HYUNDAI **Technical Service Bulletin**	GROUP **ENGINE ELECTRICAL**	NUMBER **19-EE-004H-1**
	DATE **June 2019**	MODEL(S) **ALL**

SUBJECT: DEALER AGED INVENTORY WEBDCS DASHBOARD FOR BLUE LINK LOW BATTERY SOC ALERTS

This TSB supersedes TSB# 19-EE-004H to revise battery testing and charging recommendation.

★ IMPORTANT

*******DEALER STOCK ONLY*******

Dealers should perform battery maintenance to all affected vehicles on WebDCS **"Aged Inventory – Blue Link Alerts"** notification when a Battery State of Charge (SOC) is 50% or less.

- This bulletin aids with the general battery maintenance procedure TSB 19-EE-006H, but only applies to vehicles equipped with Blue Link SOC reporting ability.
- Vehicles without Blue Link and reporting ability will not appear in WebDCS; the regular monthly (30 days) and 3 months (90 days) maintenance procedures still apply.

Description:

This bulletin provides information on identifying dealer inventory vehicles with low Battery State of Charge (SOC) Alerts at or below 50%. Alerted VINs can be found on the WebDCS **"Aged Inventory – Blue Link Alerts"** dashboard in both the **"Sales"** and **"Service"** tabs.

- The information in the WebDCS dashboard is based on the vehicle's Engine Control Module (ECM) calculated Battery SOC, and is transmitted via Blue Link at every engine off event.
- Proper battery maintenance is required to ensure battery health. Leaving battery for extended time in the storage lot at or below 50% SOC will negatively reduce battery health, thereby impacting customer satisfaction (CSI).
- Vehicles are equipped with a variety of advanced safety and convenience features that depends on having a good battery health and SOC.
- Battery charging should be taken as soon as possible on alerted vehicles.
- Charging the battery and verifying the SOC is outlined in pages 4 - 6 of this TSB.

Applicable Vehicles: All Dealer Stock Vehicles Equipped with Blue Link

NOTICE

Per HMA warranty policy, batteries that fail during dealer storage after 7 days from arrival are the dealer's responsibility. It is in the dealer's best interest to take action on these Blue Link alerts.

Circulate To: General Manager, Service Manager, Parts Manager, Warranty Manager, Service Advisors, Technicians, Body Shop Manager, Fleet Repair

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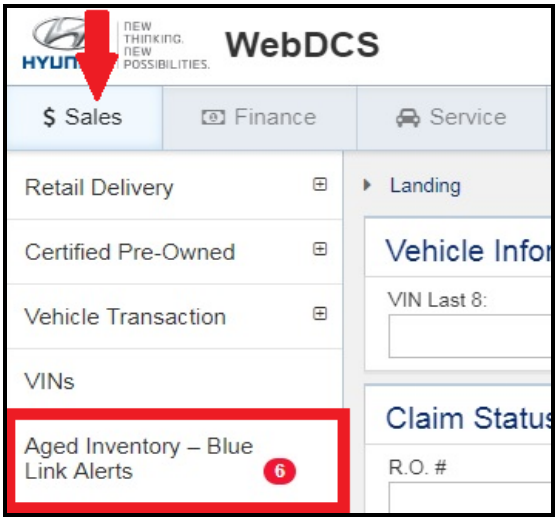
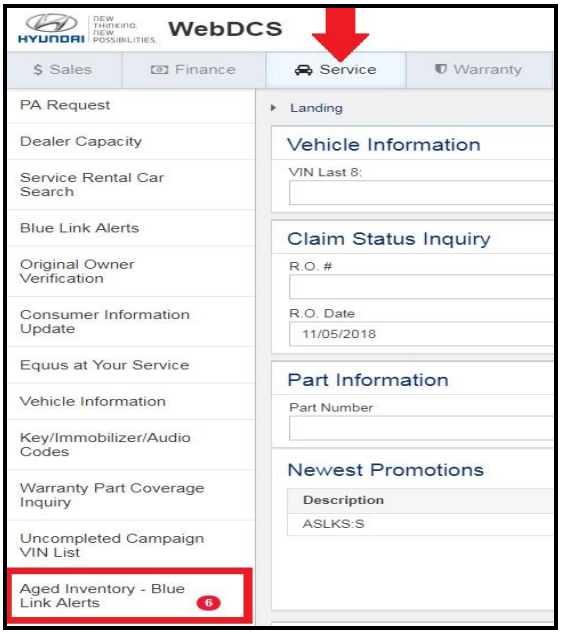
Service Procedure:

Identifying Vehicles with Low Battery SOC Alerts:

1. Access Hyundai Motor America's "**Aged Inventory – Blue Link Alerts**" dashboard via WebDCS to identify dealer stock vehicles with low battery condition alerts.

