

S580e Check engine light - Misfire fault codes for multiple cylinders

Topic number	LI07.70-P-080607
Version	1
Function group	07.70 - Gasoline injection and ignition system direct injection
Date	6/3/26
Validity	Model year 2023 - 2026 S580e plug-in Hybrid
Reason for change	

Complaint

Check engine light activated.

Fault codes related to misfire on multiple cylinders stored. Possible fault codes listed below:

- P030004 - Combustion misfiring has been detected. There is an internal fault.
- P030100 - Combustion misfiring of cylinder 1 has been detected
- P030200 - Combustion misfiring of cylinder 2 has been detected
- P030300 - Combustion misfiring of cylinder 3 has been detected
- P030400 - Combustion misfiring of cylinder 4 has been detected
- P030500 - Combustion misfiring of cylinder 5 has been detected
- P030600 - Combustion misfiring of cylinder 6 has been detected
- P031600 - Combustion misfires were detected at engine start.

Cause

Under analysis

Remedy

Note: If the vehicle has a single cylinder misfiring or a constant misfire, diagnose the cause of this separately. This LI document is not relevant in this scenario.

Collect details from the vehicle owner:

- What did the driver experience/feel when the CEL activated?
- What is the driving scenario when the symptom occurs? (i.e. time of day, vehicle speed, electric driving/ICE driving, etc.)
- How often has this symptom been experienced?
- How often is the vehicle recharged and driven in electric mode?

- When was the last time the fuel tank was refueled, brand, quality of fuel?

Save document from the vehicle:

- Initial quick test with freeze frame data
- Control unit log from Engine control unit N3/10
- Control unit log from Powertrain control unit N127
- HV system control unit log

Additional steps:

1. Perform test drive and attempt to reproduce symptom as described by owner
2. Capture a fuel sample and check for abnormal condition or ethanol content
3. Create a TIPS case with the powertrain team and include all above information/documents and any additional observations.

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	

Control unit/fault code	
Control unit	Fault text
N3/10 - Motor electronics 'MRG1PI' for combustion engine 'M256' (ME) (MRG1PI)	P031600 - Combustion misfires were detected at engine start. _
	P030600 - Combustion misfiring of cylinder 6 has been detected. _
	P030500 - Combustion misfiring of cylinder 5 has been detected. _
	P030400 - Combustion misfiring of cylinder 4 has been detected. _
	P030300 - Combustion misfiring of cylinder 3 has been detected. _

	P030200 - Combustion misfiring of cylinder 2 has been detected. _ P030100 - Combustion misfiring of cylinder 1 has been detected. _ P030004 - Combustion misfiring has been detected. There is an internal fault.
--	--

Operation numbers/damage codes				
Op. no.	Operation text	Time	Damage code	Note