



HYUNDAI Technical Service Bulletin

GROUP FUEL SYSTEM	NUMBER 18-FL-001
DATE APRIL, 2018	MODEL(S) TUCSON (LM FCEV)

SUBJECT: FUEL CELL CONTROL UNIT (FCU) SOFTWARE UPDATE

★ IMPORTANT

Dealers should perform this software improvement whenever an affected vehicle is in the shop for any maintenance or repair.

Description: This bulletin provides information related to the FCU (Fuel Cell Control Unit) software update for TUCSON FCEV (LM FCEV) vehicles. This update includes improvement for fuel cell stack durability and diagnosis condition.

Applicable Vehicles:

15MY ~ 17MY Tucson (LM) Fuel Cell Electric Vehicle
VIN range KMHJU816FEU000140 ~ KM8JU3A67HU001045

[NOTE]

- To verify the vehicle is affected, be sure to check the version of the vehicle's control unit ROM ID with reference to the ROM ID Information Table mentioned below before attempting to update the control unit software.

ROM ID Information Table:

Part Number	Current ROM ID	Updated ROM ID
39931-4W000	HLMFFZMPAS1-D000 HLMFFZMPAS2-D000 HLMFFZMPAS3-D000	HLMFHZMPAS4-D000

GDS MOBILE Information:

Event #	Description
463	LM FCEV FCU SOFTWARE UPGRADE

Warranty Information:

Model	Op. Code	Operation	Op. Time	Causal Part	Nature	Cause
Tucson Fuel Cell	39930F02	FCU UPDATE	0.3 M/H	39931-4W000	I14	ZZ3

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

SERVICE PROCEDURE:

General Precautions:

NOTICE

Make sure the battery icon at the bottom right of the GDS-Mobile shows at least 50%; if not, charge the GDS-Mobile or attach a battery charger.


- If vehicle has been in storage for several days, run the fuel cell a sufficient amount of time to ensure the 12 volt battery is fully charged.
- To ensure the 12 volt battery will not become discharged during the update. Turn off all lights and all accessories, including heater/air conditioner, fan, audio, heated seats, rear defroster, etc. Do not leave the headlight switch in auto mode.
- Perform the update with the vehicle Start/Stop button in the ON position. To do this, press the Start/Stop button two times without pressing the brake pedal.
- Do not start the Fuel Cell.
- Do not turn OFF the Start/Stop button during the update.
- Do not disconnect any cables connected to the vehicle or the GDS Mobile during the update.

NOTICE

Confirm your GDS Mobile has the most recent software version. If not, connect the GDS Mobile to an Internet port, open the GDS Mobile home page and select "Update". Refer to instructions on www.hyundaitechinfo.com if necessary.

If you encounter GDS related problems, call the GIT Helpline at 888-437-0308.

⚠ WARNING

If voltage is below 12 volts as per the below GDS warning, select Back Button  then run the fuel cell or charge the 12 volt battery to ensure an adequate state of charge for reliable update results. Turn system power back on and then retry the ECU update again.



Automatic Update Procedure Using GDS-Mobile (Global Diagnostic System - Mobile)

1. Connect external power to the GDS Mobile.

Connect the VCI-II into the vehicle's DLC connector under the driver side instrument panel and check that the VCI-II is powered on.



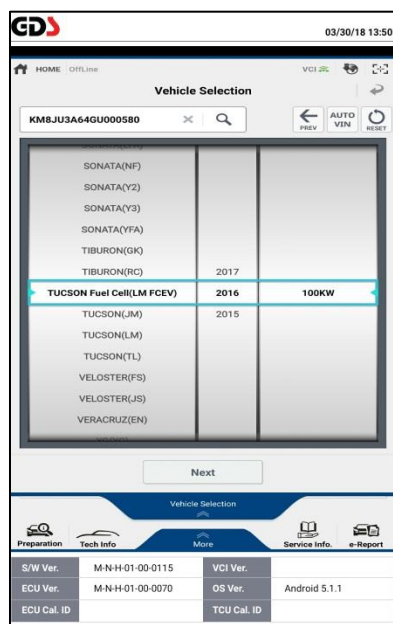
2. Turn on vehicle system power by pressing the Start/Stop button two times without pressing the brake pedal. DO NOT start the fuel cell.



