

IMPORTANT NOTES ON YOUR BPV

- Turbosmart accepts no responsibility whatsoever for incorrect installation of this product which is potentially hazardous and can cause serious engine damage or personal injury.
- The EM series BPV is designed for use as a factory replacement for a turbocharger that utilises an electronic diverter valve, this valve can be used on other applications if there is a control signal to actuate the BPV.
- Ensure the engine is cold prior to installation.
- For Standalone ECU configuration, ensure valve is not energised for indefinite periods of time as this can cause significant life detriment to the actuation solenoid.

RECOMMENDATIONS

- **Turbosmart recommends that your Bypass Valve (BPV) is fitted by an appropriately qualified technician**

KIT CONTENTS

Please check that the following items have been provided in your EM Series BPV packaging

Part	Description	Use
1	Turbosmart EM Series BPV with collar	Main unit
2	Turbosmart Sticker	

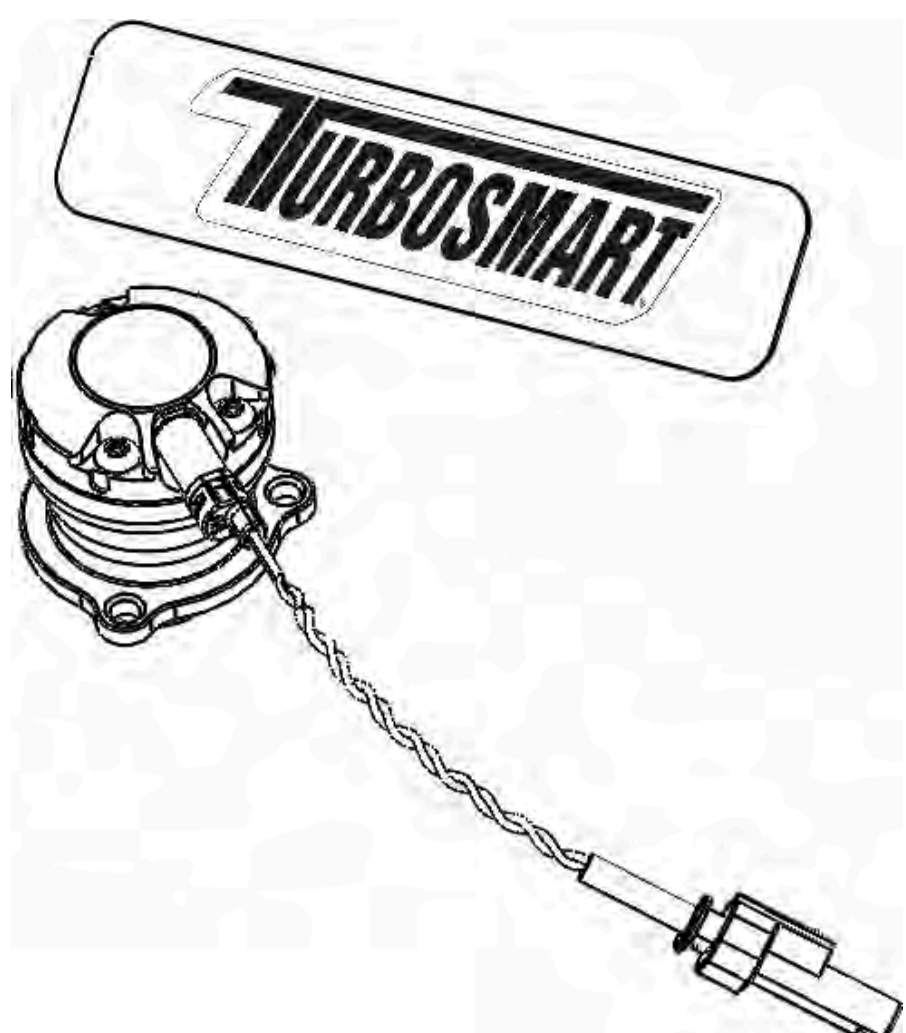


Figure 1 - Kit Contents

TOOLS REQUIRED (REQUIRED)

- E5 (FEMALE) TORX SOCKET
- EXTENSION
- RATCHET

ABOUT YOUR EM SERIES BPV

Turbosmart has developed a unique "plug and play" diverter valve (or bypass valve) upgrade for your vehicle that is currently equipped with an electronic diverter valve. While we have developed this unit to be as simple as possible for you to install, we have not compromised on performance. This unit will not leak under elevated boost pressures and will still provide you with rapid response ensuring that all the OEM calibration strategies are not interfered with, providing you with maximum boost performance while the advanced strategies of the OEM's are retained.

