

14. Automatic Transmission Fluid

A: INSPECTION

Check for leakage of ATF from transmission.

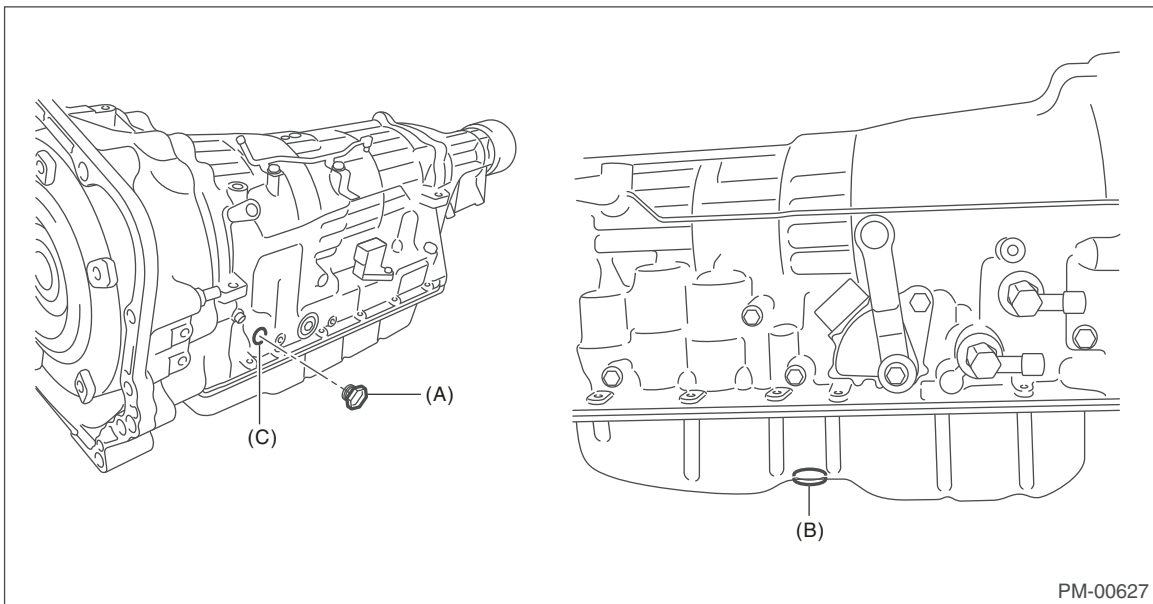
B: REPLACEMENT

- 1) Lift up the vehicle and maintain in a horizontal position.[*1]
- 2) Remove engine under cover No. 1.
- 3) Remove engine under cover No. 2.
- 4) Remove the drain plug and gasket, and drain the fluid.[*2]
- 5) Temporarily tighten the drain plug using a new gasket.[*3]

NOTE:

Replace the gasket and perform final tightening according procedures [*16].

- 6) Remove the refill plug (A) and O-ring.[*4]
- 7) Remove the overflow plug (B) using a socket hexagon wrench.[*5]



