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Model Year Start: 2015	Model: NX200T	Prod Date Range: [10/2014 - 05/2019]
Title: U661F (AUTOMATIC TRANSMISSION / TRANSAXLE): AUTOMATIC TRANSAXLE FLUID: ADJUSTMENT; 2015 - 2020 MY NX200T NX300 [10/2014 - 05/2019]		

ADJUSTMENT

PROCEDURE

1. PRECAUTIONS AND WORK DESCRIPTION

- (a) The U661F automatic transaxle assembly does not have an oil filler tube and oil level gauge. When adding fluid, add fluid through the refill hole on the rear transaxle cover sub-assembly. The fluid level can be adjusted by draining excess fluid (allowing excess fluid to overflow) through the No. 1 transmission oil filler tube of the automatic transaxle oil pan sub-assembly.

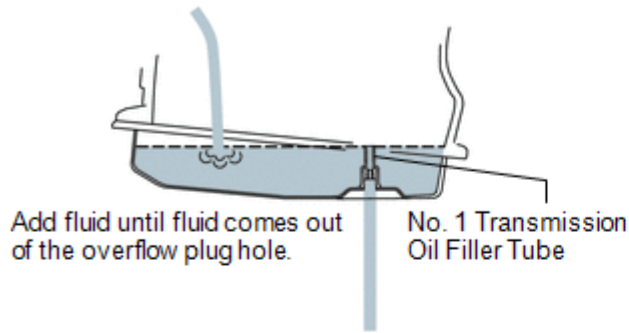
HINT:

"Overflow" indicates the condition under which fluid comes out of the overflow plug hole.

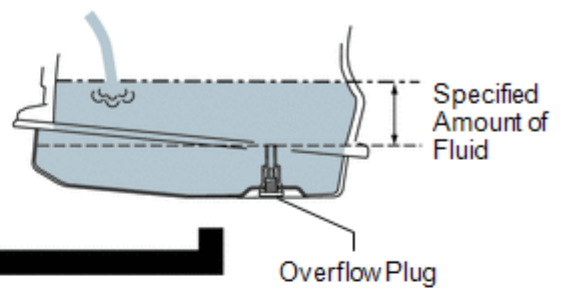
- (b) Before adjusting the fluid level, add the specified amount of fluid when the engine is cold and warm up the engine to circulate the fluid in the automatic transaxle assembly. Ensure that the fluid temperature is as specified and the engine is idling.

Fluid Filling Procedure:**1. PERFORM INITIAL FILLING**

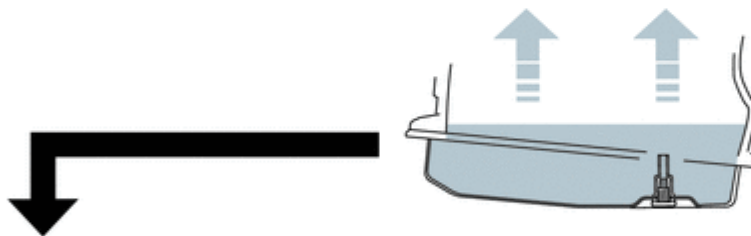
Add fluid to the transaxle oil pan sub-assembly to the specified level.

**2. ADD SPECIFIED AMOUNT OF FLUID**

Add the correct amount of fluid specified for the operation that was performed.

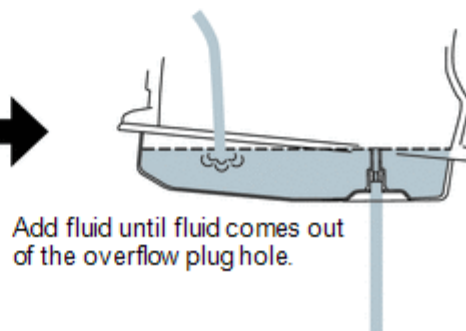
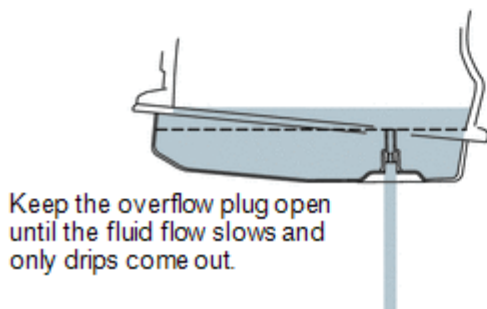
**3. ADJUST FLUID TEMPERATURE**

Start the engine to circulate the fluid. Activate fluid temperature detection mode and engine idle speed control mode, and adjust the fluid temperature to the specified level.

**4. ADJUST FLUID LEVEL**

Drain excess fluid at the specified fluid temperature.

If no fluid comes out, add fluid until fluid comes out of the overflow plug hole.

