NOSTRUM
HIGH PERFORMANCE

BMW S55 Stage 1 and 2 Injector Installation Guide

SKU#: H703-1257/H710-1164

Warning! Please follow all warnings and instructions found in your vehicle owner's 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, Nostrum Tuning Guides are available upon request. If you are already in touch with a tuner, please have them reach out to support@nostrumshop.com or access the Tuning Guide via the dealer portal on the Nostrum website. If you do not currently have a tuner, we will gladly connect you with someone within the Nostrum dealer network.

Required Tools:

- Socket Wrench
- 10mm Socket
- 13mm Socket
- 16mm Socket
- 6mm Socket
- Trim Tool
- 8mm Socket
- 11mm Socket
- T27 Torx
- Allen 5mm
- 18mm Wrench
- 14mm Crows Foot
- Pick
- Injector Removal Tool
- Compression Tool

Expendables:

- Dielectric Grease
- Absorbent Mats

1. Lift trunk floor cover and disconnect negative battery terminal with a 10mm socket.

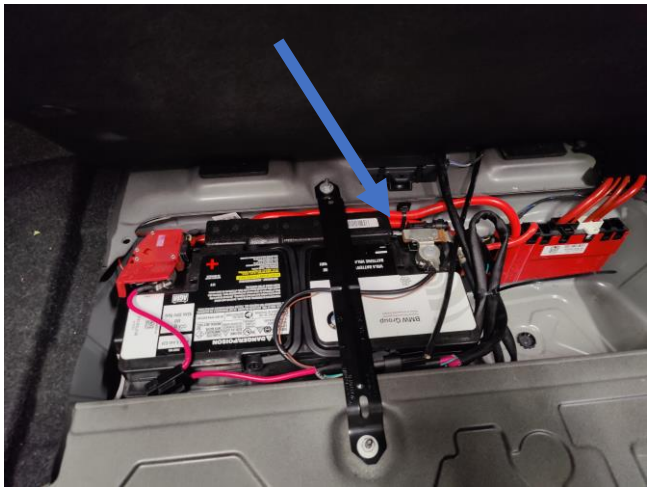


Figure 1

2. Use 10mm socket to remove the plastic clips holding the windshield wiper cowl. Remove the passenger and driver cowl.

Figure 2

3. Remove retainment cable from the rubber insulator between the wiper cowl and the engine.

