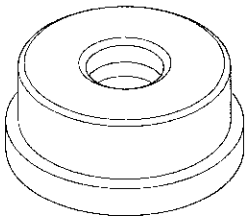
Navigation Tools: Click on the “Table of Contents” below, or use the Bookmarks to the left.

Engine Electrical

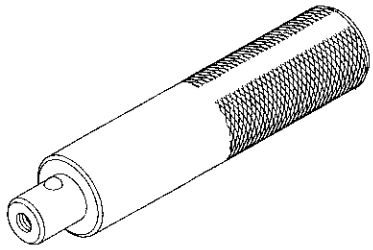
ENGINE

Special Tools

Ref.No.	Tool Number	Description	Qty
①	07746-0010300	Bearing Driver Attachment, 42 x 47 mm	1
②	07749-0010000	Driver Handle, 15 x 135L	1



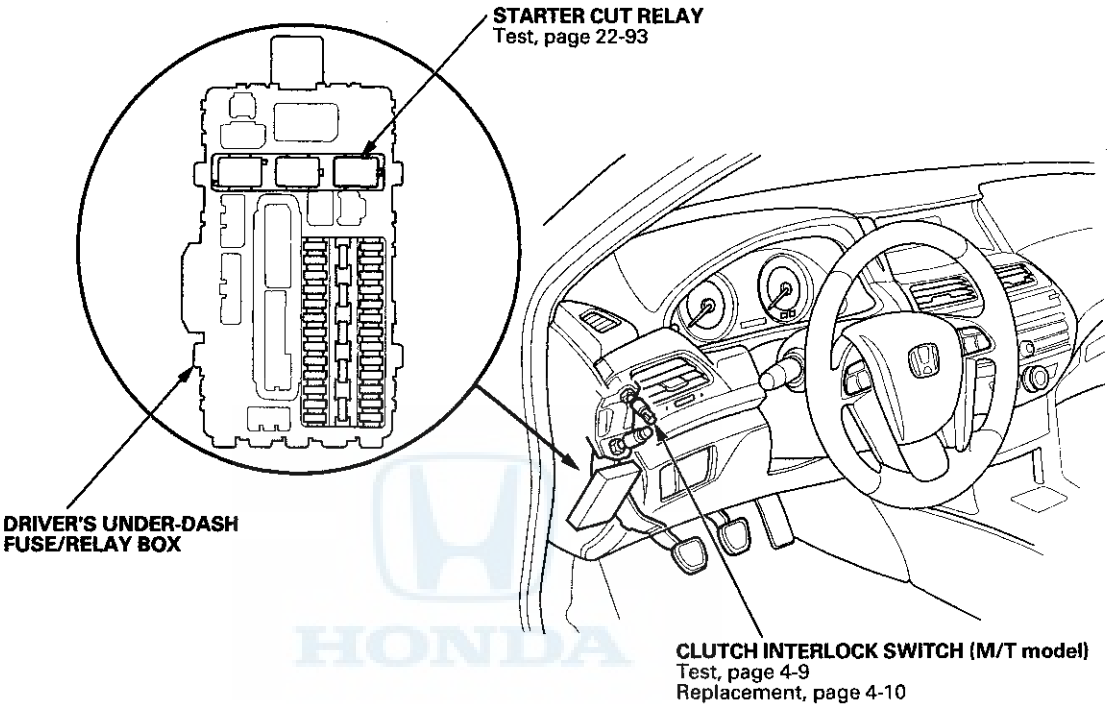
①

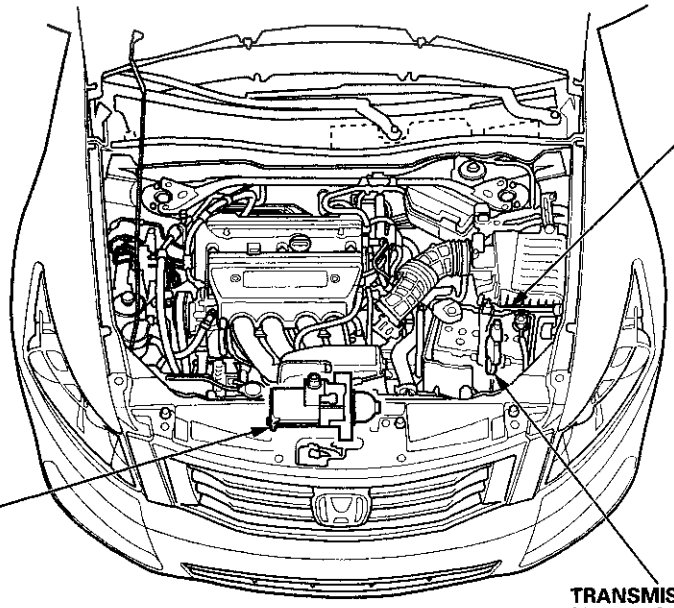


②

Starting System

Component Location Index





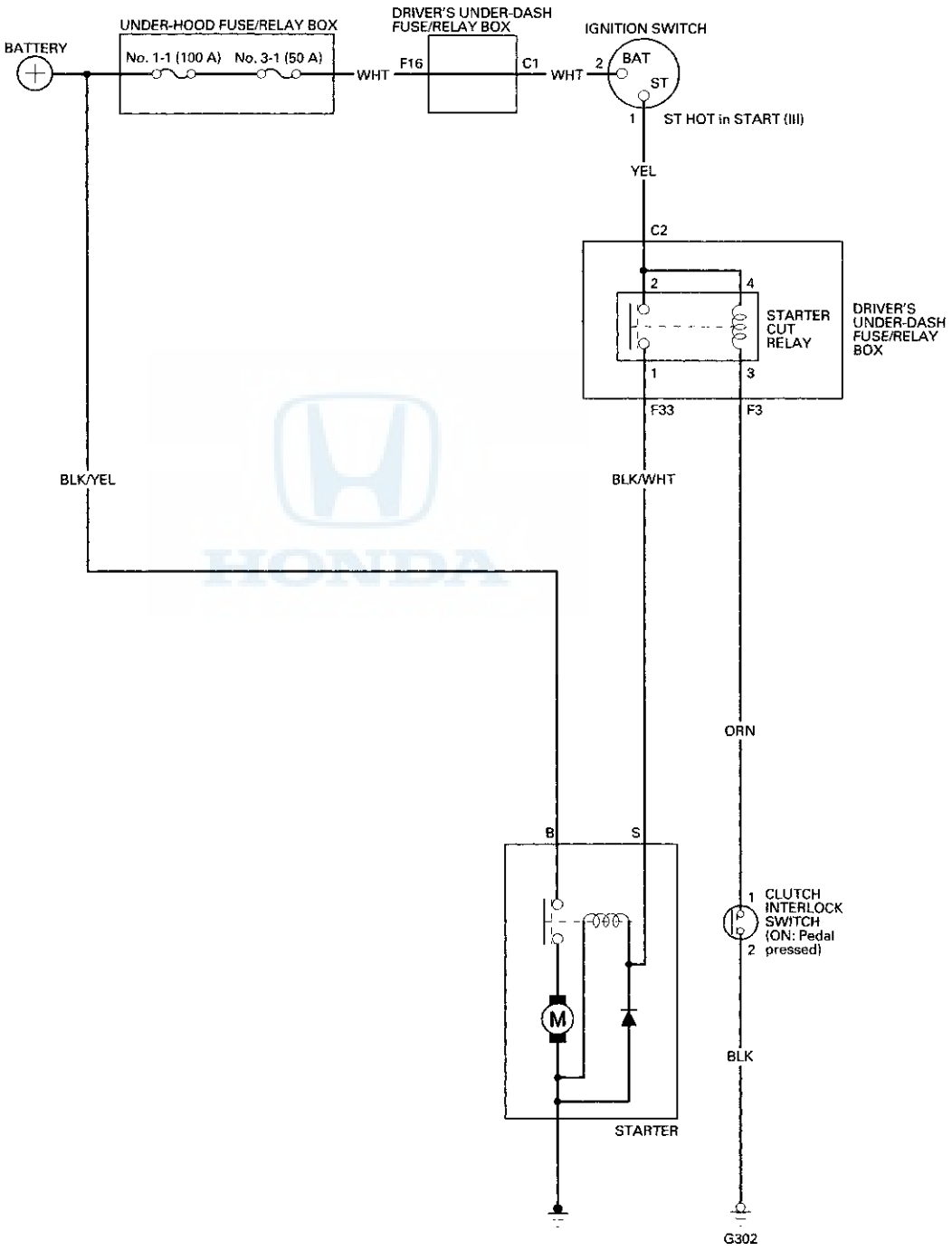
Starting System

Symptom Troubleshooting Index

Symptom	Diagnostic procedure	Also check for
Engine does not crank	1. Check for loose battery terminals or connections. 2. Test the battery for a low state of charge (see page 22-90). 3. Check the PGM-FI main relays (see page 22-93). 4. Check the starter (see page 4-7). 5. Check the starter cut relay (see page 22-93). 6. Check the transmission range switch (A/T model) (see page 14-238). 7. Check the clutch interlock switch (M/T model) (see page 4-9). 8. Check the ignition switch and its related circuits (see page 22-106).	Poor ground at G101 (A/T model) or G302 (M/T model)
Engine cranks, but does not start	1. Check for PGM-FI DTCs (see page 11-3). 2. Check for IMMOBI status and function (see page 22-433). 3. Check the fuel pressure (see page 11-308). 4. Check for a plugged or damaged fuel line (see page 11-310). 5. Check for a plugged fuel filter (see page 11-324). 6. Check the throttle body (see page 11-335). 7. Check for low engine compression: • All models except PZEV (see page 6-6) • PZEV model (see page 6-54) 8. Check for a damaged or broken cam chain. 9. Do the engine control module (ECM)/powertrain control module (PCM) reset in the PGM-FI INSPECTION menu to cancel ALL INJECTORS STOP with the Honda Diagnostic System (HDS).	Weak or fouled spark plugs
Engine is hard to start	1. Check for PGM-FI DTCs (see page 11-3). 2. Check the fuel pressure (see page 11-308). 3. Check for a plugged or damaged fuel line (see page 11-310). 4. Check for a plugged fuel filter (see page 11-324).	Weak or fouled spark plugs
Engine cranks slowly	1. Check for loose battery terminals or connections. 2. Test the battery for a low state of charge (see page 22-90). 3. Check the starter for binding (see page 4-13). 4. Check for excessive drag in the engine.	

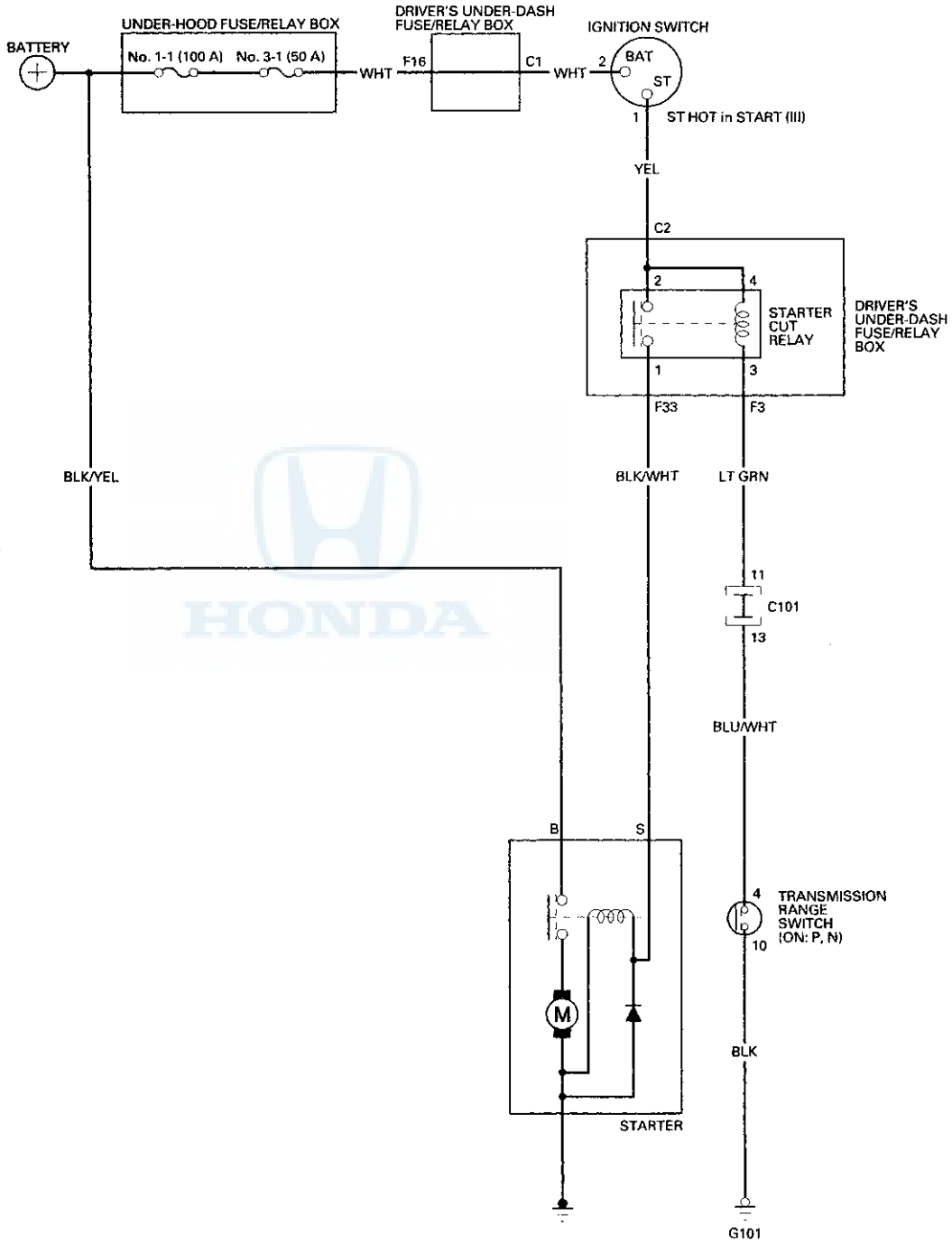
Circuit Diagram

M/T model



Circuit Diagram (cont'd)

A/T model



Starter System Circuit Troubleshooting

Special Tools Required

Alternator, Regulator, Battery and Starter OTC3131*

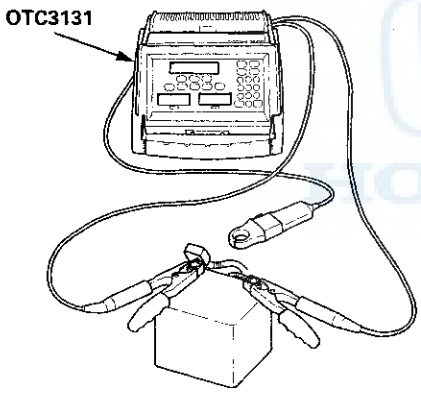
*Available through the Honda Tool and Equipment Program 888-424-6857

NOTE:

- Air temperature must be within 59—100 °F (15—38 °C) during this procedure.
- After this inspection, you must reset the engine control module (ECM)/powertrain control module (PCM). Otherwise, the ECM/PCM will continue to stop the fuel injectors from operating.
- The battery must be in good condition and fully charged.

1. Connect the alternator, regulator, battery & starter tester (OTC3131) to the battery as shown.

   NOTE: The probe is not used for battery testing.



2. Do the BATTERY TEST.

   Does the display indicate GOOD or GOOD, LOW CHARGE?

   YES–The battery is OK. Go to step 3.

   NO–If the display indicates BAD BATTERY, replace the battery, then retest. If the display indicates CHARGE & RETEST, charge the battery, then retest.

3. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 on page 11-3).
4. Turn the ignition switch to ON (II).
5. Make sure the HDS communicates with the vehicle and the ECM/PCM. If it does not communicate, troubleshoot the DLC circuit (see page 11-181).
6. Select ALL INJECTORS STOP in the PGM-FI INSPECTION menu with the HDS.
7. Set the parking brake, then with the shift lever in N or P (A/T model) or the clutch pedal pressed (M/T model), turn the ignition switch to START (III) to crank the engine.

