



CAMPAIGN BULLETIN

Fuel Injector Replacement Retailer Inventory

Reference: P8315
Date: July 20, 2018

Attention: Retailer Principal, Sales, Parts and Service Managers

Affected Models/Years:	Affected Population:	Retailer Inventory:	SERVICE COMM Activation date:	Stop Sale In Effect
MY2019 QX50 (J55)	NA	53	July 20, 2018	NO

***** Retailer Announcement *****

INFINITI is conducting a quality action to replace the high pressure fuel injectors on **53** specific MY 2019 INFINITI QX50 (J55) vehicles in new inventory. A misfire condition may occur due to insufficient fuel volume injection resulting in malfunction indicator light (MIL) illumination.

Affected vehicles are **not** subject to stop sale and are either currently in retailer inventory or assigned and in transit to the retailer. INFINITI requests retailers to remedy all affected inventory vehicles prior to sale to ensure client satisfaction.

***** What Retailers Should Do *****

PLEASE FOLLOW THE ATTACHED REPAIR INSTRUCTIONS:

1. Verify if vehicles are affected by this client satisfaction initiative using Service Comm or DBS National Service History – Open Campaign I.D. **P8315**
 - New vehicles in retailer inventory can also be identified using DBS (Sales-> Vehicle Inventory, and filter by Open Campaign).
 - Refer to IPSB 15-286 for additional information
 - Please continue to check newly arriving inventory for campaign applicability.
2. Use the attached procedure to replace the high pressure fuel injectors.
 - INFINITI has developed an automatic parts shipment to provide affected retailers with enough parts to repair their affected inventory plus any affected INFINITI Courtesy Vehicles (ICV). Parts will begin arriving at retailers by Tuesday, July 24, 2018.
3. The service department should submit the applicable warranty claim for the action performed so it can be closed on Service Comm and release the vehicle.

***** Retailer Responsibility *****

It is the retailer's responsibility to check Service Comm or DBS National Service History – Open Campaign using the appropriate campaign I.D for the inspection status on each affected vehicle currently in new vehicle inventory.

Thank you for your prompt attention to this matter and we apologize for any inconvenience this may have caused.

P8315 – QX50 (J55) DIRECT FUEL INJECTORS

SERVICE PROCEDURE:

IMPORTANT: Follow all warnings, cautions, and notes in the Electronic Service Manual (ESM) when working on the high pressure fuel system, such as a high pressure fuel pump.

1. Set the vehicle on a lift, and then open the hood.
2. Release fuel pressure in the fuel lines:
 - a. Remove the cover, and then unfasten and carefully flip over the IPDM E/R.
 - b. Remove the # F11 20 amp fuel pump fuse (see arrow in Figure 1).

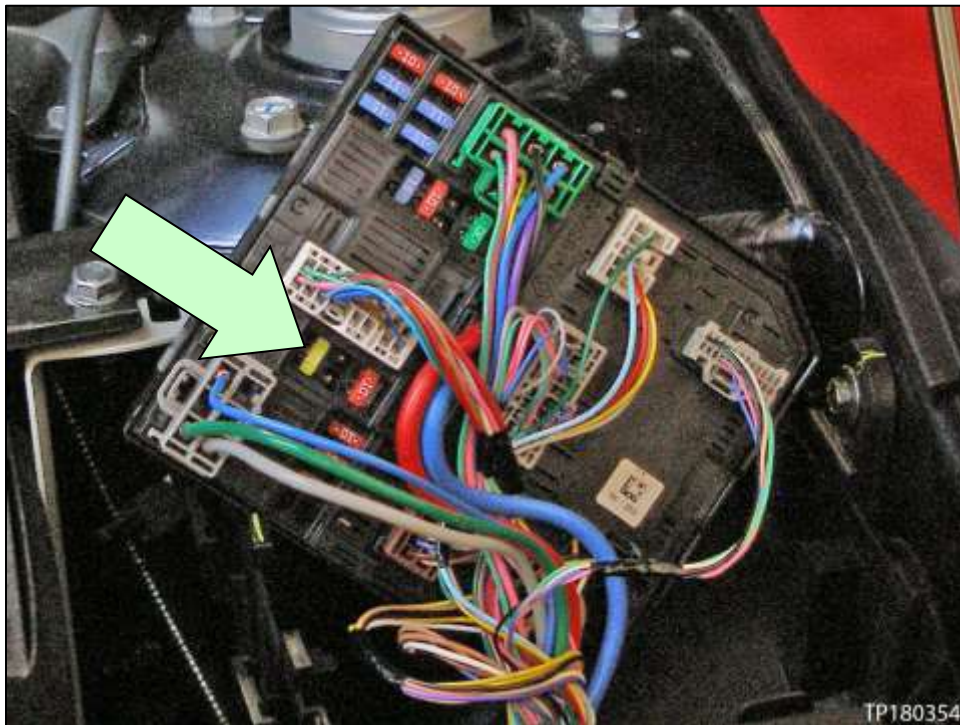


Figure 1

- c. Start the engine, and then let it idle until it stops.

NOTE: Revving the engine a few times will make the engine stop sooner.
- d. After the engine stops, crank the engine a few times to release all fuel pressure.
- e. Turn the engine OFF.

3. Disconnect both battery cables, negative cable first, and then wait at least three (3) minutes before going to step 4.
 - Make sure the battery cable clamps do not come in contact with the battery posts.



Figure 2

4. Remove the coolant reservoir cap.
 - Reinstall the coolant reservoir cap once the coolant is done draining.

WARNING: Do not remove the radiator cap when engine is hot.



Figure 3

5. Remove the front under cover.



Figure 4

- c. Drain the coolant.
 - a. Set a drain pan below the radiator drain plug.
 - b. Remove the radiator drain plug.

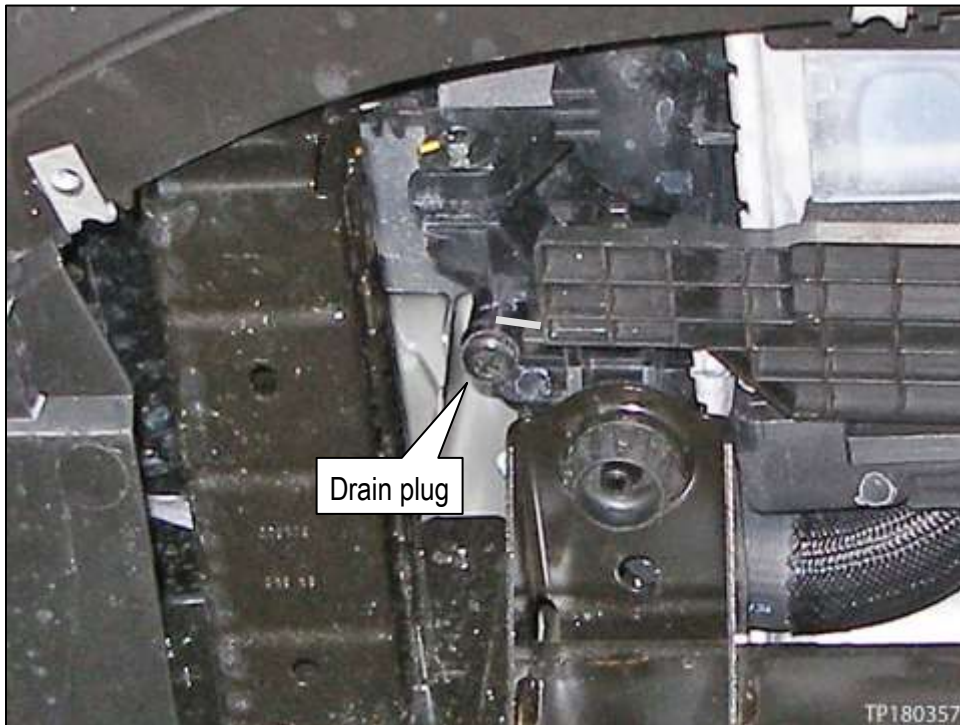


Figure 5

6. Remove the engine cover.
 - The engine cover is held on with rubber insulators. Grab one corner, and then carefully pull up.



Figure 6

7. Remove the air cleaner and air duct:
 - a. Disconnect the mass air flow sensor connector, and then unfasten the electrical harness clip (see white oval in Figure 7).
 - NOTE:** All electrical harness clips will be reused throughout the repair procedure.
 - b. Remove the nut and bolts (see arrows in Figure 7).

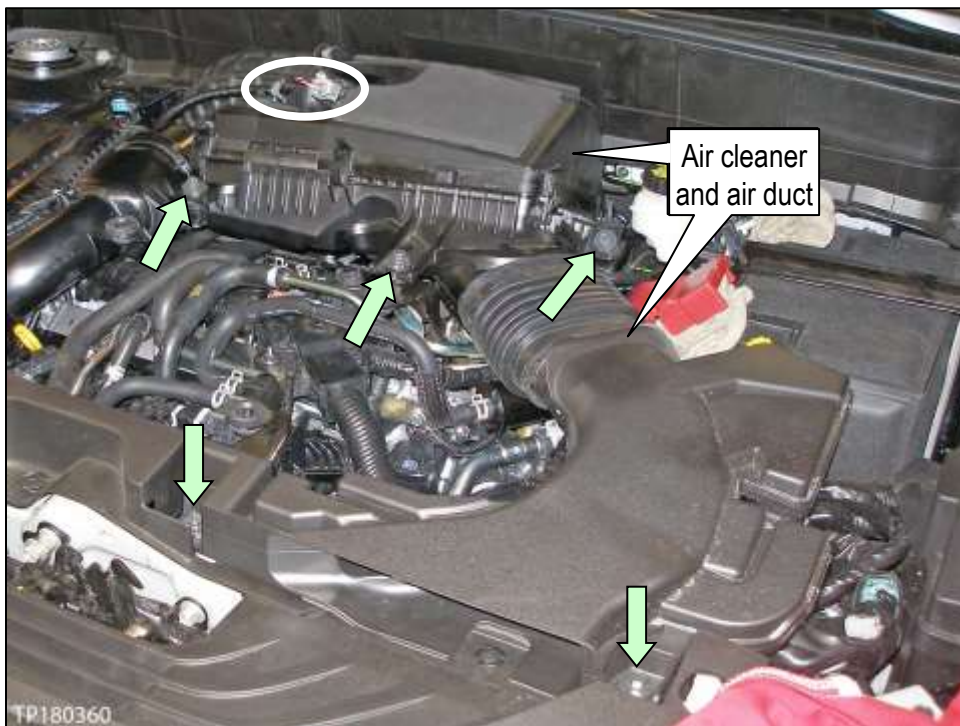


Figure 7

- c. After removing the air cleaner assembly, cover air duct 1's opening with a clean shop cloth or other suitable covering.

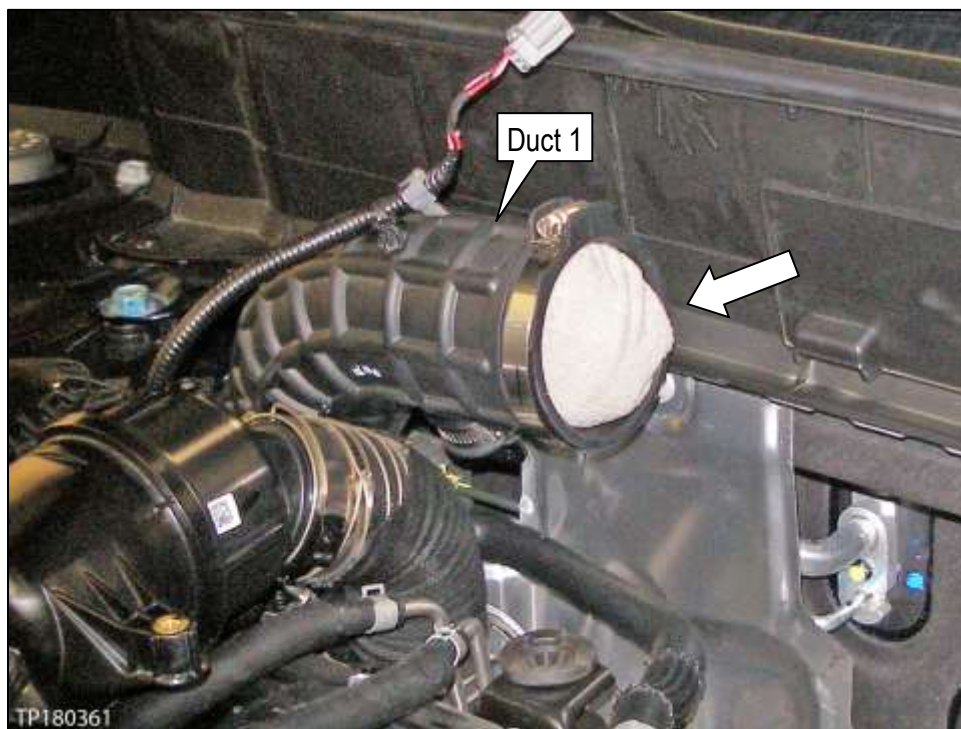


Figure 8

- 8. Move the air inlet resonator out of the way:
 - a. Remove the bolts (see arrows in Figure 9).

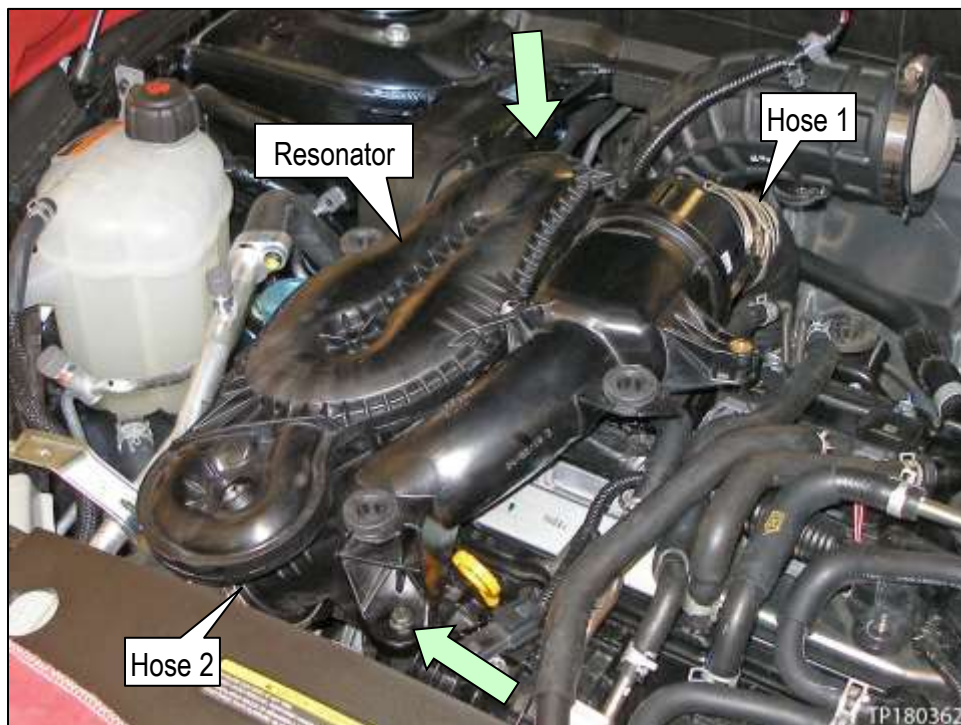


Figure 9

- b. Disconnect air inlet hose 1 and air inlet hose 2 (see previous page, Figure 9).
- Using a screwdriver or suitable tool at (B), move the spring upward, and then pull off the related air inlet hose.

1-spring; A-arrow view; B-insert tool; C-spring movement direction; D-tabs

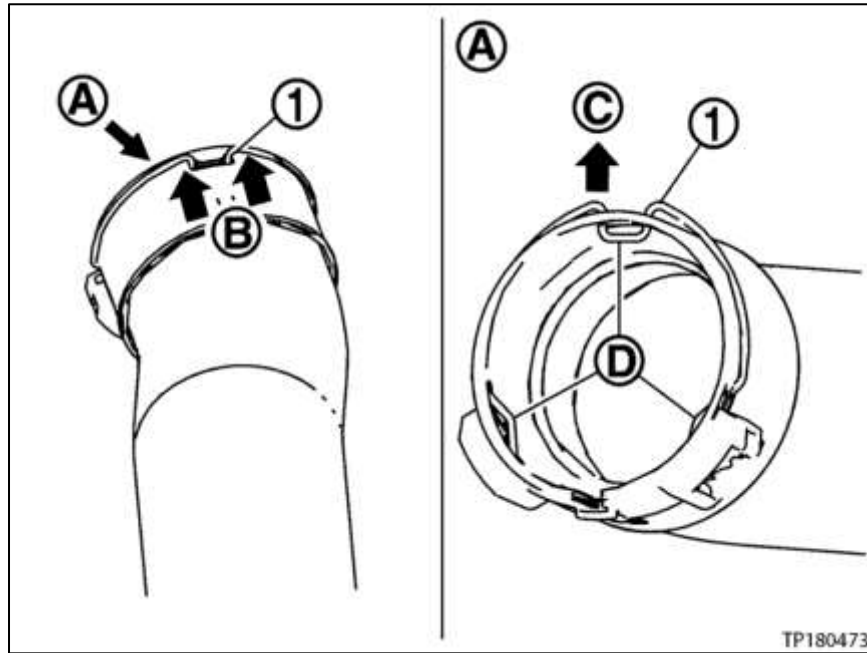


Figure 10

- c. Carefully flip over the air inlet resonator out of the way to the passenger side.
- Cover the duct openings with clean shop cloths or other suitable covering.

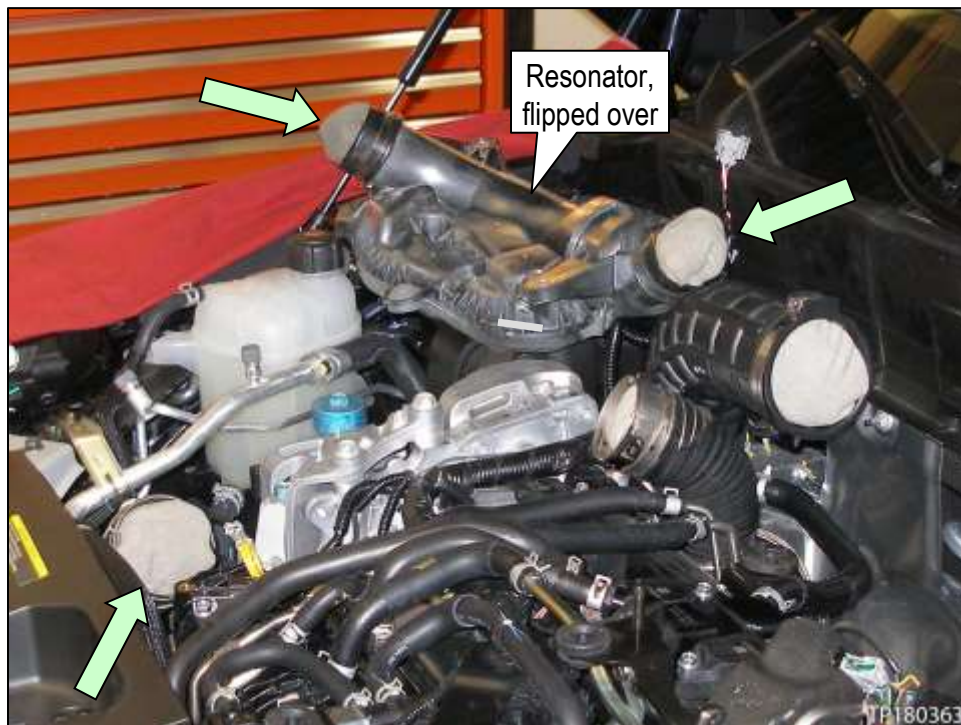


Figure 11

9. Remove the core support cover:
 - a. Remove the core support cover clips.
 - See arrows for clip locations.

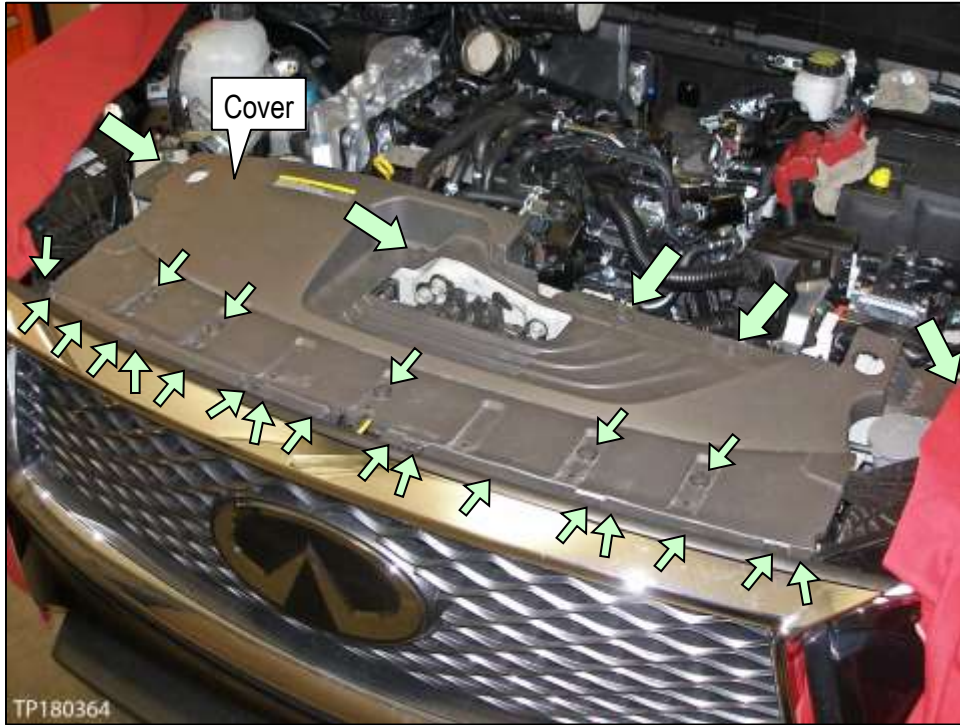


Figure 12

- b. Slide out the core support cover from under the white clip.
NOTE: The white clip is mounted on the radiator core support.
 - c. Remove the core support cover by sliding it toward the engine, and then lifting out.

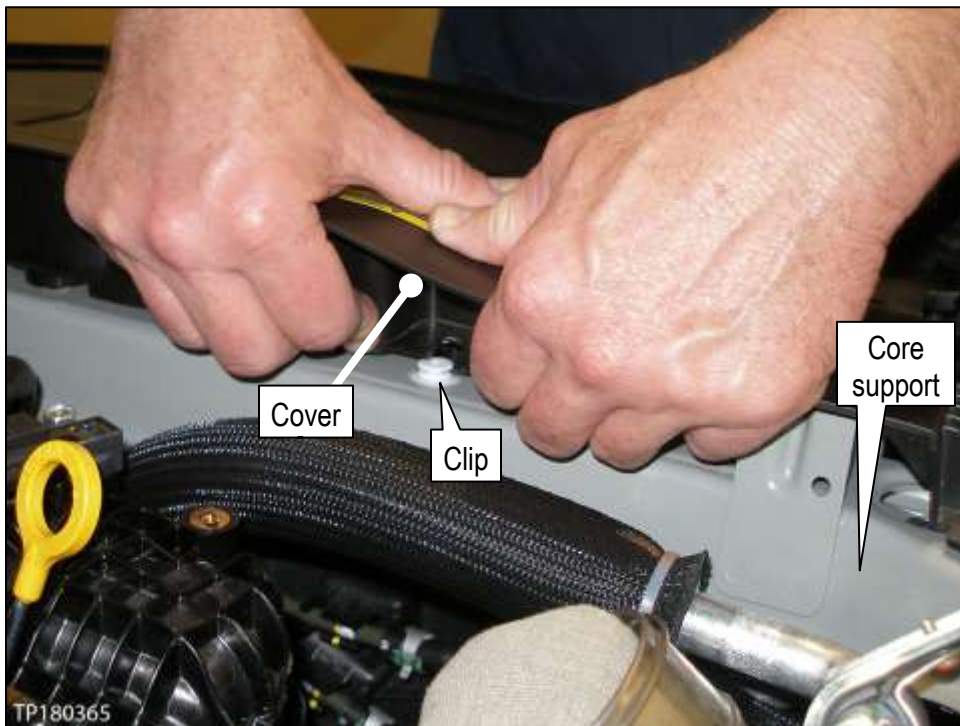


Figure 13

10. Disconnect the crash zone sensor connector.

- Carefully use a pick or similar tool to unlatch the connector, and then pull off the connector.

