

Technical Service Bulletin

SUBJECT: F1CJC/W1CJC CVT-ECU CODING PROCEDURE		No: TSB-15-23-001	
		DATE: February, 2015	
		MODEL: 2015 Outlander Sport/RVR	
CIRCULATE TO:	<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 PROCESSOR	<input type="checkbox"/> SALES MANAGER

PURPOSE

The 2015 Outlander Sport/RVR with 2.0L engine is equipped with a new version of the Continuously Variable Transaxle (CVT), designated F1CJC (FWD) and W1CJC (AWC). When the valve body, CVT assembly or CVT-ECU (ECU) is replaced, the ECU must be initialized to the valve body using the information provided in this TSB

AFFECTED VEHICLES

2015 Outlander Sport/RVR 2.0L engine (F1CJC & W1CJC transmissions only)

BACKGROUND

The F1CJC/W1CJC CVT valve body is manufactured with unique coding. In order for the valve body and ECU to recognize each other, technicians must initialize the ECU with the valve body serial number when the ECU or valve body (including CVT assembly) is replaced. The information coded into the ECU must always match the serial number from the valve body.

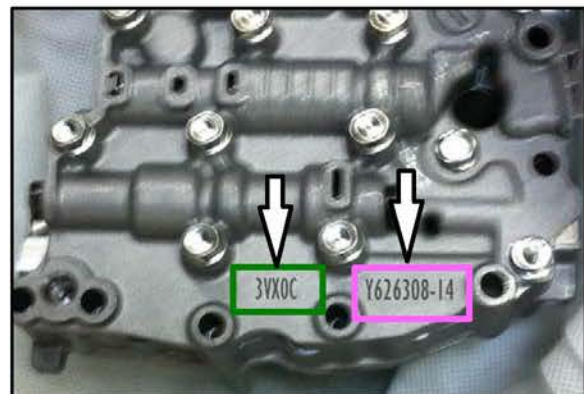
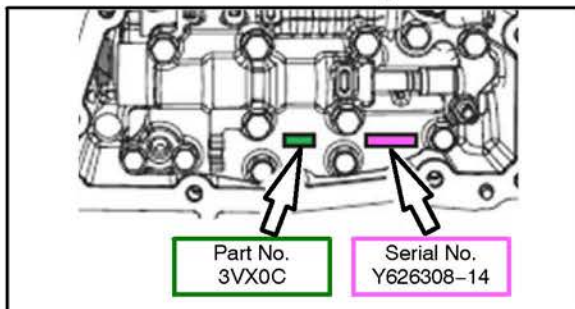
When replacing the ECU, use the MUT-III to copy the existing valve body information from the ECU being replaced to the MUT-III, then reverse the process to load the saved information to the new ECU. If communication with the valve body is not possible, use the steps in the "Learning Procedure (Valve Body and CVT Replacement)" instructions for downloading the coding file from the MDL, then upload the file to the ECU.

When replacing a valve body or CVT assembly, you must first download a coding file specific to the valve body from the MDL to any non-MEDIC PC or laptop, then copy it onto your MEDIC PC and load the information to the ECU.

The serial number includes the manufacturer's part number and a manufacturer's serial number along with other characters. They are located on the valve body and CVT case as shown in the following illustrations. The serial no. on each part includes a 2 digit year designator (e.g. 14).

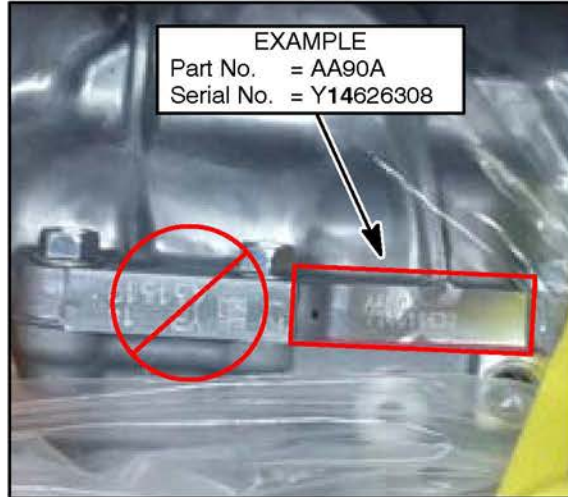
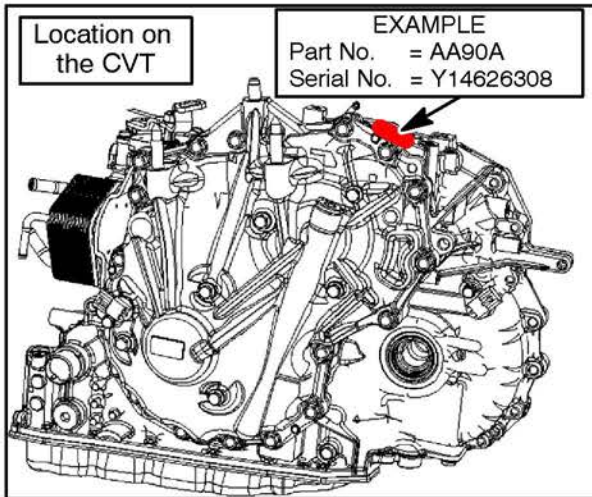
!! IMPORTANT !! The year designator is **not** used when entering the serial number on the MDL. For example, in this case, the valve body serial number, Y626308-14, is entered as Y626308.

Serial number location on valve body



The serial number on the CVT case, Y14626308, is also entered as Y626308.