   Does the starter crank the engine normally?

   YES–The starting system is OK. Go to step 15.

   NO–Go to step 8.

8. Turn the ignition switch to LOCK (0).
9. Check the electrical connections at the battery, the negative battery cable to the body, the engine ground cables, and the starter for looseness and corrosion, then try cranking the engine again.

   Does the starter crank the engine normally?

   YES–Repairing the loose connection corrected the problem. The starting system is OK. Go to step 15.

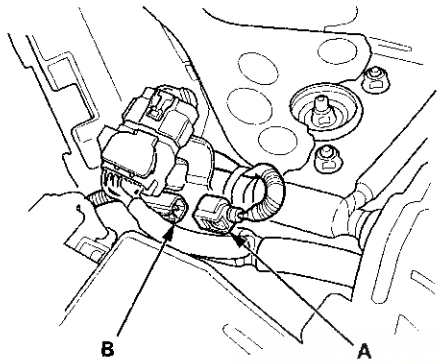
   NO–Based on the following symptoms, take the appropriate action:■

   - If the starter does not crank the engine at all, go to step 10.
   - If the starter cranks the engine erratically or too slowly, go to step 12.
   - If the starter does not disengage from the flywheel ring gear (M/T model) or torque converter ring gear (A/T model) when you release the key, replace the starter, or remove and disassemble it, and check for the following:
     - Starter solenoid and switch malfunction
     - Dirty drive gear or damaged overrunning clutch

(cont'd)

Starter System Circuit Troubleshooting (cont'd)

10. Make sure the shift lever is in N or P (A/T model) or neutral (M/T model), then disconnect the engine wire harness 1P connector (A). Connect a jumper wire from the battery positive terminal to the starter subharness 1P connector (B).



Does the starter crank the engine?

YES–Go to step 11.

NO–Check the starter subharness. If the wire is OK, remove the starter (see page 4-11), then repair or replace (see page 4-13) it as necessary.■

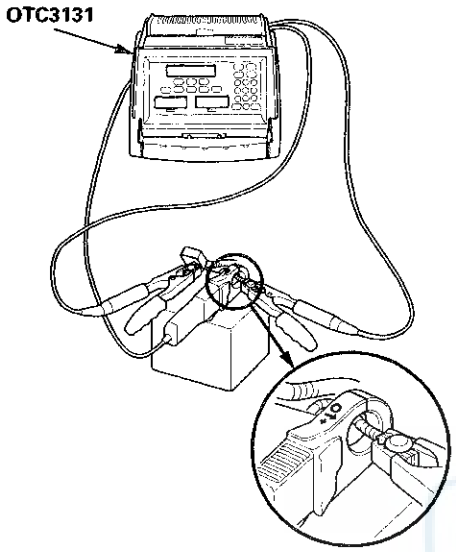
11. Check the following items in the order listed until you find the problem in the circuit:

NOTE: After the problem in the circuit is found and repaired, go to step 15.

- Check for an open or short in the YEL wire and connectors between the driver's under-dash fuse/relay box and the ignition switch.
- Check for an open or short in the BLK/WHT wire and connectors between the driver's under-dash fuse/relay box and the engine wire harness 1P connector.
- Check for an open or short in the ORN wire and connectors between the driver's under-dash fuse/relay box and the clutch interlock switch (M/T model).
- Check for an open or short in the LT GRN wire, BLU/WHT wire and connectors between the driver's under-dash fuse/relay box and the transmission range switch (A/T model).
- Check for poor ground at G302 (M/T model) or G101 (A/T model).
- Check for a faulty ignition switch (see page 22-106).
- Check for a faulty clutch interlock switch (M/T model) (see page 4-9).
- Check for a faulty transmission range switch (A/T model) (see page 14-238).
- Check for a faulty starter cut relay (see page 22-93).

12. Connect the alternator, regulator, battery & starter tester (OTC3131) to the battery.

    NOTE: The probe is used for starter testing.



13. Do the STARTING TEST.

    Does the display indicate cranking voltage is greater than or equal to 8.5 V and is the current draw less than or equal to 380 A ?

    YES–Go to step 14.

    NO–Replace the starter (see page 4-11), or remove and disassemble it (see page 4-13), and check for these problems:■

    - Drag in the starter armature
    - Short in the armature winding
    - Excessive drag in the engine
    - Open circuit in starter armature commutator segments
    - Excessively worn starter brushes
    - Open circuit in the starter brushes
    - Dirty or damaged helical splines or drive gear
    - Faulty overrunning clutch

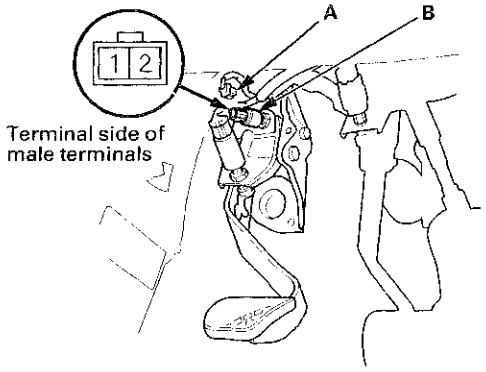
14. Remove the starter, and inspect its drive gear and the flywheel ring gear (M/T model) or the torque converter ring gear (A/T model) for damage. Replace any damaged parts.

15. Select ECM/PCM reset (see page 11-4) in the PGM-FI INSPECTION menu to cancel ALL INJECTORS STOP with the HDS.

Clutch Interlock Switch Test

M/T model

1. Disconnect the clutch interlock switch connector (A).



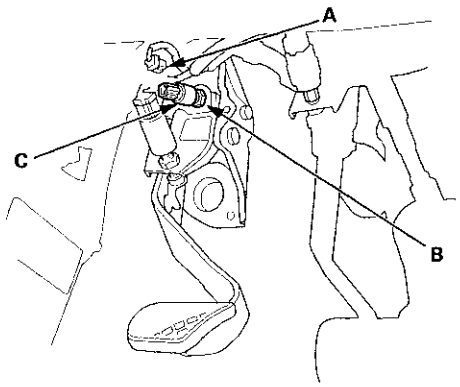
2. Remove the clutch interlock switch (B).
3. Check for continuity between the terminals according to the table.
   - If the continuity is not as specified, replace the clutch interlock switch (see page 4-10).
   - If OK, install the clutch interlock switch and adjust the pedal height (see page 12-7).

Terminal / Position	1	2
Clutch Interlock Switch (PRESSED)	○	○
Clutch Interlock Switch (RELEASED)		

Clutch Interlock Switch Replacement

M/T model

1. Disconnect the clutch interlock switch connector (A).

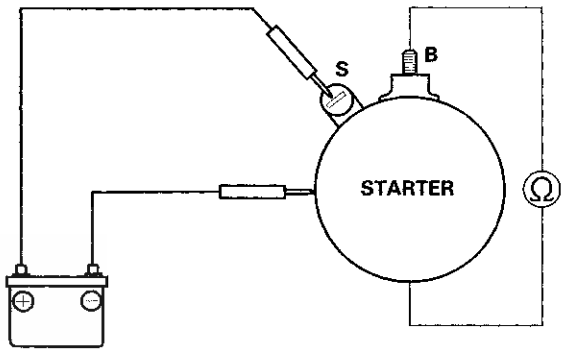


2. Loosen the locknut (B), then remove the clutch interlock switch (C).
3. Install the clutch interlock switch, and adjust the pedal height (see page 12-7).

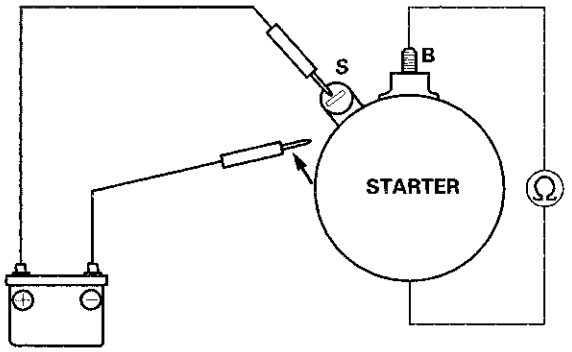
Starter Performance Test

1. Remove the starter (see page 4-11).
2. Firmly clamp the starter in a vise.
3. Make a connection for this test using the thickest (gauge) wire possible (preferably the same gauge as used on the vehicle).

   NOTE: To avoid damaging the starter, never leave the battery connected for more than 5 seconds.

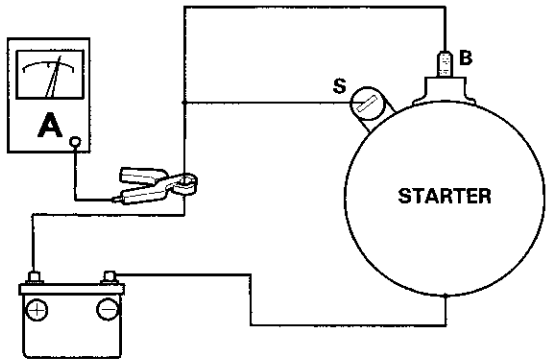


4. Connect the battery as shown, and check for continuity between the B terminal and the starter body. If there is continuity, it is working properly.
5. Disconnect the battery from the body, and check for continuity between the B terminal and the starter body. If there is no continuity, it is working properly.



Starter Removal and Installation

6. Connect the starter to the battery as shown, and confirm that the motor runs.

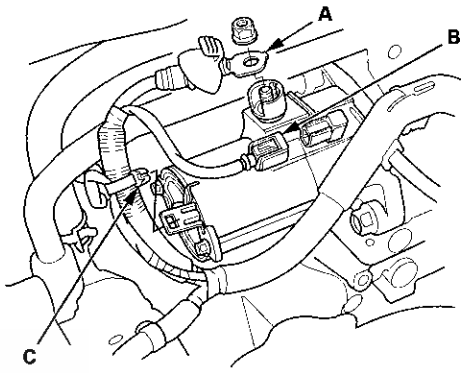


7. If the electric current meets the specification when the battery voltage is at 11.5 V, the starter is working properly.

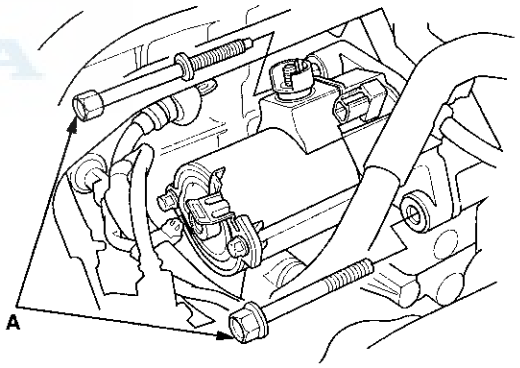
Specification
Electric Current: 80 A or less

Removal

1. Do the battery removal procedure (see page 22-92).
2. Remove the intake manifold (see page 9-4).
3. Disconnect the positive starter cable (A) from the B terminal, and the S terminal connector (B).



4. Remove the harness clamp (C).
5. Remove the two bolts (A) securing the starter, then remove the starter.



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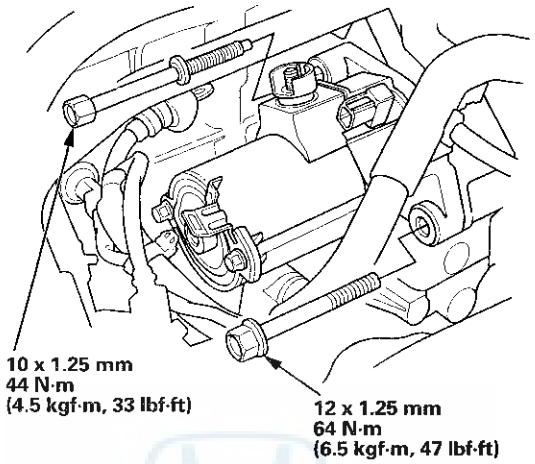
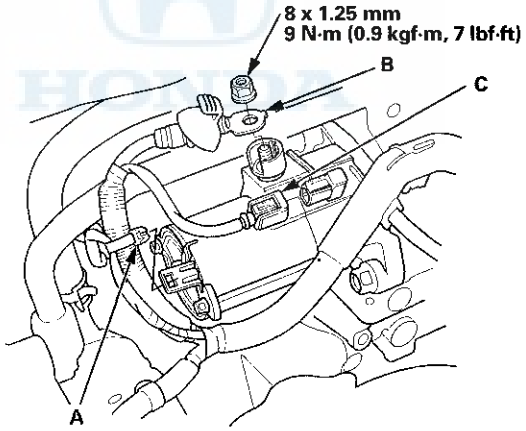
Starter Removal and Installation (cont'd)

Installation

1. Install the starter, then tighten the two bolts.



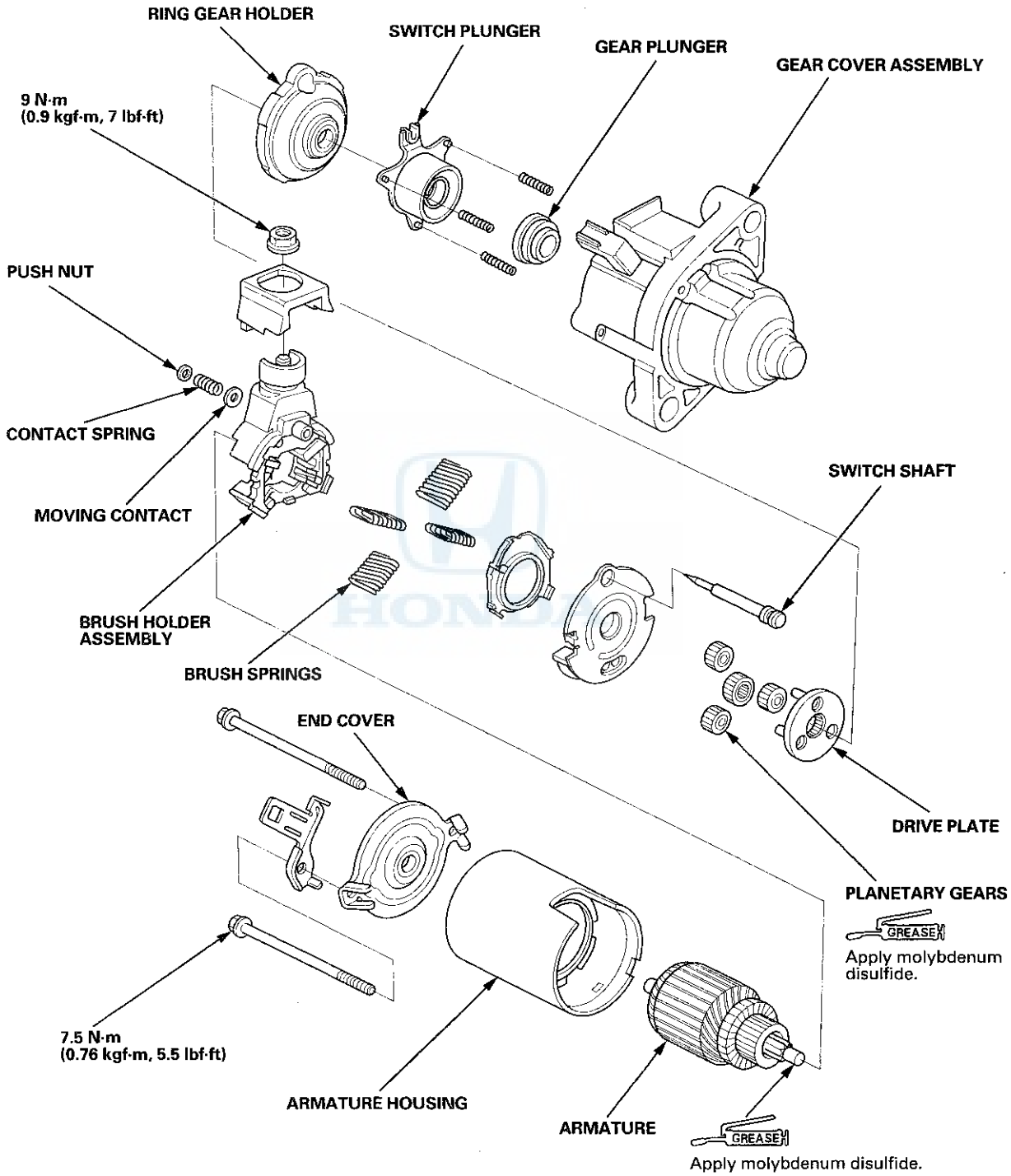
2. Install the harness clamp (A).



