

HEATING AND VENTILATION
(Sierra)

34A

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SPECIAL SERVICE TOOLS REQUIRED: NONE

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NOTE: The procedures listed above marked with an asterisk refer to Left Hand Drive vehicles. When carrying out repairs on Right Hand Drive vehicles any references to Left and Right within the text should be reversed. For example, Operation 34 314 0 sub operation 5 should read "Remove the side trim panel from the left hand footwell (2 screws)" when applied to a Right Hand Drive vehicle. In addition some illustrations within this section refer to Left Hand Drive vehicles.

SERVICE AND REPAIR OPERATIONS

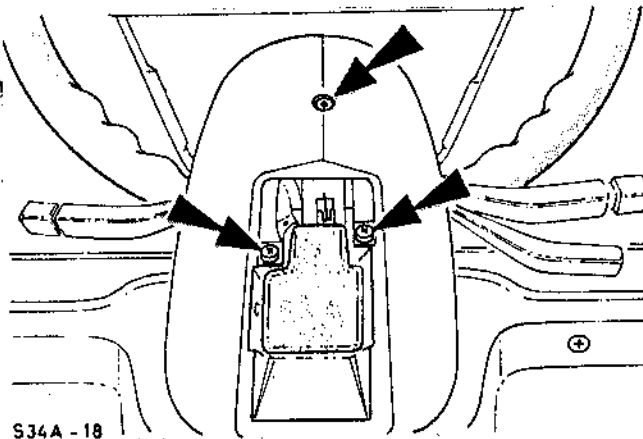
34 314 0 HEATER CONTROLS - REMOVE AND INSTALL

SPECIAL SERVICE TOOLS REQUIRED: NONE

NOTE: This procedure applies to a LHD vehicle.
Refer to the note on Page 1 before carrying out repairs on a RHD vehicle.

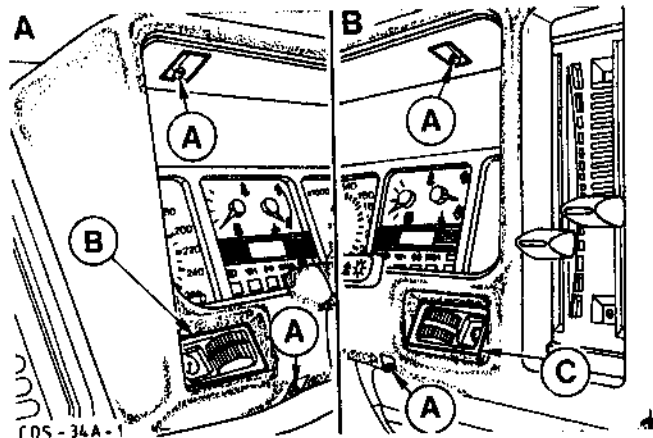
To Remove

1. Disconnect the battery earth cable.
2. Detach the steering column upper shroud (1 screw) and lower shroud (3 screws).
3. Carefully lever out the wiper delay control and instrument cluster light switches from the instrument cluster bezel, disconnect the plugs and remove the switches.
4. Remove the instrument cluster bezel (4 screws).



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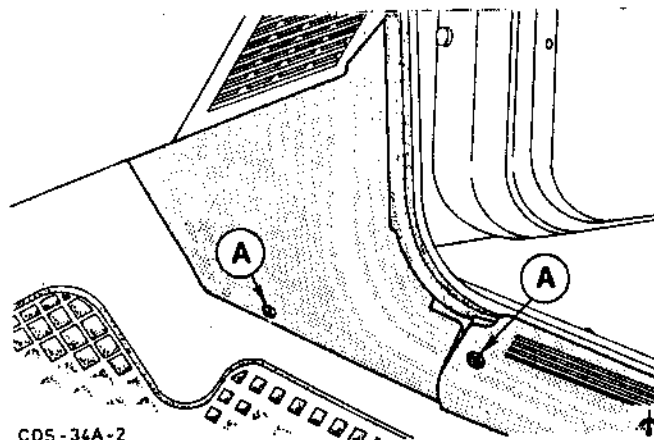
Fig.1. Detach the steering column lower shroud.



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Fig.2. Instrument cluster bezel.
A - Retaining screws - instrument cluster bezel
B - Switch - instrument cluster light
C - Switch - wiper delay control

5. Remove the cowl side trim panel from the right hand footwell (2 screws). Detach under dash cover panel above the left hand footwell (2 clips).



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Fig.3. Cowl side trim panel - right hand footwell.
A - retaining screws

34 314 0

6. Release the right hand lower crash padding (8 cross head screws, 2 hex. head screws, washers and plate), draw it forwards and disconnect the heater fan switch, cigarette lighter, radio and glove compartment light. Remove the crash padding.
7. Pull off the two vent hoses on the left hand side of the heater.
8. Detach the lower ends of the two Bowden cables from the heater.
9. Unscrew the heater control unit (3 screws), slide it through and withdraw it downwards. Remove the bulb with its holder.