Figure 3

4. Remove retainment clips on the strut towers using a trim tool. Then remove rubber cover.

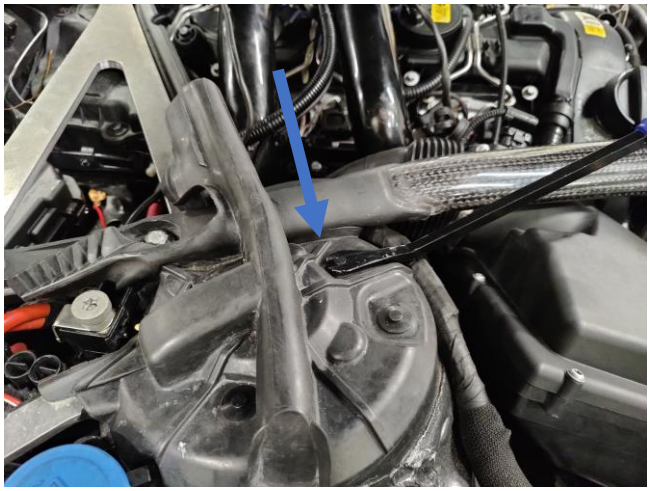


Figure 4

5. Remove retainment clips to remove the fender edge trim.

Figure 5

6. Remove 7 bolts that secure the cross bar suing a 13mm socket. Then remove the crossbar. (Torque Spec: 28 Nm)

Figure 6

7. Remove bolts from the driver and passenger side strut tower using a 13mm socket. **(Torque Spec: 56 Nm)**

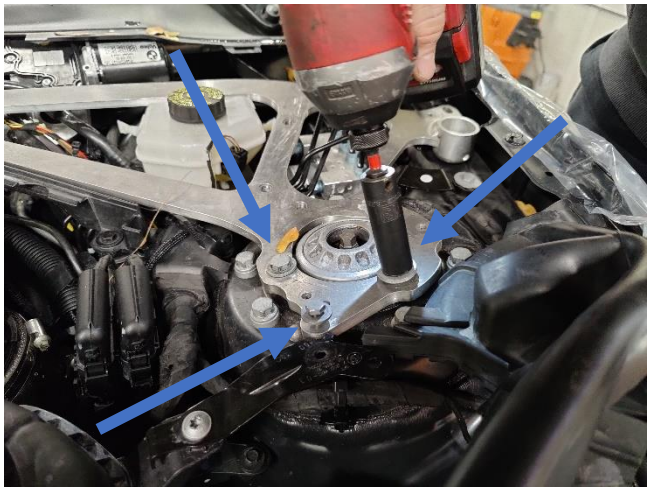


Figure 7

8. Remove bolts on each side of the strut bracket in the upper engine bay using a 16mm socket. **(Torque Spec: 56 Nm)**

Figure 8

9. Remove covers over the wiper cowl bracket bolts.

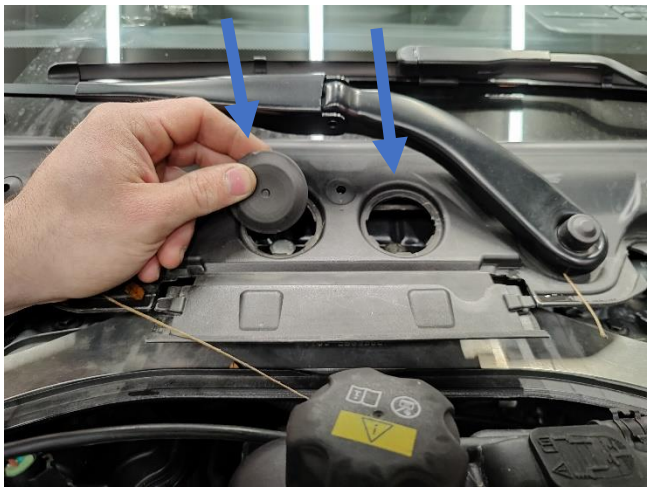


Figure 9

10. Remove wiper cowl bracket bolts using a 16mm socket.

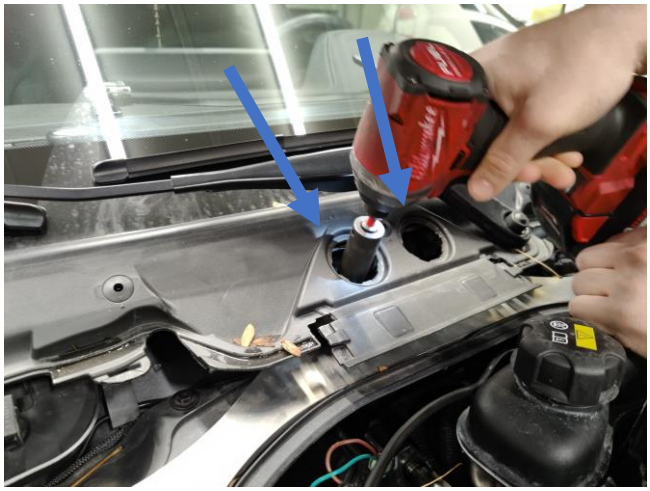


Figure 10

11. Remove the strut bracket from the engine bay.

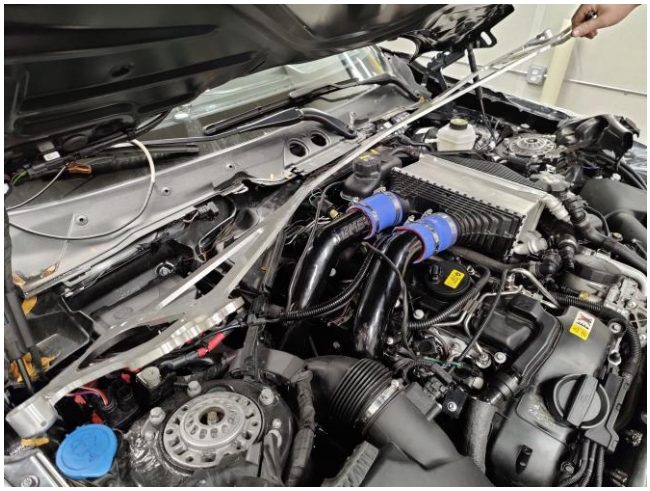


Figure 11

12. Remove the bolts holding the lower section of the wiper cowl using a 10mm socket. Remove it from the engine bay.

Figure 12

13. Drain coolant from the intercooler to prevent any coolant leaking once the intercooler is removed.

