

CHEVROLET/GMC T SERIES

APPLICATIONS

1983-01 T-10/15 Sonoma Pickup, Blazer & Jimmy (Including ZR2 and Highrider)
Note: S-10/15 series is 2-wheel drive



SECTION 1

SLOW TO NO ENGAGEMENT

Many T-Series owners comment that their 4-wheel drive is slow to or does not engage when the transfer case is shifted into 4-wheel drive.

Function

The OEM front axle actuator is a vacuum controlled cable system. Placing the vehicle in 4-wheel drive causes the vacuum port to activate the diaphragm plunger [Fig 1]. The diaphragm plunger pulls the cable attached to the shift fork in the front differential [Fig. 2]. This connects the freewheeling passenger side (right) front axle to the driven (left) front axle.

Cause

The vacuum unit may have a frozen diaphragm, a damaged OEM cable, or damaged vacuum lines.

Correction

1. Start the engine. Check for presence of vacuum at the intake manifold port that supplies vacuum to the actuator diaphragm. If vacuum is present with the engine running, proceed to step 2. If vacuum is not present, there are mechanical problems that need to be addressed before continuing.
2. Check for presence of vacuum at diaphragm located either under or beside the battery [Fig. 1]. A simple method to locate the diaphragm is to follow the cable from the front differential to inside the passenger side engine compartment. If vacuum is present proceed to step 4. If vacuum is not present proceed to step 3.
3. Check for hard, cracked or missing vacuum lines. Replace vacuum lines as needed. Start engine and place transfer case in 4-wheel drive. Check for vacuum at actuator diaphragm. If the passenger (right) axle still does not engage, proceed to step 4 and 5.
4. Check the diaphragm on the vacuum actuator. If it appears to be frozen or not working correctly, replace with one of the following:
 - OEM unit P/N 25031740
 - Or install 4x4 Posi-Lok P/N PSL 500 (See App. Guide)



FIGURE 1

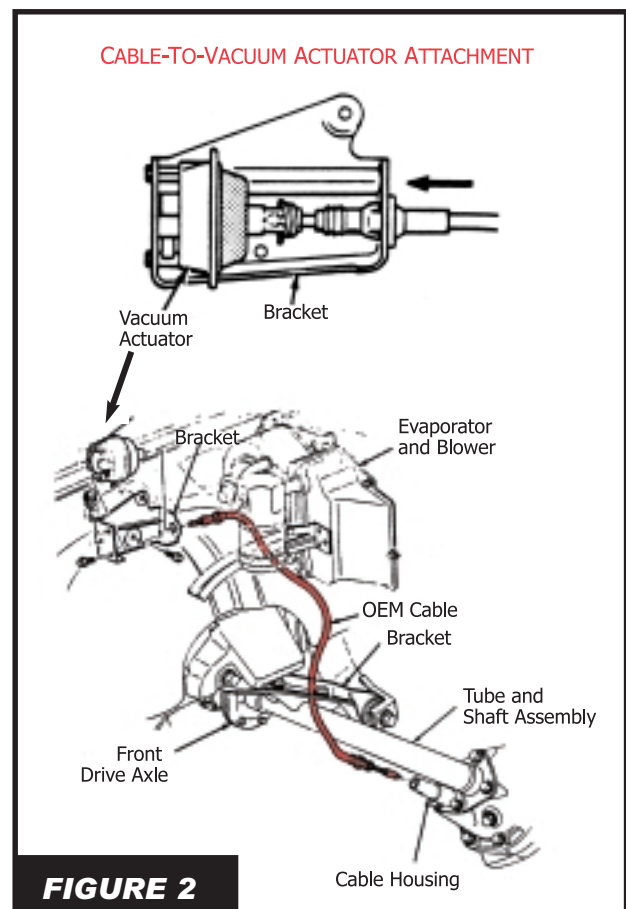


FIGURE 2

T SERIES



If the diaphragm appears to be working correctly, proceed to step 5.

5. Check cable going from the vacuum diaphragm to the front axle for damage [Fig. 2]. Disconnect cable at differential and diaphragm and pull the diaphragm end of the cable approximately one (1) inch. If there is any resistance, replace the cable with OEM P/N 15654073. See service manual for cable replacement. If cable moves freely, you may have internal differential damage due to incomplete actuator engagement. This will require major differential service and must be repaired before proceeding.

Note: *If the OEM cable is damaged, you will need to replace it whether you use an OEM replacement diaphragm, or the Posi-Lok PSL 500.*

SECTION 2 FRONT AXLE DISENGAGEMENT WHILE IN 4-WHEEL DRIVE

Cause

This condition may be caused by a corroded transfer case switch.

Correction

1. Replace with a switch constructed of noncorrosive stainless steel, OEM P/N 15664811.
2. Check for oil leaks at the threads and vacuum leaks in the lines.

SECTION 3 DIFFICULT TRANSFER CASE SHIFT

Some 1988-91 Pickups may experience difficulty in transfer case shifting or totally blocked when “shifting on the fly” from 2-HI to 4-HI in cold weather conditions.

Correction

1. Install synthetic 75W90 gear lube. This fluid maintains a more constant viscosity under cold weather, allowing quicker front axle engagement.
2. If the installation of synthetic lube does not result in a satisfactory shift, an “Easy Shift” package can be installed in the transfer case. This package features a roller pin, rather than a solid pin in the shift fork.

Note: *The 4x4 Posi-Lok will not solve hard to engage transfer case problems. It is designed to eliminate front axle engagement/disengagement issues.*

HOW 4X4 POSI-LOK WORKS

The failure prone vacuum actuator is replaced with the cable operated 4x4 Posi-Lok system. The vacuum diaphragm is removed from the OEM cable and the 4x4 Posi-Lok assembly attached and routed to a convenient location under the dash. Engaging the transfer case and pulling the Posi-Lok T-handle will slide the shift fork and collar to connect the freewheeling right axle to the driven left axle. Both front wheels are now engaged and pulling the vehicle. 4x4 Posi-Lok can be easily installed in one to two hours with basic hand tools [Fig. 3].

DID YOU KNOW: Posi-Lok works like hubs from inside the cab.

FIGURE 3

