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TCI[®] 526100

Valve Body Performance Improver Kit

Ford C-4 1967-1969 and 1970 Falcon

NOTE: This kit is not intended for installation in a transmission in poor general condition, It will not correct a malfunctioning or slipping transmission.

TCI[®] 526100 Kit Contains:

Qty. Description

One (1) Drill Bit: 11/16"
Two (2) 7/32" Plastic
Check Balls
One (1) Gold Spring
One (1) Red Spring
One (1) Blue Spring
One (1) Yellow Spring
One (1) Pan Gasket

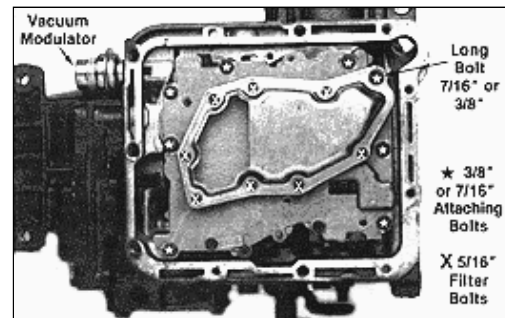


Photo 1

Tools Necessary for Installation:

3/8" Drive Ratchet or Speed Handle
3/8" Drive Sockets: 1/2" ; 5/16" ; 7/16" ; 3/8" (12-Point)
3/4" Wrench
7/16" Wrench
Torque Wrench: 0-250 inch/pounds, 0-100 foot/pounds
1/4" Drill
Screwdrivers: Phillips and Standard (Small)
Small File

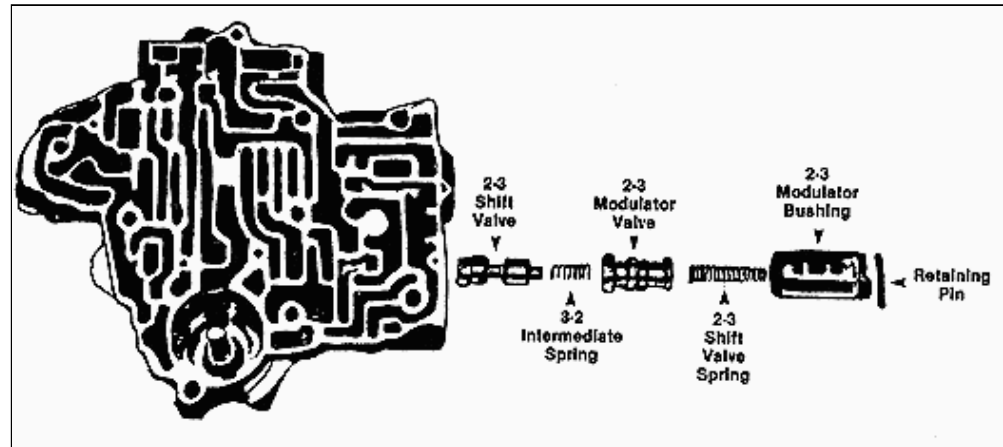


Photo 2

NOTE: 12 inch/pounds = 1 foot/pound

Before you start this project, be sure to read the directions carefully. Familiarize yourself with this instruction sheet, photographs, and illustrations. This kit can be installed easily, but if this is your first time, you may need to refer to a motor/service manual for more detailed instructions. Newspaper or cardboard can be used to provide a good work surface over a bench top. You will need a drain pan, some boxes/containers to hold and separate transmission parts, and clean shop rags. Transmission parts are designed to fit with precision. They should not be FORCED, PRIED or BEAT into place.

Allow your vehicle to cool several hours if you have been operating the vehicle. Hot oil and parts can cause burns.

WARNING! Since you will be working under the vehicle, you should take all precautions to be sure the vehicle is safely supported. **DO NOT** work under a vehicle supported only by a hydraulic or mechanical jack.

