



## INSTALLATION GUIDE

**2005-08 VW/Audi FSI 2.0T  
K04 Turbocharger Kit  
NO NOISE PIPE**

**FOR RACING USE ONLY**

Congratulations on your purchase of the AWE Tuning Turbocharger Kit for the 2005-08 VW and Audi FSI 2.0T.

Exquisite build quality with industry leading performance distinguishes this Turbocharger Kit from all others.

**Contact us with any installation questions.**

215-658-1670

[AWE-Tuning.com](http://AWE-Tuning.com)

[performance@AWE-Tuning.com](mailto:performance@AWE-Tuning.com)

## PARTS LIST

- 1 AWE Tuning K04 turbo
- 1 AWE Tuning diverter valve housing
- 1 AWE compressor outlet pipe
- 1 AWE Tuning turbo inlet coupler
- 1 1 inch silicone hose with protection sleeve
- 1 1 inch 90 degree fitting

### Gaskets:

- 1 Manifold to head gasket
- 1 Turbo to down pipe gasket
- 1 Oil return line to turbo gasket
- 1 Oil return line to oil pan gasket
- 1 PCV line to turbo gasket
- 4 Oil feed line crush washer
- 6 Coolant line crush washer

### Fasteners:

- 4 Turbo to down pipe stud
- 4 Turbo to down pipe locking nut
- 5 Manifold upper locking nut
- 6 M6x1 allen head bolt

### Hose Clamps and Couplers:

- 2 2.50" T-bolt clamp
- 1 1" ID silicone coupler
- 1 2" ID silicone coupler
- 1 70-90 hose clamp
- 1 50-70 hose clamp
- 5 25-40 hose clamp

### Optional:

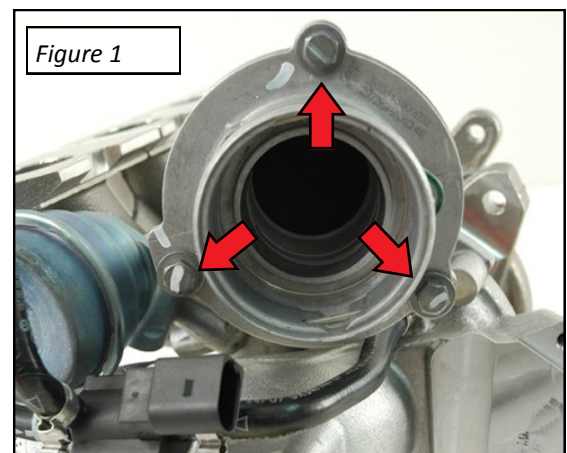
- 4 S3 Fuel Injector
- 4 Fuel injector install kit

## Step 1

Consult the factory manual for stock turbo removal. Removal of passenger side axle greatly eases removal and installation of the K04 turbo.

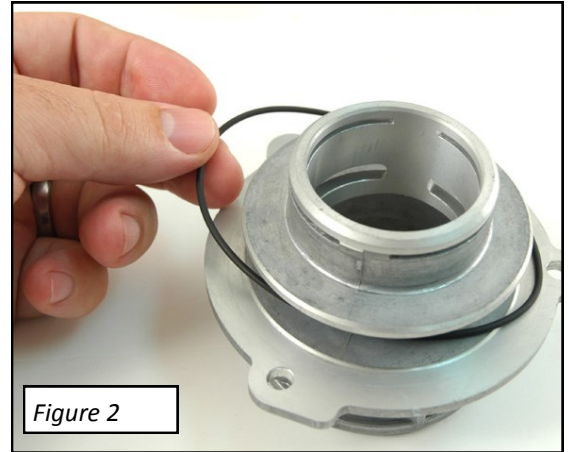
## Step 2

Before installing the AWE Tuning K04 turbo, remove the factory installed outlet silencer by removing the three bolts at arrows in **Figure 1** and then pulling the silencer free.



