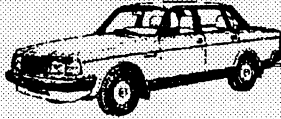


# VOLVO

## Service Bulletin

Fault Tracing  
Repairs  
Maintenance



|  |             |                        |
|--|-------------|------------------------|
| MODEL<br>200                                     | GROUP<br>87 | NUMBER<br>211          |
| TITLE<br>NEW HEATER CONTROL VALVE<br><br>240 ALL |             |                        |
| MARKET<br>US and Canada                          |             | DATE<br>September 1993 |

Page 1 of 8

REFERENCE: TP 31120/1 (ENGLISH); 12/87; BODY FITTINGS, INTERIOR, HEATING AND A/C

### New heater control valve for climate control system

A new heater control valve, p/n 3540503-4, has been introduced on production models from 1992 on. The new valve, which has an improved low-temperature control characteristic, is easier and smoother to operate, and supersedes the earlier type as a replacement.

Conversion kits have been produced to permit the earlier type of valve to be replaced by the new type. The part number of the kit is p/n 9131998-8.

| Contents  | Section | Page |
|---|---------|------|
| Replacement of heater control valve, models to 1991 incl. | A       | 2    |
| Replacement of heater control valve, models from 1992 on  | B       | 5    |

**WARNING:** Care should be taken when working with coolant at operating temperature.

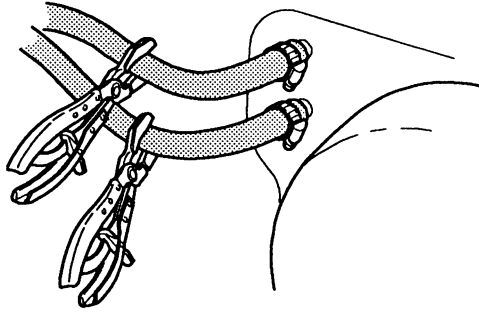
Service Personnel: circulate, read, and initial.

| SERVICE MANAGER |  | SHOP FOREMAN |  | SERVICE ADVISOR |  | SERVICE TECHNICIANS |  |  |  |  |  |  |  |
|-----------------|--|--------------|--|-----------------|--|---------------------|--|--|--|--|--|--|--|
|                 |  |              |  |                 |  |                     |  |  |  |  |  |  |  |



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8700386A

## A Replacement of heater control valve, models to 1991 incl.

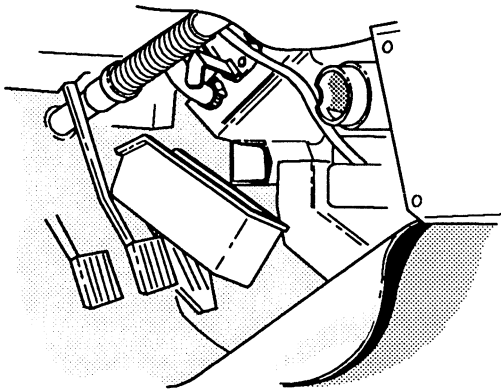
A1

### Clamp heater hoses

Open hood.

Clamp heater hoses with hose clamping tools.

Loosen expansion tank cap to relieve pressure in system.



8700367A

## A2 Preparations for draining coolant inside car

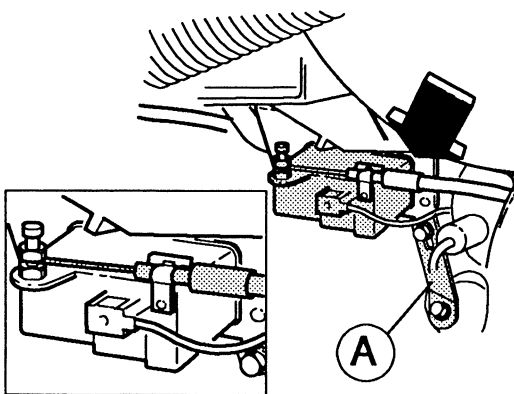
### Remove/disconnect:

- soundproofing panel and knee bolster/support bar on left-hand side.
- center console side panel.
- carpet (fold back).
- cover beside accelerator pedal.

Place container under heater hose connection to collect coolant. Use clean rags to absorb any spillage.

### Remove/disconnect:

- soundproofing and center console side panel on right side
- bolts holding center console panel



8700374A

## A3 Remove valve and mounting bracket

### Remove/disconnect:

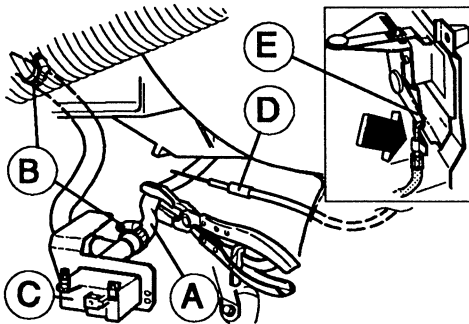
- control cable from valve.
- valve incl. capillary tube and bracket from heater housing (pull towards left).
- support (A) between body and heater.
- reinstall capillary tube rubber grommet (reseal tube hole with duct tape or butyl tape)

A4

### Remove valve and control cable

Heater hoses in engine compartment must be clamped. Clamp hose (A) from heater by applying hose clamp tool beside valve in car.

