BMW N20 Atmospheric Diverter Valve Spacer
Installation Instructions - Click HERE to Shop

Skill Level 1 - Easy





Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

INSTALLATION NOTES

- **RH** refers to the ***passenger side*** of the vehicle.
- **LH** refers to the ***driver side*** of the vehicle.
- Always use the proper torque specifications.
- If applicable to this installation, torque specifications will be listed throughout the document and at the end as well.
- Please read all of these instructions and familiarize yourself with the complete process **BEFORE** you begin.

GENERAL PREPARATION AND SAFETY INFORMATION

ECS Tuning cares about your health and safety, please read the following safety information. This information pertains to automotive service in general, and while it may not pertain to every job you do, please remember and share these important safety tips.

- Park your car in a safe, well lit, level area.
- Shut the engine off and remove the key from the ignition switch.
- Make sure any remote start devices are properly disabled.
- **ALWAYS** wear safety glasses.
- Make sure the parking brake is applied until the vehicle is safely lifted and supported.
- Whether lifting a vehicle using an automotive lift or a hydraulic jack, be sure and utilize the factory specified lift points.
- Lifting a vehicle in an incorrect location can cause damage to the suspension/running gear.
- **ALWAYS** support the vehicle with jack stands.
- **ALWAYS** read and follow all safety information and warnings for the equipment you are using.

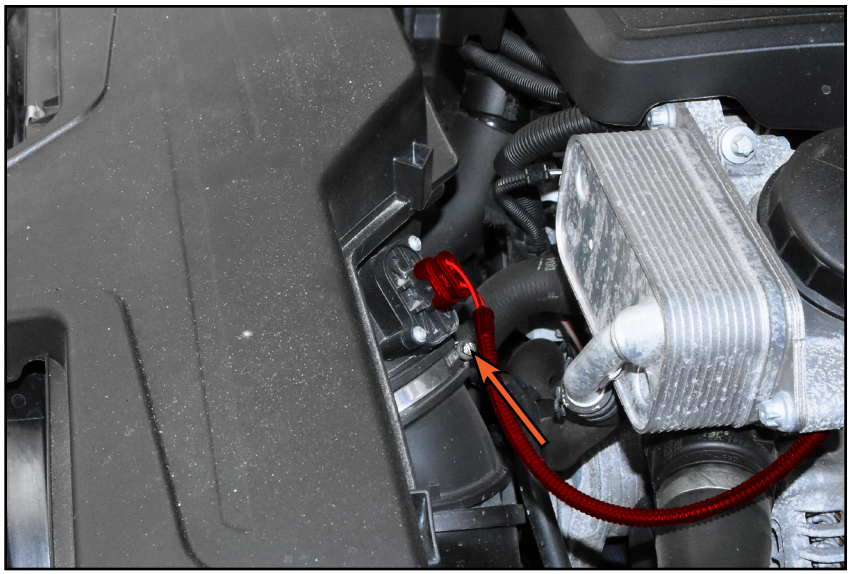


NEVER get underneath a vehicle that is supported only by a jack, and ALWAYS make sure that the vehicle is securely supported on jack stands.

INSTALLING THE DIVERTER VALVE SPACER

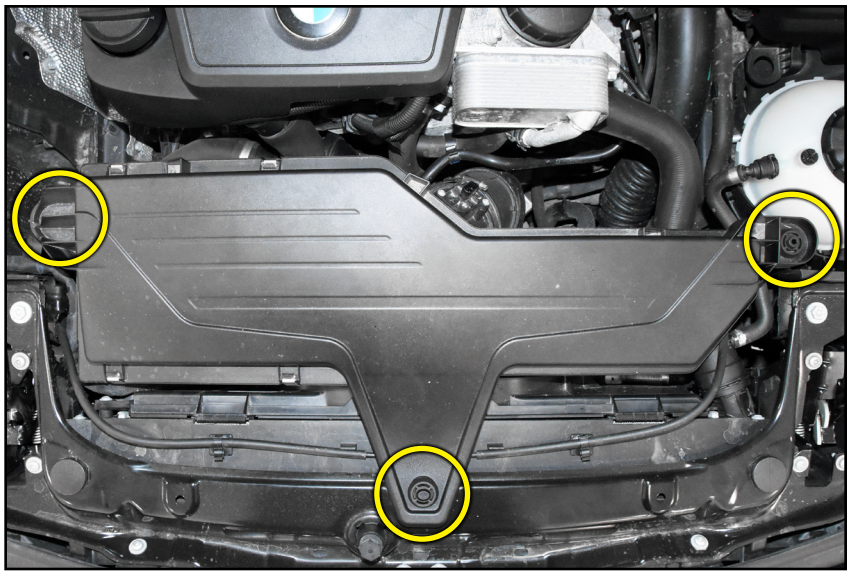
Step 1: Flat Head Screwdriver -OR- 6mm Socket & Ratchet