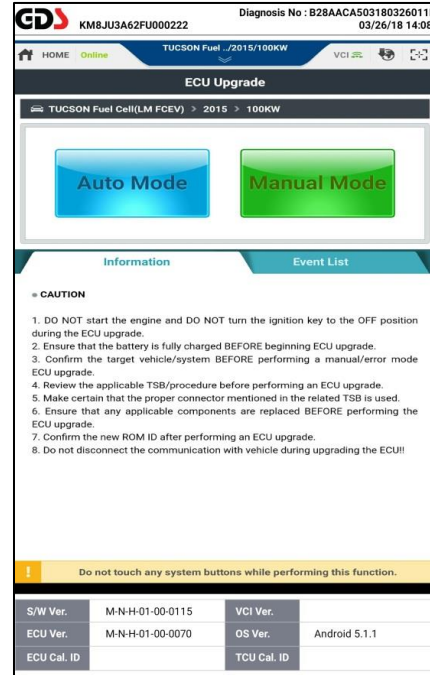
[NOTE]

- ECU upgrade function on GDS-Mobile is basically operating in wireless communication as Wi-Fi direct. Also it's possible to perform the upgrade via USB cable between GDS Mobile and VCI-II.
- Before starting the ECU upgrade, make certain that the battery of GDS Mobile is sufficiently charged.

3. Select “ECU Upgrade” on the initial screen after entering the vehicle information.

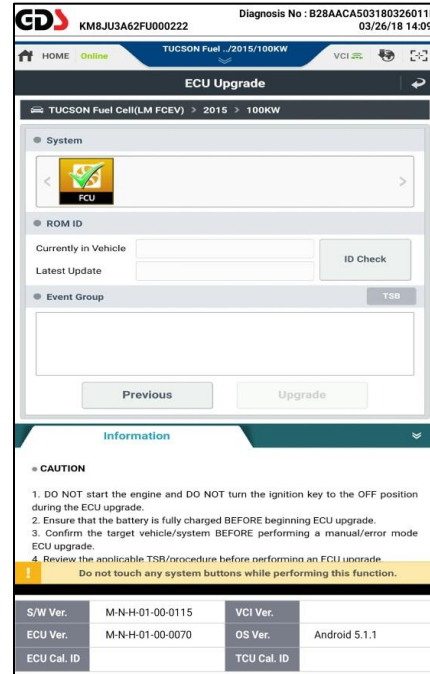
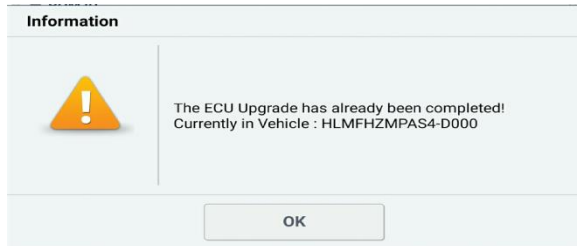


4. Read CAUTIONS in Information tab.
5. Select “Auto Mode”.



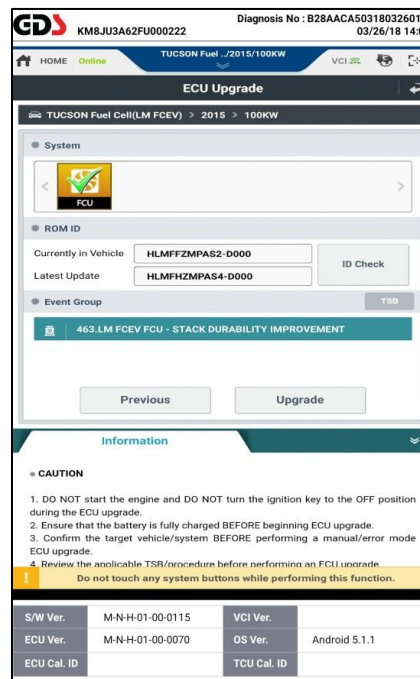
6. Select the FCU System, then select ID Check button.

If after selecting ID check a pop-up window states the ECU upgrade has already been completed, then select “OK” and no further action is required.




7. The GDS-Mobile will read the current ROM ID in vehicle and check the newest upgrade event.

Select the upgrade event “**463.LM FCEV FCU - STACK DURABILITY IMPROVEMENT**”. Then then select “**Upgrade**”.



