



INSTRUCTIONS

242972, 242974, 242976 6L80 BOLT-TOGETHER TORQUE CONVERTER

Thank you for choosing TCI® products; we are proud to be your manufacturer of choice. Please read this instruction sheet carefully before beginning installation, and also take a moment to review the included limited warranty information and also take a moment to review the included limited warranty information. Contact us toll free at 1.888.776.9824 or at www.tciauto.com under Tech Support with any questions.



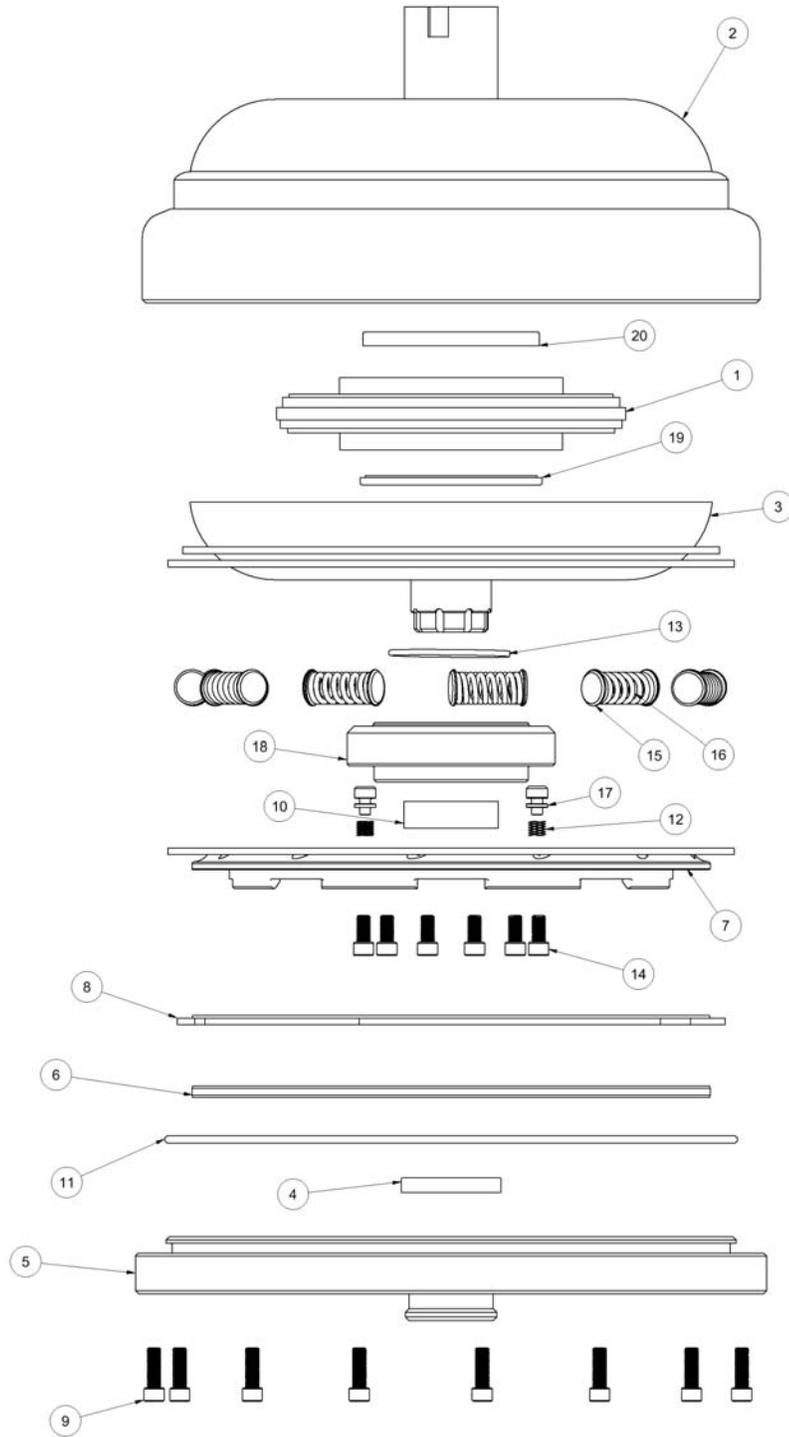
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INST2429
Revised 7/18/13



