

Product Name: **IWG75**
 Product Description: Internal Wastegate Actuator
 Product Number: TS-06XX-XXXX



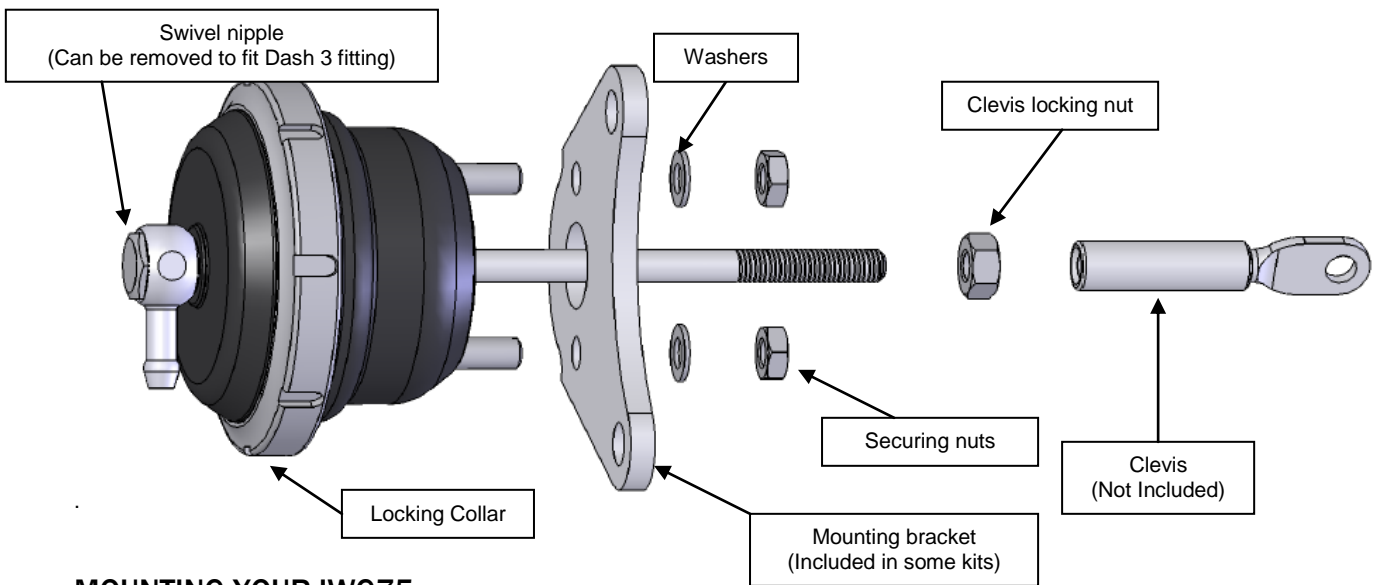
IMPORTANT NOTES ON YOUR IWG75 INTERNAL WASTEGATE ACTUATOR

- Consult your local specialist before setting your desired boost pressure, setting boost beyond your engines capability may result in engine damage.
- **Allow for adequate cool airflow around the top diaphragm housing**

RECOMMENDATIONS

- Turbosmart recommends that boost pressure is set using a Dynamometer and not on public roads.
- Turbosmart recommends that a boost gauge be permanently fitted to the vehicle.
- Turbosmart recommends that the engines Air/Fuel ratio is checked while setting the desired boost pressure, as any increase in boost pressure can cause the engine to run "LEAN", resulting in possible engine damage.

BASIC COMPONENTS OF YOUR IWG75 INTERNAL WASTEGATE ACTUATOR

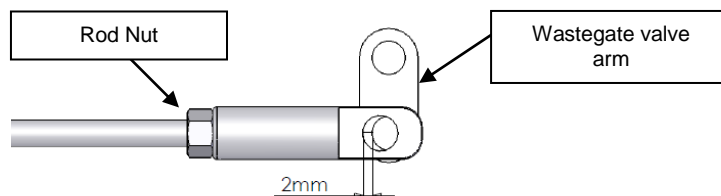


MOUNTING YOUR IWG75

Depending on the kit purchased, the IWG75 might not be provided with a bracket. You will need to either modify the existing bracket for the standard internal wastegate actuator or fabricate a bracket. The hole spacing between the mounting screws is 34mm. The fabricated bracket should be made from an appropriate material such as stainless steel that can handle high temperature and withstand high spring forces. Use the supplied nuts and spring washers to secure the IWG75 to the bracket.

