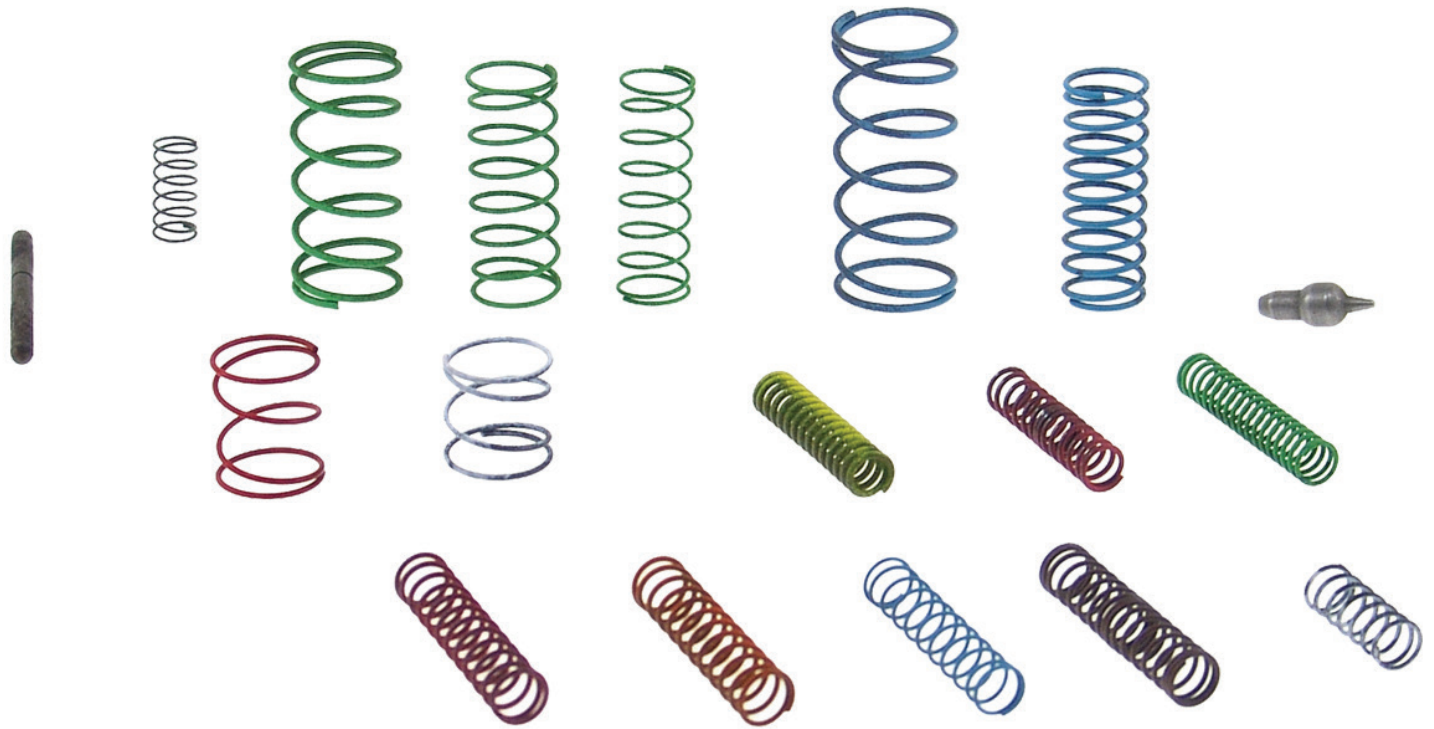


# Shift Kit

555-60934

1967 - 1996 | Ford C6 Automatic Transmission  
Cars & Trucks, Gasoline & Diesel



# Introduction

We would like to take this opportunity to thank you for purchasing this JEGS 1967-1996 Ford C6 automatic transmission Shift Kit. We welcome any comments or feedback you might have. If you have any questions about this product or about the installation procedure, please feel free to contact us at 1.800.345.4545.

When converting a gasoline C6 valve body for diesel application a 0.410 in. or 0.437 in. pressure regulator boost valve must be used. Many gasoline C6 valve bodies are equipped with this size.

