



Applies To: **2013 Odyssey** – Check the iN VIN status for eligibility  
**2013 Pilot** – Check the iN VIN status for eligibility

**August 27, 2013**

## Safety Recall: Pistons Out of Specification

### BACKGROUND

A limited number of Pilot and Odyssey engines may have been assembled with pistons that could be out of specification. Premature piston failure can occur, which may cause the engine to stall.

### CUSTOMER NOTIFICATION

Owners of affected vehicles will be sent a notification of this campaign in September 2013.

Do an **iN VIN status inquiry** to make sure the vehicle is shown as eligible.

New or used vehicles affected by this campaign may be in your vehicle inventory. **These vehicles must be repaired before they are sold.**

Should a dealership sell an unrepaired vehicle that subsequently causes an injury or damage because of the recalled item, the dealership will be solely responsible to the damaged party, and will be required to defend and indemnify American Honda for any resulting claims. To see if a vehicle in inventory is affected by this campaign, do a VIN status inquiry before selling it

### CORRECTIVE ACTION

Replace the short block assembly.

### PARTS INFORMATION

#### Common Parts

Head bolt (16 required):

P/N 90005-PAA-A01

Front Valve Cover:

P/N 12030-R70-A00

Rear Valve Cover:

P/N 12050-R70-A00

Intake Cover Gasket:

P/N 17146-R70-A01

Intake Manifold Gasket:

P/N 17105-RCJ-A01

Catalytic Converter Gasket (two required):

P/N 18115-R70-A01

Oil Filter:

P/N 15400-PLM-A02

Nut, Self Locking (catalytic converter) (eight required):

P/N 90212-RCA-A01

Gasket, Prechamber:

P/N 18393-SDB-A00

Gasket, Exhaust Pipe (two required):

P/N 18212-SA7-003

Bolt, Flange (side mount bolt to frame bracket) (two required):

P/N 90163-SDA-A01

Bolt, Flange (side engine mount bolts) (two required):

P/N 90164-SHJ-A00

Retainer (fuel line connector):

P/N 17711-S0X-931

O-Ring (fuel rail o-ring):

P/N 91301-PLC-000

Gasket A, EGR Pipe (EGR pipe gasket):

P/N 18716-R70-A01

Gasket B, EGR Pipe (EGR pipe gasket):

P/N 18719-R70-A01

Gasket, Rear Cylinder (head gasket):

P/N 12261-R70-A01

Gasket, Front Cylinder (head gasket):

P/N 12251-R70-A01

O-Ring (o-rings for coolant pipe) (two required):

P/N 91314-PH7-003

Gasket, Front Water Passage (coolant crossover) (one required):

P/N 19411-P8A-A03

Gasket, Rear Water Passage (coolant crossover) (one required):

P/N 19412-P8A-A02

O-Ring (A/C discharge hose o-ring):

P/N 80872-ST7-000

O-Ring (A/C suction side o-ring):

P/N 80871-ST7-000



**CUSTOMER INFORMATION:** The information in this bulletin is intended for use only by skilled technicians who have the proper tools, equipment, and training to correctly and safely maintain your vehicle. These procedures should not be attempted by “do-it-yourselfers,” and you should not assume this bulletin applies to your vehicle, or that your vehicle has the condition described. To determine whether this information applies, contact an authorized Honda automobile dealer.

Bolt, Flange (special bolt; rear subframe bolt)  
(two required):

P/N 90161-SHJ-A00

Ring, Snap (left side circlip only):

P/N 44319-SOX-A01

### **Odyssey**

Nut, Flange (engine mount stopper nuts)  
(four required):

P/N 90302-S3V-A10

Engine Short Block:

P/N 10002-RV0-A01

Bolt, Flange (strut to knuckle) (four required):

P/N 90120-SHJ-A00

Nut, Flange (strut to knuckle) (four required):

P/N 90382-SP0-003

Bolt, Flange (subframe bolt) (four required):

P/N 90165-TK8-A00

### **Pilot**

Nut, Flange (engine mount stopper bolts)  
(four required):

P/N 90371-TK4-A00

Bolt, Flange (strut to knuckle) (four required):

P/N 90119-SJC-A00

Nut, Flange (strut to knuckle) (four required):

P/N 90381-SJC-A00

Bolt, Flange (prop shaft bolts) (four required):

P/N 90113-S3V-A00

Bolt, Flange (special bolt, subframe) (four required):

P/N 90165-SHJ-A00

Bolt, Flange (subframe stiffener) (four required):

P/N 90167-SAA-010

### **REQUIRED MATERIALS**

Antifreeze Coolant:

(3 gallons)

5W-20 Engine Oil:

(5 quarts)

### **TOOL INFORMATION**

Steering Wheel Holder

Subframe Alignment Pin

T/N 070AG-SJAA10S

### **WARRANTY CLAIM INFORMATION**

#### **Odyssey**

Operation Number: 1111AJ

10.7 hours (includes alignment)

Failed Part: 10002-RV0-A01

Defect Code: 5GW00

Symptom Code: JB400

Skill Level: Repair Technician

#### **Pilot**

Operation Number: 1111AJ

Flat Rate Time: 10.7 hours (includes alignment)

Failed Part: 10002-RN0-A10

Defect Code: 5GW00

Symptom Code: JB500

Skill Level: Repair Technician

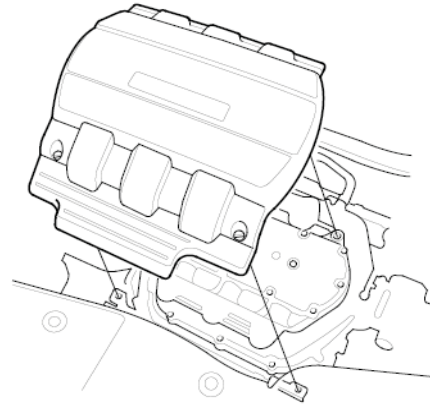
## REPAIR PROCEDURE

The following service manual procedures have been used in full or in part within this service bulletin. For more detail on these procedures, and torque specifications for some components, refer to the appropriate electronic service manual.

