SUBJECT:	No: **TSB-07-23-006**
TCM REPROGRAMMING FOR DTC P0712, P0713 & "SERVICE REQUIRED" DISPLAYED WITH NO MIL	DATE: **July, 2007**
	MODEL: **2007 Outlander**

CIRCULATE TO:	[ ] GENERAL MANAGER	[X] PARTS MANAGER	[X] TECHNICIAN
[X] SERVICE ADVISOR	[X] SERVICE MANAGER	[X] WARRANTY PROCESSOR	[ ] SALES MANAGER

PURPOSE

Affected vehicles may exhibit a condition where the customer notices *Service Required* displayed on the Multi-Information Display in the center of the instrument panel. They may also notice that the transmission is locked into fail-safe mode (2nd, 3rd or 4th gear), but the MIL is not illuminated. During diagnosis, the technician will not find a DTC.

• DTC P0731 (1st Gear Incorrect ratio) may not be stored in the TCM and the MIL may not turn on, even if a gear synchronizing failure occurs during first gear operation.

Affected vehicles may display an incorrect DTC for the A/T fluid temperature sensor circuit. This may cause the technician to attempt to diagnose the incorrect condition due to the descriptions being reversed.

• DTC P0712 (short circuit) will store in place of P0713 (open circuit) and vice versa.

Reprogram the TCM as described in this bulletin. See the chart under AFFECTED VEHICLES below to assist in determining if the vehicle requires reprogramming. Then refer to the attachments at the end of this TSB for information on software part numbers for confirmation of to which level the control unit is programmed.

> **IMPORTANT!!!**
> **When conducting reprogramming on vehicles with separate Engine and Transmission Control Modules, it is important to check the current software levels on both the ECM and TCM prior to any reprogramming. Conduct any reprogramming necessary to bring both control modules to the most current levels available. See the charts in attachment 1 at the end of this TSB for assistance in determining if programming is available for both control modules.**

AFFECTED VEHICLES

2007 Outlander - See chart below for specific <u>vehicle</u> production dates.

Control Unit	Specification	Built Prior To:	First VIN (last 8)
TCM	ALL	May 31, 2007	7Z021366

Reprogram any TCM where the current Software Part No. listed in the ECU information on the MUT III reads 8631A0840D, 8631A0840C, 8631A0840B, or 8631A0840A.

REQUIRED OPERATIONS

1. The following equipment is needed to reprogram the TCM.

• VCI (Vehicle Communication Interface) - MB991824
• Laptop computer - 520924 or 528535
• MUT-III main harness 'A' (blue connector at the DLC end) - MB991910

- USB 2.0 cable - MB991827
- "Engine Compartment/Control Module" labels - p/n MSSF-024G-00
- MEDIC II Download at M160 or higher.

2. Check the underside of the hood to verify that there is no label previously installed to indicate that this reprogramming has already been done.
3. If an affected vehicle has a Service Engine Soon (SES) lamp illuminated and DTCs listed in the TCM memory (before reprogramming the TCM), follow diagnostic instructions for the applicable DTCs per the service manual information. Using the MUT III, scan for and record any DTCs set in the TCM. Record the freeze frame data, then follow diagnostic instructions to resolve any DTCs prior to reprogramming.

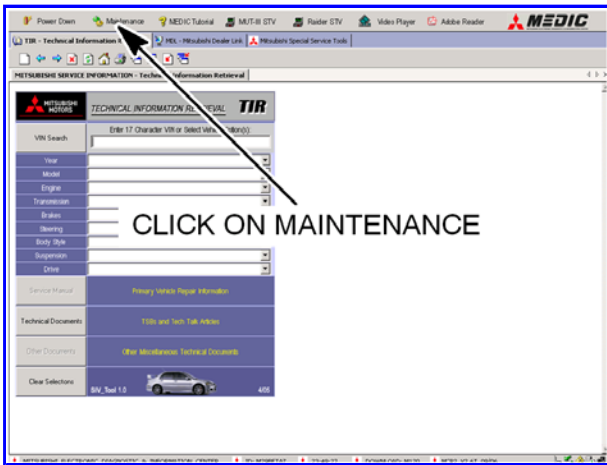| Do not reprogram the TCM until the reason for any DTCs being set is corrected. |

For MEDIC II users only: (MUT III users go to step 4)

a. Verify that the MEDIC II is at download M160 or higher.