Serial number location on CVT case/bell housing



NOTE: The serial number used in the following procedure is as follows:

Part No.
AA90A

Serial No.
Y626308

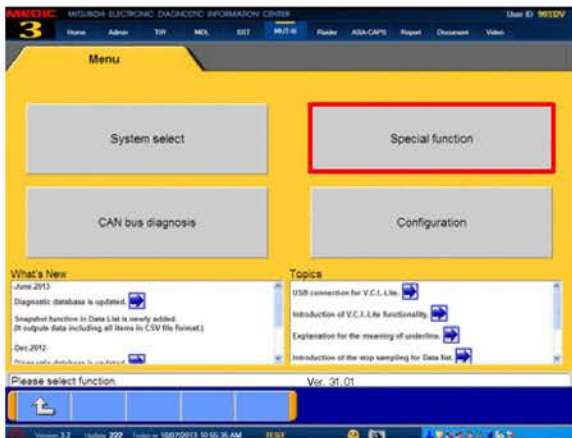
NOTE: The serial no. format on the valve body is different than the serial number format on the CVT case. If the valve body serial number reads Y626308 -14, the CVT case will read Y14626308.

PROCEDURE

EQUIPMENT

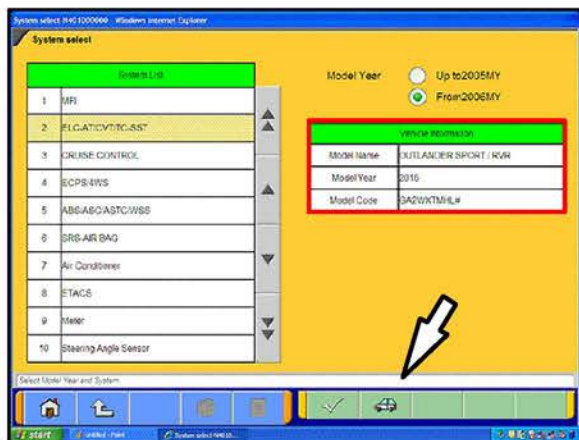
The following equipment is needed to initialize the CVT-ECU.

- MEDIC Laptop/Tablet computer with A/C power adaptor – 520924, or FZG1MK2.
- VCI (Vehicle Communication Interface) – MB991824 or VCI LITE – MB992744
- MUT-III main harness 'A' (blue connector at the DLC end) – MB991910.
- USB 2.0 cable – MB991827 OR MB991827.



SCAN TOOL PREPARATION

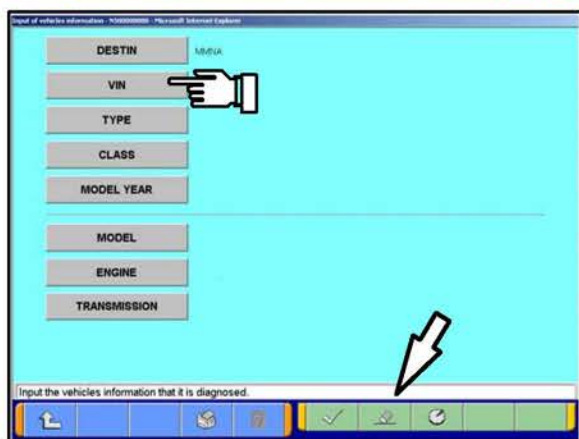
1. Connect the MUT-III to the data link connector (DLC).
2. Turn the ignition switch to the ON position.
3. On the MUT-III main page, choose System Select.



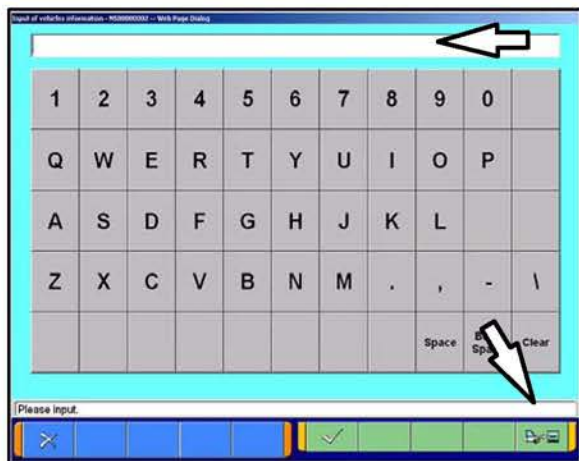
4. If the “Vehicle information” does not match the vehicle being repaired, click on the car icon at the bottom of the page.

If the “Vehicle information” does match the vehicle being repaired, continue with the proper initialization procedure for the repair.

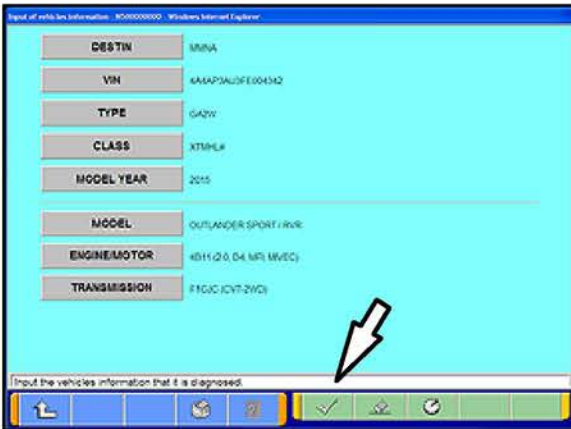
For CVT-ECU Replacement — page 4
For Valve Body or CVT Replacement — page 8



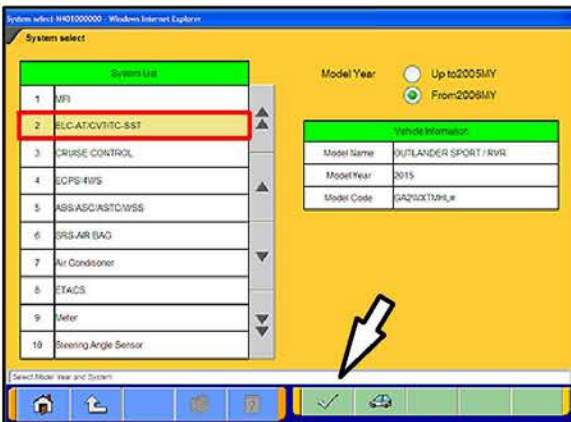
a. Click the eraser icon at the bottom of the page to erase vehicle data.
Then click the VIN button.



b. Click the icon in the lower RH corner of the screen to have MUT-III automatically read the VIN.
If a message appears saying the VIN cannot be input automatically, manually enter the 17 digit VIN into the VIN field at the top of the page.
Make sure the VIN is correct and click the check mark.



