

Wear of valve seat or valve guide. Engines M260 or M264

Topic number	LI01.30-P-072328
Version	9
Function group	01.30 - Cylinder head
Date	2/2/26
Validity	Passenger car with M260 or M264
Reason for change	Additional notes added and op-codes corrected

Complaint

- Check engine light illuminated.
- Engine runs rough.
- Poor shifting or jerking when accelerating.
- Fault codes stored related to mixture formation, injector quantity adjustment, or misfire.

Note: One or more of the above symptoms can occur. It is possible that no fault codes are stored.

Cause

Leaking valve seat in cylinder head.

Remedy

- Perform cylinder leakage check as noted in WIS group 01.00. If excessive leakage is found determine if leak is from intake or exhaust valves.
- If leakage is found from intake or exhaust valves, remove cylinder head and inspect valve seats.
- The complete cylinder head must be replaced if valve seat damage is found. The valve seats can not be reworked.
- Engine oil and filter should be changed after the repair.

Workshop notes cylinder head repair:

1. The intake rocker arm roller is narrower than the exhaust and they must not be interchanged. Mark the rocker arms so they are reinstalled in their original location.
2. Inspect all parts that are being reused (i.e. camshafts, rocker arms) for signs of wear or damage. See WIS doc AH05.20-P-1000-09SZ for examples of normal and abnormal wear. Replace parts with new if damage or wear is found.
3. Check that all rocker arms are correctly located on the camshaft before installing cylinder head cover. Rotate engine at least 2 times and check that there are no problems with rocker arms.
4. The timing chain tensioner can be reused if it extends fully, has no noticeable problems in prior operation, and no chain drive components were replaced.
5. Care must be taken when removing fuel injectors to prevent damage. See WIS doc AR07.03-P-0004-03MM.
6. Cleanliness must be observed during repair to prevent subsequent complaint or engine damage:

XENTRY Tips

- When cleaning engine block surface, ensure oil ports are sealed to prevent debris from entering oil circuit. Refer to SI01.40-P-0010A.
- No abrasive materials, sharp-edged tools, or unapproved cleaners should be used on engine block surface. Refer to AR01.00-P-0050-01A.
- Any debris from cleaning that has entered the cooling jacket should be removed before assembly of engine. The debris can otherwise cause blockage in the cooling circuit leading to engine overheating.

If any of the parts listed below are found damaged or in need of replacement during cylinder head valve-seat diagnosis or repair, and the vehicle has warranty coverage, they must be claimed on a separate parts-only line. These items are not covered under the cylinder head warranty extension and cannot be included with the claim.

- Camshafts
- Camshaft adjustment solenoids
- Camshaft positioners
- Fuel injectors
- Hydraulic valve play compensating elements
- Roller rocker arms
- Spark plugs
- Timing chain
- Timing chain guide rails
- Timing chain tensioner

WIS-References		
Document number	Title	Note
AH05.20-P-1000-09SZ	General information on checking camshafts and bearing points of camshafts	
AR01.00-P-0050-01A	Remove sealant	
SI01.40-P-0010A	Service Information: Cleaning of crankcase	
AR07.03-P-0004-03MM	Remove injection nozzles	

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

Power transmission > Automatic transmission > Function > Engaging process
Power generation > Engine management > Indicator lamp > Engine diagnosis > lit
Power transmission > Automatic transmission > Function > Shifting is rough
Power generation > Engine management > Engine performance > No/poor output
Power transmission > Automatic transmission > Function > Poor shift quality

Parts

Part number	ES1	ES2	Designation	Quantity	Note	EPC
A2600106801			M260 Cylinder head kit, with valves, head gasket and intake manifold seals	1	For engine M260	X
A2640106407			M264 Cylinder head kit, with valves, head gasket and intake manifold seals	1	For engine M264	X

Control unit/fault code

Control unit	Fault text
N3/10 - Motor electronics 'MED41' for combustion engine 'M260/M264' (ME) (MED41)	<p>P030485 - Combustion misfiring of cylinder 4 has been detected. There is a signal above the permissible limit value.</p> <p>P030385 - Combustion misfiring of cylinder 3 has been detected. There is a signal above the permissible limit value.</p> <p>P030285 - Combustion misfiring of cylinder 2 has been detected. There is a signal above the permissible limit value.</p> <p>P030185 - Combustion misfiring of cylinder 1 has been detected. There is a signal above the permissible limit value.</p> <p>P030085 - Combustion misfiring has been detected. There is a signal above the permissible limit value.</p> <p>P1CEF85 - Injector injection quantity adjustment for cylinder balancing has almost reached the upper limit value at at least one cylinder. There is a signal above the permissible limit value.</p> <p>P219F78 - Mixture formation (cylinder 4) is irregular. The adaptation or adjustment is incorrect.</p> <p>P219E78 - Mixture formation (cylinder 3) is irregular. The adaptation or adjustment is incorrect.</p> <p>P219D78 - Mixture formation (cylinder 2) is irregular. The adaptation or adjustment is incorrect.</p> <p>P219C78 - Mixture formation (cylinder 1) is irregular. The adaptation or adjustment is incorrect.</p> <p>P219F77 - Mixture formation (cylinder 4) is irregular. The commanded position cannot be reached.</p>

	<p>P219E77 - Mixture formation (cylinder 3) is irregular. The commanded position cannot be reached.</p> <p>P219D77 - Mixture formation (cylinder 2) is irregular. The commanded position cannot be reached.</p> <p>P219C77 - Mixture formation (cylinder 1) is irregular. The commanded position cannot be reached.</p> <p>P1CE678 - Injector injection quantity adjustment for uniform mixture formation has detected an excessively rich mixture at at least one cylinder. The adaptation or adjustment is incorrect.</p> <p>P1CE577 - Injector injection quantity adjustment for uniform mixture formation has detected an excessively lean mixture at at least one cylinder. The commanded position cannot be reached.</p>
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Operation numbers/damage codes				
Op. no.	Operation text	Time	Damage code	Note
	Damage code- Valve seat exhaust "worn"		01205D1	Select damage code for valve seat with most wear
	Damage code- Valve seat intake "worn"		01224D1	Select damage code for valve seat with most wear
006555	Perform oil change			Max claimable time 0.3 hrs
011300	Check cylinder for leaks (spark plugs removed)			
015760	Remove/install cylinder head			
015801	Check cylinder head (Cylinder head removed)			Max claimable time 0.3 hrs
017105	Replace Cylinder Head (cylinder head removed, new cylinder head preassembled)			
151010	Spark Plugs Remove and Install			
201145	Drain/fill correct coolant			
401580	Remove/install complete wheel	H		Only for engine M260
475140	Relieve fuel pressure			
541011	Perform Quick Test			
547989	Disconnect ground line of battery for 12V			
611075	Remove/Install Engine Compartment Paneling			