



HEATING & VENTILATION

SECTION PI - ELISE 2001 M.Y. Onwards

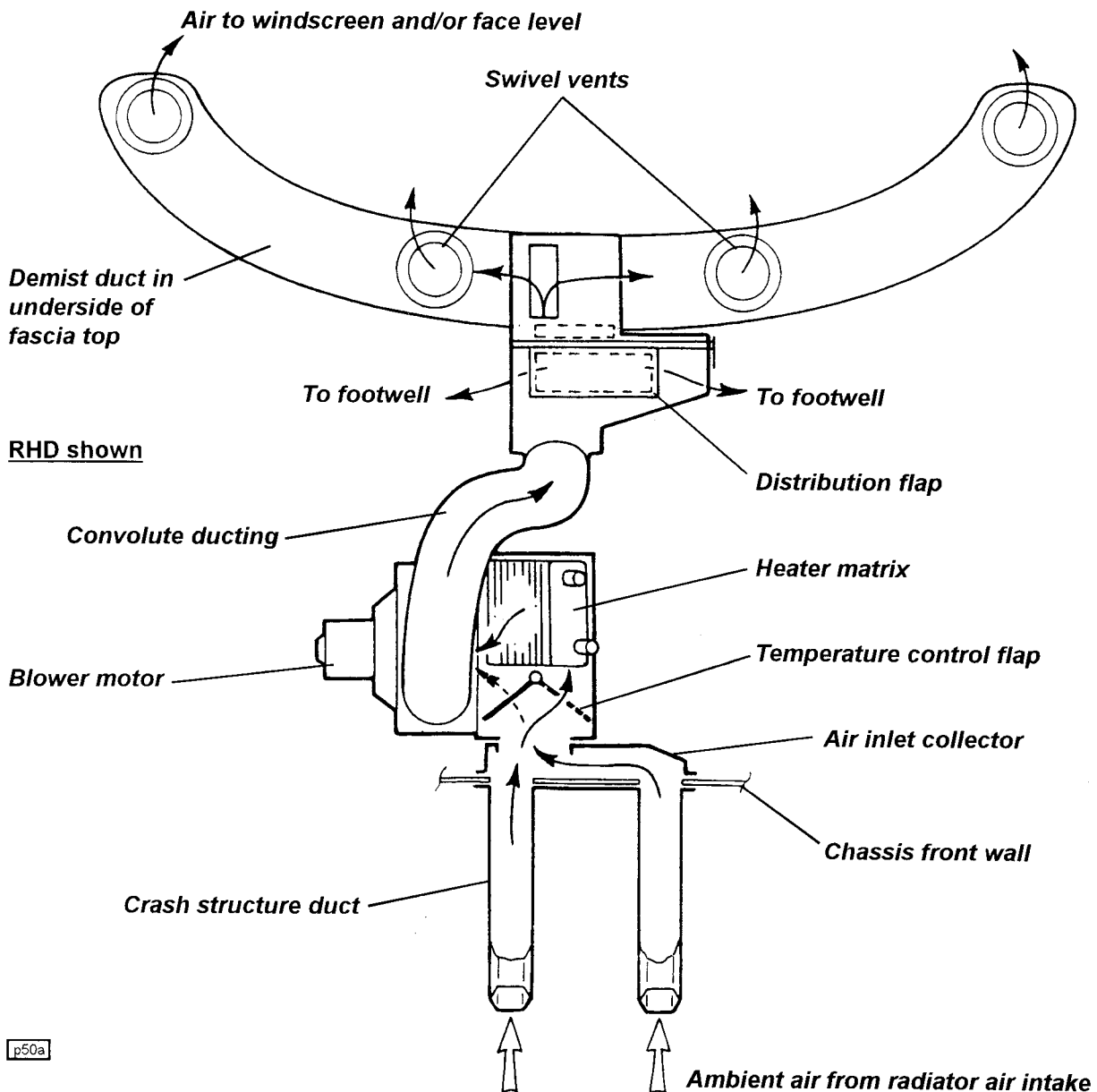
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PI.1 - GENERAL DESCRIPTION

The principal components of the heater/ventilation system comprise a heater matrix unit, incorporating an air blend temperature control flap, a blower fan, and a distribution chamber. The system provides heated or ambient air to the fascia vents or footwells, as demanded by two rotary controls in the fascia in conjunction with a four speed fan selector switch. Airflow from each of the fascia outlet vents may be individually adjusted for volume and direction by direct manipulation of the vent, and may be optimised for either windscreen demisting or face level ventilation.

