PART NUMBER
FG-BOV-002VP

BLOW-OFF VALVE TYPE II VEE PORT (BOV II) INSTRUCTIONS

IMPORTANT NOTES ON FITTING YOUR BOV II

Do you need an adapter? Check with your local dealer or visit the Turbosmart web-site turbosmart.com.au. We have a large range of Multi-Fit Adapters which make fitting your BOV II very simple. Using a Turbosmart Multi-Fit Adapter could save you hours of expensive fabrication – remember to check if you can utilise a Multi-Fit Adapter. Turbosmart recommends that your BOV II is fitted by an appropriately qualified technician. If you are using a Multi-Fit Adapter, refer to the adapter instructions (included with your Multi-Fit Adapter) for detail on fitting your BOV II. To fit a BOV II with a weld on adapter refer to the following:

- Identify a suitable location along the cross over pipe for the BOV II – this will need to be between the outlet of the turbo and the throttle body
- Ensure the mounting location is a minimum of 200mm away from any source of heat i.e. turbine housing, exhaust manifold. If the BOV II can not be mounted clear of a heat source, then ensure that it is adequately shielded
- Ensure that the mounting position will not be effected by the engine moving when under load
- The BOV II must be mounted in a position so that it is sheltered from any contamination, i.e. away from where it could be splashed or the direct path of any air borne debris
- Weld the adapter into the cross over pipe – the adapter included is suitable for TIG welding into Mild Steel or Stainless Steel. For aluminium use the aluminium weld on adapter, p/n FG-ADA2-WA38
- Ensure that the surface of the adapter is not damaged or distorted in the welding process – remember the Base O-ring must seal on this surface
- Ensure that any slag, burrs or debris is removed from the welded region prior to fitting the BOV II – failure to observe this will damage the BOV II and may also cause damage to the engine
- Lubricate the base O-ring and slide the BOV II fully over the adapter, tighten the grub screws and the lock nuts in the base of the BOV II– do not over tighten, 5NM maximum tightening torque
- Identify a good vacuum / pressure source and connect with vacuum hose to the nipple in the cap of the BOV II – a shared or poor vacuum source will result in poor function of the BOV II
- Ensure the vacuum hose has a minimum 5mm inside diameter and is clean and free of debris – smaller hose will result in poor function of the BOV II
- Use good quality vacuum hose when fitting the BOV II – other hoses will be effected by heat and will eventually crack, split or collapse. This will cause the BOV II to leak and may cause poor fuel economy and may lead to serious engine damage
- Ensure that all hose connections are secured with hose clamps
- Minimise the length of the vacuum hose where possible – the longer the hose the slower the BOV II will respond, this may have a dramatic effect on the performance of the BOV II

IMPORTANT NOTES ON SETTING THE SPRING TENSION

- Adjustment to the BOV II is made by rotating the cap (see figure 1), to increase spring tension rotate in the direction of hard, marked on the top of the cap
- Rotate the cap in the direction of soft to decrease the spring tension – CAUTION Do not rotate the cap beyond the indicator groove (see figure 1)
- With the engine at idle the exhaust ports 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 half a 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 does not backfire or stall. If backfiring or stalling is noticed then check all connections made during the installation, otherwise increase the spring tension
- Turbosmart recommends that your BOV II is adjusted by an appropriately qualified technician
- Turbosmart recommends that a boost gauge be permanently fitted to the vehicle

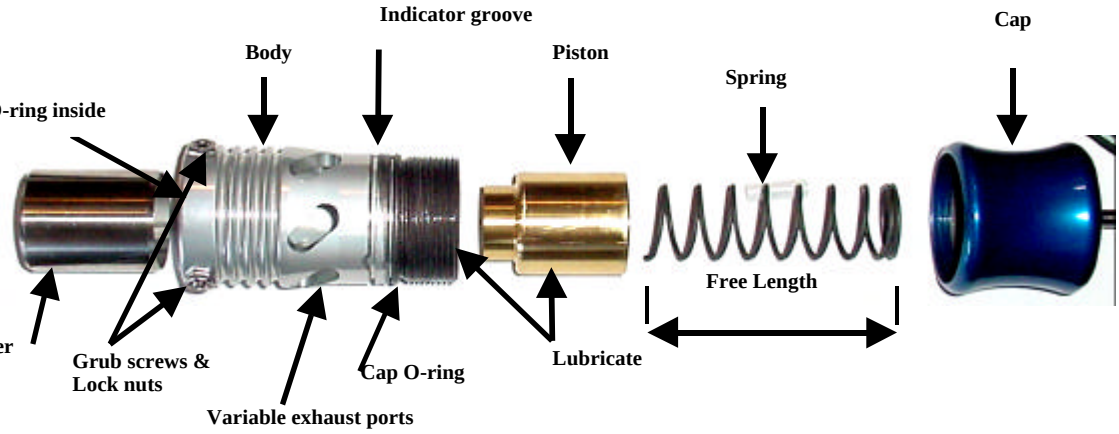

Figure 1
Exploded View of the BOV II

MAINTAINANING YOUR BOV II

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

- Remove the cap of the BOV II 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 spring and measure the free length or the overall length of the spring (should be no less than **155mm**) – replace if below
- Remove the piston, thoroughly clean the piston and the bore of the BOV II
- Inspect the surface of the piston and the bore of the BOV II 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 II 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 II is functioning poorly. Please note, the following checks will cure 99% of problems experienced with a BOV II.

- 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 II, there should a loud hissing sound. The engine should idle poorly, double check by covering the end of the hose with your finger – otherwise the hose is blocked
- Check to see if the BOV II is blocked or contaminated with dirt or debris, if the valve appears to be contaminated follow the maintenance directions above
- 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 II – ensure the BOV II is pushed fully onto the adapter
- Check the join between the adapter and the cross over pipe for leaking

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