



Haynes
shows you how

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

12 Fuel injection system components - removal and installation

Fuel rail and injectors

Warning:

Refer to the **Warning** in Section 1 before proceeding.

Note:

On 2003 and later 325i models with an M56 engine, special fittings are used on the fuel rail and injectors. Removal must be performed by a BMW dealer or specialist using the appropriate special tools; refer to [Section 1](#) of this chapter for more information.

1 Depressurize the fuel system as described in [Section 8](#) , then disconnect the cable from the negative battery terminal (see [Chapter 5, Section 1](#)).

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2 Working at the rear of the engine compartment, turn the fasteners 90° counterclockwise and remove the cabin filter cover. Slide the filter from the housing. If necessary, refer to [Chapter 1](#) .

3 Release the retaining clips and remove the cable from the ducting on the air intake housing (see illustration) .

12.3 Unclip the cable ducting



4 Remove the four screws and pull the cabin filter housing to the front (see illustration) .

12.4 The cabin filter housing is secured by four screws



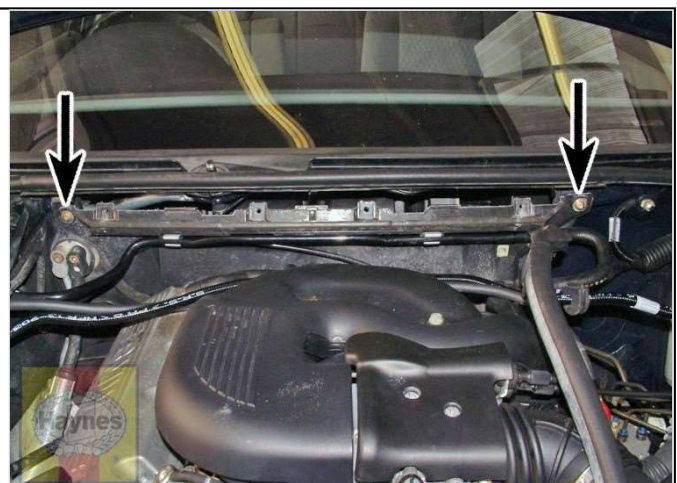
5 In the left-rear corner of the engine compartment, pull up the sealing strip, remove the two fasteners and pull the trim panel forwards a little (see illustration) .

12.5 Pull up the sealing strip, loosen the two fasteners and pull the panel forwards



6 Remove the two Torx screws, and lift out the heater intake housing (see illustration).

12.6 Unscrew the Torx screws and remove the heater inlet housing



7 Pry out the plastic caps, remove the two screws, and remove the plastic cover from the injectors (see illustration).

12.7 Remove the screws and detach the plastic cover from the injectors



8 Disconnect the fuel regulator vacuum hose.

9 Disconnect the air intake temperature sensor wiring connector, then pull the wiring rail from the fuel injectors.

10 Mark the two oxygen sensor wiring connectors to aid installation, disconnect and release them from the retaining clips.

11 Label the fuel supply and return pipes, then disconnect the pipes at the quick-release connectors.

12 Remove the four bolts and remove the fuel rail complete with the injectors (see illustration).

12.12 Fuel rail mounting bolts



13 To remove a fuel injector from the fuel rail, proceed as follows.

A. Pry off the metal securing clip, using a screwdriver.

B. Pull the fuel injector from the fuel rail.

Note:

Whether you're replacing an injector or a leaking O-ring, it's a good idea to remove all the injectors from the fuel rail and replace all the O-rings.

14 Lightly lubricate the fuel injector O-rings with a little petroleum jelly, or acid-free grease. **Caution:** *Do not use silicone grease; it will clog the injectors* .

15 Reinstall the injectors to the fuel rail, and retain them in place with the clips pushed into the grooves.

16 Further installation is a reversal of removal.

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17 Proceed as described in Paragraphs 2 to 6.

18 Pry out the plastic caps, undo the two screws, and remove the plastic cover from over the injectors (see **illustration 12.7**) .

19 Mark the two oxygen sensor wiring connectors to aid installation, disconnect and release them from the retaining clips.

