

## **Transmission Installation Instructions for 60320**

This is a general guideline for installation. Since we cannot cover all the specific steps in the installation for your application, it is best to consult a vehicle-specific repair manual.

**IMPORTANT NOTICE:** Post installation adjustment of the throttle valve (TV) cable is required for transmission to work properly.

### **Safety Guidelines**

This installation begins with common sense! If the installation is not to be performed with the aid of a full size chassis lift, it is highly recommended that you support the vehicle with four heavy duty jack stands, one at each corner. The vehicle should be positioned on hard, flat and level surface (asphalt in the summer can be very dangerous).

**NEVER** use a bumper or scissors jack for support of your vehicle! Safety first. Always wear safety glasses.

**Have some help available when the transmission and torque converter assembly is ready to be removed from the vehicle. It is heavy and care should be taken to avoid injury.**

### **STOP! A new transmission and a used torque converter do not mix!**

You have just purchased a new transmission. Your used torque converter is full of used transmission fluid containing particles of metal and friction materials that will damage and ruin the operation and life of your new transmission.

It is physically impossible to drain all the fluid from your used torque converter unless it is split into two sections! We highly recommend the investment in a new torque converter at this point if you have not already done so.

Make sure to flush out the cooler and cooler lines. The best way to accomplish this is to use a high quality transmission flush available from a local auto parts supply outlet.

### **Check these items for wear and tear and replace if needed**

- Universal Joints
- Transmission mounts

### **Tear Down and Disassembly**

1. Remove both the negative (-) and positive (+) power cables from the battery.
2. Raise and support your vehicle as addressed in the Safety Guidelines.
3. Remove any exhaust components that may be in the way for the removal of the transmission.
4. Spray the dowel pins with a penetrating oil now to ease the removal of the transmission in the later steps.
5. Disconnect any linkages (shift and/or kick down cable), dipstick, speedometer cable and vacuum line to the modulator.
6. Drain the transmission fluid into a drain pan. If the pan does not have a drain plug, loosen the bolts securing the pan to the transmission. The latter method is extremely messy and you will need a larger pan that can cover the entire area of the transmission pan.
7. Disconnect the cooler lines and drain them into the drain pan at this time.
8. Move the drain pan to the tail shaft area and remove the driveshaft. Be careful with the u-joint cups, so as to not displace the needle bearings.
9. Support the transmission with either a hydraulic jack or a jack made especially for transmission removal. Remove the bolts (all but two) attaching the transmission to the engine block and remove the torque converter-to-flexplate bolts. Remove the bolts from the transmission mount to the crossmember. Raise the transmission slightly to remove the weight of the transmission from the crossmember. With the transmission secured by the jack, remove the crossmember.
10. With the crossmember removed, lower the transmission to a point slightly lower than its original position. Support the engine in this position with a bottle-style hydraulic jack or another jack stand to prevent the engine dropping and causing damage (usually the distributor) or injury to you.
11. This is where the helper is needed. The transmission and torque converter assembly weighs close to 200 pounds and without the proper transmission jack this could be a very difficult procedure. Remove the two remaining transmission-to-engine block bolts now. With the weight of transmission still supported by the jack, pull rearward on the transmission to separate it from the engine block (it may need to be moved side to side to free it from the dowel pins). The torque converter must stay with the transmission, fully engaged to the input shaft. Once free from the engine lower the assembly and remove from the vehicle.
12. With the transmission and torque converter removed from the vehicle and on the floor. It is time to take a measurement for reference purposes to ensure for proper engagement of the pump drive of the new transmission and new torque converter. Place a straight edge across the front mounting surface of the transmission and measure back to the torque converter and record this dimension. The replacement units should measure the same.



**1-800-345-4545 [jeps.com](http://jeps.com)**

## Reassembly and Installation

1. Remove any linkages and fittings from your transmission case and clean before installing them into the new transmission. (New fittings are cheap insurance to avoid any leakage.) It may be time to buy a new transmission mount to top off the installation. Re-install the fill tube and other accessories at this time.
2. From your supplies, pour one quart of Dexron II (or equivalent non-synthetic fluid) into the new torque converter. Apply a light film of the transmission fluid to the pump drive hub and guide onto the input shaft, rotate the torque converter and apply force until it engages the pump. You should notice a little drag as it engages the front pump.
3. As in step 12 from the Tear Down and Disassembly phase, repeat the process of measuring the distance to the torque converter from the transmission mounting surface. This should match your dimension from step 12.
4. Place the transmission and torque converter assembly onto the jack as you did for the removal process. Raise the transmission into place. Be aware not to let the torque converter slide out of the drive tangs of the front pump.
5. Slide the transmission onto the dowel pins and install the transmission to engine block bolts. Do not attempt to pull the transmission into place using any of the transmission bolts. You will crack the case! With the transmission secured in place, spin the torque converter, it should spin freely. Now bolt the torque converter to the flexplate.
6. Reinstall the cross member by raising the rear of the transmission and reinstall the cross member to transmission bolts at this time also.
7. Before installing the driveshaft, the driven yoke should be cleaned and lubricated with a thin film of fresh transmission fluid.
8. Reinstall linkages, shift cable, dipstick, speedometer cable and vacuum line to the modulator. Cooler lines should be installed at this time also.
9. Replace any removed exhaust components.
10. With everything replaced that was removed and secured you can now add 4 quarts of the Dexron II (or equivalent non-synthetic fluid) to the transmission. With the transmission placed in park you can now reconnect the battery and start the engine. Add transmission fluid until the dipstick shows you are a quart low. Let the transmission operate for a few minutes. During this time check for leaks.
11. While the vehicle is still on the jack stands with engine idling, shift the transmission to reverse and allow the wheels to rotate. Apply the brakes before shifting the transmission from reverse. **Damage could occur to the park pawl!** After a 5 minute run-in time, shift to park, applying the brakes first.
12. Lower the vehicle to the ground start the engine and check the fluid level and add fluid to the full mark.
13. Watch for leaks and than test drive your vehicle. This is a performance transmission - you need to service the fluid and filter more often. The recommended service interval is 12,000 miles.