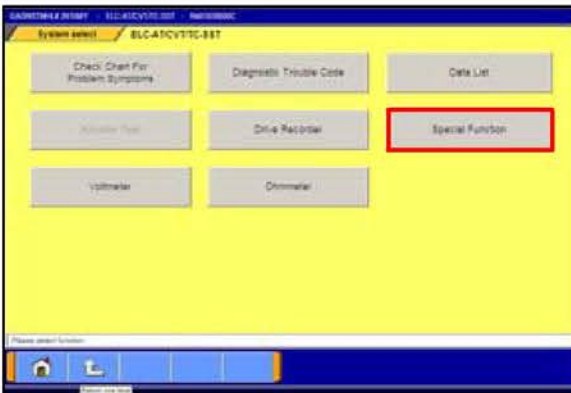
- c. Click on the “TRANSMISSION” button and select the correct transmission or locate the vehicle class at the base of the RH “B” pillar by opening the front passenger’s door.
- d. Confirm all data matches the vehicle and click the check mark at the bottom of the page to return to the System Select menu.



INITIALIZATION (CVT-ECU REPLACEMENT)

When replacing the CVT-ECU, perform the following “Learning Procedure” **BEFORE** installing the new part.

1. On the “System List,” highlight ELC-AT/CVT/TC-SST. Click the check mark at the bottom of the page.



2. Select Special Function



3. Select “Write calibration value.”

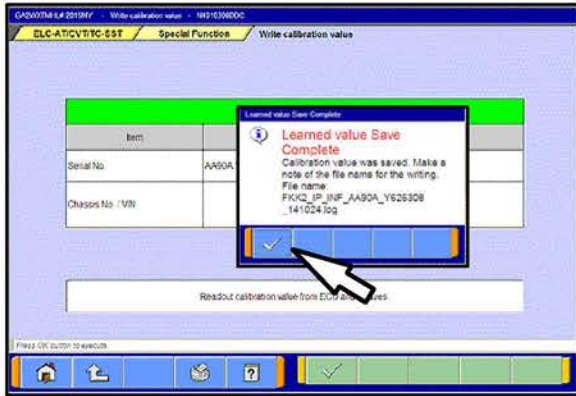


4. Select "Calibration value Read&Save."
Click the check mark at the bottom of the page.



5. This page will appear and the serial number will display after a few seconds.
Click the check mark at the bottom of the page.

6. Confirm the serial number matches what is printed on the transaxle case or valve body.
 - a. If it matches, save it to MUT-III by clicking the PC check mark at the bottom of the page. Go to step 7.
 - b. If it does not match or is not readable, drain the transaxle oil and remove the oil pan.



7. When successfully saved, the "Learned value Save Complete" message will appear.
8. Confirm the serial number matches what was displayed during step 5.
9. Click the check mark in the message to return to the "Calibration value Read&Save" page.

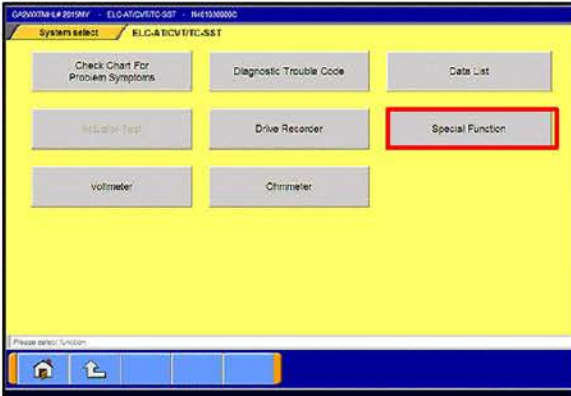
10. Turn the ignition switch to the LOCK (OFF) position.

11. **Replace the CVT ECU.**

12. Confirm the shift selector is in the P or N range and turn the ignition switch to the ON position.

NOTE: The gear selection **SHOULD NOT** be displayed in the MID.





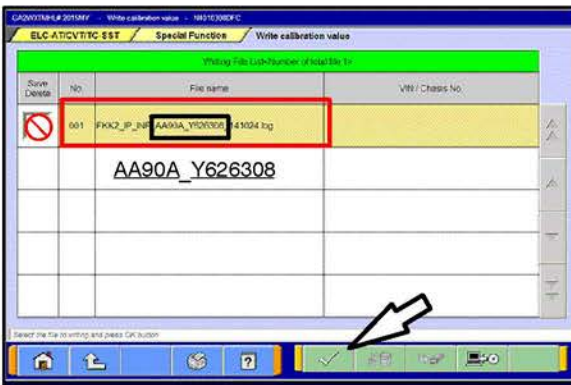
13. Navigate to the System Select page. Select Special Function.



14. Select "Write calibration value."



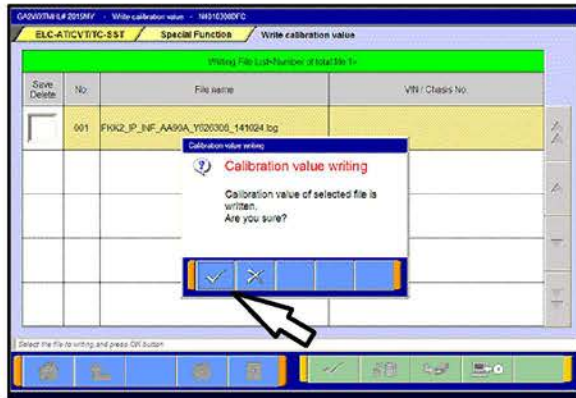
15. Click on "Saved calibration value writing." Click the check mark at the bottom of the page.



