



TECHNICAL SERVICE BULLETIN

Classification:

AT12-009H

Reference:

NTB12-103H

Date:

May 8, 2023

CVT/TCM CALIBRATION DATA “WRITE” PROCEDURE

This bulletin has been amended. See **AMENDMENT HISTORY** on the last page.
Please discard previous versions of this bulletin.

APPLIED VEHICLES:

- 2013-2018 Altima Sedan (L33)
- 2019-2020 Altima Sedan (L34)
- 2015-2017 Juke (F15)
- 2016-2022 Maxima (A36)
- 2015-2022 Murano (Z52)
- 2015-2021 NV200 (M20)
- 2014-2017, 2019 NV200 Taxi (M30)
- 2013-2019 Pathfinder (R52)
- 2015-2017 Quest (E52)
- 2014-2020 Rogue (T32)
- 2017-2019 Rogue Sport (J11)
- 2017-2019 Sentra Turbo (B17)

APPLIED TRANSMISSION: CVT

HINT: Bulletin does not apply to Pathfinder Hybrid, Murano Hybrid, or Rogue Hybrid.

SERVICE INFORMATION

The **SERVICE PROCEDURE** (starting on page 2) in this bulletin contains the steps to perform TCM Calibration Data “Write” procedures. These procedures are used when a complete CVT assembly is replaced, a CVT control valve (valve body) is replaced, or a Transmission Control Module (TCM) is replaced.

- Refer to **REPAIR OVERVIEW** on page 2. This is a quick reference to determine which procedures need to be performed.

Nissan Bulletins are intended for use by qualified technicians, not 'do-it-yourselfers'. Qualified technicians are properly trained individuals who have the equipment, tools, safety instruction, and know-how to do a job properly and safely. **NOTE:** If you believe that a described condition may apply to a particular vehicle, DO NOT assume that it does. See your Nissan dealer to determine if this applies to your vehicle.

REPAIR OVERVIEW

PROCEDURE	VALVE BODY REPLACEMENT	TCM REPLACEMENT	CVT ASSEMBLY REPLACEMENT
Erase/Write Calibration Data	Required	Not needed	Required
Save/Write Calibration Data	Not needed	Required	Not needed
G-Sensor Learning	Not needed	Required (except for Juke vehicles)	Not needed
Clutch Point Learning	Required	Required	Not needed
Select Learning	Required	Required	Required

SERVICE PROCEDURE

IMPORTANT: If replacing the **TCM only**, skip to **SAVE/WRITE CALIBRATION DATA WHEN REPLACING THE TCM** on page 14.

ERASE/WRITE CALIBRATION DATA WHEN REPLACING CVT OR VALVE BODY

HINT:

- Use the following steps when a complete CVT assembly or valve body is replaced.
- Also use the following steps if the TCM was replaced with a complete CVT or valve body.

Before starting, make sure:

- ASIST on the CONSULT PC has been freshly synchronized to the current date.
- All C-III plus software updates (if any) have been installed.

1. Obtain the calibration file disc (**provided with the new CVT or valve body**).

- If a calibration file disc is available, continue to step 2, below.
- If a calibration file disc is not available or was damaged, skip to **OBTAINING A CALIBRATION FILE WHEN CD IS UNAVAILABLE** on page 21.

2. Match the numbers on the disc with the new CVT or new valve body and QR label.

- See pages 3 and 4 for number matching examples.

If a complete CVT is being replaced, match the following number (calibration file):

- Disc (CD) provided with the new CVT.

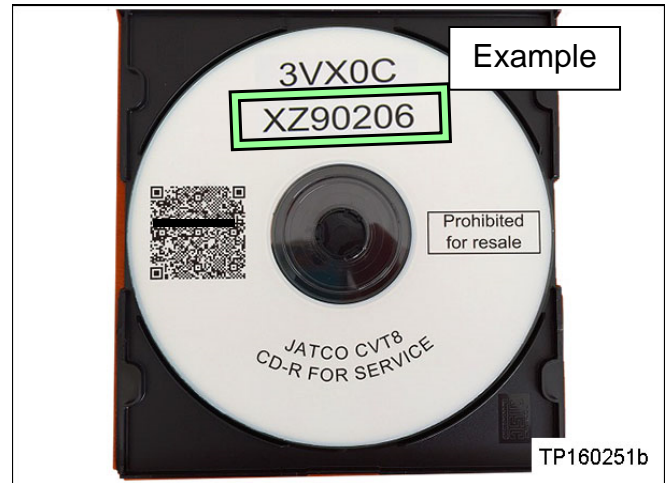


Figure 1

- QR label on the new CVT is located on the Transmission range switch.

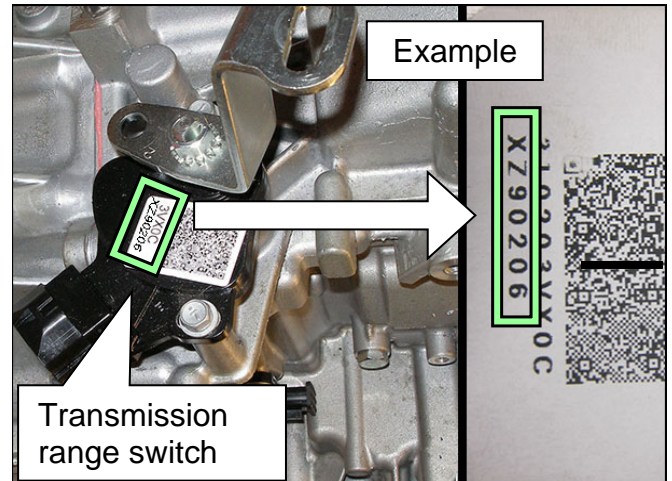


Figure 2

- Calibration file number on the CVT case or label.

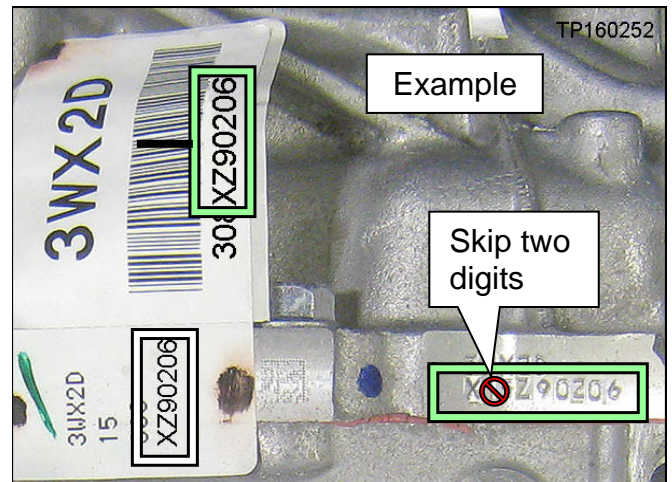


Figure 3

IMPORTANT: All three (3) of the above numbers must be the same (they must match).

If a new valve body is being replaced, match the following number (calibration file):

- Disc (CD) provided with the new valve body.

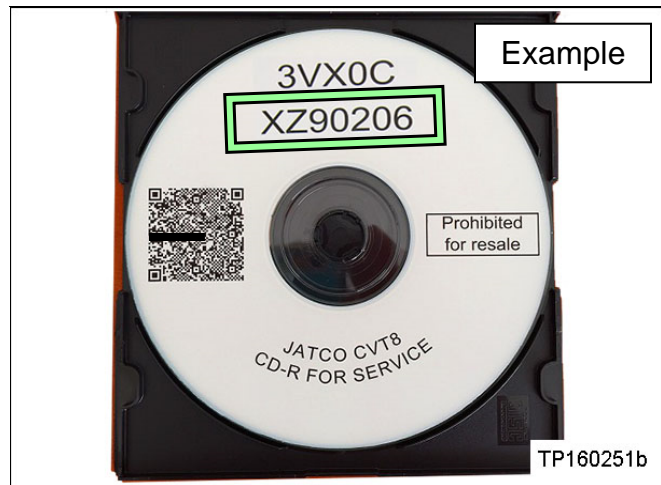


Figure 4

- QR label provided with the new valve body.

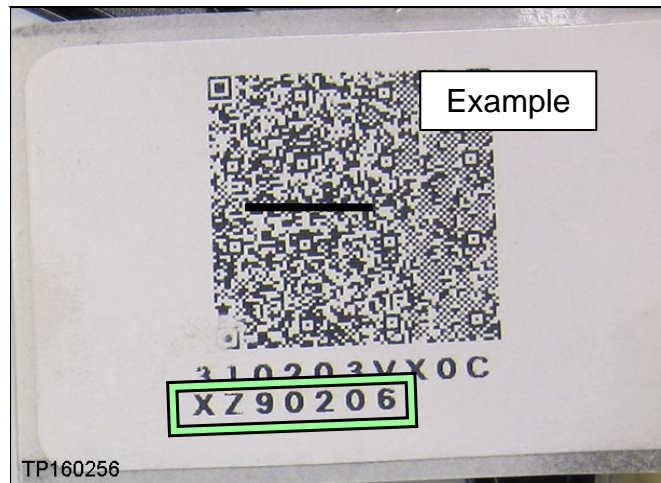


Figure 5

- Calibration file number on the valve body.

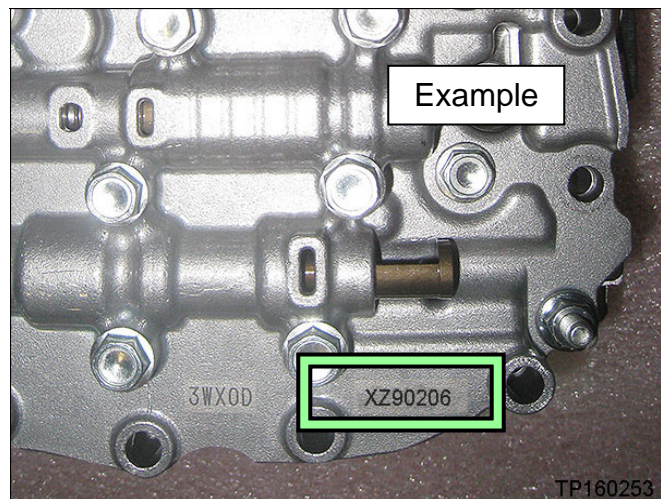


Figure 6

IMPORTANT: All three (3) of the above numbers must be the same (they must match).

