ACCUMULATOR (Continued)

The 2/4 accumulator is located in the valve body. It is retained by a cover and retaining screws (Fig. 148).

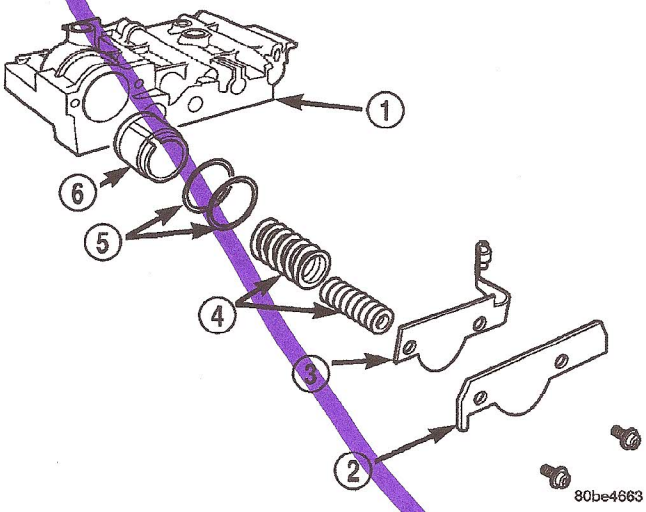

Fig. 148 2/4 Accumulator Assembly

1 - VALVE BODY
2 - RETAINER PLATE
3 - DETENT SPRING
4 - SPRINGS
5 - SEALS
6 - PISTON

OPERATION

The function of an accumulator is to cushion the application of a frictional clutch element. When pressurized fluid is applied to a clutch circuit, the application force is dampened by fluid collecting in the respective accumulator chamber against the piston and springs. The intended result is a smooth, firm clutch application.

ADAPTER HOUSING SEAL

REMOVAL

(1) Remove the transfer case (Refer to 21 - TRANSMISSION/TRANSFER CASE - REMOVAL).

(2) Using a screw mounted in a slide hammer, remove the adapter housing seal.

INSTALLATION

(1) Install a new adapter housing seal with Tool Handle C-4171 and Installer C-3860-A.

(2) Install the transfer case (Refer to 21 - TRANSMISSION/TRANSFER CASE - INSTALLATION).

BEARINGS

ADJUSTMENTS

BEARING ADJUSTMENT PROCEDURES

Take extreme care when removing and installing bearing cups and cones. **Use only an arbor press for installation,** as a hammer may not properly align the bearing cup or cone. Burrs or nicks on the bearing seat will give a false end play reading, while gauging for proper shims. Improperly seated bearing cup and cones are subject to low-mileage failure.

Bearing cups and cones should be replaced if they show signs of pitting or heat distress.

If distress is seen on either the cup or bearing rollers, both cup and cone must be replaced.

NOTE: Bearing drag torque specifications must be maintained to avoid premature bearing failures.

Used (original) bearing may lose up to 50 percent of the original drag torque after break-in.

NOTE: All bearing adjustments must be made with no other component interference or gear intermesh.

Oil all bearings before checking turning torque.

BRAKE TRANSMISSION SHIFT INTERLOCK MECHANISM

DESCRIPTION

The Brake Transmission Shifter/Ignition Interlock (BTSI), is a cable and solenoid operated system. It interconnects the automatic transmission floor mounted shifter to the steering column ignition switch (Fig. 149).

OPERATION

The system locks the shifter into the PARK position. The Interlock system is engaged whenever the ignition switch is in the LOCK or ACCESSORY position. An additional electrically activated feature will prevent shifting out of the PARK position unless the brake pedal is depressed at least one-half an inch. A magnetic holding device in line with the park/brake interlock cable is energized when the ignition is in the RUN position. When the key is in the RUN position and the brake pedal is depressed, the shifter is unlocked and will move into any position. The interlock system also prevents the ignition switch from being turned to the LOCK or ACCESSORY position (Fig. 150) unless the shifter is fully locked into the PARK position.