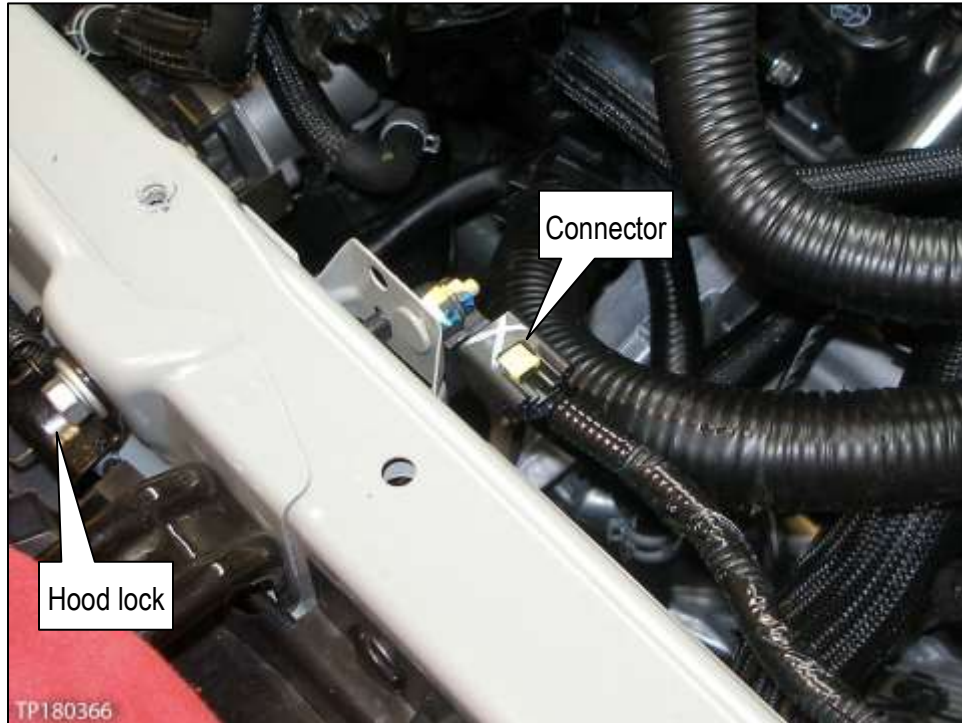


Figure 14

11. Remove the upper fascia retainer supports.

- Remove the bolts and clips (see arrows in Figure 15).

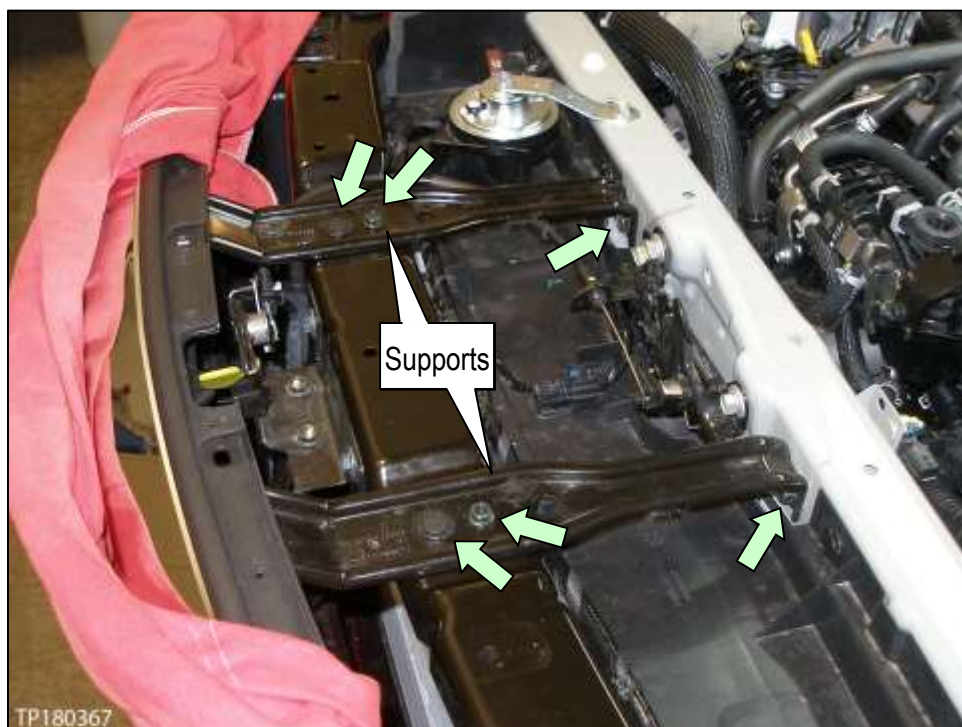


Figure 15

12. Remove the “low” horn.

- a. Disconnect the two (2) electrical connectors.
- b. Remove the bolt (see white circle in Figure 16).

13. Remove the hood lock:

- a. Disconnect the harness connector.
- b. Unfasten the secondary latch cable from the hood lock only.

CAUTION: Be careful not to bend the cable too much, keeping the radius 100 mm (3.94 in) or more.

- c. Remove the three (3) bolts (see arrows in Figure 16).

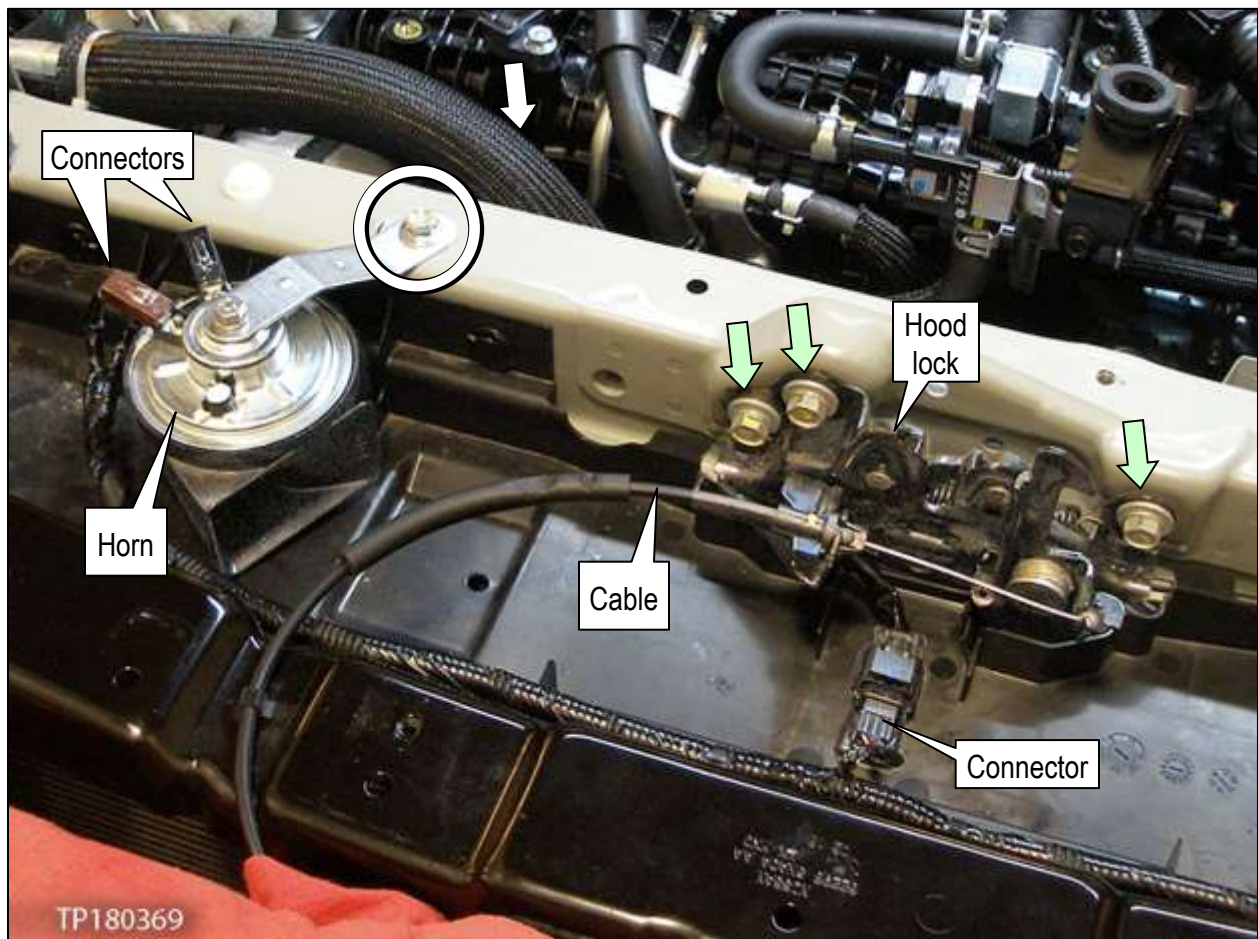


Figure 16

- d. Flip over the hood lock, and then remove the hood lock release cable.

CAUTION: Be careful not to bend the cable too much, keeping the radius 100 mm (3.94 in) or more.

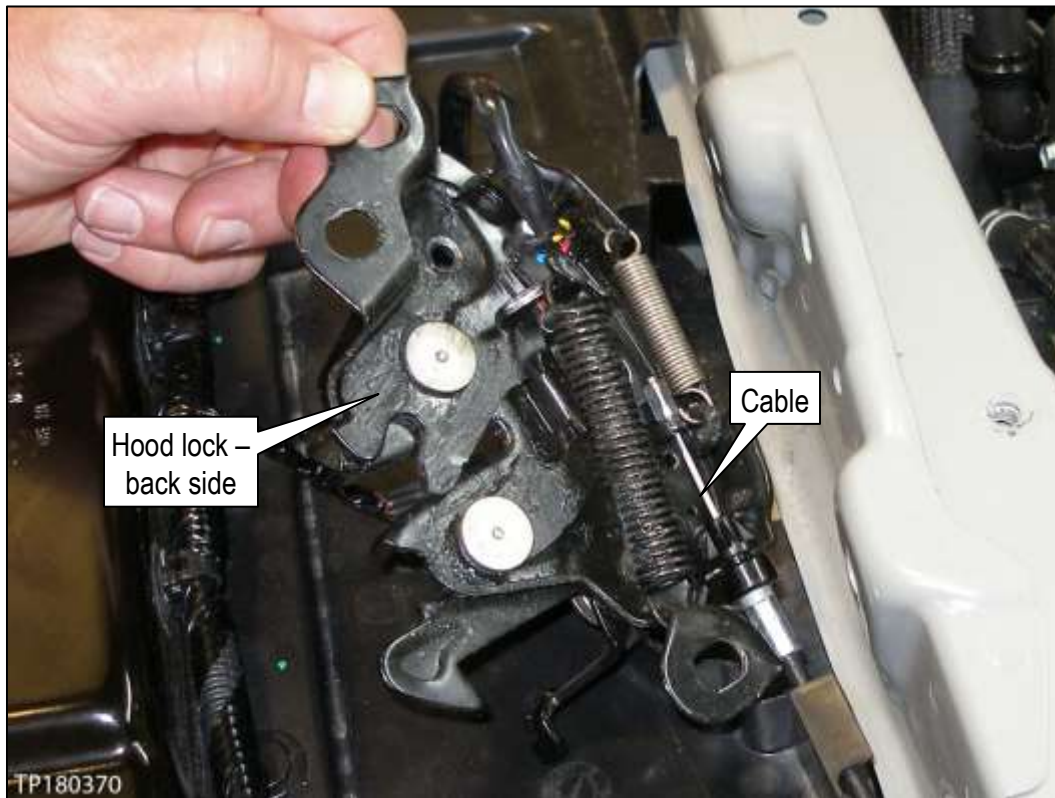


Figure 17

14. Remove the upper air guide:

- a. Unfasten the clips (see arrows in Figure 18).

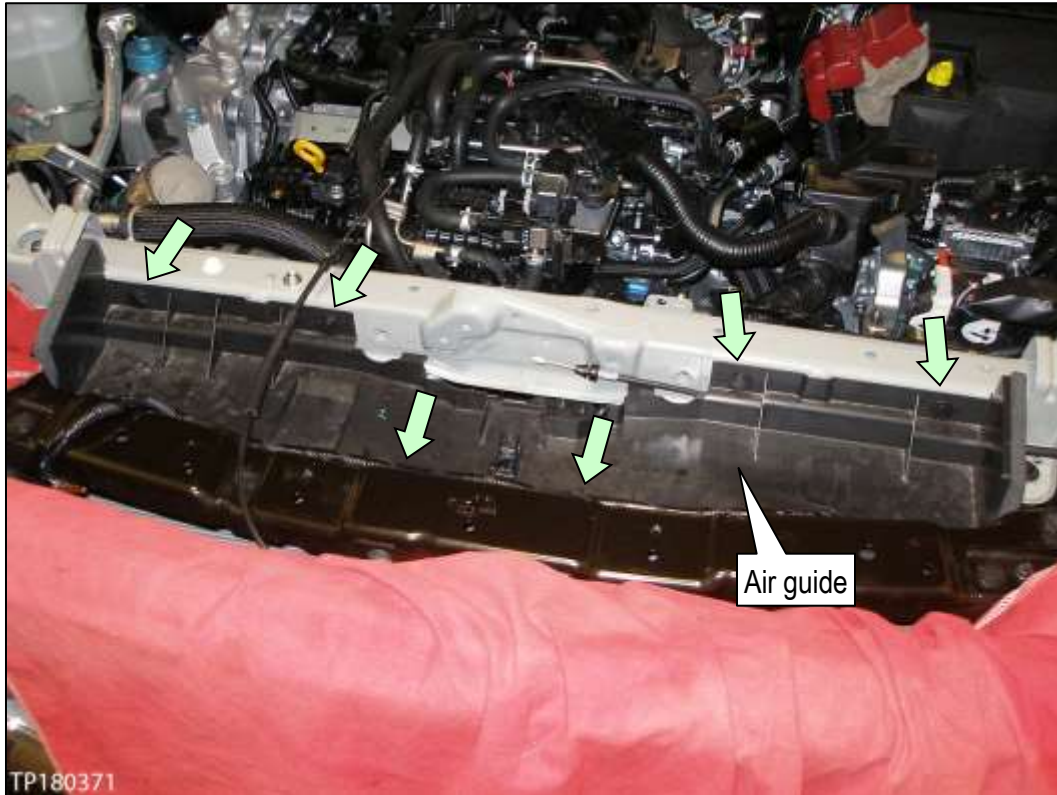


Figure 18

- b. Flip over the upper air guide, and then unfasten the harness connector clip.



Figure 19

15. Unfasten the washer tank inlet clip.

16. Unfasten the white clip, and then remove the hood lock release cable from the white clip.

NOTE: The black hood lock release cable clip will be unfastened from the radiator core support in step 20.

17. Remove the two (2) bracket bolts (see white circle in Figure 20).

18. Remove the six (6) radiator core support bolts (see arrows in Figure 20).

19. Remove the low pressure flexible hose bracket bolt.

- The low pressure flexible hose bracket needs to be slightly moved for radiator core support removal.

CAUTION: Do not allow the low pressure flexible hose to move excessively.

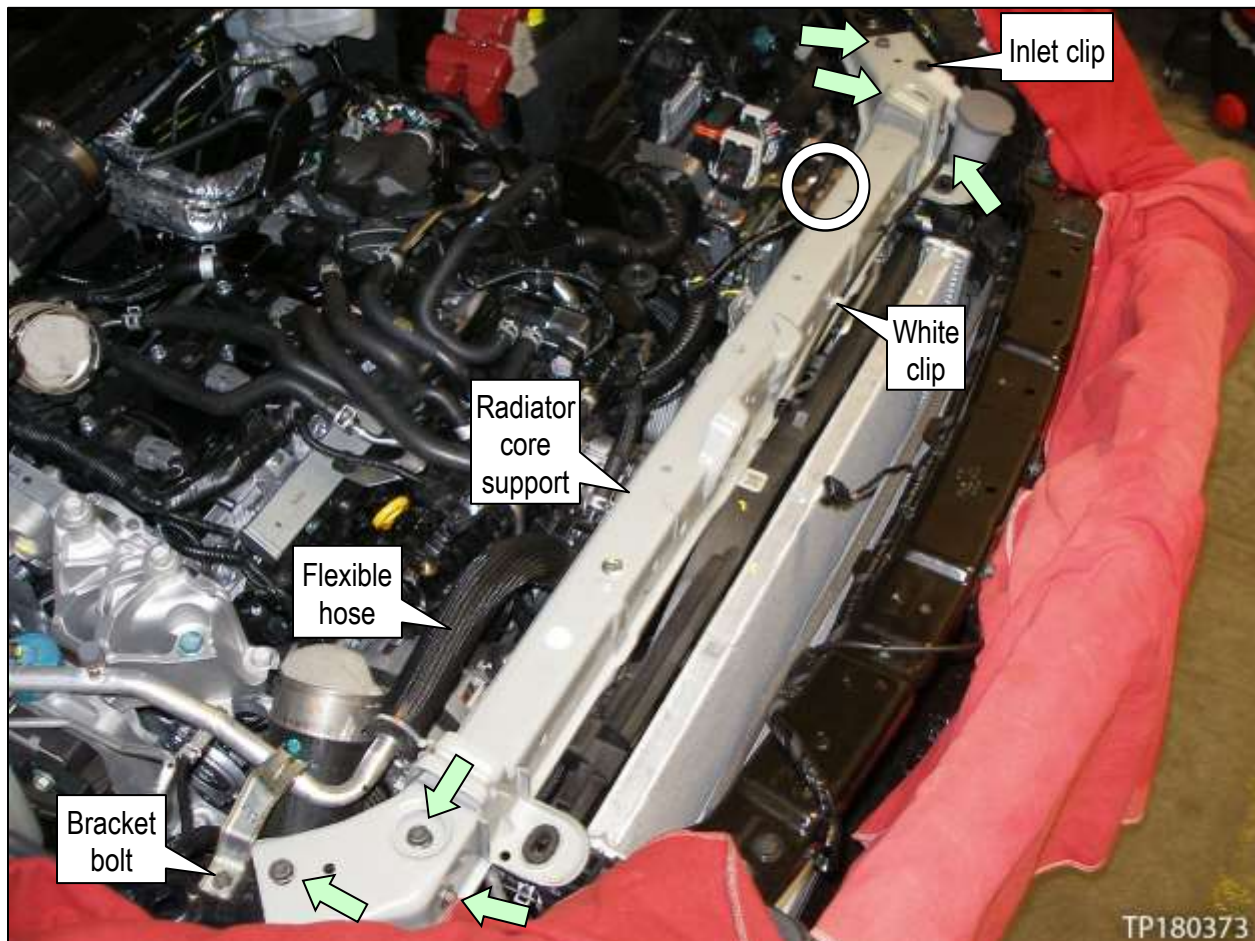


Figure 20

20. Remove the radiator core support, flip it over, and then unfasten the black hood lock release cable clip from the radiator core support.

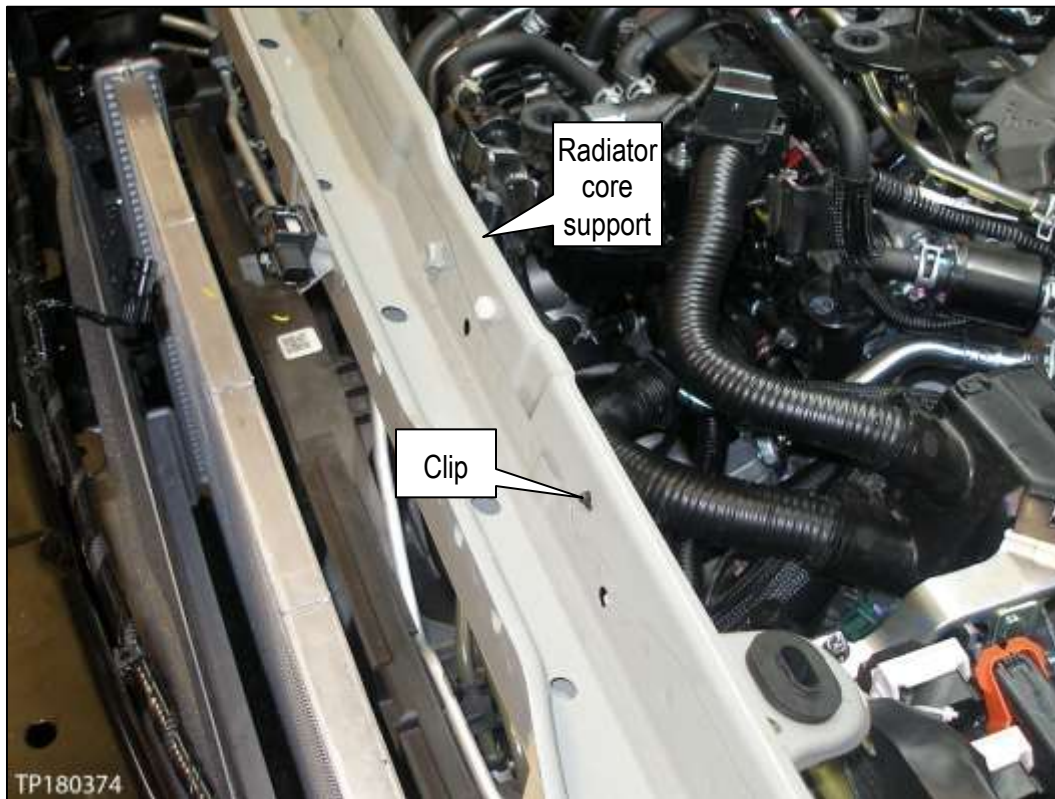


Figure 21

21. Unclamp, and then disconnect the one end of each of the four (4) hoses (see arrows in Figure 22).
22. Disconnect the EVAP canister purge volume control solenoid valve electrical connector, and harness clip (see white circles in Figure 22).



Figure 22

23. Disconnect the MAP sensor connector (see circle in Figure 23).
24. Unclamp, and then disconnect the one end of each of the four (4) turbo water inlet and outlet hoses from the metal coolant tubes (see arrows in Figure 23).
25. Remove the two (2) bolts (see Figure 23).
26. Unfasten the harness clip, and then remove the metal coolant tube assembly.

