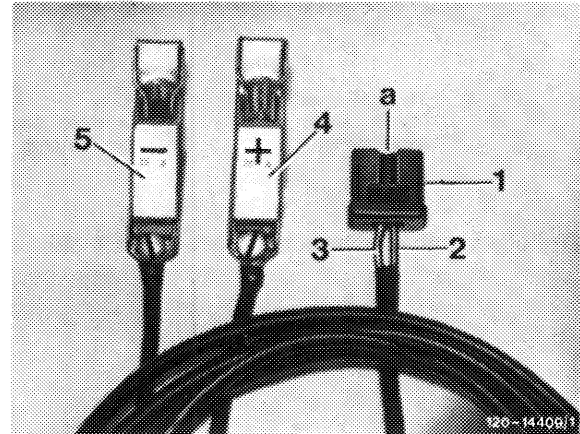


Self-made tool

- 1 Coupling, part no. 002 545 49 28
- 2 Line black 1.5 mm dia. approx. 1 m long
- 3 Line brown 1.5 mm dia. approx. 1 m long
- 4 Cable terminal +
- 5 Cable terminal -
- a Locating nut

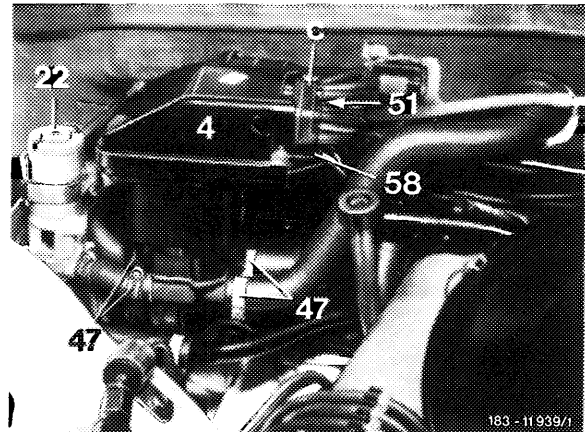


A. Regulating valve

Removal

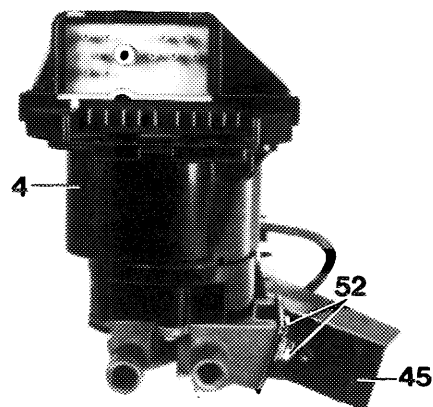
- 1 Drain coolant.
- 2 Unscrew screw (51) from vacuum plug (c) and pull off vacuum plug.

- | | |
|-----------------------|--------------------|
| 4 Regulating valve | 51 Screw |
| 22 Heating water pump | 58 Electrical plug |
| 47 Hose clamp | c Vacuum plug |



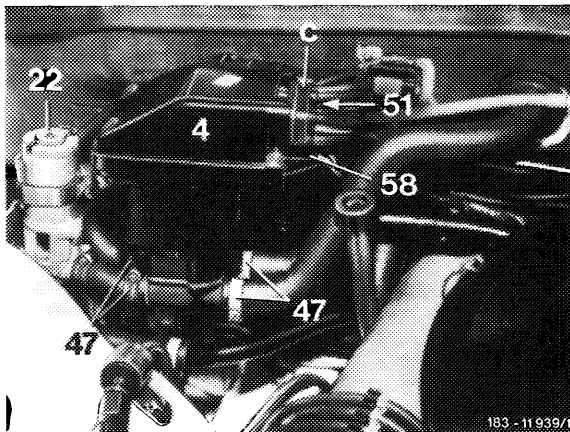
- 3 Pull off electrical plug (58), paying attention to safety hooks. Hooks are located at bottom of plug.
- 4 Unscrew screws (52).

- | | |
|---------------------|-------------------------------------|
| 4 Regulating valves | 52 Screws with washer and snap ring |
| 45 Holder | |



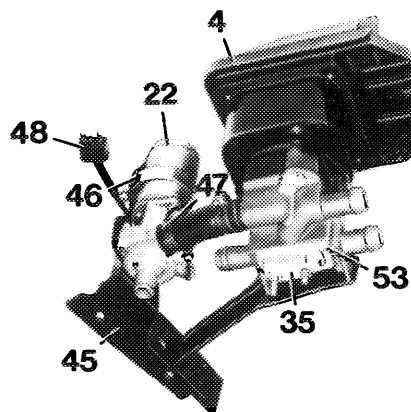
5 Loosen hose (47) and pull off water hoses.

- | | |
|-----------------------|--------------------|
| 4 Regulating valve | 51 Screw |
| 22 Heating water pump | 58 Electrical plug |
| 47 Hose clamp | c Vacuum plug |



6 Pull vacuum lines from temperature switch (35).

- | | |
|-----------------------|--------------------|
| 4 Regulating valve | 46 Clamp |
| 22 Heating water pump | 47 Hose clamp |
| 35 Temperature switch | 48 Electrical plug |
| 45 Holder | 53 Screw |