BRAKE TRANSMISSION SHIFT INTERLOCK MECHANISM (Continued)

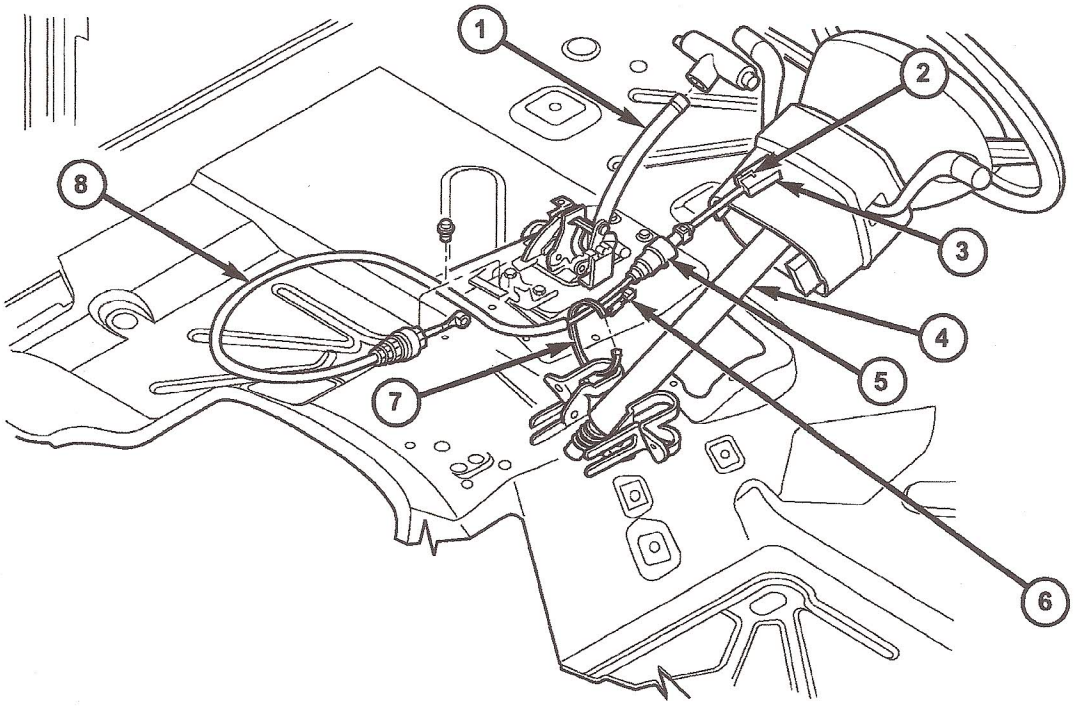

Fig. 149 Ignition Interlock Cable Routing

1 - SHIFT MECHANISM
2 - LOCK-TAB
3 - IGNITION LOCK INTERLOCK
4 - STEERING COLUMN
5 - SOLENOID
6 - WIRE CONNECTOR
7 - TIE STRAP
8 - PARK/BRAKE INTERLOCK CABLE

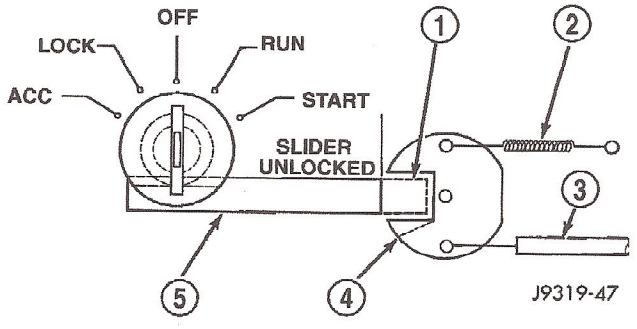

Fig. 150 Ignition Key Cylinder Actuation

1 - SLIDER LOCKED
2 - CAM RETURN SPRING
3 - INTERLOCK CABLE
4 - CAM
5 - SLIDER

REMOVAL

(1) Remove lower steering column cover. (Refer to 23 - BODY/INSTRUMENT PANEL/STEERING COLUMN OPENING COVER - REMOVAL)

(2) Remove lower steering column shroud.

(3) Remove tie strap near the solenoid retaining the brake transmission interlock cable to the steering column.

(4) Disengage wire connector from solenoid.

(5) With the ignition removed or in the unlocked position, disengage lock tab holding cable end to steering column (Fig. 151).

(6) Pull cable end from steering column.

(7) Remove the floor console and related trim. (Refer to 23 - BODY/INTERIOR/FLOOR CONSOLE - REMOVAL)

(8) Disconnect the cable from the bellcrank (Fig. 152).

(9) Disconnect and remove the cable from the shift bracket.

