

Product Name: **IWG75**
 Product Description: Internal wastegate actuator for Mitsubishi EVO 6-9
 Product Number: TS-0505-2002



V3

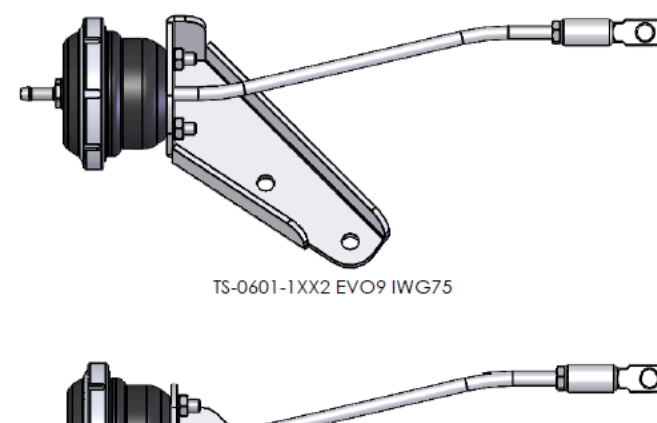
IMPORTANT NOTES ON YOUR IWG75 INTERNAL WASTEGATE ACTUATOR

- Contact 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 engine 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.

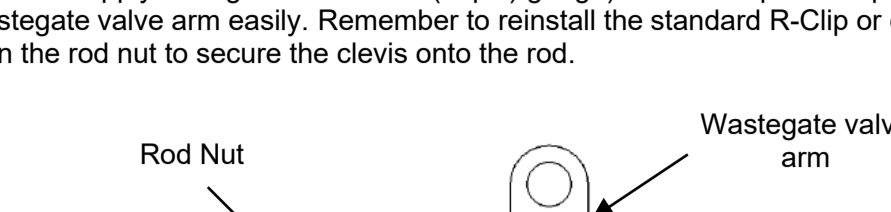
BASIC COMPONENTS OF YOUR IWG75 INTERNAL WASTEGATE ACTUATOR



MOUNTING YOUR IWG75

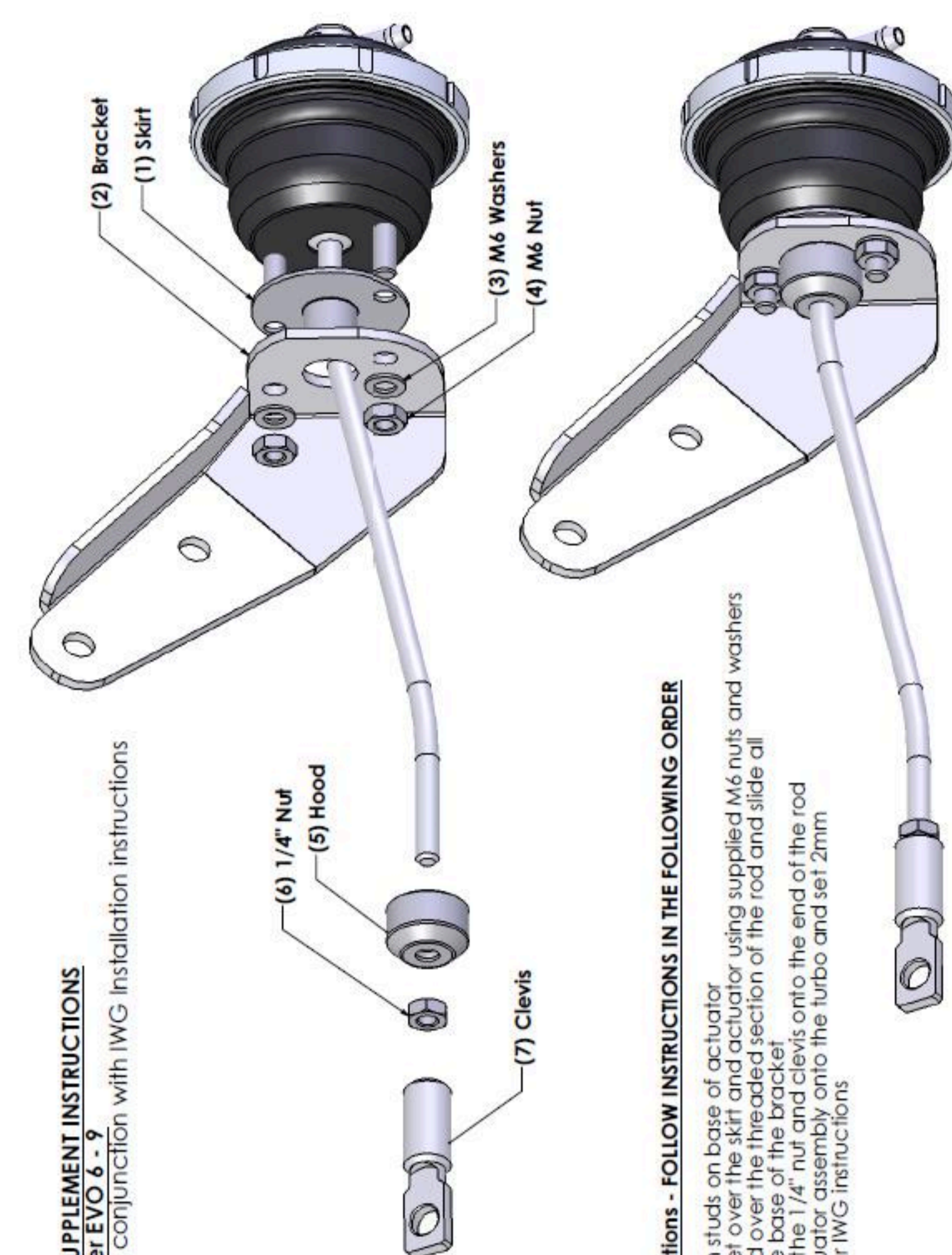
The Rod in the EVO range of IWG75 uses a 1/4 UNF thread which can be used with a variety of different clevises to fit the end of the rod to the wastegate valve.

