

LOCKING HUBS - COMMAND-TRAC & SELEC-TRAC

1993 Jeep Cherokee

1993 Drive Axles - Locking Hubs - Command-Trac & Selec-Trac

Cherokee, Grand Cherokee, Grand Wagoneer, Wrangler

DESCRIPTION

The Command-Trac locking hub is used on Wrangler 4WD. This system can be shifted between 2WD and 4WD high range, from inside the vehicle, while vehicle is moving. Command-Trac utilizes a vacuum operated shift motor to engage or disengage front drive axle shaft. Vehicle speed must be reduced to 2-3 MPH to shift into or out of 4WD low range. See Fig. 1.

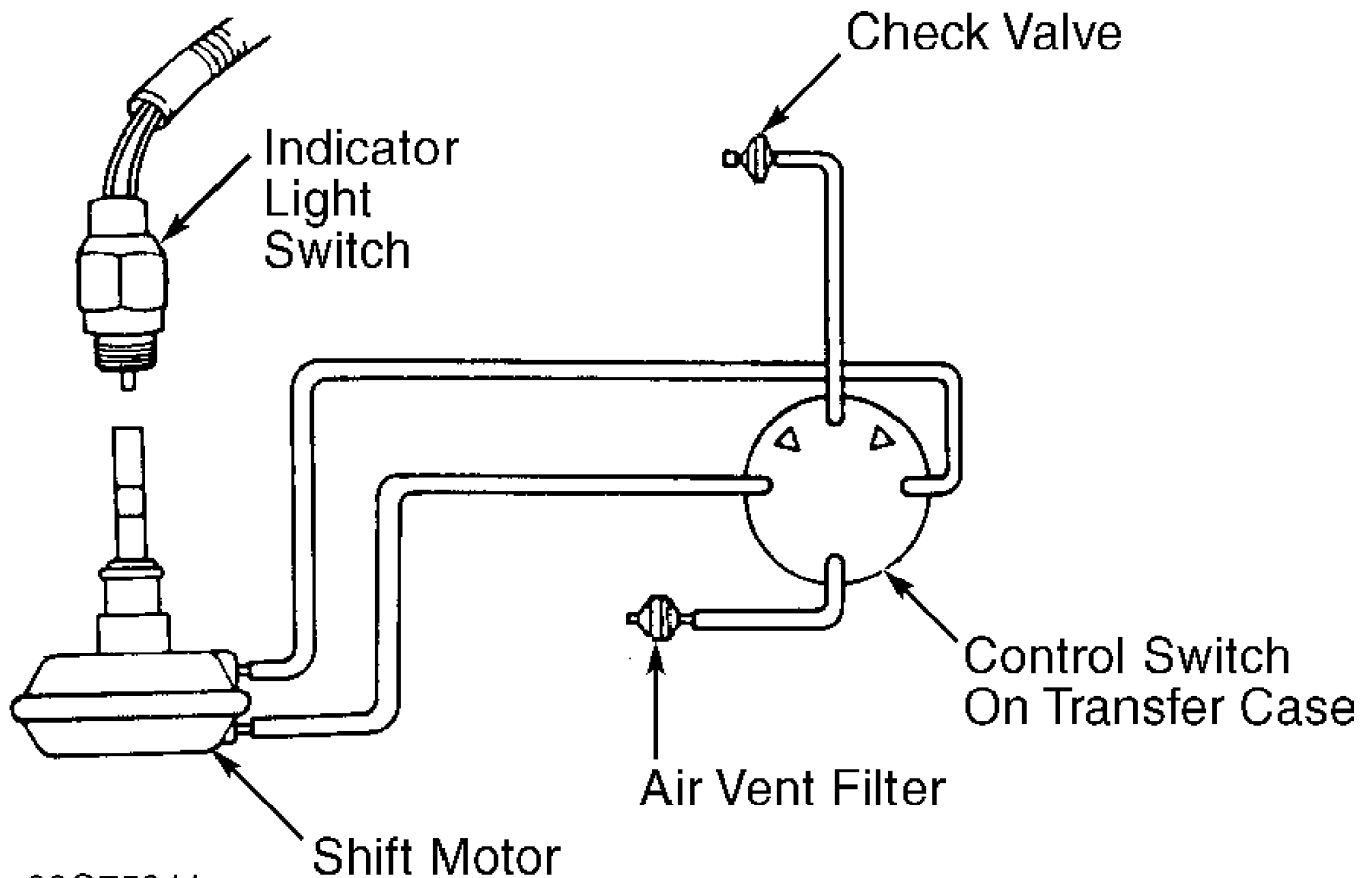


Fig. 1: Command-Trac Vacuum Control System
Courtesy of Chrysler Corp.

