



Technical Service Bulletin

GROUP CAMPAIGN	NUMBER 20-01-029H
DATE July, 2020	MODEL(S) Nexo (Fe)

SUBJECT: FCU & HMU CONTROL LOGIC UPDATE
(SERVICE CAMPAIGN T5D)

★ IMPORTANT***** Dealer Stock and Retail Vehicles *****

Dealers must perform this Service Campaign on all affected vehicles prior to customer retail delivery and whenever an affected vehicle is in the shop for any maintenance or repair.

When a vehicle arrives at the Service Department, access Hyundai Motor America's "Vehicle Information Screen (VIS)" via WEBDCS to identify open Campaigns.

Description: This bulletin provides software update information related to the Fuel Cell control Unit (FCU) and Hydrogen storage Management Unit (HMU) on certain NEXO (FE) vehicles. This update revises the logic for Malfunction Indicator Light (MIL) ON related to the FCU and HMU.

Applicable Vehicles: Certain 2019 – 2020MY NEXO (FE)

GDS Information:

Event #	Description
576	FCU CONTROL LOGIC IMPROVEMENT
577	HMU CONTROL LOGIC IMPROVEMENT

Warranty Information:

Model	Op. Code	Operation	Op. Time	Causal Part	Nature	Cause
Nexo (FE)	90C073R0	FCU & MCU UPGRADE	0.5 M/H	39930-M5110	I3A	ZZ3

NOTE 1: Submit Claim on Campaign Claim Entry Screen

NOTE 2: If a part is found in need of replacement while performing (Service Campaign T5C) and the affected part is still under warranty, submit a separate claim using the same Repair Order. If the affected part is out of warranty, submit a Prior Approval Request for goodwill consideration prior to performing the work.

Additional action required when updating the FCU ROM.

ECU Hardware (H/W) Number	ROM ID	Application Software (S/W) ID	Application ID	Remarks
39930M5100	HFEFKNNPRS0-D000	FES1120RNL	1120RNL610	N.A (Blue or GL)
39930M5110	HFEFKNNPAS0-D000	FES1120RNV	1120RNV610	N.A (Limited or GLS)

Using the GDS-M (Global Diagnostic System - Mobile), select S/W Management > Systems> Fuel Cell Unit> System Identification. Check which FCU ROM version is applied to the current vehicle.

If the current FCU ROM version is not 1120 before updating the FCU ROM, then no further action is required.

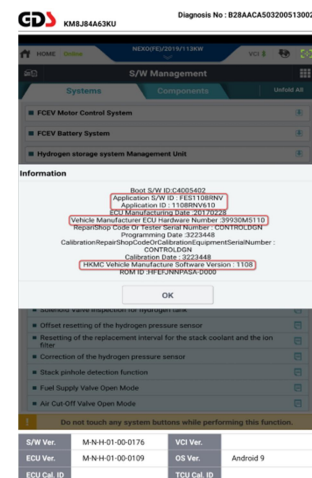
If the current version of the FCU ROM was 1120 before the FCU ROM upgrade, then perform the following procedure after completing the FCU ROM upgrade.

- Start the vehicle, allow it to enter ready mode, then turn the vehicle off, and then within five seconds, restart it immediately. After completing this start-stop-start sequence, clear all DTC's.

Note: After completing the FCU ROM upgrade, if the vehicle is driven without performing the above procedure a warning light MIL may illuminate at a later time.

When checking for DTC's, if codes P315292 / P915392 are active, pending or in history it is necessary to perform the following start-stop-start procedure.

- Start the vehicle, allow it to enter ready mode, then turn the vehicle off, and then within five seconds, restart it immediately. After completing this start-stop-start sequence, clear all DTC's.



Service Procedure:

General Precautions:

NOTICE

Before performing the service procedure, verify that the GDS-M is charged above 50%.


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

NOTICE

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

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

⚠ WARNING

If a GDS-M warning specifying low battery voltage appears, select the Back Button  , then run the fuel cell or charge the 12 volt battery to ensure an adequate state of charge. Turn the system power back on, and retry the FCU / HMU upgrade again.