Disconnect the MAF sensor connector (highlighted in **RED**), then loosen the clamp (arrow) which secures the airbox to the upper inlet pipe.



Step 2:

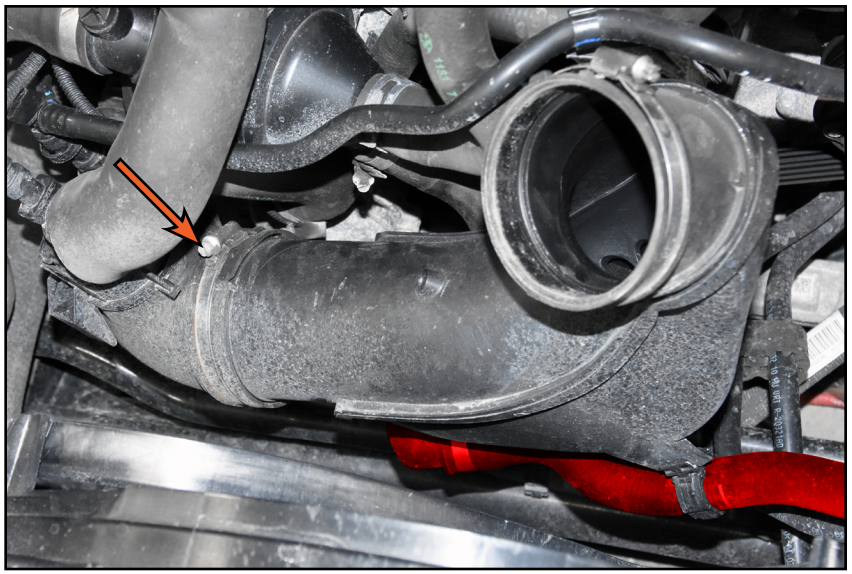
Lift up to pop the airbox free from each mounting grommet (circled in **YELLOW**) then remove the airbox and set it aside.



INSTALLING THE DIVERTER VALVE SPACER

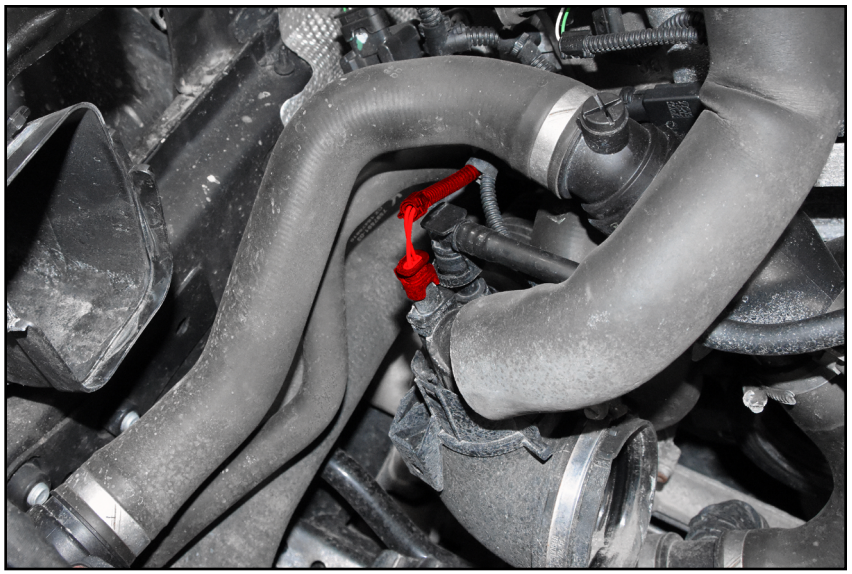
Step 3: Flat Head Screwdriver -OR- 6mm Socket & Ratchet

