



Forge Motorsport 2.0T FSI Replacement Bypass Valve Kit

Please thoroughly read through and familiarize yourself with these instructions in their entirety prior to beginning any part of 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. Work gloves and protective eyewear are recommended.

Tools Required:

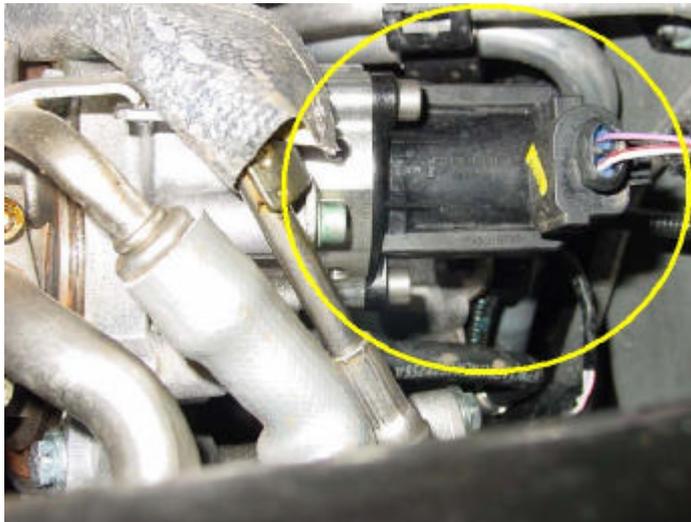
- Vehicle jack and jack stands or access to a vehicle lift
- 5mm Allen wrench or Allen socket with extension
- 3mm Allen wrench
- 1/8 Inch Allen Wrench
- Razor blade or Xacto knife - to cut vacuum line
- Blue colored medium strength semi-permanent Loc-Tite liquid thread locker

DO NOT, under any circumstances, work underneath the vehicle while using the spare tire jack to support it. This device is not designed for this purpose and using it in this manner may result in serious injury, or even death.

Begin by safely lifting and supporting 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, the Eos hardtop convertible, the Audi A3, and the MK2 Audi TT, the OEM valve will be bolted to the turbo located on the lower passenger side of the rear of the motor.

- 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 save the OEM valve bolts as they will be reused later. Please do not lose them.

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 between the valve and the solenoid on your car.

First, attach the solenoid to the supplied bracket using the two supplied 1/8" Allen bolts. The solenoid can be mounted anywhere in the engine bay within reach of the OEM valve's electrical connector.

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 mounting location.



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

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

Once you have determined the length of vacuum line you will need between each connection of the valve and its 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 as it may not be mounted as we have done so above.

You can now remove everything from the car to secure the lines between the valve and solenoid as shown above. While doing so, if you so choose to reposition the vacuum nipple on the valve cap, **please be sure to tighten the valve cap as securely as possible** as any leaks between the cap and the valve body may prevent the valve from operating properly or possibly at all.

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.

On transverse engine applications, please be sure that all components, including flexible vacuum lines, are kept away from any moving components within the engine bay, specifically the passenger side axle which is located near the valve mounting location.

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.



As mentioned above, for the purpose of generating these instructions, we will be mounting the solenoid bracket using one of the bolt holes for the new Forge valve. The mounting hole of the solenoid bracket can be placed over a mounting hole on the valve itself (positioned away from all other parts within the engine bay) and an OEM valve bolt can be used to secure the solenoid bracket on top of the Forge valve mounting hole.

You may choose to locate the solenoid bracket elsewhere in the engine bay within reach of the wiring harness connector, so please mount it securely and be sure you have cut the vacuum line to length to suit your chosen solenoid mounting location.

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 wiring harness plug to the new solenoid connection.

