

IGNITION SYSTEM ON-VEHICLE INSPECTION

IGDL-01

NOTICE:

"Cold" and "Hot" in these sentences express the temperature of the coils themselves. "Cold" is from -10°C (14°F) to 50°C (122°F) and "Hot" is from 50°C (122°F) to 100°C (212°F).

1. INSPECT SPARK TEST

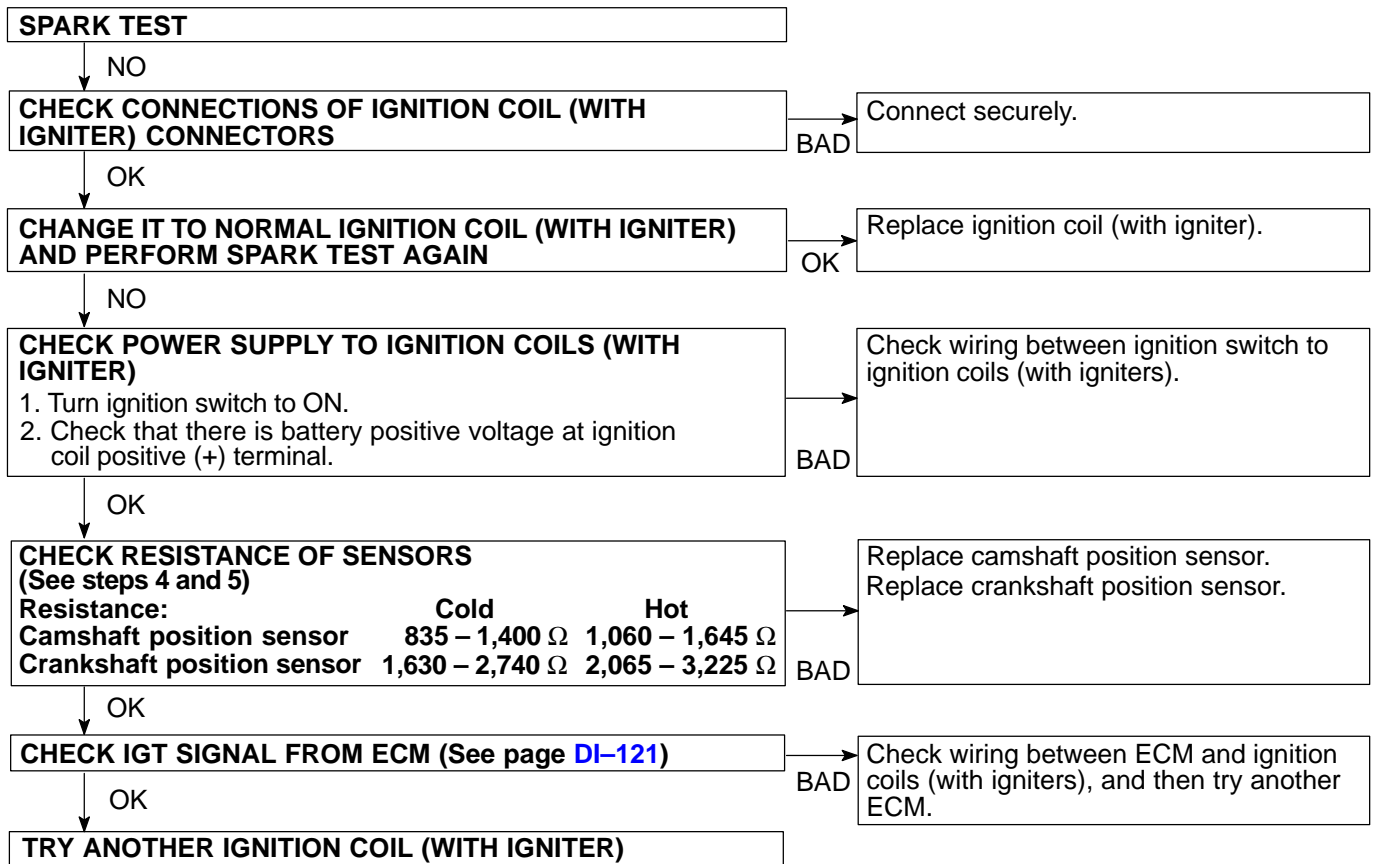
Check that the spark occurs.