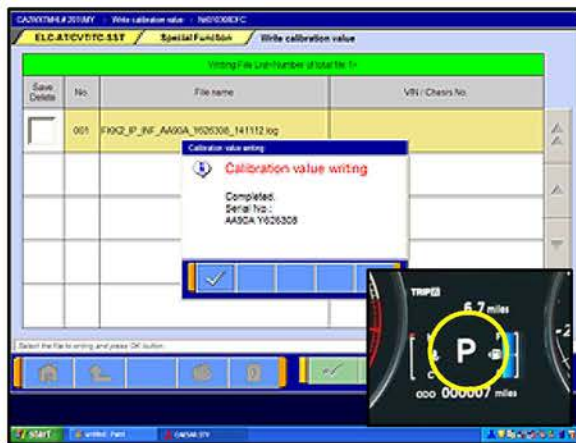
16. From the "Writing File List," click the .log file containing the serial number that you wrote on the repair order to highlight it.

Do not check the box in the "Save/Delete" column.

Click the check mark at the bottom of the page.



17. Click the check mark in the “Calibration Value Writing” message to begin writing to the ECU.



18. When writing is successfully completed, the “Calibration value writing – Complete” message will display.

NOTE: When successfully completed, the gear selection **SHOULD** be displayed in the MID.

Click the check mark to clear the pop-up.

19. Turn the ignition switch to the LOCK (OFF) position.

20. Perform the final learning step. The following conditions must be met for approximately 90 seconds. You **will not** be advised when complete.

a. To teach the system a meeting point. All of the following conditions must be met for approximately 90 seconds.

- Selector lever position: D
- Engine speed: 500 – 800 rpm (idle)
- The vehicle is stationary.
- There are no abnormalities in the CVT or related components.
- CVT fluid temperature; 40° – 100° C (104° – 212° F)
- The brake pedal is depressed and held for the entire procedure.
- The accelerator pedal is released for the entire procedure.

b. Move the shift selector to P.

c. Turn the ignition switch to the LOCK (OFF) position.

!! IMPORTANT !!

When replacing only the TCM, **DO NOT** complete “Clear CVT Oil Degradation Level” beginning on page 15. CVT oil degradation should only be cleared if the CVT fluid is replaced.

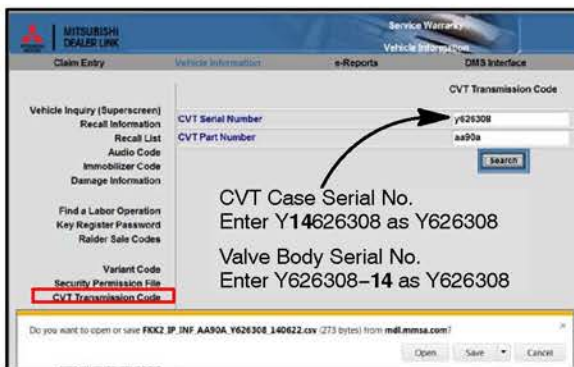
LEARNING PROCEDURE (VALVE BODY OR CVT ASSEMBLY REPLACEMENT)

Coding data for the new valve body must be downloaded from the Mitsubishi Dealer Link (MDL) to a PC and copied to a USB flash drive. The data is then transferred to a MEDIC or MUT-III computer to upload the coding data for the new valve body to the CVT-ECU.

NOTE: Downloading valve body coding data can be done using any non-MEDIC PC with a USB port .

1. Locate the serial number stamped on the new CVT assembly or valve body and record it on the repair order. The part number is part of the serial number (refer to page 1 of this TSB).

If the serial number is missing or unreadable on the CVT case, remove the oil pan and read the number off of the valve body.



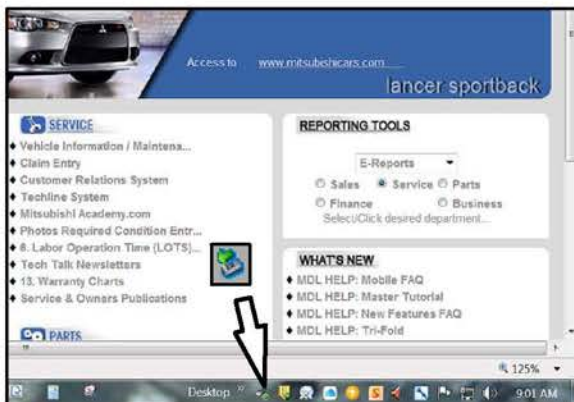
2. Import coding data from the MDL to your PC using the part number and serial number from the new CVT.

- a. From the MDL main page, select service → systems → Vehicle Information/Maintenance Schedule → CVT Transmission code.

- b. Enter the “CVT Serial Number” and “CVT Part Number” in the fields provided and click “Search.”

DO NOT enter the 2 digit year designator (e.g. 14).

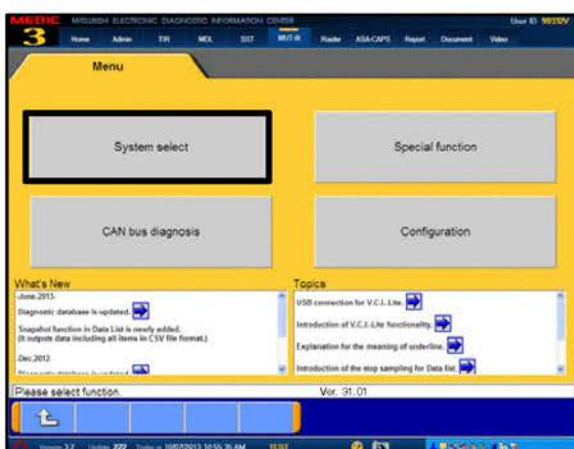
3. If you are asked if you want to open or save the file select “Save” and the file will be saved on your PC’s desktop



4. Connect a USB flash drive (thumb drive) to the USB port on your PC.

5. Copy the file to the USB flash drive using Windows Explorer (drag and drop).

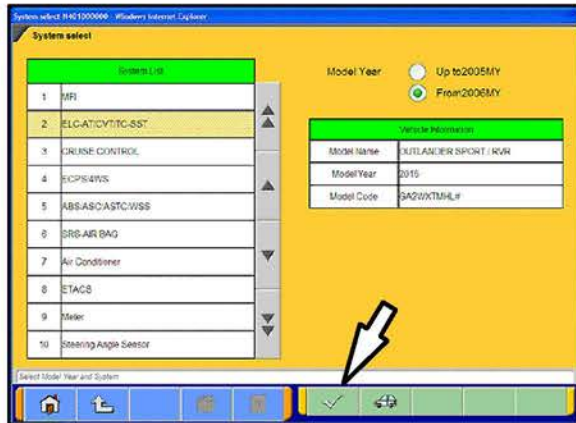
6. Click the icon at the bottom of the page to safely remove your flash drive from the PC.