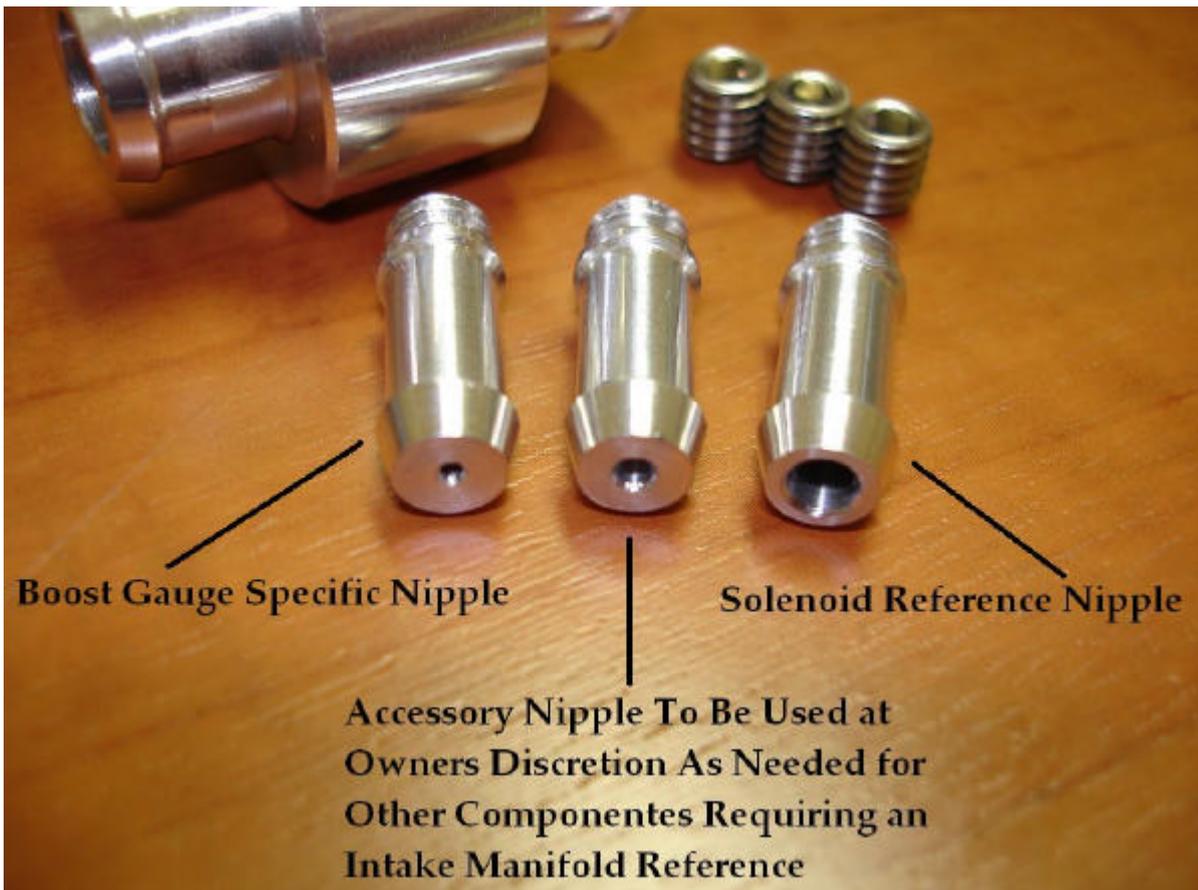
You may choose to discard your OEM bypass valve if it has failed (torn diaphragm) or you may choose to save it to possibly reuse later if the diaphragm is still in tact and the valve is still functioning properly.

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 on it and it 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)
- 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. (meth injection kit?)
- All unused port provisions must be plugged with the supplied port plugs. (3mm Allen)

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

When threading the nipples themselves into the body of the vacuum tap, you may wish to use a small section of the supplied vacuum tubing to slip over the vacuum nipple to get a better “grip” on it when tightening it.





To install the vacuum tap, you must first remove the engine cover. On all transverse engine applications, MK5, B6 Passat, Eos, Audi A3, TT, etc., remove the two OEM one-time use clamps from the small hose connecting the small 3-way check valve to the side of the intake manifold. You may choose to save this length of OEM hose for possibly returning the car to stock later.

This location is also the standard location for most boost gauge reference installations.

With the OEM hose removed, you will need to use the include section of 10mm vacuum hose to mount the vacuum tap between the manifold and 3-way check valve. You will need to cut 2 pieces from the 10mm hose to the length you individually require. 1 or 2 barbs on the check valve connection may also need to be cut off if lateral space is limited.



On a longitudinal engine application, specifically just the B7 chassis Audi A4, you will need to find the rubber blanking cap located on the intake manifold at the back side of the motor close to the firewall. Remove the single one time use clamp securing it, and remove the cap as well, saving it to be swapped onto the end of the vacuum tap as shown below.

On the A4, the other end of the vacuum tap is not requires to connect to anything, thus this blanking cap is reused to cover the unused connection.

Cut a section of the included 10mm vacuum tubing to enough of a length as you see fit to attach the vacuum tap with the cap on one end to the same connection on the intake manifold from where you removed this cap. Use the included zip ties or your own supplied hose clamps to secure the 10mm vacuum line and the OEM rubber cap.



This installation will be identical to that of a transverse engine application except that one end of the vacuum tap is capped off instead of connected to a check valve with another piece of vacuum hose.



From the appropriate nipple on the vacuum block (largest port), run a length of vacuum tubing along the top of the motor, around the passenger side, 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. Use additional ports on the vacuum tap as needed.



Please see the very next page of these instructions if you plan to install a Forge Motorsport Standard or Adjustable version of the Valve Spacer product in conjunction with this full replacement valve.

With all of the following steps accomplished, the valve installation should be complete and ready for use:

- Vacuum nipple on valve cap positioned to desired location with the valve cap re-tightened securely preventing any leaks.
Check When Complete _____
- Valve securely mounted to turbo using OEM valve bolts (or spacer bolts if installing with optional valve spacer).
Check When Complete _____
- Solenoid securely mounted to bracket in the engine bay in reach of the OEM electrical connector.
Check When Complete _____
- Vacuum tap component securely mounted to intake manifold reference with appropriate number of ports and plugs.
Check When Complete _____
- Vacuum lines between valve and solenoid securely connected as per plumbing diagram.
Check When Complete _____
- Vacuum line between vacuum tap and solenoid securely connected as per diagram.
Check When Complete _____
- Vacuum line between vacuum tap and boost gauge securely connected if your application so requires it.
Check When Complete _____

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

As always, with any questions or concerns about this product, please feel free to contact your local or preferred Forge Motorsport dealer, or you may always contact us directly.

