



Applies To: **See VEHICLES AFFECTED**

October 21, 2011

## Engine Rattles at Cold Start-Up

(Supersedes 09-010, dated August 17, 2010, to revise the information marked by the black bars)

### REVISION SUMMARY

Under REPAIR PROCEDURE, steps 24 thru 27 were changed.

### SYMPTOM

At cold start-up, the engine rattles loudly for about 2 seconds.

### PROBABLE CAUSE

The variable valve timing control (VTC) actuator is defective.

### VEHICLES AFFECTED

**2008 Accord L4 2/4-Door – ALL**

**2009 Accord L4 2-Door –**

From VIN 1HGCS1...9A000001 thru  
1HGCS1...9A004953

**2009 Accord L4 4-Door –**

From VIN 1HGCP2...9A000001 thru  
1HGCP2...9A029528

From VIN JHMCP2...9C000001 thru  
JHMCP2...9C010096

### CORRECTIVE ACTION

Use the repair procedure in this service bulletin to replace the VTC actuator. This procedure does not require the complete removal of the cam chain and associated parts as you would during a normal repair, so the procedure is shorter.

### PARTS INFORMATION

VTC Actuator: P/N 14310-R44-A01

### REQUIRED MATERIALS

Hondabond HT Liquid Silicone Gasket  
(One tube repairs about two vehicles.):  
P/N 08718-0004

### TOOL INFORMATION

Stopper (lock pin): P/N 14511-PNA-003

Tappet Adjuster: P/N 07MAA-PR70110

Tappet Locknut Wrench: P/N 07MAA-PR70120

### WARRANTY CLAIM INFORMATION

The normal warranty applies.

Operation Number: 1101Z9

Flat Rate Time: 2.0 hours

Failed Part: P/N 14310-R44-A01

Defect Code: 03214

Symptom Code: 04201

Template ID: 09-010B

### DIAGNOSIS

NOTE: If you're reading this service bulletin on ISIS and your computer has sound, click on the picture below to hear an example of the engine rattle.



1. Allow the engine oil to drain from the VTC system by not starting the engine for at least 6 hours.

2. Start the engine, and immediately listen for a loud rattle:

*Do you hear a loud rattle that lasts about 2 seconds?*

**Yes** – Go to REPAIR PROCEDURE.

**No** –

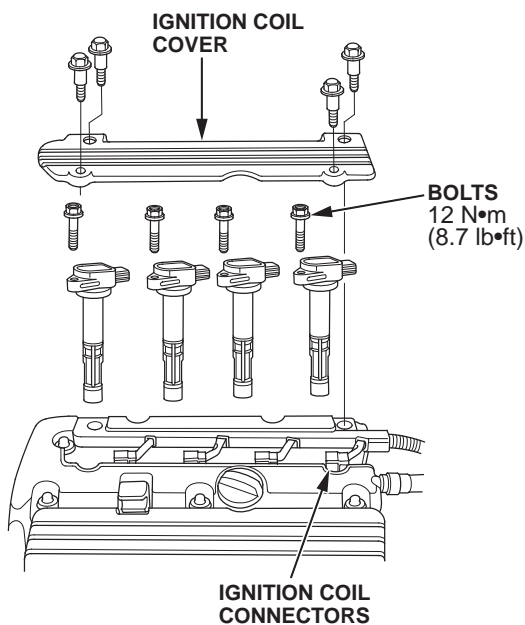
- If you hear a different noise, continue with normal troubleshooting.
- If you don't hear an abnormal noise, get more information from your customer and, if needed, continue with normal troubleshooting.

## REPAIR PROCEDURE

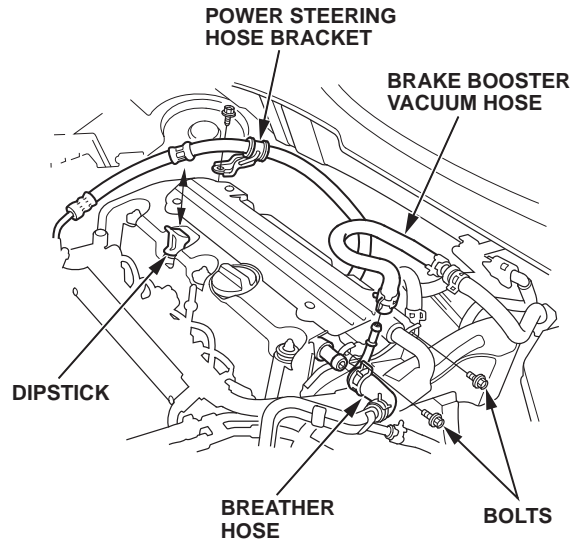
NOTE: This procedure is in an outline form that you can also use as a checklist for the repair. If you need more details, bookmark the following procedures in the *2008–2012 Accord Service Manual*, or view them online:

