How to Flush your transmission at home

Here's the easiest and cleanest way to change the ALL the fluid and filter.

1. You may still spill some fluid when dropping the pan. Best just spread out the oil dry before starting.
2. Jack up the car and place on jack stands.
3. Next disconnect the line on the drivers side of the aux ATX cooler. Put the tranny side line in a five gallon bucket. Attach a piece of 3/8" hose to the cooler where you just disconnected the line and place it on the bucket.
4. Start the engine and wait until the fluid almost stops. There will be a definite difference in the amount flowing out.
5. Stop the engine.
6. Start loosening the bolts on the pan. There is still 3-4 quarts in the pan. Position a drain pan under the tranny pan and on the drivers side. Loosen and remove all the bolts but two on the passenger side. This will let the drivers side tip down as you then slowly loosen the remaining two. After the pan is mostly down and the fluid is in the drain pan remove the pan completely and replace the filter. Be sure to remove the rubber ring that will stick up in the tranny filter mount. Just bend it in with a screwdriver and pull it out with a needle nose. Do not scratch the aluminum tranny filter holding housing.
7. Reusing the OEM gasket and in a three pass sequence progressively tighten every other bolt until all are tightened. Do not over tighten as they really just need to be snug. Use a 1/4" ratchet drive socket.
8. Then add 10 quarts. Start the motor and wait until it almost stops pumping fluid out or until you see new fluid coming out. Better to waste a quart or two of new fluid to insure all the old stuff is out.
9. When the flow has almost stopped, shut off the engine and reconnect the hoses.
10. Add 5 quarts, idle motor, put the shifter in each position pausing for a few seconds in each position and return shifter to Park. Check level keeping it on the low side on the dipstick.
11. Then drive the car for a while to heat up the tranny fluid and recheck and top off the fluid.

The pan gasket is reusable if it is the OEM rubber one. Total system capacity is around 14-15 quarts. Buy a couple of extra quarts to get all the old stuff out. Discussion of the topic can be found here

Gen 4 with AXOD (Vulcan engine)

Supplemental info to the general procedure for Gen 4 with AXOD transmission.

Step 3: The easiest place to connect a discharge hose to drain the torque converter is the end of the lower cooling hose to the transmission.

Remove the lower shield from beneath the bumper. Remove the clips that hold the two metal lines together. Remove the retaining clip on the lower hose connector at the transmission and loosen the nut. Squeeze the plastic tabs that extend from the connection and pull the metal hose end off. There should be little to no leakage of fluid.

Plug the opening on the transmission with a rubber plug and use a 3 foot length piece of 5/16" inside diameter clear vinyl hose to connect to the cooling line. Place the hose in the large bucket that you will be collecting the old fluid.

Step 8: When you get to the 9th quart or so of the 10 quarts, watch to see that you don't have over flow from the fill tube or the disconnected transmission fitting.

Step 10: Start with 3 quarts after the final flush is completed. Adjust final fill accordingly.
From my experience with 96 Sable this description needs some picture / diagram to confirm location of cooling line to Radiator.
The transmission filter and fluid should be changed as part of your regular maintenance routine, at least every 30,000 miles.

You will need the following:

1. A filter change kit:

2. A socket set:

3. A drain pan (not pictured)

4. Replacement transmission fluid. The manual suggests a Mercon V type fluid.
Step 1. To begin, put the vehicle up on ramps or raise it with a jack and securely support it on stands.

Step 2. Direct your attention to the transmission drain pan. It is located aft of the oil drain pan underneath the car.

You will have to examine the drain pan to determine which model transmission you have. As you can see, I have the AX4N model. There are several different models on the Gen 3, and they do not have similar gaskets. I do not know if the filters themselves differ from model to model, but the prices are all about the same so make sure you get the right one.

Step 3. Using your 8mm socket, carefully loosen each bolt about 1/4 of a turn all the way around.
Step 4. Remove the bolts on one side of the pan. Fluid will start to drain from the pan. Make sure you have a pan below to catch the falling fluid.

As you remove the bolts, more fluid will start to flow.

Step 5. Once the pan stops draining, remove it completely, and inspect the old filter.

Step 6. Make sure you also remove the filter seal inside the housing. The filter seal is a metal ring coated in rubber. It's best to use a screwdriver and pop it out from the top.
Step 7. Examine the empty drain pan.

Step 8. Remove the old gasket.

Step 9. Inspect the magnet. This is designed to catch loose metal through the transmission system.

Step 10. Using a high-flash point solvent (such as brake cleaner or carb. cleaner) clean out the drain pan.
Step 11. Allow to air dry.

NOTE - the drain pan holds about 7-8 quarts of fluid. There's a transmission reservoir that holds another 4-5 quarts. At this point, you could use additional fluid to empty out every last bit of the old fluid. Is this necessary? I personally don't think so. The new fluid combines with the old, and as long as you keep up with the regularly scheduled filter changes you'll have replaced the old fluid over the length of a couple of changes. But what do I know? I've only done this 11 times on the same transmission.

Step 12. Install the new filter. Make sure it fits just as the original did, there are some "sprockets" designed to brace it against the transmission cooling tubes and it must line up.
Step 13. Reinstall the drain pan. Slowly tightening the bolts all the way around. Do not overtighten. The bolt torque spec is 9 foot-pounds.

Step 14. Using a funnel, refill the transmission fluid.

I suggest filling with 6 quarts, then going through with the process of checking the fluid, and refilling in increments. You may need as little as 7 quarts, or as much at 8. I believe total system capacity is about 12.5 quarts.

Be sure the properly dispose of the old transmission fluid. DO NOT DUMP IT IN THE WAL-MART PARKING LOT AT 3AM.