3. Connect the positive starter cable (B) to the B terminal, and the S terminal connector (C). Make sure the crimped side of the ring terminal faces away from the starter when you connect it.
4. Install the intake manifold (see page 9-6).
5. Do the battery installation procedure (see page 22-92).
6. Start the engine to make sure the starter works properly.

Starter Overhaul

Disassembly/Reassembly



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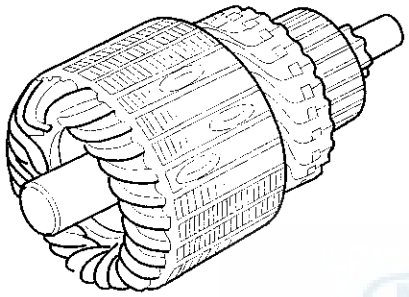
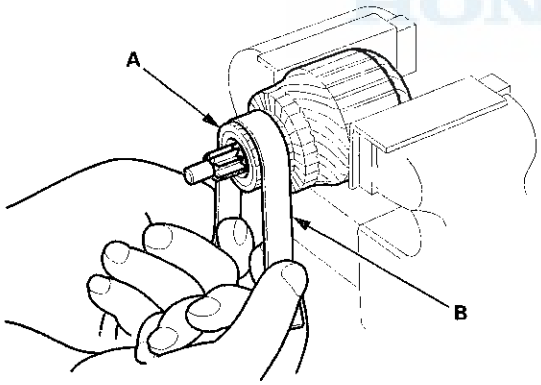
Starter Overhaul (cont'd)

Armature Inspection and Test

1. Remove the starter (see page 4-11).
2. Disassemble the starter as shown in the Exploded View.
3. Inspect the armature for wear or damage from contact with the permanent magnet. If there is wear or damage, replace the armature.

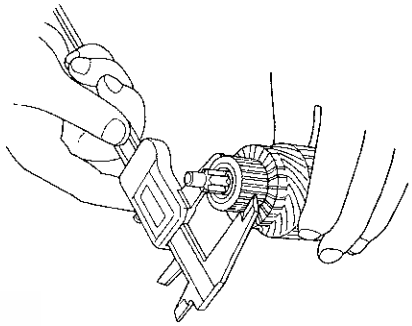


4. Check the commutator (A) surface. If the surface is dirty or burnt, resurface it with an emery cloth or a lathe to the specifications in step 5, or recondition with #500 or #600 sandpaper (B).



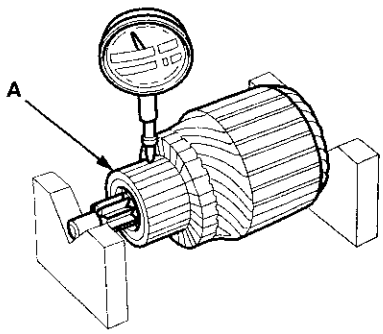
5. Check the commutator diameter with an electronic digital caliper or dial type caliper. If the diameter is below the service limit, replace the armature.

Commutator Diameter
Standard (New): 28.0—28.1 mm (1.10—1.11 in)
Service Limit: 27.5 mm (1.08 in)



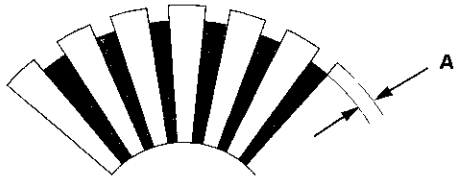
6. Measure the commutator (A) runout.
   - If the commutator runout is within the service limit, check the commutator for carbon dust or brass chips between the segments.
   - If the commutator runout is not within the service limit, replace the armature.

Commutator Runout
Standard (New): 0.02 mm (0.001 in) max.
Service Limit: 0.05 mm (0.002 in)

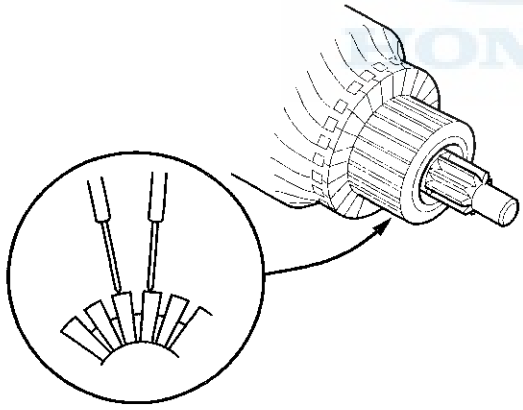


7. Use a digital caliper or dial caliper to check the mica depth (A). If the mica depth is below the service limit, replace the armature.

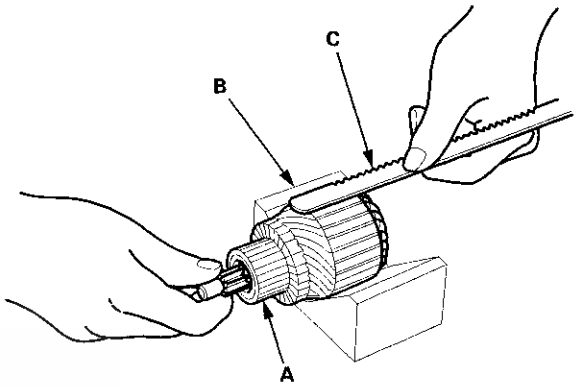
Commutator Mica Depth
Standard (New): 0.40—0.50 mm (0.016—0.020 in)
Service Limit: 0.15 mm (0.006 in)



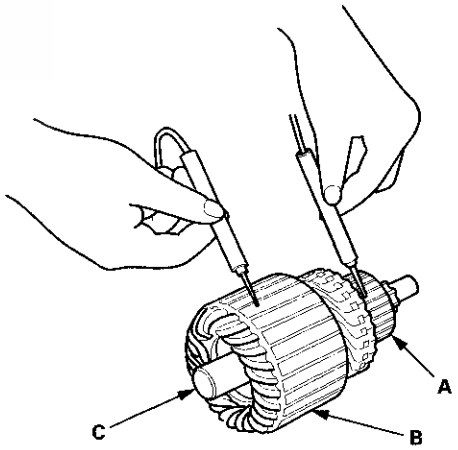
8. Use an ohmmeter to check for continuity between the segments of the commutator. If there is an open circuit between any of the segments, replace the armature.



9. Place the armature (A) on an armature tester (B). Hold a hacksaw blade (C) on the armature core. If the blade is attracted to the core or vibrates while the core is turned, the armature is shorted. Replace the armature.



10. Use an ohmmeter to check for continuity between the commutator (A) and the armature coil core (B), and between the commutator and the armature shaft (C). If there is continuity, replace the armature.



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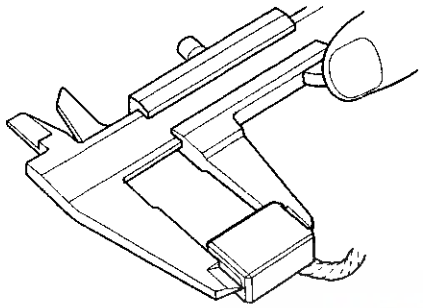
Starter Overhaul (cont'd)

Starter Brush Inspection

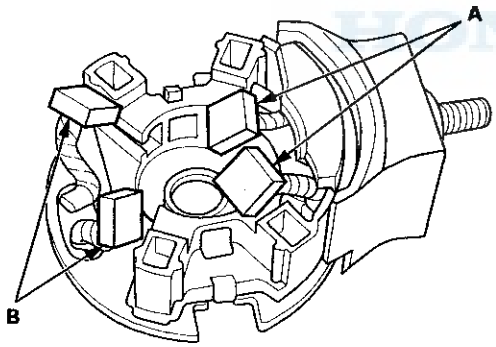
11. Measure the brush length. If it is shorter than the service limit, replace the brush holder assembly.

Brush Length
Standard (New): 11.1—11.5 mm (0.44—0.45 in)
Service Limit: 4.3 mm (0.17 in)



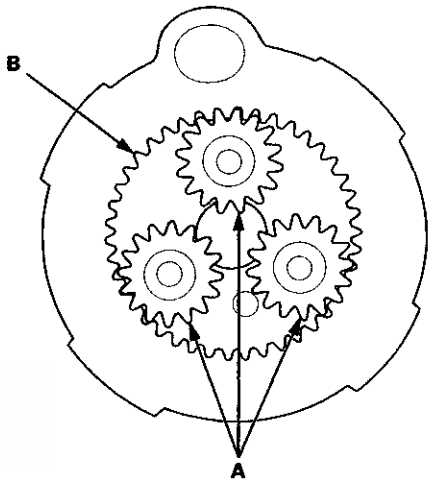
Starter Brush Holder Test

12. Check for continuity between the (+) brushes (A) and the (—) brushes (B). If there is continuity, replace the brush holder assembly.



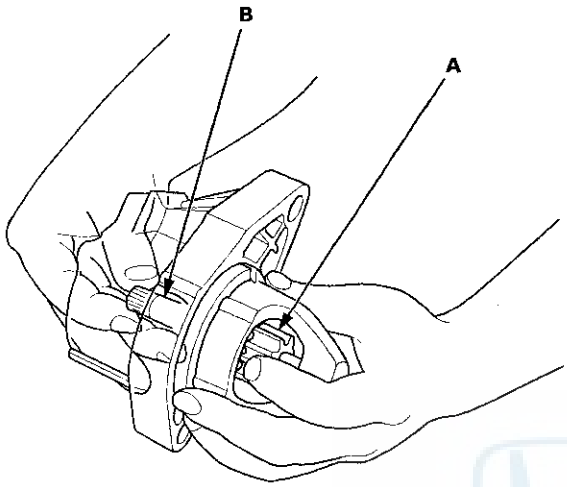
Planetary Gear Inspection

13. Check the planetary gears (A) and the internal ring gear (B). Replace them if they are worn or damaged.



Overrunning Clutch Inspection

14. While holding the drive gear (A), turn the gear shaft (B) counterclockwise. Check that the drive gear comes out to the other end. If the drive gear does not move smoothly, replace the gear cover assembly.



15. While holding the drive gear, turn the gear shaft clockwise. The gear shaft should turn freely. If the gear shaft does not turn freely, replace the gear cover assembly.

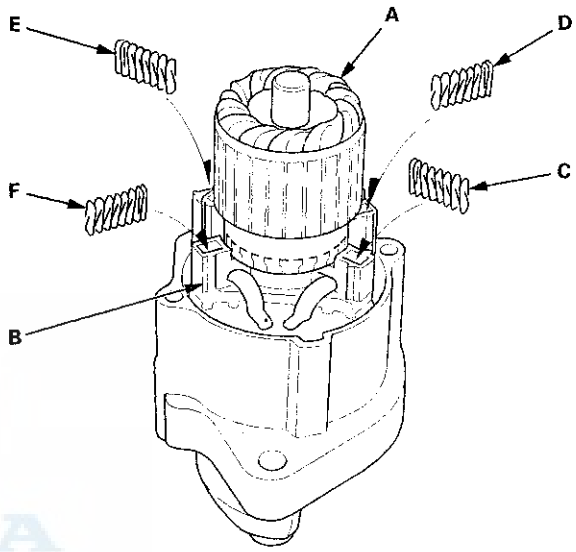
16. If the drive gear is worn or damaged, replace the overrunning clutch assembly; the gear is not available separately.

    Check the condition of the flywheel ring gear (M/T model) or the torque converter ring gear (A/T model) to see if the drive gear teeth are damaged.

Starter Reassembly

17. Install the brush into the brush holder, and set the armature (A) in the brush holder (B).

    NOTE: To seat the new brushes, slip a strip of #500 or #600 sandpaper, with the grit side up, between the commutator and each brush, and smoothly turn the armature. The contact surface of the brushes will be sanded to the same contour as the commutator.



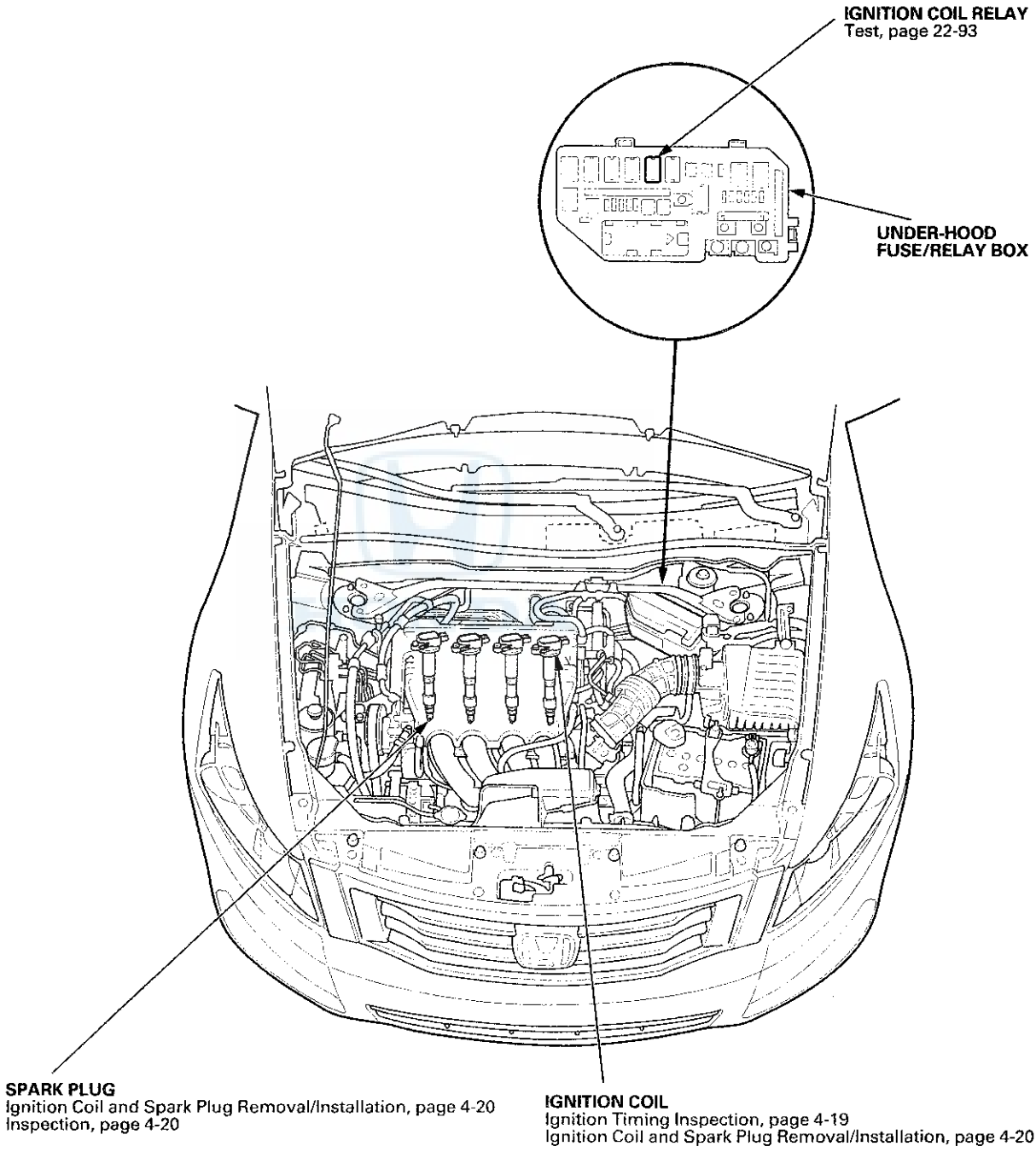
18. While squeezing a spring (C), insert it in the hole on the brush holder, and push it until it bottoms. Repeat this for the other three springs (D, E, and F).

19. Install the armature and the brush holder assembly into the housing.

    NOTE: Make sure the armature stays in the holder.

