Subaru VB WRX FA24 Upgrade Injector Set

PRODUCT PART SKU#: IAG-AFD-2507

Warning! Please follow all warnings and instructions found in your vehicle service manual. The following instructions must be read and fully understood before beginning installation. Failure to follow these instructions may result in vehicle damage, personal injury, or death. If these instructions are not fully understood, do not attempt installation.

Please note that this product does require vehicle calibration. Please ensure provisions are made prior to installation. IAG Tuning Guides are available upon request. If you are already in touch with a tuner, please have them reach out to support@IAGPerformance.com or access the Tuning Guide on the product page. If you do not currently have a tuner, we will gladly connect you with someone within the dealer network.

CLEANLINESS IS PARAMOUNT!

Every serialized pump is production tested for leaks and dynamic flow for quality control. These pumps left the factory with no leaks and met all production specifications for control and flow! Contamination is the #1 cause of fuel system leaks and problems. Pump contamination can come from poor fuel quality, dirt or debris introduced during installation, or dirt and debris from handling before installation. It is imperative that the engine, workspace, tools, and handling is as clean as possible during the installation process. Use fuels and ethanol from trusted sources!

Required tools:

- Socket ratchet
- 8 mm socket
- 10 mm socket
- 12 mm socket
- E5 torx socket
- 17 mm wrench
- 17 mm crow's foot wrench
- Trim removal tools
- Pick tools
- Various length socket wrench extensions
- Torque wrench capable of 10-100 Nm/5-75 ft-lb
- Injector combustion seal sizing tool: Bosch 0986-616-099-955 or equivalent
- ECU programming interface or other calibration delivery method
- Safety glasses
- Fire extinguisher (Class B minimum recommended)

Consumables:

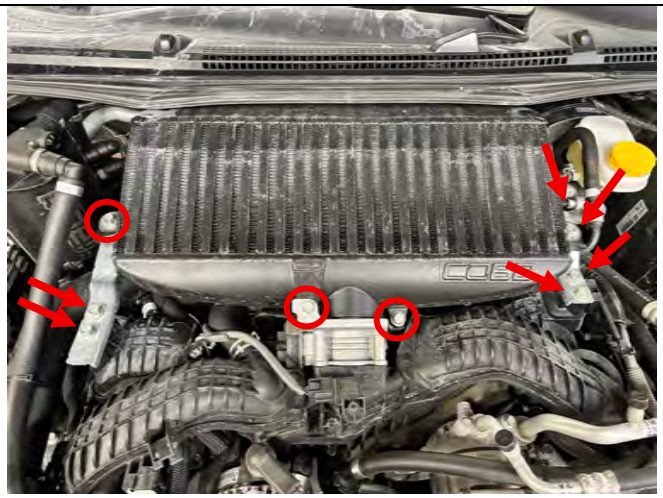
- Lint free absorbent towels
- Disposable rubber gloves

Additional recommended OEM parts (not included):

Description	Quantity	Part #
High-pressure line: Pump to rail	1	17540AA440
High-pressure line: Rail crossover	1	17542AA430
Intake manifold gaskets	2	14035AA810
EGR gasket	1	14738AA490
Throttle body gasket	1	16175AA400
Charge pipe gasket	1	14497AA080

PRODUCT H720-2111 Parts List:

Description	Quantity	Part #
NHP A24 high flow injector (new rev): 3 standard injectors and one extended harness injector (see instructions for cylinder locations)	3 1	H620-2110 H620-2131
NHP FA24 injector special alignment spring clip (pre-assembled on injector)	4	A030-2100

1. Use a 10 mm socket to remove the negative battery terminal. Cover the terminal with a rag or electrical tape to prevent power from accidentally being restored to the vehicle.	
	Figure 1
2. Use a 12 mm socket to remove the 9 bolts mounting the intercooler to the engine. **Torque Spec: 16 Nm (11.8 ft lb.)**	
	Figure 2
3. Remove the 2 intercooler mounting brackets. **Torque Spec: 16 Nm (11.8 ft lb.)**	
	Figure 3

4. Use pick tools or a flat-blade screwdriver to lift the metal retaining clip on the charge pipe to disconnect it from its junction. Then remove the intercooler.

   Note: This vehicle has an aftermarket charge pipe. The OEM one is placed beside it with an arrow pointing at the metal clip. Subaru classifies the charge pipe gasket as one-time use and recommends replacement.
   Subaru P/N: 14497AA080

Figure 4

5. Use a 10 mm socket to remove the 4 bolts mounting the throttle body to the intake manifold.

   Torque Spec: 8 Nm (5.9 ft lb.)

   Note: Subaru classifies the throttle body gasket as one-time use and recommends replacement.
   Subaru P/N: 16175AA400