Torque Converter Component Diagram



**INSTRUCTIONS**

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	CMP2429-6LSTATOR	STATOR, 6L80
2	1	CMP2429-6LPUMP	PUMP, 6L80
3	1	CMP2429-6LTURBINE	TURBINE, 6L80
4	2	BRNG-6807	BEARING, DEEP GROOVE BALL 6807
5	1	CMP2429-5	FRONT
6	3	CMP2429-9B	DOUBLE-SIDED FRICTION
7	1	CMP2429-6LPISTON	PISTON ASSEMBLY
8	1	CMP2429-8B	SINGLE-SIDED FRICTION
9	15	BLT1153	BOLT, 1/4-28 X 0.75" (FRONT TO PUMP)
10	1	BUS435049	BUSHING, CLUTCH HUB
11	1	GSK-M264	PUMP TO FRONT O-RING
12	2	CMP2429-WS	WAVE SPRING, BLEED OFF VALVE
13	2	GSK-137	TURBINE O-RING
14	6	BLT1152	BOLT, 1/4-28 X 0.5" (CLUTCH HUB TO PISTON)
15	12	CMP2429-13	SPRING SEAT
16	11	CMP12134	DAMPER SPRING
17	2	CMP2429-12	PRESSURE RELIEF VALVE
18	1	CH-2456L80	6L80 CLUTCH HUB, STREET
19	1	PNTSW-2-11	THRUST BEARING, THIN
20	1	CVDB-W252-10113	THRUST BEARING, THICK
21	3	BLT1154	TORQUE CONVERTER BOLT
22	3	TRIGM-RO-385	EXTRACTION PINS
23	1	GSK33970	INPUT SHAFT SEAL

REBUILD KIT P/N:

CMP2429-REB (includes bearings, seals, and frictions)

RE-STALL KIT P/N'S (includes pump and seals):

CMP2429-2800 – (2800 RPM)

CMP2429-3000 – (3000 RPM)

CMP2429-3200 – (3200 RPM)

Other re-stall kits offered upon request, call for pricing/availability



Installing Torque Converter:

Suggested accessories for install:

-TCI Max-Shift Synthetic ATF (950655 - single quart or 950650 - twelve quarts)
If only installing converter, you'll need 5 quarts total

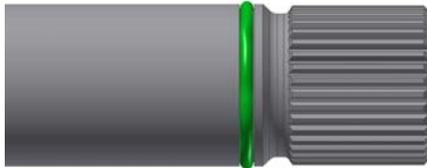
-TCI 6L80 Billet SFI 29.1 Flexplate (399757)

---Refer to factory service manual for torque converter removal and installation procedures.

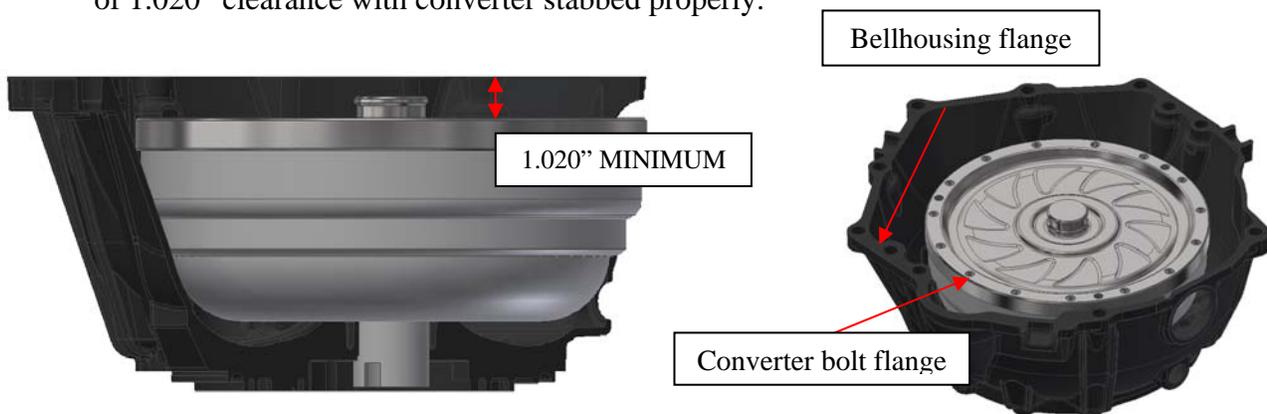
The 6L80 transmission has a very specific fill procedure that must be followed precisely in order to obtain proper fluid level (see next two pages). Improper fluid levels can cause transmission to not function properly and can cause damage to both transmission and converter.