Pry the coolant hose (highlighted in **RED**) free from the clip on the upper inlet pipe, then loosen the clamp (arrow) and remove the upper inlet pipe.



Step 4:

Disconnect the connector (highlighted in **RED**) from the PCV vent pipe.



INSTALLING THE DIVERTER VALVE SPACER

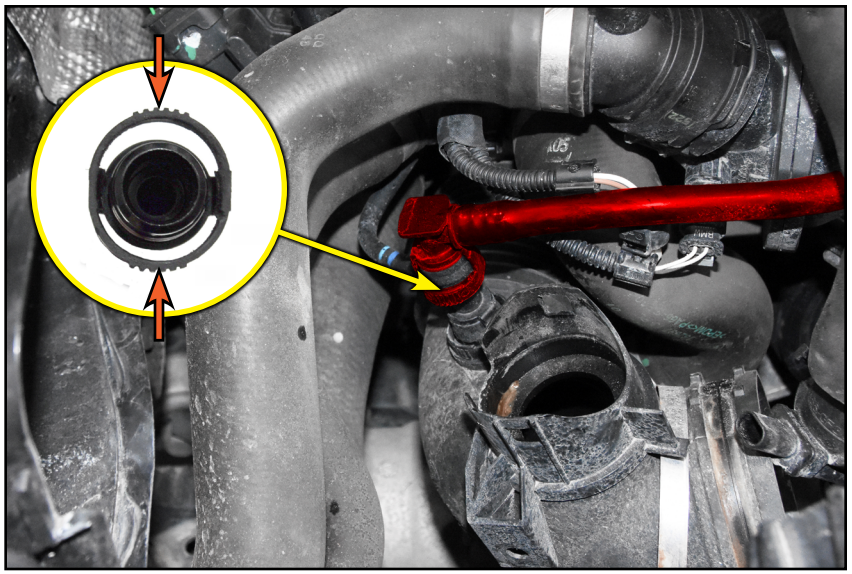
Step 5:

Depress the two locking tabs (arrows) and pull the PCV vent pipe (highlighted in **RED**) free from the lower inlet pipe.



Step 6:

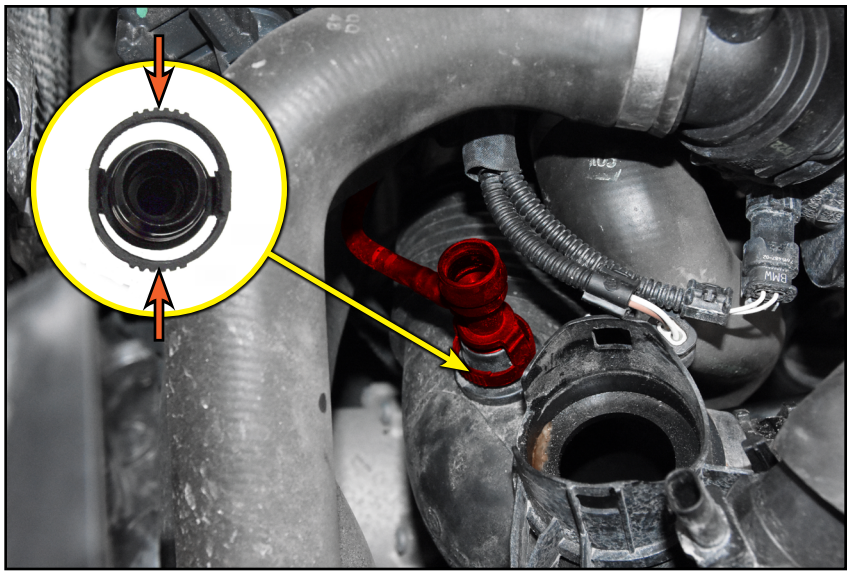
Depress the two locking tabs and pull the upper vacuum line (highlighted in **RED**) off of the lower vacuum line.



