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Model(s)	Year	Eng. Code	Trans. Code	VIN Range From	VIN Range To
CC	2009-2017	CCTA/CBFA	All	All	All
Tiguan	2008-2017	CCTA	All	All	All
Passat/Passat Wagon	2008-2010	CCTA/CBFA	All	All	All
Beetle/Beetle Convertible	2012-2013	CCTA/CBFA	All	All	All
Jetta Sportwagen	2008-2009	CCTA/CBFA	All	All	All
Jetta	2008-2013	CCTA/CBFA	All	All	All
GTI	2008-2014	CCTA/CBFA	All	All	All
EOS	2008-2016	CCTA/CBFA	All	All	All

Condition

15 17 02 July 7, 2017 2045454 Supersedes Technical Bulletin 15-16-02 (V151602) dated October 18, 2016 to update Tiguan labor operation number.

MIL ON, Fault Code P0016 Camshaft Position Sensor Stored in ECM Fault Memory

MIL ON and possible rattle noise from the engine area during engine start up.

DTC	Description
P0016	Bank 1, camshaft position -G40/crankshaft position sensor -G28, wrong assignment

Technical Background

The strainer screen in the camshaft bearing bracket can tear and cause camshaft adjuster issues.

 **Note:**

If engine noises or no start condition occur, refer to Technical Bulletin 2028302 for further diagnostic assistance.



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Production Solution

Not applicable.

Service

Procedure:

- Check fault codes using Guided Fault Finding.
- Remove the camshaft bearing bracket (Figure 1. in yellow) see Repair Group 15 in Elsa.
- Check the non-return valve in the bearing bracket.
- Check the bearing points and the camshafts on the bearing bracket.
 - If scoring can be felt on the camshaft bearing in the bearing bracket or on the camshafts, replace the camshaft bearing bracket and the camshaft according to the repair manual/parts catalog.
- Check the non-return valve in the cylinder head (Figure 1. red circle).

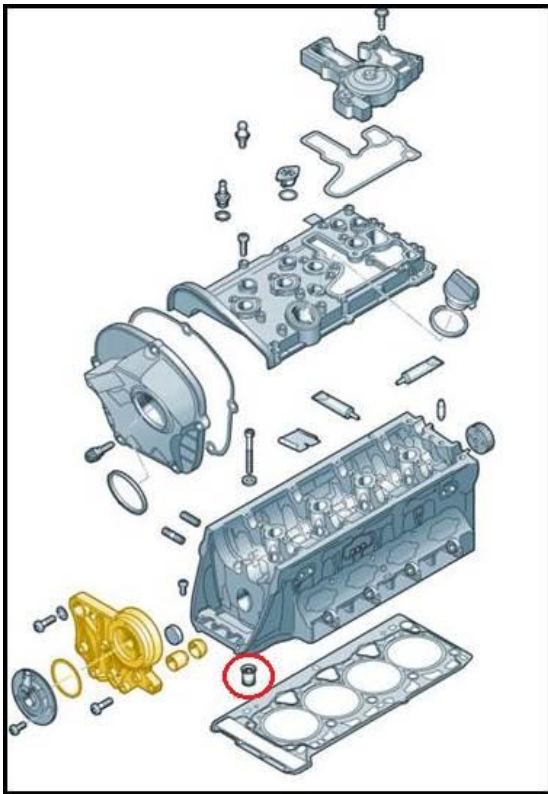


Figure 1. Camshaft bearing bracket



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- Check the non-return valve in the camshaft bearing bracket (Figure 2. red arrow).

