JEEP MJ, XJ, YJ

APPLICATIONS

1987-1995 Wrangler YJ
1984-1991 Cherokee XJ
1986-1991 Comanche MJ
Note: With Dana 30 Central Axle Disconnect (CAD)

4x4 Posi-Lok
POSITIVE AXLE ENGAGEMENT

SECTION 1
SLOW TO NO ENGAGEMENT

Many Jeep 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 vacuum controlled. When the transfer case is placed in 4-wheel drive, the vacuum plunger activates and pushes the shift fork, sliding the collar and coupling the freewheeling passenger side (right) axle to the driven intermediate axle.

Cause

The vacuum system at times does not produce enough vacuum to engage the freewheeling right front axle to the driven intermediate axle. If the vacuum actuator is malfunctioning, possible axle spline, shift fork, or collar damage has occurred. See section 3.

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 actuator diaphragm located on the axle tube [Fig. 1]. The vacuum actuator is located on the passenger side (right) of the front axle tube. 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.
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 Vacuum Actuator P/N 8353113
   - **OR 4x4 Posi-Lok** P/N PSL 900 (See App. Guide)

   Note: Before replacing the vacuum actuator, check the shift fork for damage. See section 3-1.

FIGURE 1

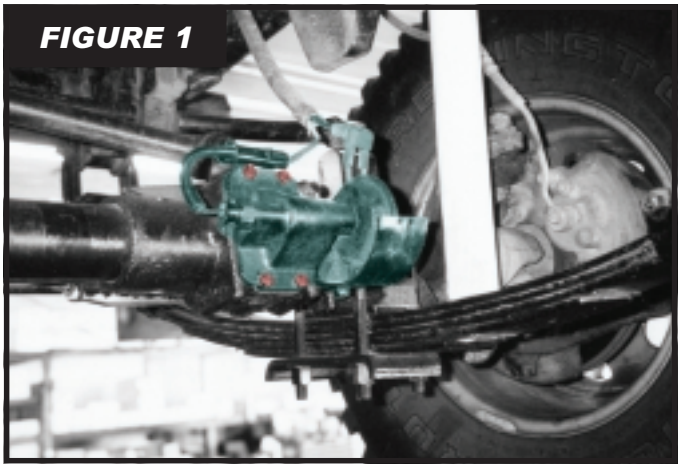
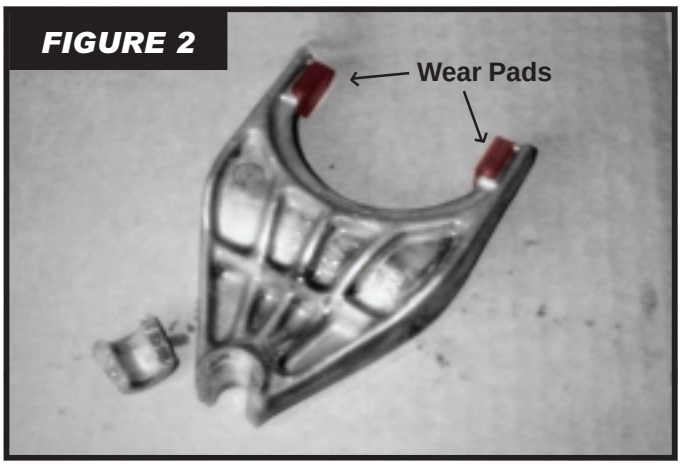


FIGURE 2



SECTION 2
PARTIAL ENGAGEMENT OR DISENGAGEMENT

Lack of vacuum, failing diaphragm or actuator (see section 1), worn or broken fork [Fig. 2], or burred axle splines or shift collar (see section 3), may be

factors in partial engagement or disengagement.