NOTICE

Before proceeding, check FCU version per instructions on page 2.

GDS-M Automatic Mode - FCU & HMU Upgrade Procedure

1. Connect the external power to the GDS-M.

Connect the VCI-II into the vehicle's DLC connector, and check that the VCI-II is powered on.



2. Turn **ON** the vehicle system power by pressing the POWER button two times without pressing the brake pedal. **DO NOT** start the fuel cell.

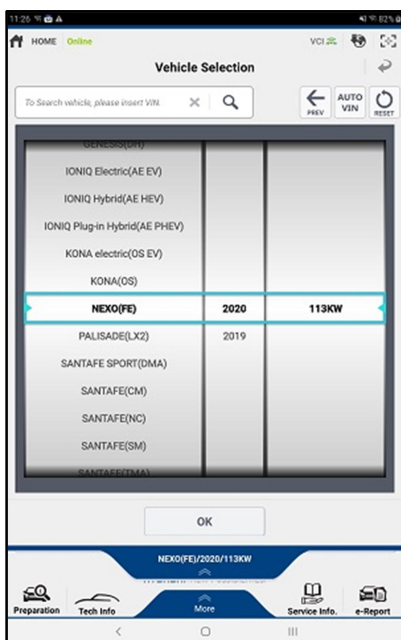


NOTICE

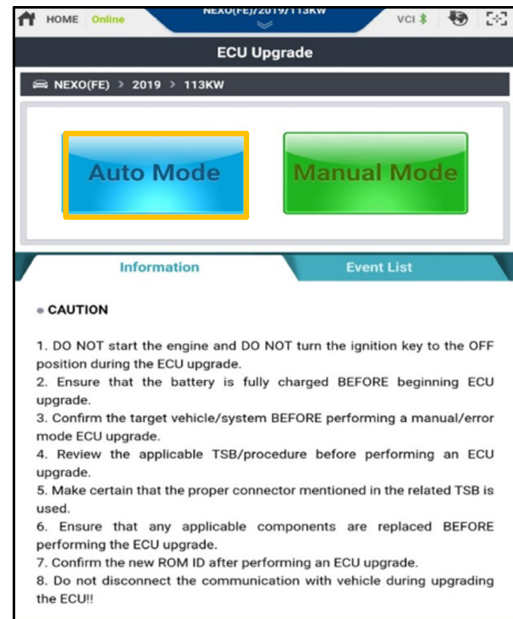
The ECU upgrade function on GDS-Mobile is operating in wireless communication as Wi-Fi direct. It is possible to perform the upgrade via USB cable between GDS Mobile and VCI-II.

Before starting the ECU upgrade, verify the GDS-M battery is sufficiently charged.

3. Select **ECU Upgrade** after entering the vehicle information.



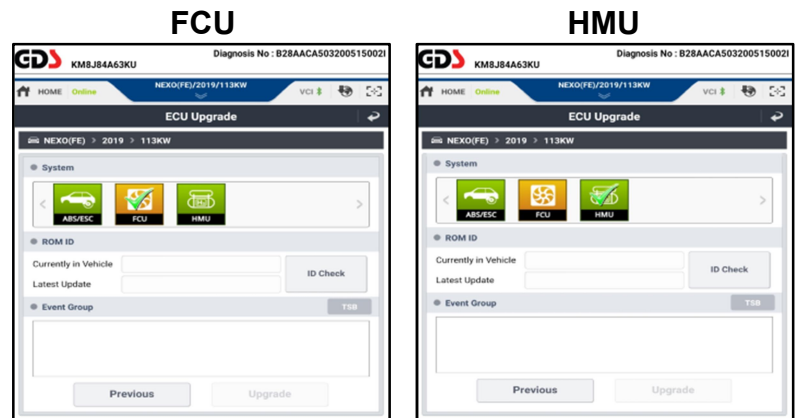
4. Read the **CAUTION** section in the Information tab.
5. Select “**Auto Mode**”.



6. For each system (**FCU and HMU**) select **ID Check**.

If a pop-up window appears stating the upgrade has already been completed, select **OK**, no further work is needed.

