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TCI[®] 626300 (1962-1966) & TCI[®] 626200 (1967-1973)

Valve Body Performance Improver Kit

Installation Instructions For Aluminum Powerglide

Kit Contains:

Qty. Description

Two (2) Retaining Rings (11/16", 7/8")
One (1) Valve Body Plate (TCI[®] 626200 Only)
One (1) Servo Return Spring
One (1) Red Pressure Regulator Spring
One (1) Yellow 1-2 Shift Spring
Two (2) Modulator Plugs (1", 1 1/16")
Two (2) Valve Body Gaskets
One (1) Transmission Pan Gasket

ALUMINUM POWERGLIDE INTRODUCTION

This kit has been designed for installation during service or overhaul. Use of this kit prevents premature failure of bands and clutches. It provides improved, but not harsh, shift feel and timing that lets your customer know his transmission is working right.

HOW SHOULD A GOOD SHIFT FEEL?

Many people believe that the harder a shift feels the better it is. This is not always true. When the hardness is actually caused by an extreme overlap between the release of one circuit and the application of another, it is actually harmful to the transmission. In Powerglide transmissions this overlap situation is caused by the high clutches fully applying before the low band is fully released. This creates additional heat and causes premature clutch and band failure. Installation of this kit will eliminate this extreme overlap condition. It will also provide a firmer and quicker 1-2 shift and 400% more oil to high gear clutches. It will allow you to obtain, quick, early shifts by following the procedure in **Step 16** for throttle valve linkage adjustment.

This kit can be installed by anyone following these step-by-step instructions carefully. Read through the instructions completely before actually beginning work. Have a clean work area for working on the valve body as dirt could cause problems with assembly or operation. When assembling parts, do not use force. If a part will not fit, find and correct the problem.

Allow transmission to cool before beginning work. Transmission fluid temperatures can run over 200°F and could cause serious burns. If you do not have access to a lift, raise the vehicle 1 to 2 feet on jack stands or ramps. Be sure the vehicle is firmly supported! Use a container for bolts to prevent loss and a drain pan to catch the transmission fluid.

STEP 1 Remove vacuum modulator (**See Figure 1**) as follows: Disconnect vacuum line from modulator. Unscrew modulator from case using a 1" wrench. Remove gasket, modulator rod (1962 and early '63 do not have a rod), dampener spring (not on all models) and modulator valve. Place these parts in a container.

STEP 2 Drain oil pan. Some Powerglide transmissions

do not have a drain plug. You may want to install a TCI® Drain Plug Kit at this time, TCI® 805800. Drain the oil by removing the pan bolts, working slowly from the back to the front. Leave in 2 of the front bolts. If the pan sticks to the gasket, pry it loose with a screwdriver. Let the oil drain past the pan, then remove the last 2 bolts and remove the pan.

STEP 3 Remove and discard the pressure regulator snap ring from the lower valve body half (See Figure 2). Be careful when removing the snap ring, as there is spring tension behind it. Remove the booster valve and sleeve, spring retainer and spring. Discard the stock spring. Install the **red** pressure regulator spring supplied. Install the spring retainer with the cupped side over the spring. Make sure the booster valve is in place in the sleeve and install the valve and sleeve assembly into the valve body. Push in on the booster sleeve and install the new snap ring supplied. Be sure the snap ring is fully seated in its groove.