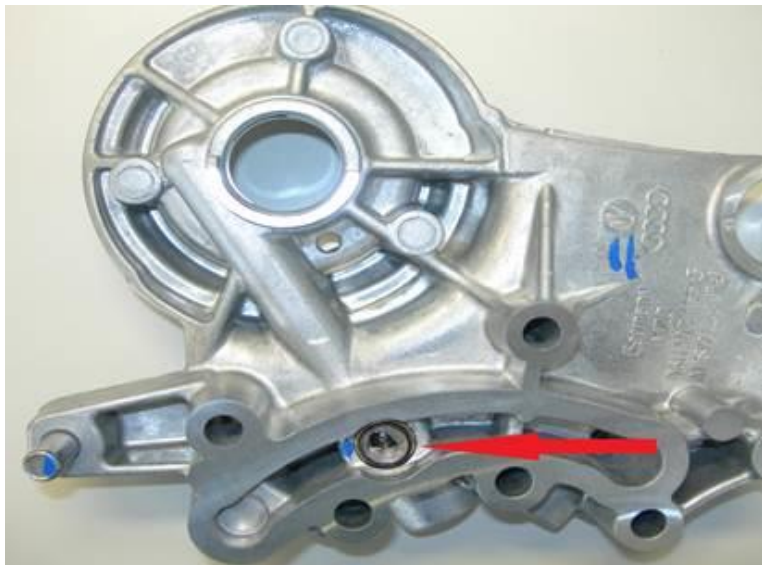


Figure 2. Torn strainer

In case of damage as shown in figure 2, proceed as follows:

- Remove the strainer of the non-return valve in the camshaft bearing bracket (Figure 3.).
- Perform a visual check of the non-return valve in the camshaft bearing bracket.



Figure 3. Remove the strainer.



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! **Note:**

Two different non-return valves can be installed in the camshaft bearing bracket. Either a non-return valve of metal or of plastic. There is a different procedure for both materials (metal/plastic).

Metal non-return valve (Figure 4.):

- The camshaft bearing bracket can be reused after removing the strainer.



Figure 4. Camshaft bearing bracket with metal non-return valve (without strainer)

! **Note:**

The remnants of the strainer for the non-return valve must be removed from the oil duct. Remnants can clog up the oil duct in the camshaft bearing bracket or drift into the camshaft bearing. This can damage other components. Check the oil sump for debris and thoroughly clean if necessary.



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Plastic non-return valve (Figure 5.):

- Replace the camshaft bearing bracket according to the repair manual/parts catalog.

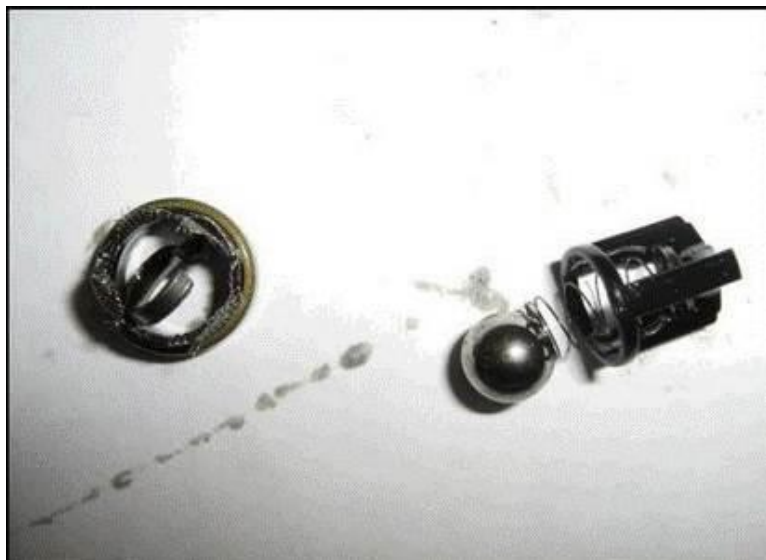


Figure 5. Plastic non-return valve



Note:

The remnants of the strainer for the non-return valve must be removed from the oil duct. Remnants can clog up the oil duct in the camshaft bearing bracket or drift into the camshaft bearing. This can damage other components. Check the camshaft adjuster for debris and thoroughly clean if necessary.

Check the camshaft adjuster control valve for debris and if necessary clean it thoroughly.



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! **Note:**

Check and if necessary replace the non-return valve in the cylinder head (Figure 6. red circle).