Otherwise proceed to step 7.



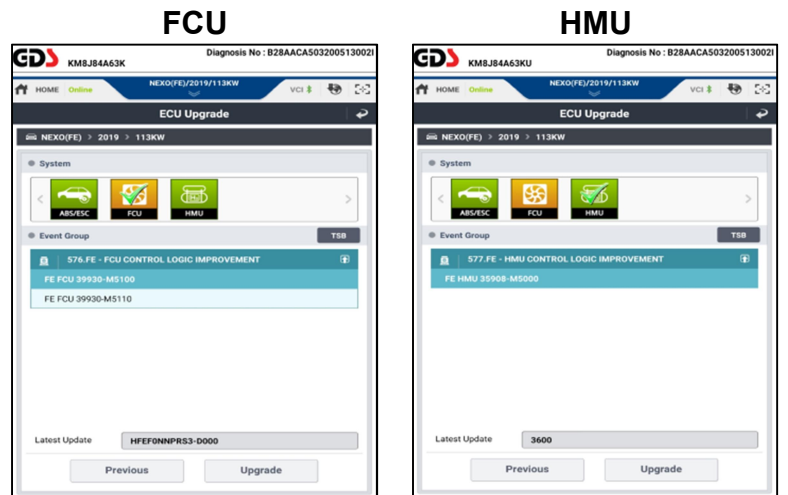
7. The GDS-M will recognize the current vehicle ROM ID, and look for the upgrade event. Select Upgrade.

For FCU, select the upgrade event:

576.FE - FCU CONTROL LOGIC IMPROVEMENT

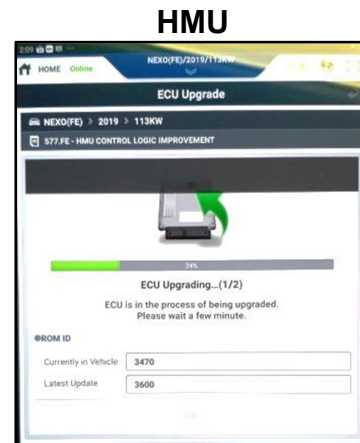
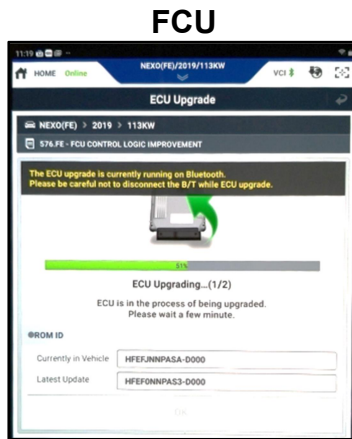
For HMU, select the upgrade event:

577.FE - HMU CONTROL LOGIC IMPROVEMENT



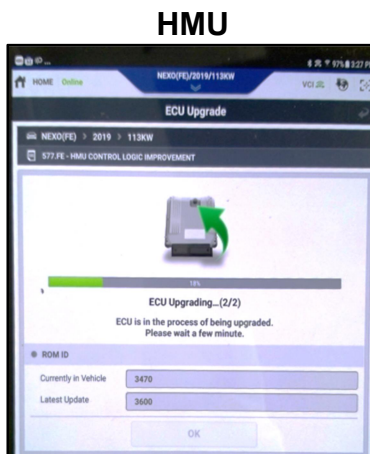
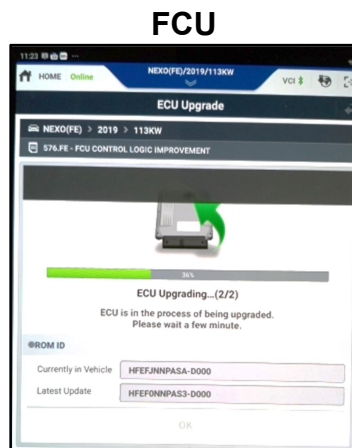
8. Upgrade (1/2) will begin, and the progress of the upgrade will appear on the bar graph.