- Cylinder Head Cover Removal
- Cylinder Head Cover Installation
- Valve Clearance Adjustment

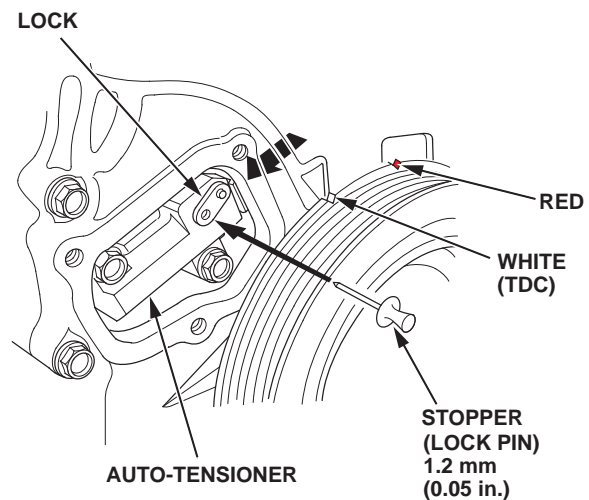
1. Remove the frame (strut) brace (if equipped).
2. Remove the intake manifold cover (if equipped).
3. Remove the ignition coil cover and the ignition coils.



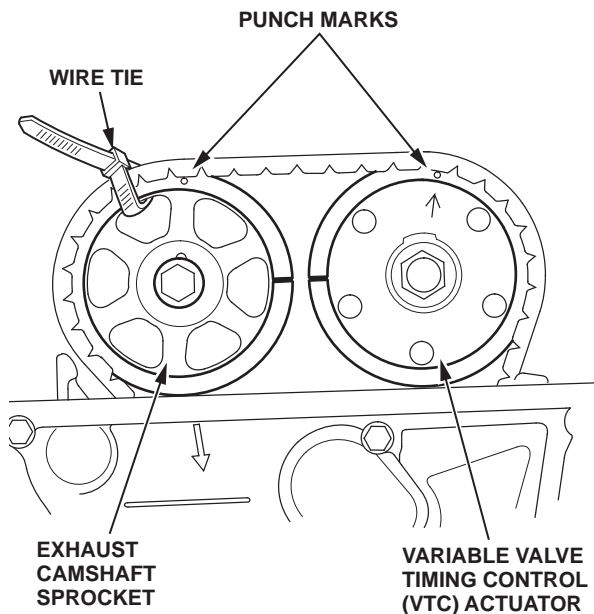
4. Remove the engine oil dipstick and the power steering hose bracket, then disconnect the breather hose and the brake booster vacuum hose from the cylinder head cover.



5. Remove the two bolts holding the EVAP canister purge valve bracket to the cylinder head.
6. Remove the cylinder head cover.
7. Raise the vehicle on a lift.
8. Turn the front wheels or remove the right front wheel.
9. Remove the splash shield to access the crankshaft pulley.
10. Remove the camshaft auto-tensioner (chain case) cover.
11. Rotate the crankshaft clockwise to top dead center (TDC) No. 1 cylinder.
12. Rotate the crankshaft counterclockwise to compress the auto-tensioner, then align the hole in the lock and auto-tensioner, and insert a **1.2 mm (0.05 in) diameter stopper (lock pin)**.



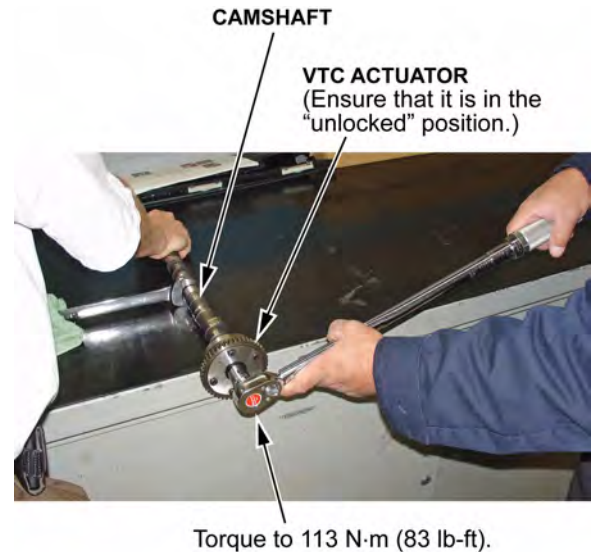
13. Rotate the crankshaft clockwise to TDC No. 1 cylinder.
14. Lower the vehicle.
15. Mark the cam chain at the punch marks on the exhaust camshaft sprocket and the VTC actuator. Secure the chain to the sprocket with a wire tie.



