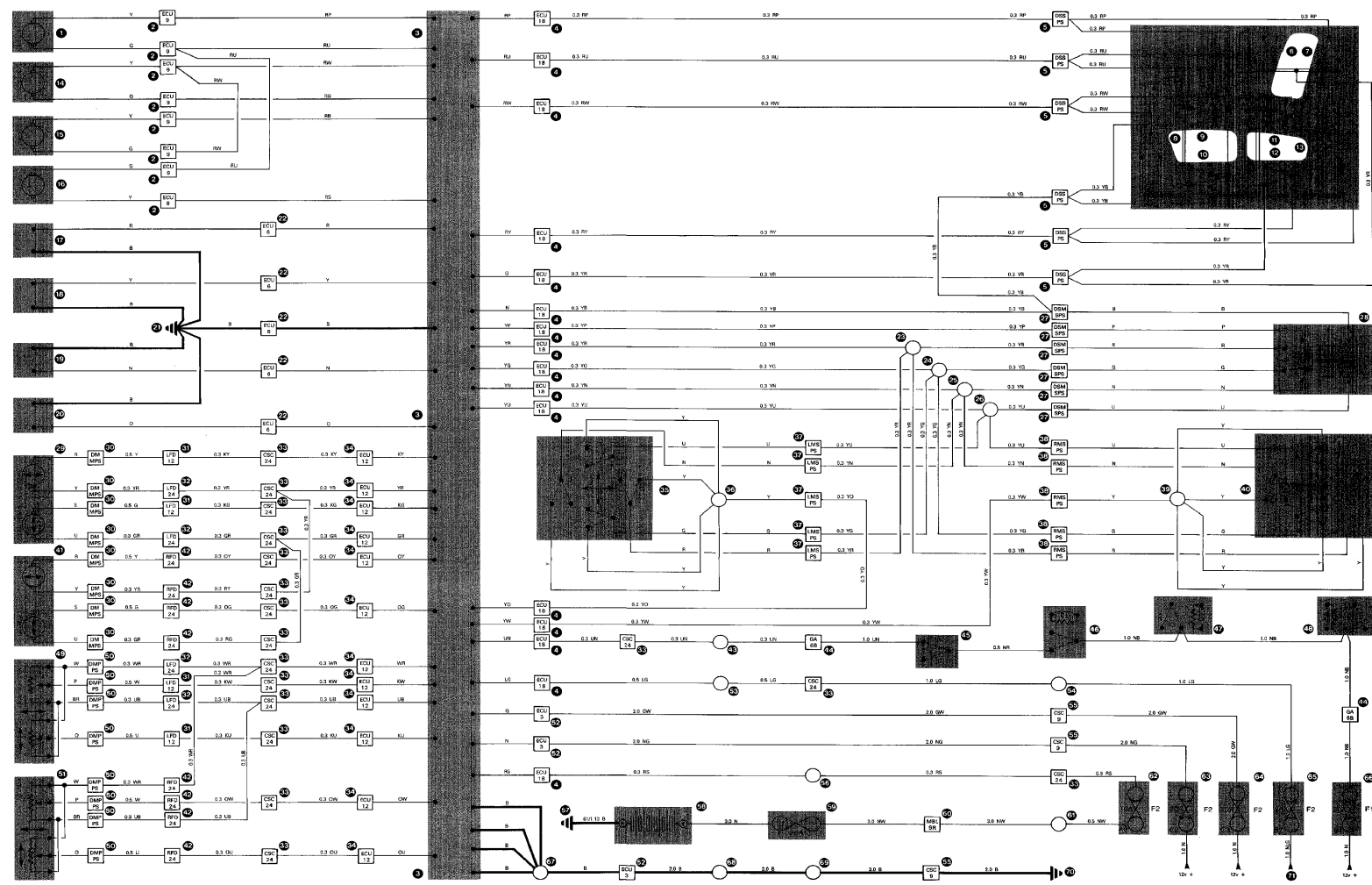
Warning:
Do not adjust the driver's seat whilst the car is in motion.

