

CTS TURBO

INSTALLATION GUIDE

CTS-MQB-BOSS



20630 Mufford Crescent, Unit #309
Langley, British Columbia V2Y 2V9

www.CTSTURBO.com

WHAT IS INCLUDED

1. BOSS Turbo
2. Vaccum Hoses (long and short)
3. Turbo Inlet Pipe
4. Turbo Outlet Pipe
5. Hose Clamps
6. Water drain hardline
7. Water feed hardline
8. Oil Feed line
9. DV/BOV Relocation Flange
10. PCV Bung
11. Oil Drain Hardline
12. Exhaust donut gasket
13. Thermotec Sleeve
14. Turbo manifold gasket and hardware



TOOLS REQUIRED

1. Torx set
2. Triple Square Set
3. Metric Socket Set
4. O2 Sensor removal tool
5. Allen key set
6. VAG Com VCDS

NOTES

Vehicle used in this guide is a 2015 VW Gti. Other cars will follow the same steps. We highly recomend installtion using a hoist. Professional installation recommended. Always make sure the car is safe to work on. Do not work on a hot motor.

STEP 1

Drain the coolant and oil from the car.

Remove the air filter housing.

Remove the heated oxygen sensor.

Remove the downpipe from the factory turbo.

**STEP 2**

Loosen the hose clamp and remove the Torx bolt of the factory turbo outlet pipe. Disconnect it from the factory turbo.



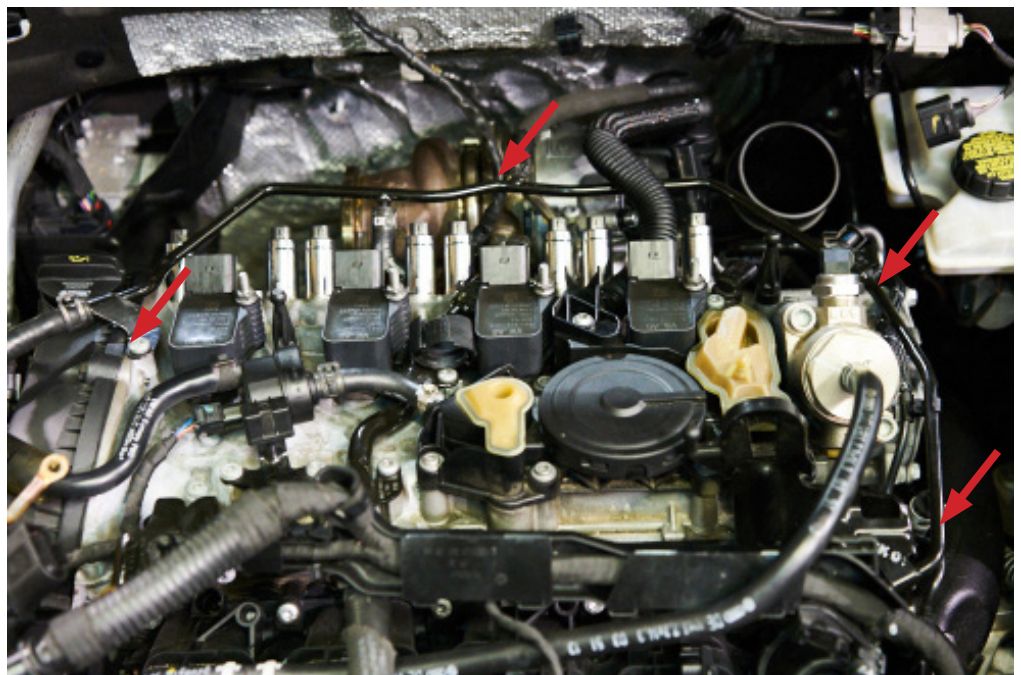
STEP 3

Remove the ground wires from each ignition coil and remove the wireharness out of the way.



STEP 4

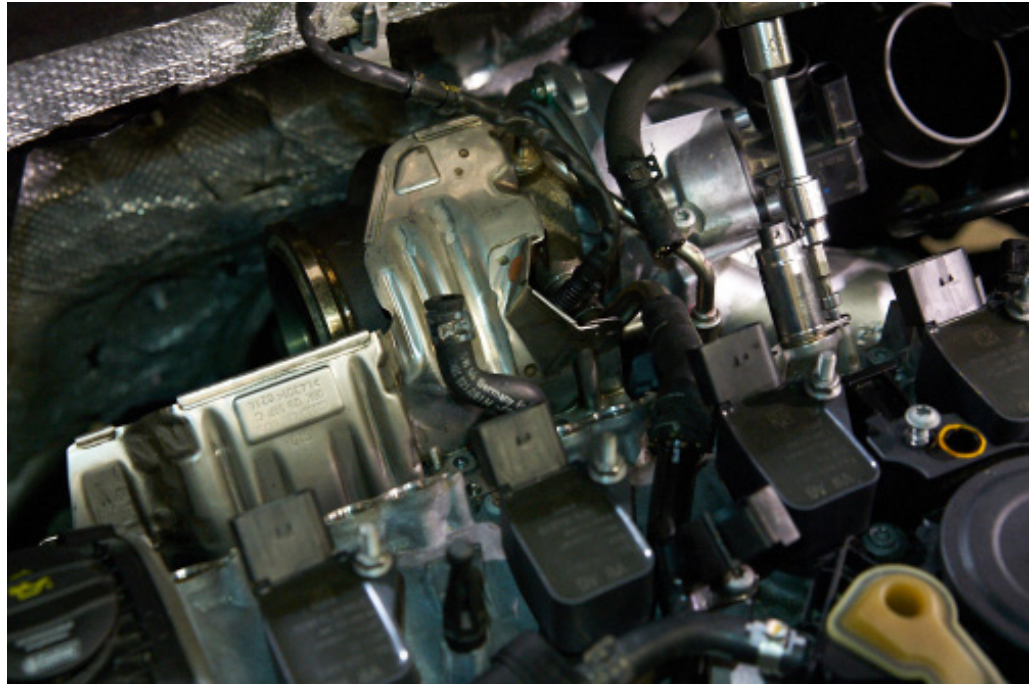
Unscrew the coolant hardline from the engine and disconnect it from the coolant hose. Pivot the coolant hardline so it is out of the way.