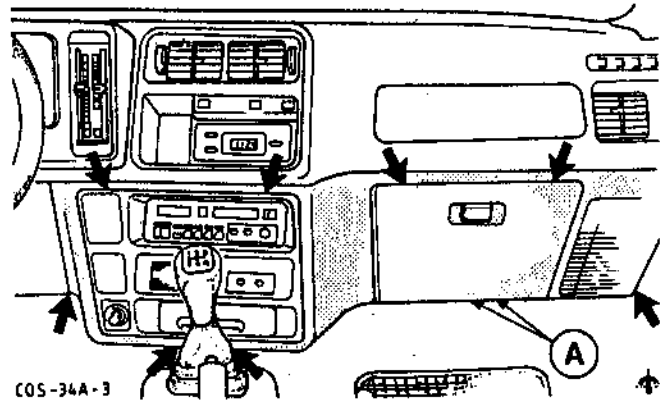


Fig.4. Right hand lower crash padding attachment.
A - Hex. head screws

To Install

10. Insert the bulb and holder in the heater control unit and fasten the heater control unit with the three screws.
11. Move the two control levers on the heater control unit to the 'up' position, attach the Bowden cables to the heater (the Bowden cable must project 0 - 4 mm out of the clip) and secure the cover.

NOTE: The Bowden cables are adjusted automatically at the heater control unit. To do this, move the levers on the heater control unit downwards from the upper stops. When this is done, an appreciable resistance may be encountered. This must be overcome.

12. Locate the right hand lower crash padding in position. Connect the heater fan switch, cigarette lighter, radio and glove compartment light. Secure the crash padding with ten screws.
13. Fit the cowl side trim panel in the right hand footwell.
14. Fit the under dash cover panel above the left hand footwell (2 clips).
15. Connect the plugs to the instrument cluster light and wiper delay control switches and install the switches.
16. Fit the instrument cluster bezel.
17. Install the steering column upper and lower shrouds.
18. Connect the battery earth cable.

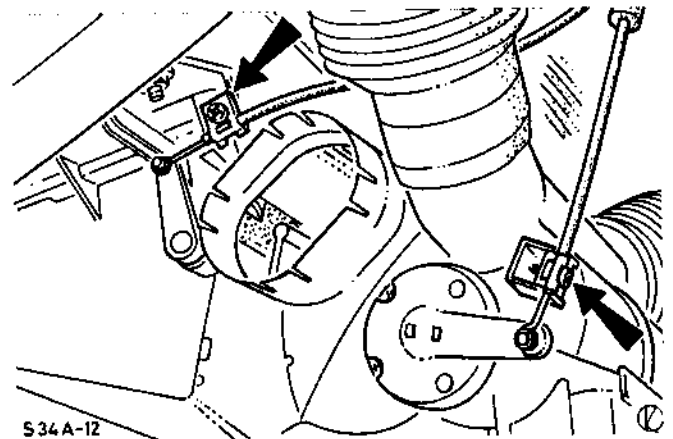


Fig.5. Detach Bowden cables from heater casing.

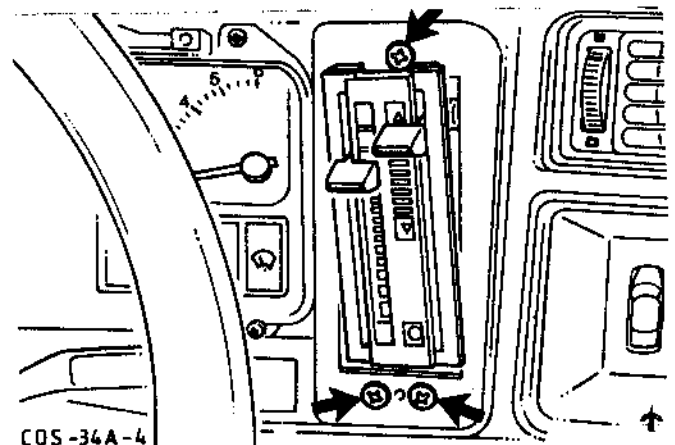


Fig.6. Screws securing heater control unit.

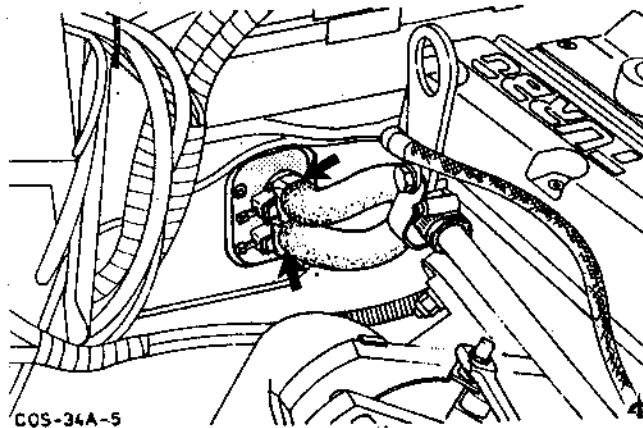
34 354 0 HEATER ASSEMBLY - REMOVE AND INSTALL

SPECIAL SERVICE TOOLS REQUIRED: NONE

NOTE: This procedure applies to a LHD vehicle.
Refer to the note on Page 1 before carrying out repairs on a RHD vehicle.

To Remove

1. Disconnect the battery earth cable.
2. In the engine compartment, detach the heater coolant hoses from the connectors on the heater radiator.

