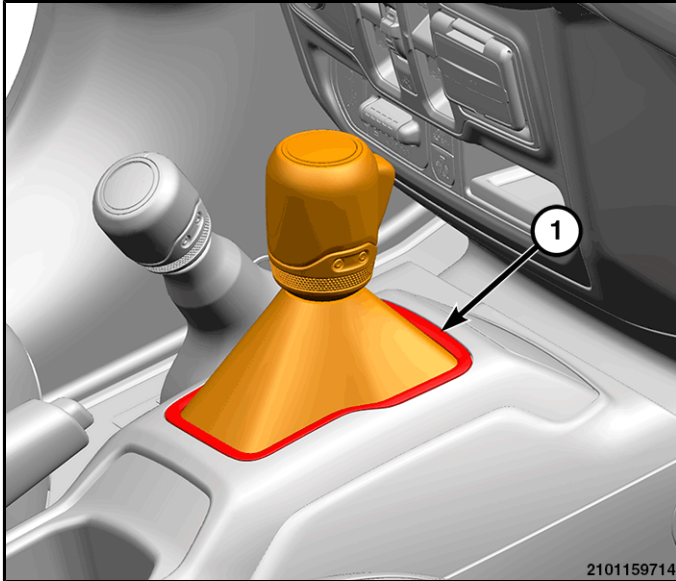


## DESCRIPTION AND OPERATION

### DESCRIPTION



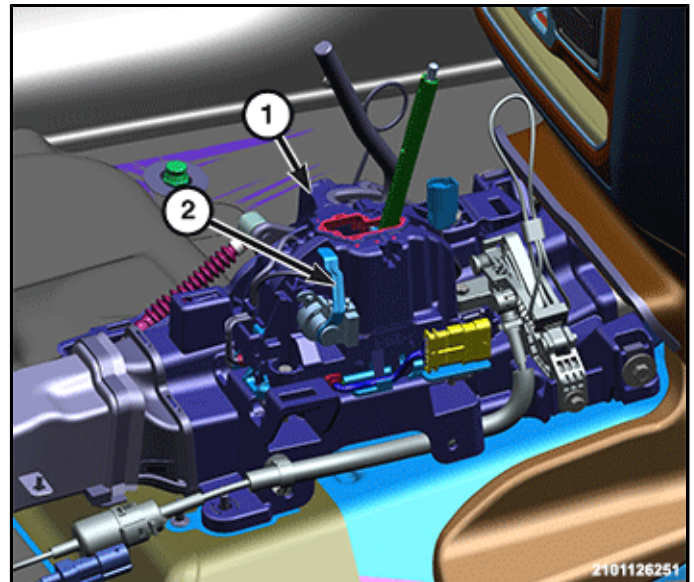
The automatic transmission is operated with the help of a Shift Lever Assembly (SLA) (1) located in the floor console.

All selector lever positions, as well as selected shift ranges in position "D", are identified by the SLA. The information is then sent to the Transmission Control Module (TCM) via a hard wire connection.

### BTSI Override

1.	SHIFT LEVER ASSEMBLY
2.	BTSI OVERRIDE

There are four positions to which the selection lever can be shifted: P, R, N, D. In addition, the selector lever can be moved sideways (+/-) in position "D" to adjust the shift range.



### OPERATION

The SLA is comprised of the following functions:

- **Park lock:** The selector lever is not released from position "P" until the brake pedal has been applied and the ignition is in the "ON" position with the engine running. Shift lock is controlled by the brake light switch in conjunction with a locking solenoid in the SLA. As soon as the brake pedal is applied firmly, the locking solenoid is energized and retracted to unlock the selector lever. If the selector lever cannot be moved out of position "P" due to a malfunction, the shift lock function can be overridden (2) (Refer to 21 - Transmission and Transfer Case/ Automatic/SHIFTER, Transmissio/Standard Procedure).
- **Reverse inhibitor:** As soon as the vehicle speed exceeds approximately 6-11 kmh (4-7 mph), it is still possible to move the shift from position "N" to position "R", but the system will not shift into reverse until the vehicle speed has fallen below 7 mph. The reverse inhibit functionality is controlled by the same solenoid as the park lock. As the vehicle accelerates past the calibrated speed threshold, the solenoid is energized to block the sideways motion of the shift lever necessary to move from NEUTRAL to REVERSE. The reverse inhibit is not released until the vehicle speed falls below approximately 4-7 mph and the shifter is moved out of the "D" shifter position.

With the selector lever in position "D", the TCM automatically shifts the gears that are best-suited to the current operating situation. This means that shifting of gears is continuously adjusted to current driving and operating conditions in line with the selected shift range and the accelerator pedal position. Starting off is always performed in 1st gear.

The SLA positions are determined by a sensor assembly internal to the SLA. The sensor assembly identifies the various positions of the SLA according to the following table.

