Technical Bulletin

NISSAN NORTH AMERICA, INC.

SB-10056188-9507

SERVICE BULLETIN

Classification:	Reference:	Date:
AT13-011a	NTB13-095a	August 15, 2014

2007-2012 SENTRA; REDUCED PERFORMANCE DUE TO CVT FLUID TEMPERATURE PROTECTION LOGIC

This bulletin has been amended to add a flow chart and procedure for checking the CVT temp count A/B. Please discard all previous versions.

APPLIED VEHICLE: 2007-2012 Sentra (B16)
APPLIED ENGINE: MR20

IF YOU CONFIRM:

The vehicle speed is, or was, reduced by the CVT fail-safe (reduced vehicle speed) after continuous operation under the following conditions:

- High RPM and/or high speed driving
  (4000 RPM or more, and/or 65 MPH or more for 1.0 – 1.5 hrs or more)
- Driving in ambient temperature of 96 degrees or higher
- Climbing steep or extended hills for 6 miles or more
- Whine or rattle type noise occurring during reduced engine performance (vehicle speed decrease)

NOTE: Before applying this bulletin if the vehicle has any DTCs, they should be checked and repaired first.

ACTION

1. Perform a self-diagnosis with CONSULT-III plus (C-III plus).
   - ➢ If DTCs are present, refer to the appropriate section of the Electronic Service Manual (ESM) and diagnose the DTCs first before proceeding to step 2 of **ACTION**.
2. Check the number of counts of "CVT-A" and "CVT-B" with C-III plus.
   - ➢ Refer to the Flow Chart on page 2 and the Service Procedure starting on page 3 to confirm if this bulletin applies.

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.

Flow Chart

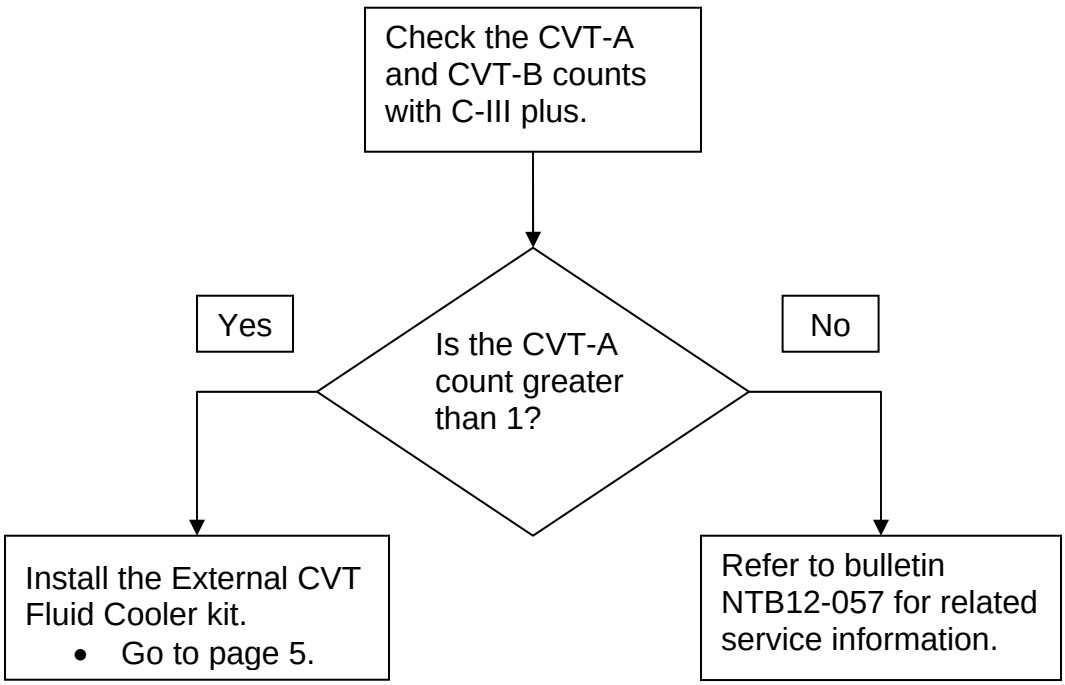
Important

Before applying this bulletin:

- Confirm that the CVT fluid has not been overfilled and/or that a non-approved CVT fluid has been added.
- Confirm that the coolant concentration is not greater than 50%.
    - CVT fluid that is overfilled or non-approved, or coolant concentrations greater than 50% can cause the symptoms in the IF YOU CONFIRM section on page 1.

