



# SERVICE BULLETIN

Classification: AT15-014b	Reference: NTB15-085b	Date: April 1, 2016
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## 2013-2015 ALTIMA; CVT DELAYED ENGAGEMENT WHEN SHIFTING INTO DRIVE OR REVERSE

This bulletin has been amended. Instructions have been changed and parts information added for installing a new oil strainer when the valve body is replaced.  
Please discard all previous versions of this bulletin.

**APPLIED VEHICLE:** 2013-2015 Altima Sedan (L33)

**APPLIED ENGINE:** QR25 (4 cylinder) only

### IF YOU CONFIRM:

The CVT has a delayed engagement when shifting into Drive or Reverse,

### AND

There are no DTCs stored in the ECM and/or TCM.

#### NOTE:

- Engagement in Drive or Reverse within three (3) seconds after shifting is considered normal.
- A delayed engagement when shifting into gear may only occur one time per ignition cycle.

### ACTION:

1. Refer to page 5, step 6 in the **SERVICE PROCEDURE** to check if TCM reprogramming applies to the vehicle you are working on.
  - Reprogram the TCM, if reprogramming applies.
2. Inspect the CVT belt per the **SERVICE PROCEDURE** in this bulletin.

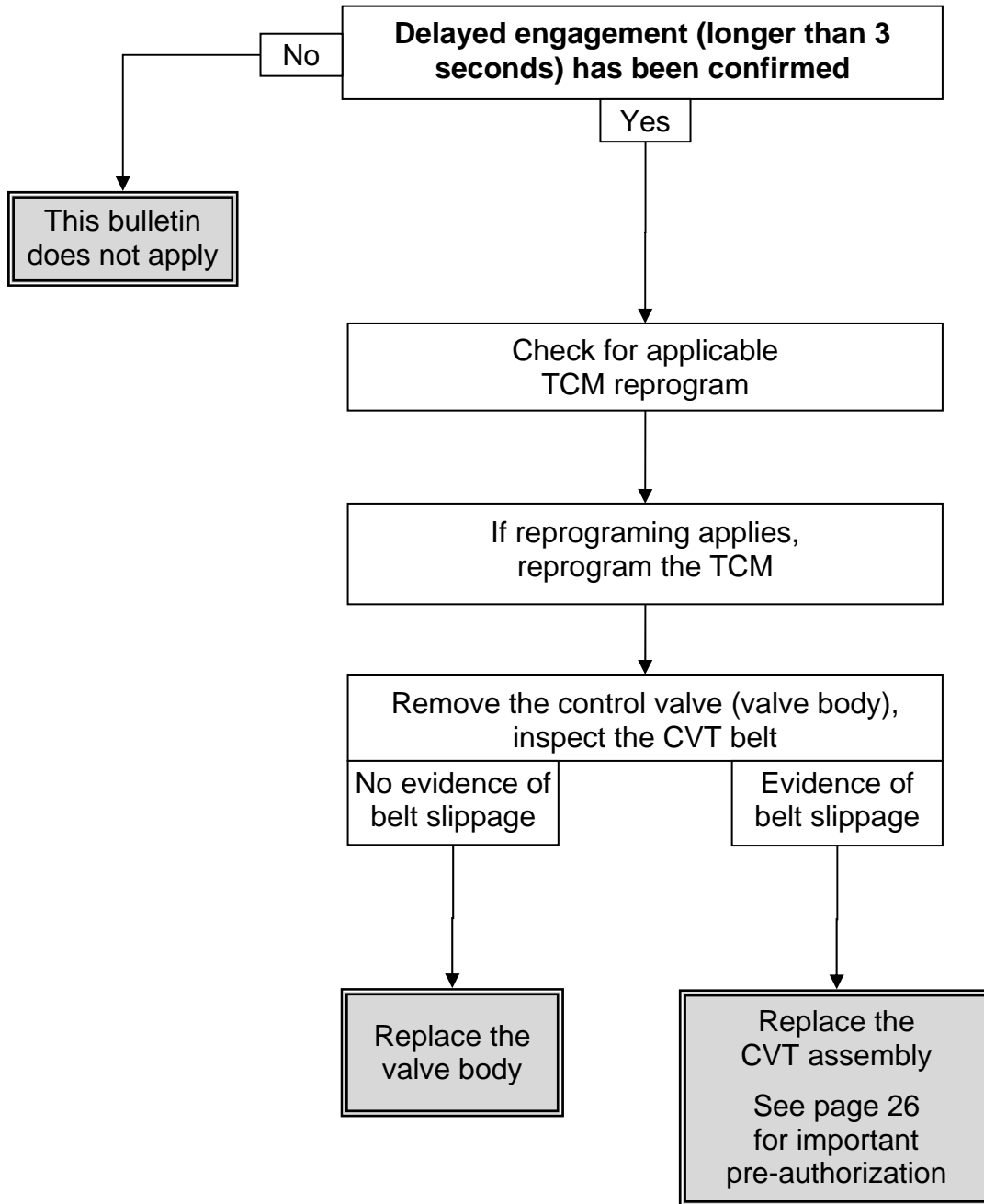
**NOTE:** Essential Tool Tech Cam (borescope) J-51951 has been sent to dealers. This tool's attachments make CVT inspection possible.

3. Perform CVT repairs based on inspection results.

**IMPORTANT:** The purpose of **ACTION** (above) is to give you a quick idea of the work you will be performing. You **MUST** closely follow the entire **SERVICE PROCEDURE** as it contains information that is essential to successfully completing the repair.

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 Flow Chart



## SERVICE PROCEDURE

### TCM Reprogramming

#### NOTE:

- 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 12.0V or rises above 15.5V during reprogramming, the TCM may be damaged.
- 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 the TCM may be damaged.
- 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 the TCM may be damaged.

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**.

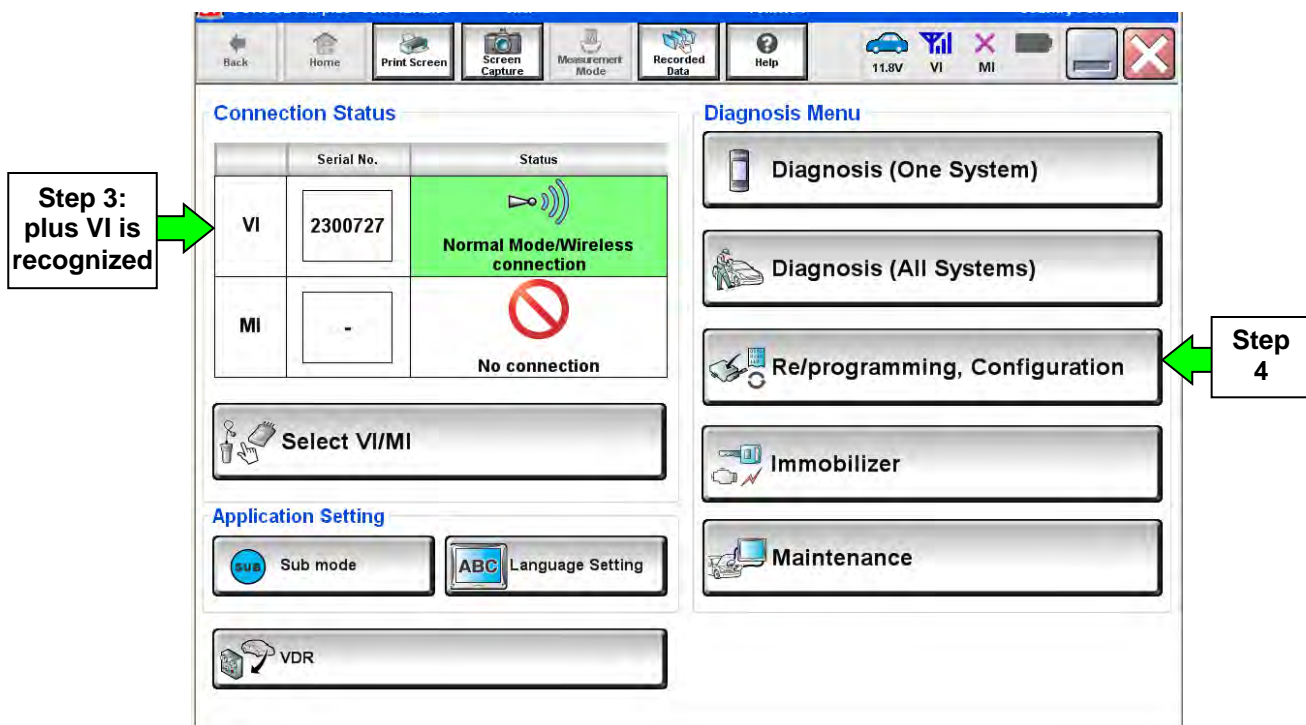


Figure 1

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

6. When you get to the screen shown in Figure 2, confirm this bulletin applies as follows.

A. Find the TCM **Part Number** and write it on the repair order.

**NOTE:** This is the current TCM Part Number (P/N).

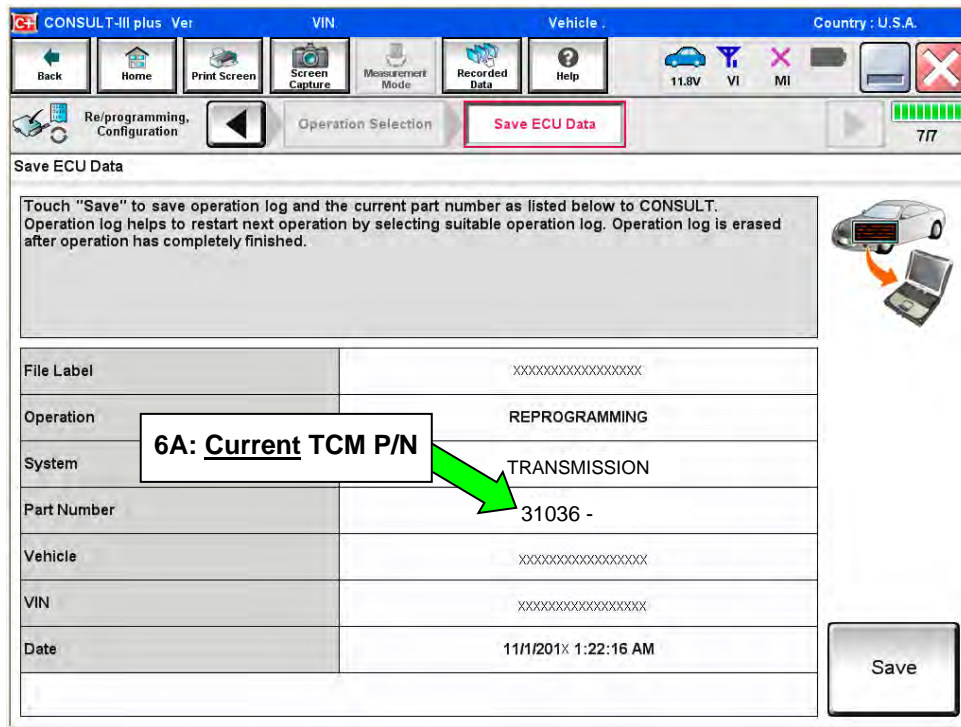


Figure 2

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 match, this bulletin applies. Continue with the reprogramming procedure.
- If there is not a match, go to page 11, **Control Valve (Valve Body) Removal and CVT Belt Inspection**.