SECTION 3
POSSIBLE AXLE DAMAGE

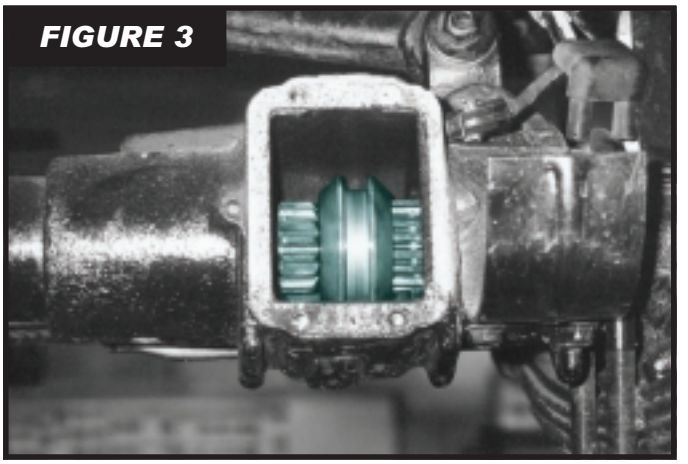
1. Unbolt the actuator housing from the axle tube by removing the four (4) bolts [Fig. 1]. Inspect the fork for damage or wear [Fig. 2]. If there is excessive clearance between the fork and the actuator shaft, the fork should be replaced with OEM P/N 5252599. Inspect the wear pads on the tips of the fork for wear [Fig. 2]. If the pads are worn, replace them with OEM P/N 4137731.

   Note: 4x4 Posi-Lok strongly recommends replacement of the aluminum fork with a cast iron fork P/N 4137727.

2. Slide the collar side to side over the axle splines to confirm free movement [Fig. 3]. (You may have to rotate one axle slightly for spline alignment.) If it does not slide freely, it is possible that there is damage or burrs on the collar and/or axles. The collar can be replaced with OEM P/N 4778548. For axle part numbers, contact your local Jeep dealer.

   Note: If a failing actuator has caused spline damage, the axle(s) and shift collar must be replaced before the new actuator or 4x4 Posi-Lok is installed.

FIGURE 3



HOW 4X4 POSI-LOK WORKS

The failure prone vacuum actuator is replaced with the cable operated 4x4 Posi-Lok system. The vacuum actuator is removed from the axle tube and the 4x4 Posi-Lok assembly is attached and the cable 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 intermediate axle [Fig. 4]. 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. 5].

FIGURE 4

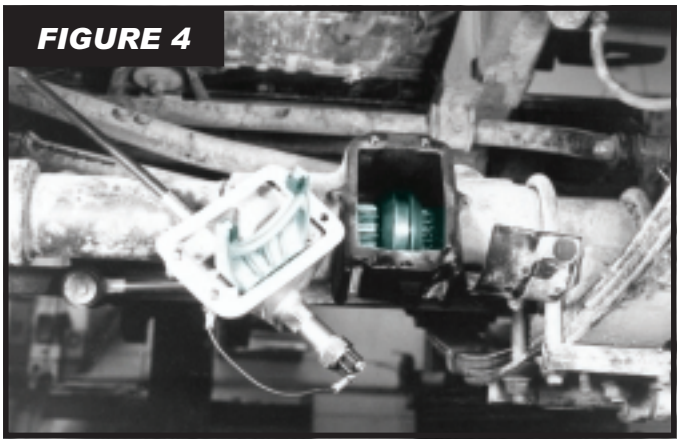
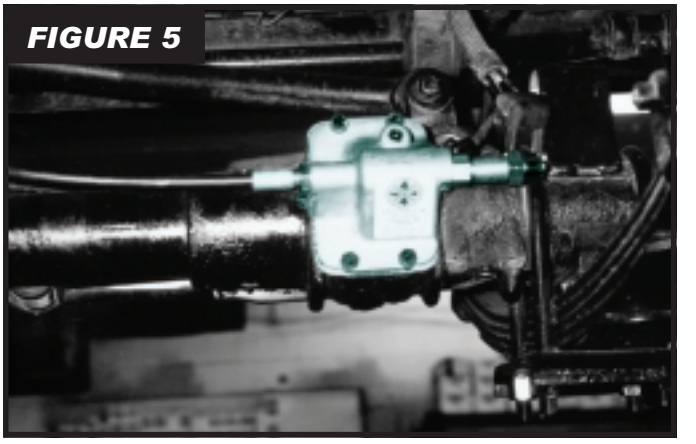


FIGURE 5



***DID YOU KNOW*: Posi-Lok works great with all brands of lockers.**