### Features:

- Increased overall line pressure
- Higher speed manual low calibration
- Increased durability
- Crisp shifts

### Corrects:








- Soft (early) shifts
- Stacked shifts
- Engine bogging on hills

## NOTE

**INSTALLATION DOES NOT REQUIRE REMOVAL OF THE TRANSMISSION.**

# Bolt Identification

Know your hardware to avoid any possible damage to the valve body. Match the bolt length letter code for the location and usage throughout this guide.

CODE	QTY.	BOLT	TORQUE SPECS IN. LBS.
A	1		40-50
B	1		40-50
C	9		40-50
D	8		40-50
E	1		25-35
F	2		25-35
G	11		25-35

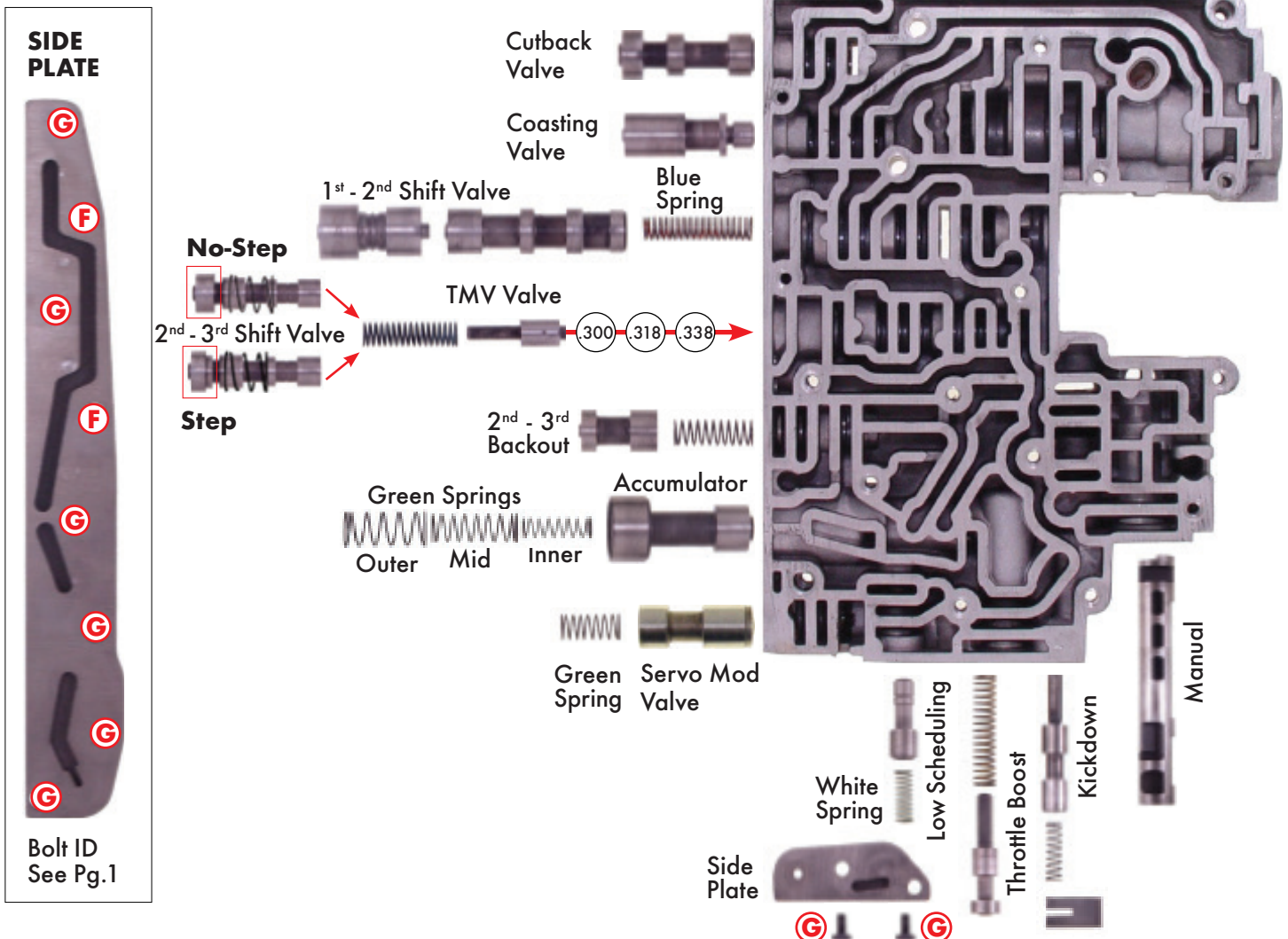
### NOTE

The **G** bolt can be used in the **F** location, but the **F** bolt cannot be used in the **G** location. Some valve bodies don't use the **F** bolts. 1971 and newer C6s use 9 **G** bolts because the pressure regulator has no end plate.