7. Replace the valve body or CVT assembly. Refer to the service manual for details about removal and installation.

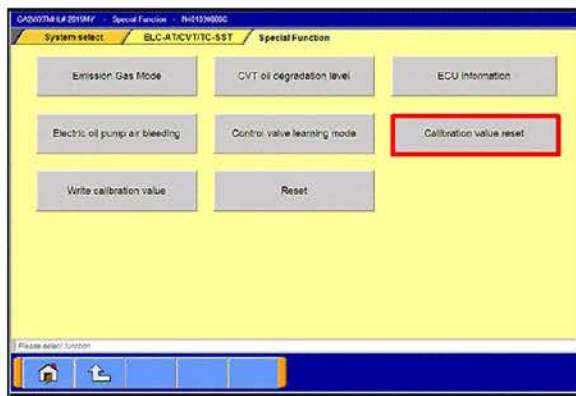
8. Connect the MEDIC/MUT-III to the vehicle’s data link connector (DLC). Turn the ignition switch to the ON position.

9. Choose System Select.

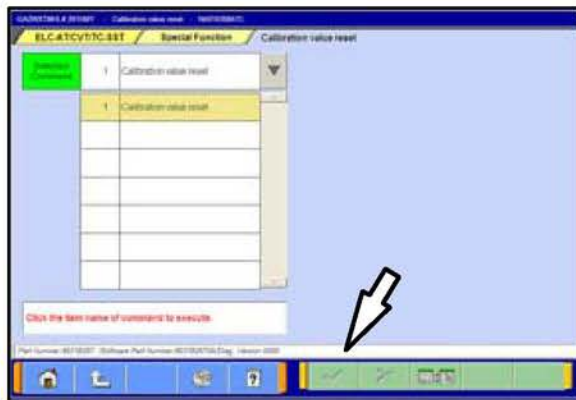


NOTE: If the “Vehicle information” does not match the vehicle being repaired, follow the instructions for Scan Tool Preparation on page 2.

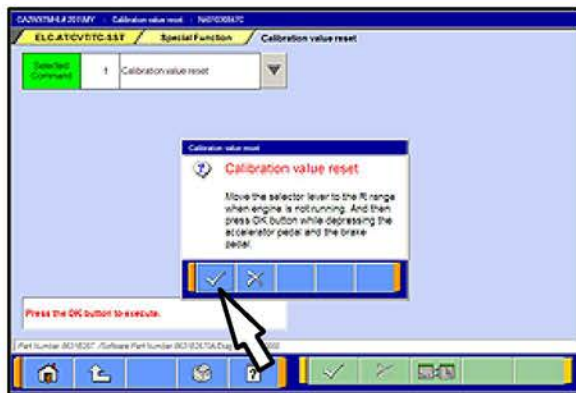
10. Highlight ELC-AT/CVT/TC-SST.
Click the check mark at the bottom of the page.



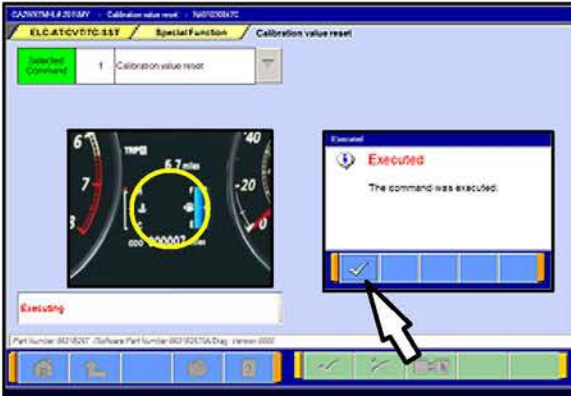
11. Select “Special Function.”
12. Select “Calibration Value Reset.”



13. From the pull down menu, click item No. 1: “Calibration value reset.”
14. Click the check mark at the bottom of the page.



15. Depress the brake pedal and shift the gear selector to “R.”
16. Keep the brake pedal depressed and depress the accelerator pedal. Keep both pedals depressed.
Click the check mark in the “Calibration value reset” message to begin resetting.



17. When calibration value reset is successfully completed, an "Executed" message will display.

Click the check mark to clear the message.

Shift the gear selector to "P."

NOTE: The shift position SHOULD NOT be displayed in the MID.

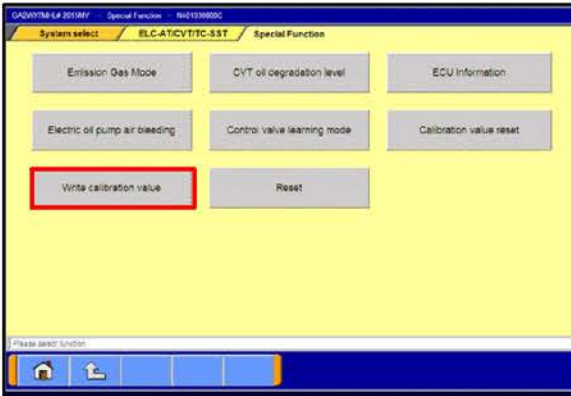
Release the brake and accelerator pedals.

