

# 700R4/2004R TV Cable Adjustment Instructions

## **WARNING! IMPORTANT NOTICE!** **POST INSTALLATION ADJUSTMENT.**

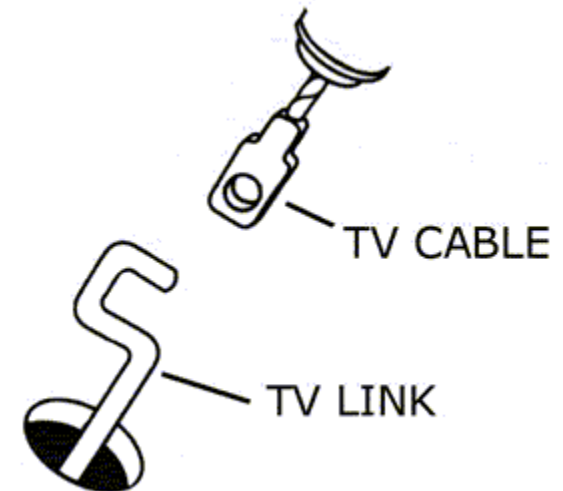
It is imperative that after your new TCI® 700R4/2004R transmission has been installed that the Throttle Valve (TV) Cable gets adjusted properly, **DAMAGE WILL OCCUR** to the transmission, voiding the warranty. If you are unsure about the proper adjustment needed, call TCI®'s tech line for help or refer to a General Motors service manual for additional information and reference.

**Function of the TV Cable:** Many people believe that this is a detent downshift cable and that this is the only function that the cable performs. In actuality, 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.

**TV Cable Connection:** If you are retrofitting your TCI® 700R4/2004R transmission in place of a different model transmission (i.e. TH-350 or TH-400) it is imperative that you follow the TV Cable bracket fabrication instructions. If your TCI® 700R4/2004R is replacing an original 700R4/2004R then skip to **Step 2**.

**Step 1** Obtain a cable that is designed for use with the 700R4/2004R transmission. The TH-350 and older TH-200 cables are designed differently and will not work. A salvage yard cable may work but be forewarned: There are about 30 different length cables found on stock vehicles and a cable that is too short in your application will not work. Also, used cables could have a number of problems as well, including stretched cables, damaged sheathing or housings or mutilated cable ends. TCI® recommends our universal TV Cable (TCI® 376800) that is designed to work correctly in any 700R4/2004R application.

**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 10mm retaining bolt. If your vehicle has a factory installed bracket for the TV Cable then skip to **Step 4**.

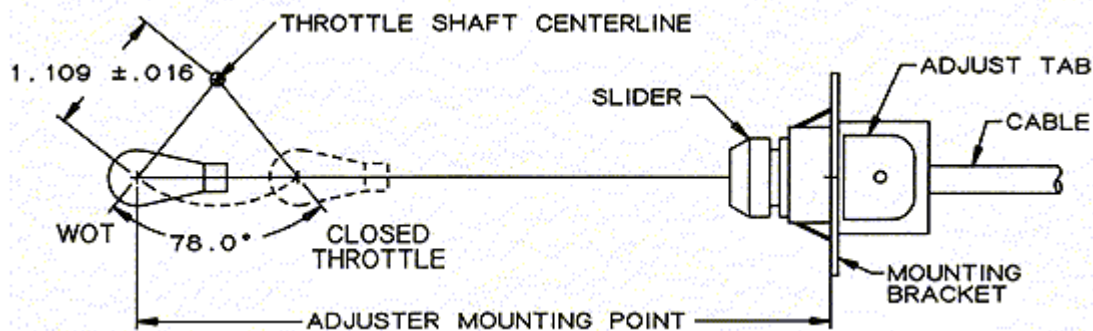
**Step 3** Install a bracket that will allow the TV Cable to mount to the carburetor/throttle body. TCI® carries two brackets: TCI® 376700 works with Rochester Quadrajets, Carter AFBs or Edelbrock Performer carburetors. TCI® 376800 works with most Holley carburetors.

If you are using a Chevrolet TBI/TPI induction system, then correct brackets can be obtained from a salvage yard or a local car 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.

a. Push in the Adjust Tab and retract the Slider in the direction shown in **Figure 3**.

b. 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).



c. 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° arc between closed throttle and WOT in order to achieve the proper amount of pull on the cable.

**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 TCI's 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.

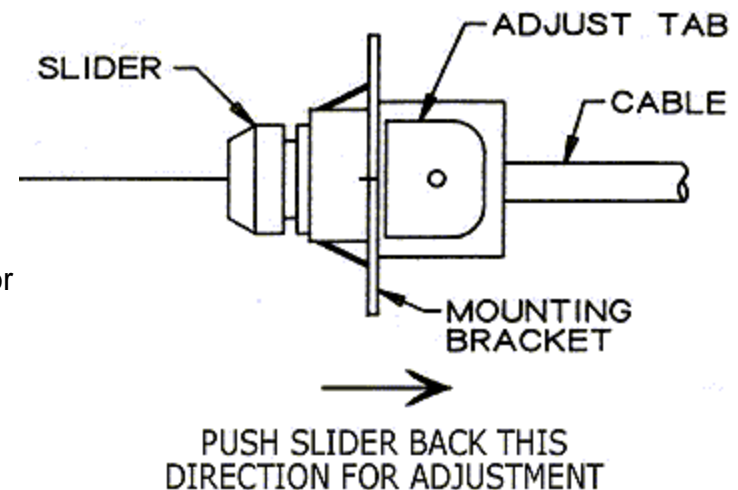
**g.** Remove pump rod from the throttle lever.

**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 TCI®'s tech department for assistance.