INSTALLING THE DIVERTER VALVE SPACER

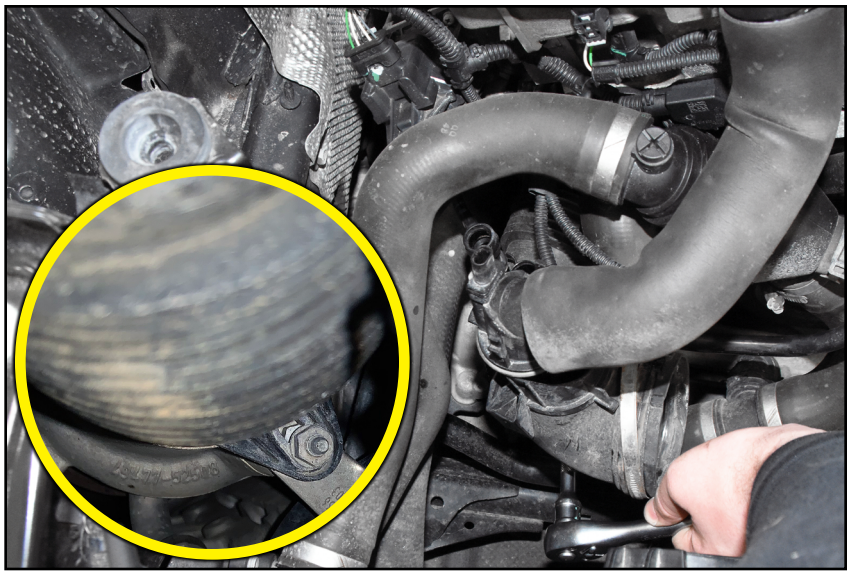
Step 7:

Depress the two locking tabs and pull the lower vacuum line (highlighted in **RED**) off of the flange on the lower inlet pipe.



Step 8: 10mm Socket, Extension & Ratchet

Locate and remove the nut (inset photo) which secures the lower inlet pipe to the turbo, then remove the lower inlet pipe from the vehicle.



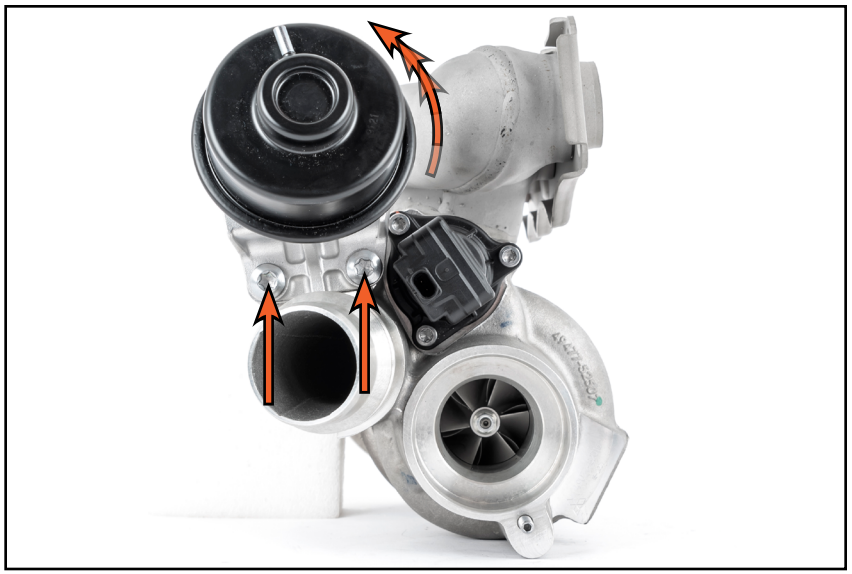
TECH TIP

The nut is located at the 4 o'clock position underneath the inlet pipe, using a long extension on your ratchet you can break the nut free, then loosen it the rest of the way by hand so that you don't accidentally drop it.

