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# SERVICE BULLETIN

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Classification: AT20-006	Reference: NTB20-077	Date: November 5, 2020
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## 9 SPEED A/T VALVE BODY (CONTROL VALVE TCM) REPLACEMENT

**APPLIED VEHICLES:** 2020 Frontier (D40)  
2020-2021 Titan (A61)

**APPLIED TRANSMISSION:** 9 Speed A/T (GE9R01A)

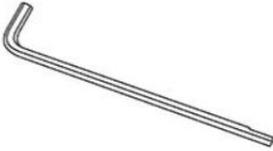
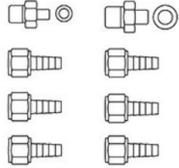
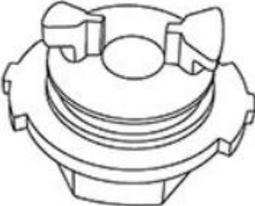
### SERVICE INFORMATION:

When replacement of the valve body (control valve TCM) is required, DO NOT follow the ESM procedure. Instead, follow the procedure outlined in this service bulletin.

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.

## Essential Tools

Additional Essential Tools are available from Tech•Mate online: [www.nissantechmate.com](http://www.nissantechmate.com), or by phone: 1-800-662-2001.

Tool number Tool name		Description
J-52972-2 OFT position change wrench		For removing and installing a drain plug and for changing the position of overflow tube
J-52584 Charge pipe adapter set		For fluid changing and adjustment
J-52972-1 A/T fluid injection plug		For refilling A/T fluid
J-51001 Transmission fill pump		Oil fill kit
J-52983 RQ transmission guide pins		For Valve Body (Control Valve TCM) removal and installation