Figure 13

14. Disconnect the charge pipes from the intercooler by loosening the hose clamps with an 8mm socket.

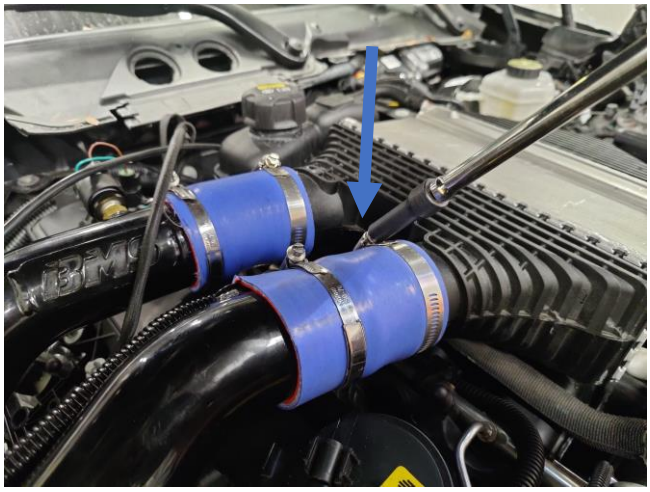


Figure 14

15. Disconnect the charge tube at the bottom of the intercooler by loosening the hose clamps with a 6mm socket.

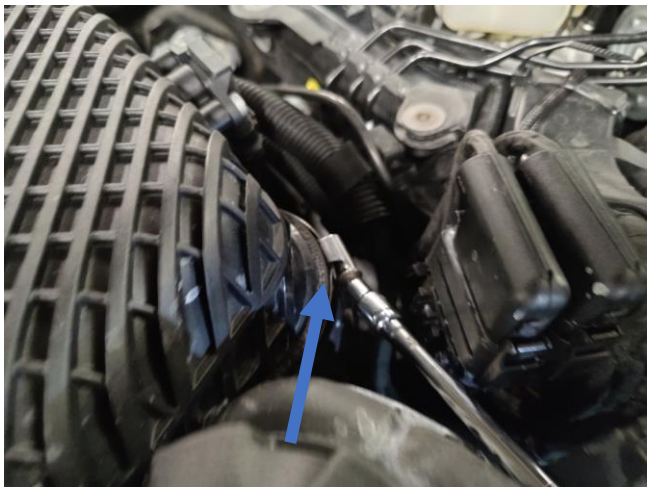


Figure 15

16. Remove the manifold absolute pressure sensor at the back of the intercooler.

Figure 16

17. Remove the coolant lines at the front of the intercooler. Use a pick to pull the latch out of the fitting to free it from the intercooler.

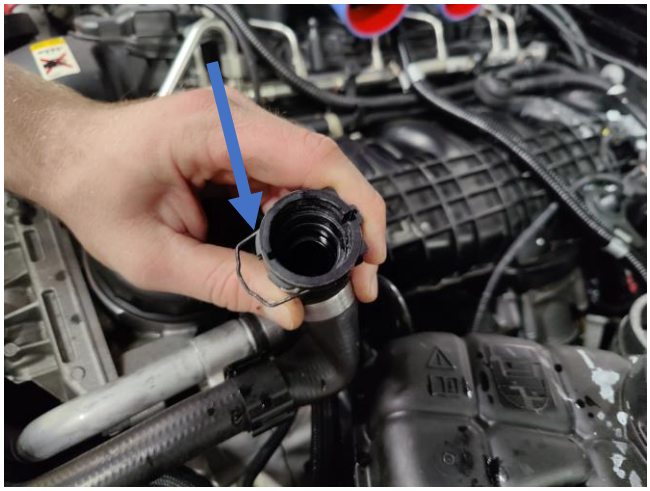


Figure 17

18. Remove hose clamp connecting the charge tube to the airbox using a 6mm socket.

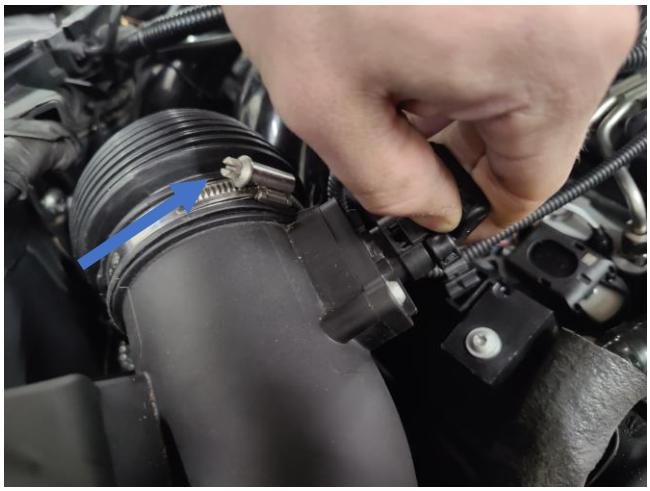


Figure 18

19. Remove the bolt holding the charge tube bracket to the engine using a 10mm socket.

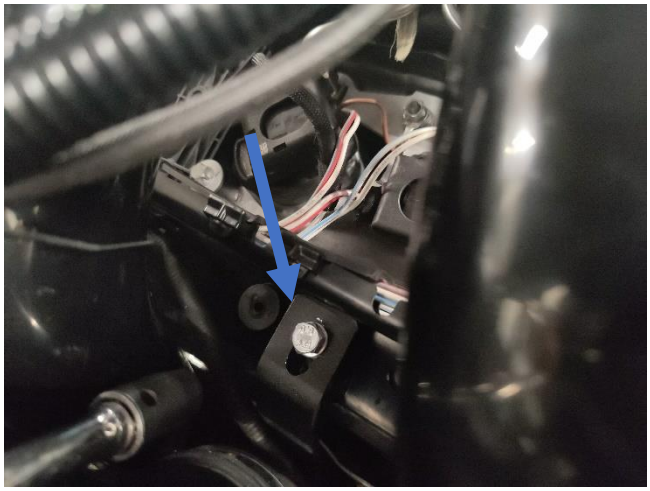


Figure 19

20. Remove charge tube leading from the airbox to the engine block.

Figure 20

21. Remove the bolt holding the front charge tube on the passenger side of engine to the engine block using a T27 Torx. It is the charge tube leading to the intercooler. **(Torque Spec: 10 Nm)**

