INFINITI®

Date:

Reference:

ITB16-048

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VOLUNTARY SERVICE CAMPAIGN 2013 JX35 AND 2014 QX60; CVT

CAMPAIGN ID #: PC501 APPLIED VEHICLE: 2013 JX (L50) 2014 QX60 (L50) Check Service COMM to confirm campaign eligibility.

INTRODUCTION

Infiniti is conducting this voluntary service campaign on certain specific 2013 JX35 and 2014 QX60 vehicles to reprogram the TCM and, if needed, inspect and replace the CVT or CVT control valve. This service will be performed at no charge to the customer for parts or labor.

IDENTIFICATION NUMBER

Infiniti has assigned identification number PC501 to this campaign. This number must appear on all communications and documentation of any nature dealing with this campaign.

DEALER RESPONSIBILITY

Dealers are to repair vehicles falling within range of this campaign that enter the service department. This includes vehicles purchased from private parties, vehicles presented by transient (tourists) owners, and vehicles in a dealer's inventory.

Infiniti 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 Infiniti retailer to determine if this applies to your vehicle.

REPAIR OVERVIEW



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SERVICE ADVISOR INTERVIEW

Question	YES	NO
Are you experiencing any issue with your transmission?		

• Write the result of this interview question on the repair order.

REQUIRED SPECIAL TOOLS

Tech Cam J-51951



Additional kits and individual components of Tech Cam J-51951 are available from Tech•Mate; online at www.nissantechmate.com, or by phone (1-800-662-2001).

SERVICE PROCEDURE

CHECK FOR DTCs

- 1. Connect CONSULT-III plus (C-III plus) to vehicle with the plus VI.
- 2. Start C-III plus.
- 3. Turn the ignition ON (engine OFF).
- 4. Wait for the plus VI to be recognized.
 - The serial number will display when the plus VI is recognized.
- 5. Select Diagnosis (All Systems).

	Burk Rome Price Screen Carter Manuel Restored Restored Row VI MI	
	Connection Status Diagnosis Menu	
	Serial No. Status Diagnosis (One System)	
Step 4: plus VI is recognized	VI 2300182 Normal Mode/USB connection Diagnosis (All Systems)	Step 5
	MI - On the connection Re/programming, Configuration	<u> </u>
	Select VI/MI	
	Application Setting Sub mode Image Setting Maintenance	
	VDR	

Figure 1A

6. Select TRANSMISSION.

	Back Rome Rome Diagnosis (All Systems)	Print Screen Select	Image: Support Number Image: Support Numer Image: Support Numer <	
	Result		Detailed Information	
	ENGINE	NO DTC		
	ABS	NO DTC		
	METER/M&A	NO DTC		
	BCM	NO DTC		
	AIR BAG	NO DTC		Print
Step	TRANSMISSION	NO DTC		for Customer
0	EPS/DAST 3	NO DTC		Save
	1/2		0/0	ERASE

Figure 2A

- 7. Select Self Diagnostic Result.
- 8. Print a copy of the C-III plus screen showing the diagnostic result (see example in Figure 3A).
 - Make sure the VIN is displayed at the top of the screen.



9. Attach the printout to the repair order.

10. If any DTCs other than P17F0 or P17F1 are stored, they should be repaired and erased before continuing.

• DTCs other than P17F0 or P17F1 are not covered by this bulletin.

11. Next step:

- If DTC P17F0 or P17F1 was not stored; go to TCM reprogramming on the next page.
- If DTC P17F0 or P17F1 was stored; refer to the flow chart on page 2 for the next step.

TCM REPROGRAMMING

NOTE: If DTC P17F0 or P17F1 was stored, reprogramming is not needed.

IMPORTANT: Before starting, make sure:

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

NOTE:

- Some vehicles affected by this campaign may already have the specified reprogramming. In step 6 of the reprograming procedure you will determine if reprograming is needed.
- Most instructions for reprogramming with CONSULT-III plus (C-III plus) are displayed on the CONSULT PC screen.
- If you are not familiar with the reprogramming procedure, click here. This will link you to the "CONSULT- III plus Reprogramming" general procedure.

CAUTION:

- Connect the GR8 to the vehicle battery, set to "power supply" mode. If the vehicle battery voltage drops below <u>12.0V or rises above 15.5V</u> during reprogramming, <u>the TCM may be damaged</u>.
- Be sure to turn OFF all vehicle electrical loads.
 If a vehicle electrical load remains ON, the TCM may be damaged.
- Be sure to connect the AC Adapter. If the CONSULT PC battery voltage drops during reprogramming, the process will be interrupted and <u>the TCM may be damaged</u>.
- Turn OFF all external Bluetooth[®] devices (e.g., cell phones, printers, etc.) within range of the CONSULT PC and the VI. If Bluetooth[®] signal waves are within range of the CONSULT PC during reprogramming, reprogramming may be interrupted and <u>the TCM may be damaged</u>.

- 1. Connect the CONSULT PC to the vehicle to begin the reprogramming procedure.
- 2. Start C-III plus.
- 3. Wait for the plus VI to be recognized.
 - The serial number will display when the plus VI is recognized.
- 4. Select Re/programming, Configuration.



5. Follow the on-screen instructions and navigate the C-III plus to the screen shown in Figure 2B on the next page.

- 6. When you get to the screen shown in Figure 2B, confirm this bulletin applies as follows.
 - A. Find the TCM Part Number and write it on the repair order.

NOTE: This is the <u>current</u> TCM Part Number (P/N).

🚰 CONSULT-III plus Ver	VIN.	Vehicle .		Country : U.S.A.
Back Rome Print Screen	creen apture Mode R	tecorded Data	11.8V VI MI	
Configuration	Operation Selection	Save ECU Data		717
Save ECU Data				
Touch "Save" to save operation log a Operation log helps to restart next op after operation has completely finishe	and the current part nu eration by selecting su d.	mber as listed below to C itable operation log. Opera	ONSULT. tion log is erased	
File Label		*****		
Operation		REPROGRAMMING		
System 6A: <u>Current</u>	TCM P/N	TRANSMISSION		
Part Number		31036		
Vehicle		*****		
VIN		****		
Date		11/1/201× 1:22:16 AM	0	Save
-				Jave

Figure 2B

- B. Compare the P/N you wrote down to the numbers in the Current TCM Part Number column in Table A below.
 - If there is a <u>match</u>, continue with the reprogramming procedure.
 - If there is <u>not a match</u>, reprogramming is <u>not needed</u>.