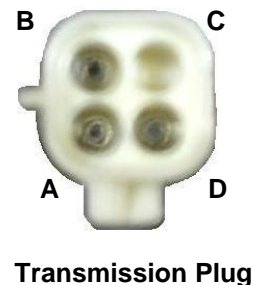
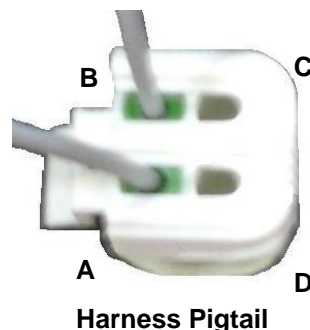
## Items Needed and Suggestions For Installation

|   |                     |
|---|---------------------|
| 4 Jack Stands .....   | Available From JEGS |
| 12 quarts needed Dexron II (or equivalent non-synthetic fluid)..... | Available From JEGS |
| Hydraulic Jack .....  | Available From JEGS |
| U-Joints.....   | Available From JEGS |
| Transmission Mount .....  | Available From JEGS |
| New Converter .....   | Available From JEGS |
| Transmission Cooler .....   | Available From JEGS |

|                 |                       |  |                                  |
|-----------------|-----------------------|--|----------------------------------|
| Penetrating Oil | Transmission Jack     | Drain Pan  | Hand Tools                       |
| Straight Edge   | Tape Measure or Ruler | A Helper   | Service Manual, Vehicle Specific |
| Wheel Chocks    | A Chassis Lift        | Support for Engine (additional jack stand or jack) |                                  |

### Wiring:

- (A) TCC Solenoid Positive(+) from Switched 12V  
 (B) TCC Solenoid Negative(-) to Ground  
 (C) N/A  
 (D) N/A



1-800-345-4545 [jeps.com](http://jeps.com)

In order for your new 700R4 transmission to operate as intended the Throttle Valve (TV) Cable must be properly adjusted. Failure to properly adjust the TV cable **WILL RESULT IN DAMAGE** to the transmission, voiding the warranty. If you are unsure about the proper adjustment needed, call the JEGS tech line for help or refer to a GM service manual for additional information and reference.

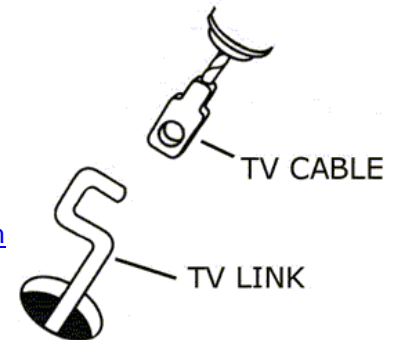
**TV Cable Function:** The 700R4 transmission utilizes a Throttle Valve (TV) Cable. The TV Cable controls line pressures, shift points, part throttle downshifts and detent downshifts. The cable functions similarly to the combination vacuum modulator/cable systems found on other automatic transmissions.

#### Installation:

**Step 1** Locate the new universal cable that was supplied with your transmission. It is recommended to use this cable as old cables may be stretched or worn out.

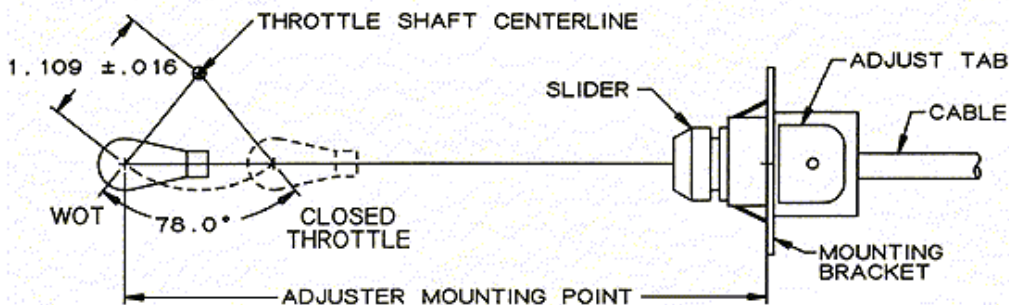
**Step 2** With the carburetor/throttle body end of the TV Cable disconnected, pull the link out of the transmission and fit the cable end to the link as shown in **Figure 1**. Push the TV Cable sheath into the seal in the transmission and tighten the retaining bolt. If your vehicle has a factory-installed bracket for the TV Cable then skip to **Step 4**.