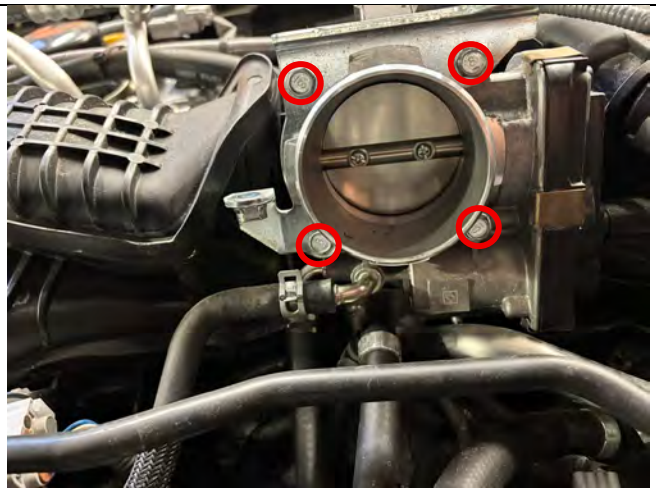


Figure 5

6. Disconnect the MAP (manifold absolute pressure) sensor connector.

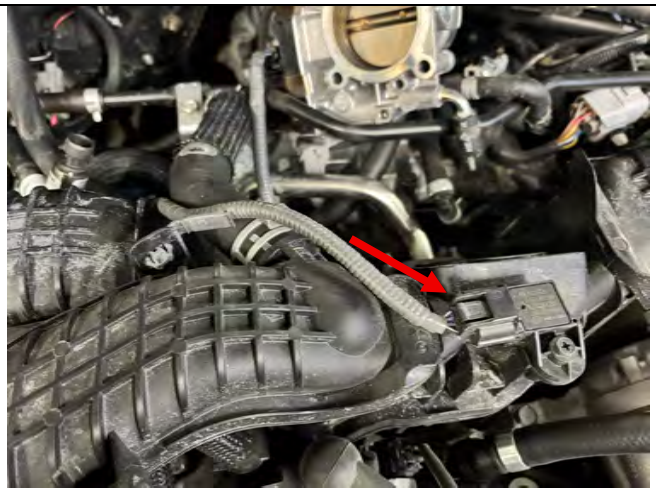
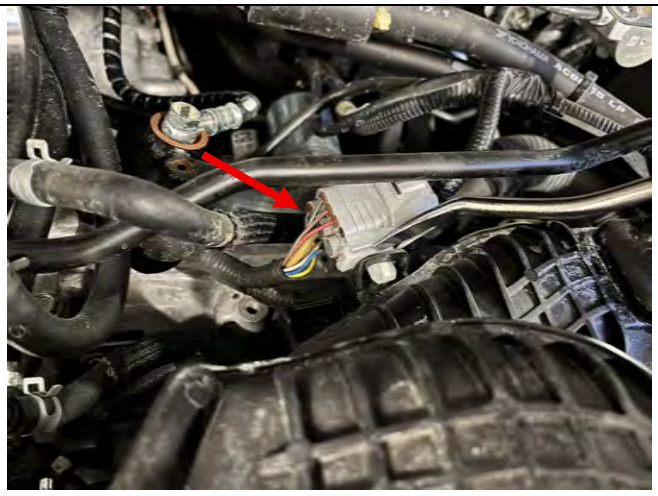


Figure 6

7. Use a pair of pliers to slide the hose clamp down the vacuum hose, then disconnect the hose from the intake manifold.	
	Figure 7
8. Use a trim removal tool to release the trim clip mounting the connector to the back of the intake manifold.	
	Figure 8
9. Use a trim removal tool to disconnect the wiring harness from the two points on the driver's side of the intake manifold.	
	Figure 9

10. Use a 10 mm socket to remove the bolt mounting the wiring harness bracket to the intake manifold.

    Torque Spec: 6.4 Nm (4.7 ft lb.)

Figure 10

11. Use a 10 mm socket to remove the two bolts mounting the vacuum canister to the intake manifold.

    Torque Spec: 6.4 Nm (4.7 ft lb.)

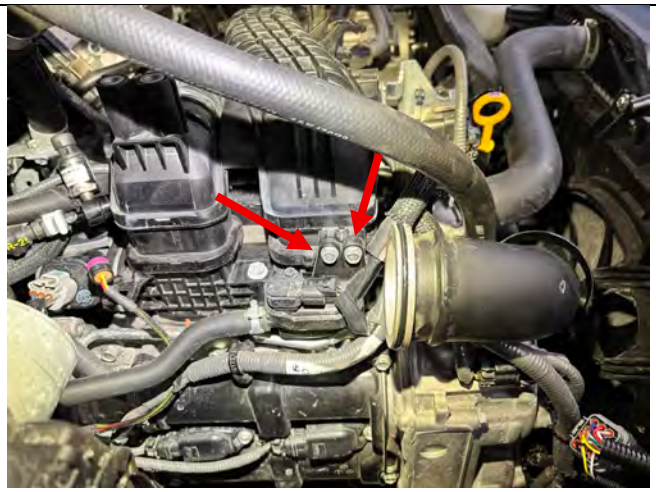


Figure 11

12. Disconnect the electrical connector from the TGV (tumble generator valve) on the passenger's side of the intake manifold.

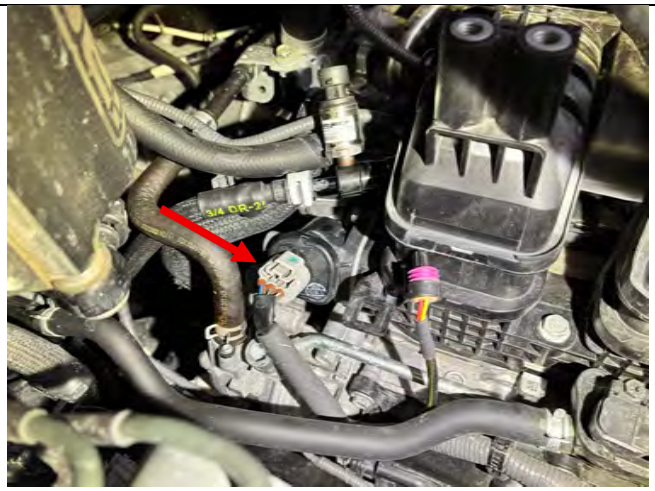


Figure 12

13. Disconnect the low-pressure feed line located behind the intake manifold on the passenger's side.

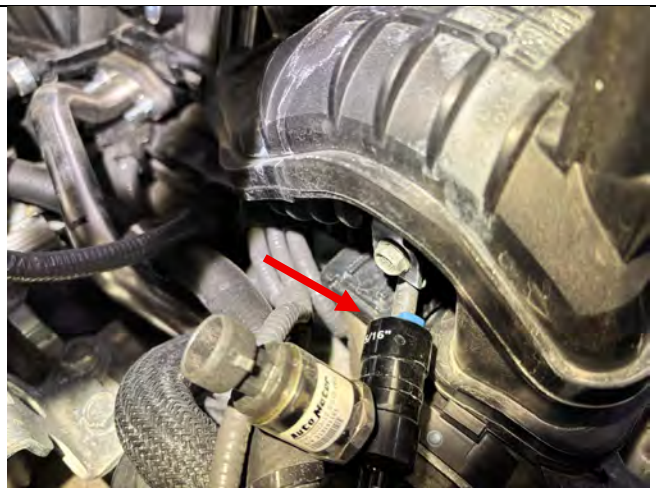


Figure 13

14. Use a 10 mm socket to remove the nuts mounting the EGR (exhaust gas recirculation) tube to the back of the intake manifold.

    Torque Spec: 9 Nm (6.6 ft lb.)