Keep the following in mind during the installation process:

- Fill converter with 2 quarts of TCI Max-Shift synthetic ATF prior to installing on transmission
- Replace input shaft o-ring (replacement o-ring included) and apply ample transmission fluid to o-ring to lubricate for installation of converter.



-Once converter is installed into transmission, use a straight edge to measure from bellhousing flange to converter bolt flange (surface that mates to flexplate). You should have a minimum of 1.020" clearance with converter stabbed properly.

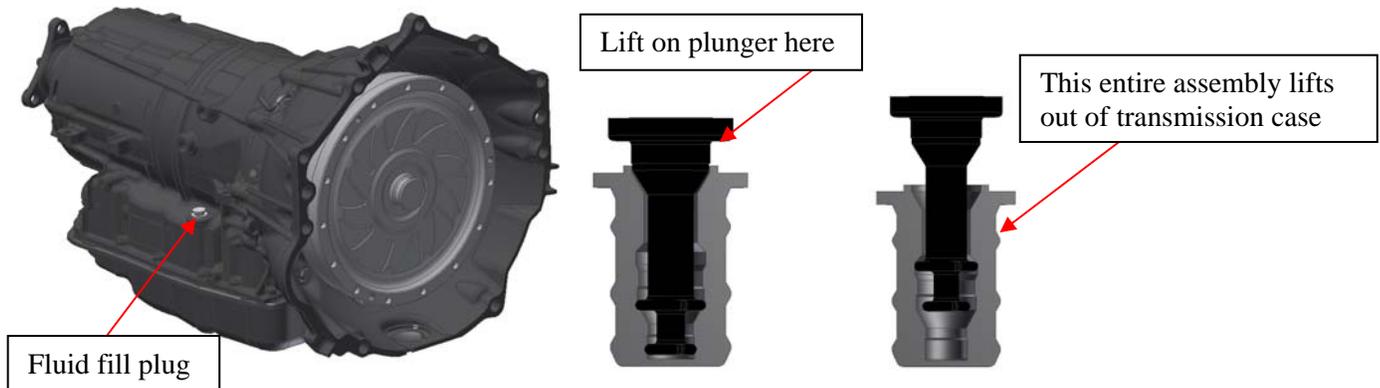




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Fill Procedure:

The 6L80 transmission fluid fill plug is located on the passenger side of the transmission and can be removed by lifting the plunger in the fill plug. Use 90-degree needle nose or a flat head screwdriver to pry plunger up in order to unlock fill plug. The fluid fill plug/plunger assembly can now be lifted out of transmission case.



With transmission out of car, place a funnel into the fluid fill hole. Pour three quarts of transmission fluid into transmission. Replace plunger/plug assembly in transmission fluid fill hole. The transmission is now ready to be reinstalled in the vehicle.

Once transmission is bolted to engine, torque the three converter to flexplate bolts (included in kit) to 40 ft-lbs.

Continue installation, following service manual procedures for the specific vehicle.

IMPORTANT---Refer to “Fluid Level Checking Procedure” (on next page) before driving vehicle.

**Fluid Level Checking Procedure:**

Start the engine and allow it to idle.

Allow the fluid to reach operating temperature. The transmission fluid must be **86-122°F** when checking fluid level. Checking fluid outside this temperature range will result in inaccurate fluid levels. Improper fluid levels can cause transmission to not function properly and damage to transmission and converter can occur.

With engine still running and foot on the brake, put the shifter in each gear range. Pause for at least 3 seconds in each range. Put the shifter back in PARK. Once in PARK, verify that the engine RPM is low (500-800 RPM). Let the vehicle idle for at least one minute.

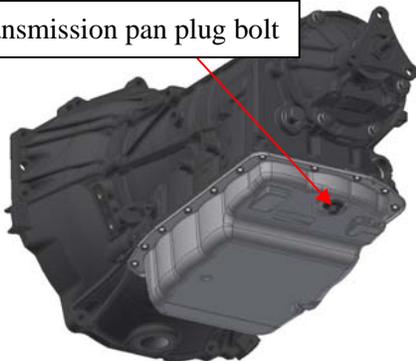
With the vehicle level, engine idling, shifter in PARK you can now check the fluid level.

