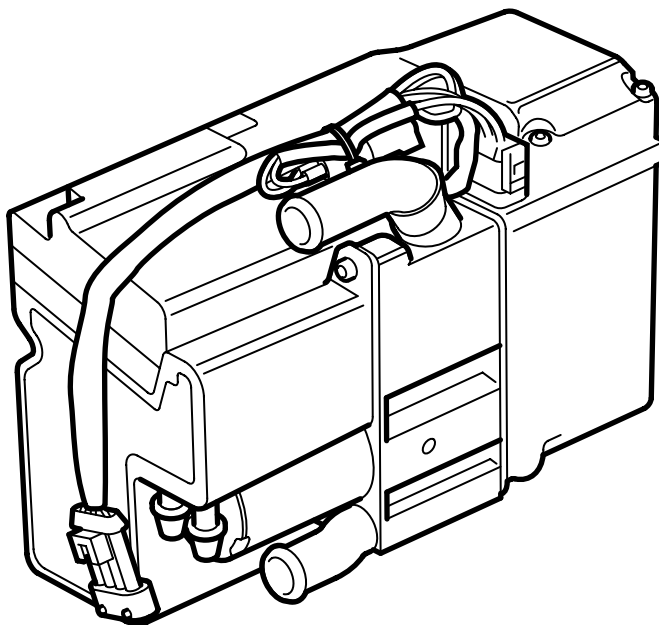


**SAAB****MONTERINGSANVISNING · INSTALLATION INSTRUCTIONS  
MONTAGEANLEITUNG · INSTALLATIONS DE MONTAGE****Saab 900 M94-, Saab 9-3 M98-, 4-cyl, LHD**

Petrol heater

| Accessories Part No. | Group   | Date   | Instruction Part No. | Replaces                            |
|----------------------|---------|--------|----------------------|-------------------------------------|
| 400 100 756          | 9:87-20 | Jul 99 | 51 73 919            | 51 73 919 Jun 99<br>75 02 24 Jun 93 |
| 400 100 772          |         |        |                      |                                     |
| 400 100 780          |         |        |                      |                                     |
| 400 127 122          |         |        |                      |                                     |
| 400 127 130          |         |        |                      |                                     |
| 400 127 148          |         |        |                      |                                     |
| 400 127 155          |         |        |                      |                                     |
| 400 127 197          |         |        |                      |                                     |



D980A271

## Safety regulations



### WARNING

Read through the entire fitting instructions before beginning work.

Work when installing the heater involves interference with the fuel system. Please observe the following points in connection with assembly:

- Provide good ventilation. If approved extractors for fuel fumes are available, then they should be used.
  - Wear protective gloves. Prolonged contact with petrol can cause skin irritation.
  - Always have a fire extinguisher class BE available. Be aware of the risk for sparks e.g. in connection with the breaking of electrical circuits, short circuits, etc.
  - Smoking is prohibited.
- 
- Assembly of the heater should be performed by qualified staff and in accordance with the assembly instructions.

### Important

When joining fuel lines in this kit, make sure the ends are properly attached.

- The heater should never be used in an enclosed space, like the garage or workshop, without the exhaust ventilation being used.
- At petrol stations or corresponding establishments the heater should always be turned off.

### Important

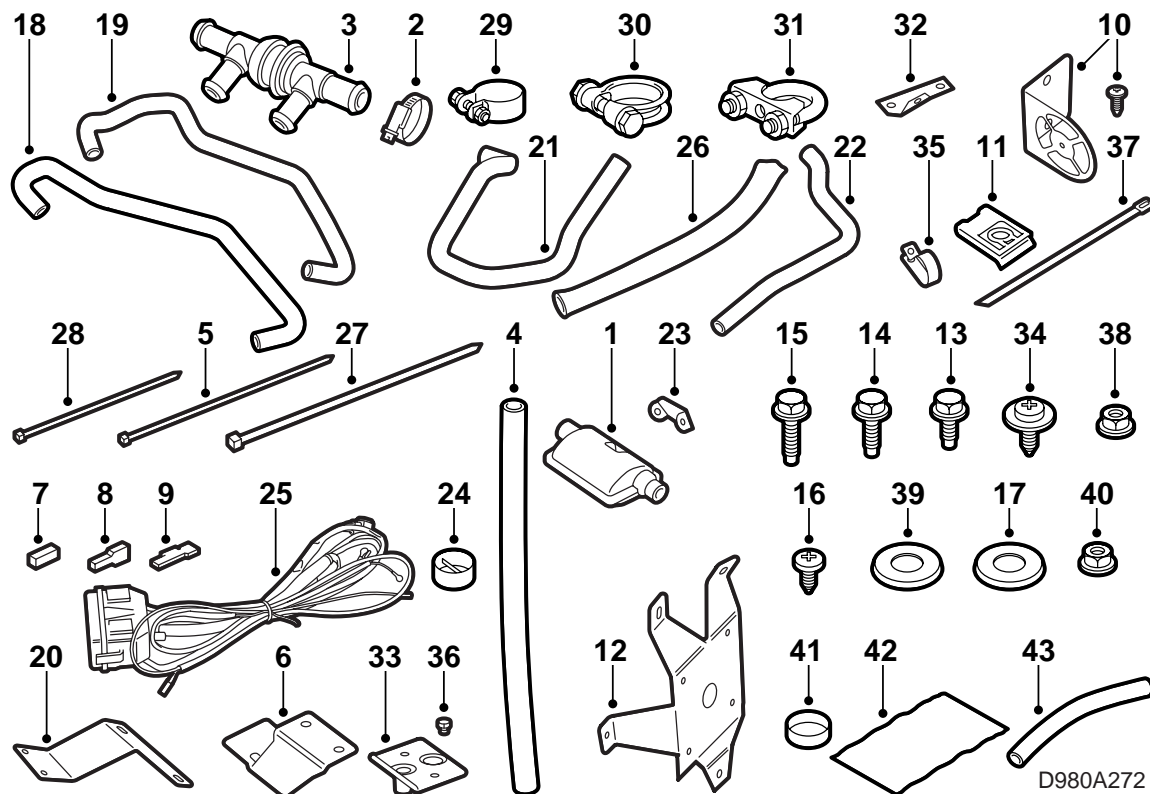
When the heater is used as a parking heater, it consumes a part of the battery capacity. This occurs especially when it is cold and the battery is already heavily exerted. We therefore recommend that the car is driven the same length of time as the heater was in operation when the surrounding temperature is less than -20°. When the surrounding temperature is lower, we recommend that the heater is not used for periods longer than 30 minutes. In addition, the battery should be regularly checked and charged when necessary.

The heater should be activated at least once a month, even during the summer. This prevents remaining fuel from evaporating and leaving deposits which can cause breakdowns.

## Additions to basic kit

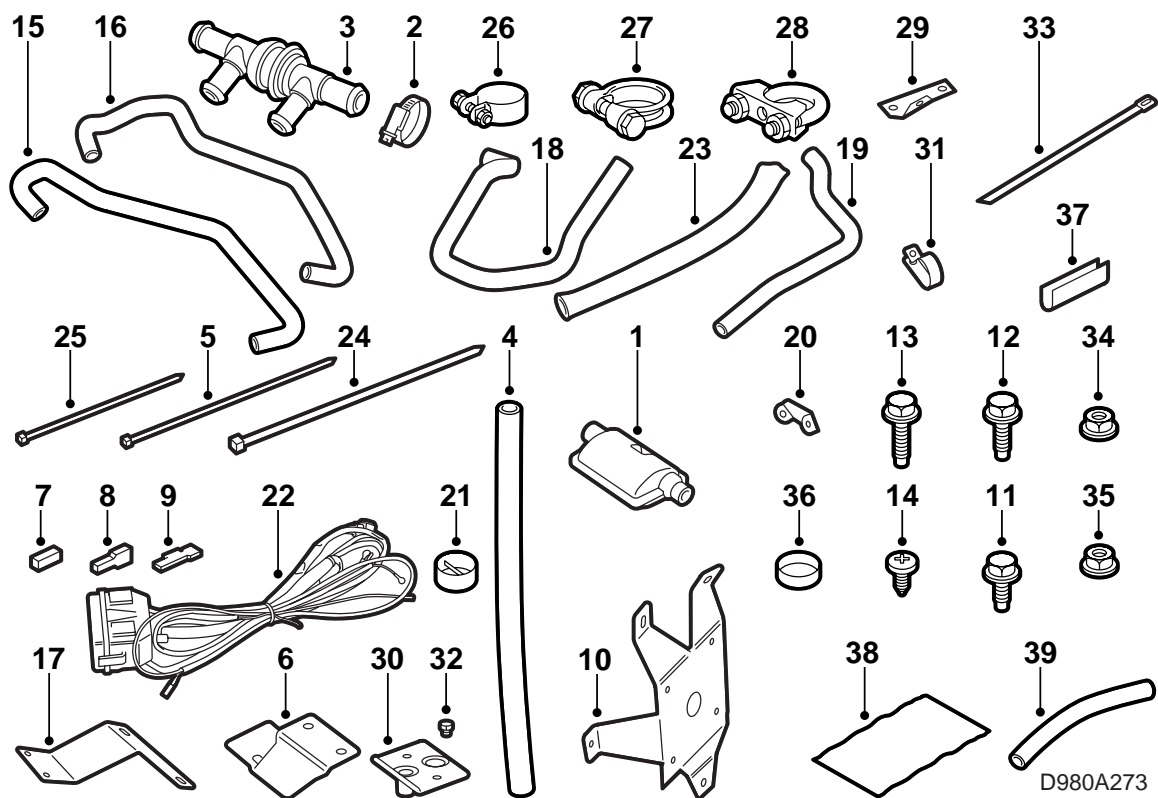
The basic kit 400 127 130 for 900 and the basic kit 400 127 155 for 9-3 should always be supplemented with additional kits for the car model in question:

| Additional kit |                        | Cars affected                  |
|----------------|------------------------|--------------------------------|
| 400 100 756    | Heater kit             | 900                            |
| 400 127 148    | Heater kit             | 9-3                            |
| 400 127 122    | Fitting kit, petrol    | 900 and 9-3                    |
| 400 100 780    | Wiring harness MCC-kit | Cars with MCC                  |
| 400 100 772    | Wiring harness ACC-kit | Cars with ACC                  |
| 400 127 197    | Evacuation hose        | Cars with engine B205 and B235 |