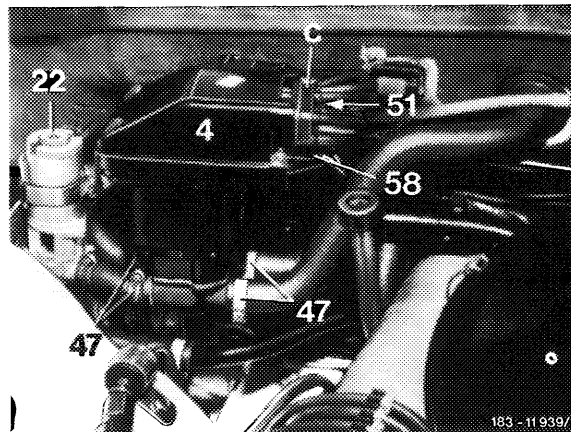


Installation

7 Attach vacuum lines to temperature switch. Pay attention to varying thickness of vacuum lines.

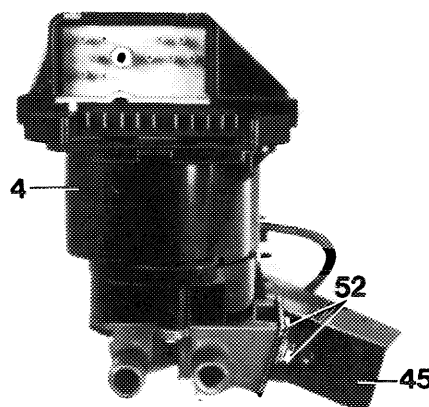
8 Mount hose lines on regulating valve and tighten hose clamps (47).

- | | |
|-----------------------|--------------------|
| 4 Regulating valve | 51 Screw |
| 22 Heating water pump | 58 Electrical plug |
| 47 Hose clamp | c Vacuum plug |



9 Screw regulating valve to holder (45) with screws (52).

- | | |
|--------------------|-------------------------------------|
| 4 Regulating valve | 52 Screws with washer and snap ring |
| 45 Holder | |

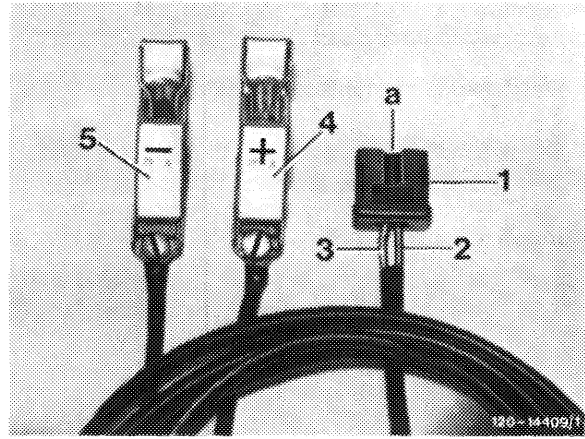


10 Mount electrical plug (58) and vacuum plug (c).

11 Add coolant and check hose connections for leaks.

12 Bleed cooling system, while bridging temperature switch (21) for heating water pump or connecting heating water pump directly to vehicle battery by means of self-made harness. Push "DEF" button and run engine at approx. 2000/min until operating temperature of engine is attained.

13 Check operation of automatic climate control.



B. Temperature switch (cold engine lock)

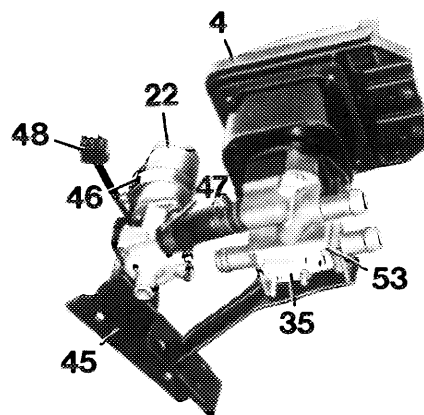
Data

Switch-on point	40 °C (104 °F) coolant temperature
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Removal

- 1 Remove regulating valve (refer to section A).
- 2 Unscrew screws (53).
- 3 Remove temperature switch (35).

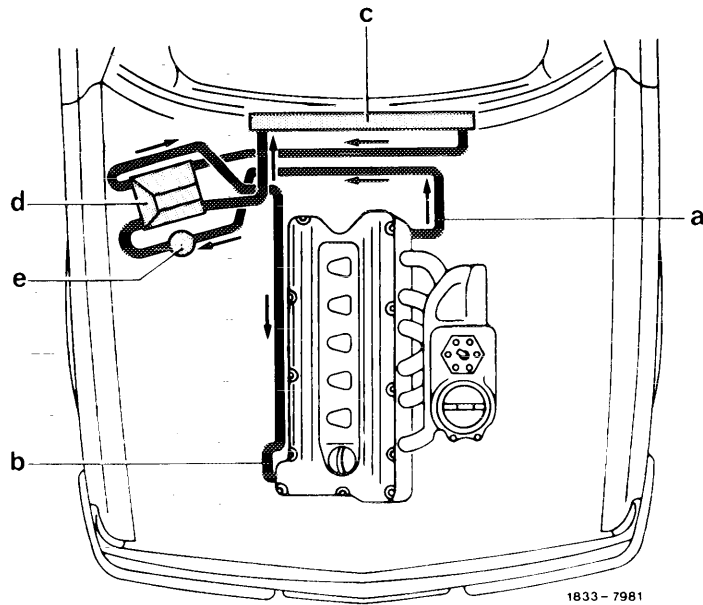
- | | |
|-----------------------|--------------------|
| 4 Regulating valve | 46 Clamp |
| 22 Heating water pump | 47 Hose clamp |
| 35 Temperature switch | 48 Electrical plug |
| 45 Holder | 53 Screw |



Installation

- 4 Check gasket and replace, if required.
- 5 Screw temperature switch (35) to regulating valve with screws (53), paying attention to locating cam.
- 6 Install regulating valve.

Heating water circuit



1833 - 7981