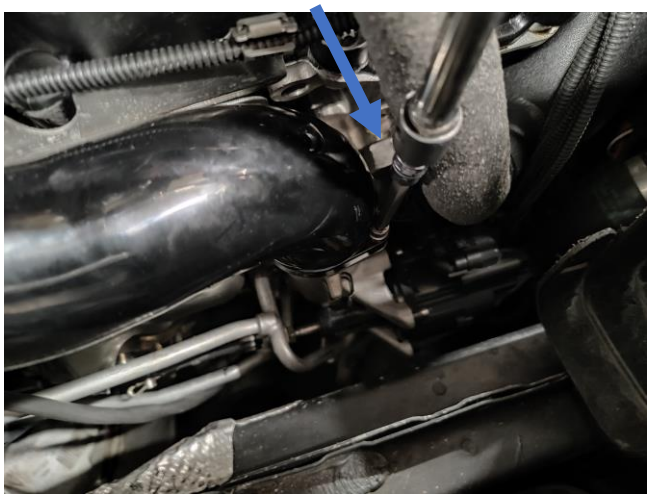


Figure 21

22. Use an Allen 5mm to remove the back charge tube on the passenger side of the engine. **(Torque Spec: 10 Nm)**

Figure 22

23. Remove the electrical wires that are retained parallel to the fuel rail.

Figure 23

24. Once the wires are free, remove the connector for the variable vanos lift control valve and pull it away from the fuel rail.

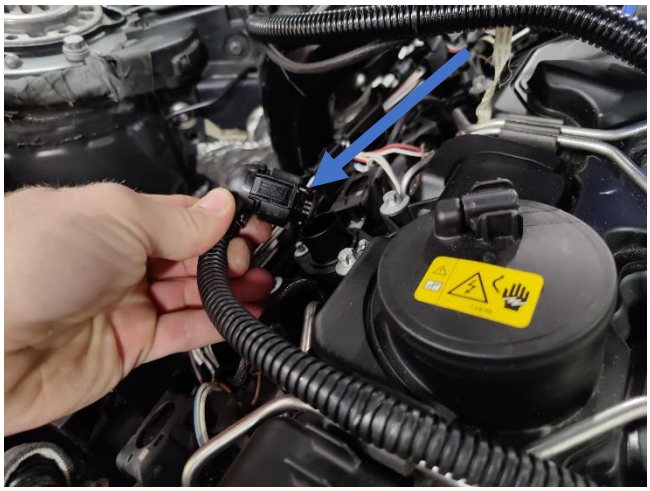


Figure 24

25. Disconnect pressure sensor connector on the back of the fuel rail.

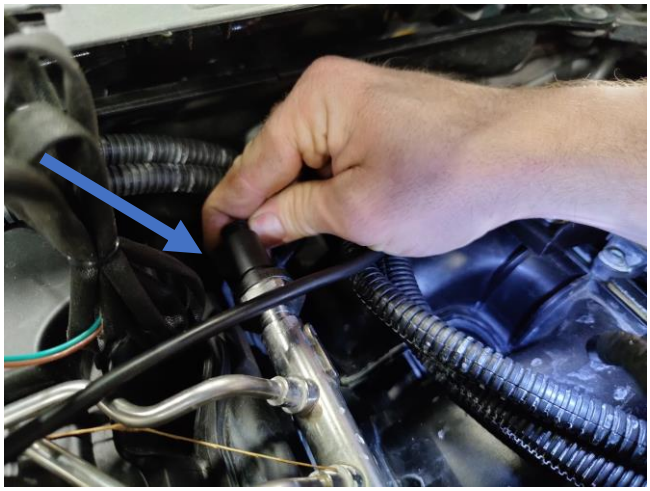


Figure 25

26. Loosen the compression nuts for both high-pressure fuel lines that feed into the fuel rail using a 18mm wrench. Use a rag or absorbent towel to catch any fuel that may exit the lines. **(Torque Spec: 30 Nm)**