Undo hose clamps (B) and remove valve (C) with hose. Disconnect cable (D) at control panel (E) and remove cable.



clamp from right side

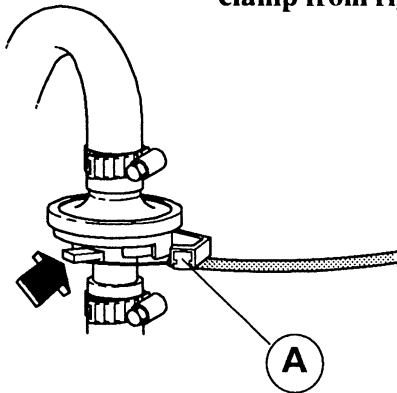
A5

### Attach new cable to new valve

#### Insert:

- wire in hole in valve control arm.

Adjust position of cable in clip (A) so that valve opens fully and closes fully.

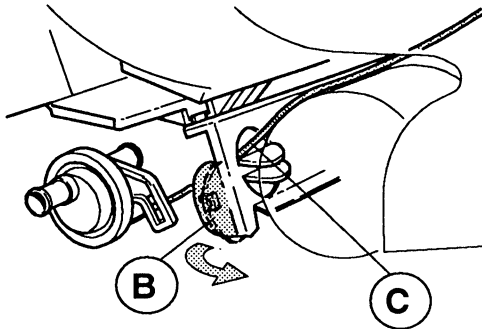


8700375A

8700371A

**Caution:** Control arm is easily broken and must be treated with **extreme care**.

Bend mounting bracket (B), 90° to left. Route cable between heater housing and radio compartment, and through hole (C) in heater mounting bracket.



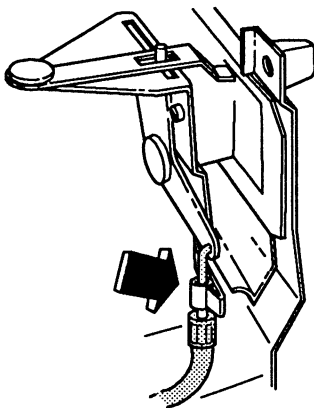
A6

### Install new control cable

#### Attach:

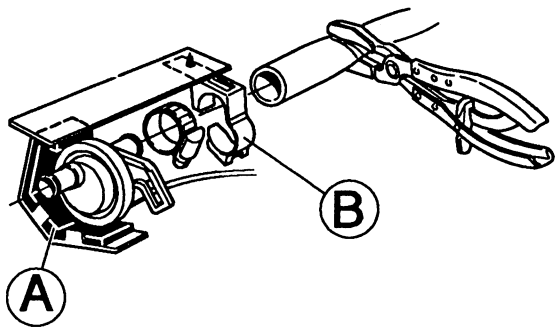
- cable to control lever

Adjust position of cable in clip so that valve opens fully when control lever is set to maximum and closes fully when control lever is set to minimum.



8700377A





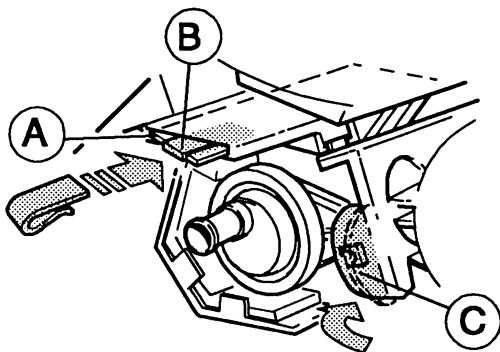
8700378A

### A7 Assembly of mounting bracket, hose, valve, plastic foam packing and hose retainer

#### Install/connect:

- plastic foam packing (A) and hose retainer (B) in bracket with screw.
- hose from heater to valve. Tighten hose clamp.
- secure hose in retainer.
- close valve and remove hose clamping tool.

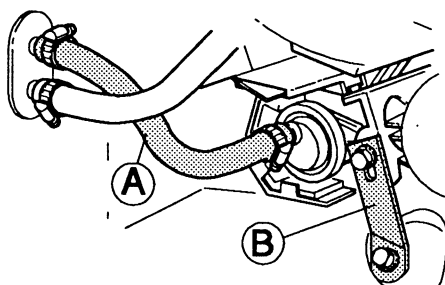
Note: Valve must be closed or coolant will leak from heater.



