Forge Motorsport 2.0T FSI Replacement Bypass Valve Kit

Please thoroughly read through and familiarize yourself with these instructions prior to beginning the installation process of any component. Please also ensure that the vehicle and engine have cooled down sufficiently to avoid risking skin burns or other injury.

Tools Required:

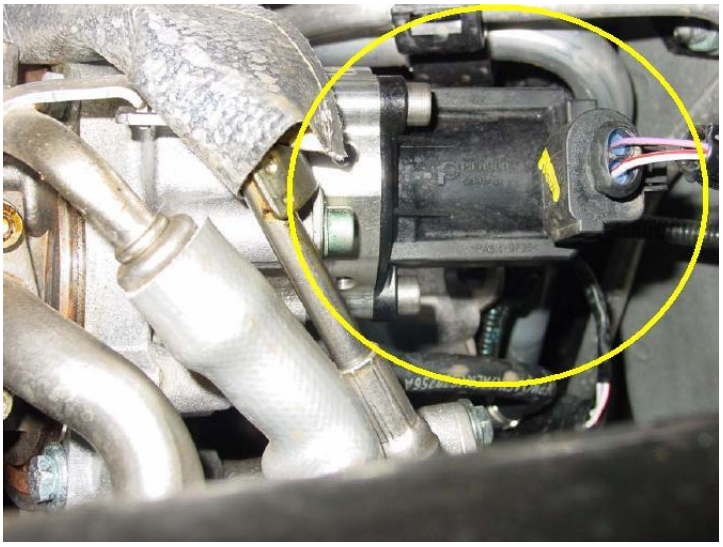
- **Vehicle jack and jack stands or access to a vehicle lift**
- **5mm Allen wrench or Allen socket with extension**
- **3mm Allen wrench**
- **1/8 Inch Allen Wrench**
- **Razor blade or Xacto knife to cut vacuum line**
- **Blue colored medium strength semi-permanent Loc-Tite thread locker**

Begin by safely lifting the vehicle and then locating the turbo and the OEM electronically controlled bypass valve/solenoid, which will be bolted to the compressor cover of the turbo.

- On the MK5 VW GTI and Jetta GLI, the B6 Passat, and the 8P Audi A3, the OEM valve will be bolted to the turbo located on the lower passenger side of the rear of the motor.

- On the Golf ED30 and R, Leon Cupra, Scirocco R and Audi S3 the valve is located at the top of the engine bay at the front directly behind the radiator

- On the B7 Audi A4, the OEM valve will be bolted to the turbo located on the passenger side of the motor towards the front underside of the car.



Once located, disconnect the electrical connector/plug for the valve and you can now use your 5mm Allen wrench or socket to remove the three 5mm Allen bolts which secure the valve to the turbo. *You must be sure to save the OEM valve bolts as they will be reused later.*

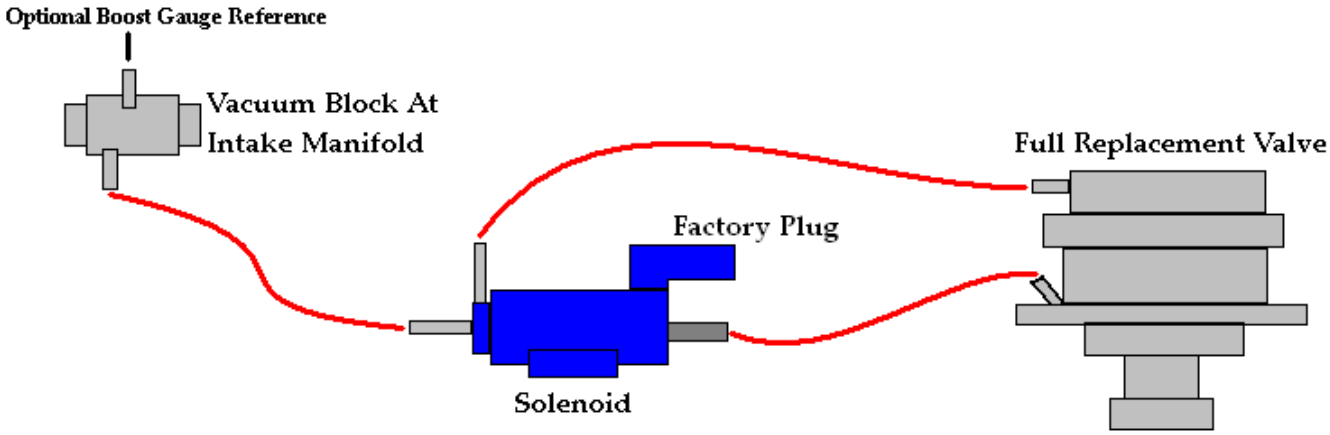
With the OEM valve removed from the turbo, you can now temporarily install the Forge replacement valve reusing the OEM bolts with them only hand-tightened. This initial installation is only temporary so as to find an appropriate mounting location for the solenoid and to find the appropriate lengths for the vacuum lines you will use on your car.

First, attach the solenoid to your choice of the supplied brackets using the two supplied 5mm Allen bolts. The solenoid can be mounted anywhere in the engine bay within reach of the solenoid wiring.

For the purpose of generating these instructions, we will mount the solenoid bracket using one of the bolt holes for the new Forge valve as shown below. You do not have to install the solenoid bracket in this manner on your application if you would prefer a different location.

With the new Forge valve loosely mounted to the turbo, and a location selected for the solenoid and it loosely mounted as well, measure to find appropriate lengths for the vacuum hose connections between the valve and the solenoid.

