

Technical Bulletin



Model(s)	Year	Eng. Code	Trans. Code	VIN Range From	VIN Range To
Golf, Jetta, Jetta Wagon	1999 - 2003	1.9L (ALH)	All	All	All
New Beetle	1998 - 2003	1.9L (ALH)	All	All	All

Condition

21 07 04 April 23, 2007 2012043 Supersedes T. B. Group 21 number 06 01 dated Dec. 5, 2006 due to change in actuator hose clamp part number and updated labor operation number.

Customer Complains of Poor Acceleration - Insufficient Turbo Boost

Vehicle may lack engine power or exhibit reduced boost from the turbocharger. MIL may be illuminated with over-boost or under-boost faults set in the ECM.

Technical Background

Due to the mounting location of the Vacuum Actuator on the turbocharger, it is possible that over time, with the accumulation of moisture and/or road debris, the vacuum actuator may seize or stick causing faults to occur.

Production Solution

No production change required.

Service

Replace vacuum actuator on turbocharger with new design Part No. 038198716.



Tip:

Part number(s) are for reference only. Always see Parts Dept. for the latest part(s) information.



Technical Bulletin



Inspection of turbine



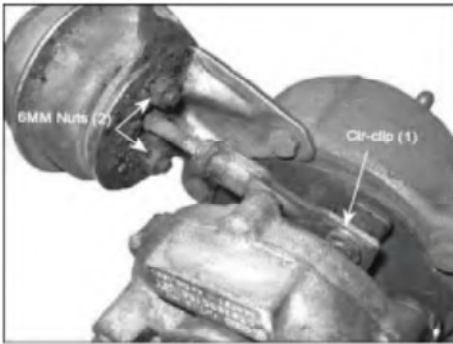
- Check turbocharger (intake side) and turbine for visible damage or contact with housing.
- Check for high resistance when rotating turbine impeller.

 **Tip:**

Some lateral and horizontal movement of the compressor wheel/impeller is normal and does not indicate a failed or failing turbocharger.

If high resistance is felt or damage is present, replace turbocharger.

Inspection of variable vane linkage



- Obtain special tool VAS 6122.
- Plug all openings of turbo charger to prevent entry of dirt.
- Remove snap-ring / Cir-clip (1) and 6mm nuts (2).
- Remove actuator.

 **Tip:**

A 10MM, 6 point, box end wrench is recommended for removal of actuator retaining nuts due to possible corrosion of nuts and/or studs. This will prevent the rounding of the nuts

- Clean surface of bracket with sand paper until corrosion free.

 **Tip:**

Ensure smooth and free movement of the rotary vane lever / linkage once actuator is removed from turbocharger assembly. If the rotary vane lever does not operate properly, replace turbocharger.



Technical Bulletin



Installing new actuator



- Adjust the new actuator to same length as original, as shown above, to obtain initial adjustment.

! Note: If actuator has seized in the compressed position a rough thread count at the adjuster sleeve locknut should be used for initial adjustment before installing.



i Tip:

The vent hole on the actuator should be covered by the shield and always face the exhaust side of the turbocharger.



- Install new actuator tighten nuts to 6 N.m (53 in. lbs), install new snap-ring / cir-clip.

i Tip:

Ensure snap-ring / Cir-clip retaining actuator actuation arm is properly engaged in rotary vane lever.

Technical Bulletin



Calibrating



Note:

Calibrating turbocharger other than recommended DOES NOT enhance vehicle performance and may lead to premature failure of turbocharger or other related powertrain components.

Obtain VAG 1397 A, vacuum pump, feeler gauge, and 3 mm vacuum line.

- With a 0.05 mm (.002 in.) feeler gauge inserted between the stop and the vane linkage, apply minus 600 mbar \pm 20 mbar (17-18.5 in.) of vacuum to actuator.
- At 17 in. the feeler gauge should move freely. Resistance should be felt on the feeler gauge at 17.5 and at 18 in. of vacuum the vane linkage should retain the feeler gauge
- At 18 in. of vacuum the arm shall contact the stop and the feeler gauge should not be able to be inserted.
- Apply -600 mb (18 in.) of vacuum to actuator.
- Check clearance between linkage and stop.
- Adjust clearance to 0.05 mm (.002 in.) @ 600 \pm 20 mbar (18 in.) vacuum.

Tip:

If VAG 1397 A is not available -600 mbar is equal to 60Kpa, or 18 inches of mercury.

The vacuum pump should hold the specified vacuum during measurement and final adjustments. If vacuum pump will no hold vacuum properly, repair or replace the tool.



Technical Bulletin



- Tighten lock nut to 6 Nm (53 in. lbs.) while using an 11 mm wrench to counter-hold the adjustment arm . This prevents the adjusting rod from twisting during the tightening of the nut.



- Re-check clearance measurement between linkage and stop, mark lock nut and actuator mounting nuts with Threadlocker.
- Inspect vacuum line from turbocharger for proper routing and condition.
 - Reinstall vacuum line on actuator and install new clamp, Part No. 311 133 343A.
 - Road test vehicle to ensure repair.

Warranty

When procedure applies to vehicles within the New Vehicle Limited Warranty, use the following:	
Claim Type:	W2, PT
Part Identifier:	2130
Damage Code:	2130 17 ___ * 1
Labor Operation:	21305599 = 100TU
Diagnostic Time:	No Additional Diagnostic Time Allowed
Claim Comment: Input "As per Technical Bulletin 2012043" in comment section of Warranty Claim.	

Technical Bulletin



Required Parts and Tools

Description	Part No:	Quantity
Wastegate Vacuum Actuator	038 198 716	1
Actuator Hose Clamp	311 133 343A	1
3mm vacuum line	-	1

Description	Tool No:	Quantity
Engine Bung Set	VAS 6122	1
Vacuum Pump	VAG 1397A	1

Additional Information

All part and service references provided in this Technical Bulletin are subject to change and/or removal. Always check with your Parts Dept. and Repair Manuals for the latest information.