INSTALLING THE DIVERTER VALVE SPACER

Step 9: T45 Torx Socket & Ratchet

Due to the limited space around the diverter valve it may be necessary to rotate the wastegate actuator out of the way. To do so, loosen the two bolts (arrows), remove the inner bolt, then gently rotate the wastegate up out of the way.

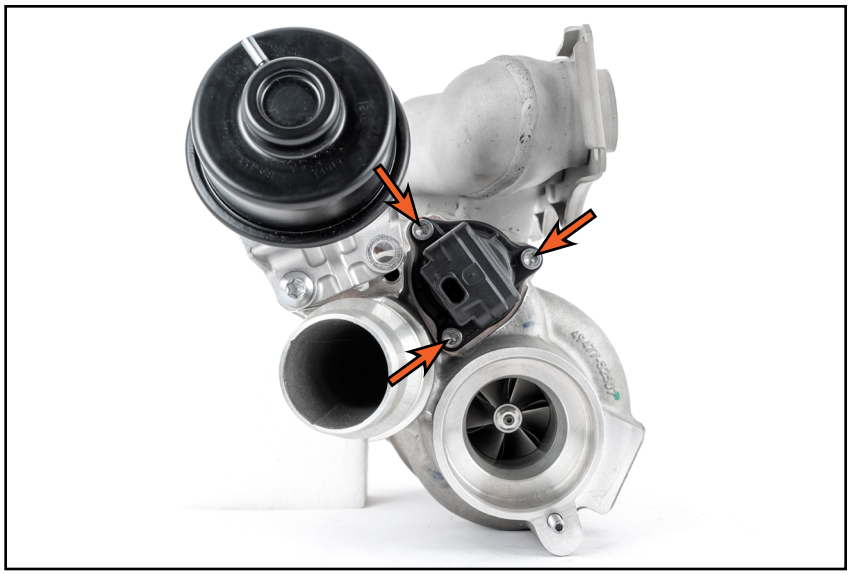


NOTE

This step applies to all vehicles, regardless of whether the wastegate is electronic or pneumatic.

Step 10: T30 Torx Socket & Ratchet

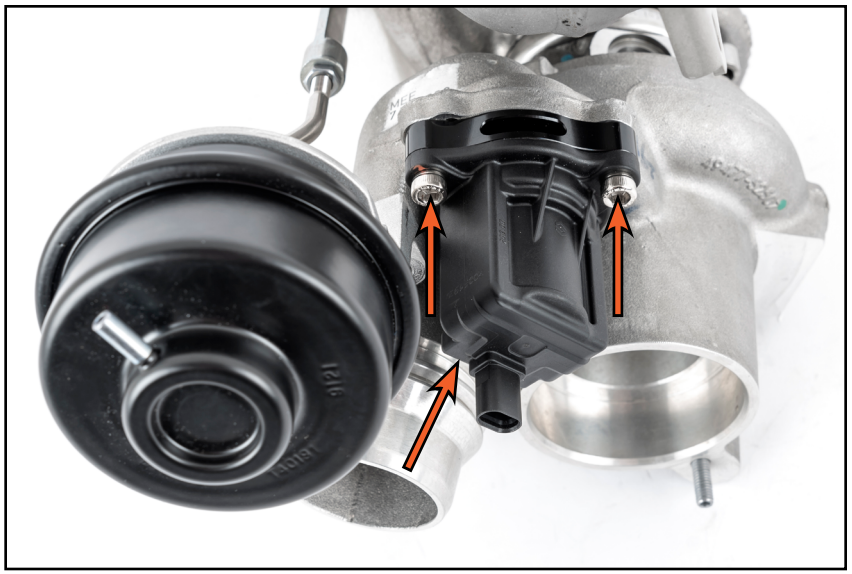
Disconnect the diverter valve connector, remove the three bolts (arrows) and remove the valve.



