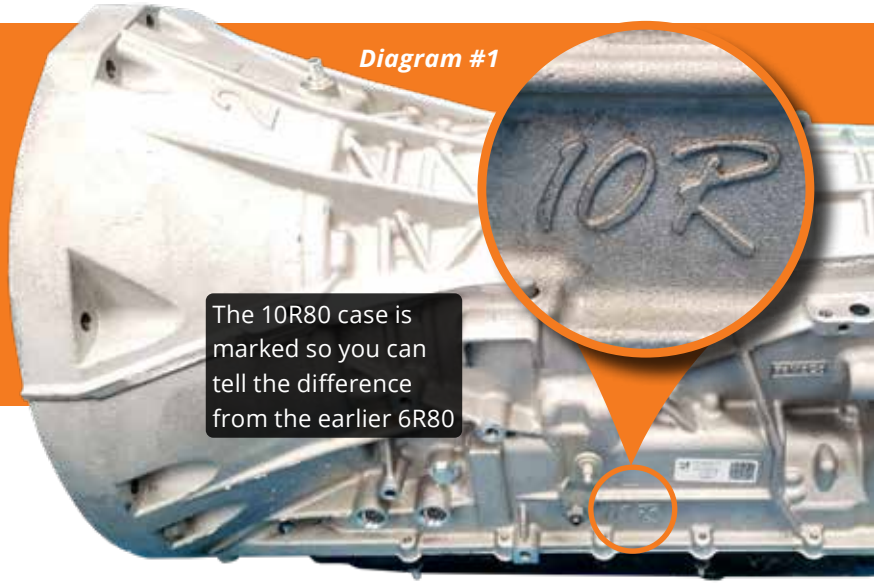
Ford 10R80 10 Speed Auto: ATF Drain and Refill Procedure.



2018 - 2020 Ford Mustang
2019 - 2020 Ford Ranger
2019 - 2020 Ford Everest

The 10R80, ten-speed transmission can be found in many rear-wheel-drive Ford vehicles since 2018. However, there are three slight differences in checking the fluid level depending on the model. This article will give you the procedures to ensure that the fluid levels are correct for all three.

In the past, if you wanted a faster and more fuel-efficient variant of a vehicle, you would have picked the one with a manual transmission. Modern automatic transmissions have changed this equation with computer control, torque converters that lock up sooner, lighter more compact construction and an ever-increasing amount of gear ratios.

Fuel efficiency is the main driver for more gear ratios. This is because if you travel at a set speed, it is better to use the lowest engine rpm possible. This reduces the number of power strokes per minute, resulting in better fuel economy. A secondary advantage of these modern automatics are an increase in vehicle performance figures. A test of the manual and automatic versions for the 2018 Mustang showed that the automatic was faster down the quarter-mile. More ratios allow the engine to remain at its most efficient, or powerful for a given wheel speed or load.

The 10R80 is found in the Ford Mustang, Ranger and Everest in Australia and many other models overseas, and seems to be a reliable unit.

Draining for Mustang Ranger and Everest.

1. Remove the transmission pan.

- **NOTE:** There are 6 stud bolts and 12 bolts that hold the pan on. ***See Diagram #2***
- **NOTE:** The pan gasket can be reused if it is not damaged.
- **NOTE:** It is not necessary to remove the filter to drain the transmission fluid. ***See Diagram #2***

2. However, if you are replacing the filter. Remove the two filter bolts, there is one long one and one short. ***See Diagram #2***
3. Pull the filter gently from the pump assembly. ***See Diagram #2***
4. The filter seal may still be in the pump assembly. Use an appropriate tool to remove it.
5. Fit a new seal into the pump assembly, then lubricate the seal with clean ATF recommended for the transmission.
6. Fit the new filter into the pump assembly.

- **NOTE:** These filters can be reused if not excessively contaminated. However, it is recommended to use a new one.

7. Install the filter bolts in the correct positions. The long one (71mm) is fitted to the RH front of the transmission, and the short one (20mm) is fitted to the LH rear of the filter. Tighten these bolts to **10.5 Nm**. ***See Diagram #2***

- **WARNING:** The transmission may be damaged if these bolts are fitted into the wrong hole.

8. Clean the pan and magnets, then align the gasket to the pan.
9. Fit the pan to the transmission and install the bolts and stud bolts loosely.

