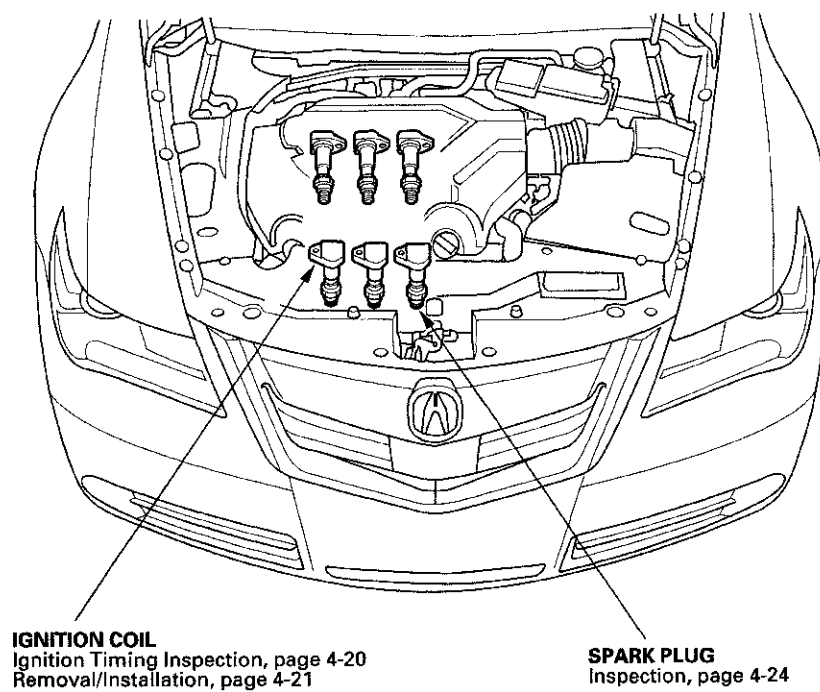
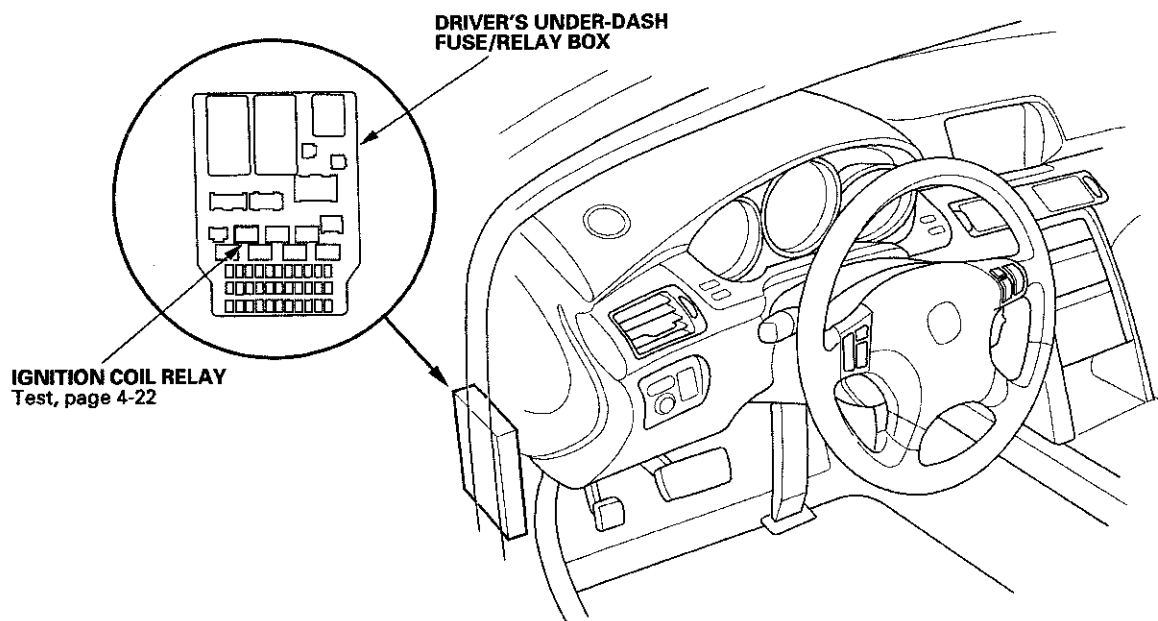