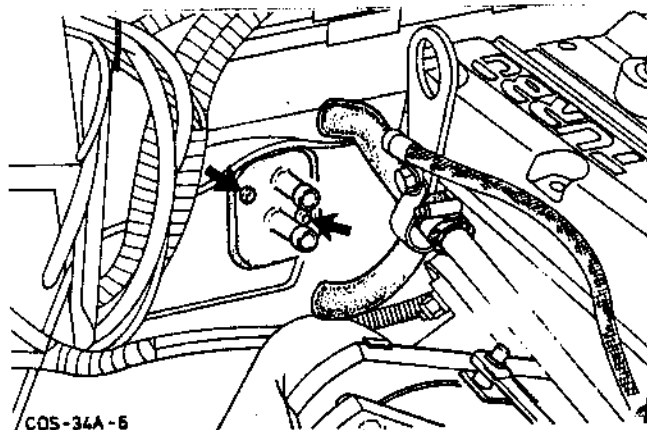


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Fig.7. Heater radiator hoses.

NOTE: Collect the coolant in a tray. Secure the hoses in the engine compartment with the open ends raised.

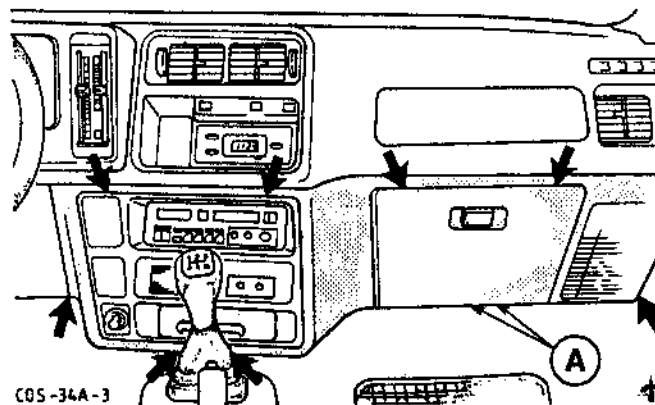
3. Carefully blow compressed air through the heater radiator to remove the remaining coolant from the heater radiator.
4. Detach the cover plate and gasket from the bulkhead (2 screws).
5. Unscrew the cowl side trim panel from the right hand footwell (2 screws). Detach the trim panel above the left hand footwell (2 clips).



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Fig.8. Bulkhead cover plate.

6. Release the right hand lower crash padding (8 cross head screws, 2 hex. head screws, washers and plate), draw it forwards and disconnect the heater fan switch, cigarette lighter, radio and glove compartment light. Remove the crash padding.
7. Pull all five vent hoses off the heater and fan.



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Fig.9. Right hand lower crash padding attachment.
A - Hex. head screws

34 354 0

8. Detach the two Bowden cables from the heater casing.
9. Unscrew the heater from the bulkhead (2 screws) and draw it back towards the interior until the water connectors on the heater radiator are clear. Then remove the heater assembly towards the right.

To Install

10. Fit the heater assembly on the bulkhead from the right and secure it with two screws.

NOTE: Before securing the heater assembly, make sure that the foam gasket and the heater assembly are located correctly on the bulkhead.

11. Attach the two Bowden cables to the heater casing. Move the control levers to the 'up' position, connect the cables and secure the covers.

NOTE: The Bowden cables are adjusted automatically at the heater control unit. To do this, move the two levers on the control unit downwards from the upper stops. When this is done an appreciable resistance may be encountered. This must be overcome.

12. Attach all five hoses to the casing.
13. Locate the right hand lower crash padding in position. Connect the fan switch, cigarette lighter, radio and glove compartment light. Secure the crash padding with the ten screws.
14. Secure the cowl side trim panel in the right hand footwell with the 2 screws.
15. Fit the under dash cover panel above the left hand footwell (2 clips).
16. Slide the cover plate and gasket over the water connectors on the heater radiator and screw it to the bulkhead. Attach the coolant hoses.
17. Fill the cooling system and connect the battery. Run the engine, vent the system and check the coolant connections for leaks.

34 354 8 HEATER ASSEMBLY - DISMANTLE AND REASSEMBLE (heater assembly removed)

SPECIAL SERVICE TOOLS REQUIRED: NONE

To Dismantle

1. Remove the heater radiator from the heater casing (2 screws).
2. Cut the casing gasket with a knife. Prise off the retaining clips with a suitable screwdriver and separate the casing halves using a second screwdriver. Withdraw the lower part of the casing to the side.

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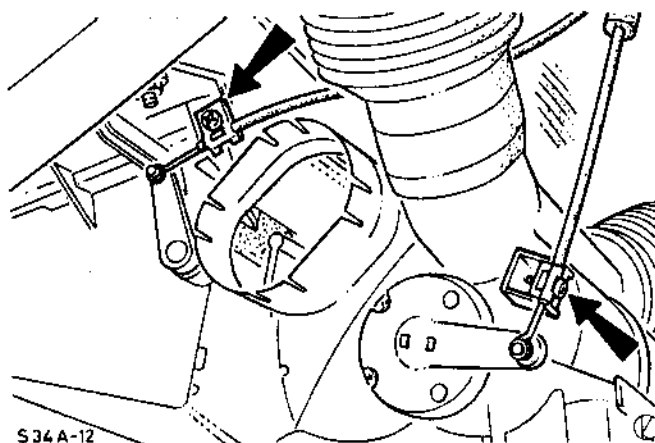


Fig.10. Detach Bowden cables from heater casing.

