

Technical Bulletin



Model(s)	Year	Eng. Code	Trans. Code	VIN Range From	VIN Range To
(B5) Passat, Passat Wagon	1998 – 2004	(1.8L) AEB, ATW, AUG, AWM	All	All	All

Condition

17 09 06 May 18, 2009 **2013233** Supersedes T. B. Group 17 number 09-03 dated Mar. 20, 2009 due to updated warranty table.

Engine Oil Pressure Too Low, Light is ON, Engine Flush

Technical Background

The low engine oil pressure condition may be caused by a restriction of the oil pump suction line strainer.

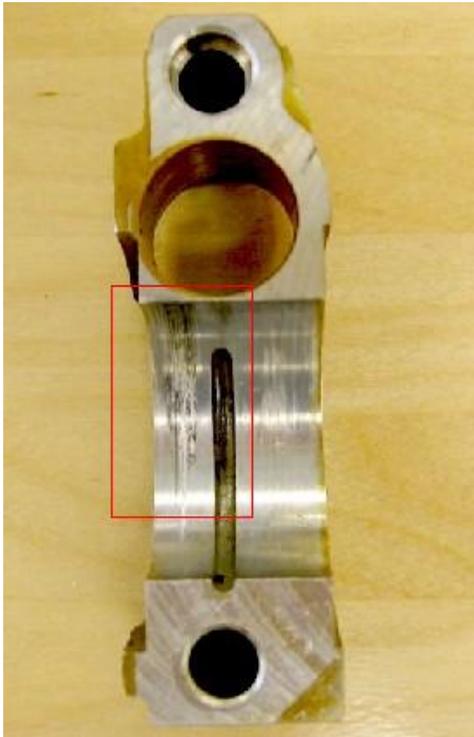
Production Solution

Not applicable.

Service

Preliminary diagnosis reveals an actual low engine oil pressure condition (engine oil level is okay and oil pressure switch, instrument cluster, wiring harness, etc. are okay).

- Place the vehicle in "service position".
- Remove cylinder head cover.
- Remove plastic oil deflectors from the top of intake camshaft.
- Inspect all camshaft bearings (remove only one cap at a time) for damage.



If one or more camshaft bearings are damaged, the complete engine must be replaced as described in “**Engine Replacement Guidelines**” section.

If **ALL** camshaft bearings are okay (**NOT** damaged), the engine must be repaired as described in “**Engine Repair Guidelines**” section.

Engine Repair Guidelines:

This section applies if **NONE** of the camshaft bearings are damaged:

- Inspect camshaft chain tensioner-adjuster for visible damage on pads in contact with chain. Replace tensioner-adjuster if pads are damaged.
- Drain engine oil and remove oil pan.
- Visually inspect engine oil pump suction line strainer for obstructions (use background lighting if necessary).

If engine oil pump suction line strainer is **NOT** obstructed:

- Further diagnosis is required to determine root cause of low engine oil pressure. Repair as necessary (always refer to ElsaWeb repair manual for additional information).

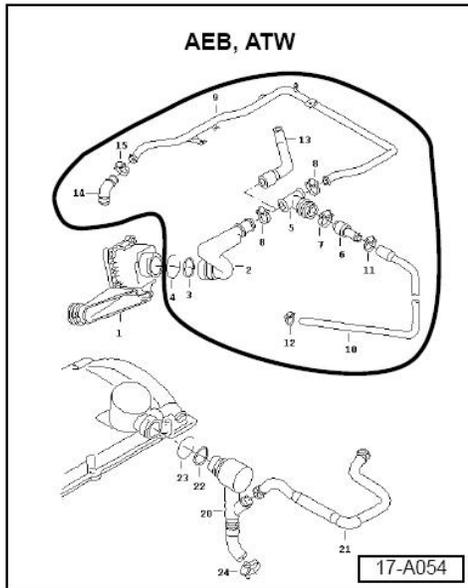
If engine oil pump suction line strainer is obstructed by solid particles:

- Replace oil pump suction line or oil pump on AEB and ATW engines only (the engine cleaner will not remove any of the obstructions).
- Install oil pan following ElsaWeb repair manual procedures. Oil pan **WILL NOT** be removed again.
- Clean intake camshaft plastic oil deflectors (previously removed).
- Install cylinder head cover **without oil deflectors**. The cylinder head cover must later be removed again.