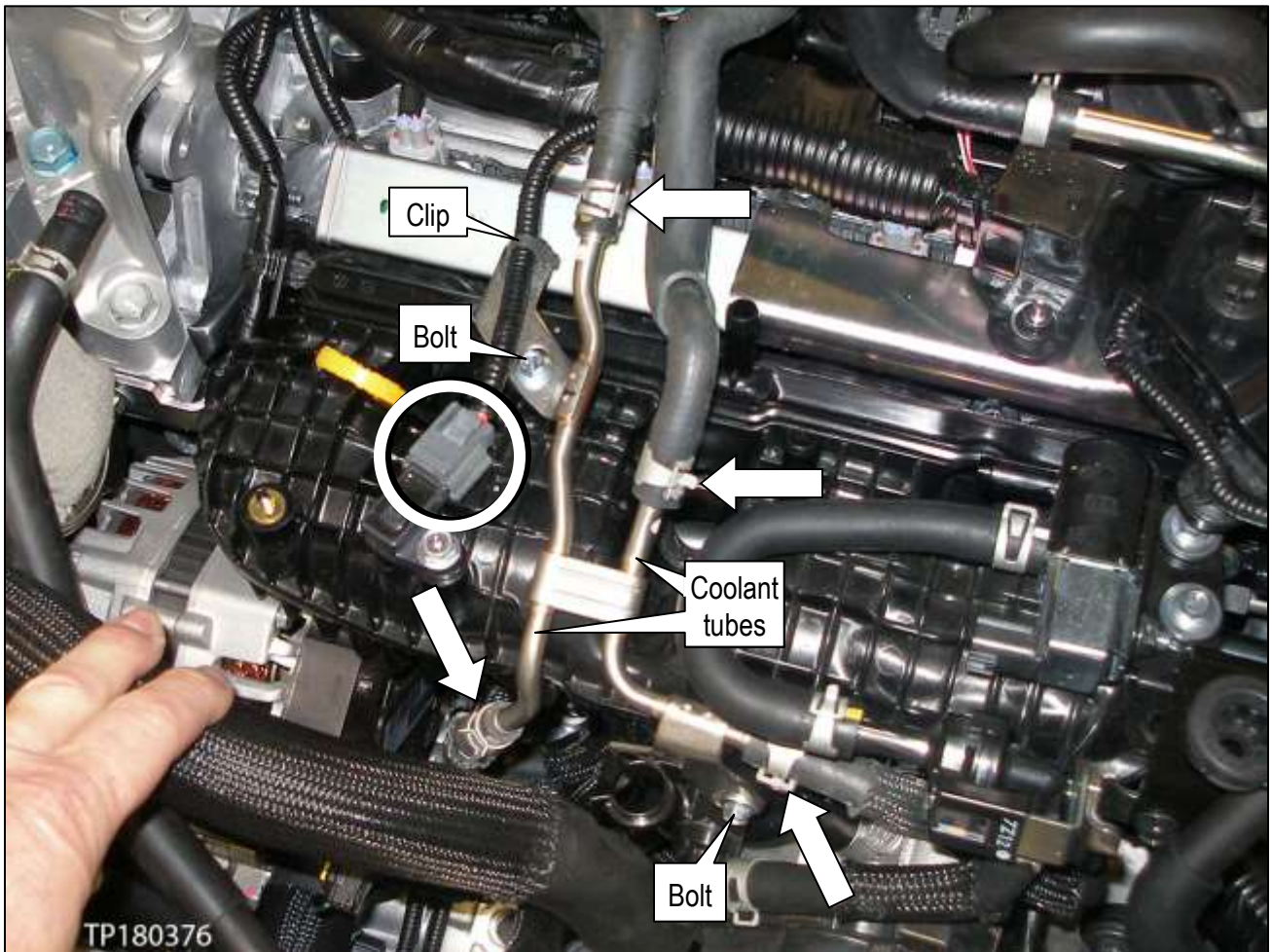


Figure 23

27. Remove the bracket bolt, and then move the EVAP hose out of the way (this will give easier access for the next step).
28. Unclamp the clamps, and then disconnect the heater hose and water hose A.
 - See white arrows in Figure 24.
 - Once disconnected, push the hoses out of the way.
29. Disconnect the intake manifold runner control valve motor connector.

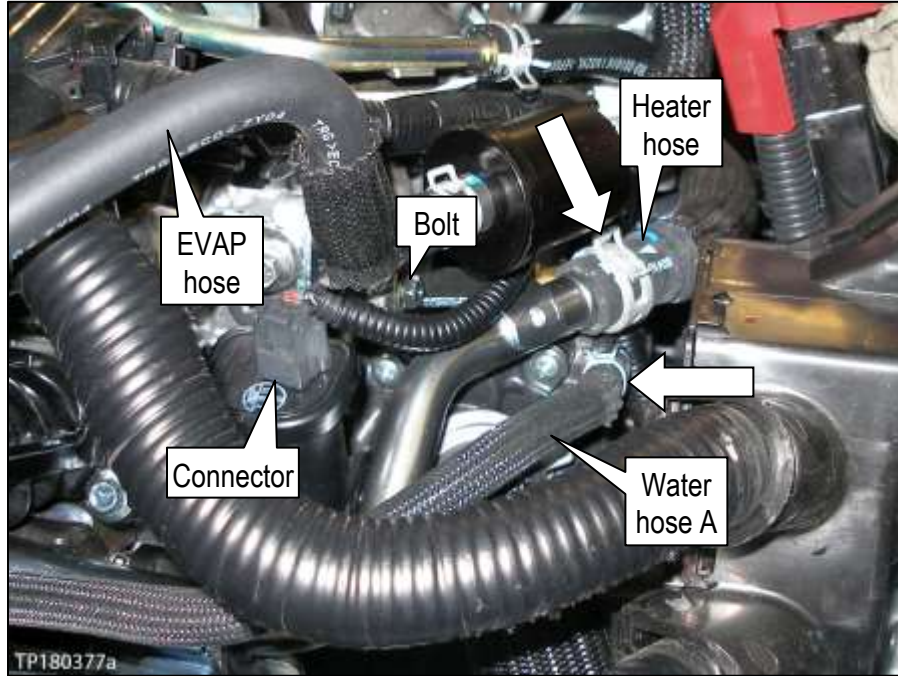


Figure 24

30. Disconnect the intake manifold runner control valve position sensor connector.
31. Unfasten the harness clip on the intake manifold.

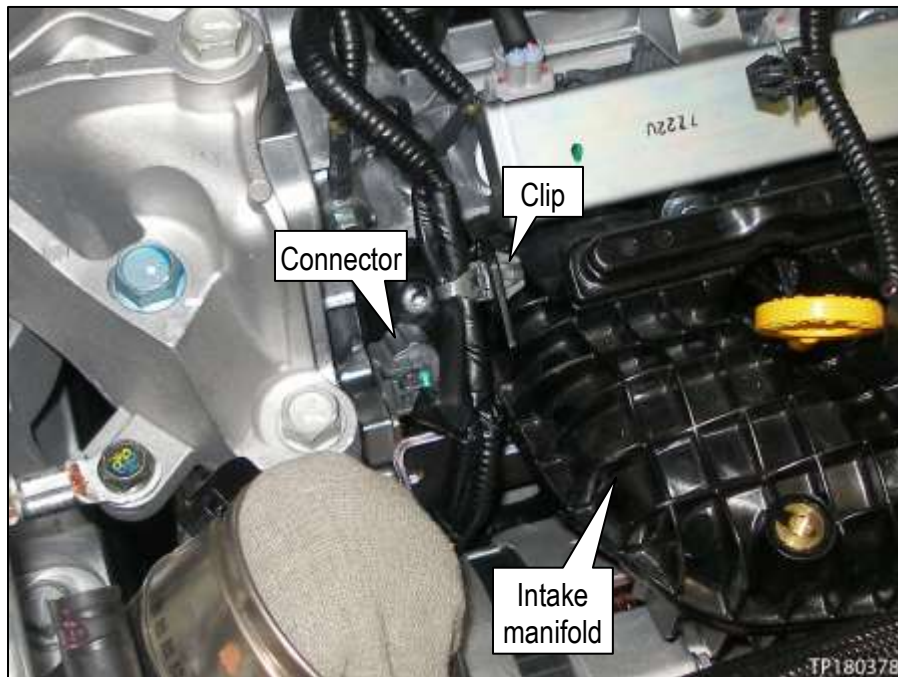
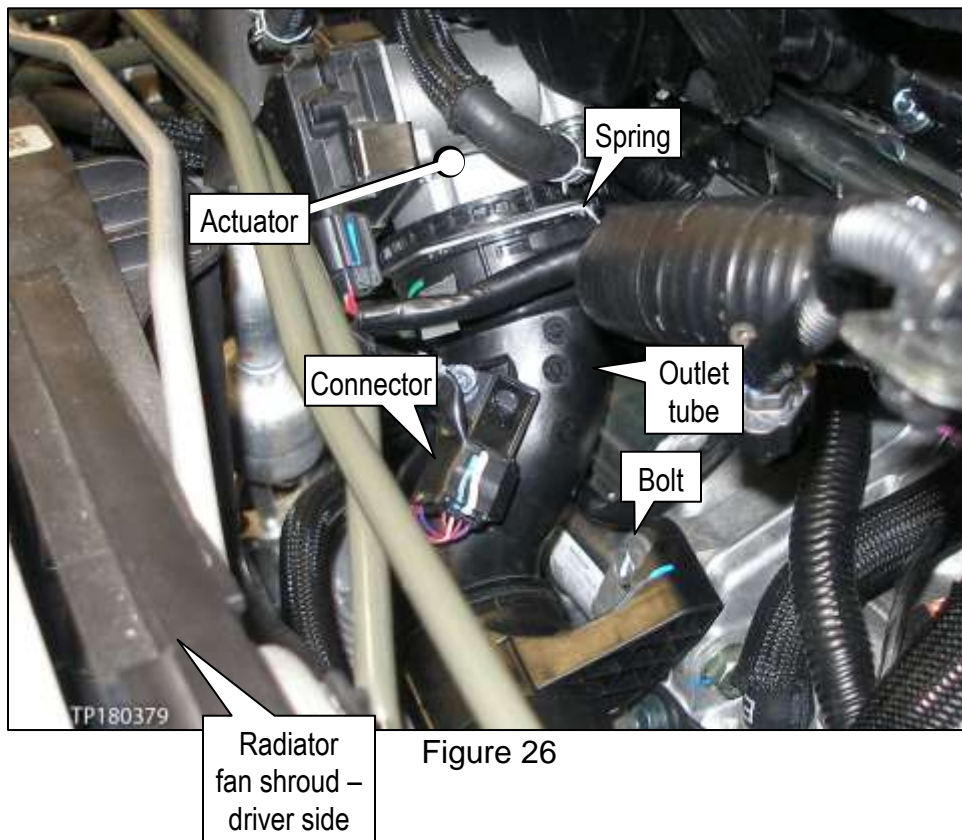


Figure 25

32. Remove the air outlet tube bolt.

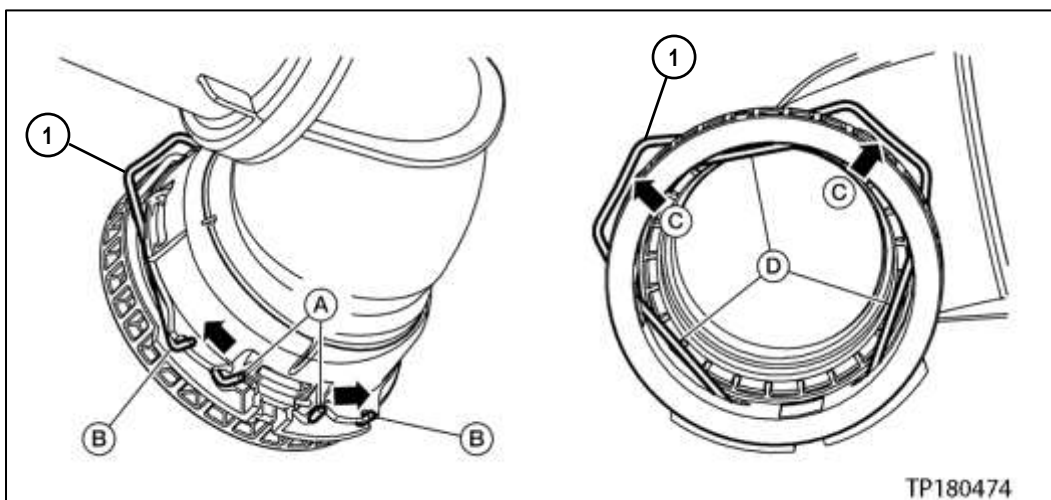
33. Disconnect the electronic throttle control actuator connector.



34. Disconnect the air outlet tube from the electronic throttle control actuator.

- Using a screwdriver or suitable tool at (C), move the spring upward until it is in the unlocked position, and then pull off the air outlet tube.

1-spring; A-locked position; B-unlocked position; C-spring movement direction; D-tabs



35. Remove the oil level gauge.



Figure 28

36. Remove the intake manifold:

- a. Loosen the intake manifold bolts in the sequence shown in Figure 29, and then remove them.

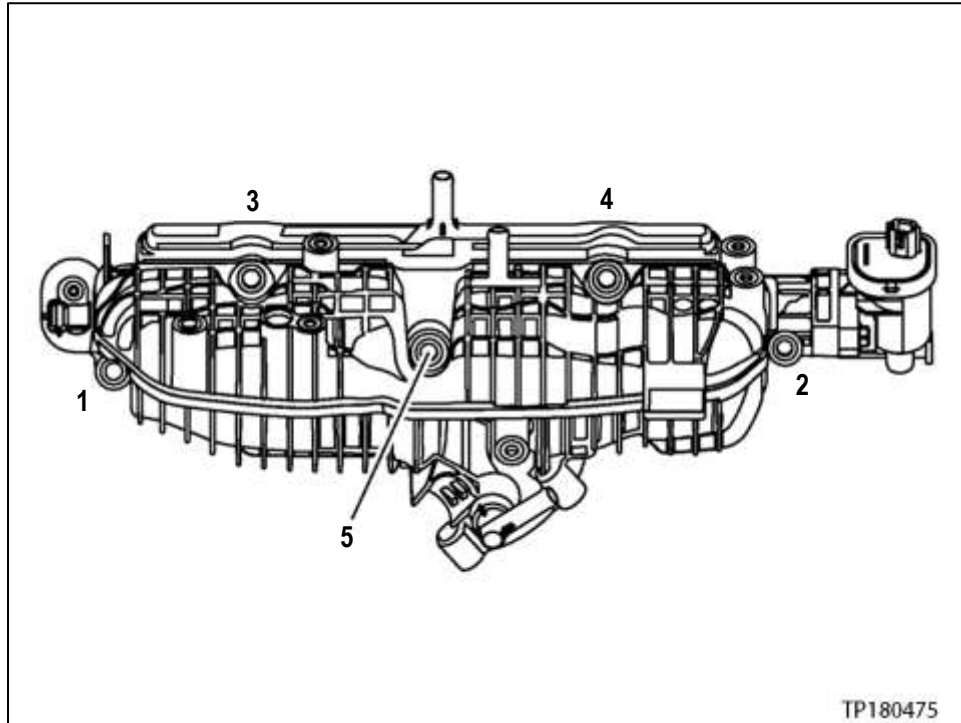


Figure 29

- b. Carefully remove the intake manifold.



Figure 30

- c. Cover all openings – cylinder head intake ports and air outlet tube – with clean shop cloths or other suitable covering (see arrows in Figure 31).



Figure 31

37. Remove the water inlet pipe and oil level gauge guide:
- a. Remove the oil level gauge guide bolt.
 - b. Unfasten the harness clip.
 - c. Remove the three (3) water inlet pipe bolts (see arrows in Figure 32).

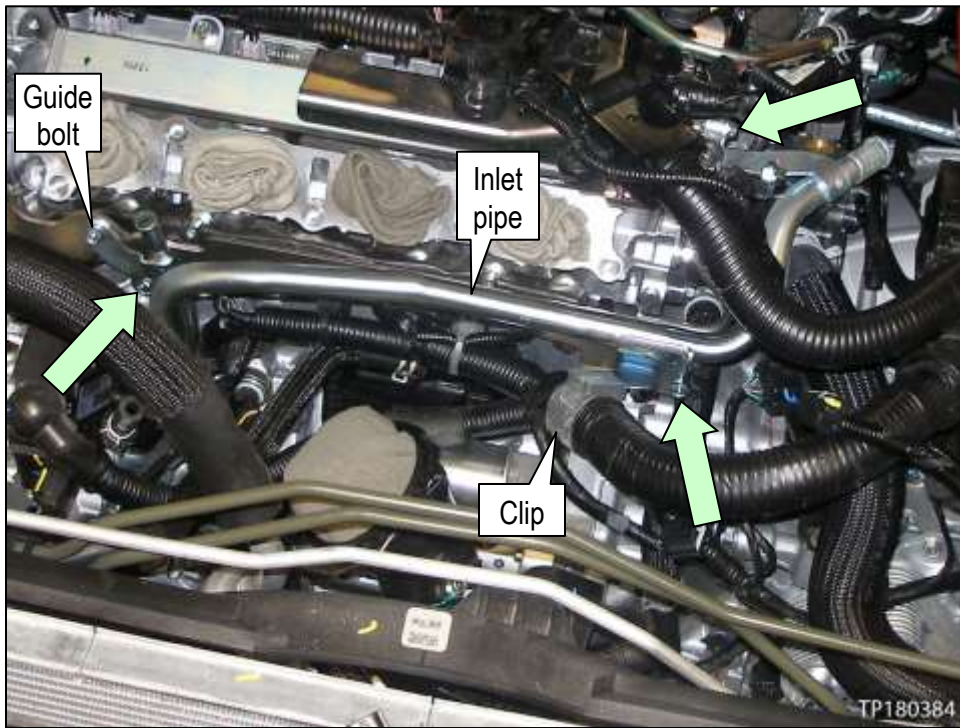


Figure 32

- d. Wiggle out the water inlet pipe from the engine block.
- e. Remove the oil level gauge guide.
- f. Cover the oil level gauge guide's hole in the block with suitable covering.
- g. Unfasten the harness clip.
- h. Remove the water inlet pipe, and then cover the water inlet pipe's hole in the block with suitable covering.

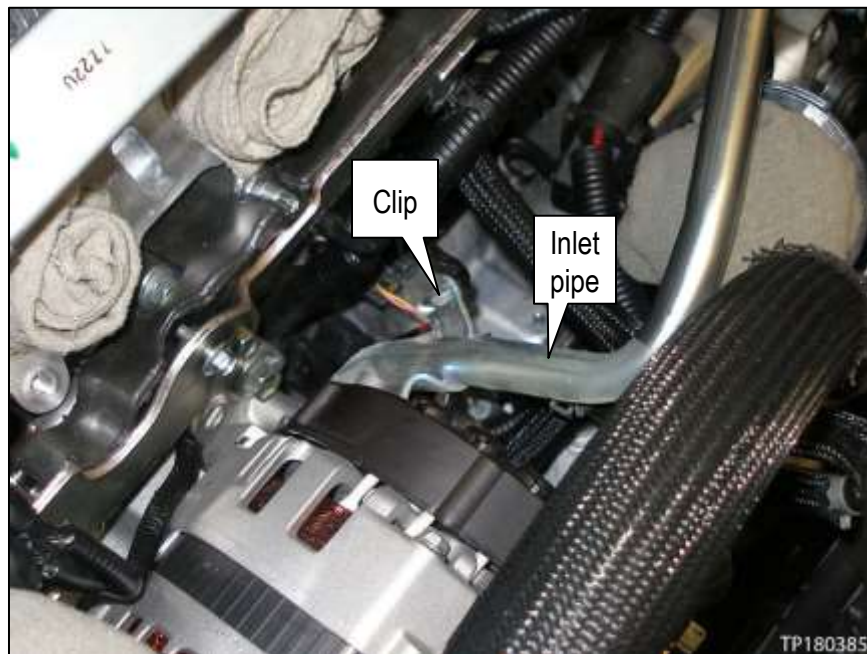


Figure 33

38. Remove the high pressure fuel rail protector:
a. Disconnect the high pressure fuel rail pressure sensor connector.

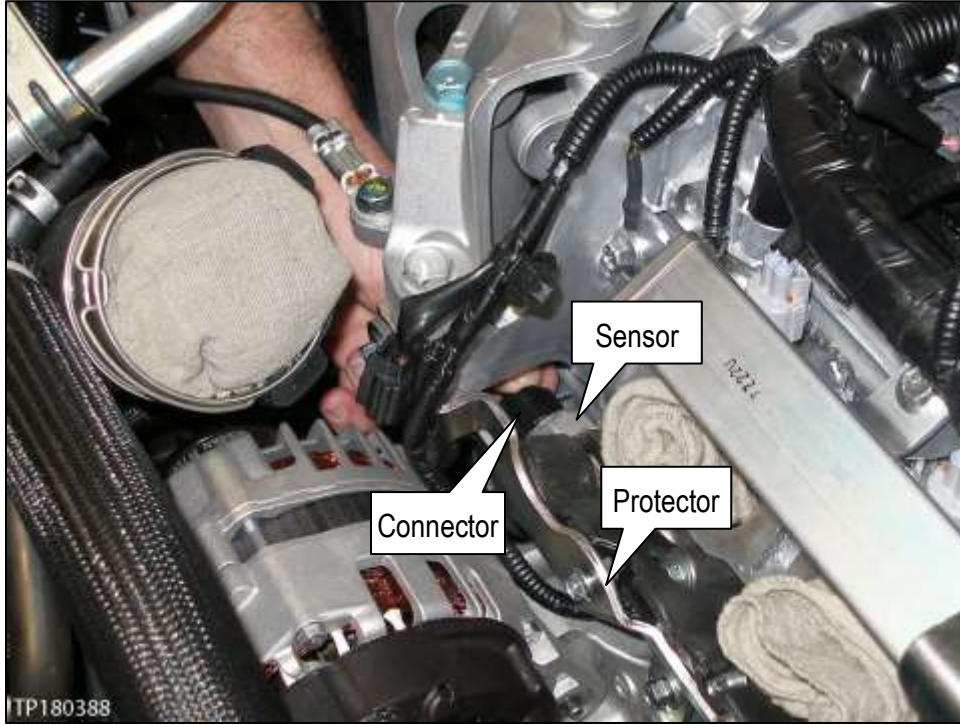


Figure 34

- b. Remove the four (4) bolts (see arrows and callout in Figure 35).

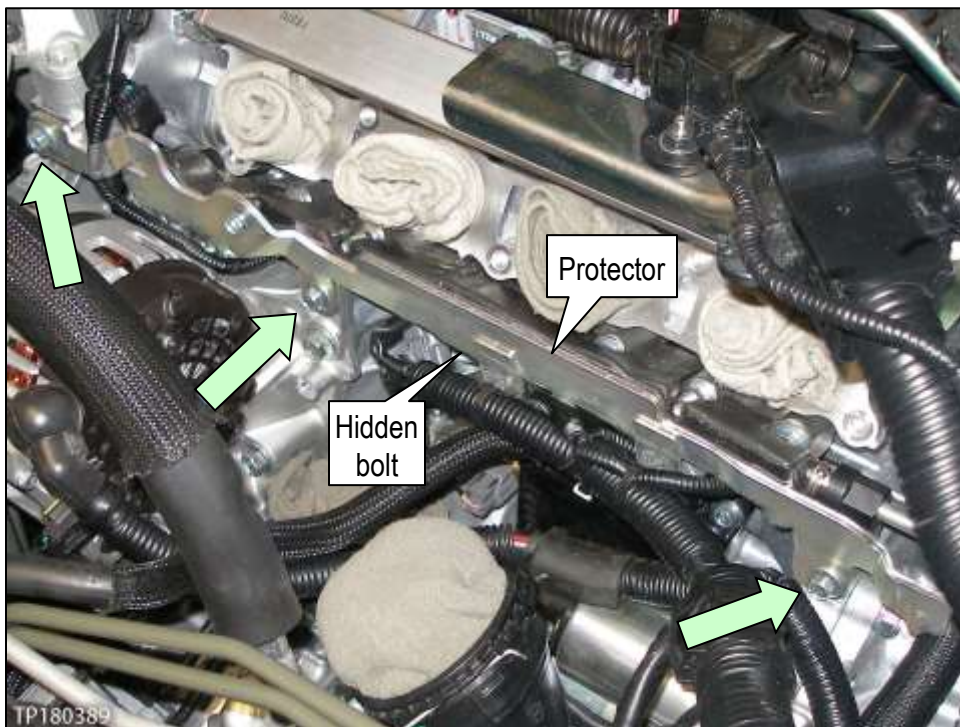


Figure 35

- c. Pull back on the high pressure fuel rail protector, and then carefully remove the high pressure fuel rail insulator.

