Coan ENGINEERING
TRANSMISSIONS & CONVERTERS

2277 E. North Street
Kokomo, IN 46901

ph: 765.456.3957
fax: 765.456.3960

www.CoanRacing.com

INSTALLATION INSTRUCTION FOR TURBO-II 2-SPEED PRO BRAKE KIT FORWARD PATTERN (#22030)

Thank you for purchasing a Coan Racing performance product. Since 1976, 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 ***

The scope of these instructions will be aimed at the installation of this kit and it is assumed that the transmission will be rebuilt properly to work with this valve body. If necessary refer to a transmission manual for detailed instructions on disassembly and reassembly of the Turbo Hydramatic 400 transmission.

Note: Valve body is full manual with a forward shift pattern P-R-N-2-1. As a safety feature, the trans brake is only functional in first gear and reverse. Reverse is activated by engaging the solenoid while transmission is in reverse position.

***** DO NOT Neutral During Shutdown Unless Using a Billet Direct Drum! *****

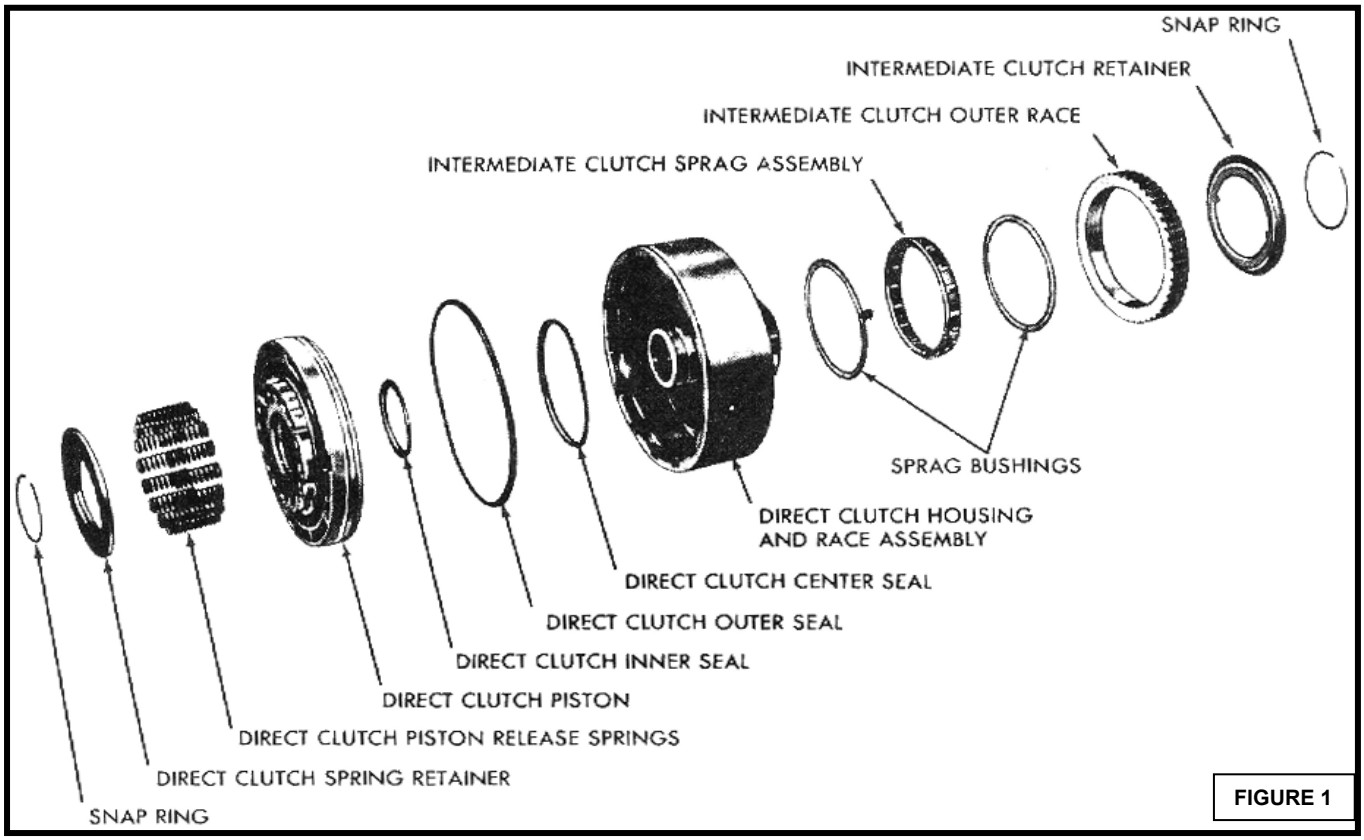

FIGURE 1

1. It is recommended to replace the stock direct drum assembly with COA-22815, COA-22816, or COA-22814 for any 2-speed application. ******DO NOT Neutral Transmission during shut down unless using one of these direct drums.***

