

Engine vibrations perceived at low rpm -
Camshaft adjustment fault codes stored

Topic number	LI05.20-P-080329
Version	1
Function group	05.20 - Camshaft, camshaft adjustment
Date	3/2/26
Validity	M254 engine in all model series
Reason for change	Replaces LI05.20-P-080257

Complaint

Engine vibrations perceived at low rpm. Fault codes for the camshaft position of the intake camshaft (P001100, P001104, P001200) or exhaust camshaft (P001400, P001404, P001500) may be stored.

Attachments	
File	Description
Gebrochenes Sieb im Zentralventil.jpg	Here, the filter screen is protruding from one of the holes



Fehlendes Sieb des Zentralventils.jpg

The screen has almost completely broken out



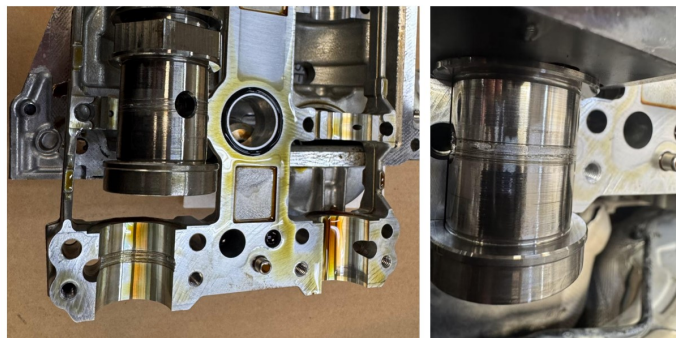
Neues Zentralventil.jpg

New central valve with optimized holding ring



Camshaft bearing damage.jpg

Camshaft and bearing damage



Cause

Continuously fluctuating oil pressure in the central valve may lead to damage to the filter screen on the central valve. This can result in damage to the filter screen or the filter screen breaking loose.

The resulting loss of oil pressure prevents proper adjustment of the camshaft adjuster.

If the filter screen breaks loose, parts of it may settle in the camshaft adjuster or in the camshaft. If there are parts in the camshaft, they can pass through the oil supply bore to the last camshaft bearing (i.e., the first camshaft bearing behind the adjuster) which could cause damage there.

Remedy

1. In cases in which only the screen of the central valve is damaged and no metal particles are found in the oil filter, the following parts must be replaced:

- Always both central valves
- The camshaft adjuster of the damaged central valve

2. In cases where the sieve is completely/partially missing and metal particles are found in the oil filter, the camshaft bearings must be checked. If any damage is visible there, proceed as follows:

- Both central valves
- The camshaft adjuster of the damaged central valve
- The camshaft bearing housing (camshafts are already included here)
- Oil change with oil filter

WIS-References		
Document number	Title	Note
AR05.20-P-6997MRV	Remove/install camshaft housing with camshafts	Engine 254.9 in model 206, Engine 254.9 in Model 236, Engine 254.9 in Model 254
AR05.20-P-6997MRX	Remove/install camshaft housing with camshafts	Engine 254.9 in Model 167
AR05.20-P-6997WEE	Remove/install camshaft housing with camshafts	Engine 254.9 in Model 214
AR05.20-P-7206MRV	Remove/install intake camshaft positioner	Engine 254.9 in model 206, Engine 254.9 in Model 236, Engine 254.9 in Model 254
AR05.20-P-7206MRX	Remove/install intake camshaft positioner	Engine 254.9 in Model 167
AR05.20-P-7206WEE	Remove/install intake camshaft positioner	Engine 254.9 in Model 214
AR05.20-P-7207-01MRV	Mark and align the exhaust camshaft positioner	Engine 254.9 in Model 167 Engine 254.9 in Model 206 Engine 254.9 in Model 214 Engine 254.9 in Model 236 Engine 254.9 in Model 254

Disclaimer

NOTE: The information contained in this document is intended for use by trained, professional technicians with the knowledge to properly and safely perform diagnosis and repairs on Mercedes-Benz vehicles, using Mercedes-Benz approved tools and equipment. It informs service technicians about conditions that could occur in certain vehicles and provides information that could assist in proper vehicle diagnosis, service, or repair. It does not indicate that a defect is present in any vehicle referenced in this document nor does it imply warranty coverage. DO NOT assume that a symptom or condition, or a described cause of a symptom or condition, affects any particular vehicle or groups of vehicles, or that a described repair applies to any particular vehicle or groups of vehicles. There can be multiple causes resulting in the same or similar symptoms or conditions described in this document, and trained professional service technicians must use their diagnostic skills to make evaluations on a case-by-case basis. The information contained in this document does not guarantee warranty coverage nor does it extend the vehicle's warranty in any way.

Symptoms

Power generation > Engine management > Engine running > Runs rough/shakes

Power generation > Engine management > Indicator lamp > Engine diagnosis > lit

Power generation > Engine management > Engine performance > No/poor output

Control unit/fault code

Control unit	Fault text
N3/10 - Motor electronics 'MRG2' for combustion engine 'M254' (ME) (MRG2)	P001500 - Adjustment of the exhaust camshaft (cylinder bank 1) is performed late. _ P001404 - The position of the exhaust camshaft (cylinder bank 1) deviates from the specified value. There is an internal fault. P001400 - The position of the exhaust camshaft (cylinder bank 1) deviates from the specified value. _ P001200 - Adjustment of the intake camshaft (cylinder bank 1) is performed late. _ P001104 - The position of the intake camshaft (cylinder bank 1) deviates from the specified value. There is an internal fault. P001100 - The position of the intake camshaft (cylinder bank 1) deviates from the specified value. _

Operation numbers/damage codes

Op. no.	Operation text	Time	Damage code	Note
		H	0540A	38: loose
		H	0540E	38: loose
015510	Remove/install camshaft housing	AW		Only if there are particles in the oil filter or the filter screen is missing
015521	Replace camshaft housing (removed)	AW		Only if there is damage to the camshaft bearing
057206	Replace camshaft adjuster	AW		Only the affected camshaft positioner