When installing the clevis of the IWG75 onto the wastegate valve arm, make sure that there is 2mm of pre-load. Then use compressed air (do not apply air pressure supply no higher than 3 bar (40psi) gauge). This is required to pressurise the IWG75 so that the clevis can be locked onto the wastegate valve arm easily. Remember to reinstall the standard R/Cap or orica to secure the clevis to the wastegate valve arm. Then tighten the rod nut to secure the clevis onto the rod.



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MOUNTING HOOD KIT



INSTALLATION SUPPLEMENT INSTRUCTIONS WHICH MUST BE USED IN CONJUNCTION WITH IWG75 INSTALLATION INSTRUCTIONS

Secure bracket over the air and actuator using supplied 3x4 nuts and washers. The way (to the base of the bracket) into the end of the rod. Install the actuator assembly onto the turbo and set 2mm pre-load on per IWG75 instructions.

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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 boost controller.

IMPORTANT NOTES ON SETTING THE WASTEGATE ACTUATOR SPRING PRESSURE

A spring should only be used when necessary. The wastegate actuator allows for different combinations of spring pressures. All springs that are available with the wastegate actuator are shown in the table below. The spring 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 its 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 closest should be related to the boost pressure you require.

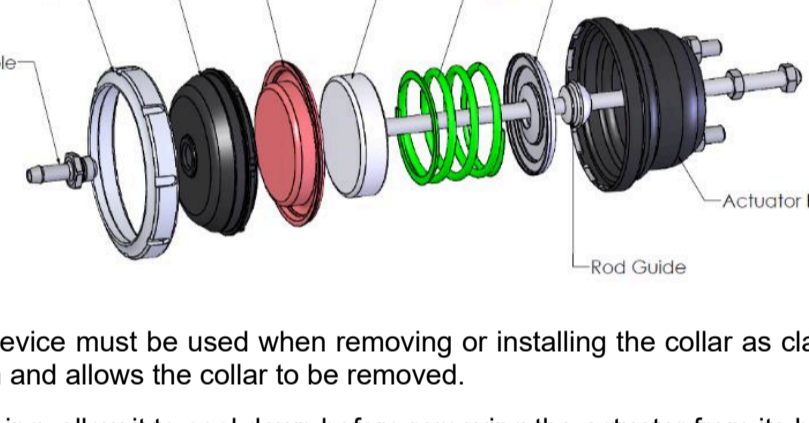
1. As a rough guide it is possible to double the base pressure when accompanying a Turbosmart IWG75 with a Turbosmart boost controller if the system is adequately sized. Results will vary depending on every application.
2. Check the spring combination in your IWG75. If more springs are required, they can be purchased from your Turbosmart dealer by using the TSxxxx part numbers shown below each spring.