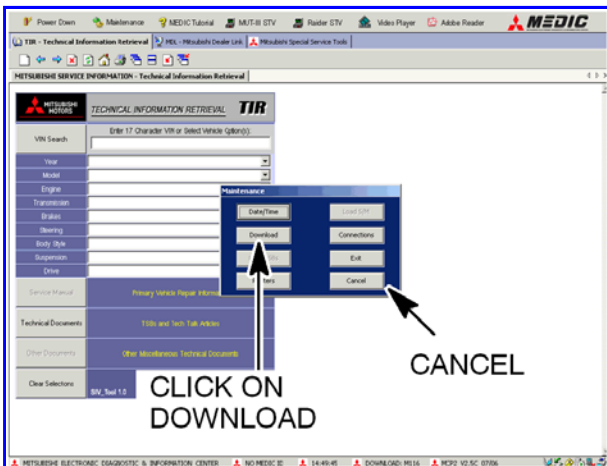If your **MEDIC II Down-load is below M160**, update your MEDIC II as follows.
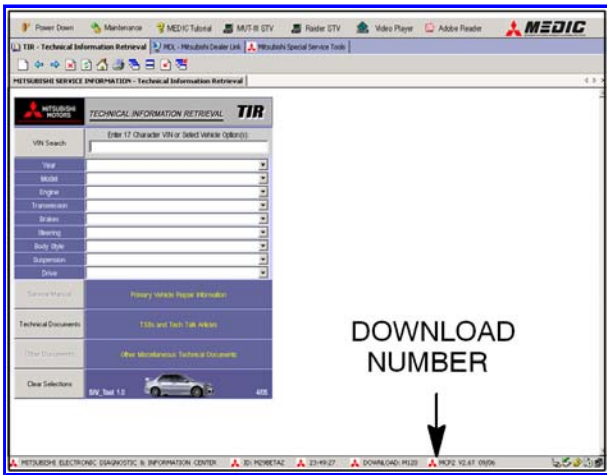
b. On the MEDIC-II main screen, click on "Maintenance".

c. Click on "Download". After the download completes, click on "Cancel" to exit the "Maintenance" window.

GO TO THE REPROGRAMMING PROCEDURE ON PAGE 4.

4. **Scan Tool Viewer (STV) ONLY (MEDIC-II USERS go to the Programming Procedure on page 4).** Verify that your MUT-III has the most current version of the reprogramming database:
   a. Select "Special Function", then select "ECU Reprogramming."
   b. Select "Database File Display." The database version is displayed in the top right corner of the screen. Make sure the database version is **N07061 or greater**.
   c. If the database version is N07061 or greater, reprogram the PCM as described in the **Programming Procedure** beginning on page 4.
   d. If the database version is less than N07061, you must transfer the new reprogramming data from the Reflash Update CD 08/07 to the MUT-III hard drive as follows:

i. Install **Reflash Update CD 08/07** into the PC's DVD-ROM drive.

ii. Follow the instructions on the screen. The system will automatically transfer the reprogramming data onto the PC's hard drive.

iii. Continue to page 5 for the Programming Procedure.
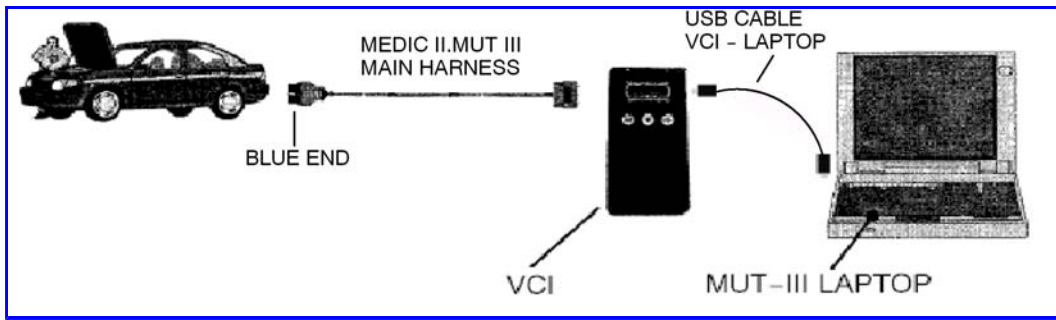
REPROGRAMMING PROCEDURE