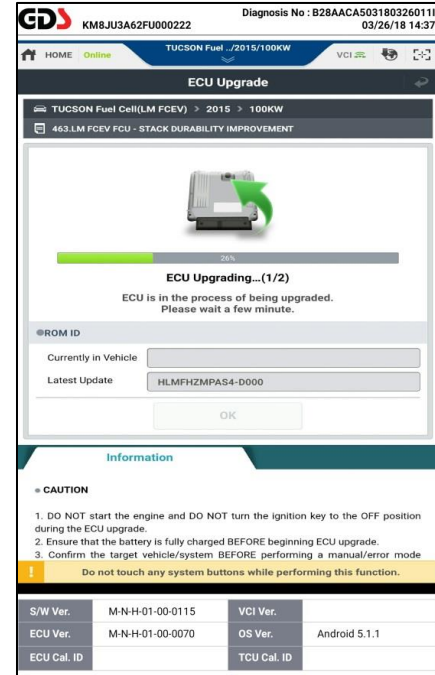
8. The vehicle battery voltage is checked to make sure it is at least 12 volts to assure reliable upgrade results.

Click “**OK**” if the results indicate “**Voltage is OK**”.

[NOTE] - If voltage is below 12 volts as shown, select Back Button “

9. Upgrade (1/2) will begin and the progress of the upgrade will appear on the bar graph.

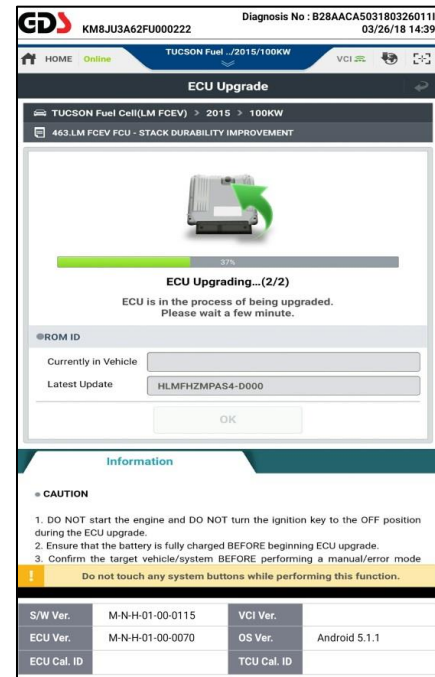
Upgrade (1/2) will occur until 100% is reached on the bar graph.



10. Upgrade (2/2) will begin and the progress of the upgrade will appear on the bar graph.

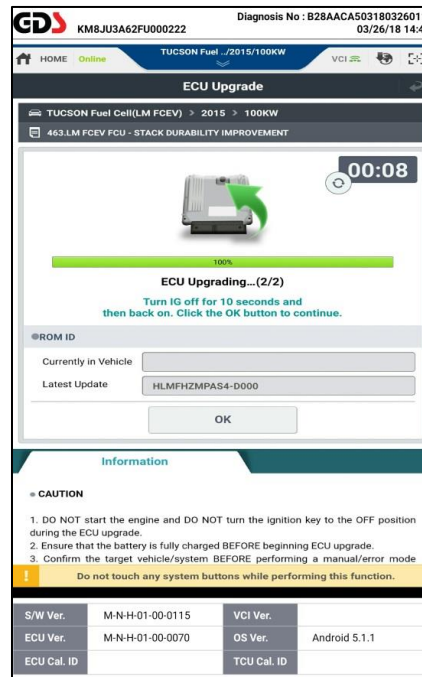
Upgrade (2/2) will occur until 100% is reached on the bar graph.

NOTE: Instrument panel warning lights may flash, and warning chirp may sound during this portion of update.

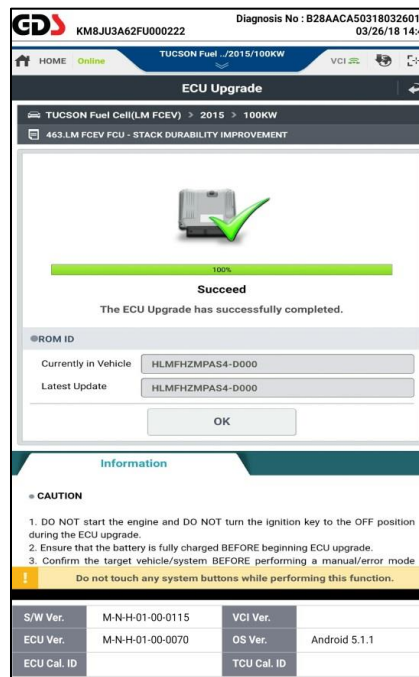


- Turn the system power to **“OFF”** using the Start/Stop button, and wait 10 seconds, turn system power to **“ON”** again, DO NOT start the fuel cell.

