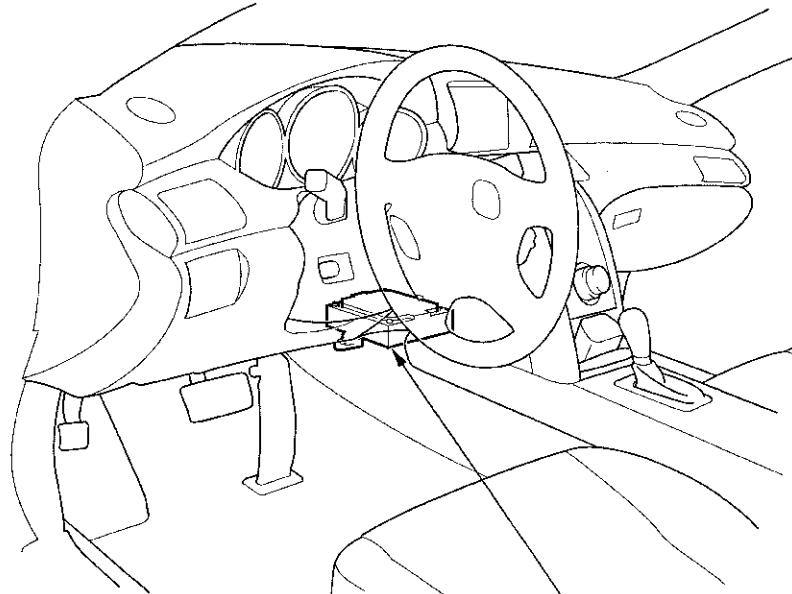
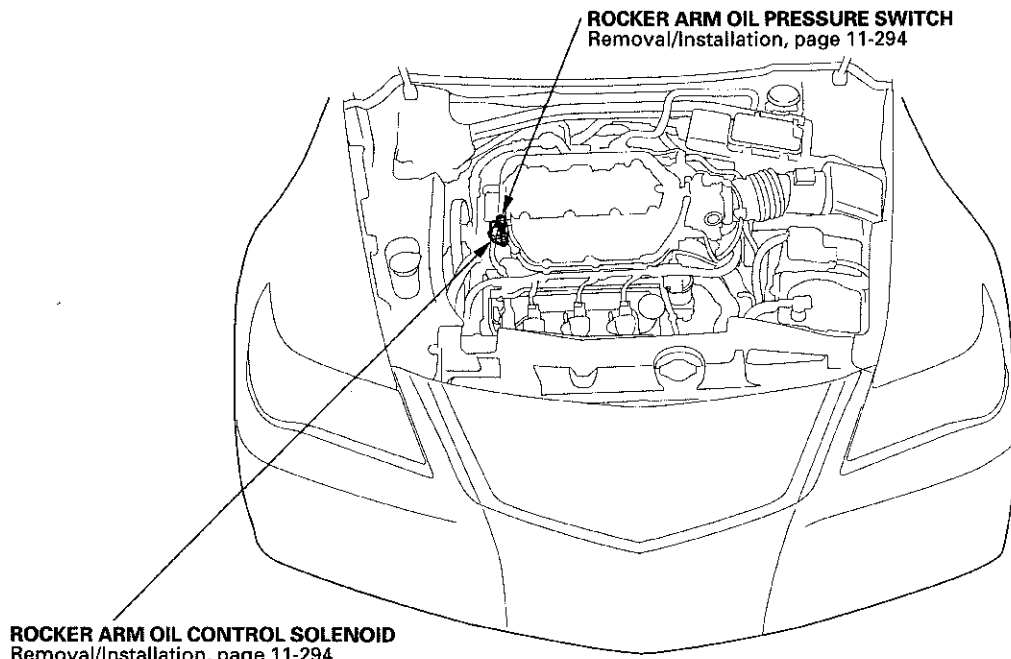


Component Location Index





DTC Troubleshooting

DTC P2646: Rocker Arm Oil Pressure Switch Circuit Low Voltage

Special Tools Required

- Pressure gauge adapter 07NAJ-P07010A
- A/T low pressure gauge w/panel 07406-0070301
- A/T pressure hose, 2,210 mm 07MAJ-PY4011A
- A/T pressure adapter 07MAJ-PY40120
- Oil pressure hose 07ZAJ-S5AA200

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see page 11-3).