⚠ CAUTION
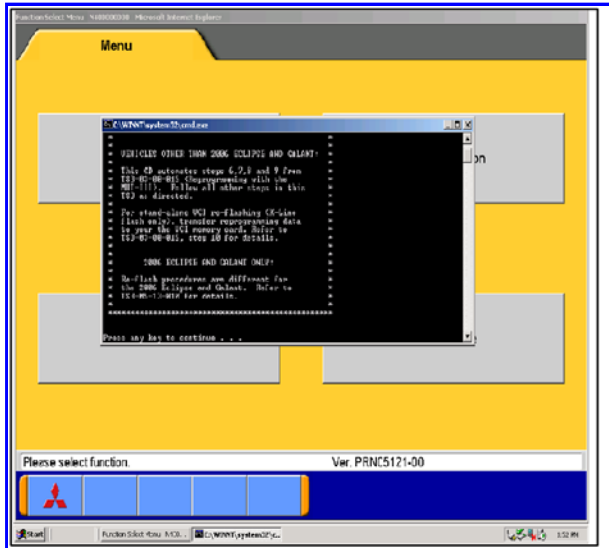
BATTERY VOLTAGE (AS MEASURED AT THE BATTERY POSTS WITHOUT ELECTRICAL LOAD) MUST BE KEPT AT 12.4V OR HIGHER IN ORDER TO REPROGRAM THE TCM. MEASURE THE BATTERY VOLTAGE AND CHARGE AS NECESSARY. DURING REPROGRAMMING, A BATTERY CHARGER SHOULD BE CONNECTED TO THE VEHICLE'S BATTERY. DO NOT ALLOW THE CHARGER TO TIME OUT DURING THE REPROGRAMMING PROCEDURE.

NOTE: VCI Stand-alone reprogramming is not available for this procedure. The MUT-III laptop and the VCI must remain connected for the entire procedure.

Connect the equipment as follows:

1. Connect the USB cable to the VCI.
2. When the laptop displays the MUT-III main screen, connect the USB cable to the laptop.
3. Connect the MUT-III main harness with the blue DLC connection to the VCI.
4. Connect the blue connector of the MUT-III main harness to the vehicle's data link connector.
5. Turn the VCI power switch ON. Verify that the indicator lamp in the upper right corner of the screen is green.

   NOTE: If the USB cable is disconnected during this procedure, a warning message will display. Close the message display by clicking on the OK button and check USB connections.

MEDIC II.MUT III MAIN HARNESS
USB CABLE VCI – LAPTOP
BLUE END
VCI
MUT–III LAPTOP

⚠ CAUTION	DO NOT DISTURB THE HARNESS CABLES OR CONNECTIONS. INTERRUPTION DURING THE REPROGRAMMING PROCESS COULD CAUSE THE CONTROL UNIT TO LOSE DATA OR PREVENT FUTURE REPROGRAMMING.