Part number	3 PSI Inner	5 PSI Inner	7 PSI Middle	11 PSI Middle	10 PSI Outer	7 PSI Outer
TS-0505-2001	TS-0505-2002	TS-0505-2003	TS-0505-2004	TS-0505-2005	TS-0505-2006	
Colour	BRNBLK	BRNGRY	BRNPRP	BRNRED	BRNBLU	BRNPNK
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	20.69				
5	0.345	34.47				
7	0.483	48.26				
10	0.69	68.95				
11	0.76	75.94				
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	1.46	146				
22	1.517	151.7				
23	1.58	158				
24	1.655	165.5				
26	1.793	179.3				

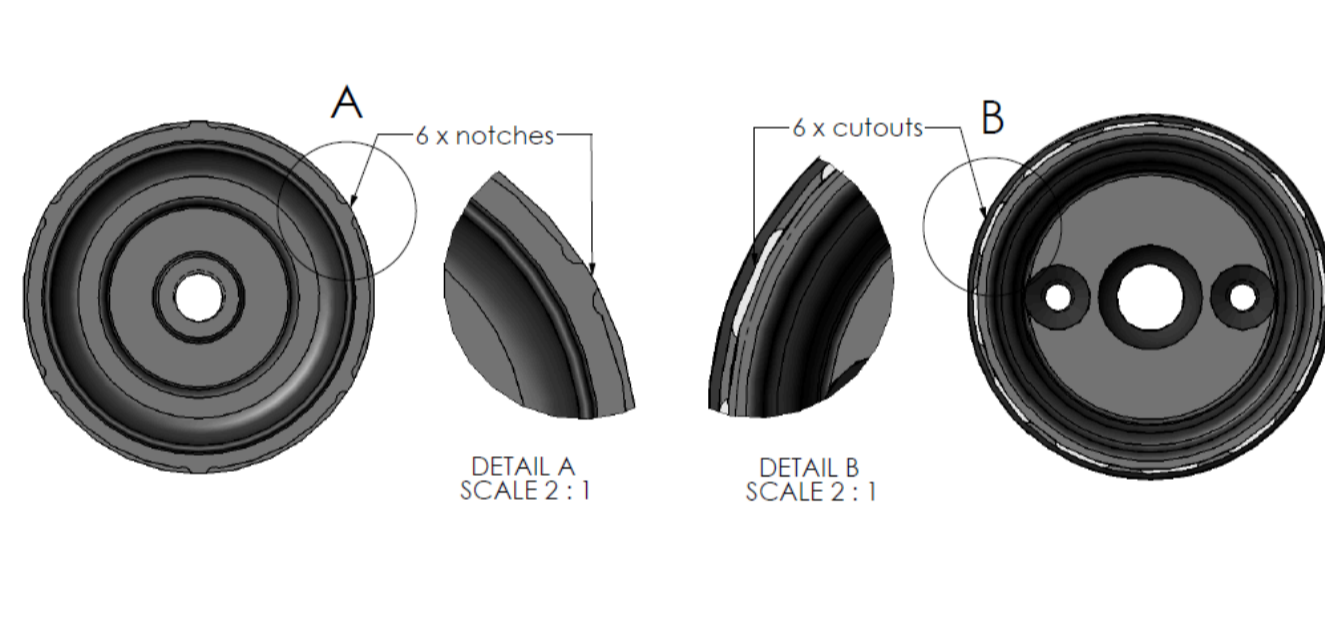
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Changing the springs

WARNING! Fitting a wastegate actuator with a higher spring pressure 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.