STEP 5

Remove the
cam adjustment
actuators.

Note, the seals can
be reused.

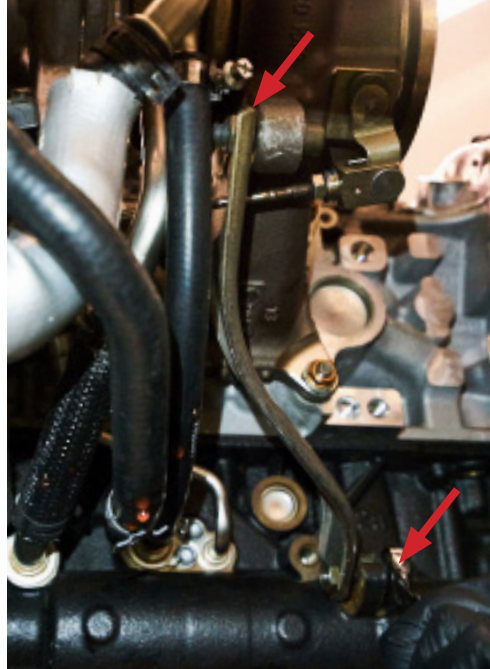
**STEP 6**

Remove the
heatshield



STEP 7

Remove the turbo support bracket.



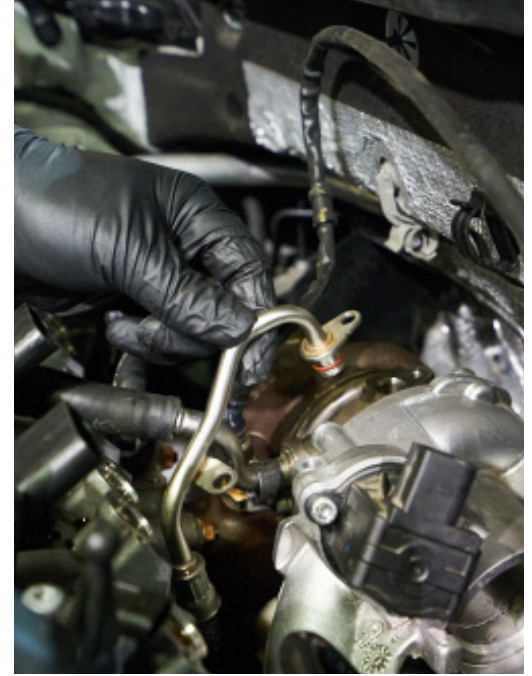
STEP 8

Disconnect the turbo inlet pipe and remove it.



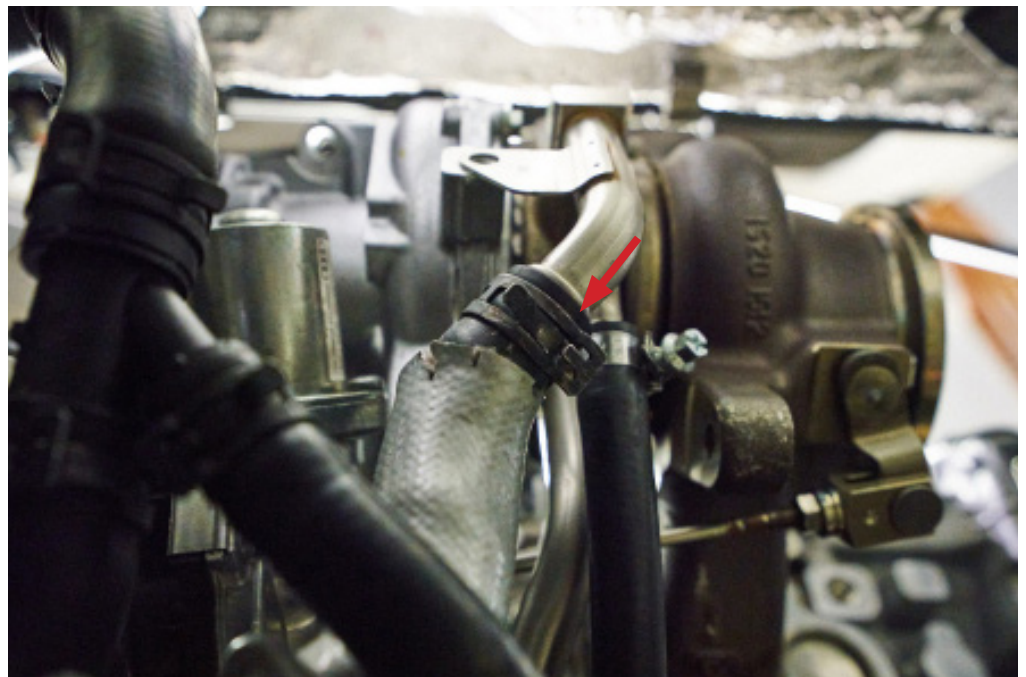
STEP 9

Remove oil supply line.