### 900 basic kit 400 127 130:

- |                                      |   |
|--------------------------------------|---|
| 1 Silencer                           | 28 Cable ties (3 pcs)                       |
| 2 Hose clamp (7 pcs)                 | 29 Exhaust clamp, upper, 25mm               |
| 3 Non-return valve                   | 30 Exhaust clamp, centre, R27               |
| 4 Intake pipe                        | 31 Exhaust clamp, lower, 26 mm              |
| 5 Cable ties (10 pcs)                | 32 Bracket, exhaust pipe, upper             |
| 6 Holder electrical box              | 33 Exhaust-/intake plate                    |
| 7 Connector                          | 34 Screw 6.3 x 16 mm                        |
| 8 Connector                          | 35 Clamp for stay, upper exhaust pipe, 28mm |
| 9 Angled connector sleeve            | 36 Screw M3 (2 pcs)                         |
| 10 Mounting kit starter clock BW50   | 37 Straps, steel (4 pcs)                    |
| 11 Clip nut (2 pcs)                  | 38 Lock nut (2 pcs)                         |
| 12 Bracket, petrol heater            | 39 Washer, silencer bracket                 |
| 13 Screw M6x12 (3 pcs)               | 40 Nut with washer (5 pcs)                  |
| 14 Screw M6x16 (8 pcs)               | 41 Exhaust gasket                           |
| 15 Screw M6x20                       | 42 Heat shield, fuel hoses                  |
| 16 Screw 4.8 x 9.5 mm                | 43 Spacer hose                              |
| 17 Spacer washer                     |   |
| 18 Water hose inlet                  |   |
| 19 Water hose outlet                 |   |
| 20 Bracket, electrical box           |   |
| 21 Exhaust pipe, upper               |   |
| 22 Exhaust pipe, lower               |   |
| 23 Bracket, silencer                 |   |
| 24 Dirt cover, intake manifold       |   |
| 25 Wiring harness                    |   |
| 26 Heat stocking, upper exhaust pipe |   |
| 27 Cable ties (8 pcs)                |   |

**9-3 basic kit 400 127 155:**

- |                                      |   |
|--------------------------------------|---|
| 1 Silencer                           | 28 Exhaust clamp, lower, 26 mm              |
| 2 Hose clamp (7 pcs)                 | 29 Bracket, exhaust pipe upper              |
| 3 Non-return valve                   | 30 Exhaust-/intake plate                    |
| 4 Intake pipe                        | 31 Clamp for stay, exhaust pipe upper, 28mm |
| 5 Cable ties (10 pcs)                | 32 Screw M3 (2 pcs)                         |
| 6 Holder, electrical box             | 33 Straps, steel (4 pcs)                    |
| 7 Connector                          | 34 Lock nut (2 pcs)                         |
| 8 Connector                          | 35 Nut with washer (5 pcs)                  |
| 9 Angled connector sleeve            | 36 Exhaust gasket                           |
| 10 Bracket, petrol heater            | 37 Protecting moulding                      |
| 11 Screw M6x12 (3 pcs)               | 38 Heat shield, fuel hoses                  |
| 12 Screw M6x16 (8 pcs)               | 39 Spacer hose                              |
| 13 Screw M6x20                       |   |
| 14 Screw 4.8 x 9.5 mm                |   |
| 15 Water hose inlet                  |   |
| 16 Water hose outlet                 |   |
| 17 Bracket, electrical box           |   |
| 18 Exhaust pipe, upper               |   |
| 19 Exhaust pipe, lower               |   |
| 20 Bracket, silencer                 |   |
| 21 Dirt cover, intake manifold       |   |
| 22 Wiring harness                    |   |
| 23 Heat stocking, upper exhaust pipe |   |
| 24 Cable ties (8 pcs)                |   |
| 25 Cable ties (3 pcs)                |   |
| 26 Exhaust clamp, upper, 25mm        |   |
| 27 Exhaust clamp, centre, R27        |   |

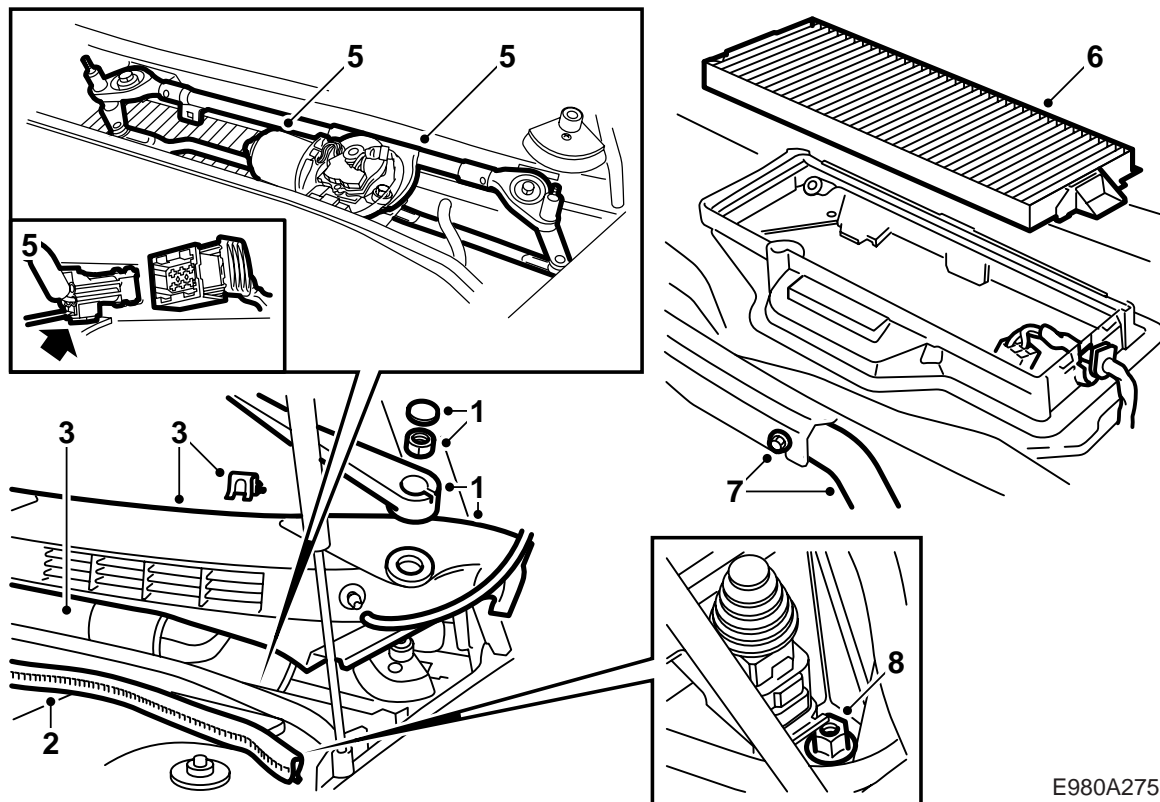


900 Heater kit 400 100 756:

- 9-3 heater kit 400 127 148:

- 1 Fuel hose, male
- 2 Fuel hose, female
- 3 Junction hose (2 pcs)

- 1 Evacuation hose
- 2 Clips (2pcs)