Table A

MODEL	CURRENT TCM PART NUMBER BEFORE REPROGRAMMING: 31036 -
2013 Altima (4-cyl engine only)	3TA0A, 3TA4A 3TA4B 3TA4C, 3TA9C 3TY0A, 3TY1A
2014-2015 Altima (4-cyl engine only)	9HM0A, 9HM0C, 9HM0D

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 3 displays.
  - Select and use the reprogramming option that **does not** have the message “Caution! Use ONLY with NTBXX-XXX”.
- If you get this screen and it is blank (no reprogramming listed), it means there is no reprogramming available for this vehicle. Close C-III plus, and then go to page 11, **Control Valve (Valve Body) Removal and CVT Belt Inspection**.

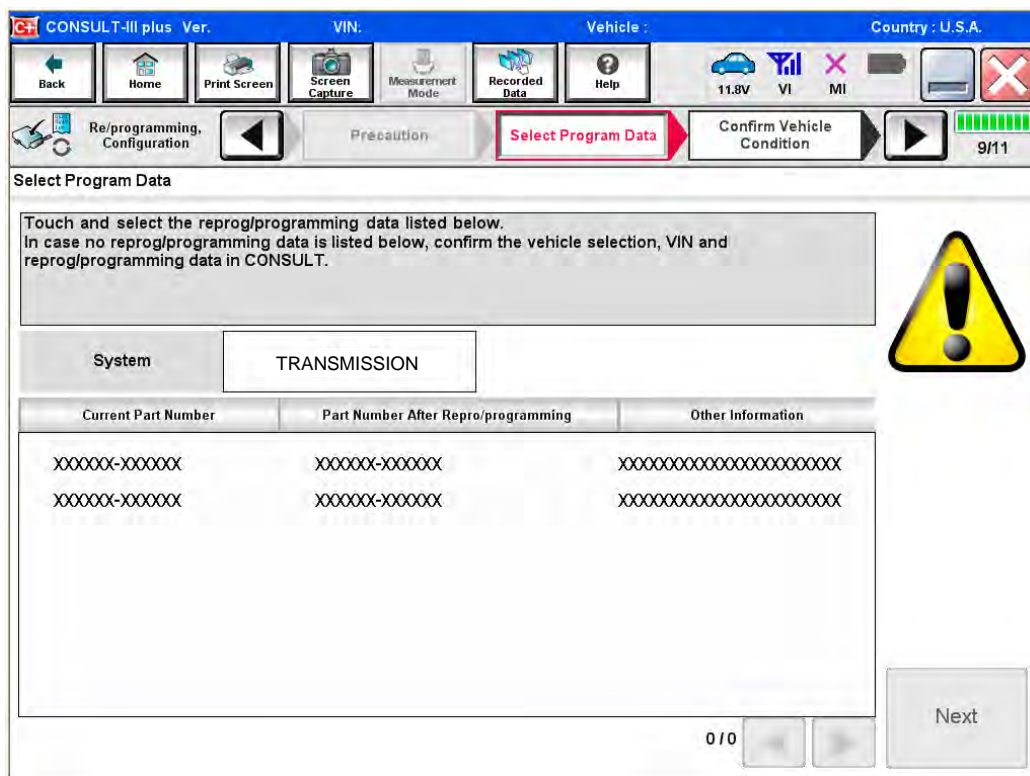


Figure 3

**IMPORTANT:** If C-III plus locks up or freezes at this point or displays “cannot complete reprogramming, the CONSULT PC is set up with User Rights. Reprogramming can be completed with Administrator log in”, the TOUGHBOOK settings need to be changed so that Users have full access rights. See your Dealership’s IT System Administrator for details.

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

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

9. Disconnect the battery charger from the vehicle.

10. Select **Next**.

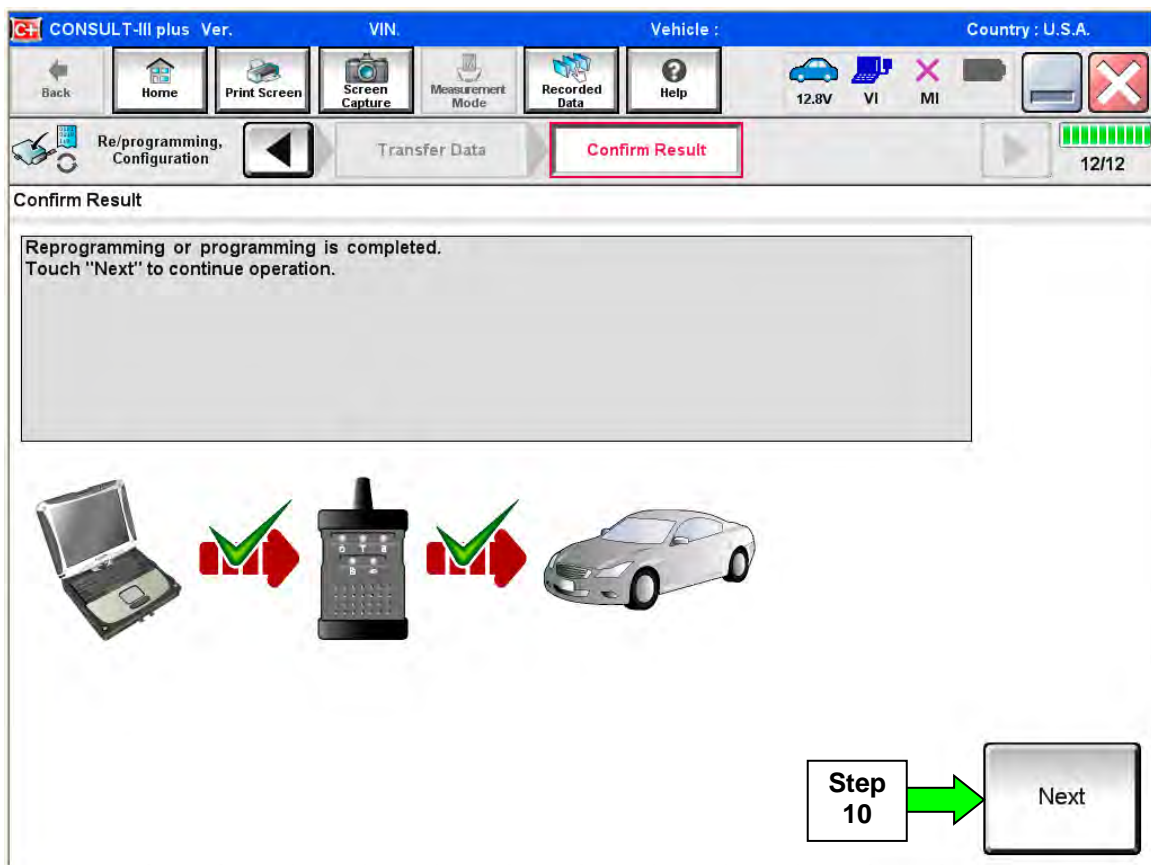


Figure 4

**NOTE:**

- In the next step (page 9), you will perform **Erase All DTCs**.
- DTC erase is required before C-III plus will provide the final reprogramming confirmation report.



## TCM Recovery:

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

If reprogramming does not complete and the “!?” icon displays as shown in Figure 5:

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

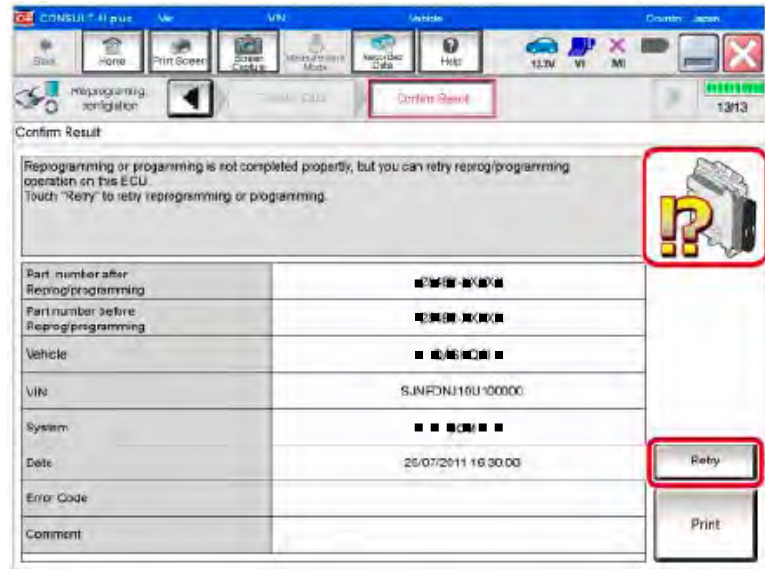


Figure 5

If reprogramming does not complete and the “X” icon displays as shown in Figure 6:

- 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 Home, and restart the reprogram procedure from the beginning.**

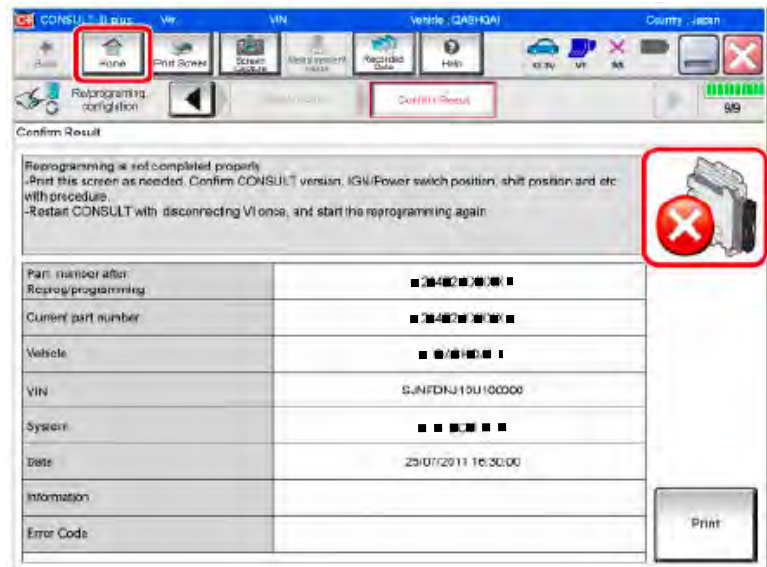


Figure 6



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

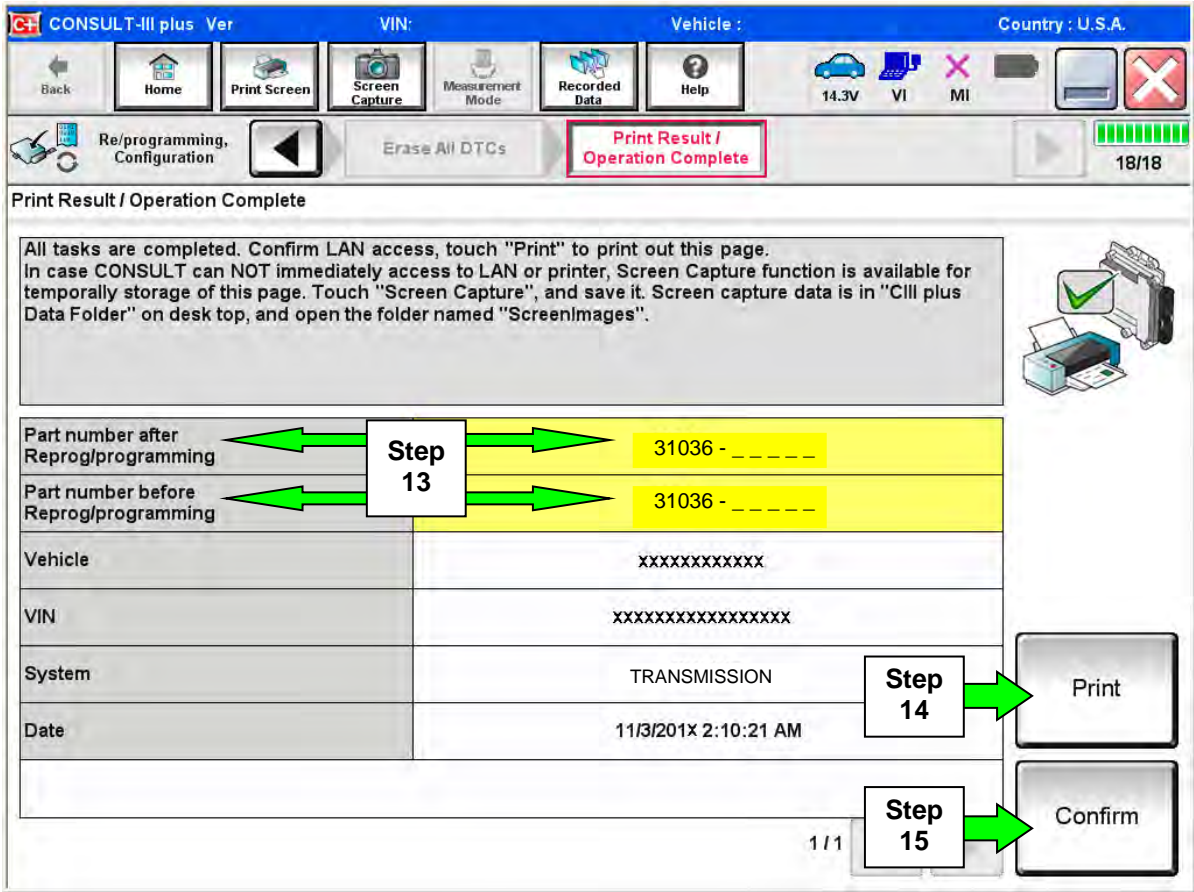


Figure 7

- 16. Return C-III plus to the Home screen.
- 17. Turn OFF C-III plus and the vehicle ignition.
- 18. Disconnect C-III plus from the vehicle.

Exploded View

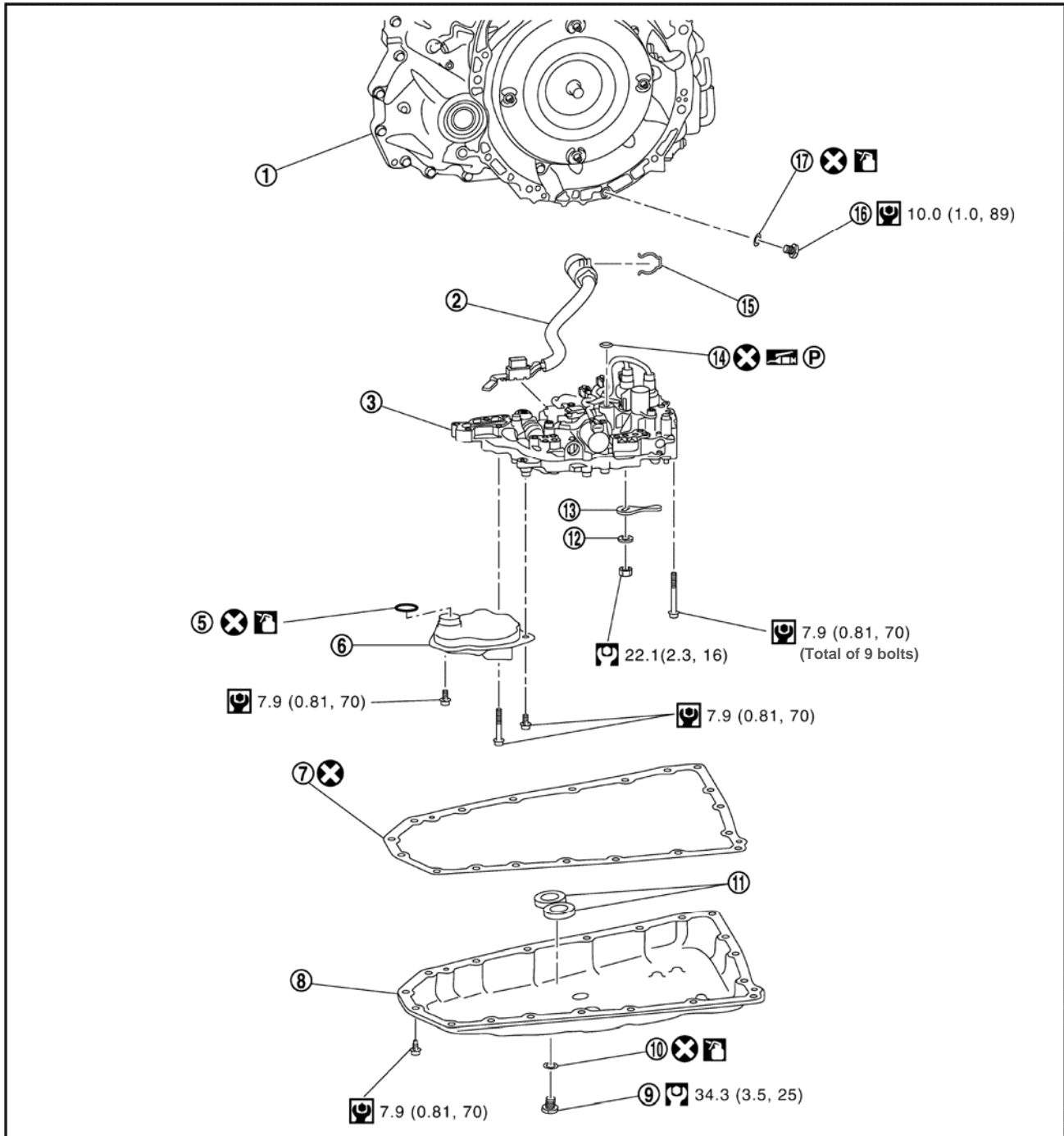


Figure 8

- |   |                          |   |                        |   |                            |
|---|--------------------------|---|------------------------|---|----------------------------|
| ① | Transaxle (CVT) assembly | ② | Terminal cord assembly | ③ | Control valve (valve body) |
| ⑤ | O-ring                   | ⑥ | Oil strainer assembly  | ⑦ | Oil pan gasket             |
| ⑧ | Oil pan                  | ⑨ | Drain plug             | ⑩ | Drain plug gasket          |
| ⑪ | Two original magnets     | ⑬ | Manual plate           | ⑭ | Lip seal                   |
| ⑫ | Spring washer            | ⑮ | Snap ring              | ⑯ | Overflow plug              |
| ⑬ | Manual plate             | ⑰ | O-ring                 |   |                            |

## Control Valve (Valve Body) Removal and CVT Belt Inspection

### 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 ESM, section **TM – Transaxle & Transmission / RE0F10D**, for valve body removal.

