

Transmission – Fluid and Filter Change

Excerpt Dave Breggins CD on Hummer Maintenance (available for purchase at www.bluehummer.com)
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Description

Transmission Fluid Level is checked as part of the “A” Service, and at every fueling. Transmission Fluid is changed and Filter replaced as part of the “C” Service.

Related Tasks

Driveline Protection Center Section must be removed for this procedure. For the 4-speed, the transfer case protection must be removed for this procedure.

Tools and Supplies

Drain Pan

10 mm and 13mm sockets with short extension
1/2” wrench or socket 3/4” short socket with short extension
7/8” socket, 13/16” wrench

Transmission Filter and ATF Special Tools

Spray cleaner and lint-free cloth
10 mm flex socket
1/2” flex socket Torx T-55
Hydraulic Bottle Jack and Wood Block
Funnel for adding ATF

Notes / Special Instructions

- ’94 – ’96 use a different Filter than ’97 and later Hummers. (Refer to Illustration 7.) The late-model Filter has 4 legs on the bottom. Be sure to use the correct Filter.
- The 3-speed Transmission (’93 and earlier) requires a different filter. (Refer to Illustration 8). The changing procedure is similar but not identical.
- For Hummers with the 4-speed Transmission, the Frame Cross-member must be removed to allow the pan to be removed. This is not required with the 3-speed.
- The dipstick tube should be checked for cracks or fractures, and should be securely inserted into the transmission body.
- There is a short “DOT” cable fastened between the frame and one of the crossmember bolts. This cable may be frayed and could be quite sharp, particularly near the ends.
- The inside of the Transmission must be kept clean of dirt, grit, and lint.
- Use care not to disturb the wires, connectors, etc. inside the Transmission when removing or installing the Pan and the Filter.
- The Hummer Transmission does not have any facility for draining the Torque Converter. Only part of the fluid will be replaced by this procedure. This is in accordance with AMG procedures and recommendations. There is a procedure for flushing the torque converter and transmission cooling circuit, however special equipment is required. Refer to the service manual for details.
- There is a magnet inside the Transmission Pan (4-speed).
- There is a magnet on the Drain Plug (3-speed, and some 4-speed).
- Make sure that wind will not blow dust or dirt into the Transmission.
- Make sure that wind will not blow draining fluid away from the drain pan.
- The amount of fluid drained varies greatly from one truck to another. If practical, check the fluid level before draining and measure the amount of fluid drained. Begin filling the Transmission by adding that amount and then check the level.

Fluids Required

Type	Specification	Quantity
ATF	Dexron III	4 to 5-1/2 qt. (5 for 3-speed)

Fasteners

Fastener	Wrench Size	Loctite	Torque	Notes / Special Tools
Drain Plug	1/2"	-	25 lb ft	Magnet on Plug, 4-speed
Drain Plug	9/16"	-		Magnet on Plug, 3-speed
Drain Plug	Torx T-55 or 15 mm	-	25 lb ft	Recessed
Transmission Pan	1/2"	-	12 lb ft	3-speed only
Filter Retaining Bolt	1/2"	-		3-speed only
Transmission Pan	10 mm	-	18 lb ft	4-speed only
Transmission Shift Bracket	13 mm	-	18 lb ft	Pan bolts that hold Bracket – 4-speed only
Transfer Case Mounting Bolts	3/4"	-		
Cross-member Frame Bolts	13/16" & 7/8"	-		

Procedure Fluid Level Check

1. Requirements:

- Truck must be parked on a level surface.
- Engine should be idling in Park or Neutral.
- Transmission should be warm for the most accurate level reading. If it is cold, the fluid level will be slightly lower.
- While holding the truck with the brake, shift into each transmission shifter position for about 5 seconds.
- Return the shifter to Park or Neutral before checking.