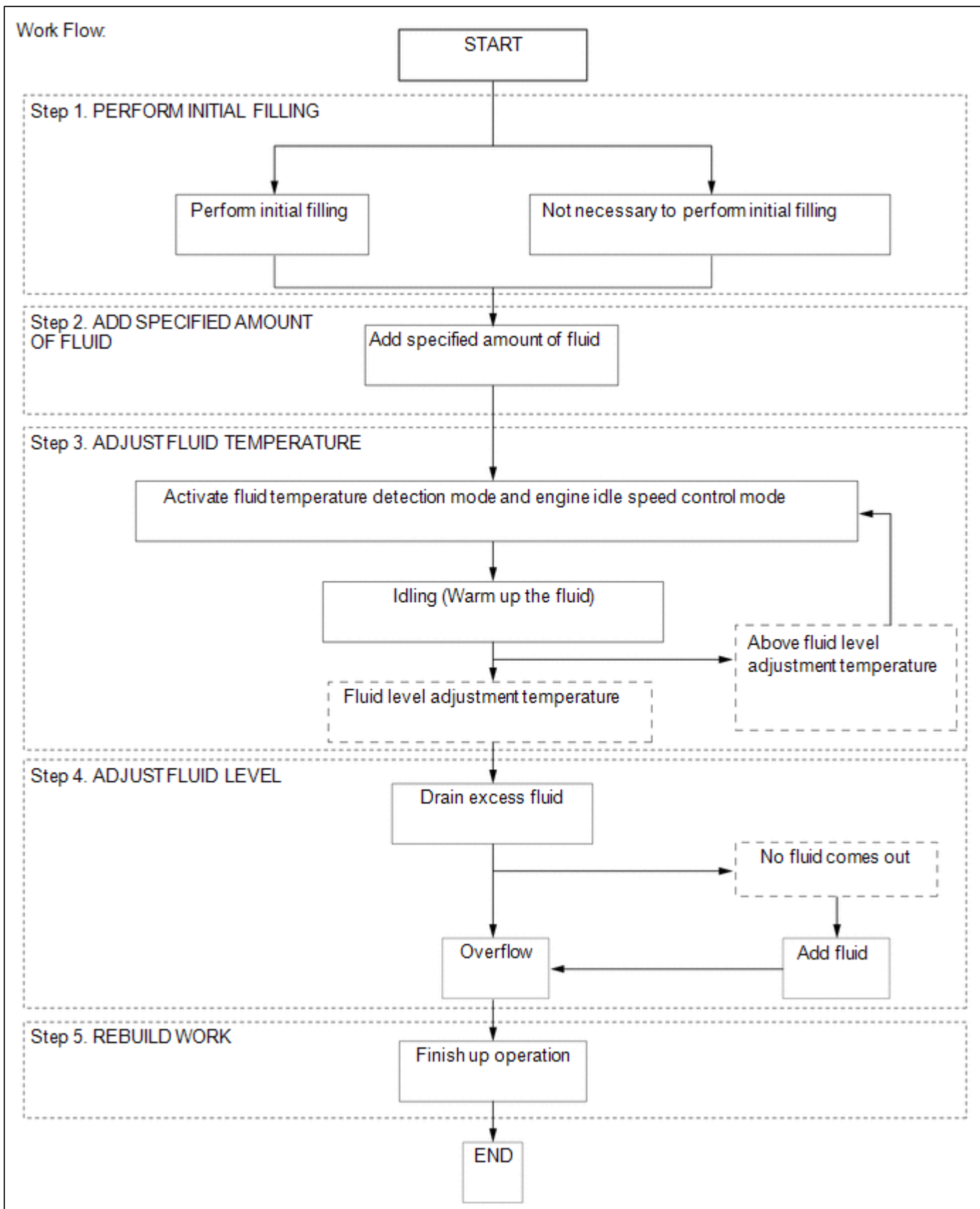


(c) The U661F automatic transaxle assembly requires Toyota Genuine ATF WS.

(d) The adjustment should be performed according to the procedures and notes.

2. WORK FLOW

(a) The adjustment should be performed according to the procedure referenced in the work flow below.



3. PREPARATION WORK

- (a) Lift the vehicle.

NOTICE:

Set the vehicle on a lift so that the vehicle is kept level when it is lifted up (make sure that the tilt angle from the front to rear of the vehicle is within $\pm 1^\circ$).

- (b) for Sport Package:

- (1) Remove the No. 1 engine under cover.

Click here [INFO](#)

- (c) Remove the rear engine under cover LH.

Click here [INFO](#)

4. PERFORM INITIAL FILLING

NOTICE:

If the automatic transaxle assembly is hot (ATF temperature is high), wait until the fluid temperature becomes the same as the ambient temperature before starting the following procedure. (Recommended ATF temperature: around 20°C [68°F])

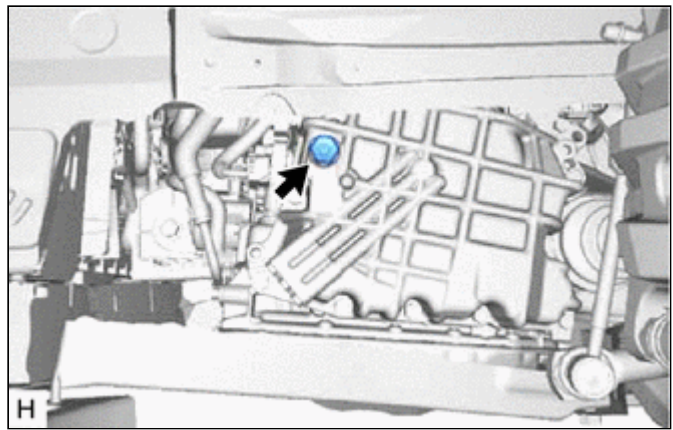
- (a) Remove the refill plug and gasket from the automatic transaxle assembly.

NOTICE:

After performing any of the following operations, it is not necessary to perform the initial filling procedure. Proceed to the Add Specified Amount of Fluid procedure.