# Installation

- 1<sup>st</sup> - 2<sup>nd</sup> shift valve: Use the blue spring.
- 2<sup>nd</sup> - 3<sup>rd</sup> shift valve
  - Diesel Only:
    - Step Type valve: Use the red spring.
    - No-Step Type valve: Use the white spring.
  - Gasoline Only: No spring
3. TMV valve: Install new TMV spring
  - Gasoline:
    - 0.300 in. and 0.318 in. use the brown spring.
    - 0.338 in. use the orange spring.
  - Diesel:
    - 0.300 in. and 0.318 in. use the orange spring.
    - 0.338 in. use the red spring.
4. Accumulator valve (1<sup>st</sup> - 2<sup>nd</sup> firmness selection)
  - Short and smooth shifting: All three springs
  - Short and firm shifting: Outer and mid springs
  - Firm shifting: Outer spring only
5. Servo mod. valve: Use the green spring.
6. Low Scheduling valve: Use the white spring.
7. Leave all side plate bolts loose until the valve body halves are bolted together.
8. Verify side plate bolt sizes with chart on Pg.1.

## VALVE BODY



# Pressure & Lubrication Upgrades

## VALVE BODY

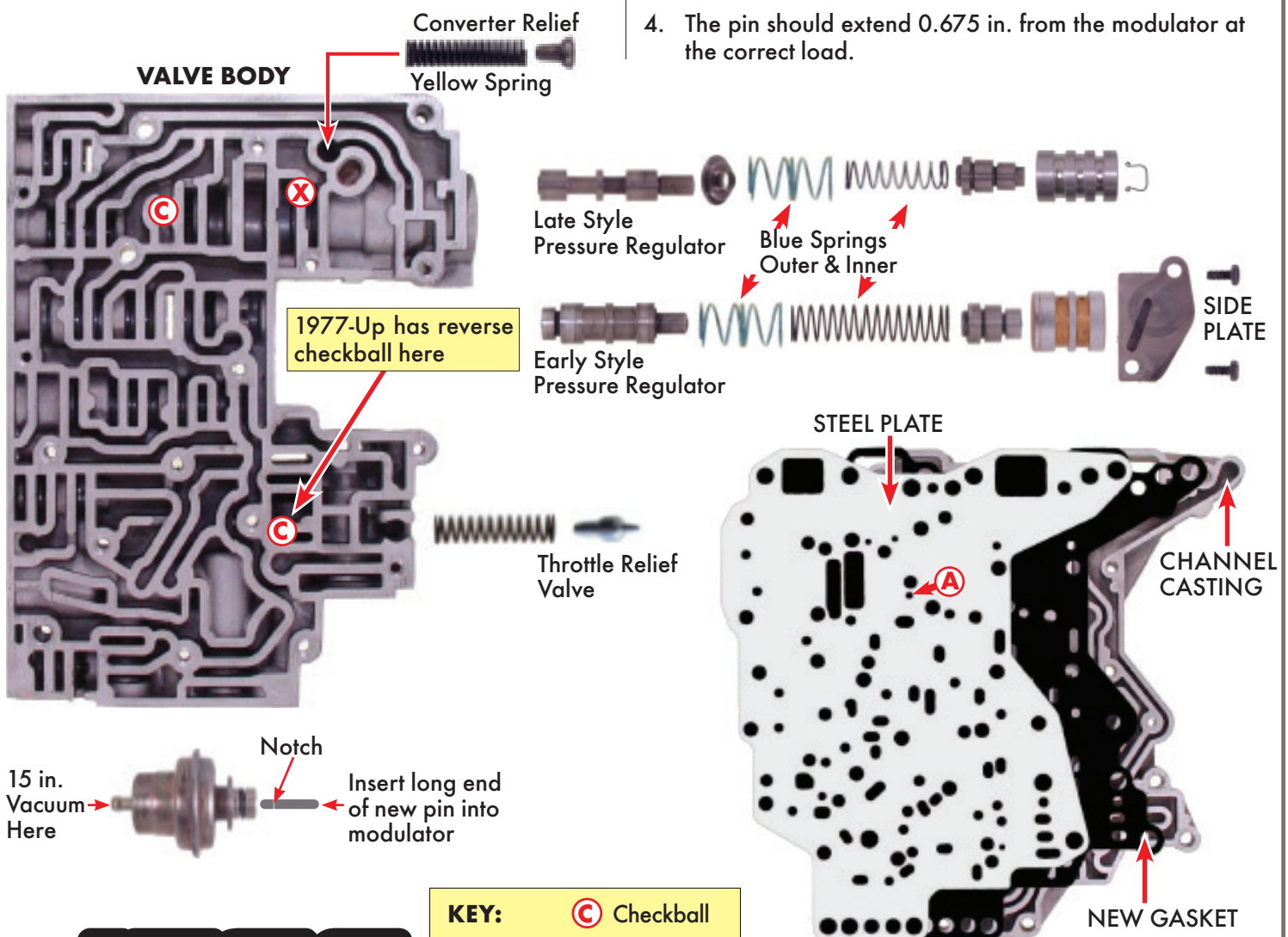
1. Converter Relief valve: Install the yellow spring
2. Pressure Relief valve: Use the blue inner & outer springs.
3. Boost Land:
  - Diesel application:
  - If larger than 0.410 in. use the green spring.
  - If 0.410 in. or smaller use the pink spring
  - Gas applications use the pink spring.
4. Drill a 0.55-0.63 in. hole through the partition under the "X" which connects the right and left cavities. Avoid drilling the valve bore.