The Rod in the Universal IWG75 uses a 1/4" UNF thread which can be used with a variety of different clevises to fix the end of the rod to the wastegate valve.

When installing the clevis of the IWG75 onto the wastegate valve arm, make sure that there is 2mm of preload. Then use compressed air (the amount of air pressure applied should be slightly higher than what the IWG75 spring is rated to) to pressurise the IWG75 so that the clevis can be hooked onto the wastegate valve arm easily. Remember to reinstall the standard R-Clip or circlip to secure the clevis to the wastegate valve arm. Then tighten the rod nut to secure the clevis onto the rod.



ACHIEVING YOUR TARGET BOOST PRESSURE

There are various factors involved in achieving your target boost pressure including.

- The size of the spring fitted in your wastegate actuator i.e. the boost pressure achieved by the wastegate actuator spring only.
- The desired level of boost pressure and the difference between this and your wastegate spring pressure.
- The size of your turbocharger and wastegate and the resulting exhaust manifold backpressure in your system.

Turbosmart recommends the ideal setup for achieving your target boost pressure is to use the wastegate actuator in conjunction with a Turbosmart e-Boost controller.

IMPORTANT NOTES ON SETTING THE WASTEGATE ACTUATOR SPRING PRESSURE

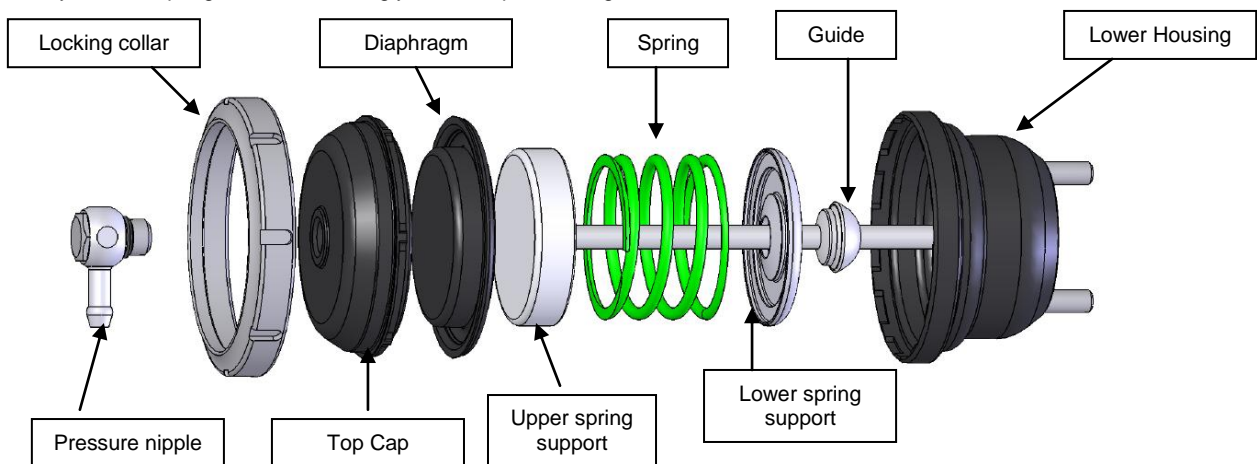
A stiffer spring should only be used when necessary. The wastegate actuator allows for different combinations of spring pressures. All springs that are adaptable with the wastegate actuator are shown in the table below. The tuner can use combinations of up to 3 springs to achieve the following base boost pressures. To aid in the identification of these springs they are supplied colour coded. If this colour coding is not clear please use the dimensions in the following table to identify the spring. Please see the following detailed instructions on setting your wastegate actuator spring pressure. The springs chosen should be rated to the lowest boost level desired.

Pressure rating			3 PSI Inner	5 PSI Inner	7 PSI Middle	11 PSI Middle	10 PSI Outer	7 PSI Outer
Part number			TS-0505-2001	TS-0505-2002	TS-0505-2003	TS-0505-2004	TS-0505-2005	TS-0505-2006
Colour			BRN/BLK	BRN/GRY	BRN/PUR	BRN/RED	BRN/BLU	BRN/PNK
Dimensions			29mm OD, 32mm Length	29mm OD, 36mm Length	36.5 OD, 43mm Length	36.5 OD, 52mm Length	44mm OD, 68mm Length	44mm OD, 57mm Length
Desired Boost Pressure								
PSI	BAR	KPa						
3	0.207	20.68	▲					
5	0.345	34.47		▲				
7	0.483	48.26			▲			
10	0.69	68.95					▲	
11	0.76	75.84				▲		
12	0.827	82.74		▲	▲			
13	0.89	89.6	▲				▲	
14	0.965	96.53			▲			▲
15	1.03	103.4		▲			▲	
16	1.1	110		▲		▲		
17	1.172	117.2			▲		▲	
19	1.31	131		▲	▲			▲
20	1.38	138	▲		▲		▲	
21	1.45	145				▲	▲	
22	1.517	151.7		▲	▲		▲	
23	1.59	159		▲		▲		▲
24	1.655	165.5	▲			▲	▲	
26	1.793	179.3		▲		▲	▲	