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 locking notches on the cap match the cut-outs in the lower housing. **When installing the clevis, make sure that there is 2mm worth of pre-load.**



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NOTES ON BOOST CONTROL HOOKUP

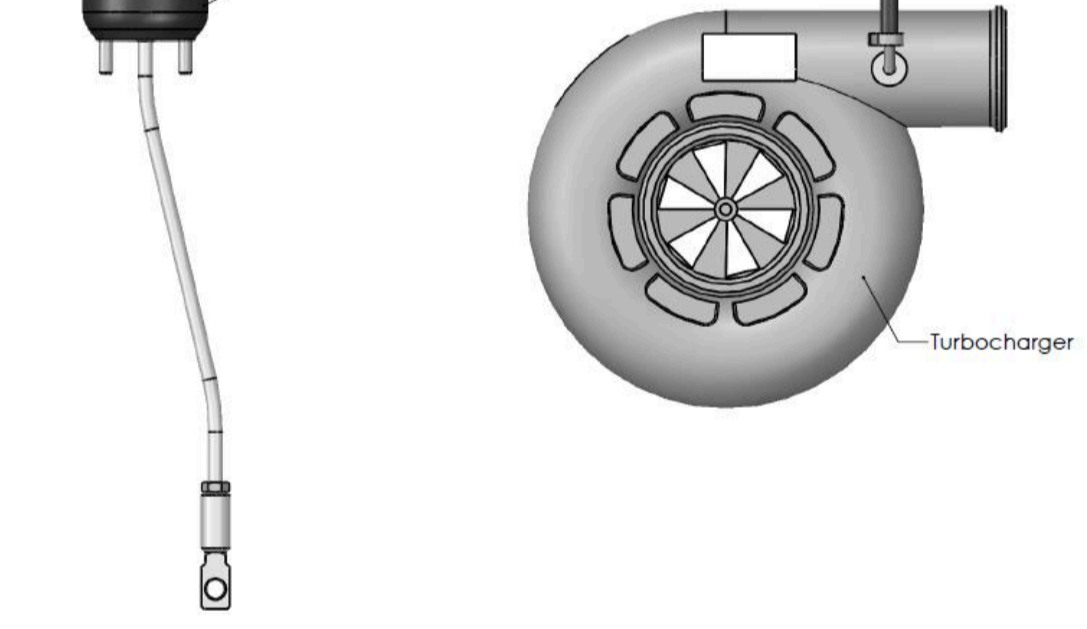
WARNING! Changing your connection method can cause a higher than expected increase in boost pressure. Turbosmart recommends adjusting your boost controller back to its minimum setting and measuring the new minimum boost pressure achieved by the new setup before increasing your boost again.

Changing Nipple

The Wastegate actuator will come prebuilt with the straight nipple pre-installed this may be swapped out for the swivel nipple. The swivel nipple will require a small cut of the blue Loctite on the threads. This is to be torqued to 8 Nm (2.55lb-ft). If swapping back to the straight nipple a small amount of Loctite is required and a torque setting of 8 Nm (5.50lb-ft) will be required to ensure a 1/4lb-ft.