Refer to NTB12-057 to resolve these conditions first if they should occur.

NOTE: Refer to the ESM for the correct CVT fluid and coolant type for the model and year vehicle that is being worked on.



NOTE: If the CVT-A count is not greater than 1 and similar symptoms to those in IF YOU CONFIRM and/or a DTC are present, refer to the Electronic Service Manual (ESM) and NTB12-057 for further diagnosis.

SERVICE PROCEDURE

Check CVT-A and CVT-B count with C-III plus

1. Open C-III plus and select **Diagnosis (All Systems)**.

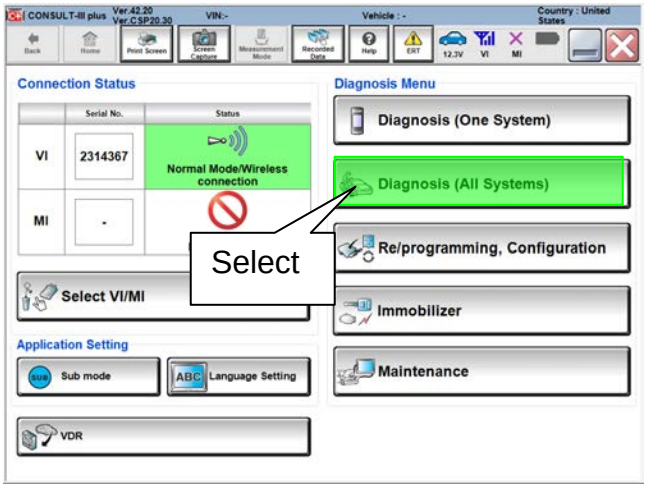


Figure 1

2. Select **TRANSMISSION**.

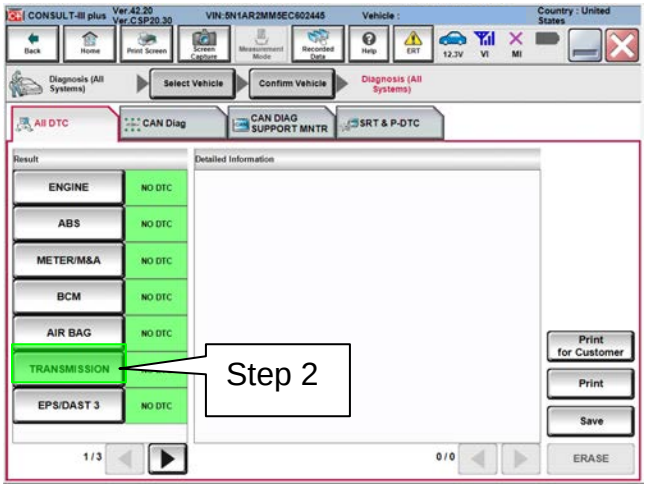


Figure 2

3. In **Data Monitor** select **TRANSMISSION** and then select **CVT-A** and **CVT-B.**

4. Select **START**.

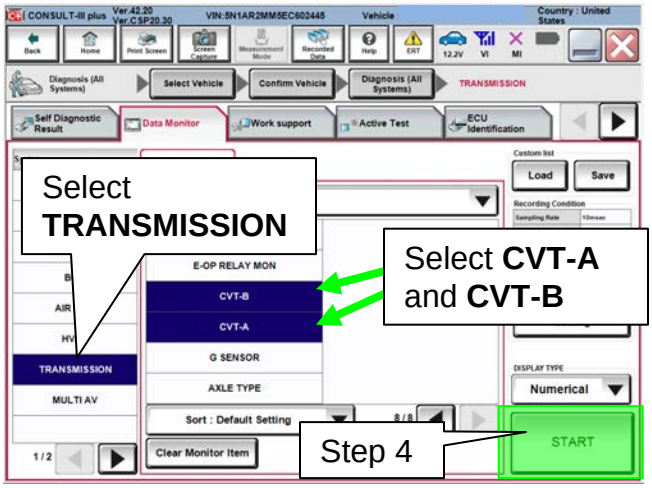


Figure 3

5. Check both **CVT-A** and **CVT-B** counts and refer to the Flow Chart on page 2 to confirm if this bulletin applies.

   - Save this page to a file on the Consult PC for Step 6.