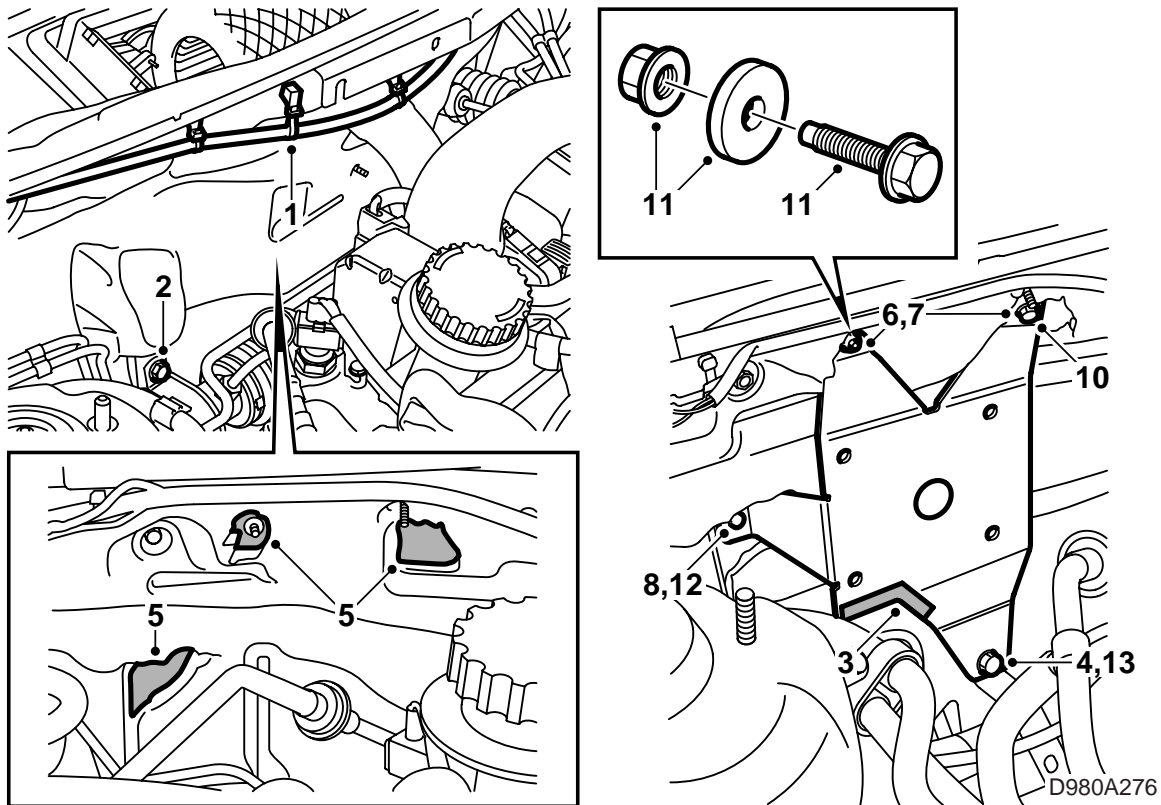
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### Preparations

- Place the car on a lifting device.
- If the car is equipped with another radio then the Saab original, please check that the customer has the radio code before work commences.
- Put on the wing covers.
- Loosen the battery negative cable.

### Initial work

- 1 Remove the windscreen wipers.
- 2 Remove the bonnet seal on the bulkhead.
- 3 Remove the defroster cover and run-off cover.
- 4 Remove the engine cover.
- 5 **MCC**: Dismantle the wiper unit.
- 6 **MCC**: Remove the cabin air filter.
- 7 Dismantle the cross stay.
- 8 Unscrew the screw that holds the cars relay-/ fuse box in place. lift and turn the relay-/fuse box to one side.



### Mounting of petrol heater bracket

- 1 Loosen the wiring harness from the bulkhead in the area in question.
- 2 Unscrew the upper bolt for the steering gear attachment on the right side of the bulkhead.
- 3 **B205 and B235:** Mount a protection moulding on the petrol heater bracket. Adjust the length of the protection moulding on the side which is against the fuel pipes.
- 4 Loosely place the petrol heater bracket in the steering gear attachment.
- 5 Mark where the bracket attaching lugs should be attached to the bulkhead. Cut away the bulkhead insulation around the marks so that the plates lie against the bulkhead.
- 6 **Saab 9-3:** The bracket is secured by a nut in the existing weld bolt in the upper right attachment. For the upper left attachment a 6.5 mm through hole is to be drilled.
- 7 **Saab 900:** Drill the upper two mounting points with a 6.5 mm drill.
- 8 For the upper mounting point in the middle a 3.5mm hole should be drilled.

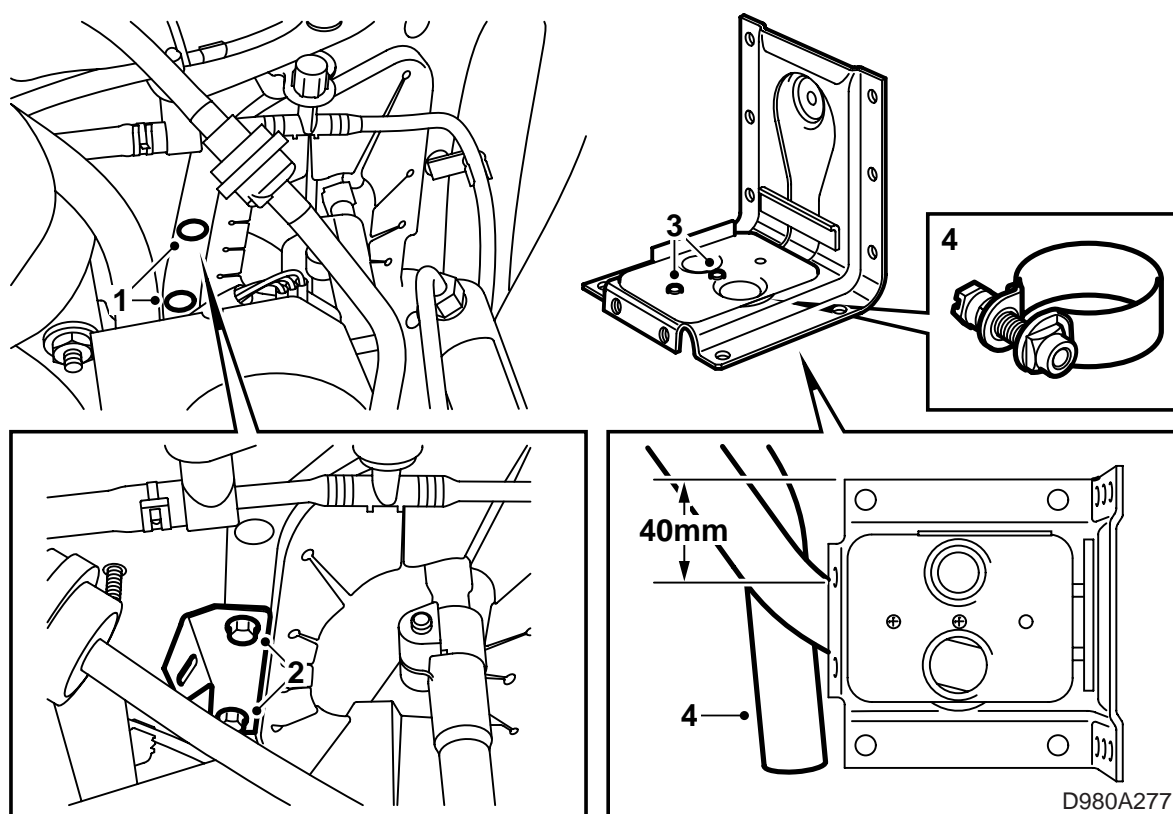
### Important

Drilling stop, L=10 mm must be used when the 3.5 mm hole is drilled, so as to avoid damage to the control module which can be found on the back of the bulkhead.

- 9 Deburr the holes and remove dirt and loose particles. Clean using Terosons cleaner FL. Apply Standox 1K Füllprimer. Apply top coat. Use Terotex HV200 Extra T108 or Mecasol 1 on inside surfaces.
- 10 Fasten the upper left mounting point with a bolt (M6x16).
- 11 **Saab900:** Place a spacer washer by the right upper mounting point to be placed between the bracket and bulkhead if the weld bolt is missing. Fasten with a bolt (M6x20).
- 12 Fasten the upper mounting point in the middle with a plate screw 4.8 x 9.5 mm.
- 13 Tighten the bolt in the steering gear attachment.