18. Turn the ignition switch to the LOCK (OFF) position and wait ten (10) seconds.



19. Connect your flash drive to a USB port on your MEDIC.

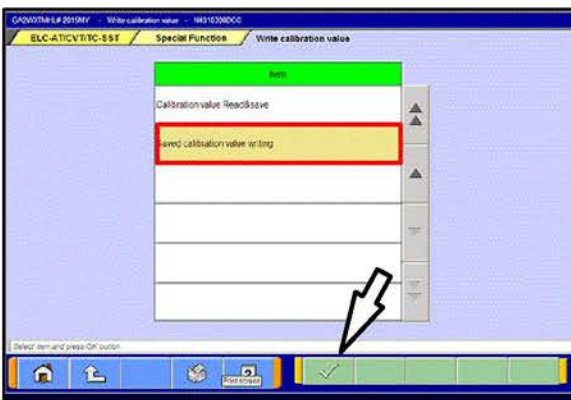
- If using a Toughpad (tablet), the most convenient connection is on the upper surface of the tablet.
- If using a Toughbook (laptop), use the USB port on the front of the docking station.



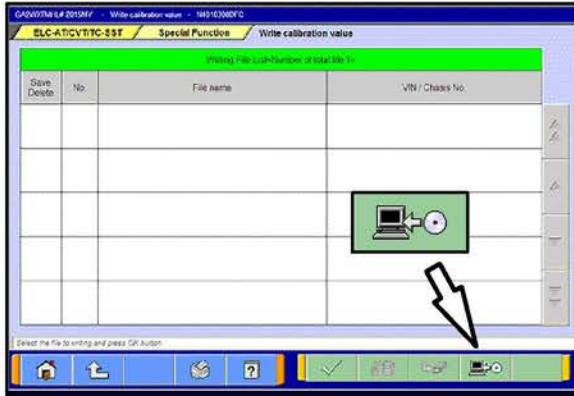
20. Click the up arrow at the bottom of the page to return to the Special Functions menu.

21. Turn the ignition switch to the ON position.

22. Select "Write calibration value."

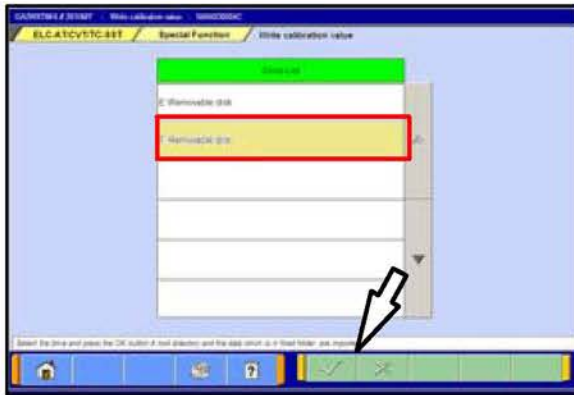


23. Select "Saved calibration value writing" and click the check mark at the bottom of the page



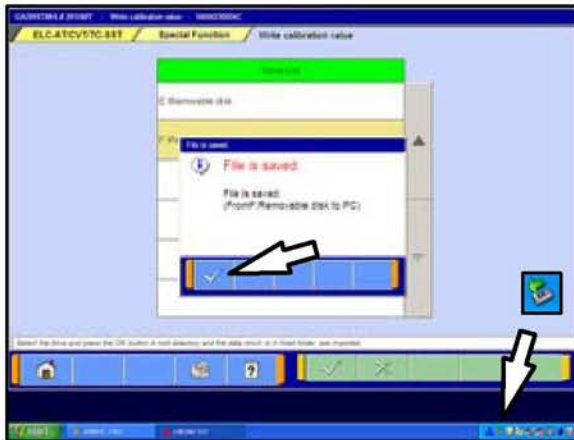
24. Click the icon at the bottom of the page representing a CD being copied to a PC.

NOTE: This procedure saves **ALL** CVT coding files found on your flash drive to MUT-III. You may want to delete files that are no longer necessary from your flash drive to avoid confusion.



25. Click the drive where you connected your flash drive. "F:\Removable disk" is shown. Drive identification may vary with different PCs.

Click the check mark at the bottom of the page.



26. A "File is saved" message will appear.

Click the check mark to clear the message.

You will be returned to the "Write calibration value" list.

27. Click the icon at the RH corner of the Task bar on the bottom of your computer screen to "Safely remove hardware" to protect the data on your flash drive. When advised it is okay, disconnect the flash drive.



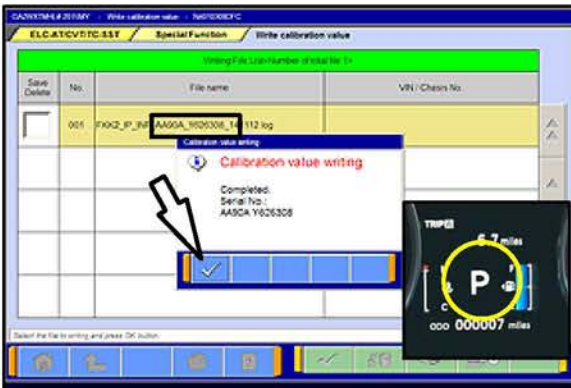
28. Click on the .csv file that matches the new CVT assembly or valve body.

DO NOT select the check box in the first column. This is for saving or deleting a file.

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



30. Click the check mark in the "Calibration value writing" message to begin writing to the CVT-ECU.



31. A message advising "Calibration value writing – Completed" will display. Confirm the serial number matches what you copied from the CVT case or valve body.

NOTE: When complete, the gear selection SHOULD be displayed in the MID.

32. Click the check mark to clear the message and return to the "Write Calibration Value" screen.

33. Turn the ignition switch to the LOCK (OFF) position.

34. If replacing only the valve body, skip the following and continue to the next section. If replacing the CVT assembly, start the engine and perform the final learning step. The following conditions must be met for approximately 90 seconds. You **will not** be advised when complete.