Selec-Trac locking hub is used on 4WD Cherokee. Selec-Trac utilizes a non-disconnect front axle. Engagement of 2WD or 4WD is accomplished at transfer case by means of mechanical shift linkage. System allows full or part time 4WD. Selec-Trac can be shifted into 2WD or 4WD modes from inside the vehicle at any speed.

NOTE: Grand Cherokee & Grand Wagoneer utilize Quadra-Trac full time 4WD system and DO NOT use Command-Trac or Selec-Trac 4WD system.

TROUBLE SHOOTING

2WD TO 4WD

Place mode select switch in 4WD position while driving vehicle 2-3 MPH (Command-Trac). Axle shift should be accompanied by a ratcheting sound followed by an audible mechanical engagement. Transfer case should shift after axle shifts, accompanied by hissing sound from mode selector switch.

4WD TO 2WD

1) Place mode select switch in 2WD position. Transfer case should shift to 2WD and not allow shifting into 4WD or LO range. Axle should shift after transfer case shifts.

2) To determine if front axle has completed a shift out of 4WD into 2WD, position mode select switch back to 4WD position while operating vehicle at slow speed. If vehicle shifts into 2WD, axle will ratchet. If shift is not completed, transfer case will shift into 4WD and hissing sound will come from mode select switch.

ON-VEHICLE TESTING

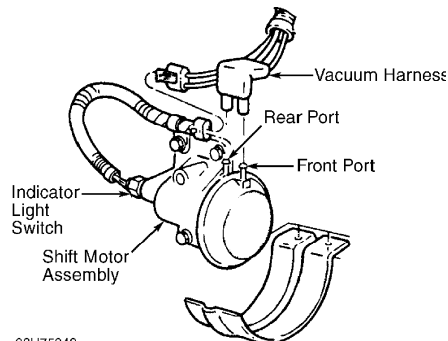
FRONT AXLE SHIFT MOTOR

1) Raise and support vehicle. Remove vacuum harness from front axle shift motor. Apply 15 in. Hg to front port of shift motor. See Fig. 2. Rotate left front wheel to disengage axle (2WD operation).

2) Replace shift motor if it does not hold vacuum for at least 30 seconds. If shift motor holds vacuum, disconnect vacuum pump from front port, Connect vacuum pump to shift motor rear port. See Fig. 2. Apply 15 in. Hg to shift motor.

3) Replace shift motor if it does not hold vacuum for at least 30 seconds. While vacuum is applied to shift motor rear port, rotate left front wheel to ensure axle shafts are engaged (4WD operation). If axle shafts are engaged, shift motor and linkage are okay.

4) Indicator light switch is a mechanically mounted in shift motor housing. Axles must be completely engaged for shift motor shaft to actuate switch. If 4WD operation is engaged and indicator light on instrument panel illuminates, shift motor is operating properly. If not, check indicator light switch and bulb.



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Fig. 2: Removing Shift Motor & Housing
Courtesy of Chrysler Corp.

REMOVAL & INSTALLATION

AXLE SHIFT MOTOR & HOUSING

Removal

1) Raise and support vehicle. Place a drain pan under shift assembly. Disconnect vacuum harness. Disconnect indicator light switch harness. Remove mounting bolts. Remove the shift motor assembly. See Fig. 2.

2) Mark shift fork and housing for reassembly. Remove shift fork and motor snap rings. Remove shift motor from housing.

Installation

Install NEW "O" ring on motor shaft. Assemble shift motor shift fork onto shaft. Position motor and housing on axle. Add axle oil to shift motor housing. Install shift fork in shift collar and install mounting bolts. Connect vacuum harnesses. Connect indicator light switch harness.