SB-10055434-3325

Engine noises (rattling) after engine start and/ or fault code entry "Plausibility of camshaft position"

Topic number	LI05.10-P-058758
Version	1
Design group	05.10 Timing chain drive, toothed belt drive
Date	03-19-2014
Validity	ENGINE 271.8 EVO
Reason for change	
Reason for block	

Complaint:

Noise:
A rattling noise may be heard from the area of the chain drive for approx. 2-5 seconds after engine start.
And/or:
Fault code entries in engine control unit:
SIM271DE20:
P001177 The position of the intake camshaft (cylinder bank 1) deviates from the specified value. The commanded position cannot be reached.
P001762 The position of the exhaust camshaft (cylinder bank 1) is implausible in comparison with the position of the crankshaft. The signal comparison is faulty.
P001192 The position of the intake camshaft (cylinder bank 1) deviates from the specified value. The function or the instruction is faulty.
P001195 The position of the intake camshaft (cylinder bank 1) deviates from the specified value. The mechanical setup is not OK.
P001477 The position of the exhaust camshaft (cylinder bank 1) deviates from the specified value. The commanded position cannot be reached.
P001492 The position of the exhaust camshaft (cylinder bank 1) deviates from the specified value. The function or the instruction is faulty.
P001495 The position of the exhaust camshaft (cylinder bank 1) deviates from the specified value. The mechanical setup is not OK.
P001600 The position of the intake camshaft (cylinder bank 1) is implausible in comparison with the position of the crankshaft.
P001662 The position of the intake camshaft (cylinder bank 1) is implausible in comparison with the position of the crankshaft. The signal comparison is faulty.
P001700 The position of the exhaust camshaft (cylinder bank 1) is implausible in comparison with the position of the crankshaft.

Cause:

The timing chain may have been stretched. This can be assessed by the following test step.

Remedy:

1. Remove chain tensioner (AR05.10-P-7800evo).
2. Mount measuring chain tensioner W 271 589 07 63 00 without seal and tighten to 20 Nm.
3. Turn the engine over 2x and determine the highest display value for the measuring chain tensioner throughout the entire procedure.
4. Evaluate the value read off the scale of the measuring chain tensioner:

© Copyright Daimler AG

Measurement less than 79 mm: Perform work procedure A.
Measurement greater than 79 mm: Perform work procedure B.

Work procedure A:

1. Install new chain tensioner (AR05.10-P-7800evo).

Work procedure B:

1. Replace timing chain (AR05.10-P-7601*).
2. Visual inspection of intake/exhaust camshaft sprockets
3. Install new chain tensioner (AR05.10-P-7800evo).

* Use the corresponding WIS document.

Symptoms
Power generation / Engine noise / Chattering
Power generation / Engine noise / Clanking
Power generation / Engine noise / Rattling
Power generation / Engine noise / Clattering
Power generation / Engine noise / Pounding
Power generation / Engine management / Engine management indicator lamp / Engine diagnosis / lit