1. Check the engine oil level.

Is the engine oil level OK?

YES—Go to step 2.

NO—Adjust the engine oil to the proper level, then go to step 20.

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

3. Clear the DTC with the HDS.

4. Do the VTEC TEST in the INSPECTION MENU with the HDS.

Is the result OK?

YES—Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the rocker arm oil pressure switch, the rocker arm oil control solenoid, and the PCM. ■

NO—Go to step 5.

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

6. Disconnect the rocker arm oil pressure switch 2P connector.

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

8. Check the VTEC PRES SW in the DATA LIST with the HDS.

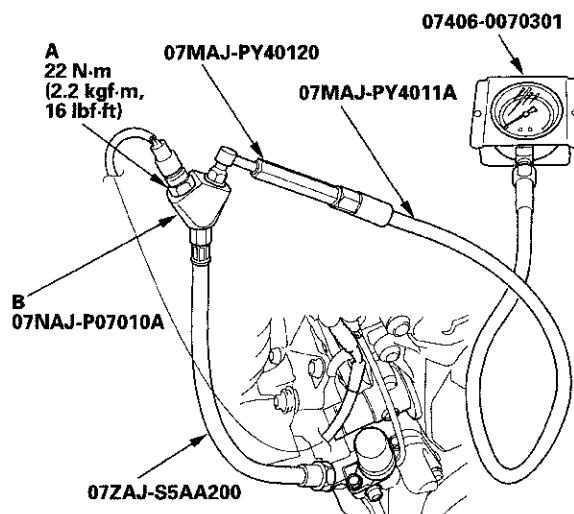
Is SWITCH ON indicated?

YES—Go to step 15.

NO—Go to step 9.

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

10. Remove the rocker arm oil pressure switch (A), attach the special tools as shown, then attach the rocker arm oil pressure switch to the pressure gauge adapter (B).



11. Reconnect the rocker arm oil pressure switch 2P connector.

12. Start the engine.

13. Do the VTEC TEST in the INSPECTION MENU with the HDS.

(cont'd)

DTC Troubleshooting (cont'd)

14. Check the oil pressure.

Does the oil pressure increase to at least 392 kPa (4.0 kgf/cm², 56.9 psi)?

YES—Replace the rocker arm oil pressure switch (see page 11-294), then go to step 19.

NO—Inspect the following items. If they are OK, replace the rocker arm oil control solenoid (see page 11-294), then go to step 19.

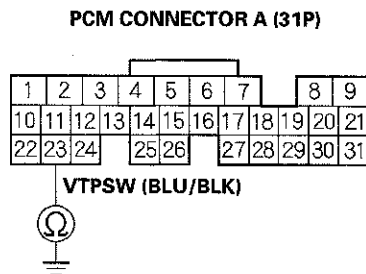
- VTEC system's oil line
- Operation of the rocker arm (see page 6-8)

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

16. Jump the SCS line with the HDS.

17. Disconnect PCM connector A (31P).

18. Check for continuity between PCM connector terminal A23 and body ground.



Wire side of female terminals

Is there continuity?

YES—Repair short in the wire between the PCM (A23) and the rocker arm oil pressure switch, then go to step 19.

NO—Go to step 26.

19. Reconnect all connectors.

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

21. Reset the PCM with the HDS.

22. Do the PCM idle learn procedure (see page 11-313).

23. Do the VTEC TEST in the INSPECTION MENU with the HDS.

24. Check for Pending or Confirmed DTCs with the HDS.

Is DTC P2646 indicated?

YES—Check for poor connections or loose terminals at the rocker arm oil pressure switch, the rocker arm oil control valve, and the PCM, then go to step 1.

NO—Go to step 25.

25. Monitor the OBD STATUS for DTC P2646 in the DTCs MENU with the HDS.

Does the screen indicate PASSED?