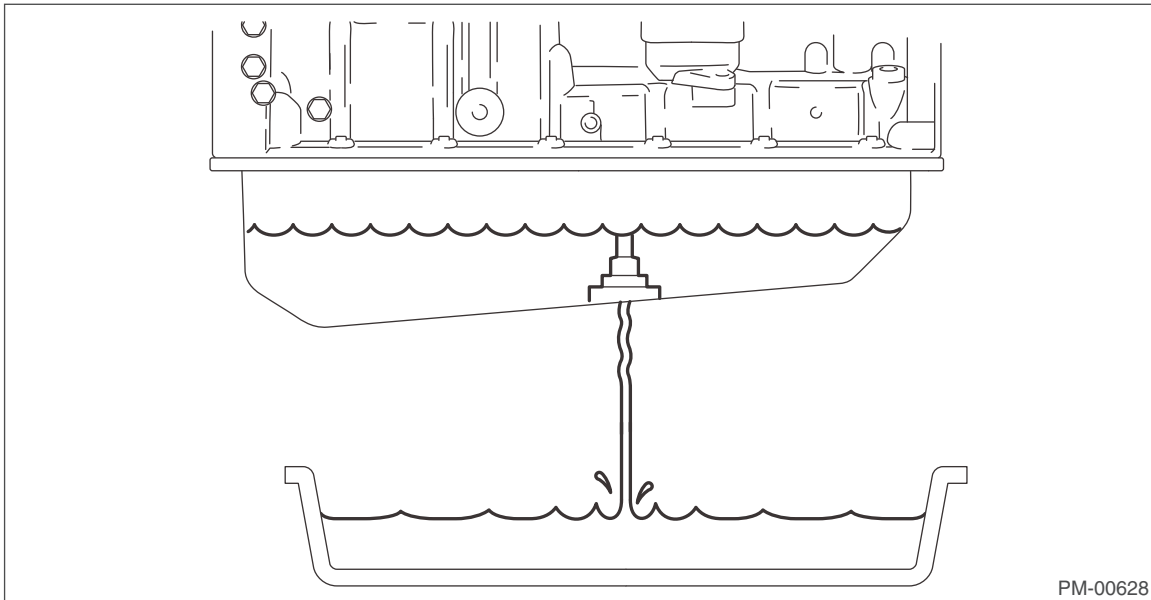
PM-00627

- (A) Refill plug
- (B) Overflow plug
- (C) Refill hole

8) Add fluid through the refill hole until the fluid flows out of the overflow tube.[*6]

CAUTION:

- Use auto-fluid WS.
- Slowly add the fluid. Adding the fluid rapidly can cause the fluid to hit internal parts and splash around resulting in fluid flowing out of the refill hole.



9) Wait until the fluid stops flowing and is only dripping.[*7]

10) Temporarily tighten the overflow plug using a 5-mm (0.2 in) socket hexagon wrench and a new gasket.[*8]

11) Add fluid through the refill hole until reaching the specified amount when removing/installing the oil pan.[*9]

NOTE:

If fluid flows out from the refill hole and you cannot fill the specified amount when adding fluid through the refill hole, perform procedures [*10] to [*15] below in order to circulate fluid until it reaches the oil passages in the transmission and inside the torque converter, then add the specified amount of fluid through the refill hole.

Filling amount (reference):

2.0 L (2.1 US qt, 1.8 Imp qt)

12) Temporarily tighten the refill plug using an O-ring.[*10]

13) Lower the vehicle.[*11]

14) Start the engine.[*12]

NOTE:

Start the engine with the air conditioning turned off.

15) Slowly move the shift lever from the P to M position, and shift again to the P position.[*13]

16) Idle the engine for 30 seconds to warm up the engine.[*14]

17) Turn the key to IG OFF.[*15]

18) Repeat procedures from [*1] to [*15].

19) Repeat procedures from [*1] to [*2].

20) Perform final tightening of the drain plug using a new gasket.

Tightening torque:

20 N·m (2.1 kgf-m, 7.4 ft-lb)

21) Repeat procedures from [*4] to [*11].

22) Adjust the fluid amount. <Ref. to PM-72, AUTOMATIC TRANSMISSION FLUID AMOUNT ADJUSTMENT, ADJUSTMENT, Automatic Transmission Fluid.>

23) Install engine under cover No. 2.

24) Install engine under cover No. 1.

25) Lower the vehicle.

26) Procedures finished.

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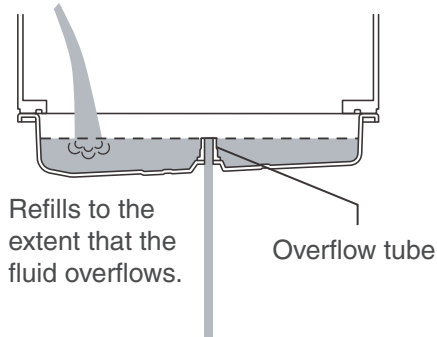
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C: ADJUSTMENT

Fluid refill and adjustment image:

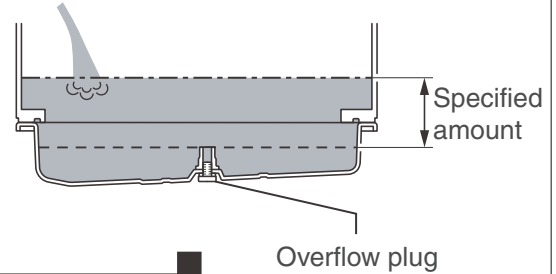
Initial refill

Refill the oil pan with fluid to a certain amount.