Important: VEHICLE MUST BE LEVEL WHEN CHECKING FLUID LEVEL

You are now ready to remove the plug bolt located on the transmission pan.

Important: THE ENGINE MUST BE RUNNING when the transmission pan plug bolt is removed. The bolt is not a drain but rather the actual means of checking transmission fluid level. If engine is not running, excessive fluid will drain from the transmission, resulting in an insufficient fluid level.

Transmission pan plug bolt



Remove the transmission pan plug bolt and allow any fluid to drain out.

- If the fluid is flowing out, wait until the fluid slows to a drip.
- If no fluid comes out, add fluid until fluid begins to drip out.

Replace the transmission pan plug bolt and tighten to 18 ft-lbs.

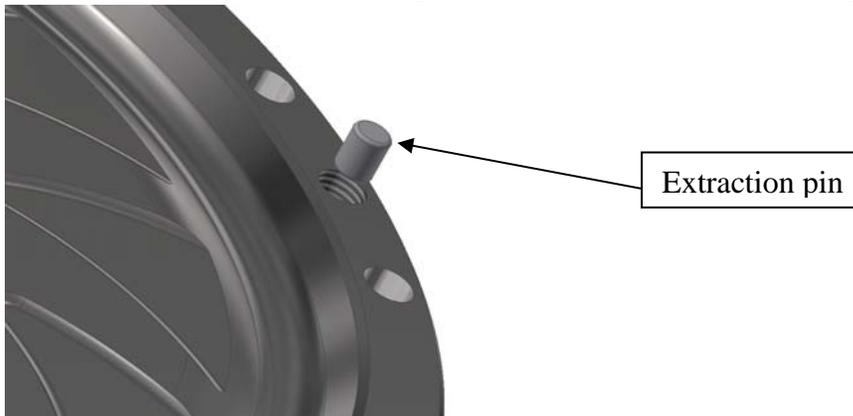


Disassembling Torque Converter to change stall and service:

1. After removing converter from transmission, place converter in a pan with the hub pointed down.
2. First remove the 15 1/4"-28 X 3/4" bolts from the front using a 3/16" allen wrench.

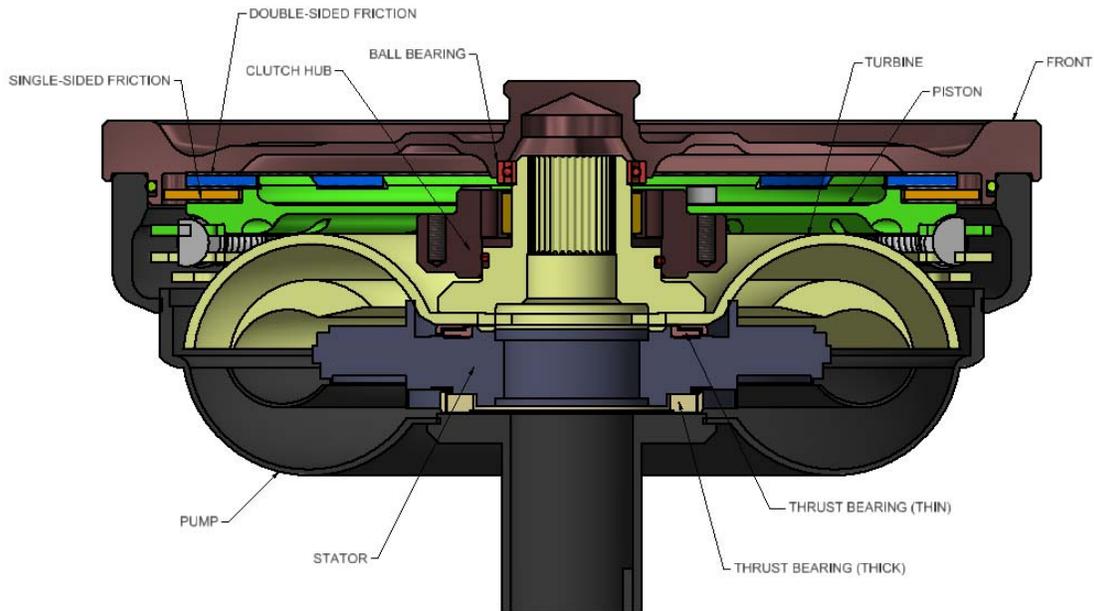


3. Next, insert the three extraction pins (included with kit) into the tapped converter bolt holes.



4. Take the converter to flexplate mounting bolts and thread them into the converter bolt holes. Tighten them down in a progressive manner not exceeding 3 turns at a time. This will help the front lift evenly and not bind. The converter bolts will push down on the inserted pins, lifting the front away from the pump.