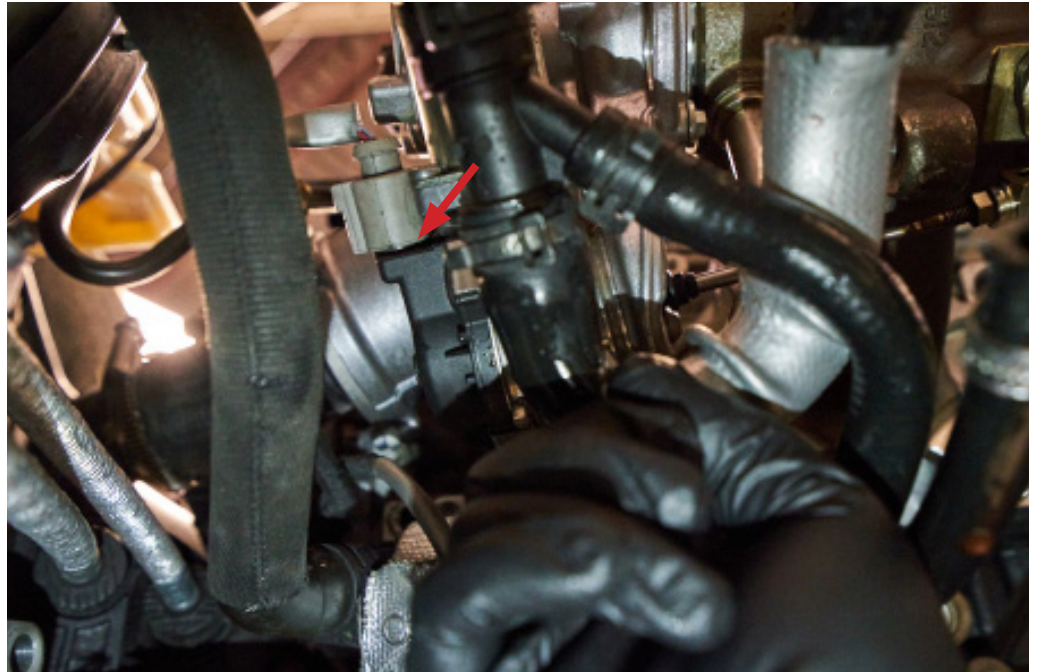
STEP 10

Remove the coolant
drain line



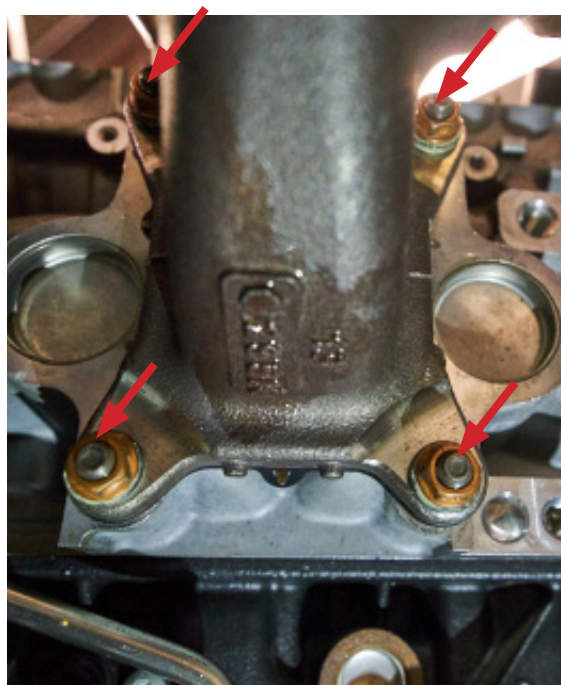
STEP 11

Unclip the wastegate connector



STEP 12

Unbolt the turbo charger from the cylinder head and remove upwards.