   NOTE: If the CVT-A count <u>is not</u> greater than 1 and similar symptoms to those in IF YOU CONFIRM and/or a DTC are present, refer to the ESM and NTB12-057 for further diagnosis.

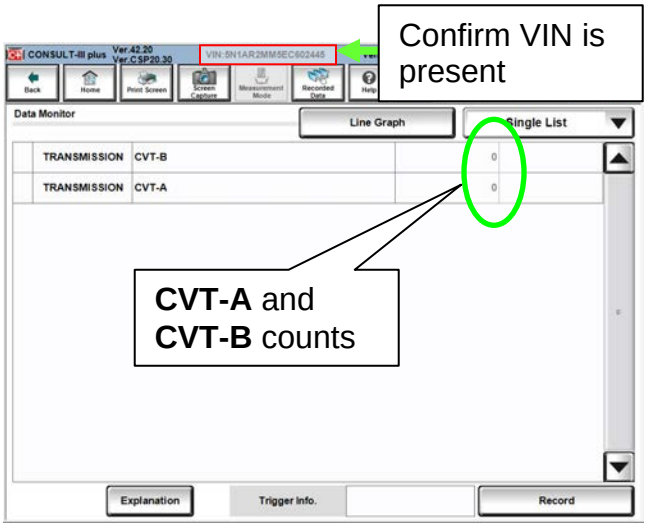


Figure 4

6. **If it is confirmed that this bulletin applies, submit an order for the SERVICE KIT listed in the Parts Information table by sending an email with the screen print (Figure 4) from Step 5 to:**

CVTOilCooler@nissan-usa.com

IMPORTANT: Please make sure the <u>VIN</u> number is clearly visible at the top of the screen print from Step 5 (Figure 4).

- Once DPIC has validated the order, a salesforce case will be generated for reference. You will receive a confirmation and the sales force case number to track the order status.
- Once the order is completed, you will receive a final confirmation of the order, including ETA of part arrival.

SERVICE PROCEDURE

1. Place the vehicle on a lift and raise it as needed to perform the following procedure.

2. Install the “COOLER ASSY – AUTO TRANS. OIL” to the pre-existing weld nuts on the front of the radiator support with bolts from kit.
   - Torque bolts to 7N•m (0.71 kg-m, 62 in-lb).

   NOTE: Figure 5 is shown looking from the bottom of the vehicle upward, at the lower front radiator/condenser support.

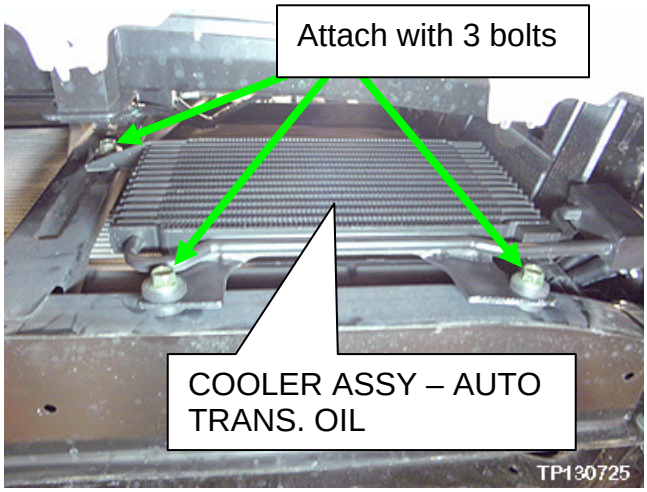


Figure 5

   NOTE: Figure 14 on page 8 shows an overview of the external CVT cooler and hose routing.