- Engine Oil Replacement
- Battery Terminal Disconnection and Reconnection
- A/C System Recovery/Charging
- Fuel Pressure Relieving
- Steering Gearbox Removal
- Transfer Assembly Removal (Pilot with 4WD)
- Coolant Replacement
- Drive Belt Removal/Installation
- Front Undercover Replacement
- Splash Shield Replacement
- Hydraulic Power Steering Fluid Check/Replacement
- Air Cleaner Removal/Installation
- Fuel Line/Quick-Connect Fitting Removal
- Front Bulkhead Cover Replacement (Pilot only)
- Front Stabilizer Link Removal/Installation
- Front Knuckle/ Hub Bearing Unit Replacement
- Cylinder Head Cover Removal
- Intake Manifold Removal and Installation
- Warm Up TWC Removal/Installation
- Transmission Shift Cable Removal and Installation
- Cylinder Head Removal and Installation
- Cam Chain Removal and Installation
- Valve Adjustment
- Subframe Installation Procedure

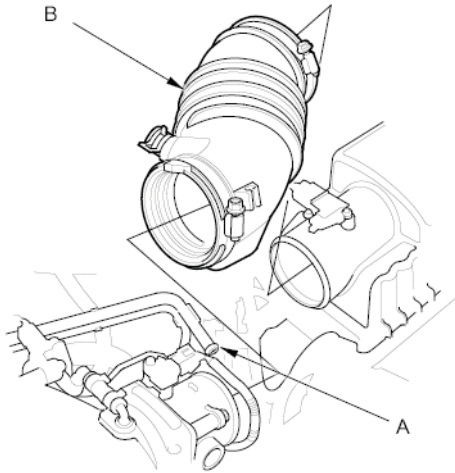
## Engine/Transmission Assembly Removal

- Use fender covers to avoid damaging painted surfaces.
  - To avoid damaging any wires and terminals, unplug the circuit connectors carefully while holding the connector portion.
  - Mark all wiring and hoses to avoid misconnection. Also, be sure that they do not contact other wiring or hoses, or interfere with other parts.
1. Relieve the fuel pressure.
  2. Wait until the engine is cool, then carefully remove the radiator cap.
  3. Loosen the drain plug on the radiator, and drain the engine coolant.
  4. Drain the power steering fluid from the reservoir.
  5. Do the battery removal procedure.
  6. Remove the engine cover.



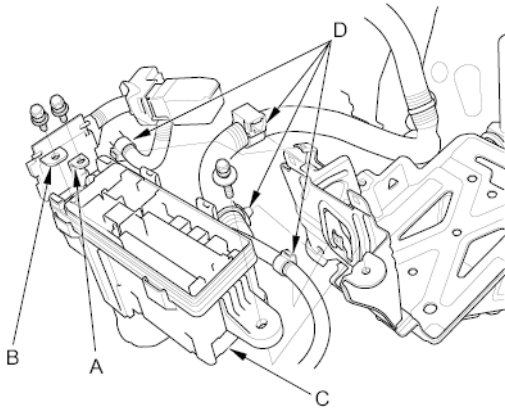
7. Evacuate the A/C system.
8. Separate the A/C suction line at the right strut tower junction, and cover the lines with tape.

9. Disconnect the breather pipe, then remove the intake air duct.

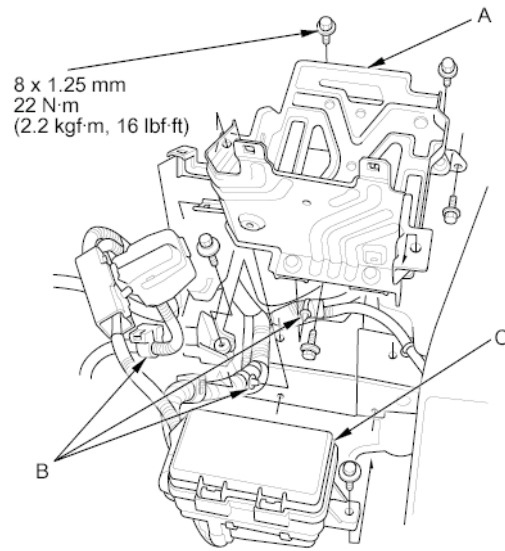


10. Remove the air cleaner assembly.

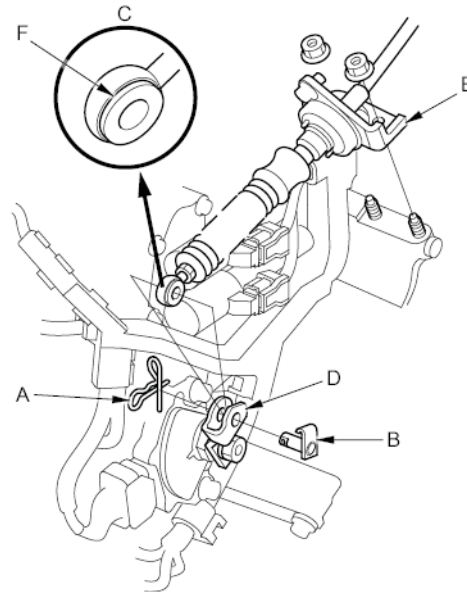
11. *Odyssey only.* Disconnect the engine wire harness and starter cable from the main under-hood fuse box, then remove the main under-hood fuse box and the harness clamps.



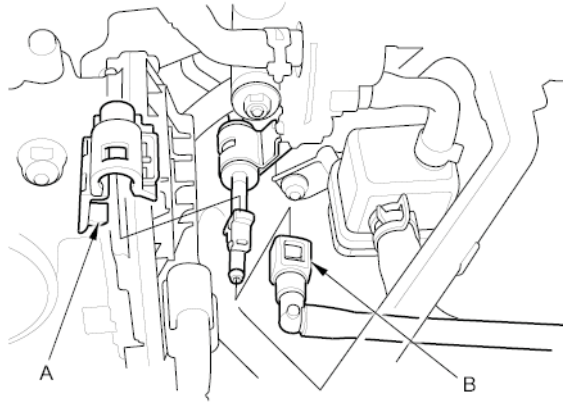
12. Remove the harness clamps, then remove the battery base.



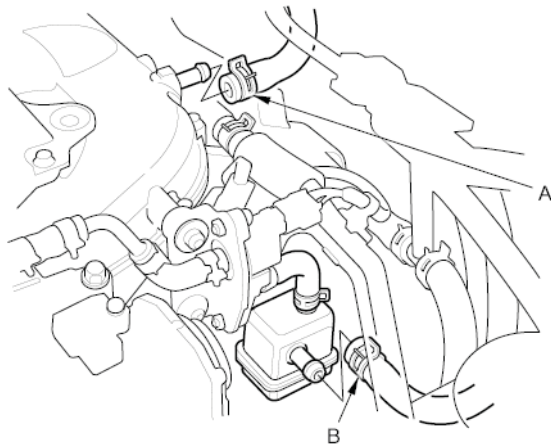
13. Remove the transmission shift cable from the transmission only.