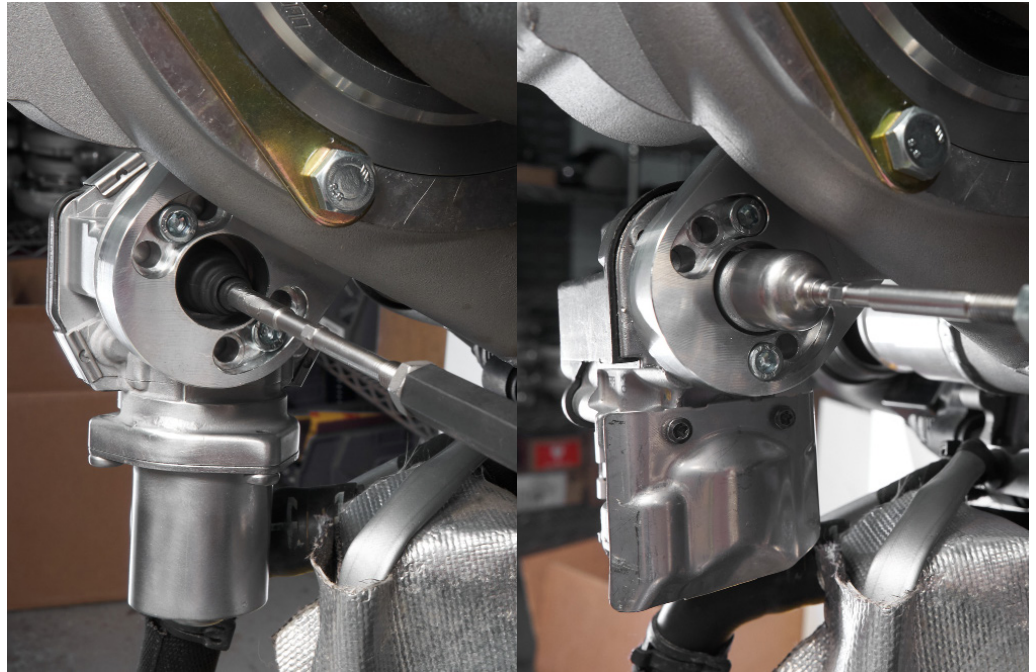


STEP 13

Remove the wastegate from the stock turbo and install onto the BOSS turbo in this orientation.

Note: The two different sets of mounting holes to use dependant on your wastegate.

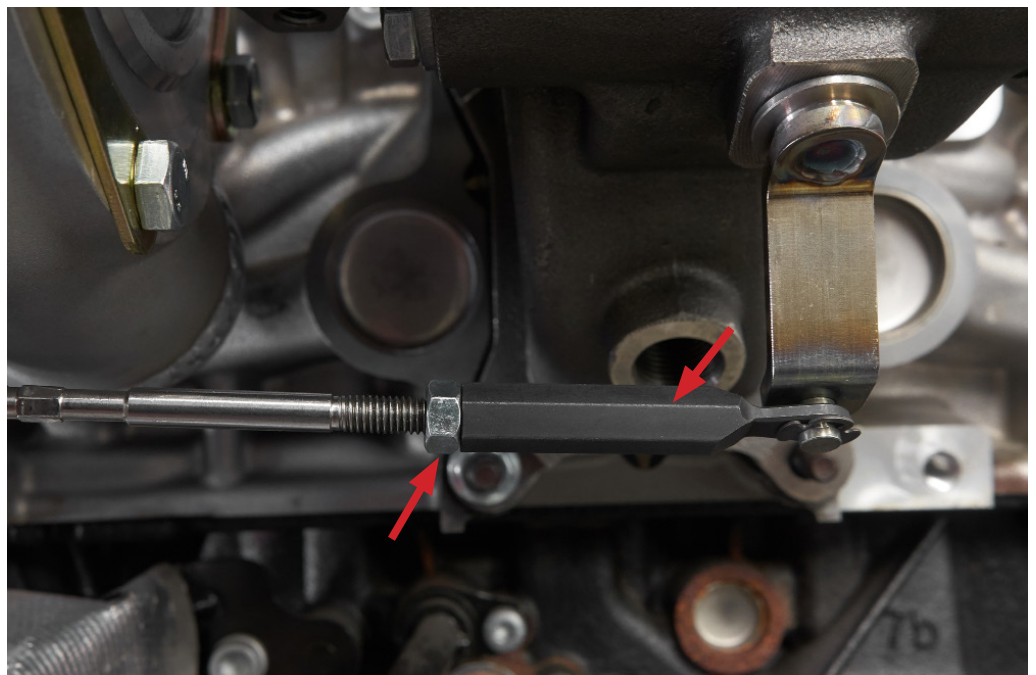
IS20 (GTI) - Left
IS38 (GolfR) - Right



STEP 14

Adjust your wastegate arm to the length you need (by threading the black end peice in either direction)

Use the bottom lock nut to keep the arm in place once adjusted correctly.



STEP 15

Install new gasket on the exhaust side of the BOSS Turbine housing.

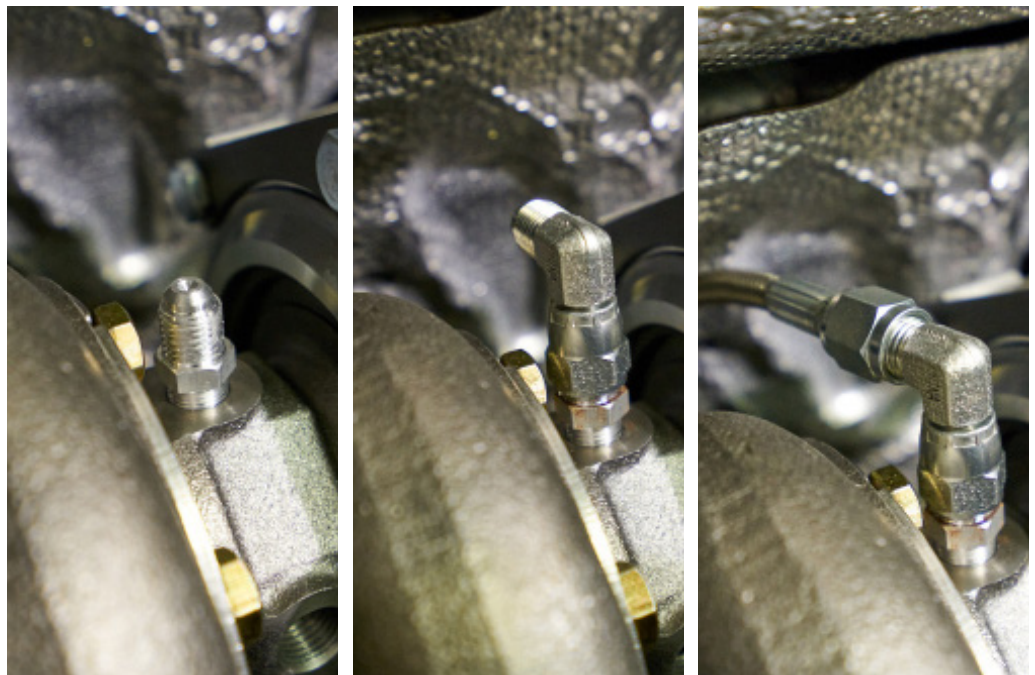
Install new exhaust manifold gasket on the engine block.

