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## TRANSMISSION & CONVERTER INSTALLATION INSTRUCTIONS

Thank you for purchasing a Coan Racing performance product. For over 25 years Coan Engineering has been the leader in hi-performance race transmissions and converters. Our ongoing research and development assures that you have purchased the best products available.

**\* COMMITMENT \* PERFORMANCE \* RELIABILITY \* "A WINNING COMBINATION"**

Many times transmission failure is the result of installation errors, torque converter problems, or contaminants in the cooling system. We have provided a basic set of instructions to insure proper installation of your transmission and converter. Please read these instructions completely before starting the installation. These step-by-step procedures apply to both street and race applications. If you are not familiar with this type of installation please seek professional assistance. If you have any questions, please feel free to contact us.

1. Coan Engineering recommends using a name brand type "F", "FA", Dexron® III/Mercron®, or synthetic fluid that is available at your local parts store. Using a race synthetic fluid such as AMSOIL® is better suited for performance applications. AMSOIL® is available by the case, or 2.5 gal. container from Coan Engineering.
2. Make sure to use the *correct* dipstick and tube for your transmission application. Maintaining proper fluid level is critical to the operation of your transmission. Failure to maintain proper fluid level can lead to early if not immediate failure of your transmission. Coan Engineering offers a complete line of dipsticks with locking tabs and rubber bushing type seals to prevent leaks around tube.
3. Inspect flexplate for cracks around all mounting holes, as well as around ring-gear. Make sure converter and flexplate bolt hole size and bolt circle pattern match before installation. Confirm spline count on input shaft and converter match. This is important on Powerglides that may use turbo style (30 spline) input shafts and C-4 transmissions that come equipped with either 24 or 26 spline shafts. For Ford applications make sure pilot hole in crank shaft and converter pilot are correct.
4. Installing a good auxiliary cooler is recommended for race and hi-stall speed street applications. We recommend coolers with threaded fittings for race applications. If your car is already equipped with a cooler you need to make sure that the cooler and cooler lines are flushed *completely!* Flushing the system will insure that no debris or contamination is introduced into the transmission or converter. There are products on the market like "Trans Flush" which is an aerosol solvent designed specifically for this purpose. Failure to clean cooler and cooler lines before installation will cause faulty operation and transmission failure. Always use a -6 AN hose or 5/16" steel tubing for cooler lines. Use caution when installing cooler line fittings in transmission case. **Do not over tighten!** Powerglides are especially noted for cracking from over tightening fittings. Be sure there are no kinks or restrictions in cooler lines.
5. Install one quart of transmission fluid in converter before installing. Make sure to apply some transmission fluid to the hub of the converter before installing in transmission. This will assure that the seal and bushing in the front pump of the transmission have adequate lubrication for start-up. Install converter into transmission making sure both sets of splines are engaged, and hub is properly seated in pump gear. **Never install transmission with converter bolted to engine!**
6. Make sure block dowel pins are long enough to engage in transmission case dowel pin holes to insure proper alignment. This is especially important with cars using a mid plate. Longer dowel pins for most applications are available from Coan Engineering.
7. **Do not** force bell housing onto the engine by tightening the bellhousing bolts! The transmission should be installed flush to the engine block before tightening bell housing bolts.

8. When bolting converter to flexplate, push converter back into transmission and measure gap between flexplate and converter. The converter will need a *minimum* clearance of 1/8", and *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. Before bolting converter to flexplate, confirm converter pilot is engaged into crankshaft pilot. Always use grade # 8 fasteners to attach converter to flexplate.