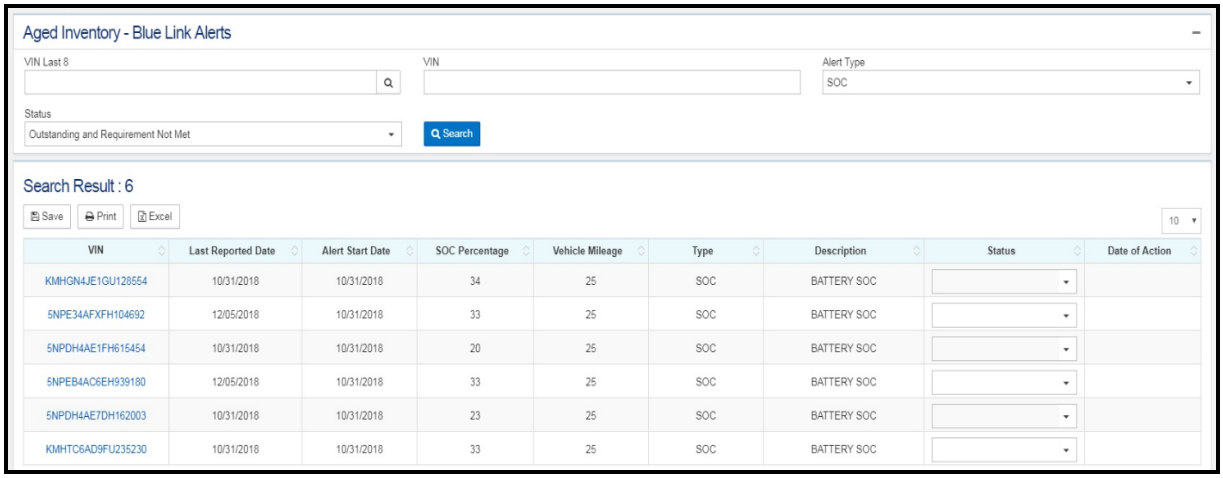
2. Select the "**Sales"** or "**Service"** tab and scroll down to the subcategory to select "**Aged Inventory – Blue Link Alerts**".

Sales	Service
	

NOTICE

The number indicated in the red circle within the subcategory "**Aged Inventory – Blue Link Alerts**" denotes how many VINs are at or below 50% SOC, without "**Status**" updates or the "**Requirements Not Met**" status.

3. A list of dealer stock vehicles in both **Sales** and **Service** tabs with Low Battery SOC Alerts will be displayed, which requires immediate attention to the vehicle battery SOC.



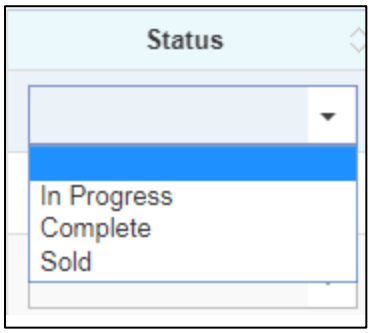
VIN	Last Reported Date	Alert Start Date	SOC Percentage	Vehicle Mileage	Type	Description	Status	Date of Action
KMHGN4JE1GU128554	10/31/2018	10/31/2018	34	25	SOC	BATTERY SOC		
5NPE34AFXFH104692	12/05/2018	10/31/2018	33	25	SOC	BATTERY SOC		
5NPDH4AE1FH615454	10/31/2018	10/31/2018	20	25	SOC	BATTERY SOC		
5NPEB4AC6EH939180	12/05/2018	10/31/2018	33	25	SOC	BATTERY SOC		
5NPDH4AE7DH162003	10/31/2018	10/31/2018	23	25	SOC	BATTERY SOC		
KMHTC6AD9FU235230	10/31/2018	10/31/2018	33	25	SOC	BATTERY SOC		

4. Prioritize your action to handle the vehicles with the lowest Battery SOC first. These are more likely to fail while on your lot if not treated as soon as possible.

5. Perform battery charging utilizing either of the methods as outlined on page 4 of this TSB.

6. After performing the battery maintenance perform the status update for each individual VIN through the "**Aged Inventory – Blue Link Alerts**" in either the "**Sales**" or "**Service**" Tabs

   ***Refer to the chart below for the definitions of each **Status** update choices.



Status Definitions:	
In Progress	• Actions are in place to perform the battery maintenance before end of current business day.
Complete	• Actions have been taken to sufficiently charge the vehicle battery over 70% SOC.
Sold	• The vehicle has been sold to a customer and is no longer in dealer stock.

