This writeup is for those who have already read everything they could find online about the problem of not being able to fill your gas tank up, and have replaced everything but still have the same problem. I was all over every forum I could locate looking for the answer to my problem and never found it. My Tahoe was throwing the usual codes, and the scroll reader in the instrument cluster was saying to tighten the gas cap. I couldn't fill up the truck without having the pump click off many times. If I kept going long enough, I could get it full. But every time I pulled the trigger, there was a loud 'whooshing' noise coming from the filler neck vent. Obviously, all of the air in the tank that was being displaced by the gas I was pumping was all trying to exit out of this tiny vent. The noise was very obvious, you won't have to put your ear next to it to hear it...

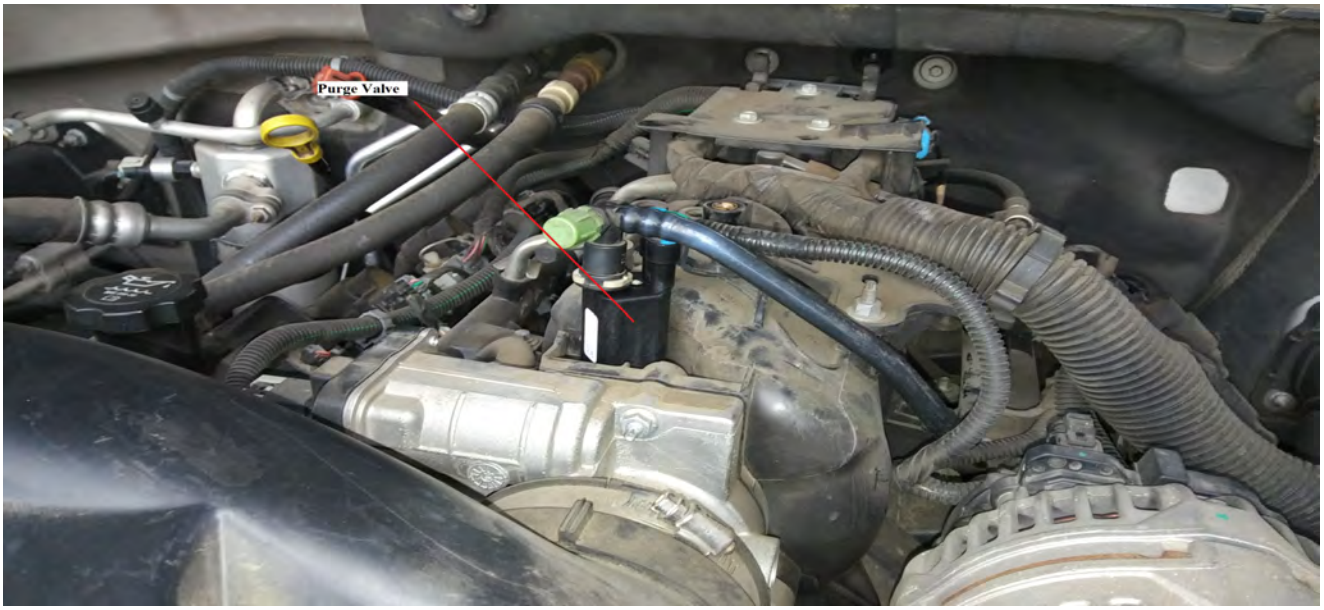
The advice I found online indicated that I needed to replace the vapor canister, so with relative ease I did this. It was very inexpensive and extremely simple to do. I didn't do the updated version as I've driven this truck for 150k miles and felt like I'd be OK with replacing it again if I get to 300k.... Drop the spare tire and study how the clip comes free from the charcoal canister and this is an extremely simple repair.

But obviously, this didn't solve my problem, so I began looking deeper into what might be the cause.

There are 4 main components of the vapor emissions system on this truck: the gas cap, the purge valve, the vapor canister, and the charcoal canister. I'm sure that those names aren't what every single other person calls them (and I don't really care so please don't waste time trying to give me the correct terminology). They're pictured here from left to right:

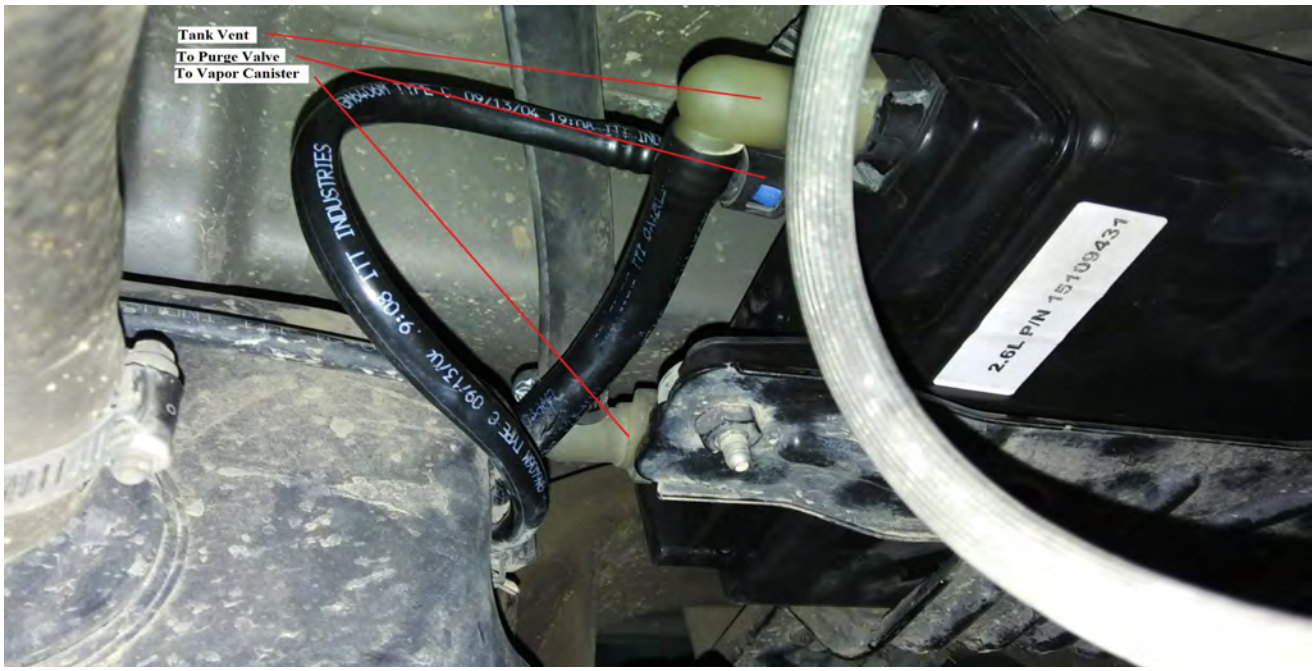
After learning that I still had the same problem after replacing the vapor canister, I decided to go ahead and just replace all the components, because I'm not the type to take my truck to a mechanic. So I purchased the other three parts and started from easiest to most difficult.

The gas cap is easy, but it won't solve the problem for most people. Second easiest is the purge valve, located at the front of the “V” of the engine bay, see picture:



When I removed the line, I knew I had issues that hadn't been discussed in the posts that I read. There

were charcoal pellets jammed down in the solenoid, and when I jiggled the hard line after removal, it was apparent that many more pellets were in 'transit'. I disconnected the back of the line at the charcoal filter (see pic below) and blew it out with compressed air until nothing more came out, then buttoned it all down. Truthfully, I may not have needed to replace this purge valve - after tapping out all the charcoal, I bench tested it with jumpers and it still 'clicked' off and on. But since I was already elbow deep and the part is cheap, I left the new one on.



So the final part I needed to replace was the charcoal filter itself. Most of the writeups I read made it seem that this might be a daunting task, but it really wasn't. The hoses that connect to it won't come off easily, but thats because they've been on there for 12 years and just needed some convincing. Plus, the clips holding them on aren't very intuitive – just study them and figure it out, I didn't break anything in this process.

When I pulled off the tank vent line, this is when I was 100% sure that I had an issue beyond the posts that I'd read - charcoal pellets came raining down on me. Obviously, 1 of 2 things had happened – either I had a canister that was defective, or I had filled up a little too much once too often, causing it to fail. Probably the latter, truth be told. Note to self – quit filling up when the pump shuts off the first time.