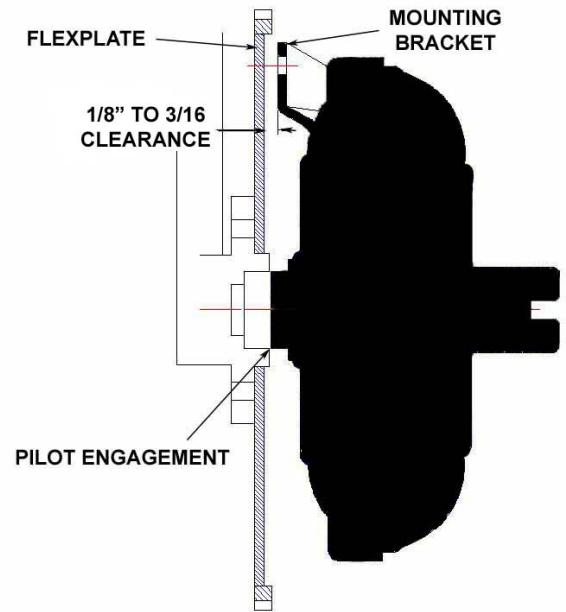
9. Always adjust shifter cable from neutral. Install shifter cable on shift lever and check for proper adjustment in each gear. Cable end should slide in and out of lever *freely*. Make sure there is **no** tension or preload on lever. Make sure you are familiar with the shift pattern of your transmission (forward or reverse pattern).

10. Inspect drive shaft yoke for excessive wear or burrs. Check drive shaft for run out, missing weights and cracks in welds. Inspect u-joints. Apply some transmission fluid to yoke before installing drive shaft in tailhousing of transmission. It is important that rear seal and bushing are lubricated to prevent damage on start-up.

11. After installing your transmission, converter, cooler lines, drive shaft, and adjusting shifter linkage, install 4-5 quarts of fluid into transmission, check for any leaks. Start the engine in *park*, with the vehicle on jack stands and holding foot on brake, momentarily place shifter in each gear and back to park. Check fluid level on dipstick, fill to proper fluid level. (*All torque flight transmissions must be checked in neutral.*) Automatic transmissions may require installation of a vacuum line on the modulator and adjusting kick down linkage, or T.V. cable. (We recommend setting back to OEM spec.) After driving the vehicle, (for a short period of time est. 5 min) recheck fluid level and recheck for leaks.

12. For transmissions that have a trans-brake, be sure to use good wiring connections. Coan solenoids use red and black wires. Make sure the black (-) wire goes to a good clean chassis ground, and the red (+) wire goes through a 15 amp momentary switch to a 12 volt source.

13. Certain model transmissions with trans-brakes are equipped with a *reverse lock-out* safety feature. These transmissions will require the trans-brake button to be engaged in reverse, and in some transmissions, neutral, to properly apply reverse. Verify your transmission model!



### **COAN TRANSMISSIONS WITH REVERSE (SAFETY) LOCK-OUT FEATURES**

- Pro Tree Powerglide, STD Powerglide with reverse lock-out, Pro Tree 727, and C-4 with brake transmissions, all require the shifter to be put into reverse and depressing the trans-brake button for proper reverse engagement.
- Pro Tree TH400 and Max Performance Pro Tree TH400 require the shifter to be in neutral and trans-brake button being depressed. **Never use the reverse shifter position with this transmission.**

If you have any questions regarding the proper installation and/or operation of a Coan Racing product, please call (765) 456-3957. You may also fax us at (765) 456-3960, or e-mail at [coan@coanracing.com](mailto:coan@coanracing.com).

### **Warranty**

Coan Engineering offers a limited warranty covering all new products for ninety days and all repair service for thirty days from the original date of purchase to be free from flaws in material and craftsmanship. The warranty is non-transferable. Under no circumstances will Coan Engineering extend its warranty to products, new or repaired, which have been abused, misused, or incorrectly installed. Disassembly of any product by means other than a Coan Engineering technician will void any potential warranty. All warranty claims must be accompanied by the original invoice and are subject to the approval of Coan Engineering.

The above stated warranty **does not include** any shipping charges or labor charges for installation or removal of any Coan Racing product.

### **Liability**

In no manner, neither written nor implied, does Coan Engineering accept liability for consequential or incidental damages to person or property resulting from the use or misuse of its products. Product failure occurring within the stipulations of the warranty policy will be dealt with explicitly under those particular guidelines.