

Engine diagnosis warning lamp lights up, fault codes 1200 and 1208 stored in motor electronics control unit.

Topic number	LI03.30-P-050027
Version	2
Design group	03.30 Flywheel, driving disk, vibration damper, starter ring gear
Date	05-31-2011
Validity	Engine 272 in model 164, 171, 203, 209, 211, 219, 221, 230, 251 Engine 273 in model 164, 209, 211, 216, 219, 221, 230 Implementation of series measure changing material for balance shaft sprocket as of engine 2729xx30 468993 as of October 2006 production Implementation of series measure changing material for timing chain guide wheel as of engine 2739xx30 088611 as of September 2006 production
Reason for change	Supersedes DTB S-B-03.30/08

Complaint:

Engine diagnosis warning lamp lights up, fault codes 1200 and 1208 stored in motor electronics control unit.

Note:

The fault codes are recorded as current and stored in the fault memory. When the fault memory is erased and then the engine is restarted, the fault codes reoccur immediately.

Cause:

Balance shaft sprocket (engine 272) or timing chain guide wheel (engine 273) worn (sprocket damage profile).

Note:

The position of the camshafts of the right cylinder bank relative to the crankshaft is impaired by a worn sprocket on the balance shaft (engine 272) or by a worn guide wheel for the timing chain (engine 273).

Attachments	
File	Designation
balance shaft.jpg	Damage profile of sprocket
Anwendung Endoskop.pdf	Check for wear with borescope. (Insert borescope over the right-hand chain slide rail as far as the balance shaft / guide wheel)
Beispielbilder Endoskop Kettenrad.pdf	Example images of balance shaft sprocket (sprocket OK)

Remedy:

1. Remove right front camshaft adjuster cover.
2. Check balance shaft sprocket (engine 272) or timing chain guide wheel (engine 273) for wear using flexible borescope (see attachment sprocket damage profile/ borescope "endoscope" image of sprocket).
3. If worn as in the sprocket damage profile: Continue with step 4.

If there is no sprocket wear, create a DTS case and contact DTS support.

Note:

Engine repair

4. Replace balance shaft (engine 272) or timing chain guide wheel (engine 273)
5. Install a new chain tensioner (only renew chain tensioner A272 050 01 11 when required).
6. Engine oil and filter change. (Only use engine oils as per Specification 229.1 and 229.3 - use the cheapest engine oil available in the workshop)
7. Drive with engine at high load and rpm for a distance of at least 20 km.

Note:

After repair

8. Engine oil and filter change.
9. Replace camshaft adjustment solenoids.

Note:

The flexible borescope (endoscopes) can be found also at:

<http://gotis.aftersales.mercedes-benz.com> Workshop equipment database : A-01-02.1

Note:

This LI takes precedents on the topics presented and supersedes the previously published DTB S-B-03.30/08. Please refer to other information provided in WIS or in the STAR TekInfo.

Symptoms
Power generation / Engine management / Engine management indicator lamp / Engine diagnosis / lit

Control unit/fault code		
Control unit	Fault code	Fault text
ME 9.7-Motor electronics 9.7 (ME97)	1200	Constant adjustment of exhaust camshaft of right cylinder bank in direction 'Retarded'(P0017)
ME 9.7-Motor electronics 9.7 (ME97)	1208	Constant adjustment of intake camshaft of right cylinder bank in direction 'Retarded'(P0016)

Parts							
Part number	ES1	ES2	Designation	Quantity	Note	EPC	Other make part
A2720300413			Guide wheel repair kit	1	REPAIR KIT FOR GUIDE WHEEL M272 2.5L	X	
A2720300513			Guide wheel repair kit	1	REPAIR KIT FOR GUIDE WHEEL M272 3.0L	X	
A2720300613			Guide wheel repair kit	1	REPAIR KIT FOR GUIDE WHEEL M272 3.5L	X	
A2720300713			Guide wheel repair kit	1	REPAIR KIT FOR GUIDE WHEEL M273	X	

WIS-References			
Document number	Title	Note	Allocation
AR03.20-P-1000CV	Remove/install balance shaft	Engine 272 in models 204, 207	Remedy
AR03.20-P-1000GZA	Remove/install balance shaft	Engine 272 (except 272.973) in models 164, 251	Remedy
AR03.20-P-1000QB	Remove/install balance shaft	Engine 272 in models 203, 209	Remedy
AR03.20-P-1000RX	Remove/install balance shaft	Engine 272 in model 230	Remedy
AR03.20-P-1000SX	Remove/install balance shaft	Engine 272 in model 221	Remedy
AR03.20-P-1000TS	Remove/install balance shaft	Engine 272 in models 211, 219	Remedy
AR03.20-P-1000VA	Remove/install balance shaft	Engine 272 in model 171	Remedy
AR05.10-P-7760A	Remove/install timing chain guide wheel	Engine 273	Remedy