8700384A

### A8 Install mounting bracket and valve

Push bracket (A) into slot in heater and secure with clip (B).  
Bend mounting bracket (C) back into position.

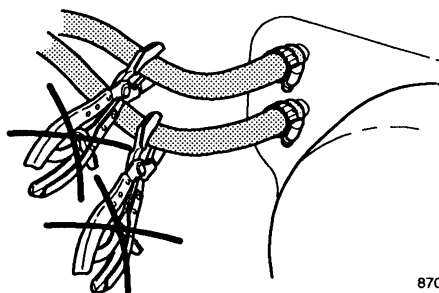


8700380A

### A9 Install new hose and refit support

#### Install:

- new hose (A) between firewall connection branch and valve. Tighten clamps.
- support (B) between body and heater.



8700381A

### A10 Remove hose clamping tools

Remove:  
clamping tools from heater hoses in engine compartment.

A11

**Checking procedure****Check:**

- coolant level and tighten expansion tank cap.
- operation of heater with engine running.
- inspect for leakage.
- top up coolant, if necessary.

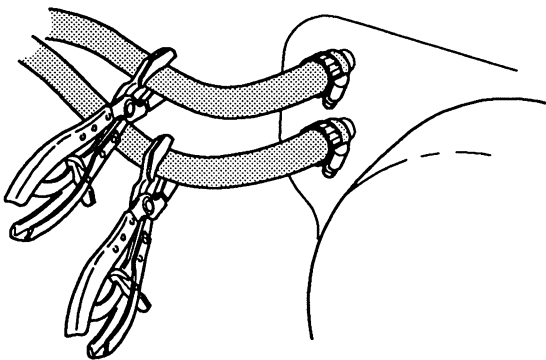
A12

**Reinstall components****Remove:**

- container and rags from underneath heater hose connection in car.

**Reinstall/reconnect:**

- cover beside accelerator pedal
- carpet (refit).
- bolts on center console panel
- center console side panels.
- soundproofing panels and knee bolster/support bar

**B****Replacement of heater control valve, models from 1992 on**

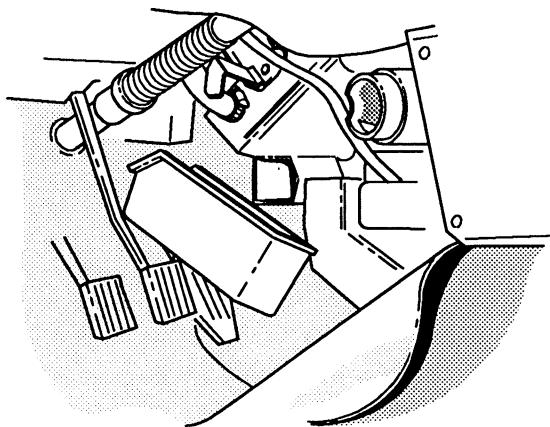
8700386A

B1

**Clamp heater hoses**

- Open hood.
- Clamp heater hoses with hose clamping tools.
- Loosen expansion tank cap.





8700367A

### B2 Preparations for draining coolant inside car

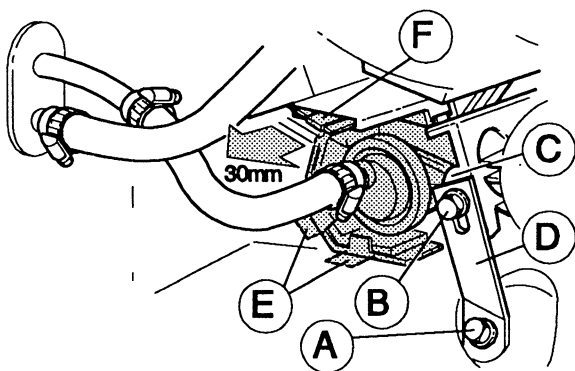
#### Remove/disconnect:

- soundproofing panel and knee bolster/support bar on left-hand side.
- center console side panel.
- carpet (fold back).
- cover beside accelerator pedal.

Place container under heater hose connection to collect coolant. Use clean rags to absorb any spillage.

#### Remove/disconnect:

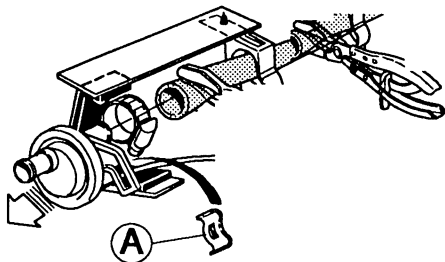
- soundproofing and center console side panel on right side



8700382A

### B3 Release mounting bracket and valve

- Disconnect support (D) from mounting bracket (C) by loosening bolt (A) and removing bolt (B).
- Bend mounting bracket (C) 90° to left.
- Bend the two stops (E) downward and pull mounting bracket (F) and valve 30 mm to left.