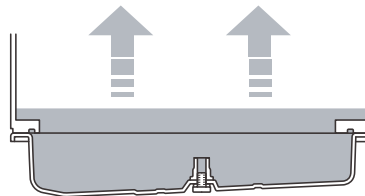
Specified amount refill

Refill with the specified amount according to the operation.



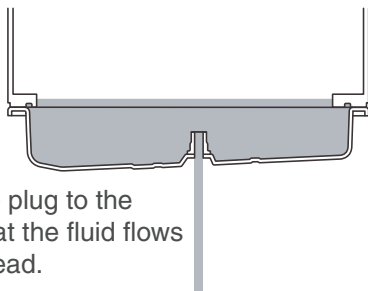
Fluid temperature adjustment

While circulating the fluid with the engine start, shift to "oil temperature detection mode" to obtain the proper temperature for fluid amount adjustment.

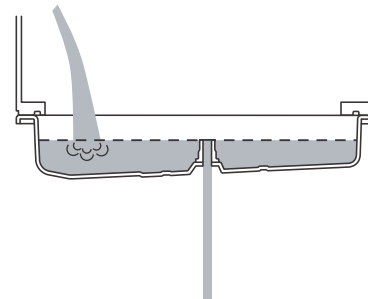


Fluid amount adjustment

Overflow the fluid at the proper temperature for fluid amount adjustment.



When the fluid does not overflow, refill with an amount that forces the fluid to overflow.



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NOTE:

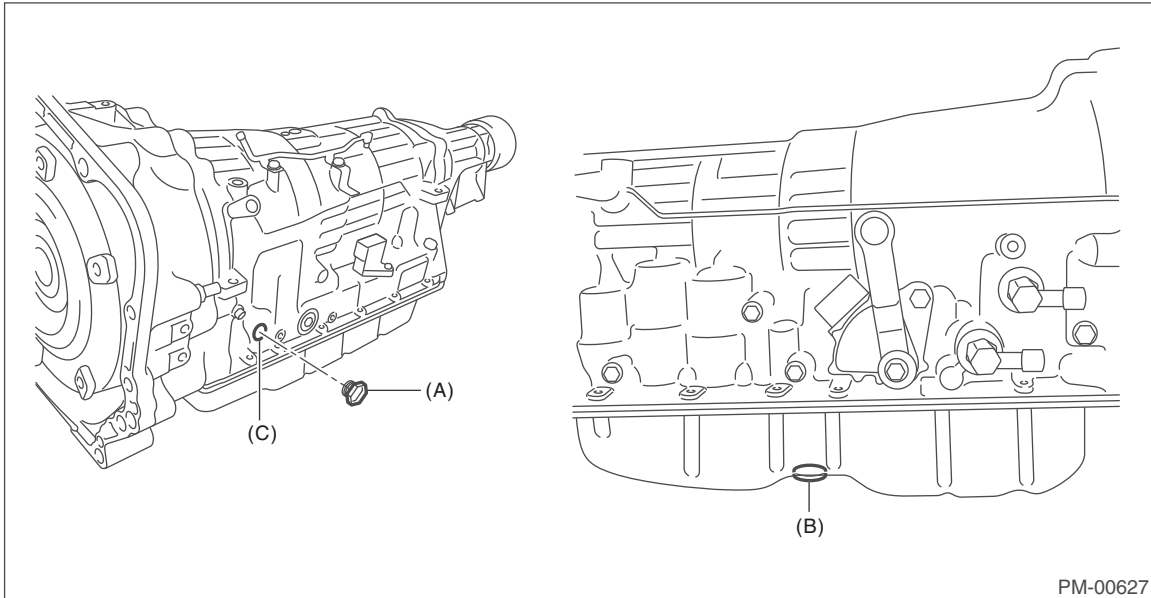
- Use auto-fluid WS for the filling fluid.
- Be sure to always park the vehicle on a level surface when adjusting the fluid amount.
- If it is necessary to replace the automatic transmission assembly, remove/install the oil pan and drain plug, and fill with a large amount of fluid for replacement, perform the procedures from "Automatic transmission fluid filling" to "Automatic transmission fluid amount adjustment".
- If a small amount of fluid filling is necessary for repairs such as replacing the extension housing rear oil seal or oil bleeding, perform only the procedure "Automatic transmission fluid amount adjustment".