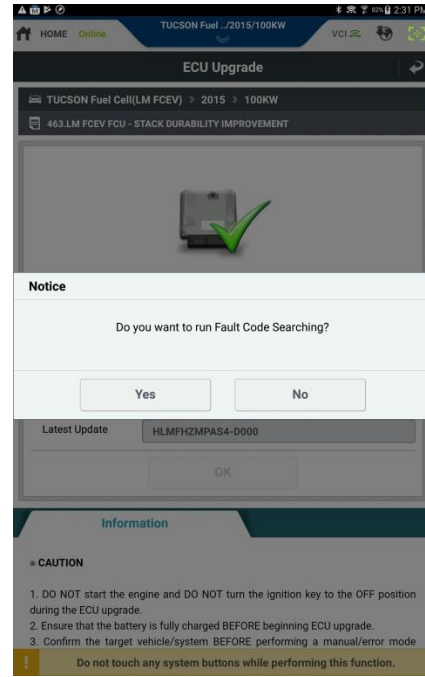
Select **“OK”** to continue according to information displayed on the screen.



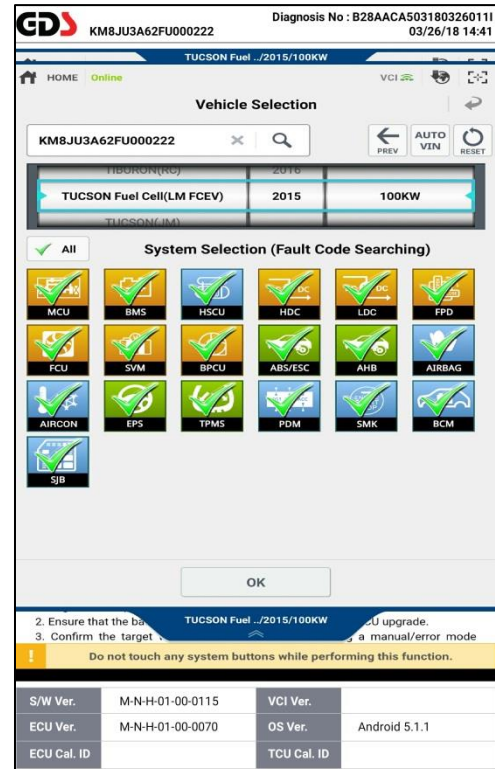
- Select **“OK”** on the final screen, which indicates upgrade is complete.



13. When prompted to run Fault Code Searching, select "Yes".



14. Check and clear any incidental Diagnostic Trouble Codes (DTC) created during the update. Check and clear both "Current" and "History/Pending" DTCs.



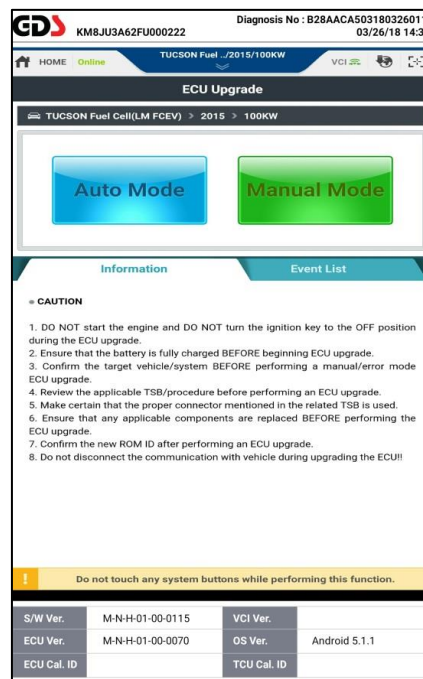
15. Start the fuel cell and confirm proper operation of the vehicle.