Changing the springs

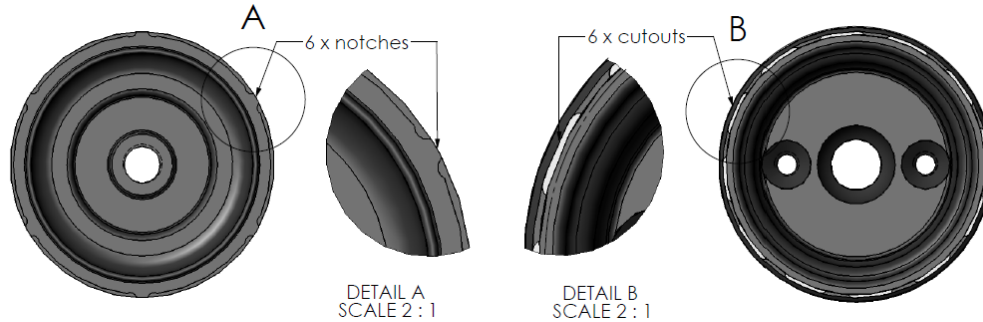
WARNING! Fitting a heavier wastegate actuator spring may cause a higher than expected increase in boost pressure.

Turbosmart recommends adjusting your boost controller back to its minimum setting and measuring the new minimum boost pressure achieved by the new spring, before increasing your boost pressure again



IMPORTANT: A press or clamping device must be used when removing or installing the collar as clamping the cap down removes the load off the collar from the diaphragm and allows the collar to be removed.

1. If the engine has been running, allow it to cool down before removing the actuator from its bracket.
2. Use a press or a vice to clamp down the cap to the body and remove collar.
3. Remove the actuator from the clamping device carefully as the cap is under spring load.
4. Remove cap, diaphragm and upper spring support with rod.
5. Change the springs making sure that they sit in the right grooves in the lower spring support
6. Reassemble in reverse order. Ensure that the diaphragm is installed in the centre of the upper spring support and when installing the cap, make sure that the cap and diaphragm are centred and that the locating notches on the cap match the cutouts in the lower housing. **When installing the clevis, make sure that there is 2mm worth of preload.**



NOTES ON BOOST CONTROL HOOKUP

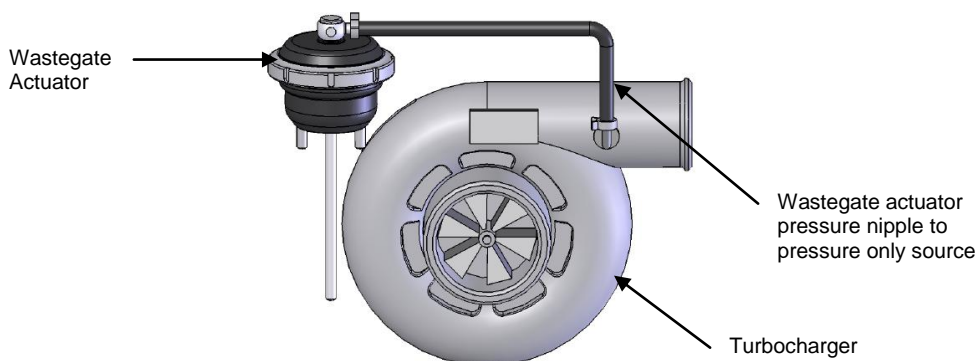
WARNING! Changing your connection method can cause a higher than expected increase in boost pressure. Turbosmart recommends adjusting your boost controller back to its minimum setting and measuring the new minimum boost pressure achieved by the new setup before increasing your boost again.

***Note* OEM Boost control hook-ups:** The OEM boost control system normally contains a restrictor "pill" in one of the lines to improve response from the turbocharger. This pill can normally be found by pinching along the boost control pressure lines until you find a small lump. If you are retaining the OEM boost control system, you must leave all of the restrictors in place in the correct lines as removing them will reduce response.