    Note: Subaru classifies the EGR gasket as one-time use and recommends replacement. Subaru P/N: 14738AA490

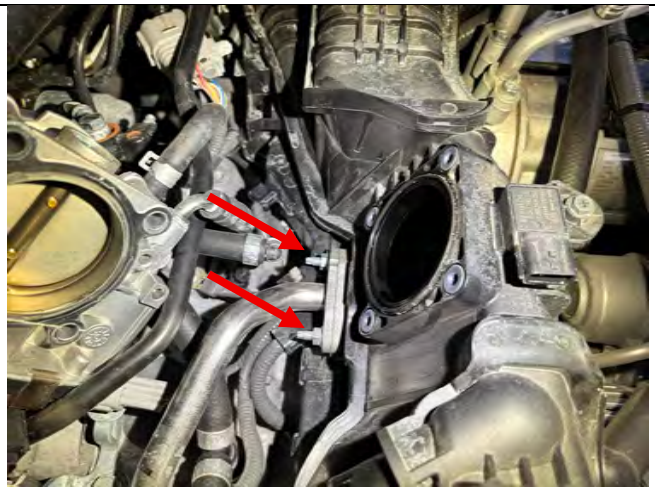


Figure 14

15. Use an E5 torx socket to remove the two EGR tube studs that are in the back of the intake manifold.

    Torque Spec: 6.4 Nm (4.7 ft lb.)

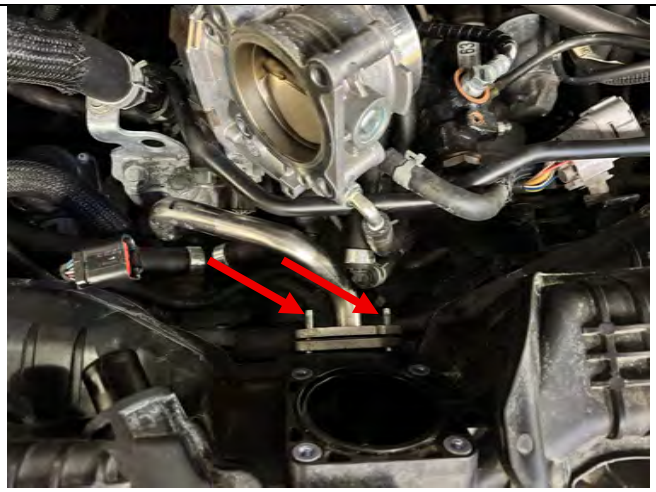


Figure 15

16. Use a trim tool to remove the clip fastening the wiring harness to the intake manifold.

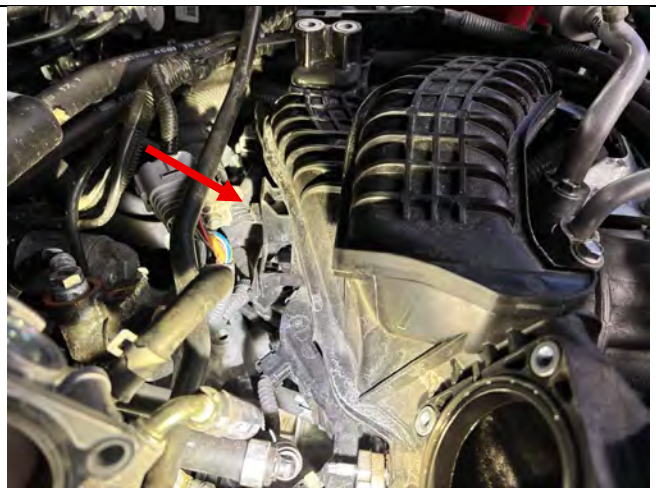


Figure 16

17. Use a 12 mm socket to remove the two bolts fastening the silver crash bracket to the engine.

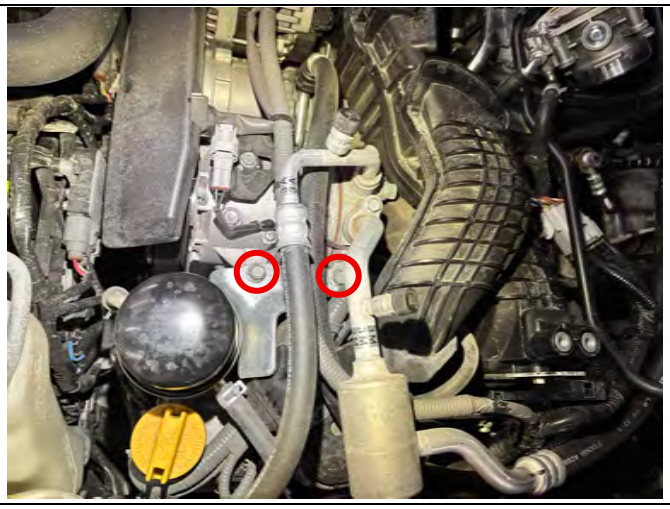


Figure 17

18. Remove the 3 bolts securing the black HPFP crash bracket to the engine. The bolts are difficult to see, use the illustration in *Figure 18* to see the location of the bolts.

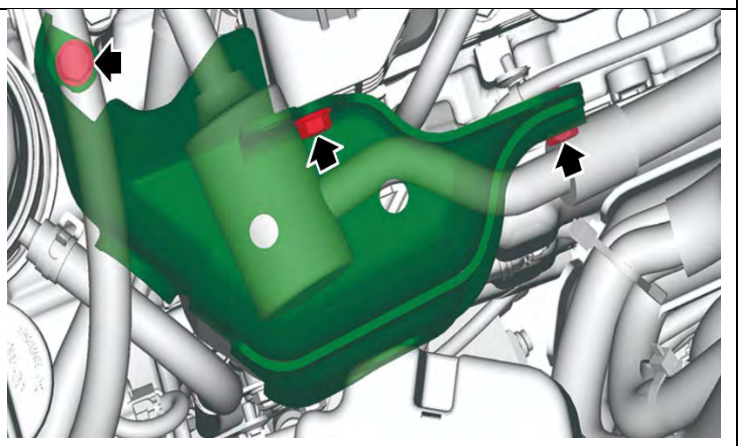


Figure 18

19. Use a trim removal tool to release the clip mounting the wire harness to the intake manifold.

Figure 19

20. Disconnect the low-pressure fuel line from the high-pressure pump.

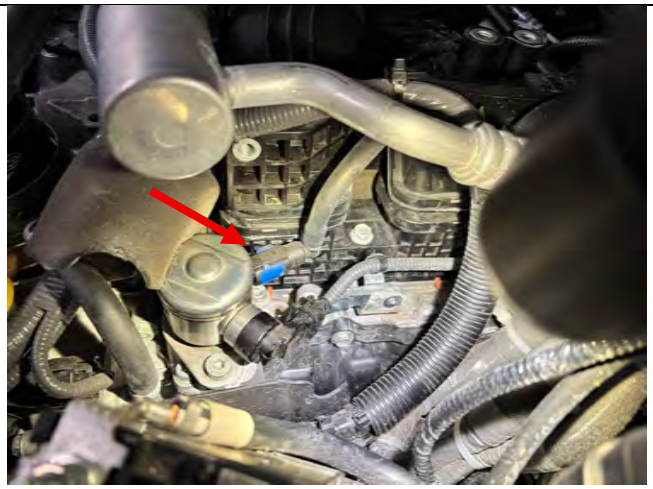


Figure 20

21. Disconnect the electrical connector from the TGV (tumble generator valve) on the driver's side of the intake manifold.

