

Vehicle does not start due to interlock failure

Topic number	LI54.10-P-080004
Version	1
Function group	54.10 - Battery, power supply, voltage converter
Date	11/11/25
Validity	243 with SA codes BAD or BAE
Reason for change	

Complaint

- Vehicle cannot be started
- Warning in the instrument cluster related to High-voltage on board electrical system
- The following fault codes related to interlock can be found in the High Voltage Control units :
- PTCU (N127) :
 - P154700 - There is a warning due to a detected fault in the interlock circuit.
- BMS (N82/9) :
 - P0A0B00 - The interlock circuit of the high-voltage on-board electrical system has a malfunction.
 - P0A0D00 - The interlock circuit of the high-voltage on-board electrical system has a short circuit to positive.
- DCB (N116/5):
 - P0A0A00 - The interlock circuit of the high-voltage on-board electrical system has an electrical fault.
 - P0A0B00 - The interlock circuit of the high-voltage on-board electrical system has a malfunction.
 - P0A0C00 - The interlock circuit of the high-voltage on-board electrical system has a short circuit to ground.
- OBL (N83/11) :
 - P0A0B00 - The interlock circuit of the high-voltage on-board electrical system has a malfunction.
 - P0A0C00 - The interlock circuit of the high-voltage on-board electrical system has a short circuit to ground.

Instrument cluster warning messages :



Attachments

File	Description
<p>IC malfunction.jpeg</p> 	

Cause

- Oxidation in interlock circuit pins of the low voltage connectors in the components
- Twisted harness
- Harness scratching with the body
- Wiring harness chafed/cut at the ECUs
- Broken interlock connector
- Improperly connected HV connectors
- Interlock pins on HV components are bent or deformed

Important Note :

- In case of interlock failures, the High-voltage component is less likely to cause the issue.

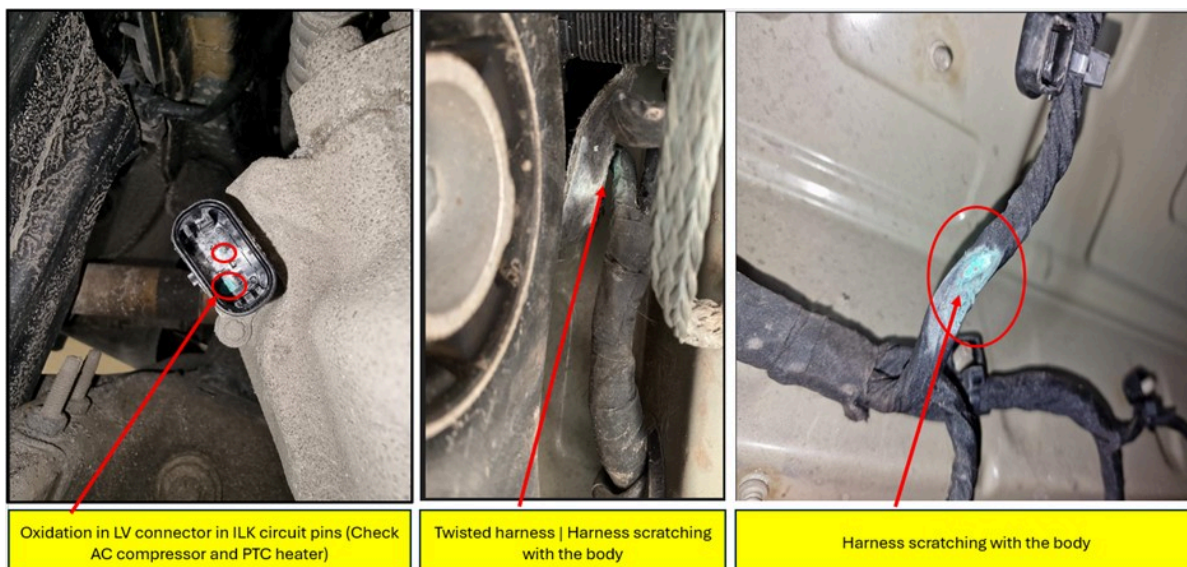
Remedy

Remedy 1:

Interlock loop resistance measurement (Refer attachment "243 Interlock Resistance Measurements.pdf")

Remedy 2:

Additional check points for interlock issues





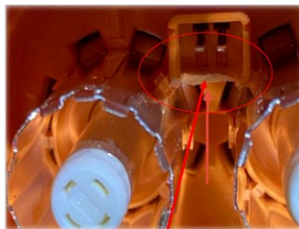
Wiring harness chafed with body near rear e-ATS