- Selector lever position: D
- Engine speed: 500 – 800 rpm (idle)
- The vehicle is stationary.
- There are no abnormalities in the CVT or related components.
- CVT fluid temperature; 40° – 100° C (104° – 212° F)
- The brake pedal is depressed and held for the entire procedure.
- The accelerator pedal is released for the entire procedure.

35. Shift the selector lever to P.

!! IMPORTANT !!

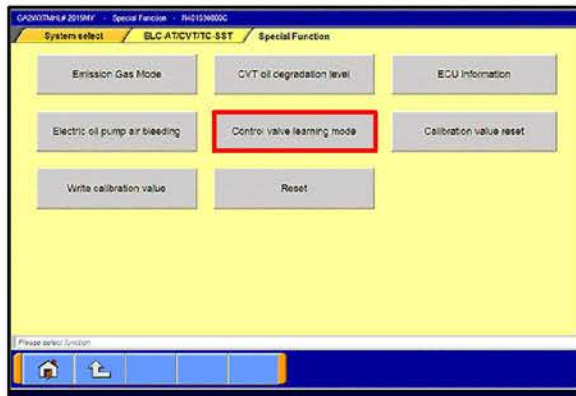
If replacing the CVT assembly, continue to the procedure "Reset the CVT Oil Degradation Level" on page 15.

IF REPLACING ONLY THE VALVE BODY, COMPLETE THE FOLLOWING "CONTROL VALVE LEARNING MODE" PROCEDURE.

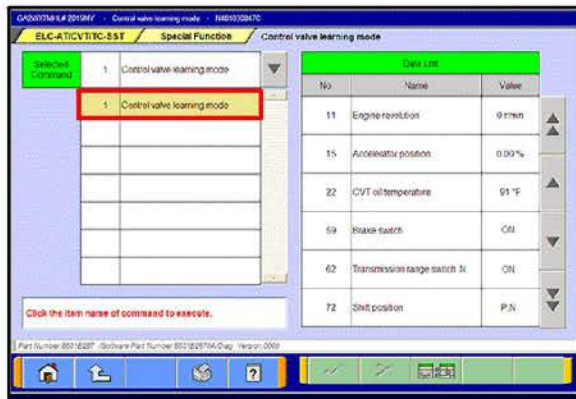
CONTROL VALVE LEARNING MODE

1. Start the engine. Set the vehicle to the following conditions:
2. Fully depress and hold the brake pedal.

- CVT fluid temperature: 50° – 100° C (122° – 212° F) must be maintained during this step.
- The vehicle is stationary.
- Selector lever position: N
- Engine speed: 500 – 850 rpm (idle)
- Air conditioning: OFF
- HVAC blower fan: OFF
- The accelerator pedal is released for the entire procedure.
- The brake pedal is depressed and held for the entire procedure.



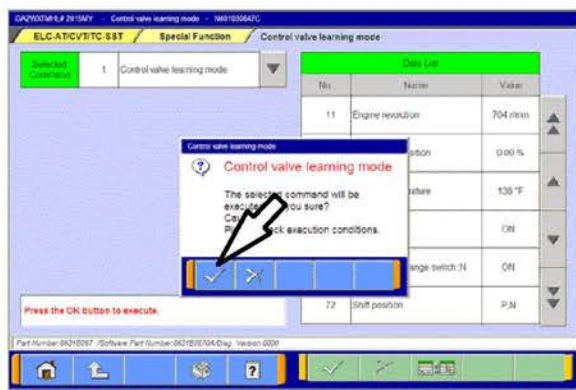
3. From the special function menu, select "Control valve learning mode."



4. From the "Control valve learning mode" menu, select "1. Control valve learning mode."

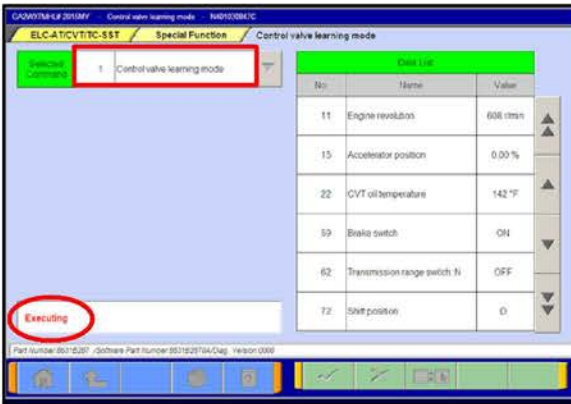
The Data List will help you confirm the vehicle is idling at the required levels.

5. Confirm the selector lever is in the "N" position. Click the check mark at the bottom of the page.

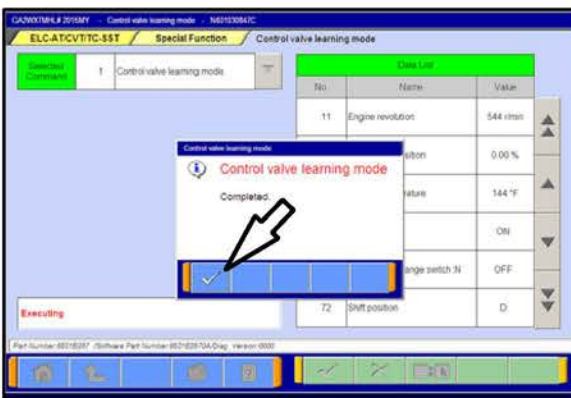


6. A message will ask you to confirm "Control valve learning mode."

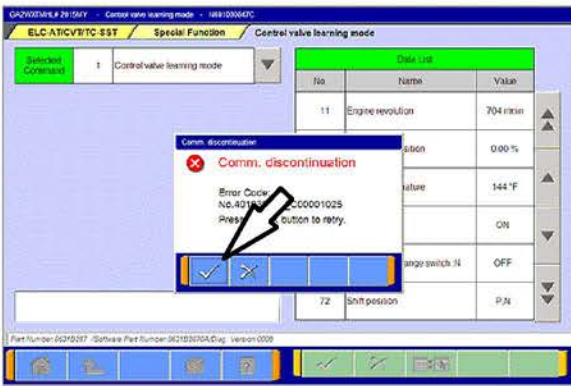
Click the check mark to continue.