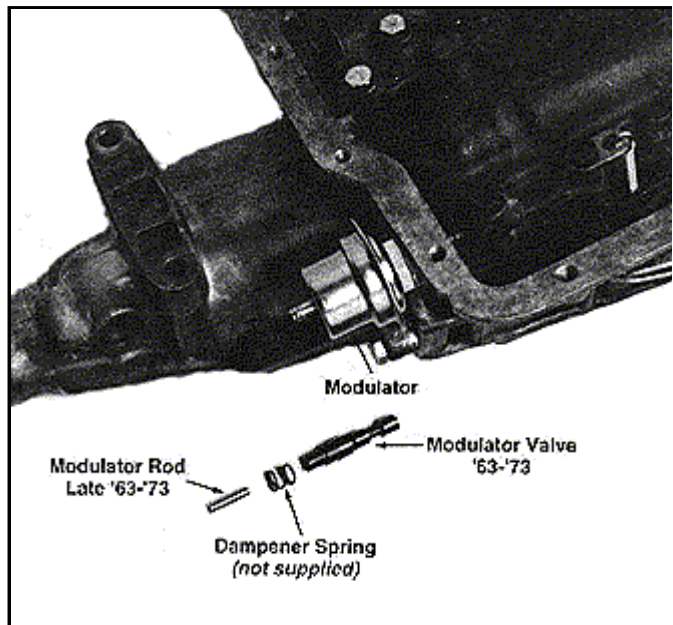


Figure 1

STEP 4 Remove and discard the 1-2 shift valve snap ring (See Figure 2). Be careful when removing the snap ring as there is spring tension behind it. Remove the 1-2 throttle sleeve and cap, throttle valve, spring retainer (not on all models) and springs. Discard the stock springs. Install the 1-2 shift valve spring supplied. Install spring retainer (if your valve body had one). Make sure the throttle valve is in place in the sleeve. Install the throttle valve, sleeve and cap assembly into the valve body. Push in on the throttle sleeve and install the new snap ring supplied. Be sure the snap ring is fully seated in its groove. Place the lower valve body half aside.

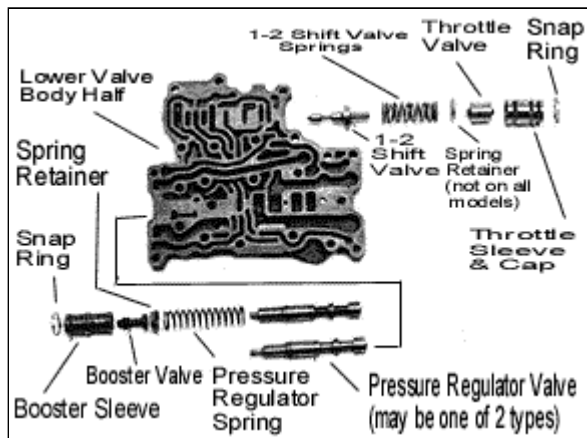


Figure 2

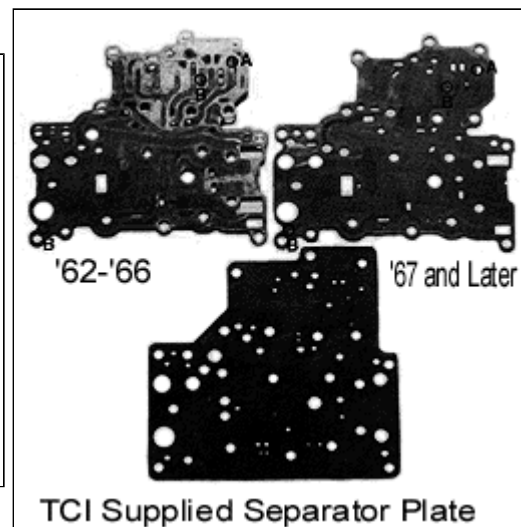


Figure 3

STEP 5 1962-1966 Valve Bodies: Compare your original separator plate (See Figure 3). If your original plate has hole "A", discard your original plate and use the new plate supplied. If your original plate does not have hole "A", enlarge 2 holes marked "B" with the 3/16" drill supplied in your original plate and re-use it.

1967-1 973 Valve Bodies: You **cannot** use the new plate supplied. Enlarge the 2 holes marked "B" in your original separator plate with the 3/16" drill supplied (See Figure 3). If you are re-using your original separator plate, deburr the holes after drilling. Carefully clean all old gasket material from the separator plate and wash it thoroughly in

solvent.

STEP 6 Place the upper valve body half in front of you with the channels facing up. Install the 2 check valves and springs on 1962-1966 models (**See Figure 4**). Compare the gaskets supplied (**See Figure 5**). Pick the correct gaskets for your valve body. The upper and lower gaskets are different from each other for 1962-1966 models. The upper and lower gaskets are the same on 1967-1973 models.