14. Remove the quick-connect fitting cover, then disconnect the fuel feed hose.

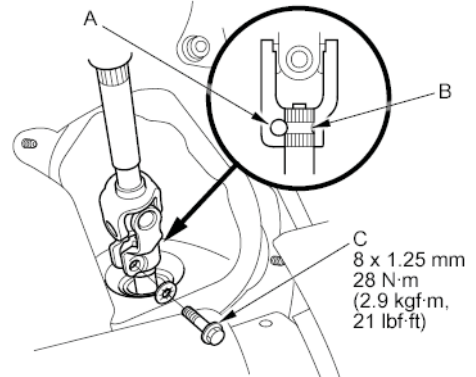


15. Disconnect the brake booster vacuum hose and EVAP canister hose.

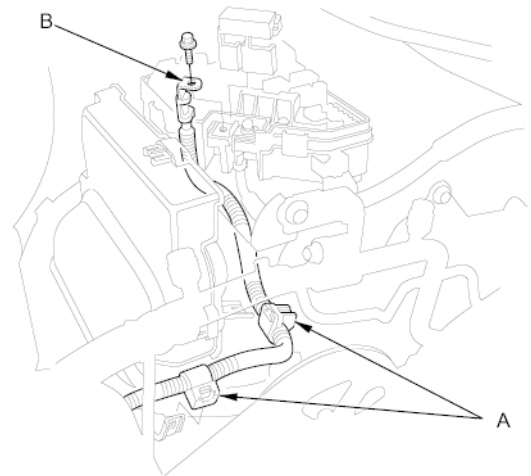


16. Remove the steering joint cover, then disconnect the steering joint from the steering gearbox pinion shaft.

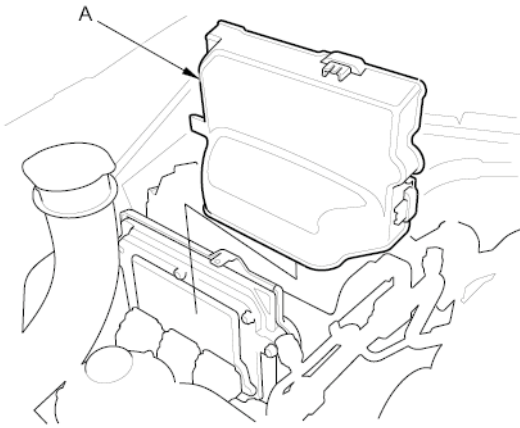
NOTE: Hold the steering wheel with the steering wheel holder.



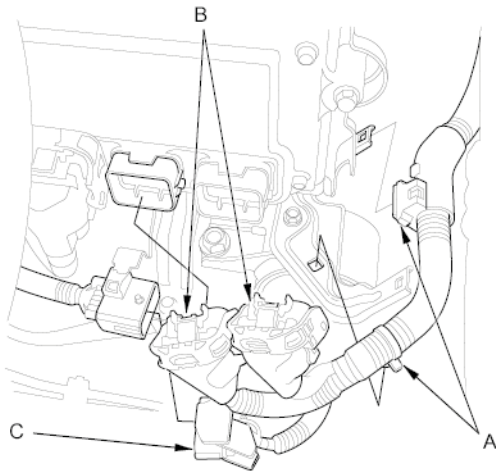
17. *Pilot only.* Remove the harness clamps, then disconnect the positive alternator cable from the under-hood fuse/relay box.



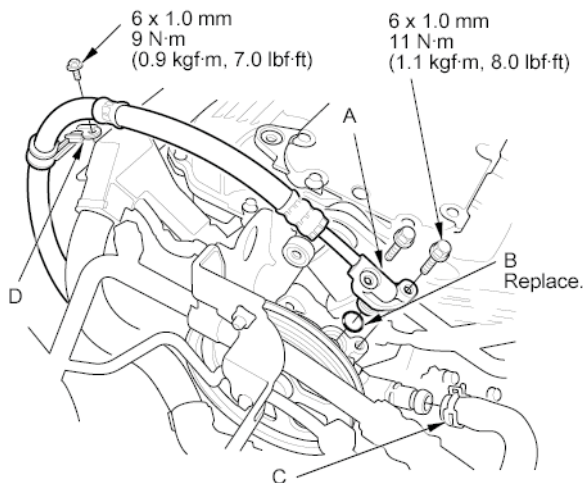
18. Remove the PCM cover.



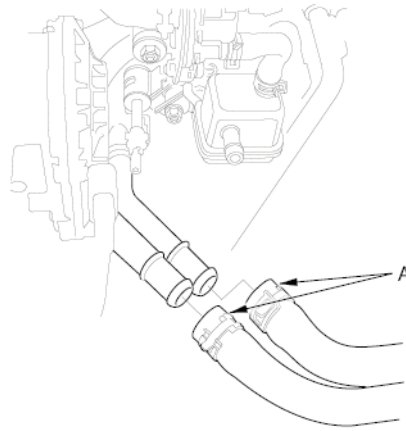
19. Remove the harness clamp, and disconnect the PCM connectors.



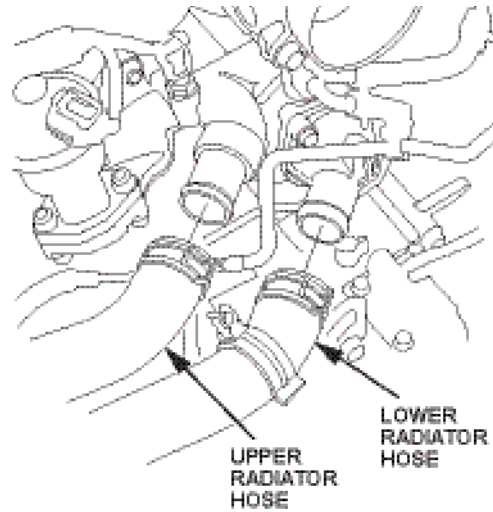
20. Disconnect the power steering pump inlet hose.



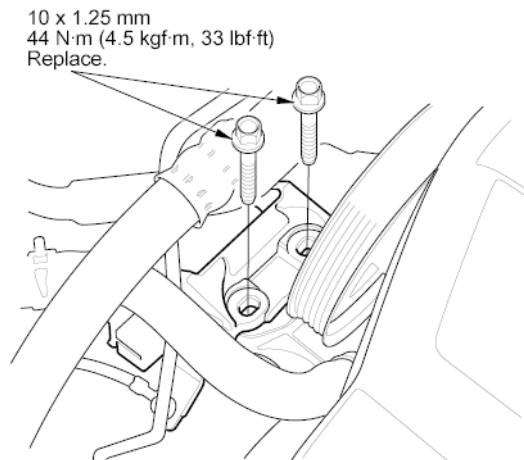
21. Disconnect the heater hoses.