Requirement Not Met	• This is a system generated status due to the following:
	  ○ The vehicle was unable to achieve the proper SOC.
	  ○ The proper steps were not completed to transmit out the updated SOC (See notice on Page 5 for further details on transmitting out the new SOC).
	• No actions were taken from the previous day.
	• Incorrect status selection from previous day.

NOTICE

- VIN(s) will automatically be removed from WebDCS once the vehicle properly reports a SOC value of greater than 50%. No further action will be required for the status update column in WebDCS.
- The VIN will automatically repopulate to WebDCS should the SOC value equal to or less than 50%.
- It is highly recommended to charge above 70% SOC level to minimize re-alerts and a need for recharging.

Low Battery SOC Alert Maintenance – How to Raise Battery SOC:

Use either option "**A"** or "**B"** below to charge the battery:

A. Engine Idle with Headlights On:

- During engine idle charging, instrument cluster SOC may be occasionally monitored with the Power Fuse Switch turned **"OFF"**. (see page 6)

B. Automatic Regulated Battery Charger:

(NOTE: Be sure to read specific instructions of page 5).

- Must use a charger with functionality to automatically regulate current and voltage.
- The correct battery type selection, either "Flooded" or "AGM", must be selected during battery charging to ensure proper charging.
- Charger must have reverse polarity detection.
- The following automatic regulated battery chargers are recommended by Hyundai:

Charger:	Midtronics GR8	Associated Intellimatic ESS6008MSK	Schumacher DSR121 or DSR122
Picture:			
Notes:	Hyundai Essential Tool See TSB 18-EE-003	Must use DEAD BATTERY OVERRIDE switch for a dead battery	Best used in the Boost Charge mode

Estimated Charging Time by Either Method:

The table below is for relative comparison for deciding best method to charge based on alerted SOC level and what is practical for each dealer situation. Charge times are only example for a large battery. Actual charge time depends on vehicle model, battery capacity, condition, and charger used.

Low Battery SOC Alert Level	**Estimated charge time to reach greater than 70% ECM Battery SOC**	
	Engine Idle with Headlights On	Automatic Regulated Battery Charger**
60% - 69%	45 mins	30 mins
50% - 59%	1 hour	45 mins
40% - 49%	1.5 hours	1 hour
30% - 39%	2 hours	1.5 hours
29% or less	Not Recommended*	2.5 hours or more

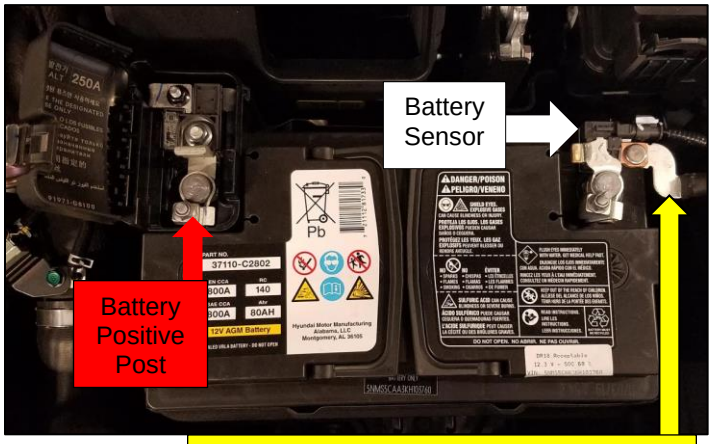
NOTES:

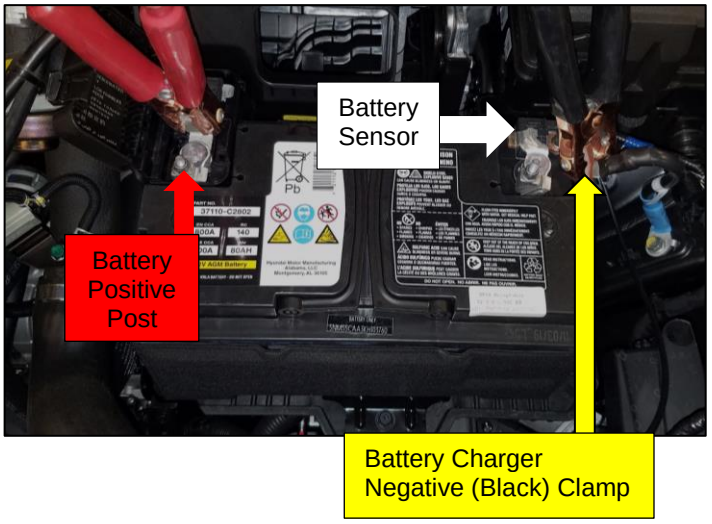
***** Charging with a battery charger is required to break away sulfation from battery plates.