    Note: The connector is just behind the wiring harness in *Figure 21*.

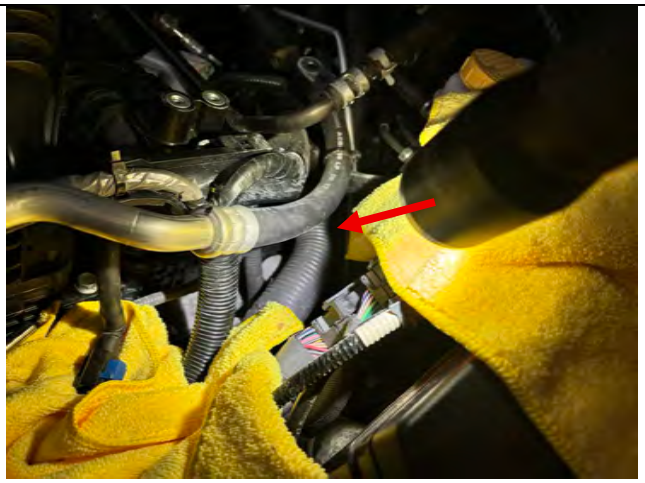


Figure 21

22. Use a 10 mm socket to remove the bolt mounting the wire harness bracket to the intake manifold.

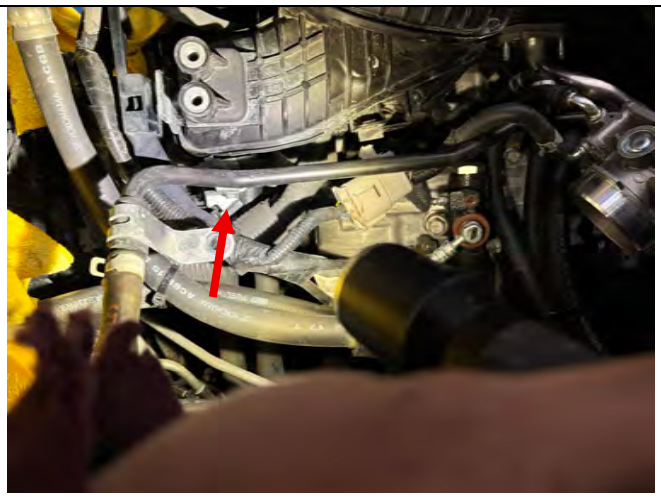


Figure 22

23. Use a 12 mm socket to remove the 3 bolts mounting the intake manifold to the passenger side cylinder head.

    Torque Spec: 25 Nm (18.4 ft lb.)

    Note: The intake manifold bolts are difficult to see, use the illustration in *Figure 25* to get a better view of the bolts.

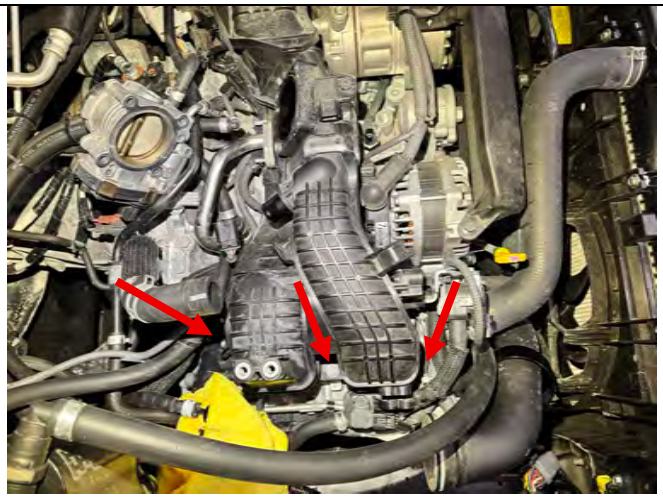


Figure 23

24. Use a 12 mm socket to remove the 3 bolts mounting the intake manifold to the driver side cylinder head.

    Torque Spec: 25 Nm (18.4 ft lb.)

    Note: The intake manifold bolts are difficult to see, use the illustration in *Figure 25* to get a better view of the bolts.

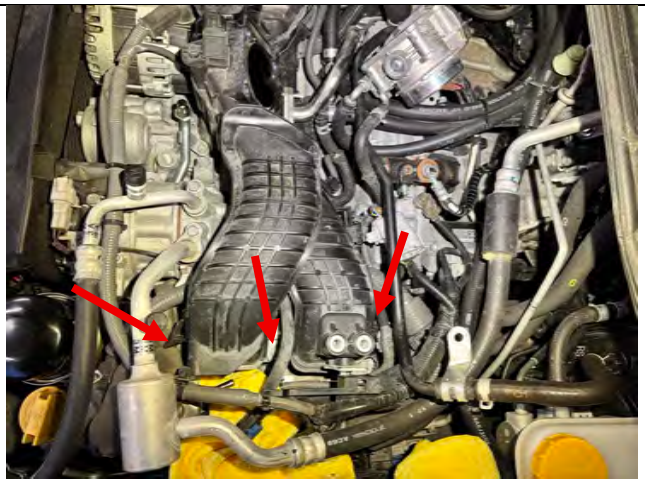


Figure 24

25. View *Figure 25* for a better idea of where the intake manifold bolts are.

    Torque Spec: 25 Nm (18.4 ft lb.)