**Tightening torque 24 Nm (17.8 lbf ft)**

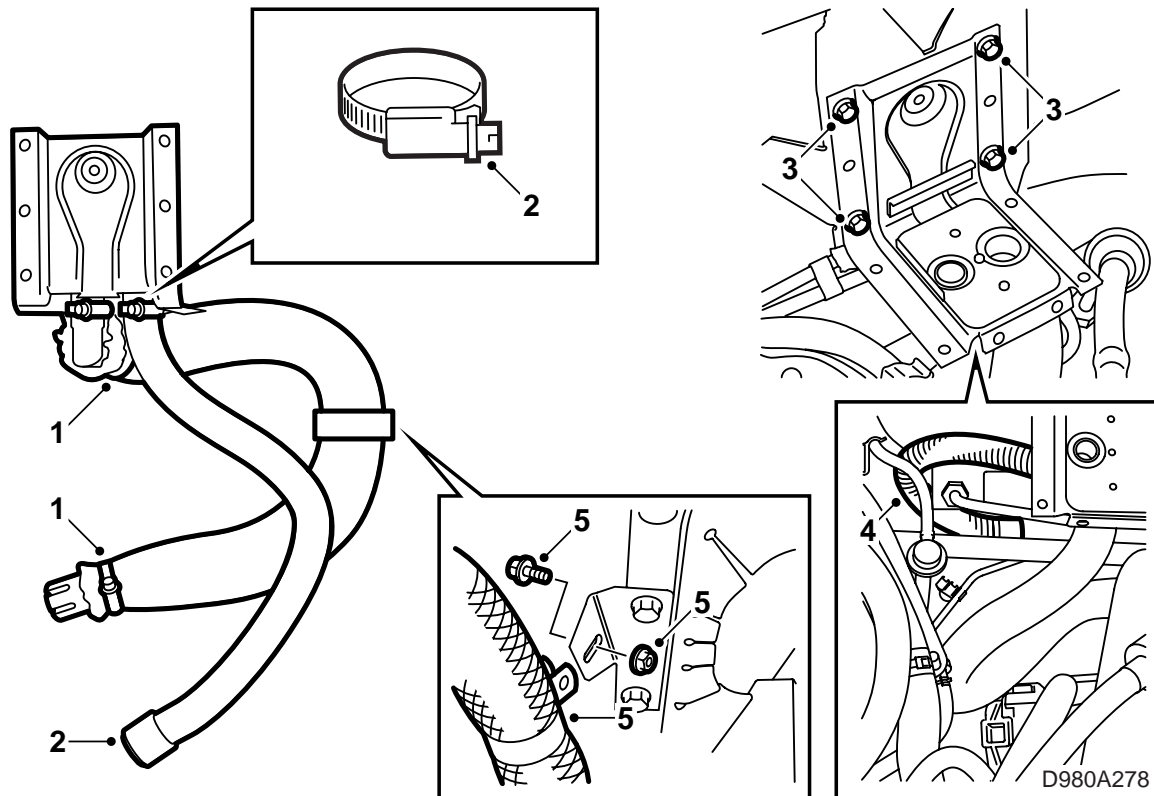
**Control torque 17 Nm (12.6 lbf ft)**



### Mounting of exhaust pipe and intake pipe

- 1 Remove the two lower plastic rivets on the inner wheel arch that keep the steering rod dust cover in place.
- 2 Mount the exhaust pipe bracket with bolt (M6x16) and lock nut on the inner wheel arch. Use the holes from the plastic rivets.
- 3 Mount the exhaust-/intake plate on the L-bracket with small screws (M3).
- 4 Mount the upper part of the exhaust pipe on the exhaust plate with a 26 mm exhaust clamp. The distance from the L-bracket's right side to the exhaust pipe should be approximately 40 mm, see illustration. Tighten the exhaust clamp.





### Mounting of exhaust pipe and intake pipe (cont.)

- 1 Put on the heat stocking on the upper part of the exhaust pipe. Fasten with steel straps in both ends.

### Important

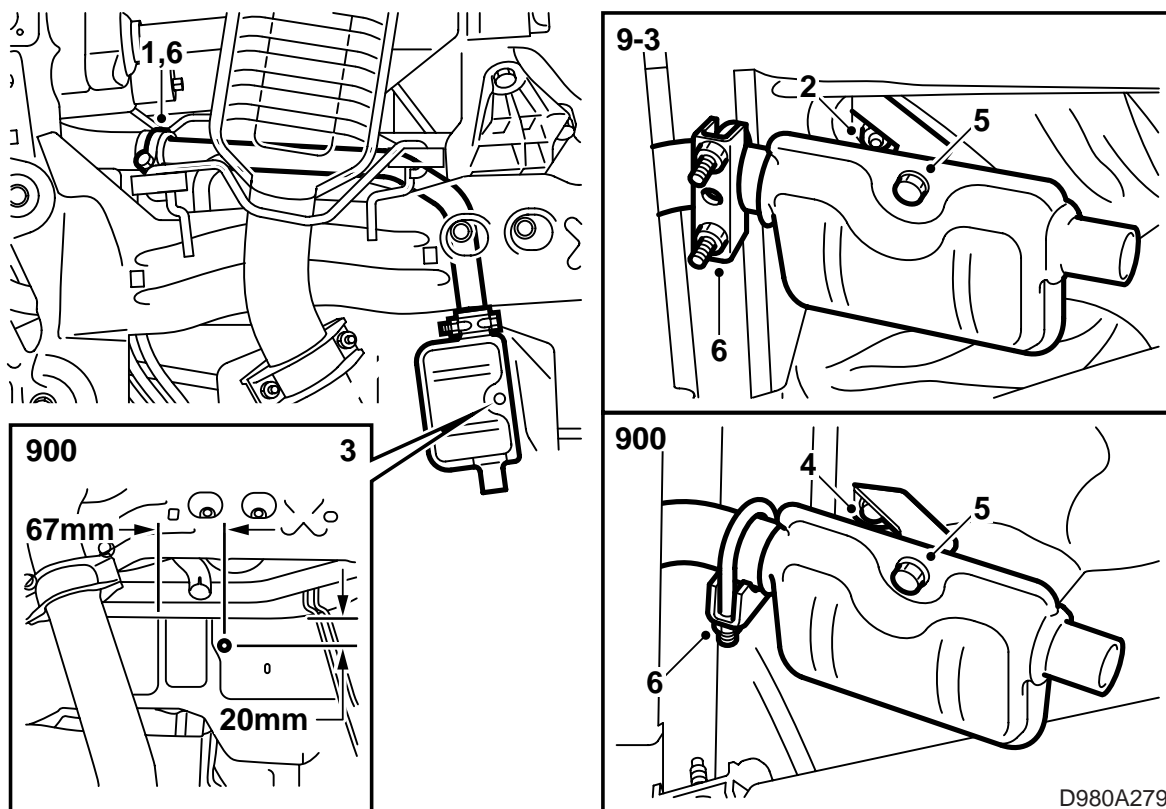
The heat stocking contains fibreglass. Use protective gloves to avoid skin irritation.

- 2 Mount the intake pipe on the exhaust-/intake plate with a hose clamp. Mount the intake protection shield in the end of the exhaust pipe.
- 3 Mount the L-bracket on the petrol heater bracket with 4 pcs 16 mm bolts (M6).

### Important

The car's fuel lines must fitted over the exhaust hose.

- 4 Position the intake pipe behind the steering gear alongside the bulkhead directed downwards, see illustration.
- 5 Mount a 28 mm hose clamp over the exhaust pipe and heat shield and fasten it to the exhaust pipe bracket on the wheel arch. Adjust the exhaust pipe making sure it does not lie against the brake pipes.



### Mounting of silencer

- 1 Lift the car.

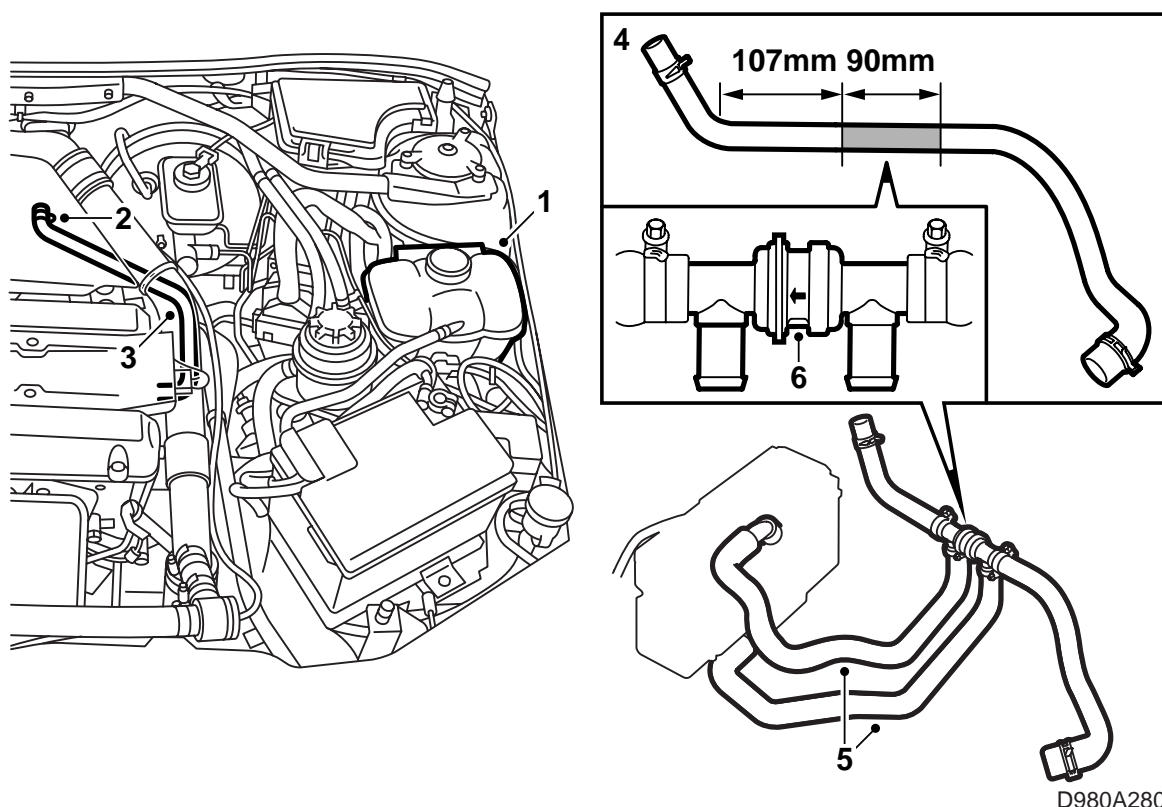
Mount together the upper and lower parts of the exhaust pipe loosely using an exhaust clamp.

- 2 **Saab 9-3:** Undo the existing nut from the weld bolt under the car. Fasten the silencer bracket to the weld bolt with a nut.

- 3 **Saab 900:** Drill a 5 mm hole, according to the illustration.