Control unit/fault code		
Control unit	Fault code	Fault text
ME - Motor electronics 'SIM271DE20' for combustion engine 'M271EVO' (N3/10)	P001177	The position of the intake camshaft (cylinder bank 1) deviates from the specified value. The commanded position cannot be reached.
ME - Motor electronics 'SIM271DE20' for combustion engine 'M271EVO' (N3/10)	P001762	The position of the exhaust camshaft (cylinder bank 1) is implausible relative to the position of the crankshaft. The signal comparison is faulty.
ME - Motor electronics 'SIM271DE20' for combustion engine 'M271EVO' (N3/10)	P001192	The position of the intake camshaft (cylinder bank 1) deviates from the specified value. The function or the instruction is faulty.
ME - Motor electronics 'SIM271DE20' for combustion engine 'M271EVO' (N3/10)	P001195	The position of the intake camshaft (cylinder bank 1) deviates from the specified value. The mechanical setup is not OK.
ME - Motor electronics 'SIM271DE20' for combustion engine 'M271EVO' (N3/10)	P001477	The position of the exhaust camshaft (cylinder bank 1) deviates from the specified value. The commanded position cannot be reached.
ME - Motor electronics 'SIM271DE20' for combustion engine 'M271EVO' (N3/10)	P001492	The position of the exhaust camshaft (cylinder bank 1) deviates from the specified value. The function or the instruction is faulty.
ME - Motor electronics 'SIM271DE20' for combustion engine 'M271EVO' (N3/10)	P001495	The position of the exhaust camshaft (cylinder bank 1) deviates from the specified value. The mechanical setup is not OK.
ME - Motor electronics 'SIM271DE20' for combustion engine 'M271EVO' (N3/10)	P001600	The position of the intake camshaft (cylinder bank 1) is implausible relative to the position of the crankshaft.
ME - Motor electronics 'SIM271DE20' for combustion engine 'M271EVO' (N3/10)	P001662	The position of the intake camshaft (cylinder bank 1) is implausible relative to the position of the crankshaft. The signal comparison is faulty.

© Copyright Daimler AG

ME - Motor electronics 'SIM271DE20' for combustion engine 'M271EVO' (N3/10)	P001700	The position of the exhaust camshaft (cylinder bank 1) is implausible relative to the position of the crankshaft.

Parts

Part number	ES1	ES2	Designation	Quantity	Note	EPC	Other make part
A 271 050 09 11			Chain tensioner	1	For M271.8	X	
A 000 993 10 78			Timing chain	1	For M271.8	X	

Validity

Vehicle	Engine	Transmission
*	271.861	*
*	271.860	*
*	271.820	*

Full model designation breakdown

Vehicle	Engine	Transmission
172.447	271.861	711.653
172.447	271.861	711.654
172.447	271.861	722.997
172.448	271.861	711.655
172.448	271.861	722.997
204.047	271.860	722.618
204.047	271.860	722.997
204.048	271.860	711.653
204.048	271.860	711.655
204.048	271.860	716.607
204.048	271.860	716.612
204.048	271.860	722.696
204.048	271.860	722.997
204.049	271.820	711.653
204.049	271.820	711.655
204.049	271.820	716.607
204.049	271.820	716.612
204.049	271.820	722.696
204.049	271.820	722.997
204.247	271.860	722.618
204.247	271.860	722.997

© Copyright Daimler AG

204.248	271.860	711.653
204.248	271.860	711.655
204.248	271.860	716.607
204.248	271.860	716.612
204.248	271.860	722.696
204.248	271.860	722.997
204.249	271.820	711.653
204.249	271.820	711.655
204.249	271.820	716.607
204.249	271.820	716.612
204.249	271.820	722.696
204.249	271.820	722.997
204.347	271.860	722.618
204.347	271.860	722.997
204.348	271.860	711.655
204.348	271.860	722.997
204.349	271.820	711.655
204.349	271.820	716.607
204.349	271.820	722.997
207.347	271.860	722.618
207.347	271.860	722.997
207.348	271.860	711.655
207.348	271.860	716.607
207.348	271.860	716.612
207.348	271.860	722.696
207.348	271.860	722.997
207.447	271.860	722.618
207.447	271.860	722.997
207.448	271.860	711.655
207.448	271.860	722.696
207.448	271.860	722.997
212.047	271.860	722.618
212.047	271.860	722.997
212.048	271.860	711.655
212.048	271.860	716.612
212.048	271.860	722.696
212.048	271.860	722.997
212.147	271.860	722.618
212.147	271.860	722.997
212.148	271.860	711.655
212.148	271.860	722.696
212.148	271.860	722.997
212.247	271.860	722.618

© Copyright Daimler AG

212.247	271.860	722.997
212.248	271.860	711.655
212.248	271.860	716.612
212.248	271.860	722.696
212.248	271.860	722.997

© Copyright Daimler AG