



GFB DVX T9659 Installation Instructions

Included In T9659 Kit:

- » DVX BOV
- » BS030 viton o-ring (installed on BOV flange)
- » BS024 viton o-ring (installed on BOV inlet)
- » Remote solenoid mounting block
- » Plunger
- » Plunger spring
- » 3x M6 x 16 screws
- » 1x M6 x 25 screw
- » Vacuum hose

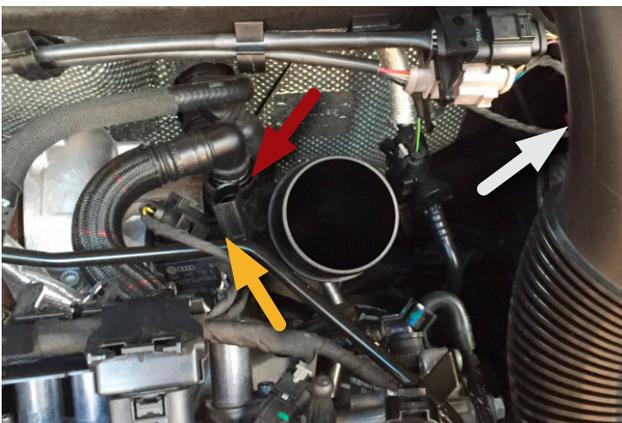
The GFB DV+ T9359 is designed for use on VW Mk7 R and Audi 8V S3.

Remove the engine cover by pulling up on each side where indicated (yellow arrows shown below) to pop the rubber grommets. Remove and set aside.

The factory diverter valve is located on the front of the turbo, as indicated by the red arrow.



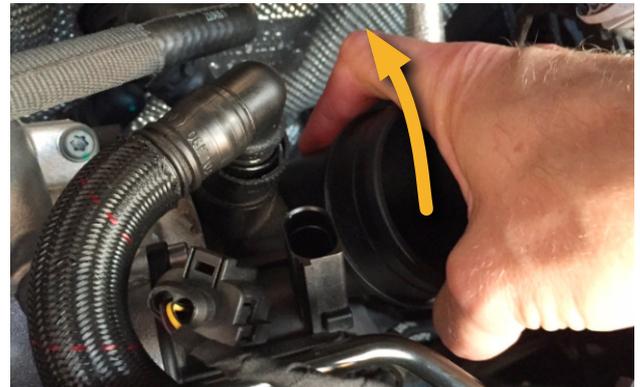
Unclip the PCV hose (red arrow below) and diverter valve electrical connector (yellow arrow), then loosen the hose clamp and remove the intake pipe (white arrow).



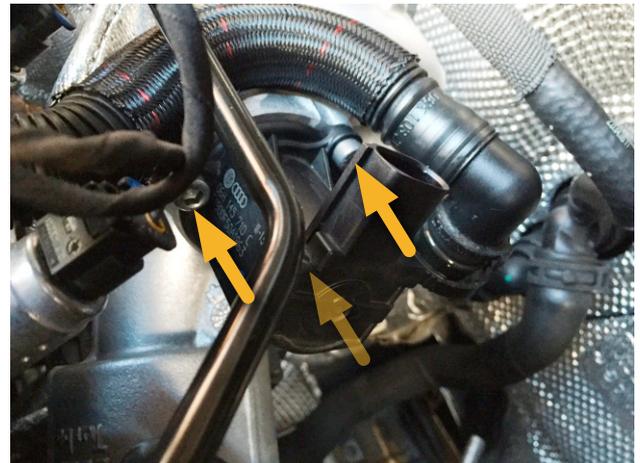
Using a Torx T30 driver, loosen the single screw (yellow arrow above right) that retains the plastic turbo intake elbow.



Rotate the top of the intake elbow towards the firewall to disengage it from the turbo as shown below.

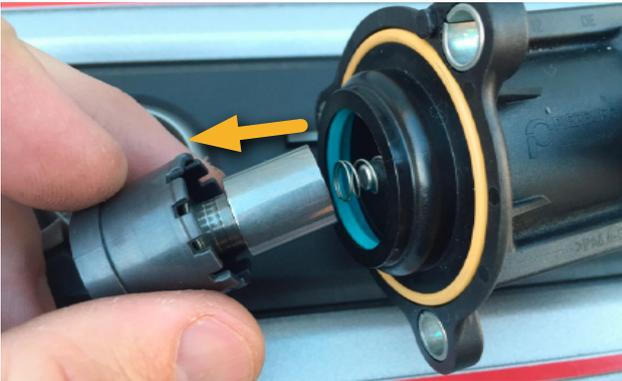


Now unscrew the 3 screws holding the diverter valve (yellow arrows, use a 5mm metric hex key), then remove it from the car. Take care not to drop these screws as they can be difficult to retrieve.