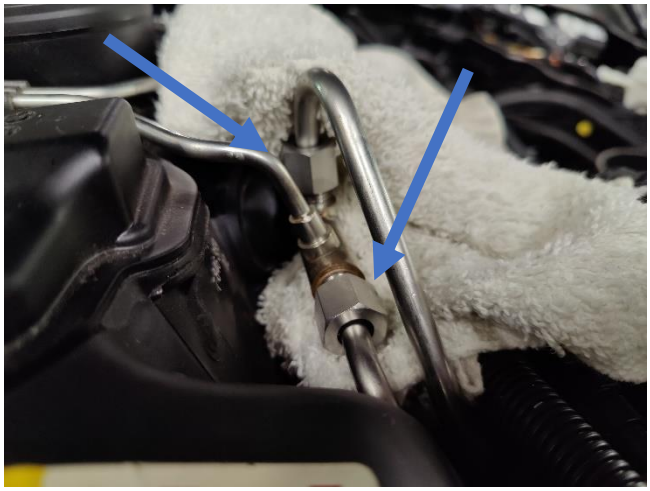


Figure 26

27. Remove the wire loom holders off the rail by pulling them back and then down.

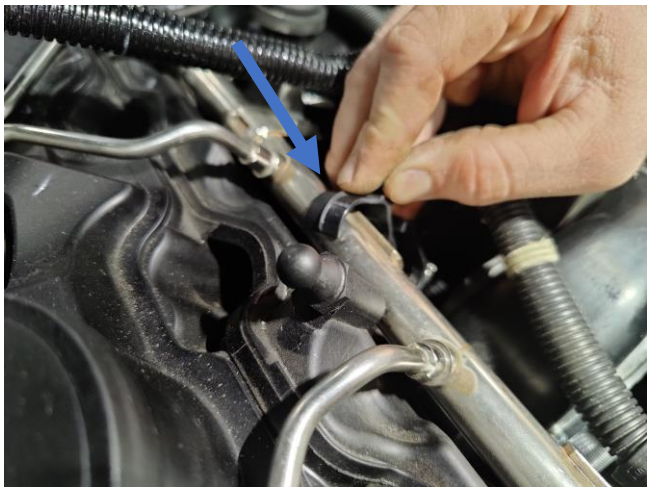


Figure 27

28. Use an 8mm socket to remove the bolt holding the electrical wires for the injectors in place.

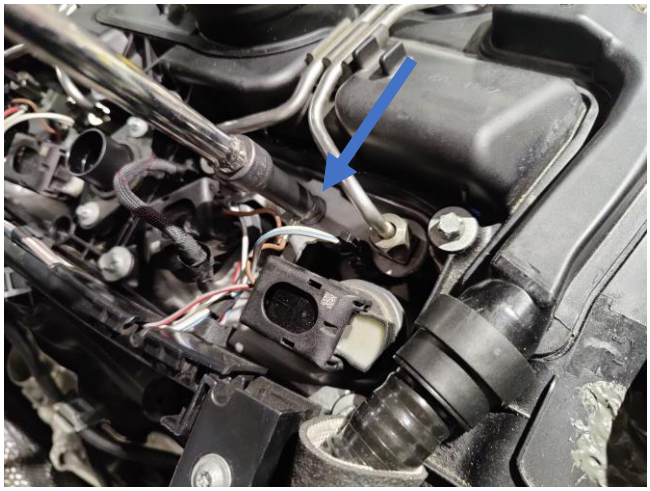


Figure 28

29. Pull the latch up on the injector coil packs.

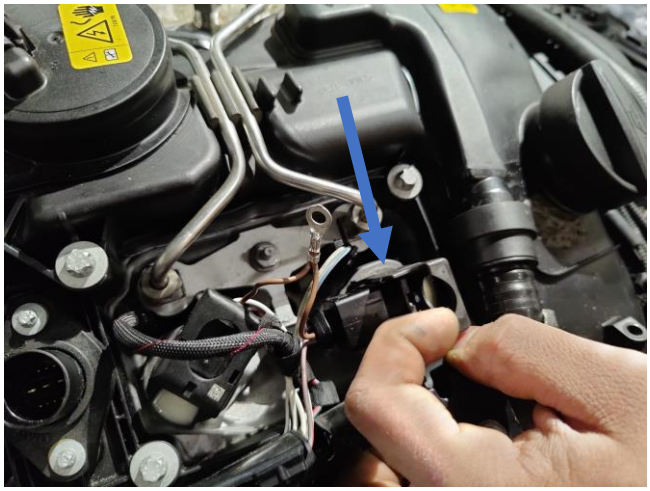


Figure 29