1. Conduct the following steps to reprogram the TCM.

a. Turn the ignition key or knob (F.A.S.T. equipped) to the ON position. If the vehicle is equipped with the F.A.S.T. System, the fob must remain in the vehicle for the entire procedure.
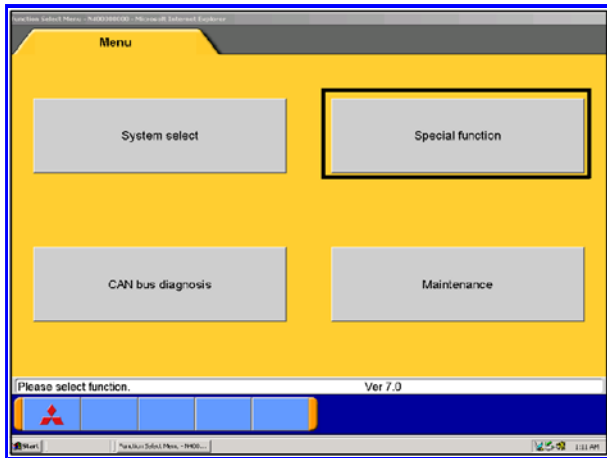
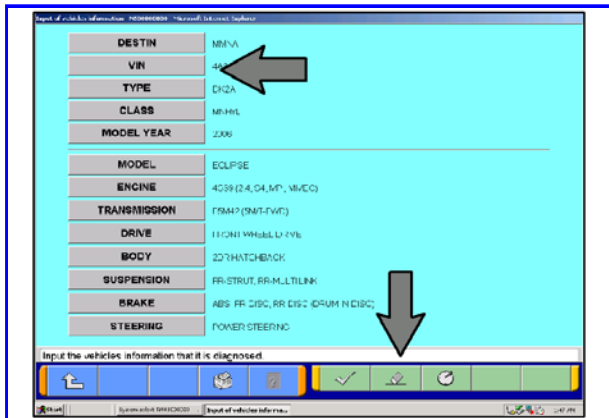b. Select "Special Function."
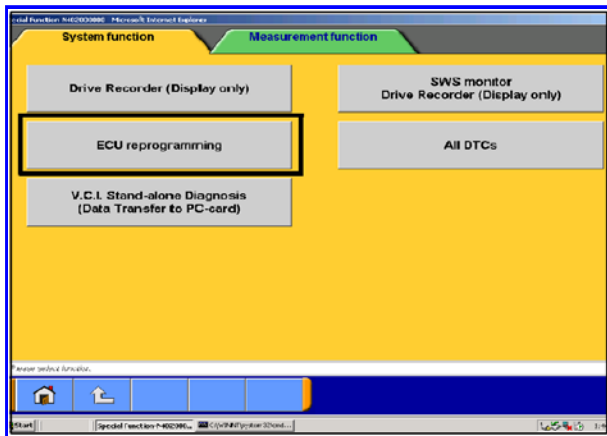
c. Select "ECU reprogramming."

d. Select "Automatic Reprogramming (CAN)."
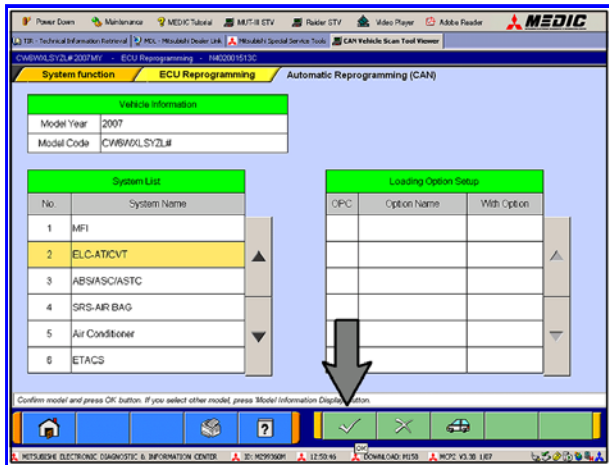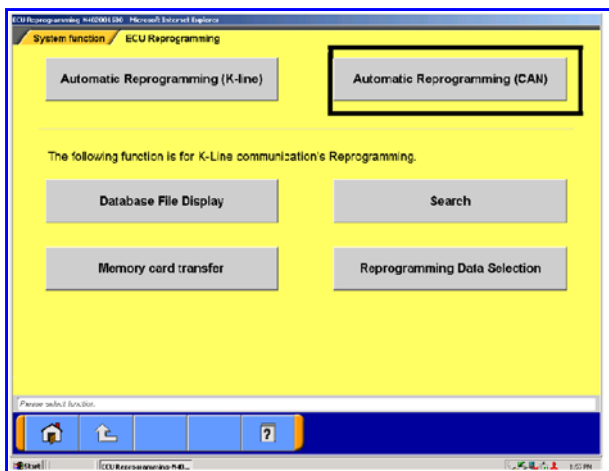
e. Click on the check mark.

f. If the data shown is correct for the vehicle you are working with, continue by clicking the check mark at the bottom of the page and go to step i.

If the data shown on the page is **NOT** for the VIN you are working with, click on the eraser icon at the bottom of the page. This will erase all of the current VIN information so that you can replace it with the information from the vehicle you are working with.