Т	ิล	h	I٩	Δ	
I.	a	υ	IC.	n	

MODEL	CURRENT TCM PART NUMBER BEFORE REPROGRAMMING:31036 -			
2013 JX35	9NA6A, 9NA6B, 9NA6C, 9NA6D, 9NA6E 3JU0A, 3JU0B, 3JU0C, 3JU0D, 3JU0E 3JU1A 9NA7A			
2014 QX60 with V6 engine	9NA7A, 9NA7B, 9NA7C, 9NA7D 3JU3A, 3JU3B, 3JU3C, 3JU3D			

7. Follow the on-screen instructions to navigate C-III plus and reprogram the TCM.

NOTE:

- In some cases, more than one new P/N for reprogramming is available.
 - ▶ If more than one new P/N is available, the screen in Figure 3B displays.
 - Select and use the reprogramming option that <u>does not</u> have the message "Caution! Use ONLY with NTBXX-XXX".
- If you get this screen and it is <u>blank</u> (no reprogramming listed), it means there is no reprogramming available for this vehicle.

CONSULT-III plus Ver.	VIN.	Vehicle :	Country : U.S.A.
Back Horne Print Scr	een Screen Measurement Mode	Recorded Data	1 🗙 🖿 🔚 🔀
Configuration	Precaution	Select Program Data Confirm V Condit	/ehicle
Select Program Data			
Touch and select the reprog In case no reprog/programmi reprog/programming data in 0 System	/programming data listed bel ng data is listed below, confir CONSULT. TRANSMISSION	ow. m the vehicle selection, VIN and	
Current Part Number	Part Number After Repr	o/programming Other Informati	on
xxxxxx-xxxxxx xxxxxx-xxxxxx	xxxxxxxxxxxxxx xxxxxxxxxxxxxx	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	00000X 00000X
		0/0	Next

Figure 3B

8. When the screen in Figure 4B displays, reprogramming is complete.

NOTE: If the screen in Figure 4B does <u>not</u> display (indicating that reprogramming did <u>not</u> complete), refer to the information on the next page.

- 9. Disconnect GR8 from the vehicle.
- 10. Select Next.



Figure 4B

NOTE:

- In the next step (page 13) you will perform Erase All DTCs.
- DTC erase is required before C-III plus will provide the final reprogramming confirmation report.

Do not disconnect plus VI or shut down C-III plus if reprogramming does not complete.

If reprogramming does <u>not</u> complete and the "!?" icon displays as shown in Figure 5B:

- Check battery voltage (12.0–15.5 V).
- Ignition is ON, engine OFF.
- External Bluetooth[®] devices are OFF.
- All electrical loads are OFF.
- Select <u>retry</u> and follow the on screen instructions.
- <u>"Retry" may not go through on first</u> attempt and can be selected more than once.

		Vicitie	Dountry Jacan
Base Hone Print Screen	teres Made	en bar Sata Histo 12.0V	🥐 💥 🍽 📻 🔀
So rengalaria	Same part	Contine Resol	13/13
Confirm Result			
Reprogramming or programming is not o operation on this ECU. Touch "Reny" to reby reprogramming o	completed propertly, but programming	you can retry reprogramming	
Part number after Reprograpping amming		NAMES - NAMES	
Part number before Reprog/programming		No.	
Vehicle	-	- QÁSHQAI -	
VIN		SUNFONU10U100000	
VIN System		SJNFDNJ16U100000	
VIN System Dete		SUNFON/160/100000	Pety
Vile System Dete Error Gode		SUNFONJ160100000	Rety

Figure 5B

If reprogramming does <u>not</u> complete and the "X" icon displays as shown in Figure 6B:

- Check battery voltage (12.0 15.5 V).
- CONSULT A/C adapter is plugged in.
- Ignition is ON, engine OFF.
- Transmission is in Park.
- All C-III plus / VI cables are securely connected.
- All C-III plus updates are installed.
- Select <u>Home</u>, and restart the reprogram procedure from the beginning.

	VIN Vehick	e (qarehqari	County Japan
a Phit Scree	Science Means review Recarded		r 💥 🗖 🔚 💽
C confidetion	Contract	Recut	919
onfirm Rosult			
Reprogramming a rot completed pro Print this screen as needed. Confirm with procedure. Restait CONSULT with disconnecting	sperfy n CONSULT version, IGN/Power switc ng VI onse, and start the reprogrammi	ch position, shift position a Ing again	erd de
Part number after	126 4	482808088	
Reprogramming			
Cunent part number	n 204	482000000	
Roprogramming Current part number Velsole	= 214 = 1	4020000000 6404030	
Reprogramming Current part number Vehicle	- 214 SJNFE	482808080 8/88808 5/93100100000	
Reprogramming Current part number Vehicle VIN System	SJAFE	442473034 6/04024 10/10/00000	
Reprogramming Currient part number Vehicele VIN System Deste	214 SJNFC 23/07/	482906000	
Reprogramming Current part number Velsele Vill System Date	244 SJNFC 25/07/	4829000000 8/48/40.00 9/2010/00000 9/2011 10:30:00	

Figure 6B

- 11. Follow the on-screen instructions to Confirm Shift Lever Position Display.
- 12. Follow the on-screen instructions to Erase DTCs.
- 13. When the entire reprogramming process is complete, the screen in Figure 7 will display.
- 14. Verify the before and after part numbers are different.
- 15. Print a copy of this screen (Figure 7) and attach it to the repair order for warranty documentation.
- 16. Select Confirm.