22. Disconnect the upper radiator hose and the lower radiator hose at the engine.

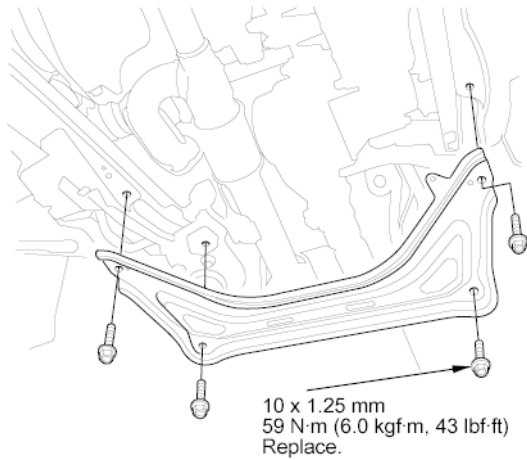


23. Remove the mounting bolts from the upper half of the side engine mount bracket.

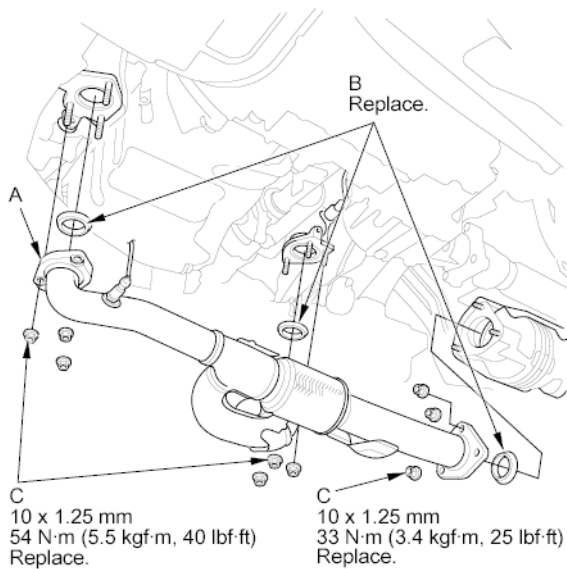




24. Check that the engine/transmission is completely free of any vacuum hoses, fuel hoses, coolant hoses, and electrical connections.
25. Raise the vehicle on the lift.
26. Remove the front wheels.
27. Remove the splash shield and the front undercover.
28. Drain the engine oil.
29. Drain the ATF.
30. *Pilot only.* Remove the front subframe stiffener.

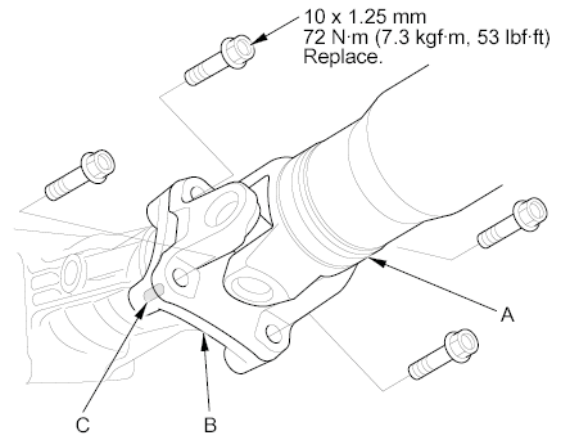


31. Remove the exhaust pipe.



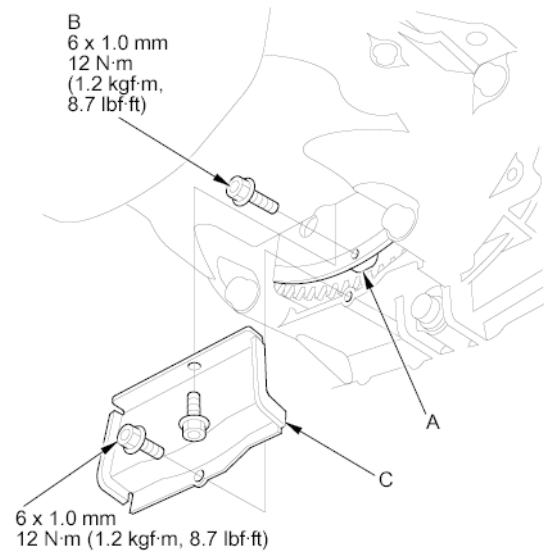
32. *Pilot only, with 4wd.* Remove the bolts, and disconnect the propeller shaft from the transfer companion flange.

NOTE: Be sure to make a reference mark across the propeller shaft and transfer companion flange for reassembly.

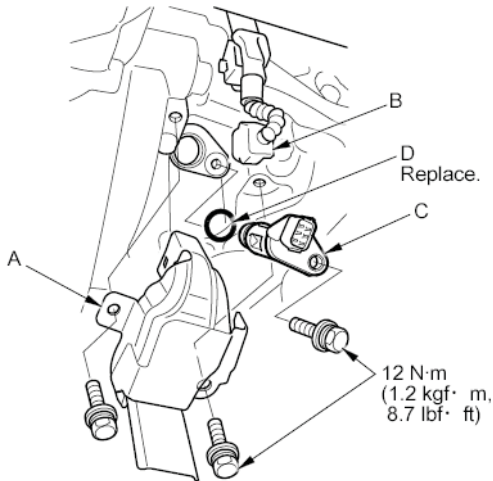


33. Remove the torque converter cover from the transmission.

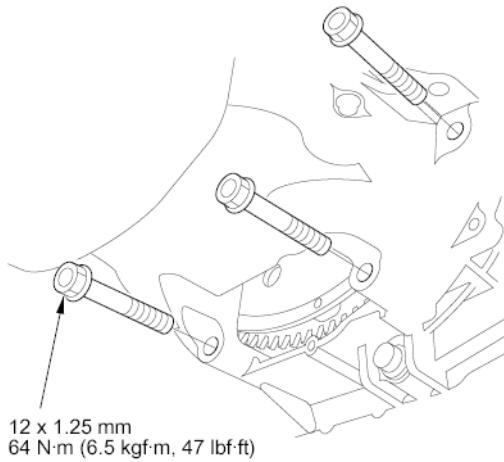
34. Remove the flex plate bolts from the torque converter.



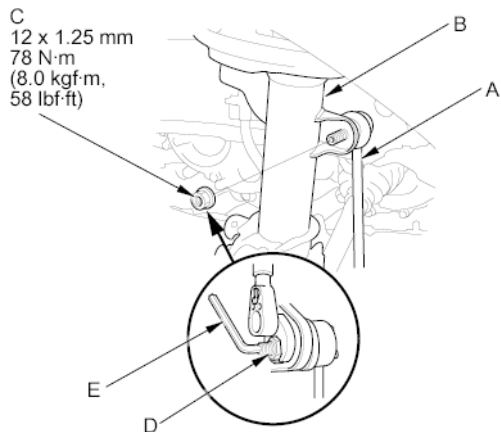
35. Disconnect the CKP sensor connector by removing the CKP sensor cover, then disconnecting the CKP sensor connector.



