

**Haynes**
shows you how

BMW 3-Series and Z4 (99-05) Includes 2006 325ci/330ci Coupe and Convertible models Haynes Online Manual.

12 Air conditioning system components - removal and installation

Warning:

The models covered by this manual are equipped with Supplemental Restraint systems (SRS), more commonly known as airbags. Always disarm the airbag system before working in the vicinity of any airbag system component to avoid the possibility of accidental deployment of the airbag, which could cause personal injury (see Chapter 12) . Do not use a memory saving device to preserve the PCM's memory when working on or near airbag system components.

Evaporator

1 Have the air conditioning refrigerant discharged by a BMW dealer or suitably-equipped specialist.

3 series models

2 Working in the engine compartment, remove the in-cabin air filter and heater/ventilation inlet air ducting from the rear of the engine compartment (see [Section 10](#)).

3 Remove the heater core (see [Section 10](#)).

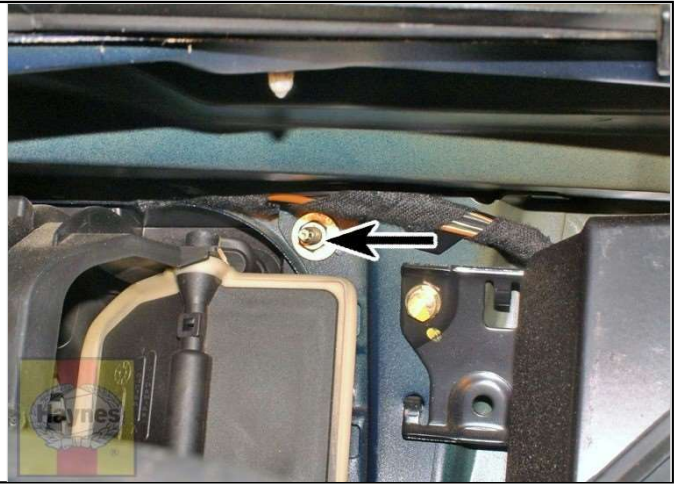
4 Remove the instrument panel (see [Chapter 11](#)).

5 Working in the engine compartment on the right side of the cowl, pull up on the spindle lever and release the right air intake flap from the blower housing (see [illustration 10.57](#)) .

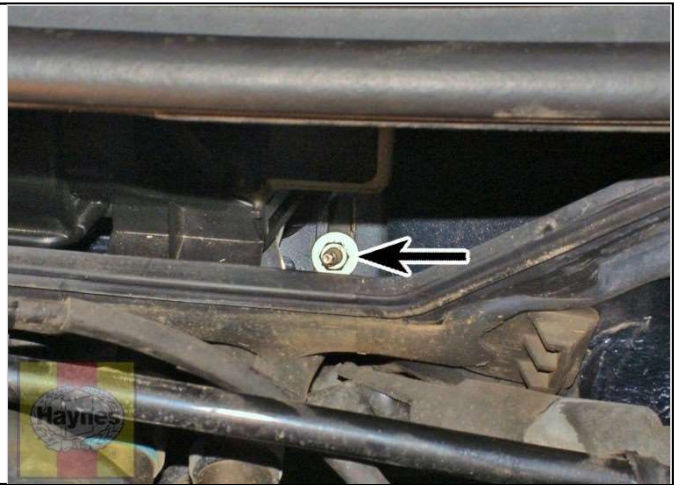
6 Remove the fasteners, and disconnect the air conditioning lines from the engine compartment firewall. Use special tool 64 5 102 to disconnect the A/C lines. Discard the O-ring seals, new ones must be installed.

7 Remove the screws securing the heater housing to the engine compartment firewall (see [illustrations](#)) .

12.7a The heater housing is secured by two bolts at the top (one on each side) . . .



12.7b . . . and two at the bottom (one on each side) of the heater motor aperture



8 Remove the air conditioning blower limit switch as described in this Section.

9 Disconnect the wiring connector and remove the temperature sensor from the evaporator housing (see illustration) .

12.9 Disconnect the temperature sensor wiring connector



10 Unclip the linkage from the servo motor, disconnect any wiring connectors and release any wiring harnesses from the retaining clips, having noted their installed locations.

11 Release the retaining clips, remove the lower part of the evaporator housing, and remove the evaporator.

Note: *Take care not to damage any of the evaporator cooling fins. If necessary straighten any that are bent.*

12 Installation is the reverse of removal. Have the refrigerant recharged by a BMW dealer or specialist, and top up the coolant level as described in [Chapter 1](#) .