BRAKE TRANSMISSION SHIFT INTERLOCK MECHANISM (Continued)

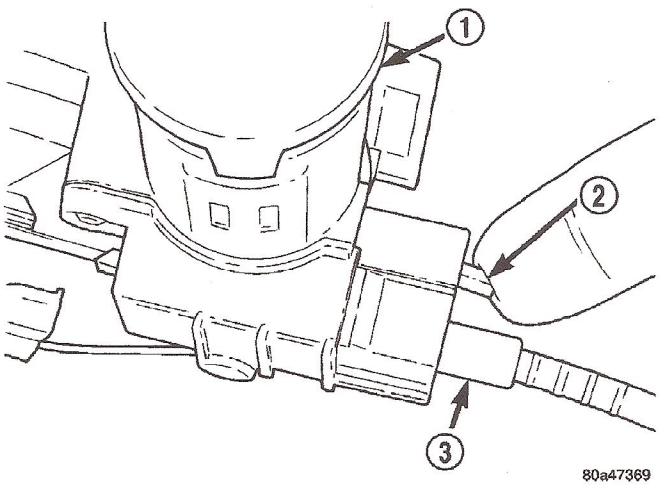

Fig. 151 Brake/Park Interlock Cable

1 - IGNITION LOCK
2 - LOCK TAB
3 - CABLE END

INSTALLATION

(1) Route replacement cable behind instrument panel and under floor console area to shift mechanism.
(2) Insert cable end into opening in steering column hub under ignition lock. Push cable inward until lock tab engages.
(3) Insert the cable end into the shifter bellcrank.
(4) Place gear selector in PARK.
(5) Push the spring-loaded cable adjuster forward and snap cable into bracket.
(6) Adjust the brake transmission shifter interlock cable.
(7) Verify that the cable adjuster lock clamp is pushed downward to the locked position.
(8) Test the park-lock cable operation.
(9) Install the floor console and related trim.
(10) Install tie strap to hold cable to base of steering column.
(11) Install lower steering column shroud and ignition lock.
(12) Install lower steering column cover.

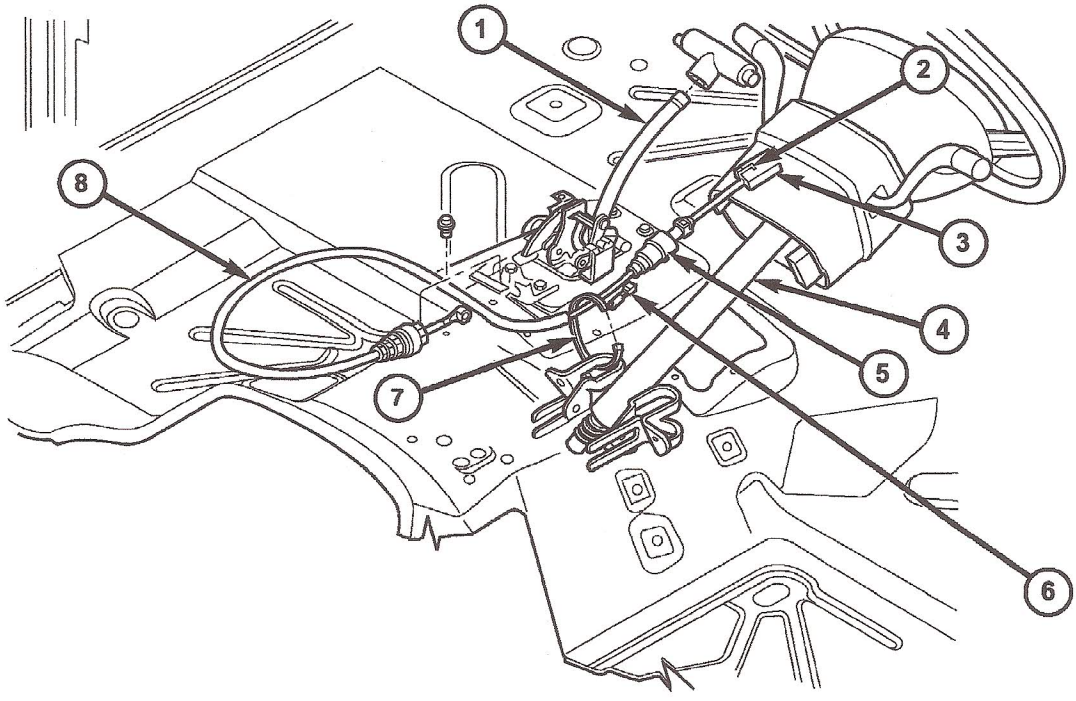

Fig. 152 Cable and Shifter

1 - SHIFT MECHANISM
2 - LOCK-TAB
3 - IGNITION LOCK INTERLOCK
4 - STEERING COLUMN
5 - SOLENOID
6 - WIRE CONNECTOR
7 - TIE STRAP
8 - PARK/BRAKE INTERLOCK CABLE