OPERATIONS THAT DO NOT REQUIRE INITIAL FILLING

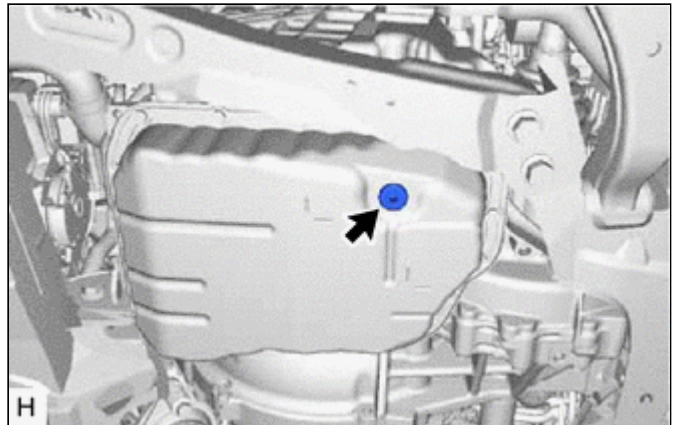
- Disconnection of the oil cooler tube or oil cooler hose
- Repair of fluid leak due to a loose case plug, or a faulty plug gasket or O-ring



- (b) Using a 6 mm hexagon socket wrench, remove the overflow plug and gasket from the automatic transaxle oil pan sub-assembly.

NOTICE:

- If ATF comes out after removing the overflow plug, wait until the fluid flow slows and only drips come out.
- If ATF comes out, it is not necessary to perform the initial filling procedure. After checking the tightening torque of the No. 1 transmission oil filler tube, temporarily install the overflow plug.



- (c) Using a 6 mm hexagon socket wrench, check that the No. 1 transmission oil filler tube is tightened to the specified torque.

Torque:

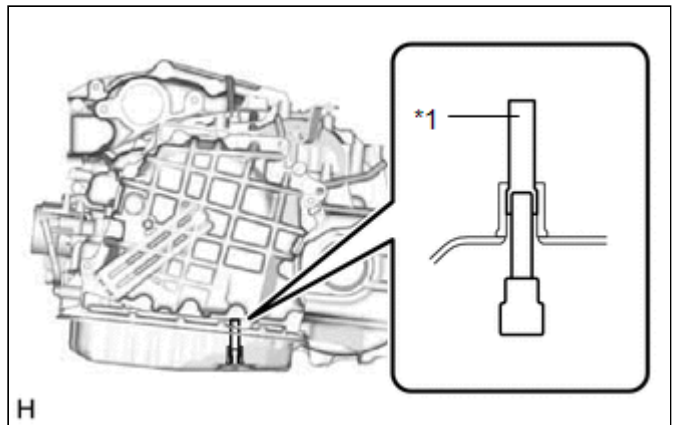
1.7 N·m {17 kgf·cm, 15 in·lbf}

NOTICE:

If the No. 1 transmission oil filler tube is not tightened to the specified torque, the amount of fluid cannot be precisely adjusted.

HINT:

To check the torque of the No. 1 transmission oil filler tube, insert the hexagon socket wrench into the overflow plug hole.



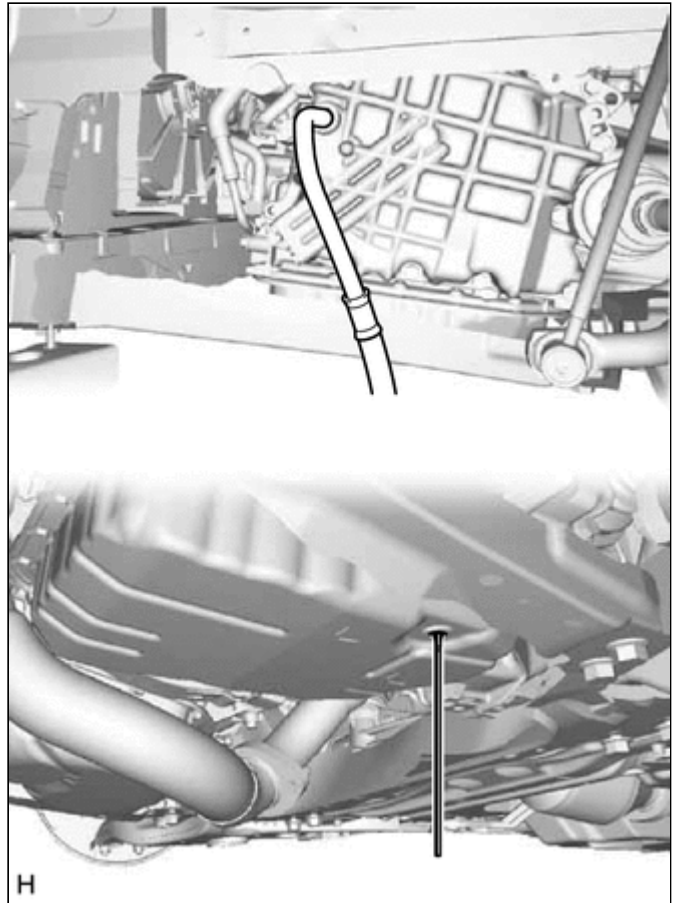
*1 No. 1 Transmission Oil Filler Tube

- (d) Perform initial filling.

- (1) Fill the automatic transaxle assembly through the refill hole until fluid begins to come out of the overflow plug hole.