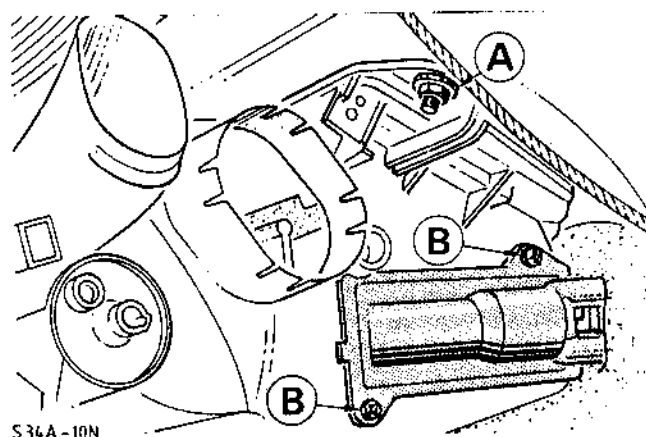


Fig.11. Detach heater assembly from bulkhead (screws A).
Remove heater radiator (screws B).

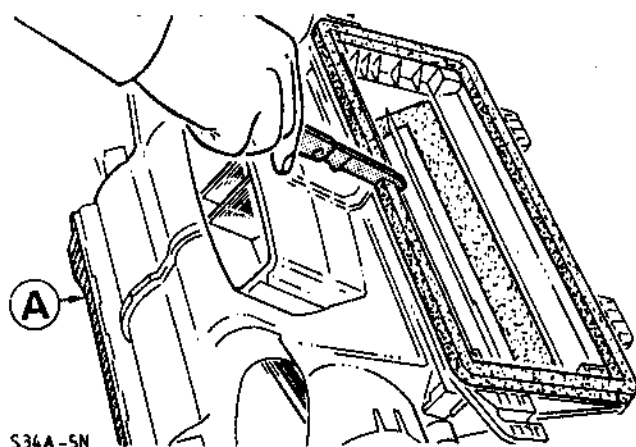


Fig.12. Cut gasket.
A - Lower part of casing

34 354 8

3. Remove the air flap valves and remove the control levers from the casing half.

NOTE: The control lever for the UP/DOWN adjustment can only be removed when the marks line up.

NOTE: The cross marks are for right hand drive vehicles.

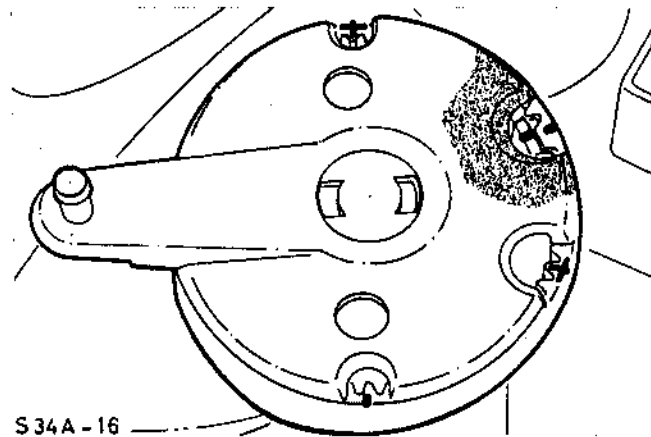


Fig.13. Position of control lever on removal.

To Reassemble

4. Install the control lever for the UP/DOWN adjustment. Note the mark on the toothed segments.
5. Fit the other control lever and the air flap valves in the casing.

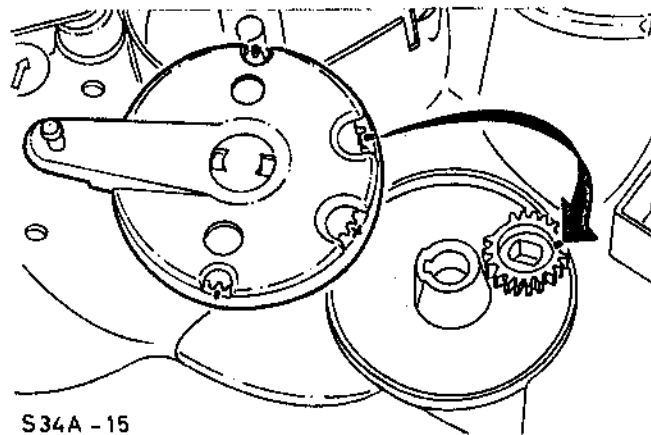


Fig.14. Fit control lever..

6. Slide the lower part of the casing sideways into the casing guides.
7. Assemble the two casing halves and secure them with additional clips.

NOTE: The lower part must be slid in correctly in the two casing halves.

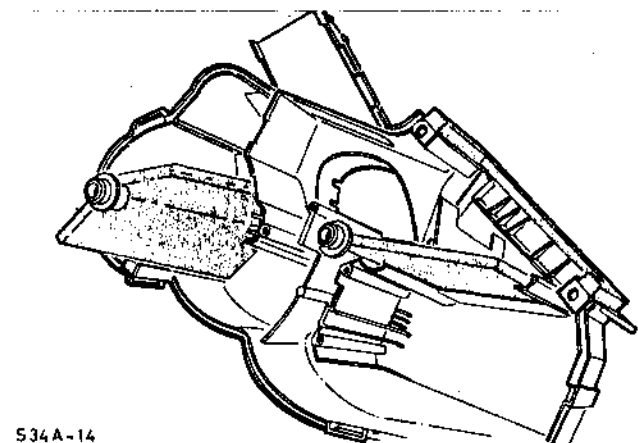


Fig.15. Position of air flap valves on installation.