- Next remove the front and set aside. You can now lift out the frictions and the piston, turbine, stator, and bearings.



- Now disassemble the clutch hub from the piston. Using a 3/16" hex key, remove the 6 1/4"-28 X 1/2" bolts from the clutch hub. The piston can now be removed.
- The clutch hub contains two valves and springs. These can be removed and inspected.
- The turbine has 11 damper springs located around its outer diameter. These springs have 2 spring-seats each and are simply pressed into the springs.
- The bearing installed in the front can also be removed and inspected.

**Assembling torque converter:**

Rebuild kit p/n: CMP2429-REB

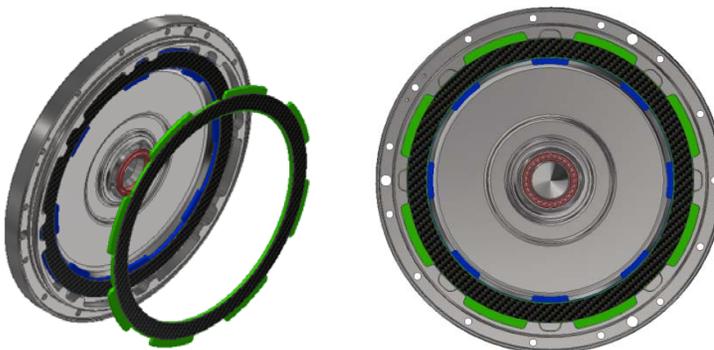
1. Inspect all parts for signs of wear or damage.
2. Inspect all seals for tears and other damage.
3. Install bearing into front. Bearing is sized to be a slip fit and should install easily by hand.



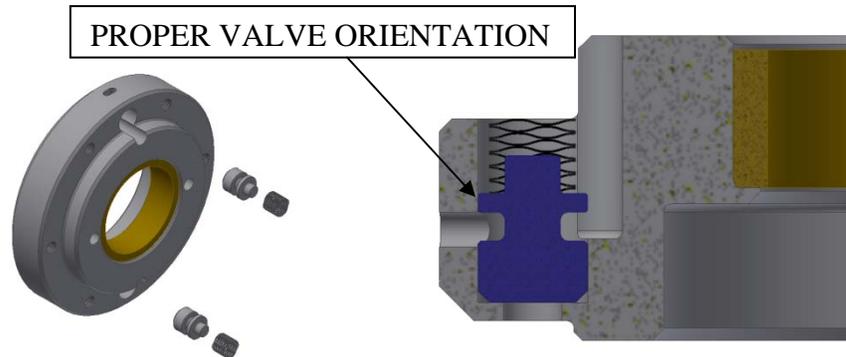
4. Once bearing is installed, place double-sided friction into front.



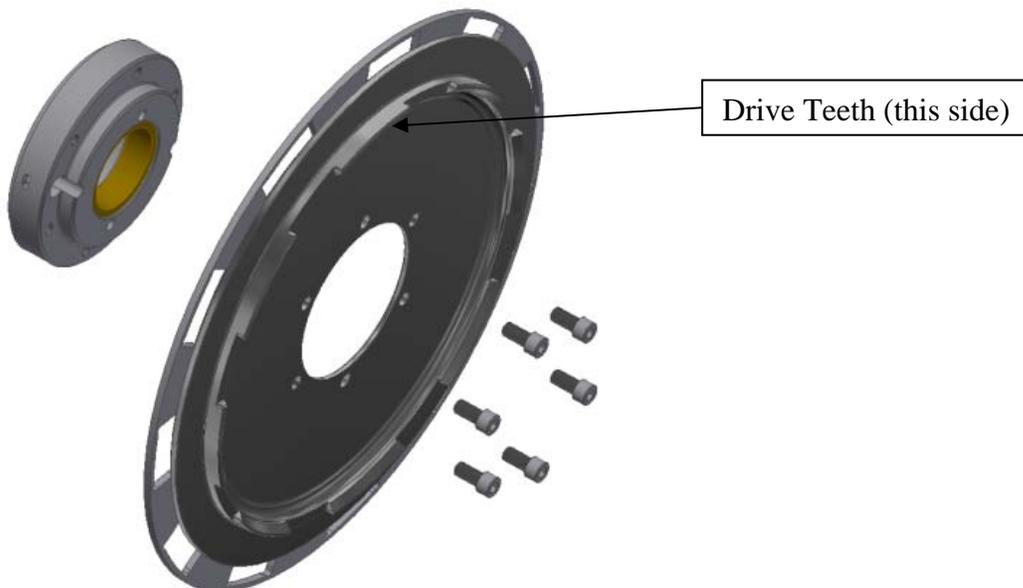
5. Next place single-sided friction into front. The single-sided must be placed on top of double-sided friction and must be placed with friction side up.