- (1) Remove the ignition coils (with igniters).
(See page IG-5)
- (2) Remove the spark plugs.
- (3) Install the spark plug to the ignition coil, and connect the ignition coil connector.
- (4) Ground the spark plug.
- (5) See if spark occurs while engine is being cranked.

NOTICE:

To prevent gasoline from being injected from injectors during this test, crank the engine for no more than 5 – 10 seconds at time.

If the spark does not occur, do the test as follows:

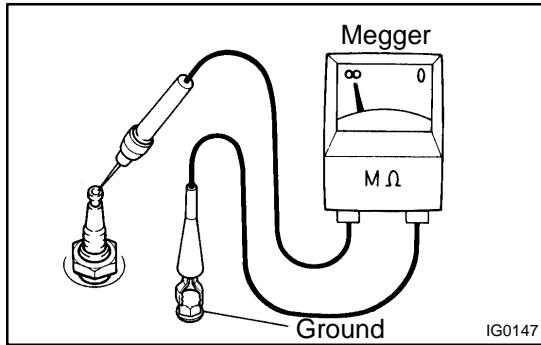


2. INSPECT SPARK PLUGS

NOTICE:

- ◆ Never use a wire brush for cleaning.
- ◆ Never attempt to adjust the electrode gap on a used spark plug.
- ◆ Spark plugs should be replaced every 144,000 km (90,000 miles).

(a) Remove the 6 ignition coils (with igniers).
(See page IG-5)



(b) Inspect the electrode.

- ◆ Using a megger (insulation resistance meter), measure the insulation resistance.

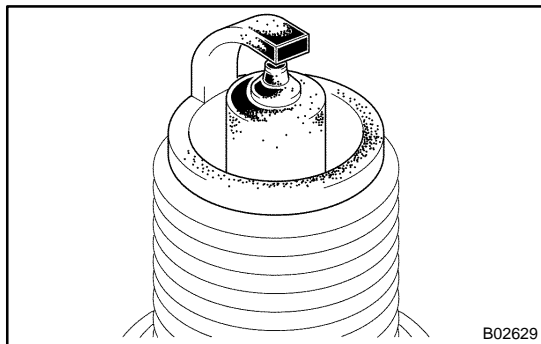
Standard correct insulation resistance:

10 MΩ or more

If the resistance is less than specified, proceed to step (d).

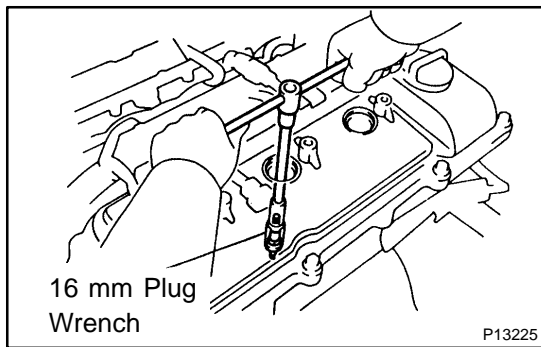
HINT:

If a megger is not available, these simple method of inspection provides fairly accurate results.



- ◆ Simple Method:

- ◆ Quickly race the engine to 4,000 rpm 5 times.
- ◆ Remove the spark plug. (See step (c))
- ◆ Visually check the spark plug.
If the electrode is dry ... OK
If the electrode is wet ... Proceed to step (d)
- ◆ Reinstall the spark plug. (See step (g))

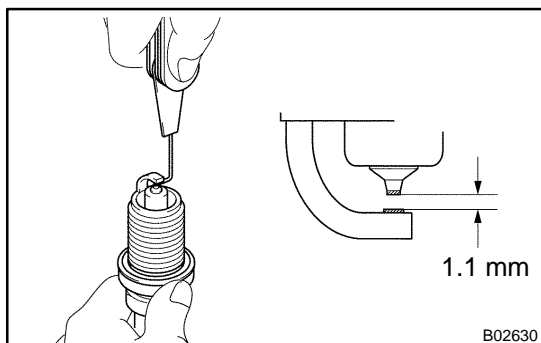


- (c) Using a 16 mm plug wrench, remove the 6 spark plugs.
(d) Visually check the spark plug for thread damage and insulator damage.

If abnormal, replace the spark plug.

Recommended spark plug:

DENSO made	SK20R11
NGK made	IFR6A11



(e) Inspect the electrode gaps.