REMOVAL AND DISASSEMBLY

Step 1 Removing Oil Pan. Before you remove the oil pan, it will be necessary to drain the oil first. To do so, remove the back oil pan bolts and work toward the front. Let the back of the pan drop so the fluid will drain. (NOTE: Some vehicles may require removal of the crossmember to remove the transmission pan.) Remember, dispose of used oil in a proper and environmentally safe way. If the pan sticks to the gasket, use a screwdriver to loosen the pan from the case. After the fluid has drained, remove the rest of the bolts. Be careful when removing the pan because there will be fluid retained in the pan and the transmission. Once the pan has been removed, wash and clean gasket material from pan. Since the pan does not have a drain plug, you may want to install a TCI® 805800 Drain Plug Kit into the pan. This will save you time in servicing your transmission in the future.

Step 2 Removing Valve Body. Remove the eight (8) valve body attaching bolts and pull the valve body straight down. (See Photo 1) Lay the valve body on a clean work bench with the filter side down. Remove the two (2) upper bolts using a 7/16" wrench. (See Photo 2) Remove the eight (8) filter retaining bolts. (See Photo 1) Remove filter. Next, remove seven (7) valve body bolts remaining. (See Photo 3)

Recap of Valve Body Bolts:

Socket Size

<u>Socket Size</u>	<u>Qty.</u>	<u>Description</u>
3/8" x 7/16"	Eight (8)	Attaching Bolts
	Two (2)	Upper Bolts
3/8"	Eight (8)	Filter Retaining Bolts
5/16"	Seven (7)	Valve Body Bolts
5/16"		

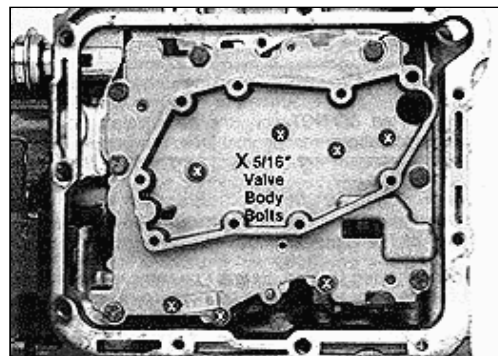


Photo 3

Step 3 Valve Body Disassembly. Basically there are three parts of the valve body:

1. Upper Valve Body (Contains valves and check balls)
2. Separator Plate and Gasket
3. Lower Valve Body (Filter attaches to this section)

When you separate these parts, be careful not to loose any parts. Turn the valve body so that you can easily remove the lower valve body from the upper valve body. Remove and discard rubber ball shuttle valve and flat servo check valve (disk) from the bottom half of the upper valve body. (See Photo 4)

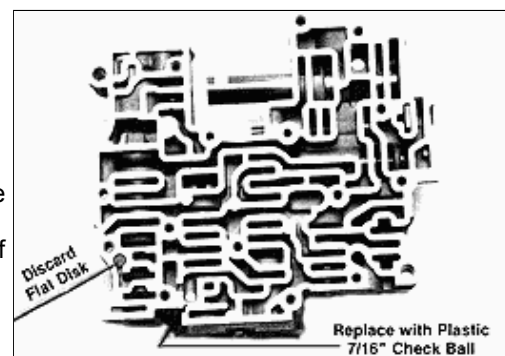


Photo 4

Step 4 Remove Accumulator Valve Assembly. (See Illustration 1)

Remove the two (2) countersunk Phillips screws or bolts that holds the accumulator valve assembly end plate to valve body. Remove carefully because a spring is pushing against plate. Remove the aluminum sleeve, 3-2 control valve (rod shaped) and accumulator spring. Discard accumulator spring. **DO NOT REINSTALL.**

NOTE: Some models of C-4 valve bodies came with a rubber plug in the accumulator valve assembly area. If your

valve body has a rubber plug located in the accumulator valve assembly area remove and discard. Reinstall 3-2 control valve (rod shaped) and aluminum sleeve into bore. Reinstall end plate. The end plate should fit flat against the surface of the valve body. Tighten and torque bolts to 20-40 inch pounds.