1. AUTOMATIC TRANSMISSION FLUID FILLING

CAUTION:

- Perform procedures when the automatic transmission fluid is sufficiently cool.
- Always be sure to switch to oil amount adjustment mode when filling automatic transmission fluid.
- Slowly add the fluid. Adding the fluid rapidly can cause the fluid to hit internal parts and splash around resulting in fluid flowing out of the refill hole.

- 1) Lift up the vehicle and maintain in a horizontal position.
- 2) Remove engine under cover No. 1.
- 3) Remove engine under cover No. 2.
- 4) Remove the refill plug and O-ring.
- 5) Remove the overflow plug using a socket hexagon wrench.



- (A) Refill plug
(B) Overflow plug
(C) Refill hole

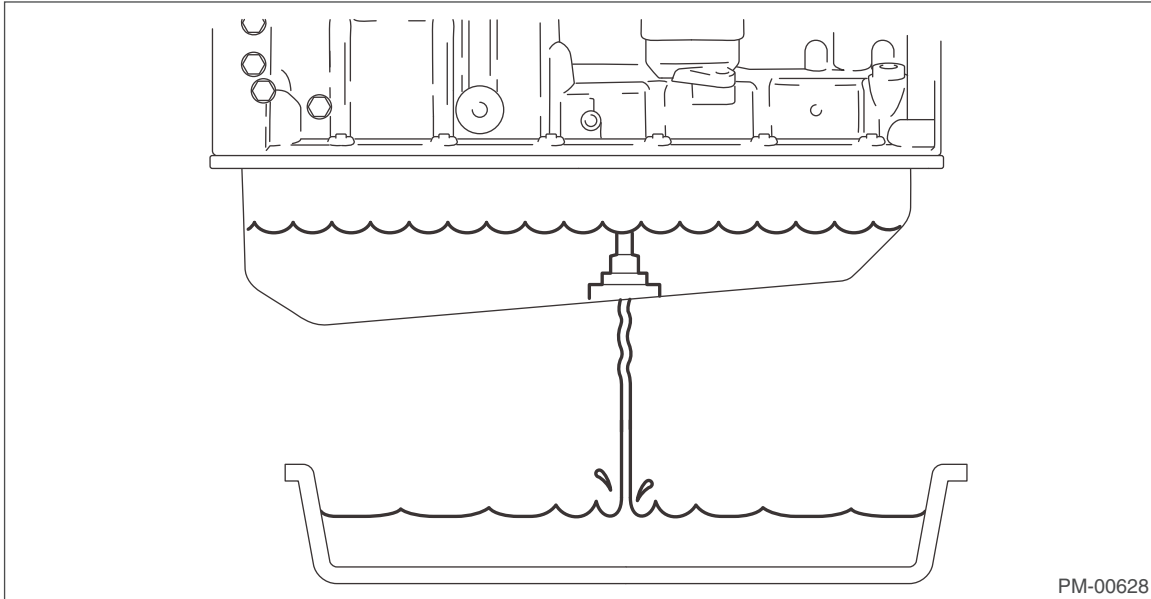
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6) Add fluid through the refill hole until the fluid flows out of the overflow tube.