30. Remove the coil pack electrical connector from the end of each coil pack.

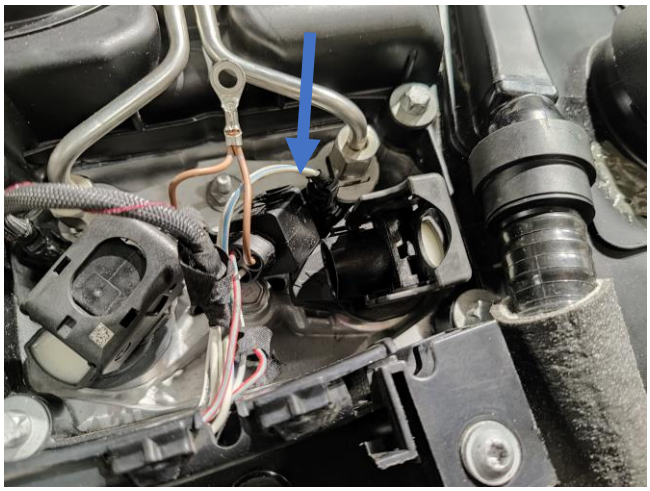


Figure 30

31. Pull the coil packs out by hand.

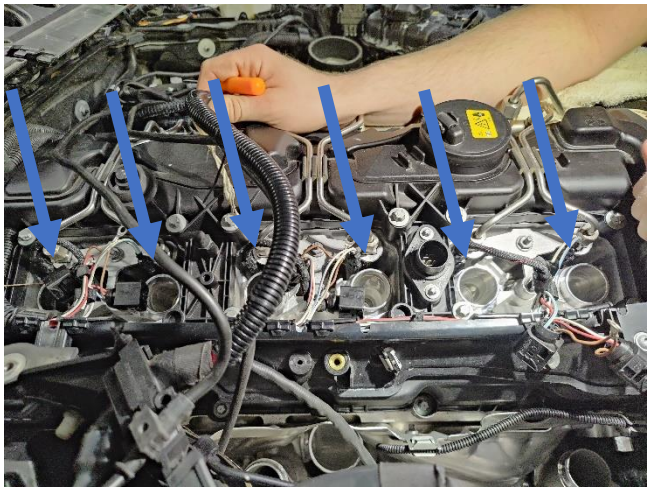


Figure 31

32. Remove the injector connectors by using a pick to disconnect tabs and lightly pulling on the connector

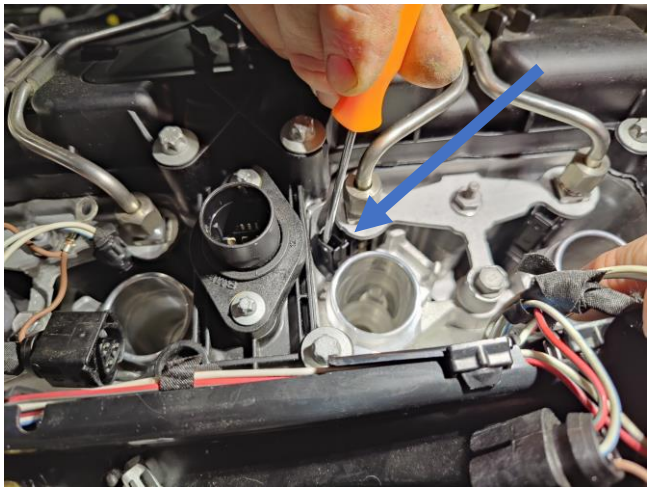


Figure 32

33. Loosen the compression nuts that lead from the fuel rail to each individual injector with a 14mm crow foot. **(Torque Spec: 23 Nm)**