DVX Installation

Pull the piston from the factory diverter valve solenoid and remove the spring.

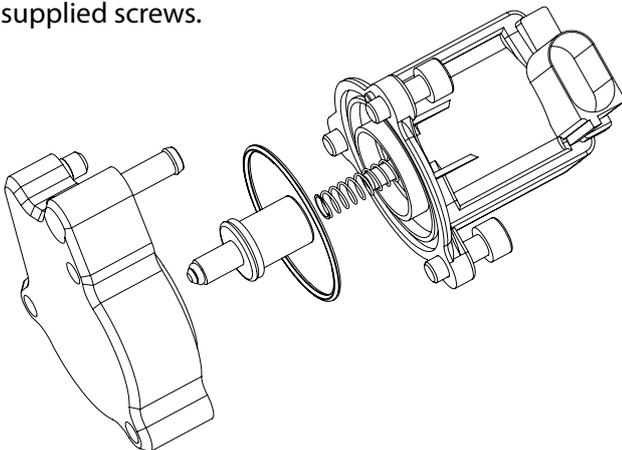


Remove the plastic piston shroud from the solenoid. This should be able to be removed by hand, but if it does need to be levered out take care not to damage any of the plastic pieces.



Store the piston, shroud and spring as these are not used in the DVX, and keep the yellow o-ring and screws for the DVX installation.

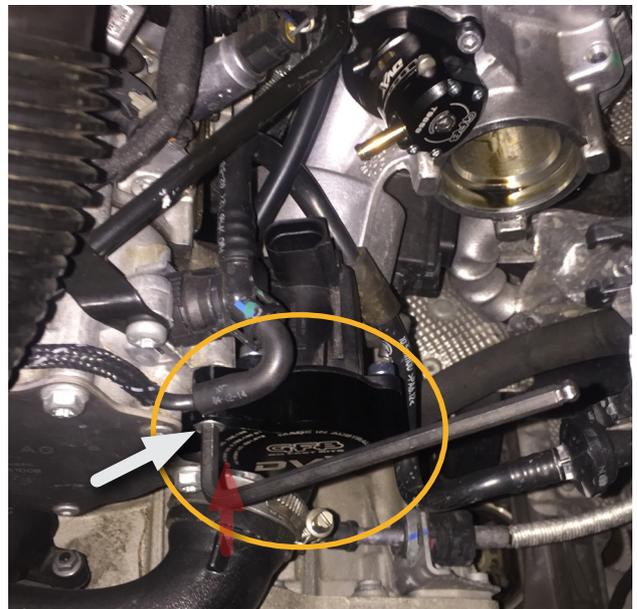
Install the GFB plunger spring, plunger and factory yellow o-ring into the factory solenoid body, then fit these parts onto the GFB remote solenoid mounting block. Make sure to align the plastic locating dowel on the solenoid with the matching hole in the mounting block. Secure with the 3 supplied screws.



Check that the DVX valve has the two supplied o-rings installed in the grooves, then install it on the turbo compressor cover. The orientation is important - the atmosphere venting port **MUST** face **AWAY** from the turbo compressor inlet as shown below by the yellow arrow. Secure with the 3 factory screws.



Push the supplied vacuum hose onto the barb on the remote solenoid mounting block, then install the mounting block onto the engine's vacuum pump as shown below. There is an un-used threaded hole where the supplied M6 x 25 screw fits (white arrow), and a blank hole where the silver dowel on the mounting block locates (red arrow).



Push the free end of the vacuum hose onto the DVX barb, then clip the wiring connector onto the solenoid.

Re-install the turbo intake elbow and torx screw, intake pipe and hose clamp, and PCV hose in reverse order of removal. Leave the engine cover off until the spring pre-load has been set up as described on the next page.

Spring Adjustment

Contrary to popular belief, the spring pre-load **DOES NOT** need to be adjusted to suit different boost levels. **All GFB valves will stay shut under full throttle conditions regardless of boost pressure or spring pre-load.**

The spring pre-load affects how easily the valve opens when you lift off the throttle, and how long it stays open. A harder spring pre-load generally helps to improve throttle response, but it should not be so hard that it causes compressor surge (fluttering sound) when lifting off the throttle.