Select VIN by clicking on the button.
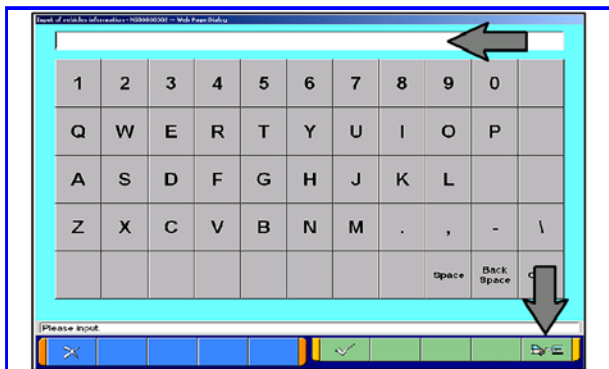
g. Click on the icon in the lower RH corner of the screen to have the MUT III automatically read the VIN. If a message appears saying that the VIN cannot be input automatically, manually type the 17 digit VIN into the VIN field.

Make sure the VIN is correct and click on the check mark.

h. If it was not completed automatically, input the vehicle class. Click on the CLASS button, select the appropriate class from the menu and then click the check mark at the bottom of the page. Vehicle class can be found on the Vehicle Information Code Plate
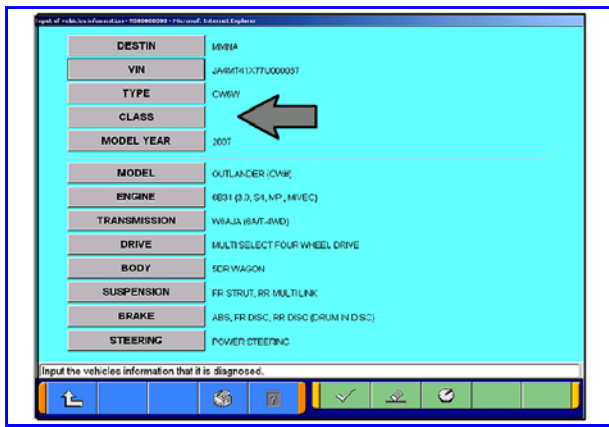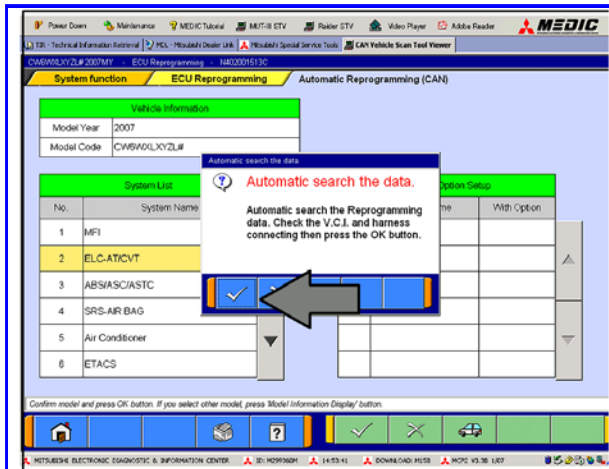
riveted to the base of the RH b-pillar (see photo below). The class is part of the model code.

Click the check mark and confirm that the VIN is correctly entered.