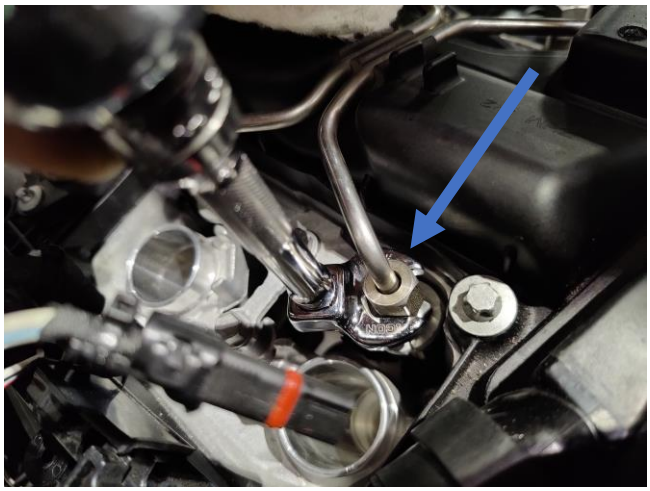


Figure 33

34. Remove the bolts holding the rail in place using a 11mm socket. **(Torque Spec: 13 Nm)**

Figure 34

35. Remove the fuel rail from the engine bay.

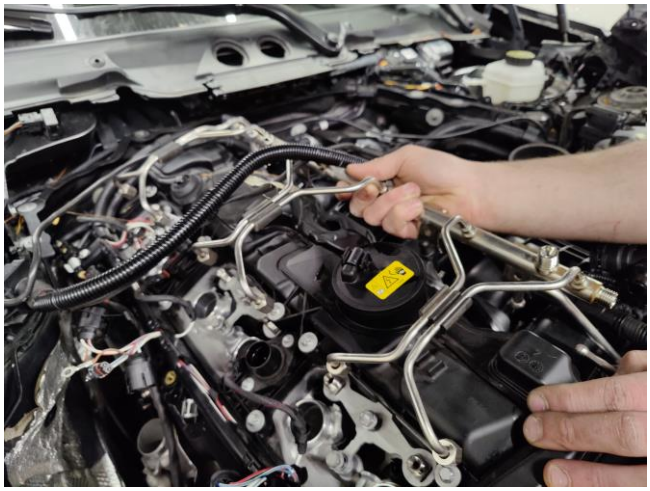


Figure 35

36. Remove the bolts holding the Injector bracket over the injectors using a 10mm socket. **(Torque Spec: 13 Nm)**

Figure 36

37. Pull the brackets off the injectors.

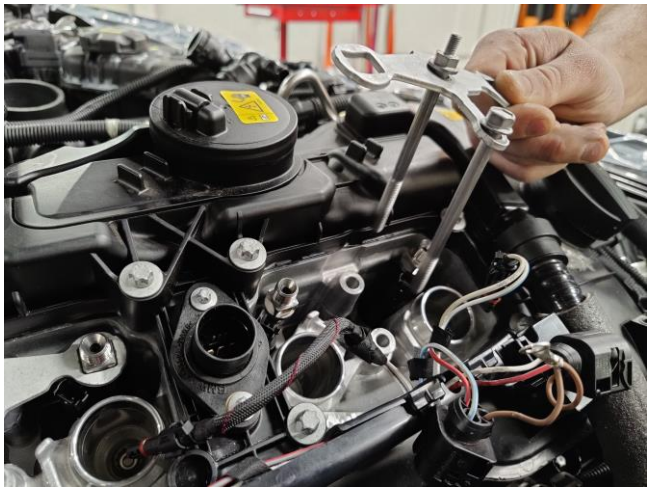


Figure 37

38. Grab the threads on the top of the injector and pull it out of its seated position.

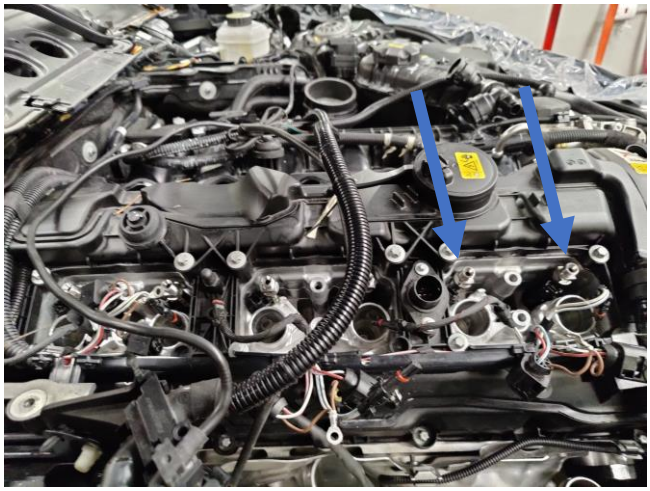


Figure 38

39. If you are unable to pull the injectors out, you can use an injector removal tool to remove the injectors. Tighten down over the injectors first by hand using the circle grips on the top of the tool on either side. Next tighten the 2 middle bolts on the tool. Next tighten down the Brass bolts on either side of the tool to remove the injectors. Finally loosen the middle 2 bolts to remove the tool with the injectors attached. Repeat for all remaining injectors

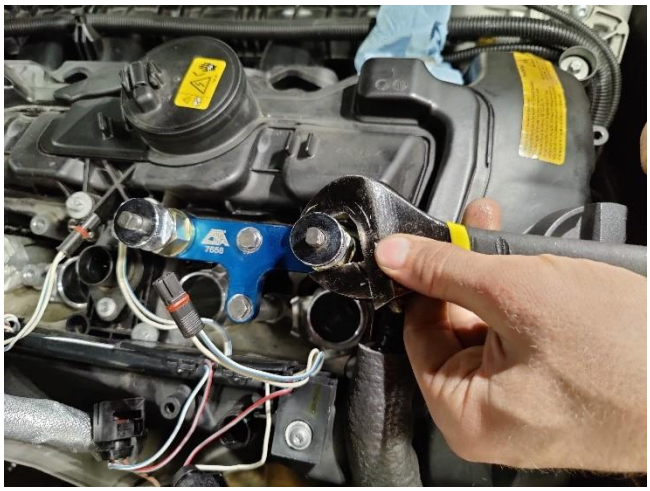


Figure 39

40. Place the injector on an absorbent mat in a clean space. Keep them aside. Installation of the new Nostrum injectors can now take place.

Figure 40

41. Record the flow numbers and cylinder assignments of each new injector. The flow number can be found printed on the threaded stud on the back of the injector. You will need this information when it's time to code the injectors. Place engine oil onto the stem of the new Nostrum injectors by using your finger to spread the oil across the stem.

Figure 41

42. Place the compression tool over the stem twisting clockwise as you press. Press to stop.
43. Once the compression tool is on the injector pull it off while twisting clockwise after 15 seconds.

Figure 42

44. Install each injector within 20 seconds of pulling the compression tool off the stem of the injector. Place the Nostrum injector with the connector facing to the left of the coil pack socket. There is space for the solenoid connector in its seating location. This will make it easier to seat correctly.