Forge Motorsport US – (407)-447-5363 / sales@forgemotorsport.com
Forge Motorsport UK – (+ 44) 1 452 380 999 / info@forgemotorsport.co.uk



Valve Installation With Standard Or Adjustable Valve Spacers

If you have already, or also plan to purchase either of the separately available valve “Spacers” to use in conjunction with the full replacement bypass valve, this addendum to the instructions will outline specific steps for the installation of these products together.

- If you will be installing the full replacement valve as a standalone product, or if you will be adding the Standard fully atmospheric version of the valve spacer for atmospheric valve sound, you will need to use the standard silicone o-ring that comes pre-installed at the base of the valve as shown below:



- If you will be using the 3 Position Adjustable version of the spacer in conjunction with the full replacement valve, you will be required to use the separately included slightly larger, stepped o-ring in the base of the replacement valve as shown below:



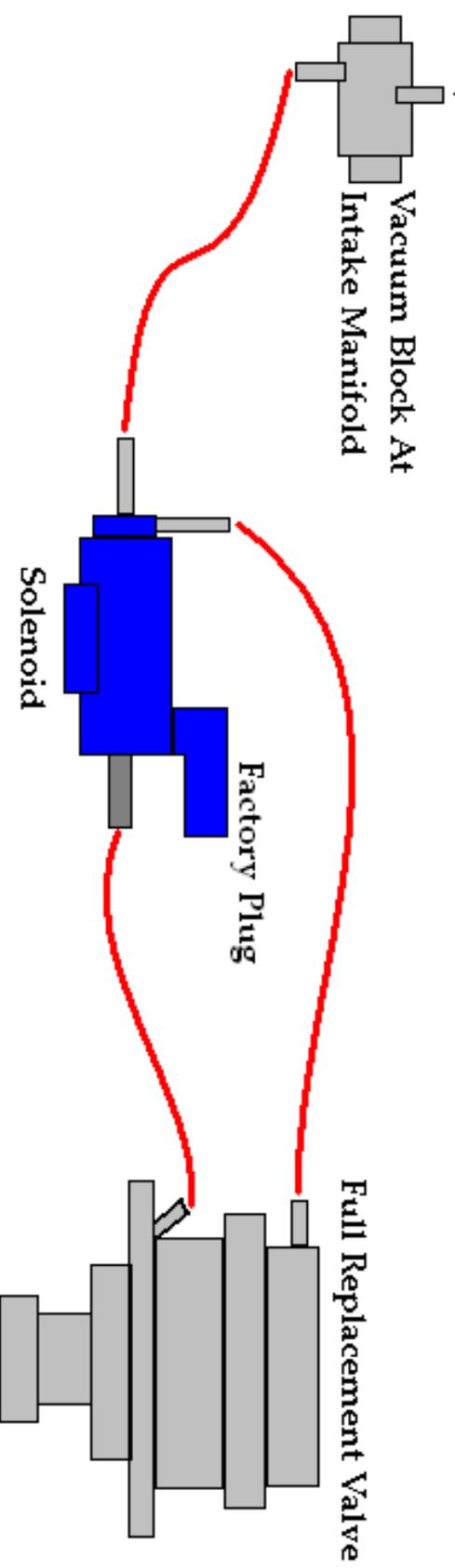
Also, when installing the larger stepped o-ring into the base of the valve for use with the adjustable valve spacer, please apply a small amount of the supplied synthetic bearing grease to the bottom of the o-ring prior to inserting the valve into the adjustable spacer for installation. This will aid in allowing smooth adjustments of the spacer without removal of the valve from the car to make adjustments.

The grease may also be used to periodically lubricate the full replacement valve if you find it necessary for your car.

When installing the valve with either version of the spacer, you will need to use the longer bolts supplied with each version of the spacer instead of using the OEM valve bolts.

* Note: The adjustable version of the spacer is NOT compatible with the B7 chassis Audi A4, however the standard spacer is, indeed, compatible.

Optional Boost Gauge Reference

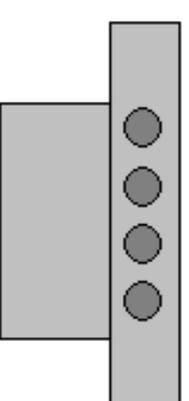


- The lower port on the main valve body must be referenced to the metal port on the solenoid.

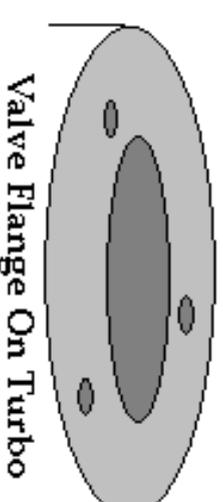
- The perpendicular port on the solenoid must be referenced back to the top of the valve cap.

- 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



 = Vacuum Line Routing