As the valve is completely controlled by the factory engine control unit, the factory diverter valve is almost silent, due to our construction, it is possible that your EM series will be much more audible. By being able to hear the unit actuate, occasionally the valve may be opening for a few seconds under the following events such as traction control, cruise control management, rapid gearchanges and varying throttle position changes, these are all coded as part of the torque management software in the OEM engine control unit, there is no adjustment available over these functions via our product. By hearing these events, it is not abnormal, it is completely normal for the EM series BPV to be considered "very active" as it is protecting your turbocharger from surge events or bypassing air for torque management purposes.

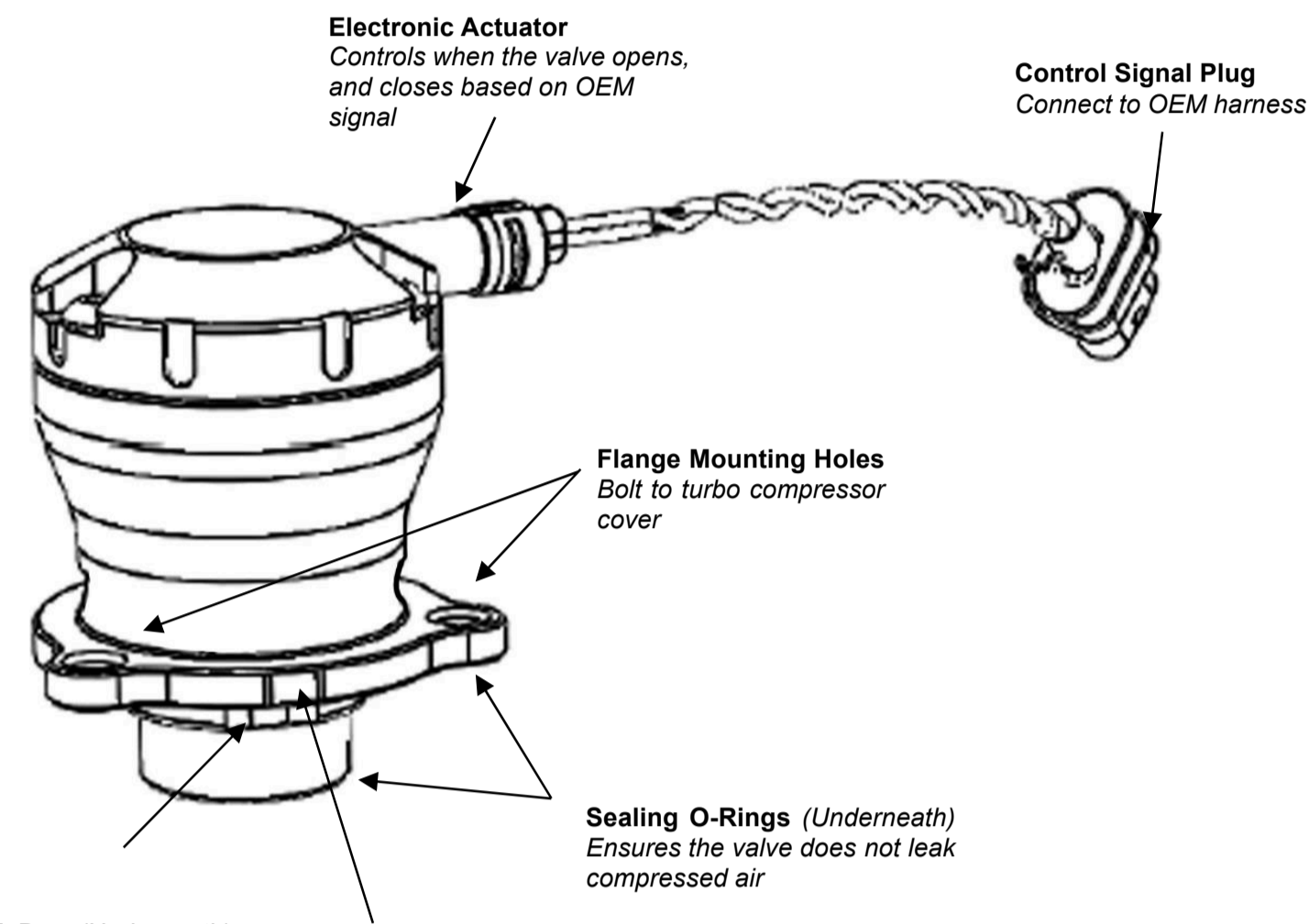


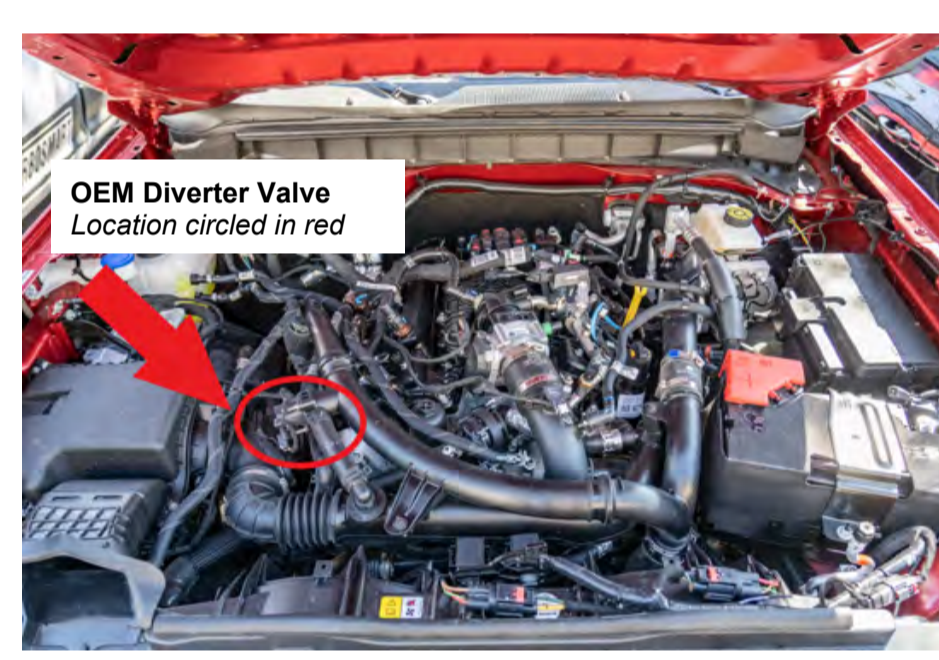
Figure 2 - EM Series BPV Overview
 (Figure for illustration purposes only, actual product may vary slightly)

FITTING YOUR EM SERIES BPV

1 Identify OEM diverter valve location

The factory diverter valve is mounted on the left side of the engine compartment (see photo below). The diverter valve is mounted with 3 E5 Torx studs.

CAUTION! Always exercise caution when working in engine compartment. Some components may be hot or operate intermittently. Always refer to your manufacturer's owner manual to ensure your safety is not compromised.



2 Remove the OEM diverter valve

Remove the electronic plug from the OEM div and unscrew the three screws in a counter direction. The valve will likely want to fall off the flange as you unscrew the last screw, ensure you the OEM valve as permanent damage may occur.



3 Mount your EM Series BPV

Install the included clockable flange onto the EM valve. Ensure the bolt holes align in the correct orientation, matching up with the factory flange hole pattern (image below). Slide the EM series BPV onto the mounting flange ensuring that the sealing O-rings are still in place on their respective grooves. Once the unit is inserted into the mounting flange, the valve can be rotated accordingly.