BRAKE TRANSMISSION SHIFT INTERLOCK MECHANISM (Continued)

ADJUSTMENTS

ADJUSTMENT - BRAKE TRANSMISSION SHIFT INTERLOCK CABLE

(1) Shift transmission into PARK.
(2) Remove shift lever bezel and console screws. Raise bezel and console for access to cable.
(3) Pull cable lock button up to release cable.
(4) Turn ignition switch to LOCK position.
(5) Use a spacer to create a one millimeter gap between the shifter pawl and top of the shift gate.
(6) Pull the cable forward and release.Ensure the cable end is seated in the bellcrank and press cable lock button down until it snaps in place.
(7) Check adjustment as follows:
(a) Check movement of release shift handle button (floor shift) or release lever (column shift). You should not be able to press button inward or move column lever.
(b) Turn ignition switch to RUN position.
(c) Shifting out of park should not be possible.
(d) Apply the brake and attempt to shift out of PARK. Shifting should be possible.
(e) While the transmission is shifted out of PARK, release the brake and attempt to shift through all gears. Release the shift button at least once during this procedure. The ignition key should not go to the LOCK position.
(f) Return transmission to the PARK position without applying the brake.
(8) Move shift lever back to PARK and check ignition switch operation. You should be able to turn switch to LOCK position and shift lever release button/lever should not move.

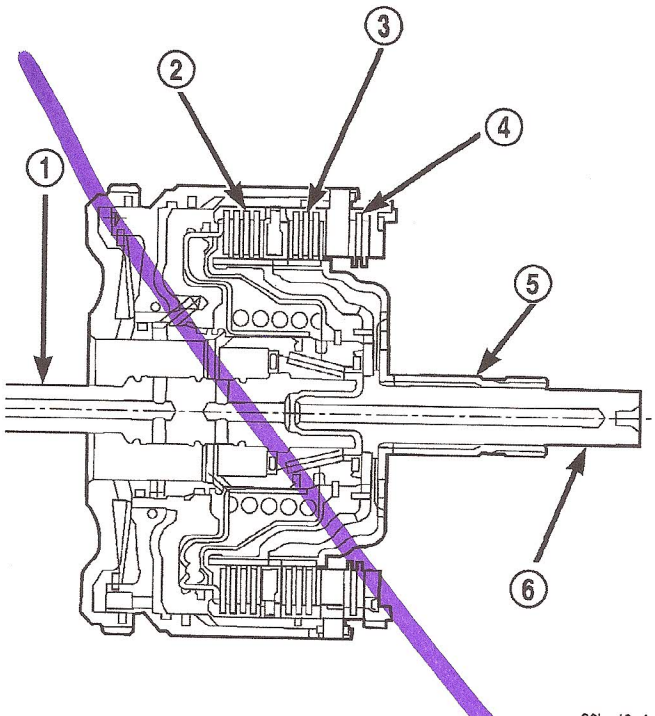

Fig. 153 Input Clutch Assembly

1 - INPUT SHAFT
2 - UNDERDRIVE CLUTCH
3 - OVERDRIVE CLUTCH
4 - REVERSE CLUTCH
5 - OVERDRIVE SHAFT
6 - UNDERDRIVE SHAFT

NOTE: (Refer to 21 - TRANSMISSION/AUTOMATIC - 42RLE - DIAGNOSIS AND TESTING) for a collective view of which clutch elements are applied at each position of the selector lever.

DRIVING CLUTCHES

DESCRIPTION

Three hydraulically applied input clutches are used to drive planetary components. The underdrive, overdrive, and reverse clutches are considered input clutches and are contained within the input clutch assembly (Fig. 153). The input clutch assembly also contains:

- Input shaft
- Input hub
- Clutch retainer
- Underdrive piston
- Overdrive/reverse piston
- Overdrive hub
- Underdrive hub

OPERATION

The three input clutches are responsible for driving different components of the planetary geartrain.

UNDERDRIVE CLUTCH

The underdrive clutch is hydraulically applied in first, second, and third (direct) gears by pressurized fluid against the underdrive piston. When the underdrive clutch is applied, the underdrive hub drives the rear sun gear.

OVERDRIVE CLUTCH

The overdrive clutch is hydraulically applied in third (direct) and overdrive gears by pressurized fluid against the overdrive/reverse piston. When the overdrive clutch is applied, the overdrive hub drives the front planet carrier.

REVERSE CLUTCH

The reverse clutch is hydraulically applied in reverse gear only by pressurized fluid against the overdrive/reverse piston. When the reverse clutch is applied, the front sun gear assembly is driven.