INSTALLING THE DIVERTER VALVE SPACER

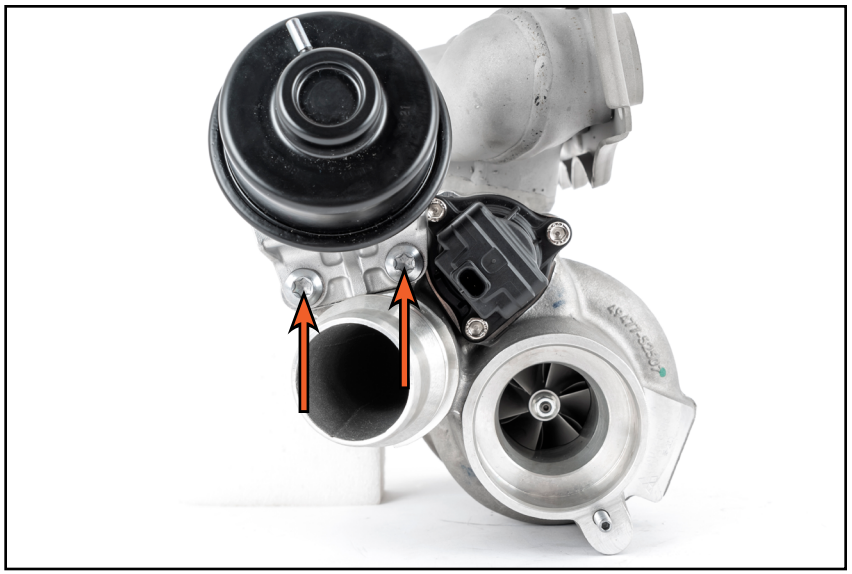
Step 11: 5mm Hex (Allen) Socket & Torque Wrench

Install the spacer onto the diverter valve, reinstall it onto the turbo, then install the replacement bolts (arrows) and torque them to 10 Nm (5 Ft-lbs). Reconnect the diverter valve connector.



Step 12: T45 Torx Socket & Torque Wrench

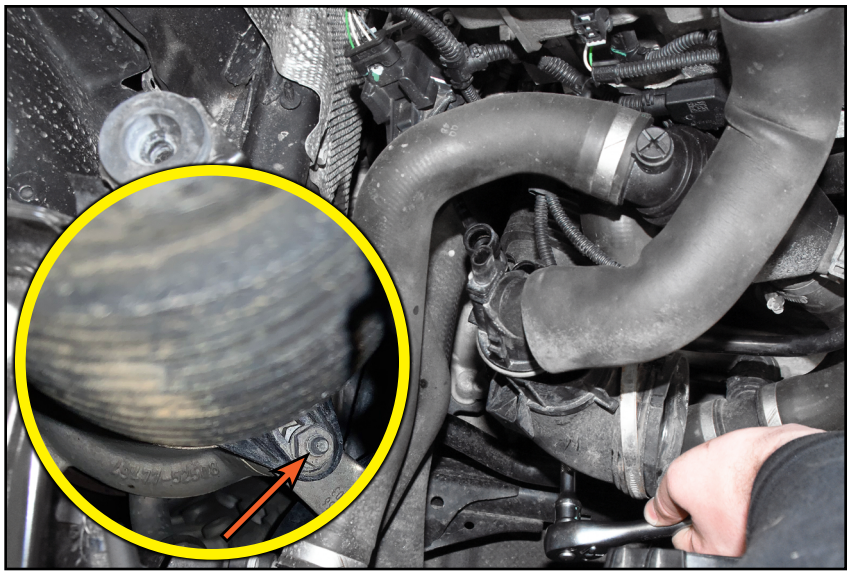
Rotate the wastegate back into place, reinstall the inner bolt, then torque both bolts (arrows) to 20 Nm (15 Ft-lbs).



INSTALLING THE DIVERTER VALVE SPACER

Step 13: 10mm Socket, Extension & Torque Wrench

Slide the lower inlet into place so that the stud on the turbo slides through the hole. Reinstall the nut (arrow in inset photo) and torque it to 8 Nm (6 Ft-lbs). Reinstall the vacuum lines and PCV vent hose.