3. Route both hoses through the radiator support and into engine compartment.

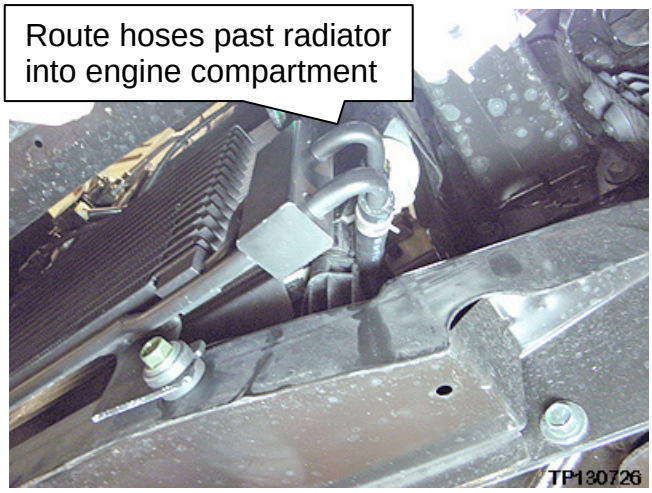


Figure 6

4. Remove the Air Inlet to gain access to the CVT Fluid Cooler.

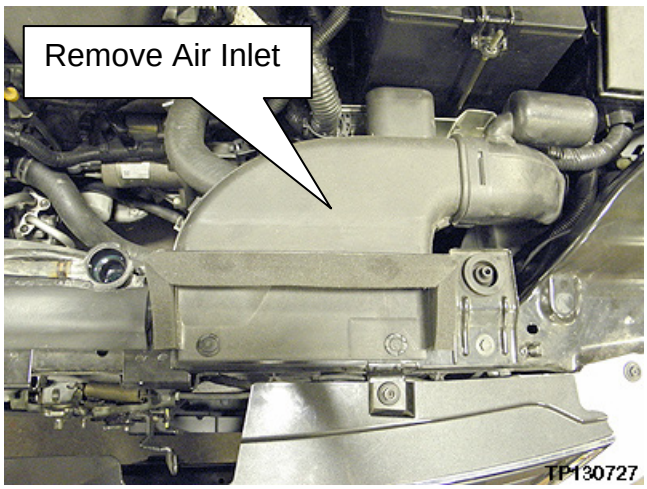


Figure 7

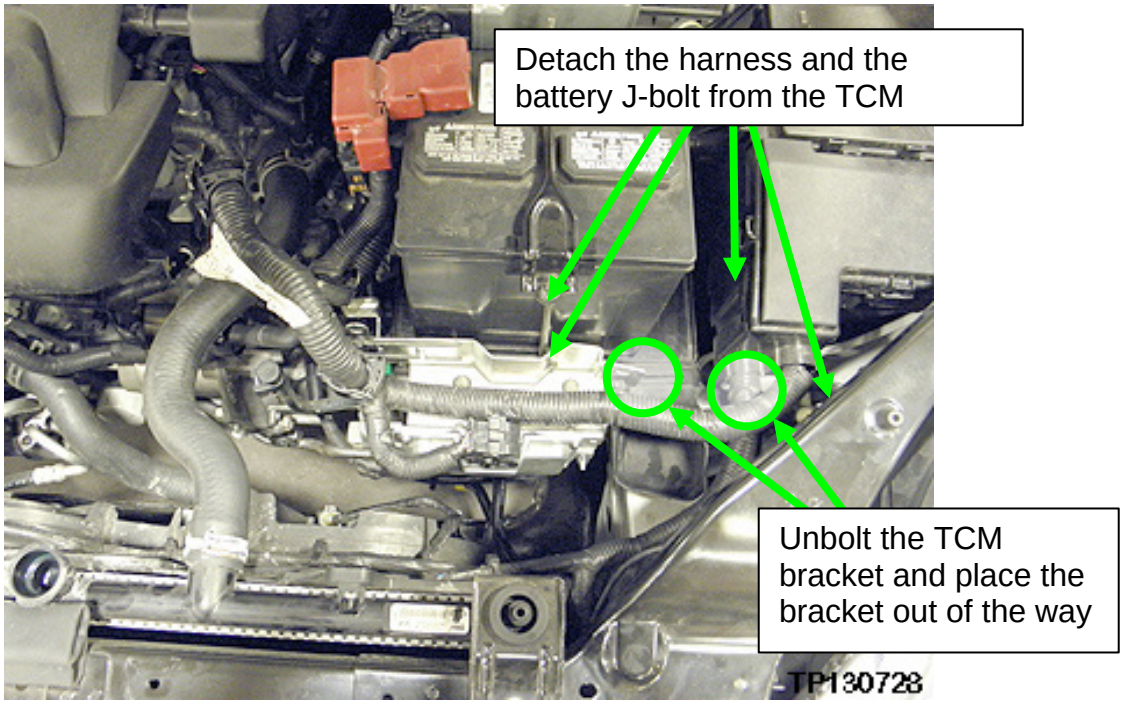


Figure 8

5. Detach the Engine Room harness and the battery J-bolt from the TCM bracket.

6. Unbolt the TCM bracket and place it out of the way.

WARNING:

- Never remove the radiator cap when the engine is hot. Serious burns may occur from high-pressure engine coolant escaping from the radiator.

