

Model series 221 Hybrid : Engine start/stop / engine starts up at random or 12 V on-board electrical system voltage too low

Topic number	LI54.10-P-049241
Version	2
Design group	54.10 Battery, voltage supply, voltage converter
Date	06-21-2010
Validity	Model series 221 Hybrid
Reason for change	Part number revised
Reason for block	

Complaint:

The following complaints can occur in combination with the fault code P1C7000 "The resistance of the electrical line from DC/DC converter control unit N83/1 to ground point W3/9 is too high" in the DC/DC converter control unit:

1. In the start/stop function the engine starts up again by itself at random or after a period of 20 s.
2. The charge level of the 12 V on-board electrical system battery is insufficient.

Cause:

The contact of the ground line between the DC/DC converter and the vehicle body is inadequate.

1. The contact surface of the ground line on the housing of the DC/DC converter is oxidized.
2. The ground point on the longitudinal member in the right front wheel arch is partially painted over.

Remedy:

1. Observe notes on working on the high-voltage on-board electrical system.
2. Perform a power disconnect of the high-voltage on-board electrical system.
3. Remove the ground line between the DC/DC converter and the vehicle body.
4. Rub down the contact surface of the ground line on the housing of the DC/DC converter with abrasive paper.
5. Clean paint/dirt off the contact surface for the ground line on the longitudinal member of the vehicle body.

Note: The eyelets of the ground cable are tin-plated and must therefore not be rubbed down!

6. Install the ground line between the DC/DC converter and the vehicle body and perform initial startup of the high-voltage on-board electrical system.
7. Erase the fault code P1C7000 in the DC/DC converter control unit and then start the engine.
8. Run the engine for at least 2 min with consumers such as the rear window heater, seat heater and driving lights switched on.

Note: If the fault code P1C7000 is stored again in the DC/DC converter control unit, the ground line must be replaced!

Attachments	
File	Designation
Bild Masseanschluss Spannungswandler unten rechts.pdf	Picture - Voltage converter bottom right
Bild Masseanschluss L_ngstr_ger.pdf	Picture - Ground connection on longitudinal member

Symptoms
Overall vehicle / Power supply / Battery / On-board electrical system / Battery/on-board electrical system indicator lamp / Battery charge indicator/consumer shutoff / Illuminates red
Overall vehicle / Power supply / Battery / On-board electrical system / Battery/on-board electrical system display message / Low voltage Charge battery
Power generation / Engine management / Engine start / Does not start
Power generation / Engine management / Engine start / No automatic engine start
Power generation / Engine management / Engine start / Engine does not turn off
Power generation / Engine management / Engine start / Engine starts without obvious cause

Control unit/fault code		
Control unit	Fault code	Fault text
SG-DDW-DC/DC converter control unit (HVDCDC221)	P1C7000	The resistance of the electrical line from component N83/1 (DC/DC converter control module) (terminal 31) to ground point W3/9 (DC/DC converter ground connection (right front wheel arch)) is too high.

Parts					
Part number	Designation	Quantity	Note	EPC net	Non-EPC
A 221 540 23 34	Electrical wiring harness	1		X	

Work units				
Op. no.	Operation text	Time	Damage code	Note
			5420M 74	

Validity		
Vehicle	Engine	Transmission
221.095	*	*
221.195	*	*