Z4 models

13 Working inside the vehicle, remove the heater assembly (see Steps 36 through 45 in [Section 10](#)).

14 Remove the adapter plate from the heater assembly.

15 Remove the cable and unclip the retainers from the evaporator cover.

16 Remove the screw and retaining clips from the upper cover and lift the upper cover from the heater assembly.

17 Remove the expansion valve (see Step 19) and the evaporator mounting screws. Lift evaporator from the heater assembly.

18 Installation is the reverse of removal. Have the refrigerant recharged by a BMW dealer or specialist, and top up the coolant level as described in [Chapter 1](#) .

Expansion valve

19 Have the air conditioning refrigerant discharged by a BMW dealer or suitably-equipped specialist.

3 series models

20 Working in the engine compartment, remove the in-cabin air filter and heater/ventilation inlet air ducting from the rear of the engine compartment (see [Section 10](#)).

21 Working in the engine compartment on the right side of the cowl, pull up on the spindle lever and release the right air intake flap from the blower housing (see illustration 10.57) .

22 Remove the fasteners, and disconnect the air conditioning lines from the engine compartment firewall. Use special tool 64 5 102 to disconnect the A/C lines. Discard the O-ring seals, new ones must be installed.

23 Remove the nut and disconnect the dual pipe coupling from the expansion valve.

24 Remove the two screws and remove the expansion valve. Discard the O-ring seals, new ones must be installed.

25 Installation is the reverse of removal. Have the refrigerant recharged by a BMW dealer or specialist, and top up the coolant level as described in [Chapter 1](#) .

Z4 models

26 Working in the engine compartment, remove the mounting bolts from the refrigerant line clamps and the receptacle at the firewall.

27 Remove the air conditioning lines from the firewall.

28 Remove the adapter plate mounting bolt and separate the adapter plate from the firewall grommet.

29 Remove the grommet from the firewall.

30 Remove the two expansion valve mounting bolts and push the valve down slightly to separate it from the evaporator line. Install new seals and firewall grommet.

31 Installation is the reverse of removal. Have the refrigerant recharged by a BMW dealer or specialist, and top up the coolant level as described in [Chapter 1](#) .

Receiver/drier

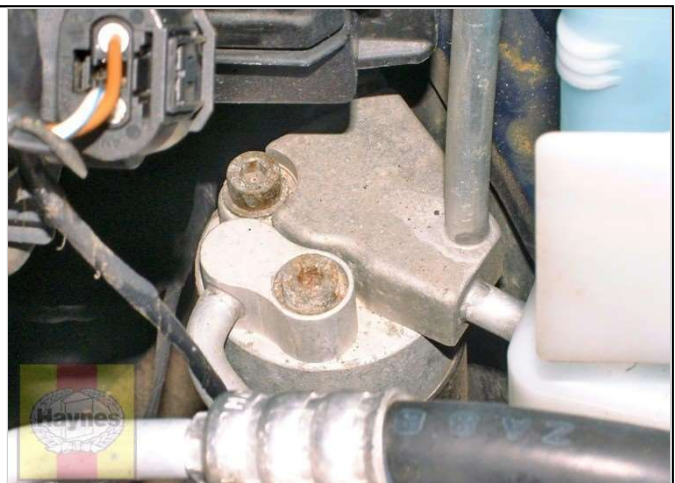
32 The receiver/drier should be replaced when:

- A. There is dirt in the air conditioning system.
- B. The compressor has been replaced.
- C. The condenser or evaporator has been replaced.
- D. A leak has emptied the air conditioning system.
- E. The air conditioning system has been opened for more than 24 hours.

33 Have the air conditioning refrigerant discharged by a BMW dealer or suitably-equipped specialist.

34 The receiver/drier is located in the right-hand corner of the engine compartment. Remove the retaining screws and lift the pipes and coupling from the top of the unit (see illustration) . Discard the O-ring seals, new ones must be installed. **Note:** *If the drier is to be left unconnected for more than one hour, plug the openings.*

12.34 Remove the screws and disconnect the couplings



35 Remove the right-hand front fender liner as described in [Chapter 11, Section 23](#). **Note:** *On Z4 models, the receiver drier is accessible without removing the fender liner.*

36 Remove the clamp screws and lower the receiver/drier from the clamp (see illustration) .

12.36 Remove the clamp screws securing the receiver/drier



37 Installation is the reverse of removal. Have the refrigerant recharged by a BMW dealer or specialist, and top up the coolant level as described in [Chapter 1](#) .

Compressor

38 Have the air conditioning refrigerant discharged by a BMW dealer or suitably-equipped specialist.

39 Firmly apply the handbrake, then raise the vehicle and secure it on jack stands. Remove the engine splash shield (see [Chapter 2A](#)). Remove the drivebelt (see [Chapter 1](#)).