7. Relieve any residual cooling system pressure.

   a. Wrap a thick cloth around the radiator cap. Slowly turn it a quarter of a turn to release the pressure.

   b. Then turn it all the way.

8. Clamp both of the coolant hoses attached to the CVT Fluid Cooler to prevent coolant loss.

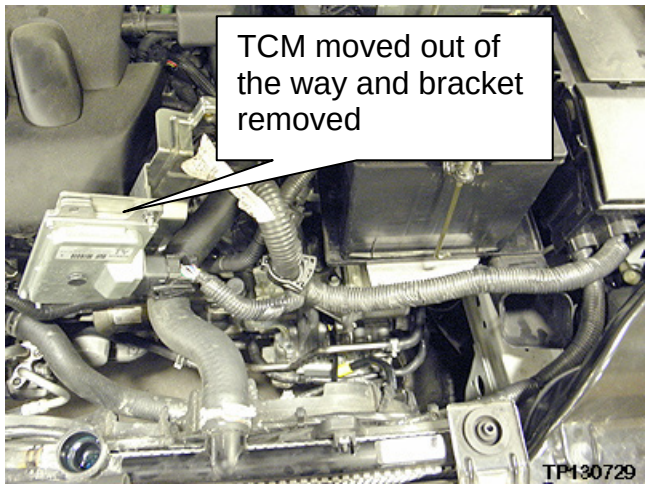


Figure 9

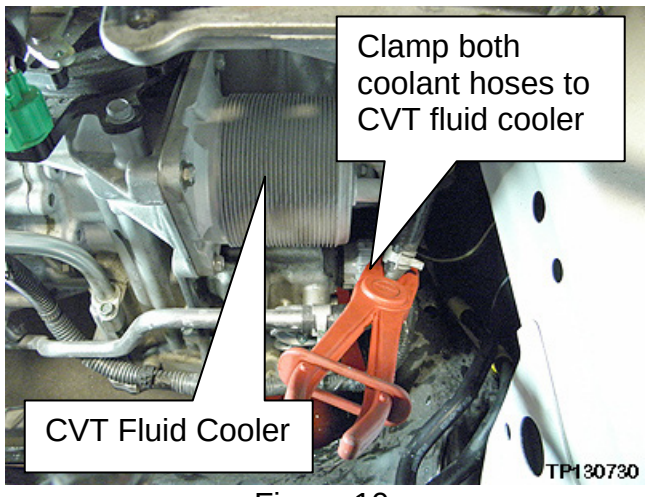


Figure 10

9. Remove both of the CVT Fluid Cooler coolant hose (Water Hose B and Water Hose C) spring clamps and then remove both of the hoses from the CVT Fluid Cooler.

   NOTE: These spring clamps will be saved for reassembly.