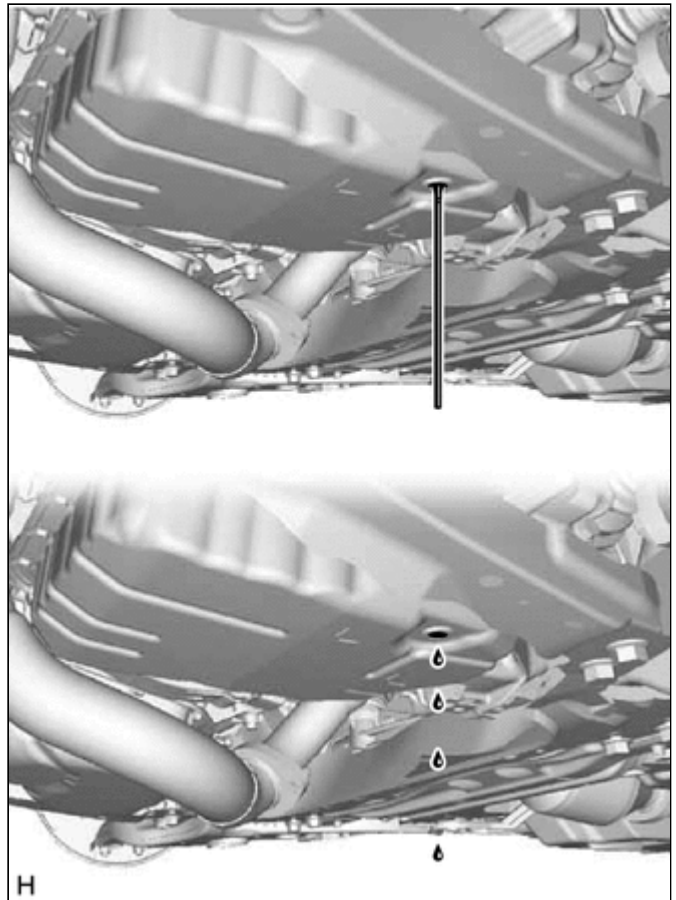
NOTICE:

Use Toyota Genuine ATF WS.



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(e) Wait until the fluid flow slows and only drips come out.

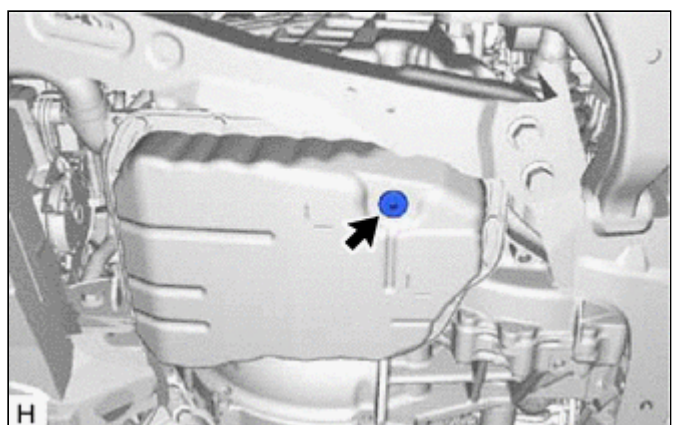


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(f) Temporarily install the gasket and the overflow plug to the automatic transaxle oil pan sub-assembly.

HINT:

Reuse the old gasket as the overflow plug will be removed again to adjust the fluid level.



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5. ADD SPECIFIED AMOUNT OF FLUID

(a) Fill the automatic transaxle assembly with the correct amount of fluid as listed in the table below.

NOTICE:

The refill amount differs depending on the operation that was performed.

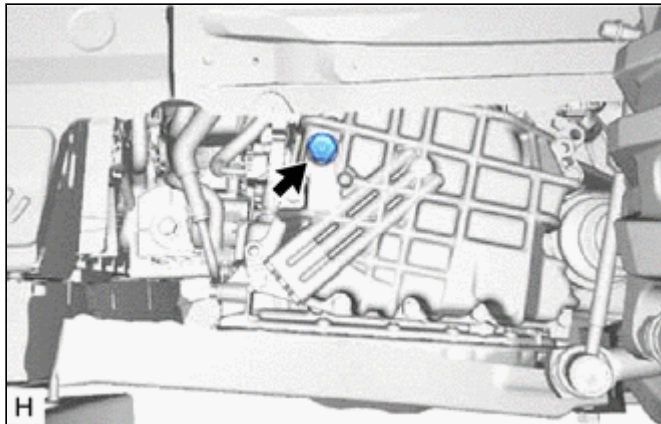
Reference Capacity:

PERFORMED REPAIR	FILL AMOUNT
Automatic transaxle assembly replacement (with a new torque converter assembly)	5.3 liters (5.6 US qts, 4.7 Imp.qts)
Automatic transaxle assembly replacement (when reusing the torque converter assembly)	3.4 liters (3.6 US qts, 3.0 Imp.qts)
Removal and installation of the torque converter assembly	4.8 liters (5.1 US qts, 4.2 Imp.qts)
Removal and installation of the transmission valve body assembly	3.2 liters (3.4 US qts, 2.8 Imp.qts)
Removal and installation of the automatic transaxle oil pan sub-assembly	2.8 liters (3.0 US qts, 2.5 Imp.qts)
Removal and installation of a front drive shaft assembly	2.8 liters (3.0 US qts, 2.5 Imp.qts)
Removal and installation of the front drive shaft oil seal LH or front drive shaft oil seal RH	2.8 liters (3.0 US qts, 2.5 Imp.qts)
Disconnection of an oil cooler tube or oil cooler hose	0.5 liters (0.5 US qts, 0.4 Imp.qts)
Repair of fluid leak due to a loose case plug, or a faulty plug gasket or O-ring	0.5 liters (0.5 US qts, 0.4 Imp.qts)

(b) Temporarily install the gasket and refill plug to avoid fluid spillage.

HINT:

Reuse the old gasket as the refill plug will be removed again to adjust the fluid level.



(c) Lower the vehicle.

6. ADJUST FLUID TEMPERATURE (for Using the Techstream)

HINT:

The actual ATF temperature can be checked on the Data List using the Techstream.

(a) Connect the Techstream to the DLC3 with the engine switch off.

(b) Turn the engine switch on (IG) and turn the Techstream on.

NOTICE:

To reduce load, make sure that all electrical systems, such as the air conditioning, lighting system, electric fans and audio system are off.

