

Whistling or howling noises from high-voltage belt-driven starter alternator (HV-BSA)

Topic number	LI15.40-P-078041
Version	1
Function group	15.40 - Generator
Date	7/15/24
Validity	All AMG P3 hybrid vehicles.
Reason for change	Cause and remedy revised. Attachments added.

Complaint

Whistling and/or howling noises in the area of the engine compartment when idling at low rpm.

Attachments	
File	Description
Beispiel 2.mp4	Rotational speed of 860 revolutions per minute
Beispiel 3.mp4	Rotational speed of 650 revolutions per minute
Beispiel 1.mp4	Rotational speed of 1100 revolutions per minute

Cause

The high-voltage belt-driven starter alternator (HV-BSA) charges the high-voltage battery whenever its state of charge (SOC) is less than 20% and the speed is lower than 15 km/h.

The displayed SOC refers to the value shown in the display (AMG Dynamics).

When auxiliary consumers such as the air conditioning system are activated and the on-board electrical system load increases, the idling speed is not sufficient for the HV-BSA to provide enough current to the high-voltage battery.

As a consequence, the idle speed is increased in stages.

The noises may vary in intensity and frequency depending on the idle speed and load.

This causes the noises mentioned above.

Remedy

Replacing the HV-BSA will not remedy the issue.

Charge the high-voltage battery to 100% SOC before handing it over to the customer.

Disclaimer

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Symptoms
Power generation > Engine noise > Noise
Power transmission > Noises > Howling/whistling

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