IMPORTANT! Be sure to mount your new valve with the solenoid & wiring facing in a direction where it does not interfere, rub, or pull on the wiring. Failure to do so could result in damage.



valve has been mounted and the screws tightened, connect the electrical plug into the OEM factory plug and secure the wiring safely away from a heat source.

Congratulations, your EM Series BPV is installed and ready for use. Double check all electrical connections and mounting screws

CHANGING THE ELECTRONIC ACTUATOR

1 Remove Your EM series BPV

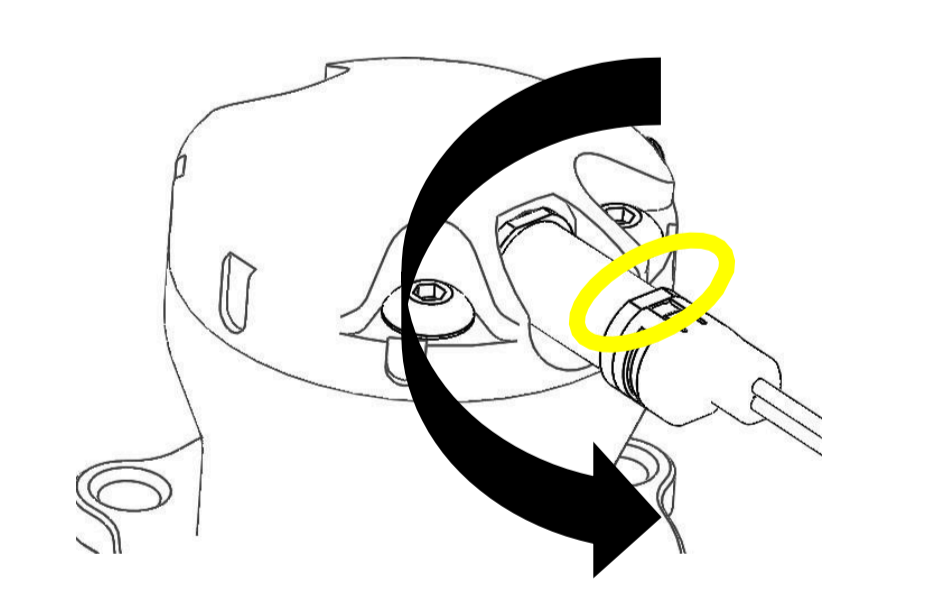
Remove the electronic plug from the EM series BPV and unscrew the flange screws in an anti-clockwise direction, completely remove and safely store the mounting screws. The valve will likely want to fall off the mounting flange as you unscrew the last screw, ensure you do not drop the valve as permanent damage may occur. Ensure O-Rings are kept with the valve for reinstallation.

NOTE! Cosmetic engine covers may be required to be removed prior to the assembly being visible.

CAUTION! The turbocharger assembly may require the vehicle to be raised on a hoist or jacked up and secured using vehicle jack stands, ensure your safety is not compromised.

2 Remove Electronic Actuator from your EM series BPV

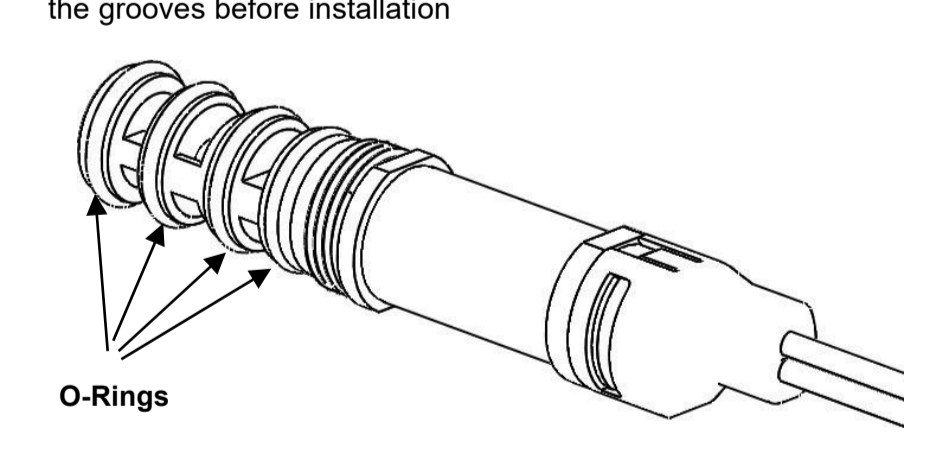
Using a 11mm open end wrench in the flat sides of the solenoid, undo the actuator in an anti-clockwise direction when viewed from the end. Ensure the wrench is placed on the metallic portion of the flats and not on the plastic cover.