(c) Enter the following menus: Powertrain / Transmission / Active Test / Activate the TC Terminal.

Powertrain > Transmission > Active Test

TESTER DISPLAY
Activate the TC Terminal

(d) Select the Active Test item: Activate the TC Terminal / ON.

(e) Select the Data List menu: A/T Oil Temperature 1.

Powertrain > Transmission > Data List

TESTER DISPLAY
A/T Oil Temperature No.1

(f) Check the ATF temperature.

NOTICE:

- If the fluid temperature is below 45°C (113°F), proceed to the next step. (Recommended ATF temperature: 40°C (104°F) or less)
- If the fluid temperature is 45°C (113°F) or more, turn the engine switch off and wait until the fluid temperature drops below 45°C (113°F).

(g) Depress and hold the brake pedal.

(h) Start the engine.

(i) Slowly move the shift lever from P to D, and then back to P.

HINT:

Slowly move the shift lever to circulate the fluid through each part of the automatic transaxle assembly.

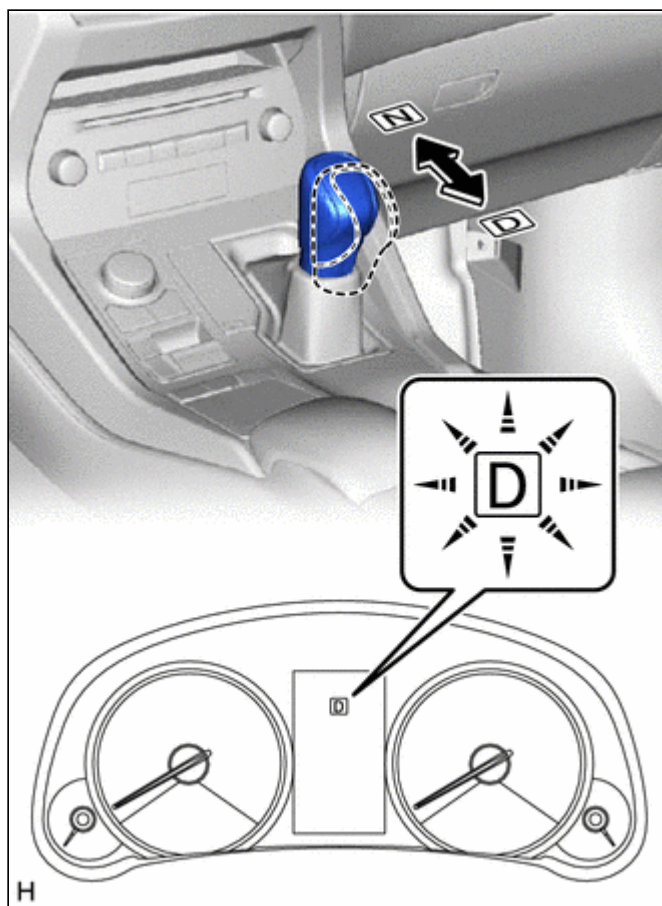
(j) While observing the D shift indicator on the combination meter, move the shift lever back and forth between N and D at an interval of less than 1.5 seconds for 6 seconds or more.

NOTICE:

Do not pause for more than 1.5 seconds.

HINT:

Performing this operation will cause the vehicle to enter fluid temperature detection mode.



(k) Check that the D shift indicator comes on for 2 seconds.

HINT:

- When fluid temperature detection mode is activated, the D shift indicator on the combination meter comes on for 2 seconds.
- If the D shift indicator does not come on for 2 seconds, return to the first step and perform the procedure again.

(l) Move the shift lever from N to P.

(m) Release the brake pedal.

(n) Select the Active Test item: Connect the TC and TE1 / OFF.

NOTICE:

Be sure that terminals TC and TE1 are not connected. If the terminals are connected, the fluid level cannot be precisely adjusted due to fluctuations in engine speed.

HINT:

- Disconnecting terminals TC and TE1 activates engine idle speed control mode.

- In engine idle speed control mode, engine idle speed control starts when the fluid temperature is 40°C (104°F) or more and the engine speed is maintained at approximately 800 rpm.
- Even after terminals TC and TE1 are disconnected, fluid temperature detection mode is active until the engine switch is turned off.

(o) Warm up the engine with the engine idling until the fluid temperature reaches the fluid level adjustment temperature (40 to 45°C (104 to 113°F)).

Below Fluid Level Adjustment Temperature	Fluid Level Adjustment Temperature	Above Fluid Level Adjustment Temperature
40°C or less (104°F or less)	40 to 45°C (104 to 113°F)	45°C or more (113°F or more)

NOTICE:

- If the fluid temperature is within the fluid level adjustment temperature range, immediately proceed to the Adjust Fluid Level procedure.
- If the fluid temperature is 45°C (113°F) or more, stop the engine and wait until the fluid temperature drops to 40°C (104°F) or less. Then perform the Adjust Fluid Temperature procedure again from the beginning.

HINT:

In fluid temperature detection mode, the D shift indicator comes on, goes off, or blinks depending on the fluid temperature.