    Note: Subaru classifies the intake manifold gaskets as one-time use and recommends replacement.
    Subaru P/N: 14035AA810

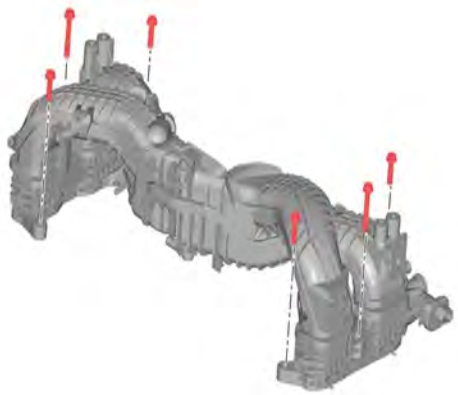


Figure 25

26. Release the vacuum hose from the alignment slot on the intake manifold.

Figure 26

27. Use a pair of pliers to disconnect the vacuum hose from the bottom of the intake manifold.

Figure 27

28. Remove the intake manifold from the vehicle.

Figure 28

29. Remove the fuel injector sound damping foam from on top of the coolant jacket.

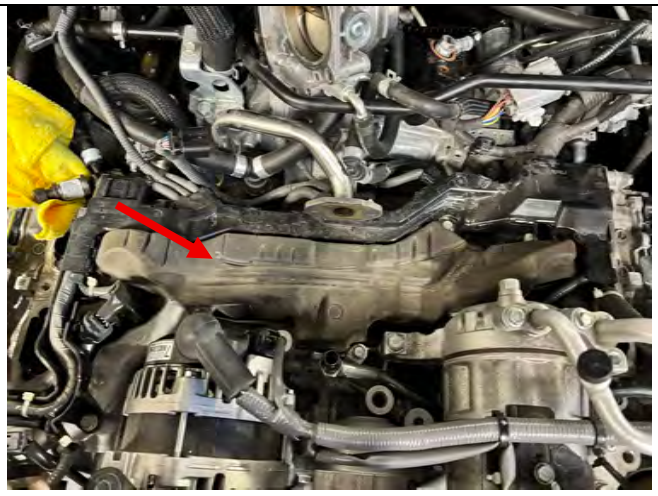


Figure 29

30. Use a 10 mm socket to remove the 2 bolts mounting the wire harness tray in place.

    Torque Spec: 6.4 Nm (4.7 ft lb.)

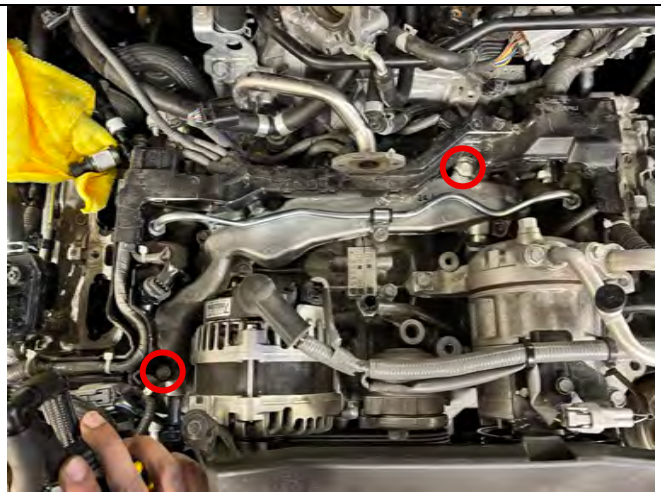
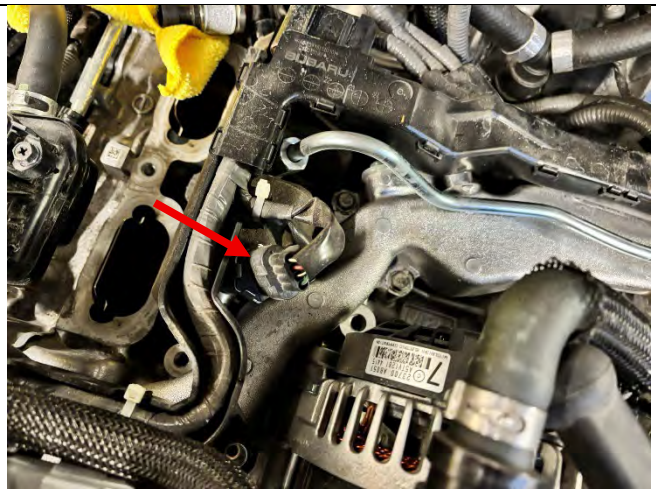
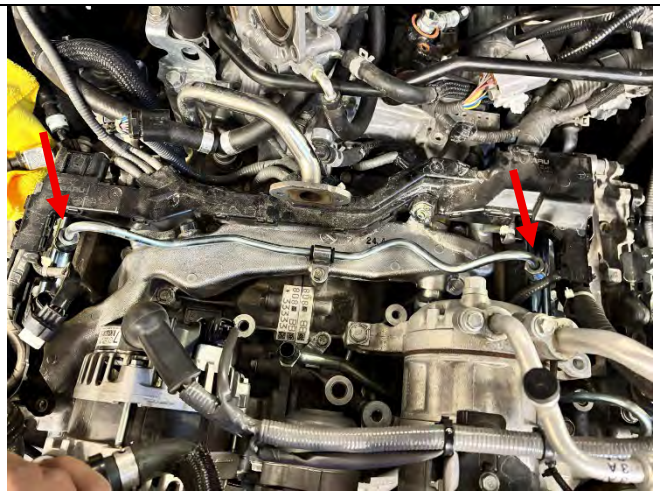


Figure 30

31. Remove the fuel injector sound damping foam from the sides of both fuel rails.	
	Figure 31
32. Disconnect the fuel rail pressure sensor electrical connector.	
	Figure 32
33. Use a 17 mm wrench to loosen the 2 high-pressure line compression nuts on the fuel rails. **Torque Spec: 28 Nm (20.7 ft lb.)**	
	Figure 33

34. Use a 10 mm socket to remove the bolt mounting the high-pressure line to the coolant jacket, then remove the high-pressure line.

    Torque Spec: 6.4 Nm (4.7 ft lb.)