G CONSULT-III plus Ver	VIN:	Vehicle :		Country : U.S.A.
Back Barre Print Screen	Screen Capture	Recorded Data	14.3V VI MI	
Re/programming, Configuration	Erase All DTCs	Print Result / Operation Complete		18/18
Print Result / Operation Complete				
In case CONSULT can NOT immedia temporally storage of this page. Tou Data Folder" on desk top, and open t	tely access to LAN o ch "Screen Capture" the folder named "So	r printer, Screen Capture funct ", and save it. Screen capture d creenimages".	ion is available for ata is in "CIII plus	
Part number after Reprog/programming	Step	31036		
Part number before Reprog/programming		31036		
Vehicle		*****		
VIN		****		
System		TRANSMISSION	Step	Print
Date		11/3/201× 2:10:21 AM	15	
			Step 1/1 16	Confirm

Figure 7B

- 17. Return C-III plus to the Home screen.
- 18. Turn OFF C-III plus and the vehicle ignition.
- 19. Disconnect C-III plus from the vehicle.
- 20. Refer to the flow chart on page 2 to determine next steps.

TEST DRIVE

IMPORTANT: This part of the Service Procedure is performed **only if** <u>both</u> **of the following apply**:

- The customer answers <u>Yes</u> to the Service Advisor Interview (see page 3), and
- No DTCs were stored (see page 5).

DTC detection drive pattern for P17F0 / P17F1

NOTE: Perform the following drive pattern in a safe area. Make sure to follow all traffic regulations.

- 1. Stop the vehicle.
- 2. Slowly accelerate, applying only slight accelerator pedal (less than 10% throttle opening) until 20 mph is reached.
 - Torque converter engagement (full lock up) can occur around 20 mph.
- 3. Hold 20 mph (about 1000 rpm for 2 seconds).
- 4. Slowly accelerate, applying only slight accelerator pedal (less than 10% throttle opening) until 30 mph is reached.
 - Keep steady acceleration without releasing pressure on the accelerator.
- 5. Hold 30 mph for 5 seconds.
- 6. Release accelerator pedal (0% throttle).
- 7. Coast to 20 mph, then apply the brakes to slowly bring the vehicle to a stop.
- 8. Slowly accelerate, applying only slight accelerator pedal (less than 10% throttle opening) until 20 mph is reached.
 - Torque converter engagement (full lock up) can occur around 20 mph.
- 9. Hold 20 mph (about 1000 rpm for 2 seconds).

- 10. Slowly accelerate, applying only slight accelerator pedal (less than 10% throttle opening) until 40 mph is reached.
 - Keep steady acceleration without releasing pressure on the accelerator.
- 11. Hold 40 mph for 2 seconds.
- 12. Shift the gear selector to Manual mode.
- 13. Hold 40 mph for 5 seconds.
- 14. Shift the gear selector back do Drive.
- 15. Release accelerator pedal (0% throttle).
- 16. Coast to 30 mph, then apply the brakes to slowly bring the vehicle to a stop.
- 17. Repeat steps 1 through 16 for a total of three times.
- 18. When the test drive is compete, re-check for DTCs (see page 5).
 - If P017F0 is stored; go to CVT ASSEMBLY REPLACEMENT on page 25.
 - If P017F1 is stored; go to CVT CHAIN INSPECTION on the next page.
 - If neither of the above codes are stored campaign is compete.

CVT CHAIN INSPECTION / CONTROL VALVE (VALVE BODY) REMOVAL

IMPORTANT: This part of the Service Procedure is performed **only if** <u>both</u> **of the following apply**:

- The customer answers <u>Yes</u> to the Service Advisor Interview (see page 3), and
- DTC P07F1 is stored.
- 1. Remove the valve body.
 - Before lifting the vehicle:
 - > Place the transmission gear selector in Neutral.
 - > Leave the driver door unlatched. A step further in the procedure may require it.
 - Refer to the Electronic Service Manual (ESM), section TM-Transmission, for valve body removal.

NOTE:

- o The CVT unit harness connector may be left in place when removing the valve body assembly.
- The number "7" is on the head of all valve body bolts that need to be removed. Do not remove any bolt that does not have the number "7".

CAUTION: Never allow any chemicals or fluids other than NS-3 CVT fluid or equivalent to enter the CVT assembly. Never allow any foreign debris, dust, dirt, etc. to enter the CVT assembly.

NOTE: For additional information, see video # 546: "CVT Chain Inspection". This video is located under the TECH TRAINING GARAGE VIDEOS tab in Virtual Academy.

- 2. Secure the <u>right front</u> tire with a suitable strap.
 - This will assist in making the chain turn.
- 3. Mark the <u>left front</u> tire with a suitable marking.
 - This will assure all 360° of the chain is inspected.



Figure 1C

4. Using borescope J-51951 with mirror attachment, visually inspect the side of the CVT chain <u>that comes in</u> <u>contact with the pulley</u>:

NOTE: It is recommended that you review the instructions and Figures on pages 17 through 23 before continuing with the procedure.

- a. Insert the borescope into the correct area of the CVT (see Figures 4C 7C).
- b. Slowly and carefully turn the left front tire one full turn in the forward rotation to view all of the chain.

CAUTION: If the tire is rotated in the rearward rotation, the camera lens may get caught between the chain and pulley.

• Holding the borescope with one hand allows for turning the tire with the other hand (see Figure 2C).



Figure 2C

NOTE: Reference the photos on pages 22 – 24 for examples of chain slippage and for comparison to the vehicle you are working on.

- First inspect the entirety (360°) of the driver side of the chain that comes in contact with the pulley (see pages 19 – 20).
- If the inspection result is OK on all 360° of driver side of the chain; inspect all 360° of the passenger side of the chain.

- If no evidence of chain slippage is found on both sides of the chain; go to VALVE BODY REPLACEMENT on page 26.
- > If any evidence of chain slippage is found, go to step 5 below.
- 5. Evidence of chain slippage was found:
 - a. Create video of the <u>chain slip/damage</u> and the <u>VIN</u> for PCC (Powertrain Call Center) CVT replacement authorization.
 - Use borescope J-51951 to record a 15 second or less continuous video of the most severe evidence of chain slip/damage and the VIN on the F.M.V.S.S. certification label (VIN label).
 - For best picture, the camera lens should be about 10 mm away from the object being recorded.