36. Remove the lower transmission housing bolts.



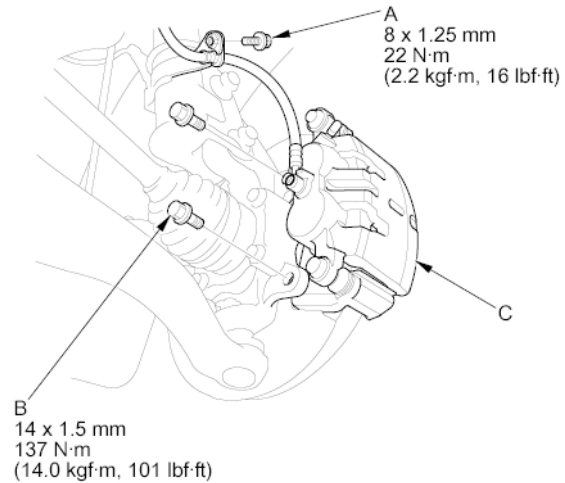
37. Separate the stabilizer links from the dampers.



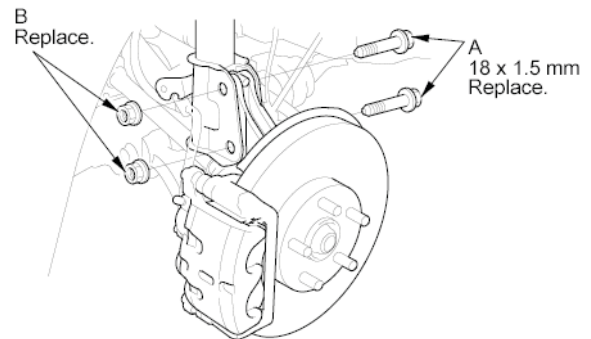
38. Remove the ABS sensor from the steering knuckle.

39. Remove the front brake calipers.

- Remove the brake line bracket from the damper.
- Remove the two brake caliper bolts.
- Support the brake calipers by hanging them from the dampers with a suitable strap.

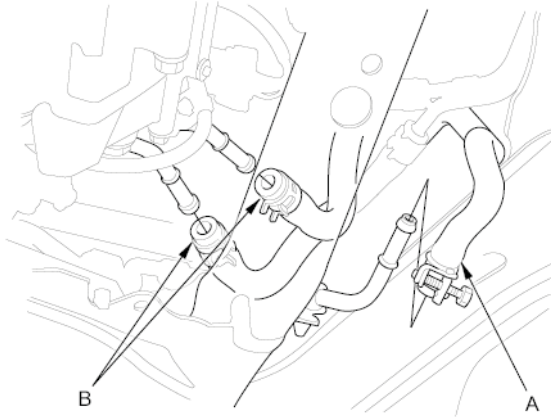


40. Separate the knuckles from the dampers by removing the two bolts.

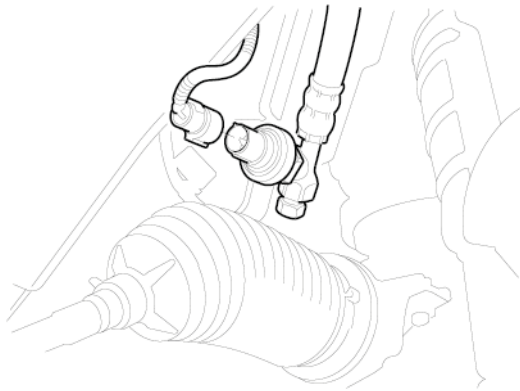




41. Disconnect the power steering hose, then plug the line and hose.



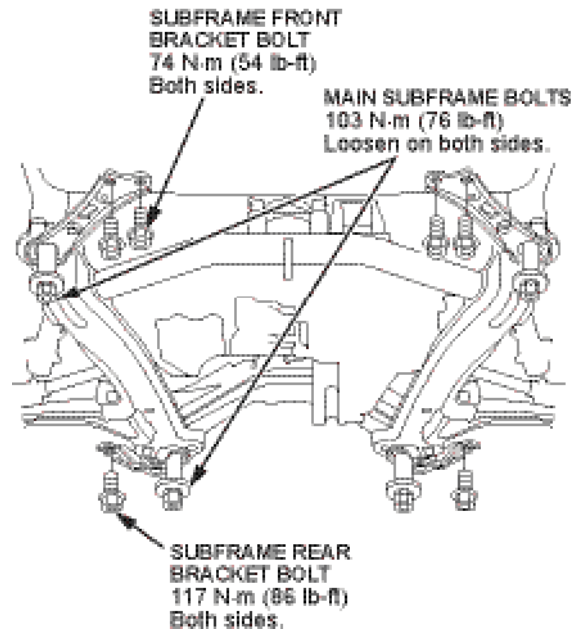
42. Disconnect the power steering pressure switch connector.



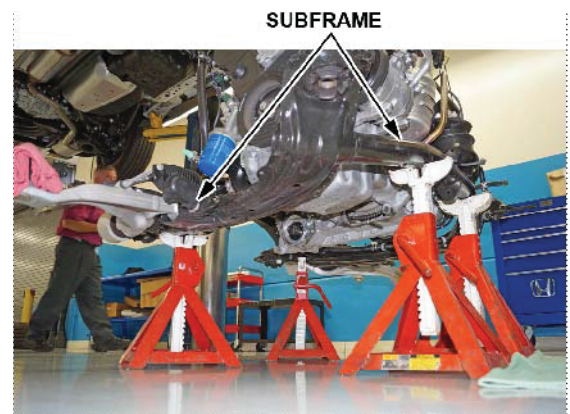
43. Remove the A/C high pressure line from the compressor, and cover the lines with tape.
44. Disconnect the electrical connector from the front and rear engine mounts.
45. Check that the engine/transmission and subframe are completely free of any hardware, electrical connections, and components.

46. Prepare the subframe assembly for removal.

- Remove the four 12 x 1.25 mm bolts for both the subframe front brackets.
- Remove the two 12 x 1.25 mm bolts for both the subframe rear brackets.
- Loosen but **do not** remove the four 14 X1.5 mm main subframe bolts.