2. Following Fluid Addition:

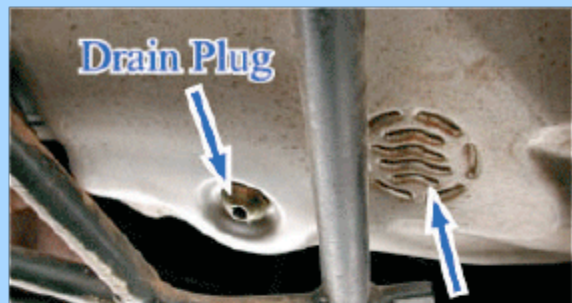
- Allow time for fluid to drain down the dipstick tube. 2 minutes is usually sufficient. Be cautious of false level readings because of fluid in the tube getting on the dipstick.

3. Check Fluid Level.

- Remove dipstick, clean, and replace briefly.
- Fluid should be in the marked range.
- Owner's manual contains information about fluid level, checking, and dipstick removal.

Replace Fluid and Filter

1. Set Parking Brake or chock wheels.
2. Check Transmission Fluid Level (see above section).
3. Remove Driveline Protection.
 - Center Section must be removed.
 - (4-speed only) Transfer case skid plate must be removed.
 - Refer to Driveline Protection section.



4. Drain transmission Fluid.

- Illustration 1 shows the Recessed Drain Plug from the outside. (Driveline Protection still in place.)
- Illustration 2 shows the non-recessed Drain Plug from the inside.
- Position Drain Pan below the Drain Plug. With non-recessed Drain Plug, fluid may stream out a short distance.
- Clean the area around the drain plug.
- Remove the Drain Plug.
- Recessed Drain Plug does not allow complete draining of the pan. Some fluid will remain inside.
- If practical, measure the amount of fluid drained. Use this as a starting point when refilling the Transmission. If fluid level was not correct when checked prior to draining, adjust this amount accordingly.
- If there is a magnet on the drain plug, check it for metal bits and excess sludge.



Illustration 1 – Recessed Drain Plug

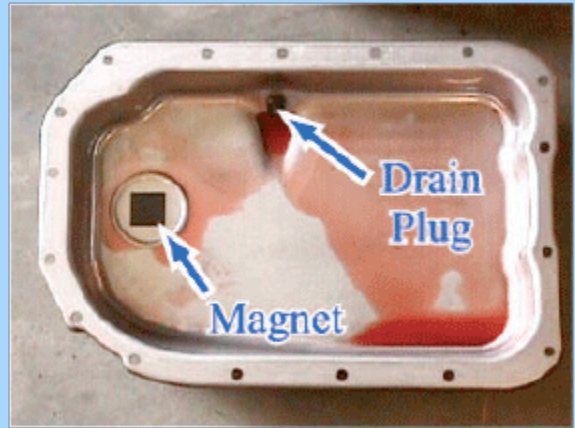


Illustration 2 – Drain Plug

5. Reinstall the Drain Plug.

- Clean and inspect the Drain Plug and gasket.
- Wet the rubber gasket of the Recessed Drain Plug with ATF.
- Reinstall and torque the drain plug.

6. (4-speed only) Remove two bolts fastening Transfer Case Mount to Transfer Case.

7. (4-speed only) Position the Jack and Wood Block as shown in Illustration 3.

- For clarity, this picture is shown with the Frame Crossmember already removed.
- The Wood Block is to protect the Transfer Case.
- Raise Jack until Transfer Case just lifts free of Mount.

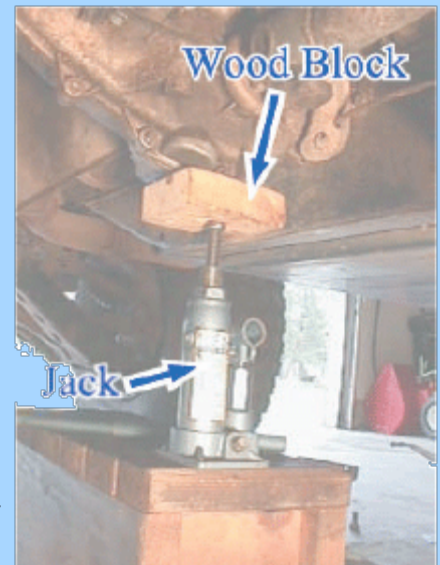


Illustration 3 – Jack Position

8. (4-speed only) Remove Frame Cross-member.