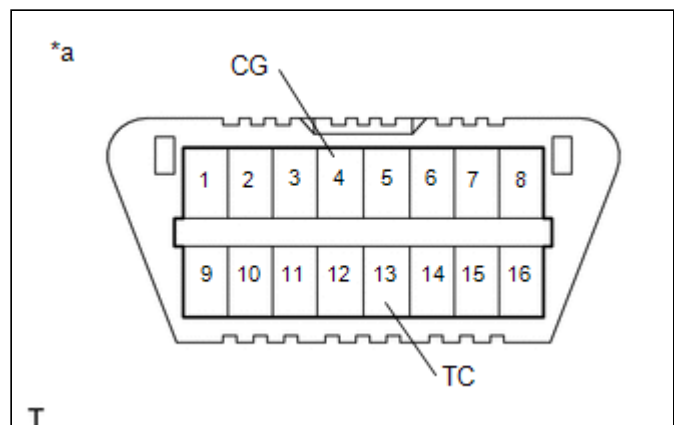
D Shift Indicator

Below Fluid Level Adjustment Temperature (40°C or less) (104°F or less)	Fluid Level Adjustment Temperature (40 to 45°C) (104 to 113°F)	Above Fluid Level Adjustment Temperature (45°C or more) (113°F or more)
OFF	ON	Blinks

7. ADJUST FLUID TEMPERATURE (for not Using the Techstream)

(a) Using SST, connect terminals 13 (TC) and 4 (CG) of the DLC3 with the engine switch off.

SST: 09843-18040



*a	DLC3
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- (b) Depress and hold the brake pedal.
(c) Start the engine.

NOTICE:

To reduce load, make sure that all electrical systems, such as the air conditioning, lighting system, electric fans and audio system, are off.

HINT:

The indicator lights on the combination meter blink to indicate the DTC output when terminals TC and CG are connected.

(d) Slowly move the shift lever from P to D, and then back to P.

HINT:

Slowly move the shift lever to circulate the fluid through each part of the transaxle.

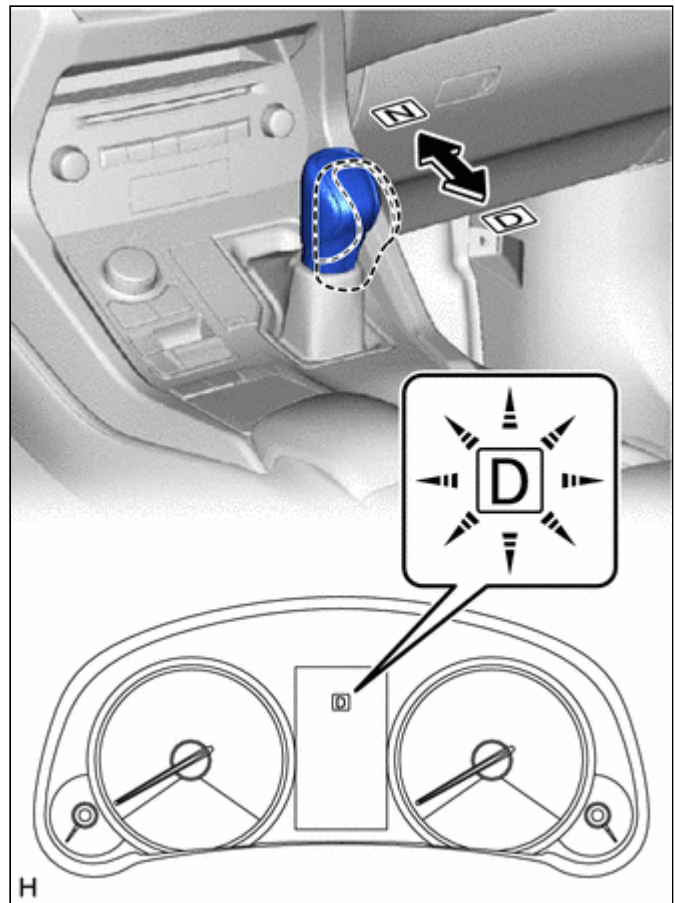
(e) While observing the D shift indicator on the combination meter, move the shift lever back and forth between N and D at an interval of less than 1.5 seconds for 6 seconds or more.

NOTICE:

Do not pause for more than 1.5 seconds.

HINT:

Performing this operation will cause the vehicle to enter fluid temperature detection mode.



(f) Check that the D shift indicator comes on for 2 seconds.

HINT:

- When fluid temperature detection mode is activated, the D shift indicator on the combination meter comes on for 2 seconds.
- If the D shift indicator does not come on for 2 seconds, return to the first step and perform the procedure again.

(g) Move the shift lever from N to P.

(h) Release the brake pedal.

(i) Remove SST from terminals 13 (TC) and 4 (CG).

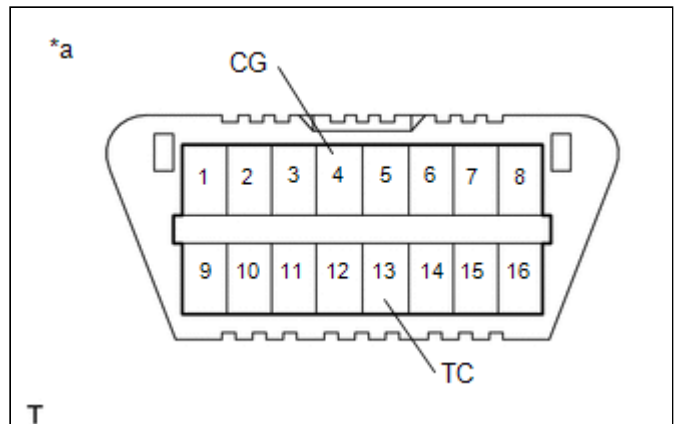
SST: 09843-18040

NOTICE:

Be sure that terminals TC and CG are not connected. If the terminals are connected, the fluid level cannot be precisely adjusted due to fluctuations in engine speed.

HINT:

- Disconnecting terminals TC and CG activates engine idle speed control mode.
- In engine idle speed control mode, engine idle speed control starts when the fluid temperature is 40°C (104°F) or more and the engine speed is maintained at approximately 800 rpm.
- Even after terminals TC and CG are disconnected, fluid temperature detection mode is active until the engine switch is turned off.