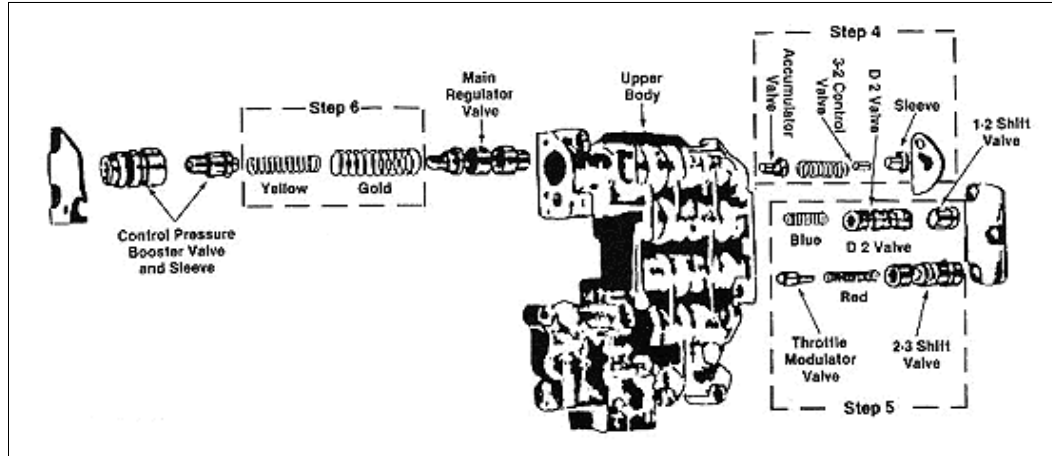


Illustration 1

Step 5 Remove 1-2 Shift (D 2) Valve Assembly and 2-3 Shift Valve Assembly. **(See Illustration 1)** These two assemblies are held into place by one (1) end plate. Remove the three (3) bolts that hold the assemblies in place. Remove carefully because springs are pushing against plate. Remove 1-2 shift valve, D 2 valve and spring. Replace OE spring with **blue** spring provided with your kit. Replace assembly into 1-2 shift (D 2) bore. Reinstall TCI® **blue** spring, D 2 valve and 1-2 shift valve. Next remove 2-3 shift valve and OE spring. Replace OE spring with **red** spring provided with your kit. Reinstall assembly. If you removed the throttle modulator valve install into bore first, then **red** TCI® spring, and then 2-3 shift valve. You are now ready to reinstall end plate. The end plate should fit flat against the surface of the valve body. Tighten and torque bolts to 20-40 inch pounds.

Step 6 Remove Pressure Regulator Valve Assembly. **(See Illustration 1)** Remove the three (3) bolts that hold the pressure regulator end plate to valve body. Remove carefully because springs are pushing against plate. Remove control pressure booster sleeve, control pressure booster valve and outer pressure regulator spring and inner pressure regulator spring. Replace these springs with the **yellow** (inner spring) and **gold** (outer spring) springs provided with your TCI® kit. Reinstall assembly. If you removed the main regulator valve replace in bore first then the **gold** TCI® outer spring, **yellow** TCI® inner spring, control pressure booster sleeve and control pressure booster valve. Be sure that each valve assembly is pushed into place. Reinstall end plate. Tighten and torque all three (3) bolts to 20-40 inch pounds