CAUTION: When removing and handling, be careful not to tear the fuel rail insulator.

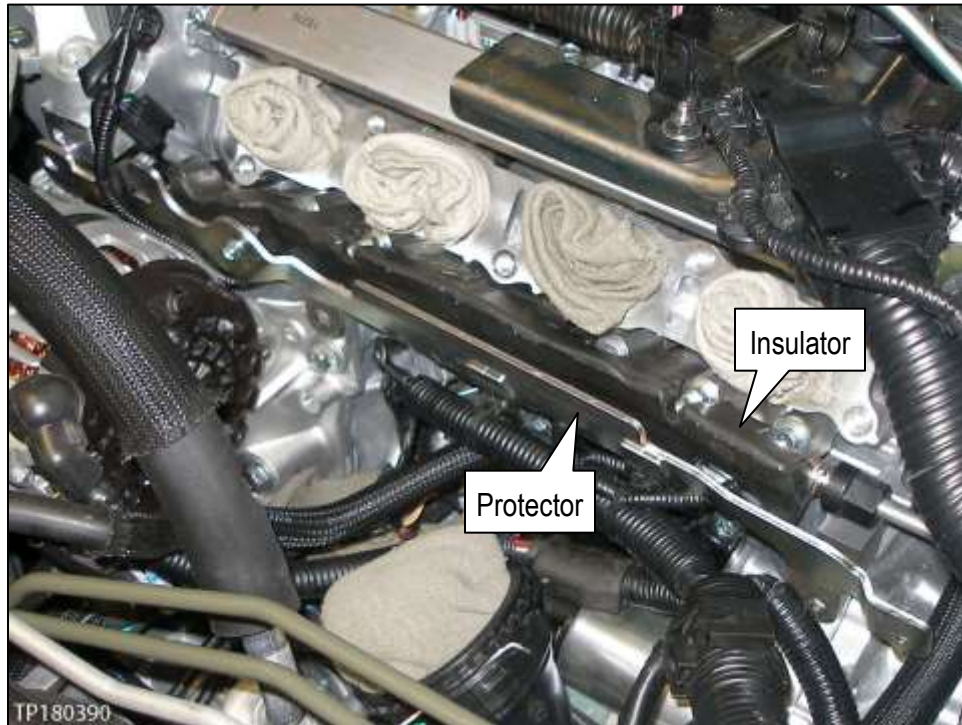


Figure 36

- d. While pulling back the high pressure fuel rail protector, locate and unfasten the two (2) harness clips.

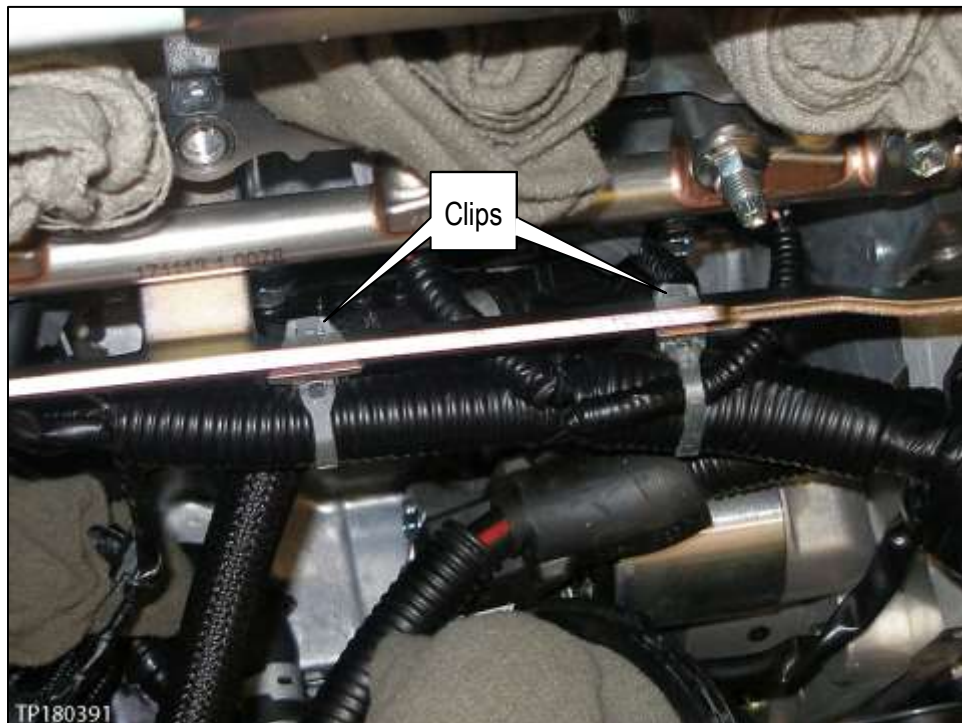


Figure 37

- e. Partially pull out the high pressure fuel rail protector, and then unfasten the last harness clip.

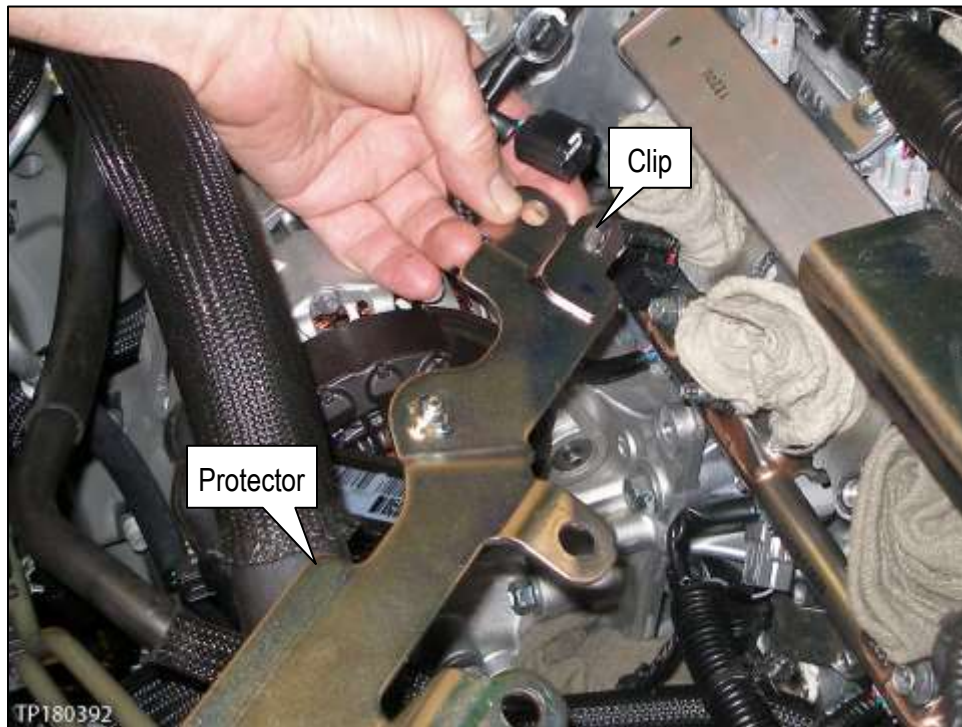


Figure 38

- 39. Remove the high pressure fuel tube:

- a. Carefully remove the high pressure fuel pump insulator.

CAUTION: When removing and handling, be careful not to tear the high pressure fuel pump insulator.



Figure 39

- b. Remove the engine cover bracket bolt, and then move the engine cover bracket with vacuum tube out of the way.
- The vacuum tube does not need to be unbolted from the engine cover bracket.

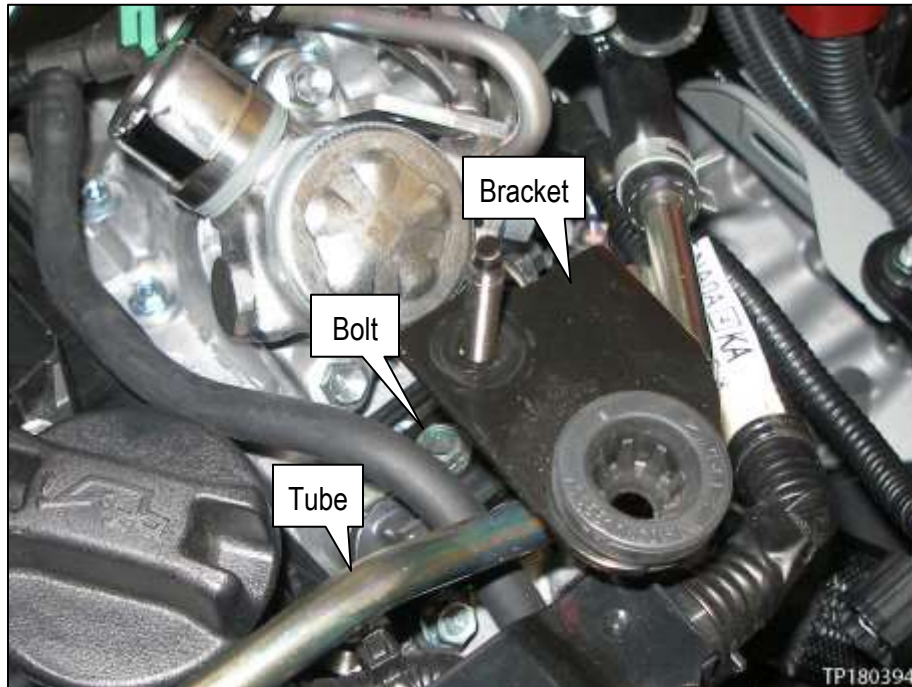


Figure 40

- c. Place a shop cloth under the lower flare nut (to absorb any fuel leakage).
d. Loosen the lower flare nut.
e. Loosen the upper flare nut.
f. Remove the bracket bolt.

NOTE: The high pressure fuel tube is one-time use and will be replaced with a new one (see Parts Information). Do not reuse the old high pressure fuel tube.

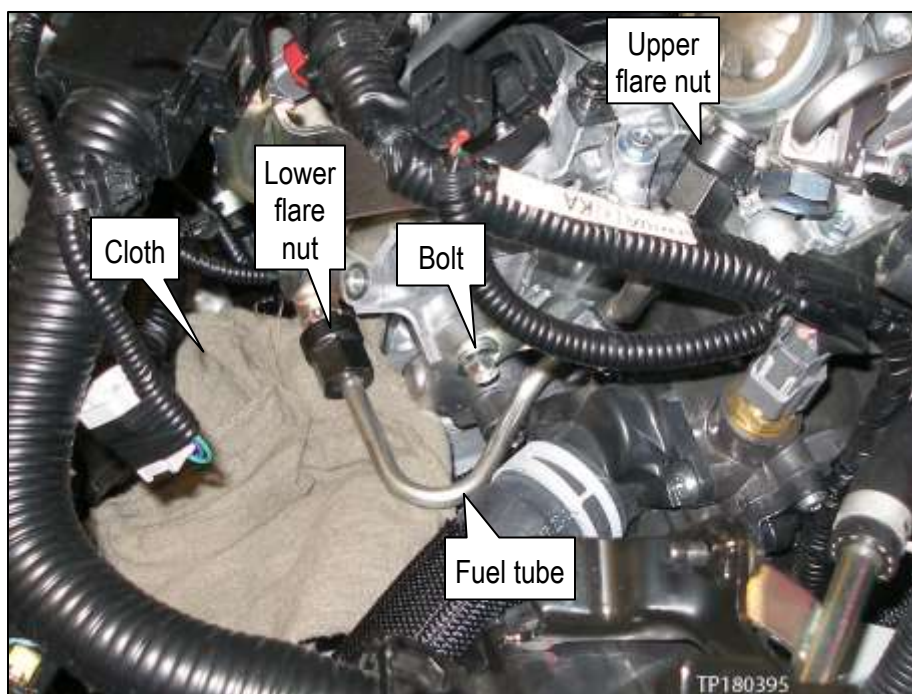


Figure 41

40. Disconnect the four (4) direct fuel injector connectors (see yellow arrows in Figure 42).

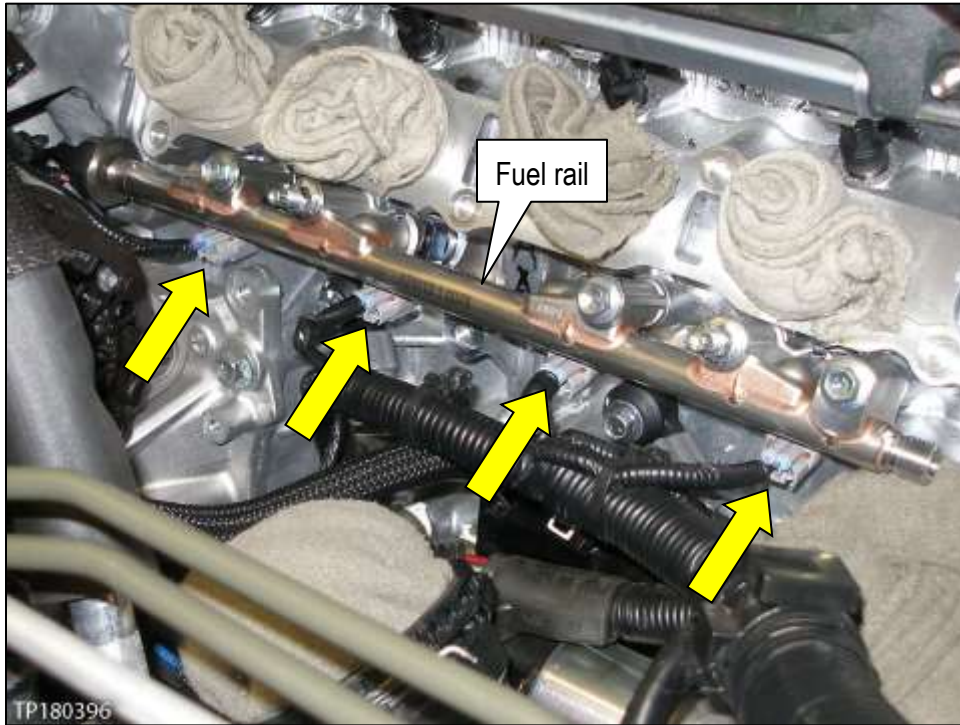


Figure 42

41. Place shop cloths under the high pressure fuel rail (to absorb any fuel leakage).

42. Loosen the nuts and bolts in the sequence shown in Figure 43, and then remove them.

43. Remove the high pressure fuel rail.

NOTE: Some direct fuel injectors may come out with the high pressure fuel rail. This is okay.

CAUTION: Do not remove the high pressure fuel rail fuel pressure sensor. If removed, it must be replaced. If dropped, it must be replaced.

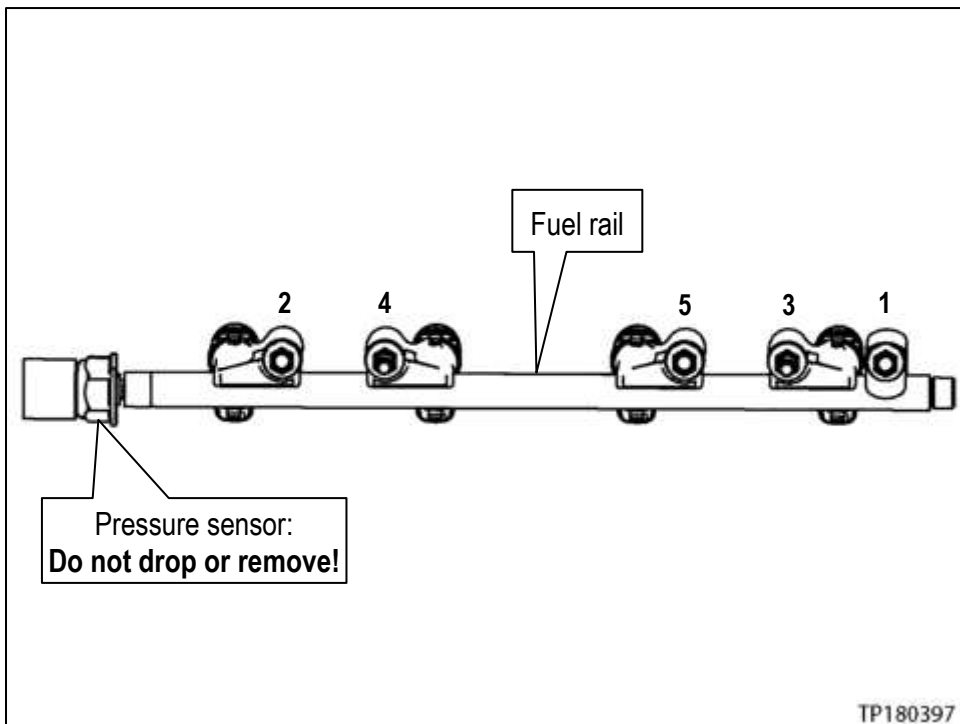


Figure 43

44. Remove the direct fuel injectors:

- See yellow arrows in Figure 44.
- a. Spray a suitable lubricant around the injector bore.
- b. Twist/rotate the direct fuel injectors to “work in” the lubricant.
- c. Pull straight out to remove the direct fuel injectors.



Figure 44

Installation: Direct Fuel Injector

Refer to the following during direct fuel injector installation.

CAUTION:

- Make sure to work in a clean area when handling the direct fuel injectors.
- Handle the O-ring and seal ring on the direct fuel injectors with bare hands. Do not wear gloves.
- Lubricate the O-ring with new engine oil before installing the direct fuel injectors.
- Do NOT apply engine oil to the seal rings.
- Do not clean the O-rings or seal rings with solvent.
- Do not allow engine oil into the fuel passage of the direct fuel injectors.
- Make sure there is no debris or foreign material on the O-rings or seal rings and their related mating surfaces.
- Be careful not to scratch, twist, or stretch the O-rings or seal rings.
- Insert the direct fuel injectors straight into the high pressure fuel rail.
- Install the direct fuel injector and high pressure fuel rail assembly straight into the bores in the cylinder head.
- Do not remove the high pressure fuel rail fuel pressure sensor. If removed, it must be replaced. If dropped, it must be replaced.

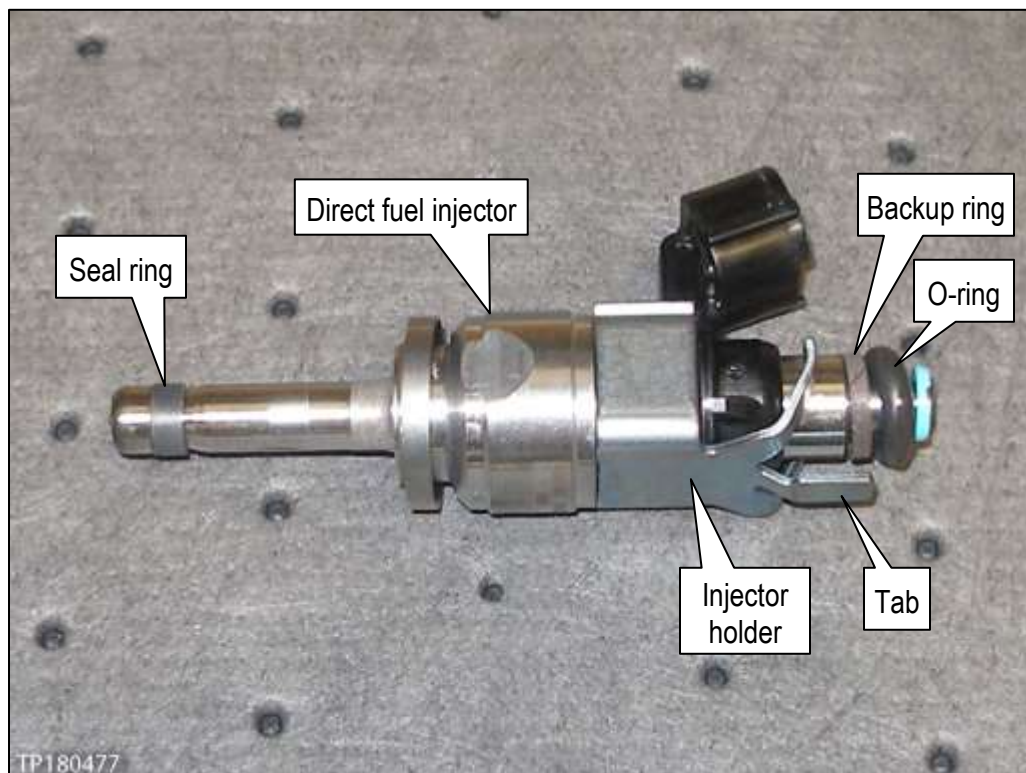


Figure 45

1. Install the direct fuel injectors into the high pressure fuel rail:
 - a. Lubricate the O-ring with new engine oil.
 - b. Line up the tabs and cutouts, and then install the direct fuel injectors into the high pressure fuel rail, straight in and fully seated.

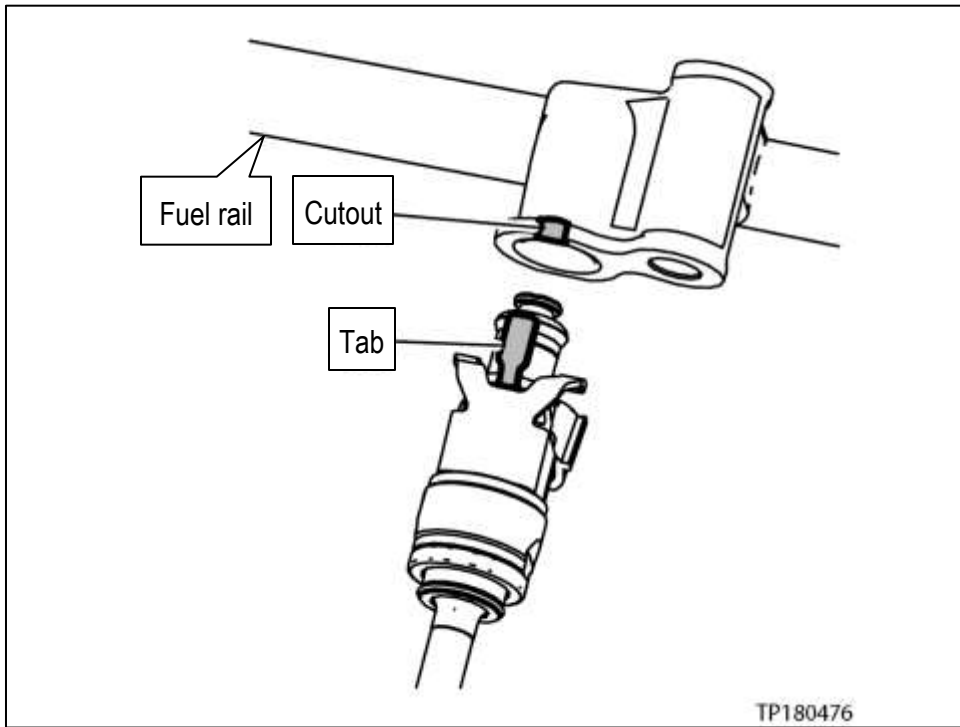


Figure 46

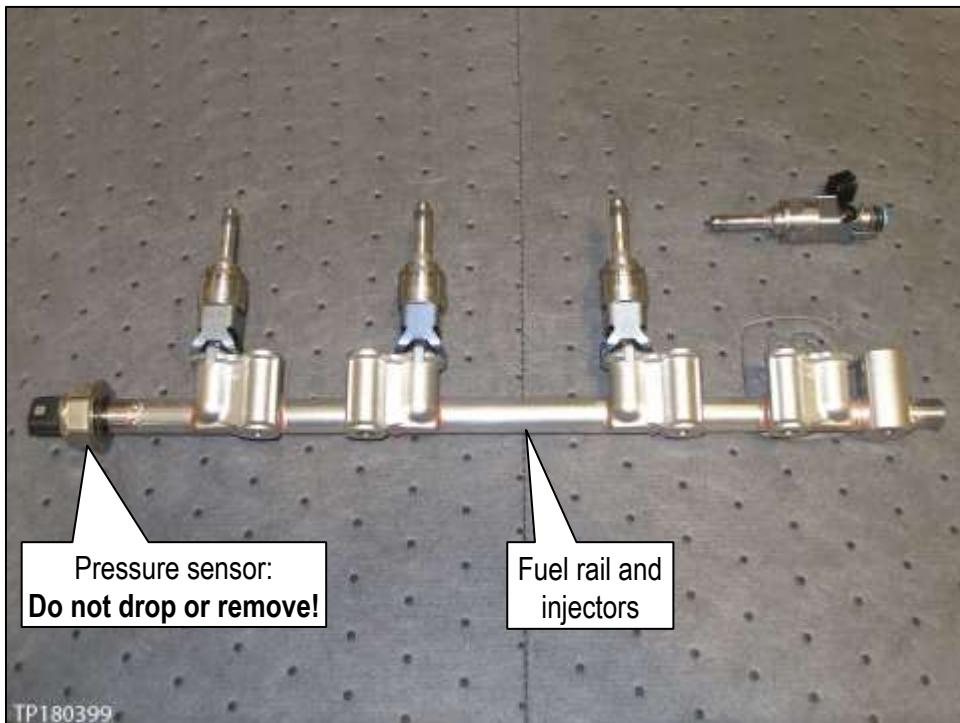


Figure 47

2. Carefully install the direct fuel injector and high pressure fuel rail assembly:
 - a. Align all direct fuel injectors with their bores while fitting the high pressure fuel rail onto the studs.