Model Code Plate
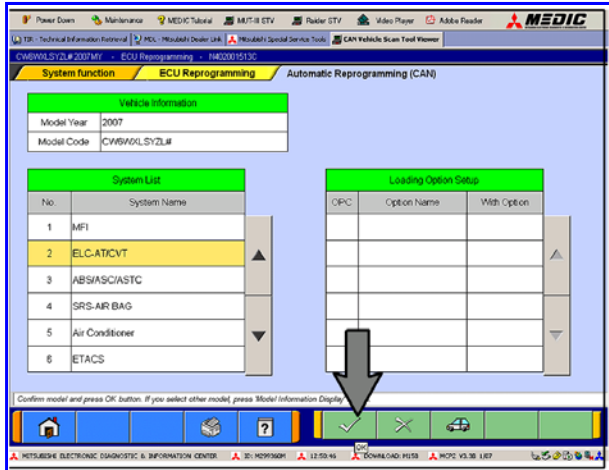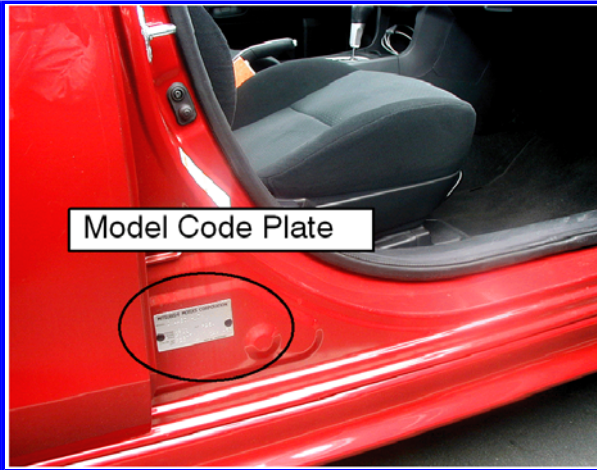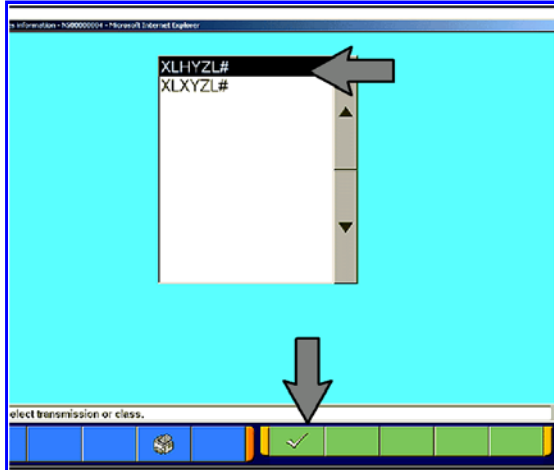
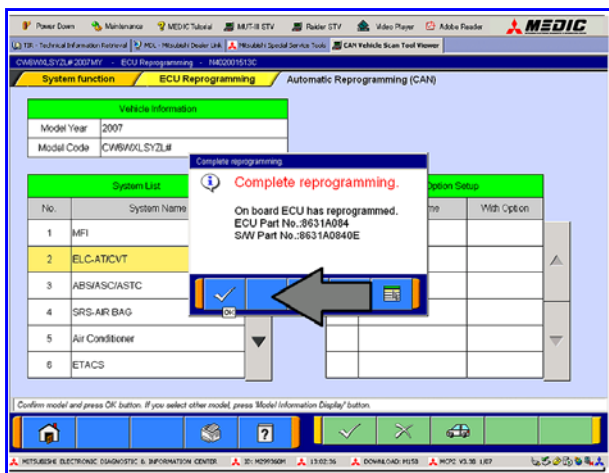i. MFI should be highlighted as the default. Click on ELC-AT/CVT so that it is highlighted.

Click on the check mark at the bottom of the page.

j. A message will advise you that the system will "Automatic Search the data."
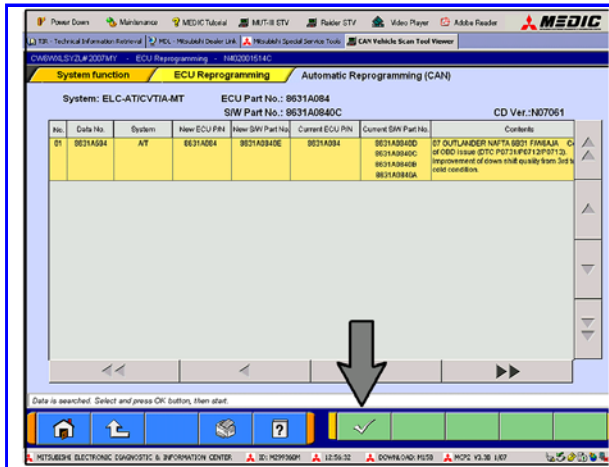
Click on the check mark to continue.

**NOTE:** If this screen **does not** appear, continue with step k.

If the TCM is already reprogrammed for this concern, this screen will display. If this message displays, do not continue with this TCM reprogramming procedure. Confirm the vehicle conforms to the Affected Vehicles description on page 1 and attachment 1 at the end of this TSB to determine if this TCM may have been already updated. If it has, this reprogramming procedure is complete. Click the check mark to clear the advise window. Go to step 3.

k. The CAN database screen will display.

(If more than one row is displayed in the table, select the appropriate ECM part number.)