CAUTION:

Slowly add the fluid. Adding the fluid rapidly can cause the fluid to hit internal parts and splash around resulting in fluid flowing out of the refill hole.



7) Temporarily tighten the overflow plug.

8) Add the specified amount of fluid through the refill hole and temporarily tighten the refill plug.

Filling amount (reference):

2.0 L (2.1 US qt, 1.8 Imp qt)

NOTE:

If fluid flows out from the refill hole and you cannot fill with the specified amount when adding fluid through the refill hole, perform the following procedures to circulate fluid until it reaches the oil passages in the transmission and inside the torque converter.

- (1) Temporarily tighten the refill plug.
- (2) Start the engine.
- (3) Slowly move the shift lever from the P to M position, and shift again to the P position.
- (4) Idle the engine for approximately 30 sec.
- (5) Turn the key to IG OFF.

2. AUTOMATIC TRANSMISSION FLUID AMOUNT ADJUSTMENT

CAUTION:

- Perform procedures when the automatic transmission fluid is sufficiently cool.
- Always be sure to adjust the automatic transmission fluid amount when at the proper temperature for oil amount inspection.

1) When using Subaru Select Monitor

- (1) Connect the Subaru Select Monitor to data link connector.
- (2) Turn the ignition to ON. (engine OFF)
- (3) Turn off all parts effecting an electrical load such as air conditioner, audio and lights.
- (4) Select {Work Support} on the «Transmission Diagnosis» screen of the Subaru Select Monitor. Select {ATF level adjustment mode} on the «Work Support» screen of the Subaru Select Monitor.

NOTE:

If the temperature is 42°C (107.6°F) or more, leave the vehicle in a cool location and restart procedures after the ATF temperature has decreased.

- (5) Increase the oil temperature by idling the engine while checking the ATF temperature from the Subaru Select Monitor screen.

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(6) Adjust the oil amount as soon as reaching the starting temperature for oil adjustment procedures (42°C (109.4°F)).

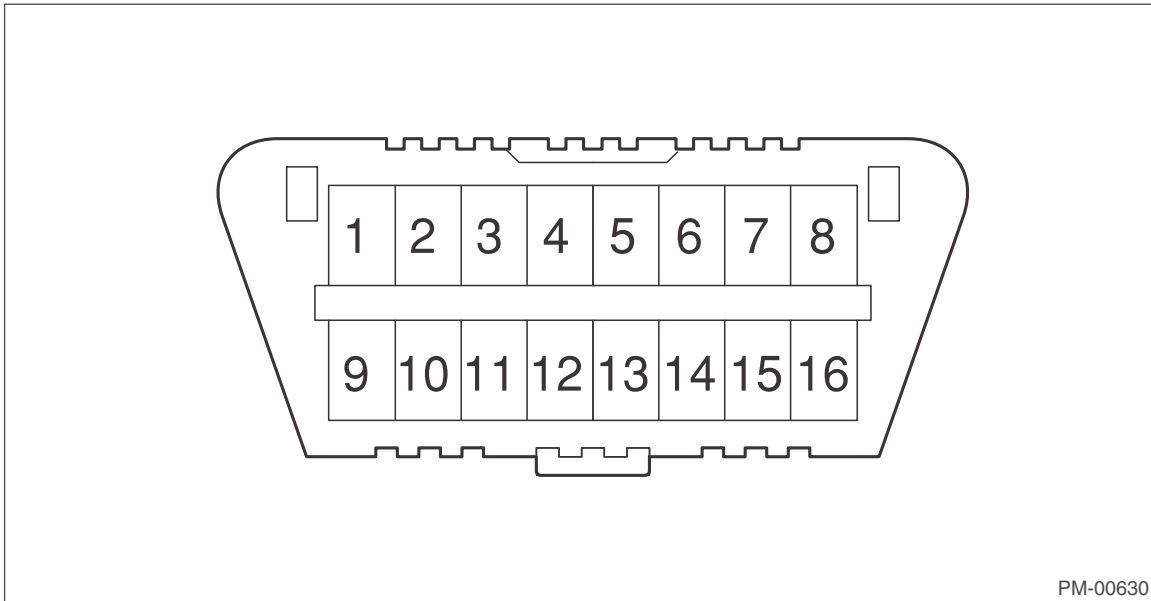
CAUTION:

Always be sure to adjust the ATF (overflow plug tightening) when at the proper temperature.

