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. Turbo inlet Pipe
3. Turbo outlet Pipe
4. Hose clamps
5. Water drain hardline
6. Water feed hardline
7. Oil feed line
8. PCV bung
9. Oil drain hardline
10. Turbo gaskets and hardware
11. Wastegate rod
12. Thermotec sleeve
13. Turbo inlet pipe plug

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 recommend installation 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 piece in either direction) - FOLLOW THE WASTEGATE ADJUSTMENT PROCEDURE AT THE END OF THIS GUIDE.

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.

Connect supplied oil drain hose to factory location on the block.

STEP 20
Connect the stainless steel braided oil feed line to the engine using the provided adapter 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 location on the compressor cover.
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 pages for detailed instructions.
MQB Bolt-On Speed Solution (BOSS) Wastegate Adjustment

1. Assemble the BOSS turbo with wastegate actuator installed.

2. Loosen jam nut on the wastegate 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.

8. Install the turbo and plug in the wastegate actuator connector.

9. Leave the turbo accessible for further adjustments. 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 menu, choose “IDE03869 - Test: Charge pressure actuator”

17. Click “Show Measuring Data” on bottom left.

18. Search the list and select “Charge Pressure Actuator: acknowledgement (location: IDE00396)”

19. Click “Go” on Basic Settings window.

20. Note the wastegate voltage and adjust as required (target voltage: 3.60V to 3.80V)

21. To adjust voltage, click “Done, Go Back” on Basic Settings and adjust the rod on the wastegate. To increase voltage, loose the wastegate rod. To decrease voltage, tighten the wastegate rod.