47. Set up four equal sized jack stands (or equivalent equipment) under the vehicle's subframe immediate area.
48. Lower the vehicle until it is just above the jack stands.
49. Position the jack stands (or equivalent equipment) so that they are equally spaced in the front and the back of the subframe.
50. Lower the vehicle and set the subframe on the jackstands.



51. Remove the four 14 x 1.5 mm main subframe bolts.

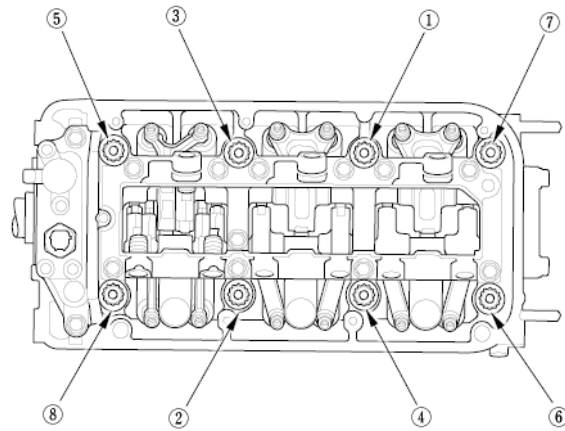
52. Check that the engine/transmission and subframe are completely free of any hardware, electrical connections, and components.
53. Slowly raise the vehicle. Make sure there are no components catching on the body.  
NOTE: Pay close attention to the propeller shaft, it may get snagged on the sway bar.



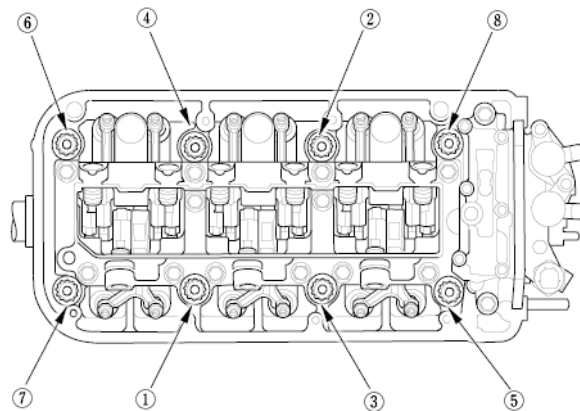
54. Drain the remaining coolant from the drain port at the rear of the engine block. Remove the block heater plug, and let the coolant drain into a suitable container.

55. Remove both cylinder heads. To prevent warping of the cylinder heads, loosen the bolts in sequence 1/3 turn at a time. Repeat the sequence until all of the bolts are loosened.  
NOTE: You can remove each head as an assembly.

**Front**

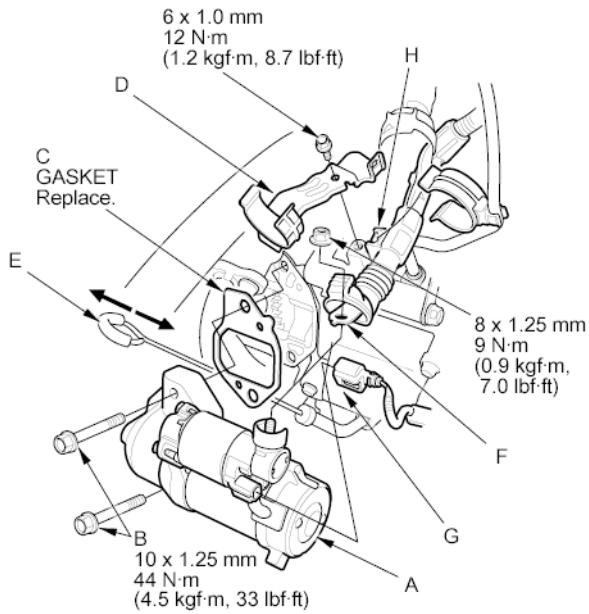


**Rear**

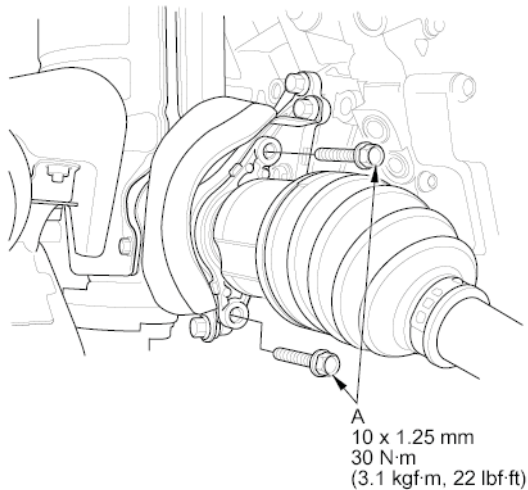


56. Remove the starter bolts.

NOTE: Leave the electrical harness connected to the starter. The starter does not need to be removed. Remove the bolts to allow for sufficient clearance when separating the engine from the transmission.

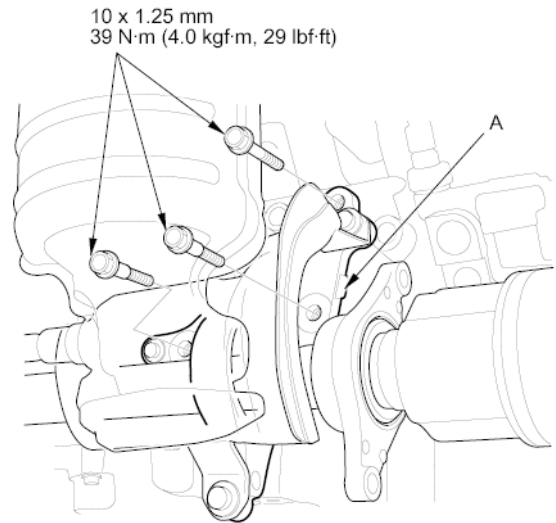


57. Remove the driveshaft bearing bracket bolts, and rotate the bearing bracket counter clockwise to gain access to the engine support bracket bolts.

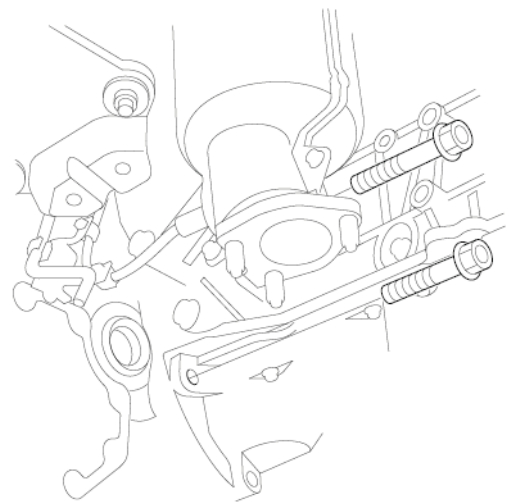


58. Remove the engine support bracket bolts.

NOTE: Do not remove the driveshaft assembly.