Click on the check mark to continue.
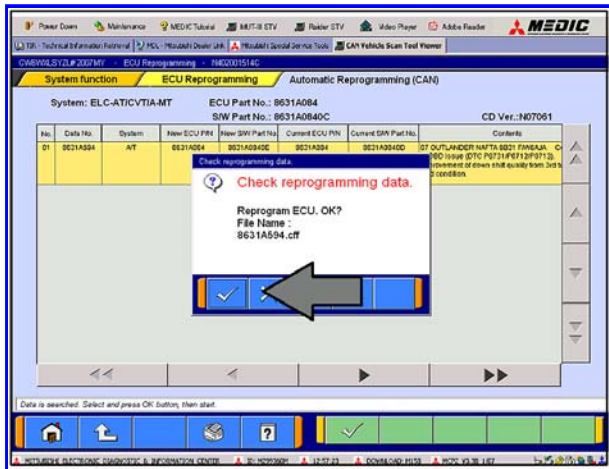
l. Click on the check mark to begin reprogramming.

NOTE: It will take up to 5 minutes to complete the reprogramming.


| **⚠ CAUTION** | **The Daytime Running Lights and both the engine and condenser fans will automatically be turned on during reprogramming. Care should be taken to insure nothing gets caught in the moving blades. The radio will be turned off and you will also hear a chime in the interior for a short period of time. These are normal conditions.** |

m. This message will display when the TCM reprogramming is successfully completed. Record the S/W (Software) Part No. and compare it to the "New Part No." in the table in attachment 1 at the end of this TSB.
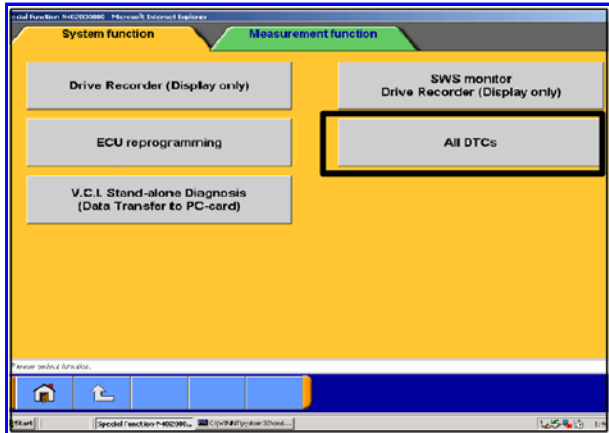Click the check mark and you will be returned to the "ECU Reprogramming" page. Click the Home icon at the lower left corner of the page to return to the System Select main page.
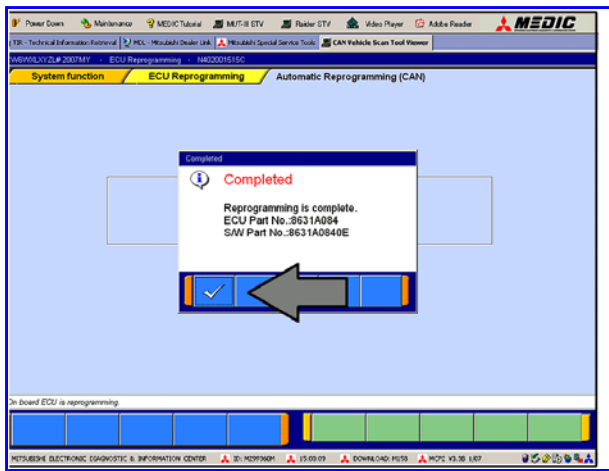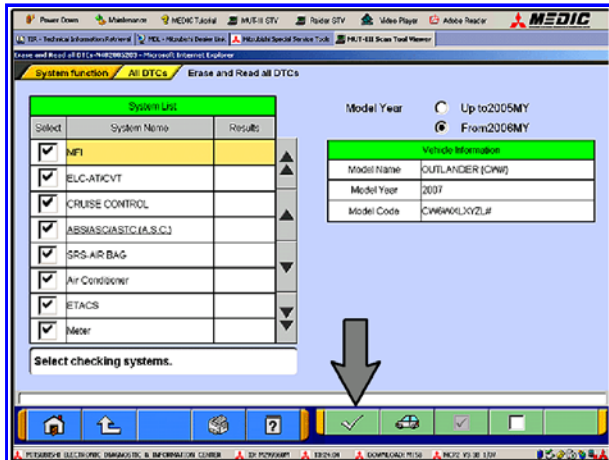
2. Turn the ignition key/knob to the OFF position, wait approximately 10 seconds, then turn it back on.
3. Using the MUT III, check and erase ALL DTCs from all systems.
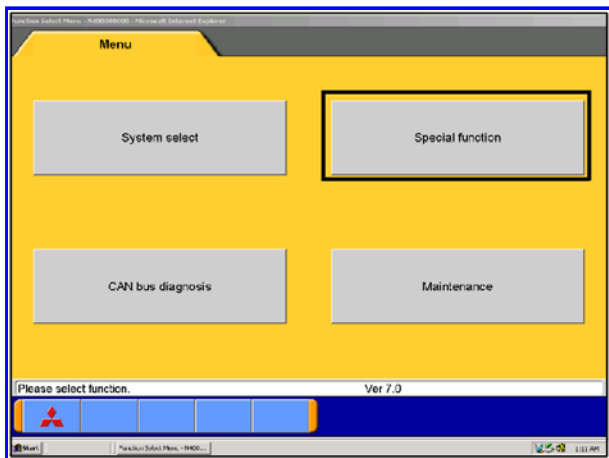
a. Select "Special Function."

