



Connection offline

Technical product information

Transaction No.: 2026513/8

Engine: rattling noises from front/engine compartment when starting engine

Release date: 02-Jul-2013

Customer statement / workshop findings

Customer statement:

- Rattling noises from front of vehicle/engine compartment when starting the engine.

Workshop findings:

- Rattling noises from front of vehicle/engine compartment when starting the engine.
- Length of timing chain has changed.
- Valve timing do not match, timing chain has jumped off.

Technical background

The length of the timing chain has changed because of wear only on engine numbers up to the chassis break:

- Timing chain jumps off.
- Contact between valves and piston.



Rattling noises from the front when starting the engine are unavoidable on exchange engines after the engine batch number of the chassis break. A replacement of the timing chain does not fix the problem. A groundless replacement under warranty will be redebited.

Production change

Optimised timing chain from engine numbers:

- CBZ* 462774 (Mlada Boleslav).
- CBZ* 714253 (Salzgitter).
- Exchange engines from engine batch number: 1087 (illustration 2, in green).



- For the identification of the plant observe the sticker on the boost pressure pipe (illustration 1, in red) or on the intercooler.
- With exchange engines note the sticker on the cylinder block (illustration 2, in green) for the identification of the engine batch number.



Illustration 1

S = Salzgitter plant

M = Mlada Boleslav plant



Illustration 2

Measure

Check/repair:

Assessment of timing chain:

If there rattling noises at the start or the length of the timing chain has changed (engine number before chassis break, with exchange engines before the engine batch numbers of the chassis break):

Check the valve timing of the engine according to the repair manual.

- If the valve timing is incorrect:
 - Check whether the valves and the pistons have touched each other.
- If they have:
 - Fit a short engine according to the repair manual.
- If the valve timing is correct and valves and pistons have not touched each other:
 - Fit the repair kit for timing chain according to the repair manual/parts catalogue.
- If a chain box without guard is fitted:
 - Fit the optimised chain box with guard (part number: 03F 109 210 D) according to the repair manual (illustration 4, green marks).
- Change the engine oil and the oil filter according to the repair manual.
- Reset the programmed values for the timing chain in the engine control unit:



On control units with the following engine control unit version (see example below of a diagnosis protocol) the function test "Reset programmed values for timing chain" is not supported and cannot be completed:

- Simos 10.10
- Simos 10.11
- Simos 10.20
- Simos 10.21

- Address: 01 engine electronics variant:

HW-Teilernr.:	03F906070D
HW-Versionsnr.:	H02
SW-Teilernr.:	03F906070E
SW-Versionsnr.:	9856
Serienr.:	
Codierung:	0x002500D6202400080000
Flashbar:	
Name:	Simos10.20
Händlernr.:	
ASAM/ODX Basis-Variante:	BV_EnginContrModul1UDS
ASAM/ODX Dateikennzeichnung:	EV_ECM12TFS02103F906070E
Teilenummer Parametersatz:	
Version Parametersatz:	
Fahrzeugausstattungscode:	0
Systemkurzzeichen:	J623



The following points must be observed when resetting the programmed values for the timing chain:

- **VAS PC:** The Volkswagen brand CD from version 19.14.02 and the basic CD version 19.00 or higher must be installed.
- **Offboard diagnostic information system service:** The Offboard diagnostic information system service patch version 1.0.1 and the baseline version (diagnosis data dib_GFF-v) 1.0.0 or higher must be installed.
- Make sure that a battery charger is connected to the vehicle battery.

VAS-PC:

- Start guided fault finding.
- Go to -> function/component selection -> drive -> 01 CBZ engine -> 15 cylinder head, valve drive -> 15 functions -> remove/install timing chain

Offboard Diagnostic Information System Service:

- Start diagnosis -> own test plan -> drive -> 01 CBZ engine -> 15 cylinder head, valve drive -> 15 functions -> remove/install timing chain -> attach to test plan

Check chain box:



Check whether a guard for the timing chain available is fitted on the chain box (illustration 4, green areas).