Deburr the holes and remove dirt and loose particles. Clean using Terosons cleaner FL. Apply Standox 1K Füllprimer. Apply top coat. Use Terotex HV200 Extra T108 or Mecasol 1 on inside surfaces.

- 4 **Saab 900:** Screw on the silencer bracket with a 6.3 mm plate screw and washer. The washer is to be fitted between the bracket and the car.
- 5 Fit an exhaust clamp on the exhaust pipe followed by one on the silencer. Fasten the silencer with bolt (M6x12) and nut in the bracket.
- 6 Tighten both exhaust clamps.



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### Mounting of non-return valve

- 1 Drain the cars cooling system.



#### WARNING

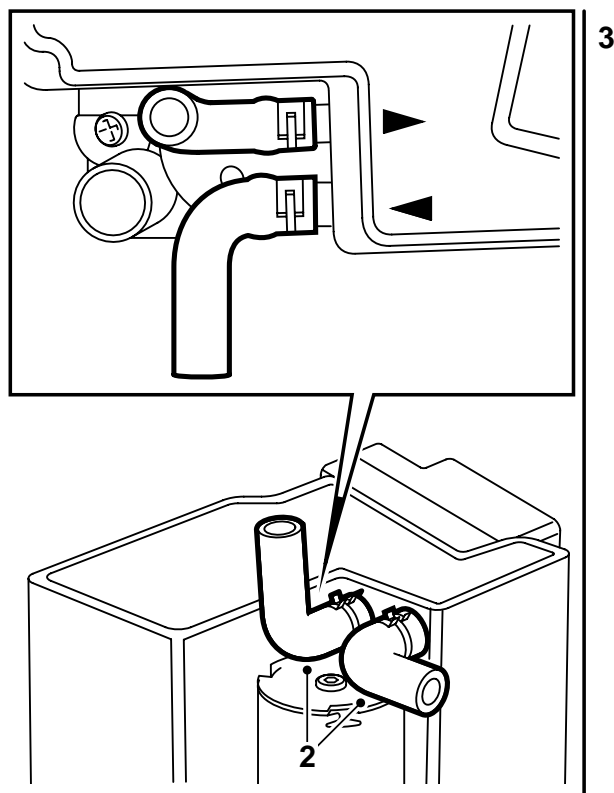
Show caution if car engine is warm. Coolant is very hot. It is also possible to burn oneself on the turbocharger and the exhaust manifold.

- 2 Detach the left coolant hose from the heat exchanger.
- 3 Lower the car. Slacken the radiator hose at the top of the engine, unsnap the hose holder, alternatively cut away the vulcanization from the adjacent hose. Lift out the hose.
- 4 Cut away 90 mm from the hose starting from a point 107 mm from the hose's lower bend, see illustration.
- 5 Mount the heater radiator hoses on the non-return valve with hose clamps. Loosely tighten.
- 6 Mount the non-return valve in the detached radiator hose. Loosely tighten the hose clamps.

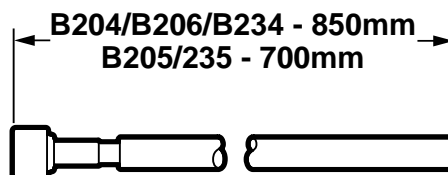
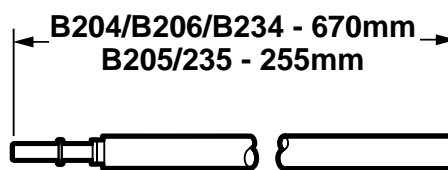
### Important

The arrow on the non-return valve indicates the flow direction and should be directed towards the heat exchanger.

- 7 Move the hoses down and bring forward the heater radiator hoses to the L-bracket. The heater radiator hoses should be positioned under the heat exchanger return hose.



3



D980A281

### Working with exhaust gaskets and fuel hoses

#### **WARNING**

Read through the assembly instructions before beginning work.

Work when installing the heater involves interference with the fuel system. Please observe the following points in connection with assembly:

- Provide good ventilation. If approved extractors for fuel fumes are available, then they should be used.
- Wear protective gloves. Prolonged contact with petrol can cause skin irritation.
- Always have a fire extinguisher class BE available. Be aware of the risk for sparks e.g. In connection with the breaking of electrical circuits, short circuits, etc.
- Smoking is prohibited.

- 1 Fit an exhaust gasket on petrol heater if required.
- 2 Fit the fuel hose connectors on the petrol heater. Turn them 90° according to the illustration. Mount the clips.

### Important

When joining fuel lines in this kit, make sure the ends are properly attached.

- 3 The heater fuel hoses should be cut to the stated lengths.

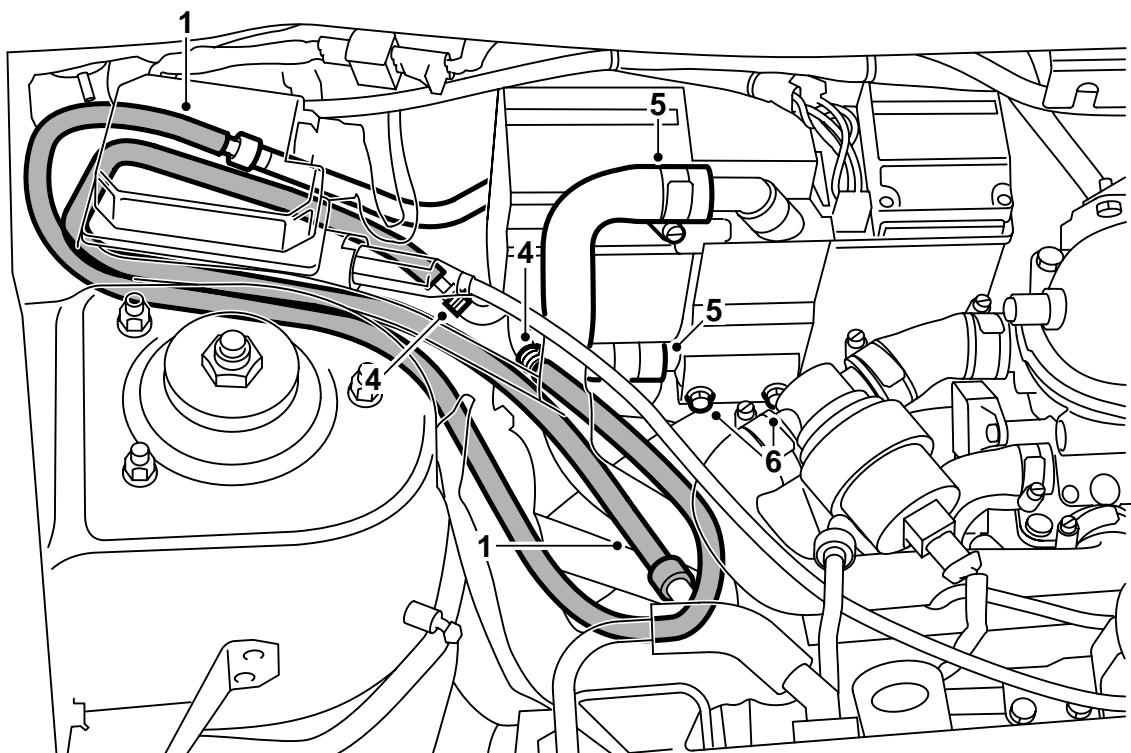
**B204, B206 and B234:** The female hose that goes to the approach flow should be cut to 850 mm.

The male hose that goes to the approach flow should be cut to 670 mm.

**B205 and B235:** The female hose for the inlet flow should be cut to 700 mm.

The male hose for the inlet flow should be cut to 255 mm.

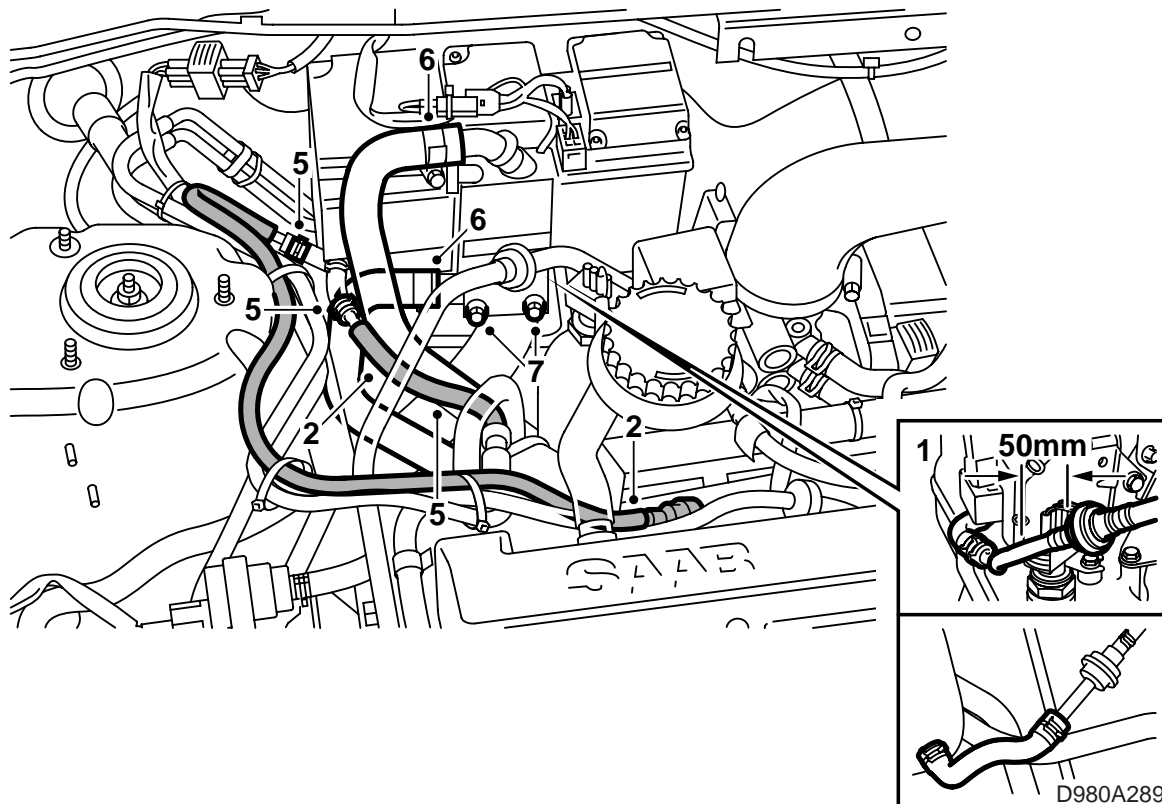
Cut back the outer casing another 20 mm on all hoses.