YES—Troubleshooting is complete. If any other Pending or Confirmed DTCs were indicated in step 24, go to the indicated DTC's troubleshooting. ■

NO—If the screen indicates FAILED, check for poor connections or loose terminals at the rocker arm oil pressure switch, the rocker arm oil control valve, and the PCM, then go to step 1. If the screen indicates NOT COMPLETED, go to step 23.



26. Reconnect all connectors.
27. 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).
28. Do the VTEC TEST in the INSPECTION MENU with the HDS.
29. Check for Pending or Confirmed DTCs with the HDS.

Is DTC P2646 indicated?

YES—Check for poor connections or loose terminals at the rocker arm oil pressure switch, the rocker arm oil control solenoid, and the PCM. If the PCM was updated, substitute a known-good PCM (see page 11-7), then recheck. If the PCM was substituted, go to step 1.

NO—Go to step 30.

30. Monitor the OBD STATUS for DTC P2646 in the DTCs MENU with the HDS.

Does the screen indicate PASSED?

YES—If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see page 11-232). If any other Pending or Confirmed DTCs were indicated in step 28, go to the indicated DTC's troubleshooting. ■

NO—If the screen indicates FAILED, check for poor connections or loose terminals at the rocker arm oil pressure switch, the rocker arm oil control solenoid, and the PCM. If the PCM was updated, substitute a known-good PCM (see page 11-7), then recheck. If the PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

DTC P2647: Rocker Arm Oil Pressure Switch Circuit High Voltage

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see page 11-3).

1. Check the engine oil level.

Is the engine oil level OK?

YES—Go to step 2.

NO—Adjust the engine oil to the proper level, then go to step 17.

2. Turn the ignition switch to ON (II).
3. Clear the DTC with the HDS.
4. Do the VTEC TEST in the INSPECTION MENU with the HDS.

NOTE: If a DTC is stored during the VTEC TEST, check the DTC's MENU. If DTC P2647 indicated, go to step 6. If any other Pending or Confirmed DTCs are indicated, go to the indicated DTC's troubleshooting.

Is the result OK?

YES—Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the rocker arm oil pressure switch and the PCM. ■

NO—Go to step 5.

5. Check the result of step 4.

- Rocker arm oil pressure switch Failure
- Rocker arm oil pressure switch Open
- Rocker arm oil pressure switch SIG Line Open
- Rocker arm oil pressure switch GND Line Open

Is the test result any of the above?

YES—Go to step 6.

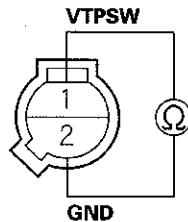
NO—Check for poor connections or loose terminals at the rocker arm oil pressure switch. If it is OK, replace the rocker arm oil control solenoid (see page 11-294), then go to step 17.

(cont'd)

DTC Troubleshooting (cont'd)

6. Turn the ignition switch to LOCK (0).
7. Disconnect the rocker arm oil pressure switch 2P connector.
8. At the rocker arm oil pressure switch side, check for continuity between rocker arm oil pressure switch 2P connector terminals No. 1 and No. 2.

ROCKER ARM OIL PRESSURE SWITCH 2P CONNECTOR



Terminal side of male terminals

Is there continuity?

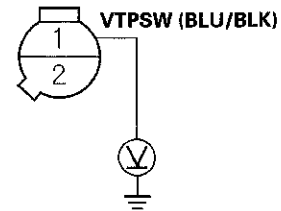
YES—Go to step 9.

NO—Replace the rocker arm oil pressure switch (see page 11-294), then go to step 16.

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

10. Measure the voltage between rocker arm oil pressure switch 2P connector terminal No. 1 and body ground.

ROCKER ARM OIL PRESSURE SWITCH 2P CONNECTOR



Wire side of female terminals

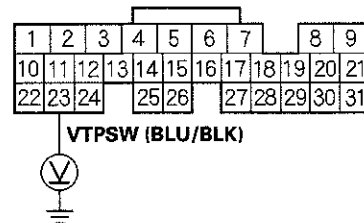
Is there battery voltage?