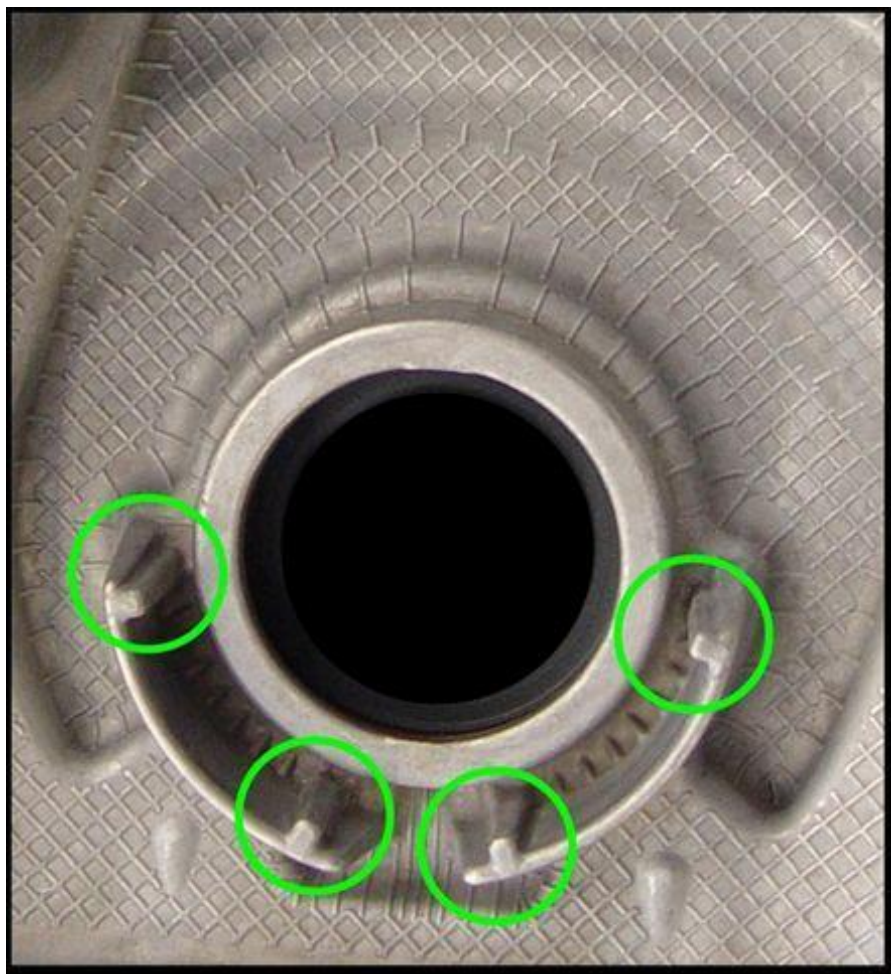


Illustration 3) green circles = timing chain protection cover

Assessment of oil pump drive chain:



The drive chain of the oil pump can sag. See the attached video file. The video shows the correct condition of the oil pump drive chain. This sagging does not cause the damage and does not justify the replacement of the chain. Groundlessly replaced chains will be redebited.

Warranty accounting instructions

Service number/damage code/manufacture: 1535/0010/...



- The manufacturer code of the timing chain is also on the chain tensioner.
- The labour times are correct at the time of publication. The time units (TU) may differ slightly, if the repair catalogue has been updated. The information in the repair operations catalogue applies, except for the open

time items (... 99).

- The necessary time for using the Offboard Diagnostic Information System Service/VAS PC tester is not included; it must be accounted separately with the print-out of the tester.
- Use the repair operations catalogue for the above work.
- If further work is necessary, it can also be accounted. Please explain these repairs in the SAGA2 text field.

Accounting with APOS:

	Repair operation number	Designation	Time units
Jetta 162, Touran 1T3, Golf Cabriolet 517, Golf Plus 521, Beetle 5C*, Golf 5K1, Polo 6R1, Golf Estate AJ5			
Main operation	01 50 00 00	GFF/guided functions	*
Associated operation	27 06 89 50	Charge battery	10
Associated operation	17 30 56 99	Replace oil filter	10
The repair operations include all the work of this TPI.			

1) Use the above times only for this TPI.

Accounting with APOS/2:

Model	Illustration	Position	Number	Designation	Activity	Time units
162, 1T3, 517, 521, 5K1, AJ5, 6R1	STA-02	1	S00032	Guided fault finding	00	*
162, 1T3, 517, 521, 5K1, AJ5, 6R1	STA-02	4	915105	Charge battery	89	*
162, 1T3	115-10	17	115561	Replace oil filter	55	*
517, 521, 5K1, AJ5	115-01	17	115561	Replace oil filter	55	*
6R1	115-06	17	115561	Replace oil filter	55	*
The repair operations include all the work of this TPI.						

Parts information



The part numbers and indexes of this TPI are correct at the time of publication. If the parts catalogue has been updated, use the current part numbers and indexes.

Part number	Designation
Parts catalogue	Timing chain repair kit
03F 109 210 D	Chain box
Parts catalogue	Engine oil/oil filter