8. Install the heater radiator (2 screws).

34 374 0 MOTOR - HEATER FAN - REMOVE AND INSTALL

SPECIAL SERVICE TOOLS REQUIRED: NONE

To Remove

1. Disconnect the battery earth cable.
2. Pull the rubber gasket of the plenum chamber off the bulkhead (not fixed).
3. Remove the windscreen washer hoses and wiring from the heater fan cover and secure them to the bodywork. Detach the heater fan cover (2 screws).
4. Disconnect the plug from the resistor assembly and unscrew the earth cable.
5. Unscrew the fan and remove it.
6. Unclip the casing halves.
7. Open the motor retaining strap with a drift. Detach the wiring from the resistor assembly and remove the motor and fan wheels from the casing.

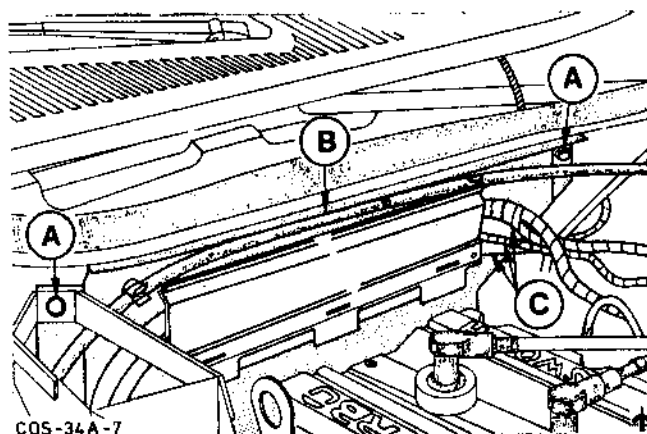


Fig.16. A - Fan motor cover
B - Windscreen washer hose
C - Wiring

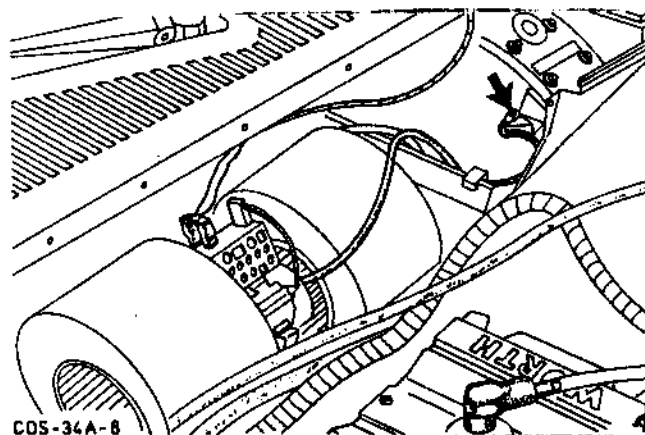


Fig.17. Fan motor earth cable attachment.

To Install

8. Insert the motor and fan wheels in the casing and secure the resistor assembly with the strap. Connect the wiring to the motor.
9. Fit the two casing halves and secure them with additional clips.
10. Install the fan assembly and secure it.
11. Connect the plug to the resistor assembly and attach the earth cable.
12. Screw the cover in place, attach the wiring and hoses and fit the rubber gasket.
13. Connect the battery earth cable.

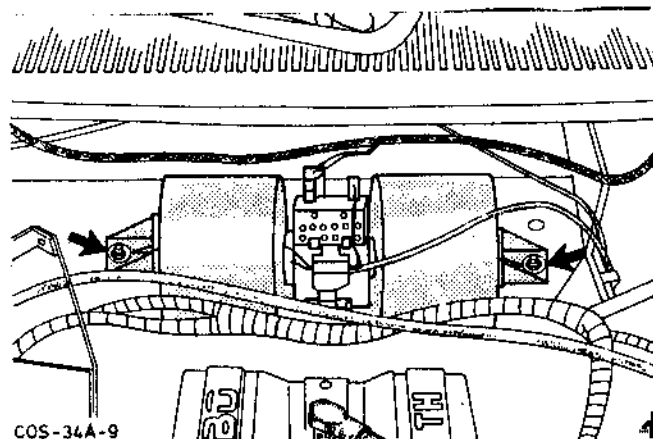


Fig.18. Fan assembly attachment.

34 487 0 VENT - FACE LEVEL - REMOVE AND INSTALL

SPECIAL SERVICE TOOLS REQUIRED: NONE

NOTE: This procedure applies to a LHD vehicle. Refer to the note on Page 1 before carrying out repairs on a RHD vehicle.

To Remove

1. Disconnect the battery earth cable.
2. Unscrew the cowl side trim panel in the right hand footwell (2 screws).
3. Release the right hand lower crash padding (8 cross head screws, 2 hex. head screws, washers and plate), draw it forwards and disconnect the heater fan switch, cigarette lighter, radio and glove compartment light. Remove the crash padding.
4. Pull the hose off the vent nozzle. From the back, press the lower retaining clip out of the retaining slot with a screwdriver or by hand and remove the vent nozzle from the front.

To Install

5. Insert the lower retaining clip in the vent nozzle slot, insert the nozzle, engage the retaining spring from the back with a screwdriver and simultaneously press the nozzle into place from the front. Attach the vent hose.
6. Locate the crash padding in position. Connect the fan switch, cigarette lighter, radio and glove compartment light. Secure the crash padding with ten screws.
7. Secure the cowl side trim panel in the right hand footwell with two screws.
8. Connect the battery earth cable.