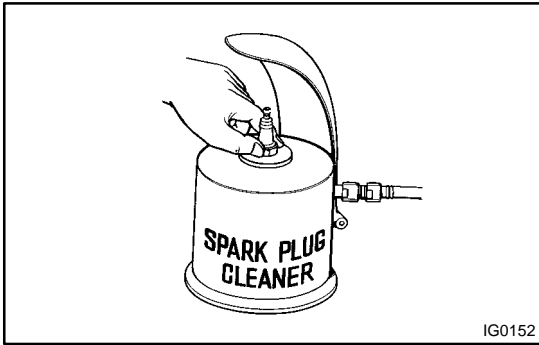
**Maximum electrode gap for used spark plug:
1.3 mm (0.051 in.)**

If the gap is greater than maximum, replace the spark plug.

**Correct electrode gap for new spark plug:
1.1 mm (0.043 in.)**

NOTICE:

If adjusting the gap of a new spark plug, bend only the base of the ground electrode. Do not touch the tip. Never attempt to adjust the gap on the used plug.



- (f) Clean the spark plugs.
If the electrode has traces of wet carbon, allow it to dry and then clean with a spark plug cleaner.

Air pressure: Below 588 kPa (6 kgf/cm², 85 psi)

Duration: 20 seconds or less

HINT:

If there are traces of oil, remove it with gasoline before using the spark plug cleaner.

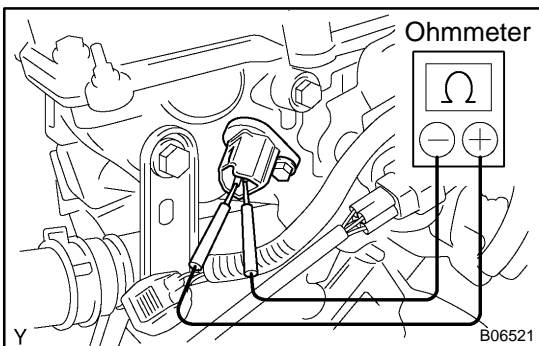
- (g) Using a 16 mm plug wrench, install the 6 spark plugs.

Torque: 18 N·m (180 kgf·cm, 13 ft·lbf)

- (h) Reinstall the 6 ignition coil (See page IG-5).

3. INSPECT IGNITION COILS (WITH IGNITERS)

(See step 1.)



4. INSPECT CAMSHAFT POSITION SENSORS

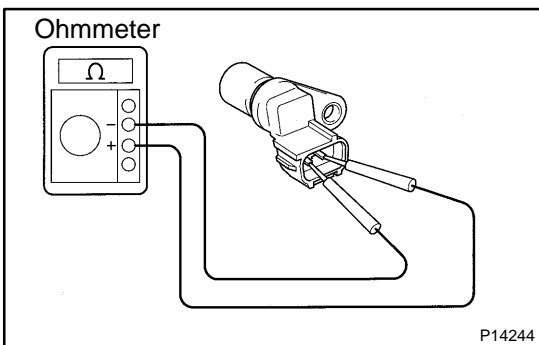
- (a) Remove the V-bank cover.
- (b) Remove the air cleaner hose w/ resonator.
- (c) Disconnect the sensor connectors.
- (d) Using an ohmmeter, measure the resistance between terminals.

Resistance:

Cold	835 - 1,400 Ω
Hot	1,060 - 1,645 Ω

If the resistance is not as specified, replace the sensor.

- (e) Reconnect the sensor connectors.
- (f) Reinstall the air cleaner hose w/ resonator.
- (g) Reinstall the V-bank cover.



5. INSPECT CRANKSHAFT POSITION SENSOR

- (a) Remove the sensor (See page IG-9).
- (b) Using an ohmmeter, measure the resistance between the terminals.

Resistance:

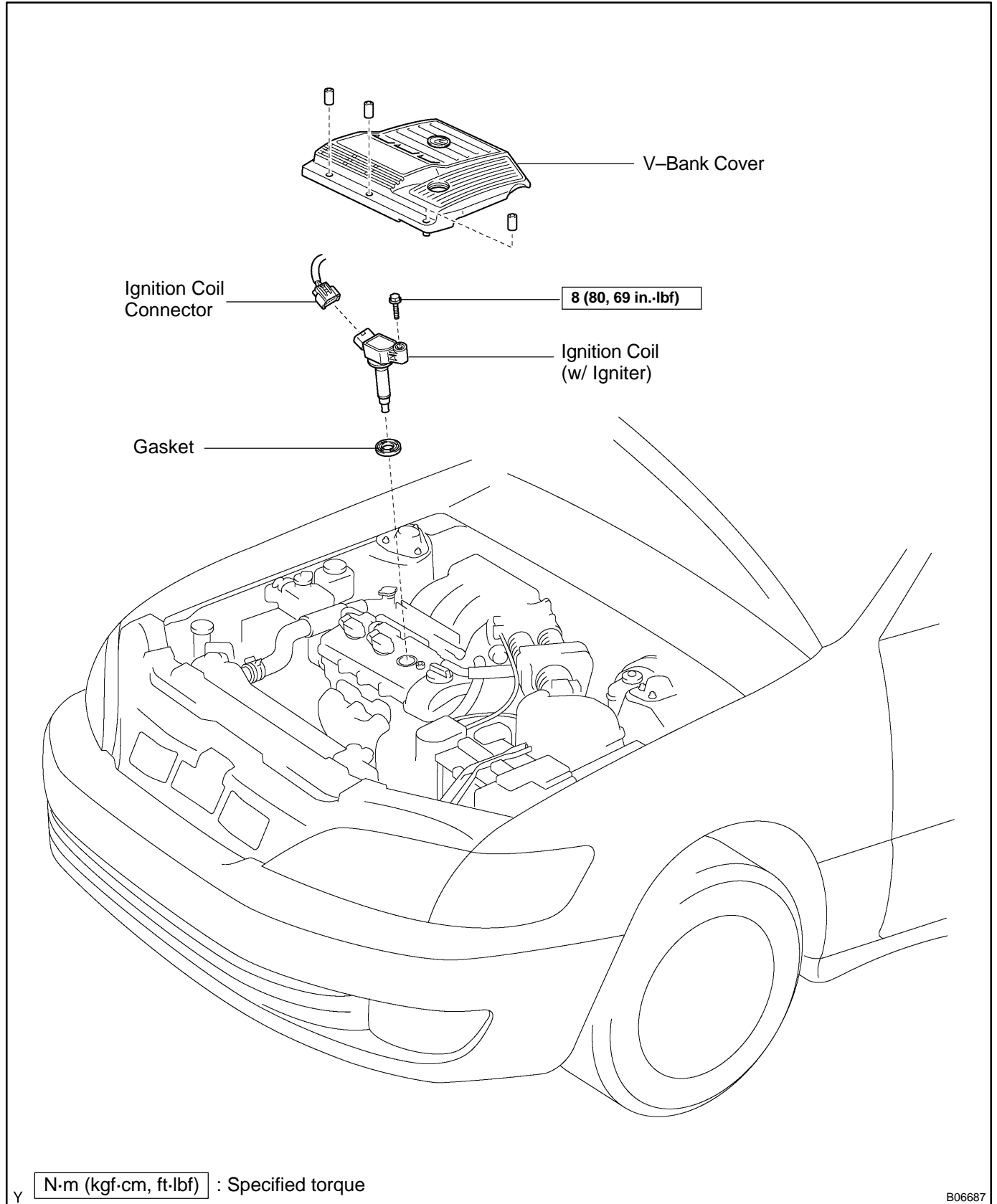
Cold	1,630 - 2,740 Ω
Hot	2,065 - 3,225 Ω

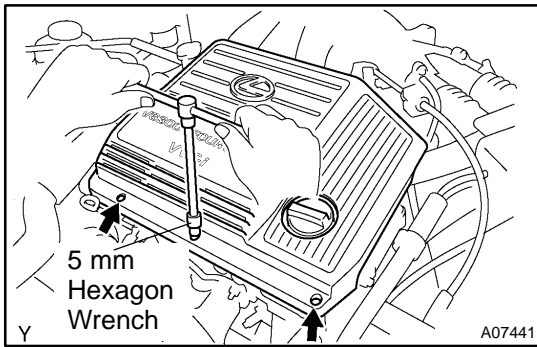
If the resistance is not as specified, replace the sensor.

- (c) Reinstall the sensor (See page IG-9).