**NOTE:** The number '7' is on the head of all bolts that need to be removed for valve body removal. 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.

- For additional information, see video # 544: "CVT Belt Inspection". This video is located under the TECH TRAINING GARAGE VIDEOS tab in Virtual Academy.

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



Figure 9

4. Using borescope J-51951 with mirror attachment, inspect the entirety of the two sides of the belt that come in contact with the pulleys (see page 14, Figure 15). Reference the pictures on pages 14-18 for comparison.

**NOTE:**

- Be sure to remove the protective film from the mirror before the first use.
- Clean the camera lens and mirror before each inspection. Use 90% isopropyl alcohol, and a lens swab from Lens Swab packet J-51963 listed in **PARTS INFORMATION**.
- Before inspecting, make sure the camera handle's AA batteries are fresh and the LCD monitor's battery is charged.

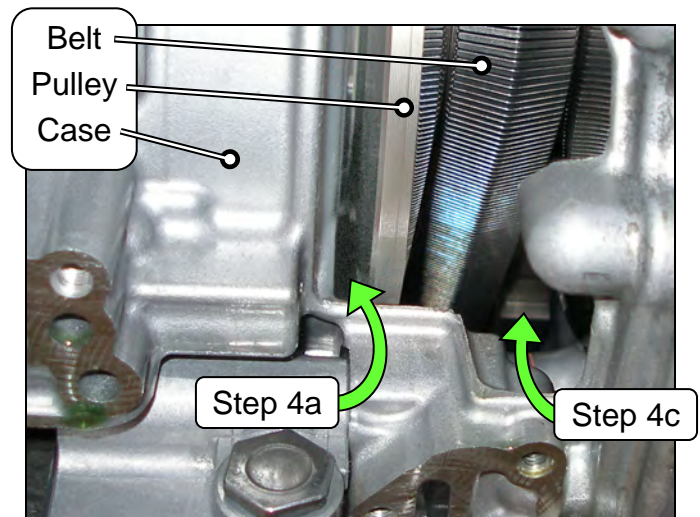


Figure 10

- a. Insert the camera lens between the CVT case and pulley where shown in Figures 10 and 11.
  - Insert the lens approximately seven (7) inches, and then view the side of the belt that contacts the pulley.

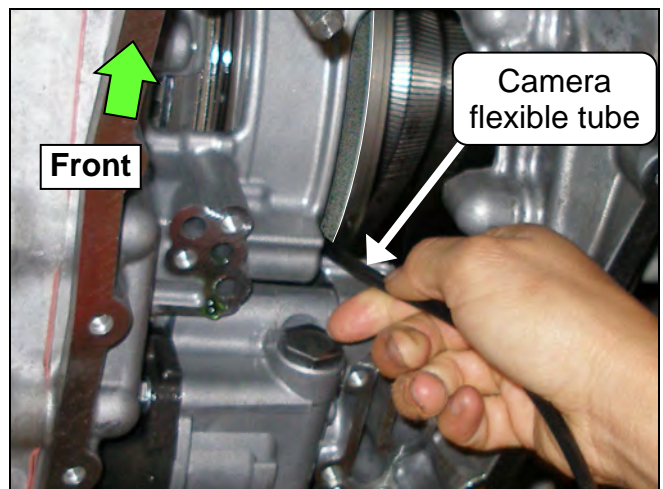


Figure 11



- b. Slowly and carefully turn the front left tire one full turn in the forward rotation to view all of the belt.

- Holding the borescope with one hand allows for turning the tire with the other hand (see Figure 12).

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

- c. If the inspection result is OK, inspect the other side of the belt.

- Insert the camera lens in the second location where shown in Figures 10 and 13, and then perform step 4b again.

- d. If the inspection result is OK 360° on both sides of the belt, skip to step 5 on the next page.

- If any evidence of belt slippage is found, go to step 4e, and then step 6.
- For additional information, see video # 544: “CVT Belt Inspection”. This video is located under the TECH TRAINING GARAGE VIDEOS tab in Virtual Academy.



Figure 12

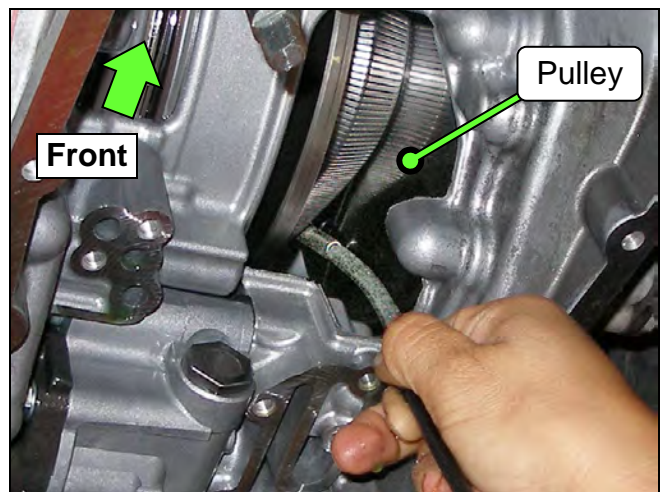


Figure 13

- e. Once CVT replacement is determined as required, use borescope J-51951 to record a 15 second or less continuous video of the most severe evidence of belt slip and the VIN on the F.M.V.S.S. certification label (VIN label). See Figure 14.

**NOTE:** This 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.



Figure 14

- 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 belt slippage and be 15 seconds or less.
5. If the belt inspection result is OK, replace the valve body.
- There is no need for pictures or video showing "OK" belt surfaces.
  - For valve body replacement, go to page 19, **Control Valve (Valve Body) Installation**.
6. If the belt inspection result is NG, replace the CVT assembly.
- Get authorization to replace the CVT assembly (see page 26).
  - Make sure to perform step 4e on page 13.
  - For CVT assembly replacement, refer to the appropriate ESM, section **TM – Transaxle & Transmission / RE0F10D**.
- IMPORTANT:** Perform "ADDITIONAL SERVICE WHEN REPLACING TRANSAXLE ASSEMBLY".
- Refer to **TM – Transaxle & Transmission / RE0F10D / BASIC INSPECTION:**
    - Check for fluid leakage.
    - Install Write IP Characteristics to the TCM; see NTB12-103.
  - The CVT unit requiring replacement will need to be reassembled for Nissan parts return/collection.
7. Flush the CVT cooler(s).

**IMPORTANT:** A CVT Cooler flush is required after a valve body or CVT assembly replacement. Refer to bulletin NTB15-013 to perform CVT Cooler flush.