D980A282

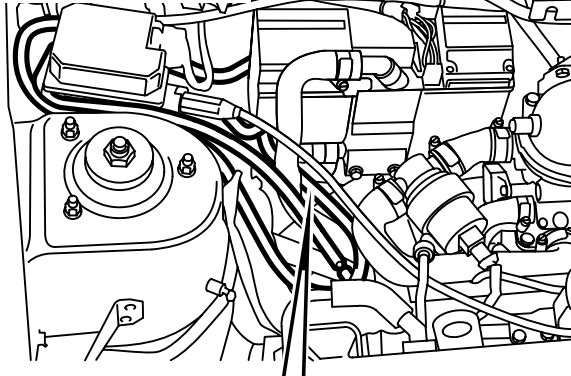
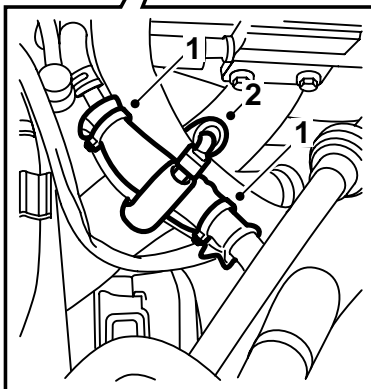
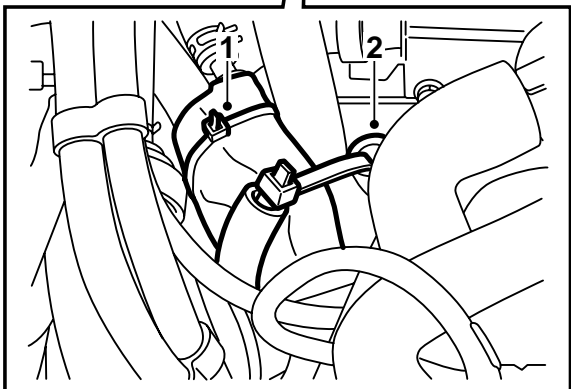
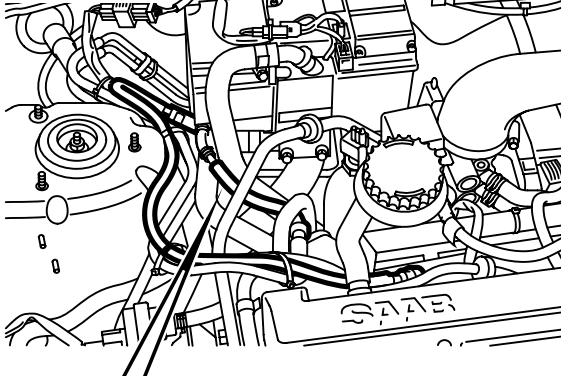
### Working with fuel hoses and radiator hoses B204, B206 and B234

- 1 Detach the return hose on the fuel rail.  
Connect the cut inlet flow hose to the return on the fuel rail.  
Connect the cut inlet flow hose to the original return hose using the enclosed seal.
- 2 Draw the fuel hoses according to the illustration.  
The car's original return hose together with the cut inlet flow hose should be fixed to the bulk-head under the petrol heater. The inlet flow hose should first be drawn around the cruise control and then bent back to the heater connector which is marked "arrow out". The inlet flow hose should be drawn from the fuel rail around the cruise control then bent back to the heater connector which is marked "arrow in".
- 3 Position the petrol heater on the L-bracket.
- 4 Connect the fuel hoses to the petrol heater.  
Mount with clips.
- 5 Connect the radiator hoses to the petrol heater.  
Use hose clamps. Tighten the hose clamps by the heater.
- 6 Mount the petrol heater on the L-bracket. Fasten the securing plate with 2 bolts (M6x16).  
Tie together the fuel hoses using a cable tie and position them in a suitable place.



### Working with fuel hoses and radiator hoses B205 and B235

- 1 Detach the evacuation hose from the car's intake manifold. cut the hose 50 mm from the valve, see illustration. Replace the cut away piece with a new hose. Lock the hose in place with clips.
- 2 Detach the return hose on the fuel rail.  
Connect the cut inlet flow hose to the return on the fuel rail.  
Connect the cut inlet flow hose to the original return hose using the enclosed seal.
- 3 Draw the fuel hoses according to the illustration.  
The inlet flow hose should be drawn along the original fuel hoses to the heater connector which is marked "arrow in". The inlet flow hose should be drawn to the heater connector which is marked "arrow out".
- 4 Position the petrol heater on the L-bracket.
- 5 Connect the fuel hoses to the petrol heater.  
Mount with clips.
- 6 Connect the radiator hoses to the petrol heater.  
Use hose clamps. Tighten the hose clamps by the heater.
- 7 Mount the petrol heater on the L-bracket. Fasten the securing plate with 2 bolts (M6x16).  
Tie together the fuel hoses using a cable tie and position them in a suitable place.

**B204/B206/B234****B205/B235**

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### Working with fuel hoses and radiator hoses (cont.)

- 1 **B204, B206 and B234:** Wind the heat shield around the three fuel hoses, fasten with 2 cable ties.

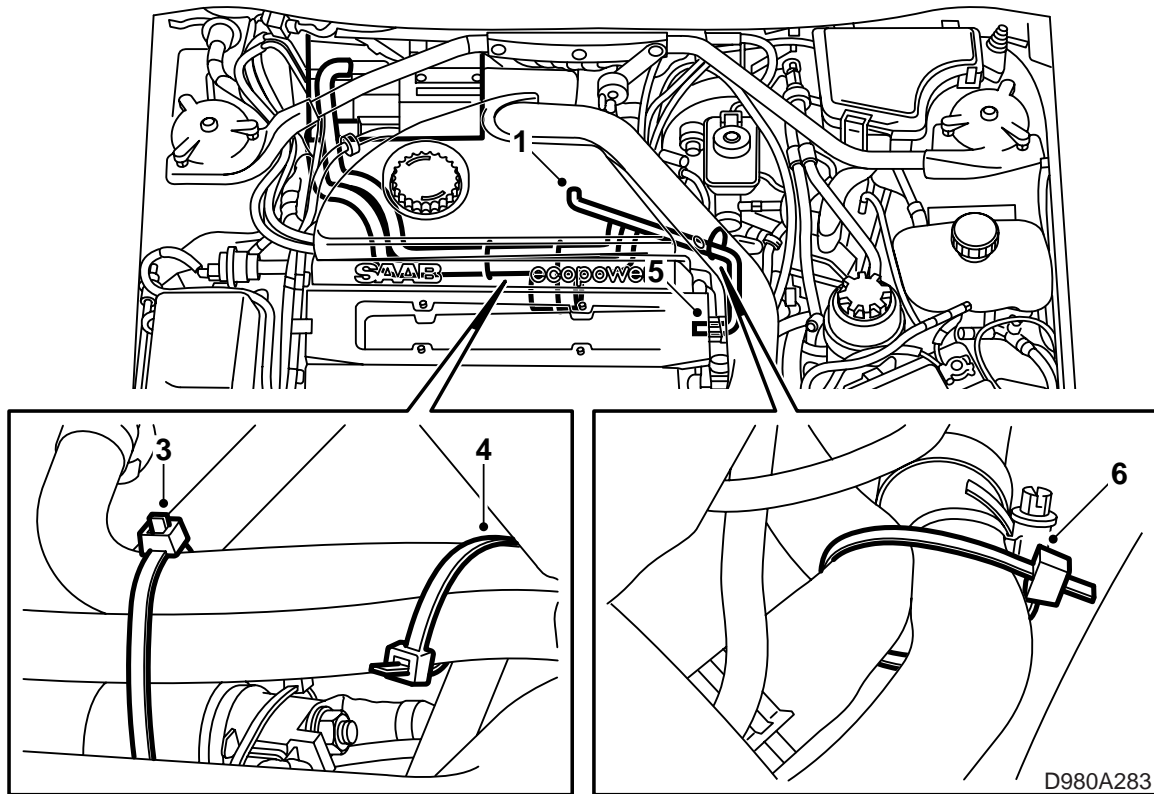
**B205 and B235:** Wind the heat shield around the fuel hoses, fasten with 2 cable ties.

