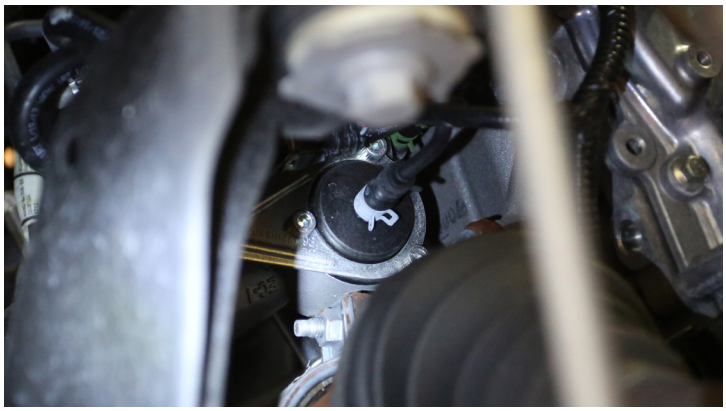
GFB DVX T9654 Installation Instructions

Included In T9654 Kit:

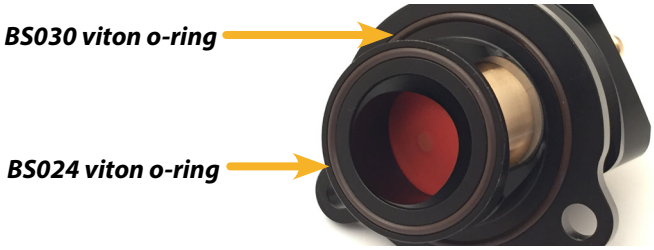
» DVX BOV
» BS030 viton o-ring (installed on BOV flange)
» BS024 viton o-ring (installed on BOV inlet)

On Ford and Volvo engines, the factory diverter valve is found on the turbo compressor cover. Access to the diverter is tight, requiring the vehicle to be raised and the front right wheel to be removed for access. PLEASE DO NOT WORK UNDER A VEHICLE SUPORTED ONLY BY A JACK - AXLE STANDS OR A VEHICLE HOIST ARE ABSOLUTELY NECESSARY!

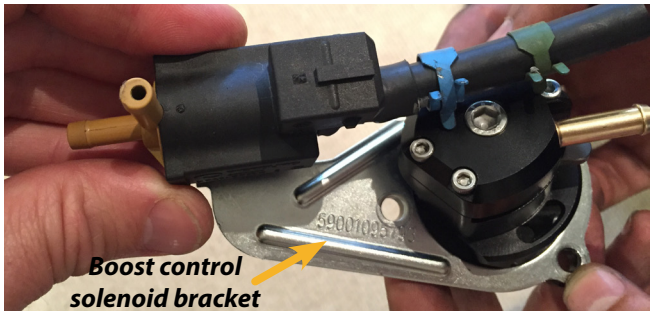


1. Once you have access to the factory diveter valve, begin by removing the vacuum hose, then remove the 3 screws holding the diverter onto the turbo.

2. Before installing the DVX, check that the sealing o-rings are installed in the grooves on the DVX body as shown opposite.

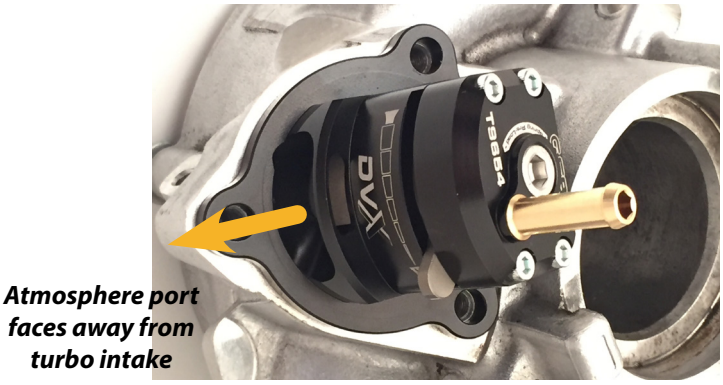


3. On cars where the boost control solenoid is mounted to the diverter valve via a bracket, the bracket must be slipped over the DVX first.



4. When installing the DVX, the recirc outlet MUST face towards the recirc passage inside the turbo compressor. This is so that the recirc air vented by the DVX is aimed directly at the recirc passage for the best flow. Externally, you can check this by ensuring that the atmosphere venting port faces directly AWAY from the turbo intake.

   The 3 factory screws can now be installed to secure the DVX in place. Push the vacuum hose onto the DVX hose barb and secure with the factory clamp.



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. The spring is adjusted to ensure the valve opens enough to release the air to prevent compressor surge, but not long enough to cause idling problems or backfiring.

The screw in the centre of the BOV cap is the spring pre-load adjustment screw, and the direction of adjustment is labelled. Please use a **metric** 5mm hex key for this screw.

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 o-ring that seals the screw and provides friction will become visible and the screw may rattle loose and fall out whilst driving.

Spring pre-load adjustment screw

» 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 and ear plugs 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.

» If the piston stays open too long, it will not be closed when the engine RPM drops back to idle, which can cause the engine to "stumble", where the revs dip below idle before recovering. If this happens, wind the adjustment screw in the "+" direction one turn at a time until the engine returns smoothly to idle after revving. It is entirely possible the engine may return to idle even at the softest setting, that's not an issue.

» For the final fine-tune, take the car for a drive. Watch the tacho as you pull up to a stop - if the revs dip below idle, tighten the spring 1-2 turns. If a fluttering sound is heard when lifting off sharply from full boost, wind 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, and getting the spring pre-load right will usually offer a noticeable throttle response improvement over the factory valve. If you get it wrong, the worst that will happen is some backfiring, or poor idle, in which case keep making adjustments until you find what works best for your car.

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.

Turning the venting bias adjusting lever to the left will open up the atmosphere port more, making the valve louder, whilst turning it right (towards the "X" symbol) will open up more of the recirc outlet for quiet operation.

Note that even with the lever set to full atmosphere, there will always be a small portion of the recirc port that vents. This is an intentional design feature that helps to prevent backfiring and compressor surge, even when used in maximum venting configuration.

Typically, most engines will allow the venting adjustment to be set to the maximum setting with no problems provided the spring pre-load is set correctly. However, some combinations of engine modifications may result in backfiring when the valve vents to atmosphere, in which case the solution is simply to dial back the amount of air vented to atmosphere until the problem is resolved – this is one of the key benefits of the venting bias adjustment feature.

Venting bias adjusting lever

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.

The only maintenance that may be required is the occasional cleaning 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 may never be required, whilst others may need to be cleaned more regularly basis. It is easy to determine if the valve needs cleaning by visual inspection of the piston for black carbon build-up, or if you notice the sound of the valve changing over time (e.g. slow response time, intermittent operation).

To disassemble the DVX, remove the four screws holding on the cap (use a 2.5mm metric hex key), taking care with the last screw as the spring will push upwards on the cap with approximately 3kg of force. 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 knowns 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.

HEAD OFFICE/AUSTRALIA
Go Fast Bits
www.gfb.com.au
sales@gfb.com.au
Ph: +612 9534 0099