- The non-return valve in the cylinder head can only be checked if the bearing bracket for camshafts has been removed.



Figure 6. Test point of oil duct (red circle) to non-return valve in cylinder head



Figure 7. Press pressure line with adapter of VAS 6213 firmly into oil duct hole



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- Apply 0.5 bar on the non-return valve. **The pressure must not drop within 1 minute:**
 - If the applied pressure remains stable for 1 minute, no further work on the non-return valve is necessary in the cylinder head.
 - If the applied pressure **Does Not** remain stable for 1 minute, the non-return valve in the cylinder head has to be replaced.



Note:

If check valve requires replacement the cylinder head must be removed. The brass colored check valve is located in the left front underside of cylinder head. To remove check valve a small hook or screw driver may be used to pull check valve from cylinder head. The valve is only held in position by an o-ring, which is part of the valve assembly.

- Reassemble in the reverse order according to the repair manual, see Repair Group 15 in Elsa.



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Warranty

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
CC	2009-2017	CCTA/CBFA	All	All	All
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GTI	2008-2014	CCTA/CBFA	All	All	All
EOS	2008-2016	CCTA/CBFA	All	All	All
SAGA Coding					
Claim Type:		Use applicable Claim Type ¹⁾			
Service Number:	Damage Code	HST		Damage Location (Depends on Service No.)	
1584	0010	--		Use applicable when indicated in Elsa (L/R)	
Parts Manufacturer		CC, Tiguan, EOS, GTI, Passat, Passat Wagon		WVO ²⁾	
		Jetta, Jetta Sportwagen, Beetle, Beetle Convertible		3ME ²⁾	



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Labor Operation ³⁾ : Remove and Install Chain Housing Cover		15331940 = 90 TU (Tiguan Only) 15331918 = 90 TU (All Others)
Labor Operation ³⁾ : Remove and Install Oil Pan		17501940 = 110 TU (Tiguan Only) 17501918 = 110 TU (All Others)
Labor Operation ³⁾ : Remove and Install Camshaft(s) (if necessary)		15051990 = 290 TU (Tiguan Only) 15051968 = 290 TU (All Others)
Labor Operation ³⁾ : Remove and Install Cylinder Head (if necessary)		157019XX = See Elsa as required
Labor Operation ³⁾ : Charge Battery		27068950 = 10 TU
Diagnostic Time ⁴⁾		
GFF Time expenditure	01500000 = Actual GFF print out	YES
Road Test	01210002 = 00 TU 01210004 = 10 TU	YES
Technical Diagnosis	01320000 = 50 TU max. (Includes removing strainer, cleaning oil port and checking non-return valve)	YES
Claim Comment: Input "As per Technical Bulletin 2045454" in comment section of Warranty Claim.		
<p>¹⁾ Vehicle may be outside any Warranty in which case this Technical Bulletin is informational only</p> <p>²⁾ Code per warranty vendor code policy.</p> <p>³⁾ Labor Time Units (TUs) are subject to change with ELSA updates.</p> <p>⁴⁾ Documentation required per Warranty Policies and Procedures Manual.</p>		



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Required Parts and Tools

Part No:	Part Description	Quantity
06H 103 144J	Bracket	1 (If necessary)
06H 103 175B	Check Valve	1 (If necessary)
N 910 967 01	Bolt	1
06H 109 021K	Camshaft (Intake)	1 (If necessary)
06H 109 022BB	Camshaft (exhaust)	1 (If necessary)

Tool Description	Tool No:
Midtronics Battery Tester/Charger	InCharge 940 (INC-940) or GRX3000VAS
VAS Diagnostic Tool	VAS 6150/X & VAS 6160/X and ODIS Service with: current online updates
VAS 6213	Hand Vacuum Pump

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.

Document Control Revision Table			
Instance Number	Published Date	Version Number	Reason For Update
2045454/2	7/7/17	V151702	Update to Tiguan labor operation number.
2045454/1	10/18/16	V151602	Original publication.