

 <b>HYUNDAI</b> <b>Technical Service Bulletin</b>	GROUP <b>RECALL</b>	NUMBER <b>21-01-071H</b>
	DATE <b>NOVEMBER, 2021</b>	MODEL(S) <b>SONATA (LFA) SONATA HYBRID (LF HEV) SONATA PLUG-IN (LF PHEV)</b>
<b>SUBJECT:</b> SMART JUNCTION BOX (SJB) – TURN SIGNAL CONTROL LOGIC UPDATE (RECALL 210)		

**\* IMPORTANT**

**\*\*\* Retail Vehicles \*\*\***

As required by federal law, dealer must not deliver new vehicle for sale or for lease to customers until all open recalls have been performed. Dealers must also perform all open recalls on used vehicles, demo, and rental vehicles prior to placing them into customer use 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 "Warranty Vehicle Information Screen (VIS)" via WEBDCS to identify open Campaigns.

**Description:** The Smart Junction Box ("SJB") software logic may not properly interpret the signals received from the multifunction switch in certain circumstances. As a result, the turn signal may intermittently activate in the opposite direction of what was intended by the driver, thereby increasing the risk of a crash. This bulletin provides information related to the Smart Junction Box (SJB) software update for certain Sonata, Sonata Hybrid, and Sonata Plug-in Hybrid vehicles. This update includes the improvement for the turn signal control logic.

**Applicable Vehicles:**

- Certain 2015-2017MY Sonata (LFA) produced from 05/02/2014 to 08/17/2016
- Certain 2016-2017MY Sonata Hybrid (LF HEV) produced from 03/17/2015 to 12/27/2017
- Certain 2016-2017MY Sonata Plug-in Hybrid (LF PHEV) produced from 07/31/2015 to 12/21/2017

**Warranty Information:**

Model(s)	Op Code	Operation	Op. Time	Causal Part	Nature Code	Cause Code
Sonata (LFA)	11D206R0	SJB UPGRADE	0.3 M/H	91950-C1020	I14	ZZ3
Sonata Hybrid/Plug-in (LF HEV/PHEV)	11D206R1	SJB UPGRADE	0.3 M/H	91950-E6010	I14	ZZ3

**NOTE 1:** Submit Claim on Campaign Claim Entry Screen

**NOTE 2:** If a part that is not covered by this recall is found in need of replacement while performing this recall and the affected part is still under warranty, submit a separate warranty 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.

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

**SUBJECT:**SMART JUNCTION BOX (SJB) -  
TURN SIGNAL CONTROL LOGIC UPDATE (RECALL 210)**GDS Information:****System Selection:** SJB (Smart Junction Box)

Event #	Description
<b>744*</b>	LFA TURN SIGNAL CONTROL LOGIC IMPROVEMENT
<b>745*</b>	LF HEV/PHEV TURN SIGNAL CONTROL LOGIC IMPROVEMENT

(\*or use a later available event as listed in the GDS-M if one is available)

**ROM ID Information Table:**

Model(s)	SYSTEM	SJB P/NO.	ROM ID		
			OLD	NEW	
LFa	SJB	91950-C1010	1.00	2.00	
		91950-C1020	1.01	2.02	
		91950-C1030	1.02		
		91950-C1040	1.03	2.12	
		91950-C1050	1.07		
		91950-C1060	1.09		
			1.12		
			91950-C2070	1.05	2.05
				1.06	2.10
				1.10	
LF HEV/PHEV		91950-E6010	1.00	2.03	
		91950-E6020			
		91950-E6030			
		91950-E6040			
		91950-E6050			
		91950-E5010			

**Service Procedure:****⚠ CAUTION****■ CAUTIONS DURING CONTROL UNIT UPGRADE**

- 1) Make sure the vehicle's battery is above 12 volts. If the vehicle has been in storage for days, run the engine to ensure an adequate battery charge state for reliable upgrade results.
- 2) Turn off all lamps (Do not leave head lamp switch in auto mode) and all accessories (including heater, A/C, blower, radio, seat warmer, defroster, etc.), and do not allow the battery to be discharged during upgrade.
- 3) Perform upgrade with the ignition switch in the ON position.
- 4) Be careful not to disconnect any cables connected to the vehicle or scan tool during upgrade.
- 5) Do not start the engine during upgrade.
- 6) Do not turn off the ignition switch during upgrade.
- 7) Do not touch the system buttons (like 'BACK', 'HOME', 'etc.') while performing upgrade.