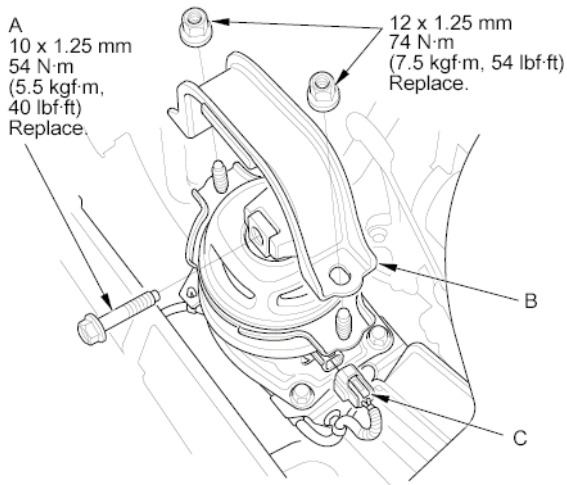


59. Remove the rear transmission housing bolts.



60. Support the transmission using a jack. Use either a piece of wood or rubber between the transmission and jack to prevent damage to the transmission housing.

61. Remove the front and rear engine mount stop, then remove the bolt.

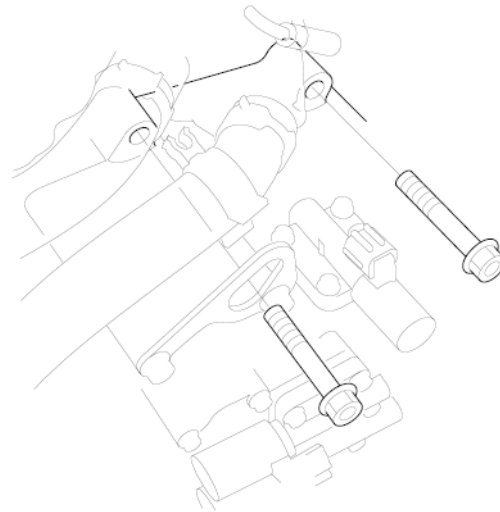


62. Use an engine hoist and straps to support the engine block for separation.

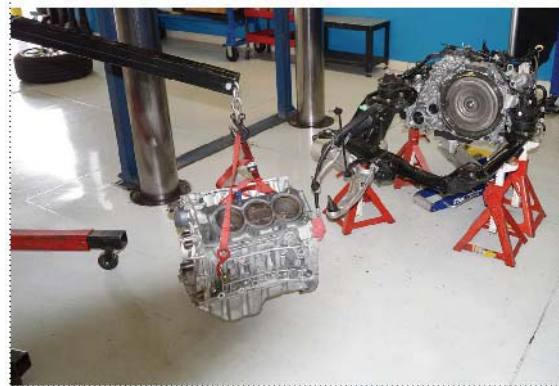
NOTE: There are several different methods to support the block. Use the one that best works for you.



63. Remove the upper transmission housing mounting bolts.



64. Lift the engine block from the subframe assembly, being careful not to shift the transmission off the jack.



65. Transfer any remaining components from the old engine block to the new engine block including:

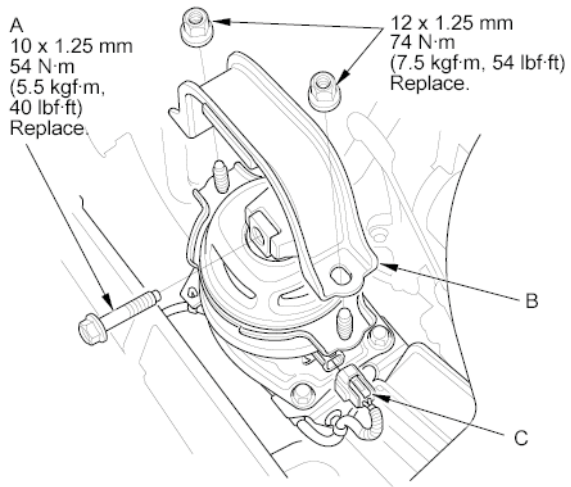
- Front and rear engine mount brackets
- Timing belt idler pulleys
- Torque converter flex plate

66. Use an engine hoist and straps to support the new engine block for reattachment to the transmission.

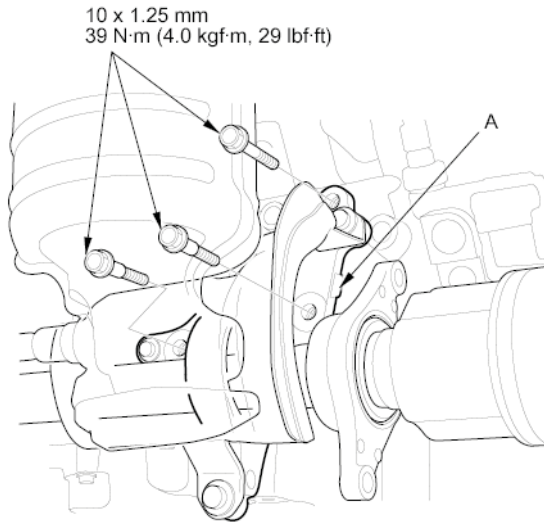
67. Reattach the engine block to the transmission in the reverse order of removal.



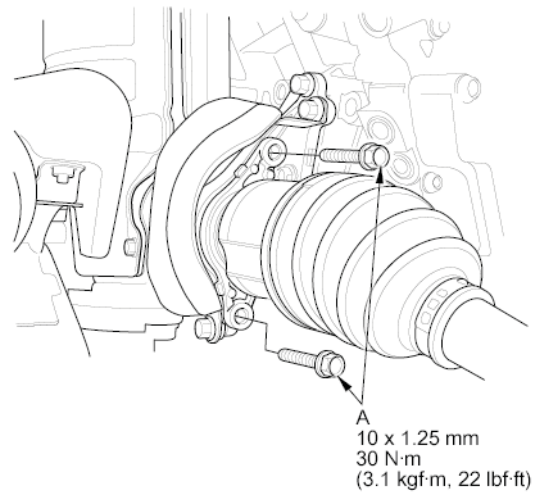
68. Reinstall the front and rear engine mount bolts and engine mount stop.



