

## BLOW-OFF VALVE TYPE I (BOV I) INSTRUCTIONS

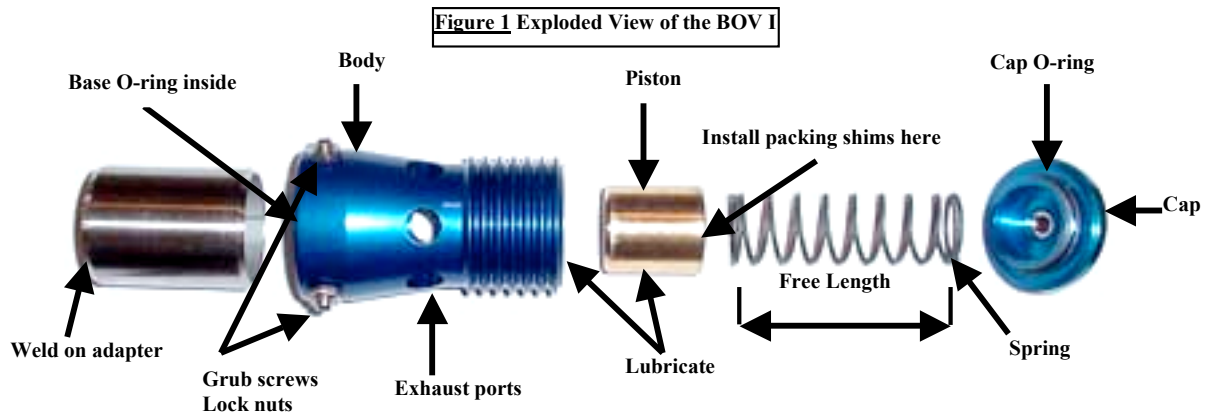
### IMPORTANT NOTES ON FITTING YOUR BOV I

Do you need an adapter? Check with your local dealer or visit the Turbosmart web-site [turbosmart.com.au](http://turbosmart.com.au). We have a large range of Multi-Fit Adapters which make fitting your BOV I 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 I 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 specific detail on fitting your BOV I. To fit a BOV I with a weld on adapter refer to the following:

- Identify a suitable location along the cross over pipe for the BOV I – 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 I 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 I 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 I – failure to observe this will damage the BOV I and may also cause damage to the engine
- Lubricate the base O-ring and slide the BOV I fully over the adapter, tighten the grub screws and the lock nuts in the base of the BOV I – 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 I – a shared or poor vacuum source will result in poor function of the BOV I
- 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 I
- Use good quality vacuum hose when fitting the BOV I – other hoses will be effected by heat and will eventually crack, split or collapse. This will cause the BOV I 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 I will respond, this may have a dramatic effect on the performance of the BOV I

### IMPORTANT NOTES ON SETTING THE SPRING TENSION

- Adjustment to the BOV I is made by installing the **packing shims** included (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 install one packing shim
- 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 fit another packing shim
- Turbosmart recommends that your BOV I is adjusted by an appropriately qualified technician
- Turbosmart recommends that a boost gauge be permanently fitted to the vehicle



### MAINTAINING YOUR BOV I

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

- Remove the cap of the BOV I 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 **67mm**) – replace if below
- Remove the piston, thoroughly clean the piston and the bore of the BOV I
- Inspect the surface of the piston and the bore of the BOV I 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 I 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 I is functioning poorly. Please note, the following checks will cure 99% of problems experienced with a BOV I.

- 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 I, there should be 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 I 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 I – ensure the BOV I is pushed fully onto the adapter
- Check the joint between the adapter and the cross over pipe for leaking



PART NUMBER  
FG-BOV-001

## BLOW-OFF VALVE TYPE I (BOV I) INSTRUCTIONS

### TURBOSMART ONE YEAR LIMITED WARRANTY

Turbosmart is a company built on Customer Satisfaction and Service. That is why all of our products go through regimented test procedures before they are packaged and shipped. Turbosmart stands behind its products for one full year after purchase. Terms of Warranty, Service and Returns are as follows:

**Limited Warranty:** Turbosmart warrants its products to be free from defects in material and workmanship under normal use and if properly installed for a period of one year from date of purchase. If found to be defective, it will be replaced or repaired if returned prepaid along with proof of date of purchase. This shall constitute the sole remedy of the purchaser and the sole liability of Turbosmart to the extent permitted by law, the foregoing is exclusive and in lieu of all other warranties or representations whether expressed or implied, including any implied warranty of merchantability or fitness. In no event shall Turbosmart be liable for special or consequential damages. This warranty is only valid on products purchased from Turbosmart Authorized Dealers.