3. Connect the external disk drive to the CONSULT PC.

HINT: Use the external disk drive provided with the C-III plus kit.

4. Load the CD into the external disk drive.

5. Connect the CONSULT PC to the vehicle with the VI, and then start C-III plus.

- Make sure ASIST and other programs are closed.

6. After the VI is recognized, select **Diagnosis (All Systems)**.

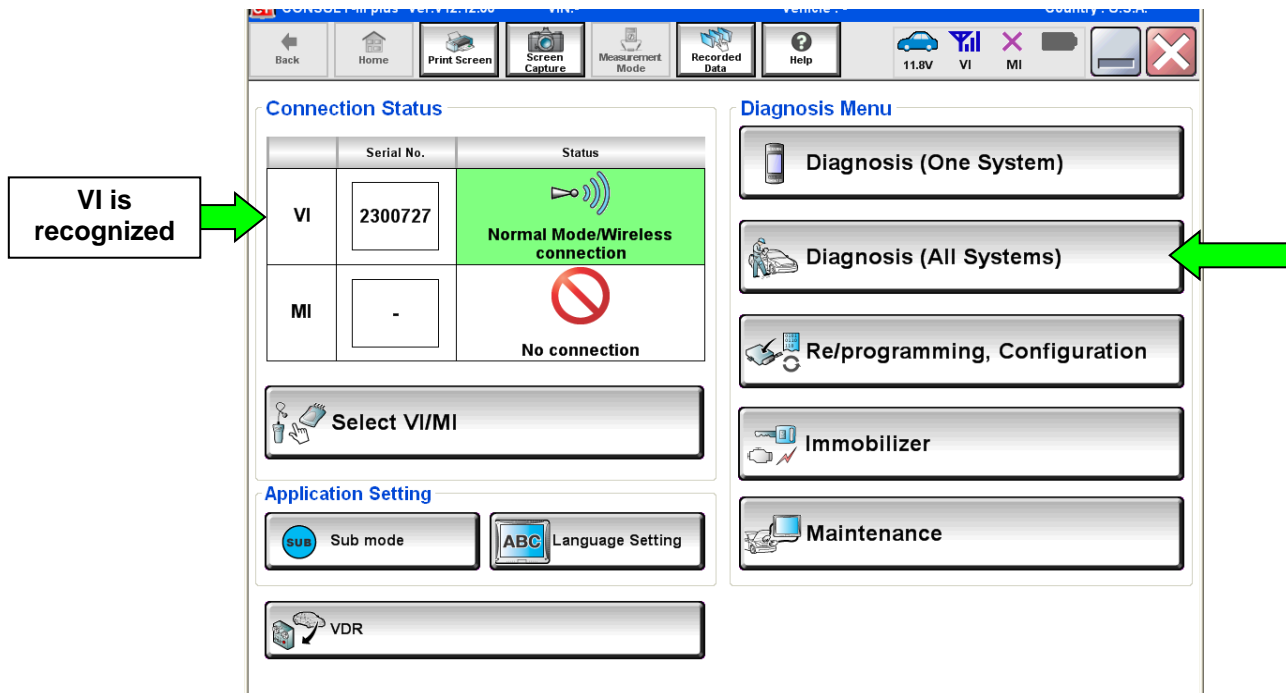


Figure 7

7. Navigate C-III plus to **TRANSMISSION > Work Support**.

8. Select the scroll arrow shown in Figure 8, and select the **CALIB DATA** tab shown in Figure 9.

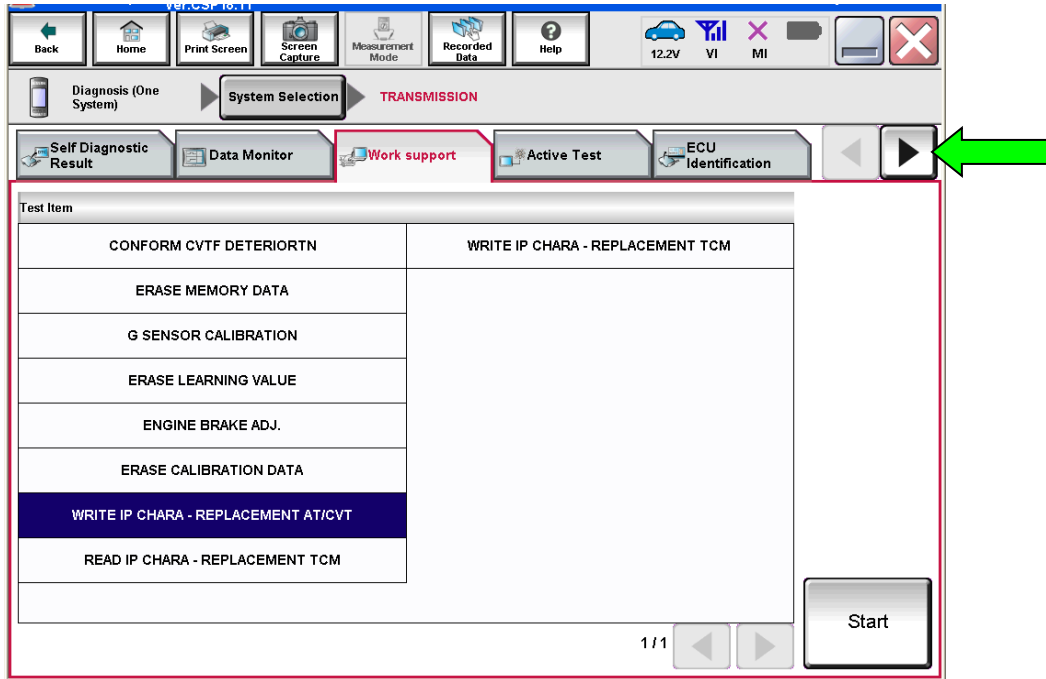


Figure 8

9. Print a copy of the screen shown in Figure 9 and attach it to the repair order.

HINT:

- Make sure to print page 1 of 7 (1/7).
- This screen print is used for warranty documentation.

10. Select the scroll arrow shown in Figure 9 and select the **Work support** tab as shown in Figure 10 on the next page.

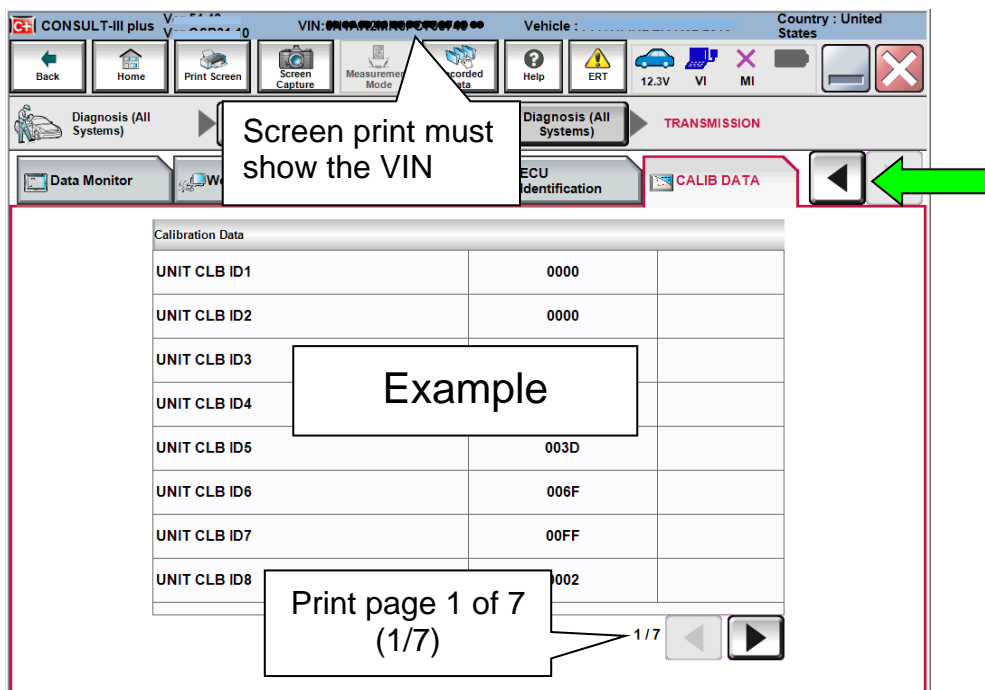


Figure 9

11. Select **WRITE IP CHARA – REPLACEMENT AT/CVT**, and then select **Start**.

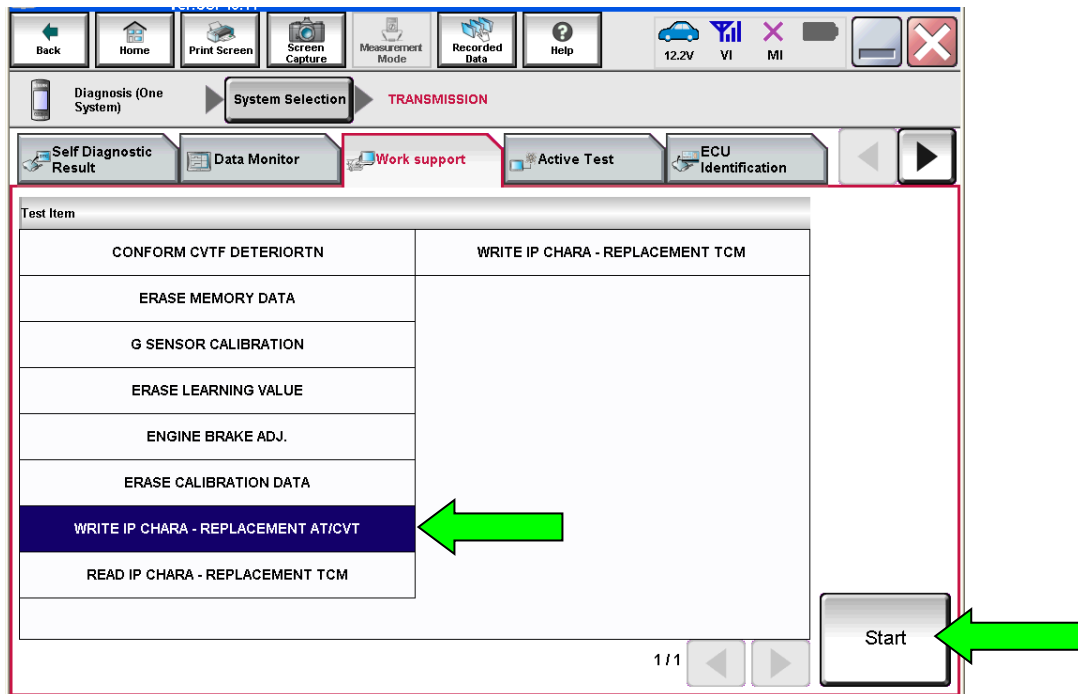


Figure 10

IMPORTANT: When starting the calibration “write” procedure in C-III plus, and after selecting **Start** under **Work support**, the C-III plus screen may only blink.