Figure 48

- b. With the direct fuel injectors aligned straight with their bores, push on the high pressure fuel rail until the direct fuel injectors are fully seated.



Figure 49

- If properly installed, the high pressure fuel rail should sit near flush to the cylinder head.



Figure 50

- c. Install, and then torque the nuts and bolts in two steps and in the sequence shown in Figure 51.
- Nuts and bolts torque:
First step: 10 N•m (1.0 kg-m, 7 ft lbs)
Second step: 25 N•m (2.6 kg-m, 18 ft lbs)

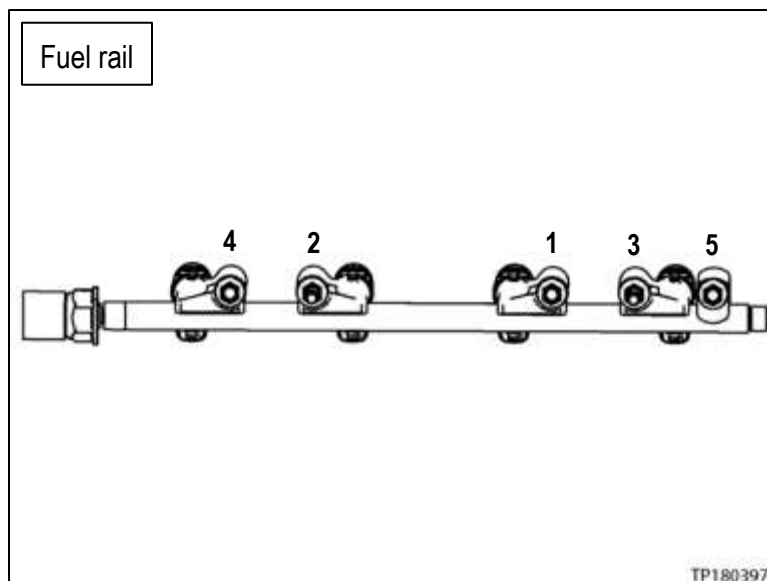


Figure 51

3. Connect the harness connectors to the direct fuel injectors.

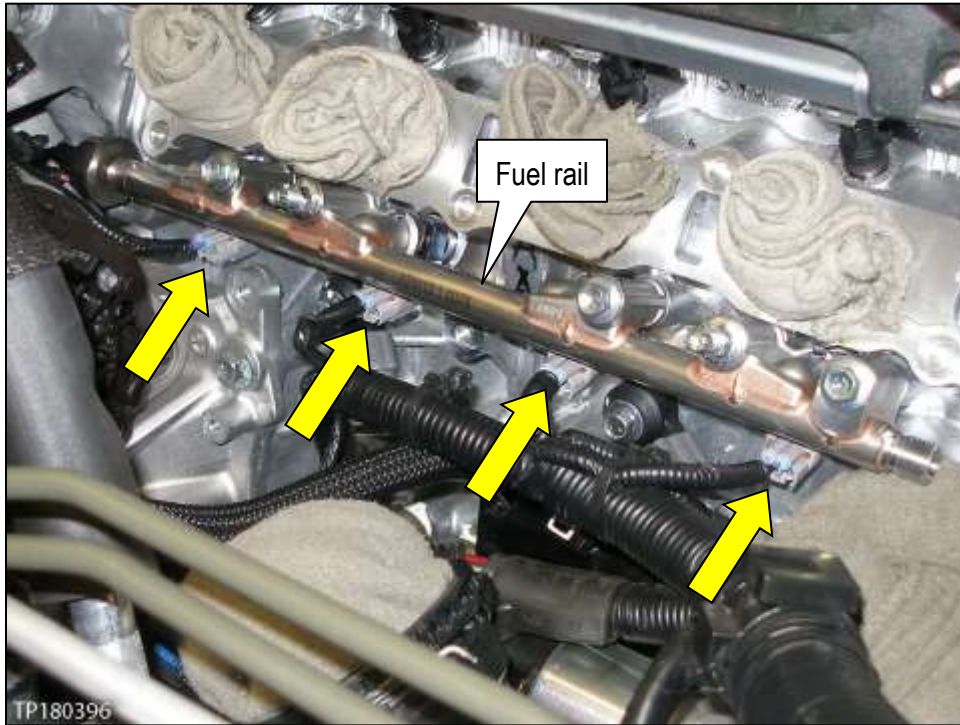


Figure 52

4. Install a new high pressure fuel tube (see Parts Information):
- Thread in place by hand both flare nuts and the bolt.
 - Temporarily tighten the flare nuts until the high pressure fuel tube has no in-and-out movement at either end.
 - Tighten the flare nuts until no threads are showing on the high pressure fuel pump or high pressure fuel rail.
 - Torque the bracket bolt.
- Bolt torque: 25 N•m (2.6 kg-m, **18 ft lbs**)

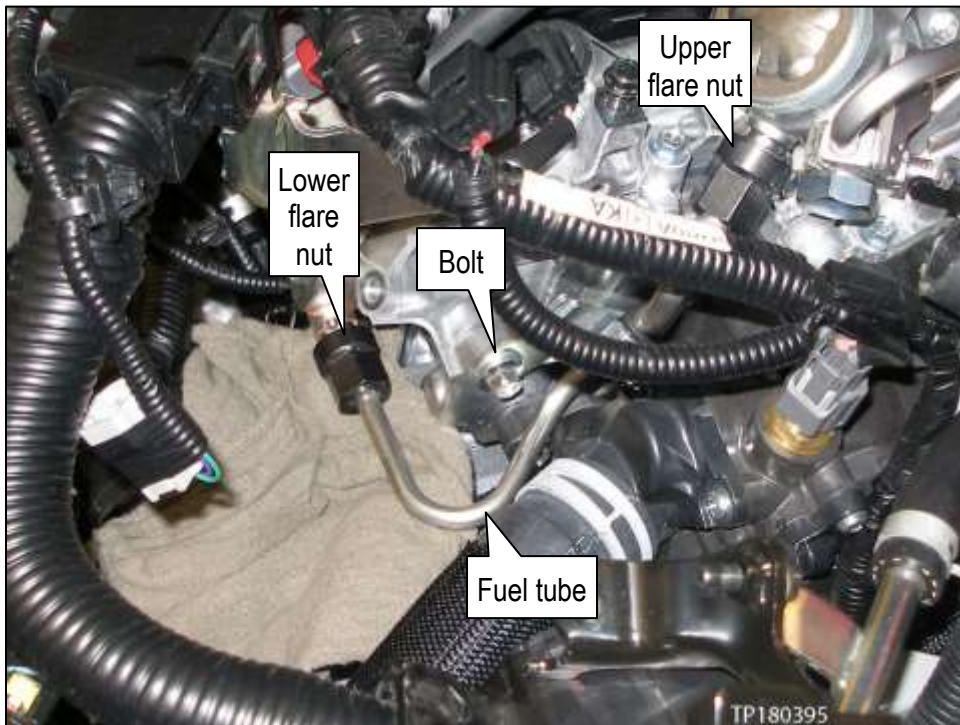


Figure 53

e. Using a “crow’s foot”, torque the flare nuts in two steps, upper flare nut first.

- Flare nuts torque:
First step: 14 N•m (1.4 kg-m, **10 ft lbs**)
Second step: 41 N•m (4.1 kg-m, **30 ft lbs**)

CAUTION: After installation, make sure the high pressure fuel tube does not contact adjacent parts.



Figure 54

5. Position the engine cover bracket with vacuum tube, and then install and tighten the engine cover bracket bolt.

- 10 N•m (1.0 kg-m, **7 ft lbs**)

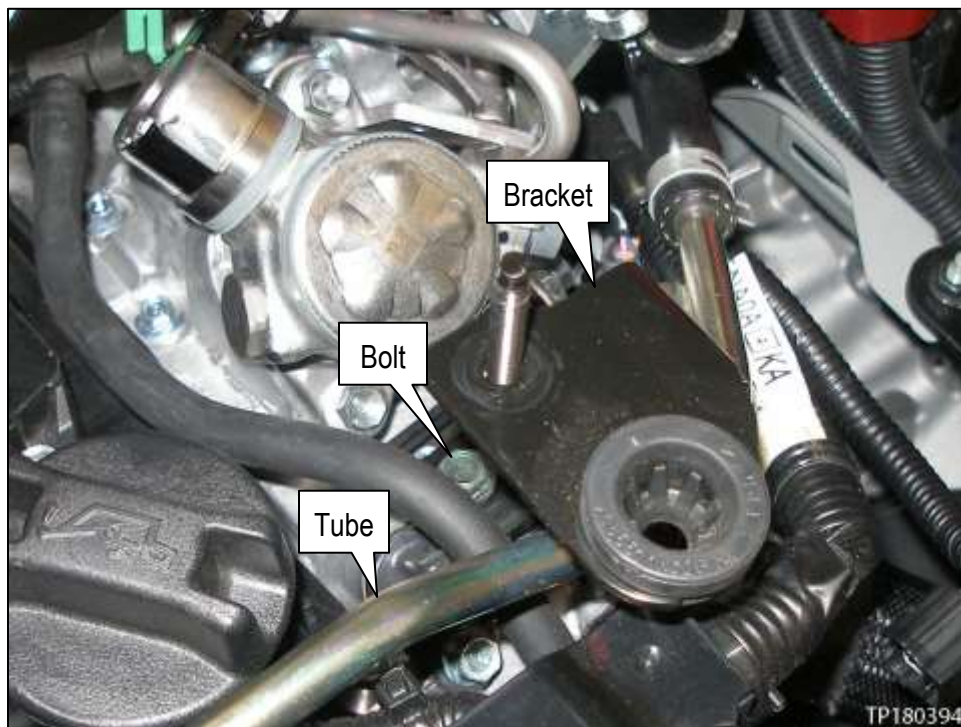


Figure 55

6. Install the high pressure fuel pump insulator.
CAUTION: When installing and handling, be careful not to tear the high pressure fuel pump insulator.



Figure 56

7. Install the high pressure fuel rail protector:
a. Install the high pressure fuel rail protector insulator.
CAUTION: When installing and handling, be careful not to tear the fuel rail protector insulator.



Figure 57

- b. Position the high pressure fuel rail protector as shown in Figure 58, and then fasten the first clip.

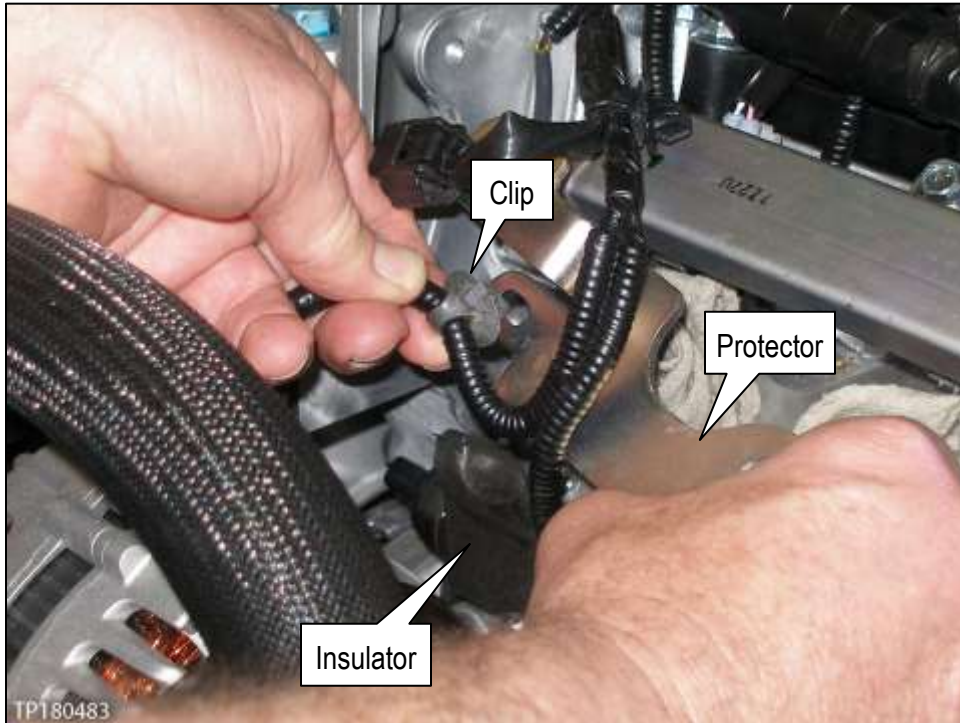


Figure 58

- c. Position the high pressure fuel rail protector as shown in Figure 59.
- d. Install the bolts (see arrows and callout in Figure 59).
- The bolt pointed out by the white arrow is hidden in this picture.
 - Bolts torque: 25 N•m (2.6 kg-m, **18 ft lbs**)
- e. Fasten the two (2) harness clips to the high pressure fuel rail protector (see circles in Figure 59).

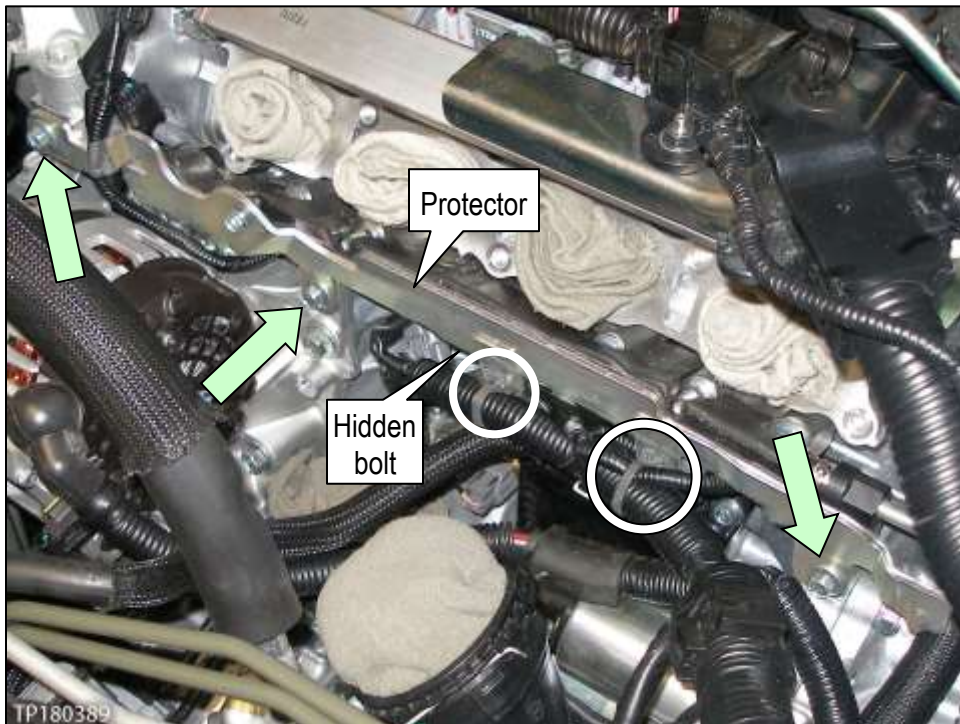


Figure 59

8. Connect the high pressure fuel rail sensor connector.

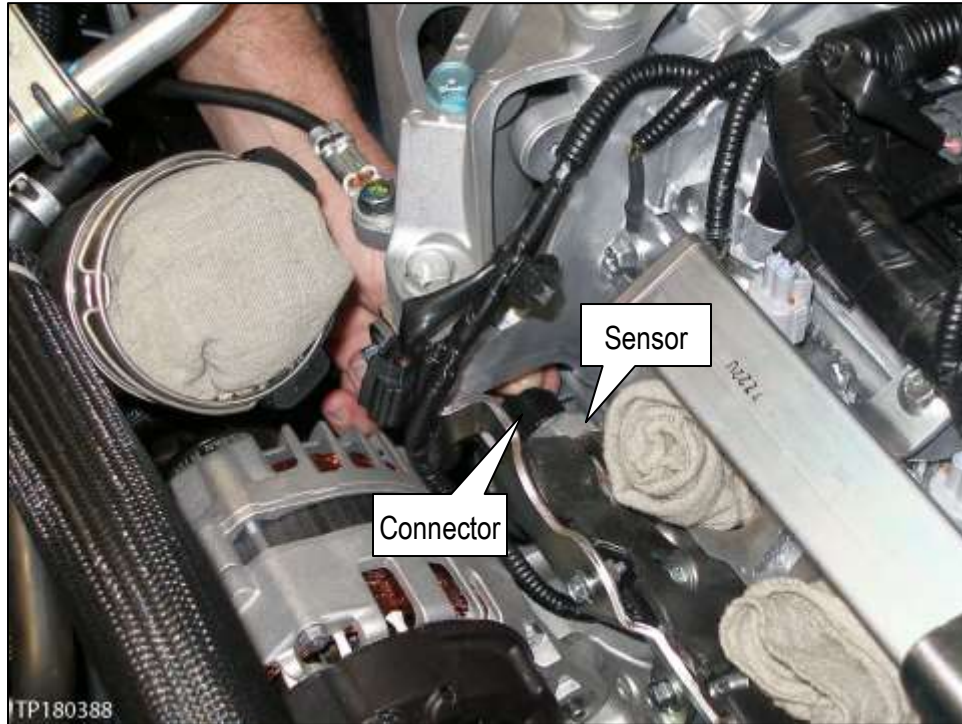


Figure 60

9. Replace the water inlet pipe O-ring with a new one (see Parts Information).
 - Lubricate the O-ring with coolant.

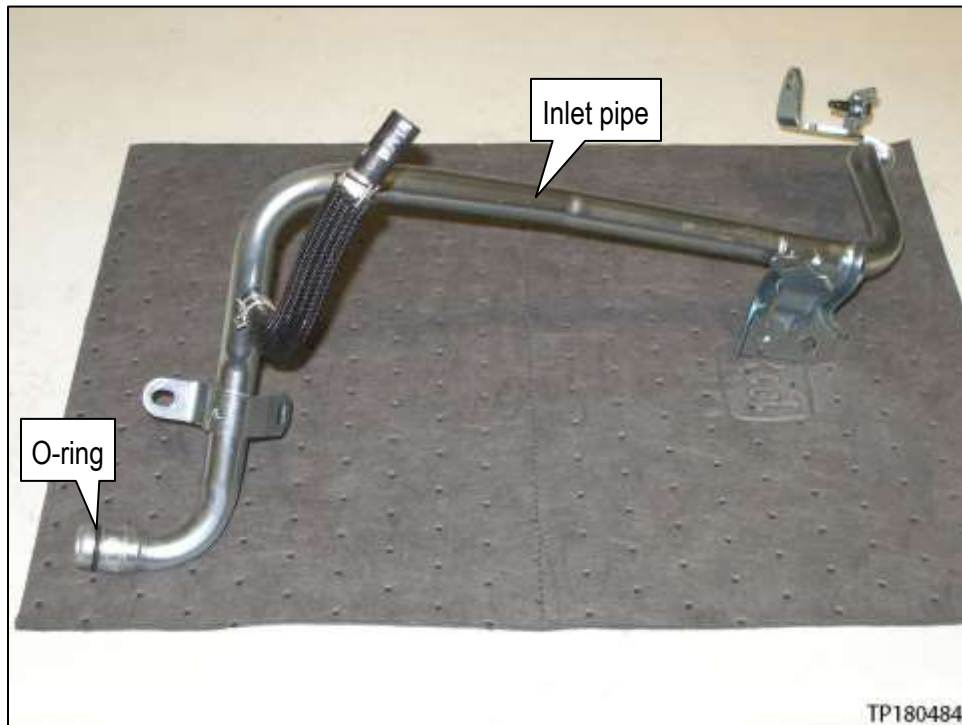


Figure 61

10. Replace the oil level gauge guide O-ring with a new one (see Parts Information).
- Lubricate the O-ring with new engine oil.