## STEEL PLATE

1. Enlarge hole "A" on the steel plate
  - Gasoline engine: 0.076-0.089 in.
  - Diesel engine: 0.067-0.070 in.

## DIESEL MODULATOR ADJUSTMENT

1. Diesels use the green stripe adjustable modulator only.
2. Vacuum Pump Method: Pump 15 in. of vacuum into the modulator. Adjust the screw until the pin notch is flush with the end of the modulator.
3. Scale Method: Adjust the screw until the pin notch is flush with the end of the modulator when the scale indicates 12 1/2 lbs.
4. The pin should extend 0.675 in. from the modulator at the correct load.

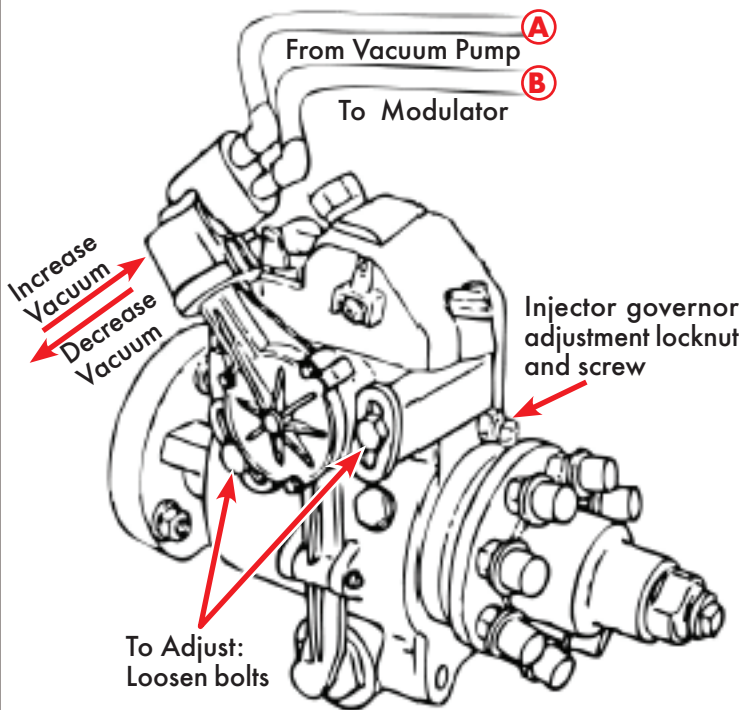




# Diesel Troubleshooting

## DIESEL GOVERNOR

1. Cut hose "A" a few inches away from the regulator and insert a 1/4 in. barbed tee. There must be 20-25 in. of steady vacuum.
2. Cut hose "B" a few inches away from the regulator and insert the second 1/4 in. barbed tee. Adjust until the vacuum gauge reads 17 in. Make sure the engine is at operating temperature before adjusting. Heat will effect the regulator function.
3. Final adjustment during a road test. If an adjustment is needed, don't move the regulator more than the width of a pencil line at a time. 3/8 to 3/4 throttle shifts should occur before engine runs out of power. Shifts should be crisp.
  - Slow Shifts: Increase Vacuum
  - Early Shifts: Decrease Vacuum
  - Don't adjust for late shifting, earlier shifting is better.



### TOOLS & SUPPLIES NEEDED

- (2) 1/4 in. Barbed Tees
- (2) 1/4 in. Barbed Couplings