**Step 3** Install a bracket that will allow the TV Cable to mount to the carburetor/throttle body. JEGS offers several brackets to fit most applications. Visit [www.jegs.com](http://www.jegs.com) or contact us at 1-800-345-4545 for the correct bracket for your application. If you are using a Chevrolet TBI/TPI induction system, then correct brackets can be obtained from a local GM dealership.



**Figure 2** demonstrates the correct geometry for the TV Cable mounting position. Use the following procedure to determine if your ADJUSTER MOUNTING POINT is correct.

- Push in the Adjust Tab and retract the Slider in the direction shown in **Figure 3**.
- Without allowing the Slider to move, pull the cable until it stops and measure from the mounting bracket to the cable end. Add  $3/16"$  to this measurement and that will determine the ADJUSTER MOUNTING POINT distance at full throttle (WOT).
- Also note in **Figure 2** that the distance from the throttle shaft to the cable end is referenced. This distance must be between  $1-7/64"$  and  $1\ 1/8"$ . The cable end mounting point should follow a  $78^\circ$  arc between closed throttle and WOT in order to achieve the proper amount of pull on the cable.



**NOTE:** If you have any problem installing this transmission, before returning it please call the JEGS technical support line at 1-800-345-4545. Our experts may be able to assist you with the proper installation.

**Step 4** Adjustment of the TV Cable on a gasoline engine. For a diesel application go to **Step 5**.

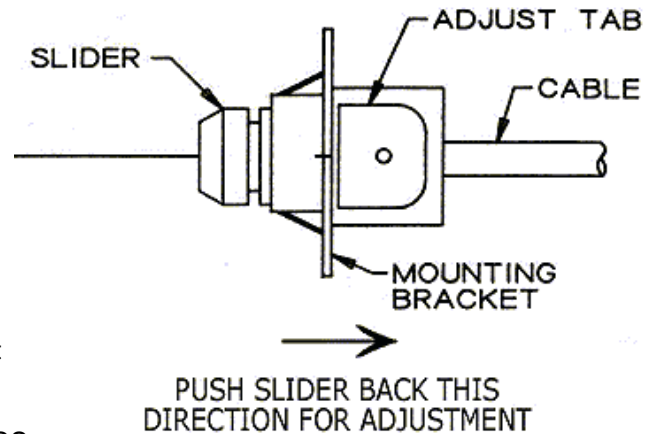
a. Adjustments are made with the engine off. Locate the Adjust Tab on the cable housing. Press in the tab and push the slider as shown in **Figure 3**.

b. Release the tab and rotate the throttle lever to WOT and the cable will self adjust itself as evidenced by a few audible clicks. Release the throttle lever and check the cable for any signs of binding or sticking.

c. Road test the vehicle. Under moderate acceleration your shift points should be close to the following:

- 1-2..... 15-20 MPH
- 2-3..... 25-30 MPH
- 3-4..... 40-45 MPH

If the cable is adjusted too loosely your transmission will exhibit soft, stacked shifts (not spread out). **DO NOT CONTINUE DRIVING VEHICLE IF THIS HAPPENS!** Immediately readjust cable. If you continue to have problems, please contact the JEGS tech department for assistance.



**Step 5** Adjustments of the TV Cable on a diesel engine.

a. Adjustments are made with the engine off. If equipped with cruise control, remove the control rod.

b. Disconnect the TV Cable end from the throttle lever.

c. Loosen the locknut on the pump rod and shorten several turns.

d. Turn throttle lever to WOT and tighten the pump rod locknut.

e. Lengthen pump rod until injection pump lever contacts the full throttle stop.

f. Release the throttle lever and tighten the pump rod locknut.

g. Remove pump rod from the throttle lever.

h. Reconnect the TV Cable end to the throttle lever.

i. Press in the Adjust Tab and move Slider as shown in **Figure 3**.

j. Release the tab and rotate the throttle lever to WOT and the cable will self adjust itself as evidenced by a few audible clicks. Release the throttle lever and check the cable for any signs of binding or sticking.

k. Reconnect the pump rod and cruise control throttle rod, if equipped.

l. If equipped with cruise control, adjust servo throttle rod to minimum slack.

m. Road test the vehicle. Under moderate acceleration your shift points should be close to the following:

- 1-2..... 15-20 MPH
- 2-3..... 25-30 MPH
- 3-4..... 40-45 MPH

n. If the cable is adjusted too loosely your transmission will exhibit soft, stacked shifts (not spread out). **DO NOT CONTINUE DRIVING VEHICLE IF THIS HAPPENS!** Immediately readjust cable. If you continue to have problems, please contact the JEGS tech department for assistance. If you have any problem installing this transmission, before returning it please call the JEGS technical support line at 1-800-345-4545. Our experts may be able to assist you with the proper installation.



1-800-345-4545 [jeps.com](http://jeps.com)