Figure 3C

- b. The CVT unit requiring replacement will need to be reassembled (valve body reinstalled) for Infiniti parts return/collection.
- c. Go to CVT ASSEMBLY REPLACEMENT on page 25.

NOTE:

- The required video must be attached to the Powertrain Call Center CVT Preauthorization Form (in ASIST) prior to calling for authorization. Failure to submit a continuous video will cause immediate denial of request for replacement.
- Before starting to record, make sure the camera handle's AA batteries are fresh and the LCD monitor's battery is charged.
- The whole video will show as backward, or reversed mirror image. This is okay.
- The required video must show clear evidence of chain slippage and be 15 seconds or less.

Refer to Figures 4C to 8C for camera lens (borescope) insertion instructions:

- Insert the camera lens <u>behind</u> the pulley between the guide rail and the pulley where shown in Figure 4C (see also Figure 5C – 8C).
- Insert approximately 8-9 inches, and then view the side of the chain that contacts the pulley.



Figure 4C

• Figure 5C shows where to insert the camera lens on the <u>driver side</u> of the chain.



Figure 5C

• Figure 6C shows where to insert the camera lens on the <u>passenger side</u> of the chain.



Figure 6C

• Figures 7C and 8C show the routing and location of the camera.

NOTE: The CVT's side cover was removed for easier viewing of camera location. The side cover is <u>not</u> to be removed at any time during this procedure.



For best picture, position camera lens 10 mm away from chain

Figure 8C



Figure 9C: CVT chain



Figure 10C



Figure 11C: Close-up of area to be inspected

Photos in Figure 12C and 13C were taken with borescope J-51951.



Figure 12C

Figure 13C



Figure 14C



Figure 15C

Pictures in Figure 16C – 20C were taken with borescope J-51951.



Figure 16C

Figure 17C



Figure 18C



Figure 19C



Figure 20C

CVT ASSEMBLY REPLACEMENT

IMPORTANT: This part of the Service Procedure is performed **only if the following apply**:

- The customer answers <u>Yes</u> to the Service Advisor Interview (see page 3), and
- DTC P17F0 is stored (before or after test drive), or
- The chain inspection result is NG.

NOTE:

- PCC authorization to replace the CVT assembly is required (see page 50).
- If the valve body was removed for chain inspection, it will need to be reinstalled for Infiniti parts return/collection.
- 1. Remove the CVT assembly from the vehicle.
 - Refer to the Electronic Service Manual (ESM), section TM Transaxle & Transmission, for removal information.
- 2. Flush the CVT cooler(s).
 - IMPORTANT: <u>A CVT Cooler flush is required</u>. Refer to COOLER FLUSH on page 33.
 - It may be easier to flush the cooler while the CVT is removed.
- 3. Install the new CVT assembly into the vehicle.
 - Refer to the ESM, section TM Transaxle & Transmission, for installation information.
- 4. Go to ERASE / WRITE CALIBRATION DATA WHEN REPLACING CVT or VALVE BODY on page 38.

IMPORTANT: Check for fluid leaks before returning the vehicle to the customer.

VALVE BODY REPLACEMENT / INSTALLATION

IMPORTANT: This part of the Service Procedure is performed **only if the following apply**:

- The customer answers <u>Yes</u> to the Service Advisor Interview (see page 3), and
- DTC P17F1 is stored (before or after test drive), and
- The chain inspection result is OK.

NOTE: Valve body replacement does <u>not</u> require PCC authorization.

- 1. If the valve body is being replaced, it should have already been removed to inspect the chain.
- 2. Confirm that the QR label, control valve and CD part numbers <u>all match</u> before installing the control valve (refer to page 38).

IMPORTANT: Valve Body installation steps in this bulletin may contain different style parts than what were originally installed in the CVT. Pay careful attention, REASSEMBLY MAY <u>NOT</u> BE IDENTICAL TO DISASSEMBLY.

3. If an oil strainer bracket was removed, discard it. An oil strainer bracket will not be used with the new oil strainer.



Figure 1D

- 4. Install a new lip seal.
 - Do <u>NOT</u> reuse the old lip seal.
 - Apply a small amount of petroleum jelly to the lip seal to keep it in place on the CVT.



Figure 2D

5. Install the valve body with eleven (11) mounting bolts.

IMPORTANT: Leave Four (4) toles blank at this step.

CAUTION: Make sure the wiring harness does not get pinched (see Figures 4D and 5D for correct routing).

- 54 mm long bolt 7 pieces
- 44 mm long bolt **O** 2 piece
- 25 mm long bolt O 2 piece

CAUTION: The two 25 mm bolts are installed <u>WITHOUT</u> the strainer bracket.

Bolt torque: 7.9 N•m (0.81 kg-m, 70 in-lb.)



Figure 3D



Figure 4D

Figure 5D

6. Replace the metal bracket of the temperature sensor as follows:

NOTE: The new bracket will be oriented the same way as the old one.

a. Cut the plastic zip tie with an appropriate tool to remove the temperature sensor bracket from the terminal harness assembly (see Figure 6D).

CAUTION: Cut the plastic zip tie over the metal bracket to avoid damage to the temperature sensor.

- b. Discard the removed bracket and plastic zip tie.
- c. Use the plastic zip tie from Parts Information to attach the new temperature sensor bracket to the temperature sensor of the terminal connector harness.

IMPORTANT: Locate the plastic zip tie at the center notch of three notches on the temperature sensor.

d. Cut off excess zip tie.



Figure 6D

7. Connect the electrical harness connector.



Figure 7D

8. Install the CVT fluid temperature sensor bracket to the valve body with one (1) bolt (Figure 8D).

NOTE: Leave one (1) bolt hole blank as it will be used to secure the oil strainer at a later step.

- > Bolt torque: 7.9 N•m (0.81 kg-m, 70 in-lb.)
- Bolt length: 54 mm



Figure 8D

9. Install the new oil strainer, with its new O-ring seal, with two (2) bolts.

NOTE: Replacement strainer maybe a different shape than the original.

- > Bolt torque: 7.9 N•m (0.81 kg-m, 70 in-lb.)
- 54 mm long bolt 2 pieces.