**■ CONTROL UNIT UPGRADE PROCEDURE USING THE GDS-Mobile****1. GDS (Global Diagnostic System)-Mobile INSTALLATION PROCEDURE**

1. Connect the VCI-II into the vehicle's DLC connector under the driver side instrument panel and check to turn the VCI-II on.

Before starting the update, make certain that the battery of the Tablet PC is sufficiently charged.

ECU upgrade function on GDS-Mobile is basically operating in wireless communication and Wi-Fi direct. Also, it's possible to be performing via USB cable between Tablet PC and VCI-II.

Tablet PC



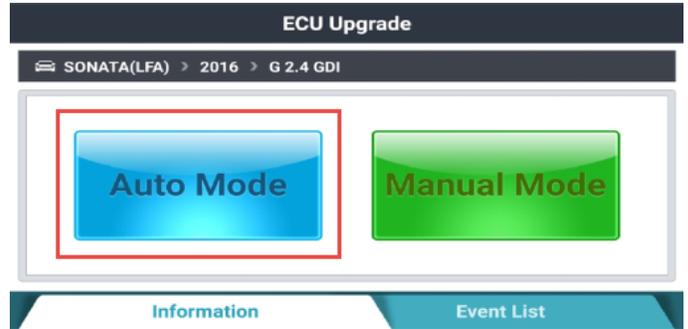
VCI-II



**2. AUTOMATIC UPGRADE PROCEDURE USING THE GDS-MOBILE**

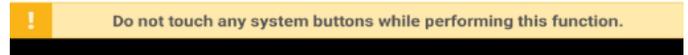
- 1. Select ECU Upgrade on the initial screen after entering the vehicle information.

Select Auto Mode.

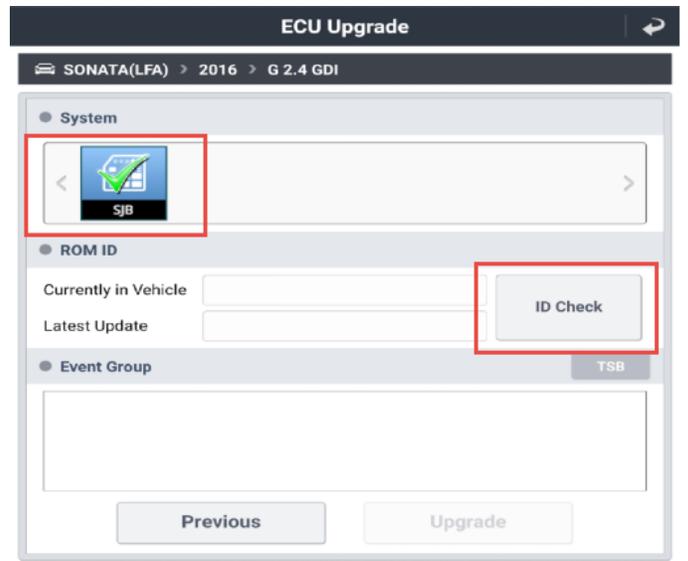


• **CAUTION**

- 1. DO NOT start the engine and DO NOT turn the ignition key to the OFF position during the ECU upgrade.
- 2. Ensure that the battery is fully charged BEFORE beginning ECU upgrade.
- 3. Confirm the target vehicle/system BEFORE performing a manual/error mode ECU upgrade.
- 4. Review the applicable TSB/procedure before performing an ECU upgrade.
- 5. Make certain that the proper connector mentioned in the related TSB is used.
- 6. Ensure that any applicable components are replaced BEFORE performing the ECU upgrade.
- 7. Confirm the new ROM ID after performing an ECU upgrade.
- 8. Do not disconnect the communication with vehicle during upgrading the ECU!!



- 2. Click on SJB system and click on ID Check.