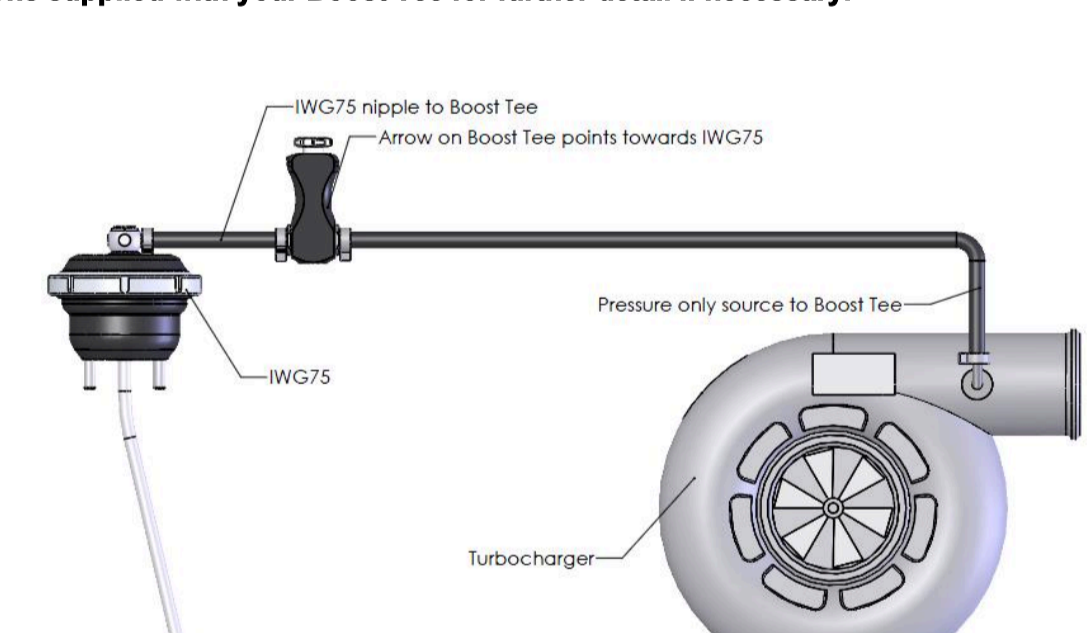
Basic setup

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



Boost Tee Setup

When using the 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.**



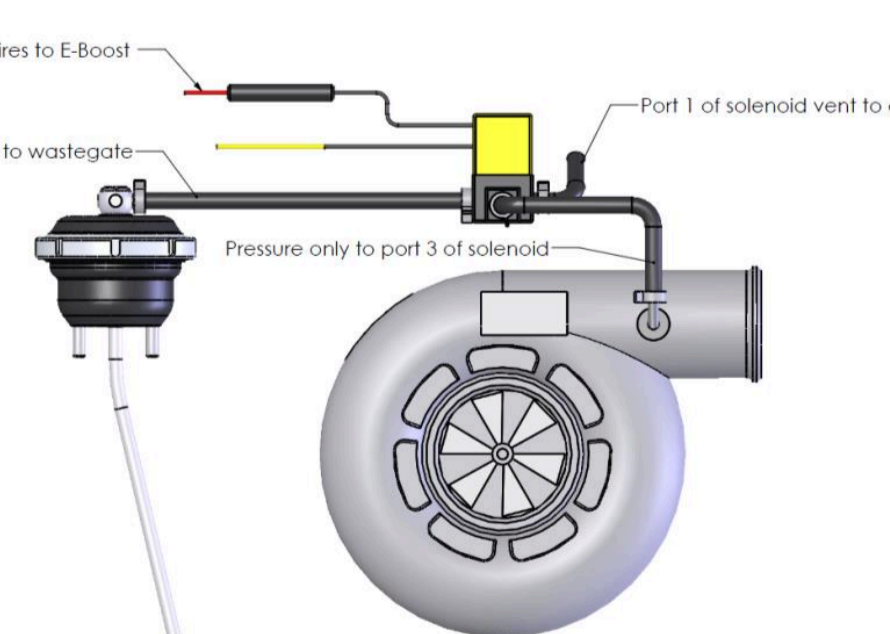
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E-Boost connection methods

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**



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The Turbosmart Pledge

TURBOSMART
ONE YEAR LIMITED WARRANTY

Turbosmart is a company based on Customer Satisfaction and Service. That is why all of our products go through registered test procedures before they are shipped and sold. Turbosmart stands behind its products for one year after purchase. Terms of Warranty, Service and Return are as stated on our website www.turbosmart.com and you will find it on the Overhaul page.

Limited Warranty, Turbosmart warrants its products to be free from defects in material and workmanship under normal use and 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 terms of purchase and any 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 rates).

Return: When returning a Turbosmart product for repair, it must be accompanied by a completed Customer Warranty Form and RMA number. To access the form please go to our website www.turbosmart.com and you will find it on the Overhaul page.

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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. Claims for the cost of the product or proof of purchase must be provided with any warranty claim and will be verified with the authorized reseller from which the product was purchased.

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Happy motoring!
The Turbosmart Team.

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