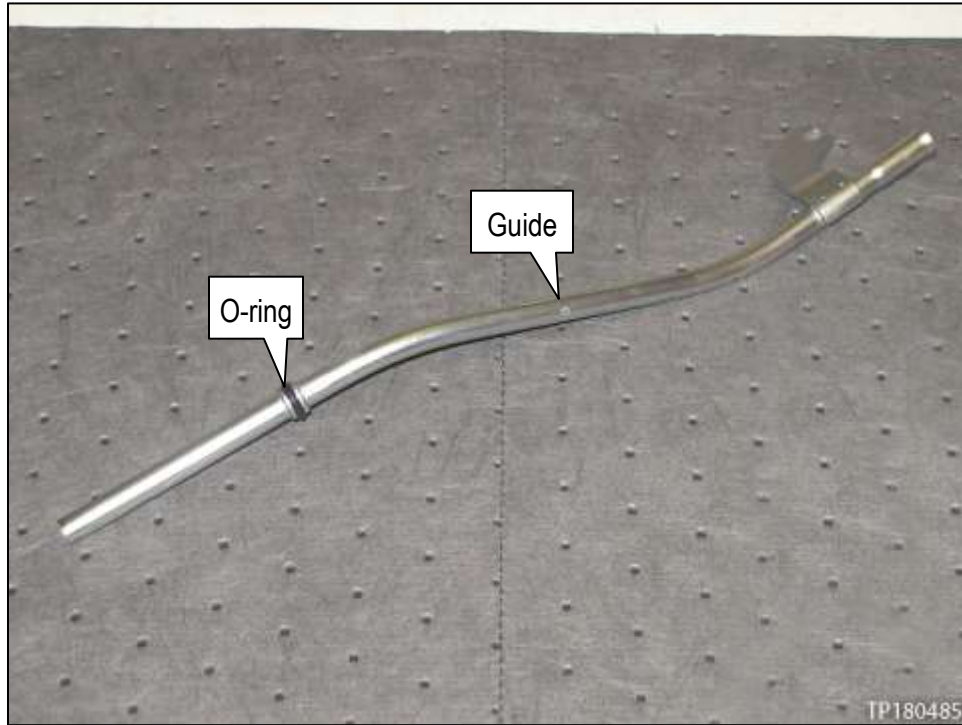


Figure 62

11. Put the water inlet pipe in place, and then the oil level gauge guide.

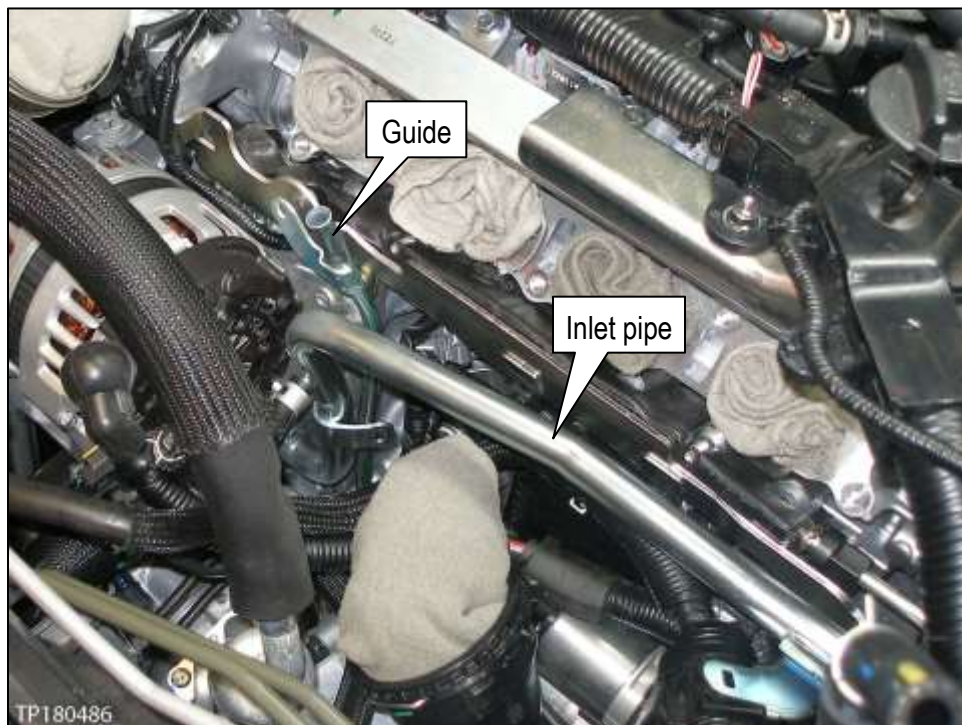


Figure 63

12. Install the three (3) water inlet pipe bolts (see arrows in Figure 64).
 - Water inlet pipe bolts torque: 12 N•m (1.2 kg-m, **9 ft lbs**)
13. Install and tighten the oil level gauge guide bolt.
14. Fasten the two (2) harness clips to the water inlet pipe (see circles in Figure 64).

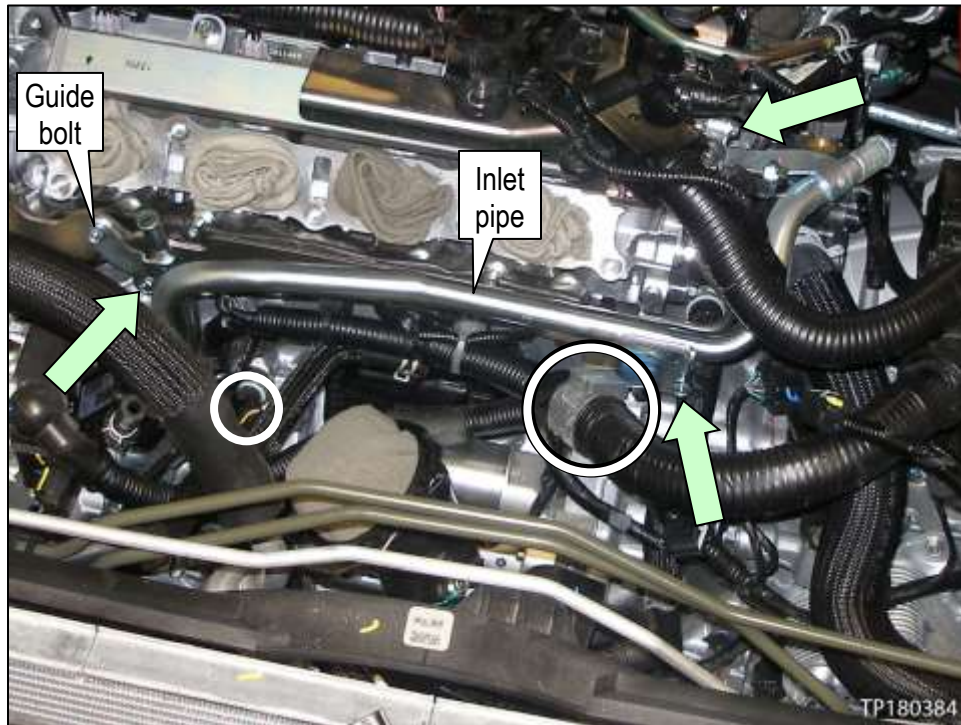


Figure 64

15. Replace the old intake manifold gaskets with new ones (see Parts Information).

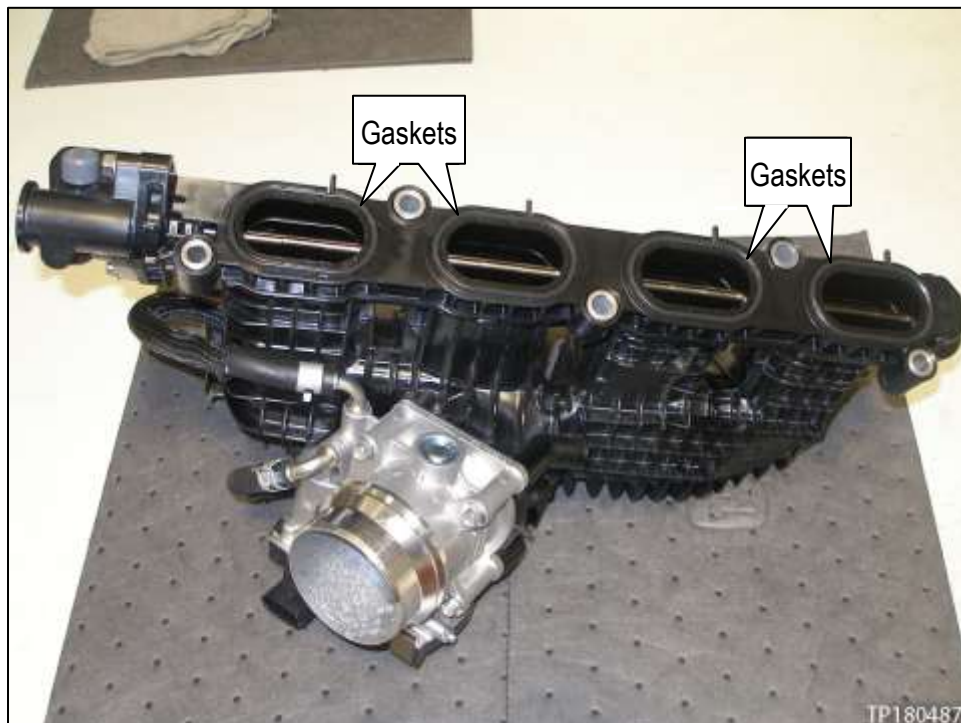


Figure 65

16. Remove the covering from the cylinder head ports and air outlet tube.
17. Carefully position the intake manifold in place:
 - Do not reuse the old gaskets. Replace them with new ones (see previous page, step 15).



Figure 66

18. Install, and then tighten the intake manifold bolts in the sequence shown in Figure 67:
 - Intake manifold bolts torque: 25 N•m (2.6 kg-m, **18 ft lbs**)

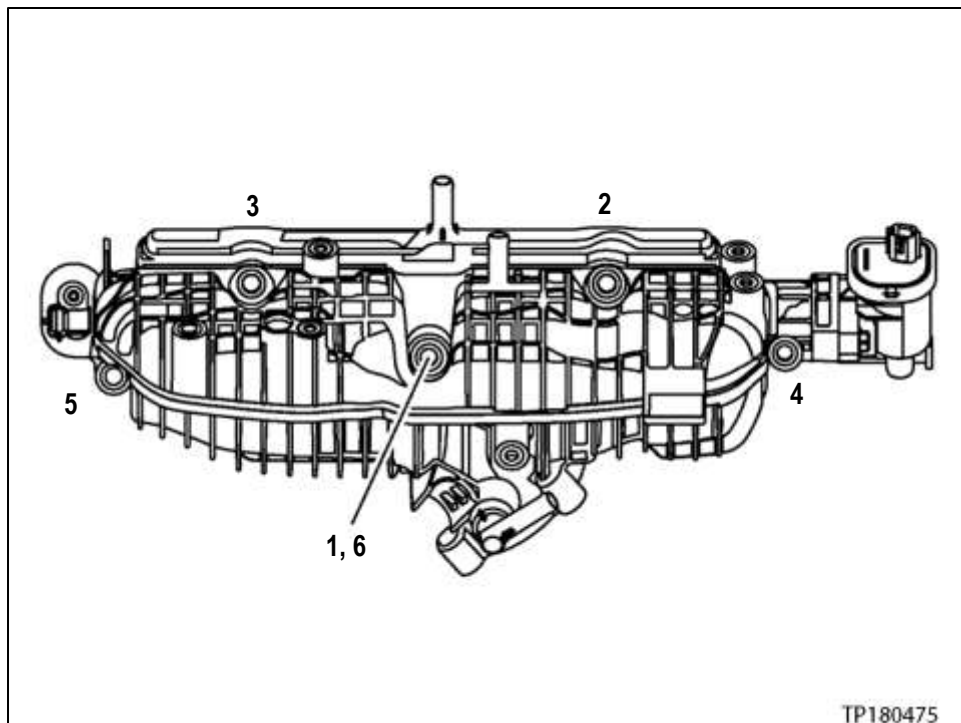


Figure 67

19. Install the oil level gauge.



Figure 68

20. Snap in place the air outlet tube to the electronic throttle control actuator.

21. Install and tighten the air outlet tube bolt.

- Air outlet tube bolt torque: 21 N•m (2.1 kg-m, **15 ft lbs**)

22. Connect the electronic throttle control actuator connector.

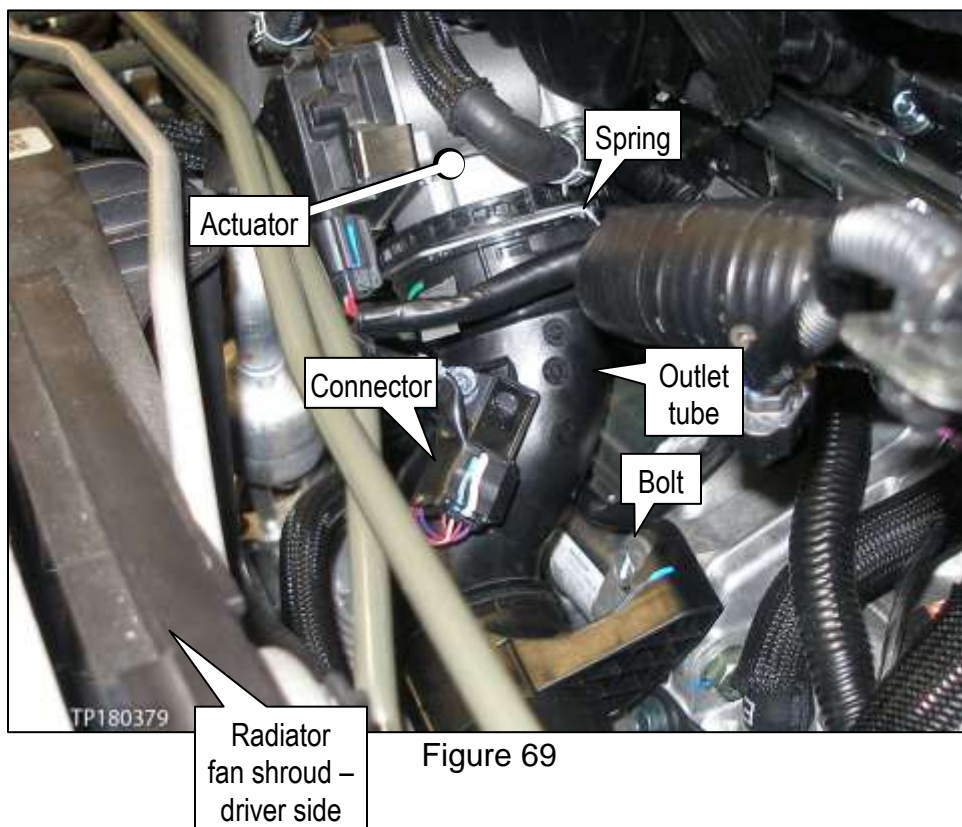


Figure 69

NOTE: The CVT fluid warmer pipes may have unfastened during repairs. Make sure they are fastened to the cooling fan assembly.

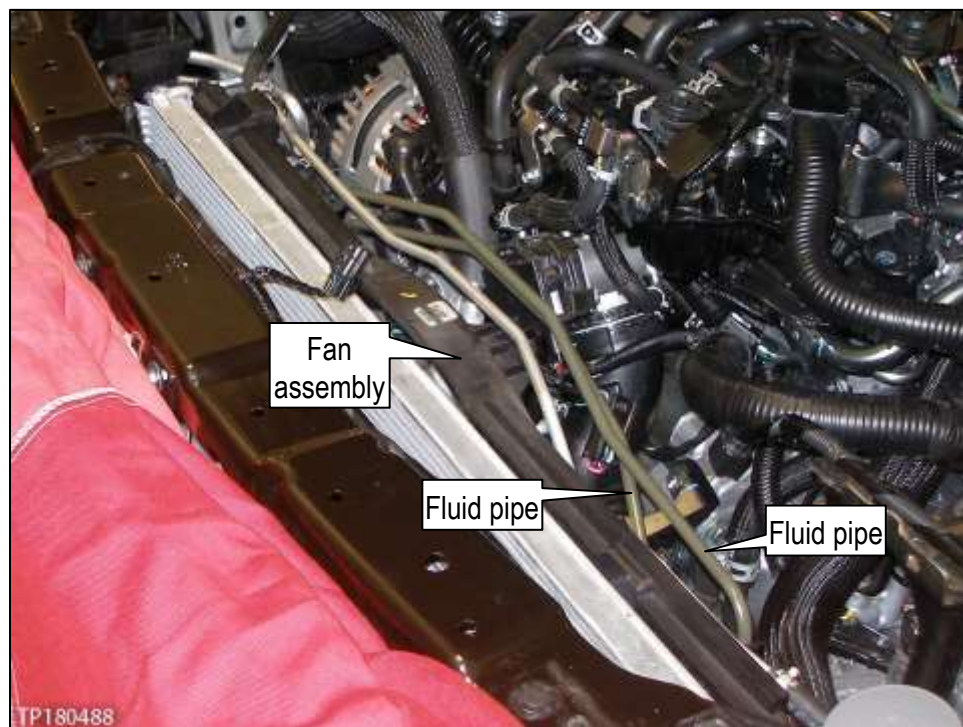


Figure 70

- 23. Connect the intake manifold runner control valve position sensor connector.
- 24. Fasten the harness clip.

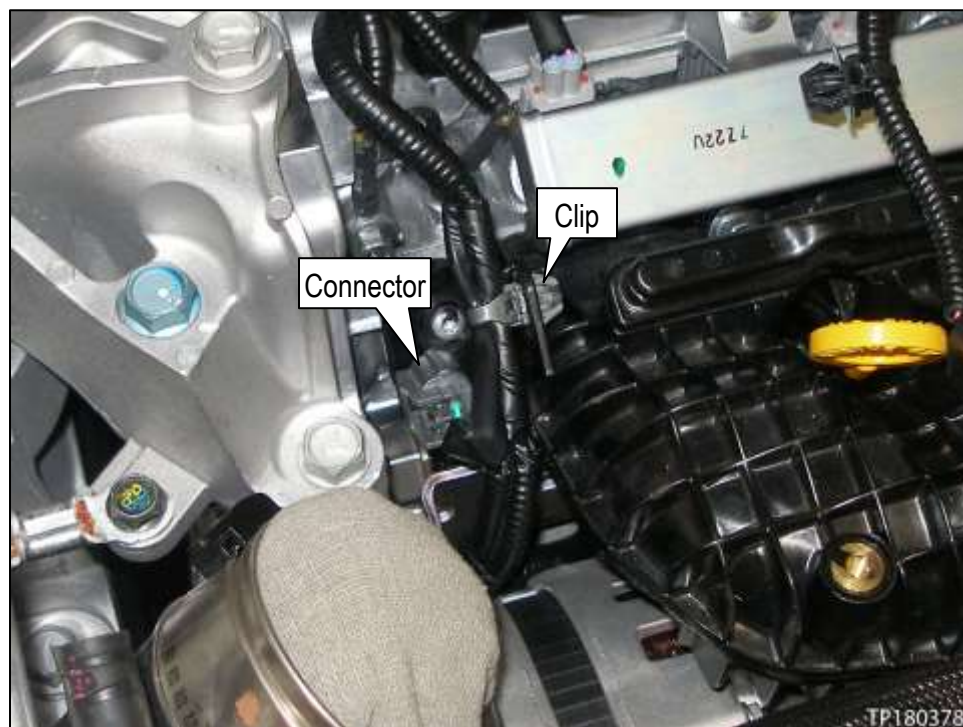


Figure 71

25. Connect the heater hose and water hose A, and then fasten their related clamps.

- See white arrows in Figure 72.

26. Install and tighten the EVAP hose bracket bolt.

27. Connect the intake manifold runner control valve motor connector.

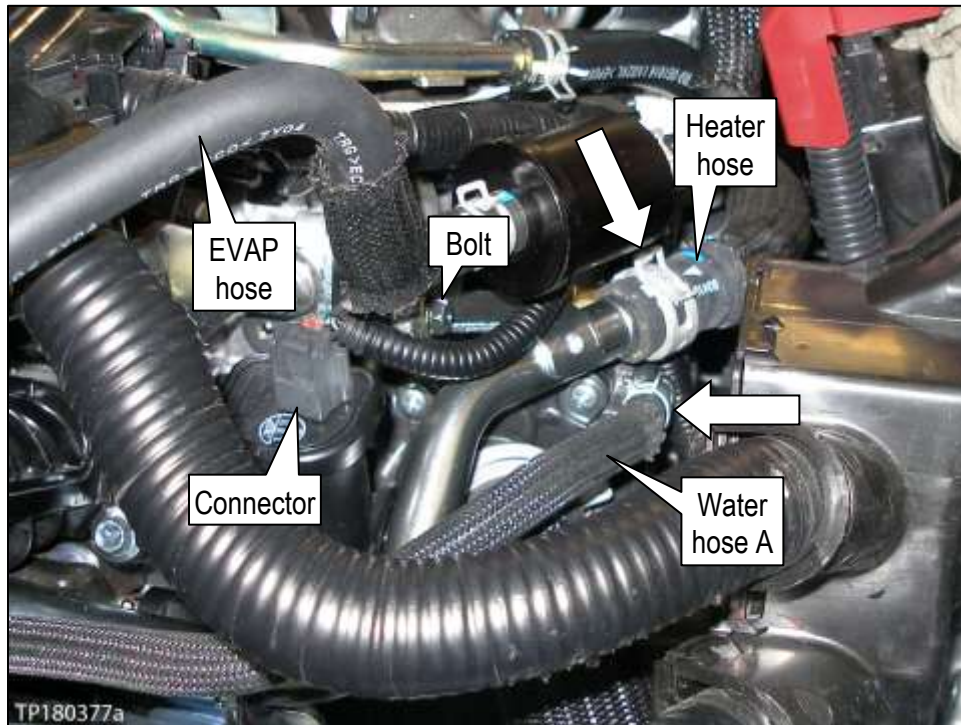


Figure 72

28. Fasten the harness clip to the bracket of the metal coolant tube assembly.
29. Install metal coolant tube assembly (see Figure 73).
 - Bolts torque: 10 N•m (1.0 kg-m, **7 ft lbs**)
30. Connect, and then clamp the one end of each of the four (4) turbo water inlet and outlet hoses to the metal coolant tube assembly (see arrows in Figure 73).
31. Connect the MAP sensor connector (see circle in Figure 73).

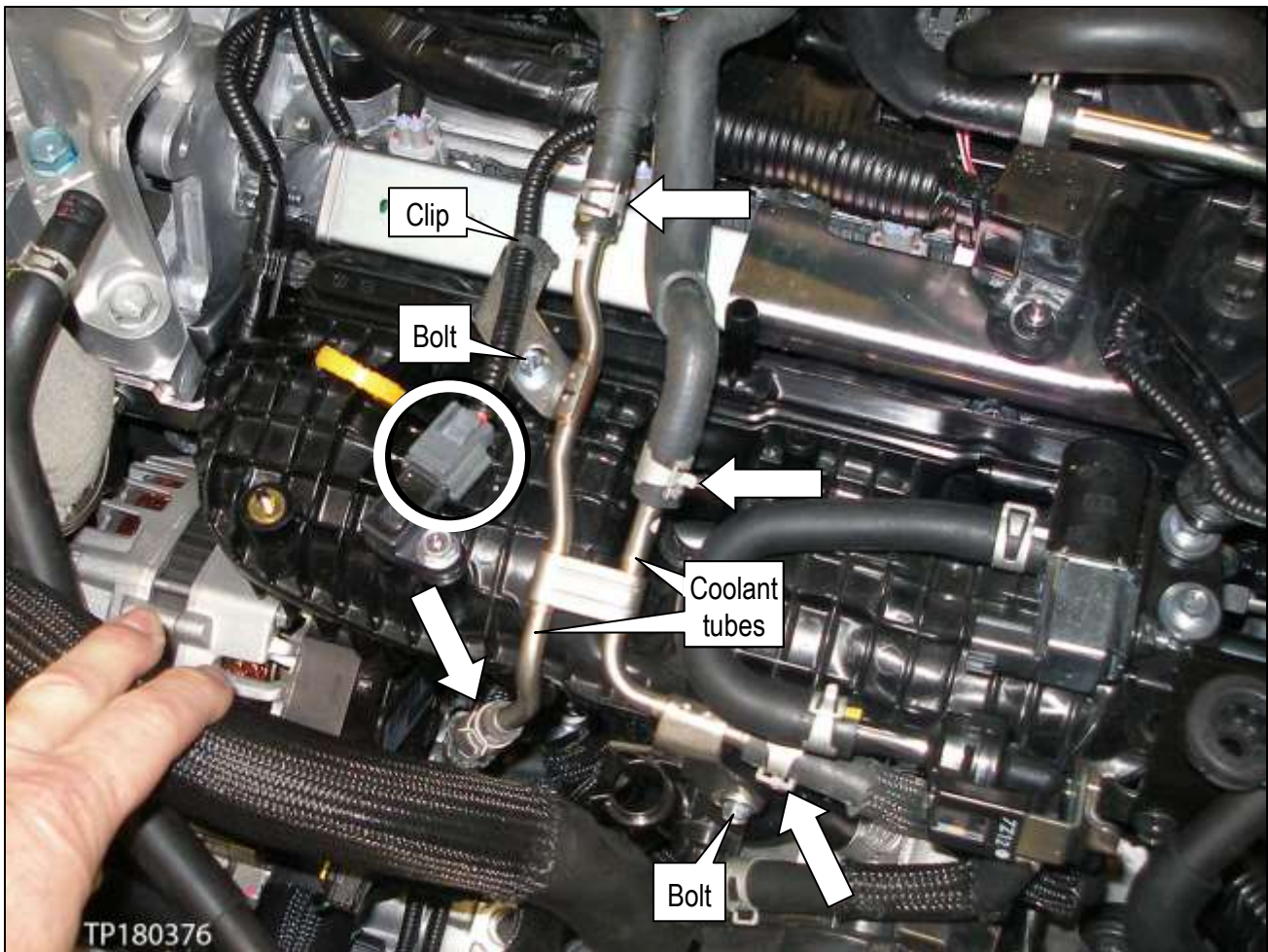


Figure 73

32. Connect the EVAP canister purge volume control solenoid valve electrical connector, and then fasten the harness clip (see circles in Figure 74).

