



# HYUNDAI Technical Service Bulletin

Group	AUTOMATIC TRANSMISSION
Number	10-AT-007-1
Date	MAY, 2010
Model	2009~10 SONATA (NF) 2.4L

Subject	<b>AUTOMATIC TRANSAXLE ECM &amp; TCM UPDATE</b>
---------	---

<b>CIRCULATE TO:</b>	<input type="checkbox"/> GENERAL MANAGER	<input checked="" type="checkbox"/> PARTS MANAGER	<input checked="" type="checkbox"/> TECHNICIAN
<input checked="" type="checkbox"/> SERVICE ADVISOR	<input checked="" type="checkbox"/> SERVICE MANAGER	<input checked="" type="checkbox"/> WARRANTY MGR	<input type="checkbox"/> SALES MANAGER

***This TSB Supersedes TSB 10-AT-007 to include 2010 Sonata 2.4L.***

**DESCRIPTION:**

This bulletin provides a procedure to update the ECM and TCM software to the most recent versions to improve:

- Acceleration from a stop or below 15 mph
- Shift quality when decelerating to a stop when the ATF is cold

**APPLICABLE VEHICLES:**

**Model:** 2009 and 2010 Sonata 2.4L (NFA) vehicles with automatic transaxles

**Production date range:** 12/17/2007~10/5/2009

**ROM ID INFORMATION TABLE:**

Verify the version of the ECM and TCM ROM ID before updating the ECM/TCM.

MODEL YEAR	PCM PART NUMBER	ECM ROM ID		TCM ROM ID	
		PREVIOUS	NEW	PREVIOUS	NEW
2009	39100-2G330 (ULEV)	N9C4MC1A N9C4MD2A N9C4MH2A	N9C4MK1E	N4N532Y0 N4N533Y0 N4N550Y0 N4N550Y1	N4N561Y0
	39100-2G331 (ULEV)	N9C4ME1A N9C4MH2B	N9C4MK1F	N4N532Y0 N4N533Y0 N4N550Y0 N4N550Y1	N4N561Y0
	39100-2G350 (SULEV)	N9S4MC1A N9S4MD2A	N9S4MKIE	N4C532Y0 N4C533Y0 N4C550Y0 N4C550Y1	N4C561Y0
	39100-2G351 (SULEV)	N9S4ME1A	N9S4MKIF	N4C532Y0 N4C533Y0 N4C550Y0 N4C550Y1	N4C561Y0

**NOTE: If the ECM/TCM have been updated, you don't need to update them again.**

MODEL YEAR	PCM PART NUMBER	ECM ROM ID		TCM ROM ID	
		PREVIOUS	NEW	PREVIOUS	NEW
2010	39100-2G332 (ULEV)	NAC4MH1A NAC4MH2A NAC4MH1B	NAC4MK1E	N4N560Y0	N4N561Y0
	39100-2G333 (ULEV)	NAC4MJ0A NAC4MKIB	NAC4MK1F	N4N560Y0	N4N561Y0
	39100-2G352 (SULEV)	NAS4MH1A NAS4MH1B	NAS4MKIE	N4C560Y0	N4C561Y0
	39100-2G353 (SULEV)	NAS4MJ0A NAS4MK1B	NAS4MKIE	N4N560Y0	N4N561Y0

### GDS SYSTEM AND UPDATE PRECAUTIONS:



#### **CAUTION: Please ensure the following items before performing the ECM update:**

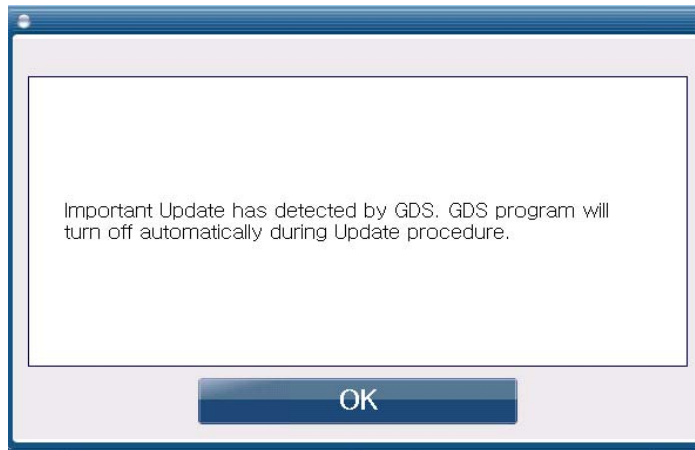
- Make sure the vehicle's battery voltage is above 12 volts.
- The USB cable must be used for ECM Update between the GDS and VCI. The procedure will not work in VCI wireless mode.
- Make sure the GDS laptop battery indicator in the lower right tray icons has **50%** or more charge. If not, charge the laptop battery with the AC adaptor cable.
- Turn off the headlamps and all accessories (including heater, A/C, blower, radio, seat warmer, defroster, etc.) to prevent battery discharge during the update.
- Perform update with the ignition switch in the ON position.
- Do not start the engine or turn off the ignition switch during update.