    Note: Subaru classifies this high-pressure line as one-time use and recommends replacement.
    Subaru P/N: 17542AA430

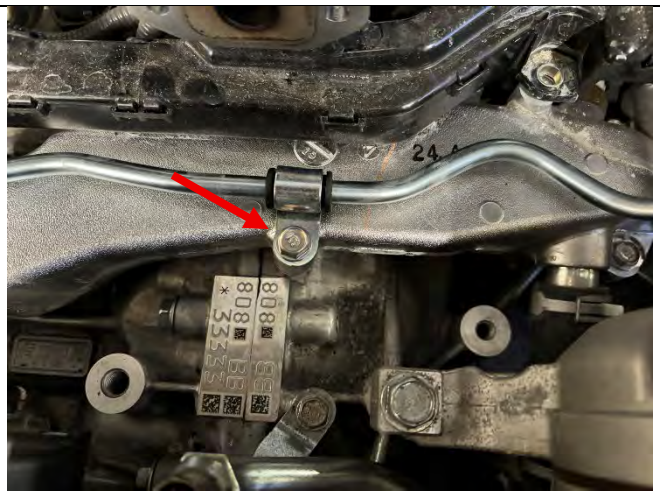


Figure 34

35. Use a 17 mm socket to disconnect the high-pressure line compression nut from the high-pressure pump.

    Torque Spec: 28 Nm (20.7 ft lb.)

    Note: Subaru classifies this high-pressure line as one-time use and recommends replacement.
    Subaru P/N: 17540AA440

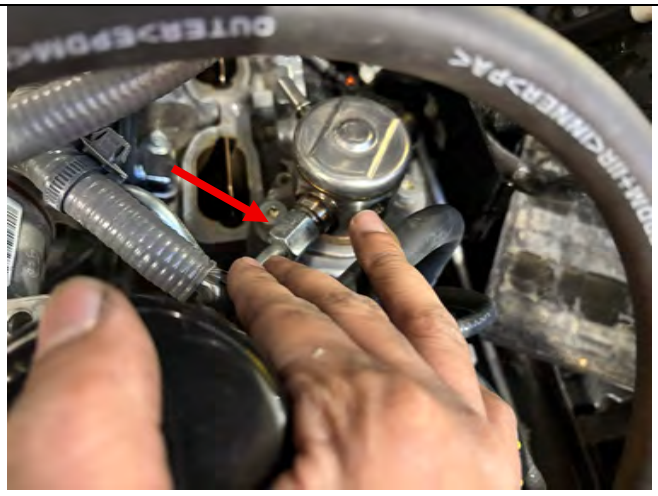


Figure 35

36. Lift the wiring harness tray then disconnect the fuel injector electrical connectors from all 4 injectors.

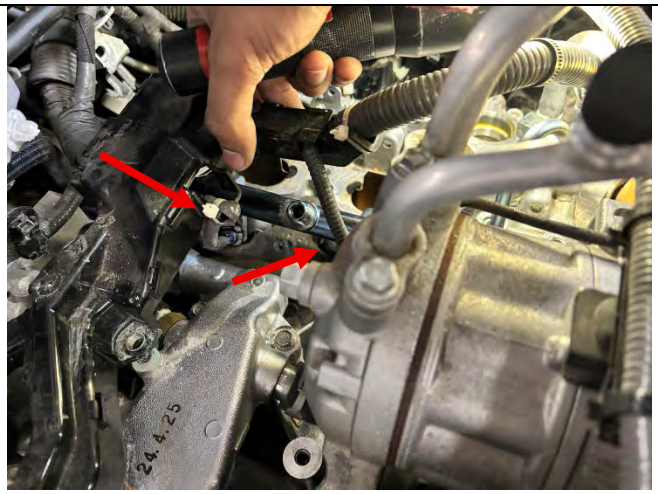


Figure 36

37. Use an 8 mm socket to remove the 2 bolts mounting the fuel rail on the passenger's side of the engine, then remove the fuel rail.

    Torque Spec: 19 Nm (14 ft lb.)

Figure 37

38. Use an 8 mm socket to remove the 2 fuel rail bolts from the driver's side of the engine, then remove the fuel rail.

    Torque Spec: 19 Nm (14 ft lb.)

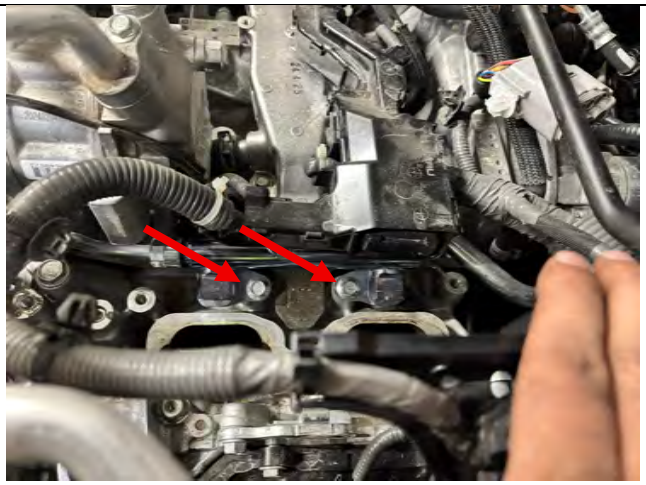


Figure 38

39. Remove the OEM fuel injectors from the fuel rails.

Figure 39

40. Lightly lubricate the O-ring on top of the new injectors using clean engine oil.

Figure 40

41. Place the fuel injectors into the fuel rails. Be sure that the alignment dowl on the injector clips are inserted into the alignment slots in the rails.

    Note: Use the aftermarket injector clips that are pre-installed on the Nostrum injectors. Do NOT re-use the OEM injector clips.

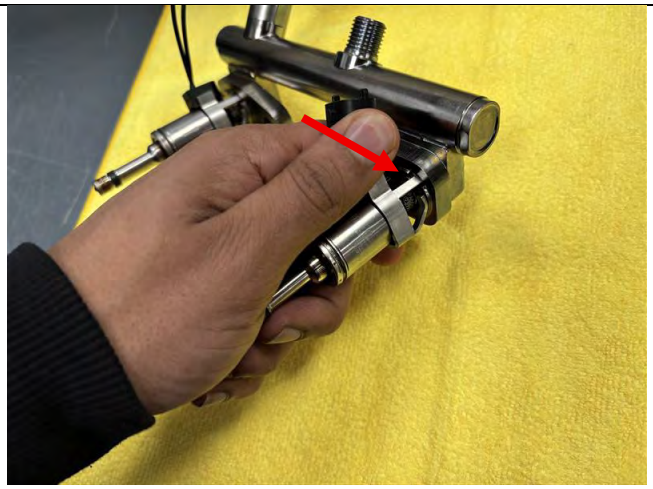


Figure 41

42. One of the injectors will look different from the rest and has a pigtail electrical connector. It is important that this injector goes on the passenger side fuel rail directly beneath the fuel rail pressure sensor.