IGNITION COIL COMPONENTS

IG090-02





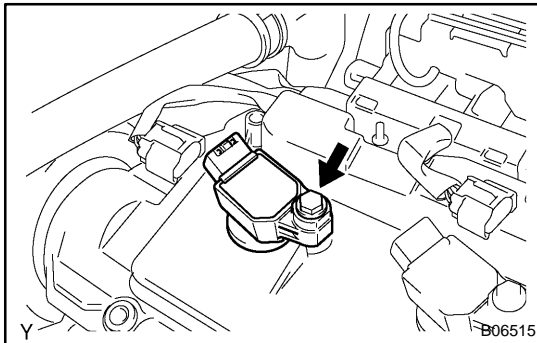
REPLACEMENT

1. REMOVE V-BANK COVER

- (a) Using a 5 mm hexagon wrench, remove the 3 cap nuts.
- (b) Loosen the V-bank cover fastener counterclockwise.
- (c) Remove the V-bank cover.

2. REMOVE IGNITION COILS

- (a) Disconnect the 6 ignition coil connectors.



- (b) Remove the bolt, and pull out the ignition coil. Remove the 6 ignition coils.

3. REINSTALL NEW IGNITION COILS

- (a) Connect a new ignition coil to the spark plug, and attach the ignition coil to the cylinder head cover, and install the bolt. Install the 6 ignition coils.

Torque: 8 N·m (80 kgf·cm, 69 in.-lbf)

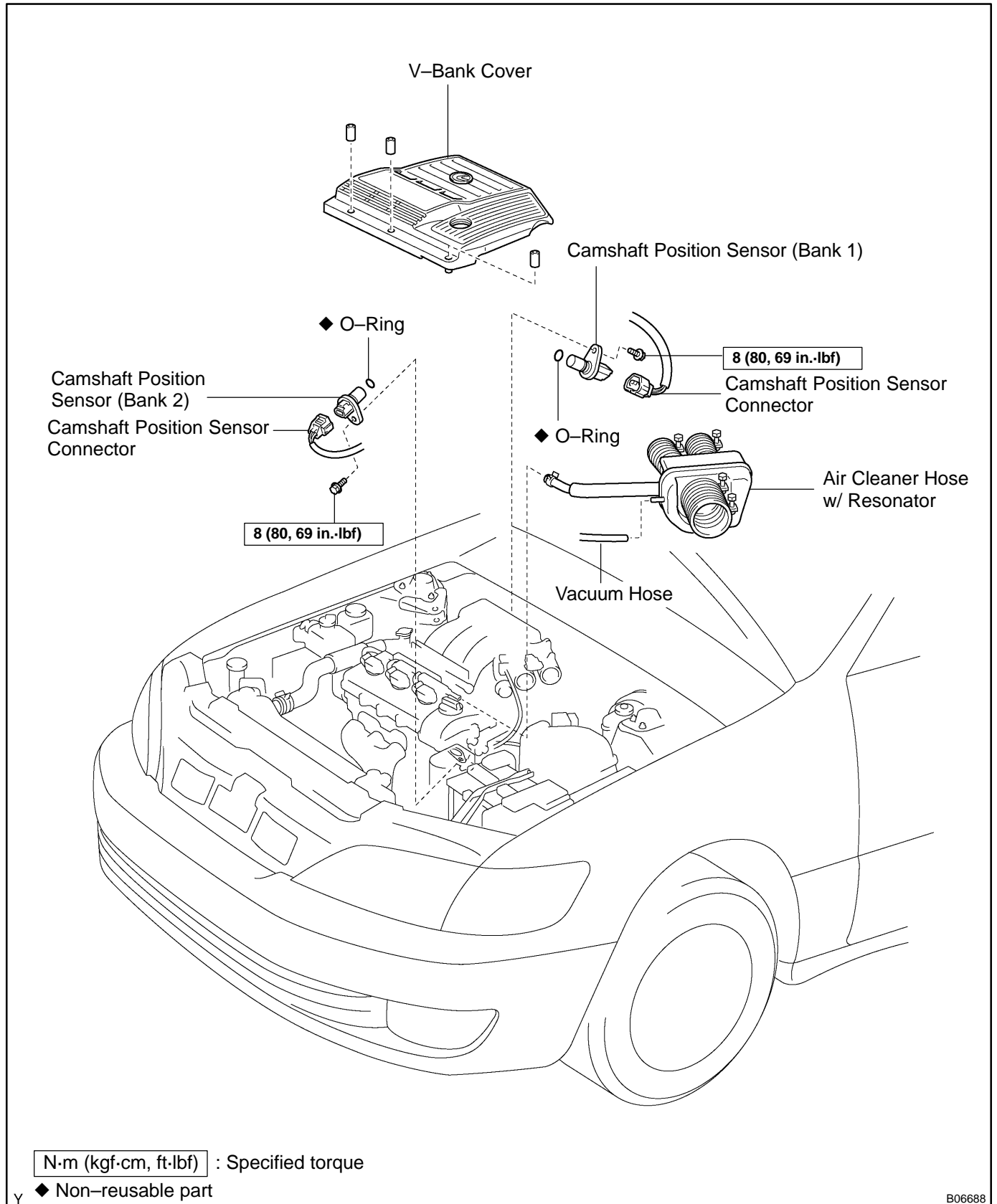
- (b) Connect the 6 ignition coil connectors.