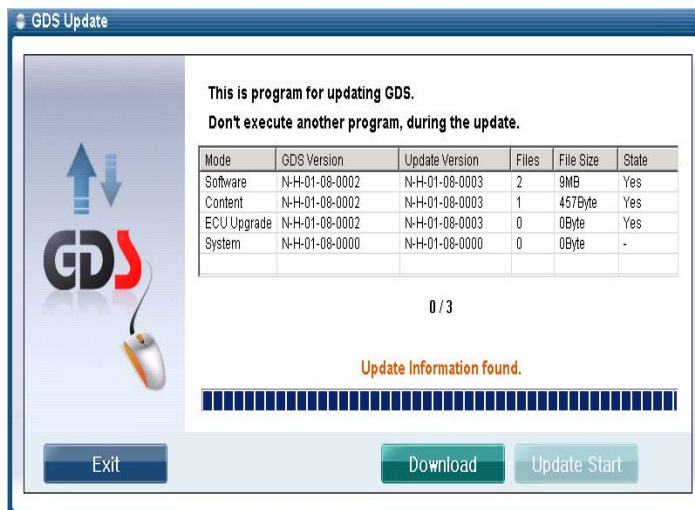
## INTERNET UPDATE OF GDS SOFTWARE VERSION:

1. Close the GDS program and restart it. Connect the GDS to an internet port. The update should start automatically.
2. Wait for the following **GDS Update Program** to launch within approximately a minute. It will inform you if there is an update as shown below.
3. If update is available press **OK** and follow instructions to update the **GDS software version** followed by the **VCI firmware level**.

**NOTE: You must have VCI connected to GDS by USB cable to update the VCI.**



Perform **Download** followed by **Update Start** and then **Exit** when completed.

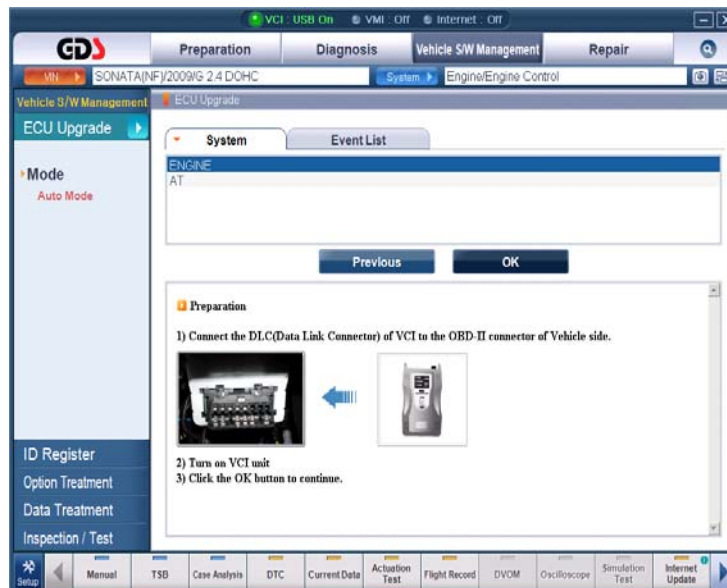


## 1-1.GDS AUTO MODE ECM UPDATE PROCEDURE

1. Turn the ignition key to the ON position
2. At the GDS home page screen, select **ECU Upgrade**. The GDS will display the VIN. If not, select **Clear** and input the vehicle and engine manually.
3. Select **ENGINE** and select **OK**.

