

2007-2008 ENGINE

Ignition System - TL

COMPONENT LOCATION INDEX

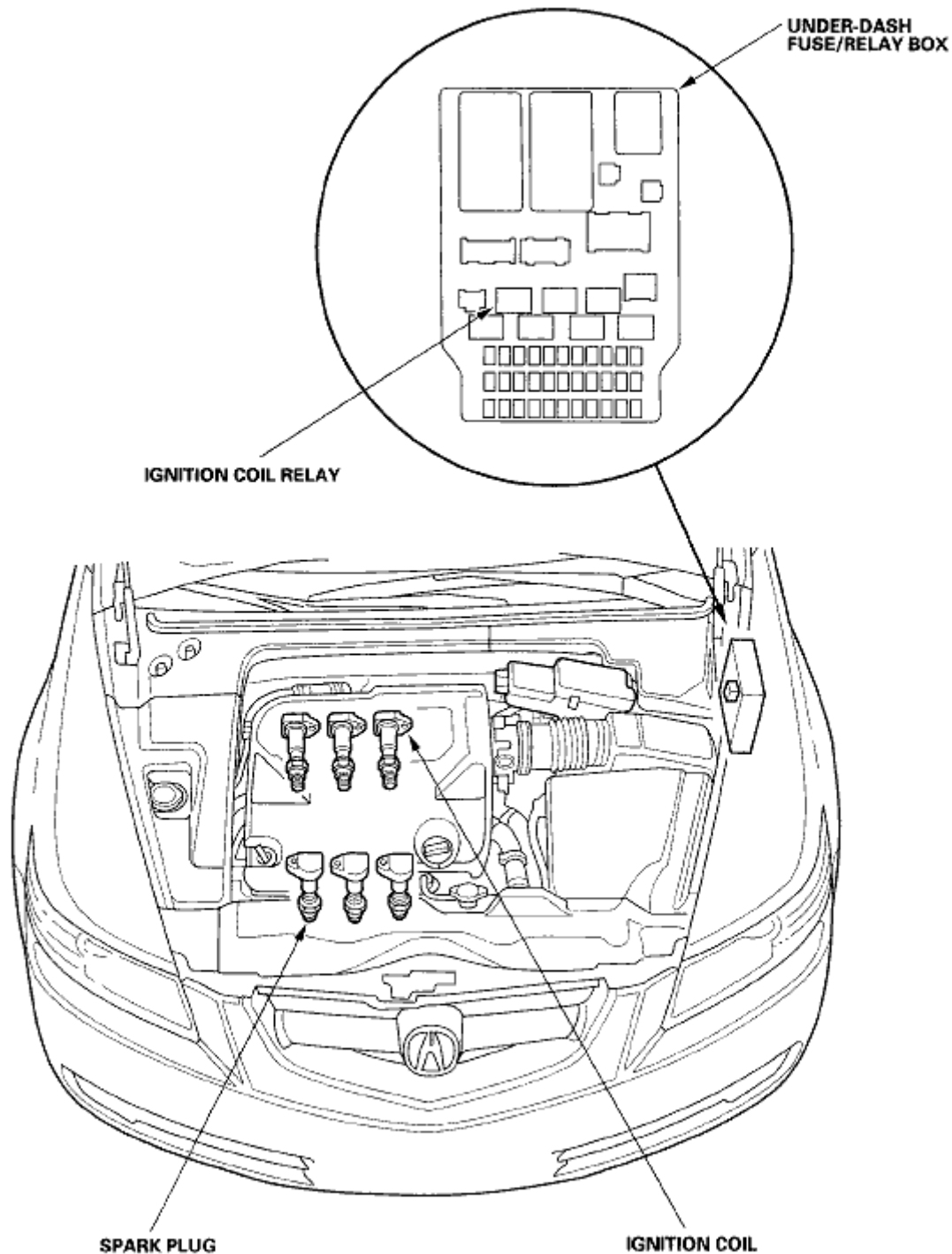


Fig. 1: Identifying Ignition System Component Location
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CIRCUIT DIAGRAM