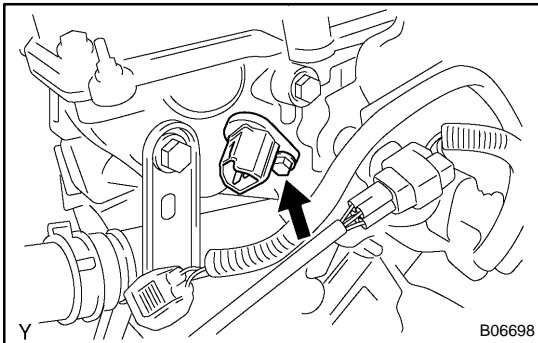
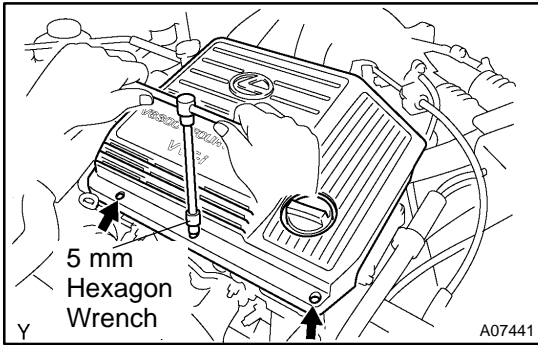
4. REINSTALL V-BANK COVER

- (a) Using 5 mm hexagon wrench, install the V-bank cover with the 3 cap nuts.
- (b) Press down the V-bank cover fastener.

CAMSHAFT POSITION SENSOR COMPONENTS

IG09Q-02





REPLACEMENT

1. REMOVE V-BANK COVER

- (a) Using a 5 mm hexagon wrench, remove the 3 cap nuts.
- (b) Loosen the V-bank cover fastener counterclockwise.
- (c) Remove the V-bank cover.

2. REMOVE AIR CLEANER HOSE WITH RESONATOR

3. REMOVE CAMSHAFT POSITION SENSORS

- (a) Disconnect the 2 camshaft position sensor connectors.

- (b) Remove the bolt and camshaft position sensor. Remove the 2 camshaft position sensors.

- (c) Remove the O-rings from the camshaft position sensors.

4. REINSTALL NEW CAMSHAFT POSITION SENSORS

- (a) Install new O-rings to new camshaft position sensors.
- (b) Install the camshaft position sensor with the bolt. Install the 2 camshaft position sensors.

Torque: 8 N·m (80 kgf·cm, 69 in.-lbf)

- (c) Connect the 2 camshaft position sensor connectors.

