

# GFB VTA

## Installation Instructions

Part # T9451



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## TURBO MANAGEMENT SYSTEMS



PERFORMANCE WITHOUT COMPROMISE

# INSTALLATION

Locate factory diverter valve solenoid. It will either be mounted directly on the turbo compressor cover, or it can be mounted remotely at the front of the engine bay on cars like the Mk6 Golf R.

Unclip the wiring connector ( → ) from the top of the solenoid coil – note there is a small locking tab that needs to be pulled in the same direction (as indicated by the white arrow opposite) as you pull the connector to release it.



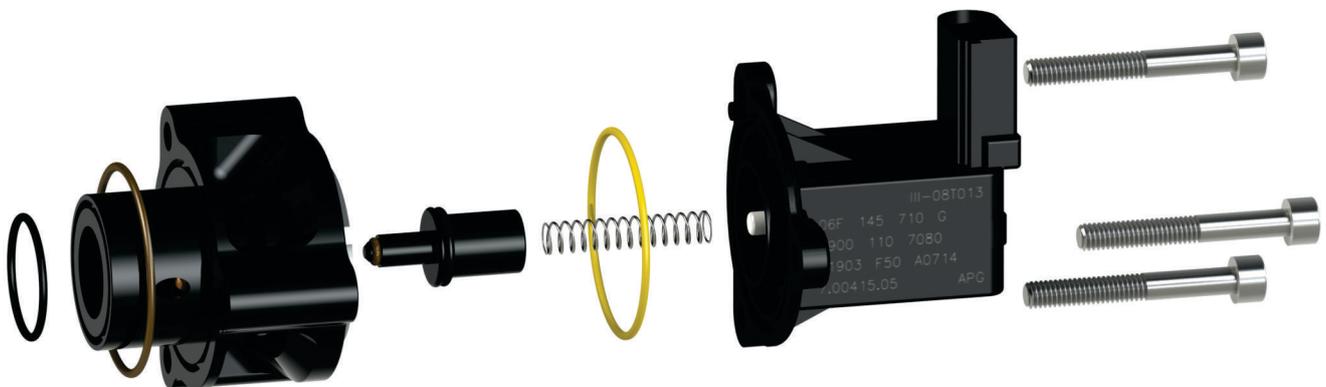
Unscrew the 3 mounting screws and remove the factory diverter valve from the car.

Now separate the factory valve mechanism from the solenoid coil. There are 3 main types of factory diverters that you are likely to encounter, as shown:



Pull on the diaphragm shroud (revision G), or the plastic “basket” (revision D), and the whole assembly will pop off leaving the bare solenoid coil. For revision C, first pull the piston from the body and remove the spring. Then remove the piston shroud - this can usually be pulled out by hand, but if it's too tight, it can be carefully levered out with a flat screwdriver. The thin plastic may be damaged, however it is not re-used in the VTA installation.

Begin by inserting the GFB supplied spring (**DO NOT re-use the factory spring**) and plunger into the solenoid, and check that it slides freely. Now fit the VTA body and factory yellow o-ring onto the plunger/spring/solenoid assembly as shown below:



The VTA body will usually “snap” onto the solenoid, making it easier to fit the assembly onto the car, but variations in the factory solenoid’s moulded plastic sometimes mean the solenoid won’t hold itself onto the VTA body, in which case it simply needs to be held together by hand until it is bolted to the turbo, and in other cases the fit can appear to be quite tight and it need a good deal of force (by hand) to assemble. This variation in factory moulding tolerance does not affect the operation in any way.

Fit the valve/solenoid assembly to the car in the factory location using the supplied longer screws (M6 x 45 socket head cap screws).

Be sure to re-connect the wiring loom, and the installation is complete.



## Notes on VTA Operation

**Oily Residue:** It is normal to find some oil around the atmosphere outlet, which is from the oil vapour recirculated through the turbo intake by the PCV. This is not a fault of the VTA or anything to be concerned about.

**Venting Duration/Timing:** You might hear the VTA vent at seemingly odd times, but this is determined by the ECU and is not a fault with the VTA. The ECU turns on the solenoid to vent the diverter any time the throttle is closing faster than a specific rate. The throttle doesn't even have to be completely closed - as long as the rate of closure meets the ECU's requirements, it will attempt to open the diverter. The ECU turns the solenoid on for approximately 2 seconds, unless the throttle is re-opened sooner, in which case it turns the solenoid off immediately.

Unlike the factory diverter that is directly opened by the solenoid, the VTA will only open when the ECU turns the solenoid on, AND there is enough boost pressure to push the piston open. In some cases, you may hear the VTA vent when you didn't expect it to, however it can take only a slight throttle closure to trigger it, and if the throttle is not opened it will continue to vent for 2 seconds or until there is no more pressure in the intercooler. Other times, you may be closing the throttle and the VTA doesn't vent. In that case, it is simply because you are closing the throttle slow enough that the ECU doesn't turn the solenoid on to vent the valve.

**Venting Sound:** Because the VTA can open and close progressively in response to how much boost pressure is present (unlike the factory diverter which just opens fully regardless of whether there is boost to vent or not), it is not unusual to hear a slight fluttering sound from the intake when lifting off the throttle at low RPM, especially if you have an aftermarket intake, larger turbo, and/or ECU tune. This is nothing to be concerned about.

**Fault Code:** In some cases, the different operating method of the VTA (as described above) may be misinterpreted by the ECU as a faulty diverter valve which may result in the fault code P2261 being recorded. The ECU is monitoring the pre-throttle pressure after lifting off the throttle as a diverter check, and because the VTA will start to close as boost pressure drops (where the factory diverter would remain wide open under the same conditions), that's when the ECU assumes there is an issue with the diverter.

This P2261 code does not indicate a problem with the VTA, nor does it cause any issues to the turbo or engine, and it doesn't light the check engine light.