Figure 4

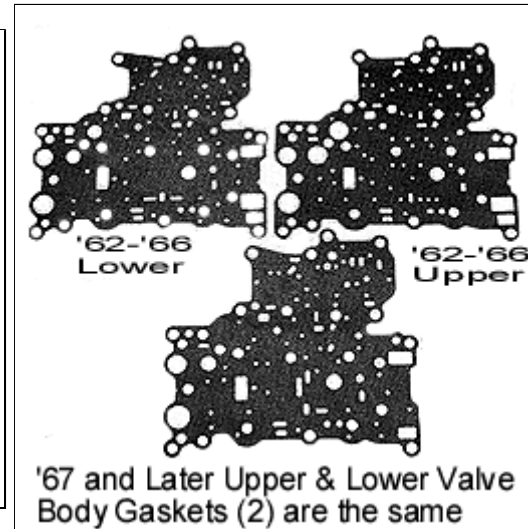


Figure 5

STEP 7 Place an upper gasket on the upper valve body half. Place the separator plate over it, then place a lower gasket on the plate. Carefully place the lower valve body half in position on the upper half, plate and gaskets. Install 14 valve body bolts (all 1-3/8" long) being sure the plate and gaskets are aligned properly. Do not install the bolt "B" that holds the spring retaining plate yet. Tighten the bolts to 12-ft. lbs. Install new oil filter and gasket supplied and tighten screws securely. Install servo tube and manual valve into the valve body.

STEP 8 Scrape all old valve body and pan gasket material off the case. Be sure the case is absolutely clean where the valve body mounts against it. Any old gasket material will prevent the valve body from sealing properly against the case. Install the valve body, being sure to insert the servo tube into the hole in the case and align the manual valve to the pin on the manual valve lever. Also, be sure the throttle valve clears the inner throttle lever. Install 6 of the valve body-to-case bolts leaving out the one that holds the guide plate. Tighten the bolts to 12-ft. lbs.

STEP 9 Attach detent roller spring to the detent roller lever. Attach spring retainer plate to spring. Position plate against valve body and install bolt. Tighten bolt to 12-ft. lbs.

STEP 10 Be sure manual valve is engaged to pin on lever. Install manual lever guide plate being careful not to disengage manual valve. Install bolts and tighten to 12-ft. lbs. Check shifter operation. It should move freely and engage firmly into each position while moving the manual valve. Check throttle pressure lever operation. It should move freely and push throttle valve into valve body. When released, valve should push lever back.

STEP 11 Install the modulator valve into the valve body. Install the dampener spring over the end of the modulator valve if your valve body had one. Install new gasket onto the vacuum modulator.

Heavy Duty: Install the short modulator rod supplied with kit into the vacuum modulator (1962 and early '63 do not use a rod). The hollow end of the rod must be installed into the modulator.

Street: Install the long modulator rod supplied into the vacuum modulator (1962 and early '63 do not use a rod). The hollow end of the rod must be installed into the modulator.

Install vacuum modulator and rod onto transmission. Tighten securely with a 1" wrench.

Heavy Duty and Street: Connect vacuum line to modulator. Be sure the hose is in good condition and fits snugly.

STEP 12 Scrape all old gasket material off the oil pan. Clean the pan in solvent. Install pan and new pan gasket supplied. Tighten bolts to 10-ft. lbs. If your pan has a drain plug be sure it is tight also.

STEP 13 Loosen the band adjusting screw lock nut on the left side of the case. Back the nut off at least 6 turns. Tighten the adjusting screw to 72 inch pounds and back it off 4 turns counterclockwise. Hold the adjusting screw in place and tighten the lock nut.

STEP 14 Check shift linkage adjustment. Place shifter in Park. Loosen lock bolt or jam nut on linkage rod or cable. Make sure transmission shifter lever is in Park. Tighten lock bolt or jam nut.

STEP 15 Pour 4 quarts of automatic transmission fluid into transmission. Keep rear wheels off the ground if possible. Start engine in neutral and check fluid level. Add fluid until level is between "add" and "full" marks on the dipstick. Shift transmission into each gear. Recheck fluid level in neutral and add fluid if needed. **Do Not Overfill.** Turn off engine and check transmission for leaks.

STEP 16 Throttle pressure linkage adjustment: Be sure carburetor is opening fully. Disconnect throttle pressure linkage from carburetor. Hold carburetor lever to full open position. Move throttle pressure linkage toward carburetor and be sure linkage is at its full travel position when it lines up to carburetor. Adjust linkage arm as necessary to get full travel at wide open throttle position.

Back off throttle adjustment until there is no passing gear above 30 MPH. Adjust 2 turns at a time until passing gear returns, then add 5 more turns. Road test for proper shift points, it is better for the shift to be a little early than late.