2. If using a stock drum, it is necessary to drill a constant bleed orifice in the drum, using a 1/16" drill. A drill press should be used for this operation. At any place on the outer circumference of the drum, measure in from the edge .410" and place a center punch mark. (Figure 2) Drill through the drum, being careful not to let the drill score the machined surface for the outer lip seal, as it breaks through.

3. After orifice has been drilled, drum is ready for reassembly. Before installing piston remove and discard center lip seal in drum. Install piston. Discard 16 stock release springs and replace with 16 new springs furnished. Replace retainer and snap ring. Assemble clutches and steels. A.050 - .060 clutch pack clearance is recommended. Discard front band, It is not used

4. The Low Roller Clutch/Sprag may be omitted when using this valve body

5. The intermediate clutch pack can be replaced by COA-22883 hub. If using an intermediate clutch pack, drill a 3/16" hole in the valve body intersecting the original governor feed passage as shown in (Figure 3)

6. Remove existing valve body, separator plate, and gaskets. Discard **all** check balls. Remove rear servo assembly. Remove and discard oil-sealing rings from accumulator piston and discard stock accumulator spring. Install new accumulator spring furnished in kit and replace servo assembly and cover. (Figure 4)

7. Drill and Tap 12th Valve body hole if your case doesn't have it. Use a transfer punch through valve body to mark location. Drill with letter "F" drill and tap 5/16-18. Install 5/16-18 set screw to block hole as shown. Grind wall in passage adjacent to modulator bore for increased oil flow. (Figure 5)