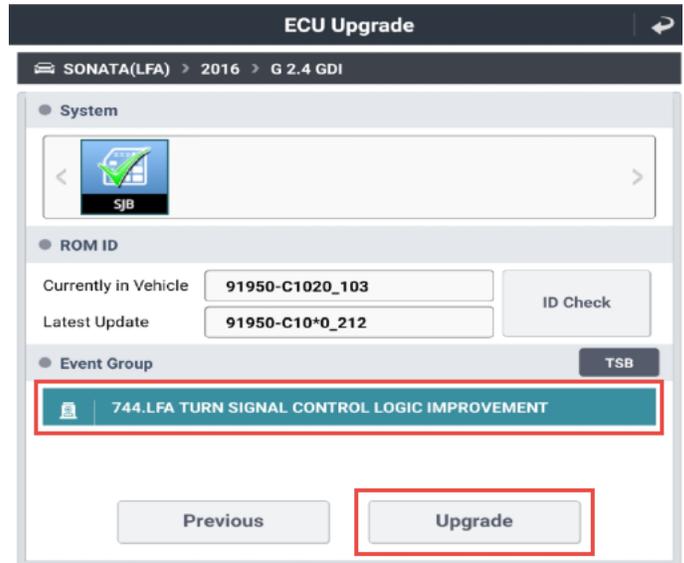


- 3. The GDS-Mobile will read the current ROM ID in vehicle and check the newest upgrade event.

Select the upgrade event.

Choose between:

- 744 for LFA Turn Signal Control Logic Improvement
- 745 For LF HEV / PHEV Turn Signal Control Logic Improvement



- 4. The vehicle battery voltage is checked to make sure it is at least 12 volts to ensure reliable upgrade results. Click OK if the results indicate voltage is OK.



**If battery voltage is below 12 voltages as below, click BACK and then run the engine to ensure an adequate battery charge state for reliable upgrade results.**



- 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.

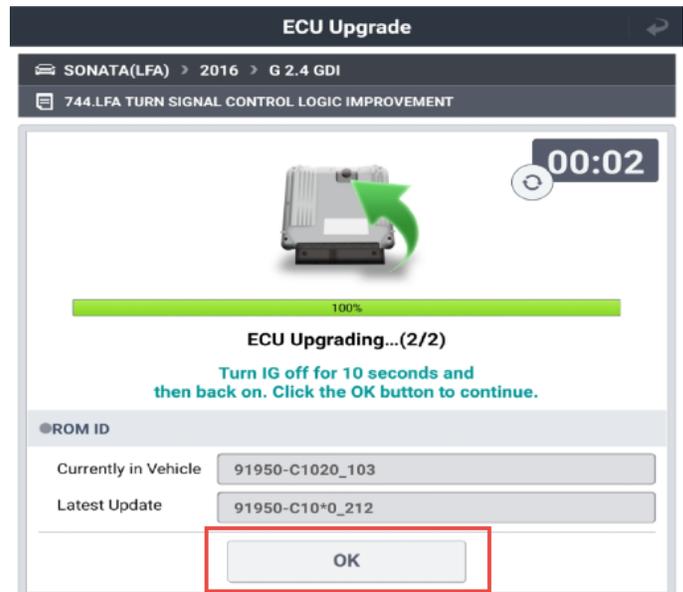


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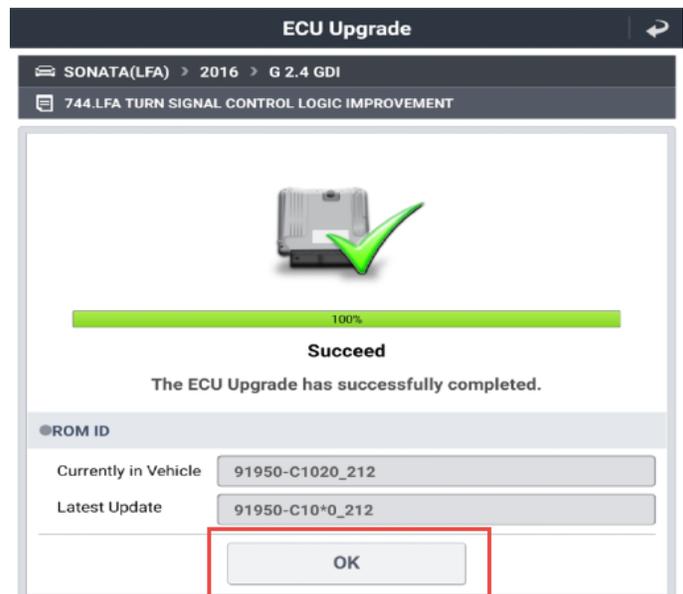
6. Upgrade (2/2) will begin, and the progress of the upgrade will appear in the bar graph.