33. Connect, and then clamp the one end of each of the four (4) hoses (see arrows in Figure 74).

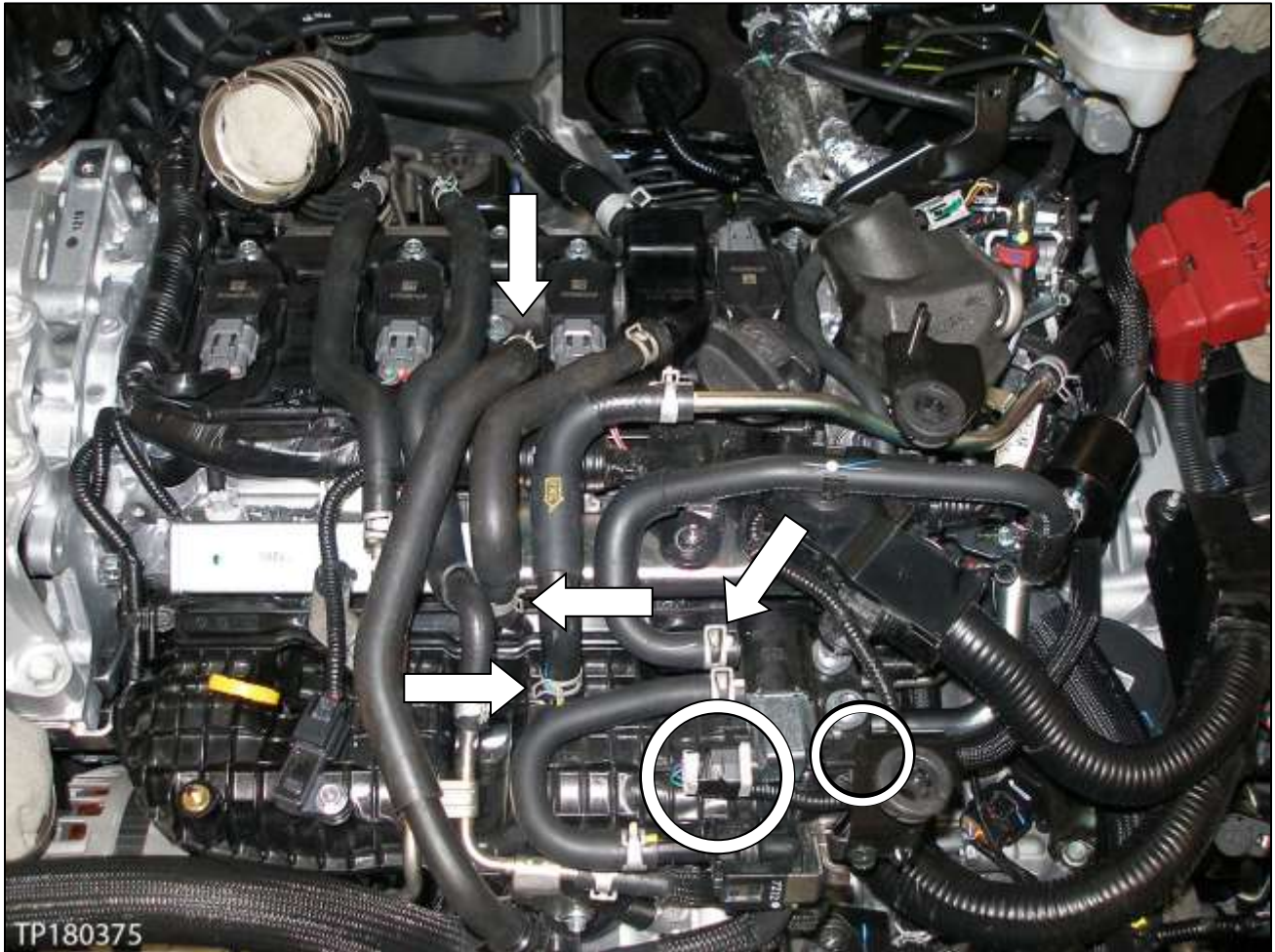


Figure 74

34. Position the radiator core support in place, and then install the four (4) top and two (2) front bolts.

- Arrows point to the four (4) top bolts.
 - Top bolts torque: 25 N•m (2.6 kg-m, **18 ft lbs**)
- Ovals point to the two (2) front bolts.
 - Front bolts torque: 7 N•m (0.71 kg-m, **62 in lbs**)

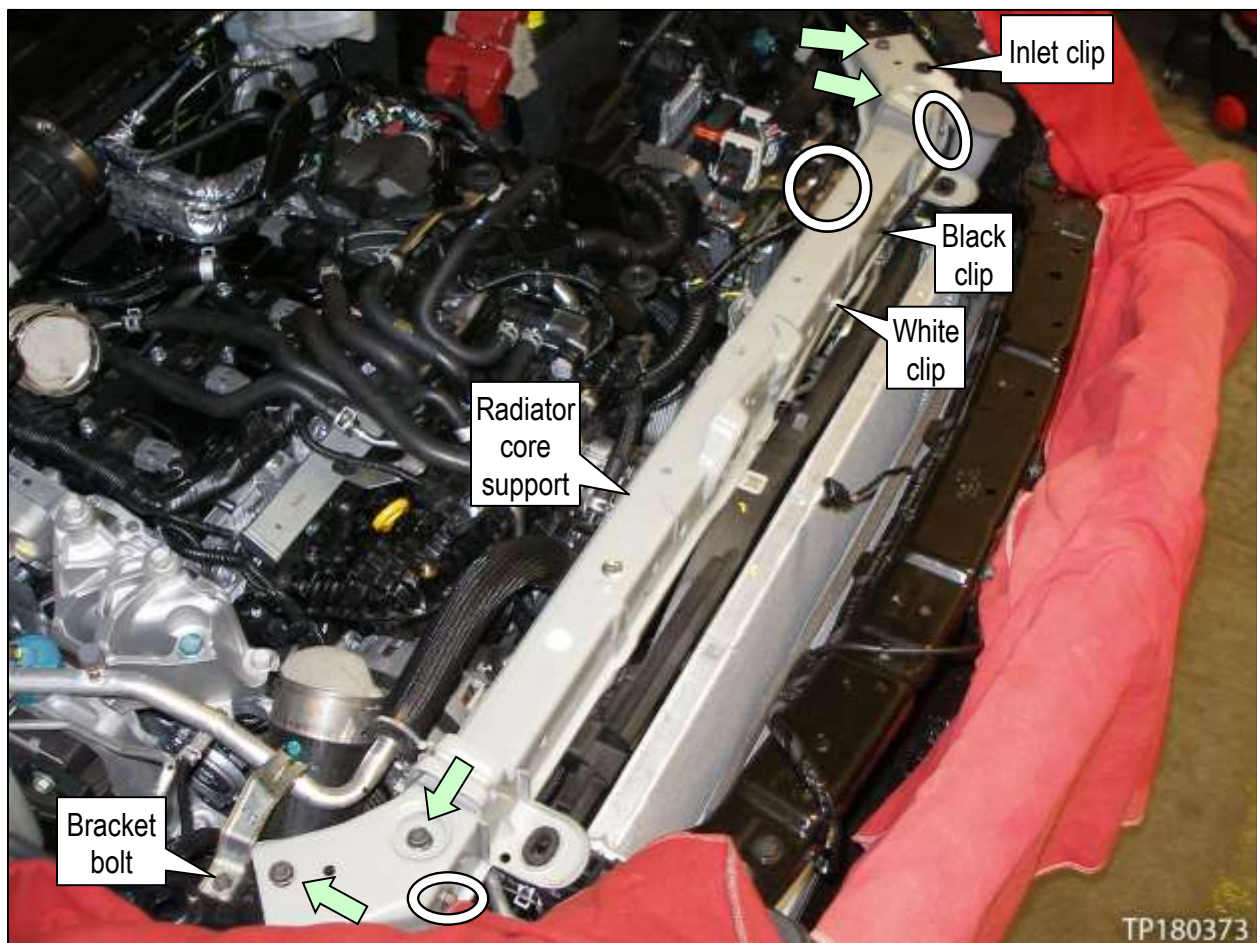
CAUTION: Do not allow the low pressure flexible hose to move excessively.

35. Install and tighten the low pressure flexible hose bracket bolt.

36. Install and tighten the two (2) bracket bolts (see circle in Figure 75). 12 N•m (1.2 kg-m, **9 ft lbs**)

37. Fasten the white hood lock release cable clip to the hood lock release cable, and then fasten the black hood lock release cable clip to the radiator core support.

38. Fasten the washer tank inlet clip.



39. Install the upper air guide.

- See arrows for clip locations in Figure 76.
- Make sure the hood lock release cable, secondary hood latch cable, and related harness connector are properly routed around the air guide.

40. Fasten the harness connector to the air guide (see circle in Figure 76).

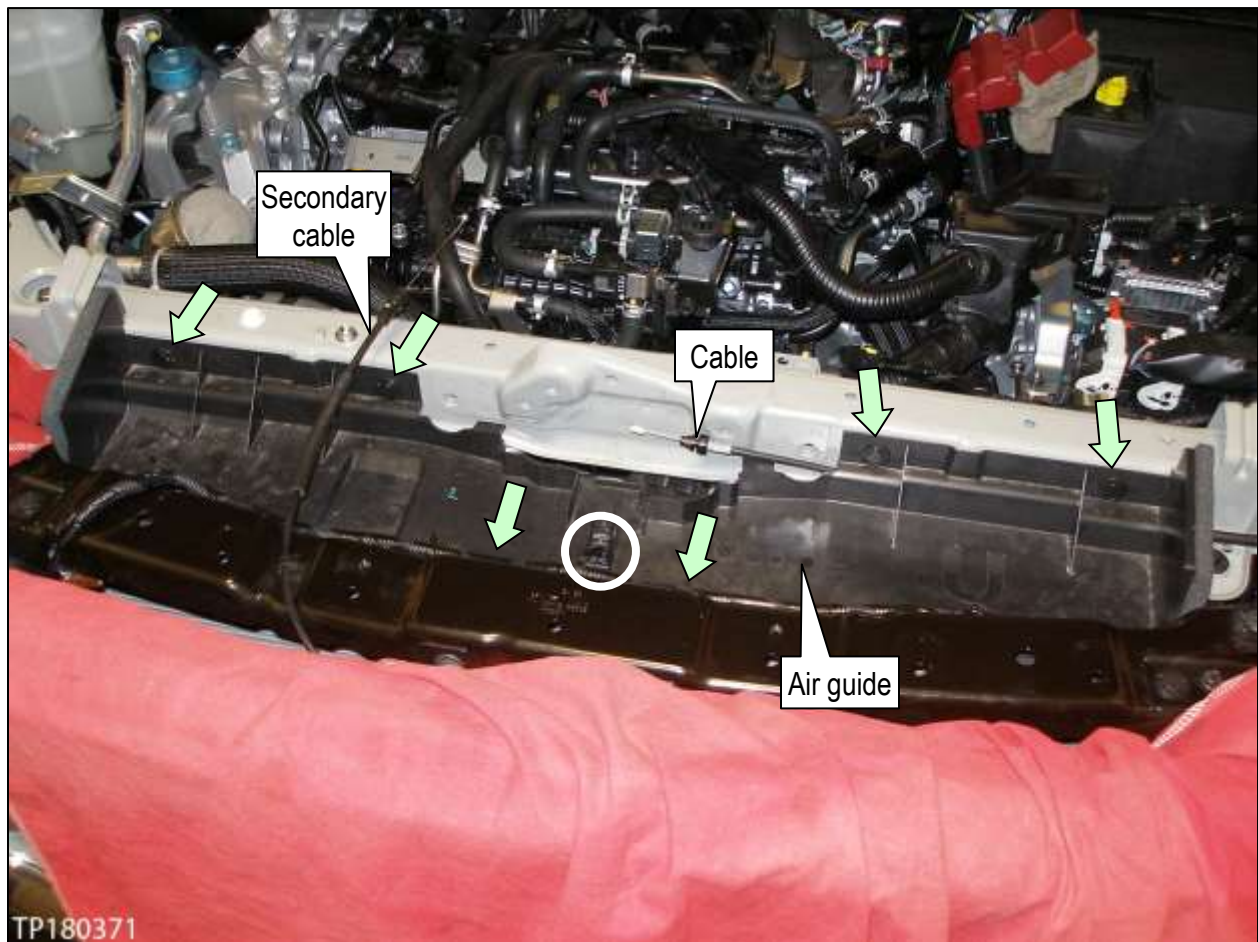


Figure 76

41. Install the hood lock.

a. Flip over the hood lock to access its back side, and then fasten the hood lock release cable.

CAUTION:

- Be careful not to bend the cable too much, keeping the radius 100 mm (3.94 in) or more.
- Make sure the hood lock release cable is properly engaged with the hood lock assembly.

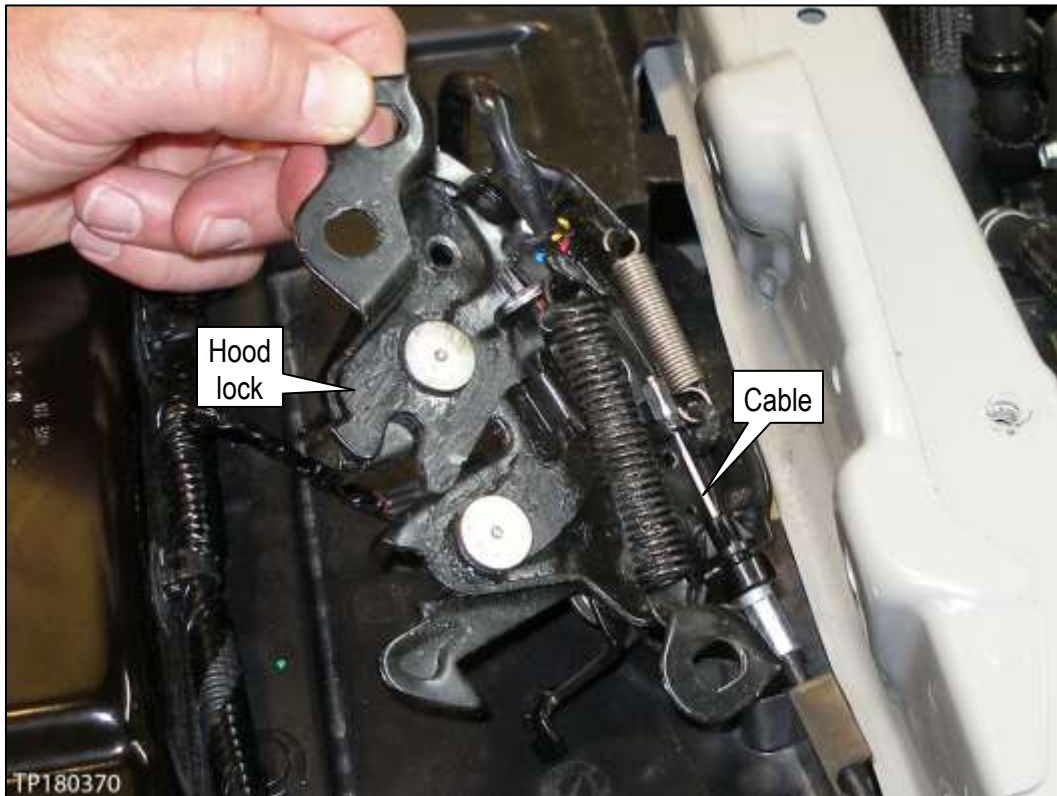


Figure 77

- b. Install the three (3) bolts (see arrows in Figure 78).
- c. Fasten the secondary latch cable.
 - CAUTION:** Be careful not to bend the cable too much, keeping the radius 100 mm (3.94 in) or more.
- d. Connect the harness connector.

42. Adjust the hood lock as needed:

- a. Visually align the primary striker (1) in the hood with the opening in the hood lock (2) as best as possible by lowering the hood, bringing the two parts close together, and then tighten the hood lock bolts.
 - See Figure 78, and Figure 79 on the next page.
- b. Adjust **A** and **B** with the hood's own weight by dropping it from approximately 200 mm (7.87 in) height (see Figure 79, and the specifications below it, on the next page).
- c. Once adjusted, torque the hood lock bolts.
 - Hood lock bolts torque: 25 N•m (2.6 kg-m, **18 ft lbs**)

NOTE: If the hood needs adjustment, refer to the Electronic Service Manual (ESM), section BODY EXTERIOR, DOORS, ROOF & VEHICLE SECURITY – DOOR & LOCK – REMOVAL AND INSTALLATION – HOOD – HOOD ASSEMBLY.

43. Install the “low” horn.

- a. Install the bolt (see circle in Figure 78).
 - Horn bolt torque: 17.2 N•m (1.8 kg-m, **13 ft lbs**)
- b. Connect the two (2) electrical connectors.

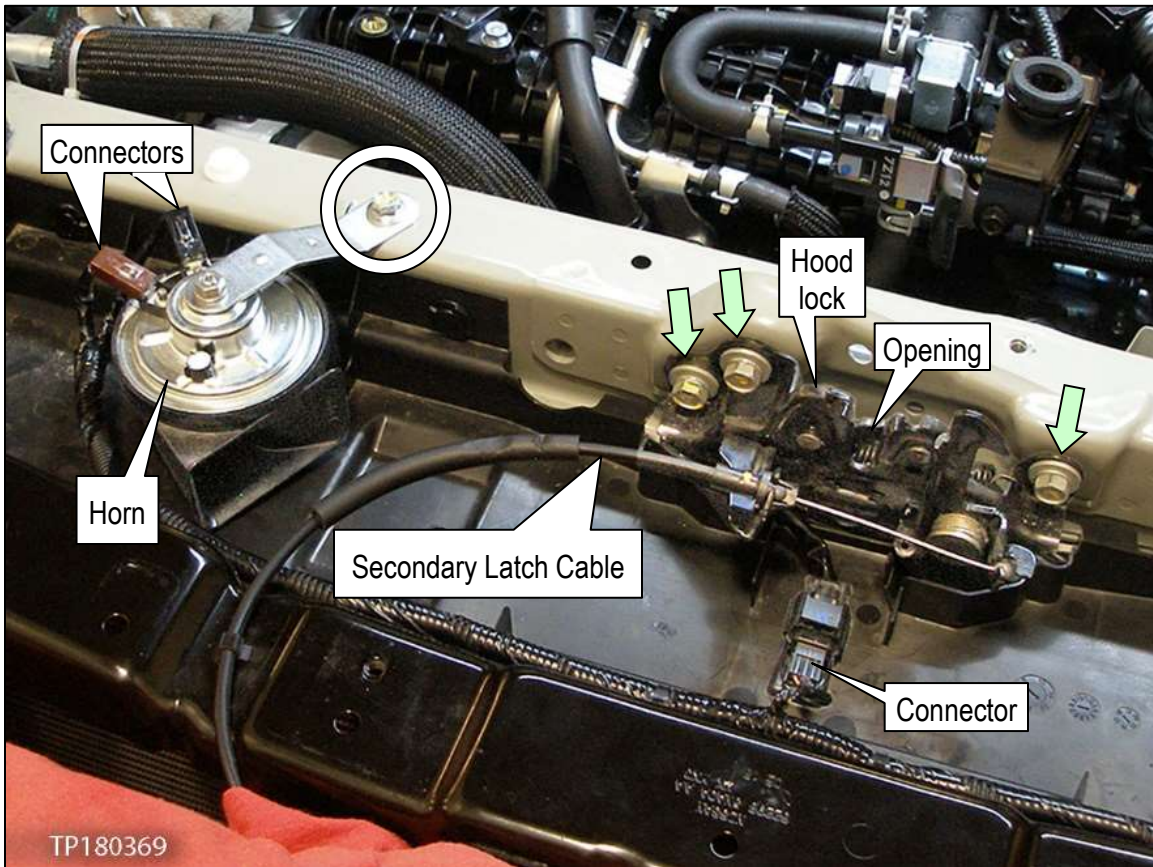


Figure 78

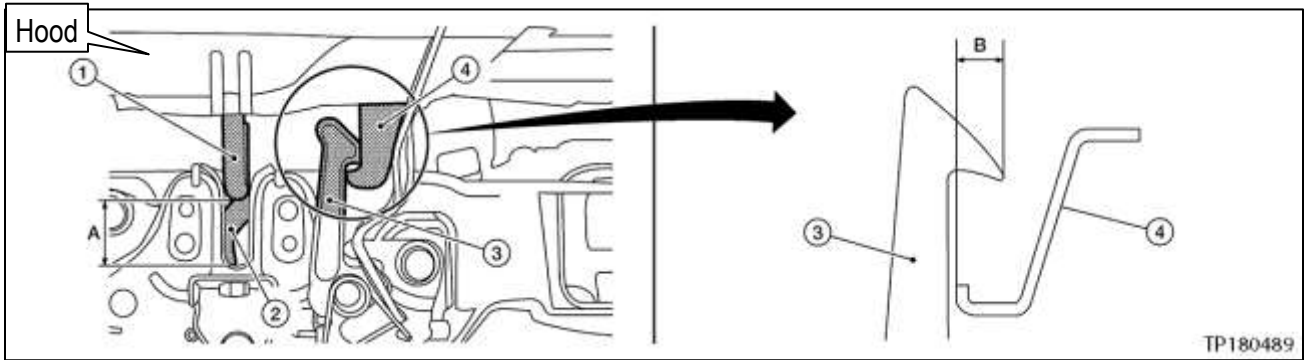


Figure 79

1-Primary striker; 2-Primary latch; 3-Secondary latch
 4-Secondary striker; A-20 mm (0.79 in); B-6.8 mm (.027 in)

44. Inspect both cables visually and for proper operation.
 - If either cable is bent or does not operate properly, replace it.
45. Verify the hood assembly raises by 20 mm (0.79 in) after operating the inside hood lock release handle.
46. Verify the hood lock release handle operates at 49 N (5.0 kg, 11.0 lb).
47. Verify the static closing force of the hood assembly is 300-490 N (31-40 kg, 110.2 lb).
48. Verify proper hood lock operation.
 - Add suitable multi-purpose grease as needed.
 - If the hood lock is damaged or does not operate properly, replace it.
49. Install the upper fascia retainer supports.
 - Tighten/torque the bolts and fasten the clips – Green Arrows (see arrows in Figure 80).
 - 10 N•m (1.0 kg-m, **7 ft lbs**) – Yellow Arrows
 - 25 N•m (2.6 kg-m, **18 ft lbs**) – White Arrows

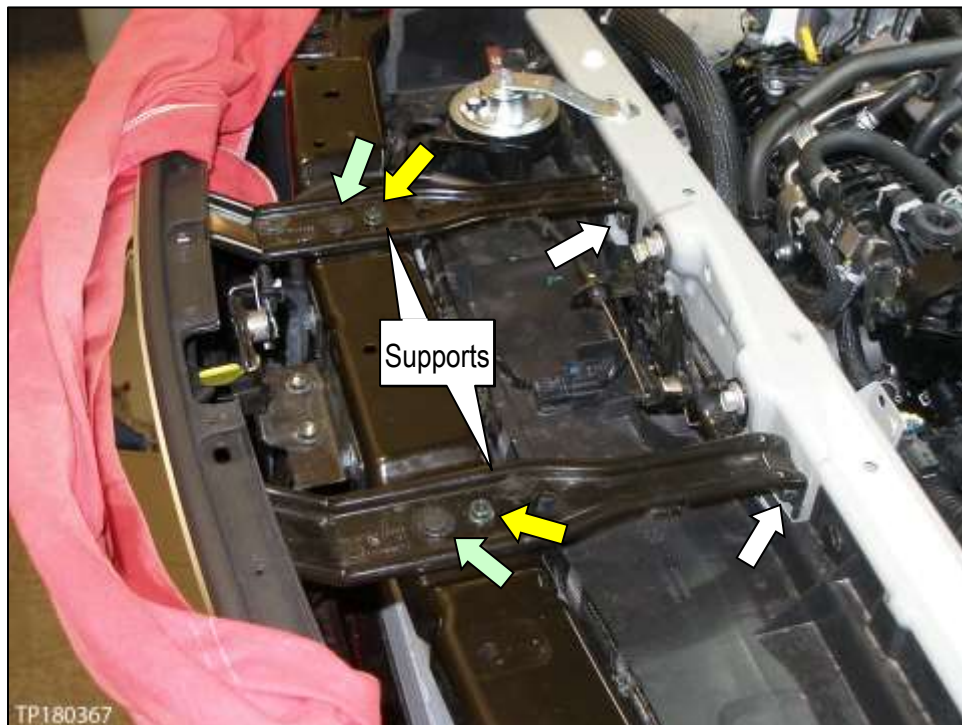


Figure 80

50. Connect the crash zone sensor connector.

- Verify proper connection with an audible click.