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



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

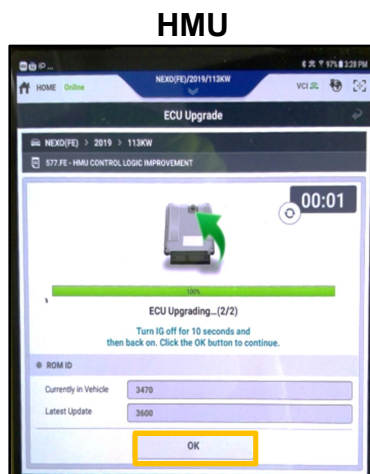
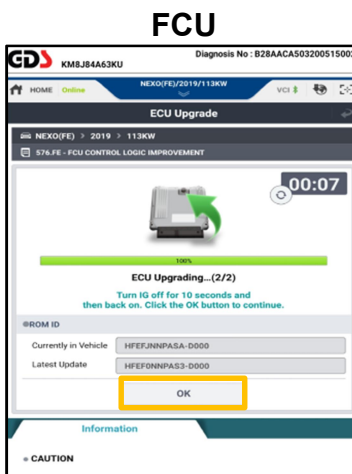
Upgrade (2/2) will occur until 100% is reached on the bar graph.



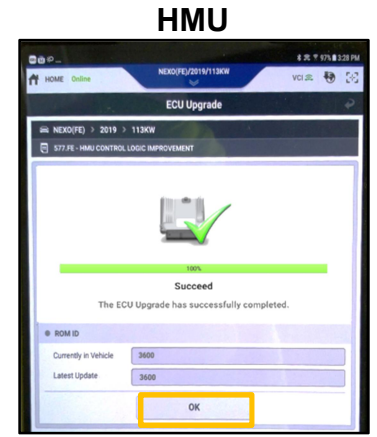
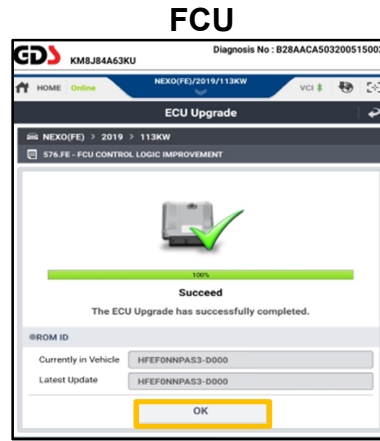
NOTE: Instrument panel warning lights may flash, and warning chirp may sound during this portion of upgrade. This is normal.

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

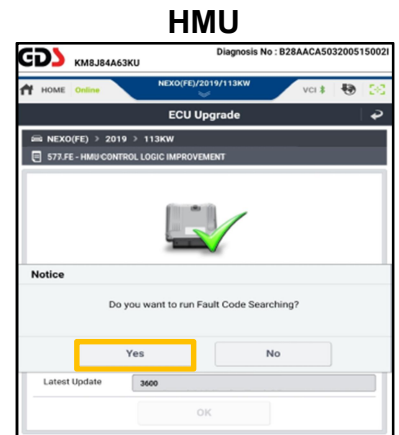
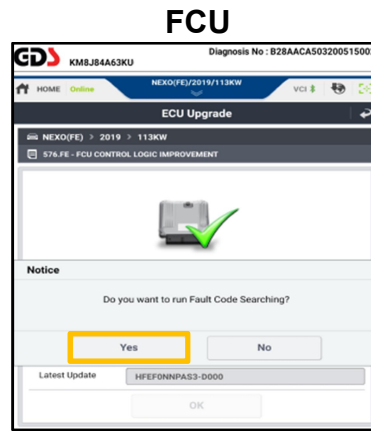
Select **OK**.



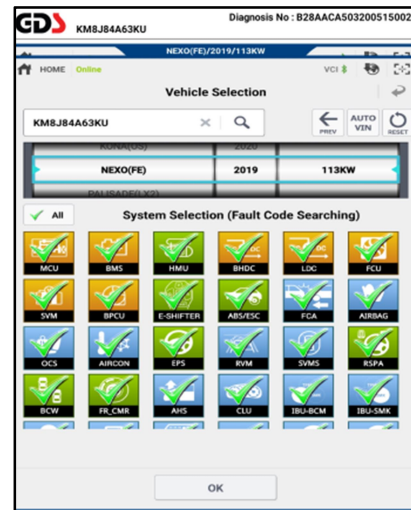
- Select “OK” on the final screen which indicates the upgrade is complete.