Figure 9D

10. Install the manual plate, lock washer, and nut.

NOTE: Make sure the manual plate fits into the slot of the manual valve before applying torque to the nut.

- Reuse the existing manual plate, lock washer, and nut.
- Nut torque: 22.1 N•m (2.3 Kg-m, 16 ft-lb.)
- 11. Clean the original oil pan and magnets with a suitable cleaner. Visible debris should not be present at re-assembly.
- 12. Reassemble the original magnets to the pan. **NOTE:** Return the magnets to their original

NOTE: Return the magnets to their original locations.

- 13. Install a new oil pan gasket to the pan.
- 14. Install the oil pan bolts (see Figure 11D).
 - Reuse the existing pan bolts.
 - Oil pan bolts torque: 7.9 N•m (0.81 kg-m, 70 in-lb.)
- 15. Install a new drain washer to the drain plug on the oil pan.



Figure 11D



Figure 10D

- 16. Fill the CVT assembly with NS-3 CVT fluid or equivalent.
 - Refer to the ESM, section TM Transaxle & Transmission for CVT fluid filling.
- 17. Attach the QR label with the new calibration data onto the transmission range switch (inhibitor switch).
 - See Figure 12D and 13D below.
 - QR Label and CD-R are included with the replacement valve body.



Figure 12D

Figure 13D

- 18. Flush the CVT cooler(s).
 - IMPORTANT: <u>A CVT Cooler flush is required</u>. Refer to COOLER FLUSH on page 33.
- 19. IMPORTANT: Install Write IP Characteristics to the TCM.
 - Refer to ERASE / WRITE CALIBRATION DATA WHEN REPLACING CVT or VALVE BODY on page 38.

IMPORTANT: Check for fluid leaks before returning the vehicle to the customer

COOLER FLUSH

NOTE: The following steps include flushing the radiator based CVT Transmission Fluid Cooler and the external CVT Transmission Auxiliary Fluid Cooler.

- 1. Place the vehicle on a lift.
- 2. Remove the left front wheel and then partially remove the left front fender protector to gain access to the external CVT fluid cooler.
 - If needed, refer to the Electronic Service Manual (ESM), section EXT Exterior for fender protector removal information.
- 3. Place an oil drain pan under the external CVT fluid cooler.
- 4. Unbolt and disconnect the external CVT fluid cooler bypass valve from the external CVT fluid cooler.



Figure 1E

- 5. Place an oil drain pan under the CVT warmer.
- 6. Disconnect the CVT fluid inlet and outlet rubber hoses from the CVT fluid warmer (Figure 2E) and discard the spring clamps.

NOTE: If rubber material from a cooler hose remains on a steel tube or fitting, replace the rubber hose and clean rubber material off of the steel tube.

7. Allow any transmission fluid that remains in the CVT fluid cooler hoses to drain into the oil drain pan.



Figure 2E

NOTE: The two hoses that have been removed from the CVT fluid warmer will be used to flush the radiator based cooler; first in one direction and then the other.

CAUTION:

- Wear safety glasses and rubber gloves when spraying the Transmission Cooler Cleaner.
- Spray Cooler Cleaner only in areas with adequate ventilation.
- Avoid contact with eyes and skin.
- Do not breathe vapors or mist from spray.
- Insert the "extension adapter hose", from a can of Cooler Cleaner (Nissan P/N 999MP-AM006P), into one or the other of the disconnected CVT fluid cooler hoses (Figure 3E).
- 9. Flush cooler and hoses as follows:
 - a. Hold the hose and can of cleaner as high as possible.
 - Block the CVT fluid cooler bypass valve (Figure 3E) with thumb.
 - b. Spray Transmission Cooler Cleaner, in a continuous stream, into the CVT fluid cooler inlet hose.
 - c. Spray fluid until it flows out of the other hose for 5 seconds.
- 10. Slide a piece of 5/8 inch hose (16 mm) over the end of the CVT fluid cooler hose (Figure 4E) that was used as the flush inlet.
- 11. Insert the tip of an air gun into the end of 5/8 inch (16 mm) hose (Figure 4E).
 - Block the CVT fluid cooler bypass valve fluid passage (Figure 3) with thumb.
- 12. Blow compressed air, regulated to 5-9 kg/cm2 (70 130 PSI), through the CVT fluid cooler hose for 10 seconds to force out any remaining fluid.

Figure 3E

Figure 4E

13. Repeat steps 8 through 12 one additional time and then proceed to step 14.

- 14. Now reverse the direction that the hoses are being flushed (Figure 3E) and repeat steps 8 through 12 twice (total of 3 times).
 - When complete proceed to step 15.
- 15. Reassemble the CVT fluid cooler hoses to the CVT warmer with new spring clamps.
 - Spring clamps are listed in the PARTS INFORMATION.
 - If needed, refer to the ESM, section TM Transaxle & Transmission for correct hose assembly and alignment.

- 16. Remove the external CVT fluid cooler (auxiliary fluid cooler) from the vehicle.
 - If needed, refer to the ESM, section TM Transaxle & Transmission for removal information.

Figure 5E

- 17. Remove the O-rings from the auxiliary fluid cooler.
- 18. Install a 4 inch long hose with an inside diameter of 5/8 inch (16 mm) onto the inlet side of the auxiliary fluid cooler.
- Install a 6 inch long hose with inside diameter of 5/8 inch (16 mm) onto outlet of the auxiliary fluid cooler and place the opposite end into a suitable container to catch used fluid.

Figure 6E

- 20. Insert the "extension adapter hose" from a can of Transmission Cooler Cleaner (Nissan P/N 999MP-AM006P) into the cooler inlet.
- 21. Spray one full can of Transmission Cooler Cleaner through the inlet of cooler, letting cleaner drain through the outlet and into the catch container.
- 22. Allow the remaining fluid in the auxiliary fluid cooler to drain out.
- 23. Insert the tip of an air gun into the end of the cooler inlet.
- 24. Wrap a shop rag around the air gun tip and end of the cooler inlet to reduce blowback.
- 25. Blow compressed air, regulated to 5-9 kg/cm2 (70 130 PSI), through the inlet side of the auxiliary fluid cooler for 10 seconds to force out any remaining fluid.
- 26. While holding the hoses securely to the fluid cooler, flush 2 full quarts of NS-3 (or equivalent) with a 1 pint suction gun.
 - Flush from the inlet side of the auxiliary fluid cooler through to the outlet.
- 27. Allow the remaining fluid in the auxiliary fluid cooler to drain into the catch container.