20 Disconnect the air intake temperature sensor wiring connector, the VANOS solenoid wiring connector, and release the retaining clips and pull the wiring rail from the fuel injectors (see **illustrations**) .

12.20a Disconnect the air intake temperature sensor . . .



12.20b . . . and the VANOS solenoid . . .



12.20c . . . then release the wiring rail connectors clips



21 Disconnect the fuel supply pipe at the quick-release connector (see illustration) .

12.21 Depress the collar and disconnect the fuel supply hose



22 Unscrew the four screws and remove the fuel rail complete with the injectors (see illustration 12.12) .

23 To remove a fuel injector from the fuel rail, proceed as follows.

A. Pry off the metal securing clip, using a screwdriver.

B. Pull the fuel injector from the fuel rail.

Note:

Whether you're replacing an injector or a leaking O-ring, it's a good idea to remove all the injectors from the fuel rail and replace all the O-rings.

24 Lightly lubricate the fuel injector O-rings with a little petroleum jelly or acid-free grease. **Caution:** *Do not use silicone grease; it will clog the injectors* .

25 Reinstall the injectors to the fuel rail, and retain them in place with the clips pushed into the grooves.

26 Further installation is a reversal of removal.

Fuel pressure regulator

Warning:

Refer to the **Warning** in Section 1 before proceeding.

Note:

On 2003 and later 325i models with an M56 engine, the fuel pressure regulator is sealed within the fuel tank and cannot be serviced. Fuel tank replacement is necessary if the regulator is found to be defective; refer to Section 1 of this chapter for more information.

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27 Depressurize the fuel system as described in Section 8 , then disconnect the cable from the negative battery terminal (see Chapter 5, Section 1).

28 To allow sufficient clearance, remove the heater/ventilation inlet air ducting from the rear of the engine compartment as follows.

A. Rotate the three fasteners 90° counterclockwise and remove the cabin filter cover from the rear of the engine compartment. Pull the filter forward and remove it.

B. Undo the four retaining clips and thread the cable out of the ducting (see illustration 12.3).

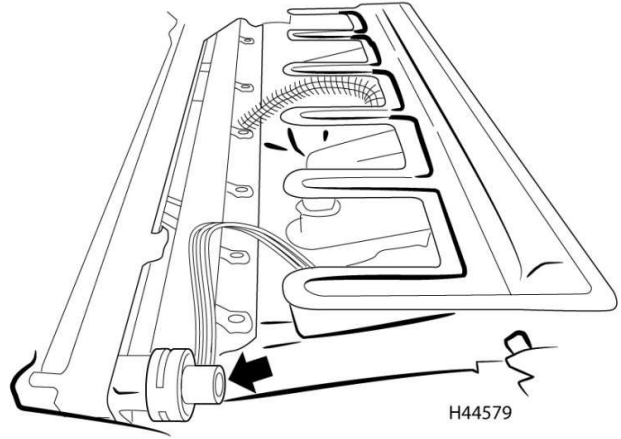
C. Unscrew the four screws and pull the filter housing forwards and remove it (see illustration 12.4).

D. Unscrew the two screws and remove the inlet ducting upwards and out of the engine compartment (see illustration 12.6).

29 Pry up the two caps, undo the screws and remove the plastic cover from above the fuel rail.

30 Pull the vacuum hose from the fuel regulator (see illustration) .

12.30 Pull the vacuum hose from the regulator



31 Remove the circlip, then twist and pull the regulator from the fuel rail.

32 Before installation, check the O-rings, and replace if necessary.

33 Installation is a reversal of removal, bearing in mind the following points.

- A. Ensure that the regulator is pushed firmly into position in the end of the fuel rail.
- B. Make sure that the circlip correctly engages with the recess in the fuel rail.
- C. On completion, pressurize the fuel system (reinstall the fuel pump fuse and switch on the ignition) and check for leaks before starting the engine.

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34 On these engines, the regulator is integral with the fuel filter assembly. If defective, replace the complete filter housing (see [Chapter 1](#)).