***Note* Aftermarket Boost control hook-ups:** For aftermarket boost control systems, please refer to its user manual for hook up methods to the IWG75.

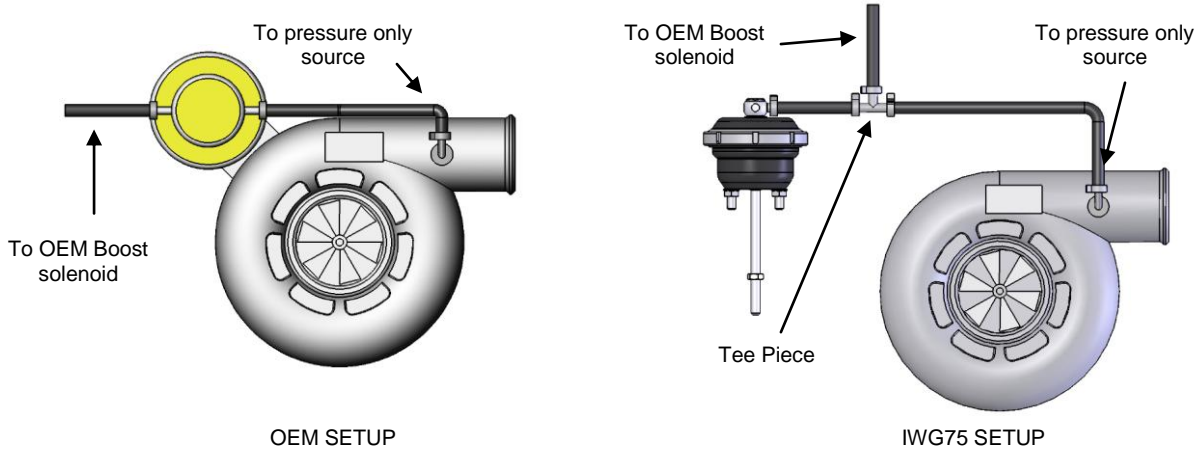
Basic setup (For replacement of an OEM actuator with 1 pressure nipple)

If no boost controller is being used connect the **BOOST PRESSURE ONLY SOURCE** to the wastegate actuator pressure nipple as shown.



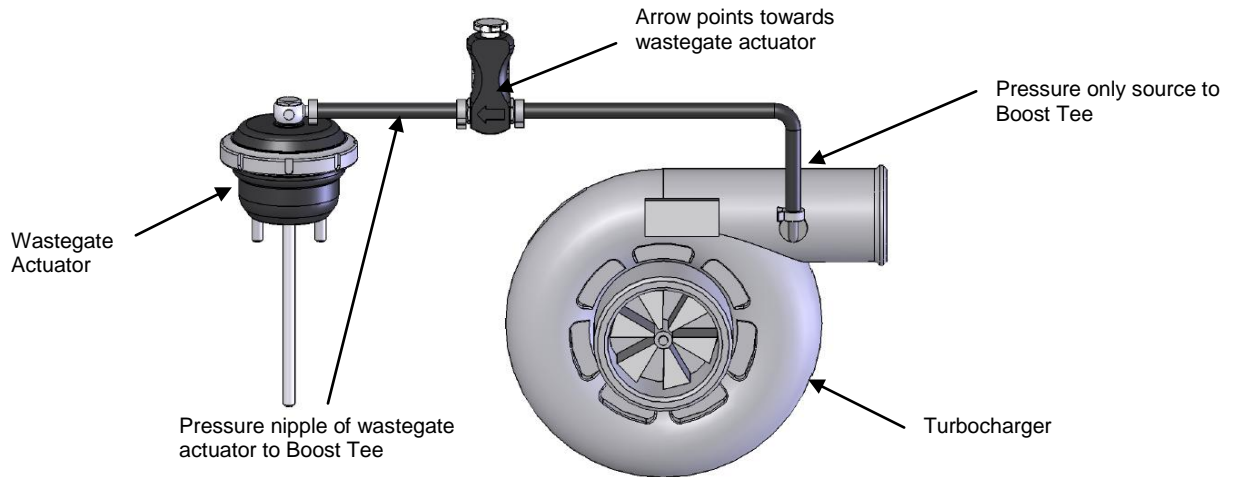
Basic setup (For replacement of an OEM actuator with 2 pressure nipples)

When installing the Turbosmart IWG into a turbo system with an actuator that has 2 pressure nipples, be sure to use a tee piece to splice into the line which goes from the pressure source on the compressor cover to the IWG75 and run a line from the tee piece to the boost control solenoid.