- Vacuum Gauge

## ISSUE

- No wide open throttle 1<sup>st</sup> - 2<sup>nd</sup> upshift

## CAUSES

- Modulator line pressure to high
- Improper injection pump govern adjustment or gas governor installed in transmission

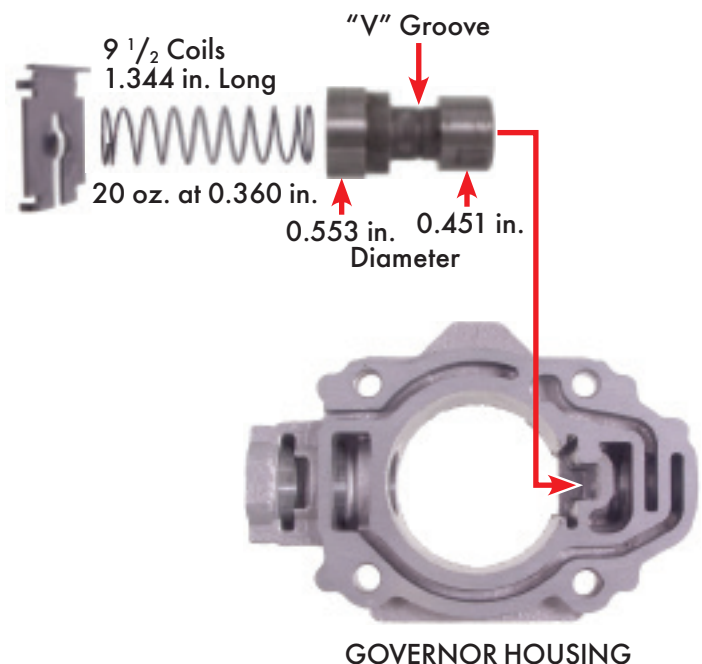
## TROUBLESHOOTING

- Maximum throttle in "D" at 28 mph must not make a line pressure over 138 psi.
  - If the pressure is over 138 psi install a washer under thre modulator and check again.
  - If the pressure is 128-137 psi and there is still no maximum 1<sup>st</sup> - 2<sup>nd</sup> shift the engine is under-revving (injector governor) or the wrong transmission governor has been installed.

## ADJUSTMENT (INJECTOR PUMP GOVERNOR)

- Loosen the lock nut. Turn the screw clockwise (IN) a 1/2 turn at a time until the maximum rpm is 3400. If there is not max 1<sup>st</sup> - 2<sup>nd</sup> shift by 3400, the transmission may have a gas governor instead of a diesel. See governor ID below.

## DIESEL GOVERNOR



# Adjustments

## KICKDOWN ADJUSTMENT

1. Adjust linkage or cable until there is no 3<sup>rd</sup> - 1<sup>st</sup> kickdown at 30 mph for gas engines, or 3<sup>rd</sup> - 2<sup>nd</sup> kickdown at 20 mph for diesel engines.
2. It may be necessary to bend the kickdown rod shorter on some models.
3. Then adjust the linkage or cable until you are just able to get a 3<sup>rd</sup> - 1<sup>st</sup> kickdown at 30 mph for gas engines, or 3<sup>rd</sup> - 2<sup>nd</sup> kickdown at 20 mph for diesel engines.