YES—Repair open in the wire between the rocker arm oil pressure switch and G101, then go to step 13.

NO—Go to step 11.

11. Measure the voltage between PCM connector terminal A23 and body ground.

PCM CONNECTOR A (31P)



Wire side of female terminals

Is there battery voltage?

YES—Repair open in the wire between the PCM (A23) and the rocker arm oil pressure switch, then go to step 12.

NO—Go to step 19.

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



13. Reconnect the all connectors.
14. Turn the ignition switch to ON (II).
15. Reset the PCM with the HDS.
16. Do the PCM idle learn procedure (see page 11-313).
17. Check for Pending or Confirmed DTCs with the HDS.

Is DTC P2647 indicated?

YES—Check for poor connections or loose terminals at the rocker arm oil pressure switch and the PCM, then go to step 1.

NO—Go to step 18.

18. Monitor the OBD STATUS for DTC P2647 in the DTCs MENU with the HDS.

Does the screen indicate PASSED?

YES—Troubleshooting is complete. If any other Pending or Confirmed DTCs were indicated in step 17, go to the indicated DTC's troubleshooting. ■

NO—If the screen indicates FAILED, check for poor connections or loose terminals at the rocker arm oil pressure switch and the PCM, then go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

19. Turn the ignition switch to LOCK (0).
20. Reconnect all connectors.
21. 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).
22. Check for Pending or Confirmed DTCs with the HDS.

Is DTC P2647 indicated?

YES—Check for poor connections or loose terminals at the rocker arm oil pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see page 11-7), then recheck. If the PCM was substituted, go to step 1.

NO—Go to step 23.

23. Monitor the OBD STATUS for DTC P2647 in the DTCs MENU with the HDS.

Does the screen indicate PASSED?

YES—If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see page 11-232). If any other Pending or Confirmed DTCs were indicated in step 22, go to the indicated DTC's troubleshooting. ■

NO—If the screen indicates FAILED, check for poor connections or loose terminals at the rocker arm oil pressure switch and the PCM. If the PCM was updated, substitute a known-good PCM (see page 11-7), then recheck. If the PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, keep idling until a result comes on.

DTC Troubleshooting (cont'd)

DTC P2648: Rocker Arm Oil Control Solenoid Circuit Low Voltage

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see page 11-3).

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Do the VTEC TEST in the INSPECTION MENU with the HDS.

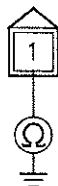
Is the result OK?

YES—Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the rocker arm oil control solenoid and the PCM. ■

NO—Go to step 4.

4. Turn the ignition switch to LOCK (0).
5. Disconnect the rocker arm oil control solenoid 1P connector.
6. At the solenoid side, measure the resistance between the rocker arm oil control solenoid 1P connector terminal and the solenoid valve body.

ROCKER ARM OIL CONTROL SOLENOID 1P CONNECTOR



Terminal side of male terminals

Is there 14–30 Ω at room temperature?

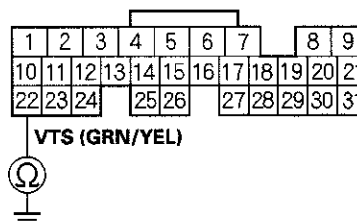
YES—Go to step 7.

NO—Go to step 10.

7. Jump the SCS line with the HDS.
8. Disconnect PCM connector A (31P).

9. Check for continuity between PCM connector terminal A22 and body ground.

PCM CONNECTOR A (31P)



Wire side of female terminals

Is there continuity?

YES—Repair short in the wire between the PCM (A22) and the rocker arm oil control solenoid, then go to step 11.

NO—Go to step 18.

10. Replace the rocker arm oil control solenoid (see page 11-294).
11. Reconnect all connectors.
12. Turn the ignition switch to ON (II).
13. Reset the PCM with the HDS.
14. Do the PCM idle learn procedure (see page 11-313).
15. Do the VTEC TEST in the INSPECTION MENU with the HDS.
16. Check for Pending or Confirmed DTCs with the HDS.