<u>Please use the plumbing diagram below for the appropriate locations to connect the vacuum lines. As stipulated in the plumbing diagram, the plumbing MUST be as shown or the valve may fail to operate properly or possibly at all.</u>

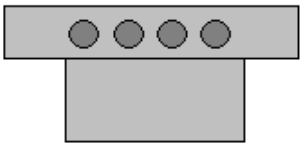


- The lower port on the main valve body must be referenced to the metal port on the solenoid.

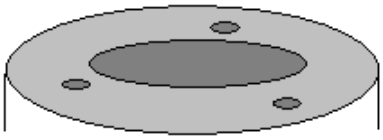
- The perpendicular port on the solenoid must be referenced back to the top of the valve cap.

- The linear port on the solenoid must be referenced to a port on the vacuum block which must be connected to the intake manifold.

- Routing of vacuum lines must be as shown. Any other routing configurations may result in failure of the valve to operate optimal or possibly at all.



Optional Standard Or Adjustable Valve Spacer For Sound



Valve Flange On Turbo

= Vacuum Line Routing

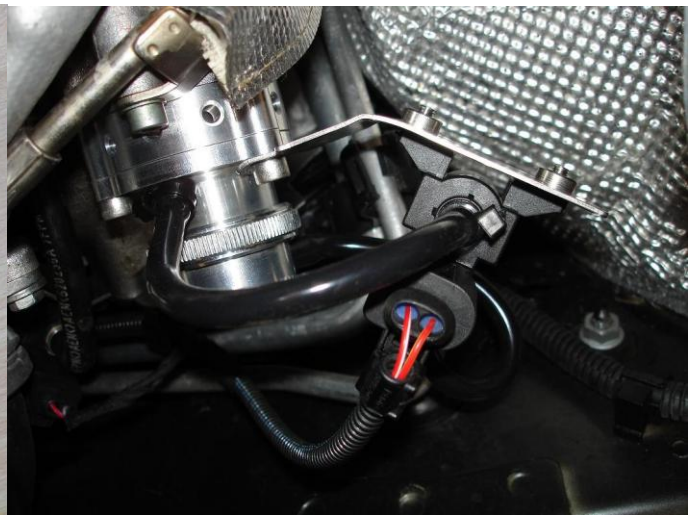
Once you have determined the length of vacuum line you will need between each connection of the valve and the respective connection on the solenoid, you can cut the appropriate lengths of line from the included spool. The lengths you cut and use will be based on where in the engine bay you have chosen to mount the solenoid.

You can now remove everything from the car to secure the lines between the valve and solenoid as shown above.

With the valve and solenoid plumbed together and the lines secured with the included zip ties, you can now permanently mount the valve and solenoid bracket.

Use your 5mm Allen wrench to bolt the new Forge valve to the turbo from where the OEM valve was removed, again, reusing the OEM valve bolts.

Securely clip the supplied wiring harness to the solenoid (it is a tight fit) before you mount the solenoid in the engine bay



With the valve securely mounted to the turbo and the solenoid bracket also secured at your desired location within the engine bay, you can reconnect the OEM wiring harness plug to the connection on the end of the Forge wiring harness.

We will now move on to the vacuum tap piece which will need to be connected to the intake manifold. The vacuum tap has 3 tap provisions and is supplied with multiple vacuum nipples and blanking plugs for you to select the number of provisions you will need on your application.

- **One nipple must be used at a minimum for valve operation. (largest port nipple only)**
- **A second nipple can be used for a boost gauge tap. (smallest port nipple only)**
- **A third provision is available and can be used for whatever it may be needed for on your application.**
- **All unused port provisions must be plugged with the supplied port plugs. (3mm Allen)**

<u>It is highly recommended that all vacuum nipples and port plugs are secured with blue colored, medium strength, semi-permanent Loc-Tite thread locker. If not used, the vacuum nipples and port plugs may back out, becoming lost and/or causing a vacuum/boost leak.</u>

To install the vacuum tap, you will need to unclip the PCV hose connection on the intake manifold. This can be found up and to the right of the throttle body while looking at the manifold. Pinch down on the two ribbed sections releasing the clips and pull the hose out of the manifold barb.

Next, you will slide the manifold tap over the barb until the edge of the lip can no longer be seen through the grooves in the tap. Once the lip is no longer visible, insert the black plastic C-clip to secure the tap in place. The o-ring seals are very tight and secure, so this may take a small bit of effort.

Once the manifold tap is held securely in place with the plastic C-clip, reattach the PCV hose to the barb at the end of the tap. If you are using some sort of PCV "fix" or "bypass", however, you will need to reconnect whatever components are supplied with that product. The barb on the end of our manifold tap is the same size and shape as the OEM manifold barb, so any hoses or caps that connect to the manifold barb will connect to the barb on our tap as well.

From the appropriate nipple on the manifold tap (largest port), run a length of vacuum tubing along the top of the motor, around the passenger side, following the fuel rail and fuel lines, down to the remaining linear port on the solenoid you mounted previously. (See plumbing diagram) Secure both ends of this line using two of the included zip ties. If any spare zip ties are available, use them to secure this vacuum line to the fuel rail and/or fuel lines.

Your valve installation is now complete, and you can now enjoy all of the benefits that a more reliable and performance orientated bypass valve has to offer. You should notice slightly quicker spool, less tapering, more responsive mid-range, and overall better valve and boost response.

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