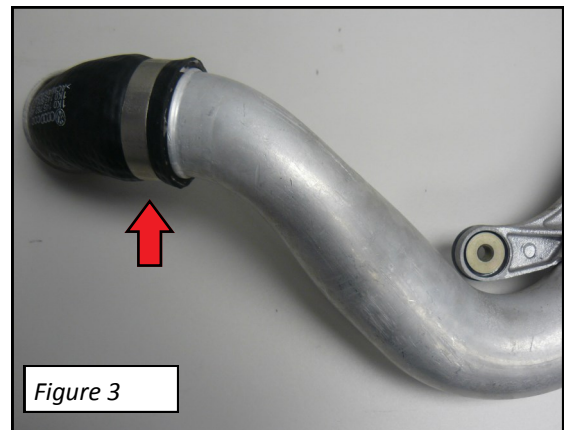
### Step 3

After silencer removal, place rubber o-ring aside for reassembly.



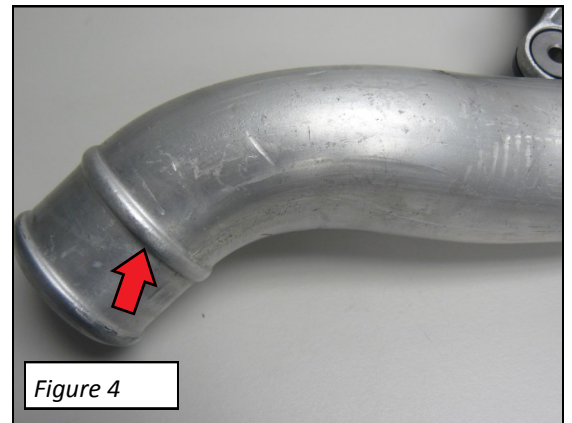
### Step 4

The stock turbo compressor outlet pipe needs to be modified to meet up with the AWE Tuning K04 turbo outlet. Carefully cut the metal clamp and remove the OEM silicone coupler shown at arrow in **Figure 3**.



### Step 5

Using a hack saw, cut the end off the outlet pipe just to the outside of the second bead roll (at arrow in **Figure 4**).



Cut the pipe so that it matches the pipe pictured in **Figure 5**.

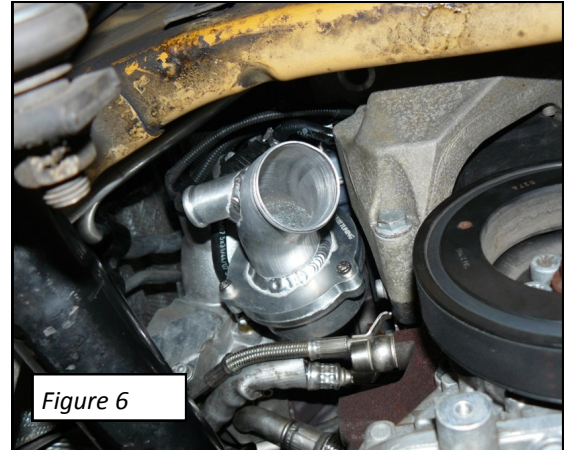


## Step 6

Install the K04 turbo using the enclosed new gaskets and fasteners.

## Step 7

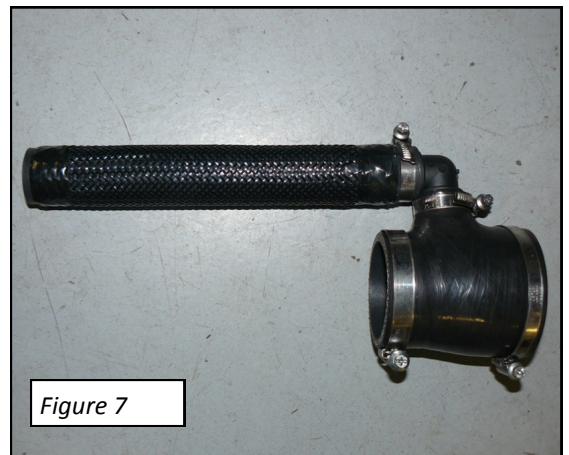
Install the turbo outlet adapter as shown with the small 1" port facing the back of the engine. Use the enclosed M6x1 allen head bolts to fasten the turbo outlet pipe to the turbo, reusing the O-ring removed in **Step 3**.