- If this occurs, confirm ASIST is closed and then perform step 11 above.
 - If there is still no change: reboot the CONSULT PC, keep ASIST closed, and restart this procedure from step 1.
 - If the error “STOPPED, no comm. with ECU” displays when trying to write calibration data, verify that the vehicle is in park (P).

12. Select **OK**.

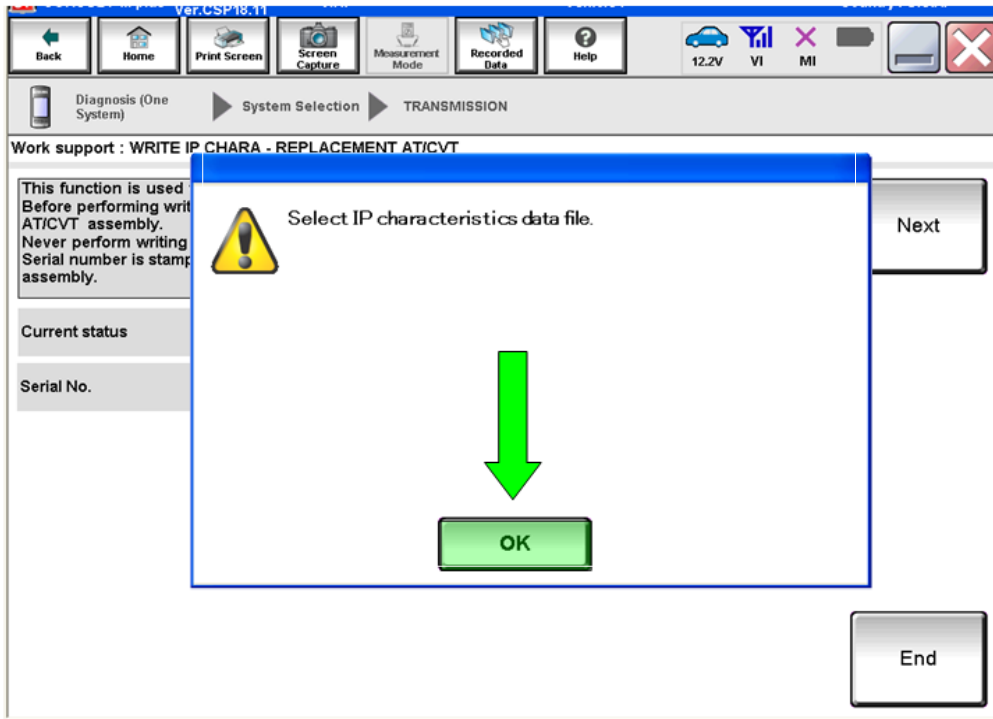


Figure 11

13. Select **My Computer**.

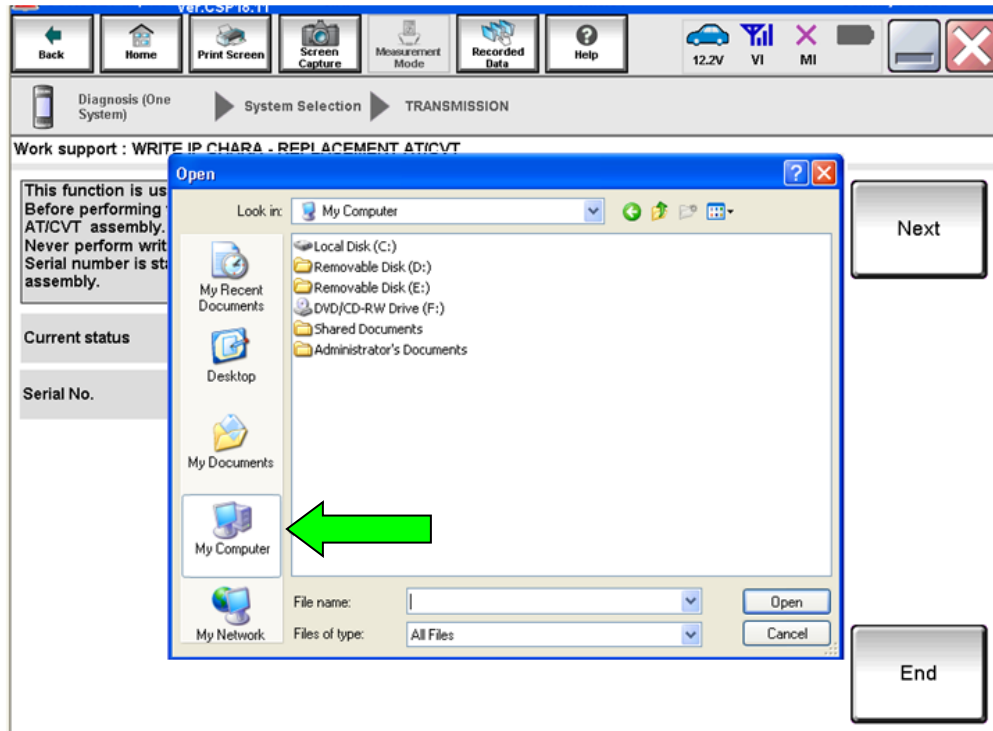


Figure 12

14. Locate the calibration file.

- If a calibration file disc was available, select **DVD/CD-RW Drive (F:)**.
- If a calibration file disc was not available, navigate to the file location written down in step 58 on page 23.

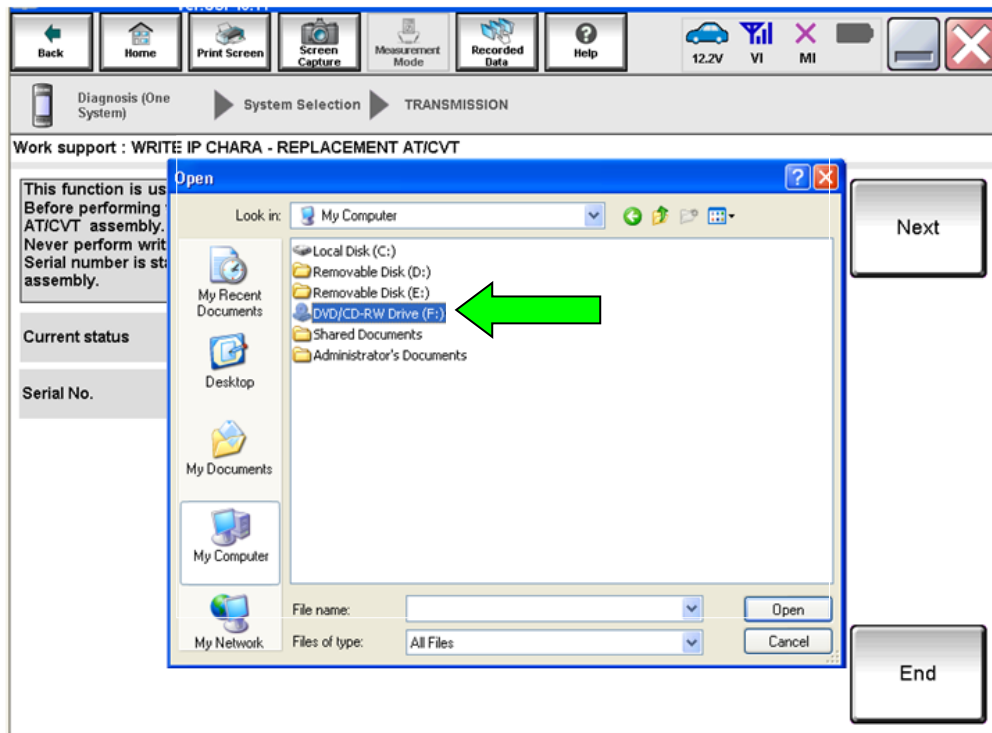


Figure 13

15. Highlight the file, and then select **Open**.

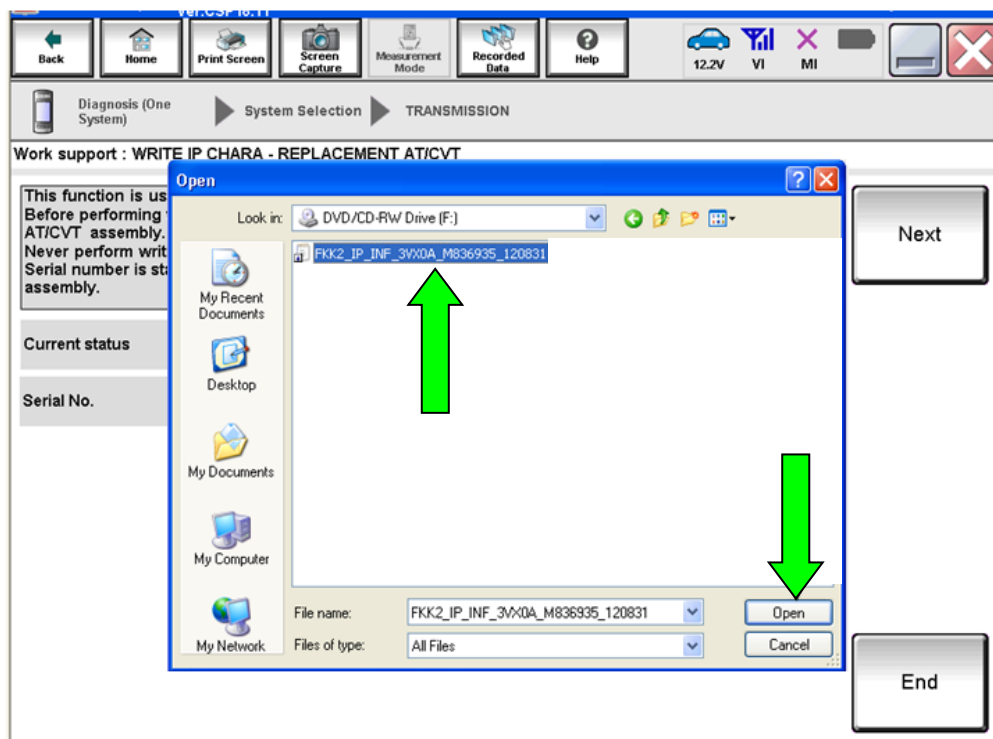


Figure 14

16. Verify that the **Serial No.** (calibration file number) shown matches the numbers from step 2 on page 2 (see Figures on pages 3 and 4).

