



Haynes
shows you how

BMW 3-Series (92-98) & Z3 (96-98) Haynes Online Manual

9 Heater/ventilation components (3-Series models) - removal and installation

Warning:

On models equipped with airbags, always disable the airbag system before working in the vicinity of the impact sensors, steering column or instrument panel to avoid the possibility of accidental deployment of the airbag, which could cause personal injury (see Chapter 12).

Models without air conditioning

Heater/ventilation control unit

- 1 Disconnect the battery negative lead. **Caution:** *If the radio in your vehicle is equipped with an anti-theft system, make sure you have the correct activation code before disconnecting the battery.*
- 2 Remove the clock/multi-information display, if applicable (see [Chapter 12](#)).
- 3 Unclip the storage compartment from the front of the center console and remove it, disconnecting the wiring from the cigarette lighter.
- 4 Pull off the control knobs from each of the heater controls (see illustration) .

9.4 Pull off the knobs from each of the heater controls



5 Loosen and remove the retaining screws and unclip the front panel from the heater control unit (see illustrations) .

9.5a Remove the retaining screws (arrows)

...



9.5b ... and remove the heater control unit front panel



6 Free the control unit from the rear of the dash then maneuver it downwards and out through the center console aperture (see illustration) .

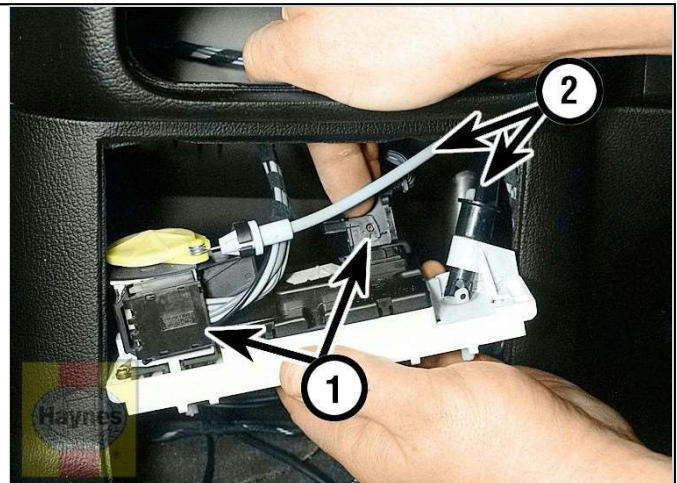
9.6 Maneuver the control unit downwards and out through the center console aperture



7 Disconnect the wiring connector(s) then unclip the control cables and release each cable from the control unit (see illustration) . Note each cables correct fitted location and routing; to avoid confusion on installing label

each cable as it is disconnected.

9.7 Release the retaining clips and disconnect the wiring connectors (1) and cables (2)



8 Installation is reversal of removal. Ensure that the control cables are correctly routed and reconnected to the control panel, as noted before removal. Clip the outer cables in position and check the operation of each knob/lever before installing the storage compartment to the center console.

Heater/ventilation control cables

9 Remove the heater/ventilation control unit from the dash as described above in paragraphs 1 to 6, detaching the relevant cable from the control unit.

10 Remove the glovebox (see [Chapter 11](#)).

11 Follow the run of the cable behind the dash, taking note of its routing, and disconnect the cable from the air distribution housing.

12 Fit the new cable by reversing the removal procedure, ensuring that it is correctly routed and free from kinks and obstructions. Check the operation of the control knob then install the control unit as described previously in this Section.

Heater core

Warning:

Wait until the engine is completely cool before beginning this procedure.

13 Working in the engine compartment, remove the rubber seal from the top of the heating/ventilation system inlet and release the grille from the inlet. On models where the grille is an integral part of the windshield wiper motor cover panel, to improve access remove the wiper arms and remove the one-piece cover panel (see [Chapter 12](#)).