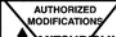b. Select "All DTCS," then select READ AND ERASE ALL DTCS.

c. Inspect the list on the left side of the screen and ensure that the correct options ONLY are checked. DTCs will be set if the the options are incorrectly entered.

Note that the selections for ABC/ASC/ASTC and for FAST/IMMOB/KEYLESS are underlined. Certain models require you to select the correct optional equipment. Click on the underlined term and if given a selection, check the correct option from the list.

Click the check mark at the bottom of the page for DTC reading and erasing to begin.

4. If DTCs remain, diagnose and repair the condition as per the Service Manual. If no additional DTCs are listed, click the check mark to clear the window and then click the Home icon in the lower left of the screen to return to the main menu. Use of the MUT-III is complete for this reprogramming.
5. Using a ball-point pen, enter the appropriate Engine Control Module (ECM) part number, vendor number, ROM ID#, this technical service bulletin number (**TSB-07-23-006**), your dealer code, and the current date on the Engine Compartment / Control Module Label (p/n MSSF-024G-00). The label is available from your facing PDC.

The Control Unit Label is NOT used for this reflash. It should be discarded.

6. Carefully remove all dirt and oil from a vacant area near the VECI label on the underside of the hood, and affix the *Engine Compartment Label* (LH side, above) to that area.

PARTS INFORMATION

Use the Genuine Mitsubishi Parts listed below.

Description	Model	Part Number
Label, Engine Compartment	All	MSSF-024G-00

WARRANTY INFORMATION

TCM Reflash

Nature Code: **05H**   *Cause Code:* **605**

*Labor Operation No. (*Select applicable op #. Select only ONE applicable operation number that aligns with the actual reprogramming peformed.

(TCM Only): 23850191   *Time Allowance:* 0.3 hr.

(ECM & TCM): 13850192   *Time Allowance:* 0.4 hr.

Warranty Coverage: 8 years/80,000 miles

Special Warranty Information: Normal warranty procedures apply.

Attachment 1

Current ECM Reprogramming Chart

| MODEL | Current Part No. | Data No. | DISPLAY ON MUT-III SCREEN AFTER REPROGRAMMING | | | VENDOR NUMBER |
			New Part No.	ROM ID	New S/W Part No.	
2007 FED Outlander 6B31 S4 MIVEC AT 2WD	1860A726	1862A782	1860A726	ENG: SM5029-22	1860A726002	E6T70475HL1
2007 FED Outlander 6B31 S4 MIVEC AT 4WD	1860A727	1862A783	1860A727	ENG: SM5063-22	1860A72702	E6T70476HL1
2007 CALF Outlander 6B31 S4 MIVEC AT 2WD	1860A728	1862A784	1860A728	ENG : SM5030-22	1860A72802	E6T70477HL1
2007 CALF Outlander 6B31 S4 MIVEC AT 4WD	1860A729	1862A7785	1860A729	ENG: SM5064-22	1860A72902	E6T70478HL1

Current TCM Reprogramming Chart

| MODEL | Current Part No. | Data No. | DISPLAY ON MUT-III SCREEN AFTER REPROGRAMMING | | | VENDOR NUMBER |
			New Part No.	ROM ID	New S/W Part No.	
2007 Outlander 6B31 2WD/4WD	8631A084	–	8631A084	TJF000-37	8631A084_0E	31036_1XM1A(JATCO) G1T33071 H4(MELCO)