# SERVICE PROCEDURE

## Exploded View

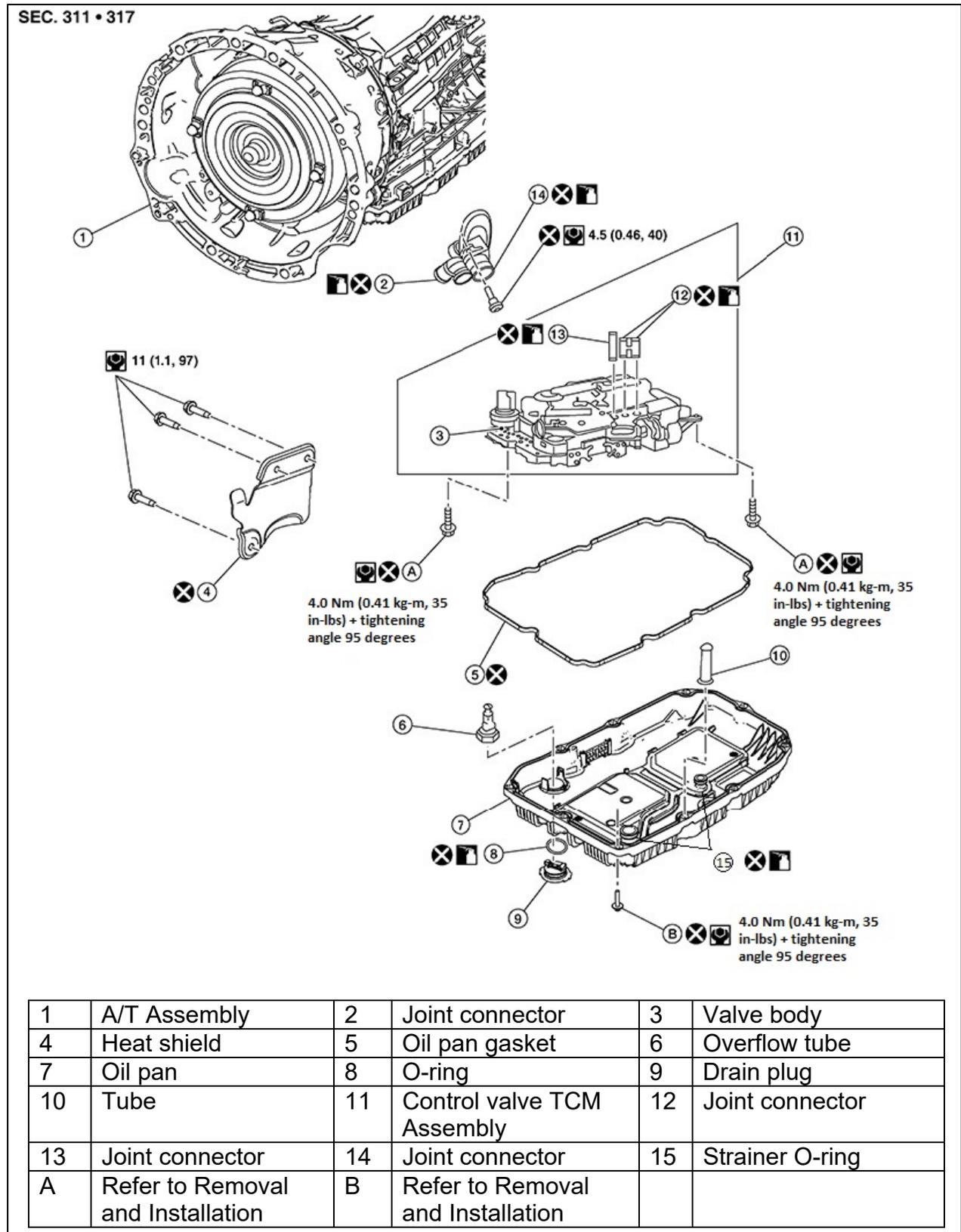


Figure 1

- : Always replace after every disassembly.
- : N-m (kg-m, ft-lb)
- : N-m (kg-m, in-lb)

## Valve Body (Control Valve TCM) Removal

1. Disconnect the negative battery terminal.

2. Remove the oil pan bolts.

- The oil pan bolts are single use parts. Do not reuse them.

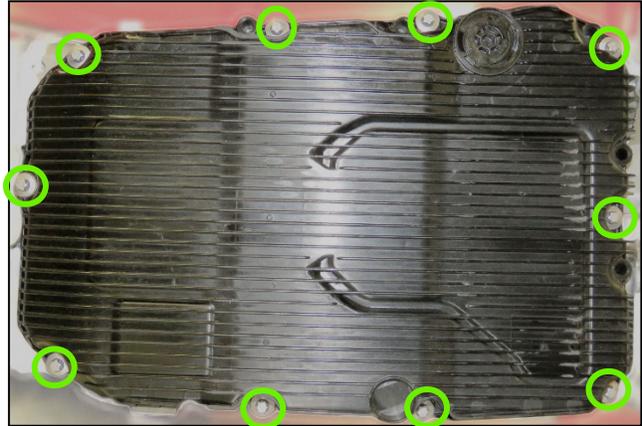


Figure 2

3. Remove the three (3) heat shield bolts and the heat shield covering the valve body connector.

- The heat shield is a single use part. Do not reuse it.