The 10R80 Has A Twin

GM vehicles in the USA use this transmission which they call the Hydra-Matic 10L80 or the 10LXX. This is because Ford and GM developed this transmission together. However, they each build their versions in different factories and have developed different control software for their specific applications.

You might find the GM version in the Chevrolet Camaro ZL1 which is imported and converted to RH drive by HSV. However the following procedures do not apply to the Camaro, as this version use an overflow tube in the transmission pan to set the level. No dipsticks for this one.

Diagram #2

Transmission Filter

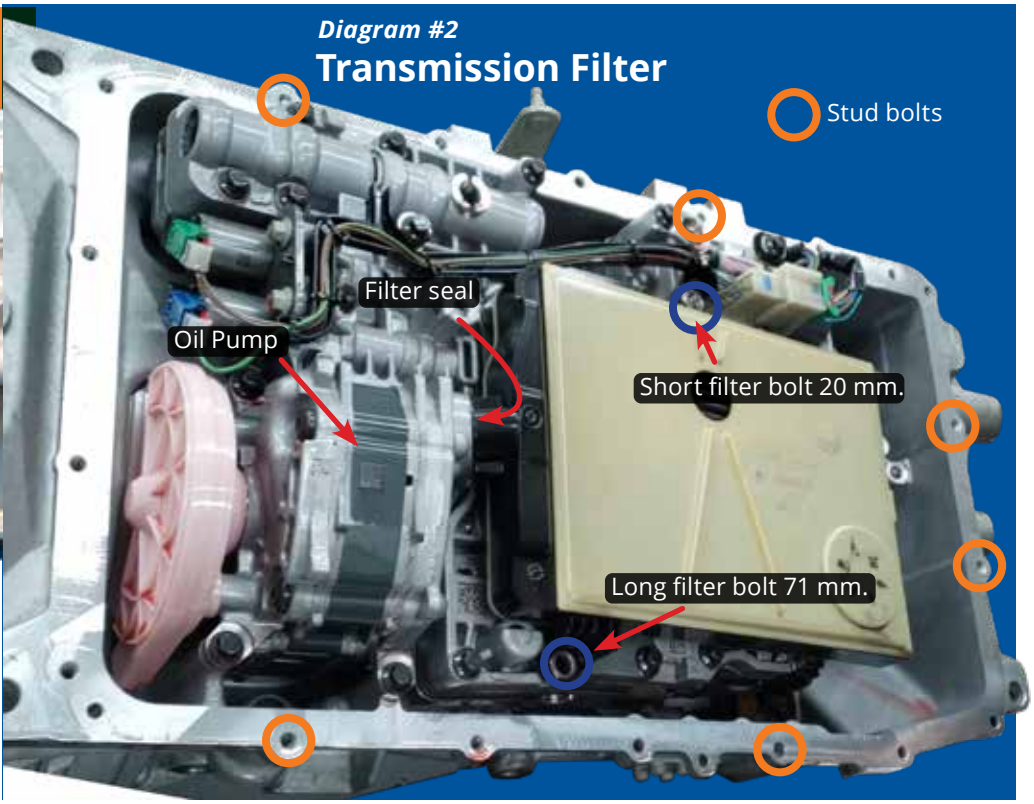
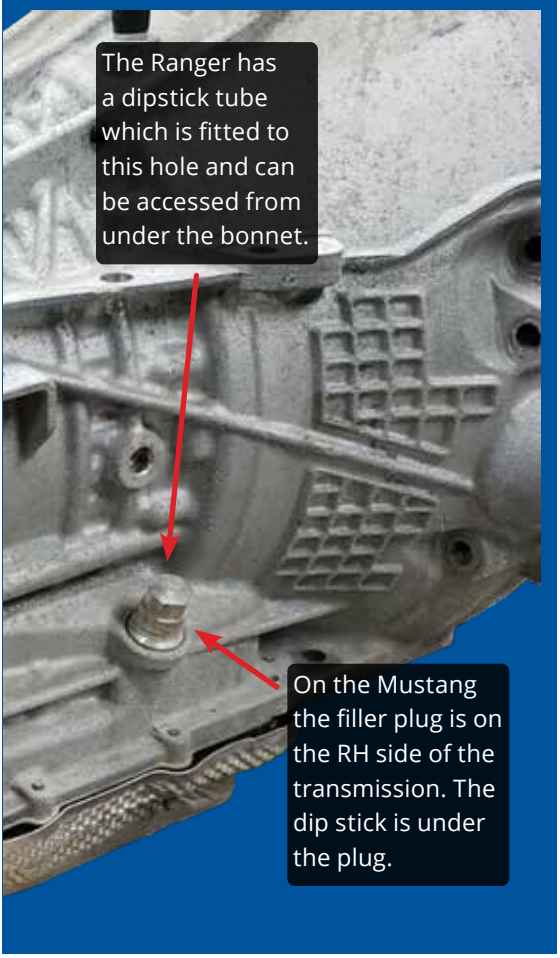