*a	DLC3
----	------

(j) Allow the engine to idle until the D shift indicator comes on again.

D Shift Indicator

Below Fluid Level Adjustment Temperature (40°C or less) (104°F or less)	Fluid Level Adjustment Temperature (40 to 45°C) (104 to 113°F)	Above Fluid Level Adjustment Temperature (45°C or more) (113°F or more)
OFF	ON	Blinks

NOTICE:

- If the D shift indicator is on, immediately proceed to the Adjust Fluid Level procedure.
- If the D shift indicator blinks, stop the engine and wait until the fluid temperature drops to 40°C (104°F) or less (the indicator goes off). Then perform the Adjust Fluid Temperature procedure again from the beginning.

HINT:

- In fluid temperature detection mode, the D shift indicator comes on, goes off, or blinks depending on the fluid temperature.
- The fluid filling procedure should be performed when the D shift indicator is on (the fluid temperature is within the fluid level adjustment temperature range).

8. ADJUST FLUID LEVEL**CAUTION:**

Use caution while the engine is idling and the radiator fans are operating.

- (a) Lift the vehicle.

NOTICE:

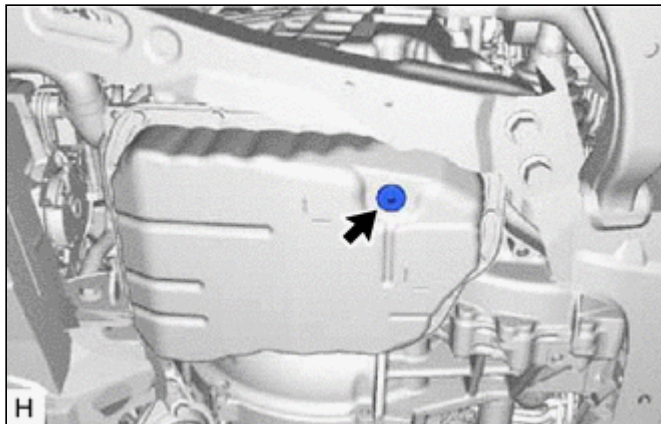
Set the vehicle on a lift so that the vehicle is kept level when it is lifted up (make sure the tilt angle from the front to rear of the vehicle is within $\pm 1^\circ$).

- (b) Adjust the fluid level.

- (1) Using a 6 mm hexagon socket wrench, remove the overflow plug and gasket from the automatic transaxle oil pan sub-assembly.

CAUTION:

Be careful as the fluid coming out of the overflow plug hole is hot.

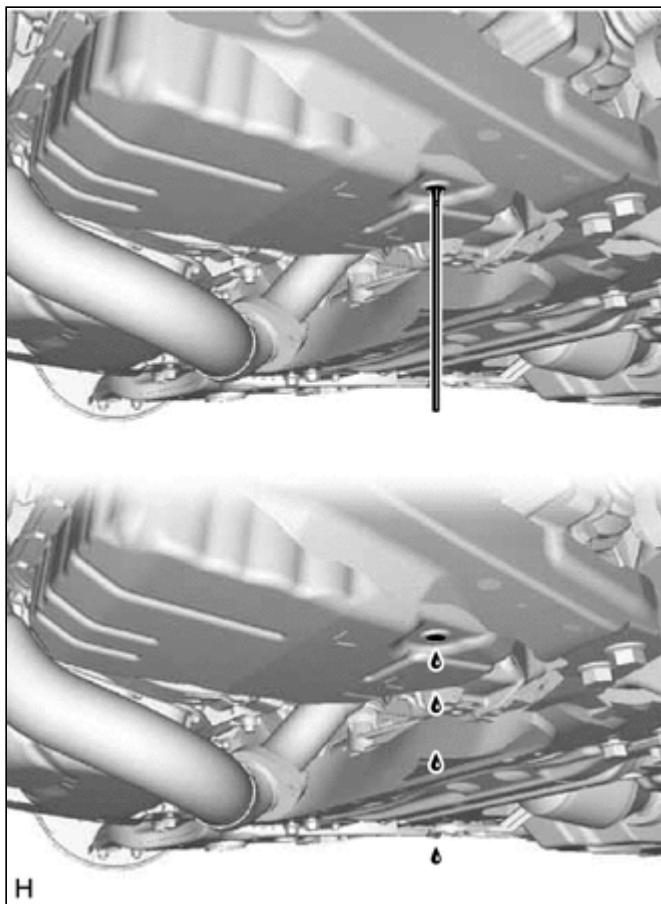


- (2) Check the amount of fluid that comes out of the overflow plug hole.

NOTICE:

If only a small amount of fluid (approximately 1 cc) comes out of the overflow plug hole, then only fluid remaining in the No. 1 transmission oil filler tube has come out. This condition is not considered as overflow, so it is necessary to add fluid.

- (3) If the amount of fluid that comes out of the overflow plug hole is large, wait until the fluid flow slows and only drips come out.

