



2.0T FSI High Pressure Fuel Pump Upgrade

2005-> 2.0T VW Golf/Jetta, Audi A3

Parts List:

- 1 A.W.E. Tuning Pump Piston
- 1 A.W.E. Tuning Pump Cylinder
- 1 Retainer Button Removal Tool
- 1 Retainer Button Installation Tool
- 1 Retainer Button Installation Support
- 1 Dropper bottle of assembly oil
- 2 Cotton Swab
- 5 Cleaning Wipe

Tool List:

- 1 18mm or 19mm deep socket (depending on pump)
- 1 Torque wrench
- 1 Non-marring mallet
- 1 Vise
- 1 Scan tool

After Receiving the A.W.E. Tuning High Pressure Fuel Pump Upgrade:

ATTENTION: The A.W.E. Tuning pump piston and cylinder are extremely fragile items.

Avoid handling them with bare hands or exposing them to air or moisture for long periods of time. Please keep the pump and piston inside their shipping bags until time of install.

Before Installing the A.W.E. Tuning High Pressure Fuel Pump Upgrade:

Removal of a High Pressure Fuel Pump from the vehicle requires specialty tools and extreme care.

Due to known issues with the VW and Audi high pressure fuel pump system, it is mandatory that the fuel injection ECU of your vehicle be scanned before installation of the A.W.E. Tuning fuel pump parts.

If any of the following fault codes are present, **STOP, and do not install the A.W.E. Tuning fuel pump parts.** The following codes are related to the wear issues as outlined in the factory Technical Service Bulletin 150702 and installation of pump parts will void the A.W.E. Tuning warranty:

- P2293 – Fuel pressure regulator malfunction
- P0087 – Fuel rail / system pressure too low
- P1093 – Fuel trim 2 bank 1 malfunction
- P3089 – Signal line for fuel pump electronics: electrical malfunction

Further, a physical inspection of the related pump parts is required before installation of the A.W.E. Tuning components. Details on how to inspect the relevant parts are outlined in Technical Service Bulletin 150702. A copy of this TSB is contained within this document. Failure to review this campaign may result in engine and pump damage.

If upon removal of the factory pump and inspection of the camshaft and follower reveals conditions similar to those in the following TSB, **STOP, and do not install the A.W.E. Tuning fuel pump parts.** The images in the following factory TSB represent wear issues and installation of pump parts will void the A.W.E. Tuning warranty.

Registering the Warranty on Your A.W.E. Tuning High Pressure Fuel Pump Upgrade:

Once you have determined that your vehicle has no pre-existing issues related to the high pressure fuel pump system, you can then register your warranty online via our secure server:

http://awe-tuning.com/register_hpfp.cfm



Technical Service Bulletin

MIL on (DTC P2293 in ECM)

15 07 02 June 18, 2007 2013147/4. Supersedes Technical Service Bulletin Group 21 number 06-04 dated Dec. 11, 2006 due to addition of description of one of the main conditions that can result in the storage of P2293.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
A3	2006 – 2007	All	2.0TFSI Engine
A4	2005 – 2007	All	
A4 Cabriolet	2007	All	

Condition

MIL on. The following DTC is stored in the ECM data memory:

- P2293 (Fuel pressure regulator 2 performance)

at times in combination with:

- P0087 (Rail fuel pressure too low)
- P1093 (Fuel trim 2, bank 1 malfunction)

Technical Background

Excessive wear of the cam lobe (in the intake camshaft) that drives the high pressure fuel pump. This limits the maximum pump piston lift, causing fuel rail pressure fluctuations. The wear on the cam lobe also leads to wear in the base of the high pressure fuel pump cam follower.

Production Solution

Increased surface hardening of the camshaft lobe for the high pressure fuel pump.

Improved intake camshafts have part number 06F 109 101 B.

Service

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Technical Service Bulletin

1. Remove the high pressure fuel pump and visually inspect:
 - The base surface of the cam follower (Figure 1, Point 6) in contact with the camshaft lobe.
 - The tip of the high pressure fuel pump plunger.
 - The high pressure fuel pump camshaft lobe.

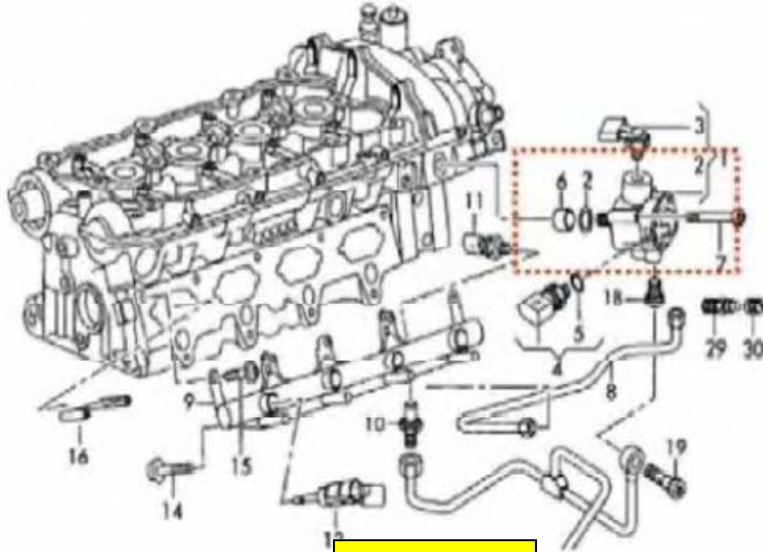


Figure 1. The high pressure fuel pump.