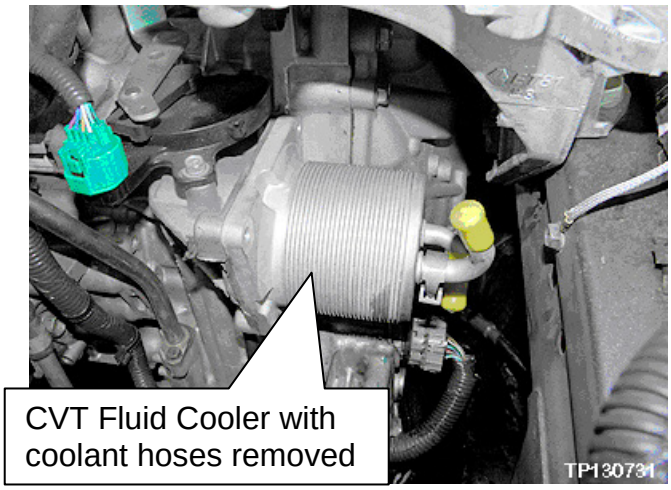


Figure 11

10. Loosen the CVT Fluid Cooler mounting bolts (4 bolts) and remove the CVT Fluid Cooler.

11. Clean any debris from the CVT Fluid Cooler mounting surface with brake cleaner and a lint free cloth.

    NOTE: Use genuine Nissan Brake Cleaner or equivalent.

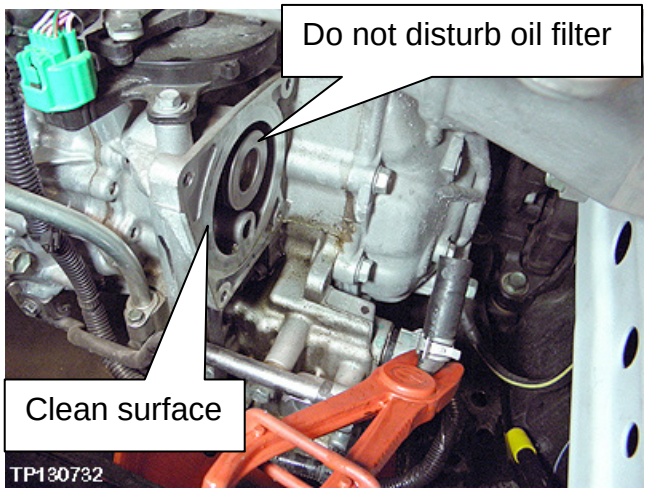


Figure 12

12. Coat the O-ring on the new CVT Fluid Cooler using NS-2 CVT fluid before installing it onto the CVT Cooler mounting area.