- When prompted to run Fault Code Searching, select “Yes”.



- Check and clear any incidental Diagnostic Trouble Codes (DTC) created during the upgrade. Check and clear **Current**, **Pending** and **History** DTCs.



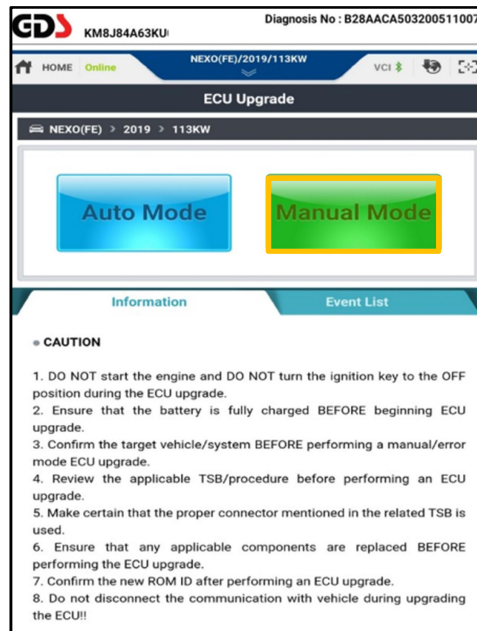
- If needed, complete the procedure on page 2 titled, **ADDITIONAL ACTION REQUIRED WHEN UPDATING THE FCU ROM.**
- Start the fuel cell and confirm proper operation of the vehicle.

GDS-M Manual Mode - FCU & HMU Upgrade Procedure:

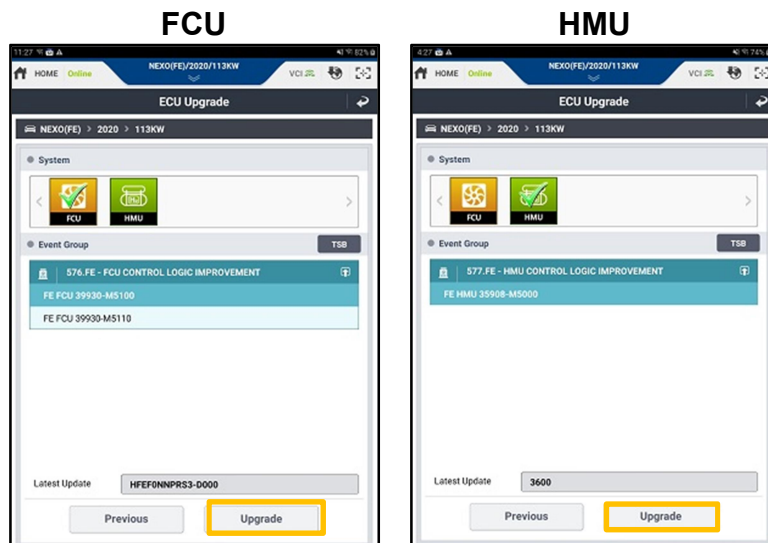
NOTICE

The manual update should be performed only when the automatic upgrade fails. If the automatic upgrade fails, turn off vehicle system power using the POWER button and wait 10 seconds. Then restore vehicle system power using the POWER button to reset the control unit before performing manual upgrade.

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



- 2. Select the appropriate control unit part number referenced in the **ROM ID Table** (Page 11).
- 3. Select **Upgrade**.