Ignition System

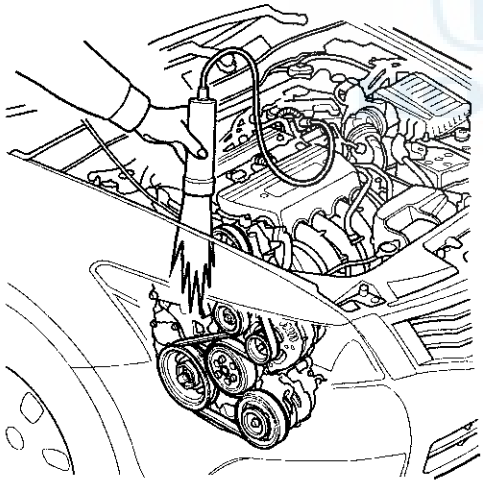
Component Location Index



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 engine control module (ECM)/powertrain control module (PCM). If it does not communicate, troubleshoot the DLC circuit (see page 11-181).
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 (A/T model) or neutral (M/T model)) until the radiator fan comes on, then let it idle.
6. Check the idle speed (see page 11-292).
7. Jump the SCS line with the HDS.

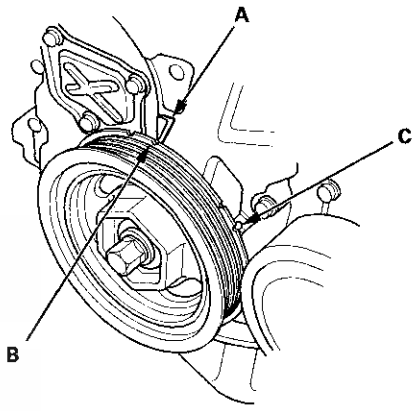
   NOTE: This step must be done to protect the ECM/PCM from damage.
8. Connect the timing light to the service loop (white tape).



9. Aim the light toward the pointer (A) on the cam chain case. 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.

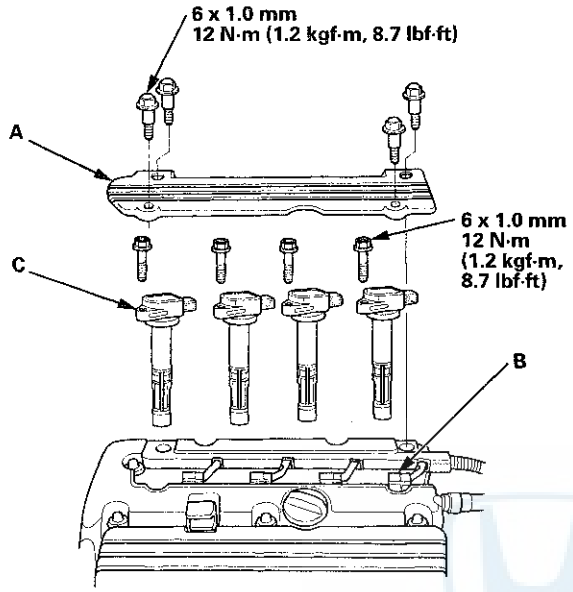
   Ignition Timing:
   M/T model: 8±2 °BTDC (RED mark (B)) at idle in neutral
   A/T model: 8±2 °BTDC (RED mark (B)) at idle in N or P



10. If the ignition timing differs from the specification, check the cam timing. If the cam timing is OK, update the ECM/PCM if it does not have the latest software (see page 11-203), or substitute a known-good ECM/PCM (see page 11-7), then recheck. If the system works properly, and the ECM/PCM was substituted, replace the original ECM/PCM (see page 11-204).
11. Disconnect the HDS and the timing light.

Ignition Coil and Spark Plug Removal/Installation

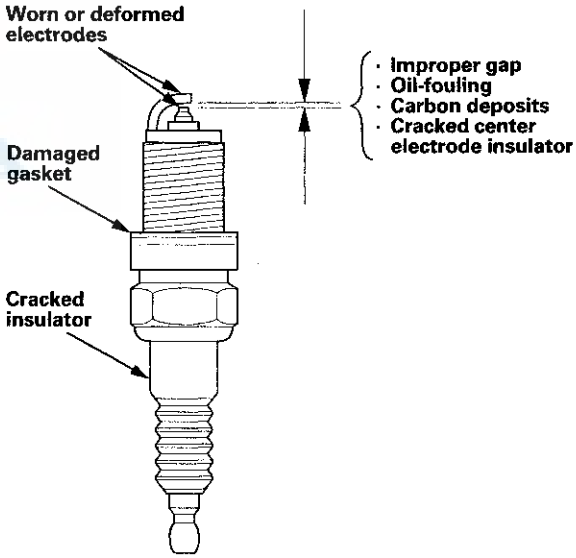
1. Remove the ignition coil cover (A).



2. Disconnect the ignition coil connectors (B), then remove the ignition coils (C).
3. Remove the spark plug and inspect them (see page 4-20).
4. Apply a small amount of anti-seize compound to the plugs into the cylinder head, finger tight. Toque them to 18 N·m (1.8 kgf·m, 13 lbf·ft).
5. Install the ignition coils, then connect the ignition coil connectors.
6. Install the ignition coil cover.

Spark Plug Inspection

1. Remove the ignition coils (see page 4-20).
2. Remove the spark plugs, then 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



3. 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.

4. Replace the plug at the specified interval, or if the center electrode is rounded (A), or if the spark plug gap (B) is out of specification. Use only the spark plugs listed.

   NOTE: Do not adjust the gap of iridium tip plugs.

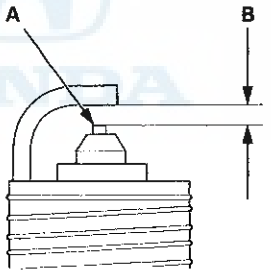
   All models except PZEV
   Spark Plugs
   NGK: ILZKR7B-11S
   DENSO: SXU22HCR11S

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

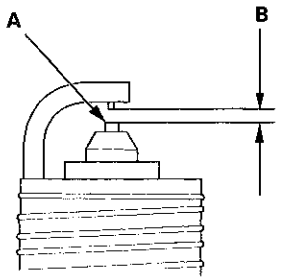
   PZEV model
   Spark Plugs
   NGK: DILZKR7A11GS

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

   All models except PZEV



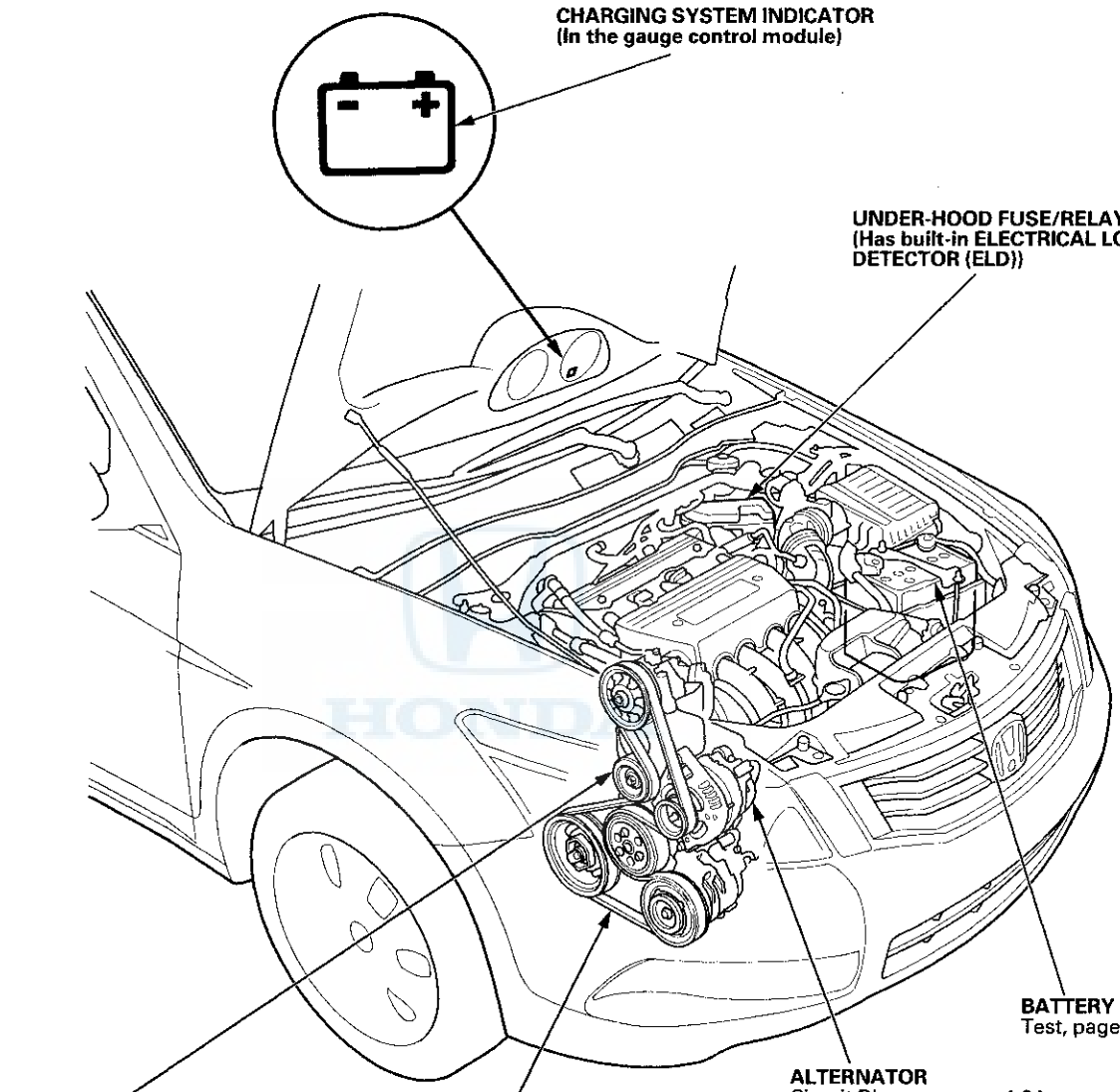
   PZEV model



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).

Charging System

Component Location Index



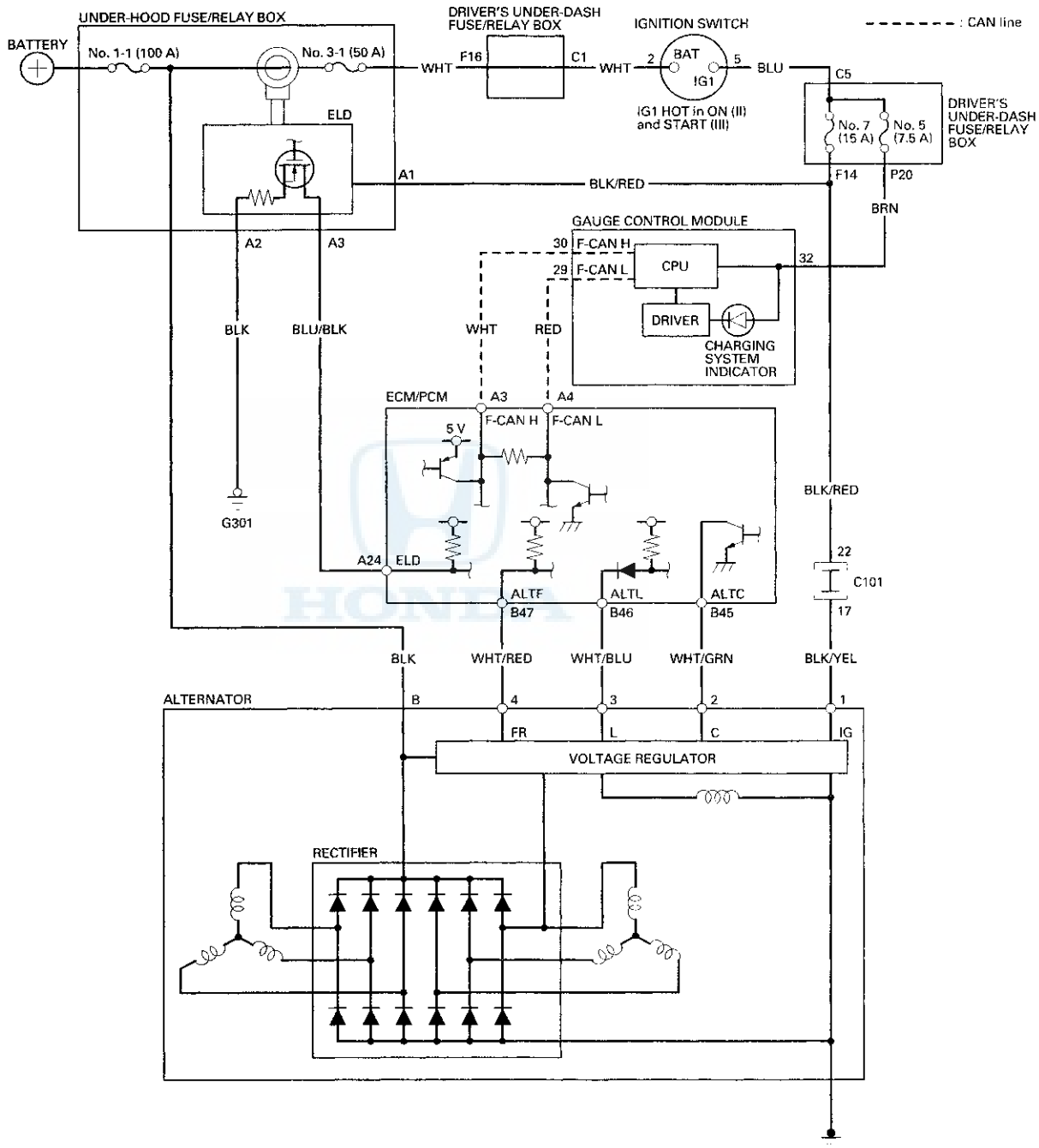
Symptom Troubleshooting Index

Symptom	Diagnostic procedure	Also check for
Charging system indicator does not come on with the ignition switch in ON (II)	Troubleshoot the charging system indicator circuit (see page 4-25).	
Charging system indicator stays on	1. Troubleshoot the charging system indicator circuit (see page 4-25). 2. Check the drive belt auto-tensioner (see page 4-30). 3. Check for a broken drive belt (see page 4-29). 4. Check for PGM-FI DTCs (see page 11-3).	
Battery discharged	1. Check for a poor connection at the battery terminal. 2. Check for a broken drive belt (see page 4-29). 3. Test the battery (see page 22-90). 4. Troubleshoot the alternator and regulator circuit (see page 4-27). 5. Check the drive belt auto-tensioner (see page 4-30). 6. Check for excessive parasitic electrical current draw with the ignition switch in LOCK (0), and the key removed. The multiplex control units may take up to 10 minutes to turn off (sleep mode) for some models.	
Battery overcharged	1. Test the battery (see page 22-90). 2. Troubleshoot the alternator and regulator circuit (see page 4-27).	

HONDA

Charging System

Circuit Diagram



Charging System Indicator Circuit Troubleshooting

NOTE: Check for stored DTCs in the PGM-FI before troubleshooting the charging system indicator.

1. Turn the ignition switch to ON (II).

   Does the charging system indicator come on?

   YES–Go to step 2.

   NO–Go to step 14.

2. Start the engine. Hold the engine speed at 2,000 rpm for 1 minute.

   Does the charging system indicator go off?

   YES–Charging system indicator circuit is OK. Go to the alternator and regulator circuit troubleshooting (see page 4-27).■

   NO–Go to step 3.

3. Do the gauge control module self-diagnostic function procedure (see page 22-332).

   Does the charging system indicator flash?

   YES–Go to step 4.

   NO–Replace the gauge control module (see page 22-351).■

4. Turn the ignition switch to LOCK (0).

5. Disconnect the alternator 4P connector.

6. Turn the ignition switch to ON (II).

   NOTE: The charging system indicator may come on and then go off.

   Does the charging system indicator go off?

   YES–Replace the alternator (see page 4-32), or repair the alternator (see page 4-34).■

   NO–Go to step 7.