- The numbers must match.

17. Select **Next**.

HINT: If the error “STOPPED, no comm. with ECU” displays when trying to write calibration data, verify that the vehicle is in park (P).

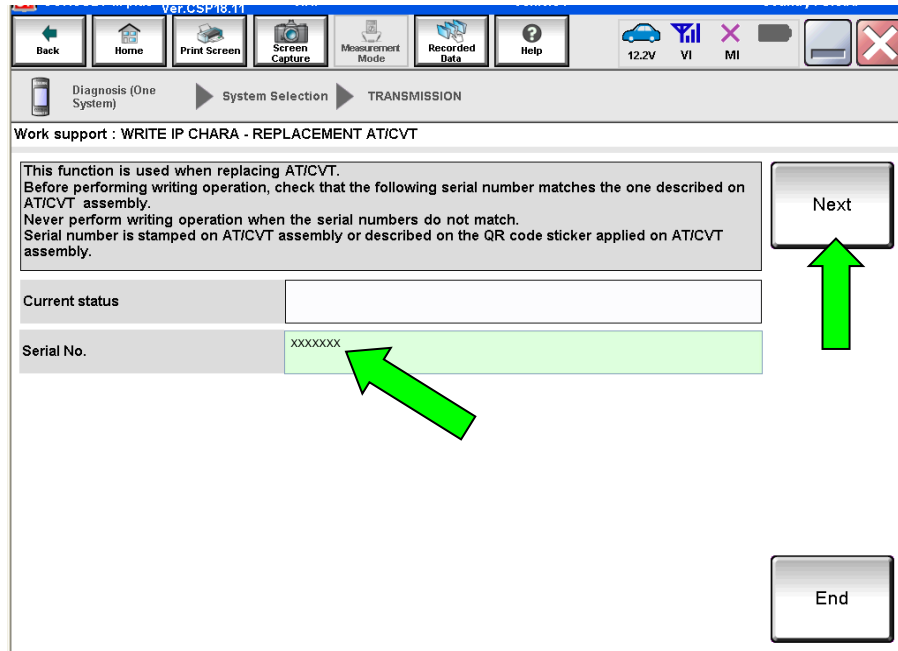


Figure 15

18. Before selecting **Start**, follow the directions in Figure 16.

- **Do not** follow the directions on the C-III plus screen.