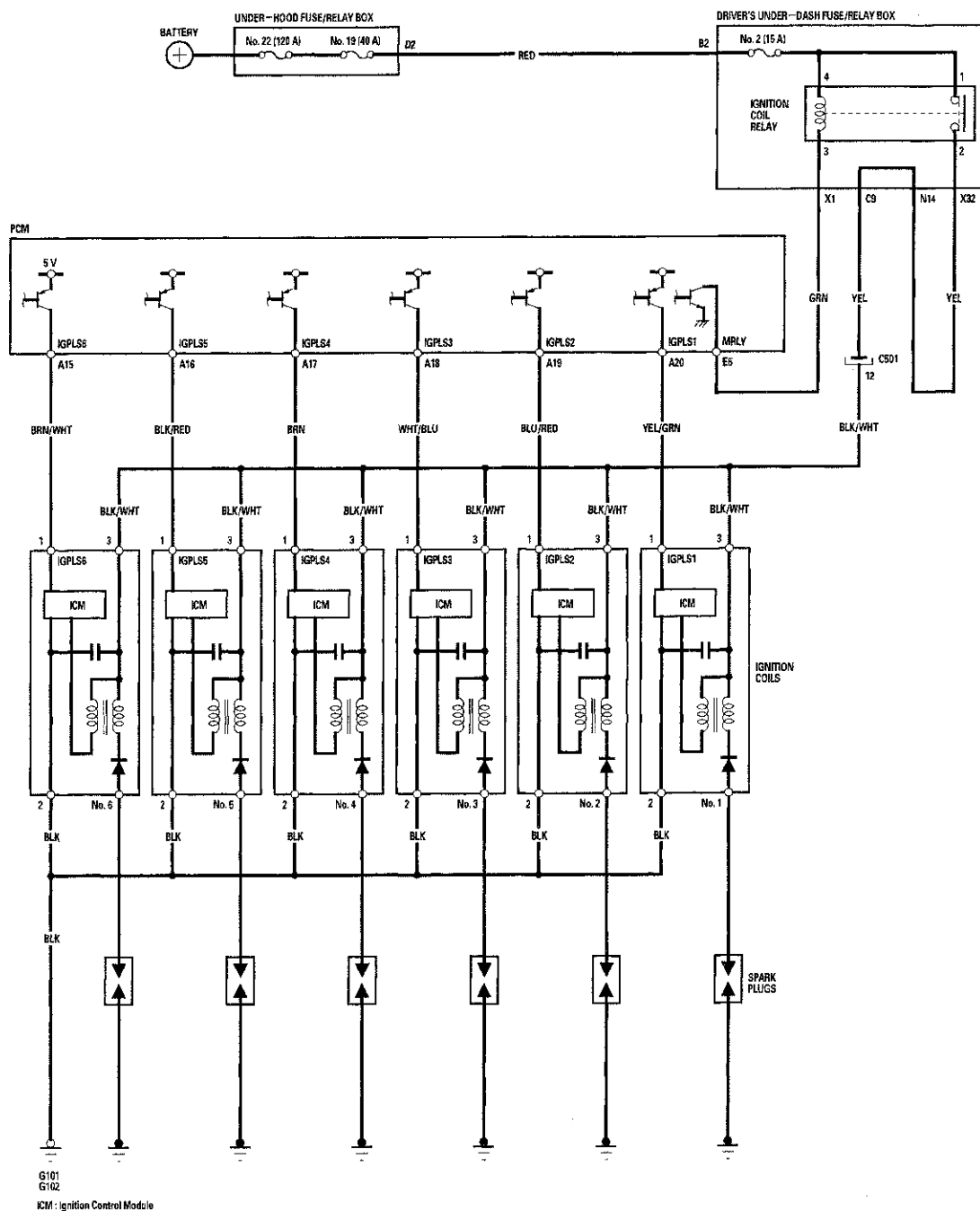
Ignition System

Component Location Index





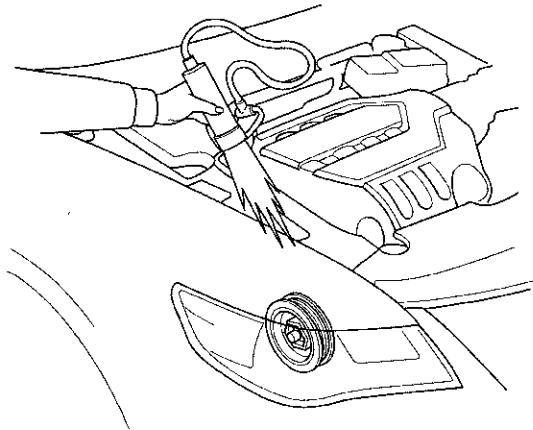
Circuit Diagram



Ignition System

Ignition Timing Inspection

1. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 on page 11-3).
2. Turn the ignition switch to ON (II).
3. Make sure the HDS communicates with the vehicle and the powertrain control module (PCM). If it doesn't communicate, troubleshoot the DLC circuit (see page 11-211).
4. Check for DTCs (see page 11-3). If a DTC is present, diagnose and repair the cause before continuing with this test.
5. Start the engine. Hold the engine speed at 3,000 rpm with no load (in N or P) until the radiator fan comes on, then let it idle.
6. Check the idle speed (see page 11-312).
7. Jump the SCS line with the HDS.
8. Connect the timing light to the No. 1 ignition coil harness.