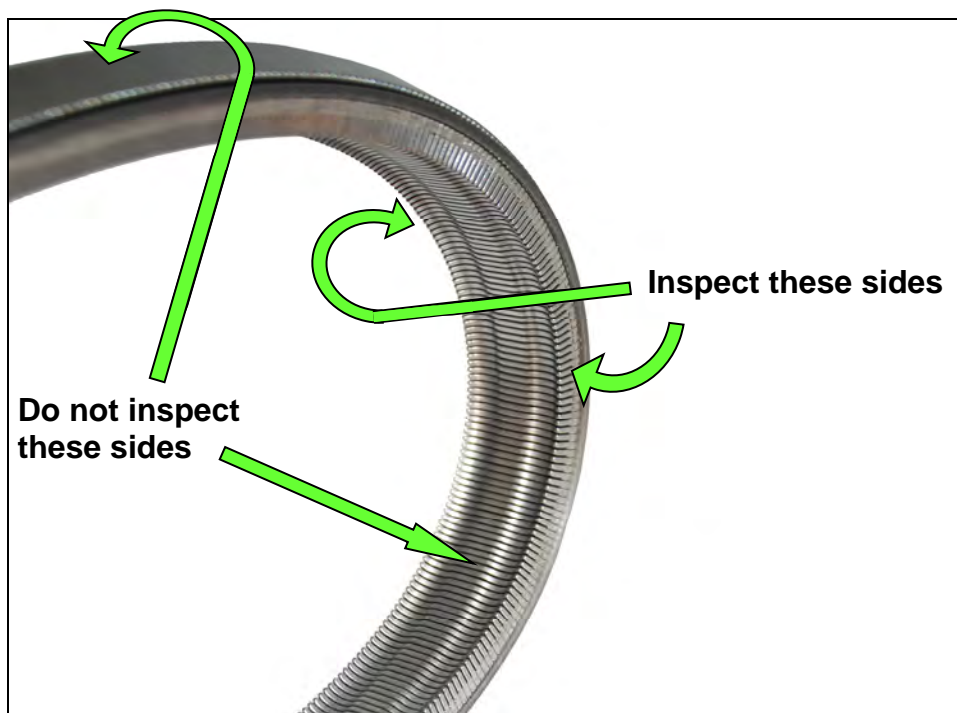


Figure 15

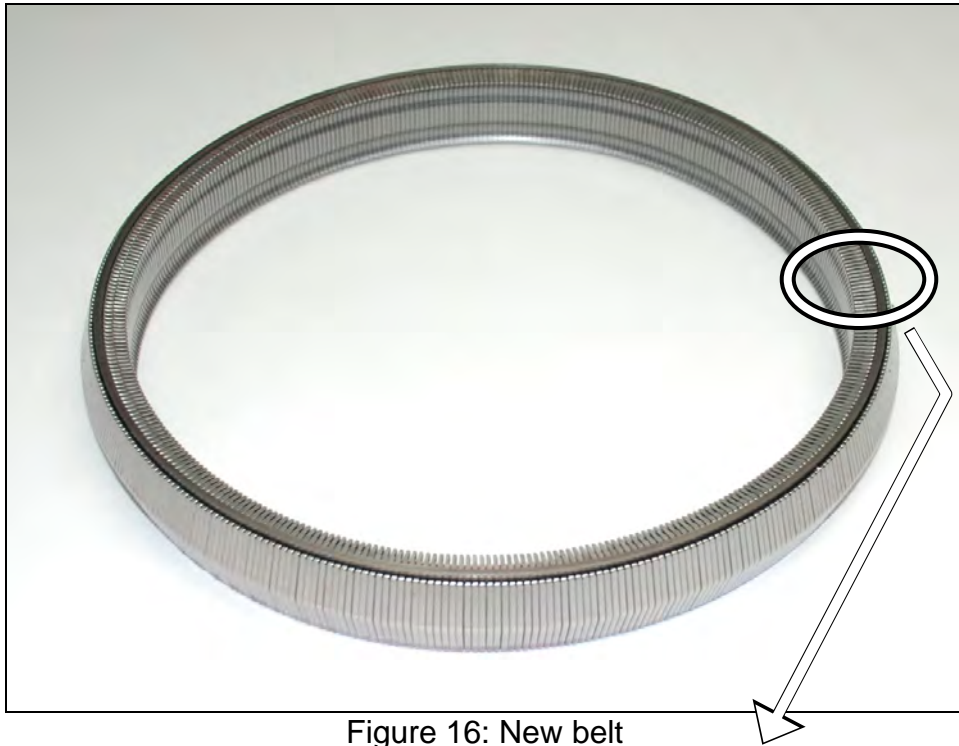


Figure 16: New belt

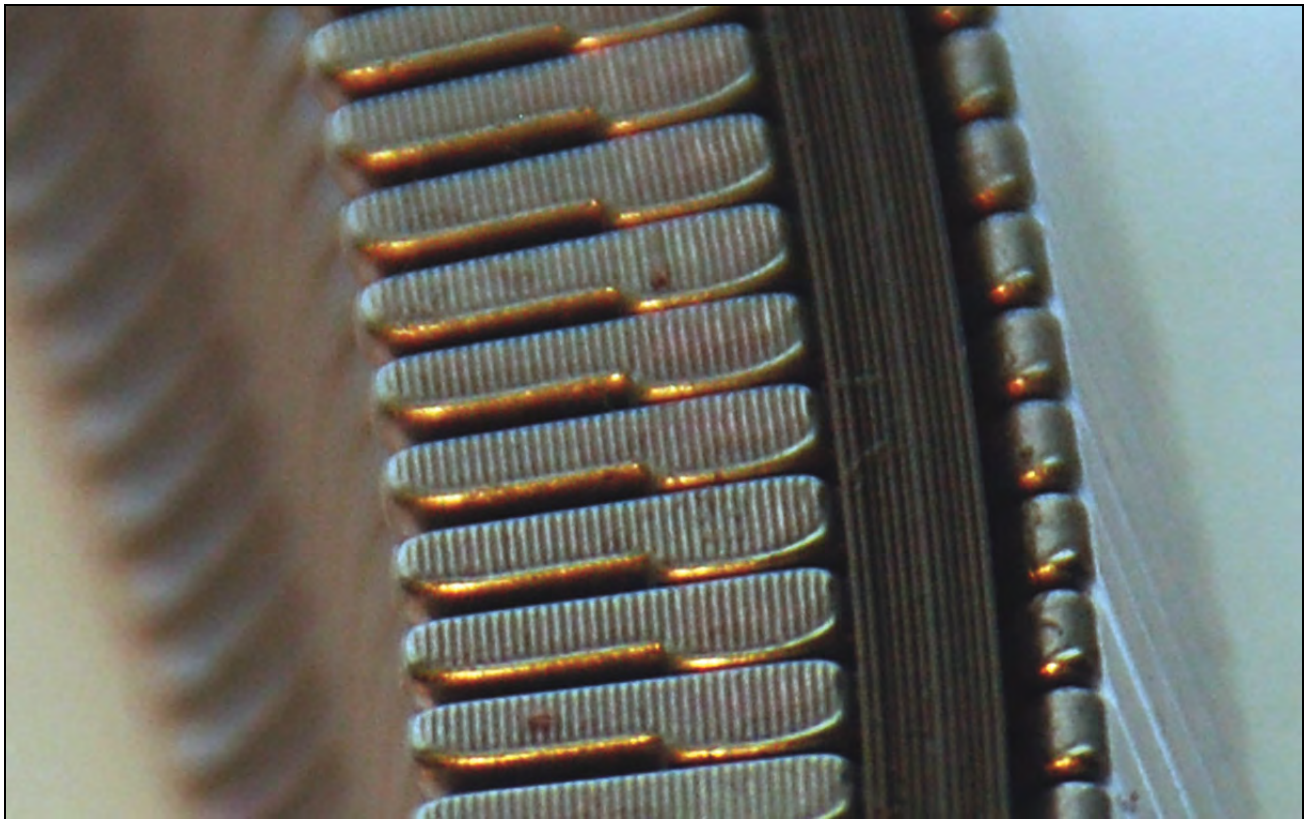


Figure 17: Close-up of section to be inspected



Pictures in Figures 18 and 19 were taken with borescope J-51951.