6. Next, the valves and springs will be installed into the clutch hub. First, check the condition of the valve and bore. Confirm that there is no wear/galling/contamination that could cause the valve to stick during operation. Proper orientation of the valve is critical. Once valves are installed, wave springs can be installed on top of them.



7. Once valves and wave springs are installed, place piston on the clutch hub and install the six 1/4"-28 X 1/2" bolts, torquing them to 10 ft-lbs. each. (Note, piston drive teeth should be opposite clutch hub)

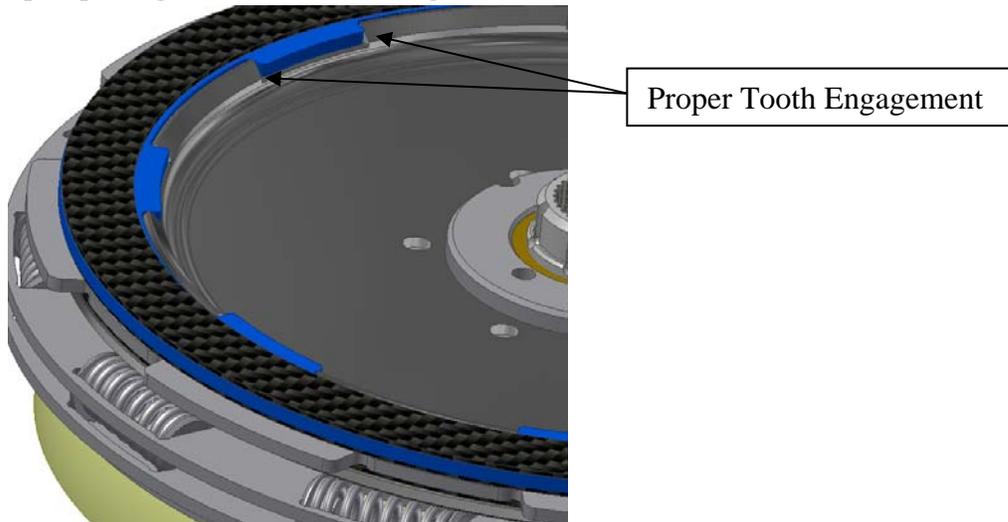




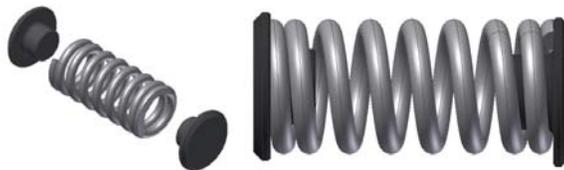
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8. The piston then can be placed on top of the frictions and into the front.

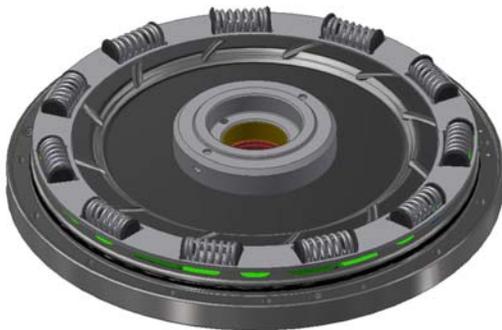
IMPORTANT: Special care must be taken to insure the piston drive teeth properly engage the double sided friction. Failure to do so will cause converter to bind and will stall the vehicle upon putting the transmission in gear.