7. Confirm "Executing" is displayed before proceeding.
8. Move the selector lever to the "D" position and confirm that "Completed" is displayed in approximately 60 seconds.



9. This message will display when the procedure is complete. Move the selector lever to the "P" position. Click the check mark in the message to clear it.
10. Turn the ignition OFF and wait for 10 seconds.



11. A "Comm. Discontinuation" message will display. Start the engine and click the check mark in the message to restore communication with the system.



12. Move the selector lever to the "N" position. Click the check mark at the bottom of the page.
13. A confirmation message will appear. Click the check mark to clear the message.
14. Confirm "Executing" is displayed before proceeding.
15. Move the selector lever to the "R" position and confirm that "Completed" is displayed in approximately 60 seconds.



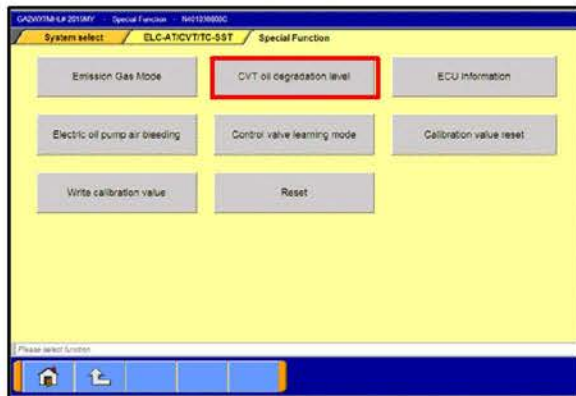
16. This message will display when the procedure is complete. Move the selector lever to the “P” position.
17. Click the check mark in the message to clear the window
18. “Control Valve Learning” is complete. Turn the ignition OFF for 10 seconds.

19. Start the engine and perform the final learning step. The following conditions must be met for approximately 90 seconds. You **will not** be advised when complete.

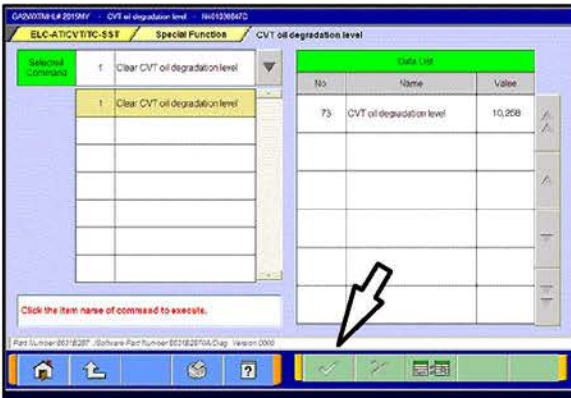
- CVT fluid temperature; 40° – 100° C (104° – 212° F) must be maintained during this step.
- There are no abnormalities in the CVT or related components.
- Selector lever position: D
- Engine speed: 500 – 800 rpm (idle)
- The vehicle is stationary.
- The brake pedal is depressed and held for the entire procedure.
- The accelerator pedal is released for the entire procedure.

20. Turn the ignition switch to the OFF position.

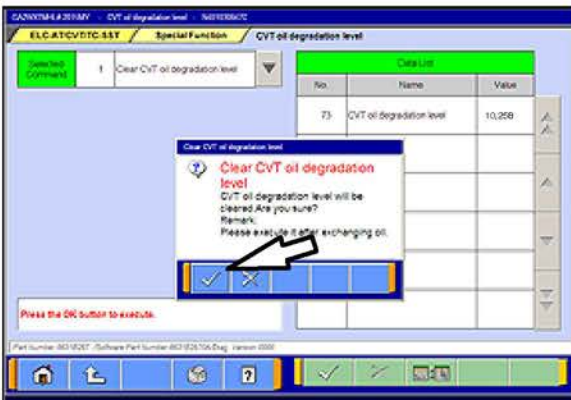
RESET THE CVT OIL DEGRADATION LEVEL (ONLY IF REPLACING THE CVT ASSEMBLY OR VALVE BODY)



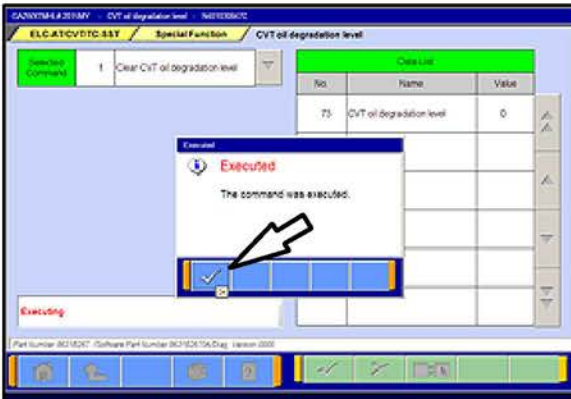
1. Turn the ignition to the ON position.
2. On the MUT-III, navigate to the ELC-AT/CVT/TC-SST “Special Function” menu.
3. Click the “CVT oil degradation level” button from the Special Function menu to clear the data from the CVT-ECU.



4. Select item no. 1, "Clear CVT oil degradation level."
Click the check mark at the bottom of the page.



5. Click the check mark in the confirmation pop-up to clear the CVT oil degradation level from the CVT.



6. When successfully executed, this pop-up will display and the value in the Data List will read 0 (zero).
Click the check mark to clear the window.
7. Click the up arrow at the bottom of the page to return to the Special Functions menu.

PARTS INFORMATION

Parts are not required for this procedure.

WARRANTY INFORMATION

This TSB provides technical information only. For warranty claim submission, refer to the Warranty Labor Operations Time Schedule for labor operation numbers and allowed labor times.