Is DTC P2648 indicated?

YES—Check for poor connections or loose terminals at the rocker arm oil control solenoid and the PCM, then go to step 1.

NO—Go to step 17.



17. Monitor the OBD STATUS for DTC P2648 in the DTCs MENU with the HDS.

Does the screen indicate PASSED?

YES—Troubleshooting is complete. If any other Pending or Confirmed DTCs were indicated in step 16, go to the indicated DTC's troubleshooting. ■

NO—If the screen indicates FAILED, check for poor connections or loose terminals at the rocker arm oil control solenoid and the PCM, then go to step 1. If the screen indicates NOT COMPLETED, go to step 15.

18. Reconnect all connectors.
19. 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).
20. Do the VTEC TEST in the INSPECTION MENU with the HDS.
21. Check for Pending or Confirmed DTCs with the HDS.

Is DTC P2648 indicated?

YES—Check for poor connections or loose terminals at the rocker arm oil control solenoid and the PCM. If the PCM was updated, substitute a known-good PCM (see page 11-7), then recheck. If the PCM was substituted, go to step 1.

NO—Go to step 22.

22. Monitor the OBD STATUS for DTC P2648 in the DTCs MENU with the HDS.

Does the screen indicate PASSED?

YES—If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see page 11-232). If any other Pending or Confirmed DTCs were indicated in step 21, go to the indicated DTC's troubleshooting. ■

NO—If the screen indicates FAILED, check for poor connections or loose terminals at the rocker arm oil control solenoid and the PCM. If the PCM was updated, substitute a known-good PCM (see page 11-7), then recheck. If the PCM was substituted, go to step 1. If the screen indicates NOT COMPLETED, go to step 20.

DTC Troubleshooting (cont'd)

DTC P2649: Rocker Arm Oil Control Solenoid Circuit High Voltage

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information (see page 11-3).

1. Turn the ignition switch to ON (II).
2. Clear the DTC with the HDS.
3. Start the engine. Hold the engine speed at 3,000 rpm without load (in P or N) until the radiator fan comes on, then let it idle.
4. Check for Pending or Confirmed DTCs with the HDS.

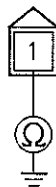
Is DTC P2649 indicated?

YES—Go to step 5.

NO—Intermittent failure, the system is OK at this time. Check for poor connections or loose terminals at the rocker arm oil control solenoid and the PCM. ■

5. Turn the ignition switch to LOCK (0).
6. Disconnect the rocker arm oil control solenoid 1P connector.
7. At the solenoid side, measure the resistance between the rocker arm oil control solenoid 1P connector terminal and the solenoid valve body.

ROCKER ARM OIL CONTROL SOLENOID 1P CONNECTOR



Terminal side of male terminals

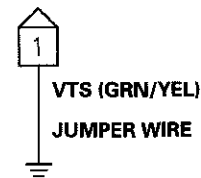
Is there 14–30 Ω at room temperature?

YES—Go to step 8.

NO—Go to step 12.

8. Jump the SCS line with the HDS.
9. Disconnect PCM connector A (31P).
10. Connect the rocker arm oil control solenoid 1P connector terminal to body ground with a jumper wire.

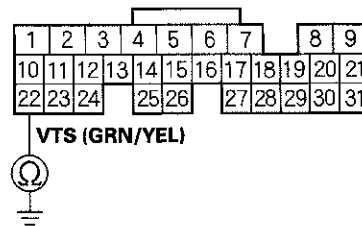
ROCKER ARM OIL CONTROL SOLENOID 1P CONNECTOR



Wire side of female terminals

11. Check for continuity between PCM connector terminal A22 and body ground.

PCM CONNECTOR A (31P)



Wire side of female terminals

Is there continuity?

YES—Go to step 20.

NO—Repair open in the wire between the PCM (A22) and the rocker arm oil control solenoid, then go to step 13.