9. Next, the damper springs need to be mated with their spring seats. Install two seats on each spring (one on each end of spring).

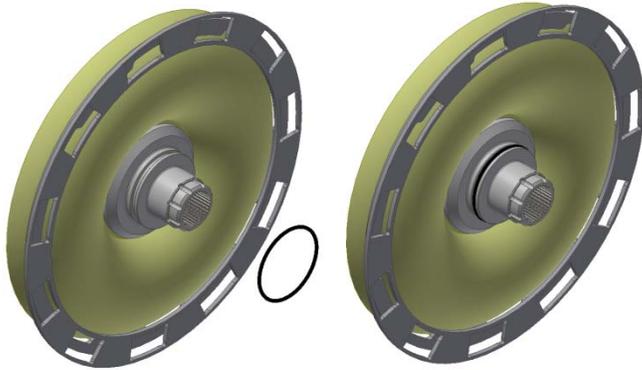


10. Next, install the damper springs/seats into the spring retainers on the piston.

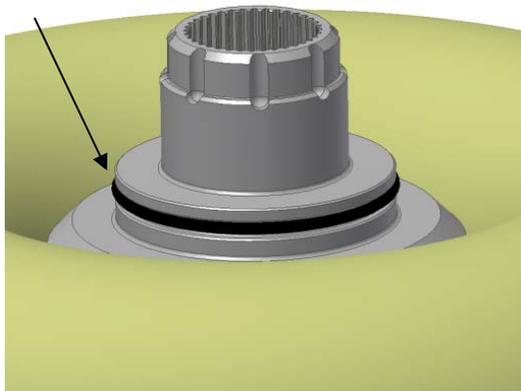


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11. Next, the turbine-to-clutch hub o-ring needs to be installed on the turbine spline.



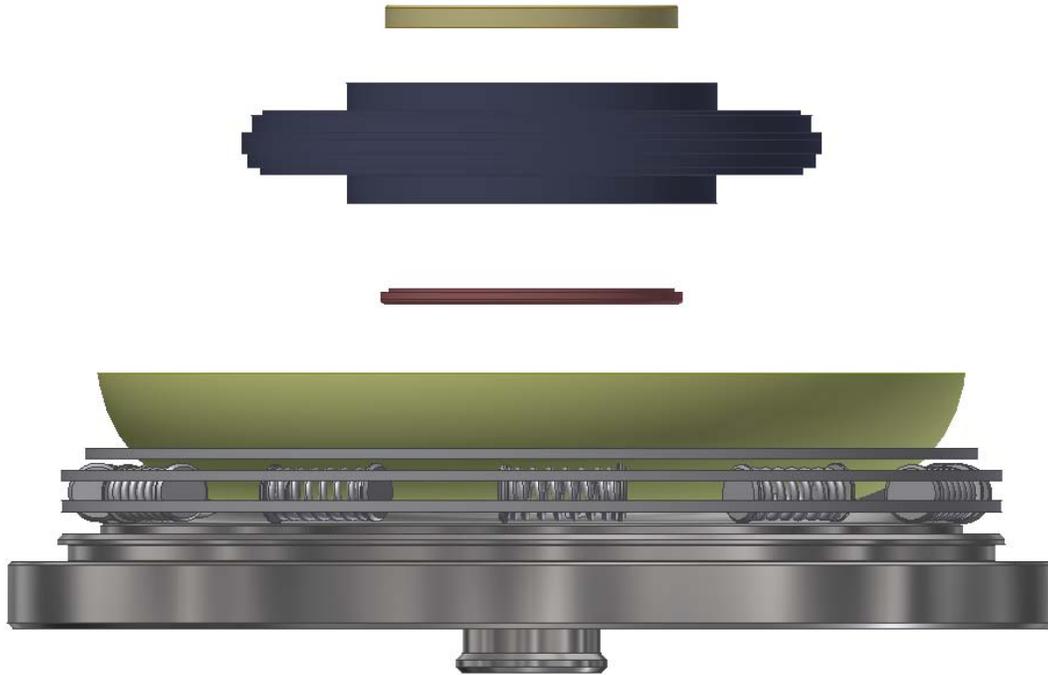
12. The turbine can now be installed onto the front and piston. The turbine must pilot into the bearing in the front, as well as into the bushing on the clutch hub. Lubricant should be applied to the o-ring to insure smooth installation without tearing (apply transmission fluid on by hand to lubricate seal). The turbine spring retaining ring will hit the tops of each spring seat. Align the spring pockets on the turbine with each spring and press down hard on turbine. The springs will compress inwards slightly, allowing turbine to slide down around them. Please note, this may take considerable effort, but they will align.