Figure 43

45. Press the injector bracket over the 2 injectors with the bolts for the bracket also in the correct slots. The square openings it the injector bracket should be over the injectors.

Figure 44

46. Once the Injectors have been installed reassembly of the vehicle can begin. Repeat steps in reverse starting with step 36. Follow all Torque specs that are included in each step where applicable. If torque spec is not included in a step where it seems applicable assume snug fit with a wrench or socket wrench.

Hardware installation is complete.

Calibration

Do not start your vehicle, this product requires calibration. Please refer to the Nostrum supplied 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 maintenance manual.

2. Key cycle the vehicle into the "Accessory On" position (do not go to Ignition position). The low-pressure fuel pump with activate and the low-pressure side of the pump will pressurize. Check the high-pressure fuel pump and the low-pressure side for leaks. If OK, proceed to step 3

3. Key cycle to ignition and let the car 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, OK. 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 OK, proceed to step 4.

4. Key cycle one more time all the way to ignition. Engine should start-up and idle. If not, proceed with steps 2-4 again.

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

6. Installation is complete! **(Refer to Injector Coding Procedure)**

NOTE: a fault code may appear at the first key cycle due to the long ignition 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.

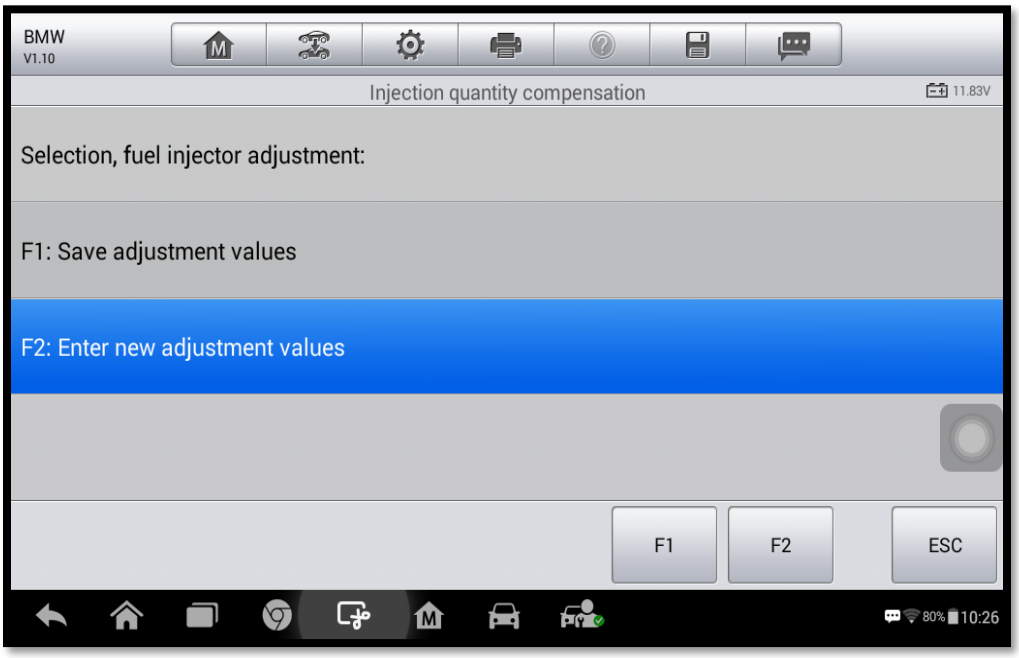
NOTE: Please check for fuel leaks after driving the car and letting it cool for an extended period of time, fittings may loosen after the first heat cycle due to thermal expansion and contraction. Retighten fittings if needed.

Injector Coding Procedure:

The Nostrum Stage 1 and Stage 2 injectors take advantage of the BMW injector coding system where the individual flow variance of each injector is coded into the DME to improve the consistency of startup and idle. The injectors can be coded using multiple scan tools such as ISTA+ or Autel MaxiSys. Lastly, the process of injector coding also erases adaptation for the old injectors.

Procedure for Autel MaxiSys:

1.) Connect the service tool to the OBDII port and launch the diagnostics program
2.) Read the vehicle information from OBDII port (recommended) or manually enter it
3.) After the vehicle data has loaded select "hot function" then "injectors" icon shown to the right
4.) Select "Injector Quantity Compensation" and you should see a menu similar to what is shown below
5.) Enter the new Injector adjustment value for each injector that you recorded prior to installation
6.) Finally save the new adjustment values, close out of the program, and key off to let the ECU go to sleep



For additional technical & software support please contact:

Email: support@nostrumshop.com
Phone: 734-548-8677 (during normal business hours)

Revision	Notes	Date
Rev 1	Production Release	11/29/21
Rev 2	Injector Coding Procedure	4/6/22
Rev 3	Title Image Update	5/17/22
Rev 4	Added Calibration Details	2/20/23