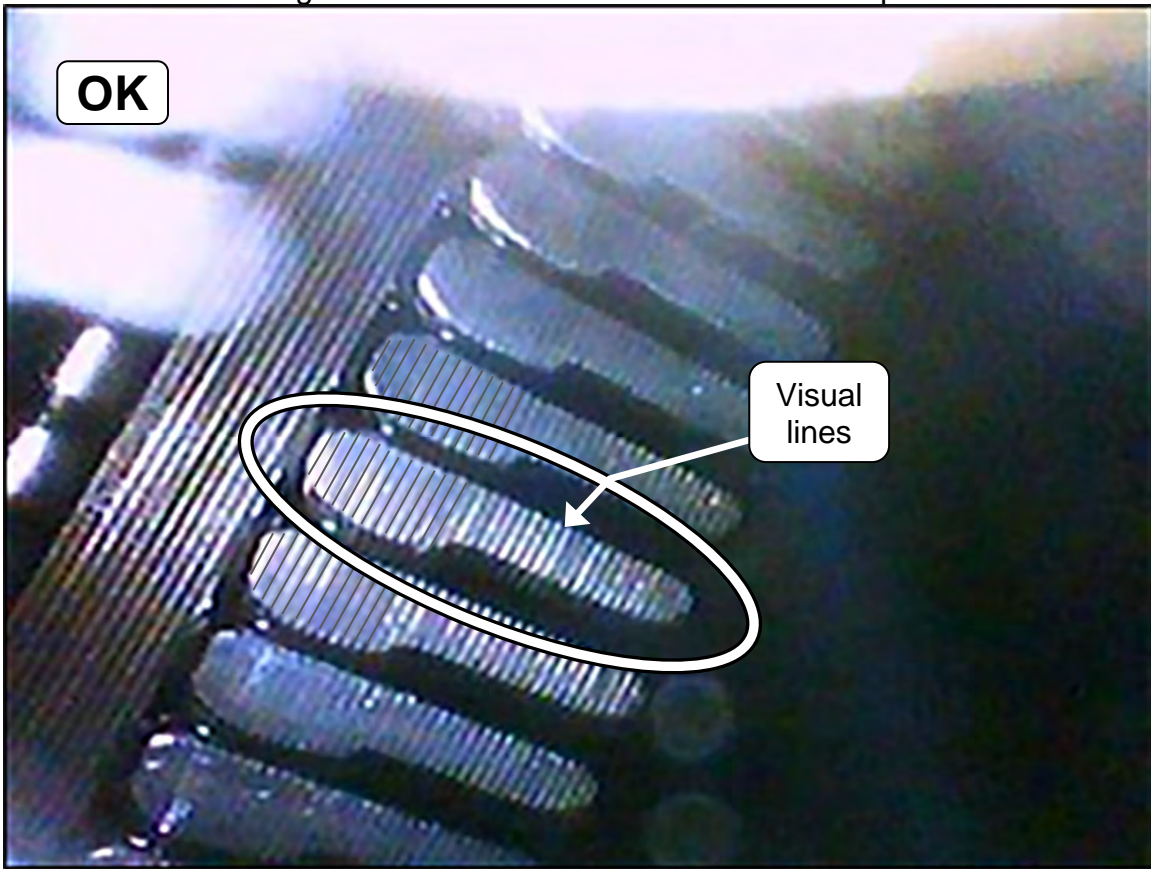


Figure 18: Belt is OK

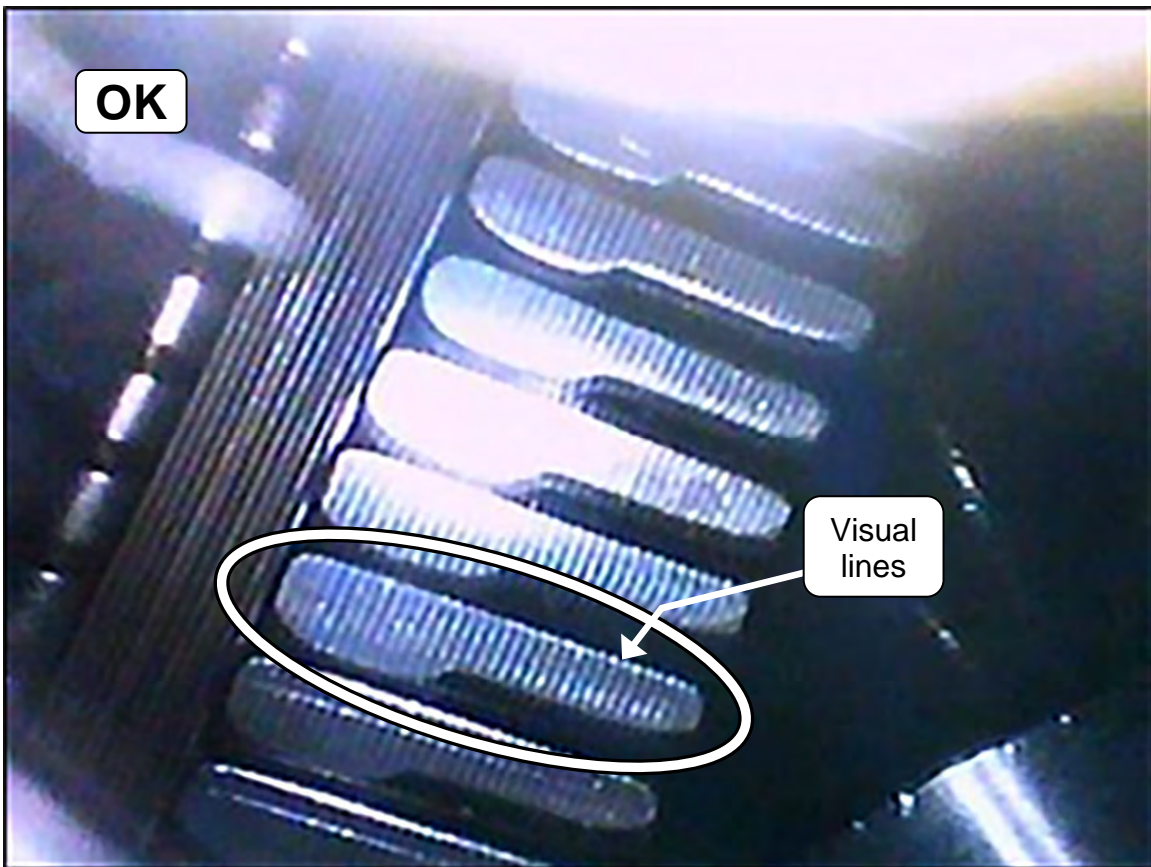


Figure 19: Belt is OK



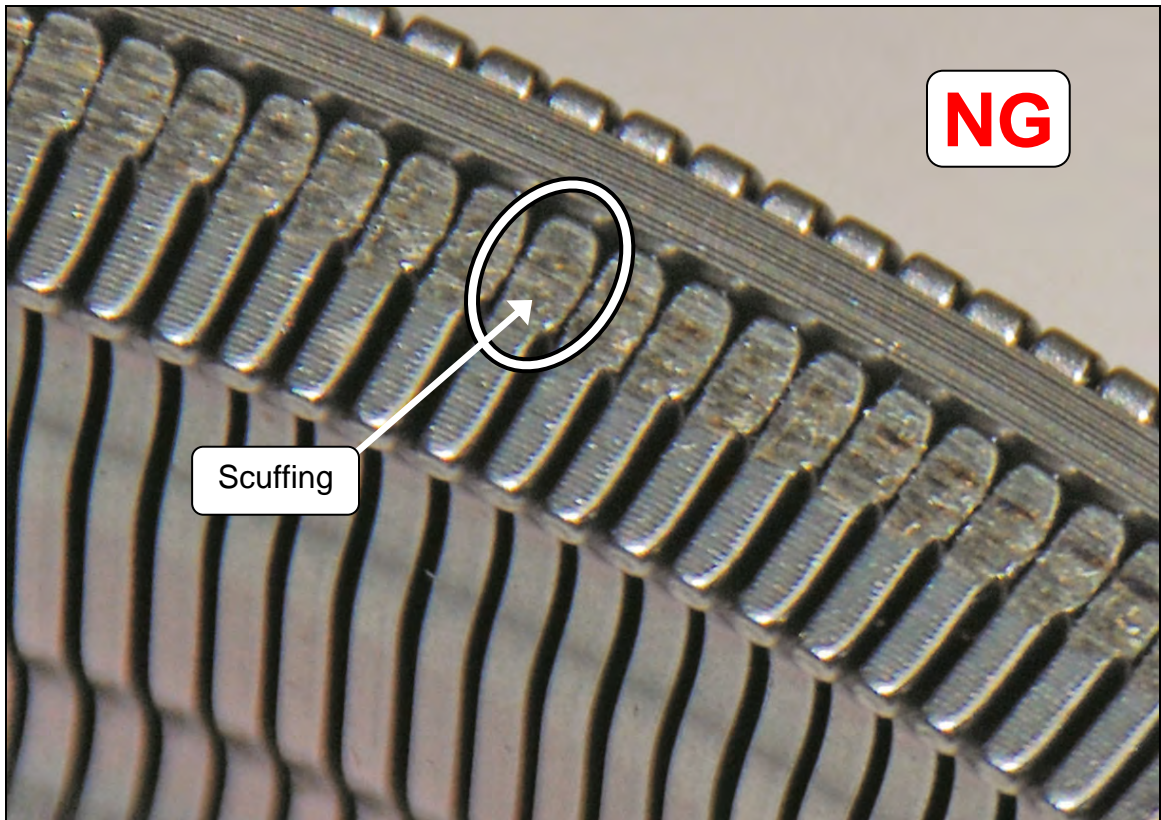


Figure 20: Example of NG belt

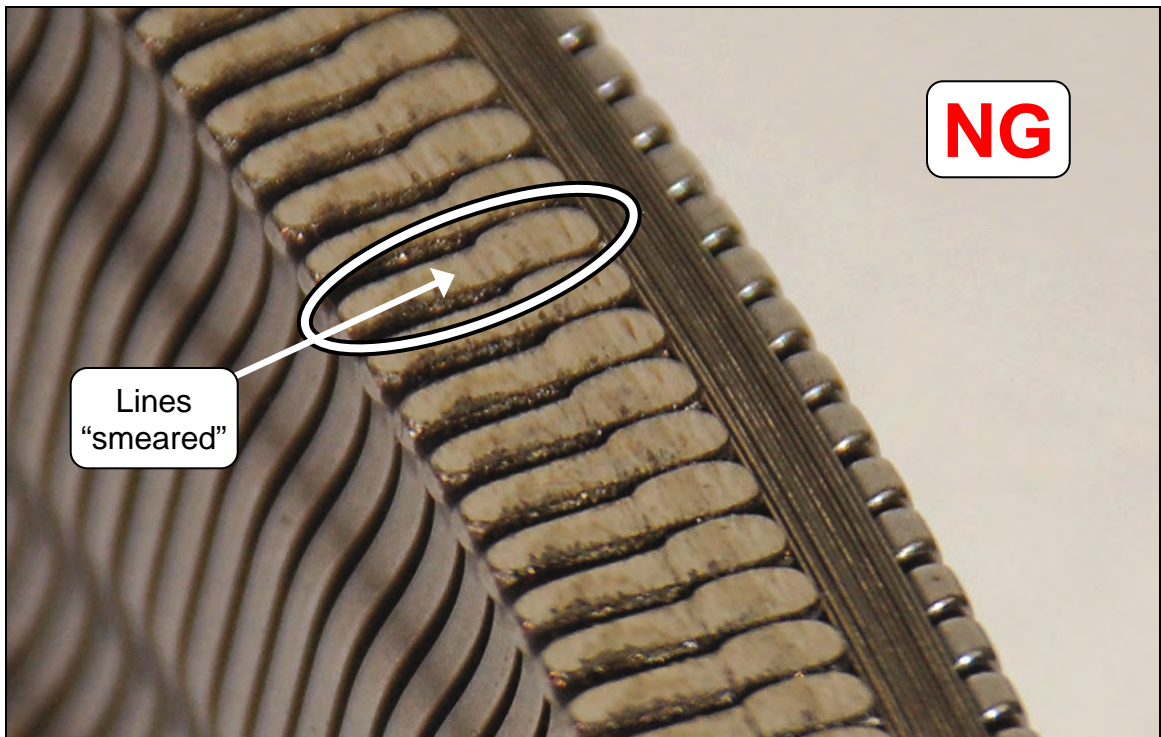


Figure 21: Example of NG belt

Pictures in Figures 22-24 were taken with borescope J-51951.



Figure 22: Example of NG belt

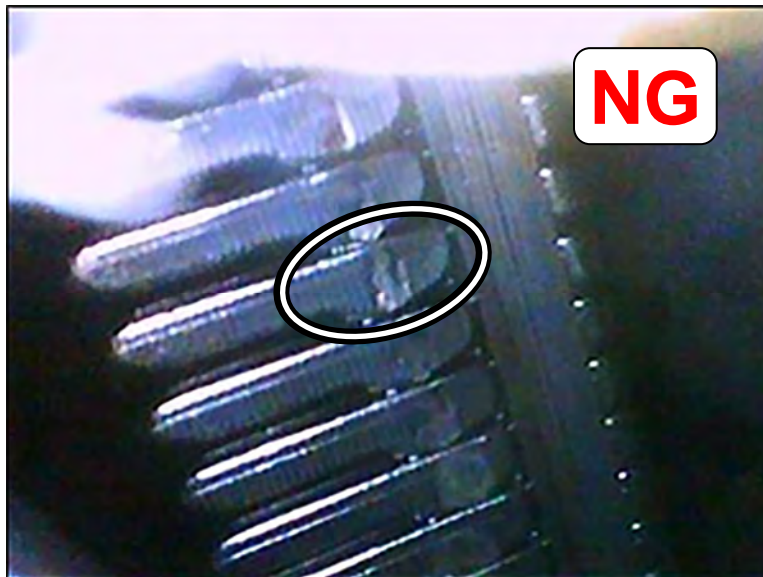


Figure 23: Example of NG belt



Figure 24: Example of NG belt



## Control Valve (Valve Body) Strainer and Pan Installation

**IMPORTANT:** This section may contain different style parts than what were originally installed in the CVT. Pay careful attention, REASSEMBLY MAY NOT BE IDENTICAL TO DISASSEMBLY.