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13. Next, the stator assembly can be installed. First place the larger diameter/thinner bearing onto the turbine as depicted below. Then install stator and thick bearing as shown.



Note: Bearings must be installed and stator must be oriented as depicted



Larger diameter thinner bearing placed on turbine (this side up)

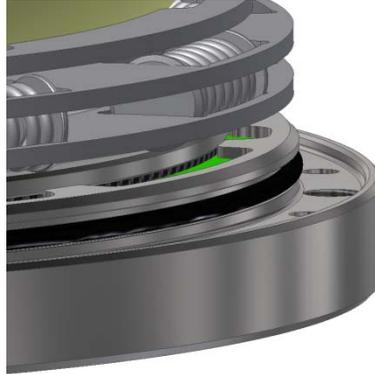
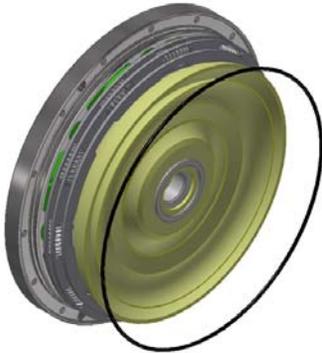


Stator placed on top of larger bearing and smaller diameter thick bearing placed on top of stator (this side up)



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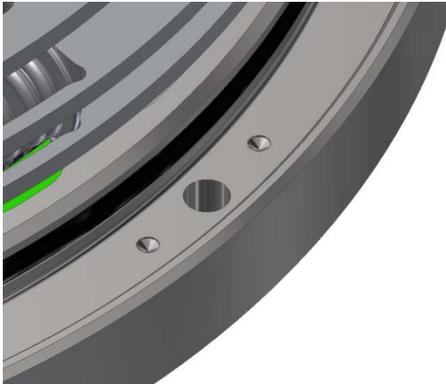
14. Next, install the pump-to-front o-ring in the o-ring groove on the front.



15. Lubricate this o-ring in the same manner as the turbine o-ring, using transmission fluid.

16. Note the alignment marks on pump and front. These marked holes must be aligned when assembling front to pump.

IMPORTANT: The parts will only bolt together when these marks are aligned.



17. With the front, piston and table sitting on the table as depicted, align the marks on the pump and the front while carefully lowering pump onto front and resting it on the o-ring.





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18. Hanging the converter over the edge of the table will allow access to the bolt holes in the converter. Slide a bolt through the front and begin threading bolt into pump. Just get the bolt started (allowing 2-3 threads of engagement), do not tighten it yet. Rotate the converter 1/3 of the way around and repeat with a second then third bolt. Once three bolts are started, begin progressively tightening all three bolts, drawing the pump down over the o-ring. Do not tighten any one bolt more than 3 turns at a time. Getting too far ahead with one bolt can cause the pump to bind and can damage the parts.



19. With three bolts installed and the pump drawn down all the way, you can now flip the converter over to access the remaining 12 bolts. Install all the 1/4-28 X 3/4" bolts and torque them to 10 ft-lbs. This completes the converter assembly process.

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TCI® Automotive warrants that all of its products are free from defects in material and workmanship for a period of 1 year from the date of purchase. This limited warranty shall cover the original purchaser.

TCI® Automotive's obligation under this warranty is limited to the repair or replacement of its product. To make a warranty claim, the part must be returned within 1 year of purchase to the address listed below, freight prepaid. Items covered under warranty will be returned to you freight collect. It is the responsibility of the installer to ensure that all of the components are correct before installation. We assume no liability for any errors made in tolerances, component selection, or installation.

There is absolutely no warranty on the following:

- Any parts used in racing applications.
- Any product that has been physically altered, improperly installed or maintained.
- Any product used in improper applications, abused, or not used in conjunction with the proper parts.
- Damage due to excessive manifold pressure, i.e. nitrous backfires, engine misfire, etc.

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This warranty gives you specific legal rights and you may also have other legal rights, which vary from state to state.