Diagram #3

Filler Plug Location



10. Tighten stud bolts in a diagonal pattern to **12 Nm.**
11. Tighten the remaining bolts in a diagonal pattern to **10 Nm.**

Mustang Filling Procedure

WARNING: Using any transmission fluid other than what the manufacturer recommends may result in damage to the transmission.

WARNING: The use of transmission flush or any other cleaning agents may damage internal parts.

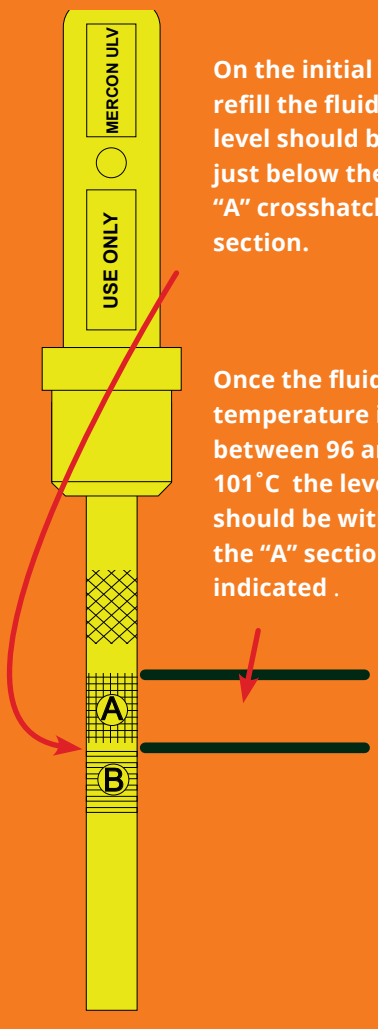
1. Remove the transmission filler plug from the right-hand side of the transmission at the bell housing end. ***See Diagram #3***
2. Remove the dipstick.
3. With an appropriate pump and fitting. Add **4.8 L** of the correct fluid (WSS-M2C949-A or MERCON™ ULV) as an initial fill. This will allow you to start the engine.

- **NOTE:** If the transmission is new or has been reconditioned add **5.7L**.

4. Connect a compatible scan tool and monitor the transmission fluid temperature via live data.
5. With the transmission in Park, hand brake applied and with your foot on the brake pedal, start the engine.
6. Move the selector through each gear range position, holding each position for at least 5 seconds.
7. Return the transmission to Park and allow the engine to idle.
8. Check the transmission fluid level with the dipstick.
9. There are two different types of dipsticks. One will have the letters “A” and “B” marked (which seems to be in the reverse order to the earlier 6R80 models), the other will have numbers from “1” to “6”. ***See Diagram #4 & #5***
10. For the one with letters ensure that there is fluid just below the start of the crosshatched area marked “A”. ***See Diagram #4***
11. For the one with numbers, ensure that there is fluid up to mark “6”. ***See Diagram #5***
12. Add fluid as required.
13. Refit the dipstick and filler plug and tighten the plug to **70 Nm**. ***See Diagram #3***
14. Test drive the vehicle while monitoring the transmission fluid temperature to ensure that it is between **96 and 101˚C**.
15. Return to the shop and with the engine idling, in Park with the temperature in the range above. Raise the vehicle safely, and remove the filler plug and dipstick.
16. For the dipstick with letters, the fluid level should be within the crosshatched area marked “A”. ***See Diagram #4***
17. For the dipstick with numbers, the fluid level should be between “4” and “5”. ***See Diagram #5***

