In the evolution of the RFE transmission, the 68RFE is the patriarch, the head of the family. It comes behind the big engines and in front of the heavy-hauled loads for the hard-working consumer. Customers like to boost the engine and, after blowing a transmission, beef up the rest of the drivetrain. Multi-disc torque converters with billet lids are among some of the driveline upgrades that many choose to use to extend the life of the unit and give drivers an excuse to give the vehicle even more abuse.

These same drivers will often come back complaining of performance issues – issues that will show up as symptoms of poor torque converter performance or function. Ironically, as MOPAR has utilized more torque converter involvement in achieving better fuel efficiency and performance, it has also opened this sealed unit up to a lot of finger pointing.

We are going to review torque converter symptoms and their causes starting with what can first be addressed while the unit is still in the vehicle. Then we will move on to things that must be addressed by removing the unit and tearing it down for corrections.

**Outside access fixes**

A common cause of TCC codes, poor lockup, and no lockup is that the unit simply doesn’t have enough ATF in it. This can be caused by a leak or by not checking the level after the test drive for delivery to the customer. Fluid can take some additional time to fill the torque converter and other parts of the transmission, so be sure to check the fluid level. A scan tool should be used to verify the unit temperature meets the recommended temperature. The procedures required to guarantee the complete filling of this unit have several steps. Make sure not to skip any.

Check the engine alternator for sufficient output and correct function. MOPAR vehicles have a longstanding history of issues with their electrical systems and with their alternators, causing Radio Frequency Interference (RFI). Oddly enough, an underperforming alternator can cause enough disruption to the TCM and/or other modules that it can keep the valve body and solenoid body from engaging lockup properly (Figure 1).

The electrical system can also cause problems through the low/reverse solenoid. This solenoid also functions as the TCC solenoid. Malfunction of this solenoid found in the solenoid body can kill lockup, it can keep the TCC circuit stuck in lockup, and it can set the code P2764. Replacement of the solenoid or solenoid body can correct the lockup issues (Figure 2).

The electrical system can cause the TCC to cycle on and off due to a damaged output sensor wire in the wiring harness. The wiring harness, due to a list of reasons, can rub against the transmission and/or body panels at multiple points. The output speed sensor (OSS) wire seems to be the one most frequently damaged, so you can prevent damage by attaching it at multiple points with zip ties so it doesn’t get damaged and cause lockup issues.

The filter is notorious for problems in this transmission. Issues with the filter can cause overheating of the torque converter, as well as no engagement in drive or reverse. It can also cause engine stalls. Make sure to check the filter for blockage. Also, it is a good idea when replacing the spin on filter to replace the plastic OEM filter screw with a steel aftermarket screw (Figure 3).
Valve body items

These fixes can be done with the unit in the vehicle by pulling the valve body. They should also be addressed when dropping the unit for a full rebuild.

There are these great little plugs/valves that are found in the solenoid-switch valve circuit in the valve body. They go between the switch valve and the end retainer. These oscillate and stroke as part of the normal circuit operation, but they can wear and leak. When these malfunction, you can get no TCC operation, erratic TCC operation, as well as other non-torque converter-related problems. There are aftermarket parts options to replace these three components so choose the right size and fix this sneaky and often overlooked issue (Figure 4).

The other valve-body problem is the Low Reverse (TCC) accumulator valve circuit. The spring in this circuit is very active and comes under a great deal of stress that causes damaging wear or breakage. When it fatigues or breaks, the torque converter will have a hard engagement. Much harder than normal (Figure 5).

Rebuilding access only

The first oil-pump problem area affecting the torque converter is the converter clutch switch valve circuit. The circuit can wear prematurely causing a laundry list of torque-converter symptoms. Loss of lockup, engine stalling and overheating are just a few of the problems that show up when this circuit is failing. There are aftermarket replacement parts available for the TCC switch valve circuit. This pump circuit can cause about any torque converter malfunction in the 68RFE (Figure 6).

The second circuit that can falsely accuse the converter is the torque-converter limit-valve assembly. Heavy wear in this circuit will cause the torque-converter lockup circuit to lose pressure. The pressure loss will cause the converter lining to be only partially engaged. This will burn out the lining, causing loss of power and overheating. Replace this valve assembly completely to save your torque converter from an early death (Figure 6).

The third area in the pump that can kill the torque converter is fairly obvious: the pump gear set. Like the 45 and 5-45RFE, the pump has two smaller gears and a large center rotor gear that need to be inspected for wear. The center pump gear can cause significant wear to the pump body as well. If you are looking for new replacements, these are available only as an aftermarket product. Also make sure that while the pump is disassembled that the two halves are refaced or flat sanded until true as warping can cause cross-leaks and malfunctions (Figure 7).

The final area that can cause you to blame the torque converter is the overdrive section. As a six-speed transmission, it is easy for the consumer to forget to engage the tow/haul mode when putting the vehicle under significant load. And even if they engage it, overdrive must be locked out to keep the transmission from using sixth gear. Just like with the 47RE and 48RE, the overdrive section gets beaten up.
When it has been abused, it can cause the TCC to begin cycling or slipping. This can mask itself as a converter malfunction, a pump malfunction, a valve-body malfunction, or an electrical or solenoid malfunction. However, it is back to the basics of replacing the overdrive clutches to eliminate the slipping caused by worn-out friction material. The OEM sells this as a section replacement, however there is a wide range of individual parts options available from your distributor (Figure 8).

The consumer who owns a pickup, especially a heavy-duty vehicle designed for abuse, is going to keep the vehicle for a long time. With good upgrades to the driveline, and using a torque converter that is built for additional torque load, customers can enjoy the improved performance your rebuild can offer them. Save you and your customer time and frustration by proactively checking these problem areas prior to delivery of the vehicle. Save yourself extra labor by checking these items prior to dropping a unit. And you might be able to be a hero with a quick and easy fix for a new customer.

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**Parts List**

**Alternators**

- 4801768AA – 180 amps
- 4801313AD – 220 amps
- 56029707AB – Dual, 440 amps

**Universal Solenoid Body, White Connector** – 52119435AF

**Wiring Harnesses**

- Engine to Transmission (front) – 68210909AC
- Transmission 2WD – 68247702AA
- Transmission 4WD – 68247701AA
- Spin on Filter – 4799662
- Underdrive/Reverse/Overdrive clutch assembly – 68029382AB
- Mopar ATF Plus 4 - 05013457AA
- Low Reverse Accumulator Spring - 52119702AA

**Aftermarket options available for:**

- Steel replacement filter screw
- Overdrive frictions
- Overdrive section upgrades
- Converter switch valve assembly
- Pump Gears
- Torque Converter limit valve assembly