    Note: If this step is not completed, the injector connector may contact the engine's coolant crossover, preventing the injector from seating properly in the cylinder head and obstructing reconnection of the electrical connector.

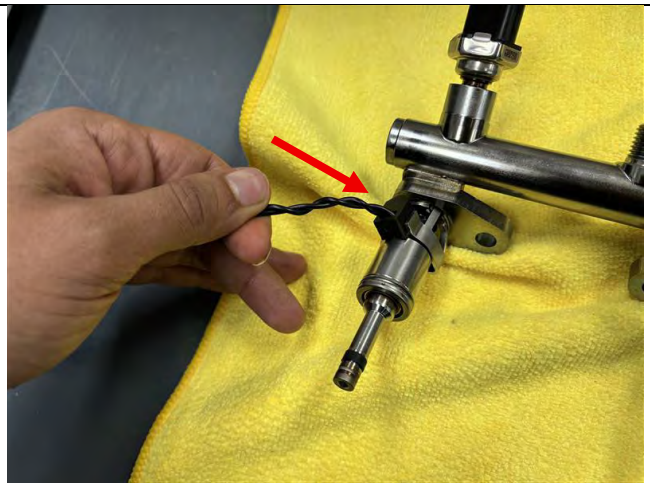


Figure 42

43. Sizing of the combustion seal - you must size the injector combustion seals immediately before installing the injectors in the cylinder head. This step must be performed on all new injectors as well as after changing the seals on used injectors. Seals should be changed whenever injectors are removed from the engine. Use the Injector Seal Installer and Sizer tool set: **Bosch 0986-616-099-955** or equivalent. Place the injector compression tool over the end of each injector. Press the tool on until the tool stops on the stem. **failure to properly compress can result in seal damage that may lead to a high rpm misfire and ultimate seal failure**

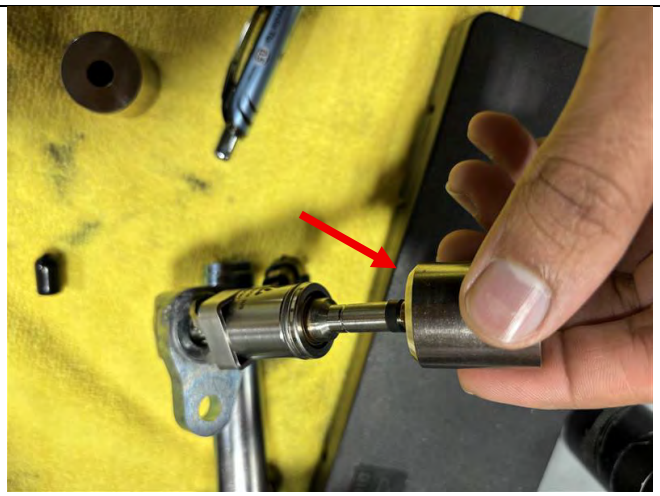


Figure 43

44. Keep the compression tool on the stem of each injector for 30 seconds before moving on to the next one. The fuel injectors must be installed into the cylinder head immediately after performing this step. Do not perform this step until you are ready to continue with the installation of the fuel rail into the engine. **failure to properly compress can result in seal damage that may lead to a high rpm misfire and ultimate seal failure**

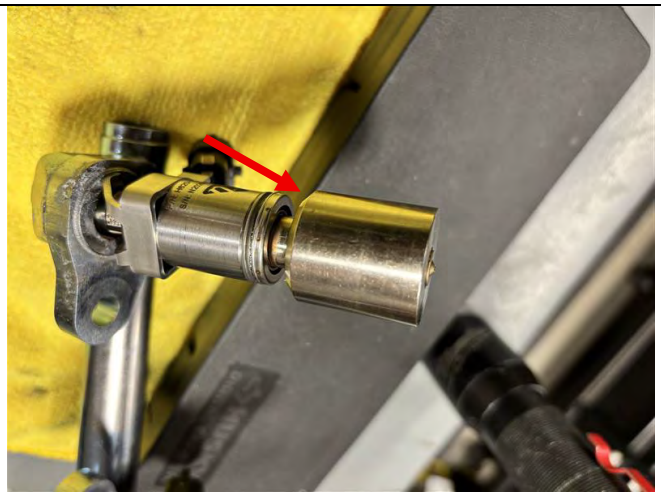


Figure 44

45. Place the fuel rails with the injectors installed back into their seated positions on the cylinder head. Careful to make sure the tips of the injectors go into the corresponding hole in the cylinder head. Then use an 8 mm socket to tighten the fuel rails to the cylinder heads.

    Torque Spec: 19 Nm (14 ft lb.)