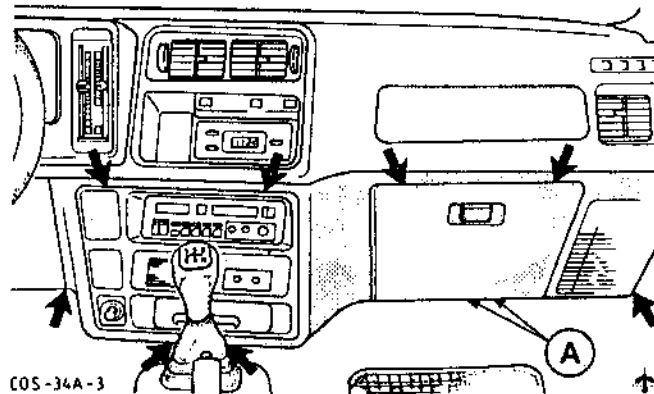


Fig.19. Right hand lower crash padding attachment.
A - Hex. head screws

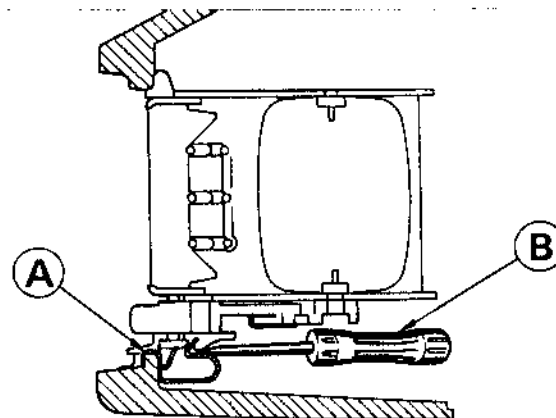


Fig.20. Vent nozzle (sectional drawing).
A - Retaining clip
B - Screwdriver

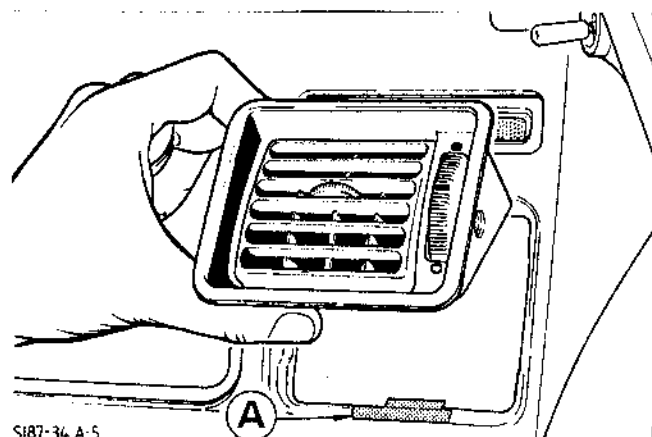


Fig.21. Insert vent nozzle.
A - Retaining clip

34 488 0 VENT - FACE LEVEL - REMOVE AND INSTALL (Left) with switch mounting

SPECIAL SERVICE TOOLS REQUIRED: NONE

NOTE: This procedure applies to a LHD vehicle. Refer to the note on Page 1 before carrying out repairs on a RHD vehicle.

To Remove

1. Disconnect the battery earth cable.
2. Unscrew the lower steering column shroud.
3. Unscrew the left hand lower cowl side trim panel.
4. Detach the under dash cover panel from above the left hand footwell (2 clips). Unscrew the lower left hand crash padding (4 screws).
5. Pull the hose off the vent nozzle.
6. Pull the push button switch out towards the front and disconnect the multiplug. Note the colour of the plug and the associated push button switch symbol.
7. Unscrew the vent nozzle with mounting (2 screws).

NOTE: The left hand vent nozzle is secured at the top with two screws. The screws are located on the back of the nozzle.

To Install

8. Insert the nozzle, engaging the lower retaining lugs, press the nozzle in and secure it with the two screws at the top.
9. Connect the multiplug to the push-button switch and press in the switch.
10. Attach the vent hose, simultaneously pressing against the vent nozzle from the front.
11. Fit the lower left hand crash padding. Fit the under dash cover panel above the footwell.
12. Secure the cowl side trim panel in the left hand footwell with two screws.
13. Fit the lower steering column shroud.
14. Connect the battery earth cable.

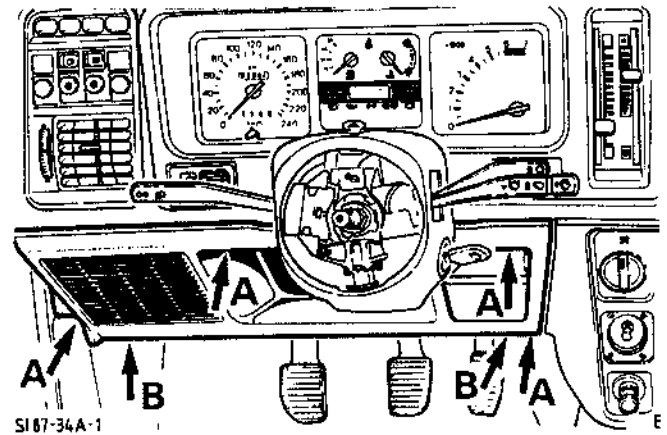


Fig.22. Left hand lower crash padding (with steering wheel removed for clarity).
A - 4 screws B - 2 clips