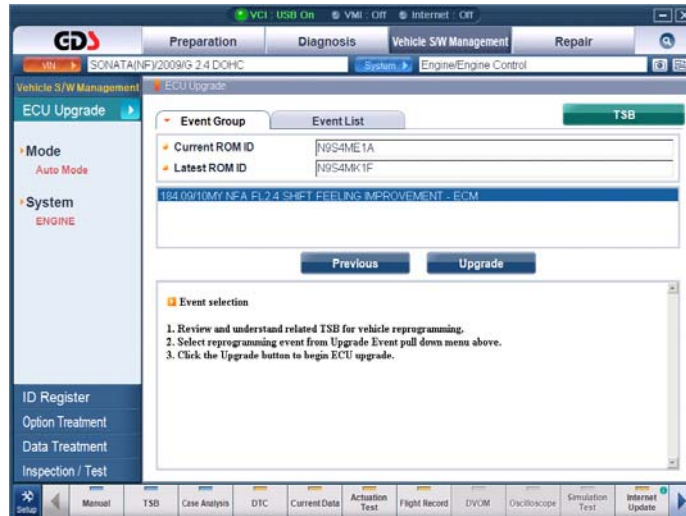


4. Select **Auto Mode** and select **Next**.
5. Select **ENGINE** and select **OK**. The GDS will read the ROM ID.





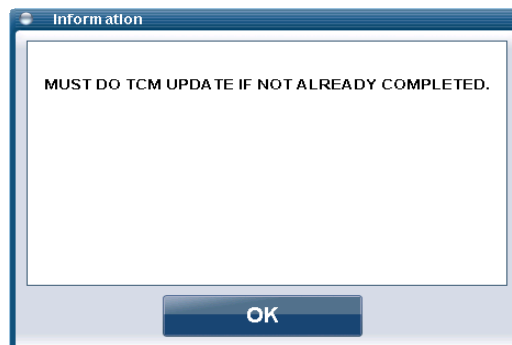
6. After the Current ROM ID is displayed, Upgrade Event **#184 09/10MY NFA FL2.4 Shift Feeling Improvement - ECM** will display. Select **Upgrade**.



7. If the screen indicates **“Voltage is OK”**, select **OK**. If not, select **CANCEL** and charge the vehicle battery.

**CAUTION:** If the voltage is below 12 volts, select **CANCEL** and run the engine for at least 10 minutes to ensure an adequate battery charge for reliable update results.

8. Updating will occur until 100% is reached on the bar graph. Turn the ignition key OFF for 10 seconds, then turn it ON and then select **OK**.
9. The GDS will confirm that ECU reprogramming is successfully finished. Select **OK** and Go to **2.1. GDS AUTO MODE TCM UPDATE PROCEDURE**”.

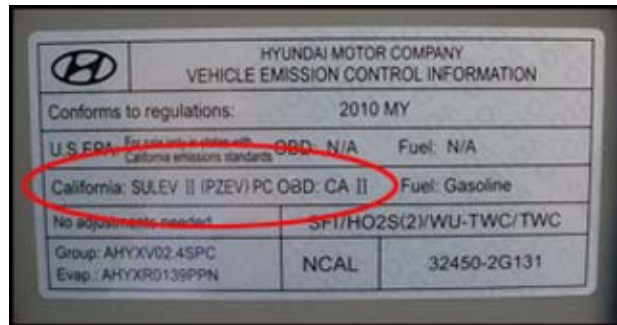


10. If the ECM update was not successful, go to **1.2. GDS MANUAL MODE ECM UPDATE PROCEDURE**.

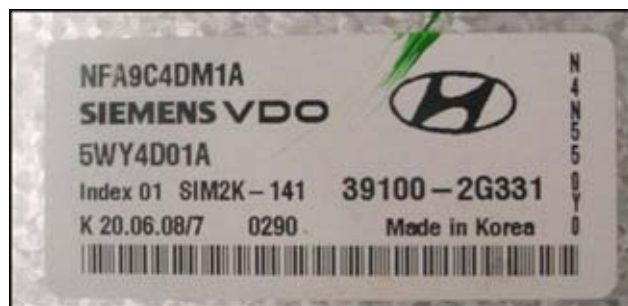
## 1-2. GDS MANUAL MODE ECM UPDATE PROCEDURE:

- *The manual update should be performed only when the automatic update fails. If the automatic update fails, turn the ignition key OFF for at least 10 seconds and place it back in the ON position to reset the ECM.*
- *If the manual ECM update fails, disconnect the ECM connectors for 10 minutes and retry the manual update.*

1. Refer to the Emissions Label on the underside of the hood to determine if the engine is ULEV or SULEV.



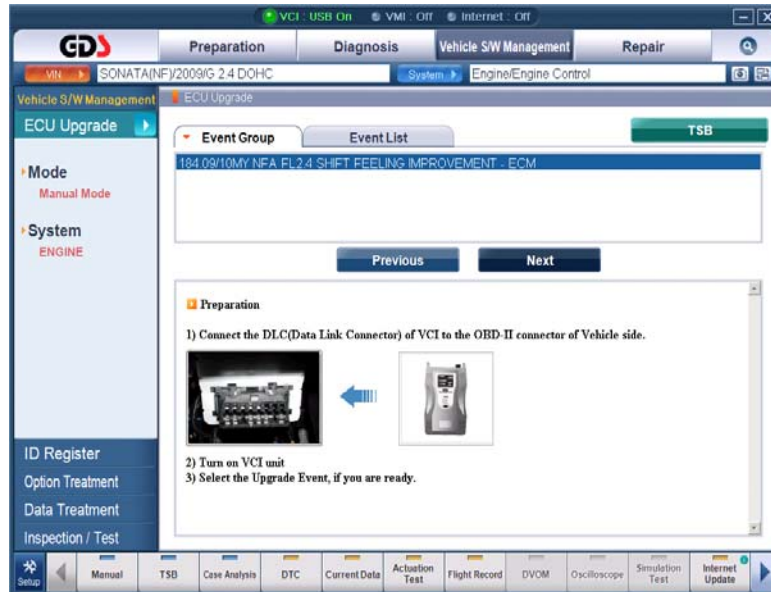
2. Locate the PCM in the engine compartment on the driver's side. Read the PCM part number on the PCM label.



3. From the GDS home screen, select **ECU Upgrade**.
4. Select **Manual** mode and select **Next**.
5. Select **Engine** and select **Next**.

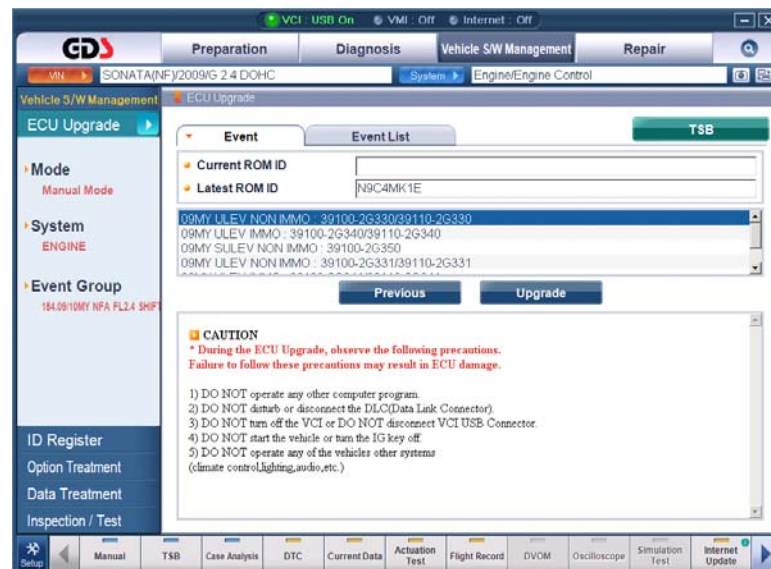


6. Upgrade Event **184 09/10MY NFA FL2.4 Shift Feeling Improvement - ECM** will display. Select **Next**.



7. Select the appropriate part number from the chart on Page 8 and select **Upgrade**.

**CAUTION: Be sure to select a NON-Immobilizer part number**



8. Enter the password for manual update as shown below and select **OK**.

MENU	PASSWORD	APPLIED DATE
09MY ULEV <b>NON-IMMO</b> : 39100-2G330	2330	6/17/08~8/21/08
09MY ULEV <b>NON-IMMO</b> : 39100-2G331	2331	8/21/08~3/5/09
09MY SULEV <b>NON-IMMO</b> : 39100-2G350	2350	6/17/08~8/21/08
09MY SULEV <b>NON-IMMO</b> : 39100-2G351	2351	8/21/08~3/5/09
10MY ULEV <b>NON IMMO</b> : 39100-2G332	2332	3/5/09~8/4/09
10MY ULEV <b>NON IMMO</b> : 39100-2G333	2333	8/4/09~
10MY SULEV <b>NON IMMO</b> : 39100-2G352	2352	3/5/09~8/4/09
10MY SULEV <b>NON IMMO</b> : 39100-2G353	2353	8/4/09~

