

Product Name: **Vee Port Pro**
 Product Description: Blow off valve
 Product Number: TS-0205-1130/TS-0205-1131



IMPORTANT NOTES ON YOUR BOV

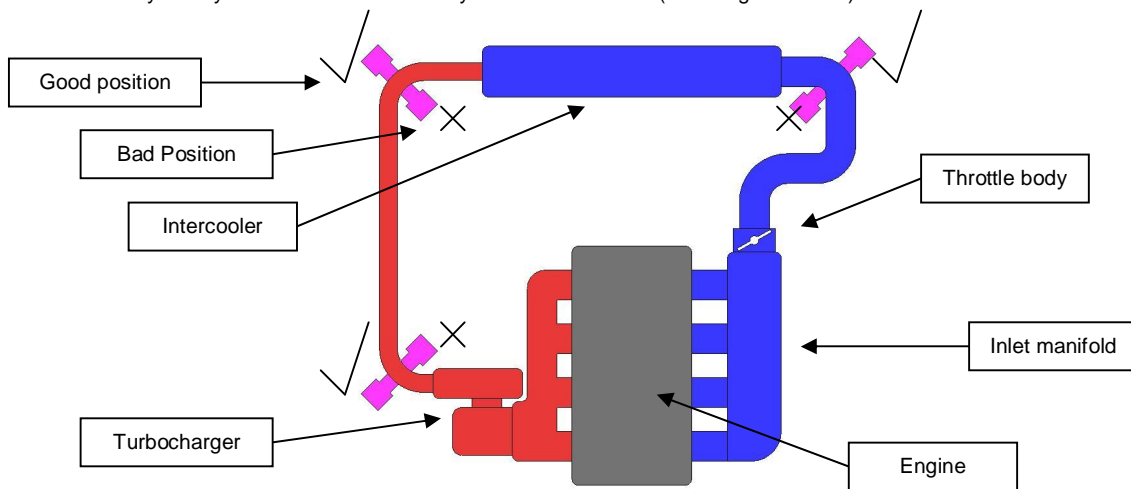
- Use only silicone hose that is the correct size and pressure/vacuum rating for your application when fitting your BOV
- Ensure that all plumbing is secured with suitable clamps or the correct fittings are used
- Your BOV should be mounted at least 100mm from any high heat source or adequately shielded

RECOMMENDATIONS

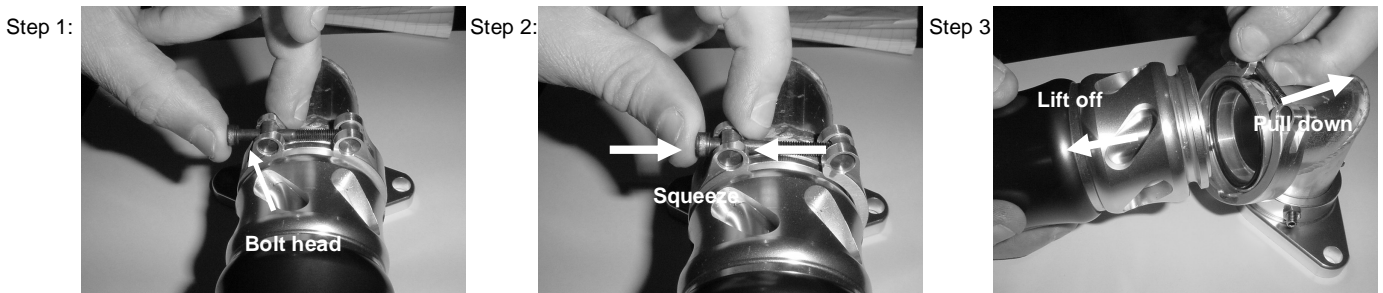
- **Turbosmart recommends that your BOV is fitted and adjusted by an appropriately qualified technician**

HOW TO INSTALL YOUR BOV

- Allow the engine to cool down before installing your BOV
- Identify a suitable location along the intercooler/intake piping for the BOV – this will need to be between the outlet of the turbo and the throttle body ideally between the throttle body and the intercooler (See diagram below).



- Remove the BOV from the weld on adapter by removing the V-Band clamp. The V-band clamp is removed by opening the screw until it has reached the end stop, then pushing the head of the screw in a “syringe” like motion and lifting the BOV off the weld flange.