## BAND ADJUSTMENT

1. Snug the band adjustment screw with a short wrench.
  - Notice that the output shaft or driveshaft will not turn backwards by hand with the screw tightened. (This must be done with the wheels off the ground, the transmission in neutral and the engine turned off).
2. Loosen the screw slowly until you can just turn the output shaft or driveshaft backwards by hand.
3. Loosen the band adjustment screw a 1/4 turn more and then tighten the locknut.

## SHORTER 2<sup>ND</sup> - 3<sup>RD</sup> SHIFT

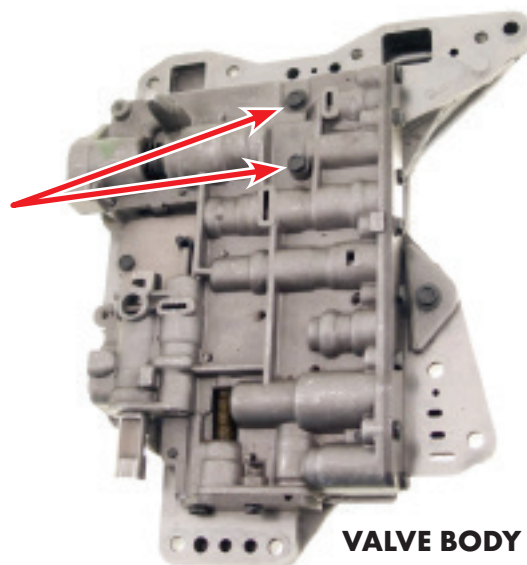
1. Install the smooth direct clutches made for the E4OD transmission.

## VACUUM CHECK

1. With the engine idling, pull the vacuum hose off at the modulator. After doing this the engine must either speed up or idle roughly. If the engine idles continues unchanged then check the following.
  - The hose is connected to the wrong outlet
  - A fitting, hose or line is plugged with debris
  - A hose or line is pinched.
2. Lift the vehicle so you can easily reach both the ignition key and the modulator. Start the engine in Park and turn the ignition key off. When the engine is completely stopped and the room is quiet, count to five and then pull the vacuum hose off the modulator to listen for the sound of trapped vacuum escaping. If there was trapped vacuum:
  - The main vacuum hose is sucked shut blocked by carbon buildup.
  - The brake reservoir check valve is no good.
  - The vacuum reserve canister connected to same fire-wall tree.
3. To fix, connect the line directly to the manifold. Drill and clean the carbon deposits out of the hoses and fittings.

## Disassembly Tip

Remove these two bolts first. Then flip the valve body over and remove the rest of the bolts.



VALVE BODY

# Bolt Location & Assembly Procedure

1. Assemble the channel casting, gasket and plates. (Fig.01)
2. Assemble the channel casting to the valve body. (Fig.02)
  - Make sure the throttle relief valve and spring are seated properly.
  - Temporarily use 2 "C" bolts to guide the valve body halves together. Remove these guide bolts after step 3.
3. Install the 4 bolts shown and tighten three. (Fig. 03)
  - Remove bolt "A" after tightening the other bolts. This is an alignment bolt.
  - Remove the "C" guide bolts from step 2.
4. Flip the valve body over and tighten the 2 bolts marked. (Fig. 04)
5. Using a torque wrench, with an in. lbs. setting torque the installed bolts to the specifications listed on page 1.

Figure 01

Finger tighten bolts only.