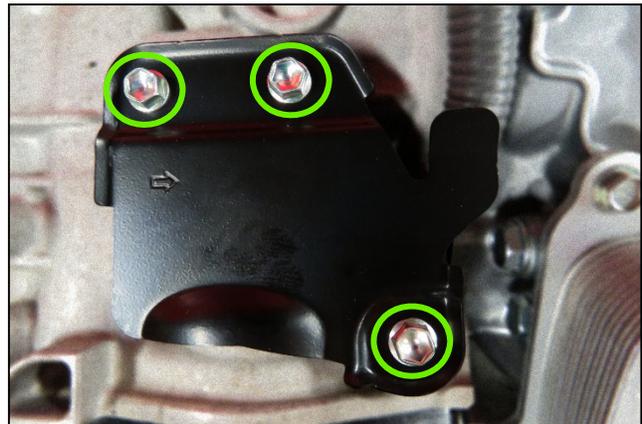


Figure 3

4. Disconnect the harness connector from the valve body.

**NOTE:** Twist the connector counterclockwise and then pull away.

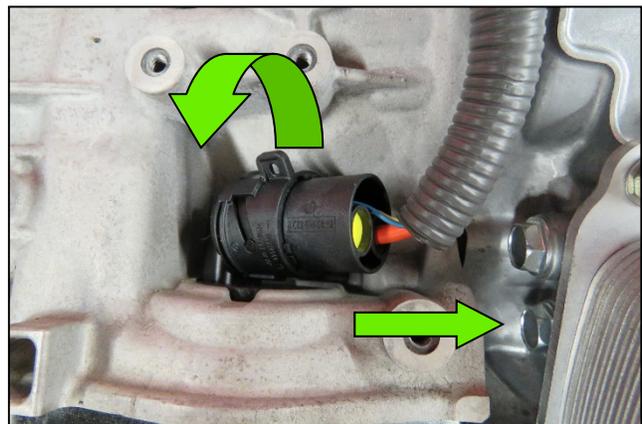


Figure 4

5. Remove the valve body bolts (A) and (B).

- Bolts (A) are circled in green and the bolt (B) is circled in yellow.
- The bolts to be removed can be distinguished from the others by their natural silver coloration.

**NOTE:** Valve Body bolts are single use parts. Do not reuse them.

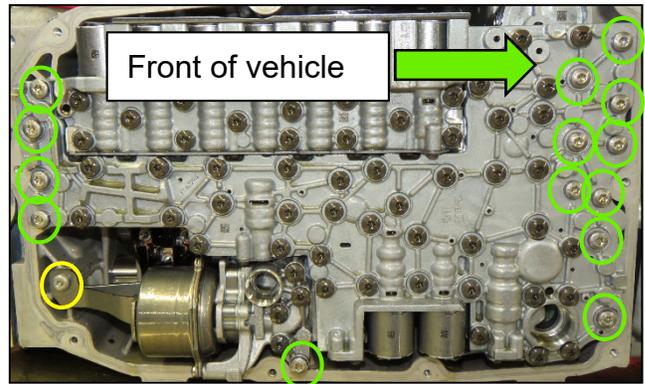


Figure 5

**Table A**

Bolt	Length mm (in)	Number of bolts
A	32 (1.25)	14
B	18 (0.7)	1

6. Remove the valve body from the transmission case.

**NOTE:** The weight of the valve body is approximately 22 lbs. (10 kg).

7. Remove the three (3) joint connectors from the transmission case (Figure 6).

**NOTE:** The joint connectors may come out when removing the valve body.

**NOTE:** The joint connectors are single use parts. Do not reuse them.

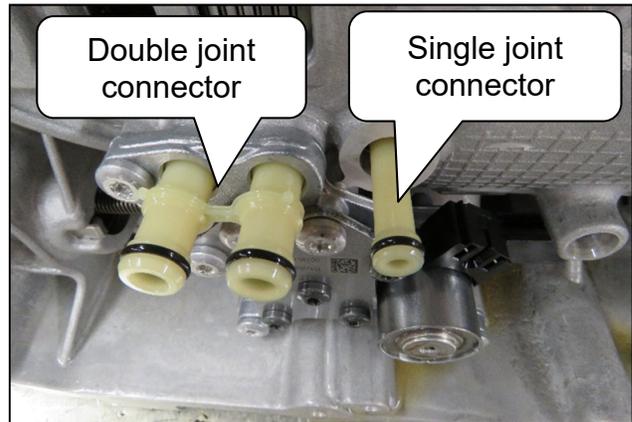


Figure 6

8. Remove the joint connector bolt and both the metal and plastic joint connectors from the transmission case (Figure 7).

**NOTE:** Pull the joint connectors straight out of the transmission case.

**NOTE:** The joint connector bolt and the joint connectors are single use parts. Do not reuse them.

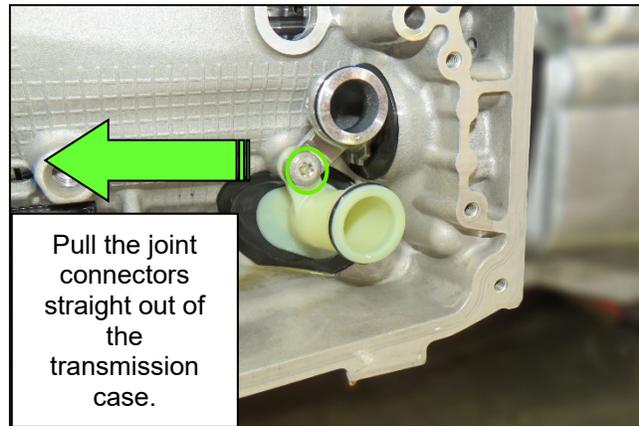


Figure 7

### Valve Body (Control Valve TCM) Installation – (reverse order of removal)

**NOTICE** To avoid the risk of damage to the transmission, refer to the following when installing the valve body to the transmission case.