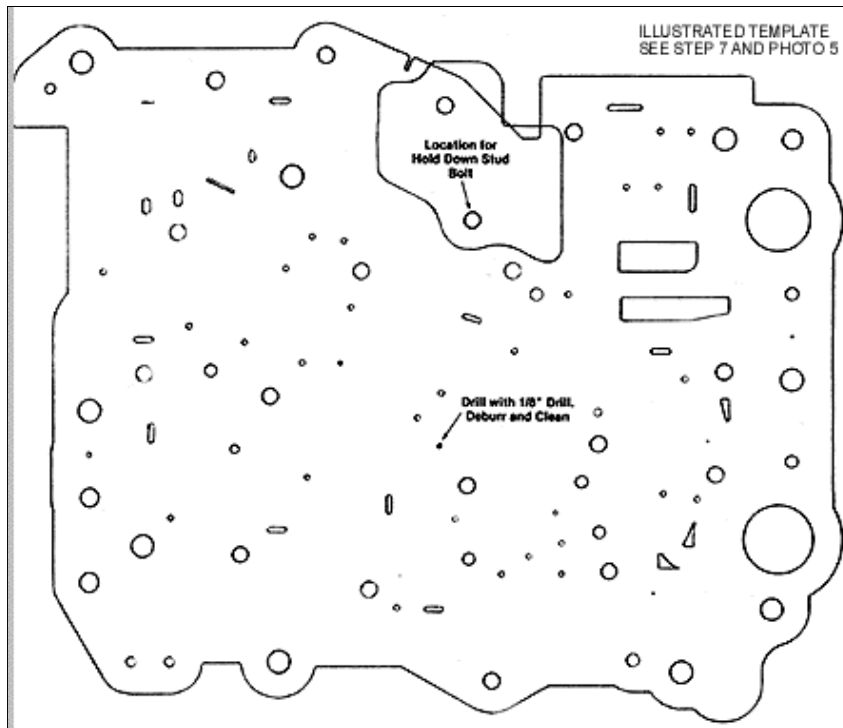


Illustration Template

Step 7 Removing Separator Plate from Lower Valve Body. You will need to remove the two (2) hold-down plates from the separator plate. Remember the location of the stub-bolt and bolt. (See Photo 5) After you have removed the two (2) hold-down plates, remove the separator plate. Lay the separator on the illustrated template. (See Photo 5) Locate the hole that is indicated on the template. Using the 1/16" drill supplied with this kit, enlarge the hole to 1/16" size. Clean and deburr hole, clean the separator plate of any gasket material or dirt.

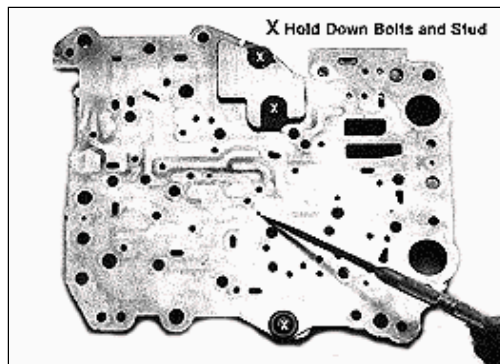


Photo 5

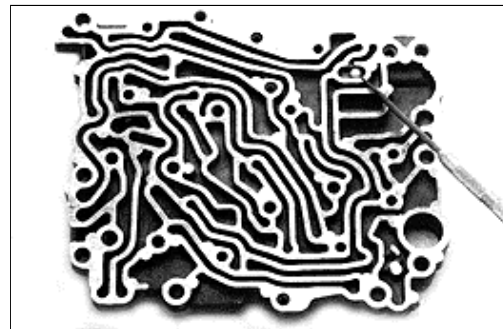


Photo 6

Step 8 Reassembly of Valve Body.

A. All valve body parts should be clean and free of any debris or gasket material. (Contamination could cause the valve body not to function properly.)

B. Upper Valve Body: With passages facing up, install one (1) 7/32" plastic check ball in the shuttle valve area. (See Photo 4) Set aside.

C. Lower Valve Body: With passages facing up, install one (1) 7/32 plastic check ball in the shuttle valve area. (See Photo 6) Install separator plate onto lower valve body. **DO NOT USE A GASKET.** Install hold-down plates onto separator plate, connecting separator plate to lower valve body. Remember hold-down locations and location of stud-bolt. (See Photo 5) Tighten and torque bolts to 20-40 inch pounds.

D. Joining Upper and Lower Valve Bodies: Place the lower valve body with separator plate attached on top of upper valve body. Make sure plastic check ball is still in place in upper valve body. All parts should fit flat against each other. Install the two (2) long 1/4" upper valve body bolts. **(See Photo 2)** Tighten and torque to 80-120 inch pounds. Turn valve body assembly over and install seven (7) valve body bolts. **(See Photo 3)** Tighten and torque to 20-40 inch pounds. Now, install filter using eight (8) filter bolts. **(See Photo 1)** Tighten and torque to 20-40 inch pounds. Valve body assembly is now complete.