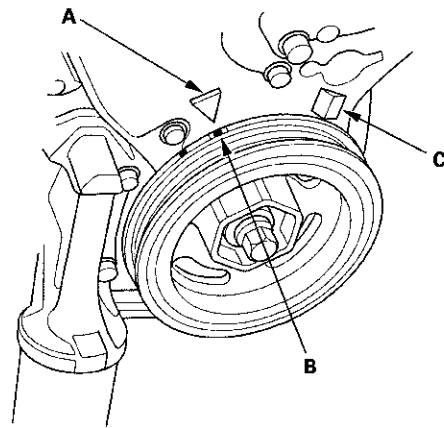


9. Aim the light toward the pointer (A) on the timing belt cover and the timing mark (B) on the crankshaft pulley. Check the ignition timing under a no load condition (headlights, blower fan, rear window defogger, and air conditioner are turned off).

NOTE: The other pointer (C) is not used.

Ignition Timing

$10^{\circ} \pm 2^{\circ}$ BTDC (RED mark) at idle in N or P



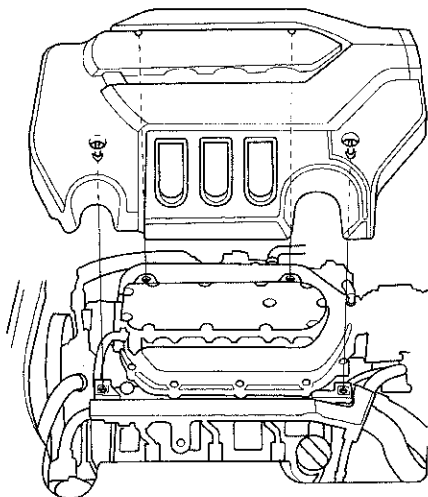
10. If the ignition timing differs from the specification, check the cam timing. If the cam timing is OK, update the PCM if it does not have the latest software (see page 11-230), or substitute a known-good PCM (see page 11-7), then recheck. If the system works properly, and the PCM was substituted, replace the original PCM (see page 11-232).
11. Disconnect the HDS and the timing light.