**CAUTION:** Handle the valve body carefully.

1. Discard the oil strainer bracket (Figure 25).
2. Install a new lip seal. Do NOT reuse the old lip seal (Figure 26).

**NOTE:** Apply a small amount of petroleum jelly to the lip seal to keep it in place on the CVT.



Figure 25

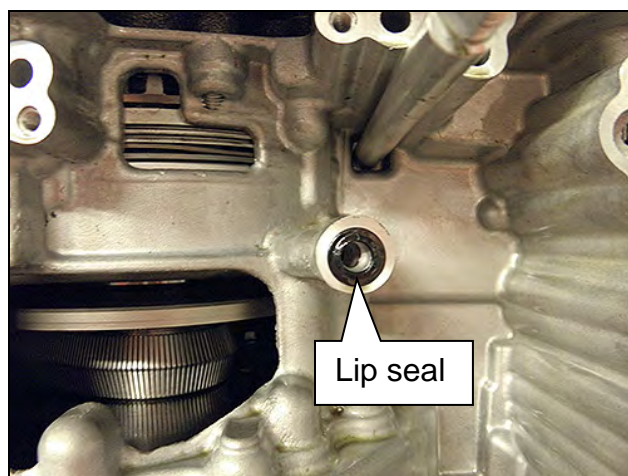


Figure 26

3. Install the Control Valve with nine (9) mounting bolts (Figure 27).

**IMPORTANT:** Leave Four (4) ✕ bolt holes blank at this step.

**CAUTION:** Make sure the wiring harness is not in the way / does not get pinched.

- 54 mm long bolt ● – 7 pieces
- 44 mm long bolt ● – 2 piece
- 25 mm long bolt ● – 2 piece

**CAUTION:** These two bolts are installed WITHOUT the strainer bracket.

- Bolt torque: 8.0 N•m (0.81 kg-m, 70.8 in-lb.)

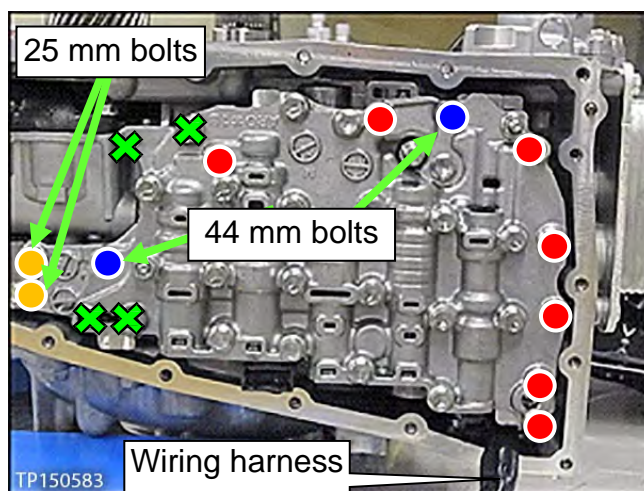


Figure 27

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

**NOTE:** The new bracket will be oriented the same way the old bracket was.

- a. Cut the plastic zip tie with an appropriate tool to remove the temperature sensor bracket from the terminal harness assembly. (Figure 28).

**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 plastic zip tie excess.

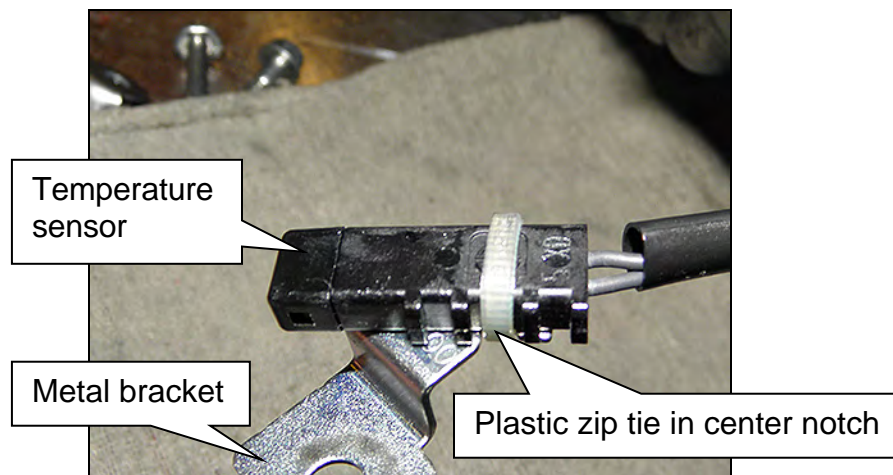


Figure 28

5. Connect the electrical harness connector (Figure 29).

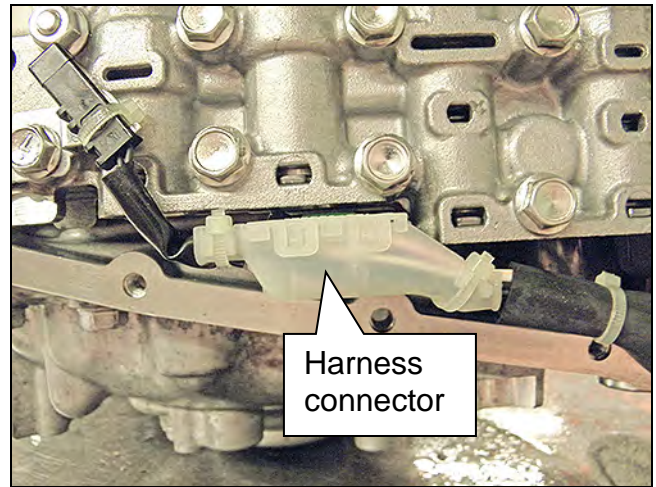


Figure 29

6. Install the CVT fluid temperature sensor bracket to the valve body with one (1) bolt (Figure 30).

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

- Bolt torque: 8.0 N•m (0.81 kg-m, **70.8 in-lb.**)
- Bolt length: 54 mm

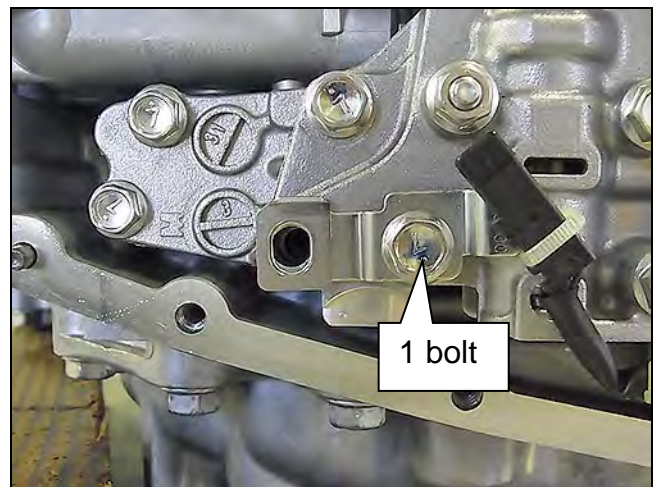



Figure 30

7. Install the new oil strainer with its new O-ring seal with two (2) bolts (Figure 31).

**NOTE:** replacement strainer maybe a different shape.

- Bolt torque: 8.0 N•m (0.81 kg-m, **70.8 in-lb.**)
- 54 mm long bolt  - 2 pieces.

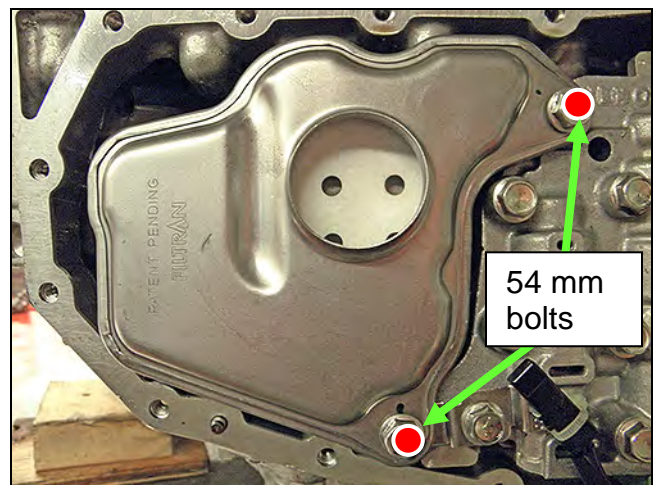


Figure 31



8. Install the manual plate, lock washer, and nut (Figure 32).

**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: 22.5 N•m (2.29 Kg-m, **16.6 ft-lb.**)

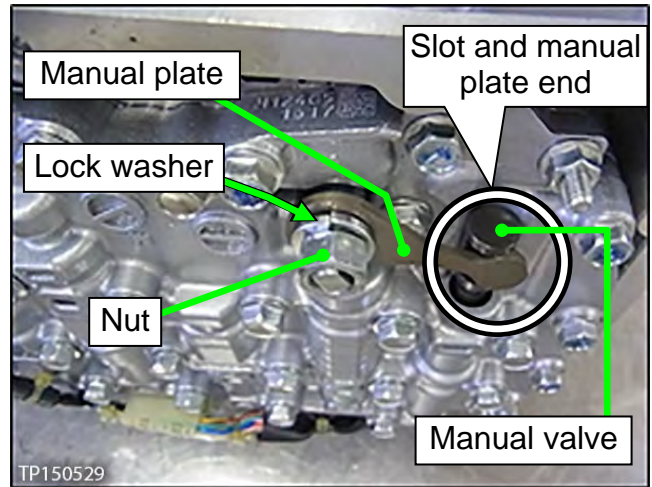


Figure 32

9. Clean the original oil pan and magnets with a suitable cleaner. Visible debris should not be present at re-assembly.

10. Reassemble the original magnets to the pan.

**NOTE:** Return the magnets to their original locations.

11. Install a new oil pan gasket to the pan.

12. Install the oil pan bolts (see Figure 33).

- Reuse the existing pan bolts.
- Oil pan bolts torque: 8.0 N•m, (0.81 Kg-m, **70.8 in-lb.**)

13. Install a new drain washer to the drain plug on the oil pan.

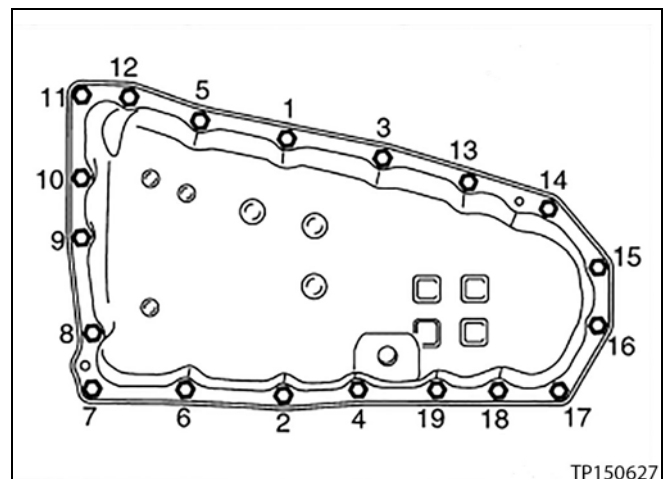


Figure 33



14. Fill the CVT assembly with NS-3 CVT fluid or equivalent.

- Refer to the **ESM, section TM – Transaxle & Transmission / RE0F10D**, for CVT fluid filling.

