

Engine starts poorly or only on 2nd or 3rd start attempt

Topic number	LI07.16-N-056831
Version	1
Design group	07.16 Common rail diesel injection system
Date	07-18-2013
Validity	Engine 651 in model 906
Reason for change	Distribution extended
Reason for block	

Complaint:

Engine starts with a delay or starts only on the 2nd or 3rd start attempt.
 Engine starts up briefly and then dies.
 No faults are stored in the fault memory.

Cause:

The camshaft sensor may have an internal fault.

Remedy:

Set oscilloscope to show camshaft signal (Figure 1).

During the starting procedure an additional, short pulse may occur on a falling signal flank of the camshaft signal during the first 5 revolutions of the engine.

The additional pulse is only approx. 400-600 µs long! In order to render the additional pulse visible, the range of the camshaft signal (in the first 5 engine revolutions) should be enlarged accordingly.

If the additional pulse is visible: Replace camshaft sensor

Test procedure in DAS:

CDID2 common rail - Full list of guided tests - Check component B6/23 (camshaft sensor)

Attachments	
File	Designation
Bild1.jpg	Oscilloscope image of additional pulse

Symptoms
Power generation / Engine management / Engine running / Stalls/goes out
Power generation / Engine management / Engine running / Cuts out intermittently
Power generation / Engine management / Engine running / Runs rough/shakes
Power generation / Engine management / Engine start/stop / Long starting time
Power generation / Engine management / Engine start/stop / Does not start

Parts							
Part number	ES1	ES2	Designation	Quantity	Note	EPC	Other ma-

							ke part
A 651 905 01 00		Camshaft position sensor	1	New camshaft position sensor	X		

Work units				
Op. no.	Operation text	Time	Damage code	Note
07-1675	REMOVE/INSTALL CAMSHAFT ANGLE POSITION SENSOR, REPLACE IF NECESSARY (AFTER CHECK)		05048 73	Camshaft position sensor - Electrical fault

WIS-References			
Document number	Title	Note	Allocation
AR15.12-D-2145WE	Remove/install camshaft sensor	ENGINE 651 in MODEL 900 ENGINE 651.955 /956 /957 in MODEL 906	Remedy

Validity		
Vehicle	Engine	Transmission
906.111	651	*
906.113	651	*
906.131	651	*
906.132	651	*
906.133	651	*
906.135	651	*
906.153	651	*
906.155	651	*
906.211	651	*
906.213	651	*
906.233	651	*
906.234	651	*
906.235	651	*
906.236	651	*
906.253	651	*
906.255	651	*
906.611	651	*
906.613	651	*
906.631	651	*
906.633	651	*
906.635	651	*
906.637	651	*

906.653	651	*
906.655	651	*
906.657	651	*
906.735	651	*

Full model designation breakdown

Vehicle	Engine	Transmission
906.111	651.955	711.651
906.111	651.955	711.660
906.111	651.955	711.680
906.111	651.955	711.685
906.111	651.955	722.683
906.111	651.955	722.684
906.111	651.955	722.686
906.111	651.955	722.902
906.111	651.955	722.908
906.111	651.956	711.651
906.111	651.956	711.660
906.111	651.956	711.680
906.111	651.956	711.685
906.111	651.956	722.683
906.111	651.956	722.684
906.111	651.956	722.686
906.111	651.956	722.902
906.111	651.956	722.908
906.111	651.957	711.651
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Attachments

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