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

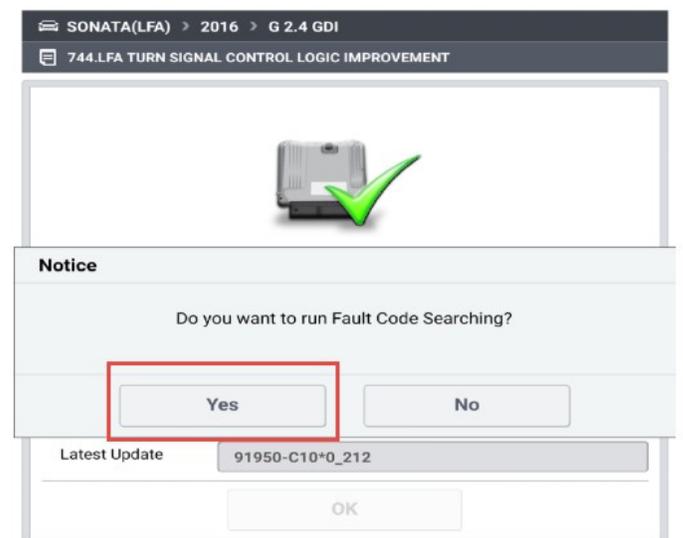
After progress bar reaches 100%, turn the ignition key off for 10 seconds. Turn the key back to the on position, and then click OK to continue according to information displayed on the screen.



7. Click OK on the final screen, which indicates upgrade is complete.



8. Check if any incidental Diagnostic Trouble Codes (DTC) have been created by the upgrade and clear the DTC(s) present.

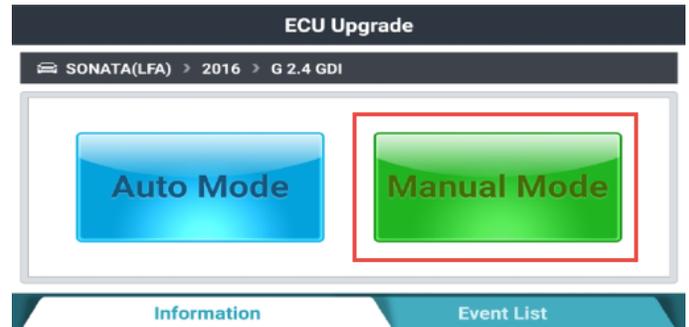


9. Start the engine to confirm proper operation of the vehicle.

### 3. MANUAL UPGRADE PROCEDURE USING THE GDS-MOBILE

#### NOTE:

- The manual upgrade should be performed only when the automatic upgrade fails.
  - If automatic upgrade fails, turn the ignition key off for about 10 seconds, place it back in the on position to reset the control unit before performing manual upgrade.
1. Within the upgrade screen, select Manual Mode, then select upgrade event.



#### • CAUTION

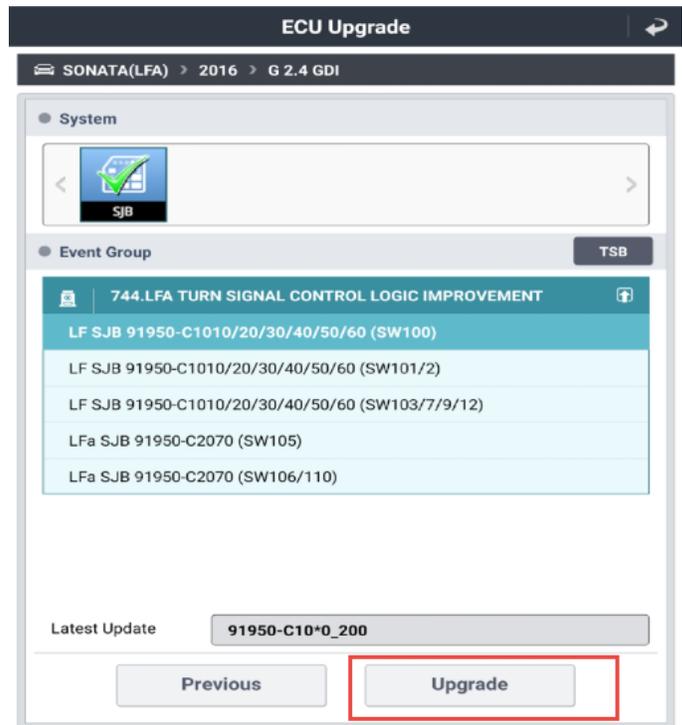
1. DO NOT start the engine and DO NOT turn the ignition key to the OFF position during the ECU upgrade.
2. Ensure that the battery is fully charged BEFORE beginning ECU upgrade.
3. Confirm the target vehicle/system BEFORE performing a manual/error mode ECU upgrade.
4. Review the applicable TSB/procedure before performing an ECU upgrade.
5. Make certain that the proper connector mentioned in the related TSB is used.
6. Ensure that any applicable components are replaced BEFORE performing the ECU upgrade.
7. Confirm the new ROM ID after performing an ECU upgrade.
8. Do not disconnect the communication with vehicle during upgrading the ECU!!



