



## **6L80/90 INSTALLATION INSTRUCTIONS**

**CAUTION: Only qualified personnel should perform a transmission installation. Improper installation procedures may cause property damage, personal injury or death.**

**PLEASE READ INSTRUCTIONS CAREFULLY BEFORE YOU BEGIN THE INSTALLATION!**

### **1. INSPECTION - WITH TRANSMISSION REMOVED DO THE FOLLOWING:**

- **INSPECT BOTH THE ENGINE AND TRANSMISSION MOUNTS FOR CRACKS OR DAMAGE.**
- **CHECK SHIFTER LINKAGE FOR PROPER OPERATION.**
- **CAREFULLY INSPECT THE FLEXPLATE FOR ANY WARPAGE, CRACKS OR WORN TEETH, CHECK CRANK PILOT, THEN RETORQUE THE FLYWHEEL BOLTS TO THE CRANKSHAFT TO MANUFACTURERS SPECIFICATIONS.**
- **MAKE SURE BLOCK DOWEL PINS ARE LONG ENOUGH TO ENGAGE IN TRANSMISSION CASE DOWEL PIN HOLES TO INSURE PROPER ALIGNMENT**

### **2. TRANSMISSION COOLER- FLUSH AND REVERSE FLUSH TRANSMISSION COOLER AND LINES SO THEY WILL NOT CONTAMINATE THE REBUILT TRANSMISSION WITH DEBRIS FROM THE OLD TRANSMISSION. WE RECOMMEND USING THE HOT FLUSH MACHINE! IF YOU DO NOT HAVE ACCESS TO A HOT FLUSH MACHINE, SIMPLY BLOWING THE LINES OUT WITH AIR WILL NOT WORK. YOU MUST FLUSH THE LINES WITH SOME TYPE OF SOLVENT. PLUGGED OR RESTRICTED COOLER MUST BE REPLACED. IF THE ORIGINAL TRANSMISSION HAD A SEVERE FAILURE AND YOU HAVE NO WAY TO FLUSH THE COOLER, THE COOLER MUST BE REPLACED. CAREFULLY INSPECT THE COOLER LINES & HOSES FOR LEAKS, KINKS, RESTRICTIONS OR LOOSE CONNECTIONS.**



**NOTE: AN AUXILIARY STACKED PLATE STYLE TRANSMISSION COOLER IS REQUIRED FOR RACE AND HI-STALL SPEED STREET APPLICATIONS. THE BIGGER THE BETTER. THE BOTTOM LINE ON THE TRANSMISSION IS THE RETURN LINE. IF RADIATOR TRANS COOLER EXISTS, IT SHOULD BE ROUTED THROUGH THIS FIRST AND THEN THE AUXILIARY.**

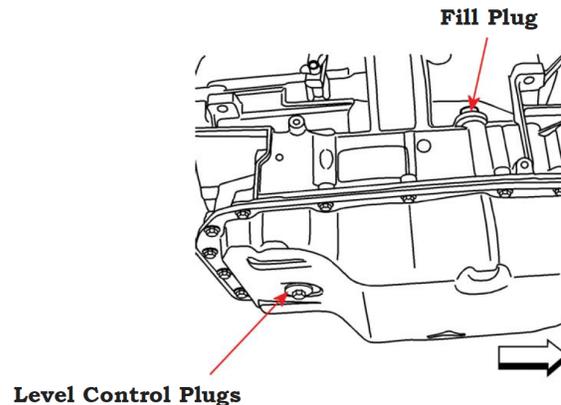
- 3. DIFFERENTIAL- CHECK FOR EXCESSIVE BACKLASH**
  
- 4. TORQUE CONVERTER- INSTALL ONE QUART OF DEX VI/SYNTHETIC TRANSMISSION FLUID IN CONVERTER BEFORE INSTALLING THE CONVERTER. INSTALL CONVERTER INTO THE TRANSMISSION MAKING SURE BOTH SETS OF SPLINES ARE ENGAGED, AND HUB IS PROPERLY SEATED IN PUMP GEAR. NEVER INSTALL THE TRANSMISSION WITH CONVERTER BOLTED TO THE ENGINE!**
  