**Service:** After the warranty period has expired, repair service is charged based on a minimum and maximum charge rate. (Contact Customer Service for current rate).

**Returns:** When returning a Turbosmart product for repair, it must be accompanied by a completed Customer Warranty Form and RMA number. To access this form please go to our website [www.turbosmartonline.com](http://www.turbosmartonline.com) and you will find it on the Downloads page.

### THE TURBOSMART PLEDGE

DO NOT USE ANY TURBOSMART PRODUCT UNTIL YOU HAVE CAREFULLY READ AND UNDERSTOOD THE FOLLOWING AGREEMENT.

Please call if you have any questions or do not understand this agreement. Refer to our brochure, website or catalogue for terms and conditions and further information regarding your product. Turbosmart appreciates your business and pride ourselves on our customer service. We are always happy to offer you advice and will provide you with help in any way we can. The purpose of this agreement is to avoid any problems or hard feelings.

We sometimes make mistakes, as do our dealers, distributors and suppliers. Even customers can sometimes order the wrong parts. Do not use, modify, install, trial assemble, nick, drop, scratch or adjust any part until you first check for any damage. Damage must be reported immediately. NO EXCEPTIONS. If there are any components missing please contact your authorized reseller immediately upon receipt of your shipment. Missing components must be reported within five (5) business days of receipt. Parts returned for any reason MUST BE IN RESALABLE CONDITION. It is YOUR responsibility, "THE CUSTOMER" to carefully package any returns to avoid shipping damage. Insurance is highly recommended. Credit cannot be issued for damaged goods.

Turbosmart warrants the quality of the products it designs and manufactures to be free of defects in material and workmanship. This limited warranty is extended only to the original purchaser and may not be transferred or assigned. This limited warranty applies to any product, which after careful inspection by Turbosmart, after receipt of the product from our authorized reseller, is found to have a defect in either material or workmanship. Any modifications to the product will void any and all warranties and will not be exchanged. Before installation, check new car warranty. Turbosmart is not responsible for voiding any original manufactures warranty.

All warranty claims must be returned to the nearest Turbosmart Office, you must return the product and sales receipt, at your own expense, accompanied by the Customer Warranty Form stating the reason for the claim. Proof of purchase must be provided with any warranty claim and will be verified with the authorized reseller from which the product was purchased.

If all the above procedures are followed, and the product is found to be defective in either workmanship or material, Turbosmart shall either repair or replace the product, at its sole discretion, and sole cost. This limited warranty does not cover or apply to any personal injury, labor charges or any other incidental costs or damages caused by the defective product. The individual purchaser acknowledges and agrees that the disclaimer of any liability for personal injury is a material term for this agreement and the individual purchaser agrees to indemnify Turbosmart and to hold Turbosmart harmless for any claim related to the item of the equipment purchased. Under no circumstances will Turbosmart be liable for any damages or expenses by reason of use or sale of any such equipment.

THIS LIMITED WARRANTY IS THE ONLY EXPRESS WARRANTY, WHICH APPLIES TO TURBOSMART PRODUCT AS EXPRESSLY GIVEN IN LIEU OF ANY OTHER WARRANTY EXPRESSED OR IMPLIED, INCLUDING THAT OF MERCHANTABILITY. ANY IMPLIED WARRANTY INCLUDING THAT OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE IS HEREBY LIMITED BY THE SAME TERMS AND TIME LIMITATIONS SET FORTH IN THIS LIMITED EXPRESS WARRANTY AND OTHERWISE EXCLUDED. EXCEPT FOR THOSE OBLIGATIONS ASSUMED HEREIN, TURBOSMART ASSUMES NO OTHER OBLIGATIONS IN CONNECTION WITH THE SALE OF ITS PRODUCTS. IN THE EVENT THAT THE INDIVIDUAL PURCHASER DOES NOT AGREE WITH THIS AGREEMENT THE BUYER MAY PROMPTLY RETURN THIS PRODUCT, IN A NEW AND UN-USED CONDITION, WITH A DATED PROOF OF PURCHASE, TO THE PLACE OF PURCHASE WITHIN SEVEN (7) DAYS FROM THE DATE OF PURCHASE FOR A FULL REFUND. THE INSTALLATION OF THIS PRODUCT INDICATES THAT THE INDIVIDUAL PURCHASER HAS READ AND UNDERSTOOD THIS AGREEMENT AND ACCEPTS ITS TERMS AND CONDITIONS.

**Happy motoring!**  
**The Turbosmart Team.**