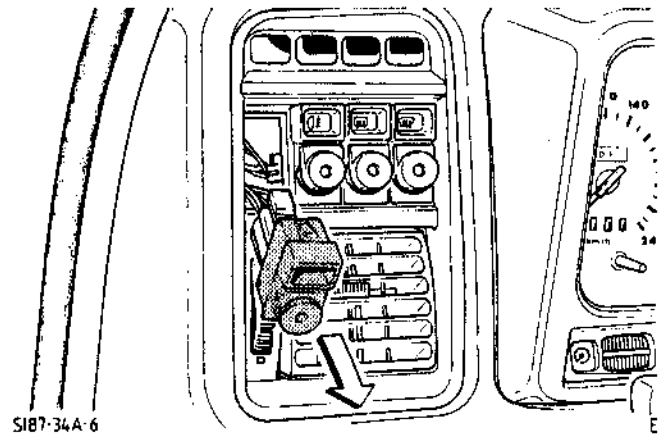


Fig.23. Pull the push button switch forwards and disconnect it.

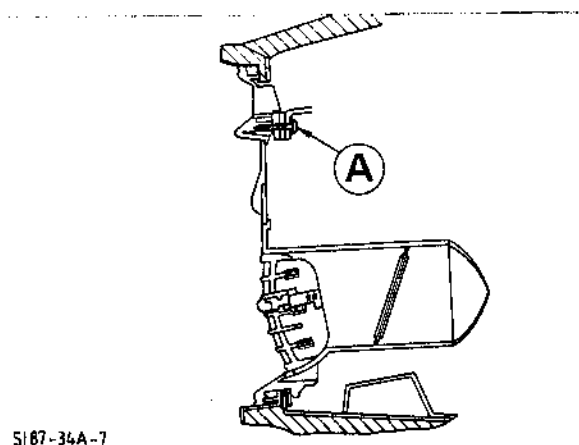


Fig.24. Vent nozzle (sectional diagram).
A - Retaining screw

34 489 0 VENT - FACE LEVEL - REMOVE AND
INSTALL (Centre)

SPECIAL SERVICE TOOLS REQUIRED: NONE

NOTE: This procedure applies to a LHD vehicle.
Refer to the note on Page 1 before carrying
out repairs on a RHD vehicle.

To Remove

1. Disconnect the battery earth cable.
2. Unscrew the cowl side trim panel in the right hand footwell (2 screws).
3. Release the right hand lower crash padding (8 cross head screws, 2 hex. head screws, washers and plate) draw it forward and disconnect the heater fan switch, cigarette lighter, radio and glove compartment light. Remove the crash padding.
4. Pull the vent hose off the nozzle. With a screwdriver lever the left and right hand side retaining clips out of the retaining slot and withdraw the nozzle.

To Install

5. Insert the retaining clips in the vent nozzle cut-out, insert the vent nozzle, from the rear press the retaining clips into the retaining slot with a screwdriver. Connect the vent hose.
6. Locate the crash padding in position. Connect the fan switch, cigarette lighter, radio and glove compartment light. Secure the crash padding with ten screws.
7. Secure the cowl side trim panel in the right hand footwell with two screws.
9. Connect the battery earth cable.

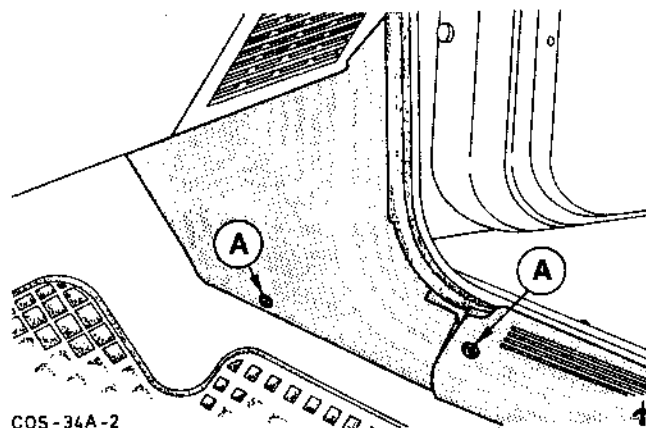


Fig.25. Cowl side trim panel - right hand footwell.
A - Retaining screws

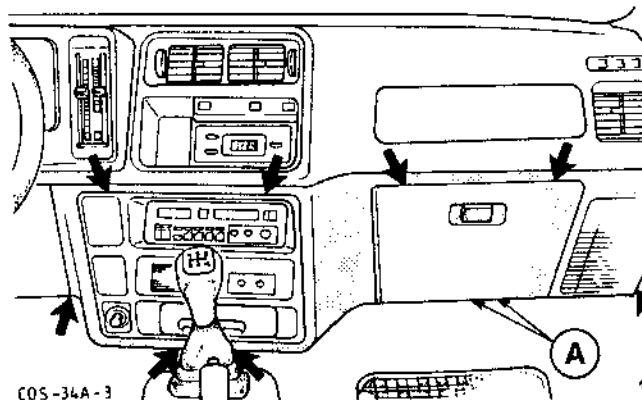


Fig.26. Right hand lower crash padding
attachment.
A - Hex. head screws

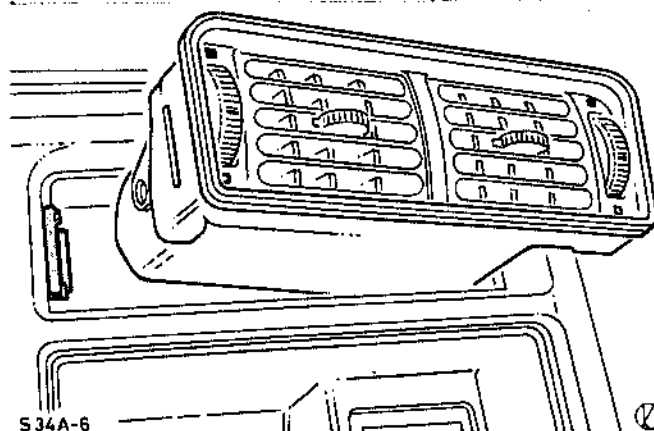


Fig.27. Remove centre vent nozzle.