****** May require 4 hours of elapsed time for ECM to update battery SOC. See next page for additional information.

Specific Battery Charger Procedure Required for ECM SOC Learning:

1. Connect the positive (red) battery charger clamp to the jumper plate or tab of the battery **" + "** positive terminal (see below diagram).
2. For the battery sensor to learn ECM Battery SOC increase during charging by battery charger**, the negative (black) battery charger clamp must be connected to the metal plate before the battery sensor or at an unpainted chassis ground bolt,** not directly to the battery terminal. (see below picture for example).
3. After adequate time charging, run vehicle briefly for 10 seconds and turn it off to allow the ECM Battery SOC to transmit to WebDCS updating the **"Aged – Inventory Blue Link Alerts"**.





NOTICE

If any of these conditions occur after charging:

- Re-alerts to WebDCS stating **"Requirement Not Met",**
- Instrument cluster SOC or GDS SOC (see page 6) indicates "**- -**" or "**checking**"
- ECM SOC % is much lower than expected.

… which could have resulted from any of the following situations:

- Charging from a deep discharged battery (29-0% ECM SOC).
- Charging directly at the battery terminals rather than with the charger black clamp connected at the plate or tab before the vehicle's battery sensor.
- Charging after disconnecting battery cable(s) or removing the battery to be charged outside of the vehicle.

…Then the following steps are needed to recalibrate ECM SOC and transmit to WebDCS:

a) Vehicle needs to have rested with ignition **"OFF"** for at least 4 hours, battery cables connected, doors, hood, and trunk closed and all accessories off.
b) Perform an Engine ON/OFF event with at least 10 seconds of engine running.

Verifying ECM Battery SOC:

Vehicle's ECM Battery SOC condition may be verified by using either of the following 2 methods based on which applies to the vehicle and is convenient for each dealer situation:

A. Instrument Cluster ECM Battery SOC Display:

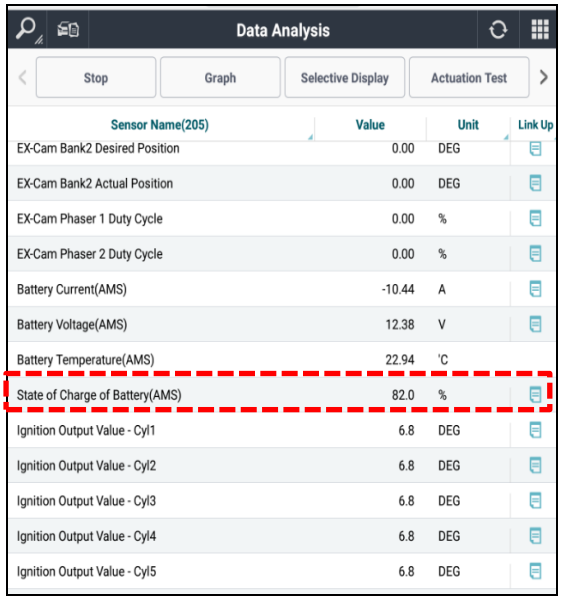
- ECM's Battery SOC can be displayed on the instrument cluster with the ignition switch turned **"ON"** and the Power Fuse Switch is in the **"OFF"** position.
- The Power Fuse Switch can be located under the dash within the fuse box.
- Not all vehicles can display Instrument cluster SOC.
- On most vehicles, it displays when vehicle odometer is less than 100 miles.

NOTICE

- While battery is being charged with a charger, the instrument cluster ECM SOC can be monitored by turning the ignition **"ON"** briefly. **DO NOT** leave the ignition **"ON"** for an extended period of time.
- It is recommended to turn the Power Fuse Switch **"OFF"** when vehicles are in dealer stock to minimize vehicle current draw and reduce battery discharge.

B. GDS ECM Current Data:

- **State of Charge of Battery** is one of the parameters found in the **"Engine Data Analysis"** screens of the GDS display.



NOTICE

In the event of a battery that fails to take charge or hold charge, test the battery condition with Hyundai approved Cadex tester or GR8 tester/charger.
Refer to TSB 17-EE-003 or 18-EE-003 (or newer TSBs) for detailed information.