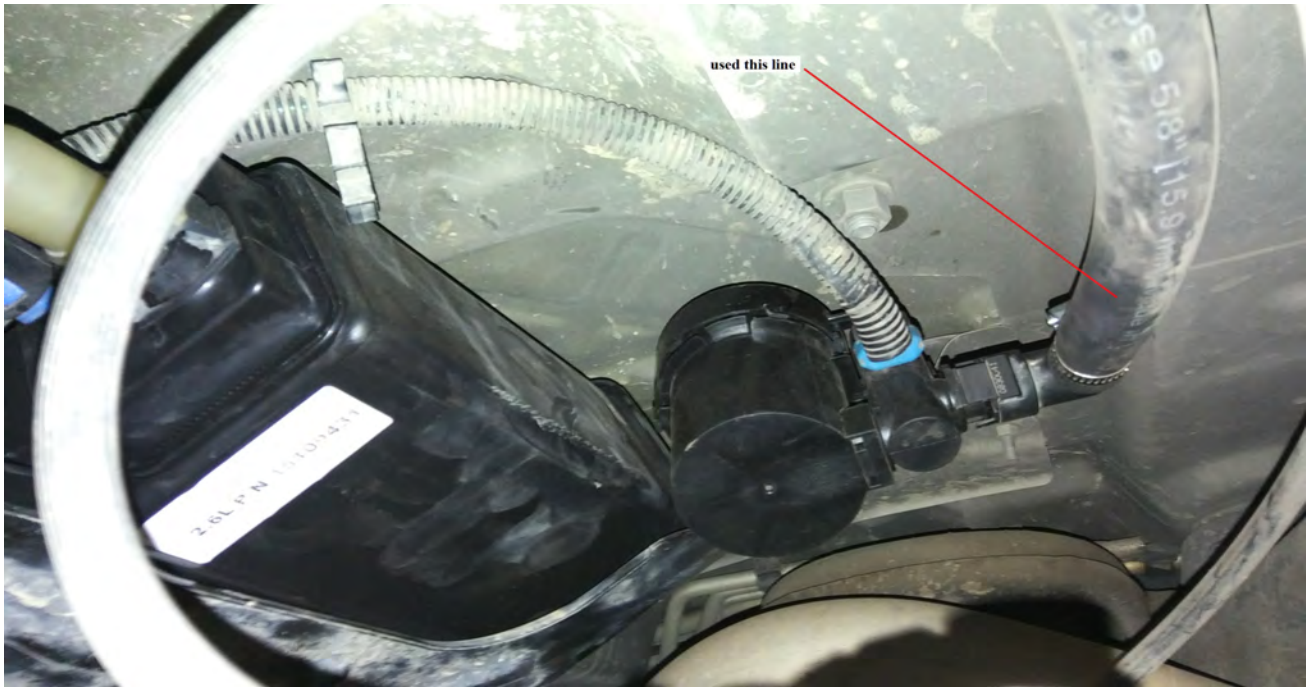
I took compressed air and sprayed into the vent line, towards the gas tank, and sure enough pellets came flying out. But I knew it didn't clear the line completely, I was just hoping that it got most of them. Again, I buttoned everything up and proceeded to the gas pump. But I encountered the same scenario as before, pump keeps clicking off after very little time.

At this point, I know that all the parts are good because I just replaced them, and bench tested them to ensure functionality. Some people on the boards might say “Oh, you must have got a defective part....”. I was convinced that all my parts were working as they should. So my problem is that air is still not being vented properly through the tank vent tube, and I already know that charcoal pellets have been spewed into the line by my prior defective charcoal canister. Its really simple at this point – I gotta get the charcoal out of the line. But how do you do that? My first thought was pull the line from the top of

the tank and simply blow it out. However, this would require that I drop the fuel tank, and without having a vehicle lift and the necessary jacks, this wasn't something I was excited about attempting. Second thought was hook up my vac to the line and pull all of the debris out. But then I remembered that this is a gas tank, with highly volatile fumes, so its not something I really want to put in close contact with a source that could possibly cause ignition....

I happen to have a few cheap manual fluid tranfer pumps, and one of them has both a push and pull side (see pic)

So I decide to rig up a system to apply vacuum to try and suck all the junk out. Because the lines in this system have fittings that make it very difficult to make a leak-proof connection, I ended up choosing to apply vacuum to the hose that was going from the charcoal canister to the vapor canister (see pic)



After applying vacuum to this line with my manual pump, I found that nothing noticeable happened. But then I figured out that the vacuum had indeed pulled throughout the system, as when I tried to remove the gas cap it was stuck on tighly and released the built up pressure when I forcefully pulled it off the filler neck (if you do this operation, please ensure that you are in a well ventilated garage). Since the vacuum idea didn't seem to be doing the trick, I thought “what about if I use the push funtion”? So I replaced the gas cap and, using the same line, I pressurized the system a bit. After building a little pressure, I pulled the tank vent line from the charcoal canister – the one going from the gas tank to the charcoal canister – and immediately had charcoal pellets raining down upon me as the tank depressurized.

I replaced the line and repeated this process probably 10 or more times, until there was very little coming out. I then buttoned everything back up, drove to the gas station, and proceeded to fill my tank all the way full without having a single click off until the end.

While I'm certain that my vent line is not 100% clear, its clear enough that air can now vent properly from the tank like its designed to. If I encounter the same fill up problems again, I'll simply employ the same procedure to clear the blockage. If/when my fuel pump goes out and necessitates dropping the tank, I'll most certainly blow out the line 100%. This was a whole lot simpler than dropping the tank unnecessarily – to repeat the process I would probably need only 20 minutes start to finish.

I hope this helps someone who has been searching for a solution to their problem. I hate letting anyone else work on my vehicle, and feel fortunate to have been able to figure this one out on my own. Just make sure when you pressurize your tank that you are using a manual pump, you do not want to cause a fire, or potentially compromise your system by using compressed air. At this point, I do not have any other leaks that I've been able to detect.

Blessings from The Great State of Texas