## Step 8

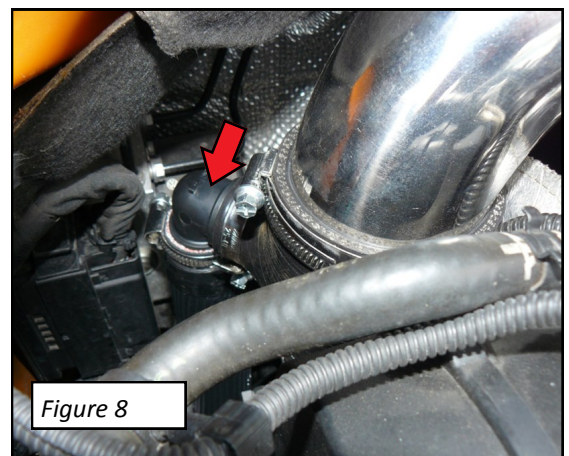
With the supplied 25-40 clamps install the supplied 90 degree fitting into the turbo inlet coupler. The shorter end of the 90 degree fitting goes into the turbo inlet coupler port.

Next install the 8.375" long straight silicone hose onto the other end of the fitting. Slide the supplied abrasion braid over the straight section of hose allowing for space at the ends for hose clamps. Secure the ends of the braid with some electrical tape.



## Step 9

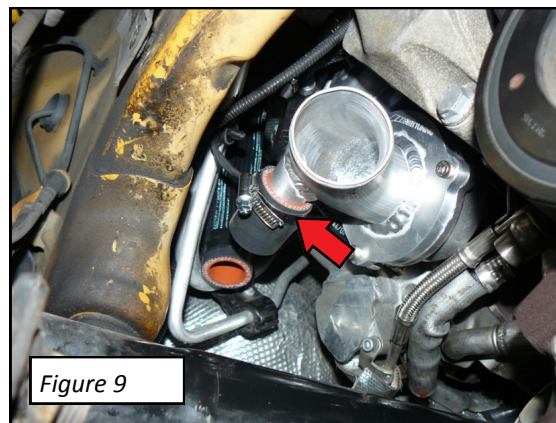
Loosely install the included turbo inlet coupler as shown in Figure using the included 50-70 hose clamp. The 90 degree fitting, at arrow in **Figure 8**, should point toward the ABS controller with the long silicone hose pointing down toward the compressor outlet.





## Step 10

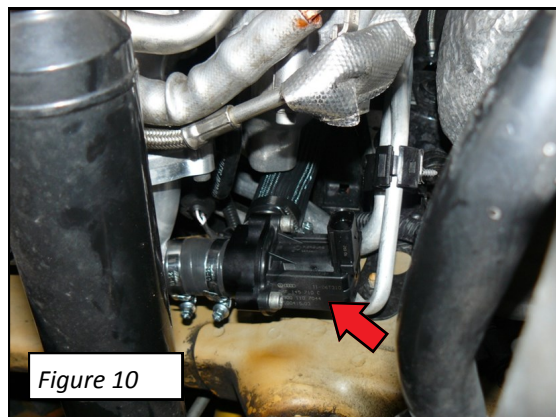
Install the included short 1" silicone coupler onto the previously installed turbo outlet adapter by using a supplied 25-40 hose clamp, at arrow in **Figure 9**.



## Step 11

Install the diverter valve, at arrow in **Figure 10**, into the included housing with the supplied M6x1 allen head bolts. Attach it to the short 1" coupler and straight silicone hose using the included 25-40 hose clamps as shown, making sure the valve is pointing toward the back of the engine.

When using the stock diverter valve, make sure it is not touching the AC lines when installed. Fully tighten the 50-70 hose clamp on the turbo inlet hose.



## Step 12

Attach the enclosed 2" silicone coupler to the cut end of the turbo compressor outlet pipe, using the enclosed t-bolt clamp.

Use the remaining t-bolt clamp to fasten the coupler to the AWE Tuning turbo outlet adapter. Install S3 fuel injectors and HPFP at this time, if purchased.

## Step 13

After the K04 turbocharger has been bolted to cylinder head and the oil feed and return lines have been re-connected, replace oil filter and refill engine with fresh oil. Because of extreme oil operating temps, use synthetic engine oil only.

