

M254 Engine idle fluctuation

Topic number	LI07.70-P-078547
Version	3
Function group	07.70 - Gasoline injection and ignition system direct injection
Date	2/19/25
Validity	Passenger car with M254 engine
Reason for change	Clarification to complaint

Complaint

Engine idle fluctuates or stumbles at approximately 7 second interval. No relevant fault codes are stored.

If fault codes are stored or check engine light illuminated, this should be diagnosed separately.

Attachments	
File	Description
Example M254 fluctuation.mp4	Example video of engine fluctuation

Cause

Torque signal mismatch between MRG and PTCU control units. Only effects version 20B of PTCU.

N127 - Control unit 'Powertrain' (PTCU)				-✓-
Model	Part number	Supplier	Version	
Hardware	000 901 62 22	Continental	21/28 000	
Software	254 902 12 01	Continental	21/46 000	
Boot software	000 904 24 03	Continental	21/31 000	
Diagnosis identifier				
004B1D		Control unit variant	CPC3_R20B	

Attachments

File	Description																																			
CPC 20B.png																																				
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Remedy

Software solution in development and LI will be updated once an ETA is available. Replacing parts will not resolve this symptom.

Vehicle can be released to owner if there are no other symptoms present. The idle fluctuation typically resolves after several trips and will not cause other drivability symptoms or damage to the vehicle.

Create an informational TIPS case and submit to the powertrain team with the below information:

- Video showing the "engine data" from head unit while symptom active
- N3/10 MRG2 control unit log

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 > RPM too high/low				
Power generation > Engine management > Engine running > Runs rough/shakes				
Operation numbers/damage codes				
Op. no.	Operation text	Time	Damage code	Note