The screw in the centre of the BOV cap is the spring pre-load adjustment screw, and the direction of adjustment is labelled. A metric ball-ended 5mm hex key makes it easier to adjust the spring pre-load because of the tight location.

The softest spring setting is achieved when the adjustment screw is flush with the head of the valve as shown opposite. Do not exceed this setting or the screw may rattle loose and fall out.

- » Set the spring to the softest setting, and move the venting bias adjusting lever to at least 50% so you can see the movement of the piston through the atmosphere venting port.
- » Start the car and let it idle for a minute or two, then find a helper to blip the throttle whilst you watch the piston from a safe distance (safety glasses are highly recommended!). Give the engine a good hard rev - the piston should lift quickly and vent, then close slowly and smoothly. The harder you stab the throttle, the further the piston will open.
- » A good "rough" setting is achieved when the piston closes just before the engine RPM drops back to idle. Turning the adjustment screw in the "+" direction will make the piston close faster if required.
- » For the final fine-tune, take the car for a drive. In 3rd gear from 2500RPM, accelerate briefly at approximately 50% throttle, then lift off quickly. If you hear a fluttering sound, turn the adjustment screw in the "-" direction one turn at a time until the noise disappears.

Note there is no harm to the engine when experimenting with the spring pre-load and venting bias adjustments, in fact we encourage you to do so. Every car responds differently depending on modifications and atmospheric conditions, and getting the spring pre-load right can offer a noticeable throttle response improvement over the factory valve.



Adjusting the Noise

The unique patented venting bias adjustment feature on the GFB DVX lets you vary the amount of air vented to atmosphere or recirc, thereby changing the volume of the sound.

Moving the venting bias adjusting lever upwards opens the atmosphere port, making the sound louder. Rotating it downwards towards the "X" symbol closes off the atmosphere port whilst opening up the recirc for quiet operation.

Since the VW Mk7 and Audi 8V models do not use an airflow meter, they are completely unaffected by atmosphere venting and do not suffer issues such as stalling or backfiring.



Notes On DVX Venting

It is normal to find some oily residue 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 DVX or anything to be concerned about.

Please note that you might hear the DVX vent at seemingly odd times, but this is determined by the ECU and is not a fault with the DVX. 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 2 seconds, unless the throttle is re-opened sooner, in which case it turns the solenoid off immediately.

For example, if you accelerate moderately and then reduce the throttle slightly and hold it steady, the DVX will likely vent for 2 seconds, or less if you re-open the throttle. Conversely, if you accelerate and then slowly close the throttle, the DVX may not open at all.

Unlike the factory diverter that is directly opened by the solenoid, the DVX will only open when the ECU turns the solenoid on AND there is enough boost pressure to push the piston open. Therefore at low boost and RPM, if the ECU turns the solenoid on the DVX will likely not open.

Maintenance

The GFB DVX is designed to be as maintenance-free as possible. Frequent lubrication, replacement of seals, or "re-building" in order to keep the it in top working order is generally NOT required.

Maintenance is only required if you notice the venting behaviour of the valve changing or becoming erratic. This is usually caused by a build up of carbon deposits on the piston that result from dried oil vapour in the engine's inlet tract. This varies from car to car, and in most cases cleaning will never be required, whilst others may need to be cleaned more regularly basis.

To disassemble the DVX, remove the four screws holding on the cap (use a 2.5mm metric hex key). Remove the spring, spring spacer, and the brass piston, and wipe any grime from the inside of the valve and the piston with a rag. Apply normal engine oil to the piston and the inside of the bore, and re-assemble.

Customer Support

No-one knows a GFB product like the engineers who designed it, who are always available to help with any enquiries or issues you may have with the installation or use of your GFB products:

Email: support@gfb.com.au Ph: (within Australia): 02 9534 0099 Ph: (international): +612 9534 0099

This product is intended for racing use only, and it is the owner's responsibility to be aware of the legalities of fitting this product in his or her state/territory regarding noise, emissions and vehicle modifications.

GFB products are engineered for best performance, however incorrect use or modification of factory systems may cause damage to or reduce the longevity of the engine/drive-train components.

GFB recommends that only qualified motor engineers fit this product. Warranty is for the period of one year from the date of purchase and is limited only to the repair or replacement of GFB products provided they are used as intended and in accordance with all appropriate warnings and limitations. No other warranty is expressed or implied.



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