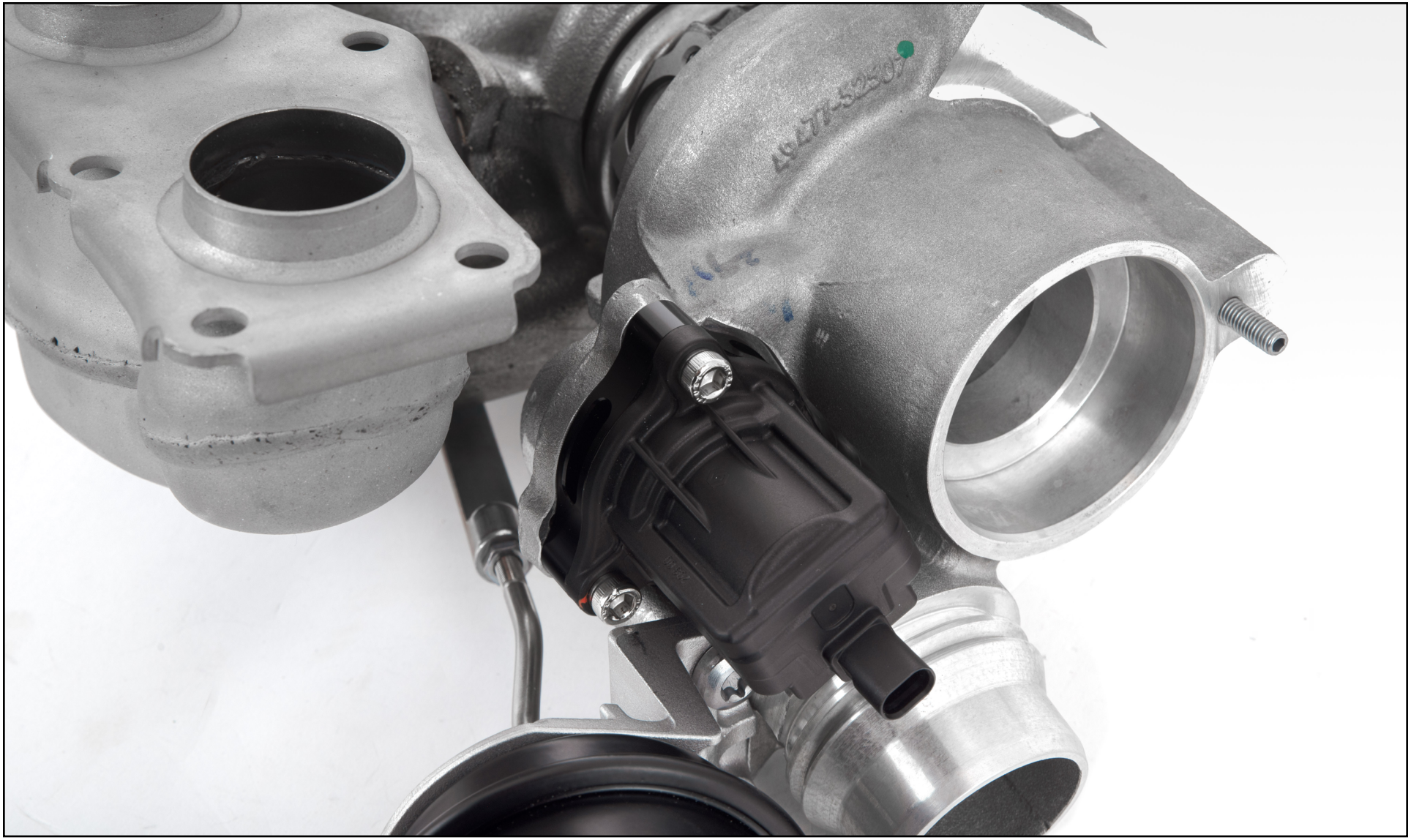
Step 14:

Reinstall the upper inlet and airbox, then reconnect the MAF sensor connector.

Congratulations, your installation is complete!



Your Diverter Valve Spacer installation is complete!



These instructions are provided as a courtesy by ECS Tuning

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