

TCC - Transmission Converter Clutch Issues

Originally appeared in Sep/Oct 2013 MFC Newsletter

Many Fieros have had trouble with their auto-trans, and many more will have trouble as their Fieros age. The maintenance schedule should include always monitoring their fluid levels. The next big item requiring continued maintenance is the trans oil filter and a fluid change. It is recommended to do this every 50,000 miles. If there have been problems of clutch slippage or TCC (Torque Converter Clutch) malfunction, then a full transmission fluid-flush be performed by a qualified shop. This gets the old fluid flushed out of the Converter and radiator cooler core. Also, the filter will be changed.

Another issue that has cropped-up is a malfunctioning TCC. In general, just not working at all and causing poorer gas mileage. The worst one is a partially functioning TCC which locks-up normally giving you lower RPMs, but fails to release as you brake down coming to a stop and your engine stalls. This is because the TCC solenoid is stuck in it's powered position, with no power applied, and is not releasing the pressurized trans fluid from the Converter Clutch Locking circuit.

The general fix for this malfunction is to let the trans cool down, which usually allows the pressure to release. Then disconnect the blue 4-way connector on the front left of the transmission so that an ECM generated request for TCC Lock-up doesn't reach the transmission. And, again you are driving a less efficient vehicle with decreased fuel economy.

To fix this problem a lot of service technicians will opt to replace the TCC solenoid and 3rd gear switch. But, I decided, after I acquired all the parts for \$40, to 'test' some of the trans fluid additives that are on the market. With some coaching from my mechanic son, I bought a quart of Lucas Trans Fix. The trans fluid level was down, so I added half that quart and drove the Fiero for about 200 miles over several weeks before connecting back up the TCC connector to allow TCC Lock-up function again. It seemed to be functioning correctly for several short drives. And, it was a pleasure to watch the RPMs drop and experience what seemed to be a smoother driving cycle. But, one time we came to a stop-light and it stalled again. I got it started and going, deciding to disconnect the TCC for another week. Since reconnecting after that week, it has continued working flawlessly. Plus, my mileage has improved by 2-4 miles per gallon. I still need to do a fluid & filter change, which I hope will be done before our Color Cruise.

The above was completed on my White Formula, and was working fine when I sold it. Now, I've repeated this little project on my Yellow 88 Formula that was our Founding President Stan's. Again, everything has gone very well. It drives much better and I'm getting about 4mpg better. This will do much better on our Fall Color Cruise this year.

One problem I ran into while draining (sucking out) the old trans fluid, was getting about 6 quarts, instead of the 4 quarts listed in various service specs. Don't know where the 2 extra quarts came from, but, the torque converter holds about 2 quarts. Must be quite a leak in that converter circuit, but seems to operate with no problem.....up-shifts and lock-up smooth, as are all down shifts. It took 5 quarts of ATF and a quart of Lucas Trans Fix to fill. Maybe someone can offer an explanation.

Any questions, please feel free to contact me. As usual, Fiero Floyd - 248-394-0429