

Changing Your Front Differential, Rear Differential, 5-Speed Transmission, and Transfer Case Fluids

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Application: 1998 4Runner SR5 4WD (5 speed)

Last Updated: September 27, 2006

Tools

Floor jack, jack stands, and wheel chocks

1/2" socket wrench

3/8" socket wrench

Crescent Wrench

Torque wrench

24mm socket

14mm socket

12mm socket (deep) with extension

10mm hex key or socket

12mm hex key or socket

Oil Drain Pan

Supplies

Standard Washer/Gaskets

"Crush" Washer/Gaskets

5 bottles of 75W-80 Gear Lube (1 qt)

3 bottle of 80W-90 Gear Lube (1 qt)

Shop rags/towels

Disclaimer

I am providing this write up for illustrative purposes only. Perform at your own risk. Any mods (including this one) you perform on your vehicle is your responsibility. Commercial use of this write up may result in legal action.

Summary

Changing your front/rear differential, 5-speed transmission, and transfer case fluids ensures that the parts within these critical components function with minimal wear and tear. Changing your differential and transfer case fluids at your scheduled intervals (please refer to your manual) will help ensure the longevity of these parts as well as your 4Runner. Refer to the chart below for fluid type, weight and capacity information. Note: I first used [Amsoil](#) synthetic fluids in place of the Toyota OEM fluids which allows me to extend the change intervals. Of course, you may use any brand of your choice. For my next change, I am using [Redline](#) for all my fluids. Of note, their [MT-90 manual transmission fluid](#) is the best. In fact, the Amsoil 75W-90 was too slippery for the transmission. Based on my personal experience, I do not advise putting it into your manual transmission.

Assembly	Fluid Type & Weight	Capacity
Front Differential	Gear Oil API GL-4 or GL-5 SAE 75W-90	1.2 Qt (36 oz)
Transfer Case	Hypoid Gear Oil API GL-5 SAE 75W-90	1.1 Qt (33 oz)
Manual Transmission	Hypoid Gear Oil API GL-5 SAE 75W-90	2.3 Qt (69 oz)
Rear Differential	Hypoid Gear Oil API GL-5 SAE 80W-90	2.6 Qt (78 oz)

For my fluid changes, I started with the rear differential, moved onto the transfer case, then the manual transmission, and finally finished off with the front differential. Note: it's a good idea to do both your oil change and the front differential at the same time as you will need to pull off the front skid plate anyways. You may do it in any order you wish.

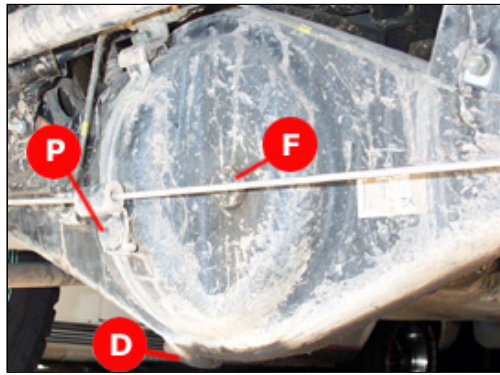
Changing Your Rear Differential Fluid

Begin by lowering your spare tire and moving it out of the way. Now chock your rear wheels and jack up your 4runner and set your jack stands in place. Fortunately, I can work semi-comfortably in this area without jacking it up in the rear thanks to a mild PP 1" lift. Unbolt the 12mm rear brake cable bolt. This will allow you to maneuver your 24mm socket on the ½ inch socket wrench onto the top 24mm (fill) bolt. Turn it counterclockwise to remove the plug. After removing this plug, remove the bottom 24mm drain plug. Allow it to drain out.

Note: one reader provided me feedback that the 24mm drain bolt is soft metal. He used a 12 point instead of 6 point socket and rounded it off. Thus as a precaution, use a 6 point socket and use some PB Blaster the night before to loosen the plug.



Lower the tire by cranking counter-clockwise



Unbolt 12mm bolt (P) to allow room for your 24mm socket; remove fill bolt (F) first and then drain bolt (D)

You will probably notice some metal shavings on the bottom (drain) bolt. Clean the shavings off. After the fluid has completely drained, re-fasten the bottom drain bolt with a "crush" washer/gasket.



Drain baby, drain...



Clean off the magnetic drain plug

Insert your hand pump into your bottle of Amsoil and insert the other end into the fill hole. Pump approximately 2.6 quarts (78 oz) of the gear fluid in. When the fluid just begins to seep out of the fill hole, re-fasten the fill bolt.



Insert the barbed end into the fill hole

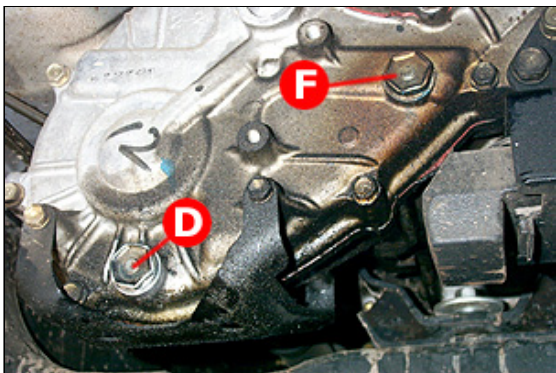


Pump 2.6 qts of gear lube in

Re-fasten the rear brake cable bolt and move onto the transfer case.

Changing Your Transfer Case Fluid

This one is the easiest of the three. Using the same 24mm socket, remove the top "fill" bolt and set aside. Next, move your drain pan about 8 to 12 inches towards the rear of bottom drain plug. Now unbolt the drain bolt. Careful because the transfer fluid will shoot out like water from a busted dike from an old 1930's movie (don't ask me how I know this).