7. Turn the ignition switch to LOCK (0).

8. Connect the Honda Diagnostic System (HDS) to the data link connector (DLC) (see step 2 on page 11-3).

9. Turn the ignition switch to ON (II).

10. Make sure the HDS communicates with the vehicle and the engine control module (ECM)/powertrain control module (PCM). If it does not communicate, troubleshoot the DLC circuit (see page 11-181).

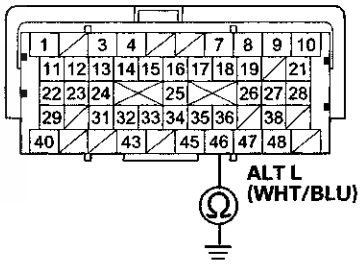
11. Jump the SCS line with the HDS, then turn the ignition switch to LOCK (0).

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

12. Disconnect ECM/PCM connector B (49P).

13. Check for continuity between ECM/PCM connector terminal B46 and body ground.

ECM/PCM CONNECTOR B (49P)



Terminal side of female terminals

Is there continuity?

YES–Repair short to ground in the wire between alternator 4P connector terminal No. 3 and ECM/PCM connector terminal B46.■

NO–Update the ECM/PCM if it does not have the latest software (see page 11-203), or substitute a known-good ECM/PCM (see page 11-7), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see page 11-204).■

(cont'd)

Charging System Indicator Circuit Troubleshooting (cont'd)

14. Do the gauge control module self-diagnostic function procedure (see page 22-332).

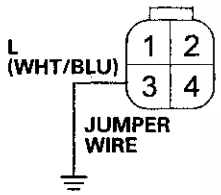
    Does the charging system indicator flash?

    YES–Go to step 15.

    NO–Replace the gauge control module (see page 22-351).■

15. Turn the ignition switch to LOCK (0).
16. Disconnect the alternator 4P connector.
17. Connect alternator 4P connector terminal No. 3 to body ground with a jumper wire.

ALTERNATOR 4P CONNECTOR



Wire side of female terminals

18. Turn the ignition switch to ON (II).

    Does the charging system indicator come on?

    YES–Replace the alternator (see page 4-32), or repair the alternator (see page 4-34).■

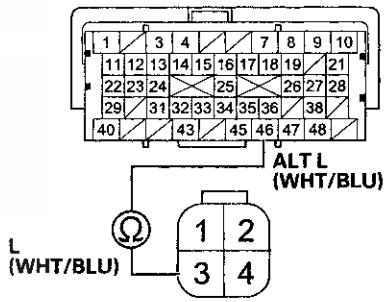
    NO–Disconnect the jumper wire, then go to step 19.

19. Turn the ignition switch to LOCK (0).
20. Connect the HDS to the DLC (see step 2 on page 11-3).
21. Turn the ignition switch to ON (II).
22. Make sure the HDS communicates with the vehicle and the ECM/PCM. If it does not communicate, troubleshoot the DLC circuit (see page 11-181).
23. Jump the SCS line with the HDS, then turn the ignition switch to LOCK (0).

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

24. Disconnect ECM/PCM connector B (49P).
25. Check for continuity between ECM/PCM connector terminal B46 and alternator 4P connector terminal No. 3.

ECM/PCM CONNECTOR B (49P)
Terminal side of female terminals



ALTERNATOR 4P CONNECTOR
Wire side of female terminals

Is there continuity?

YES–Update the ECM/PCM if it does not have the latest software (see page 11-203), or substitute a known-good ECM/PCM (see page 11-7), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see page 11-204).■

NO–Repair open in the wire between alternator 4P connector terminal No. 3 and ECM/PCM connector terminal B46.■

Alternator and Regulator Circuit Troubleshooting

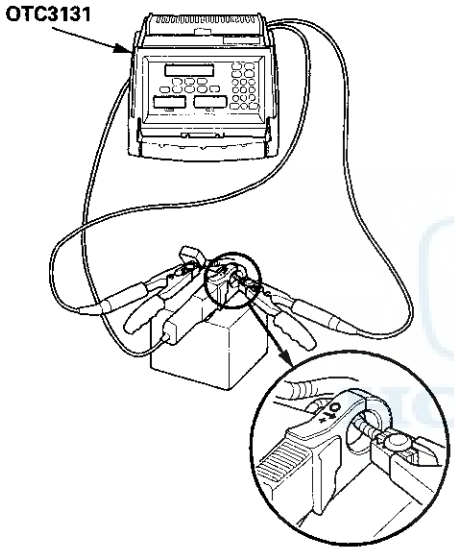
Special Tools Required

Alternator, Regulator, Battery, and Starter Tester OTC3131*

*Available through the Honda Tool and Equipment Program 888-424-6857

1. Make sure the battery connections are good and the battery is sufficiently charged.
2. Connect the alternator, regulator, battery & starter tester (OTC3131) to the battery as shown.

   NOTE: The probe is used for alternator testing.



3. Start the engine. Hold the engine speed at 3,000 rpm with no load (in N or P (A/T model) or neutral (M/T model)) until the radiator fan comes on, then let it idle.
4. Do the CHARGING SYSTEM TEST.

   Does the display indicate voltage within 13.5—15.1 V and amperage of 87.5 A or more?

   YES–Go to step 5.

   NO–If the voltage is less than 13.5 V, go to alternator control circuit troubleshooting (see page 4-28). If the voltage is over 15.1 V and amperage is less than 87.5 A, replace the alternator (see page 4-32) or repair the alternator (see page 4-34).

5. Check the diode condition on the display.

   Does the display indicate GOOD?

   YES–The diode is OK. Troubleshooting is complete.■

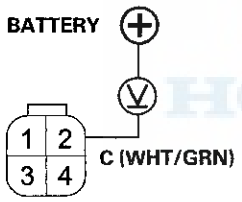
   NO–If the display indicates BAD, replace the alternator (see page 4-32) or repair the alternator (see page 4-34), then retest.■

   NOTE: If the display indicates N/A, the diode pattern could not be diagnosed. Repeat the test. If N/A appears repeatedly, replace the alternator.

Alternator Control Circuit Troubleshooting

NOTE: Do this troubleshooting if, in step 5 of the alternator and regulator circuit troubleshooting (see page 4-27), the battery voltage is less than 13.5 V.

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 engine control module (ECM)/powertrain control module (PCM). If it does not communicate, troubleshoot the DLC circuit (see page 11-181).
4. Check for DTCs (see page 11-3). If a DTC is present, diagnose and repair the cause before continuing with this test.
5. Disconnect the alternator 4P connector.
6. Start the engine, and turn on the headlights to high beam.
7. Measure the voltage between alternator 4P connector terminal No. 2 and the positive terminal of the battery.



ALTERNATOR 4P CONNECTOR

Wire side of female terminals

Is there less than 1 V?

YES–Go to step 11.

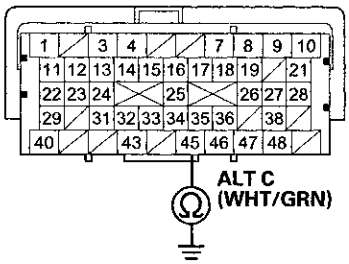
NO–Go to step 8.

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 ECM/PCM from damage.

9. Disconnect ECM/PCM connector B (49P).
10. Check for continuity between ECM/PCM connector terminal B45 and body ground.

ECM/PCM CONNECTOR B (49P)



Terminal side of female terminals

Is there continuity?

YES–Repair short to ground in the wire between alternator 4P connector terminal No. 2 and ECM/PCM connector terminal B45.■

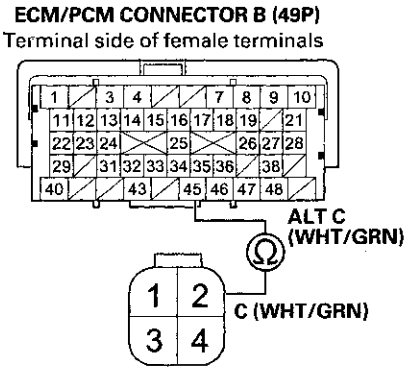
NO–Update the ECM/PCM if it does not have the latest software (see page 11-203), or substitute a known-good ECM/PCM (see page 11-7), then recheck. If the symptom/indication goes away with a known-good ECM/PCM, replace the original ECM/PCM (see page 11-204).■

11. Jump the SCS line with the HDS, then turn the ignition switch to LOCK (0).

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

12. Disconnect ECM/PCM connector B (49P).

13. Check for loose terminal and connectors, then check for continuity between ECM/PCM connector terminal B45 and alternator 4P connector terminal No. 2.



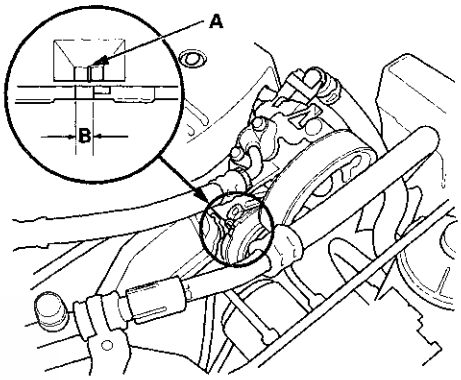
Is there continuity?

YES–Replace the alternator (see page 4-32), or repair the alternator (see page 4-34).■

NO–Repair open in the wire between alternator 4P connector terminal No. 2 and ECM/PCM connector terminal B45.■

Drive Belt Inspection

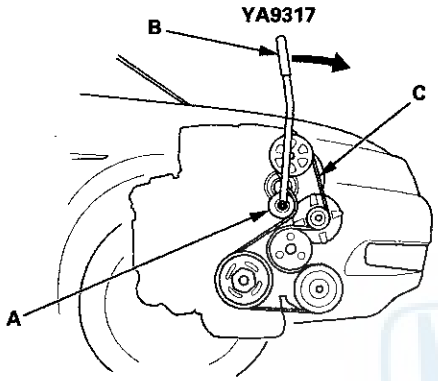
1. Inspect the belt for cracks or damage. If the belt is cracked or damaged, replace it (see page 4-30).
2. Check the position of the auto-tensioner indicator's pointer (A) is within the standard range (B) as shown. If it is out of the standard range, replace the drive belt (see page 4-30).



Drive Belt Removal/Installation

Special Tools Required
Belt Tension Release Tool Snap-on YA9317 or equivalent, commercially available

1. Move the auto-tensioner (A) with the belt tension release tool (B) in the direction of the rotation arrow to relieve tension from the drive belt (C), then remove the drive belt.

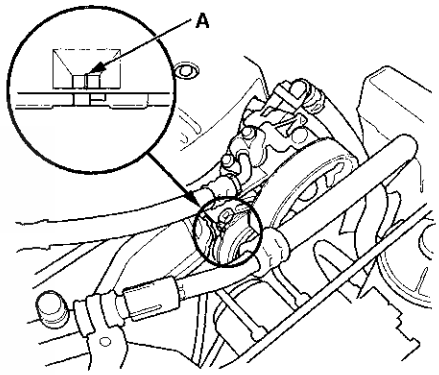


2. Install the new drive belt in the reverse order of removal.

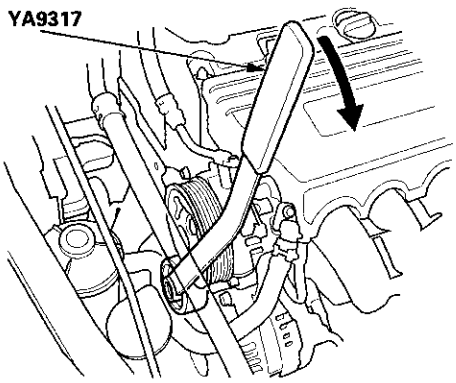
Drive Belt Auto-tensioner Inspection

Special Tools Required
Belt Tension Release Tool Snap-on YA9317 or equivalent, commercially available

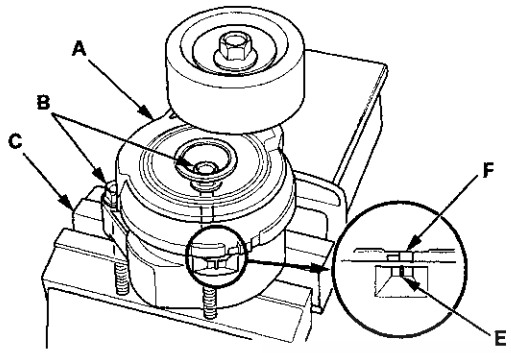
1. Turn the ignition switch to ON (II), and make sure to turn the A/C switch OFF. Turn the ignition switch to LOCK (0).
2. Check the position of the auto-tensioner indicator's pointer (A). Start the engine, then check the position again with the engine idling. If the position of the indicator moves or fluctuates very much, replace the auto-tensioner (see page 4-31).

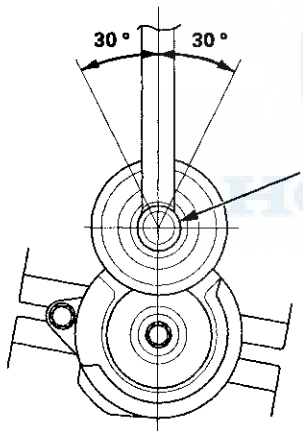


3. Check for abnormal noise from the tensioner pulley. If you hear abnormal noise, replace the auto-tensioner pulley (see page 4-32).
4. Remove the drive belt (see page 4-30).
5. Move the auto-tensioner within its limit with the belt tension release tool in the direction of the rotation arrow. Check that the auto-tensioner moves smoothly and without any abnormal noise. If the auto-tensioner does not move smoothly, or if you hear abnormal noise, replace the auto-tensioner (see page 4-31).



6. Remove the auto-tensioner (see page 4-31).
7. Clamp the auto-tensioner (A) by using two 8 mm bolts (B) and a vise (C) as shown. Do not clamp the auto-tensioner itself.





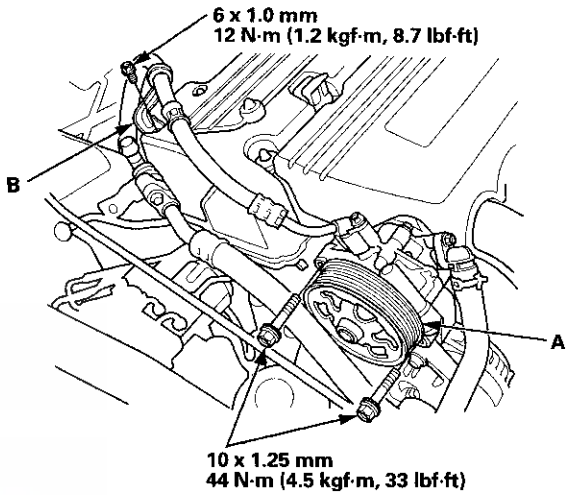
8. Attach the torque wrench (D) on the pulley bolt, and align it as shown.
9. Align the auto-tensioner indicator's pointer (E) on the auto-tensioner base with Max. belt position mark (F) on the auto-tensioner arm by using the torque wrench, and measure the torque. If the torque value is out of specification, replace the auto-tensioner (see page 4-31).

   NOTE: If the auto-tensioner indicator's pointer exceeds the Max. belt position mark, recheck the torque.

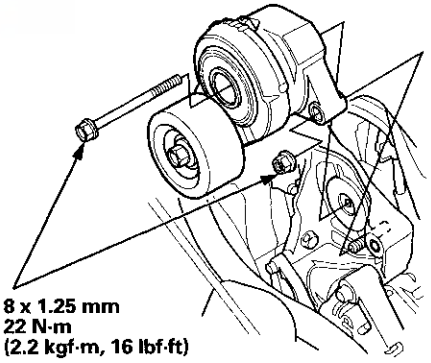
   Auto-tensioner Spring Torque:
   33.1—40.5 N·m (3.38—4.13 kgf·m, 24.4—29.9 lbf·ft)

Drive Belt Auto-tensioner Removal/Installation

1. Remove the drive belt (see page 4-30).
2. Remove the power steering (P/S) fluid reservoir from the holder.
3. Remove the P/S pump (A) without disconnecting the P/S hoses, then remove the P/S hose bracket (B).