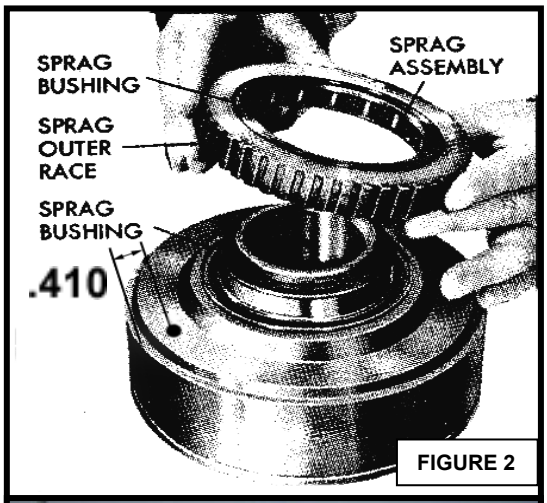

FIGURE 2

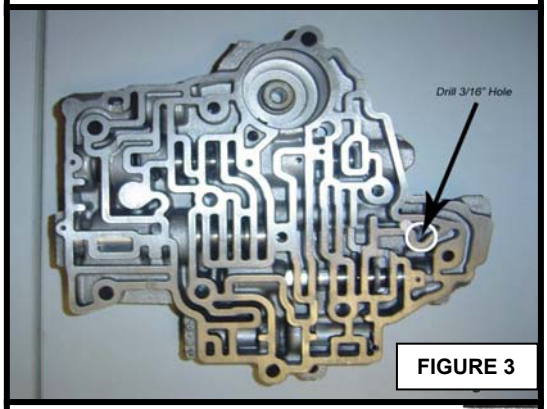

FIGURE 3

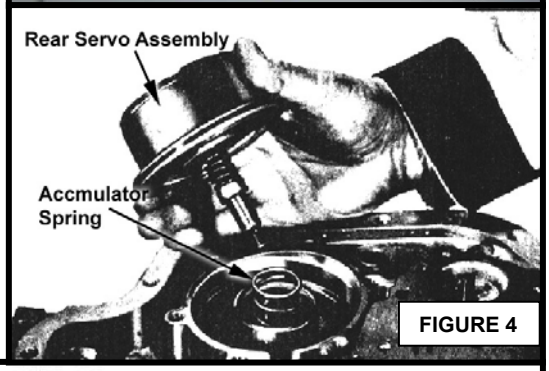

FIGURE 4

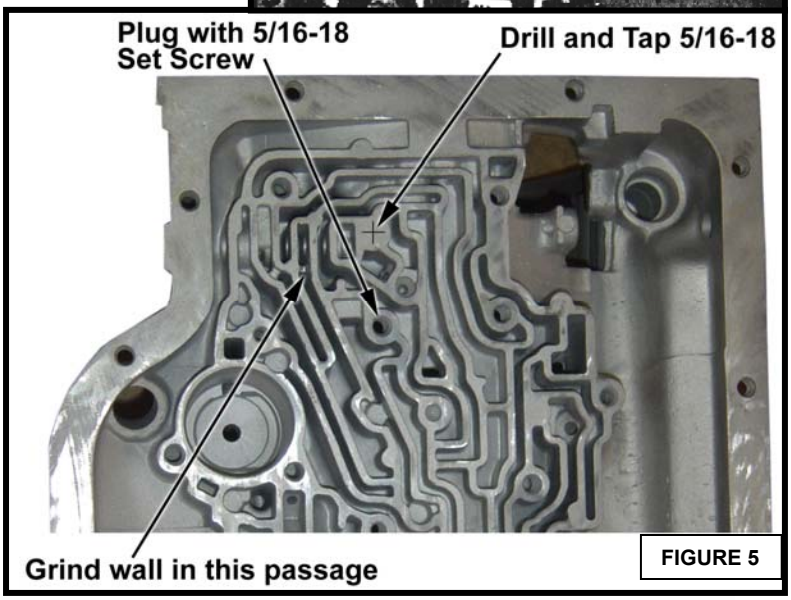

FIGURE 5

For installations in late model cases that are equipped with a factory installed restriction in the Reverse Servo Piston apply hole, remove and discard the restrictor. The restrictor resembles a freeze plug installed in the apply hole. Figure 6

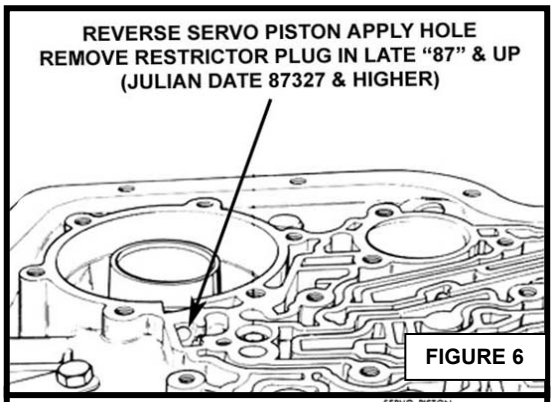

FIGURE 6

8. Use new separator plate with no gaskets and manual control valve furnished.

9. Remove and discard modulator and modulator valve. Place spring furnished over new valve and install in case making sure the new valve moves freely and the spring is functional. Next install the solenoid with o-ring in the modulator position and tighten in place with the stock modulator clip

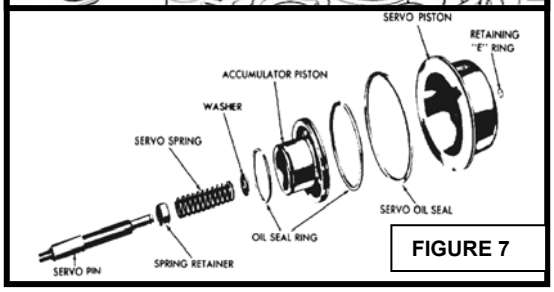

FIGURE 7

NOTE: **Cooler fittings should never be plugged.** If a cooler is not used, connect the lines together with a loop.

After assembly of transmission is completed, necessary wiring for the solenoid can be done. Position the momentary switch on the shifter or wherever it is comfortable. Run a wire from lead of switch to a twelve volt source, the other lead is connected to the red (+) wire on the solenoid. The black (-) wire on the solenoid should be connected to a good clean chassis ground. Be sure to use good wiring connections.

TH400 Brake Components

1. Valve body/machined
2. Separator plate
3. Manual valve
4. Rear accumulator spring
5. Solenoid and o-ring
6. (16) Direct clutch springs
7. Brake valve
8. Brake valve spring

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.

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.