GDS-Mobile, Manual Mode FCU Update Procedure:

NOTICE

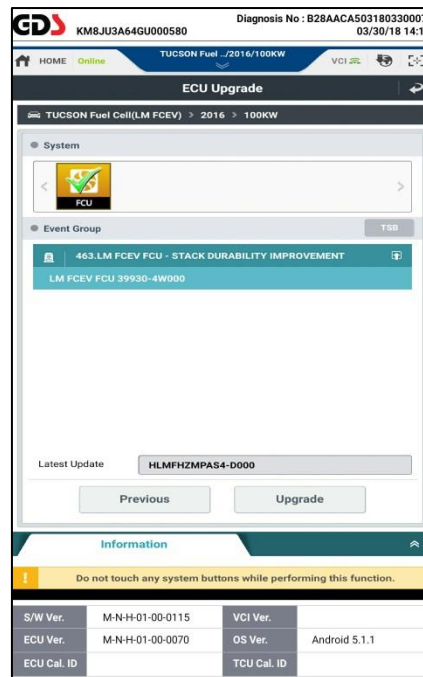
- **Manual update should be performed only when the automatic update fails.**
- If automatic update fails, turn off vehicle system power using Start/Stop button wait 10 seconds, and then restore vehicle system power using Start/Stop button to reset the control unit before performing manual update.

1. Within the ECU Upgrade screen, select “**Manual Mode**”.



2. Select the appropriate control unit part number referenced in the ROM ID Table on page one of this TSB.

3. Select “**Upgrade**”.




4. Enter the password to the right select “**OK**”.

MENU	PASSWORD
LM FCEV FCU 39930-4W000	4000

- The vehicle battery voltage is checked to make sure it is at least 12 volts to assure reliable upgrade results.

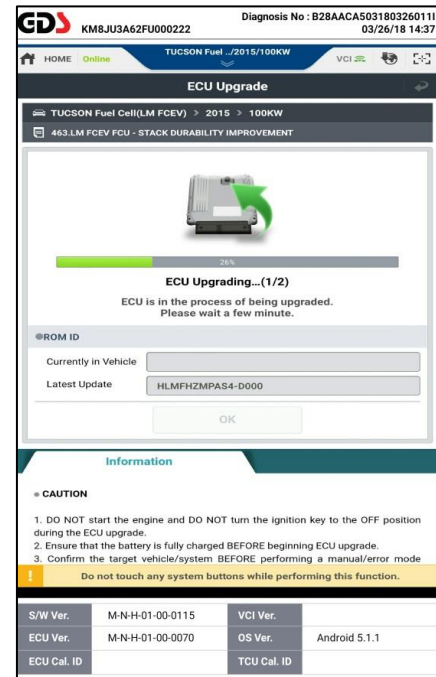
Click "OK" if the results indicate voltage is Ok.

[NOTE] - If voltage is below 12 volts as shown, select Back Button  and then run the fuel cell or charge the 12 volt battery to ensure an adequate charge state for reliable upgrade results.



- Upgrade (1/2) will begin and the progress of the upgrade will appear on the bar graph.

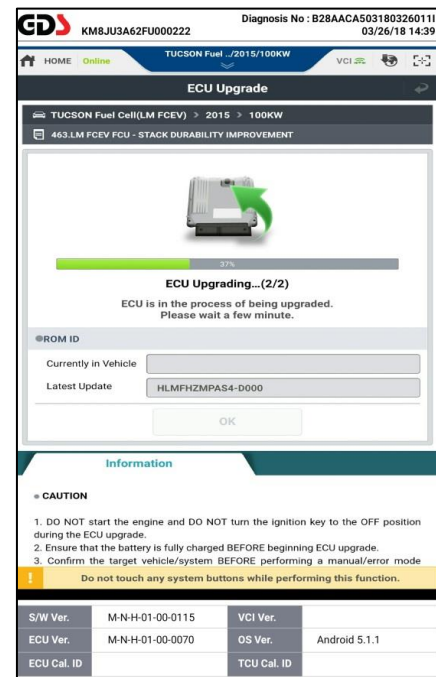
Upgrade (1/2) will occur until 100% is reached on the bar graph.



- Upgrade (2/2) will begin and the progress of the upgrade will appear on the bar graph.