Boost Tee setup

When using your wastegate actuator in conjunction with a Turbosmart Boost Tee, fit the controller between the boost pressure source and pressure nipple as shown. Ensure the arrow on the Boost Tee is pointing in the direction illustrated. Refer to the instructions supplied with your Boost Tee for further detail if necessary.

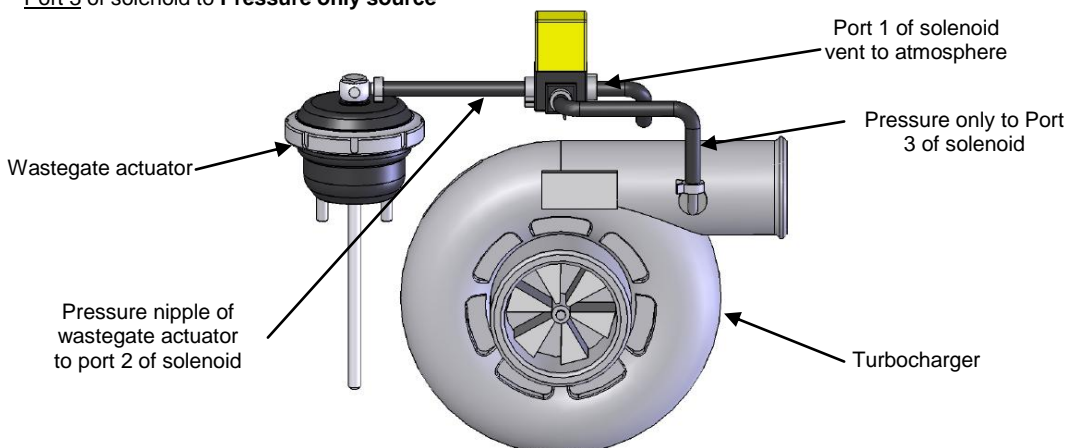


E-Boost connection methods

Turbosmart recommends using the wastegate actuator in conjunction with the Turbosmart E-Boost.

E-Boost connection Method

- Port 1 of solenoid vent to atmosphere
- Port 2 of solenoid to pressure nipple of wastegate actuator
- Port 3 of solenoid to **Pressure only source**



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 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.

Warranty as to Defects – Australian Consumer Law

- 1.1 We warrant for a period of twelve (12) months from the date of supply of the Goods and/or Services that if due to the fault of Turbosmart the Goods and/or Services (as the case may be) provided by Us are defective then We will, as determined by Us do one or more of the following:
 1. In the case of Goods; the replacement of the Goods, the supply of equivalent Goods, the repair of the Goods, the payment of the cost of replacing the Goods or of acquiring equivalent Goods, or the payment of having the Goods repaired; or
 2. In the case of Services; the supplying of the Services again, or the payment of the cost of having the Services supplied again.
- 1.2 You will only be entitled to the benefit of the warranty set out in this pledge, if You have not wholly or partially caused or contributed to the defect to the Goods by the misuse of the Goods or the failure to use the Goods in accordance with any specifications or instructions applicable to the Goods.
- 1.3 The warranty contained in this pledge is provided by Turbosmart Pty Limited of 32 Milton Street North, Ashfield NSW 2131, Australia, Telephone: +(61) 1300 735 506, Email: sales@turbosmart.com.au.
- 1.4 In order for a You to make a claim on the warranty You must within twelve (12) months of delivery of the Goods or Services give written notice to Us at the address specified in clause 1.3 above of the details of any defects in respect thereof. Any Goods referred to in a notice given pursuant to this clause should be left in the state and condition in which they were delivered until such time as We or Our duly authorised agent have inspected the Goods with such inspection to be carried out within a reasonable time after service of such notice. If the Goods are not so left in the state and condition in which they were delivered then the You shall be deemed to have accepted the Goods and the warranty contained in this pledge shall not apply.
- 1.5 You shall be responsible for all expenses associated with making a warranty claim under this pledge however if the Goods and/or Services are found to be defective due to Our fault then We shall reimburse You for any expenses incurred by You in making a warranty claim upon receiving evidence satisfactory to Turbosmart to support such expenditure.
- 1.6 The benefits to You given by the warranty contained in this pledge are in addition to other rights and remedies of You have under a law in relation to the Goods or Services to which the warranty relates. In accordance with the Australian Consumer Law We makes the following statement: "Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure."

EXCEPT AS PROVIDED BY LAW, 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

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