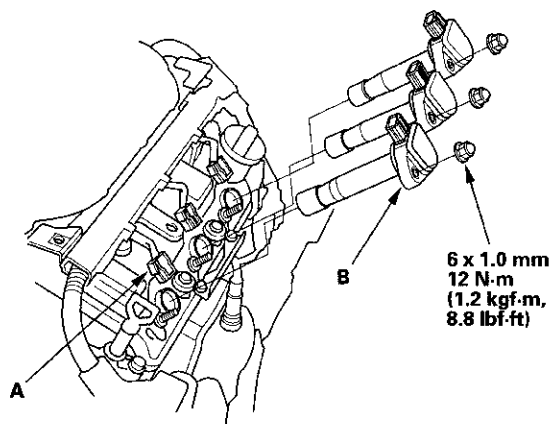
Ignition Coil Removal/Installation

FRONT

1. Remove the engine cover.



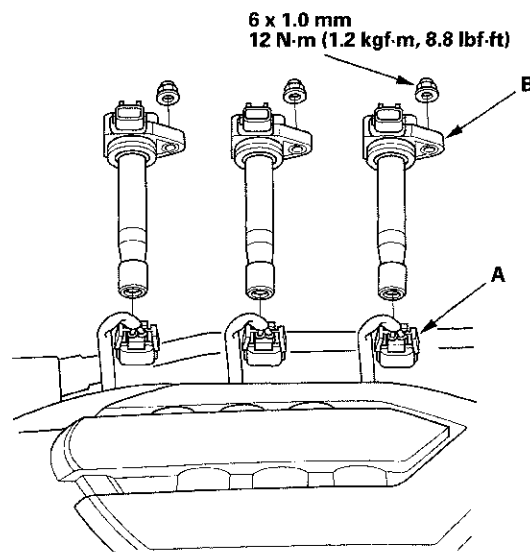
2. Remove the upper grille cover (see page 20-163).
3. Remove the coolant reservoir from the bracket.
4. Disconnect the ignition coil connectors (A), then remove the front ignition coils (B).



5. Install the front ignition coils in the reverse order of removal.

REAR

1. Disconnect the ignition coil connectors (A), then remove the rear ignition coils (B).



2. Install the rear ignition coils in the reverse order of removal.

Ignition System

Ignition Coil Relay Circuit Troubleshooting

1. Check the No. 2 (15 A) fuse in the driver's under-dash fuse/relay box.

Is the fuse OK?

YES—Go to step 2.

NO—Replace the fuse. If the fuse continues to blow, locate and repair the short in the circuit between the under-dash fuse/relay box and the ignition coils. ■

2. Remove the ignition coil relay from the driver's under-dash fuse/relay box, and test it (see page 22-93).

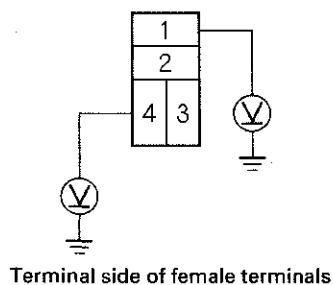
Is the relay OK?

YES—Go to step 3.

NO—Replace the ignition coil relay. ■

3. Measure the voltage between ignition coil relay 4P socket terminal No. 1 and body ground, then terminal No. 4 and body ground.

IGNITION COIL RELAY 4P SOCKET



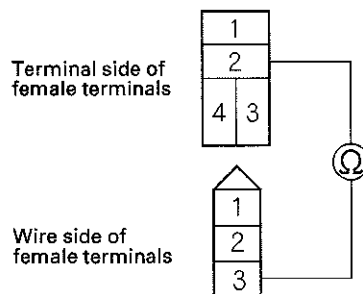
Is there battery voltage?

YES—Go to step 4.

NO—Replace the driver's under-dash fuse/relay box. ■

4. Check for continuity between ignition coil relay 4P socket terminal No. 2 and the No. 1 ignition coil 3P connector terminal No. 3.

IGNITION COIL RELAY 4P SOCKET



No. 1 IGNITION COIL 3P CONNECTOR

Is there continuity?

YES—Go to step 5.

NO—Repair an open in the wire between ignition coil relay 4P socket terminal No. 2 and No. 1 ignition coil 3P connector terminal No. 3. ■

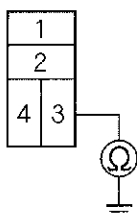
5. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 on page 11-3).
6. Turn the ignition switch to ON (II).
7. Make sure the HDS communicates with the vehicle and the powertrain control module (PCM). If it doesn't communicate, troubleshoot the DLC circuit (see page 11-211).
8. Jump the SCS line with the HDS, then turn the ignition switch to LOCK (0).

NOTE: This step must be done to protect the PCM from damage.