Install BOSS Turbo onto the engine block with the new locking bolts supplied.



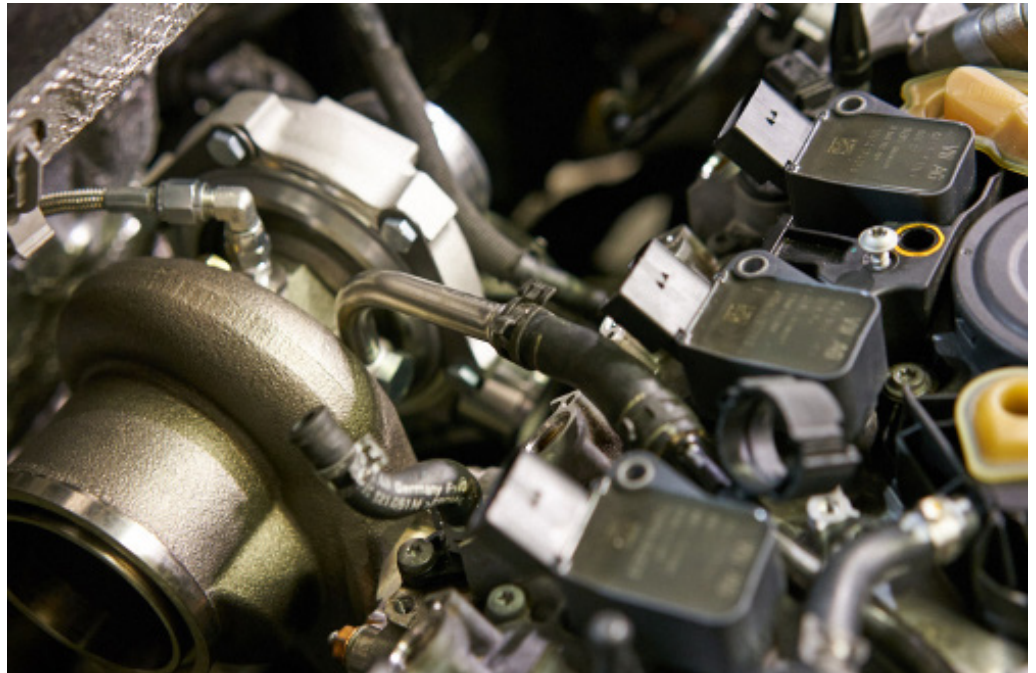
STEP 16

Install the GT oil restrictor on the top of the turbo, the 90 degree fitting, and the provided stainless steel braided line.



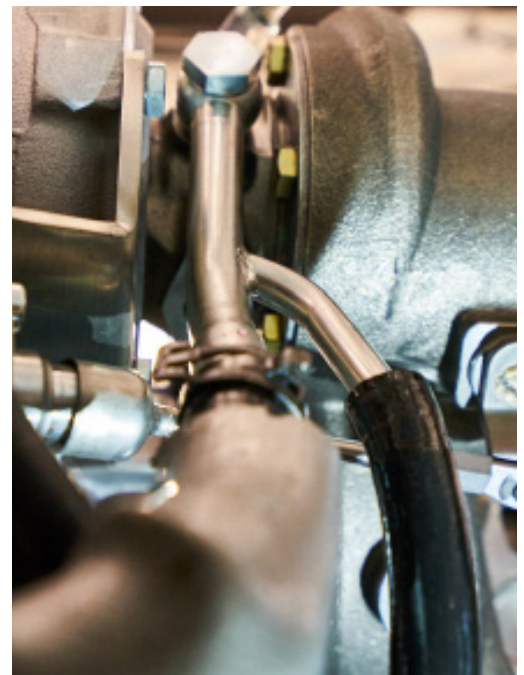
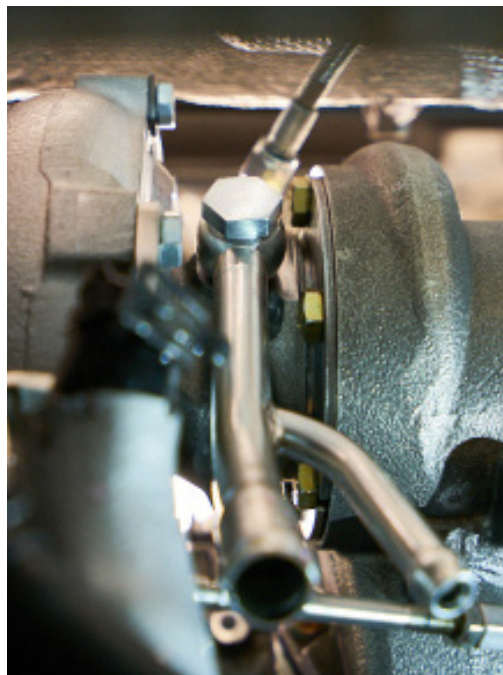
STEP 17

Install waterfeed
with the supplied
banjo washers and
the banjo bolt.