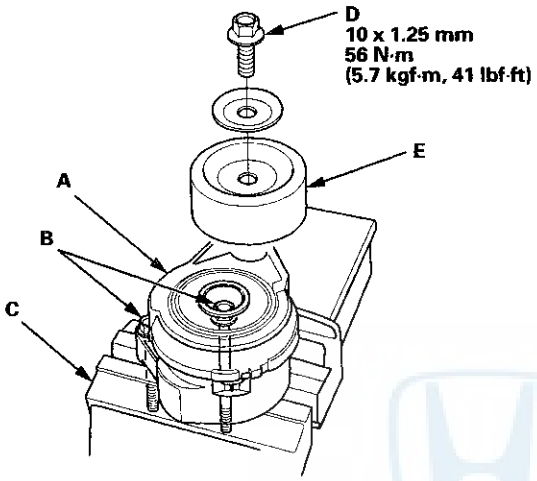
4. Remove the auto-tensioner.



5. Install the auto-tensioner in the reverse order of removal.

Tensioner Pulley Replacement

1. Remove the auto-tensioner (see page 4-31).
2. Clamp the auto-tensioner (A) by using two 8 mm bolts (B) and a vise (C) as shown. Do not clamp the auto-tensioner itself, then remove the tensioner pulley bolt (D), then remove the tensioner pulley (E).

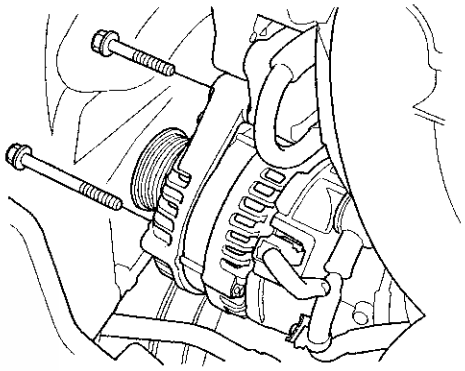


3. Install the tensioner pulley in the reverse order of removal.

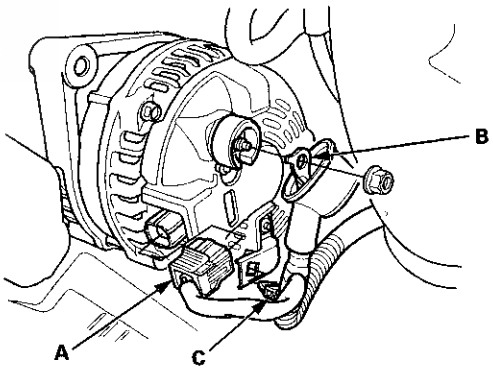
Alternator Removal and Installation

Removal

1. Do the battery terminal disconnection procedure (see page 22-91).
2. Remove the drive belt (see page 4-30).
3. Remove the two bolts securing the alternator.

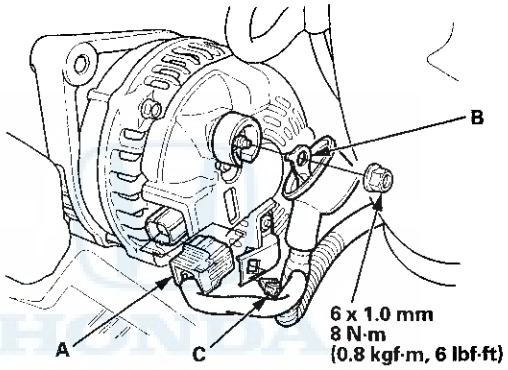


4. Disconnect the alternator connector (A) and the positive alternator cable (B), and remove the harness clamp (C), then remove the alternator.

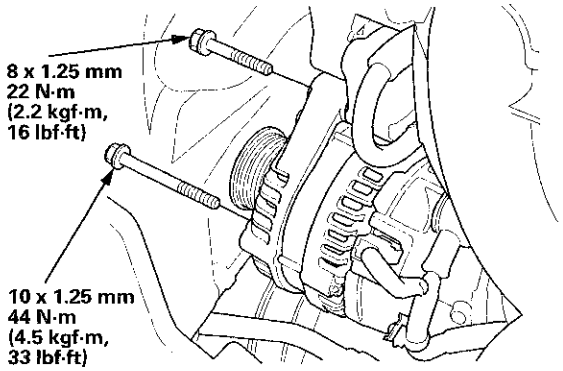


Installation

1. Install the alternator, then connect the alternator connector (A) and the positive alternator cable (B), and install the harness clamp (C). Make sure the crimped side of the ring terminal faces away from the alternator when you connect it.



2. Tighten the two bolts securing the alternator.

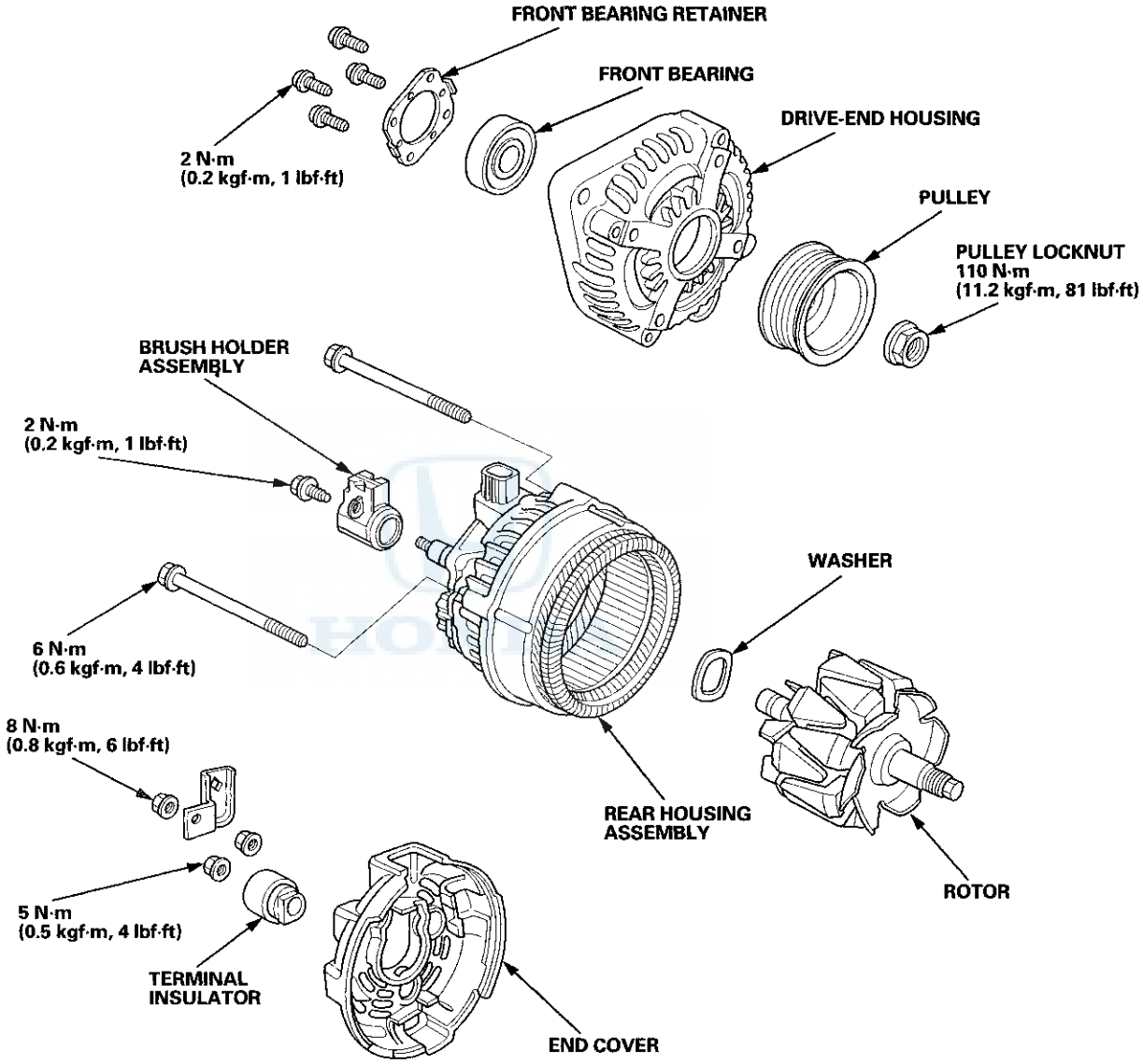


3. Install the drive belt (see page 4-30).

4. Do the battery terminal reconnection procedure (see page 22-91).

Alternator Overhaul

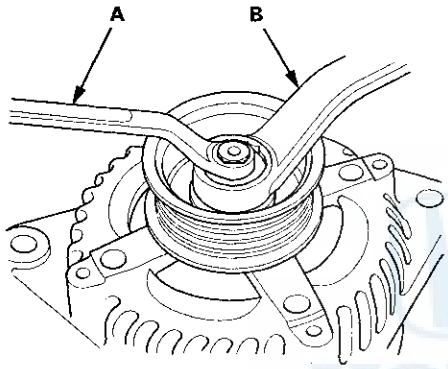
Exploded View



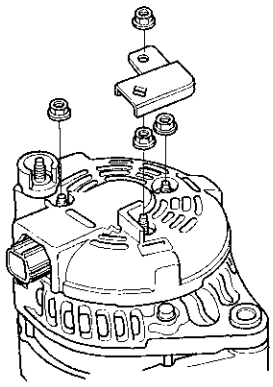
Special Tools Required
- Driver Handle, 15 x 135L 07749-0010000
- Bearing Driver Attachment, 42 x 47 mm 07746-0010300

NOTE: Refer to the Exploded View as needed during this procedure.

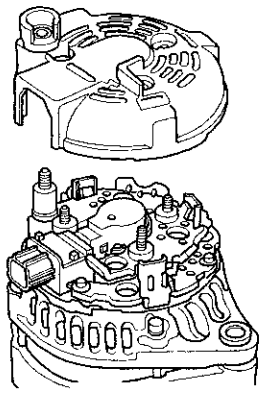
1. Test the alternator and regulator before you remove them (see page 4-27).
2. Remove the alternator (see page 4-32).
3. If the front bearing needs replacing, remove the pulley locknut with a 10 mm wrench (A) and a 22 mm wrench (B). If necessary, use an impact wrench.



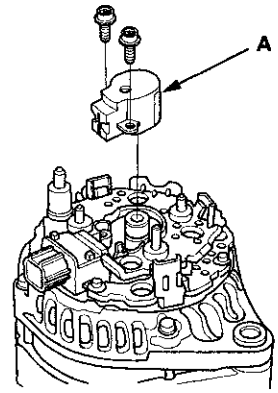
4. Remove the harness stay and the three flange nuts from the alternator.



5. Remove the end cover.



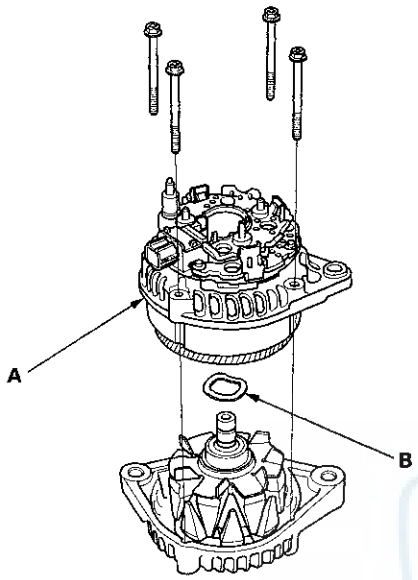
6. Remove the brush holder assembly (A).



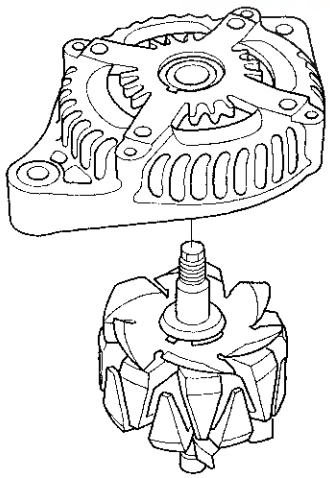
(cont'd)

Alternator Overhaul (cont'd)

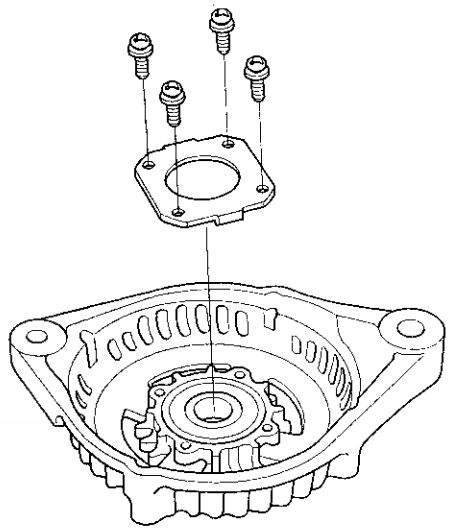
7. Remove the four through bolts, then remove the rear housing assembly (A) and the washer (B).



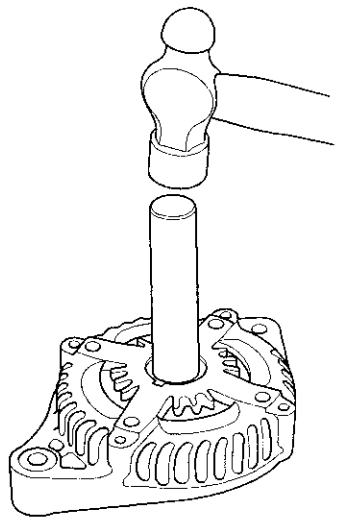
8. If you are not replacing the front bearing, go to step 13. Remove the rotor from the drive-end housing.



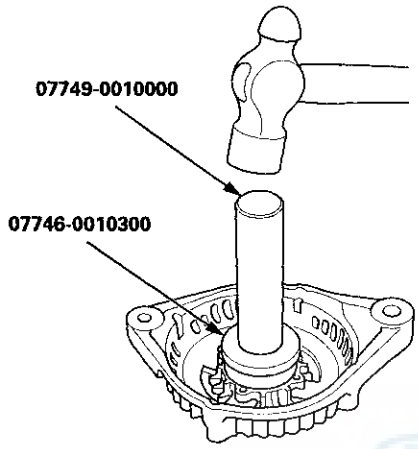
9. Inspect the rotor shaft for scoring, and inspect the bearing journal surface in the drive-end housing for seizure marks.
   - If the rotor is damaged, replace the rotor assembly.
   - If the rotor is OK, go to step 10.
10. Remove the front bearing retainer.



11. Drive out the front bearing with a brass drift and a hammer.



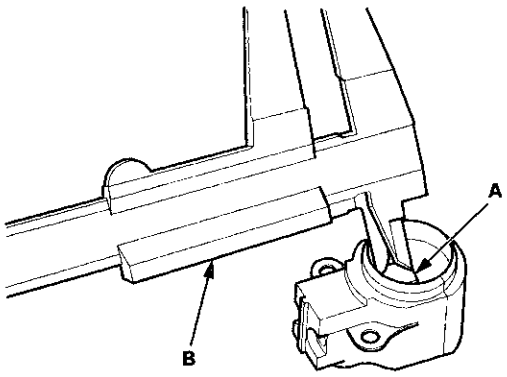
12. Install a new front bearing in the driver-end housing with a hammer, the driver handle, 15 x 135L, and the bearing driver attachment, 42 x 47 mm.



Alternator Brush Inspection

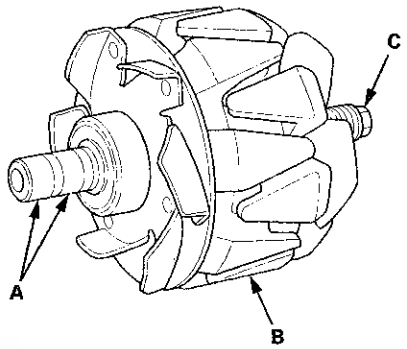
13. Measure the length of both brushes (A) with a venier caliper (B).
    - If either brush is shorter than the service limit, replace the brush holder assembly.
    - If the brush length is OK, go to step 14.

Alternator Brush Length
Standard (New): 10.5 mm (0.41 in)
Service Limit: 1.5 mm (0.06 in)



Rotor Slip Ring Test

14. Check for continuity between the slip rings (A).
    - If there is continuity, go to step 15.
    - If there is no continuity, replace the rotor assembly.