9. Disconnect PCM connector E (31P).

10. Check for continuity between ignition coil relay 4P socket terminal No. 3 and body ground.

IGNITION COIL RELAY 4P SOCKET



Terminal side of female terminals

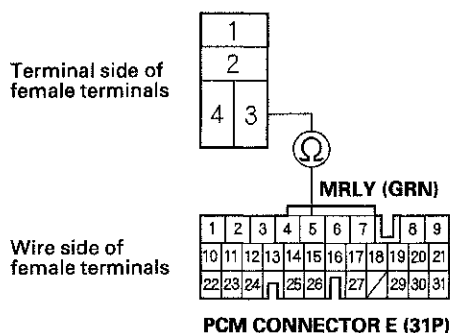
Is there continuity?

YES—Repair a short in the wire between ignition coil relay 4P socket terminal No. 3 and the PCM (E5). ■

NO—Go to step 11.

11. Check for continuity between ignition coil relay 4P socket terminal No. 3 and PCM connector terminal E5.

IGNITION COIL RELAY 4P SOCKET



Is there continuity?

YES—The system is OK at this time. Check for loose or poor connections at the ignition coil relay and the PCM (E5). ■

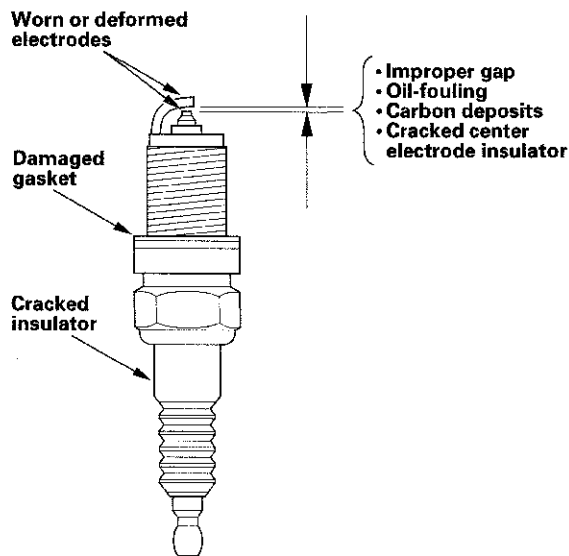
NO—Repair an open in the wire between ignition coil relay 4P socket terminal No. 3 and the PCM (E5). ■

Ignition System

Spark Plug Inspection

1. Remove the spark plugs and inspect the electrodes and the ceramic insulator.

- Burned or worn electrodes may be caused by these conditions:
 - Advanced ignition timing
 - Loose spark plug
 - Plug heat range too hot
 - Insufficient cooling
- Fouled plugs may be caused by these conditions:
 - Retarded ignition timing
 - Oil in combustion chamber
 - Incorrect spark plug gap
 - Plug heat range too cold
 - Excessive idling/low speed running
 - Clogged air cleaner element
 - Deteriorated ignition coils



2. If the spark plug electrode is dirty or contaminated, clean the electrode with a plug cleaner.

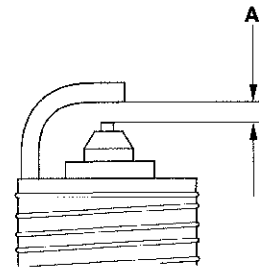
NOTE:

- Do not use a wire brush or scrape the iridium electrode since this will damage the electrode.
- When using a sand blaster spark plug cleaner, do not clean for more than 20 seconds to avoid damaging the electrode.

3. Do not adjust the gap (A) of iridium tip plugs; replace the spark plug if the gap is out of specification.

Electrode Gap

Standard (New): 1.0—1.1 mm (0.039—0.043 in)

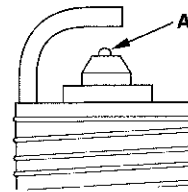


4. Replace the plug at the specified interval, or when the center electrode is rounded (A). Use only the listed spark plugs.

Spark Plugs

NGK: ILZKR7B-11S

DENSO: SXU22HCR11S



5. Apply a small amount of anti-seize compound to the plug threads, and screw the plugs into the cylinder head, finger-tight. Torque them to 18 N·m (1.8 kgf·m, 13 lbf·ft).