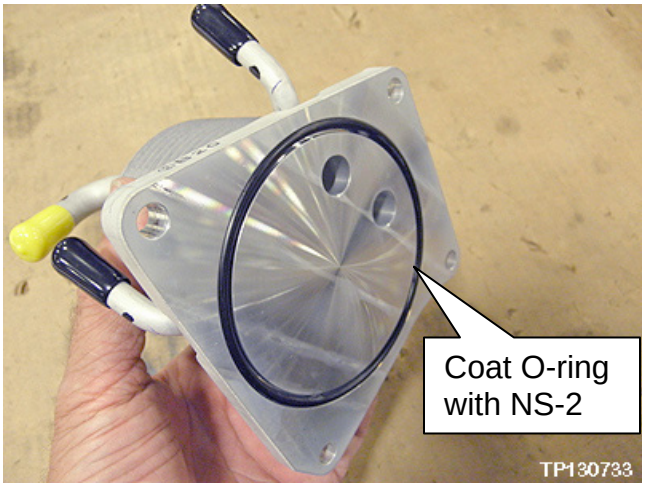


Figure 13

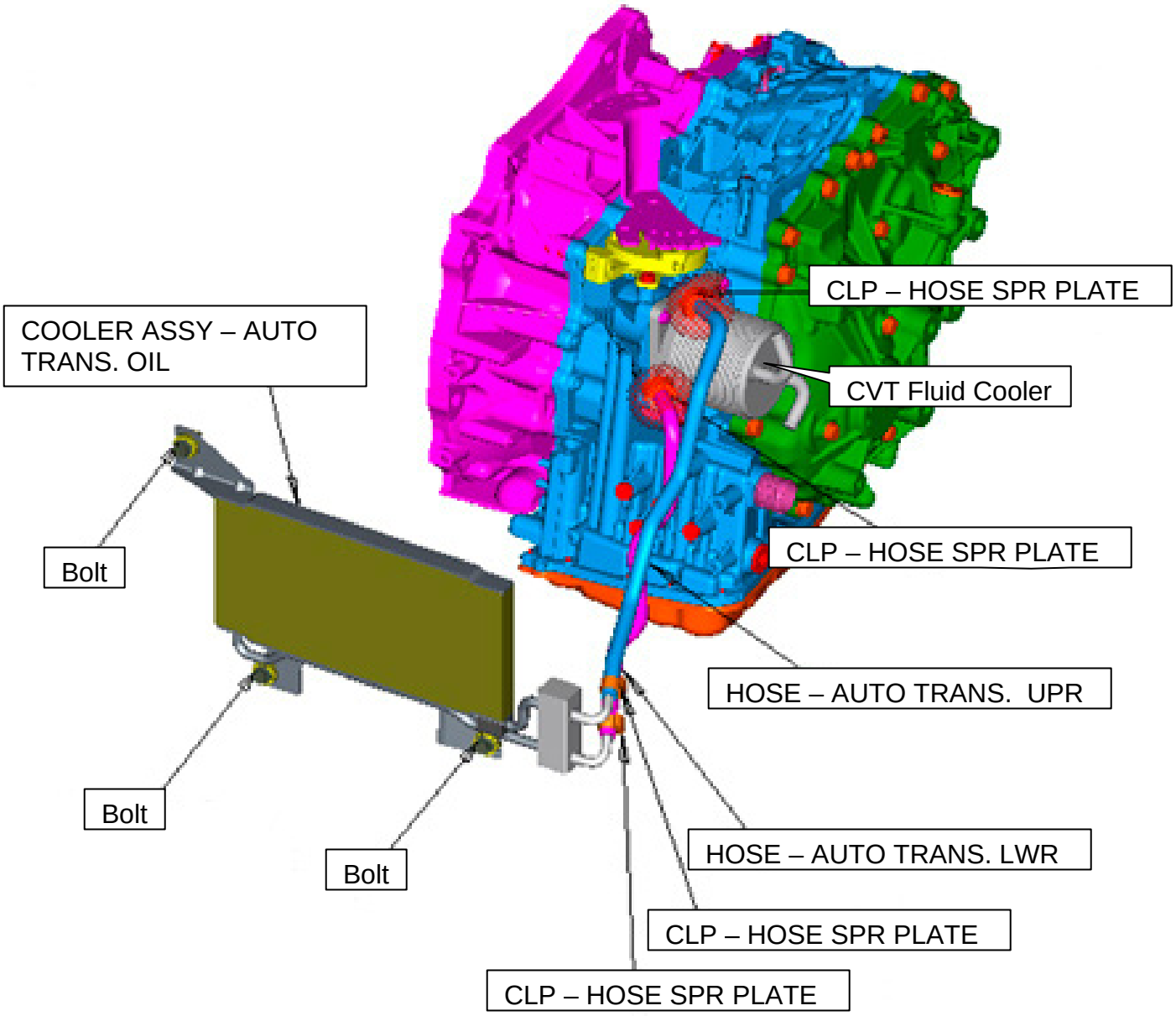


Figure 14

Figure 14 shows overview of external CVT cooler and hose routing.

13. Install the new CVT Fluid Cooler from the kit onto the CVT and tighten the mounting bolts to 3.63 N•m (0.37 kg-m, 32 in-lb).

14. Use a lint-free cloth and genuine Nissan Brake Cleaner or equivalent to remove any residual coolant from the inside of both of the coolant hoses before re-assembly of the hoses to the CVT fluid cooler.

15. Re-install CVT Water Hose B and CVT Water Hose C onto the new CVT Fluid Cooler and reposition spring clamps.

    - Position the spring clamps as close to each fitting bulge as possible and then release them.

    NOTE: Confirm that the clamps are not on top of each fitting bulge or on an angle.