Remember, ALWAYS remove the fill hole first!



Careful, that fluid will shoot out like a missile

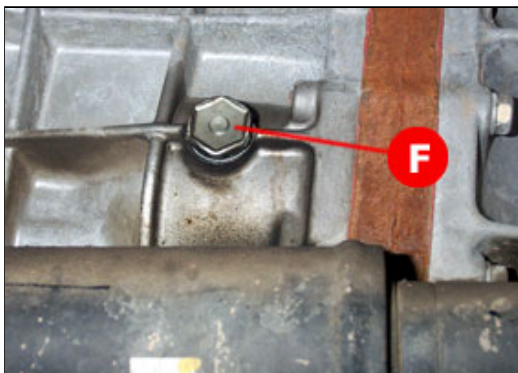
After allowing the fluid to drain, attach washers to both bolts and re-fasten the bottom "drain" bolt. Pump in 1.1 Quarts (33 ounces) of gear lube into the transfer case. When the fluid just begins to seep out of the fill hole, re-fasten the fill bolt. You're done and now onto the front differential.

Changing Your Manual Transmission Fluid

Thank goodness for manual transmissions: its a very simple drain and fill! As always, unbolt the fill plug first. It is located on the driver's side. It's easier to use a crescent wrench here to remove the 24mm bolt. Next, place your oil pan underneath the drain plug and then remove the bolt, located on the passenger side, with a 24mm socket. Place both bolts/washers in a safe location and let the transmission fluid drain.



Remove the 24mm drain plug/washer. This one is very easy to remove.

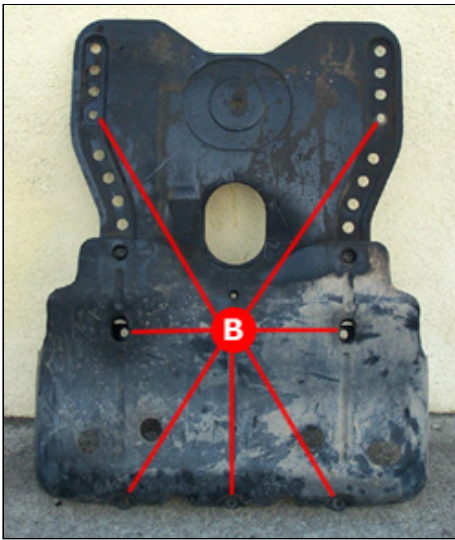


Remove the 24mm fill plug w/ a crescent wrench. Space is a little tight here, but its doable.

After the transmission fluid comes to a slow drip, re-fasten the drain plug. Next, fill the transmission with 2.3 quarts (69 oz) of Amsoil 75W-90 Gear Lube. Replace the fill plug and then you're ready to move onto the front differential.

Changing Your Front Differential Fluid

This one requires one tedious step: removing the front skid plate. You'll definitely need to jack up your 4Runner for this one, so go to it. To remove the skid plate, see the graphic below. There are a total of six 12mm bolts that need to be removed. Begin by removing the front three bolts. Then remove the back two bolts. Finally, remove the middle bolts. You will notice that in the front of the skid plate, it will "hang" because of the three "clips". Pull off the skid plate by pulling upwards and towards the front. Set aside and keep the bolts in a safe place.

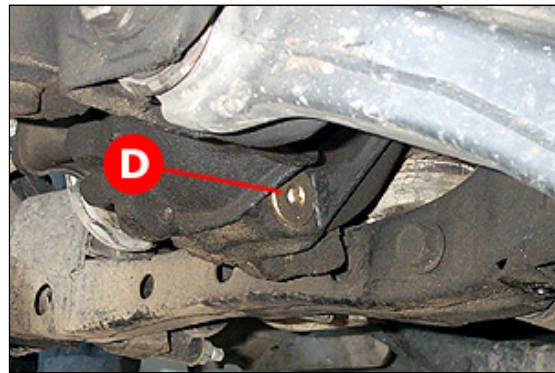


Remove the six 12mm bolts

Removing the fill and drain is identical in procedure to the transfer case. The fill plug uses a 10mm hex and the drain plug is a 12mm hex.



Remove the front differential drain plug w/ a 10mm hex. Excuse the blurry picture.



Remove the front differential drain plug w/ a 12mm hex. Some 3rd gen owners (99 to 02) have written to me and said that their front diff drain and fill plugs are both 12mm. Have both just in case.

Re-fasten the drain plug w/ a new crush washer/gasket. Fill your front differential oil w/ the hand pump with 1.2 quarts of gear fluid.

While you're down there, consider changing your oil. Removing the oil filter is MUCH easier with the skid plate off. Here's my write up on [how to change your oil](#).

Replace the skid plate in reverse order. Now, take your 4Runner for a short drive in both 4Hi and 4Lo to re-lubricate all assemblies.

Comments and Learning Points

- When removing the fill plug on the manual transmission housing, space is a little tight. However, you can use a normal crescent wrench to do the deed.

- I had the most difficult time removing the drain plugs on the front and rear differential. Try to clean out as much gunk as possible with a good engine cleaner and a toothbrush. Also consider using PB blaster to loosen up the plugs.

- Removing the skid plate is easily accomplished if you have an extra jack stand on hand to hold one end up (the back end, for example) while unbolting the other.

- I received a PM from MTL_4runner who confirmed with a dealership that for 3rd gens from 1996-1998, the front diff plugs use a 10mm and 12mm for the drain and fill plugs, respectively. For 1999-2002, the drain and fill plugs are both 10mm. Thanks, MTL!

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