4. Enter the applicable password, and select **OK**.

576. FE - FCU CONTROL UPGRADE

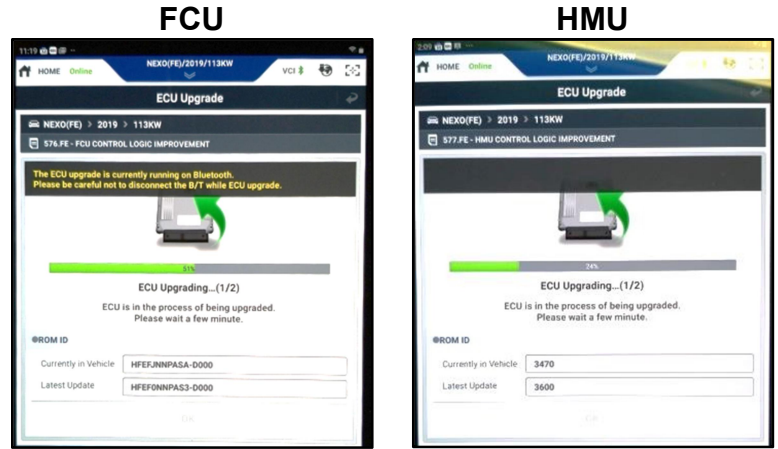
Module	MENU	PASSWORD
FCU	FE FCU 39930-M5100	5100
	FE FCU 39930-M5110	5110

577. FE - HMU CONTROL UPGRADE

Module	MENU	PASSWORD
HMU	FE HMU 35908-M5000	0800

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

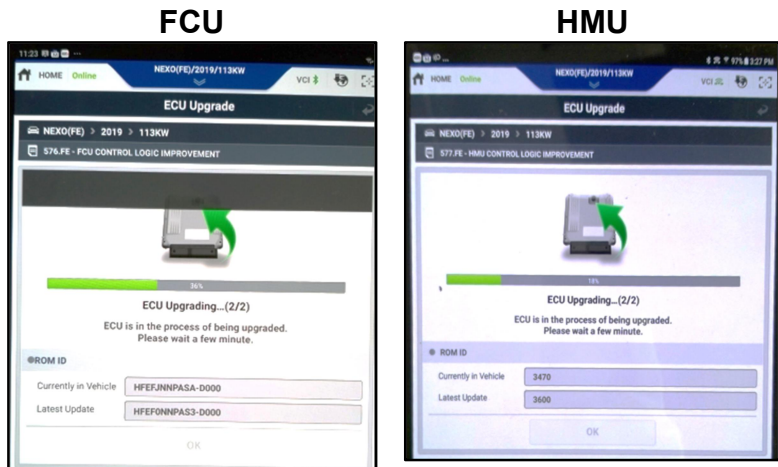
Upgrade (1/2) will occur until 100% is reached on the bar graph.



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

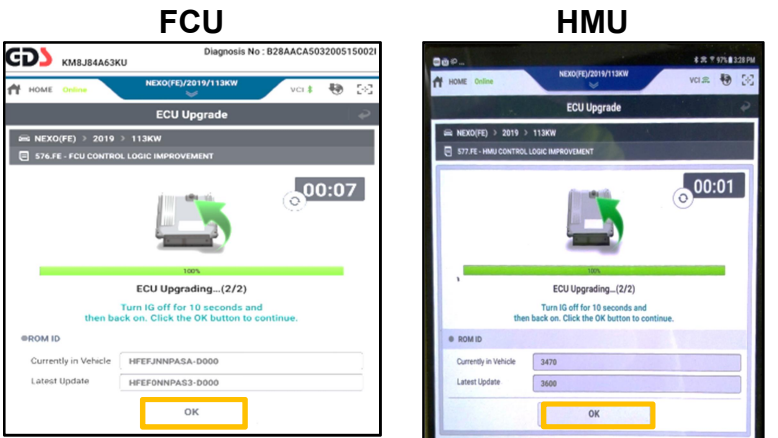
Upgrade (2/2) will occur until 100% is reached on the bar graph.

