

# Changing Rear Transaxle Fluid 2006 Honda Pilot

Ronald Fonden

3/30/15

(40 – 60 minutes)

# Changing Rear Transaxle Fluid

## 2006 Honda Pilot

### Tools Needed:

- Socket Wrench with 3/8" drive
- 3/8" Socket extension – 1' (12 inches) for easy reach
- Torque Wrench capable of 33 ft-lbs torque compatible with 3/8" square socket
- Honda Pilot Lug Wrench – for lowering/raising spare tire (comes with vehicle)

### Supplies Needed:

- VTM-4 Differential Fluid (Honda Genuine) 1 gallon (4 quarts) ... \$ 37
- Crush Washers (2) (Honda Genuine) ... \$5
- Plastic 3 gallon+ Fluid Drain bowl (to collect 3 quarts of fluid) ... \$9 (reusable)
- (Recommended) Oil Floor Mat – just incase of a spill ... \$10 (reusable)
- Fluid Pump and plastic hose that fits Differential Fluid gallon container ... \$ 10
- Shop Towels (for wiping excess fluid after draining and filling) ... \$ 8



**Supplies #1** – It is highly recommended that you use Honda’s VTM-4 Differential Fluid (Honda Genuine). A 1-gallon bottle can be purchased from you local Honda dealer parts department for around \$37.

Also, while you are there, purchase two new Crush Washers for the Fill and Drain Plugs for about \$5 total.

**Note:** General internet research highly recommends to use the genuine Honda fluid as other brands may not provide the same results and could void any vehicle warranty if you still have one.



**Supplies #2** – Another necessary item is the Fluid Pump and plastic hose that fits the 1-gallon Differential Fluid container.

The picture shows a Fluid Pump that I purchased from a local O'Reilly Auto Parts store for about \$9. The pump has a plastic tube that will fit into the Differential Fluid container and the cap assembly screws onto the top of the bottle. The top of the pump has a plastic tube that extends out and will be used to fit into the Differential Fill Plug area.

When the top of the pump is pushed down, it will pump fluid from inside the bottle out through the top tube.







**Step #1** – Park your vehicle in a nice, dry place to work (garage) on level ground, shut the engine off, and set the park brake. Let the vehicle cool down to ensure you do not get burned from a hot exhaust pipe.

The picture to the left shows the location of the rear transaxle Fill and Drain Plugs (inset picture is a close-up view).

**Note** – Notice that the square inserts of the Fill and Drain Plugs exactly fit the square output section of a 3/8" drive socket wrench. These will be easy to reach and work on if you add a 1' socket extension to your socket wrench.





**Step #2** – Raise the rear hatch door and open the small plastic cover to the spare tire lowering mechanism. Insert the vehicle's lug wrench into the lowering mechanism (as shown) and rotate it counter-clockwise to lower the spare tire.

Once completely lowered, remove the spare tire and secure the lowering cable out of the way with some string or twine (see next page views).