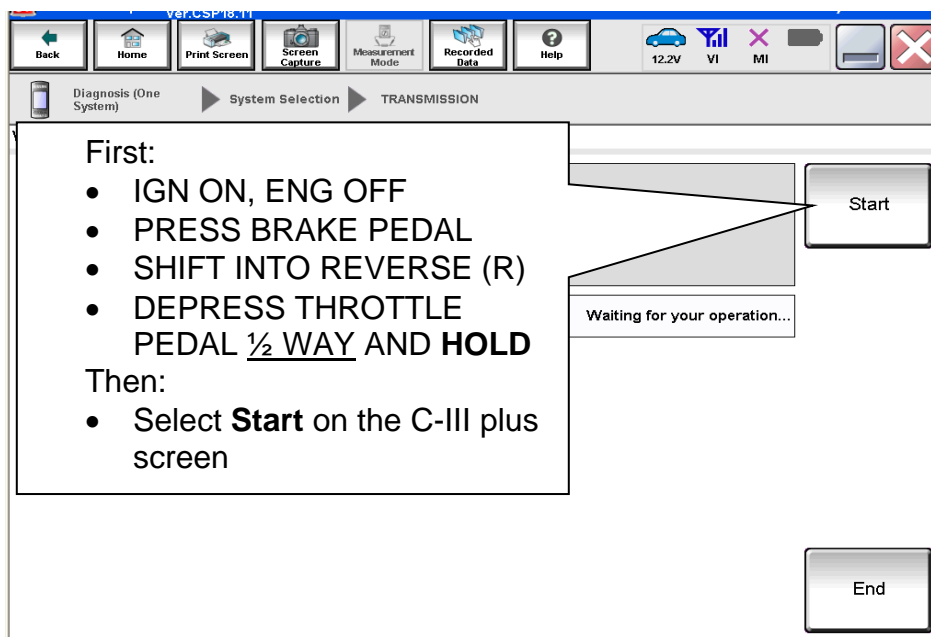


Figure 16

19. Follow the on screen instructions.

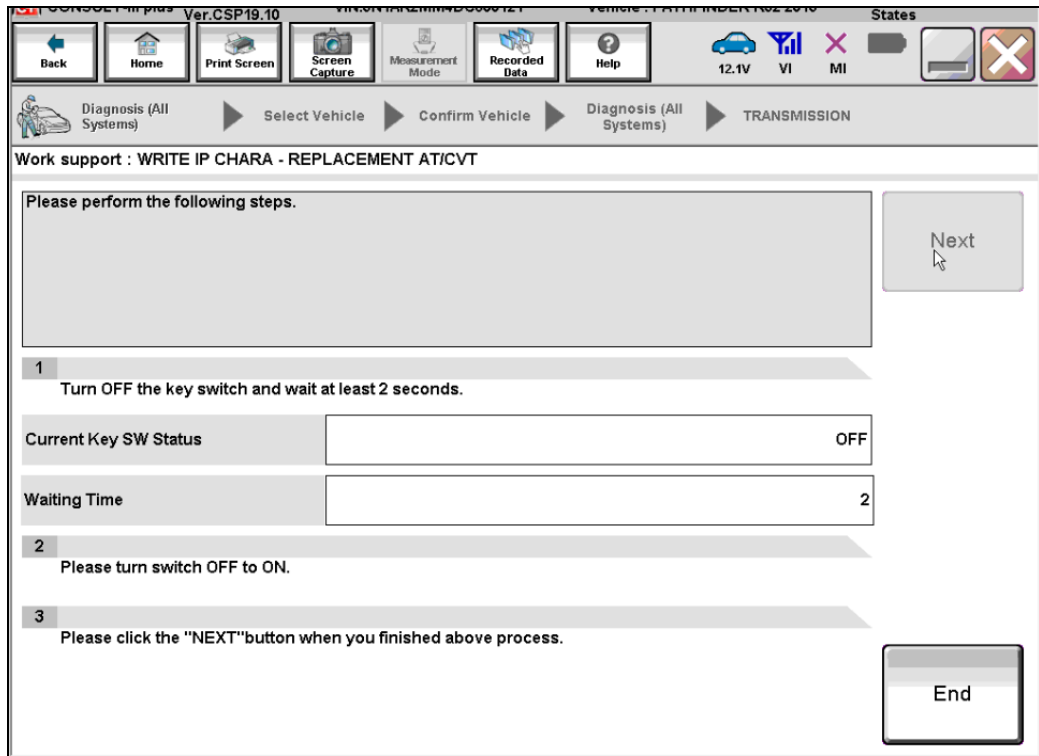


Figure 17

20. Follow the on screen instructions.

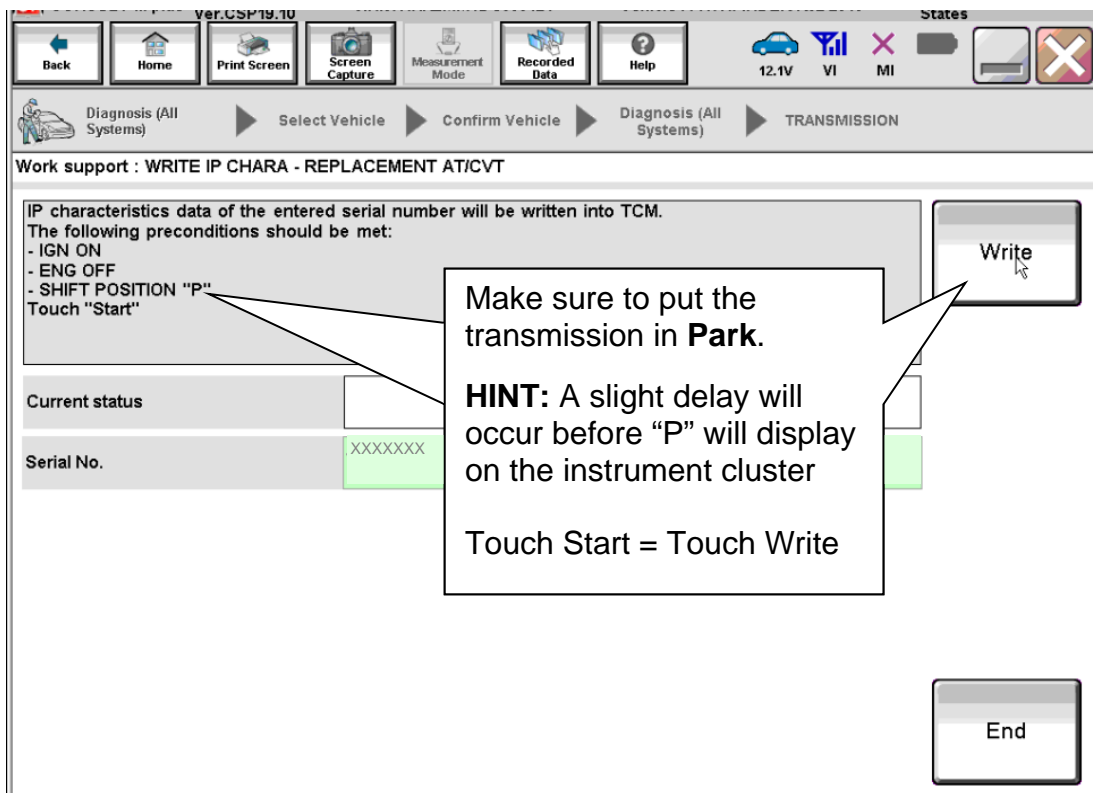


Figure 18

21. After “Complete” is displayed, select **End**.

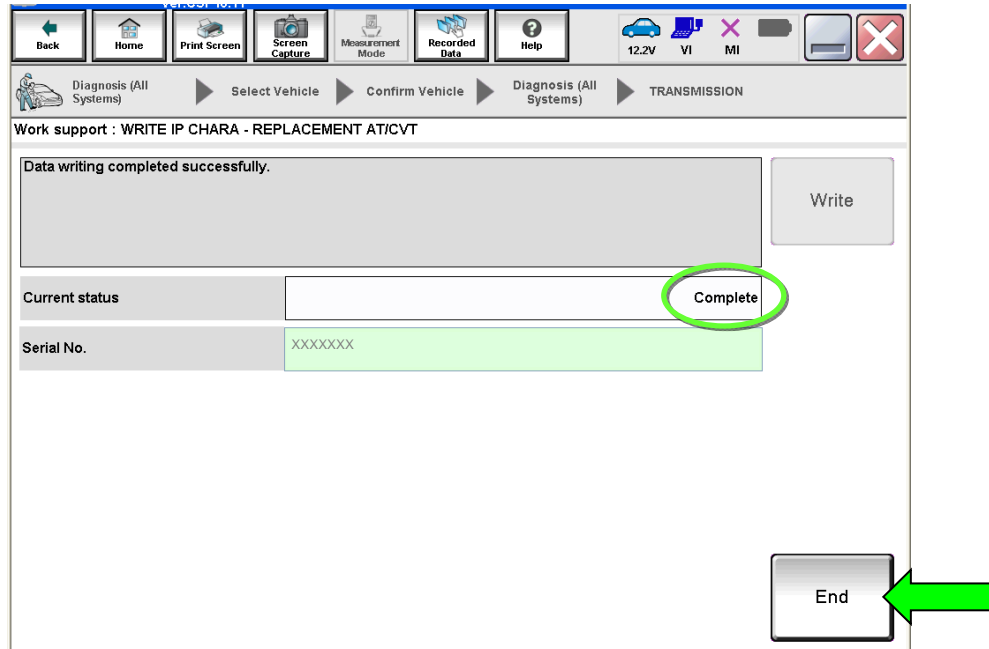


Figure 19

22. Select **Home** to return to the screen shown in Figure 7 on page 5.

23. Perform steps 6-9, starting on page 5.

24. Attach the second screen print to the repair order.

HINT: Screen prints are used for warranty documentation.

25. Clear any DTCs that may have set.

HINT: Any DTCs that will not clear are not covered by this bulletin. Refer to the appropriate Electronic Service Manual (ESM) for further diagnostic information.

26. If the valve body was replaced, perform **CLUTCH POINT LEARNING** under “Transmission Work Support” in C-III plus.

- Follow the steps for **CLUTCH POINT LEARNING** exactly as presented in C-III plus.
- If the procedure is not performed correctly, the vehicle may not move when the CVT is placed in gear.
 - If this condition occurs, cycle the ignition OFF/ON, and then perform **CLUTCH POINT LEARNING** again.

27. If the CVT assembly was replaced, do **not** perform **CLUTCH POINT LEARNING**.

28. Perform **Select Learning (Drive/Reverse Learning)**.

- a. Set the parking brake.
- b. Start the engine, and then wait 5 seconds.
- c. Move the shift selector to the “N” position and hold more than 2 seconds, and then move it to the “D” position and wait for transmission engagement.
- d. Repeat step 28c ten (10) times.
- e. Move the shift selector to the “N” position and hold for more than 2 seconds, and then move it to the “R” position and wait for transmission engagement.
- f. Repeat step 28e ten (10) times.
- g. Move the shift selector to the “P” position, and then turn the ignition OFF.

29. Test drive the vehicle.

END

SAVE/WRITE CALIBRATION DATA WHEN REPLACING THE TCM

HINT:

- The following steps are used if the **TCM only** is replaced.
- If the **CVT or valve body** is being replaced, **go back to page 2.**

Before starting, make sure:

- ASIST on the CONSULT PC has been freshly synchronized to the current date.
- All C-III plus software updates (if any) have been installed.

Save Calibration Data Before TCM Replacement

30. Connect the CONSULT PC to the vehicle.

31. Start C-III plus.

- Make sure ASIST and other programs are closed.

32. Wait for the VI to be recognized.

- The serial number will display when the VI is recognized.