14 Remove the retaining screws and free the wiring harness duct from the inlet duct.

15 Loosen and remove the retaining screws and retaining plate and remove the inlet from the firewall. **Note:** *On six-cylinder engines it may be necessary to remove the injector and spark plug covers from the engine to enable the inlet to be removed.*

16 Unscrew the expansion tank cap (referring to the **Warning** in [Section 1](#)) to release any pressure present in the cooling system then securely install the cap.

17 Clamp both heater hoses as close to the firewall as possible to minimize coolant loss. Alternatively, drain the cooling system (see [Chapter 1](#)).

18 Unscrew the heater core pipe union nut and disconnect the pipe union (see illustration) . Be prepared for coolant spillage as the nut is loosened and mop up any coolant.

9.18 Unscrew the heater core pipe union retaining nut . . .



19 Recover the sealing rings from the heater pipes and unscrew the nut and washer from the pipe retaining stud (see illustrations) .

9.19a . . . then detach the pipes and recover the sealing rings



9.19b Loosen and remove the nut and washer (arrow) from the pipe stud



20 Loosen and remove the driver's side lower dash panel retaining screws then unclip the panel and remove it from the vehicle.

21 Be prepared for coolant spillage and position a suitable container beneath the union on the end of the core. To be safe also cover the carpet with rags.

22 Unclip the wiring from the side of the coolant pipes then unscrew the bolt securing the coolant pipes to the heater core and allow the coolant to drain into the container (see illustration) .

9.22 Unclip the wiring connectors (arrow) then unscrew the retaining bolt . . .



23 Once the flow of coolant stops, remove the pipes from the heater core and recover the sealing rings (see illustration) .

9.23 . . . and detach the coolant pipes from the end of the core. Recover the sealing rings (arrows)



24 Remove the retaining screws and slide the heater core out of position (see illustrations) . **Note:** *Keep the heater core unions uppermost as the core is removed to prevent coolant spillage. Mop up any spilled coolant immediately and wipe the affected area with a damp cloth to prevent staining.*

9.24a Remove the retaining screws (arrow)

. . .



9.24b . . . and slide the heater core out of position



25 Installation is the reverse of removal, using new sealing rings. On completion, refill the cooling system (see [Chapter 1](#)).

Heater blower motor

26 Disconnect the battery negative cable. **Caution:** *If the radio in your vehicle is equipped with an anti-theft system, make sure you have the correct activation code before disconnecting the battery. Remove the engine compartment heater inlet (see steps 13 through 15).*

27 Unclip the blower motor end covers and remove them from the housing (see illustration) . Where necessary, also remove the pollen filter.

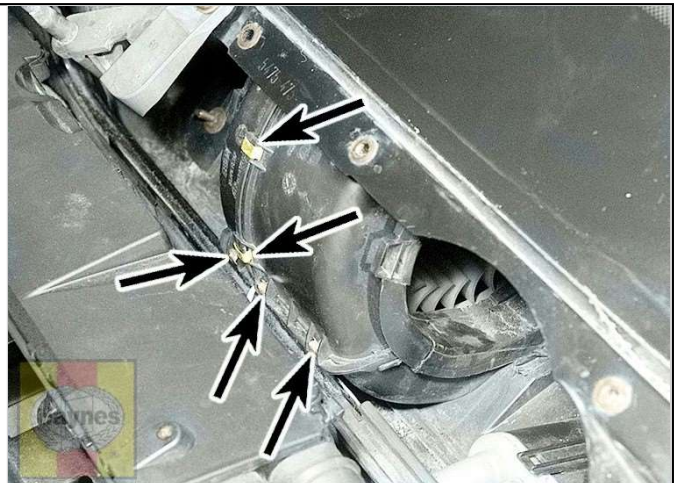
9.27 Unclip the end covers and remove them from the motor housing



28 Release the retaining clips and lift off the blower motor covers. Disconnect the motor wiring then release the motor retaining clip and maneuver the motor out of position (see illustrations) . **Note:** *On six-cylinder models, it may be necessary to remove the injector cover from the head to gain the required clearance necessary to remove the motor (see [Chapter 4B](#)).*

9.28a Remove the retaining clips (arrows) .