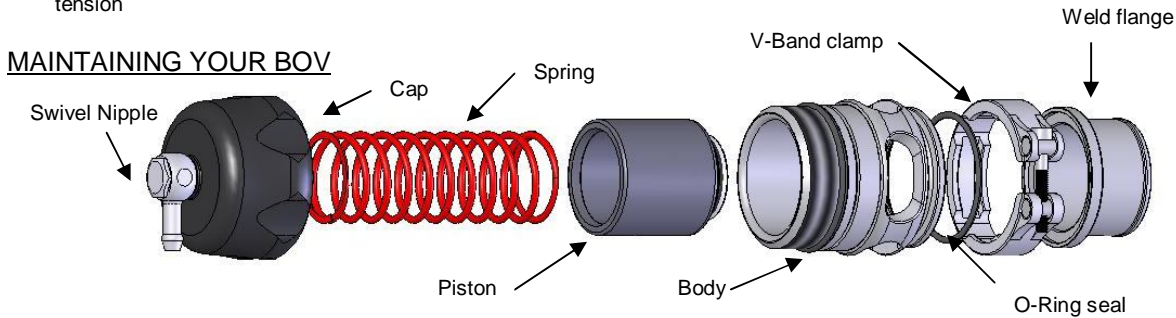
- Weld the adapter onto the intake pipe in your ideal position, then allow the adapter to cool down
- Put the V-Band clamp over the adapter before re-installing the O-Ring seal and the BOV
- Open the V-Band clamp and place in position. Tighten the V-Band clamp screw until it is finger tight then turn an additional 1 turn or 2 Nm (0.73 ft/lbs) with an allen key. Be sure not to over tighten the screw as this will cause damage to the V-Band clamp and deform the bore of the BOV.
- Identify a standalone vacuum / pressure source from a port after the throttle body and connect with correctly sized hose to the vacuum/boost port on the cap of the BOV. Ensure this line is as short as possible
- Secure all silicone hose ends with correct clamps
- Start the engine and check for air leaks in the system

ADJUSTING YOUR BOV

Each BOV needs to be adjusted to suit the vehicle it is being mounted on. The aim of the adjustment on Vee Port's, Supersonic's and Dual ports is to make sure that the piston is hard closed at idle and that the piston closes fast enough to minimise backfiring and not stall the engine. Plumb back BOV's are equipped with a spring which are designed to keep the piston open at engine idle and hence the cap can be left in the middle position.

Adjustment to the BOV is made by rotating the cap. To increase the spring force on the piston, rotate the cap clockwise in the direction of hard as marked on the top of the cap. To decrease the spring force on the piston, rotate the cap anticlockwise in the direction of soft as marked on the top of the cap - **CAUTION** - Do not rotate the cap beyond the first O-Ring indicator groove.

- Start with the BOV cap at the maximum soft position (The indicator O-Ring should be completely covered by the edge of the cap)
- With the engine at idle the exhaust port should be closed off by the piston – the piston should be hard against the seat and not floating or moving
- Free rev the engine and back off quickly, the engine should return to normal idle speed – if the engine drops below idle or stalls increase the spring tension by one turn
- Repeat this process until the engine free revs and returns to normal idle speed
- Test drive the car and ensure that when decelerating or changing gears that the engine has minimal backfiring and no stalling. If backfiring is excessive or stalling is noticed then check all connections made during the installation, otherwise increase the spring tension



Turbosmart recommends that the following maintenance procedure is carried out at six monthly intervals. Regular maintenance will ensure that your BOV is operating at its peak and will extend the working life of the product.

- Remove the cap of the BOV by rotating in an anti-clockwise direction (see figure 1) – **CAUTION**, the cap is under spring tension, wear safety glasses and remove with care!
- Remove the piston, thoroughly clean the piston and the bore of the BOV
- Inspect the surface of the piston and the bore of the BOV for scoring or excessive wear, silver coloured marks are an indication of excessive wear
- Check the Base O-ring and the Cap O-ring for any damage – replace if necessary
- Lubricate the bore and the piston with Uni-Glide™, hydraulic oil or sewing machine oil (see figure 1) – **DO NOT** use grease or viscous oils
- Re-assemble the BOV in the reverse order

TROUBLE SHOOTING

The following points should be checked if you find that your engine is dipping below normal idle, stalling or if the BOV is functioning poorly. Please note, the following checks will cure 99% of problems experienced with a BOV.

- Check the vacuum hose for splits, cracks, loose connection, kinking or any obstruction – old or fatigued hose may collapse under vacuum causing an obstruction
- With the engine running remove the vacuum / pressure hose from the nipple in the cap of the BOV, there should be a loud hissing sound. The engine should idle poorly, double check by covering the end of the hose with your finger. If this does not occur, the hose could be blocked or crimped. Check the hose and replace if necessary.
- Ensure that the vacuum / pressure source is not shared and that the vacuum source is directly from the inlet manifold
- Check the seal between the adapter and the BOV – ensure that there is no gap between the BOV base and the weld flange
- Check the joint between the adapter and the intercooler pipe for leaking



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Happy motoring!
The Turbosmart Team

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