Center of follower is worn down and is not flat

2. If the base of the cam follower looks like Figure 2, C or Figure 2, D, no excessive wear is present. The cam follower and camshaft should not be replaced.



Figure 2. Cam followers in various stages of wear: holed base (A), excessive wear (B), normal wear (C), and new part (D).

3. If the cam follower base surface is excessively worn so that its surface is concave (Figure 2, B) or altogether missing (Figure 2, A), or if the high pressure fuel pump camshaft lobe shows excessive wear (Figure 3), replace the intake camshaft and the cam follower.



Figure 3. Excessive wear on the lobe for high pressure fuel pump in the intake camshaft.

Technical Service Bulletin

4. The high pressure fuel pump must be replaced only if the tip of the plunger shows excessive wear (Figure 4). This condition is only possible if the cam follower base is holed and the plunger tip has come in direct contact with the camshaft lobe.
5. If no excessive wear can be found in the high pressure fuel pump cam follower or intake camshaft lobe, or if the damage is found in camshafts with part number 06F 100 101 B, please create a Technical Assistance Contact Ticket under the Concern Type Engine and Engine Electronics in ElsaWeb. Attach the complete diagnostic log to the contact, and call the Audi Technical Assistance Center (Audi Helpline) for further assistance.



Figure 4. Excessive wear marks on the tip of the high pressure fuel pump plunger.

Warranty

When procedure applies to vehicles within the New Vehicle Limited Warranty, use the following:	
Claim Type:	W2
Part Identifier:	1505
Damage Code:	1505 18 002 2
Labor Operations:	See ElsaWeb for appropriate labor operation
Diagnostic Time:	Diagnostic time reimbursement follows guidelines printed in Section 2.2 of the <i>Audi Warranty Policies and Procedures Manual</i>
Claim Comment:	As per TSB #2013147/4
All warranty claims submitted for payment must be in accordance with the <i>Audi Warranty Policies and Procedures Manual</i> . Claims are subject to review or audit by Audi Warranty.	

Required Parts and Tools

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Technical Service Bulletin

Part Number	Part Description	Quantity
06F 109 101 B	Intake Camshaft	1
06D 109 309 C	Cam Follower	1

All parts and service references provided in this TSB are subject to change and/or removal. Always check with your Parts Department and service manuals for the latest information.

Installation Instructions:

Removal of a High Pressure Fuel Pump from the vehicle requires specialty tools and extreme care.

Please note that this install sheet covers only the installation of the A.W.E. Tuning parts once the factory pump is removed from the vehicle. If you are uncomfortable with conducting this install on your own, please contact a professional.

Please see our website for a detailed installation video:

http://www.awe-tuning.com/pages/videos/videos_AWE_FSI_HPFP.cfm

Step 1:

Remove pump from car and place in vise with piston facing upwards.

Step 2:

With an 18mm or 19mm deep socket (depending on pump build date), unthread the pump internals from the pump housing, including the pump cylinder.

Step 3:

Remove the pump cap from the internals assembly, and place the rest of the assembly upside down in the A.W.E. Tuning Button Removal Tool. With a non-marring mallet, gently tap the end of the piston to release the retainer button. Remove the spring and retainer plate from the piston after releasing the button.

Step 4:

Dab one of the enclosed swabs in the assembly oil and thoroughly clean the inside of the pump body and the pump cap. With the remaining clean swab, lubricate the A.W.E. Tuning cylinder with fresh oil, and with the dropper dab some oil on the A.W.E. Tuning piston and the o-ring on the pump cap.

Step 5:

Assembly with the A.W.E. Tuning piston and cylinder is the reverse of removal. When re-installing the button, make sure the beveled edge is facing away from the spring.

Slip the Retainer Button Installation tool between the retainer plate and the spring. Place the retainer button, plate, spring and piston assembly in the A.W.E. Tuning Support Tool and tap the button into place. Remove the Retainer Button Installation Tool and ensure there is no play between the retainer plate and end of piston.

Thread the internals back into the pump body and torque to 40 ftlbs. The pump is now ready for re-installation back into the vehicle.

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

1-888-565-2257

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INNOVATION | DESIGN | COMPETITION

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Thank you for choosing A.W.E. 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 following warranty is not valid until activated via registration on our website:

http://awe-tuning.com/register_hpfp.cfm

Once activated, Secor Ltd. (A.W.E. Tuning) warrants to the original retail purchaser (Consumer) this product (FSI High Pressure Fuel Pump Upgrade) against defects for One Year from original date of purchase

Special Warranty Note: As with all products, A.W.E. Tuning cannot warranty related or unrelated components. Due to the existing known defects in factory parts that are related to the use of this A.W.E. Tuning product, it is imperative that the user checks the condition of the factory parts before and during use of the A.W.E. Tuning products. Failure to monitor or remedy any items wearing at an abnormal rate can result in catastrophic engine damage, which is not covered in any way by this warranty document.

Upon verification of warranty coverage, A.W.E. 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, 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 A.W.E. Tuning directly.

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