Do not touch any system buttons while performing this function.

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2. Select the control unit part number with reference to the above ROM ID Information Table (Page 2) and click Upgrade.



3. Enter the password from the below table then click OK.

**#744**

MENU	PASSWORD
LF SJB 91950-C1010/20/30/40/50/60 (SW100)	9195
LF SJB 91950-C1010/20/30/40/50/60 (SW101/2)	5919
LF SJB 91950-C1010/20/30/40/50/60 (SW103/7/9/12)	5060
LFa SJB 91950-C2070 (SW105)	2070
LFa SJB 91950-C2070 (SW106/110)	0702

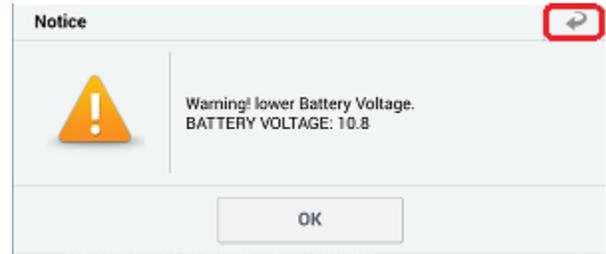
**#745**

MENU	PASSWORD
LF HEV/PHEV SJB 91950-E6010/20/30/40/50/5010 (SW100/1/2/3)	0501

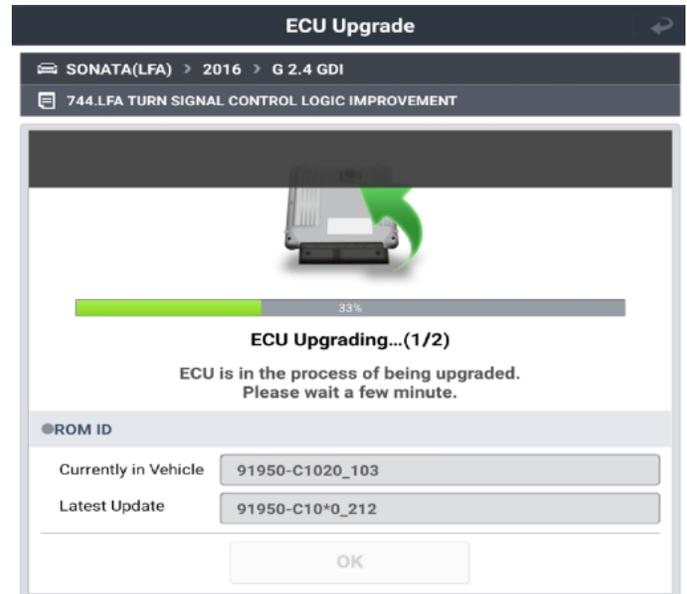
- The vehicle battery voltage is checked to make sure it is at least 12 volts to ensure reliable upgrade results. Click OK if the results indicate voltage is OK.