- Remove Two Nuts holding Frame Cross-member. It may not be necessary to hold the bolt on the side with the “DOT” cable.
- It may be necessary to pry the Frame Cross-member out of the support brackets. Use care - Cross-member is heavy.

9. Remove Transmission Pan.

- Clean the area around and above the edges of the Transmission pan.
- The Transmission Pan is held in place by 17 bolts around the edges. (13 bolts for the 3-speed)
- Several bolts may require a flex socket to clear the exhaust cross pipe. Failure to fully seat the socket may damage the bolts and make removal difficult. Damaged bolts should be replaced.
- Remove the Pan Bolts. Leave one bolt on each corner finger-tight until all other bolts are removed. This will keep the pan from falling or spilling fluid.
- While supporting the Pan, remove all remaining bolts.
- Carefully lower the Transmission Pan. Keep the Pan level to avoid spilling fluid still in the Pan.
- (4-speed only) Push the Transmission Shift Bracket to the rear of the truck and slightly turn the Pan to help it clear the Bracket.



- Use care not to bump or disturb parts inside the transmission.
- Fluid will likely continue to drip from the bottom of the Transmission. You may blot this area with a lint-free cloth or paper towel. Use care not to get dirt, debris, or lint in the Transmission.
- Illustration 4 shows the inside of the Transmission and the Transmission Filter.
- (4-speed only) Retain the Pan Gasket – it is usually reusable. 10. Remove the Transmission Filter.
- The transmission filter is removed by pulling downward on the corner where it is attached while turning back-and-forth.
- The 3-speed filter is also loosely retained by a bolt and sleeve (Illustration 9). In the 4-speed, there are no other fasteners.
- Additional fluid may drain from the filter as it is moved.

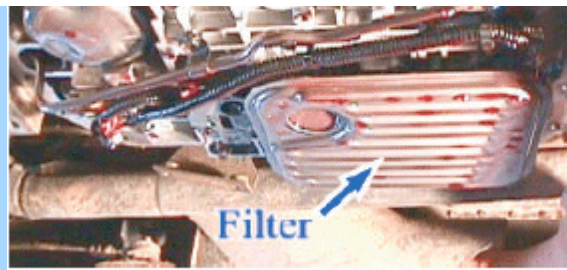


Illustration 4 – Transmission Filter

11. Clean the Transmission Pan.

- The transmission pan should be drained of any remaining fluid.
- There is a magnet attached to the bottom of the pan (4-speed). It should be examined for metal pieces or excess sludge. Refer to Illustrations 1 and 2 for magnet location.
- The magnet should be removed and cleaned.
- Clean the inside of the Pan and the Gasket areas on the Pan and the Transmission. Position the magnet back in the Pan.
- The factory Pan Gasket can usually be reused (4-speed only). It can be identified by the stiff center (sandwiched between layers of rubber) and the exposed metal areas around the bolt holes. Illustration 5 shows both types of Pan Gaskets.
- If the Pan Gasket is to be reused, clean it and examine it for damage.