- 2 Thread a wide cable tie through the spacer hose. Position the spacer hose over the exhaust pipe and under the fuel hoses and both radiator hoses. Tighten the cable tie on the upper side.

### Important

Do not tighten the cable tie around the spacer hose too much so that the flow of water in the radiator hoses is restricted.

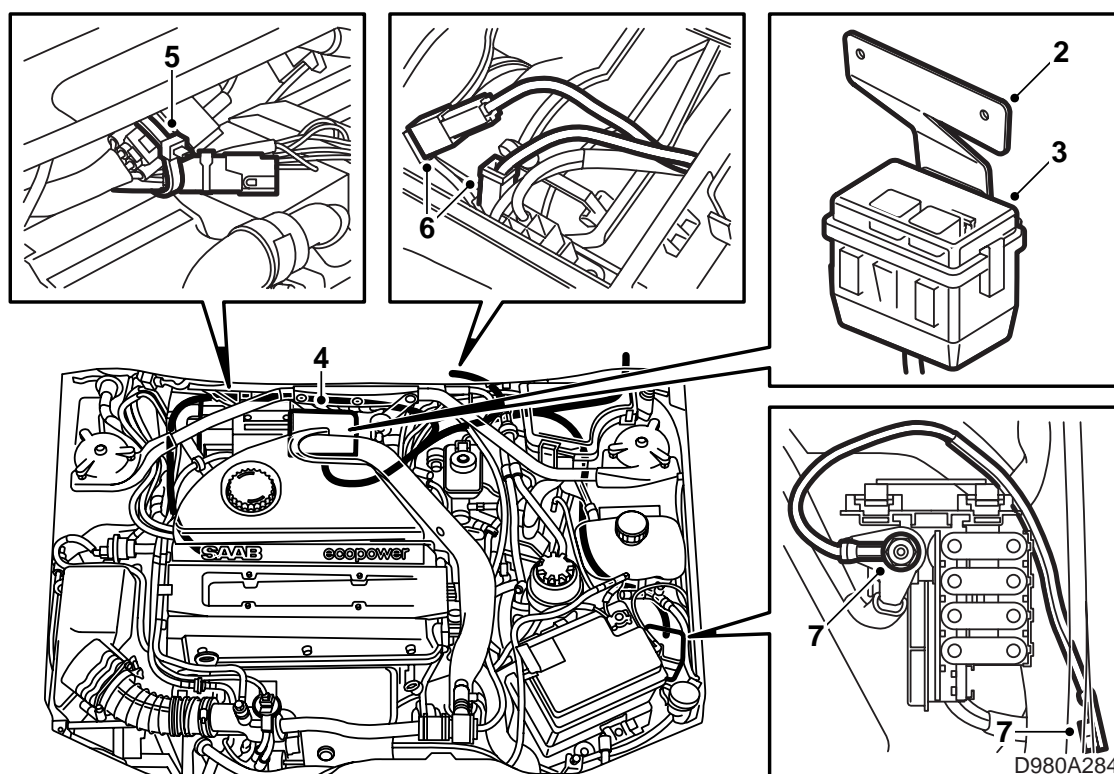




### Working with radiator hoses

- 1 Lift the car. Fit the radiator hose at the bottom of the heat exchanger.
- 2 **Manual gearbox:** Adjust the non-return valve angle so that it is not lying against the gear selector.
- 3 Draw the hoses above the starter solenoid and secure with a suitable cable tie.  
Tighten all the hose clamps around the non-return valve.
- 4 Secure the hoses to an existing stay under the intake manifold with a wide cable tie.  
Lower the car.
- 5 Fit the other end of the coolant hose to the cylinder head.
- 6 Secure the non-return valve position with a hose holder between the radiator hoses. If necessary, a cable tie can be used. Tighten all hose clamps.



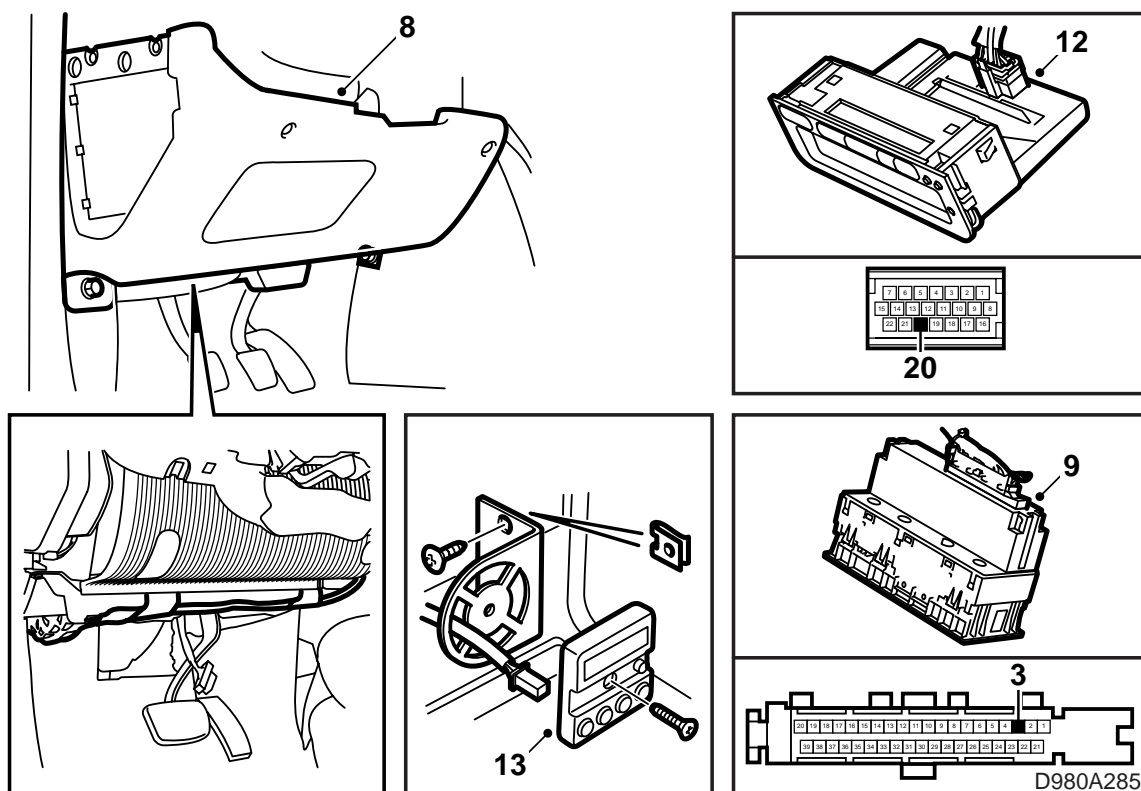


### Laying of wiring harnesses

- 1 Fit new cable ties for the wiring harness in the weld studs on the bulkhead. The loop of the cable tie should point upwards.
- 2 Mount the galvanised holder in the electrical box bracket with 2 bolts (M6x12).
- 3 Mount the electrical box on the galvanised holder.
- 4 Position the electrical box with the accompanying wiring harness, according to the illustration, so that the cross stay can be mounted without hindrance above the electrical box.
- 5 The heater connector is run over the heater and connected to the heater. Secure to the bulkhead using a cable tie. The green/white cable is run to D+ on the generator and located alongside the radiator hoses. Secure using a cable tie.
- 6 **MCC:** Run the green and grey cable in the grommet above the brake servo. Thread the cables through the rubber grommet to the fan housing. Seal with Teroson T242. Fit the connector sleeves over the pins. Unplug the orange cable from the socket on the fan housing, equip the pin with an angled connector sleeve and connect it to the kit's grey cable. Connect the kit's green cable to the pin where the orange cable was unplugged.

**ACC:** The grey and green cable is not used. The cables should be insulated and secured by the existing wiring harness.

- 7 Power supply and ground are run alongside the existing wiring harness on the left structure support up to the maxi fuse holder by the battery. Connect the red cable to the plus terminal and the black cable to the grounding point on the left structure support (grounding point G30).



### Laying of wiring harness (cont.)

8 Loosen the knee protection and side panel in the cabin on the driver's side.

9 **ACC:** Detach the ACC panel from the dashboard.

Connect the 4-pin male connector to the corresponding female connector from the electric distribution box cable. Lay the yellow cable to the ACC panel and the cables for controlling the heater with SID (9-3) or a timer via the top left rubber grommet in the bulkhead (cut off the top rubber pin).

10 **ACC:** Run yellow cable to the ACC-panel and press it into pin position 3 in the connector.

**Saab 900:** Fit the ACC-panel in the dashboard.

11 **MCC:** Cables for control of the heater with SID (9-3) or a timer are run via the upper left rubber grommet in the cabin.

12 **Saab 9-3:** The petrol heater is controlled by the SID-unit. Loosen the SID-unit from the dashboard. The purple cable is connected to pin position 20 on the SID-unit. The connector to the timer should be insulated. Secure the cables by the air duct with tape.