Figure 7E

Figure 8E

Figure 9E

- 28 To complete the flush, insert the tip of an air gun again into the end of the fluid cooler inlet (Figure 8E).
- 29 Wrap a shop rag around the air gun tip and end of the cooler inlet (Figure 8E).
- 30. Blow compressed air, regulated to 5-9 kg/cm2 (70 130 PSI), through the inlet of the auxiliary fluid cooler for 10 seconds to force out any remaining CVT fluid.
- 31. Reassemble the auxiliary fluid cooler and CVT fluid cooler bypass valve in the reverse order of disassembly with new O-rings.
 - New O-rings are listed in the **PARTS INFORMATION**.
 - If needed, refer to the ESM, section TM Transaxle & Transmission for correct hose assembly and alignment.

ERASE / WRITE CALIBRATION DATA WHEN REPLACING CVT or VALVE BODY

NOTE: Use the following steps when a complete CVT, or valve body is replaced.

Before starting, make sure:

- ASIST on the CONSULT PC has been synchronized to the current date.
- All C-III plus software updates (if any) have been installed.
- 1. Obtain the calibration file disk (provided with the new CVT or valve body).
- 2. Match the numbers on the disk with the new CVT or new valve body and QR label.
 - See the next 2 pages for number matching examples.

If a <u>complete CVT</u> is being replaced; match the following number (calibration file):

• Disc (CD) provided with the new CVT.

Figure A

Figure B

Skip two digits

Figure C

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

• QR label on the new CVT.

label.

Calibration file number on the CVT case or

TP160252

If a new <u>valve body</u> is being installed; match the following number (calibration file):

Disc (CD) provided with the new valve body.

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

• Calibration file number on the valve body.

QR label provided with the new valve

•

body.

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

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

- 4. Load the CD into the external disc drive.
- 5. Connect the CONSULT PC to the vehicle with the VI and then open / start C-III plus.
 - Make sure ASIST and other programs are closed.
- 6. After the plus VI is recognized, select **Diagnosis (All Systems)**.

	CONSULT-III plus	Ver.V12.12.00 VIN:-	Vehicle : -	Country : U.S.A.
	Back Home	Print Screen Capture Mode	Recorded Data Pelp 11.8V	VI MI
	Connection S	tatus	Diagnosis Menu	
	Seria	l No. Status	Diagnosis (O	ne System)
VI is recognized	VI 2300	1727 Normal Mode/Wireles connection	B Diagnosis (A	Svstems)
	MI .	No connection	Re/programm	ing, Configuration
	Select	VI/MI		
	Sub mod	e	ing Maintenance	
	VDR			

Figure 1F

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

8. Select the scroll arrow shown in Figure 2F.

Back Rome Print Screen Capture Mode Screen Capture Mode Screen Capture Mode Screen Capture Mode Mode System Selection TRAN	ISMISSION
Test Item	- Menancation
CONFORM CVTF DETERIORTN	WRITE IP CHARA - REPLACEMENT TCM
ERASE MEMORY DATA	
G SENSOR CALIBRATION	
ERASE LEARNING VALUE	
ENGINE BRAKE ADJ.	
ERASE CALIBRATION DATA	
WRITE IP CHARA - REPLACEMENT AT/CVT	
READ IP CHARA - REPLACEMENT TCM	
	1/1 Start

Figure 2F

9. Print a copy of the screen shown in Figure 3F and attach it to the repair order.

NOTE:

- Make sure to print page 1 of 7 (1 / 7).
- This screen print is used for warranty documentation.
- 10. Select scroll arrow shown in Figure 3F.

CONSULT-III plus Ver.5	4.40 SP31.10 VIN:5N4 AR2MN0F0708745 -	Vehicle : F	States Sten 10
Back Home Pri	int Screen Screen Measuremer Adde	Image: Weight of the second	
Diagnosis (All Systems)	Screen print must	Diagnosis (All Systems) TRANSMISSION	
Data Monitor	show the VIN	ECU Identification	
Calibra	tion Data		
UNIT	CLB ID1	0000	
UNIT	CLB ID2	0000	-
UNIT	сьв юз Example	e	
UNIT	CLB ID4	34.42	
UNIT	CLB ID5	003D	
UNIT	CLB ID6	006F	
UNIT	CLB ID7	00FF	
UNIT	CLB ID8	0002	
		1/7	
Pri	int page 1 of 7 (1 / 7)		

Figure 3F

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

CONSULT-III plus Ver.23.21 VIN:-	Vehicle : -	Country : U.S.A.
Back Nome Print Screen Screen Mode	recorded Recorded Help 12.2V	KI 🗙 🍽 🔲 🔀
Diagnosis (One System) System Selection TRA	INSMISSION	
Self Diagnostic Data Monitor	support Active Test	U ntification
Test Item		
CONFORM CVTF DETERIORTN	WRITE IP CHARA - REPLACEMENT T	см
ERASE MEMORY DATA		
G SENSOR CALIBRATION		
ERASE LEARNING VALUE		
ENGINE BRAKE ADJ.		
ERASE CALIBRATION DATA		
WRITE IP CHARA - REPLACEMENT AT/CVT	Step 11	
READ IP CHARA - REPLACEMENT TCM		
	1	
	1/1	Start
h	+	

Figure 4F

IMPORTANT: When starting the calibration "write" procedure in C-III plus, and after selecting **Start** under **Work Support**, the C-III 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, <u>keep ASIST closed</u>, and restart this procedure from step 1.
 - If error "STOPPED, no comm. with ECU" shows when trying to write calibration data, verify that the vehicle is in park (P).