- Be careful not to damage the connector when installing any joint connectors.
- Do not reuse the joint connectors.
- Apply A/T fluid to the O-ring of the new joint connectors.
- Do not reuse the drain plug gasket. In addition, install a new drain plug gasket after final adjustment of the A/T fluid level.

9. Install both the new plastic and metal joint connectors and a new joint connector bolt into the transmission case.

- Bolt torque: 4.5 N•m (0.46 kg-m, **40.0 in-lb.**)

**NOTE:** The plastic joint connector must be installed first, and then the metal joint connector can be installed.

**HINT:** Push the joint connectors straight into the transmission case.

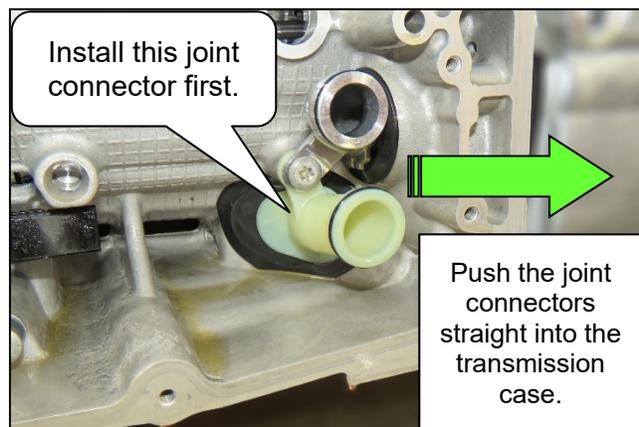


Figure 8

10. Install the new joint connectors into the transmission case.

**HINT:** Apply petroleum jelly to the joint connectors to keep them in place in the transmission case.



Figure 9

**NOTE:** The long thin joint connector must be installed with the smaller opening facing out of the transmission case, toward the valve body.

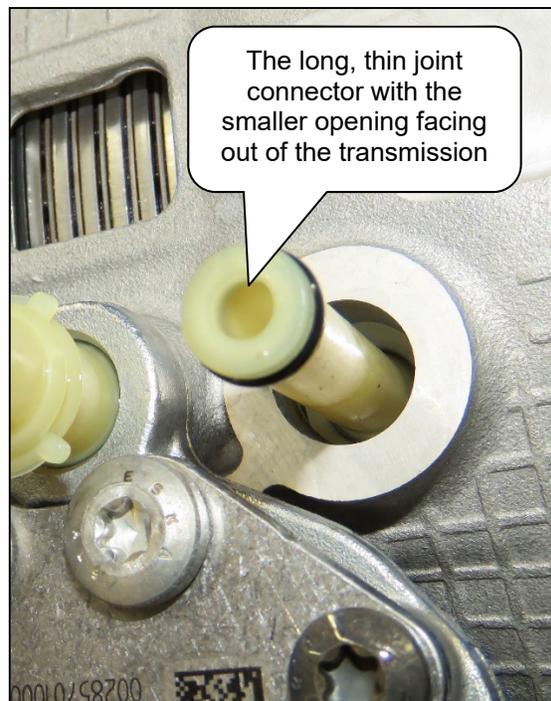


Figure 10

11. Install special tool J-52983 in the locations shown in Figure 11 and Figure 12.



Figure 11



Figure 12

12. Install the valve body into the transmission case using special tool J-52983.

**HINT:** You will feel and hear a click when the valve body is fully seated into the transmission case.



Figure 13

- 13. With the valve body fully seated in the transmission case, install the new valve body bolts, finger tight, before removing tool J-52983 from the transmission case.
- 14. Remove tool J-52983 from the transmission case and install the remaining valve body bolts.

- 15. Tighten the valve body bolts (A) and (B) in two steps.
  - Step 1: Tighten all the bolts to 4.0 N·m (35.4 in-lbs.).
  - Step 2: Rotate all the bolts 95° to complete torque.
  - Bolts (A) are circled in green and bolt (B) is circled in yellow.