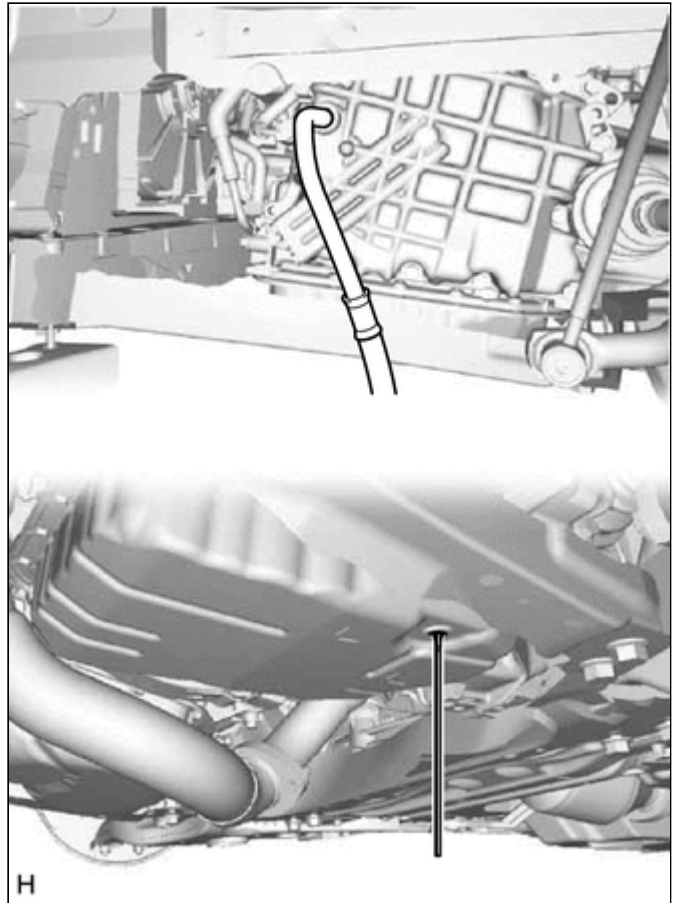


- (4) If no fluid comes out of the overflow plug hole, remove the refill plug and gasket. Then add transaxle fluid through the refill hole until fluid

comes out of the overflow plug hole. Wait until the fluid flow slows and only drips come out.

NOTICE:

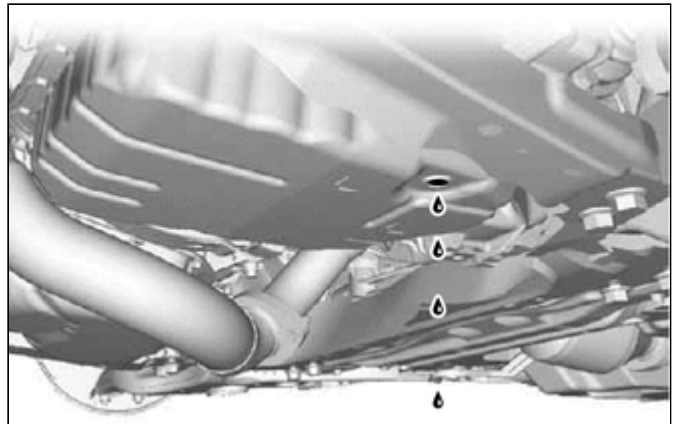
Use Toyota Genuine ATF WS.



(5) Check that the fluid flow has slowed and only drips come out.

HINT:

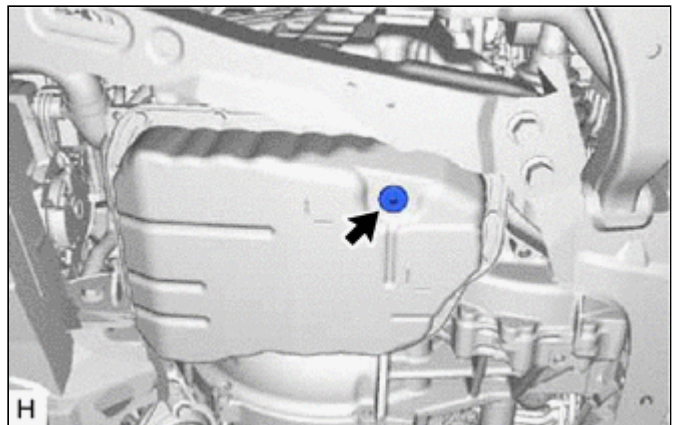
The fluid flow will not completely stop because the fluid continues to expand as its temperature increases.



(c) Using a 6 mm hexagon socket wrench, install a new gasket and the overflow plug to the automatic transaxle oil pan sub-assembly.

Torque:

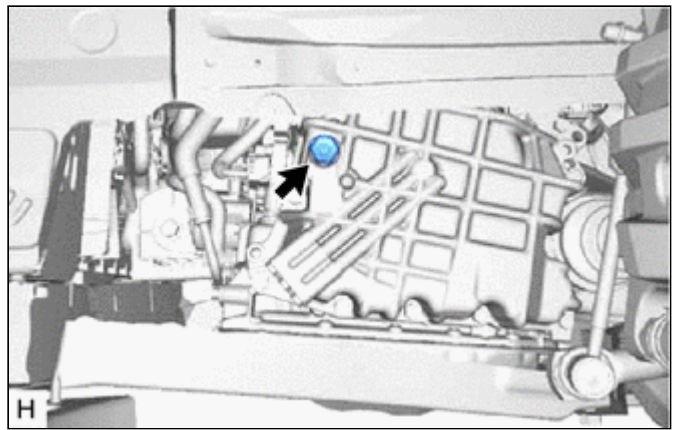
40 N·m {408 kgf·cm, 30 ft·lbf}



(d) Install a new gasket and the refill plug to the automatic transaxle assembly.

Torque:

49 N·m {500 kgf·cm, 36 ft·lbf}



- (e) Lower the vehicle.
- (f) Turn the engine switch off.

HINT:

Turning the engine switch off ends fluid temperature detection mode.

- (g) Disconnect the Techstream from the DLC3 (for Using the Techstream).

9. REBUILD WORK

- (a) Lift the vehicle.
- (b) Clean each part.
- (c) Check for fluid leaks.
- (d) Install the rear engine under cover LH.

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- (e) for Sport Package:

- (1) Install the No. 1 engine under cover.

Click here [INFO](#)

- (f) Lower the vehicle.