Technical Bulletin

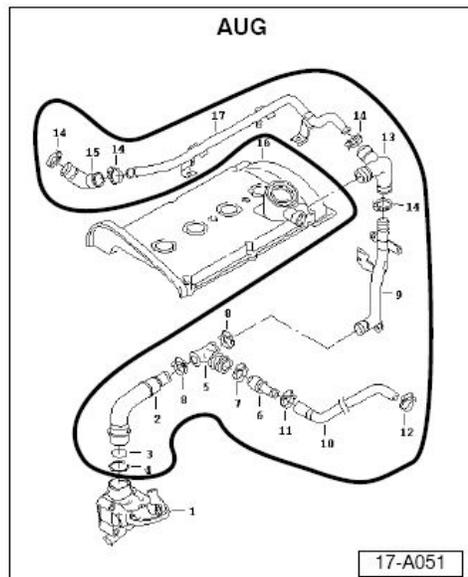


- Replace oil feed line of the turbocharger.
- Visually inspect interior of oil filter holder through crankcase ventilation system line opening (at top of holder). If excessive oil deposits are found, clean as necessary.



For Engine code AEB, ATW

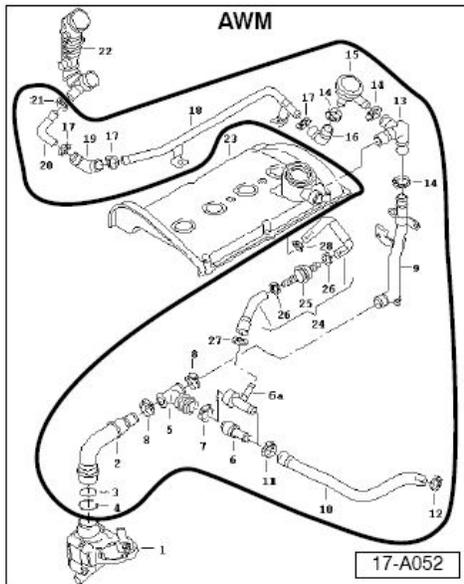
- Replace crankcase ventilation system hoses and pressure regulating valve depending on engine code (see circled items and compare to latest Parts Dept. illustration).
- Replace O-rings, clamps and miscellaneous fasteners only as necessary.



For Engine code AUG

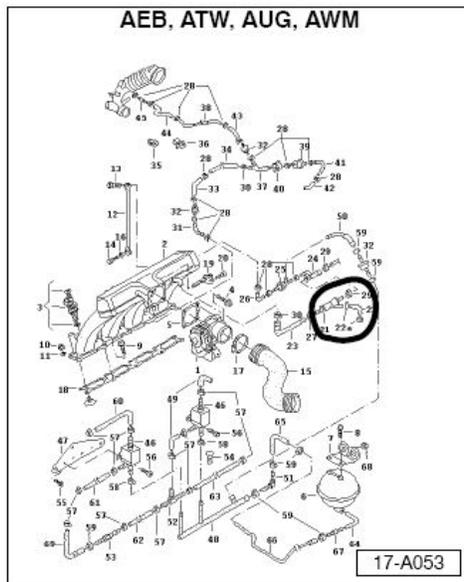
- Replace crankcase ventilation system hoses, pipes and pressure regulating valve depending on engine code (see circled items and compare to latest Parts Dept. illustration).
- Replace O-rings, clamps and miscellaneous fasteners only as necessary.

Technical Bulletin



For Engine code AWM

- Replace crankcase ventilation system hoses, pipes and pressure regulating valve depending on engine code (see circled items and compare to latest Parts Dept. illustration).
- Replace O-rings, clamps and miscellaneous fasteners only as necessary.



For All Vehicles

- Inspect and replace brake booster suction jet pump (circled) if clogged.
- Replace O-rings, clamps and miscellaneous fasteners only as necessary.