**STEP 18**

Install the water
drain hardline.

Reconnect the
hoses.



STEP 19

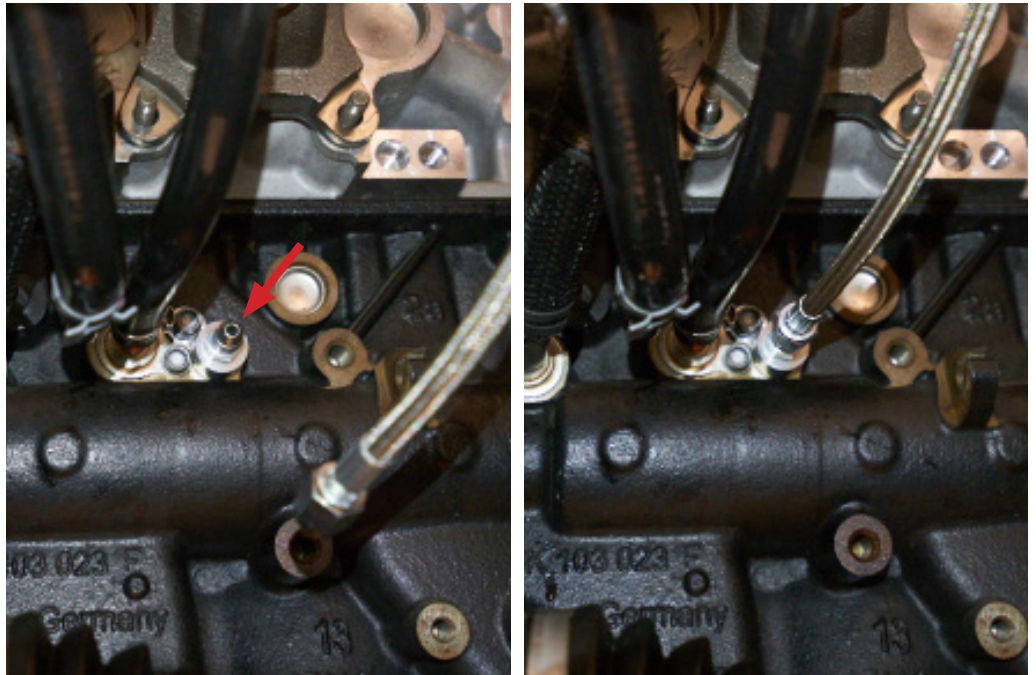
Install the oil drain hardline and gasket.

Reconnect the factory oil drain hose to the hardline.



STEP 20

Connect the stainless steel braided oil feed line to the engine using the provided adapter fitting and oil feed fitting.



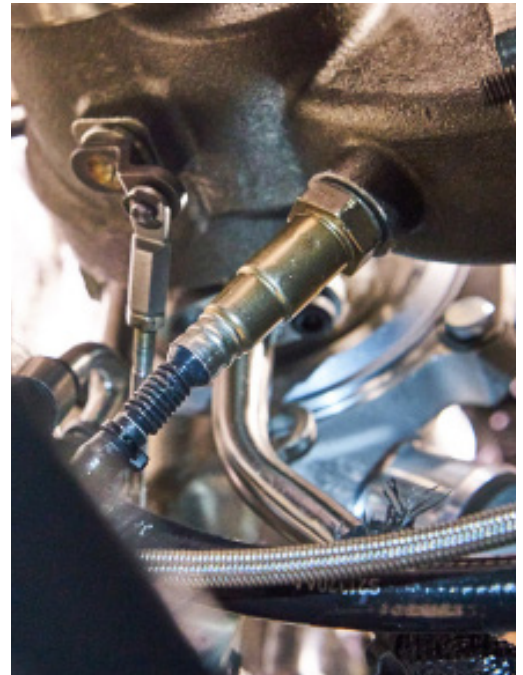
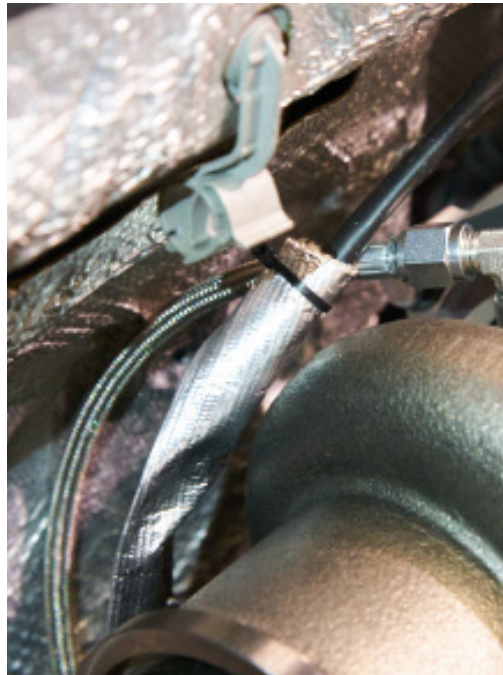
STEP 21

Reconnect the wastegate actuator plug.



