

External Controls - System Operation and Component Description

System Operation

The transmission has 7 range positions P, R, N, D, M, 2 and 1 with a SelectShift[®] switch mounted on the selector lever.

Park

In the PARK position:

- there is no powerflow through the transmission.
- the parking pawl locks the output shaft
- the engine may be started.
- the ignition key may be removed.

Reverse

In the REVERSE position:

- the vehicle may be operated in a rearward direction, at a reduced gear ratio.
- engine braking will occur.

Neutral

In the NEUTRAL position:

- there is no powerflow through the transmission.
- the output shaft is not held and is free to turn.
- the engine may be started.

Drive

DRIVE is the normal position for most forward driving.

DRIVE provides:

- automatic shifts - 1st through 10th gears.
- maximum fuel economy during normal operation.

Manual

In manual position:

- the transmission provides maximum engine braking.
- gears 1 through 10 are available.
- the driver can manually shift the transmission to gears 1 through 10 using the SelectShift[®] switch located on the selector lever.
- grade assist is activated.
- the transmission will select gears that will provide the engine braking desired, based on the vehicle inputs, which will increase engine RPM during engine braking.

Brake Shift Interlock Operation

The brake shift interlock actuator inhibits the selector lever movement from the P position by mechanically blocking the detent pawl of the selector lever mechanism. When the brake pedal is pressed (BPP switch closed) with the ignition key in the RUN position and the transmission in P, the brake shift interlock actuator is energized by the BCM, allowing the selector lever to be moved out of the P position.

The brake shift interlock system consists of:

- a brake shift interlock actuator that is integral to the selector lever assembly.
- an ignition switch.

- a BPP switch.
- a BCM.

TCS

The TCS:

- is a momentary contact switch located on the end of the column shift selector lever.
- engages or disengages the TOW/HAUL feature of the transmission.
- illuminates the TOW/HAUL icon on the IPC.

With the TOW/HAUL feature of the transmission activated, the transmission delays upshifts to reduce the frequency of transmission shifting and provides engine braking to slow the vehicle and assist the driver in controlling the vehicle when descending a hill.

Selector Lever Cable

The selector lever cable consists of:

- a cable that connect the transmission manual control lever to the selector lever assembly.
 - a cable grommet that is fastened to the floor pan.
 - an adjuster locking tab at the transmission manual control lever.
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