Diagram #4

Mustang Dipstick with Letters

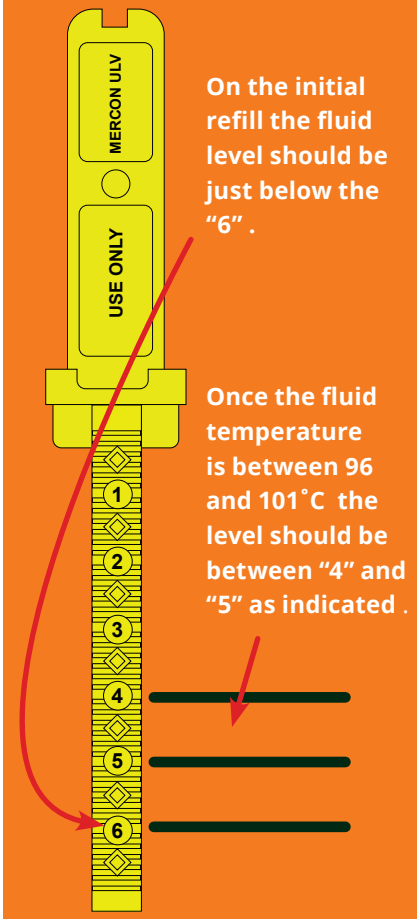


On the initial refill the fluid level should be just below the "A" crosshatch section.

Once the fluid temperature is between 96 and 101˚C the level should be within the "A" section indicated .

Diagram #5

Mustang Dipstick with Numbers

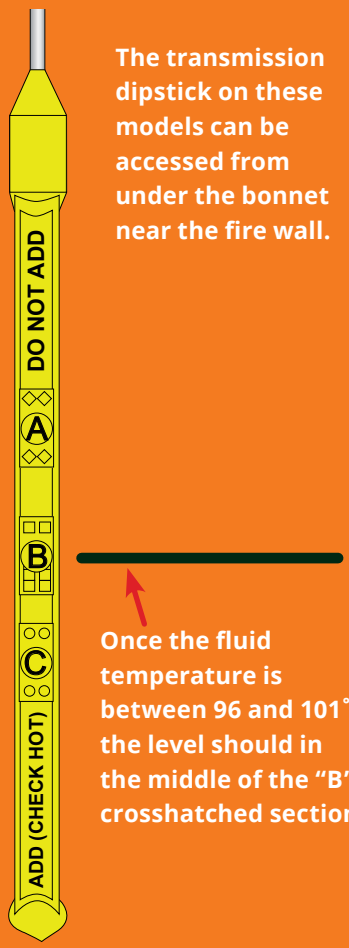


On the initial refill the fluid level should be just below the "6" .

Once the fluid temperature is between 96 and 101˚C the level should be between "4" and "5" as indicated .

Diagram #6

Ranger / Everest Dip Stick



The transmission dipstick on these models can be accessed from under the bonnet near the fire wall.

Once the fluid temperature is between 96 and 101˚C the level should in the middle of the "B" crosshatched section.

18. If not top up the transmission.
19. If it is overfull at operating temperature, use a suitable suction gun or large syringe to draw out any excess fluid.
20. Once the fluid level is correct, refit the dipstick and filler plug. Tighten the plug to **70 Nm**.
    See Diagram #3

Ranger Refilling Procedure

The Ranger and Everest have a traditional dipstick and tube which can be accessed from under the bonnet just like the good old days.

1. With an appropriate pump and fitting, add **3.3 L** of the correct fluid (WSS-M2C949-A or MERCON™ ULV) as an initial fill via the dipstick tube. This will allow you to start the engine.

- **NOTE:** If the transmission is new or has been reconditioned add **11.35 L**.

2. Connect a compatible scan tool and monitor the transmission fluid temperature via the live data.
3. With the transmission in Park, hand brake applied and with your foot on the brake pedal, start the engine.
4. Move the selector through each gear range position, holding each position for at least 5 seconds.
5. Return the transmission to Park and allow the engine to idle until the fluid temperature is between **96 and 101˚C**.
6. Check the transmission fluid level with the dipstick.
7. The fluid level should be in the centre of the "B" section.
   See Diagram #6
8. If more fluid is required, add it in **0.25 L** increments until the level is correct as stated above.
9. If it is overfull at operating temperature, use a suitable suction gun or large syringe to draw out any excess fluid.

For more information on the Ford vehicles with this transmission log on to VACC's MotorTech or call VACC's Technical Advisory Service.