STEP 22

Zip tie the thermotec sleeve to the O2 sensor and attach to the turbine housing.



STEP 23

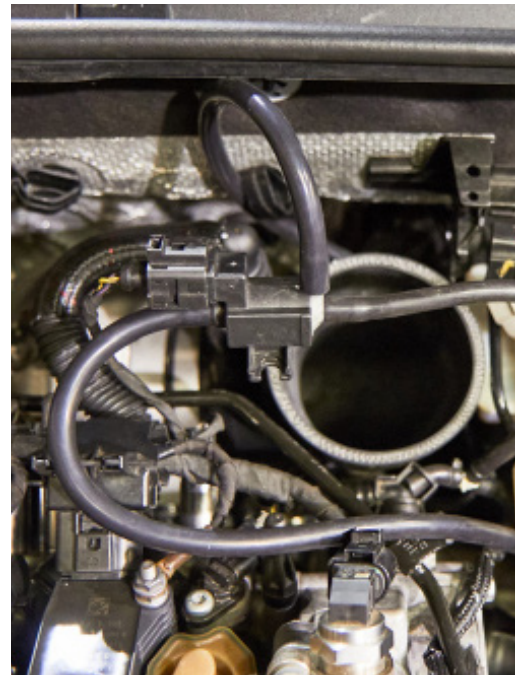
Install turbo outlet silicone.

Do not tighten clamps all the way



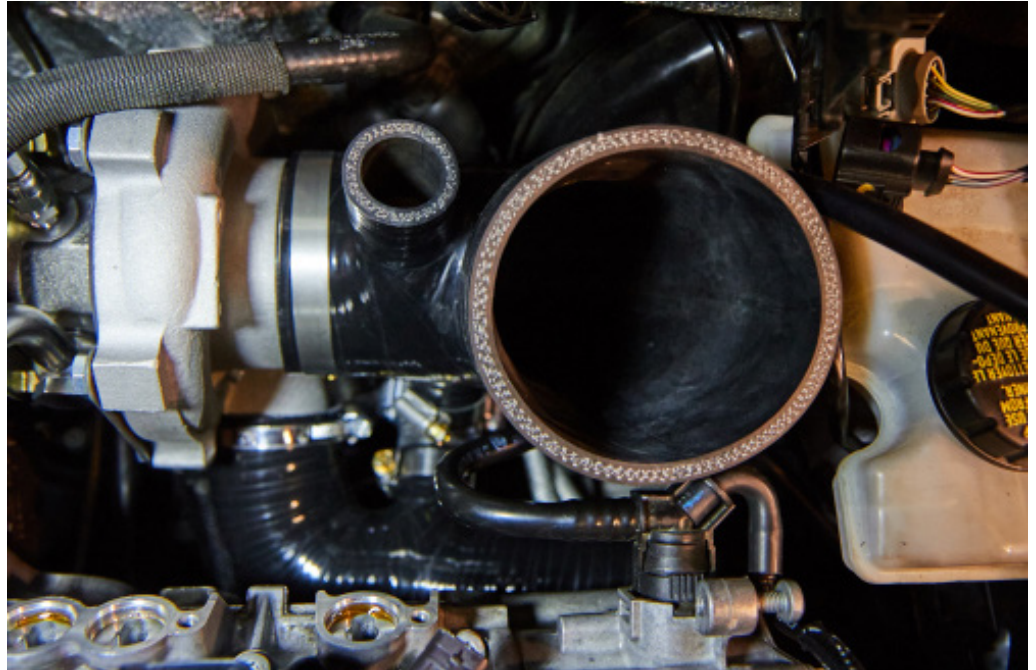
STEP 24

Install the BOV/DV into the relocation flange and reattach the vacuum lines.