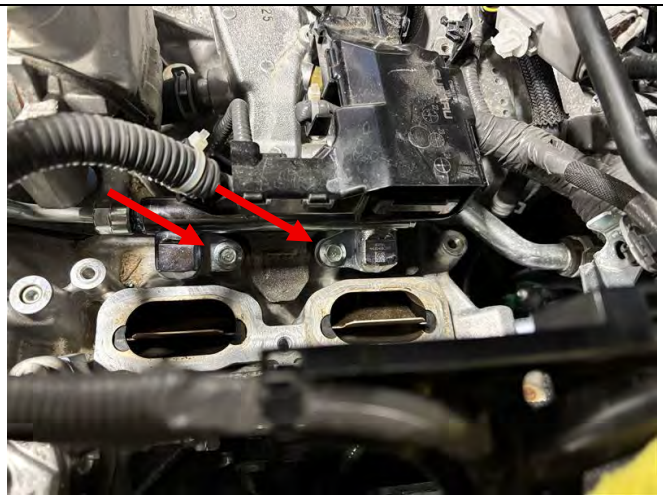
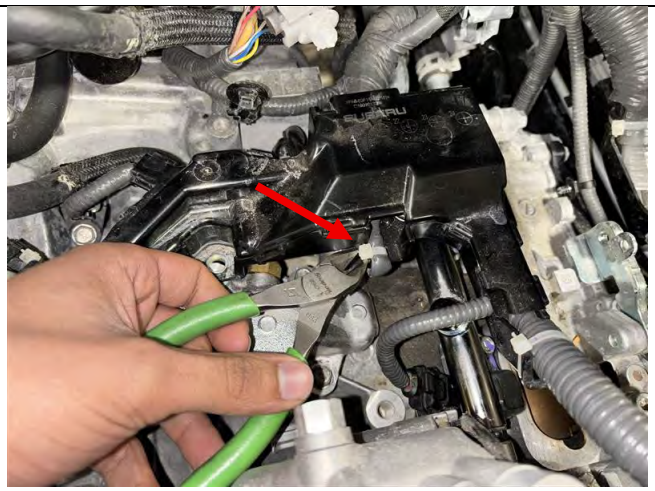
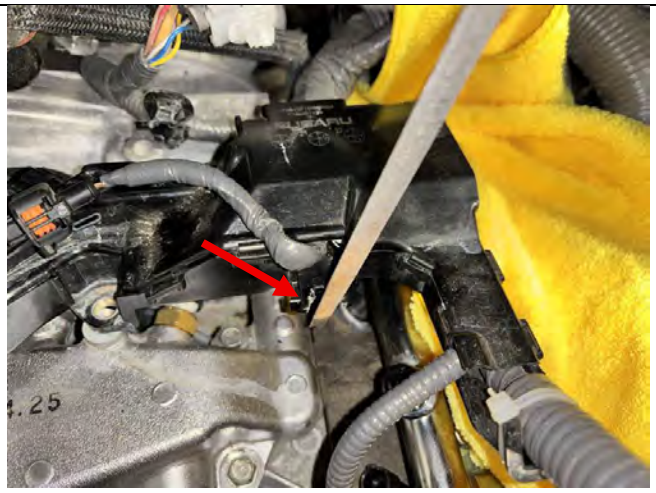
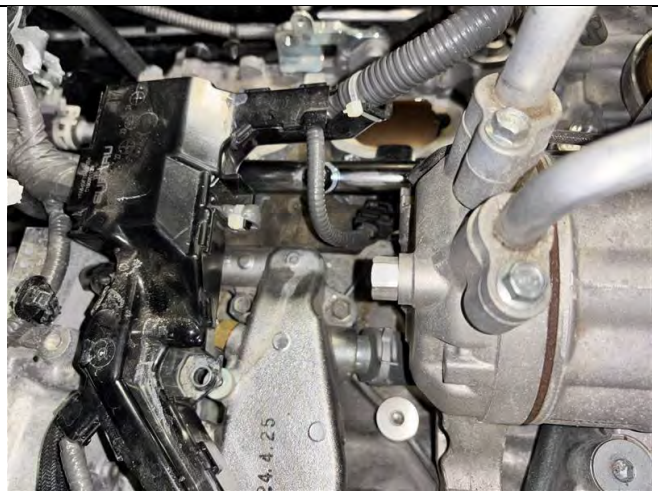
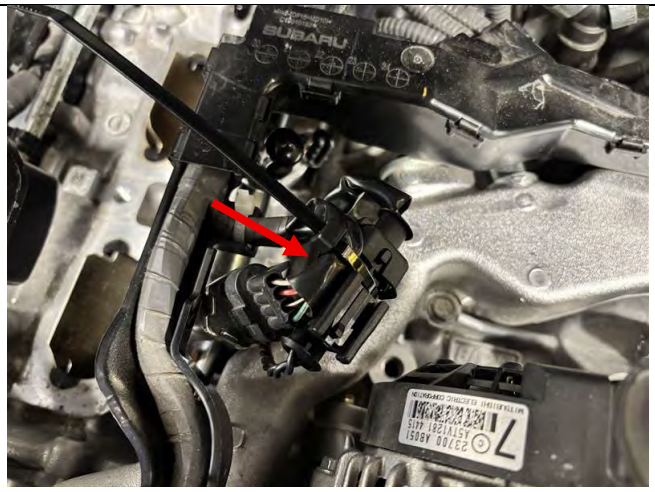


Figure 45

46. Cut the zip tie securing the driver side rear injector harness to the wiring harness tray.	
	Figure 46
47. Use a pair of side cutters to cut the wire harness tray in the highlighted area.	
	Figure 47
48. Use a file to smooth the edges of the area you just removed on the tray.	
	Figure 48

49. Reconnect the fuel injector electrical connectors.	
	Figure 49
50. Zip tie the electrical connector for the injector with the pigtail to the fuel rail pressure sensor harness.	
	Figure 50
51. Once the injectors are installed, reinstallation of all remaining components can begin. Follow the steps of disassembly listed above in reverse to re-install components starting with Step 35. Follow all torque specs that are included in each step where applicable (when applicable the torque specifications for re-assembly are in parentheses in Nm at the end of the particular disassembly step). If a torque spec is not included in a step where it seems applicable assume snug fit with a wrench or socket wrench.	
	Figure 51

Hardware installation is complete.

Calibration

Do not start your vehicle, this product requires calibration. Please contact your tuner or refer to the Nostrum Tuning Guide to make the necessary changes prior to starting the vehicle. Once calibration is complete, please proceed to the next step.

First Start-Up

1. Be sure to remove all installation tools and loose items from the engine compartment. Follow good, safe practices when working on your vehicle. Be sure to reassemble all parts and components according to your OE service manual.

2. Key cycle the vehicle into the “Accessory On” position (do not go to the Start position). The low-pressure fuel pump will activate and the fuel system will pressurize. Check the high-pressure fuel pump and the low-pressure system for leaks. If no leaks are found, proceed to Step 3.

3. Cycle the key to the Start position and let the vehicle attempt several start cycles. Remember that the fuel lines, pump, and part of the fuel rail are filled with air, therefore this step is necessary to evacuate that air and get the system charged. If it starts, continue with the following steps. If it does not, key off the vehicle. Check the high-pressure lines to the fuel rail, to the pump and the pump itself for leaks. If no leaks are found, proceed to step 4.

4. Key cycle one more time to Start. Engine should start-up and idle. If so, continue with the following steps. If not, repeat Steps 2-4 again.

5. Let the car idle for a few minutes. Check for leaks in the low and high-pressure systems again.

6. Installation is complete!

NOTE: a fault code may appear at the first key cycle due to the extended cranking time or the low-pressure in the fuel rail, both due to the air in the fuel system.
This code should self-clear after the OEM defined quantity of key cycles.

NOTE: Please check for fuel leaks after driving the vehicle and letting it cool for an extended period of time. Fittings may loosen after the first heat cycle due to thermal expansion and contraction. Retighten fittings if needed.

For additional technical & software support please contact:

Email: support@iagperformance.com
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Revision	Notes	Date
1.0	Initial update for new revision IAG-AFD-2507	2/23/26