Ensure the cavity is free from debris using avoiding shifting dirt into the passages.

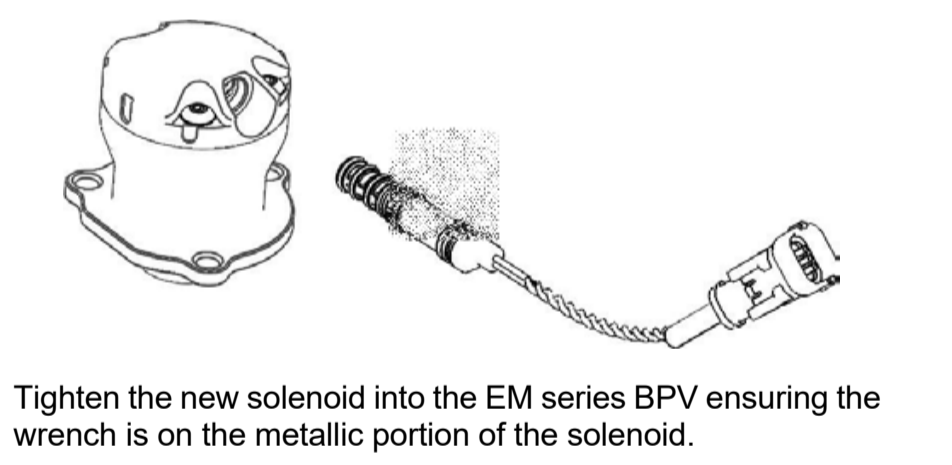
3 Install New Electronic Actuator into your EM Series BPV

Ensure the O-rings on your new actuator are correctly seated in the grooves before installation



CAUTION! Failure to ensure O-rings are seated correctly may lead to cutting of an O-Ring and unexpected results from the EM series BPV

Slowly insert the new actuator while turning in a clockwise direction to avoid tearing the O-rings



Tighten the new solenoid into the EM series BPV ensuring the wrench is on the metallic portion of the solenoid.

NOTE! Tightening the solenoid on the plastic cover may result in unreparable damage to the solenoid.

4 Remove Electronic Actuator from your EM series BPV

Slide the EM Series BPV into the mounting flange ensuring that the sealing O-rings are still in place on their respective grooves. Once the unit is inserted into the mounting flange, the valve can be rotated to line up the mounting flange bolt pattern against the OEM mounting flange pattern, finally, screw the mounting screws into place securing the BPV

CAUTION! Ensure the plumb back port is located correctly if there is a flat on your mounting flange facing the plumb back port on the turbocharger or diverter valve mounting assembly, this is to allow for effective flow from the plumb back port back into the recirculation path, failing to do this can cause compressor surge due to insufficient flow.

Once the valve has been mounted and the screws tightened, connect the electrical plug into the OEM factory plug and secure the wiring safely away from a heat source.

Congratulations, your EM Series BPV is installed and ready for use. Double check all electrical connections and mounting screws.

TROUBLE SHOOTING

- BPV not actuating - Confirm electrical signal plug is connected appropriately, as the plugs are new, some force may be required to click the plug into place.
- Valve is staying open - Confirm the valve has O-rings as they may have been dropped or lost during installation
- Boost pressure loss or lower than before - Confirm the valve has O-rings as they may have been dropped or lost during installation
- Failing the above, submit a technical request to tech@turbosmart.com.au with information of your engine configuration and photos of installation