33. Select **Diagnosis (One System)**.

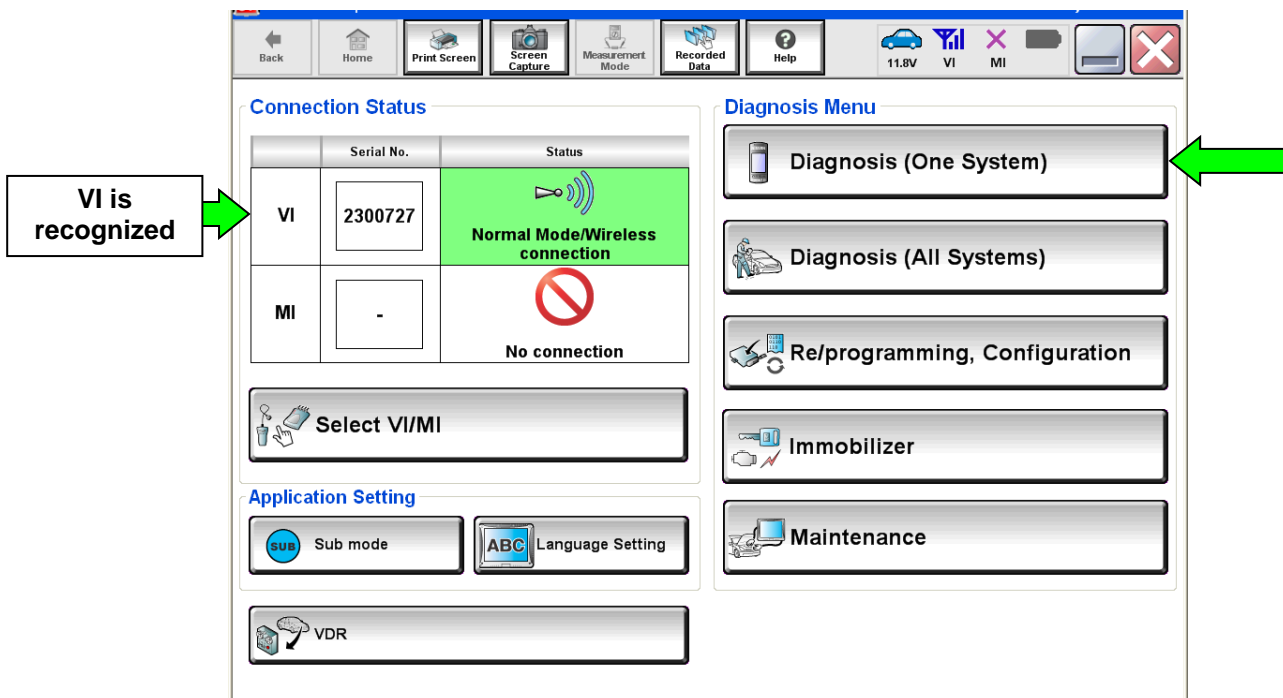


Figure 20

34. Navigate C-III plus to **TRANSMISSION > Work Support**.

35. Select **READ IP CHARA – REPLACEMENT TCM**, and then **Start**.

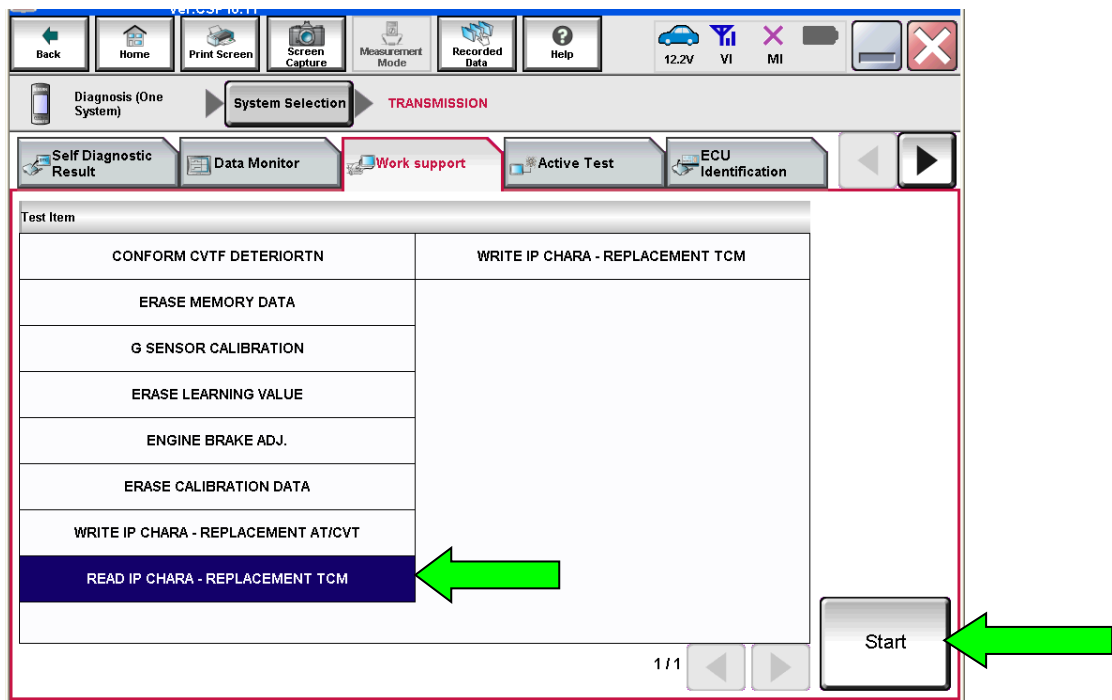


Figure 21

36. Select **Start**.

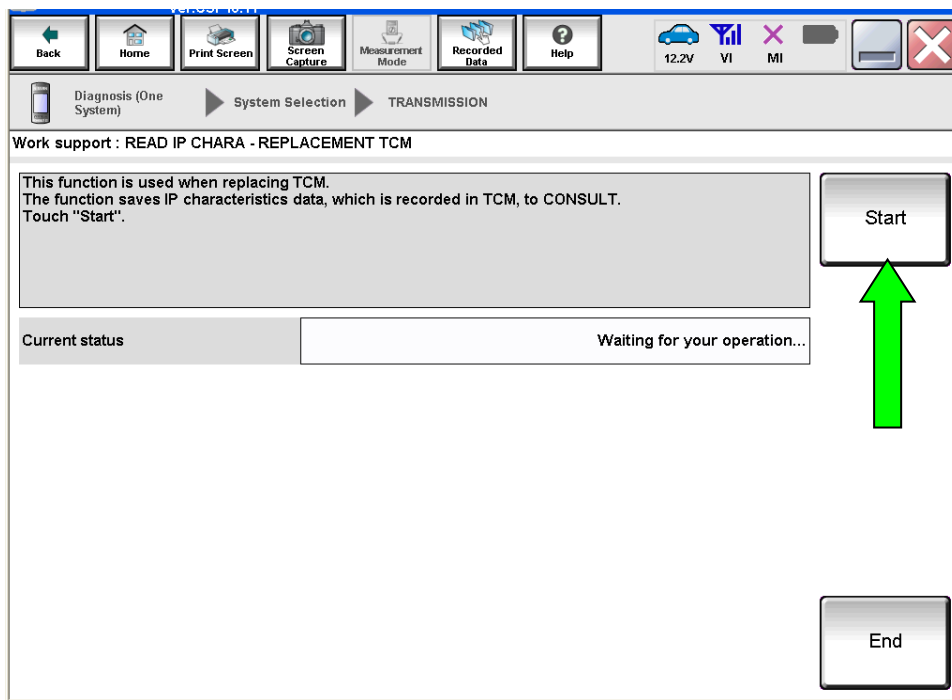


Figure 22

37. When the calibration data has been saved to the CONSULT PC, the message “Data saved successfully” will be displayed and **Current status** will indicate “Completed”.

38. Select **End**.

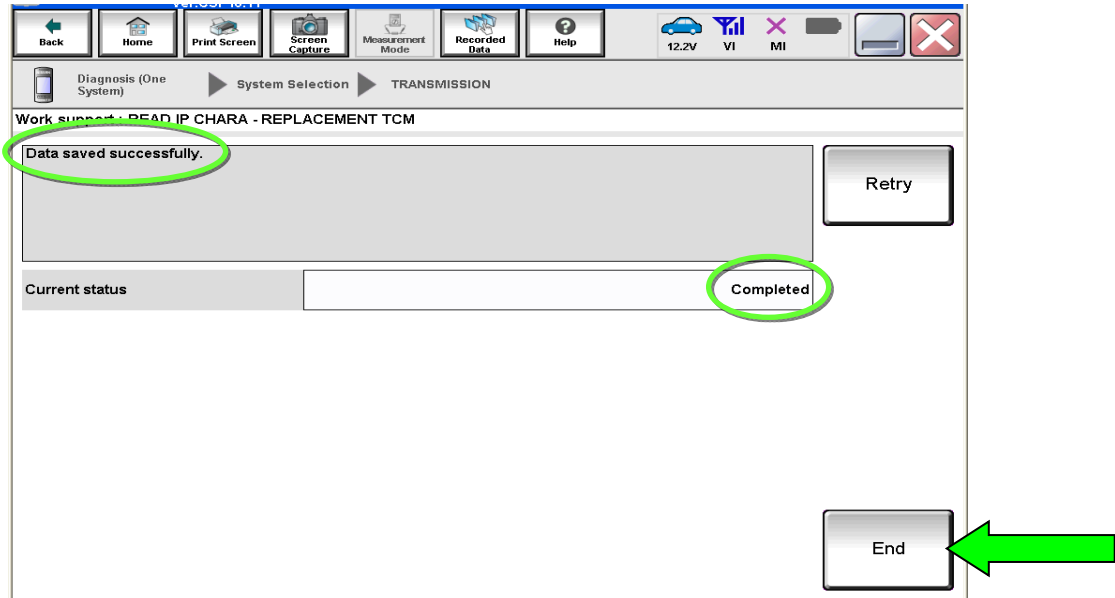


Figure 23

39. Replace the TCM.

40. After the TCM has been replaced, perform **Write Calibration Data After TCM Replacement**, beginning on the next page.

Write Calibration Data After TCM Replacement

41. After the TCM has been replaced, select **WRITE IP CHARA – REPLACEMENT TCM**, and then select **Start**.

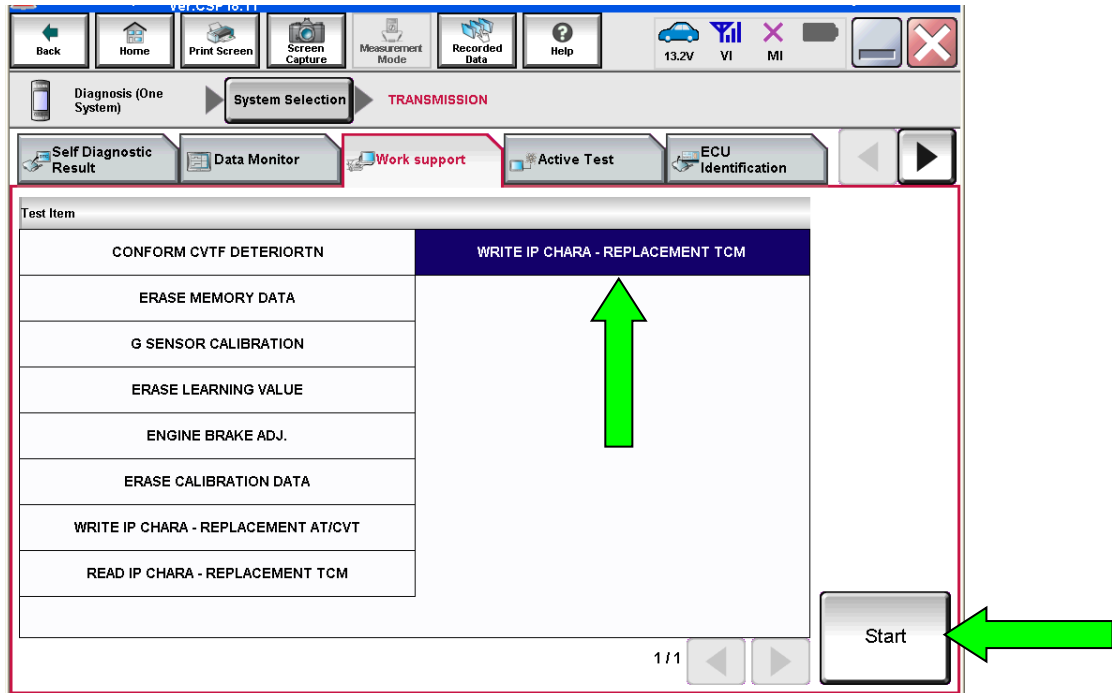


Figure 24

IMPORTANT: When starting the calibration “write” procedure in C-III plus, and after selecting **Start** under **Work Support**, the C-III plus screen may only blink.

- If this occurs, confirm ASIST is closed, and then perform step 41, above.
 - If there is still no change: reboot the CONSULT PC, keep ASIST closed, and restart the procedure from the beginning.
 - If the error “STOPPED, no comm. with ECU” shows when trying to write calibration data, verify that the vehicle is in park (P).

