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shows you how

**BMW 3-Series 320i & 320xi (12-14), 325i, 325xi, 330i & 330xi (06) & 328i & 328xi (07-14) Haynes Online Manual**

## 11 Manifolds - removal and installation

### Intake manifold

#### 2.0L engines

- 1 Disconnect the negative battery cable (see [Chapter 5, Section 3](#)).
- 2 Remove the engine cover by lifting the front of the cover up and pulling it forwards.
- 3 Remove the strut tower crossbrace plastic push-pins and bolts then remove the brace.
- 4 Remove the sound insulator plastic retainers and lift the insulator off of the engine.
- 5 Disconnect the wiring harness clips and move the harness out of the way.
- 6 Remove the PCM “Digital Motor Electronics” (DME) control unit (see [Chapter 6](#)).
- 7 Release the quick-connectors for the fuel tank vent valve, then disconnect and cap the lines.
- 8 Disconnect the electrical connector to the fuel tank vent valve.
- 9 Disconnect the electrical connector to the throttle valve and sensors.
- 10 Remove the charge air cooler hose to the throttle body.
- 11 Remove the intake plenum mounting nuts and plenum.
- 12 Using new intake plenum gaskets, install the plenum. Tighten the nuts in several stages, working from the center out, to the torque listed in [this Chapter's Specifications](#) .
- 13 Installation is otherwise the reverse of removal.

#### 3.0L engine

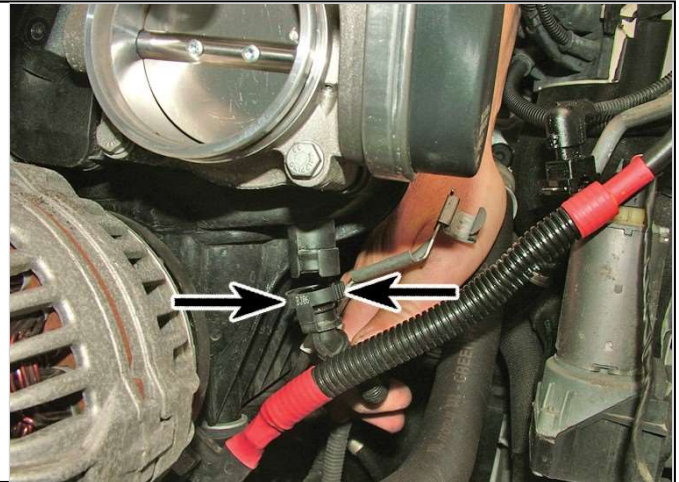
14 Remove the fuel injectors (see [Section 10](#)).

15 Remove the air filter housing (see [Chapter 1](#)).

16 Noting their installed positions, disconnect all wiring plugs from the throttle body/manifold, and release the wiring harness/cables from the retaining clips/bolts on the manifold.

17 Squeeze together the sides of the locking collar and disconnect the breather hose from the manifold (see illustration) .

**11.17 Squeeze together the sides of the collar and disconnect the hose from the manifold**



18 Remove the manifold retaining bolts and the bolts securing the manifold support bracket to the cylinder block (under the manifold). Lift the manifold approximately 3 to 4 inches.

19 Release the retaining clip and disconnect the hose on the base of the tank venting valve (see illustration) .

**11.19 Press down the lower edge of the clips and pull the vent hose upwards**



20 Tag and disconnect any hoses or wiring harness(s) from the retaining clips on the manifold and support bracket (under the manifold).

21 Remove the manifold from the cylinder head. Recover the seals.

22 Check the condition of the seals and replace if necessary.

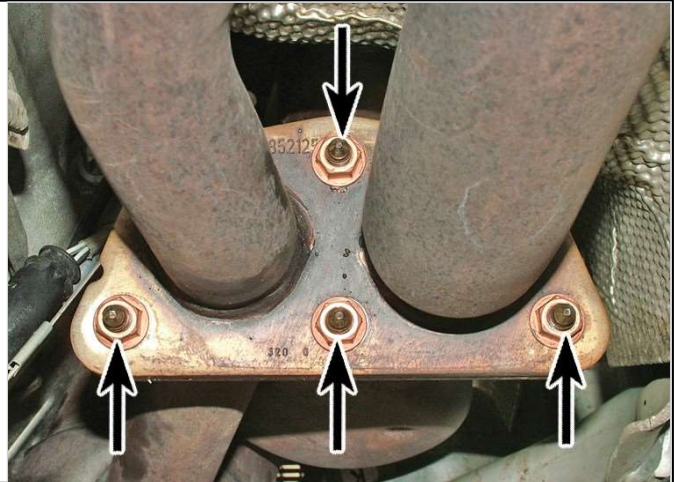
23 Installation is the reverse of removal.

## Exhaust manifolds – 3.0L engines

24 Raise the front of the vehicle and support it securely on jackstands. Remove the fasteners and remove the engine splash shield.

25 Remove the nuts securing the manifold outlets to the exhaust system (see illustration) .

### 11.25 Exhaust manifold mounting nut locations



26 Trace the oxygen sensors' wiring back and disconnect the electrical connectors. Label them to ensure they are correctly reconnected later.

27 Remove the cover over the ignition coils (see [Chapter 5](#) ).

28 Remove the coolant expansion tank (see [Chapter 3](#) ).

29 Starting with the rear exhaust manifold, remove the mounting nuts and maneuver the manifold from the engine compartment. Take great care not to damage the oxygen sensor installed in the manifold. Discard the gasket.

30 Remove the nuts and the front exhaust manifold. Again take care not to damage the oxygen sensor. Discard the gasket.

31 Installation is the reverse of removal, noting the following points:

- A. Apply anti-seize high-temperature grease to the manifold studs.
- B. Always replace the manifold gaskets.
- C. Tighten the manifold nuts to the specified torque.