**CAUTION:** Be sure to select a **NON-IMMOBILIZER** part number.

9. If the screen indicates “**Voltage is OK**”, select **OK**. If not, select **CANCEL** and charge the vehicle battery.

**NOTE:** If the voltage is below 12 volts, select **CANCEL** and run the engine at idle for 10 minutes to ensure an adequate battery charge for reliable update results.

10. Updating will occur until 100% is reached on the bar graph. Turn the ignition key OFF for 10 seconds, then turn it ON and select **OK**.

11. The GDS will confirm that ECM reprogramming is successfully finished. Select **OK**.

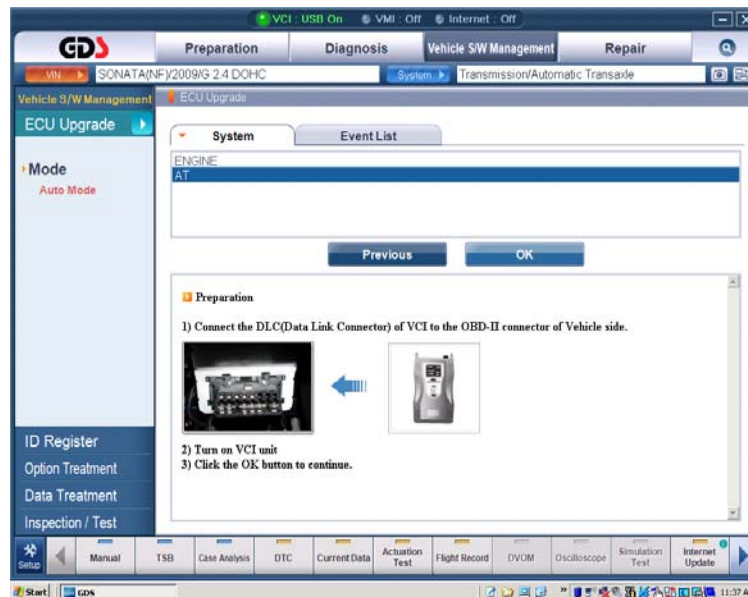
12. Go to **2-1 GDS AUTO MODE TCM UPDATE PROCEDURE** and update the TCM.



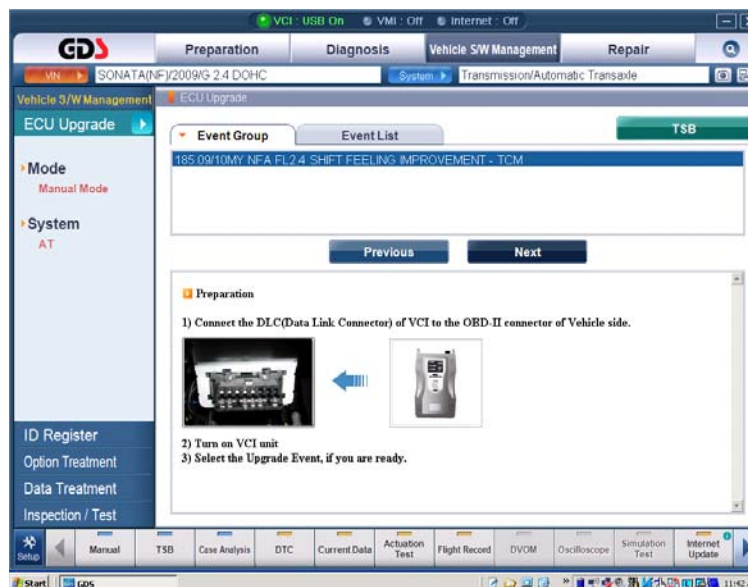


## 2-1. GDS AUTO MODE TCM UPDATE PROCEDURE

1. Select **Auto Mode** and then select **Next**.
2. Select **AT** and then select **OK**. The GDS will read the ROM ID.



3. After the current ROM ID is displayed, Update event **185 09/10MY NFA FL2.4 Shift Feeling Improvement - TCM** will display. Select **Upgrade**.