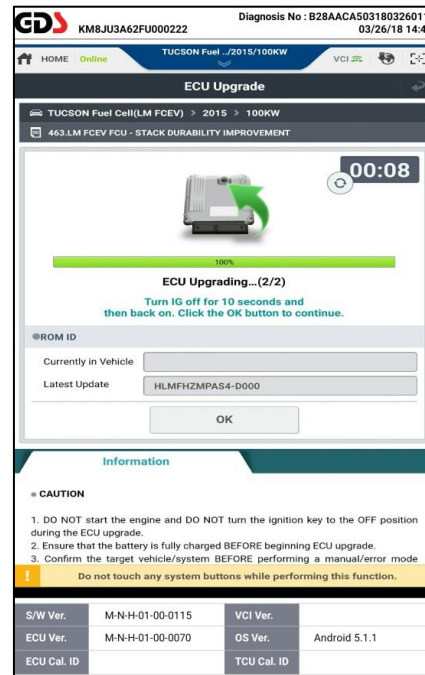
Upgrade (2/2) will occur until 100% is reached on the bar graph.

NOTE: Instrument panel warning lights may flash, and warning chirp may sound during this portion of update.

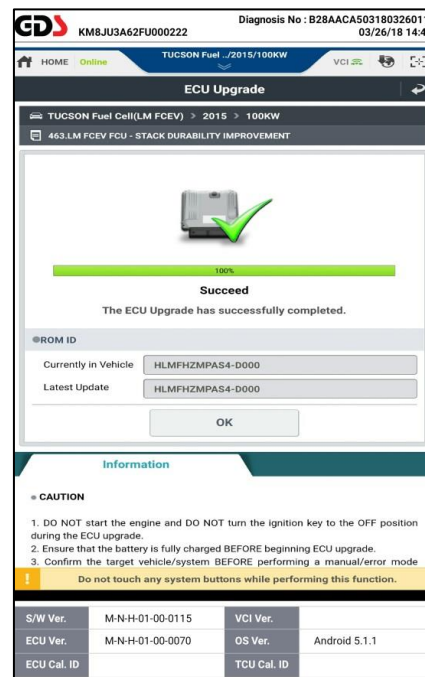


- Turn the system power to **“OFF”** using the Start / Stop button, and wait 10 seconds, turn system power to **“ON”** again, DO NOT start the fuel cell.

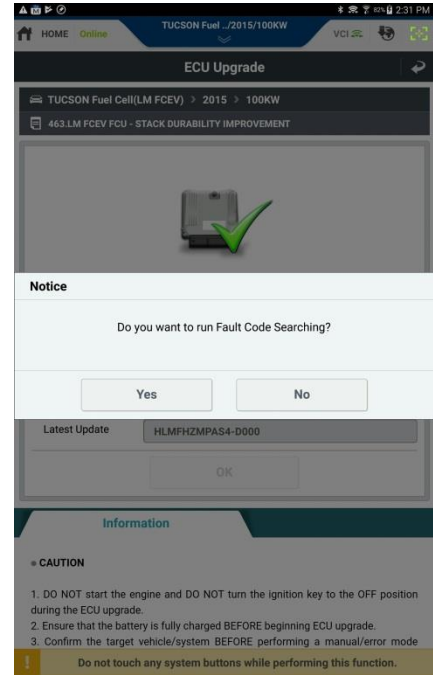
Select **“OK”** to continue according to information displayed on the screen.



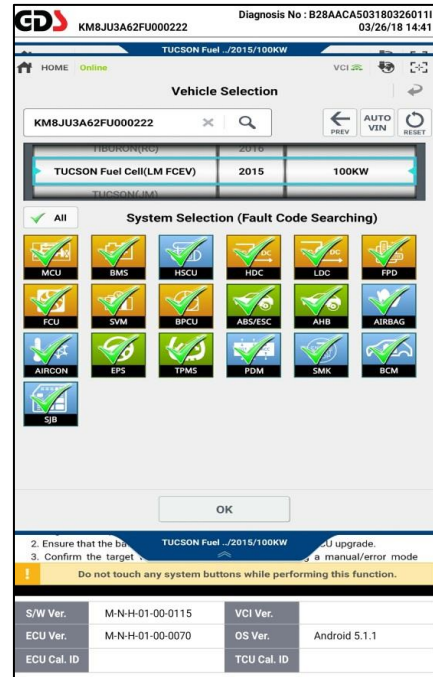
- Select **“OK”** on the final screen, which indicates upgrade is complete.



10. When prompted to run Fault Code Searching select "Yes".



11. Check and clear any incidental Diagnostic Trouble Codes (DTC) created during the update. Check and clear both "Current" and "History/Pending" DTCs.



12. Start the fuel cell and confirm proper operation of the vehicle.