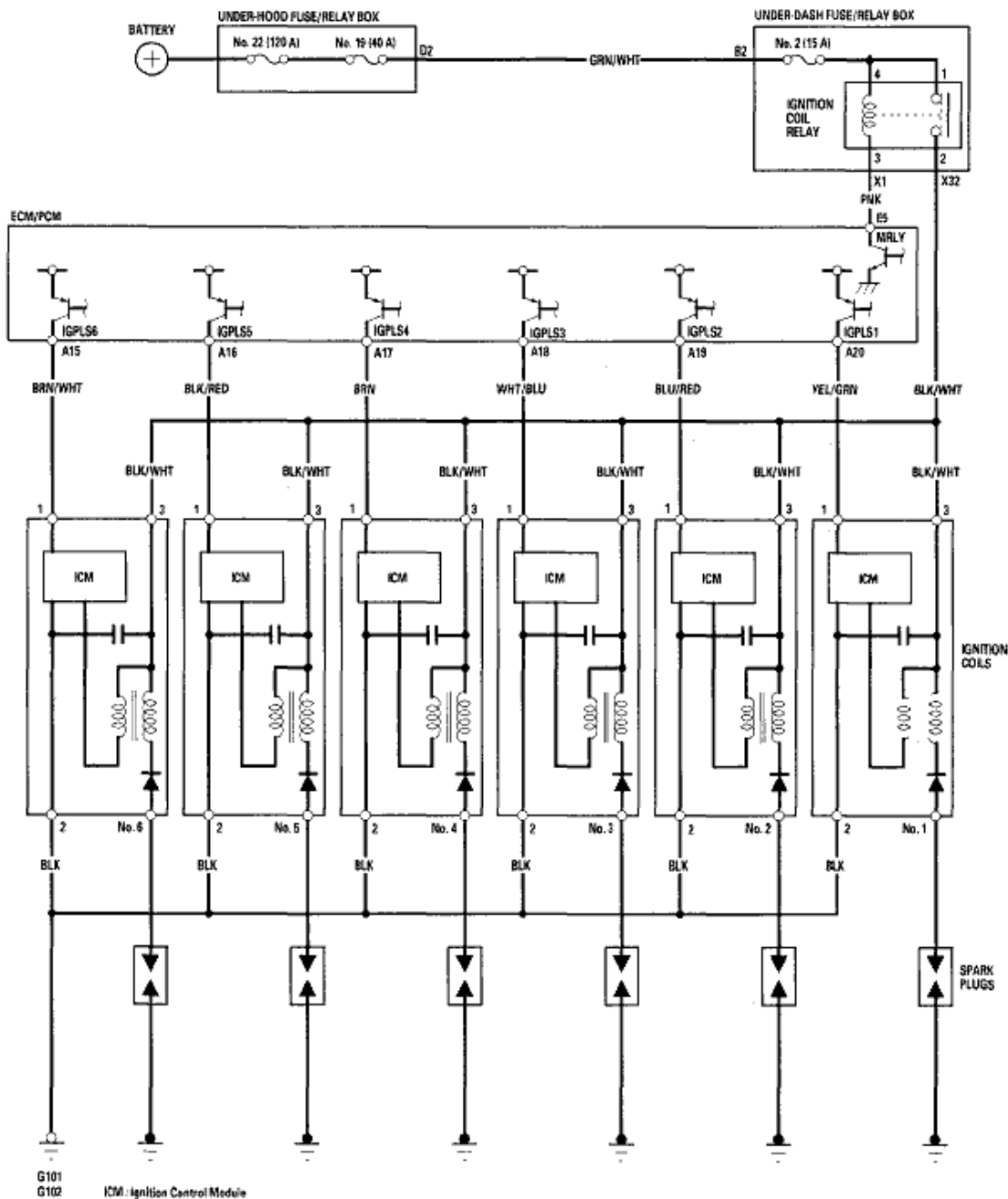


Fig. 2: Ignition System - Circuit Diagram

Courtesy of AMERICAN HONDA MOTOR CO., INC.