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

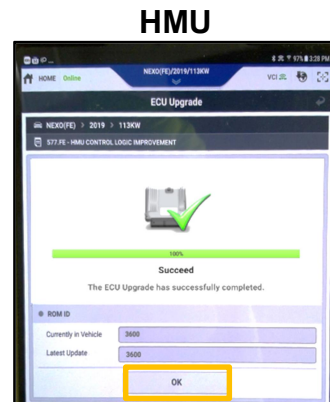
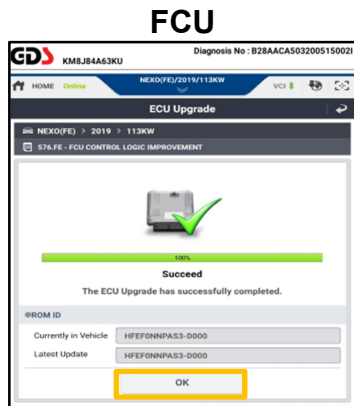


7. Turn the system power to **OFF** using the **POWER** button, and wait 10 seconds. Turn system power to **ON** again. **DO NOT** start the fuel cell.

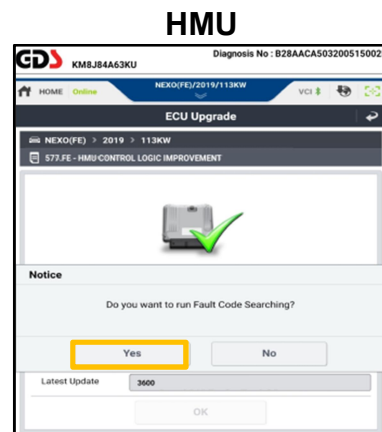
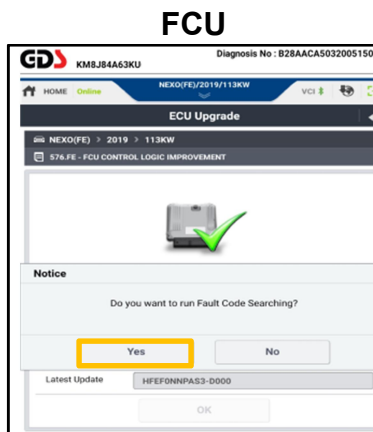
Select **OK** to continue according to the information displayed on the screen.



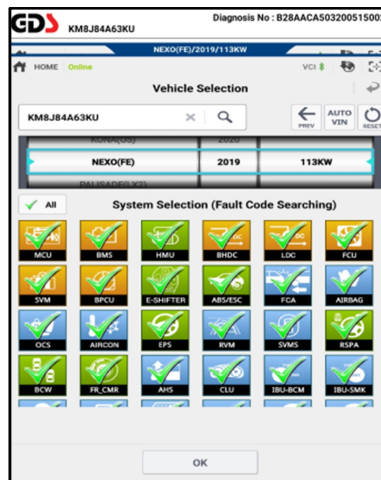
8. Select **OK** on the final screen which indicates that the upgrade is complete.



9. When prompted to run Fault Code Searching, select **Yes**.



10. Check and clear any incidental Diagnostic Trouble Codes (DTC) created during the upgrade. Check and clear **Current, Pending and History DTCs**.



11. If needed, complete the procedure on page 2 titled **ADDITIONAL ACTION REQUIRED WHEN UPDATING THE FCU ROM**.

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

FCU ROM INFORMATION TABLE:

System	Nexo Model	Part Number	Current ROM ID	New ROM ID
FCU	Blue or GL	39930-M5100	HFEFJNNPRS3-D000 HFEFJNNPRS5-D000 HFEFJNNPRS8-D000 HFEFJNNPRS9-D000 HFEFJNNPRSA-D000 HFEFJNNPRSB-D000 HFEFKNNPRS0-D000 HFEF0NNPRS1-D000 HFEF0NNPRS2-D000	HFEF0NNPRS3-D000
	Limited or GLS	39930-M5110	HFEFJNNPAS3-D000 HFEFJNNPAS5-D000 HFEFJNNPAS8-D000 HFEFJNNPAS9-D000 HFEFJNNPASA-D000 HFEFJNNPASB-D000 HFEFKNNPAS0-D000 HFEF0NNPAS1-D000 HFEF0NNPAS2-D000	HFEF0NNPAS3-D000

HMU ROM INFORMATION TABLE:

VEHICLE	SYSTEM	HMU P/No.	ROM ID	
			OLD	NEW
FE	HMU	35908-M5000	3470 or 3500	3600