**! WARNING**

**If battery voltage is below 12 volts, click BACK and then run the engine to ensure an adequate battery charge state for reliable upgrade results.**

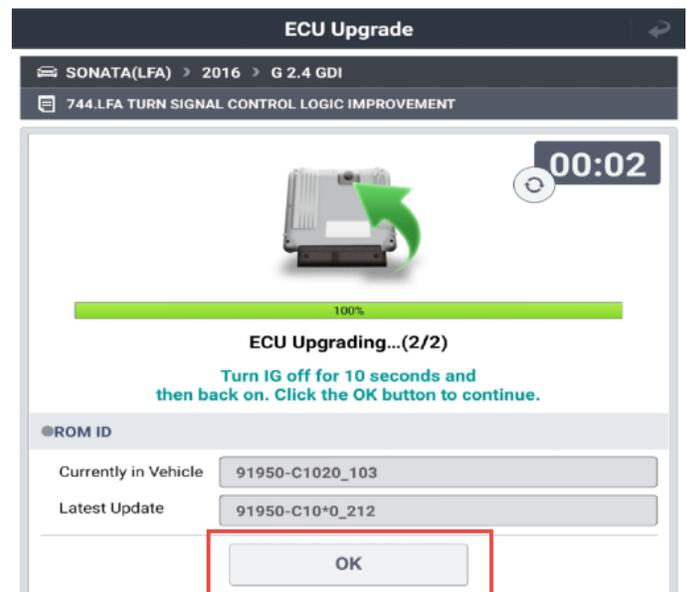


- Upgrade (1/2) will begin, and the progress of the upgrade will appear on the bar graph. Upgrade (1/2) will occur until 100% is reached on the bar graph.



- Upgrade (2/2) will begin, and the progress of the upgrade will appear in the bar graph. Upgrade (2/2) will occur until 100% is reached on the bar graph.

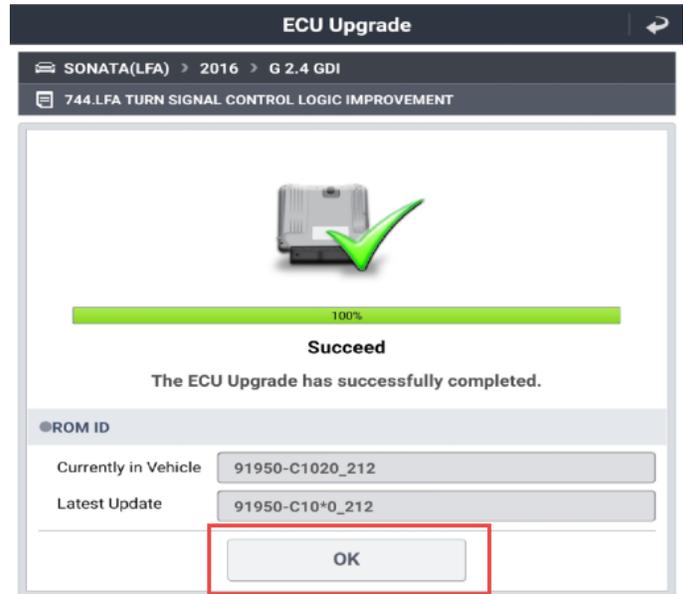
After progress bar reaches 100%, turn the ignition key off for 10 seconds. Turn the key back to the on position, and then click OK to continue according to information displayed on the screen.



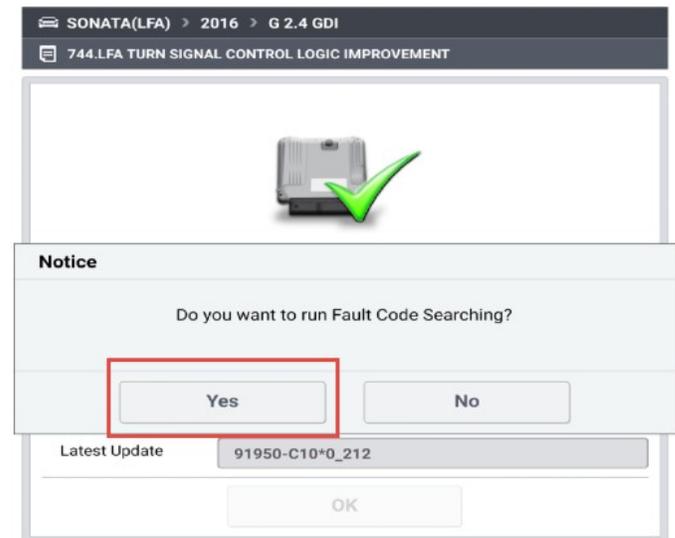
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7. Click OK on the final screen, which indicates upgrade is complete.



8. Check if any incidental Diagnostic Trouble Codes (DTC) have been created by the upgrade and clear the DTC(s) present.



9. Start the engine to confirm proper operation of the vehicle.