Key to Component Locations and Wiring Diagramme

- 1) Seat motor, controlling front up/down tilt
- 2) Driver's seat/mirrors memory electronic control unit plug and socket 9-way
- 3) Driver's seat/mirrors memory electronic control unit
- 4) Driver's seat/mirrors memory electronic control unit plug and socket 18-way
- 5) Driver's seat switches plug and socket 6-way
- 6) Seat switch, controlling seat squab rake - forward tilt
- 7) Seat switch, controlling seat squab rake - rear tilt
- 8) Seat switch, controlling forward travel
- 9) Seat switch, controlling front up tilt
- 10) Seat switch, controlling front down tilt
- 11) Seat switch, controlling rear up tilt
- 12) Seat switch, controlling rear down tilt
- 13) Seat switch, controlling reverse travel
- 14) Seat motor, controlling rear up/down tilt
- 15) Seat motor, controlling forward/reverse travel
- 16) Seat motor, controlling forward/rear seat squab rake
- 17) Seat gearbox position sensor for front up/down tilt
- 18) Seat gearbox position sensor for rear up/down tilt
- 19) Seat gearbox position sensor for forward/reverse travel
- 20) Seat gearbox position sensor for forward/rear seat squab rake
- 21) Earth point - seat base
- 22) Driver's seat/mirrors memory electronic control unit plug and socket 6-way
- 23) Splice 216
- 24) Splice 218
- 25) Splice 215
- 26) Splice 217

- 27) Driver's seat/mirrors memory switches plug and socket 12-way
- 28) Driver's seat/mirrors memory switches
- 29) Left-hand door mirror motors
- 30) Door mirror motors plug and socket 4-way
- 31) Left-hand front door plug and socket 12-way
- 32) Left-hand front door plug and socket 24-way
- 33) Main loom to centre stowage compartment loom plug and socket 24-way
- 34) Driver's seat/mirrors memory electronic control unit plug and socket 12-way
- 35) Left-hand door mirror switches
- 36) Splice 263
- 37) Left-hand door mirror switches plug and socket 6-way
- 38) Right-hand door mirror switches plug and socket 6-way
- 39) Splice 262
- 40) Right-hand door mirror switches
- 41) Right-hand door mirror motors
- 42) Right-hand front door plug and socket 24-way
- 43) Splice 73
- 44) Gearchange actuator plug and socket 6-way - blue
- 45) Gearchange actuator micro-switch
- 46) Gearchange actuator relay 1
- 47) Gearchange actuator relay 2
- 48) Gearchange actuator relay 3
- 49) Left-hand door mirror potentiometers
- 50) Door mirror potentiometers plug and socket 4-way
- 51) Right-hand door mirror potentiometers
- 52) Driver's seat/mirrors memory electronic control unit plug and socket 3-way
- 53) Splice 220
- 54) Splice 55
- 55) Main loom to centre stowage compartment loom plug and socket 9-way
- 56) Splice 219
- 57) Battery earth point
- 58) Battery
- 59) Memories fuse, 20 amp - located in the luggage compartment
- 60) Main loom to body loom plug and socket 9-way - right-hand 'A' post
- 61) Splice 84
- 62) Fuseboard F2, fuse A5, 10 amp
- 63) Fuseboard F2, fuse C2, 30 amp
- 64) Fuseboard F2, fuse C3, 30 amp
- 65) Fuseboard F2, fuse B7, 20 amp
- 66) Fuseboard F1, fuse B1, 20 amp
- 67) Splice 260
- 68) Splice 223
- 69) Splice 221
- 70) Earth point - right-hand 'A' post
- 71) 12 volts positive supply when ignition switch is in the ACC or RUN position





Passenger's front seat

Passenger's seat memory - to reactivate

Should the battery leads be disconnected for 4 weeks or longer, the passenger's front seat position memory function will be lost.

If this has occurred, it will be necessary to reactivate the memory by tapping-in the memory code as follows.

When the seat memory is reactivated, the seat will move immediately and automatically to set adjustment positions. It is essential that contact with the seat is avoided when carrying out the following procedure.

Ensure that the gear range selector lever is in park, then turn the ignition switch to either the ACC or RUN position. Briefly depress the MEM (memory) button five times on the passenger's seat control panel then immediately depress the numbered store/recall buttons on the same panel in the sequence 4-3-3-4.