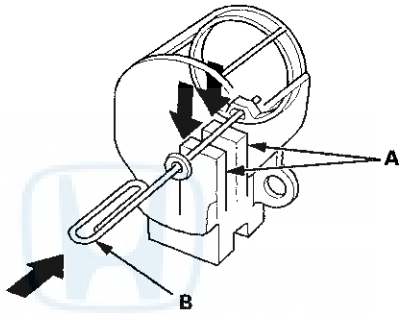
15. Check for continuity between each slip ring and the rotor (B) and the rotor shaft (C).
    - If there is no continuity, replace the rear housing assembly, then go to step 16.
    - If there is continuity, replace the rotor assembly.

(cont'd)

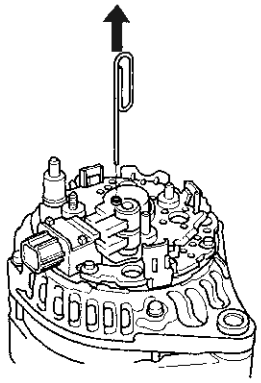
Alternator Overhaul (cont'd)

Alternator Reassembly

16. If you removed the pulley, put the rotor in the drive-end housing, then torque its locknut to 110 N·m (11.2 kgf·m, 81.0 lbf·ft).
17. Remove any grease or oil from the slip rings.
18. Put the rear housing assembly and the drive-end housing/rotor assembly together, and tighten the four through bolts.
19. Push the brushes (A) in, then insert a pin or drill bit (B) (about 1.6 mm (0.06 in) diameter) to hold them there.

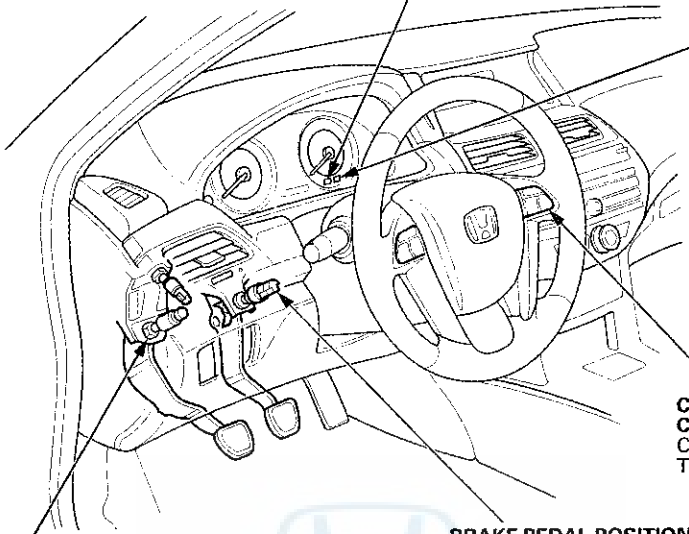


20. Install the brush holder assembly, and pull out the pin or drill bit.



21. Install the end cover.
22. After assembling the alternator, turn the pulley by hand to make sure the rotor turns smoothly and without noise.
23. Install the alternator (see page 4-33) and the drive belt (see page 4-30).

Component Location Index



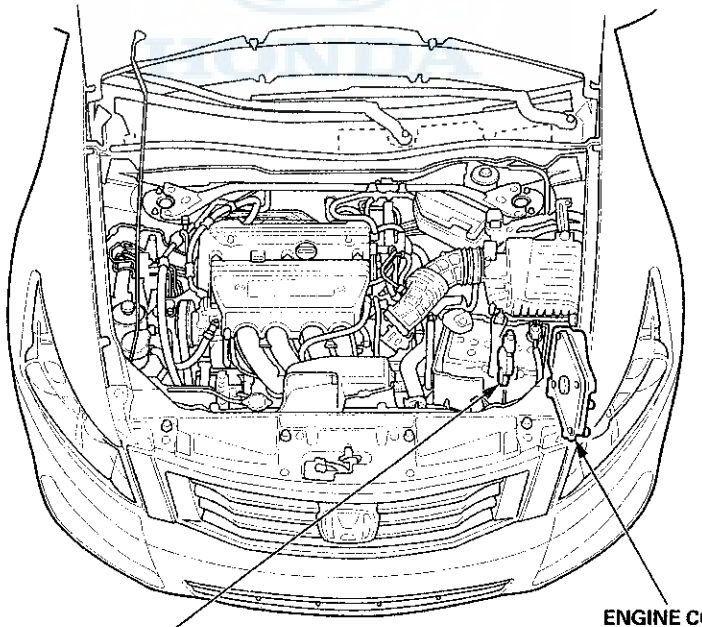
CRUISE MAIN INDICATOR
(In the gauge control module)

CRUISE CONTROL INDICATOR
(In the gauge control module)

CRUISE CONTROL COMBINATION SWITCH
Circuit Diagram, page 4-42
Test/Replacement, page 4-45

CLUTCH PEDAL POSITION SWITCH (M/T model)
Test, page 4-45
Replacement, page 4-46
Clutch Pedal Adjustment, page 12-7

BRAKE PEDAL POSITION SWITCH
Test, page 22-241
Pedal Height Adjustment, page 19-6



TRANSMISSION RANGE SWITCH (A/T model)
Test, page 14-238
Replacement, page 14-240

ENGINE CONTROL MODULE (ECM)/ POWERTRAIN CONTROL MODULE (PCM)
Cruise Control Input Test, page 4-43

Cruise Control

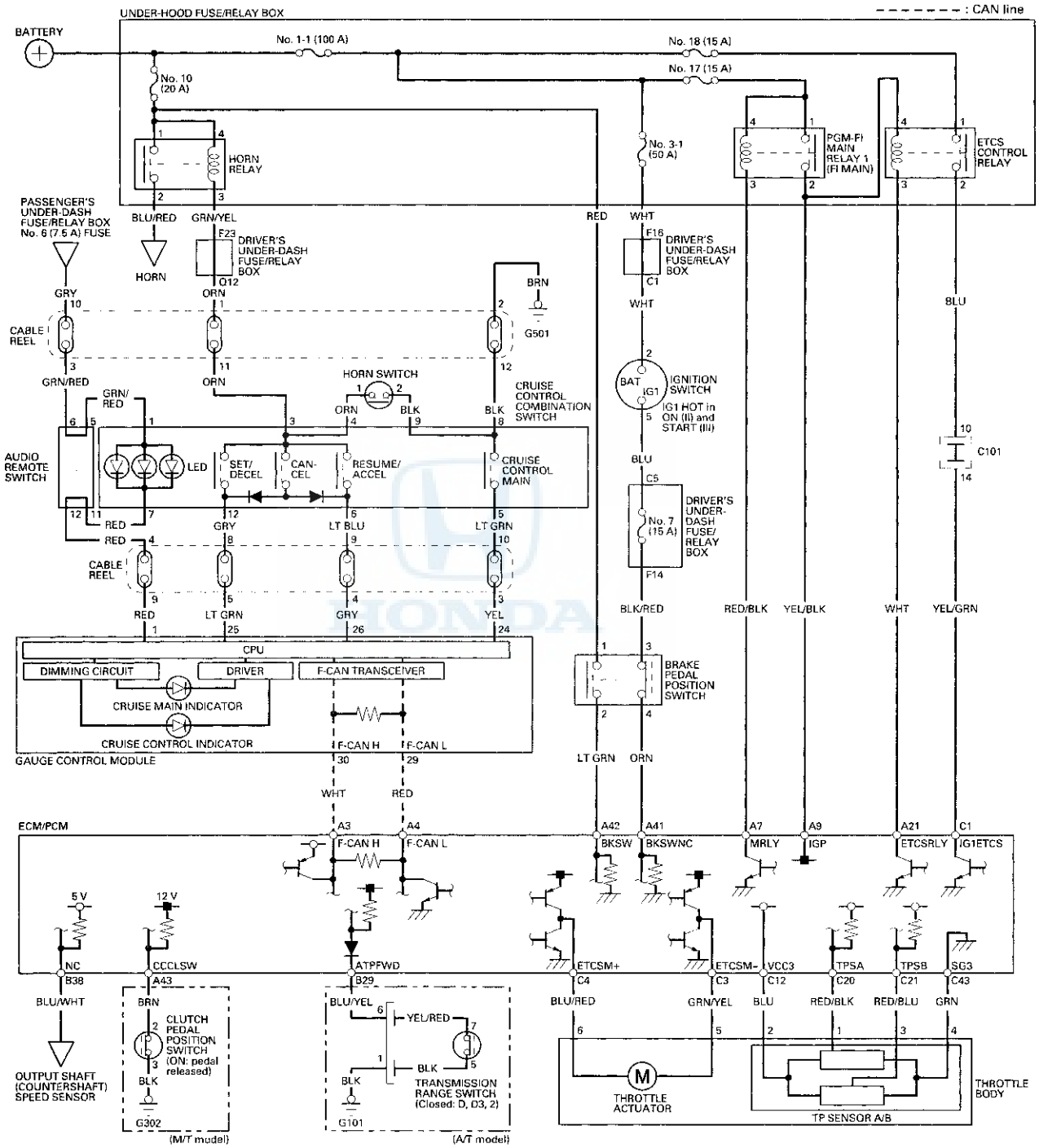
Symptom Troubleshooting Index

Symptom	Diagnostic procedure	Also check for
Cruise control cannot be set	1. Check the No. 10 (20 A) fuse in the under-hood fuse/relay box, and the No. 7 (15 A) fuse in the driver's under-dash fuse/relay box. 2. Check for PGM-FI DTCs (see page 11-3). 3. Do the cruise control combination switch test (see page 4-45). 4. Do the cruise control input test (see page 4-43).	Poor ground G101 (A/T model) or G302 (M/T model)
Cruise control can be set, but the cruise main indicator does not come on	1. Do the gauge control module self-diagnostic function procedure (see page 22-332). 2. Check for PGM-FI DTCs (see page 11-3). 3. Do the cruise control input test (see page 4-43). Test the cruise control main switch signal input.	Faulty gauge control module
Cruise control can be set, but the cruise control indicator does not come on	1. Do the gauge control module self-diagnostic function (see page 22-332). 2. Check for PGM-FI DTCs (see page 11-3). 3. Do the cruise control input test (see page 4-43). Test the cruise control indicator signal input.	Faulty gauge control module
Vehicle does not accelerate accordingly when the resume/accel button is pressed	1. Check for PGM-FI DTCs (see page 11-3). 2. Do the cruise control combination switch test (see page 4-45). 3. Do the cruise control input test (see page 4-43). Test the resume/accel switch signal input.	Open circuit, loose or disconnected terminals: GRY or LT GRN wire, LT BLU or GRY wire
Set speed does not cancel when the brake pedal is pressed	1. Check for PGM-FI DTCs (see page 11-3). 2. Do the brake pedal position switch test (see page 19-6). 3. Do the cruise control input test (see page 4-43). Test the brake pedal position switch signal input.	• Short to power on the ORN wire • Faulty brake pedal position switch
Set speed does not cancel (engine rpm stays high) when the clutch pedal is pressed (M/T model)	1. Check for PGM-FI DTCs (see page 11-3). 2. Do the clutch pedal position switch test (see page 4-45). 3. Do the cruise control input test (see page 4-43). Test the clutch pedal position switch signal input.	• Short to ground in the BRN wire • Faulty clutch pedal position switch
Set speed does not cancel when the cruise control main button is pressed	1. Check for PGM-FI DTCs (see page 11-3). 2. Do the cruise control combination switch test (see page 4-45). 3. Do the cruise control input test (see page 4-43). Test the cruise control main switch signal input.	Short to power on the LT GRN or YEL wire
Set speed does not cancel when the cancel button is pressed	1. Check for PGM-FI DTCs (see page 11-3). 2. Do the cruise control combination switch test (see page 4-45). 3. Do the cruise control input test (see page 4-43). Test the cancel switch signal input.	Open circuit, loose or disconnected terminals: GRY or LT GRN wire, LT BLU or GRY wire
Set speed does not resume when the resume/accel button is pressed (with the cruise control main switch turned on, and set speed temporarily canceled by pressing the brake pedal)	1. Check for PGM-FI DTCs (see page 11-3). 2. Check the brake pedal position switch adjustment (see page 19-6). 3. Do the cruise control combination switch test (see page 4-45). 4. Do the cruise control input test (see page 4-43). Test the cruise control resume/accel switch signal input. Test the brake pedal position switch signal input.	• Faulty brake pedal position switch • Open circuit, loose or disconnected terminals: LT BLU or GRY wire

Symptom	Diagnostic procedure	Also check for
Set speed does not resume when the resume/accel button is pressed (with the cruise control main switch turned on, and set speed temporarily canceled by pressing the clutch pedal) (M/T model)	1. Check for PGM-FI DTCs (see page 11-3). 2. Check the clutch pedal position switch adjustment (see page 12-7). 3. Do the cruise control combination switch test (see page 4-45). 4. Do the cruise control input test (see page 4-43). Test the resume/accel switch signal input. Test the clutch pedal position switch signal input.	• Open circuit, loose or disconnected terminals: LT BLU or GRY wire • Faulty clutch pedal position switch
With the ignition switch in ON (II), and the lighting switch turned on, the cruise control combination switch illumination does not come on	Check the cruise control combination switch test (see page 4-45).	

HONDA

Circuit Diagram



Cruise Control Input Test

NOTE: Always make sure that you have the latest Honda Diagnostic System (HDS) software.

1. Connect the 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 engine control module (ECM)/powertrain control module (PCM). If it does not communicate, troubleshoot the DLC circuit (see page 11-181).
4. Go to PGM-FI, and check for DTCs (see page 11-3).
5. Do the following tests while monitoring parameters in the PGM-FI DATA LIST with the HDS.

   NOTE: Intermittent failures are often caused by loose circuit connections. While monitoring cruise control inputs, flex the circuit wires, and note if any of the test results change.

Signal to be tested	Test condition	Parameter: Desired result	Possible cause if result is not obtained
Brake pedal position switch signal	Brake pedal pressed, then released	CRUISE BRAKE SW should indicate OFF when the brake pedal is pressed and ON when the brake pedal is released.	• Faulty brake pedal position switch • Blown No. 7 (15 A) fuse in the driver's under-dash fuse/relay box • An open in the wire between the ECM/PCM and the brake pedal position switch • A wire shorted to ground or power between the ECM/PCM and the brake pedal position switch
Clutch pedal position switch signal (M/T model)	Clutch pedal pressed, then released	SHIFT/CLUTCH SW should indicate ON when the clutch pedal is pressed and OFF when the clutch pedal is released.	• Faulty clutch pedal position switch • An open in the wire between the ECM and the clutch pedal position switch • A wire shorted to ground between the ECM and the clutch pedal position switch • Poor ground G302
Transmission range switch signal (A/T model)	Shift lever in D and D3	SHIFT/CLUTCH SW should indicate ON in P, R, N, 2, and 1 and OFF in D and D3.	• Faulty transmission range switch • An open in the wire between the PCM and the transmission range switch • A wire shorted to ground between the PCM and the transmission range switch • Poor ground G101
Cruise control main switch signal	Cruise control main button pressed and released	CRUISE MASTER (MAIN) SW should indicate ON when the cruise control main button is pressed and OFF when the cruise control main button is released.	• Faulty cruise control main switch • An open in the wire between the gauge control module and the cruise control main switch • A wire shorted to ground between the gauge control module and the cruise control main switch • An open in the wire between the cruise control combination switch and the ground G501
Set switch signal	Set/decel button pressed and released	CRUISE SET SW should indicate ON when the set/decel button is pressed and OFF when the set/decel button is released.	• Faulty cruise control combination switch • An open in the wire between the gauge control module and the cruise control combination switch • A wire shorted to ground between the gauge control module and the cruise control combination switch
Resume switch signal	Resume/accel button pressed and released	CRUISE RESUME SW should indicate ON when the resume/accel button is pressed and OFF when the resume/accel button is released.	• Faulty cruise control combination switch • An open in the wire between the gauge control module and the cruise control combination switch • A wire shorted to ground between the gauge control module and the cruise control combination switch

(cont'd)

Cruise Control Input Test (cont'd)

Signal to be tested	Test condition	Parameter: Desired result	Possible cause if result is not obtained
Cancel switch signal	Cancel button pressed and released	CRUISE CANCEL SW should indicate ON when the cancel button is pressed and OFF when the cancel button is released.	• Faulty cruise control combination switch • An open in the wire between the gauge control module and the cruise control combination switch • A wire shorted to ground between the gauge control module and the cruise control combination switch
Cruise control indicator signal	Start the engine, press the cruise control main button on, and drive the vehicle to speeds over 25 mph (40 km/h). Set and cancel the cruise control.	CRUISE INDICATOR should indicate ON when the cruise control is set and OFF when the cruise control is canceled.	• Faulty gauge control module • Faulty cruise control combination switch • An open in the wire between the gauge control module and the cruise control combination switch • A wire shorted to ground between the gauge control module and the cruise control combination switch

HONDA

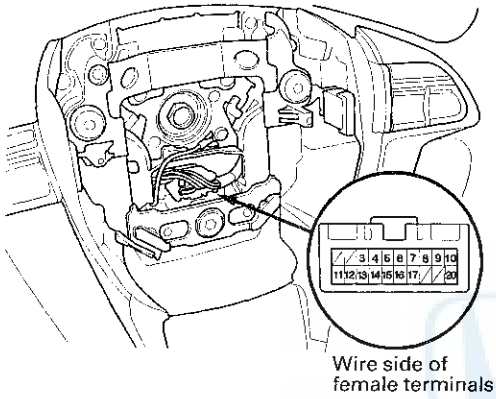
Cruise Control Combination Switch Test/Replacement

SRS components are located in this area. Review the SRS component locations:

- 2-door (see page 24-23)
- 4-door (see page 24-21)

Precautions and procedures (see page 24-25), in the SRS before doing repairs or service.