12. Replace the rocker arm oil control solenoid (see page 11-294).
13. Reconnect all connectors.
14. Turn the ignition switch to ON (II).
15. Reset the PCM with the HDS.
16. Do the PCM idle learn procedure (see page 11-313).
17. Start the engine. Hold the engine speed at 3,000 rpm without load (in P or N) until the radiator fan comes on, then let it idle.
18. Check for Pending or Confirmed DTCs with the HDS.

Is DTC P2649 indicated?

YES—Check for poor connections or loose terminals at the rocker arm oil control solenoid and the PCM, then go to step 1.

NO—Go to step 19.

19. Monitor the OBD STATUS for DTC P2649 in the DTCs MENU with the HDS.

Does the screen indicate PASSED?

YES—Troubleshooting is complete. If any other Pending or Confirmed DTCs were indicated in step 18, go to the indicated DTC's troubleshooting. ■

NO—If the screen indicates **FAILED**, check for poor connections or loose terminals at the rocker arm oil control solenoid and the PCM, then go to step 1. If the screen indicates **NOT COMPLETED**, keep idling until a result comes on.

20. Reconnect all connectors.
21. 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).
22. Check for Pending or Confirmed DTCs with the HDS.

Is DTC P2649 indicated?

YES—Check for poor connections or loose terminals at the rocker arm oil control solenoid and the PCM. If the PCM was updated, substitute a known-good PCM (see page 11-7), then recheck. If the PCM was substituted, go to step 1.

NO—Go to step 23.

23. Monitor the OBD STATUS for DTC P2649 in the DTCs MENU with the HDS.

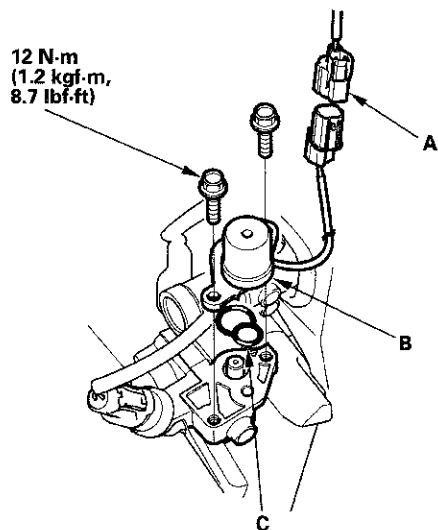
Does the screen indicate PASSED?

YES—If the PCM was updated, troubleshooting is complete. If the PCM was substituted, replace the original PCM (see page 11-232). If any other Pending or Confirmed DTCs were indicated in step 21, go to the indicated DTC's troubleshooting. ■

NO—If the screen indicates **FAILED**, check for poor connections or loose terminals at the rocker arm oil control solenoid and the PCM. If the PCM was updated, substitute a known-good PCM (see page 11-7), then recheck. If the PCM was substituted, go to step 1. If the screen indicates **NOT COMPLETED**, keep idling until a result comes on.

Rocker Arm Oil Control Solenoid Replacement

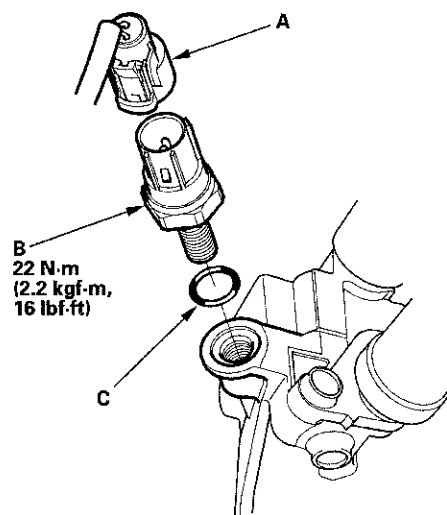
1. Disconnect the rocker arm oil control solenoid connector (A).



2. Remove the rocker arm oil control solenoid (B).
3. Install the parts in the reverse order of removal with a new O-ring (C).

Rocker Arm Oil Pressure Switch Removal/Installation

1. Disconnect the rocker arm oil pressure switch connector (A), then remove the rocker arm oil pressure switch (B).



2. Install the parts in the reverse order of removal with a new O-ring (C).