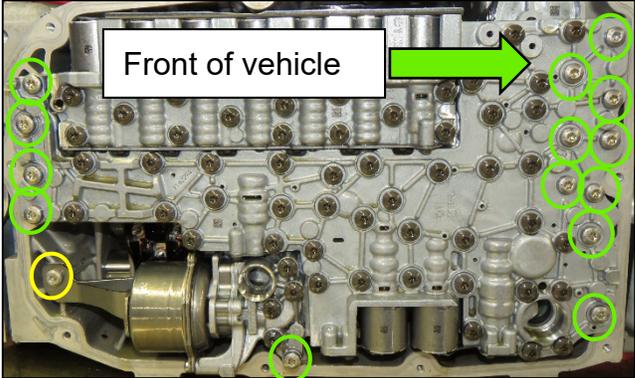


Figure 14

**Table B**

Bolt	Length mm (in)	Number of bolts
A	32 (1.25)	14
B	18 (0.7)	1

## Oil Pan Installation

**NOTICE** To avoid risk of damage to the vehicle and oil leaks:

- Do not reuse the oil pan gasket, oil pan O-rings, and oil pan bolts.
- Install the oil pan gasket in the proper orientation in order to align the bolt hole positions.

### 16. Clean the oil pan.

- Clean foreign materials (gear wear particles) that adhere on the inside of the oil pan and on the magnet.
- Completely remove all moisture, oil and old gasket, etc. from the oil pan gasket surface of the transmission case and oil pan.

### 17. Connect the harness connector to the valve body.

**NOTE:** Push connector in and then turn clockwise.

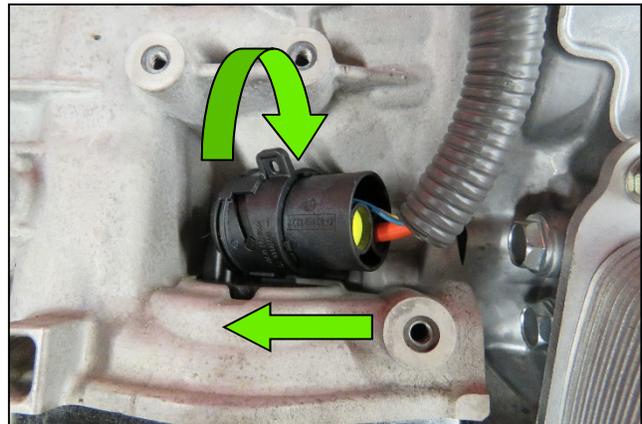


Figure 15

### 18. Install the new heat shield over the valve body connector using the original bolts.

- Bolt torque: 11.0 N•m (1.1 kg-m, **97.0 in-lb.**)

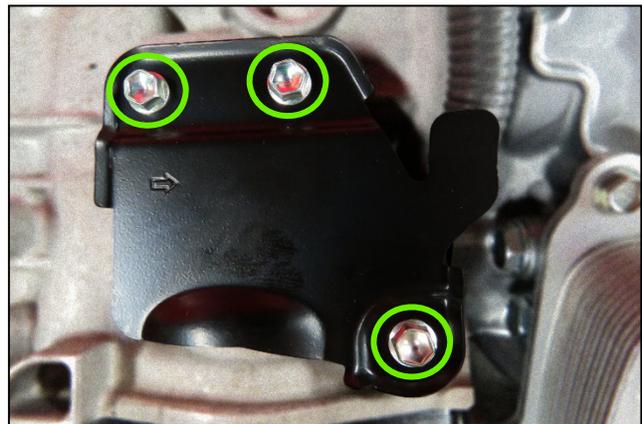


Figure 16

19. Replace the oil pan strainer O-rings.

**NOTICE**

To prevent damage to the valve body or the transmission, ensure that no debris enters the strainer openings.