1. Remove the driver's airbag (see page 24-211).
2. Disconnect the cable reel subharness 20P connector.



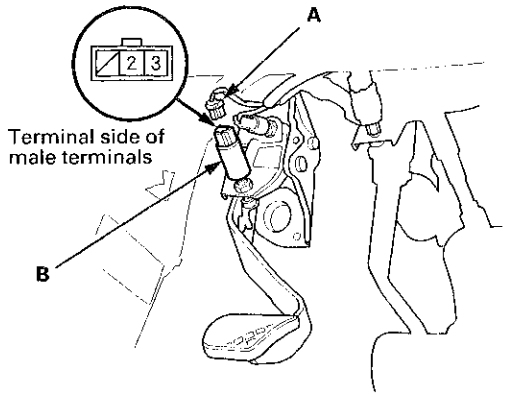
3. Check for continuity between the terminals in each cruise control combination switch position according to the table.
   - If there is continuity, and it matches the table, but the cruise control combination switch failure occurred on the cruise control input test, check and repair the wire harness on the switch circuit.
   - If there is no continuity in one or both positions, replace the cruise control combination switch (see page 17-7).

Terminal / Position	3		4	8	9	10		11	12
Cruise control main (ON)						○			○
Cruise control main (OFF)									
Set/decel (PRESSED)				○				○	
Resume/accel (PRESSED)					○			○	
CANCEL (PRESSED)				○		⊣		○	
					○	⊣			
Combination light switch (SMALL)	○	⊣	○						

Clutch Pedal Position Switch Test

M/T model

1. Disconnect the clutch pedal position switch 3P connector (A).



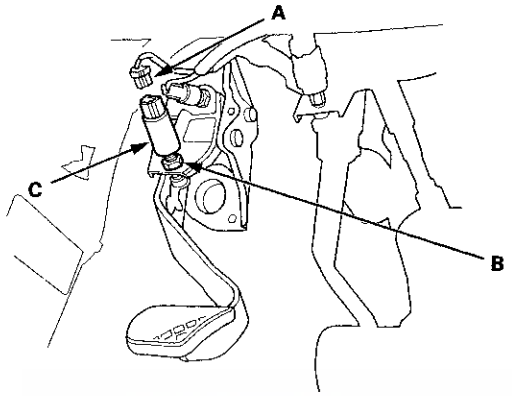
2. Remove the clutch pedal position switch (B).
3. Check for continuity between the terminals according to the table.
   - If the continuity is not as specified, replace the clutch pedal position switch (see page 4-46).
   - If OK, install the clutch pedal position switch and adjust the pedal height (see page 12-7).

Terminal / Position	1	2	3
Clutch Pedal Position Switch (PRESSED)		○	○
Clutch Pedal Position Switch (RELEASED)			

Clutch Pedal Position Switch Replacement

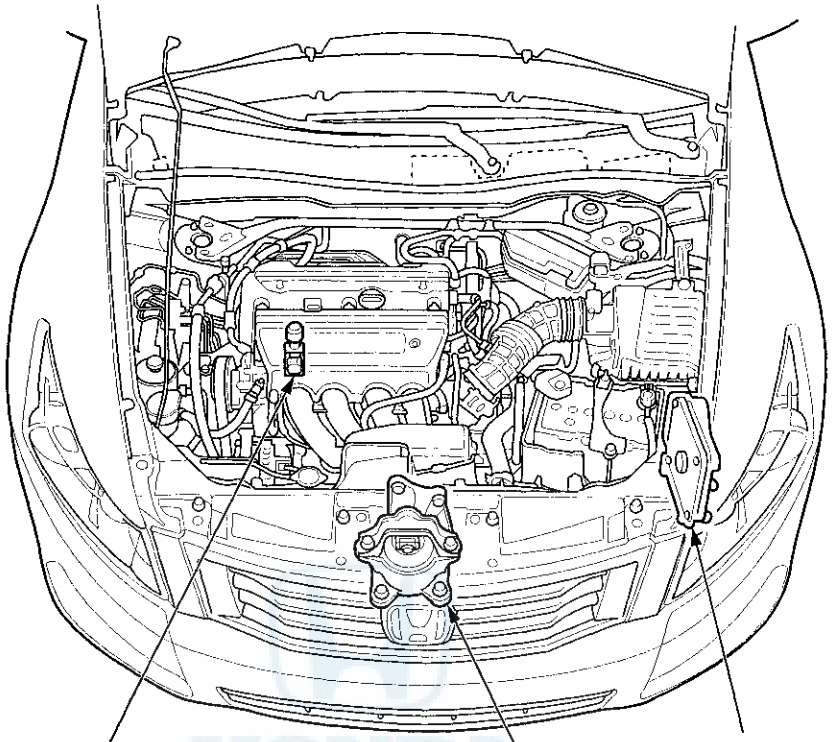
M/T model

1. Disconnect the clutch pedal position switch connector (A).



2. Loosen the locknut (B), then remove the clutch pedal position switch (C).
3. Install the clutch pedal position switch, and adjust the pedal height (see page 12-7).

Component Location Index



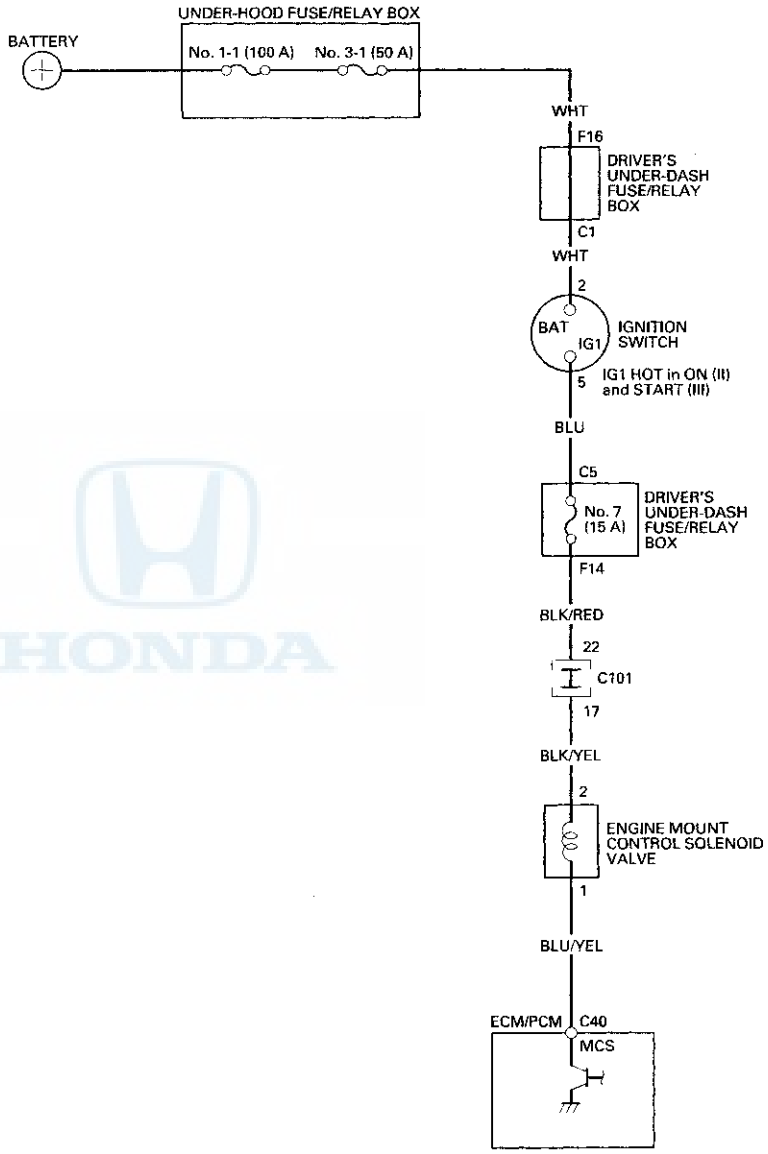
ENGINE MOUNT CONTROL SOLENOID VALVE
Circuit Diagram, page 4-48
Troubleshooting, page 4-49

FRONT ENGINE MOUNT
Replacement, page 5-23

ENGINE CONTROL MODULE (ECM)/ POWERTRAIN CONTROL MODULE (PCM)

Engine Mount Control System

Circuit Diagram



HONDA

Troubleshooting

Special Tools Required
Vacuum Pump/Gauge, 0—30 inHg Snap-on YA4000A or equivalent, commercially available

NOTE:
- Check the vacuum hoses and the lines for damage and proper connections before troubleshooting.
- Check the liquid filled engine mount for damage. The rubber mount should have dimples in it. This is normal. If the internal bladder ruptures, the rubber mount looks like it is bulging, replace it (see page 5-23).

Follow this procedure if the engine vibrates excessively when idling.

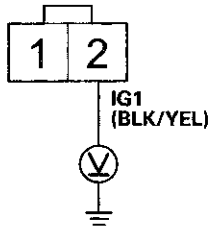
1. Check the idle speed (see page 11-292).
2. Raise the engine speed from idling to 2,000 rpm.
3. Check the MOUNT CTRL SOL in the PGM-FI DATA LIST with the Honda Diagnostic System (HDS).

   Is ON indicated at idling and OFF indicated at 2,000 rpm?

   YES–Go to step 4.

   NO–Update the engine control module (ECM)/ powertrain control module (PCM) if it does not have the latest software (see page 11-203), or substitute a known-good ECM/PCM (see page 11-7), then recheck. If the engine mount control system works properly, and the ECM/PCM was updated, the troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see page 11-204).■
4. Turn the ignition switch to LOCK (0).
5. Disconnect the engine mount control solenoid valve 2P connector from the engine mount control solenoid valve.
6. Turn the ignition switch to ON (II).
7. Measure the voltage between engine mount control solenoid valve 2P connector terminal No. 2 and body ground.

ENGINE MOUNT CONTROL SOLENOID VALVE 2P CONNECTOR



Wire side of female terminals

Is there battery voltage?

YES–Go to step 8.

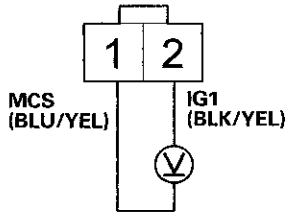
NO–Repair open in the wire between engine mount control solenoid valve 2P connector terminal No. 2 and the No. 7 (15 A) fuse in the driver's under-dash fuse/relay box.■
8. Start the engine, and let it idle.

(cont'd)

Troubleshooting (cont'd)

9. Measure the voltage between engine mount control solenoid valve 2P connector terminals No. 1 and No. 2 with the engine at idle.

ENGINE MOUNT CONTROL SOLENOID VALVE 2P CONNECTOR



Wire side of female terminals

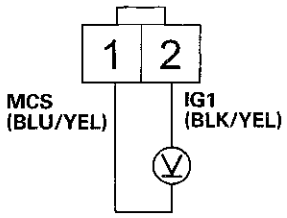
Is there battery voltage?

YES–Go to step 10.

NO–Repair open in the wire between ECM/PCM connector terminal C40 and engine mount control solenoid valve 2P connector terminal No. 1. If the wire is OK, update the ECM/PCM if it does not have the latest software (see page 11-203), or substitute a known-good ECM/PCM (see page 11-7), and recheck. If the engine mount control system works properly, and the ECM/PCM was updated, the troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see page 11-204).■

10. Raise the engine speed above 2,000 rpm.
11. Measure the voltage between engine mount control solenoid valve 2P connector terminals No. 1 and No. 2.

ENGINE MOUNT CONTROL SOLENOID VALVE 2P CONNECTOR



Wire side of female terminals

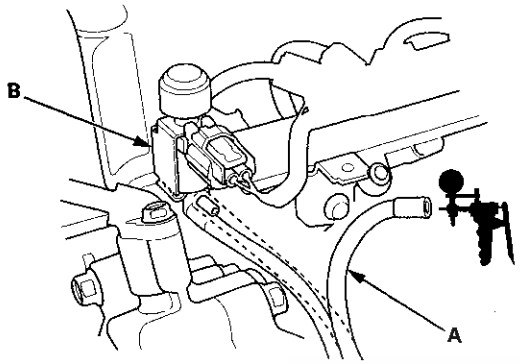
Is there battery voltage?

YES–Repair short to body ground in the wire between ECM/PCM connector terminal C40 and engine mount control solenoid valve 2P connector terminal No. 1. If the wire is OK, update the ECM/PCM if it does not have the latest software (see page 11-203), or substitute a known-good ECM/PCM (see page 11-7), and recheck. If the engine mount control system works properly, and the ECM/PCM was updated, the troubleshooting is complete. If the ECM/PCM was substituted, replace the original ECM/PCM (see page 11-204).■

NO–Go to step 12.

12. Turn the ignition switch to LOCK (0).

13. Disconnect the upper vacuum hose (A) from the engine mount control solenoid valve (B), and connect a vacuum pump/gauge, 0—30 in Hg, to the hose. Apply about 20 in Hg of vacuum, and wait 20 seconds.



Does the engine mount hold vacuum?

YES–Go to step 14.

NO–Either the vacuum hose or the engine mount has a vacuum leak. Repair as needed.■

14. Start the engine and let it idle.

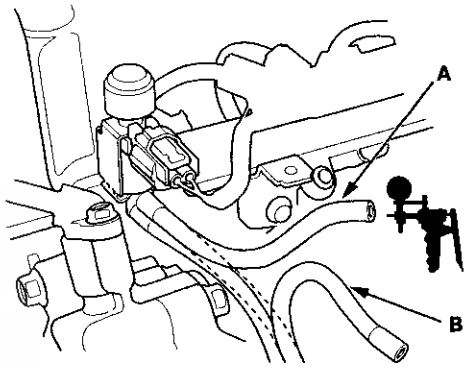
15. Release the vacuum, then apply vacuum again.

Is there a noticeable change in idle smoothness with and without vacuum applied?

YES–Go to step 16.

NO–Replace the front engine mount (see page 5-23).■

16. Connect a vacuum pump/gauge, 0—30 in Hg, to the vacuum hose (A).



Is there manifold vacuum at idle, and a decrease in manifold vacuum when you raise the engine speed above 2,000 rpm?

YES–The system is OK.■

NO–Repair the vacuum hose (B) between the intake manifold and the engine mount control solenoid valve. If the vacuum is OK, replace the engine mount control solenoid valve.■

HONDA