A selected seat position can then be stored in the memory as described below. Switch off the ignition.

Passenger's seat position memory

When the optimum, personal seat position has been found, it can be stored in the memory circuit and recalled as required. Personal seat positions for four persons can be stored in the memory.

The seat adjustment and memory switches will only operate when the ignition switch is in either the ACC or RUN position. To operate the memory function the gear range selector lever must also be in the park position.

To store a selected seat position, first press the switch marked MEM situated on the passenger's seat control panel. This will activate the memory which will then remain receptive for a period of five seconds. During this period, press one of the four numbered personal allocation switches. The personal seat position data will then be stored in the memory until new data is programmed into the memory by repeating the storage procedure for a new seat position.

To recall the stored position, ensure that the gear range selector lever is in the park position, then press and hold down the personal allocation switch until the seat has reached its programmed position. Seat movement can be stopped at any time by releasing the switch.

Adjustments that are made to a seat position using the control switches independently, will not affect the memory.

Key to Component Locations and Wiring Diagramme

- 1) Seat motor, controlling front up/down tilt
- 2) Passenger's seat memory electronic control unit plug and socket 9-way
- 3) Passenger's seat memory electronic control unit
- 4) Passenger's seat memory electronic control unit plug and socket 18-way
- 5) Passenger's seat switches plug and socket 6-way
- 6) Seat switch, controlling seat squab rake - forward tilt
- 7) Seat switch, controlling seat squab rake - rear tilt
- 8) Seat switch, controlling forward travel
- 9) Seat switch, controlling front up tilt
- 10) Seat switch, controlling front down tilt
- 11) Seat switch, controlling rear up tilt
- 12) Seat switch, controlling rear down tilt
- 13) Seat switch, controlling reverse travel
- 14) Seat motor, controlling rear up/down tilt
- 15) Seat motor, controlling forward/reverse travel
- 16) Seat motor, controlling forward/rear seat squab rake
- 17) Passenger's seat memory switches plug and socket 12-way
- 18) Passenger's seat memory switches
- 19) Seat gearbox position sensor for front up/down tilt
- 20) Seat gearbox position sensor for rear up/down tilt
- 21) Earth point - seat base
- 22) Seat gearbox position sensor for forward/reverse travel
- 23) Seat gearbox position sensor for forward/rear seat squab rake
- 24) Passenger's seat memory electronic control unit plug and socket 6-way
- 25) Splice 261
- 26) Passenger's seat memory electronic control unit plug and socket 3-way
- 27) Splice 213. Right-hand drive cars Splice 222. Left-hand drive cars
- 28) Splice 212. Right-hand drive cars Splice 221. Left-hand drive cars
- 29) Earth point - right-hand 'A' post
- 30) Main loom to centre stowage compartment loom plug and socket 9-way
- 31) Battery earth point
- 32) Battery
- 33) Memories fuse, 20 amp - located in the luggage compartment
- 34) Splice 210. Right-hand drive cars Splice 219. Left-hand drive cars

- 35) Splice 211. Right-hand drive cars Splice 220. Left-hand drive cars
- 36) Main loom to centre stowage compartment loom plug and socket 24-way
- 37) Main loom to body loom plug and socket 9-way - right-hand 'A' post
- 38) Gearchange actuator plug and socket 6-way - blue
- 39) Splice 25. Right-hand drive cars Splice 55. Left-hand drive cars
- 40) Splice 32. Right-hand drive cars Splice 84. Left-hand drive cars
- 41) Splice 73
- 42) Gearchange actuator micro-switch
- 43) Gearchange actuator relay 3
- 44) Gearchange actuator relay 1
- 45) Gearchange actuator relay 2
- 46) Fuseboard F1, fuse B1, 20 amp
- 47) Fuseboard F2, fuse C6, 30 amp
- 48) Fuseboard F2, fuse C7, 30 amp
- 49) Fuseboard F2, fuse B7, 20 amp
- 50) Fuseboard F2, fuse A5, 10 amp
- 51) 12 volts positive supply when ignition switch is in the ACC or RUN position