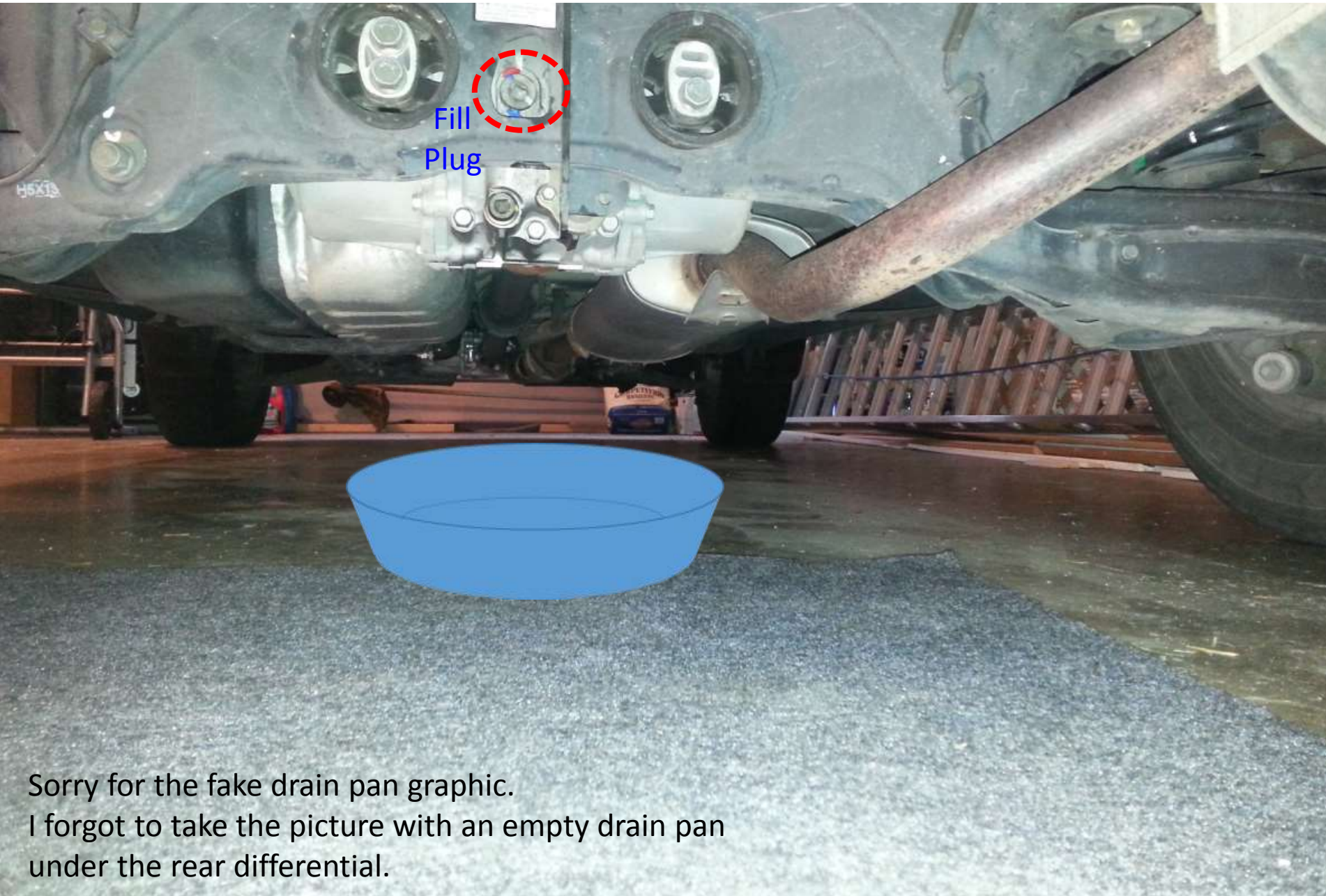


**Step #2 (continued)** –  
Lowered tire using vehicle's  
lug wrench.

Tire has been removed from  
the lowering cable and the  
cable has been secured out  
of the way using some twine.







**Step #3** – Place the drain pan under the Rear Differential. Then, with the Socket wrench and extension inserted into the Fill Plug slot, turn the wrench counter-clockwise to remove the plug. It may take some ... “ummph” ... to get it loose as it may be in tight. Once the Fill Plug is loose, remove it, set the old crush washer aside, and wipe the Fill Plug clean and set it aside.

**Important** – The Fill Plug must be removed first. This is to ensure that you will be able to add fluid after the fluid has been drained. It would be a bummer to drain the fluid first and then find out that you couldn't get the Fill Plug off because it was stuck.

Sorry for the fake drain pan graphic.  
I forgot to take the picture with an empty drain pan under the rear differential.





**Step #4** – With the upper Fill Plug removed and set aside, remove the lower Drain Plug and allow the Rear Differential Fluid to drain into the Fluid Drain Bowl.

Once the Drain Plug is removed, set the old crush washer aside, and wipe the Drain Plug clean and set it aside. Notice that the Drain Plug is much longer than the Fill Plug. It actually has a magnet on its end to collect any loose bits of metal from within the differential.