**MCC:** Fit the SID unit into the dashboard.

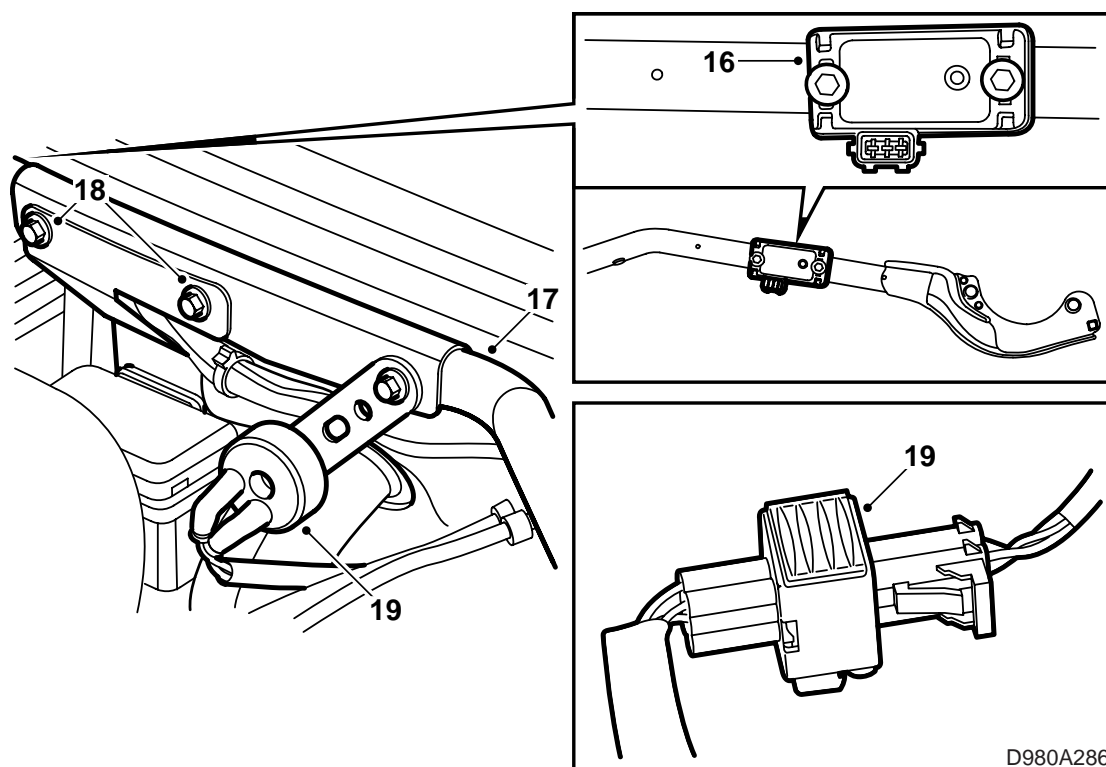
**ACC:** Fit the SID unit and ACC panel into the dashboard.

13 **Saab 900:** The petrol heater is controlled by a separate timer. Run the timer cable harness under the cigarette lighter socket in the centre console. Position the timer support bracket on the panel wall under the cigarette lighter socket and drill two 3 mm holes. Fasten the support bracket.

Fit the storage tray/ashtray with holder. Plug in the connector and mount the timer. Adjust the cross stay for the timer if required so as to make sure that the reading from the driver's seat is accurate. Insulate the purple cable to the SID-unit.

Secure the cable harness by the air duct with tape.

14 Fit the side panel and knee protection.



D980A286

### Laying of wiring harness (cont.)

- 15 Mount the car's relay-/fuse box.
- 16 **B204E/L**: The pressure sensor on the cross stay must be moved. A new 3.5 mm hole should be drilled in the cross stay. Move the pressure sensor to the right, see illustration.  
Deburr the holes and remove loose dirt and particles. Clean with Terosons cleaner FL. Apply Standox 1K Füllprimer. Apply top coat. Use Terotex HV200 Extra T108 or equivalent on inside surfaces.

### Important

The pressure sensor connector must be pointing out towards the engine bay.

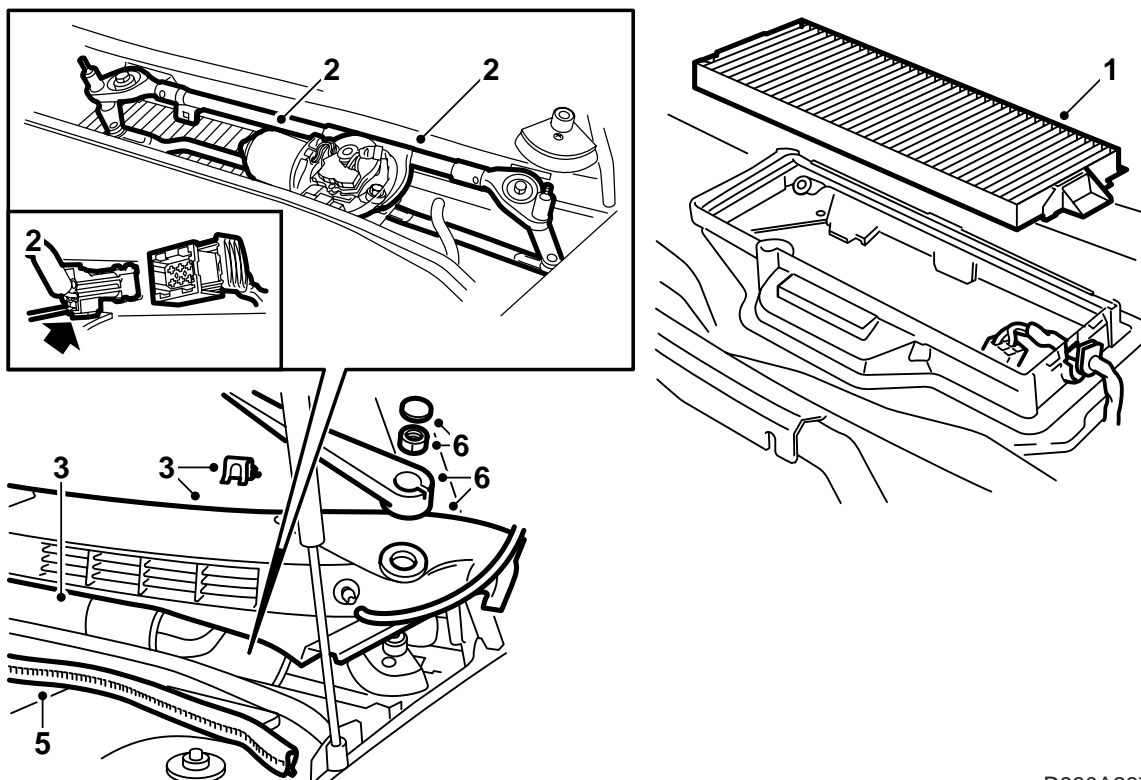
- 17 Mount the cross stay.
- 18 Mount the electrical box bracket in the intended hole in the cross stay attachment bracket.
- 19 **MCC**: Mount the resistor at a 45° angle from the cross stay on the bulkhead, see illustration.

### Important

The resistor gets very hot. Make sure it does not come into contact with nearby components.

Connect the 4-pole male connector in the corresponding female connector from the electrical box cables and also connect the cables to the resistor.

- 20 Secure all wiring harnesses with cable ties but not to moving parts in the engine compartment.



D980A287

### Mounting of removed details

- 1 **MCC:** Mount the cabin air filter.
- 2 **MCC:** Mount the wiper equipment.
- 3 Mount the run-off cover and defroster cover.
- 4 Mount the engine cover.
- 5 Mount the bonnet seal on the bulkhead.
- 6 Fit the windscreen wipers.
- 7 Connect the negative battery cable.
- 8 Program any radio codes and if the car is equipped with an alarm, press the remote control locking-/unlocking button 4 times.

## Bleeding the coolant system

- 1 Fill up with coolant.
- 2 Bleed the coolant system.

### Note

ACC or A/C should be in the OFF position.

Start the engine and check to see that there is a continual flow of coolant from the hose from the thermostat housing to the expansion tank.

Run the engine until the first fan starts, then turn the engine off. Carefully open the cap for the expansion tank and top up if required to the MAX level. Close the cap.

**ACC:** Calibrate the ACC-system.

- 3 Warm up the car and top up with coolant as necessary.

## Checking the heater functions

- 1 **Saab9-3:** Connect Tech2 and program SID for the petrol heater. Set the clock and date.

The different heater functions are described in the car owner's manual in the chapter "Engine and cabin heater".

- 2 Test the petrol heater and its functions.

Set ACC or A/C to the AUTO position.

Start the heater manually. Check to make sure that no leakage occurs in the heater's fuel system, coolant system or exhaust system.

- 3 Check to make sure that the heater unit is firmly in place and correctly mounted.

- 4 Check to make sure that all cables and hoses are properly secured and run, so that there is no risk for mechanical damage or damage due to heat radiation.

- 5 **900:** Make sure that the heater's instruction manual is put in the car and, when appropriate, that the driver is informed of changes to do with use or function that differ from the original instructions.

- 6 **9-3:** Inform the car owner that the heater's user instructions are to be found in the car owner's manual under technical data and the chapter "Engine and cabin heater".

- 7 Fill in the petrol heater's warranty card and send it to the stated address. If an exchange unit has been fitted, fill in the complementary details on the registration card.

The enclosed TYF-labels are applied according to the current regulations (applies only to certain markets).

Wiring diagram

