

Fuel rail and injectors, removing and installing (N51, N52, N52KP engines)



⚠ Gently screw valvetronic motor in counterclockwise direction while sliding motor out of cylinder head cover (**arrow**).

- Installation is reverse of removal. Remember to:
 - Replace aluminum fasteners.
 - Route ignition harness correctly

Tightening torque

Valvetronic motor to cylinder cover (M6 x 16 mm)	10 Nm (7 ft-lb)
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- After reinstalling, check for fault codes and reset ECM memory.

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Fuel injectors are electrically controlled solenoid valves that provide precisely metered and atomized fuel into the engine intake ports.

Injectors receive voltage from the DME main relay. The engine control module (ECM) controls injector opening by activating the ground circuit for the injector valve solenoids. The ECM varies the duration (in milliseconds) of injector opening to regulate air / fuel ratio.

- Switch ignition OFF and remove key.
- Remove cabin microfilter housing. See **640 Heating and Air-conditioning**.
- Remove ignition coil cover. See **020 Maintenance**.
- For a quick check of injectors, run engine and touch each injector with a screwdriver or stethoscope. You should feel a vibration or hear a buzzing. Switch engine OFF.
- Disconnect battery negative (–) cable.

CAUTION—

- Prior to disconnecting the battery, read the battery disconnection cautions in **001 Warnings and Cautions**.



⚠ Working above engine, detach oxygen sensor connectors (**A**) and unclip wiring harness from holder.

CAUTION—

- Be sure to mark oxygen sensor connectors so that they can be reassembled as before.