16. Hold the camshaft steady with an open-end wrench, and loosen the VTC actuator mounting bolt.
- NOTE:** Do not use an impact wrench to loosen or tighten this bolt; it will damage the locking pin inside the actuator.
17. Loosen the camshaft holder bolts, in sequence, two turns at a time.
  18. Remove the five camshaft holders.
  19. Carefully tip up the end of the intake camshaft until there is enough slack to lift the chain off the VTC actuator teeth.
  20. Remove the intake camshaft while keeping some tension on the chain. Lay the camshaft on a clean workbench.
  21. Secure the chain to the A/C compressor hose or the P/S hose with a wire tie to keep it from falling down into the front cover.
  22. Remove the VTC actuator mounting bolt, and separate the actuator from the camshaft.
  23. Remove the wire ties while keeping light tension on the chain.

24. Verify that the VTC actuator is unlocked, then install a new VTC actuator onto the camshaft making sure it is in the unlocked position.
25. Lubricate and install the VTC actuator mounting bolt.
26. Place the camshaft on a padded workbench with the VTC actuator off the edge. Hold the camshaft steady with an open end wrench, then have an assistant torque the VTC actuator mounting bolt to **113 N·m (83 lb-ft)** with the actuator in the unlocked position.

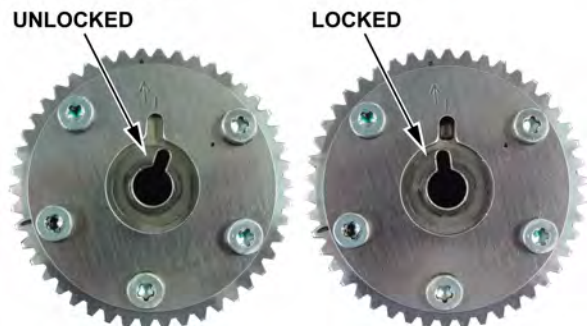
**NOTE:** American Honda is in the process of developing a special tool to hold the camshaft when torquing the VTC actuator.



#### NOTICE

*Torquing the new actuator in the locked position will damage the internal pin. If it locks before it is torqued, then it must be unlocked prior to installing.*

#### VTC ACTUATOR



27. Rotate the VTC actuator until it is in the locked position.
28. Slide the camshaft in at an angle so the chain can slip over the VTC actuator teeth.

30. Apply engine oil to the journals and caps on both camshafts, and reinstall them.
31. Torque the camshaft holders, starting in the middle and working your way outward in the numbered sequence.

**Torque**

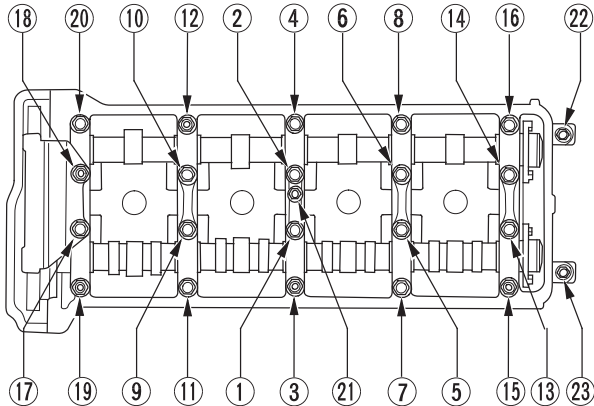
**8 x 1.25 mm**

**22 N·m (16 lb-ft)**

**6 x 1.0 mm**

**12 N·m (8.7 lb-ft)**

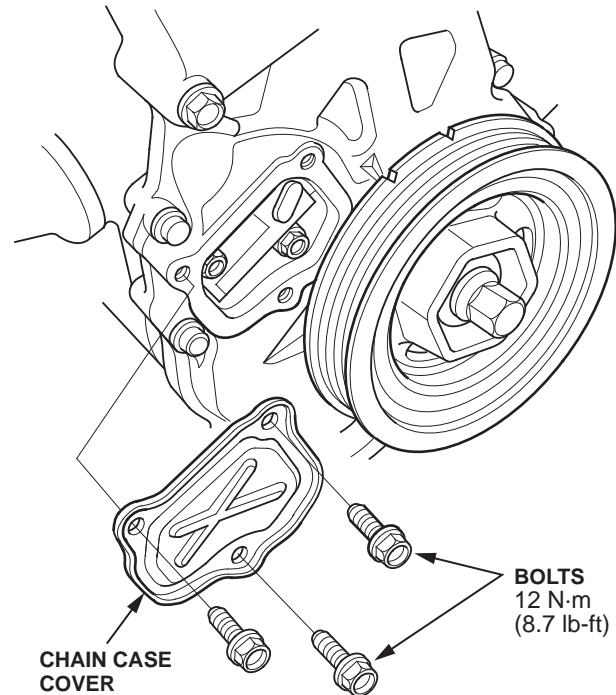
**6 x 1.0 mm Bolts: (21), (22), (23)**



32. Remove the lock pin from the auto-tensioner.
33. Rotate the crankshaft in the direction of engine rotation (clockwise) two full turns, then stop at the white TDC mark (see step 12). Make sure the camshafts line up as shown in step 15.