Lower than proper temperature	Proper temperature	Higher than proper temperature
Less than 43°C (109.4°F)	43°C — 47°C (109.4°F — 116.6°F)	48°C (118.4°F) or more

2) When shorting TC terminal circuit

(1) Short the data link connectors No. 13 and No. 4.

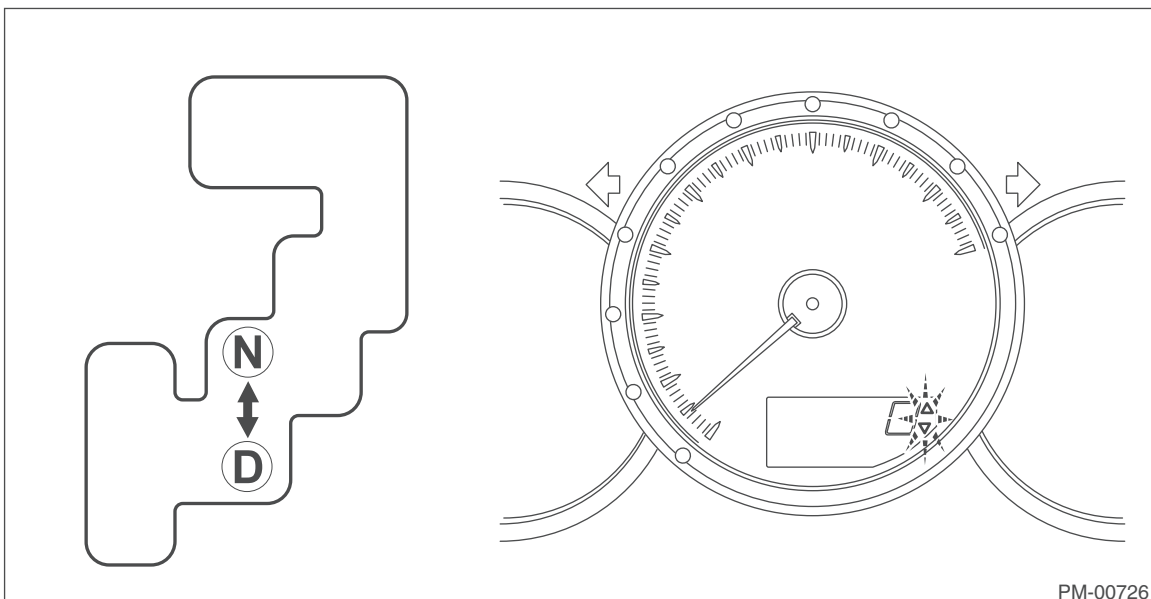


(2) Start the engine.

(3) Turn off all parts effecting an electrical load such as air conditioner, audio and lights.

(4) Operate the select lever in P → R → N → D → M → D → N → R → P to circulate ATF in the transmission.

(5) Operate between N ↔ D within 1.5 sec. for a continuous 6 sec. or more to switch to the oil amount adjustment mode. When the vehicle enters into oil amount adjustment mode, the upshift/downshift permitted indicator lamps [▲]/[▼] in the combination meter light up simultaneously for 2 sec. and turn off with no relation to the range position.



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- (6) After changing to oil pressure adjustment mode, switch to the “P” range.
- (7) Remove the short of data link connectors No. 13 and No. 4.
- (8) Check the status of the upshift/downshift permitted indicator lamps [▲]/[▼].

