Torque Converter Installation Guide

1. Check the flexplate for cracks and chipped teeth on the ring gear. Take the new torque converter and hold it against the flexplate to see if the application is correct by checking that the pilot size and bolt circle are correct.

2. Add a quart of new transmission fluid to the torque converter (if Applicable). Using the aid of a helper, stand the transmission on the tail shaft and carefully install the torque converter onto the transmission. Can be performed horizontally if no stand is available.

Spin the torque converter and listen for 3 distinct clicks as it drops into the transmission. The following are measurements you can make to insure the torque converter is all the way in the transmission:

**Dimensions See Figure 2**

GM TH350, Powerglide = 1.125” from bellhousing to converter pads.
GM TH400 = 1.187” from bellhousing to converter pads.
GM 700 R4, 4L60E, 200-4R = 1.125” from bellhousing to converter pads.
GM 4L80E = 1.030” from bellhousing to converter pads.
Distance may vary +/- .050”.

3. Remove any debris in the crankshaft pilot hole and lubricate. Clean and lubricate the dowel pins. Check to see that dowel pins will be in the transmission bellhousing by more than .250”.

**PREPARE THE CRANKSHAFT AND CONVERTER FOR INSTALLATION**

- always check crankshaft for burrs and out of round
- remove rust with emery and lightly grease pocket receiving torque pilot
- remove paint from converter crank pilot with emery
- pour one quart of ATF into the converter
- check the flex plate for cracks and worn teeth
- install the converter on front of the transmission

**CHECK CONVERTER TO FLEX PLATE ALIGNMENT**

- After bell housing bolts are tight, check free movement of converter. It should have 1/16 to 3/16” (ON GM ONLY) of clearance between pads on converter and flex plate.
  - **DO NOT PULL UP THE BELLHOUSING TO THE BLOCK USING THE BELLHOUSING BOLTS!!!!**
- After the transmission bell housing bolts are tightened, check to see if the torque converter will turn by hand. Push the torque converter back into the transmission as far as it will go. Using feeler gauges or calipers measure the gap between the
flexplate converter mounting pad and the torque converter mounting pad.

- If you have more than 1/16 to 3/16”, install equal thickness washers to reduce clearance to 1/16 to 3/16” (ON GM ONLY). If not enough clearance, remove transmission and check to see if converter is seated in front pump properly.
- Draw converter bolts up evenly so as not to pull converter into a bind causing vibration and pump bushing failure.
- If vibration occurs after installation, mark converter to flex plate and rotate the converter one bolt hole at a time.

If there is a gap between the pads and the flexplate and the converter does not move fore and aft in the transmission, then there is a dimension issue. The converter should move freely prior to bolting to flex plate.

The number 1 cause of vibration is failure to prepare the crankshaft for installation. Each time the converter is installed without sanding out the crankshaft rust, removing the paint from converter pilot and adding a little grease, the converter may be drawn up crooked with the first bolt. This may cause the converter to run-out and usually ruins the pump bushing. The 2nd most common complaint on converters is a whine after installation. This usually means there's too much clearance between converter pads and flex plate. This draws the converter hub too far out of the pump drive gear causing the gear to rock.
Figure 1
Torque Converter

Make sure that converter slot engages with the pump ears. This is the number one installation mistake.

Grease pilot lightly before installing into crank. Also, look up after installation to make sure that the pilot is engaged into crankshaft pilot.

Must be 1/8” to 3/16”

Figure 2
4. Finish installing the cross member, exhaust, driveshaft, etc. Add 5 quarts of good quality transmission fluid. Start the engine and immediately add 3 more quarts (ZGP Units Come with 3 Quarts). Check the fluid and finish filling the transmission to proper level. Vehicle should be level and idling in Park or Neutral when setting the fluid level. Use Figure 2 to properly set the level.

Filling Transmission

Cool (65° - 85° F) (18° - 30° C)  
Hot (190° - 200° F) (88° - 93° C)

Add .5 Liter (1 Pt.)  
Full Hot

Warm