12. Select OK.

Back Hume Print Scree Diagnosis (One System) S	m Streen Messagement Recorded Help 12.2V	
This function is used Before performing writ AT/CVT assembly. Never perform writing Serial number is stamp assembly.	Select IP characteristics data file.	Next
:urrent status terial No.		
	ок	

Figure 5F

13. Select My Computer.

Figure 6F

14. Select DVD/CD-RW Drive (F:)

ork support : WRITI	E IP CHARA - R	EPLACEMEN	T AT/CVT				
This function is us	Open		8			22	
Before performing AT/CVT assembly.	Look in:	🔋 My Compute	8	8 0 1	- -		Next
Never perform writ Serial number is sti assembly.	My Recent Documents	Cocal Disk (Co Removable D Removable D) isk (D:) isk (E:)	Step 14			
Current status Serial No.	Desktop	Shared Docur	ments 's Documents	<u> </u>			
	by Documents						
						÷ .	
	My Computer						
	My Computer	File name:			- (Open	

Figure 7F

15. Highlight the File and then select **Open**.

Figure 8F

- 16. Verify that the serial number (calibration file number) matches the numbers from step 2 on page 38 (see Figures on pages 39 and 40).
 - If the numbers do not match, call TECH LINE.
- 17. Select Next.

NOTE: If error message "Stopped, No Comm with ECU" is displayed, confirm that the vehicle is in Park.

Diagnosis (One System) Byste	Capture Mode Date 1220 VI	MI (
rk support : WRITE IP CHARA - F		
efore performing writing operatio T/CVT assembly.	nng And VT. n, check that the following serial number matches the one describ	ed on Next
ever perform writing operation w erial number is stamped on AT/C ssembly.	when the serial numbers do not match. VT assembly or described on the QR code sticker applied on AT/C	
urrent status		- 1
erial No.	l'esserar	Step 17
	Step 16	
	(Example)	
	(Example)	
	(Example)	

Figure 9F

- 18. Before selecting Start, follow the directions in Figure 10F.
 - **<u>Do not</u>** follow the directions on the C-III plus screen.

Figure10F

19. Follow the on screen instructions.

Back Imme Print Screen Screen Measurement Records Diagnosis (All Systems) Select Vehicle Confirm Vehicle Confirm Vehicle rk support : WRITE IP CHARA - REPLACEMENT AT/CVT lease perform the following steps. Image: Stepse s	ed Plagnosis (All Systems) TRANSMISS	
Diagnosis (All Systems) Select Vehicle Confirm Vehicle rk support : WRITE IP CHARA - REPLACEMENT AT/CVT lease perform the following steps.	Diagnosis (All Systems) TRANSMISS	ION
rk support : WRITE IP CHARA - REPLACEMENT AT/CVT lease perform the following steps.		
lease perform the following steps.		
Turn OFF the key switch and wait at least 2 seconds.		
Turn OFF the key switch and wait at least 2 seconds.		Ninut
Turn OFF the key switch and wait at least 2 seconds.		R
I Turn OFF the key switch and wait at least 2 seconds.		-
Turn OFF the key switch and wait at least 2 seconds.		
Turn OFF the key switch and wait at least 2 seconds.		
urrent Key SW Status		OFF
aiting Time		2
2		and the second sec
Please turn switch OFF to ON.		
5		
Please click the "NEXT" button when you finished above proc	ess,	6
		-00
		End

Figure 11F

20. Follow the on screen instructions.

and a street		er.CSP19.10			-				States	
e Back	Home	Print Screen	Screen Capture	Messurement Mode	Recorded Data	() Help	12.1V			
Dis Sy	agnusis (All stems)	▶ Sele	ct Vehicle	Confirm	n Vehicle 🕨	Diagnosis Systems		ANSMISSION		
Work supp	ort : WRITE	IP CHARA - F	REPLACEM	ENT AT/CV	τ					
IP charac The follor - IGN ON - ENG OF - SHIFT P Touch "S	teristics dat wing precor F OSITION "F tart"	ta of the ente nditions shoul	red serial n id be met:	umber will Ma	be written in ake sure ansmiss	e to put	the ark;			Write
Current s Serial No.	tatus		270100	• NO • "P"	DTE: a sligh will display	nt delay wil y on the ins	l occur befo strument cli	ore uster		
				То	uch Starl	: = Touch	n Write			
									-	End

21. After Complete, select End.

- 22. Select Home to return to the C-III plus home screen.
- 23. Perform steps 6 9, starting on page 41.
- 24. Attach the second screen print to the repair order.

NOTE: Screen prints are used for warranty documentation.

25. Go to the next page.

Clutch Point Learning (if valve body was replaced)

- 1. Start the engine.
- 2. With C-III plus, select TRANSMISSION > Work Support.
- 3. Select FWO CLUTCH POINT LEARNING.
- 4. Perform learning according to on screen instructions.
- 5. After completion in D position, perform in R position.

Select Learning (Drive Reverse Learning) Procedure (if valve body or CVT was replaced)

- 1. Set the parking brake.
- 2. Start the Engine.
- 3. Wait 5 seconds.
- 4. Shift to Neutral and wait more than 2 seconds.
- 5. Shift to Drive and wait for transmission engagement.
- 6. Repeat steps 4 and 5, ten (10) times.
- 7. Shift to Neutral and wait more than 2 seconds.
- 8. Shift to Reverse and wait for transmission engagement.
- 9. Repeat steps 7 and 8, ten (10) times.
- 10. Shift to Park and turn the ignition OFF.

Erase CVT Fluid Degradation Level Data

- 1. Turn the ignition ON.
- 2. With C-III plus, select TRANSMISSION > Work Support.
- 3. Select CONFORM CVTF DETERIORTN.
- 4. Touch Clear.
- 5. Clear any DTCs that may have set and then test drive the vehicle.

POWERTRAIN CALL CENTER (PCC) AUTHORIZATION

CVT Assembly Replacement Approval Procedures

- If P17F0 is stored for CVT replacement:
 - a. Complete the Powertrain Call Center (PCC) CVT Preauthorization Form in ASIST.
 - b. Attach the C-III plus screen printouts showing the VIN and DTC to the Preauthorization Form.
 - c. Call the PCC for authorization at **800-973-9992 (opt 2)**.
- If P17F1 is stored and CVT chain inspection indicates CVT assembly replacement is required:
 - a. Complete the PCC CVT Preauthorization Form in ASIST.
 - b. Attach the C-III plus screen printouts showing the VIN and DTC to the Preauthorization Form.
 - c. Attach the required video (15 seconds or less) to the CVT Preauthorization Form.
 - Failure to submit a continuous video showing evidence of chain slip and the VIN will cause immediate denial of request for CVT unit replacement.
 - d. Call the PCC for authorization at **800-973-9992 (opt 2)**.