40 Remove the front windshield wiper fluid reservoir.

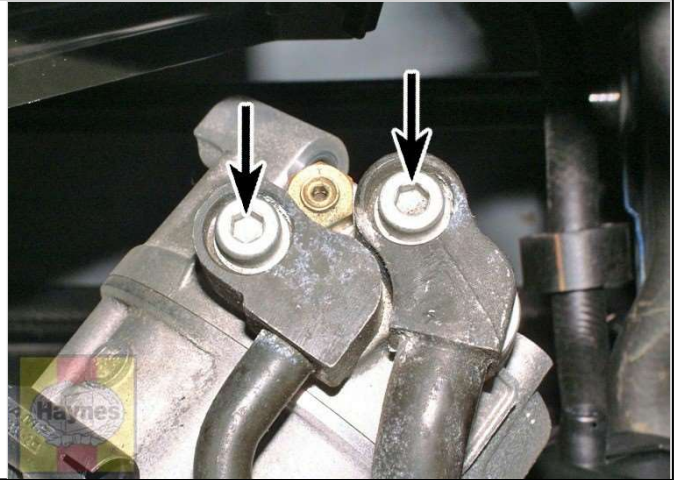
41 Disconnect the compressor wiring connector (see illustration) .

12.41 Disconnect the compressor wiring connector



42 Remove the two bolts and disconnect the air conditioning lines from the compressor (see illustration) . Discard the O-ring seals, new ones must be installed.

12.42 Remove the bolts and disconnect the refrigerant lines



43 Remove the three mounting bolts, and remove the compressor.

44 Installation is a reversal of removal, noting the following points:

- A. Prior to installing the compressor, it is essential that the correct amount of refrigerant oil is added - refer to your dealer for the correct amount and specification.
- B. Always use new seals when reconnecting the refrigerant lines.
- C. Upon completion, have the refrigerant recharged by a BMW dealer or specialist.

Pressure sensor

45 The pressure sensor is installed to the top of the receiver/drier. Have the air conditioning refrigerant discharged by a BMW dealer or suitably-equipped specialist.

46 Disconnect the sensor wiring connector, and unscrew the sensor.

47 Installation is a reversal of removal, tighten the sensor securely, and have the refrigerant recharged by a BMW dealer or specialist.

Condenser

48 Have the air conditioning refrigerant discharged by a BMW dealer or suitably-equipped specialist.

49 Remove the air filter housing (see [Chapter 4](#)). The condenser is located in front of the radiator. Remove the radiator (see [Section 3](#)).

50 Remove the two bolts and disconnect the refrigerant lines from the condenser (see illustration) . Discard the O-ring seals, new ones must be installed.

12.50 Remove the two bolts and disconnect the refrigerant lines from the condenser



51 Remove the two plastic screws securing the condenser through the cross panel. Lift the condenser up and disengage it from the mounting bracket (see illustrations) .

12.51a Remove the two plastic screws . . .



12.51b . . . release the clips and lift out the condenser



52 Installation is a reversal of removal, noting the following points:

A. Prior to Installation, the condenser it is essential that the correct amount of refrigerant oil is added - refer to your dealer for the correct amount and specification.

B. Always use new seals when reconnecting the refrigerant pipes.

C. Upon completion, have the refrigerant recharged by a BMW dealer or specialist.

Blower limit switch

53 Unclip the right-hand footwell air duct from the heater housing.

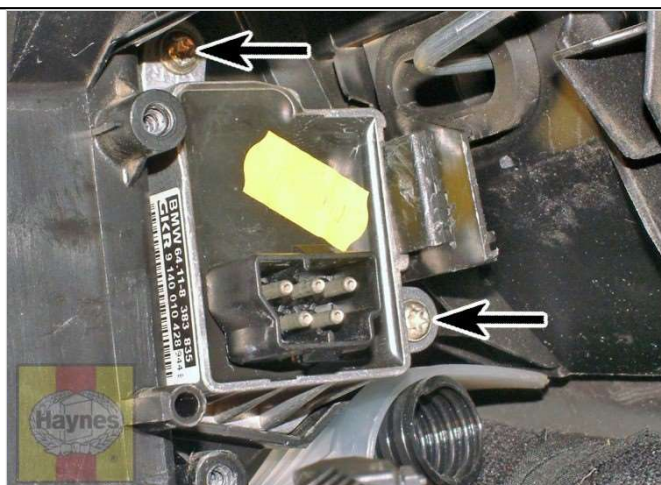
54 Carefully pry the linkage arm from the servo motor. Remove the two screws (one above, one below) and remove the bracket and servo motor (**see illustration**) .

12.54 Disconnect the linkage arm from the servo motor



55 Disconnect the wiring connector, remove the two retaining screws, push back the retaining clip and remove the blower limit switch **(see illustration)** .

12.55 Remove the blower limit switch screws



56 Installation is the reverse of removal.