Air for the ventilation system is bled off from the radiator air intake duct, via open ends in two of the 'crush tubes' in the composite crush structure bonded to the front of the chassis. A pair of holes in the chassis front crossmember mate with these tubes and admit air into the heater unit, mounted in the climate chamber chassis 'well' ahead of the cabin footwells. The air blender flap directs the airflow either through or around the heater matrix to control air temperature. The heater matrix is a water/air heat exchanger mounted vertically in a plastic moulding, and is fed with engine coolant at all times (no water valve is used) by an alloy pipe running within the RH sill, and connected to a junction hose at the rear end of the radiator main feed chassis rail. Water returns to the engine via an alloy pipe running within the LH sill and connecting with the engine coolant return pipe at the left hand end of the engine.

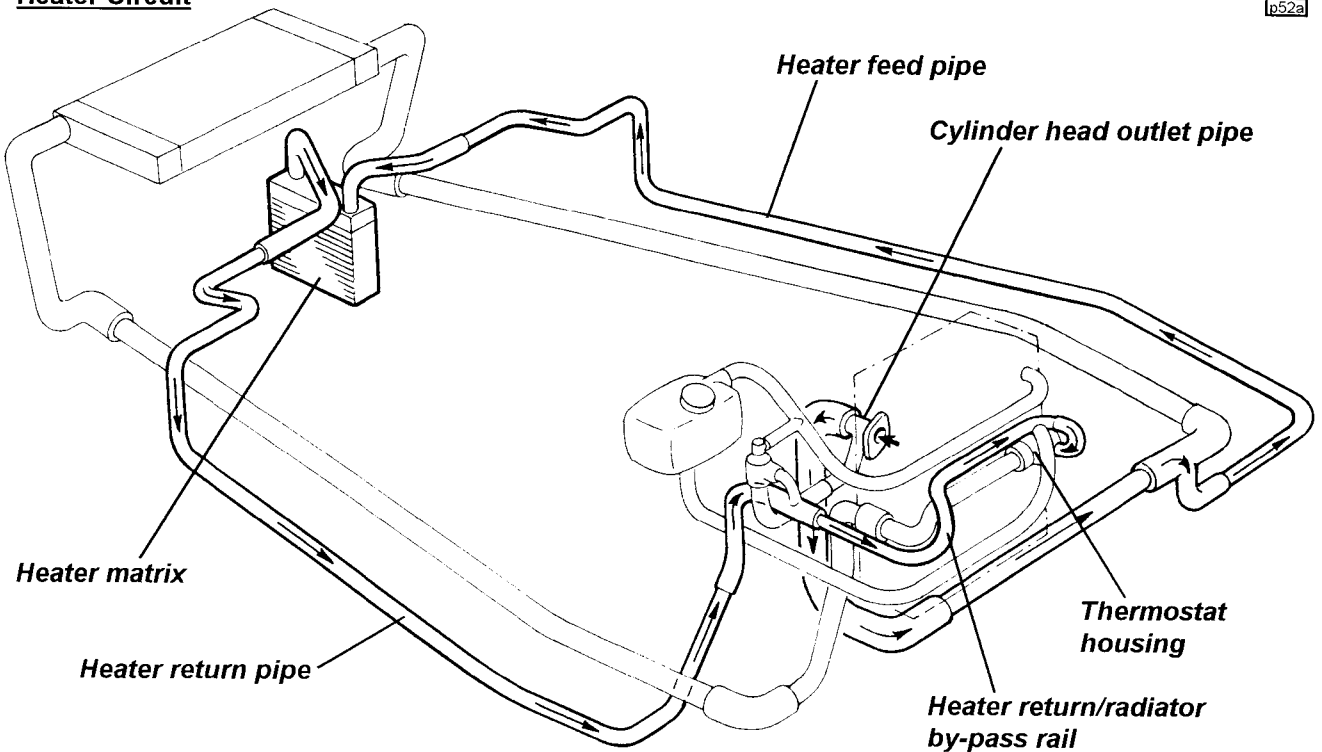


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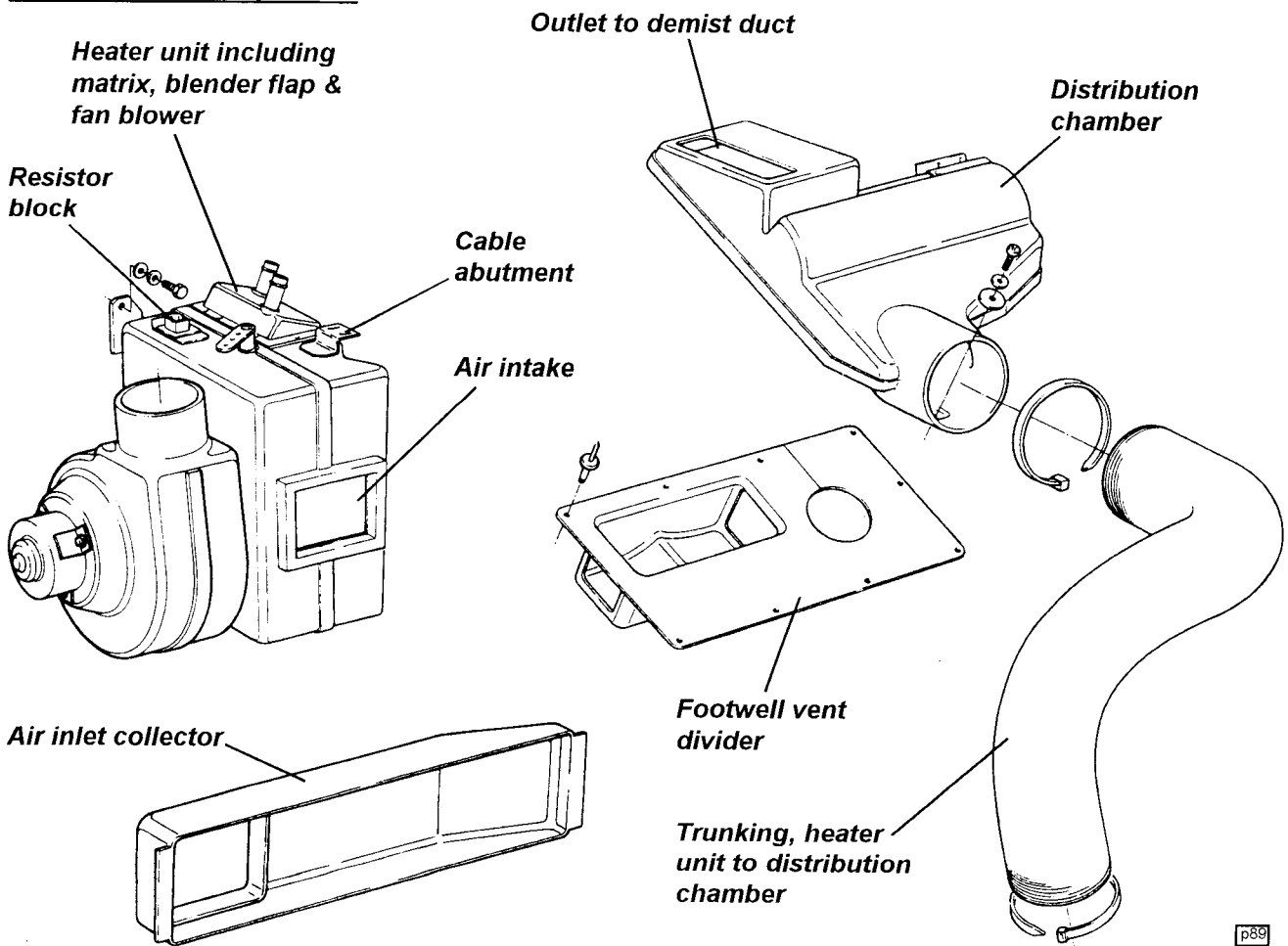