8700383A

### B4 Disconnect control cable from valve

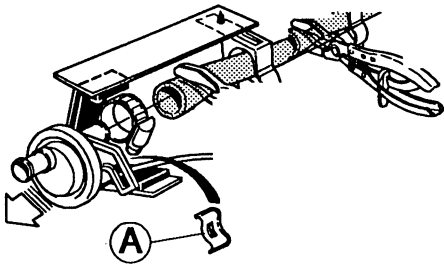
#### Remove:

- clip (A) securing cable sleeve. Pull gently towards left sufficiently to free cable from valve control arm.

**Caution:** Control arm is easily broken and must be treated with extreme care.

- valve, by clamping hose from heater with hose clamp tool and undoing hose clamps.

B5



8700383A

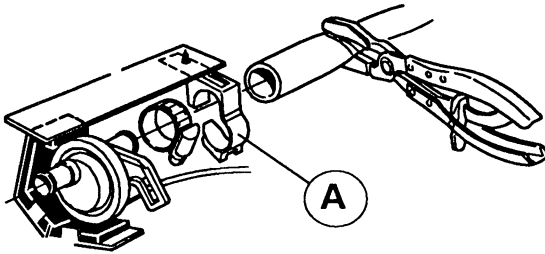
### Attach cable to new valve

#### Insert:

- wire in hole in valve control arm.

Adjust position of cable in clip (A) so that valve opens fully when control lever is set to maximum and closes fully when control lever is set to minimum.

**Caution:** Control arm is easily broken and must be treated with extreme care.



8700378A

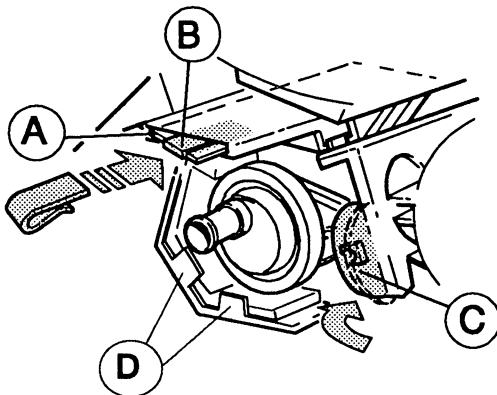
B6

### Assembly of mounting bracket, hose, valve, plastic foam packing and hose retainer

#### Install/connect:

- hose from heater to valve. Tighten hose clamp.
- secure hose in retainer (A).
- close valve and remove hose clamping tool.

Note: Valve must be closed or coolant will leak from heater.



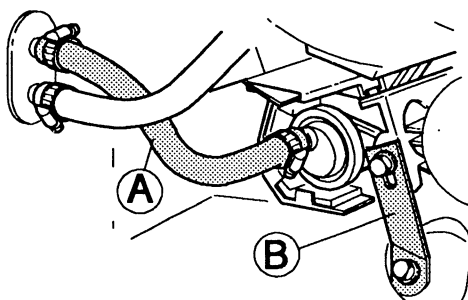
8700384A

B7

### Install mounting bracket and valve

Push bracket (A) into slot in heater and secure with clip (B).

Bend mounting bracket (C & D) back into position.



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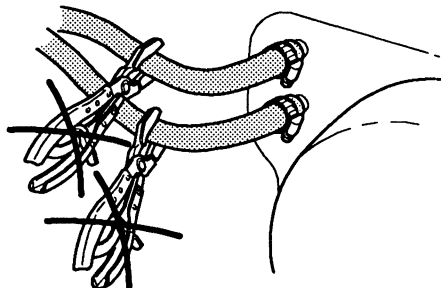
B8

### Reinstall hose and refit support

#### Install:

- new hose (A) between bulkhead connection branch and valve. Tighten clamp.
- support (B) between body and heater.





8700381A

**Remove hose clamping tools****Remove:**

clamping tools from heater hoses in engine compartment.

B10

**Checking procedure****Check:**

- coolant level and tighten expansion tank cap.
- operation of heater with engine running.
- inspect for leakage.
- top up coolant, if necessary.

B11

**Reinstall components****Remove:**

- container and rags from underneath heater hose connection in car.

B12

**Reinstall/reconnect:**

- cover beside accelerator pedal
- carpet (refit)
- center console side panels
- soundproofing panels and knee bolster/support bar

**WARRANTY STATEMENT:** Claims may be submitted under the New Car Limited Warranty when a manufacturing defect is present using claim type: 01 for the conversion kit on a one-time basis only.

| Oper. No. | Labor Description  | Time Allowance |
|-----------|--|----------------|
| 873513    | Heater control valve, climate control system, replace, including conversion kit models to 1991 incl. | 1.1 hr         |
| 873512    | Heater control valve, replace<br>- models from 1992 on   | 0.6            |