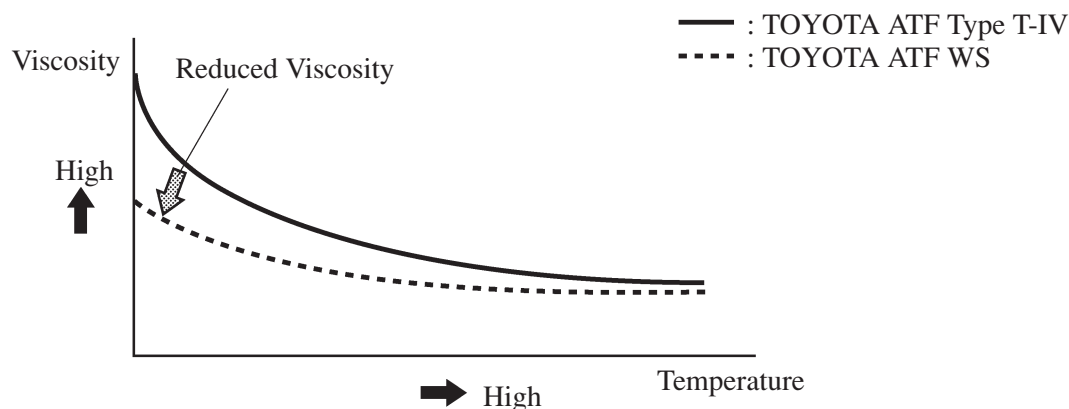


■ ATF

1. General

- The TOYOTA ATF WS has been adopted to reduce the resistance of the ATF and improve fuel economy by reducing its viscosity in the practical operating range. At the high-temperature end, its viscosity is the same as that of the TOYOTA ATF Type T-IV, which ensures the durability of the automatic transmission.
- There is no interchangeability between the TOYOTA ATF WS and other types of ATFs (TOYOTA ATF Type T-IV, D-II).



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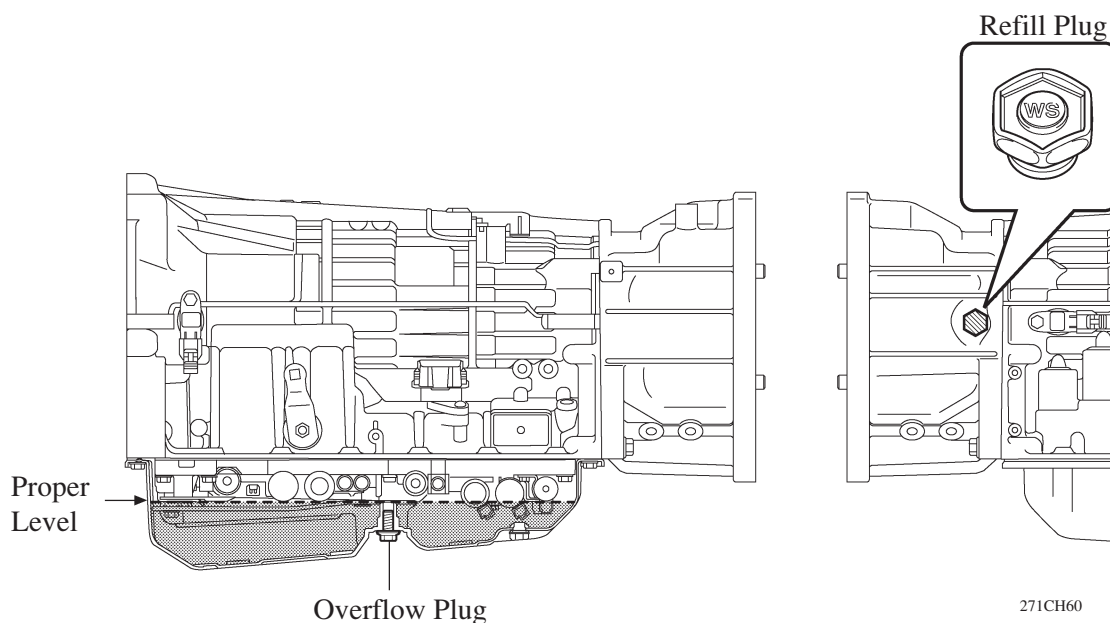
Service Tip

If a vehicle with a transmission filled with TOYOTA ATF WS is replenished with another type of ATF, the vehicle might not start off at extremely low temperatures. However, it will start off after it has been warmed up for a few minutes.

2. ATF Filling Procedures

The ATF filling procedure has been changed in order to improve the accuracy of the ATF level when being repaired or replaced. As a result, the oil filler tube and the oil level gauge used in the conventional automatic transmission have been discontinued, achieving a maintenance-free ATF level.

- This mechanism consists of a refill plug, overflow plug, ATF temp. sensor No. 2, and ATF temp. warning light.



271CH60

Service Tip**ATF Filling procedures using SST (09843-18040)**

When a large amount of ATF needs to be filled (i. e. after removal and installation of oil pan or torque converter), perform the procedure from step 1. When the small amount of ATF is required (i. e. removal and installation of oil cooler tube, repair of oil leak), perform the procedure from step 7.

- 1) Raise the vehicle keeping it level.
- 2) Remove the refill plug and overflow plug.
- 3) Fill ATF from the refill plug until it overflows from the overflow plug.
 - The fluid to fill should be TOYOTA ATF WS.
- 4) Install the overflow plug.
- 5) Fill the specified amount of ATF determined by the procedure and install the refill plug.
 - Example

Procedure	Amount Liters (US qts, Imp.qts)
Removal and installation of an oil pan (including oil drainage)	1.7 (1.80, 1.50)
Removal and installation of a transmission valve body	4.3 (4.54, 3.78)
Replacement of a torque converter	5.4 (5.70, 4.75)

- 6) Lower the vehicle down.
- 7) Use the SST (09843-18040) to short the terminals TC and CG of the DLC3 connector.
- 8) Start the engine and allow it to idle.
 - A/C switch must be turned off.
- 9) Move the shift lever slowly through each of the positions from the P to the L position, and move it back to the P position.
- 10) Move the shift lever to the D position, and quickly move then back and forth between N and D (once per less than 1.5 seconds) for at least six seconds. This will activate the oil temperature detection mode.

Standard: The ATF temp. warning light remains illuminated for 2 seconds and it goes off.

- 11) Return the shift lever to the P position and disconnect the terminal TC.
- 12) Idle the engine to raise the oil temperature.
- 13) Immediately after the ATF temp. warning light turns on, lift the vehicle up.
 - The ATF temp. warning light will indicate the ATF temp. according to the following table.
(Insert table here)

ATF Temp.	Less than optimized temperature	Optimized temperature	More than optimized temperature
A/T OIL TEMP Warning Light	Turn OFF	Turn ON	Blinking

- 14) Remove the overflow plug and adjust oil quantity.
 - If the ATF overflows, go to step 17, and if the ATF does not overflow, go to step 15.
 - 15) Remove the refill plug.
 - 16) Fill ATF to the refill plug until it flows out from the overflow plug.
 - 17) When the ATF flow slows to a trickle, install the overflow plug through the new gasket.
 - 18) Install the refill plug (only if the refill plug has been removed).
 - 19) Lower the vehicle down.
 - 20) Turn the ignition switch OFF to stop the engine.
- For details about the ATF Filling procedures, see the Hilux Repair Manual.