## Step 14

Before restarting the engine for the first time, the engine, oil lines and turbocharger must be primed with oil. To perform this procedure, first locate the engine ECU and disconnect the multipin connectors from the ECU. Next turn the ignition to the RUN position and crank the starter motor in several 4-5 second bursts. (Your oil pump will circulate oil, however no spark or fuel will be introduced into the engine.) Next turn the ignition key to the OFF/LOCK position and reconnect the multipin connectors to the ECU. **Specific GIAC software is to be used with this kit, and it should be installed at this point.**

After initial start-up, allow the vehicle to idle for several minutes. Do not rev the motor at this time. Shut down the engine and check the oil level. Top off if necessary.

## OPERATION

K04 users should always bring their vehicle to a complete stop and allow the engine to idle prior to shutting down the engine. Recommended idle times vary from 1 minute after mild driving, to 5 minutes after aggressive driving. The idle-down procedure circulates fresh oil and coolant through the turbocharger, allowing it to cool gradually, prior to shutdown.

**Cool down is required to be performed at the end of every hard driving session. Otherwise, the rapid heat build-up from high boost/high rpm operation can cause the turbine shaft to soften, and allow the turbine head to droop. The result is an imbalance that ultimately leads to turbine shaft failure. Improper cool down in the most common cause of turbo failure and is grounds for warranty denial.**

**Aftermarket boost control devices, electronic or mechanical, are not to be used with this kit. All boost control is done by fuel injection computer, and excessive boost without fuel injection control can lead to engine and turbo damage. Use of these devices is grounds for warranty denial.**

## MAINTENANCE

1. Engine oil and filter should be replaced every 3000 miles. Do not change engine oil without installing a new oil filter. Check your engine oil level frequently. The turbocharger shaft spins over 10 times faster than your engine's crankshaft, so an adequate oil supply is critical.
2. Periodically inspect the turbocharger to determine if the wastegate rod and hardware has been bent or damaged. The K04 wastegate rod comes from the factory with a locking clip over the adjustment nuts. DO NOT attempt to recalibrate the wastegate by moving the adjustment nuts. Any tampering with the wastegate can dramatically alter the boost characteristic of the turbocharger and lead to serious engine damage.
3. In the event that any air intake hoses are removed or disconnected during any service, thoroughly inspect every hose and remove any foreign objects or debris that may have fallen or collected inside the hose(s). Any loose objects inside the air intake tract may be sucked into the turbocharger upon start up, seriously damaging the compressor blades.



Any questions or comments,  
please do not hesitate to contact us:

1-888-565-2257  
AWE-Tuning.com  
performance@AWE-Tuning.com



AWE Tuning  
199 Precision Drive  
Horsham, PA 19044  
215-658-1670  
performance@AWE-Tuning.com

Thank you for choosing AWE Tuning as your performance automotive parts supplier. Please remember that a performance car is only as strong as its weakest link. Therefore, it is vital that you maintain your vehicle to factory specifications.

**By installing or using the purchased product, the Consumer accepts this warranty and any specific Manufacturer warranties enclosed.**

## Limited Warranty

The following warranty is valid only in the United States.

The Manufacturer's full warranty applies to all products sold.

Secor Ltd. (AWE Tuning) warrants to the original retail purchaser (Consumer) this product (VW/Audi FSI Turbocharger Kit) against manufacturing defects for ONE YEAR.

Upon verification of warranty coverage, AWE Tuning will repair or replace the defective product at their discretion, without charge. This is the only remedy the Consumer has for any loss or damage, however arising, due to nonconformity in or defect of the product. This warranty does not cover consequential damage, loss of time or revenues, inconvenience, loss of use of vehicle, damage to the vehicle or components, shipping costs, or other incidental or indirect damage.

All warranties are void if the product was not installed by a certified auto mechanic, improperly serviced, modified, or used in a way not intended by the Manufacturer. Use of product in Motorsports or Racing conditions is grounds for warranty denial. Motorsports and Racing is an inherently abusive operational condition, and it is impossible to warranty for this type of usage.

The Consumer is responsible for ensuring that the product is installed in a safe and proper manner, and should cease usage of the product immediately if an unsafe or improper condition is noted. If an unsafe or improper condition is noted, the Consumer should then immediately contact the facility where the product was installed or AWE Tuning directly.

Please contact the original place of purchase for any warranty claims or explanations of this document.