34. Remove old sealant, dry, reseal, and then reinstall the auto-tensioner (chain case) cover.

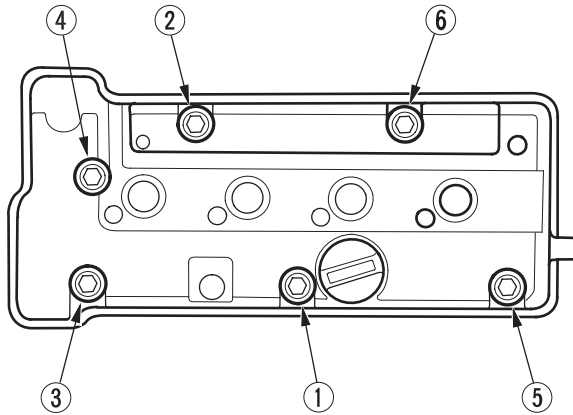
**NOTE:** Wait 30 minutes before adding oil if needed, and wait 3 hours before starting the engine.



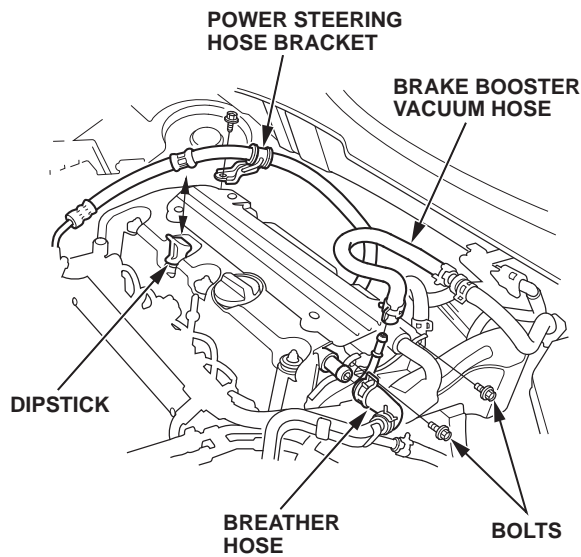
35. Check and, if needed, adjust the valve clearance using a tappet adjuster.  
**Intake: 0.21 - 0.25 mm (0.008 - 0.010 in)**  
**Exhaust: 0.25 - 0.29 mm (0.010 - 0.011 in)**
36. Then, using a tappet locknut wrench, torque the locknuts.  
**Intake and Exhaust: 14 N·m (10 lb-ft)**
37. Raise the vehicle.
38. Reinstall the splash shield.
39. Straighten the wheels or reinstall the right front wheel (if removed).
40. Lower the vehicle.

41. Reinstall the cylinder head cover, tightening the bolts in three steps. In the final step, tighten all bolts, in sequence, to **12 N·m (8.7 lb·ft)**.

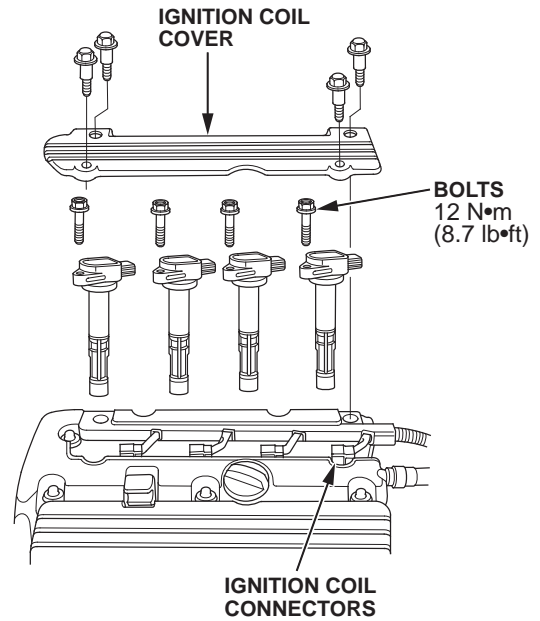
**Torque**  
**22 N·m (16 lb·ft)**



42. Reinstall the EVAP canister purge valve bracket.
43. Reinstall the engine oil dipstick and the power steering hose bracket, and reconnect the breather hose and the brake booster vacuum hose.



44. Reinstall the ignition coils and the ignition coil cover.



45. Reinstall the intake manifold cover (if equipped).
46. Reinstall the frame (strut) brace (if equipped). Torque the bolts to **22 N·m (16 lb·ft)**.

**NOTE:** To allow time for the liquid gasket to cure, wait **3 hours** before starting the engine.