**Heater Circuit**

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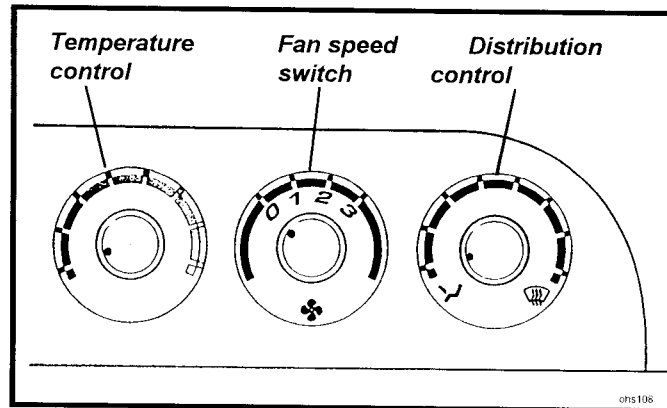
**Heater System Components**



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The air blend temperature flap is cable operated from a sector rack and pinion rotary control on the fascia. The drum type blower fan draws air through the heater unit and supplies it via a duct to the distribution chamber mounted on the top side of the chassis above the footwells. The distribution flap has a horizontal pivot and is cable operated to control the proportion of air flowing to the footwells and fascia vents, via a divided moulding in the top of the footwell, and a duct moulded into the underside of the fascia top which supplies all four fascia vents.