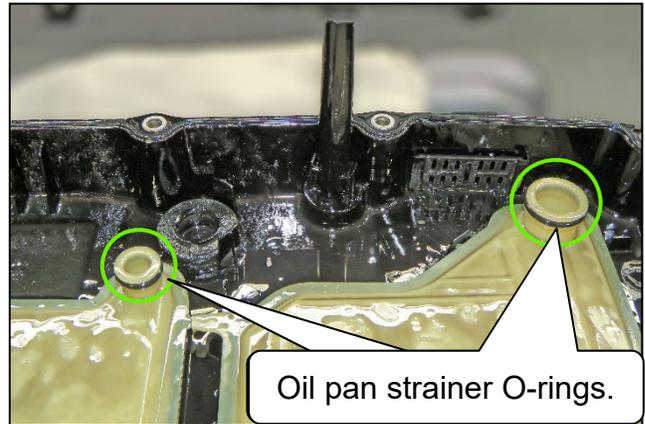


Figure 17

20. Install the oil pan gasket to the oil pan.

- Place the alignment tab, on the oil pan gasket, in the alignment hole on the oil pan.

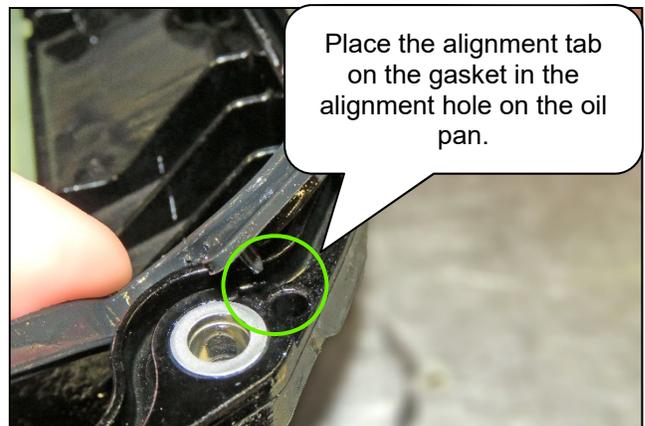


Figure 18

21. Install the oil pan using new oil pan bolts. Tighten all the bolts in two steps.

Step 1: Tighten all the bolts to 4.0 N·m (35.4 in-lbs.).

Step 2: Rotate all the bolts 95° to complete torque.

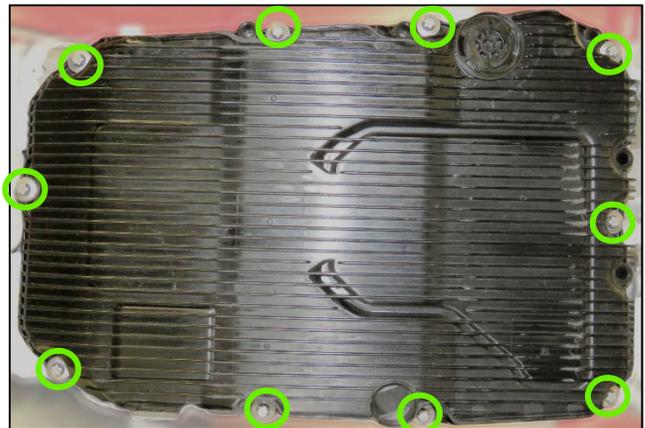


Figure 19

## Fill with A/T Fluid

22. To gain access to the overflow tube, remove the drain plug using special tool J-52972-2.

**HINT:** The overflow tube has a deformed hexagonal shape. The current overflow tube position determines the position for the tool alignment.

23. Insert special tool J-52972-2 into the overflow tube, then rotate to position (3) (Overflow).

**HINT:** By setting the overflow tube to position (3) (Overflow), this allows fluid to enter and level off at the overflow hole.

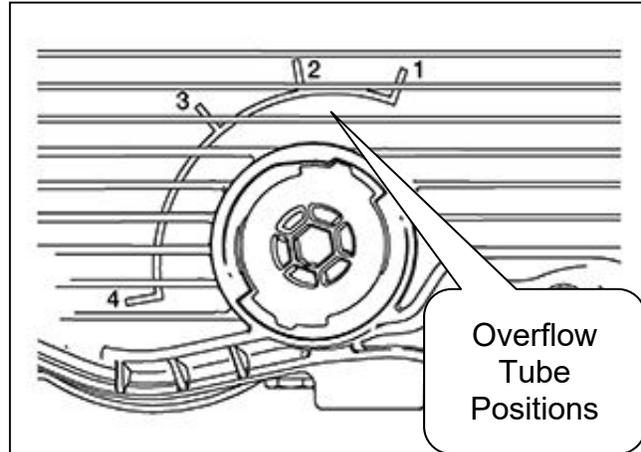


Figure 20

Table C

Overflow Tube Position	Description
(1)	Closed
(2)	Drain
(3)	Overflow
(4)	Slow Drain