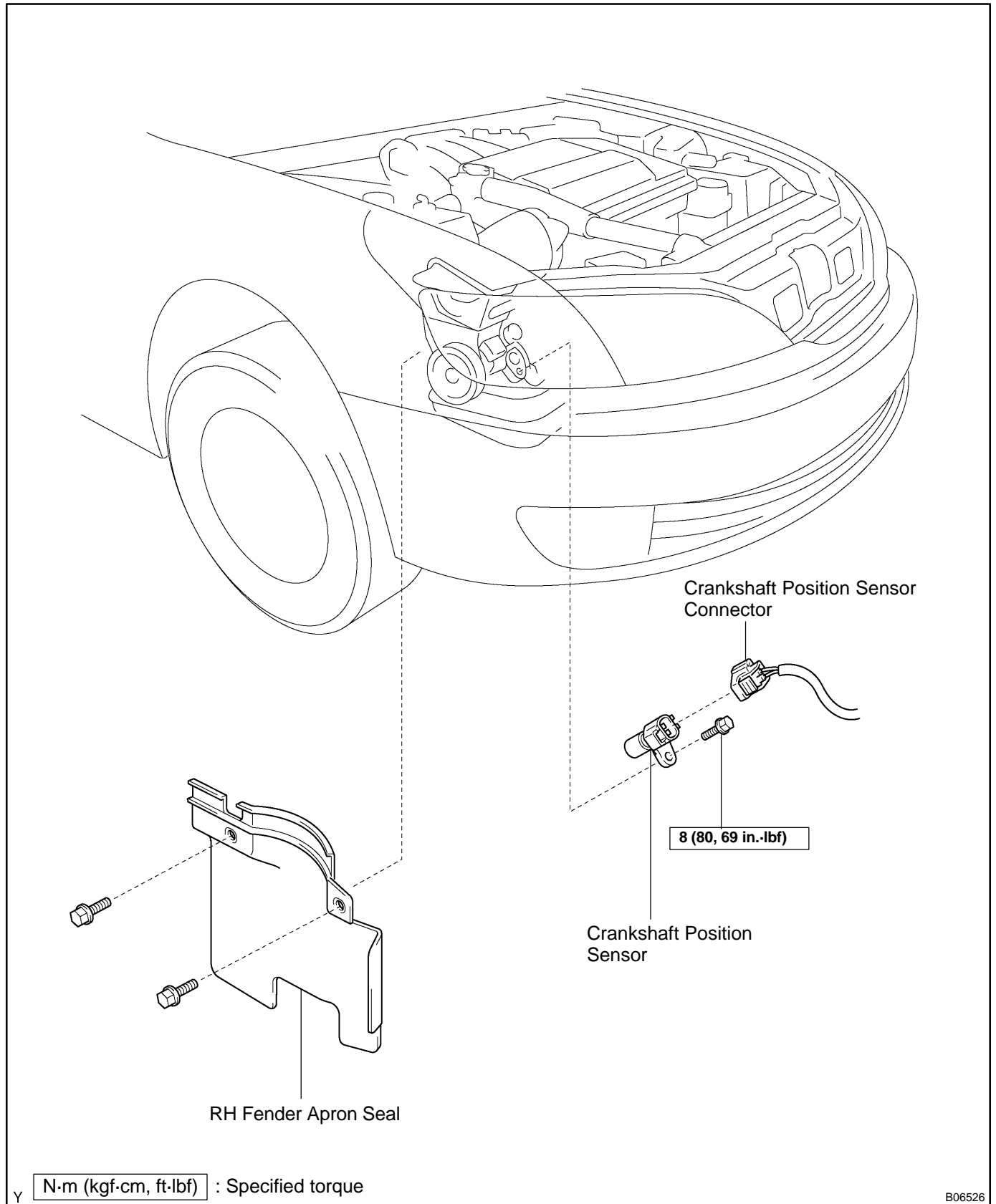
5. REINSTALL AIR CLEANER HOSE WITH RESONATOR

6. REINSTALL V-BANK COVER

- (a) Using 5 mm hexagon wrench, install the V-bank cover with the 3 cap nuts.
- (b) Press down the V-bank cover fastener.

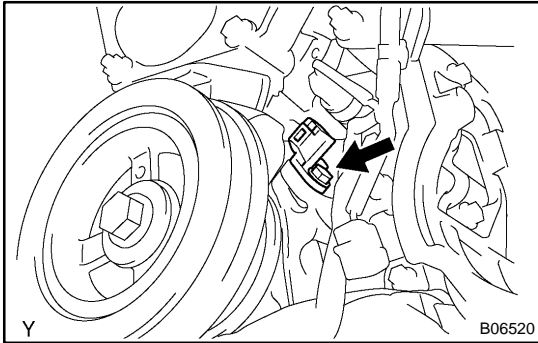
CRANKSHAFT POSITION SENSOR COMPONENTS

IG067-02



REPLACEMENT

1. REMOVE RH FENDER APRON SEAL
2. REMOVE CRANKSHAFT POSITION SENSOR
 - (a) Disconnect the crankshaft position sensor connector.



- (b) Remove the bolt and crankshaft position sensor.
3. REINSTALL NEW CRANKSHAFT POSITION SENSOR
 - (a) Install a new crankshaft position sensor with the bolt.
Torque: 8 N·m (80 kgf·cm, 69 in.-lbf)
 - (b) Connect the crankshaft position sensor connector.
4. REINSTALL RH FENDER APRON SEAL