IMPORTANT: Make sure the video has a clear image of the VIN on the F.M.V.S.S. certification label (VIN label).

PARTS INFORMATION

∆ll of the	narts listed	helow are onl	v "if needed"	ner the i	details of this	s hulletin
	parts listeu		y II HEEUEU			

DESCRIPTION	PART Number	QUANTITY
Remanufactured CVT Assembly	For 2WD 310CM-3WX0DRE For 4WD 310CM-3WX0ERE	1
VALVE ASSEMBLY-CONTROL (valve body) (1)	31705-29X0C	1
STRAINER ASSY-OIL, AUTO TRANS	31728-29X0D	1
		2
U-RING; EXTERNAL OIL COULER	22180-9NBUA	2
Hose spring clamp	16439-7S01D	2
Transmission Cooler Cleaner	999MP-AM006P (1)	As needed
GASKET-OIL PAN	31397-1XF0D	1
BRACKET (for temperature sensor)	31069-3VX0D	1
BAND (zip tie for sensor bracket)	24224-3VX0B	1
SEAL-LIP	31528-1XZ0A	1
WASHER-DRAIN	11026-JA00A	1
SEAL, O-RING (fluid filler plug gasket)	31526-3VX0B	1
NS-3 CVT Fluid (2) (3)	999MP-NS300P	As needed

(1) Includes QR Label, CD-R, and Control Valve Assembly.

(2) For warranty repairs, Nissan NS-3 CVT Fluid must be used. For customer pay repairs, Nissan NS-3 CVT Fluid or an equivalent is recommended.

(3) Order this item through the Infiniti Maintenance Advantage program: Phone: 877-INF-IMA1 (877-463-4621). Website order via link on dealer portal www.NNAnet.com and click on the "Maintenance Advantage" link

CLAIMS INFORMATION

Submit a Campaign (CM) line claim using the following claims coding:

CAMPAIGN (CM) I.D. #	DESCRIPTION	OP CODE	FRT
PC501	Check DTCs, Check TCM Part Number (ECM reprogram not needed)	PC5010	0.2 hrs.

CAMPAIGN (CM) I.D. #	DESCRIPTION	OP CODE	FRT
	Check DTC's, Check TCM Part Number, Perform Test Drive-OK (FWD/AWD)	PC5011	0.4 hrs.
PC501	Perform TCM Reprogramming (if needed)	PC501C	0.7 hrs.

CAMPAIGN (CM) I.D. #	DESCRIPTION	OP CODE	FRT
Dosad	Check DTC's, Check TCM Part Number, and Replace CVT (FWD)	PC5012	10.5 hrs.
PC501	Perform TCM Reprogramming (if needed)	PC501C	0.7 hrs.

CAMPAIGN (CM) I.D. #	DESCRIPTION	OP CODE	FRT
PC501	Check DTC's, Check TCM Part Number, and Replace CVT (AWD)	PC5013	11.3 hrs.
	Perform TCM Reprogramming (if needed)	PC501C	0.7 hrs.

CAMPAIGN (CM) I.D. #	DESCRIPTION	OP CODE	FRT
PC501	Check DTC's, Check TCM Part Number, Perform Chain Inspection, and Replace CVT (FWD)	PC5014	12.9 hrs.
	Perform TCM Reprogramming (if needed)	PC501C	0.7 hrs.

CAMPAIGN (CM) I.D. #	DESCRIPTION	OP CODE	FRT
PC501	Check DTC's, Check TCM Part Number, Perform Chain Inspection, and Replace CVT (AWD)	PC5015	13.7 hrs.
	Perform TCM Reprogramming (if needed)	PC501C	0.7 hrs.

CAMPAIGN (CM) I.D. #	DESCRIPTION	OP CODE	FRT
PC501	Check DTC's, Check TCM Part Number, Perform Chain Inspection, and Replace Valve Body (2WD/AWD)	PC5016	2.5 hrs.
	Perform TCM Reprogramming (if needed)	PC501C	0.7 hrs.

CLAIMS INFORMATION continued

CAMPAIGN (CM) I.D. #	DESCRIPTION	OP CODE	FRT
PC501	Check DTC's, Check TCM Part Number, Perform Test Drive, and Replace CVT (FWD)	PC5017	10.7 hrs.
	Perform TCM Reprogramming (if needed)	PC501C	0.7 hrs.

CAMPAIGN (CM) I.D. #	DESCRIPTION	OP CODE	FRT
PC501	Check DTC's, Check TCM Part Number, Perform Test Drive, and Replace CVT (AWD)	PC5018	11.5 hrs.
	Perform TCM Reprogramming (if needed)	PC501C	0.7 hrs.

CAMPAIGN (CM) I.D. #	DESCRIPTION	OP CODE	FRT
PC501	Check DTC's, Check TCM Part Number, Perform Test Drive, Perform Chain Inspection, and Replace CVT (FWD)	PC5019	13.1 hrs.
	Perform TCM Reprogramming (if needed)	PC501C	0.7 hrs.

CAMPAIGN (CM) I.D. #	DESCRIPTION	OP CODE	FRT
PC501	Check DTC's, Check TCM Part Number, Perform Test Drive, Perform Chain Inspection, and Replace CVT (AWD)	PC501A	13.9 hrs.
	Perform TCM Reprogramming (if needed)	PC501C	0.7 hrs.

CAMPAIGN (CM) I.D. #	DESCRIPTION	OP CODE	FRT
PC501	Check DTC's, Check TCM Part Number, Perform Test Drive, Perform Chain Inspection, and Replace Valve Body (2WD/AWD)	PC501B	2.7 hrs.
	Perform TCM Reprogramming (if needed)	PC501C	0.7 hrs.