42. Select **Start**.

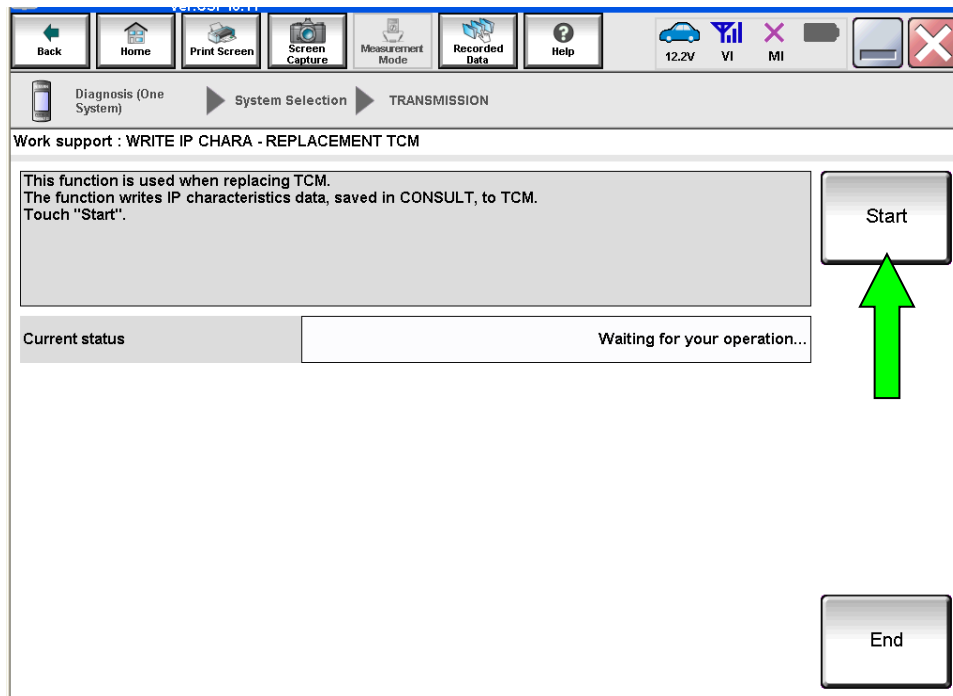


Figure 25

43. Select **Yes**.

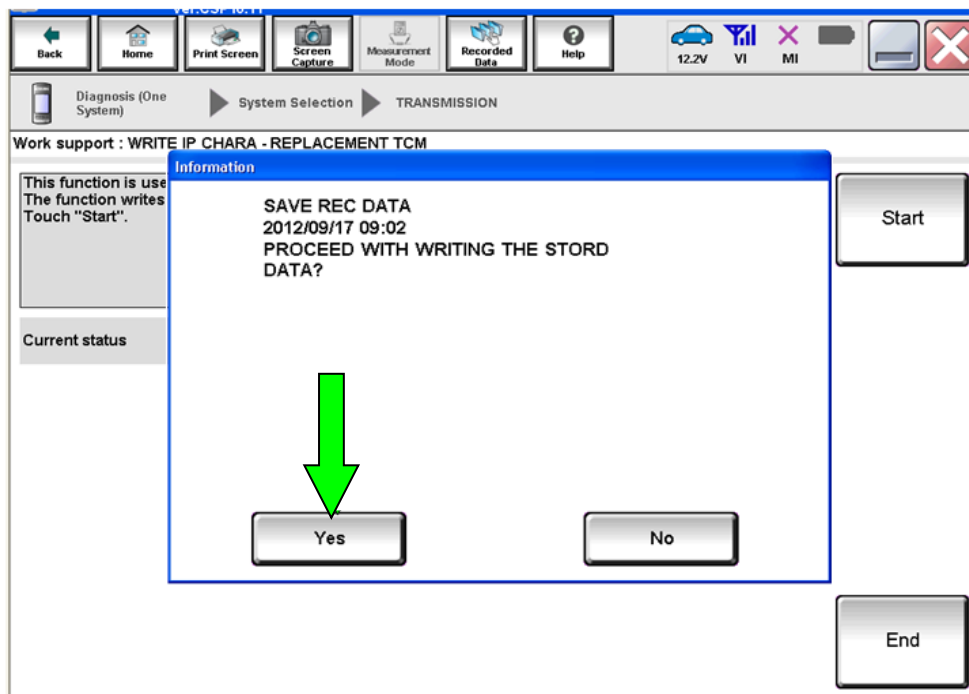


Figure 26

44. When the calibration data has been written to the TCM, the message “Data writing completed successfully” will be displayed and **Current status** will indicate “Complete”.

45. After “Complete” is displayed, select **End** to finish.

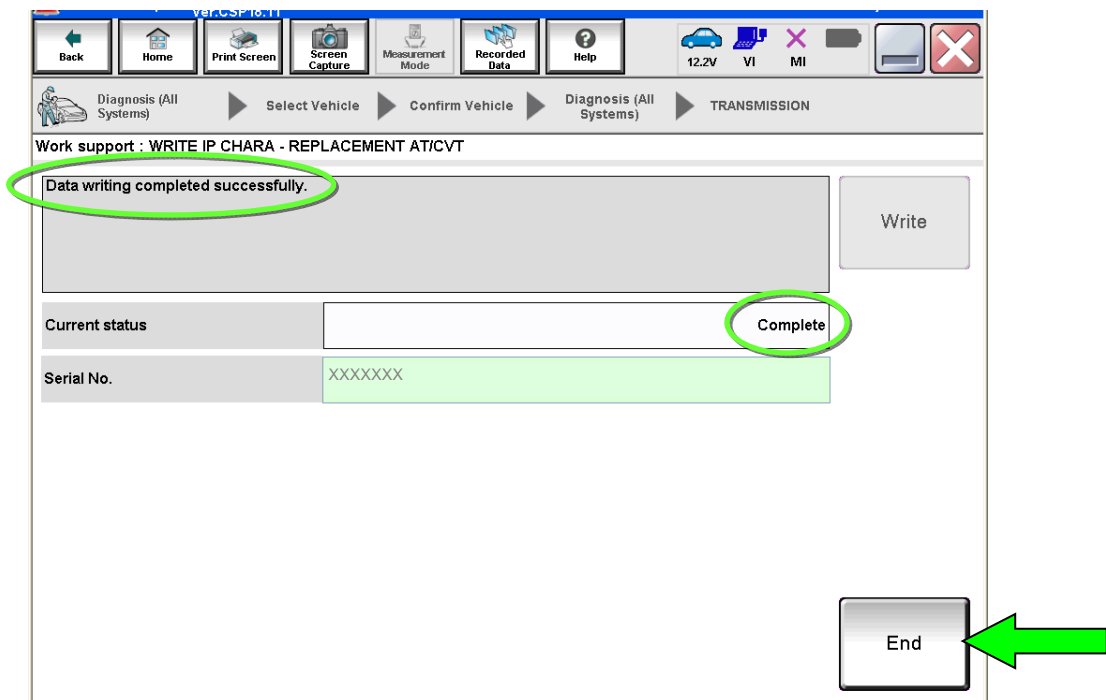


Figure 27

46. Clear any DTCs that may have set.

HINT: Any DTCs that will not clear are not covered by this bulletin. Refer to the appropriate ESM for further diagnostic information.

47. Perform **G-Sensor Learning** under “Transmission Work Support” in C-III plus.

IMPORTANT: For **Juke vehicles**, skip to step 48. Do not perform G-Sensor Learning on Juke vehicles.

48. Perform **CLUTCH POINT LEARNING** under “Transmission Work Support” in C-III plus.

HINT: Skip this step if the CVT assembly was replaced.

- Follow the steps for **CLUTCH POINT LEARNING** exactly as presented in C-III plus.
- If the procedure is not performed correctly, the vehicle may not move when the CVT is placed in gear.
 - If this condition occurs, cycle the ignition OFF/ON, and then perform **CLUTCH POINT LEARNING** again.

49. Perform **Select Learning (Drive/Reverse Learning)**.

- a. Set the parking brake.
- b. Start the engine, and then wait 5 seconds.
- c. Move the shift selector to the “N” position and hold for more than 2 seconds, and then move it to the “D” position and wait for transmission engagement.
- d. Repeat step 49c ten (10) times.
- e. Move the shift selector to the “N” position and hold for more than 2 seconds, and then move it to the “R” position and wait for transmission engagement.
- f. Repeat step 49e ten (10) times.
- g. Move the shift selector to the “P” position, and then turn the ignition OFF.

50. Test drive the vehicle.

END

OBTAINING A CALIBRATION FILE WHEN CD IS UNAVAILABLE

51. Open ASIST and select **SPECIALTY TOOLS**, and then select **CVT/TCM Calibration**.

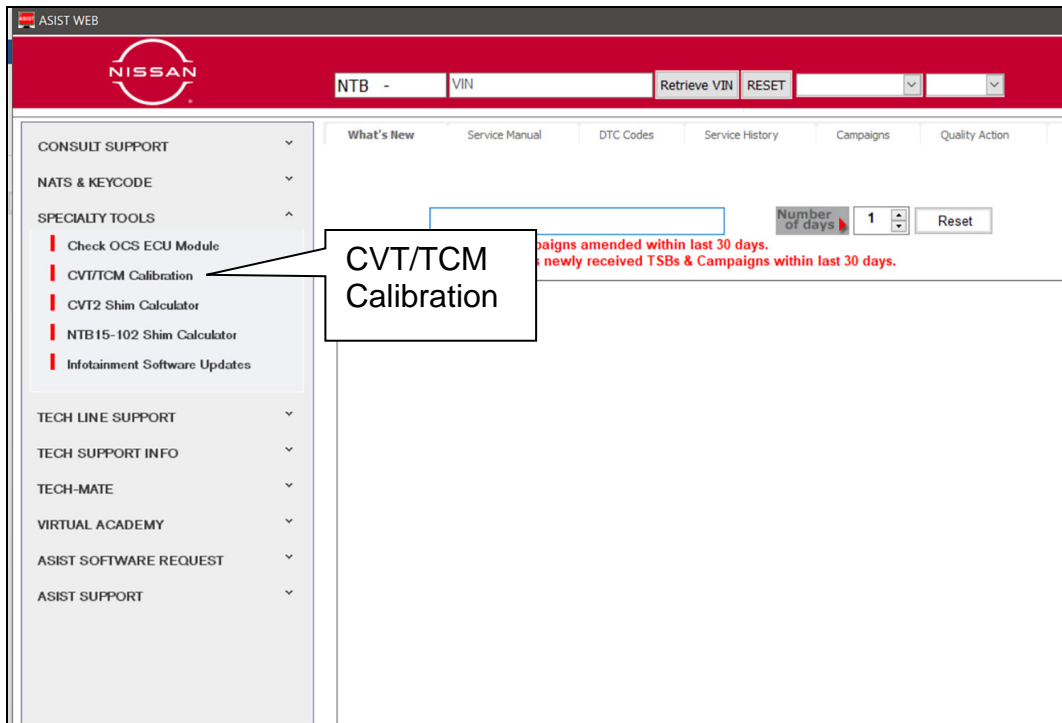


Figure 28

52. Enter the requested information into the **CVT/TCM Configuration** screen.

53. Select **Retrieve & Save File**.

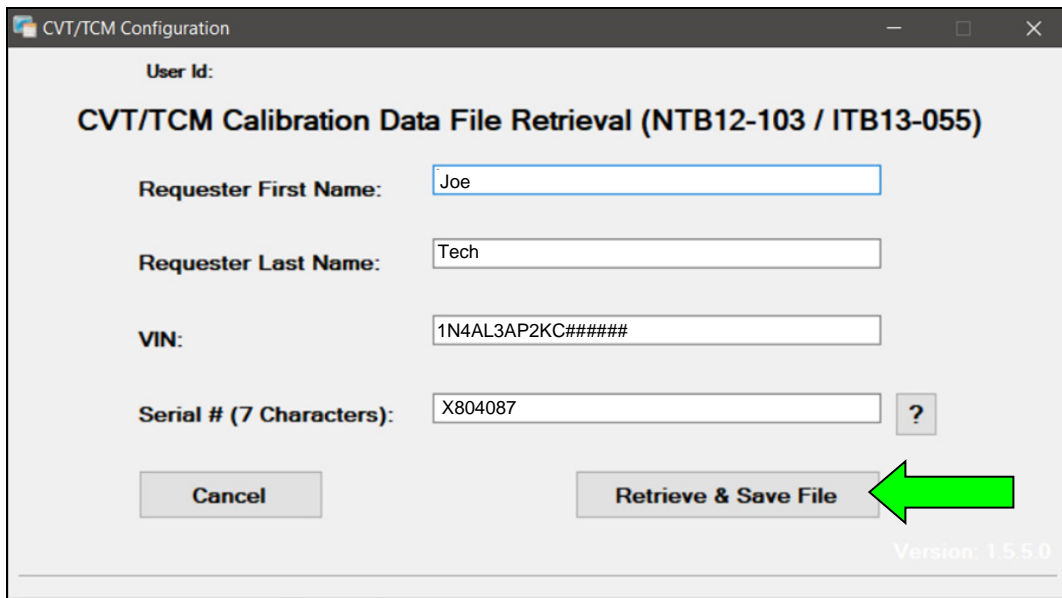


Figure 29

54. Determine if the file is located in the database.

- If the pop-up shown in Figure 30 displays:
 - a. Write down the saved file location.
 - b. Select **OK**.
 - c. Return to step 5 on page 5.