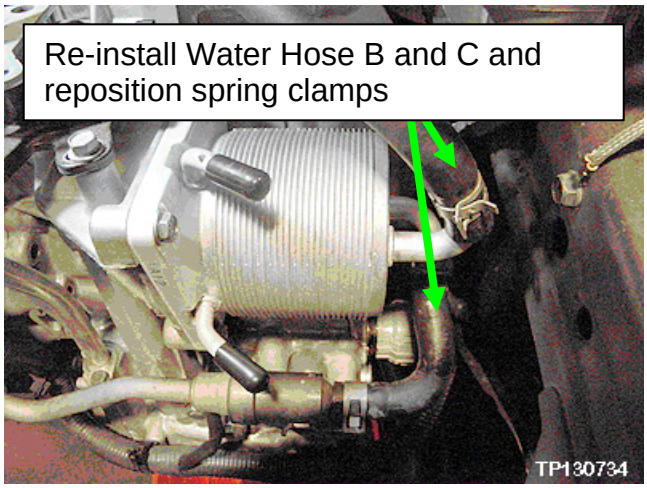


Figure 15

16. Place 2 new “CLP – HOSE SPR PLATE” (spring clamps) onto the COOLER ASSY – AUTO TRANS. OIL hoses and install the cooler hoses on to the CVT Fluid Cooler.

    - See Figure 14 for hose routing.
    - Position the hoses so that they do not come in contact with the radiator support.
    - Position the spring clamps as close to the fitting bulge as possible and then release them.

    NOTE: Confirm that the spring clamps are not on top of the fitting bulge or on an angle.

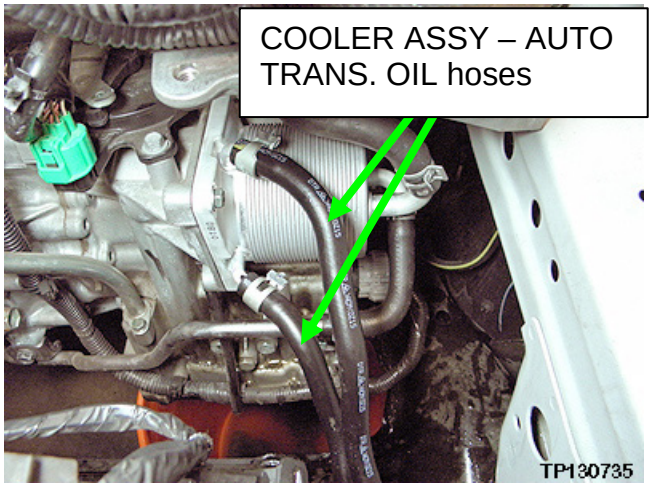


Figure 16

17. Reassemble the components removed in steps 4 – 6 in reverse order.

18. Check the level of the coolant and add as needed.

    - Refer to ESM for correct coolant for the model year vehicle that is being worked on.

19. Check the level of the CVT NS-2 Fluid and add as needed.

    - Refer to ESM for correct method to check fluid level for the model year vehicle that is being worked on.

PARTS INFORMATION

DESCRIPTION	PART #	QUANTITY
SERVICE KIT-COOLER ASSY	21606-ET89B	1
NS-2 CVT Fluid	999MP-NS200P*	As needed

* NS-2 CVT Fluid can be ordered from the Maintenance Advantage website that can be accessed through www.nnanet.com (**NNANET.COM, Parts & Service, Maintenance Advantage-Tire/Wiper/Battery/Chemical**).

Table A – Listing of parts included in the SERVICE KIT-COOLER ASSY

PART NAME	QTY PER KIT
COOLER ASSY-AUTO TRANS OIL (air-to-ATF cooler)	1
HOSE-AUTO TRANS, UPR	1
HOSE-AUTO TRANS, LWR	1
CLP – HOSE SPR PLATE(s)	4
BOLT-HEX	3
BOLT-HEX	4
CVT Fluid Cooler (CVT mounted heat exchanger with 4 ports)	1
OIL COOLER O-Ring	1

CLAIMS INFORMATION

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

DESCRIPTION	PFP	OP CODE	SYM	DIA	FRT
Oil cooler kit installation	(1)	JX15AA	AE	32	1.0

(1) Refer to the electronic parts catalog (FAST) and use the Oil Cooler assembly part number (21606-*****) as the Primary Part (PFP).