IGNITION TIMING INSPECTION

1. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 in **GENERAL TROUBLESHOOTING INFORMATION**).
2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle and the engine control module (ECM)/powertrain control module (PCM). If it doesn't communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT**).

TROUBLESHOOTING (PART 2)).

4. Check for DTCs (see **GENERAL TROUBLESHOOTING INFORMATION**). If a DTC is present, diagnose and repair the cause before inspecting the ignition timing.
5. Start the engine. Hold the engine speed at 3,000 rpm with no load (in the N or P position (A/T) or neutral (M/T)) until the radiator fan comes on, then let it idle.
6. Check the idle speed (see **IDLE SPEED INSPECTION**).
7. Jump the SCS line with the HDS.
8. Remove the right side engine compartment cover (see step 1 in **DRIVE BELT INSPECTION**).
9. Connect the timing light to the No. 1 ignition coil harness.

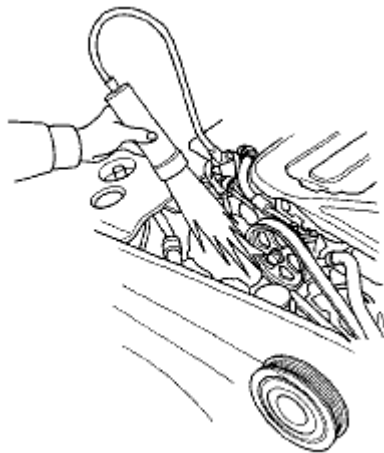


Fig. 3: Connecting Timing Light To No. 1 Ignition Coil Harness
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

Ignition Timing

M/T: 10° 2° BTDC (RED mark (B)) at idle in

Neutral position

A/T: 10° 2° BTDC (RED mark (B)) at idle in

N or P position

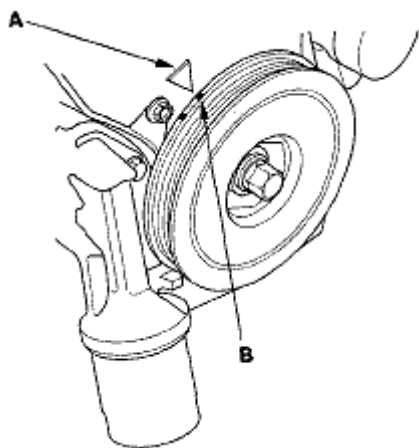


Fig. 4: Aiming Light Pointer On Timing Belt Cover
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. If the ignition timing differs from the specification, check the cam timing. If the cam timing is OK, update the ECM/PCM if it does not have the latest software (see **UPDATING THE ECM/PCM**), or substitute a known-good ECM/PCM (see **SUBSTITUTING THE ECM/PCM**), then recheck. If the system works properly, and the ECM/PCM was substituted, replace the original ECM/PCM (see **ECM/PCM REPLACEMENT**).
12. Disconnect the HDS and the timing light.
13. Reinstall the right side engine compartment cover (see step 1 in **DRIVE BELT INSPECTION**).

IGNITION COIL REMOVAL/INSTALLATION

1. Remove the right side engine compartment cover (A), then remove the left rear engine compartment cover (B) and right rear engine compartment cover (C).

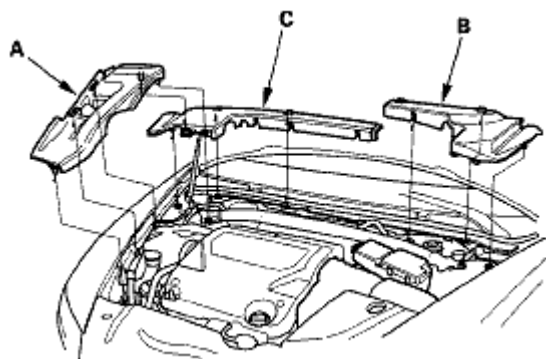


Fig. 5: Identifying Right Side Engine Compartment Cover
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the engine cover.