24. Install special tools J-52972-1 and J-52584 to the overflow tube.
25. Using special tool J-51001, inject A/T fluid into the oil pan until the fluid overflows at the overflow hole.
- Check the fluid level overflow periodically by removing special tool J-51001 from the oil pan. If the fluid is not leveled at the overflow tube, repeat steps 24-25.
  - When filling A/T fluid, be careful not to spill fluid on heat generating parts such as exhaust.

26. Remove special tool J-52972-1 from the overflow tube.
27. Insert special tool J-52972-2 into the overflow tube and rotate to position (1) (Closed).
28. Install the drain plug and tighten until it reaches position (1) (Closed) and torque to 6 N·m (**53 in-lbs**).
  - Do not replace the drain plug O-ring at this time. It will be replaced later in the procedure.
29. Check that the selector lever is in the “P” position, and then completely engage the parking brake.
30. Reconnect the negative battery terminal.
31. Start the engine and let it idle for 3 minutes.
32. Stop the engine.
33. Repeat steps 22-29 on page 12 (one-time).
34. Start the engine.
35. Warm up the A/T transmission fluid temperature so that it is between 45°C (113°F) and 55°C (131°F).
  - The A/T fluid temperature can be verified by viewing “FLUID TEMP” in the TCM Data Monitor in CONSULT-III plus.
36. Remove the drain plug to access the overflow tube using special tool J-52972-2.
37. Repeat steps 22-23 on page 12.
  - **NOTE:** If fluid is not leveled from the overflow tube at the approximate A/T fluid temperature, repeat steps 24-25 on page 12.
38. Using special tool J-52972-2, rotate overflow tube to position (1) (Closed).
39. Install a new O-ring on the oil drain plug and then tighten the drain plug until it reaches position (1) (Closed) and torque to 6 N·m (**53 in-lbs.**).

## PARTS INFORMATION

DESCRIPTION	PART NUMBER	QUANTITY
VALVE ASSY-CONTROL	31705-X280A	1
BOLT (Control Valve TCM, long)*	31377-X281A	14
BOLT (Control Valve TCM, short)*	31377-X280D	1
BOLT (Oil pan)*	31377-X280C	10
TUBE-JOINT (Double)*	31067-X280D	1
TUBE-JOINT (Small)*	31067-X280C	1
TUBE-JOINT (Large)*	31067-X280A	1
TUBE-JOINT (Metal)*	31067-X280B	1
BOLT (Tube-Joint)*	31377-X280E	1
PLATE (Heat shield)*	31642-X280A	1
GASKET-OIL PAN*	31397-X280A	1
SEAL-O RING (Drain plug)*	31526-X282A	1
SEAL-O RING (Strainer Small)*	31526-X282C	1
SEAL-O RING (Strainer-Large)*	31526-X282B	1
MATIC P ATF (1)	999MP-MTP10P	As Needed

\* = Single Use Part

- (1) Order this item through the Nissan Maintenance Advantage program: Phone: 877-NIS-NMA1 (877-647-6621). Website order via link on dealer portal [www.NNAnet.com](http://www.NNAnet.com) and click on the "Maintenance Advantage" link.

## CLAIMS INFORMATION

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

DESCRIPTION	PFP	OP CODE	SYM	DIA	FRT
Replace Control Valve Assembly	(1)	JA56AA	ZE	32	(2)

- (1) Reference the electronic parts catalog and use the Control Valve Assembly (31705-\*\*\*\*\*) as the Primary Failed Part (PFP).
- (2) Reference the current Nissan Warranty Flat Rate Manual and use the indicated Flat Rate Time (FRT).

## AMENDMENT HISTORY

PUBLISHED DATE	REFERENCE	DESCRIPTION
November 5, 2020	NTB20-077	Original bulletin published