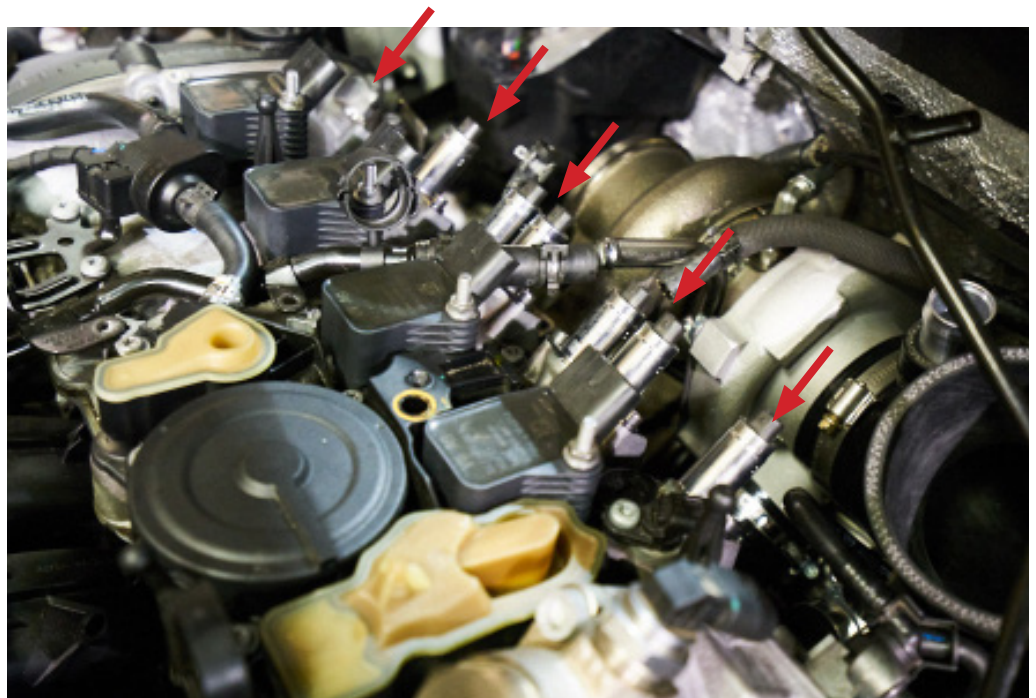
STEP 25

Install turbo inlet pipe



STEP 26

Reinstall the Cam adjusters



STEP 27

Reconnect PCV pipe to the turbo inlet silicone using the provided aluminum bung.



STEP 28

Reconnect coolant lines to the coolant hardlines and fasten back onto the engine block.



STEP 29

Reconnect all connections to the ignition coils and cam adjusters.

Refasten ground wires for the coil packs

**STEP 30**

Refasten ground wires for the coil packs



STEP 31

Reattach the turbo
heatshield



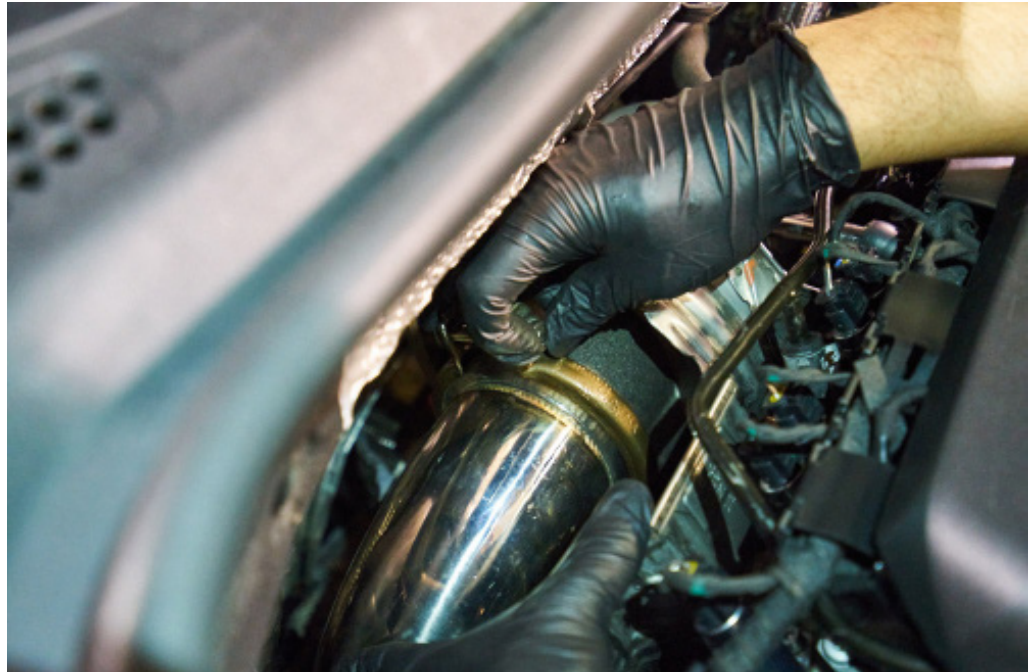
STEP 32

Reinstall the air
intake kit.



STEP 33

Reconnect the downpipe to the turbo.

**STEP 34**

Reinstall the engine cover.

You are done!

Note: The wastegate will need to be calibrated using a Vag Com. See the following two page for detailed instructions.



MQB Bolt-On Speed Solution (BOSS) Wastegate Adjustment

1. Unbox the turbo
2. Loosen jam nut on the actuator rod
3. Turn the rod until the wastegate door is loose, i.e. it should wiggle freely
4. Slowly turn the actuator rod to tighten the wastegate until the wastegate door makes contact with
the housing. Once this occurs, the wastegate door should no longer wiggle freely
5. Draw a small line/mark a dot on the actuator rod
6. Using the line/dot as a point of reference, turn the rod once to tighten the wastegate
7. Tighten the jam nut
8. Install the turbo and plug in the wastegate actuator
9. Leave the turbo accessible if further adjustments are needed. Best to accessible the turbo from
underneath with the downpipe removed
10. Plug in the VCDS cable into the OBDII port
11. Turn on the ignition, but DO NOT turn on the engine
12. Open the VCDS program
13. Go to "Select Control Module"
14. Go to "01 – Engine"
15. Go to "Basic Settings – 04"
16. In the drop down menu, select "First adaption of charge pressure actuator"

(BOSS) Wastegate Adjustment (Cont.)

17. Click "Go"

18. The program will run shortly, i.e. "running" but for no more than 10 seconds

a. If test failed, continue to Step 19

b. If test successful, continue to Step 20

19. If test was not successful, i.e. "Aborted – Safety reasons", loosen jam nut and turn the rod 0.1 of a turn (ie. 10%) to tighten the wastegate actuator rod.

a. Go to "Done – Go back"

b. Go to "Clear Codes – 02"

c. Return to Step 15, and run test again

20. If test was successful, i.e. "Finished Correctly"

a. Return to Step 15 to validate that test is successful and calibrated

21. Complete installation of turbocharge system and enjoy