..



9.28b . . . and unclip the blower motor covers



9.28c Unhook the retaining clip . . .



9.28d . . . then disconnect the wiring connector and maneuver the motor out of position



29 Installation is a reversal of the removal procedure making sure the motor is correctly clipped into the housing and the housing covers are securely installed.

Heater blower motor resistor

30 Remove the glovebox (see [Chapter 11](#)).

31 Disconnect the wiring connector from the resistor (see illustration).

9.31 Disconnect the wiring connector . . .



32 Release the retaining clips and maneuver the resistor out from the front of the air distribution housing (see illustration) .

9.32 . . . then release the retaining clips and remove the blower motor resistor from the housing



33 Installation is the reverse of removal.

Heater coolant valve

Warning:

Wait until the engine is completely cool before beginning this procedure.

34 The coolant valve is mounted onto the engine compartment firewall. Unscrew the expansion tank cap (referring to the **Warning** in [Section 1](#)) to release any pressure present in the cooling system then securely install the cap.

35 Clamp both heater hoses as close to the coolant valve as possible to minimize coolant loss.

36 Disconnect the valve wiring connec-tor(s).

37 Loosen the retaining clips and disconnect the hoses from the valve then unclip the valve and remove it from the engine compartment.

38 Installation is the reverse of removal.

Models equipped with air conditioning

Note:

The following information is only applicable to manually controlled air conditioning systems. At the time of writing no information was available on models with the automatic "Climatronic" system.

Heater control unit - models with manually adjusted controls

39 Refer to the information given in paragraphs 1 to 8.

Heater control unit - models automatic air conditioning system

40 Remove the clock/multi-information display, if applicable (see [Chapter 12](#)).

41 Reach in behind the control unit and press it out from the dash.

42 Disconnect the wiring connectors and remove the control unit.

43 Installation is the reverse of removal.

Heater core

Warning:

Wait until the engine is completely cool before beginning this procedure.

44 Remove the center console (see [Chapter 11](#)).

45 Remove the heater control unit as described earlier.

46 Follow the procedure outlined in steps 13 through 19.

47 From inside the vehicle, be prepared for coolant spillage and position a suitable container beneath the union on the end of the heater core. To be safe also cover the carpet with rags.

48 Unscrew the bolts securing the coolant pipes to the heater core and allow the coolant to drain into the container.

49 Once the flow of coolant stops, disconnect the pipes from the heater core and recover the sealing rings.

50 Release the air conditioning system control unit from its retaining clips and disconnect its wiring connectors.

51 Release the wiring harness from its retaining clips and position it clear of the front of the air distribution housing.

52 Loosen and remove the retaining bolts and remove the cover from the air distribution housing.

53 Carefully unclip the linkage lever and release the air ducts from the housing then maneuver the heater core out of position. **Note:** *Keep the heater core unions uppermost as the core is removed to prevent coolant spillage. Mop up any spilled coolant immediately and wipe the affected area with a damp cloth to prevent staining.*

54 Installation is the reverse of removal, using new sealing rings. On completion, refill the cooling system (see [Chapter 1](#)).

Heater blower motor

55 Remove the heating/ventilation inlet (see steps 13 through 15).

56 Release the retaining clips and remove the cover from the top of the blower motor.

57 Disconnect the wiring from the blower motor.

58 Release the side retaining clips and remove the top section of the blower motor housing.

59 Release the retaining clips and free the fan from each side of the motor spindle.

60 Make identification marks on the fans, to ensure that they are correctly positioned on installation then lift the motor and fans separately out from the housing.

61 Installation is the reverse of removal. Install the motor and fans separately, making sure the fans are correctly positioned, and clip the fans onto the motor spindle, aligning the fan cutouts with the spindle locating pins.

Heater blower motor resistor

62 Follow the procedure outlined in steps 30 through 33.

Heater coolant valve

63 Follow the procedure outlined in steps 34 through 38