- 5. DO NOT FORCE BELLHOUSING ONTO THE ENGINE BY TIGHTENING THE BELLHOUSING BOLTS! THE TRANSMISSION SHOULD BE INSTALLED FLUSH TO THE ENGINE BLOCK AND ALIGNED ON DOWEL PINS BEFORE TIGHTENING BELLHOUSING BOLTS. WITH THE TRANSMISSION SECURED IN PLACE, SPIN THE CONVERTER, IT SHOULD SPIN FREELY. WHEN BOLTING CONVERTER TO FLEXPLATE, PUSH CONVERTER BACK INTO TRANSMISSION AND MEASURE GAP BETWEEN FLEXPLATE AND CONVERTER PAD. THE CONVERTER WILL NEED A MINIMUM CLEARANCE OF 1/8", AND A MAXIMUM CLEARANCE OF 3/16". THE CONVERTER WILL NEED TO PULL OUT OF THE TRANSMISSION TO THE FLEXPLATE. IF YOU HAVE LESS THAN 1/8" CLEARANCE, YOU WILL DAMAGE THE TRANSMISSION. IF YOU HAVE MORE THAN 3/16" CLEARANCE, YOU WILL NEED TO INSTALL MACHINED WASHERS BETWEEN CONVERTER PADS & FLEXPLATE TO ACHIEVE THE DESIRED CLEARANCE. BEFORE BOLTING CONVERTER TO FLEXPLATE, CONFIRM CONVERTER PILOT IS ENGAGED INTO CRANKSHAFT PILOT. ALWAYS USE GRADE #8 FASTENERS OR BETTER & LOCTITE TO ATTACH CONVERTER TO FLEXPLATE.**



6. REINSTALL THE CROSS MEMBER BY RAISING THE REAR OF THE TRANSMISSION AND REINSTALL THE CROSS MEMBER BOLTS.
  
7. BEFORE REINSTALLING THE DRIVESHAFT, INSPECT DRIVESHAFT YOKE FOR EXCESSIVE WEAR, BURRS OR TWISTED SPLINES. CHECK DRIVESHAFT FOR RUN OUT, MISSING WEIGHTS AND CRACKS IN WELDS. CHECK DRIVESHAFT LENGTH. YOU MUST HAVE 3/4"-1" OF TRAVEL OR SLIP LOCATED SOMEWHERE IN THE DRIVESHAFT ASSEMBLY.
  
8. REINSTALL SHIFTER LINKAGE & ELECTRICAL CONNECTIONS
  
9. REINSTALL COOLER LINES
  
10. REPLACE ANY REMOVED EXHAUST COMPONENTS
  
11. WITH EVERYTHING REPLACED THAT WAS REMOVED AND SECURED YOU ARE NOW READY TO ADD THE DEX VI/SYNTHETIC TRANSMISSION FLUID. THE 6L80/90 TRANSMISSION UTILIZES A VERY UNIQUE PROCESS FOR ADDING & CHECKING THE FLUID LEVEL. MOST 6L80/90 APPLICATIONS DO NOT UTILIZE A DIPSTICK. INSTEAD A PLUG HAS BEEN PLACED INTO THE DIPSTICK HOLE. THE PLUG CAN BE REMOVED AND THE HOLE CAN BE USED AS A FILL POINT FOR THE TRANSMISSION FLUID. ADD 4 QUARTS OF FLUID IN THE FILL PLUG AND WITH THE TRANSMISSION PLACED IN PARK YOU CAN NOW RECONNECT THE BATTERY AND START THE ENGINE. MAKE SURE THAT THE AIR CONDITIONING UNIT IS TURNED OFF - OTHERWISE THE CONDENSATION FROM THE UNIT WILL DRIP INTO THE FILL HOLE. VEHICLE MUST BE ON A LEVEL SURFACE. REMOVE THE LEVEL CONTROL PLUG LOCATED IN THE PAN AND CONTINUE TO ADD FLUID IN THE FILL PLUG, IT USUALLY REQUIRES 10-12 QUARTS TOTAL. WITH THE VEHICLE ON JACK STANDS OR A LIFT AND WHILE



**HOLDING FOOT ON THE BRAKE, MOMENTARILY PLACE SHIFTER IN EACH GEAR AND SHIFT BACK TO PARK RANGE. ALLOW THE TRANSMISSION TO COME UP TO OPERATING TEMPERATURE (86°-122°F). A STEADY STREAM OF FLUID WILL BEGIN FLOWING OUT OF THE LEVEL CONTROL PLUG HOLE, ONCE THIS STEADY STREAM STOPS, IMMEDIATELY SECURE THE LEVEL CONTROL PLUG AND THEN ADD AN ADDITIONAL THREE-QUARTERS OF A QUART OF FLUID. INSTALL THE FILL PLUG - THIS STEP IS NOW COMPLETE.**



**12. INSTALL TUNE**

**13. ROAD TEST VEHICLE AND THEN RECHECK FLUID LEVEL AND CHECK FOR LEAKS. SCAN VEHICLE FOR TROUBLE CODES.**

**LET US KNOW IF YOU HAVE ANY QUESTIONS: 713-895-7019 OR  
[INFO@CIRCLEDTRANS.COM](mailto:INFO@CIRCLEDTRANS.COM)**

*HAVE FUN & STAY SAFE!*

*THANK YOU,*

*THE CREW AT CIRCLED TRANSMISSION*