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Coding Information

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Title: SDS EV Battery Health Session Instructions

Applies To: SDS eMV CE EV Bus

CHANGE LOG

Please refer to the change log text box below for recent changes to this article:

08/08/23 - Initial Article Release

DESCRIPTION

This session can be used when diagnosing the following DTCs or when requested by Technical Services.

- **Battery Health Summary** consists of live summarized high voltage battery data. The summary report includes Battery String, Battery Pack and Cell average voltages and State of Charge (SOC) percentages.
- **Battery Health Report** can be created from this session. This detailed report will display the summarized data along with individual battery cell data. This report will be uploaded to the Navistar cloud as a ZIP file that contains the Battery Health Report and a session CAN log. A link to this ZIP file can be included in a case file for further analysis by Technical Service. The report can be viewed after it is created.

SYMPTOMS

DTC	Description
SPN 8100 FMI 2	HVESS State of Charge Status: Data Erratic, Intermittent or Incorrect
SPN 5923 FMI 4	HVESS Lowest Cell Voltage: Voltage Below Normal, Or Shorted to Low Source
SPN 5923 FMI 17	HVESS Lowest Cell Voltage: Data Valid but Below Normal Operating Range Least Severe Level
SPN 5924 FMI 2	HVESS Cell Voltage Differential Status: Data Erratic, Intermittent or Incorrect

SPECIAL TOOLS / SOFTWARE

Tool Description	Tool Number	Comments
Service Diagnostic Solutions (SDS)		Release 1.10.17.2023
Electric Vehicle "Y" Adaptor Cable	08-801-01	
Nexiq USB 2 or Nexiq USB 3		

Electric Vehicle "Y" Adaptor Cable 08-801-01 must be used when diagnosing and recording signals with SDS.

Battery Health Report

This detailed report can be created from this session. This report will display the summarized data along with individual battery cell data. This report will be uploaded to the Navistar cloud as a ZIP file that contains the Battery Health Report and a session CAN log. A link to this ZIP file can be included in a case file for further analysis by Technical Service. The report can be viewed after it is created.

This detailed report should be created at least one hour after the vehicle has been charged or test driven . This allows time for the battery voltages to balance.

1. If you are working with Tech Service, please enter the case file number in the input field **Battery Health Report Case #** . Figure 2
2. Enter the last charge and / or last test drive in hours in the input filed Battery Health Report Details. Figure 2
3. Click on the **Create Report** button on the top of the session. Figure 2
4. SDS will generate the report . This may take several minutes to create the report.
5. At the pop up screen click **Stop Recording**.

SDS Production Test - SDS.1.10.24.202307281035 - Battery Health

1. Battery Health Report Case # 123456

2. Battery Health Report Details Last Charged 2 hours

3. Create Report

BATTERY HEALTH SUMMARY

Distance 25.71 miles Total Energy Discharge 94.20 kWh 0.273 miles/kWh 3.664 kWh/miles
Actual SOC 87.20 % Customer SOC 89.20 %

String 1 628.218 V **Top Row** **Batt Avg** 209.406 V

Pack	209.421 V	60 %	Pack	209.413 V	60 %	Pack	209.384 V	60 %
Min Cell	3.322 V	60 %	Min Cell	3.322 V	60 %	Min Cell	3.323 V	60 %
Avg Cell	3.324 V	60 %	Avg Cell	3.324 V	60 %	Avg Cell	3.324 V	60 %

3 2 1

String 2 628.255 V **Bottom Row** **Batt Avg** 209.418 V

Pack	209.425 V	60 %	Pack	209.429 V	60 %	Pack	209.402 V	60 %
Min Cell	3.323 V	60 %	Min Cell	3.323 V	60 %	Min Cell	3.323 V	60 %
Avg Cell	3.324 V	60 %	Avg Cell	3.324 V	60 %	Avg Cell	3.324 V	60 %

6 5 4

Figure 2: Battery Health Report

1. Input: Case File Number
2. Input: Enter last charge or test drive in hours.
3. Click: Create Report

Accessing Reports and Recorded Files:

All recorded reports and recorded files are now automatically uploaded to the Navistar cloud storage. To access or download these files from the Navistar cloud, follow these instructions:

1. Click on the **Download .zip File** button to download the file to your PC. This download will use your default browser to download the file to the browser default download folder. The downloaded file can be attached to a case file or email (dependent on the file size).Figure 3
2. Click on the **Copy Link to Clipboard** to copy a link to the file on the cloud. This link can then be pasted in a case file or email. Technical Service can access this file on the cloud using the provided link. Figure 3
3. Click on the Open Report PDF to view the detailed Battery Health Report. Figure 3

1. Not used (points to Open Recording File)

2. Download (points to Download .zip File)

3. Copy Link (points to Copy Link to Clipboard)

4. Open Detailed Report (points to Open Report PDF)

BATTERY HEALTH SUMMARY

Distance 25.71 miles Total Energy Discharge 94.20 kWh 0.273 miles/kWh 3.664 kWh/miles

Actual SOC 87.20 % Customer SOC 89.20 %

String 1 628.218 V Top Row Batt Avg 209.406 V

Pack	209.421 V	60 %	Pack	209.413 V	60 %	Pack	209.384 V	60 %
Min Cell	3.322 V	60 %	Min Cell	3.322 V	60 %	Min Cell	3.323 V	60 %
Avg Cell	3.324 V	60 %	Avg Cell	3.324 V	60 %	Avg Cell	3.324 V	60 %
3			2			1		

String 2 628.255 V Bottom Row Batt Avg 209.418 V

Pack	209.425 V	60 %	Pack	209.429 V	60 %	Pack	209.402 V	60 %
Min Cell	3.323 V	60 %	Min Cell	3.323 V	60 %	Min Cell	3.323 V	60 %
Avg Cell	3.324 V	60 %	Avg Cell	3.324 V	60 %	Avg Cell	3.324 V	60 %
6			5			4		

Figure 3: Battery Health Report

1. Open Recording File - Not used
2. Download .zip File
3. Copy Link to Clipboard
4. Open Report PDF

[Sample Detailed Battery Health Report](#)

OTHER RESOURCES

[Master Service Information Site](#)

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