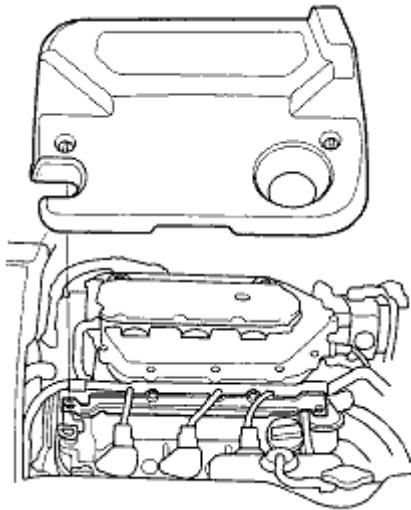


Fig. 6: Identifying Engine Cover

Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

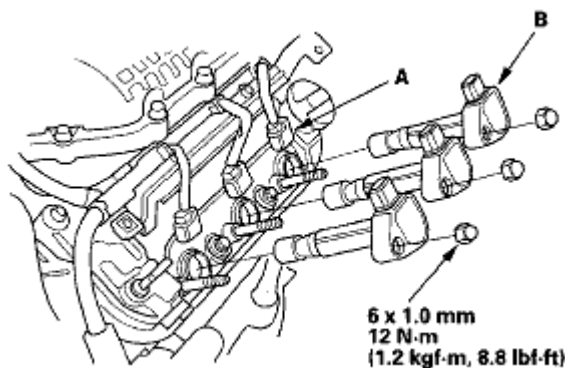


Fig. 7: Identifying Ignition Coil Connectors With Torque Specification

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Install the ignition coils in the reverse order of removal.

IGNITION COIL RELAY CIRCUIT TROUBLESHOOTING

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

Is the fuse OK?

YES -Reinstall the fuse, then 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 under-dash fuse/relay box, and test it (see **POWER RELAY TEST**).

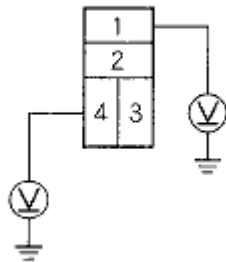
Is the relay OK?

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



Terminal side of female terminals

Fig. 8: Measuring Voltage Between Ignition Coil Relay 4P Socket Terminal No. 1 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

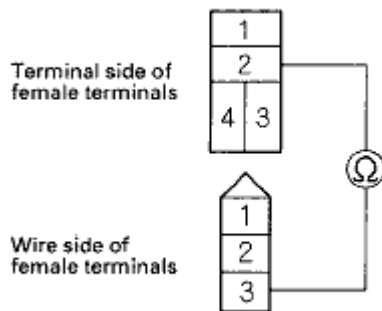
Is there battery voltage?

YES -Go to step 4.

NO -Replace the under-dash fuse/relay box.

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

IGNITION COIL RELAY 4P SOCKET



IGNITION COIL 3P CONNECTOR

Fig. 9: Checking Continuity Between Ignition Coil Relay 4P Socket Terminal No. 2 And Ignition Coil 3P Connector Terminal No. 3

Courtesy of AMERICAN HONDA MOTOR CO., INC.

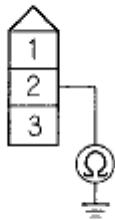
Is there continuity?

YES -Go to step 5.

NO -Repair open in the wire between ignition coil relay 4P socket terminal No. 2 and each ignition coil 3P connector terminal No. 3.

5. Check for continuity between each ignition coil 3P connector terminal No. 2 and the body ground.

IGNITION COIL 3P CONNECTOR



Wire side of female terminals

Fig. 10: Checking Continuity Between Ignition Coil 3P Connector Terminal No. 2 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Go to step 6.