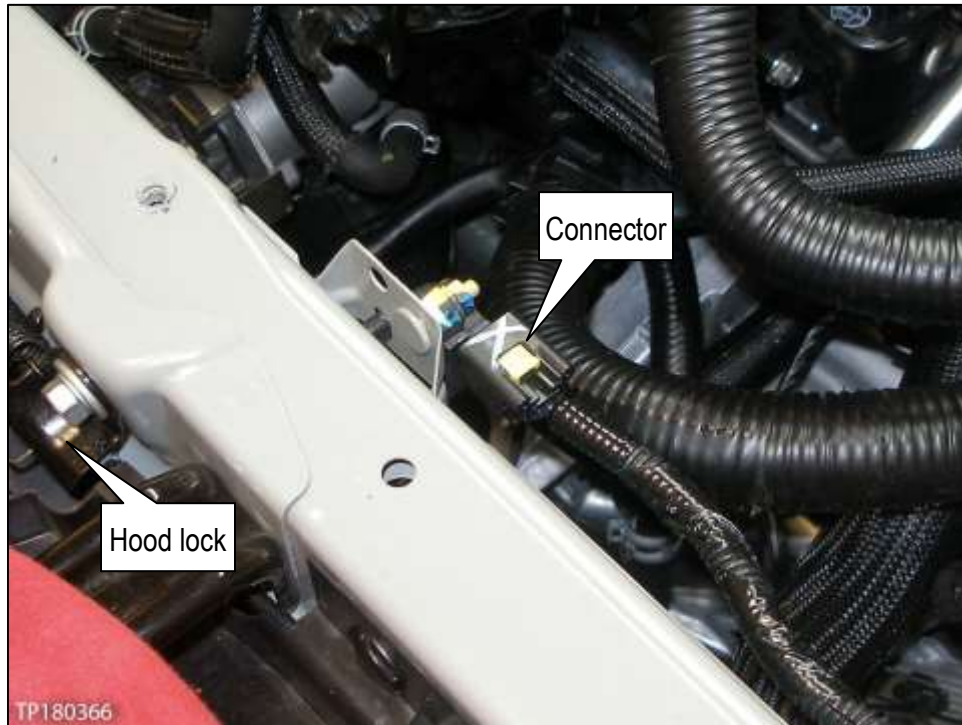


Figure 81

51. Slide the front edge of the core support cover under the lip of the front grill.

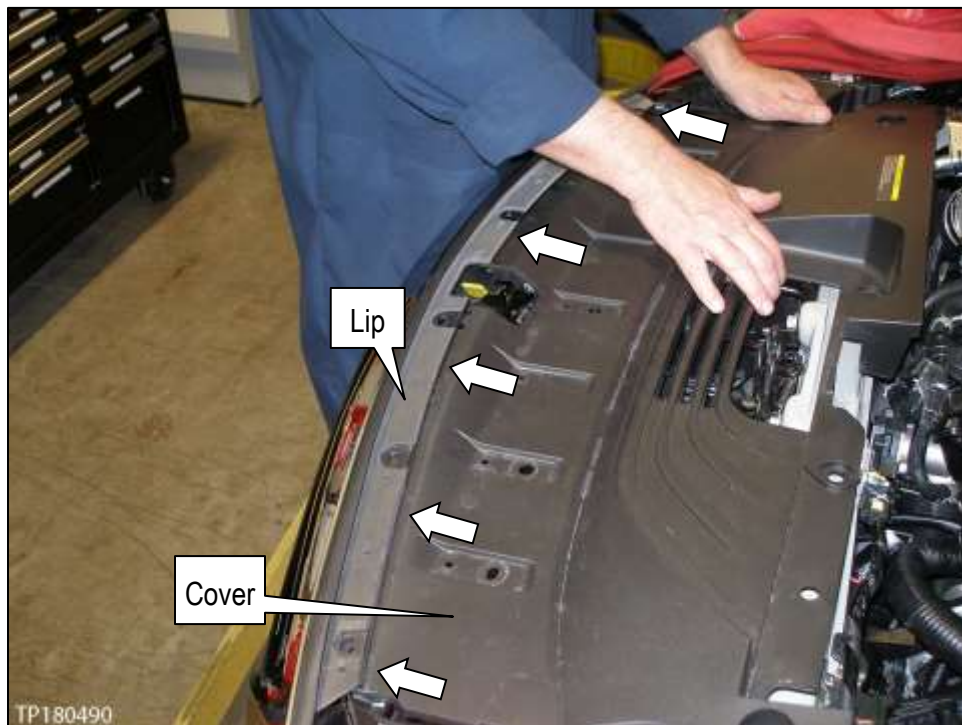


Figure 82

52. Bend back the core support cover toward the front grill, and then tuck it under the white clip.

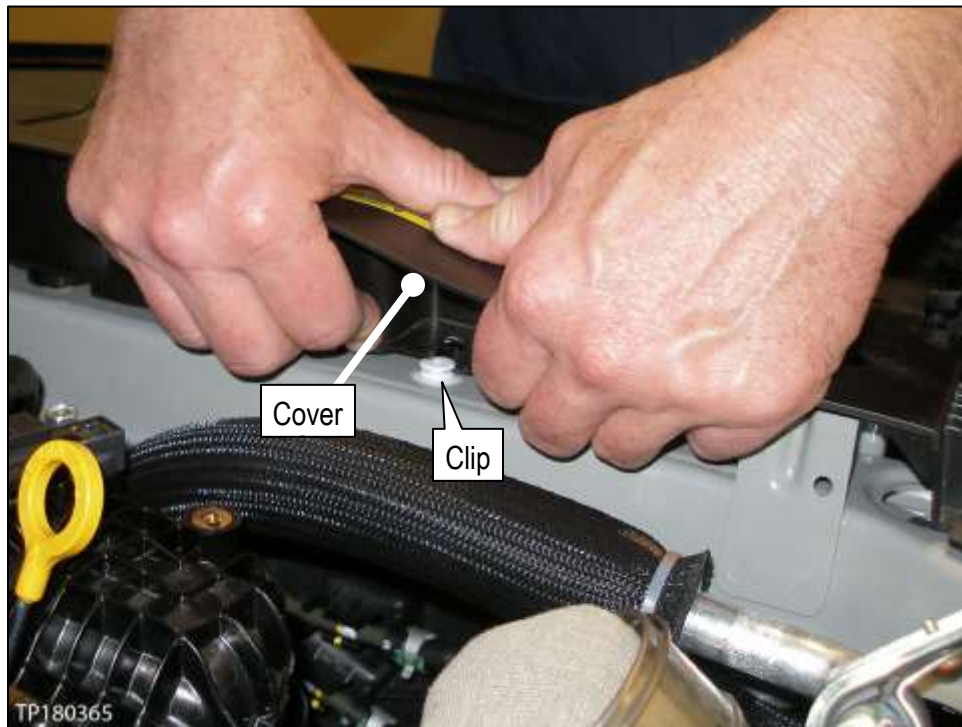


Figure 83

53. Position the core support cover, and then install the clips (see green arrows in Figure 84).

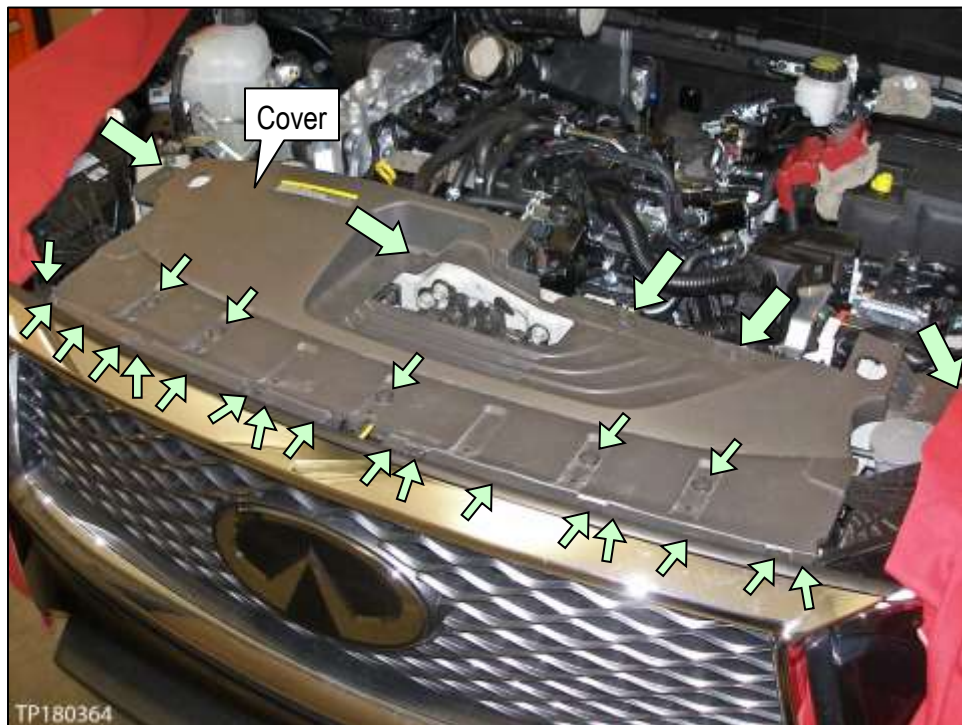


Figure 84

54. Install the air inlet resonator:

- a. Remove all covering before installing.
- b. Snap in place air inlet hoses 1 and 2.

CAUTION: Do not apply any type of oil or grease to either air inlet hose.

c. Install the bolts (see arrows in Figure 85).

- Air resonator inlet bolts torque: 10 N•m (1.0 kg-m, 7 ft lbs)

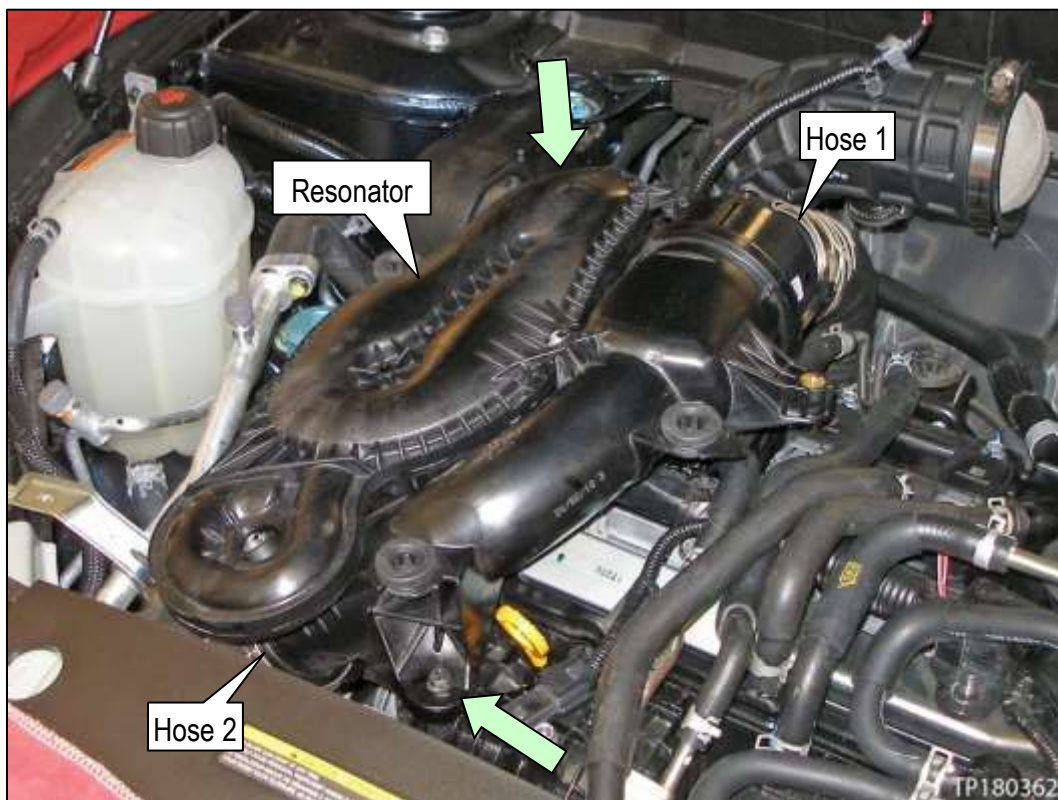


Figure 85

55. Install the air cleaner and air duct:

- a. Remove the covering from air duct 1.
- b. Position the air cleaner and air duct, and then connect air duct 1 to the air cleaner.
 - Clamp screw torque: 4.5 N•m (0.46 kg-m, **40 in lbs**)
- c. Connect the mass air flow sensor connector, and then fasten the electrical harness clip (see circle in Figure 86).
- d. Install and tighten the nut and bolts (see arrows in Figure 86).
 - Air cleaner and air duct bolts torque: 5.5 N•m (0.56 kg-m, **49 in lbs**)

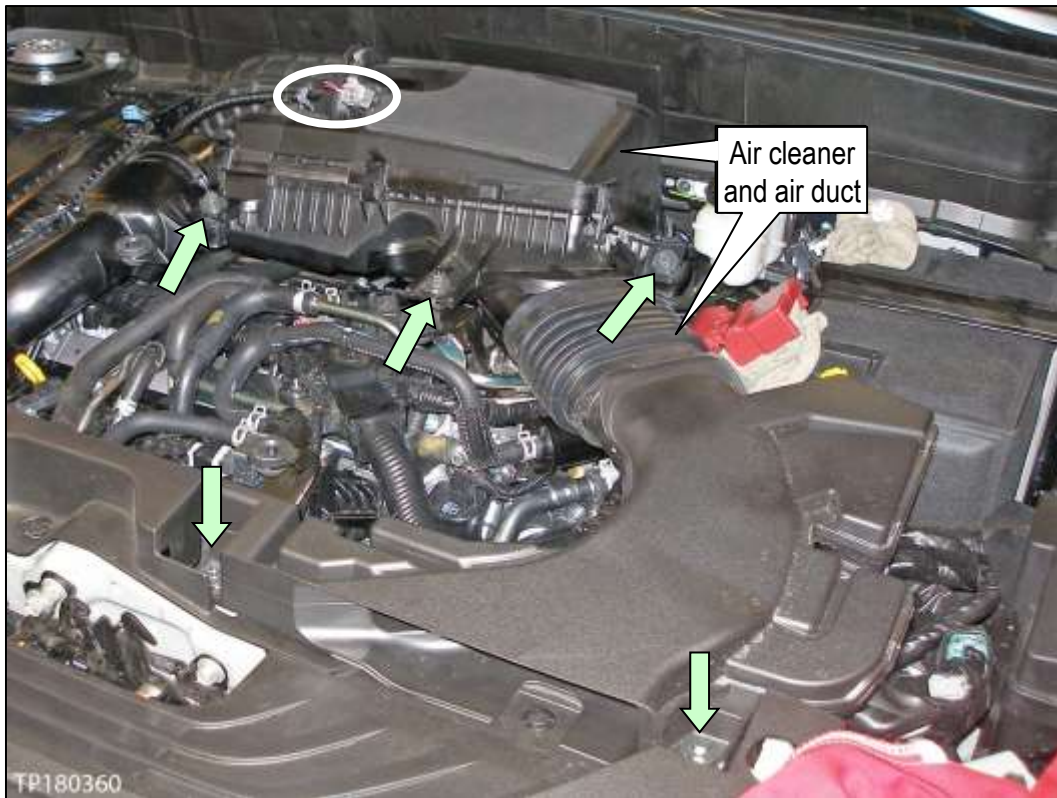


Figure 86

56. Install the engine cover.



Figure 87

57. Replace the radiator drain plug O-ring (see Parts Information), and then install the radiator drain plug in the radiator.

- 1.2 N•m (0.12 kg-m, **11 in lbs**)



Figure 88

58. Install the # F11 20 amp fuel pump fuse (see arrow in Figure 89).

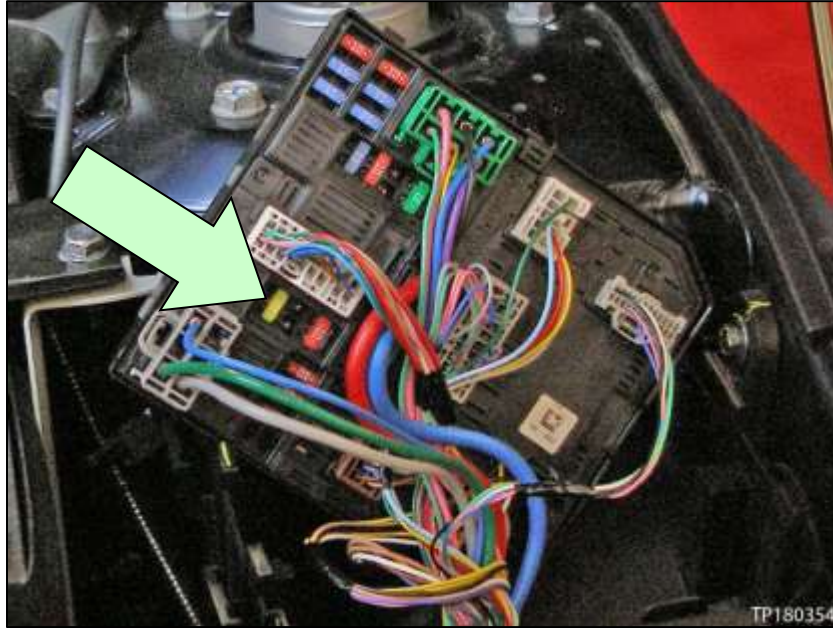


Figure 89

59. Fasten the IPDM E/R, and then install its cover.

60. Connect the battery cables, positive cable first.

- 5.4 N•m (0.55 kg-m, **48 in lbs**)

61. Refill the cooling system:

- a. Set the vehicle's heater controls to the full HOT and heater ON positions.
- b. Turn the vehicle ignition ON with the engine OFF as necessary to activate the heater mode.
- c. Fill the cooling system with new Genuine Nissan Long Life Antifreeze/Coolant (blue).

- See Parts Information.

NOTE: Make sure there are no coolant leaks.



Figure 90

d. Use essential tool Coolant Refill Tool J-45695-A.

- Follow the tool's instructions.

CAUTION: The compressed air supply used with too J-45695-A must be equipped with an air dryer.

- e. Remove tool J-45695-A and top off the cooling system with new engine coolant as necessary.
- f. Install the reservoir tank cap.
- g. With the ignition ON and the engine OFF, go to WORK SUPPORT in CONSULT-III plus to perform “ENGINE COOLANT BYPASS VALVE”.

NOTE: CONSULT-III plus (C-III plus) can be used to open the engine coolant bypass valve on the multi-way control valve.

- Refer to the ESM, section ENGINE – ENGINE COOLING SYSTEM – KR20DDET – DTC/CIRCUIT DIAGNOSIS – P26A3 MULTI-WAY CONTROL VALVE MOTOR.

- h. Start the engine, letting it warm up until the engine coolant bypass valve on the multi-way control valve opens.
- i. The engine coolant bypass valve on the multi-way control valve is open by verifying the lower radiator hose is warm to the touch.
- j. Make sure there are no coolant leaks.

CAUTION: Do not allow the engine to exceed normal operating temperature or engine damage may occur.

- k. Stop the engine (turn the ignition OFF) and allow it to cool.
- L. When the engine is “cold” (approximately 122°F/50°C), remove the reservoir cap and check the engine coolant level.
- m. If the level is low, fill with coolant until it reaches the “MAX” line of the reservoir tank, and then repeat step 61.

CAUTION: Do not spill coolant on any electrical equipment (such as a generator) during the operation as damage could result.

- n. Once the coolant level stabilizes, make sure it is up to the “MAX” line on the reservoir tank.

62. Install the front under cover.

63. As it applies: Reset the clock and calendar.

Go to the next page.

Perform Learning Procedures

The following procedures must be performed in the following order whenever the direct fuel injectors are replaced:

- Accelerator Pedal Released Position Learning
- Throttle Valve Closed Position Learning (to be performed with C-III plus)
- Air Fuel Ratio Initial Learning (to be performed with C-III plus)

Accelerator Pedal Released Position Learning

1. Make sure the accelerator pedal is fully released.
2. Turn the ignition switch ON, and then wait at least two (2) seconds.
3. Turn the ignition switch OFF, and then wait at least ten (10) seconds.
4. Repeat steps 2 and 3 three more times.

Throttle Valve Closed Position Learning

IMPORTANT: Before starting, make sure:

- ASIST on the CONSULT PC has been synchronized (updated) to the current date.
 - All CONSULT-III plus (C-III plus) software updates (if any) have been installed.
 - The CONSULT PC is connected to the Internet (Wi-Fi or cable).
1. Connect the plus VI and the CONSULT PC to the vehicle, and then start C-III plus.
 2. Turn ON the ignition switch.
 3. Select ENGINE / WORK SUPPORT / CLSD THL POS LEARN.
 4. Follow the instructions on the C-III plus display.
 5. Turn OFF the ignition switch, and then wait at least ten (10) seconds.
 - Verify the throttle valve moves by its operating sound during the above 10 seconds.

Air Fuel Ratio Initial Learning

NOTE: Accelerator Pedal Released Position Learning and Throttle Valve Closed Position Learning must be performed before performing Air Fuel Ratio Initial Learning.

1. Start the engine and warm it up to normal operating temperature.
2. Select ENGINE / WORK SUPPORT / A/F INITIAL LEARNING.
3. Touch START, and then wait 20 seconds.
4. CMPLT should now be displayed (work is now completed).

PARTS INFORMATION

DESCRIPTION	PART NUMBER	QUANTITY
INJECTOR-FUEL (direct injector)	16600-5NA0A	4
TUBE ASSY-FUEL	17520-5NA0B	1
GASKET-INTAKE MANIFOLD	14035-5NA0A	4
SEAL – O-RING (coolant pipe O-ring)	21049-ZL80A	1
SEAL-OIL LEVEL GAUGE GUIDE	15066-4W000	1
COCK-O-RING (radiator drain plug O-ring)	21481-89900	1
Nissan Blue Extended Life Antifreeze/Coolant **	999MP-L25500P	2 gallons

** Order Nissan Blue Extended Life Antifreeze/Coolant through the Infiniti Maintenance Advantage program: Phone: 877-INF-IMA1 (877-463-4621). Website order via link on dealer portal: www.NNAnet.com and click on the "Maintenance Advantage" link.

CLAIMS INFORMATION

Submit claim using the following claims coding:

Work Order Line Type: "CM" Campaign

Campaign: P8315

Claim Type:	CM			
PNC:	P8315			
Symptom:	ZZ			
Diagnosis:	99			
Description:	Op Codes	Flat Rate Time	Parts Required on claim	Expense Code Required
Replace Direct Fuel Injectors	P83150	3.3 Hrs	Yes	No