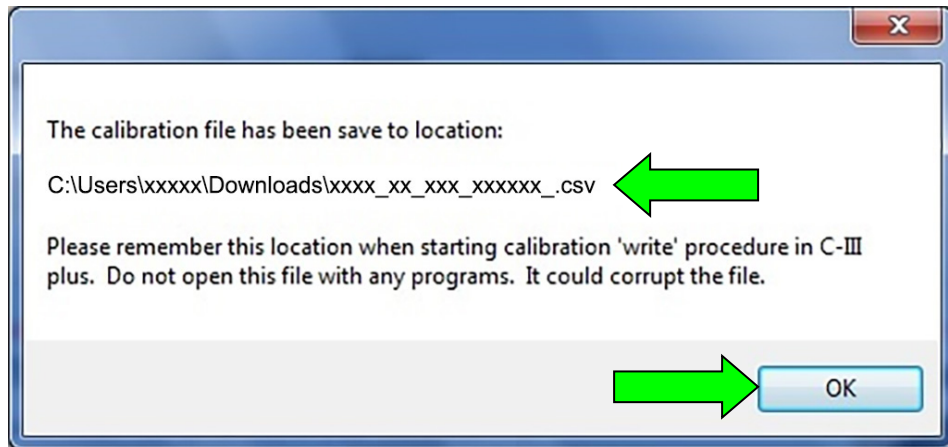


Figure 30

- If the pop-up shown in Figure 31 displays, select **OK** and continue to step 55, below.

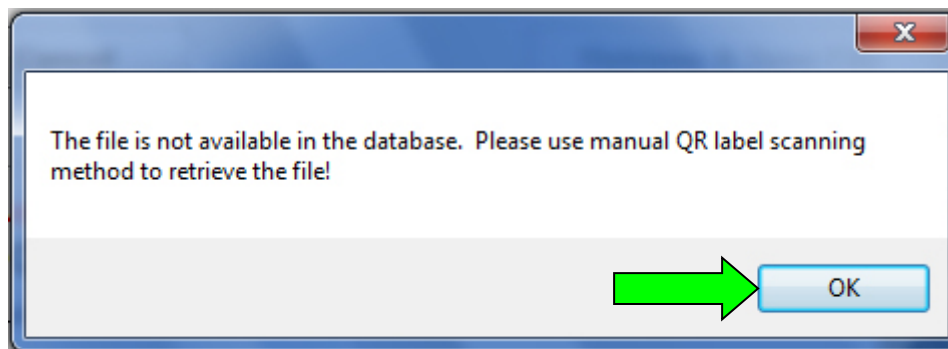


Figure 31

55. Locate the J-52352 Quick Scan Tool (2D Bar Code Scanner) and plug it into the USB port on your computer.

- This tool is available from Tech•Mate online: www.techmatetools.com, or by phone: 1-833-397-3493.
 - When ordering, keep in mind that the tool part number prefix has changed from "J" to "NI". For example, J-52352 is now NI-52352.

56. Place the cursor in the box shown in Figure 32, and scan the **NEW** QR label.

HINT: The QR label is provided on the transmission range switch of the **NEW** CVT (Figure 2 on page 3), or with the **NEW** valve body (Figure 5 on page 4).

57. Select **Save File**.

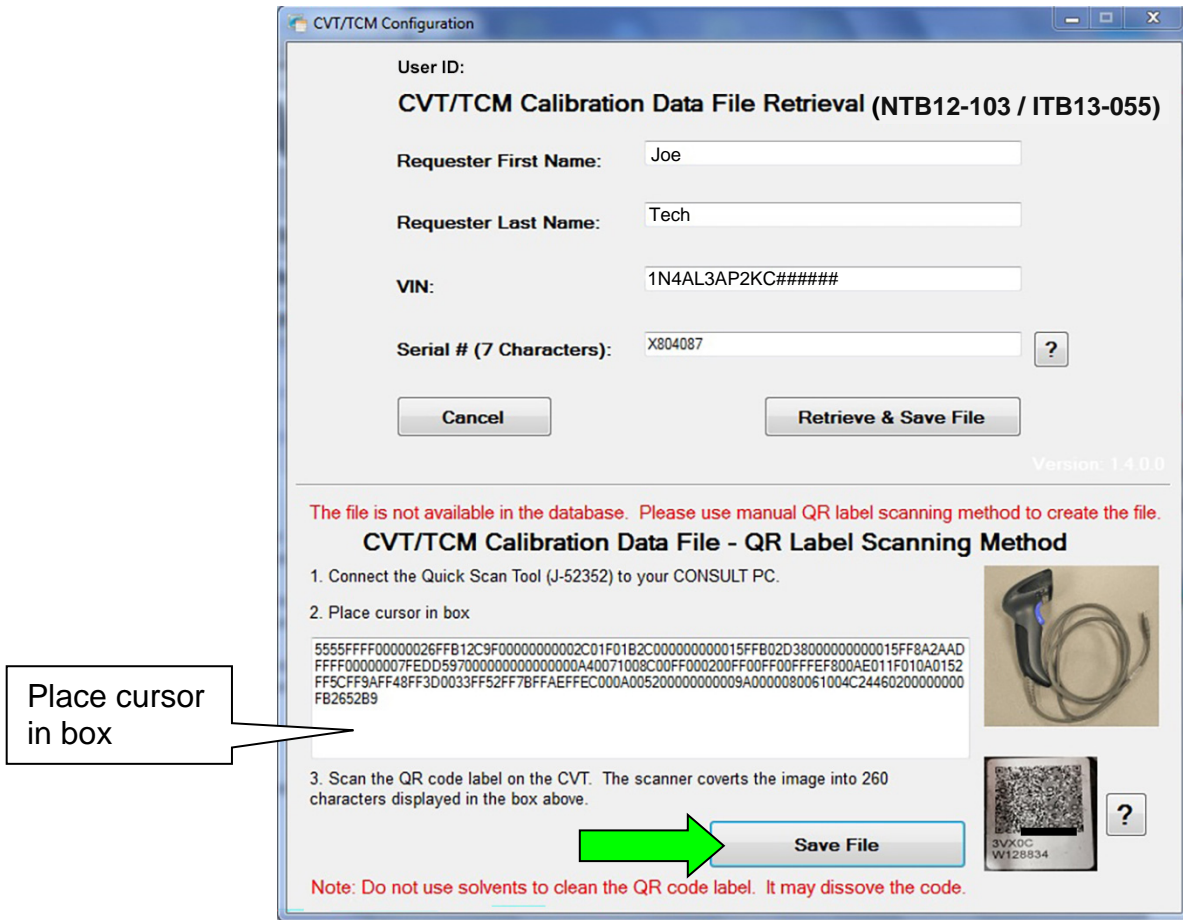


Figure 32

58. The new file will be located in **C:\Users\xxxxx\Downloads\xxxx_xx_xxx_xxxxxx.csv**.

IMPORTANT: Write down the file location.

59. Select **OK**.

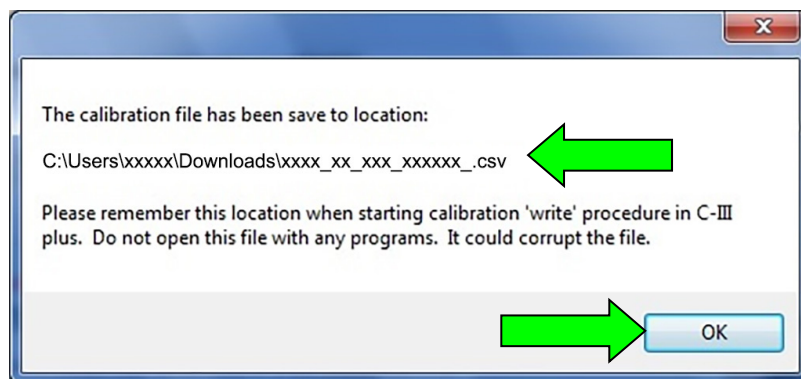


Figure 33

60. Return to step 5 on page 5.

AMENDMENT HISTORY

PUBLISHED DATE	REFERENCE	DESCRIPTION
November 14, 2012	NTB12-103	Original bulletin published
March 22, 2013	NTB12-103a	APPLIED VEHICLES section revised
October 17, 2013	NTB12-103b	APPLIED VEHICLES section revised, and changes made throughout to accommodate updated version of CONSULT-III plus
March 31, 2016	NTB12-103c	APPLIED VEHICLES and SERVICE PROCEDURE sections revised
June 9, 2016	NTB12-103d	APPLIED VEHICLES section revised
April 26, 2017	NTB12-103e	APPLIED VEHICLES, SERVICE INFORMATION, SERVICE PROCEDURE sections revised, and REPAIR OVERVIEW added
November 8, 2018	NTB12-103f	APPLIED VEHICLES and SERVICE INFORMATION sections revised
March 28, 2019	NTB12-103g	Added procedure to obtain calibration file without CD
May 8, 2023	NTB12-103H	Changes made to APPLIED VEHICLES , Figure numbers and step numbers, and pages 10, 21, 22 and 23; "NOTE" references changed to "HINT"