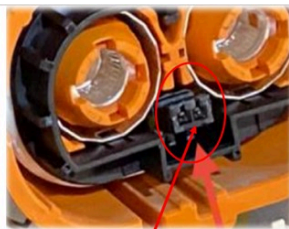
Wiring harness cut near rear e-ATS



Wiring harness chafed with the body near AC compressor



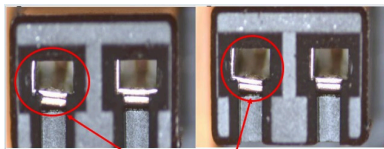
Broken interlock connector



Broken interlock connector



Improperly connected HV connectors

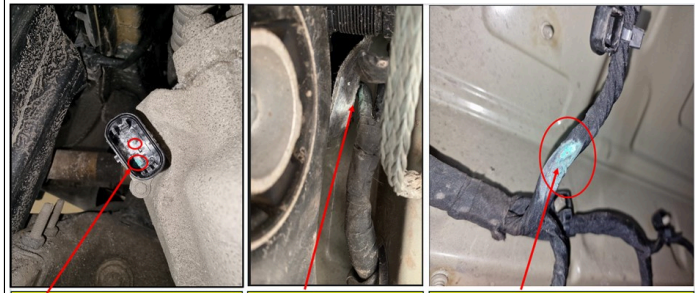


Interlock pins on HV components are bent or widened

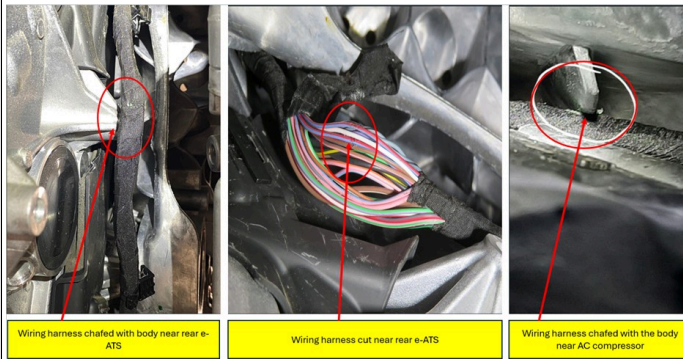


Corrosion on Interlock pins on HV component's low voltage connector

Attachments

File	Description
<p data-bbox="109 1612 423 1646">Additional check point 1.jpg</p>  <p data-bbox="109 1971 344 2004">Oxidation in LV connector in ILK circuit pins (Check AC compressor and PTC heater)</p> <p data-bbox="344 1971 517 2004">Twisted harness Harness scratching with the body</p> <p data-bbox="517 1971 799 2004">Harness scratching with the body</p>	

Additional check point 2.jpg

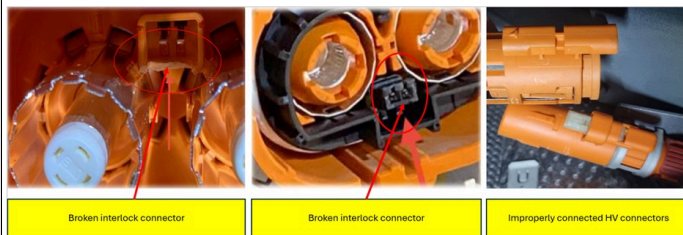


Wiring harness chafed with body near rear e-ATS

Wiring harness cut near rear e-ATS

Wiring harness chafed with the body near AC compressor

Additional check point 3.jpg

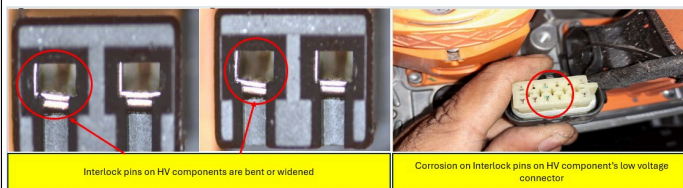


Broken interlock connector

Broken interlock connector

Improperly connected HV connectors

Additional check point 4.jpeg



Interlock pins on HV components are bent or widened

Corrosion on Interlock pins on HV component's low voltage connector

243 Interlock Resistance Measurements.pdf

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

Overall vehicle > Power supply > High-voltage on-board electrical system > High-voltage battery > Malfunction

Overall vehicle > Power supply > High-voltage on-board electrical system > High-voltage battery > Display message

Control unit/fault code

Control unit

Fault text

XENTRY Tips

N83 - AC charger for high-voltage battery (SG-LG) (OB-L223_GEN4)	<p>P0A0B00 - The interlock circuit of the high-voltage on-board electrical system has a malfunction. _</p> <p>P0A0C00 - The interlock circuit of the high-voltage on-board electrical system has a short circuit to ground. _</p>
N116/5 - Direct current charge connection unit (DCCU) (DCB223)	<p>P0A0C00 - The interlock circuit of the high-voltage on-board electrical system has a short circuit to ground. _</p> <p>P0A0B00 - The interlock circuit of the high-voltage on-board electrical system has a malfunction. _</p> <p>P0A0A00 - The interlock circuit of the high-voltage on-board electrical system has an electrical fault. _</p>
N82/9 - Battery management system (BMS) (BMS30E-B01)	<p>P0A0D00 - The interlock circuit of the high-voltage on-board electrical system has a short circuit to positive. _</p> <p>P0A0B00 - The interlock circuit of the high-voltage on-board electrical system has a malfunction. _</p>
N127 - Drivetrain (PTCU) (CPC3EV243)	P154700 - There is a warning due to a detected fault in the interlock circuit. _

Operation numbers/damage codes

Op. no.	Operation text	Time	Damage code	Note
	For consequential damage, please always invoice the damage code of the component part that caused it.	H	5420W	