Step 9 Adjustment of Front Transmission Band. When making the intermediate band adjustment, the lock nut may need to be replaced. The lock nut has a molded seal element that prevents fluid leakage past the adjusting screw thread. Adjustment and readjustment can cause the sealing material to not seal positively. Loosen the lock nut using a 3/4" wrench. Torque the screw to 120 inch pounds. Back the screw off exactly 1 and 3/4 turns. Hold the adjustment and torque the lock nut to 35-45 foot pounds.

Step 10 Rear Band (Low.Reverse Band) Adjustment. Loosen lock nut several turns. Tighten adjusting nut to 10-12 inch pounds and back off 2 turns. Hold adjusting screw from turning and tighten lock nut.

Step 11 Vacuum Modulator. You may change shift points by replacing your vacuum modulator. After installing this kit, you may want to use a white stripe adjustable vacuum modulator or a green stripe modulator. At TCI® we use the white stripe unit in most of our Streetfighter® transmissions. When choosing a vacuum modulator, a modulator that produces an earlier shift will give better fuel economy and overall improved performance. The vacuum modulator can be adjusted by turning the adjusting screw counterclockwise (screw out).

Step 12 Install Valve Body into Transmission. When reinstalling the valve body, it is very important that the internal linkage engages the valve body properly. Engage selector lever (control rod) into manual selector valve of valve body. Align kickdown lever. Position valve body into case. Work valve body until the valve body lays flat against transmission case. Ensure kickdown lever is seated between stop and kickdown valve. The lever should move freely. Install valve body bolts. Long bolt goes through the filter **(See Photo 1)** Ensure bolt heads bottom on valve body. Recheck kickdown and shifter linkage for easy, free operation. Tighten and torque valve body bolts to 80-120 inch pounds. Failure of proper installation can cause damage to the valve body, transmission and/or linkage. Until you are confident that this part is working correctly - **DO NOT PROCEED** - redo this step or get help from someone that has transmission experience.

Step 13 Install clean transmission pan and new pan gasket. Tighten and torque bolts to 12-16 inch pounds. Install dipstick tube into pan if your model was equipped. Tighten securely.

Step 14 Shifter Adjustment. Make sure that the transmission selector lever and manual lever detent positions match. Place transmission selector lever in Drive (D) position. Place transmission manual lever in Drive (D) position. Loosen lock rod retaining nut located on shift rod and align shifter and transmission in Drive position and torque bolts to 10-12 foot pounds.

Step 15 Kickdown Adjustment. The kickdown system should come in when the accelerator is pressed through detent, and not before detent. You may need someone to help you make this adjustment. Depress gas pedal and make sure that the carburetor is wide open throttle. If not, adjustment is necessary. Disconnect downshift lever return spring. Hold downshift rod against through detent stop (wide open throttle). Adjust downshift screw to provide approximately 1/16" clearance between screw and throttle arm. Connect downshift lever spring.

Step 16 Adding Transmission Fluid and Fluid Check. Lower vehicle. Rear wheels should not touch the ground. Add three (3) quarts of TCI® RTF Fluid or a good grade of Type "F Automatic Transmission Fluid. Place shifter in Neutral (N) position and start engine. Let engine run a few minutes and then check fluid level with transmission dipstick. Now add fluid until the level will touch the "ADD" mark on your dipstick. Now shift the transmission through all drive and reverse positions. Your rear wheels will be turning. After you have allowed the transmission to shift and run through all the gears, recheck the fluid level. Do not add more fluid unless level is below "ADD" mark.

Step 17 Road Test. Drive your vehicle moderately, shifting through all the gears for one or two miles to warm fluid properly. After you have driven your vehicle, recheck the fluid level and add the necessary amount of fluid to reach the "FULL" mark on your dipstick. **DO NOT OVERFILL!** This can cause foaming, overheating and blow by. Transmission fluid capacity will vary with application. Final check is made using dipstick.

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