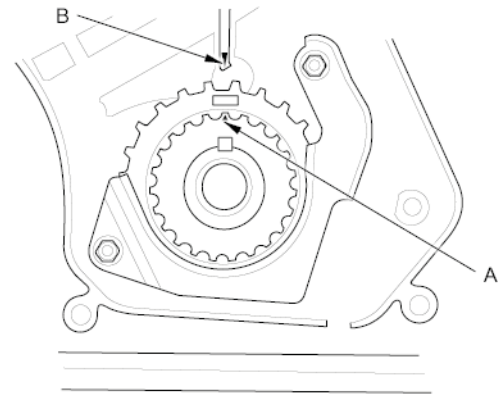
69. Reinstall the engine support bracket bolts.



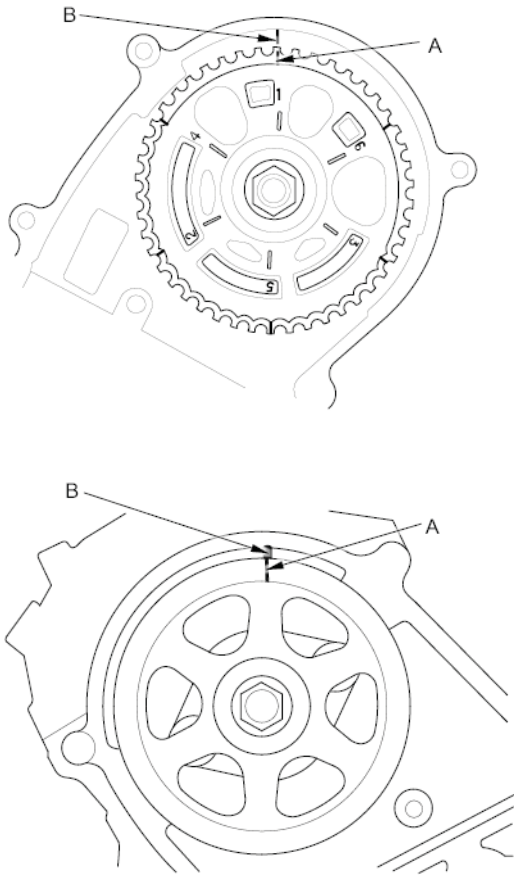
70. Reinstall the driveshaft bearing bracket bolts.



71. Set the timing belt drive pulley to TDC (top dead center).



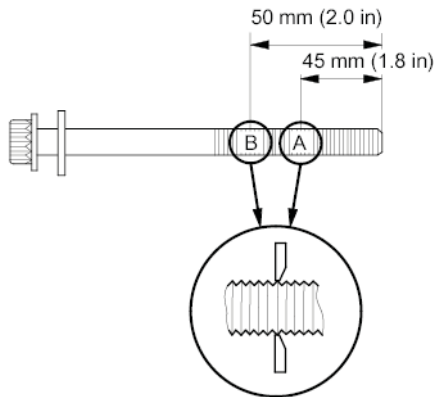
72. Set the camshaft pulleys to TDC.



73. Reinstall the cylinder heads on the engine block.

74. Measure the diameter of each cylinder head bolt at 50 mm (2.0 in) and 45 mm (1.8 in) from the threaded end of the bolt.

NOTE: If either diameter is less than 11.3 mm (0.44 in), replace the cylinder head bolt.

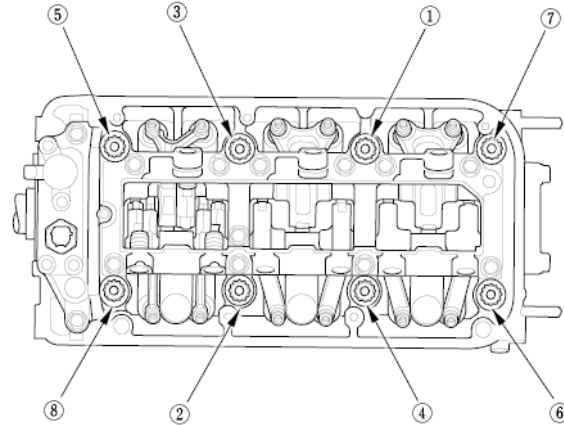


75. Apply new engine oil to the threads and under the bolt heads of all cylinder head bolts.

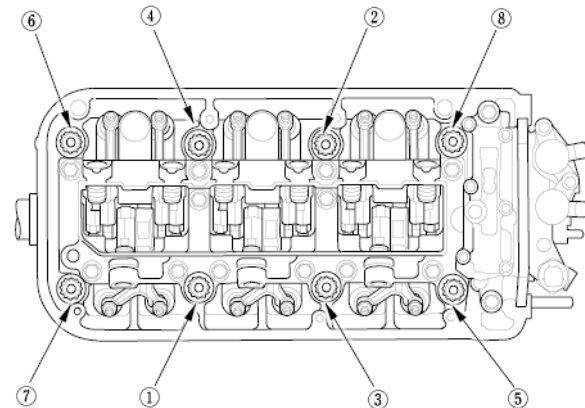
76. Torque the cylinder head bolts in sequence to **29 N•m (3.0 22 lb-ft)** using a beam-type torque wrench.

NOTE: Be sure to tighten each bolt slowly and do not overtighten. If a bolt makes any noise while you are torquing it, loosen the bolt and retighten it from the first step.

**Front**



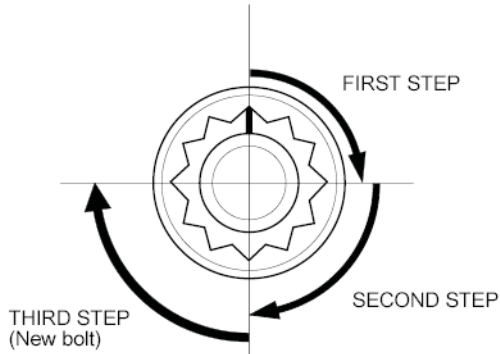
**Rear**





77. After torquing the cylinder head bolts, tighten them in two steps (90 degrees per step) in sequence. If you are using a new cylinder head bolt, tighten the bolt an additional 90 degrees.

NOTE: If you tighten a cylinder head bolt beyond the specified angle, go back to step 73 of the procedure. Do not loosen it back to the specified angle.



78. Install remaining engine components in the reverse order of removal.

79. Slowly lower the vehicle until it is right above the engine/transmission assembly.

NOTE: Make sure there are no components sticking out that may get caught on the body when the vehicle is being lowered

80. Position the subframe for reinstallation to the body.

81. Insert the four main subframe bolts and brackets, and tighten them until they are snug.

NOTE: Do not torque the bolts because subframe adjustment will be necessary once the vehicle has been lifted.

82. Raise the vehicle.

83. Adjust the subframe using the appropriate tool and torque all bolts.

84. Reinstall remaining components in the reverse order of removal.

85. Refill all fluids and do an alignment.