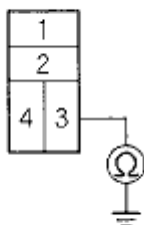
NO -Repair open in the wire between ignition coil 3P connector terminal No. 2 and the body ground.

6. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 in **GENERAL TROUBLESHOOTING INFORMATION**).
7. Turn the ignition switch ON (II).
8. Make sure the HDS communicates with the vehicle and the engine control module (ECM)/powertrain control module (PCM). If it doesn't communicate, troubleshoot the DLC circuit (see **DLC CIRCUIT TROUBLESHOOTING (PART 2)**).
9. Jump the SCS line with the HDS, then turn the ignition switch OFF.

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

10. Disconnect ECM/PCM connector E (31P).
11. 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

Fig. 11: Checking Continuity Between Ignition Coil Relay 4P Socket Terminal No. 3 And Body Ground

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

YES -Repair short in the wire between ignition coil relay 4P socket terminal No. 3 and the ECM/PCM (E5).

NO -Go to step 12.

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

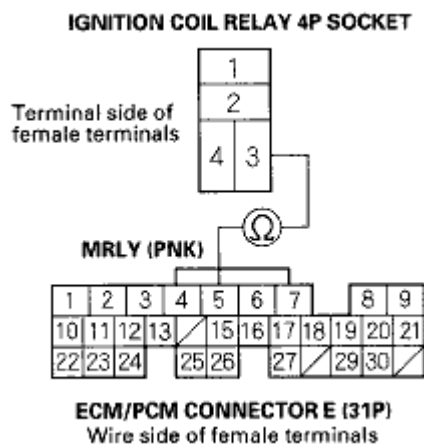


Fig. 12: Checking Continuity Between Ignition Coil Relay 4P Socket Terminal No. 3 And ECM/PCM Connector Terminal E5

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Is there continuity?

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

NO -Repair open in the wire between ignition coil relay 4P socket terminal No. 3 and the ECM/PCM (E5).

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

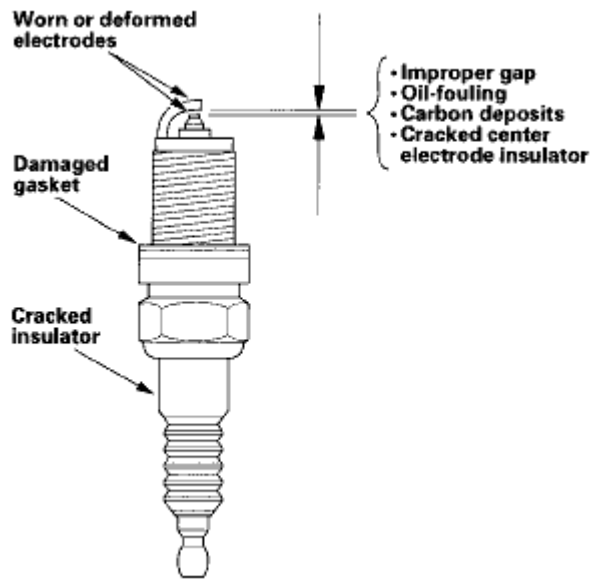


Fig. 13: Inspecting Spark Plug

Courtesy of AMERICAN HONDA MOTOR CO., INC.

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 sandblaster 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): 1.0-1.1mm (0.039-0.043 in.)

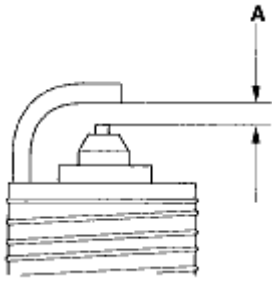


Fig. 14: Identifying Gap Of Iridium Tip Plugs
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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

Spark Plugs

NGK: IZFR6K11

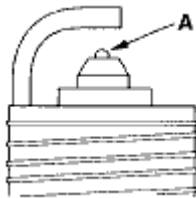


Fig. 15: Identifying Center Electrode Of Spark Plug
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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).