ENG-18, Changing Spark Plugs / Checking the Condition of the Spark Plugs

Changing Spark Plugs

Tools

- Spark Plug Socket
- Ratchet
- Torque Wrench
- Engine Oil

Procedure

1. Check the gap on the new spark plugs. Most Bosch plugs come pre-gapped. However, they should be check anyway. The gap should be 0.7 to 0.8 mm (0.028 to 0.031").
2. Coat the threads of the new spark plugs with a light coating of engine oil.
3. Disconnect the first spark plug wire. Replace one spark plug at a time to keep from getting the plug wires in the wrong location.
4. Using the spark plug socket and ratchet, remove the first spark plug.
5. Install the new spark plug and torque to 18 to 22 ft-lbs (25 to 30 Nm).
6. Reconnect spark plug wire making sure the connector is fully seated on the spark plug.
7. Repeat Steps 2 thru 5 for the remaining spark plugs.

Checking the Condition of the Spark Plugs

Determine the condition of the spark plugs using the following table:

Indication	Condition / Cause
Brown to Grayish Brown in color with a small amount of electrode wear.	Normal
Dry black (carbon) deposits.	Mixture is too rich or spark is weak. Can cause miss or hesitation.
Oily deposits.	Leaking valve seals or piston oil ring. Can cause miss or hesitation.
Brown to Grayish Brown in color with a obvious electrode wear.	Spark plugs are worn and should be replaced.

Indication	Condition / Cause
Electrode excessively worn with no deposits. Insulator white (as if it were new).	Engine mixture too lean. Spark plug heat range too hot.
Heavy tannish deposits.	Valve guide seals (oil leakage into cylinder) or gasoline additive buildup.