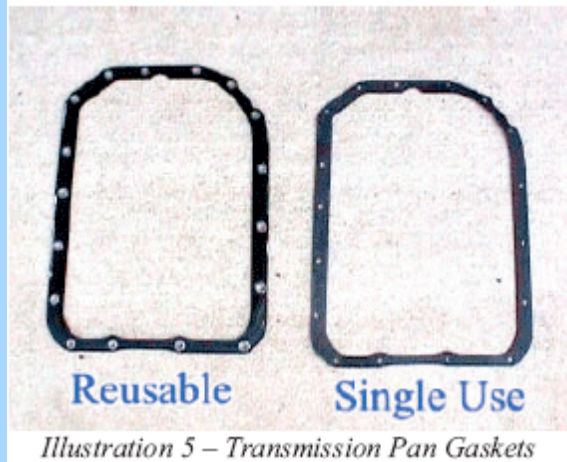


Illustration 5 – Transmission Pan Gaskets

12. Replace Transmission Filter.

- Illustration 6 shows a typical Transmission Filter (4-speed).
- Illustration 7 shows the different Filters used in the Hummer 4-speed transmission. Note the legs on the bottom of the late-model Filter. Be sure to use the correct Filter.
- The seal fits around the neck on the filter and usually remains in the transmission. If undamaged, the seal can be reused. Check the seal for damage and replace if necessary.
- Position the new Filter inside the Transmission and twist it as you push it into place. Wetting the tip of the tube with ATF can make installation easier.
- Reinstall the Filter Retaining Bolt and Sleeve (3-speed).
- When finished, the filter must be in the same position as the original was before removal.
- Be careful not to disturb anything else inside the Transmission.



Illustration 6 – Transmission Filter (4-speed)

13. Reinstall the Transmission Pan.

- Position the Pan Gasket on top of the Transmission Pan.
- Push the Transmission Shift Bracket to the rear to help it clear the edge of the Pan (4-speed only). Carefully position the pan in place. Be careful not to disturb

anything inside the Transmission.

- Hold the transmission pan in position and finger-tighten several bolts to hold it in place. Make sure the Pan Gasket is in the correct position.
- Loosely install all Pan Bolts. Use care not to cross-thread the bolts.
- Tighten the Pan Bolts in a circular sequence. Refer to Diagram 1 for 4-speed. Use similar pattern for 3-speed.

14. Reinstall the Frame Cross-member (4-speed only).

- Position the Frame Cross-member in the support brackets. It may be necessary to pry, hammer, or jack the Cross-member. If necessary, file the end(s) of the Cross-member to allow clearance. Do not file more than necessary to allow easy fit.
- Tighten the two mounting bolts and nuts.
- Install and finger-tighten the bolts that hold the Mount to the Transfer Case. If the holes will not align, it may be necessary to loosen the bolts that hold the Transfer Case Mount to the Cross Member.
- Lower and remove the Jack supporting the Transfer Case.
- Tighten the Mounting Bolts into the Transfer Case.

15. Add Fluid and Check Level.

- Fluid is added through the Dipstick tube using a funnel.
- Add an amount of ATF equal to the amount drained. If the amount drained is not known, start with 4 quarts. Check Fluid Level (refer to section above).
- Add additional fluid as needed. Do not overfill.
- If overfilled, fluid can be removed through the dipstick tube with a suction device and hose, or by removing the Pan Drain Plug briefly.

16. Check for Leaks.

- Allow engine to idle for several minutes (or take a short test drive).
- Check for dripping fluid or leaks around the Pan and Drain Plug.
- Recheck Fluid Level.

17. Reinstall Driveline Protection



Illustration 7 – Early and Late Filters.

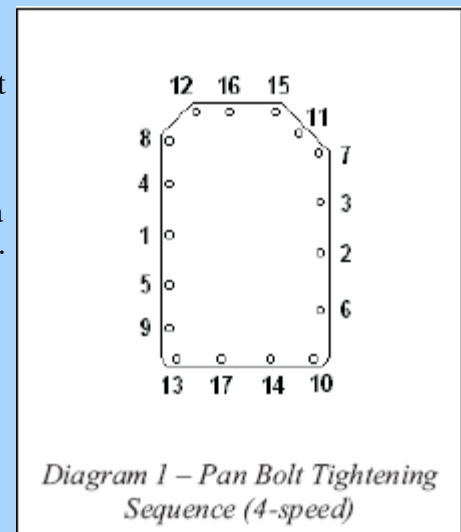


Diagram 1 – Pan Bolt Tightening Sequence (4-speed)



Illustration 8 – Transmission Filter (3-speed)





*Illustration 9 – Filter Retaining Bolt
(3-speed only)*