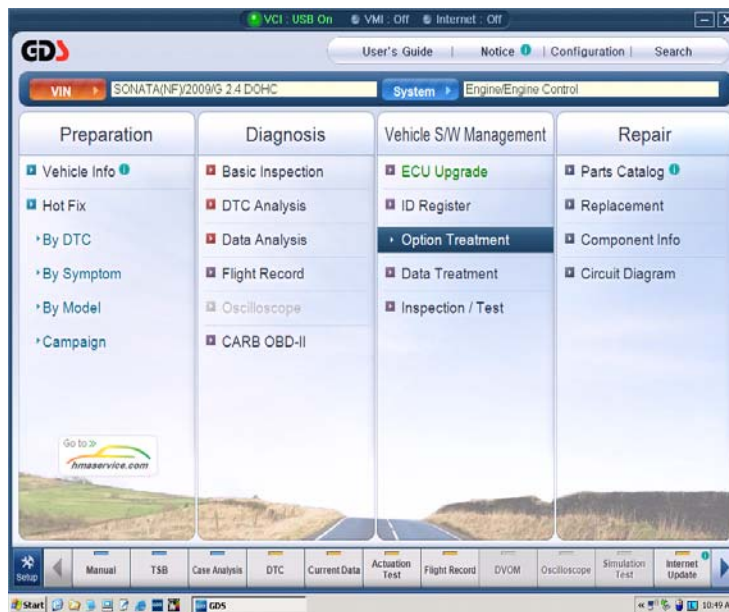
- If the screen indicates “**Voltage is OK**”, select **OK**. If not, select **CANCEL** and charge the vehicle battery.

**CAUTION: If the voltage is below 12 volts, select CANCEL and run the engine for at least 10 minutes to ensure an adequate battery charge for reliable update results.**

- Updating will occur until 100% is reached on the bar graph. Turn the ignition key OFF for 10 seconds, then turn it ON and select **OK**.
- The GDS will confirm that TCU reprogramming is successfully finished. Select **OK**.
- Check for any Diagnostic Trouble Codes in the **ESC** menu and erase any DTC present.

**NOTE: Go to Step 8 and reset the TCM adaptive learning values as shown below. This step is necessary to ensure a smooth shift.**

- From the home screen, select Vehicle, **AT** menu and **Option Treatment**.



- Select **Resetting Adaptive Values**. Follow the prompts on the screen.

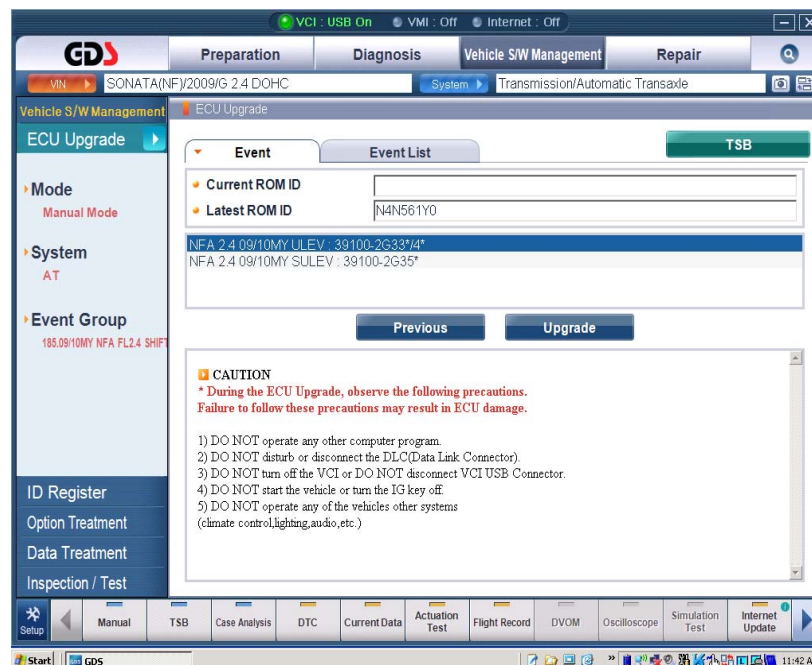


## 2-2. GDS MANUAL MODE TCM UPDATE PROCEDURE:

### CAUTION:

- **The manual update should be performed only when the automatic update fails. If automatic update fails, turn the ignition key OFF for at least 10 seconds and place it back in the ON position to reset the ECM.**
- **If the manual TCM update fails, disconnect the ECM connectors for 10 minutes and retry the manual update.**