15. **IMPORTANT:** Install Write IP Characteristics to the TCM; see NTB12-103.

- Refer to **TM – Transaxle & Transmission / RE0F10D / BASIC INSPECTION**, and perform **ADDITIONAL SERVICE WHEN REPLACING TRANSAXLE ASSEMBLY**.
  - Check for fluid leakage.
  - Attach the QR label with the new calibration data onto the transmission range switch (inhibitor switch).
    - See Figure 34 and 35 below.
    - A QR Label and CD-R are included with the replacement valve body.

16. Erase the DTC.

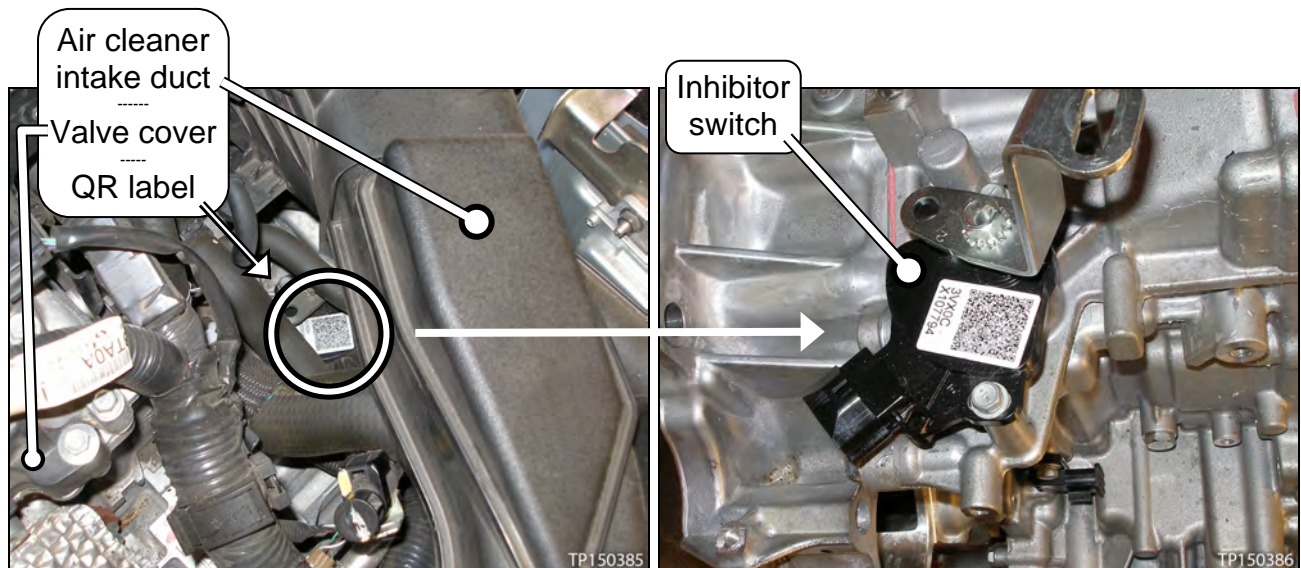


Figure 34

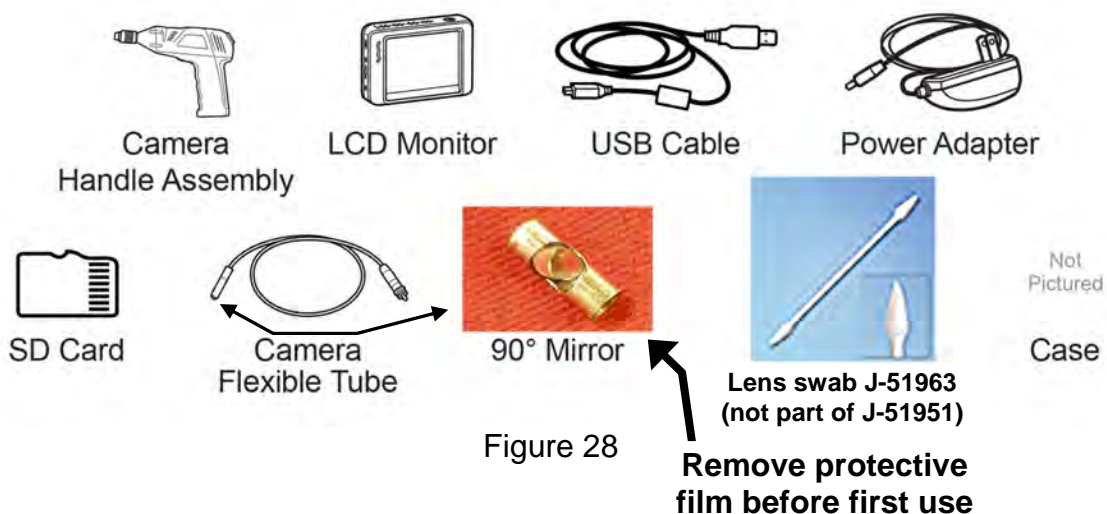
Figure 35

## PARTS INFORMATION

DESCRIPTION	PART NUMBER	QUANTITY
CVT ASSEMBLY (1)	(2)	1
VALVE ASSEMBLY-CONTROL (valve body) (3)	31705-28X0B	1
STRAINER ASSY-OIL, AUTO TRANS	31728-28X0A	1
BRACKET (for temperature sensor)	31069-3VX0D	1
BAND (zip tie for sensor bracket)	24224-3VX0A	1
GASKET-OIL PAN	31397-1XF0D	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 (4) (5)	999MP-NS300P	As needed
Lens Swab (6) (7)	J-51963	As needed

- (1) If the CVT assembly is being replaced, no other parts in the table above, except NS-3 CVT fluid or equivalent, are needed.
- (2) Refer to the electronic parts catalog (FAST or equivalent) for the correct part number.
- (3) Includes QR Label, CD-R, and Control Valve Assembly.
- (4) 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.
- (5) NS-3 CVT Fluid can be ordered through the Nissan Maintenance Advantage program: Phone: 877-NIS-NMA1 (877-647-6621) or Website: Order via link on dealer portal [www.NNAnet.com](http://www.NNAnet.com) and click on the "Maintenance Advantage" link.
- (6) Lens swabs are available from Tech•Mate online: [www.nissantechmate.com](http://www.nissantechmate.com), or by phone: 1-800-662-2001.
- (7) Shop supply.

### Tech Cam J-51951



Additional kits and components of Tech Cam J-51951 are available from Tech•Mate online: [www.nissantechmate.com](http://www.nissantechmate.com), or by phone: 1-800-662-2001.

## CLAIMS INFORMATION

**NOTE:** Refer to **CVT Assembly Replacement Approval Procedures** (on the next page) before submitting a claim.

### Only Claim if TCM requires reprogramming

Submit a Primary Part (PP) type line claim using the following claims coding:

OPERATION	PFP	OP CODE	SYM	DIAG	FRT
TCM Reprogramming	(1)	JE99AA	ZE	32	(2)

(1) Refer to the electronic parts catalog (FAST or equivalent) and use the TCM part number (31036 - \*\*\*\*\*) as the PFP.

(2) Reference the current Nissan Warranty Flat Rate Manual and use the indicated Flat Rate Time.

**NOTE:** FRT allows adequate time to access DTC codes. No other diagnostic procedures subsequently required. Do NOT claim any diagnostic OP Codes with this claim.

### If belt inspection shows no signs of belt slip, OK

Submit a Primary Part (PP) type line claim using the following claims coding:

DESCRIPTION	PFP	OP CODE	SYM	DIA	FRT
RPL CVT CONTROL VALVE ASSY	(3)	JD48AA	ZE	32	(4)

(3) Reference the Parts Information Table and use the applicable Control Valve Assembly Part Number (31705-\*\*\*\*\*) as the Primary Failed Part.

(4) Reference the current Nissan Warranty Flat Rate Manual and use the indicated Flat Rate Time.

**NOTE:** FRT allows adequate time to access DTC codes. No other diagnostic procedures subsequently required. Do NOT claim any diagnostic OP Codes with this claim.

**And**

DESCRIPTION	OP CODE	FRT
Inspect CVT Belt, Belt = OK	JX37AA	0.3

**OR**

Claims Information continued on the next page.

**Clams Information Continued:**

**If belt inspection shows signs of belt slip, NG**

**Submit a Primary Part (PP) type line claim using the following claims coding:**

DESCRIPTION	PFP	OP CODE	SYM	DIA	FRT
CVT R&R	(1)	JD01AA JD023A	ZE	32	(2)
CVT TROUBLE DIAGNOSIS		JX22AA			0.5

(1) Reference the electronic Parts Catalog (FAST or equivalent) and use the CVT assembly part number for the vehicle being repaired as the Primary Failed Part.

(2) Reference the current Nissan Warranty Flat Rate Manual and use the indicated Flat Rate Time.

**NOTE:** FRT allows adequate time to access DTC codes. No other diagnostic procedures subsequently required. Do NOT claim any diagnostic OP Codes with this claim.

**And**

DESCRIPTION	OP CODE	FRT
Inspect CVT Belt, Belt = NG (includes control valve R&I)	JX36AA	2.2

**CVT Assembly Replacement Approval Procedures**

- If CVT belt inspection indicates CVT assembly replacement is required:
  - a. Complete the PCC CVT Preauthorization Form in ASIST.
  - b. Attach the required video (15 seconds or less) to the CVT Preauthorization Form.
    - Failure to submit a continuous video showing evidence of belt slip and the VIN will cause immediate denial of request for CVT unit replacement.
  - c. 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).