34 491 0 HOSE - VENT - REAR COMPARTMENT - REMOVE AND INSTALL

SPECIAL SERVICE TOOLS REQUIRED: NONE

To Remove

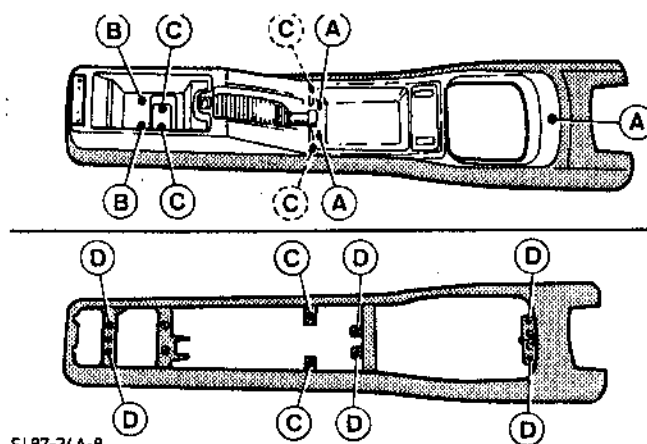
1. Disconnect the battery earth cable.
2. Release the centre console tray at the front (3 screws). Disconnect the switches from the electrically operated windows and remove the tray.

Remove the cassette compartment (2 screws), unscrew the arm rest (4 screws) and then remove the centre console (6 screws).

3. Unscrew the five bolts securing the front seat and remove the seat.
4. Unscrew the front scuff plate (2 screws), remove the cowl side trim panel in the footwell (1 screw) and remove the trim panel above the footwell (2 clips).
5. Fold the carpet back. Undo the screw securing the rear compartment vent hose to the rear footwell (1 screw), remove the clip securing the hose to the heater assembly and withdraw the hose.

To Install

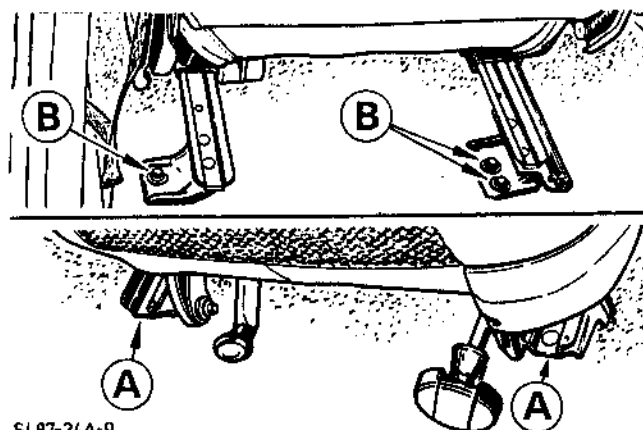
6. Fit the rear compartment vent hose to the rear footwell and secure it with the clip and the screw. Relay the carpet.
7. Fit the footwell trim panel, the cowl side trim panel in the footwell and the scuff plate.
8. Install the front seat (5 bolts).
9. Install the centre console (6 screws), fit the arm rest (2 screws), fit the cassette compartment (2 screws). Fit the tray with the three screws, connecting the switches of the electrically operated windows.
10. Connect the battery earth cable.



SI 87-34A-8

Fig.28. Screws securing centre console.

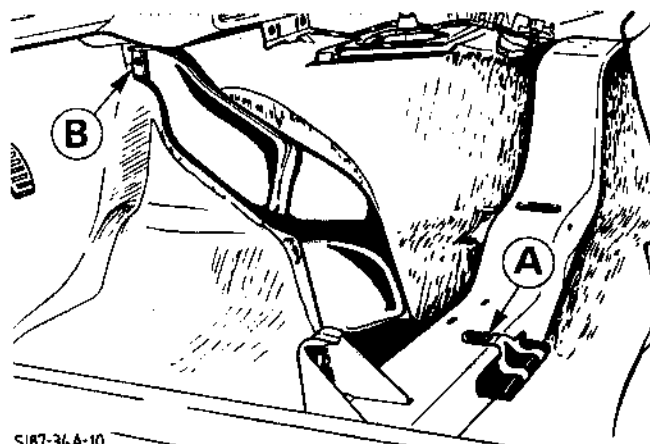
A - Tray (3) B - Cassette compartment (2)
C - Arm rest (4) D - Centre console (6)



SI 87-34A-9

Fig.29. Remove front seat.

A - 2 bolts in footwell at front (hidden)
B - 3 bolts in footwell at rear



SI 87-34A-10

Fig.30. Remove vent hose to rear footwell.

A - Retaining screw
B - Retaining clip