1. From the GDS home screen, select **ECU Upgrade**.
2. Select **Manual Mode** and then select **Next**.
3. Select **AT** and then select **Next**.
4. Upgrade Event **185 09/10MY NFA FL2.4 Shift Feeling Improvement - TCM** will display. Select **Next**.
5. Refer to the emission label on the underside of the hood to determine if the engine is ULEV or SULEV. Select **ULEV** or **SULEV** and select **Upgrade**.



6. Enter the appropriate password shown below and select **OK**.

MENU	PART NO.	PASSWORD
09 MY NFA 2.4 <b>SULEV</b>	39100-2G35*	0235
09 MY NFA 2.4 <b>ULEV</b>	39100-2G33*/4*	2334

7. If the results indicate “**Voltage is OK**”, select **OK**. If not, select **CANCEL** and charge the vehicle battery.

**CAUTION: If the voltage is below 12 volts, select CANCEL and run the engine for at least 10 minutes to ensure an adequate battery charge for reliable update results.**

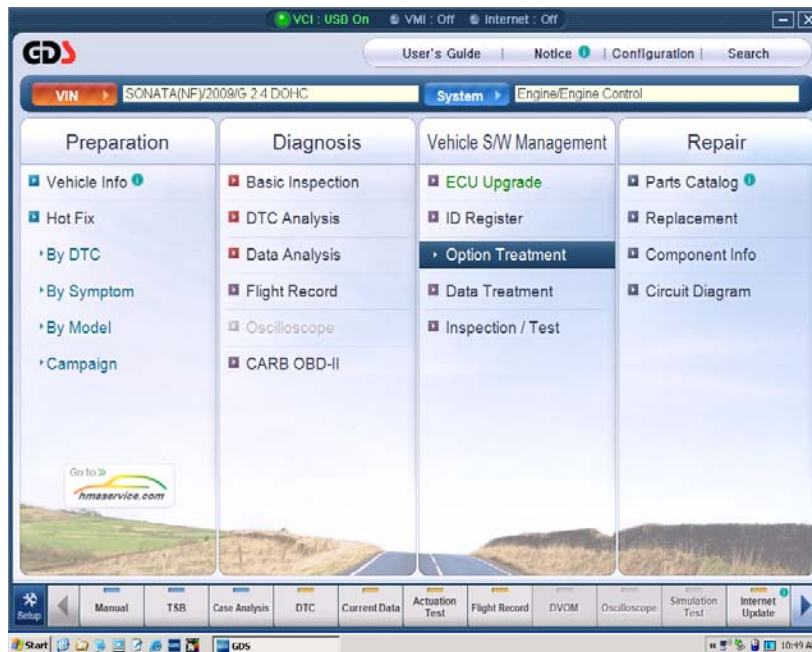
8. Updating will occur until 100% is reached on the bar graph. Turn the ignition key OFF for 10 seconds, then turn it ON and select **OK**.

9. The GDS will confirm that TCU reprogramming is successfully finished.

10. Check for any Diagnostic Trouble Codes (DTCs) and erase the DTC (s) present.

**NOTE: Go to Step 12 and reset the TCM adaptive learning values as shown below. This step is necessary to assure a smooth shift.**

11. From the home screen, select Vehicle, **AT** menu and **Option Treatment**.



12. Select **Resetting Adaptive Values**. Follow the prompts on the screen.



# HYUNDAI Technical Service Bulletin

Group	AUTOMATIC TRANSMISSION
Number	10-AT-007-1

## WARRANTY INFORMATION:

OP CODE	OPERATION	OP TIME	CAUSAL PART	NATURE CODE	CAUSE CODE
39100F01	ECM & TCM UPGRADE	0.3	39100-2G332 39100-2G332 39100-2G350 39100-2G353	N94	C40