CAUTION:

If only the [▲] indicator lamp is illuminated or both [▲] and [▼] are illuminated simultaneously, stop performing procedures and leave the vehicle in a cool location. Start over and repeat procedures from Step (1) after the ATF temperature decreases to a point where only the downshift permitted indicator lamp [▼] when shifting to oil amount adjustment mode.

- (9) Adjust the oil as soon as the proper temperature for oil amount adjustment is reached.

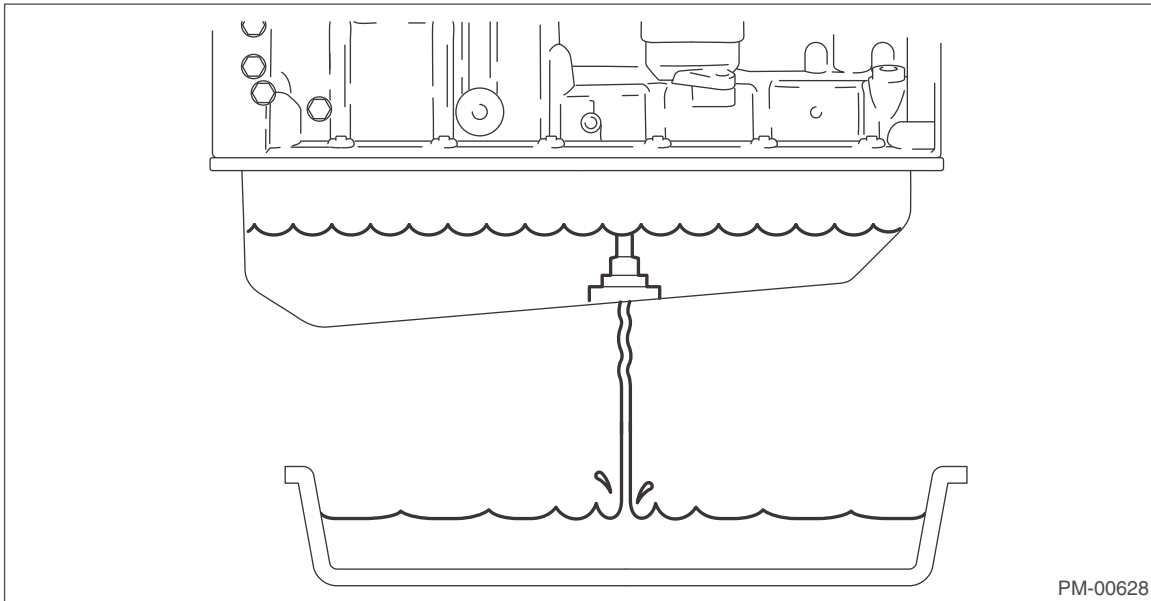
CAUTION:

Always be sure to adjust the ATF when at the proper temperature.

Lower than proper temperature	Proper temperature	Higher than proper temperature
Only the [▼] indicator lamp is illuminated	[▲] and [▼] indicator lamps are illuminated simultaneously	Only the [▲] indicator lamp is illuminated

3) Remove the overflow plug and check the oil amount when at the proper temperature for oil amount inspection.

- The oil amount is proper when fluid flows out of the overflow tube and then the flow of the fluid is thin.
- If fluid does not flow out of the overflow tube, fill through the refill hole until fluid flows out of the overflow tube. The oil amount is proper when the flow of the fluid is thin.



4) Install the overflow plug using a new gasket.

CAUTION:

Tighten the overflow plug with the ATF temperature at (43°C — 47°C (109.4°F — 116.6°F) (indicator lamps [▲] and [▼] are illuminated simultaneously).

Tightening torque:

20 N·m (2.1 kgf-m, 27.3 ft-lb)

5) Perform final tightening of the refill plug using a new O-ring.

Tightening torque:

39 N·m (4.0 kgf-m, 27.3 ft-lb)

6) Install engine under cover No. 2.

Tightening torque:

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

7) Install engine under cover No. 1.

Tightening torque:

M10: 7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

M12: 30 N·m (3.1 kgf-m, 22.1 ft-lb)

8) Lower the vehicle.

9) Turn the ignition to OFF.