To remove coked oil deposits, engine is flushed using 6 quarts of engine cleaner.

Technical Bulletin



- Remove oil filter.
- Install oil filter adapter on oil filter holder.
- Connect oil lines from external oil filter assembly to oil filter adapter.



- Insert a new oil filter element in canister of external oil filter assembly.
- Partially fill (approximately 1 quart) canister of external oil filter assembly with engine cleaner, **DO NOT** overfill.
- Attach filled canister to external oil filter assembly and tighten securely.

Technical Bulletin



- Hook external oil filter assembly to engine hood latch.
- Pour remaining engine cleaner (total amount 6 quarts) into engine through oil filler cap.

 **Note:**

For the following steps, the engine must be able to run in neutral on the hoist for an extended period of time, but it is not yet necessary to restore the vehicle to full driving conditions. Ensure engine and transmission are adequately supported.

With vehicle on hoist, transmission in neutral and wheels raised off the ground:

- Start engine and verify on the pressure gauge of the external oil filter assembly that appropriate engine oil pressure is obtained (see ElsaWeb Repair Manual for specifications).

 **Note:**

Ensure adequate ventilation to engine and unrestricted airflow to coolant radiator.

- Run engine in neutral at approximately 3000 RPM for 30 minutes (tool VAG 1788/10 can be used for this purpose).

 **Note:**

DO NOT leave engine running unattended! Monitor engine oil pressure throughout procedure. If engine oil pressure drops, check the oil pump suction line strainer for obstructions.

- After 30 minutes, switch ignition **OFF**.
- While engine is still hot, immediately drain engine cleaner from engine.

 **Note:**

After engine flush, engine cleaner must be drained from engine immediately, or damage to engine gaskets can occur.

- Empty external oil filter canister assembly.
- Remove oil filter adapter, empty and set aside external oil filter assembly.
- Install a new engine oil filter.
- Fill the engine with fresh oil. **Use mineral based oil part number ZVP000300.**
- Run engine at idle for 15 minutes.
- After 15 minutes, switch ignition **OFF**.
- While engine is still hot, drain the oil from engine.

Technical Bulletin



After engine flush allow engine to cool to safely continue repair.

- Remove cylinder head cover.
- Install plastic oil deflectors on top of intake camshaft.
- Install cylinder head cover following ElsaWeb Repair Manual procedures. Cover will NOT be removed again.
- Install a new engine oil filter again and fill the engine with fresh oil.
- Restore engine and vehicle to full driving conditions.

 **Note:**

Always use engine oil that conforms to Volkswagen Oil Quality Standard VW 502 00.

Engine Replacement Guidelines:

If at least **ONE** camshaft bearing is damaged, proceed with the following:

- Replace complete engine using factory remanufactured parts in accordance to warranty policy.

 **Note:**

Before installing a previously used toothed belt camshaft sprocket on a new engine, visually inspect for fractures and damage especially in the indexing key area. If fractures or damage is found, replace the sprocket.

- Replace turbocharger.
- Replace oil feed and oil return lines of turbocharger.
- Replace crankcase ventilation system hoses, pressure regulating valve and brake booster suction jet pump as described in “**Engine Repair Guidelines**” section.
- Replace oil filter holder.
- Replace engine oil cooler.
- Install new engine oil filter, fill engine with fresh oil and restore the engine and vehicle to full driving conditions.

 **Note:**

Always use engine oil that conforms to Volkswagen Oil Quality Standard VW 502 00.

Technical Bulletin



Warranty

When ENGINE REPAIR procedure applies:

To determine if this procedure is covered under Warranty, always refer to the Warranty Policies and Procedures Manual ¹⁾					
Model(s)	Year(s)	Eng. Code(s)	Trans. Code(s)	VIN Range From	VIN Range To
Passat, Passat Wagon	1998 - 2004	(1.8L) AEB, ATW, AUG, AWM	All	All	All
Claim Type:	Use applicable Claim Type ¹⁾				
SAGA Coding					
Service Number:	Damage Code	TPI	Damage Location (Depends on Service No.)	Parts Manufacturer (removed part)	
S617	0010	--	Use applicable when indicated in ElsaWeb (L/R)	W W O ²⁾	
Labor Operation ³⁾ : Replace camshaft adjuster with engine cleaning				1584 1999 = 80 TU	
Outside Labor Operation ³⁾ : Engine cleaning				S617 1000 = 700 TU	
Regular Material (maximum amount): Synthetic oil part number ZVW352540S, Qty. of 4 quarts				Fixed Price	
Outside Material (maximum sublet amount): Mineral based oil part number ZVP000300, Qty. of 4 quarts				See SAGA Job Aids on ServiceNet	
Outside Material-BG products (maximum Sublet amount): Qty. 1-6 quart container of Dynamic Engine cleaner Qty. 1-filter (from kit)				Cleaner = \$60.00 Filter = \$5.00	
Causal Part: 06B 115 251 Pipe, Suction (AWM, AUG only) Causal Part: 058 115 105C Oil Pump (AEB, ATW only) Line 01 Entry: Causal Part at MSRP Line 02 Entry: Causal Part at <u>\$0.00</u>					
Diagnostic Time ⁴⁾					
GFF Time expenditure		01500000 = 00 TU max.		NO	

Technical Bulletin



Road Test	01210002 & 01210004	NO
Technical Diagnosis	0132xxxx = 00 TU max.	NO
Claim Comment: Input "As per Technical Bulletin 2013233" in comment section of Warranty Claim.		
¹⁾ Vehicle may be outside any Warranty in which case this Technical Bulletin is informational only ²⁾ Code per warranty vendor code policy. ³⁾ Labor Time Units (TUs) are subject to change with ELSA updates. ⁴⁾ Documentation required per Warranty Policy & Procedures Manual.		

When ENGINE REPLACEMENT procedure applies:

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Model(s)	Year(s)	Eng. Code(s)	Trans. Code(s)	VIN Range From	VIN Range To
Passat, Passat Wagon	1998-2004	(1.8L) AEB, ATW, AUG, AWM	All	All	All
Claim Type:	Use applicable Claim Type ¹⁾				
SAGA Coding					
Service Number:	Damage Code	TPI	Damage Location (Depends on Service No.)	Parts Manufacturer (removed part)	
S617	0010	--	Use applicable when indicated in ElsaWeb (L/R)	W W O ²⁾	
Outside Labor Operation ³⁾ : Engine Replacement. Includes all operations necessary to complete the described repair				S617 1000 = 1200 TU	
Labor Operation ³⁾ : Install cylinder head on short block when a long block is not available				1009 2399 = 50 TU	
Causal Part: Engine Part Number Line 01 Entry: Engine Part Number at MSRP Line 02 Entry: Engine Part Number at <u>\$0.00</u>					
Diagnostic Time ⁴⁾					
GFF Time expenditure	01500000 = 00 TU max.			NO	
Road Test	01210002 & 01210004			NO	

Technical Bulletin



Technical Diagnosis	0132xxxx = 00 TU max.	NO
Claim Comment: Input "As per Technical Bulletin 2013233" in comment section of Warranty Claim.		
<ol style="list-style-type: none"> 1) Vehicle may be outside any Warranty in which case this Technical Bulletin is informational only 2) Code per warranty vendor code policy. 3) Labor Time Units (TUs) are subject to change with ELSA updates. 4) Documentation required per Warranty Policy & Procedures Manual. 		

Required Parts and Tools

Part Description	Part No:	Quantity
Oil, Synthetic	ZVW352540S	4 Quarts
Oil, Mineral based	ZVP000300	4 Quarts

BG Products, Inc. - Part Number	Part- Tool Description	Qty	Minimum Amount that Can Be Ordered from BG Products Inc.
103192*	Dynamic Engine Cleaner	One 6-Quart Container	One Case with Four 6-quart Containers
9850	Dynamic Engine Cleaning Tool	1	1 Tool
9850-013	9850 Filter Kit	1	4 Filters



Note:

(*) BG part number 103192 is one case with 4 containers (qty. Four of 6-quart containers) representing the amount needed to service 4 vehicles.

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.