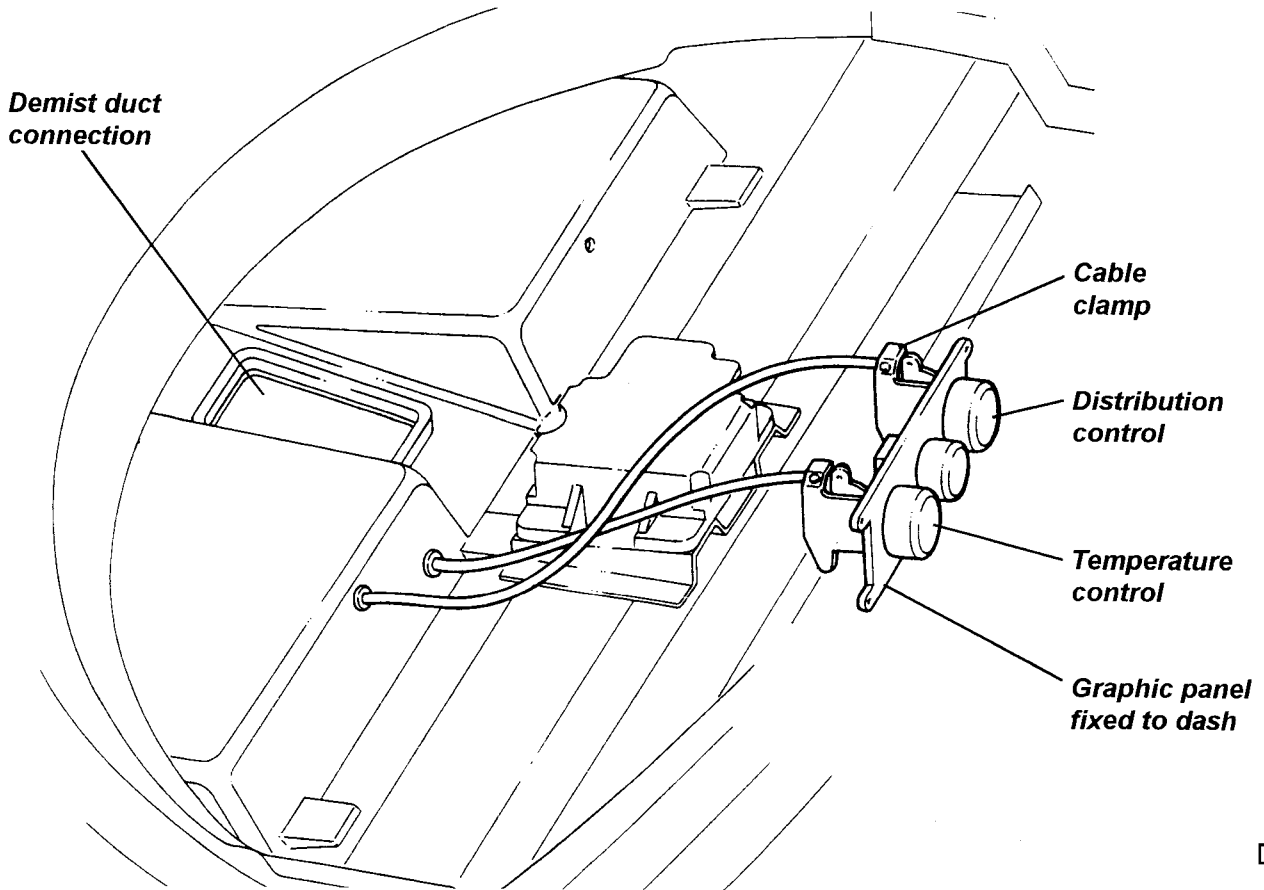


PI.2 - CONTROL CABLES

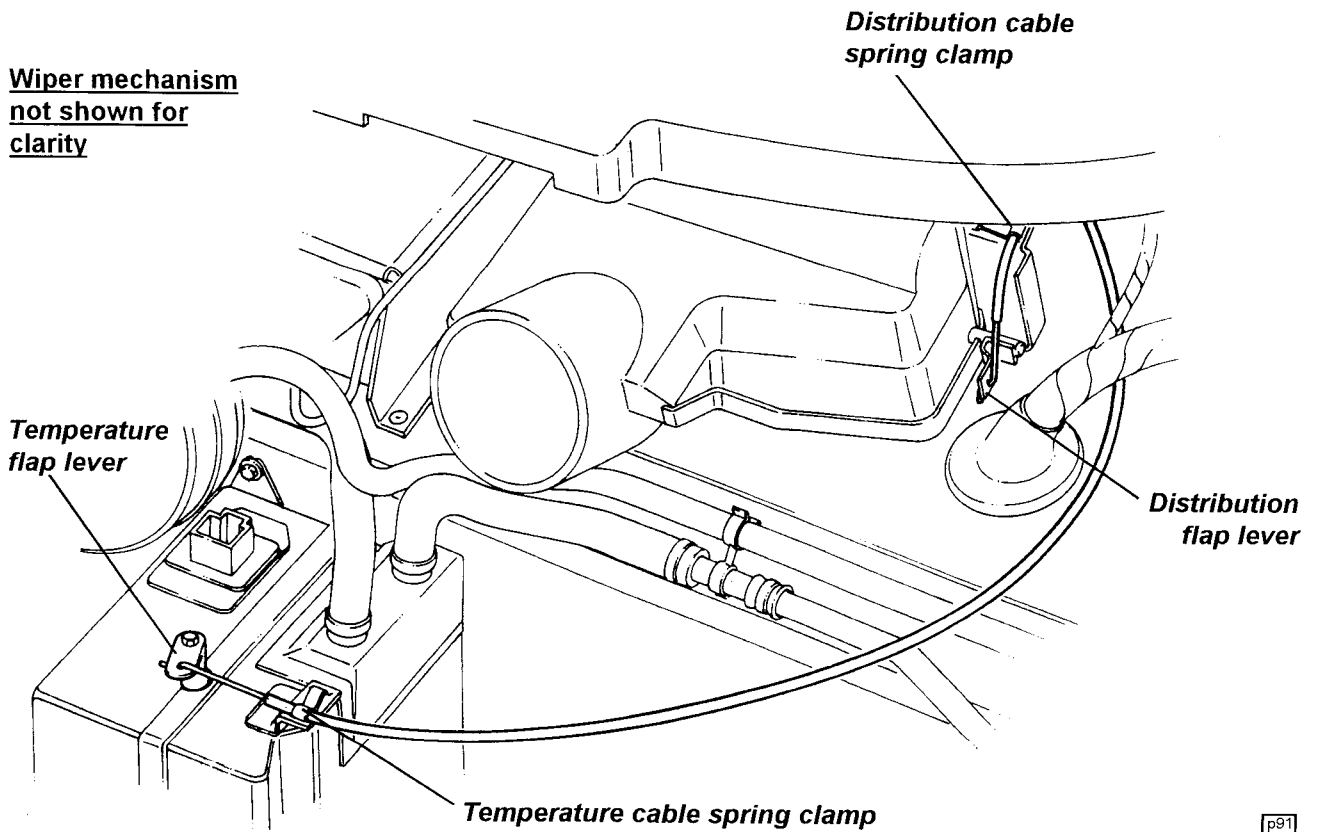
For access to the heater controls and input end of the cables, the fascia top must be removed:

1. Remove the fascia top:
  - Remove both fascia end panels (speaker panels).
  - Remove the steering column shrouds.
  - Remove the instrument pack.
  - Carefully prise out each of the four windscreen/face level outlet vents.
  - Release the fixings at each end, and withdraw the 'screen landing panel.
  - Remove the small trim panel over the heater controls.
  - Release the four fixings securing the fascia top to the top flange of the dash upper extrusion.
  - Lift the rear edge of the fascia top and pull rearwards to disengage the two keyhole slots in the panel from the spigots on the dash extrusion, and the two locating pins on the front edge of the panel.
2. The two identical rotary controls for the temperature and distribution are fitted with push-on knobs with orientation flats. Each rotary control is secured to the graphic panel by a spindle nut, with the panel fixed to the dash panel via four screws.
3. The control outer cable is secured to the rotary control base plate by a clamp and screw, with the inner cable using a formed end to locate on the sector pin.
4. The output end of each outer cable is secured to a bracket on either the distribution unit or heater unit, by a spring clamp which allows length adjustment to be made. The inner cable uses a formed end to hook into the temperature flap lever or distribution flap lever. The outer cable should be positioned in the rotary control.

Limited access to the distribution flap cable on the outboard side of the distribution chamber is available from beneath the wiper motor mechanism. Remove the wiper motor cover for improved vision.



Wiper mechanism not shown for clarity





### PI.3 - HEATER UNIT

The heater matrix and air blend temperature flap are assembled in a moulded plastic box to which is rivetted the fan blower unit, with the complete assembly forming a single service unit.

To replace the heater unit:

1. Remove the front clamshell (see sub-section BP.5).
2. Remove the trunking between fan blower and distribution unit. Remove washer bottle.
3. Drain coolant and disconnect the two water hoses from the heater unit.
4. Disconnect the electrical harness from the resistor block and fan motor.
5. Release the two M6 fixings securing the heater unit to the chassis footwell crossmember and withdraw the unit from the chassis.

### PI.4 - AIR DISTRIBUTION UNIT

The air distribution unit is fitted between the top side of the chassis scuttle and the underside of the fascia top/demist duct. Sandwiched between the distribution unit and the chassis is a footwell vent divider panel which serves to direct the footwell airflow, blank off the unused pedal box chassis aperture (for opposite drive hand) and also incorporates the main wiring harness grommet. Sandwiched between the distribution unit and the fascia top duct is the scuttle baffle panel which is bonded to the chassis scuttle.

The distribution unit may be removed from the car after removing the front clamshell and wiper mechanism:

1. Remove the front clamshell (see sub-section BP.5).
2. Remove the wiper mechanism and washer bottle.
3. Release the outer control cable spring clamp, and unhook the inner cable from the lever.
4. Remove the trunking between fan blower and distribution unit, and from the aperture exposed, release the single M5 screw securing the unit to the chassis scuttle.
5. Withdraw the unit from the car.
6. When refitting, use foam tape as necessary to ensure adequate sealing of the demist duct outlet to the baffle panel.