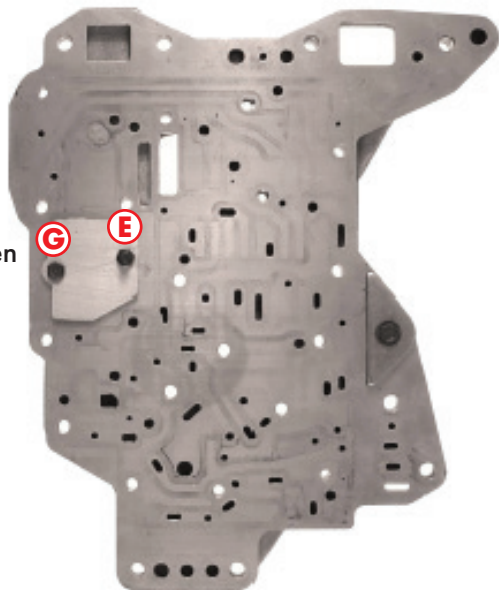
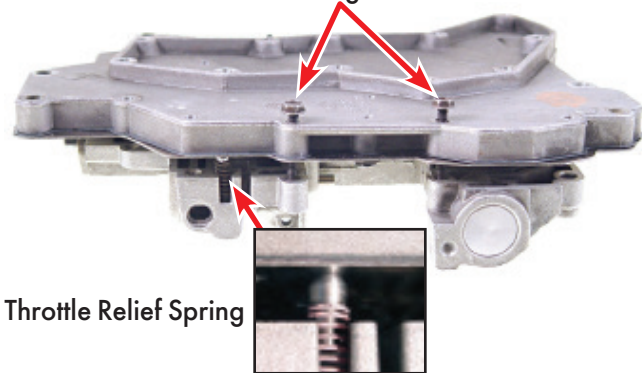


Figure 02

Temporarily use 2 "C" bolts as guides.



Throttle Relief Spring

Figure 03

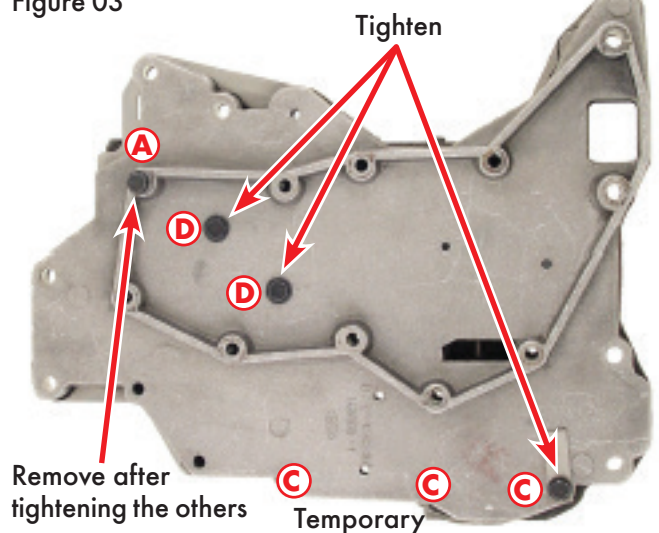
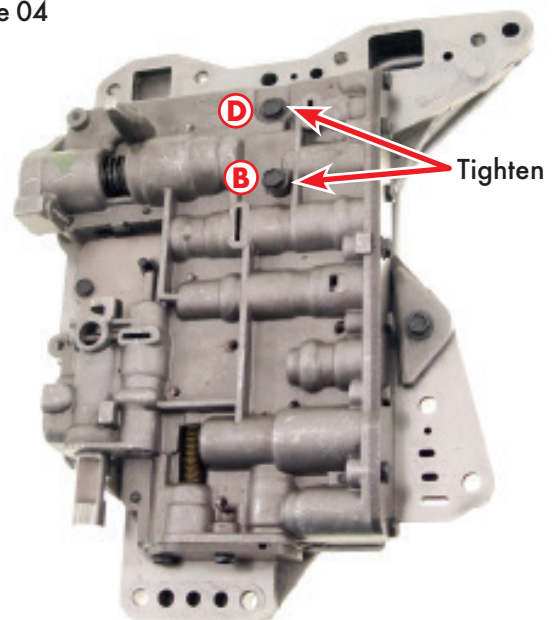


Figure 04



# Bolt Location & Assembly Procedure

6. Flip the valve body over then install and tighten the 4 "D" bolts. (Fig. 05)
7. Install the filter on the valve body with the "C" and "A" bolts. (Fig. 06)
  - Insert a tapered punch through the filter's 2 unused mounting holes to keep it aligned to the valve body while tightening.
  - Make sure the pan does not press against the filter opening. A pan bottom bent upward can restrict fluid flow through the filter and damage the transmission.
  - Use a mallet to flatten the pan bottom, if needed.
8. Tighten all end plate and reinforcing plate bolts. (Fig.07)
  - 1967-1970 type pressure relief valve has 2 "G" bolts that need to be installed.