The inset picture shows both the Drain Plug (attached to a 1' extension) and the Fill Plug.





**Step #5** – Once all of the Rear Differential Fluid has drained out into the Fluid Pan, take one of the new Crush Washers and place it on the clean Drain Plug. Then insert the Drain Plug (with the Crush Washer) into the Drain Plug hole tightening it finger-tight (clockwise).

Once the Drain Plug is finger tight, insert the 1' extension into the square opening in the plug and then connect your torque wrench to the extension (see next chart).





**Step #6** – With the Torque Wrench attached to the extension which is inserted into the Drain Plug, set the torque wrench to 33 ft-lbs and tighten in a clockwise direction. Once 33 ft-lbs of tightening is achieved, remove the torque wrench and extension from the Drain Plug.

Don't worry about wiping the area clean yet, that will come later.





**Step #7** – At this point, get the VTM-4 Differential Fluid bottle and attach the Fluid Pump to it. Then, extending the upper tube of the pump into the Fill Plug opening, hand-pump about 3 quarts of differential fluid into the Rear Differential assembly.

You'll know when you have pumped 3 quarts into the Plug opening when the fluid begins to run out of the opening. Once the differential is full, remove the tube and set the bottle aside. Then insert the Fill Plug with the other new Crush Washer into the opening and tighten it only finger-tight.

Now move everything out from under the vehicle, start it up, and gently back-up about 2 feet. Then gently drive forward about 2 feet. Do this about three times (backward and forward) to ensure that the differential fluid is evenly dispersed.

Next, turn the vehicle off, put the pan back under the rear differential, remove the Fill Plug, and pump an additional ½ quart of Transaxle Fluid into the Fill Plug hole (it will take it) until the fluid begins to run out into the drain pan.





**Step #8** – Once the differential is full, remove the tube and set the bottle aside. Then insert the Fill Plug with the new Crush Washer into the opening and tighten it finger-tight. Then insert the 1' extension into the square opening in the plug, connect your torque wrench to the extension, set the torque wrench to 33 ft-lbs , and tighten the plug in a clockwise direction. Once 33 ft-lbs of tightening is achieved, remove the torque wrench and extension from the Fill Plug.

You may now wipe-off any fluid from the Rear Differential assembly area.





**Step #9** – You have now completed draining and refilling the fluid in your Rear Differential. However, there are still three more steps to complete.

They are:

- Putting your spare tire back in place
- Getting rid of the old drained differential fluid
- Putting your tools away





**Step #10 – Putting your spare tire back in place.** To reinstall your spare tire, free-up the lowering cable, insert the lowering cable into the tire center, and turn the lug wrench clockwise to lift the spare tire up under the vehicle.

Once the tire has been properly lifted and is seated in place, stow the lug wrench and close the plastic cover to the tire lowering mechanism.



**Step #11 – Getting rid of the old drained differential fluid.** Since the old differential fluid is considered a hazardous substance, it must be disposed of properly. Most Auto Parts stores will take your old fluid and recycle it for free. Below is a nice trick for getting it to them in a nice clean manner.

As shown in the picture, remove the fluid pump from the fluid bottle and turn it around such that the output tube goes back into the bottle and the intake tube goes into the full fluid pan. Now, carefully pump the pump so that the fluid from the pan gets pumped back into the bottle. There should be plenty of room in the bottle for all of the old fluid.

Once the pan is empty (you may have to pour the last bit in to the bottle manually), you can put the cap on the bottle, throw away the pump, and clean out the fluid pan (for use another day).

The fluid bottle can then be dropped-off at the nearest Auto Parts store for free disposal.





Ron Fonden  
3/30/15

### **Step #12 – Putting your tools away.**

The last thing to do is to make sure your tools are clean and put away! Also, you can throw out the old Crush Washers as you will no longer need them.

Now that you rear differential fluid has been changed and filled to the proper level, you should have a nice, quiet ride – free from any rumbling sounds coming from your Honda Pilot's rear differential!

I hope this was helpful for you!