SLA Position	Bit 0	Bit 1	Bit 2	Bit 3
Default	0	0	0	0
"D"	1	0	1	0
"N"	0	1	1	0
"R"	1	1	1	0
"P"	0	0	0	1
"+"	1	0	0	1
"-"	0	1	0	1
"ND"	1	1	0	1
"RN"	0	0	1	1
"PR"	1	0	1	1
Implausible	1	1	1	1

The current SLA position or, if the shift range has been limited, the current shift range is indicated in the instrument cluster display as well as the PRNDM.

The permissible shifter positions and transmission operating ranges are:

- P = Parking lock and engine starting.
- R = Reverse.
- N = Neutral and engine starting (no power is transmitted to the axles).
- D = The shift range includes all forward gears.
- M = Manual mode allows manual input of shifts up or down in all forward gears.

## Manual Park Release (MPR)

### DISENGAGE

The MPR lever is used for putting the transmission in neutral anytime the vehicle needs to be moved with the engine off in neutral. This is achieved by a cable attached to the transmission park pawl. When the cable is pulled, the transmission is put into neutral, and when the cable is released, the transmission is back into park.

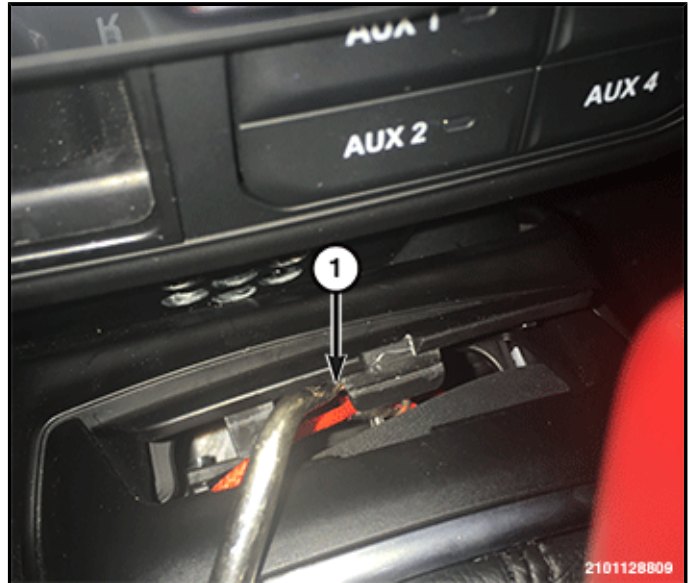
**WARNING:** Always secure your vehicle by fully applying the parking brake, before activating the Manual Park Release. Activating the Manual Park Release will allow your vehicle to roll away if it is not secured by the parking brake or by proper connection to a tow vehicle. Activating the Manual Park Release on an unsecured vehicle could lead to serious injury or death for those in or around the vehicle.

1. Set the parking brake.
2. Apply firm pressure to the brake pedal while seated in the drivers seat.
3. Locate the MPR access cover (1) in front of the shifter.



- Using a small screwdriver or similar tool, remove the MPR access cover (1).

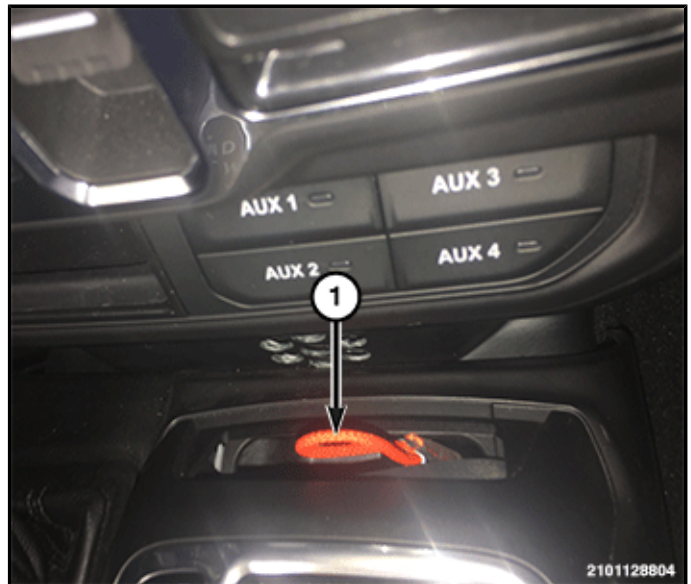
**NOTE:** Take care not to scratch or mar the console or cover.



- Pull the tether strap (1) out as far as it will go, then release it. The transmission is now in **NEUTRAL**, allowing the vehicle to be moved.

**NOTE:** When the lever is locked in the released position, the tether will remain outside of the trim panel and the access cover cannot be re-installed.

- Release the parking brake only after the vehicle is secure.

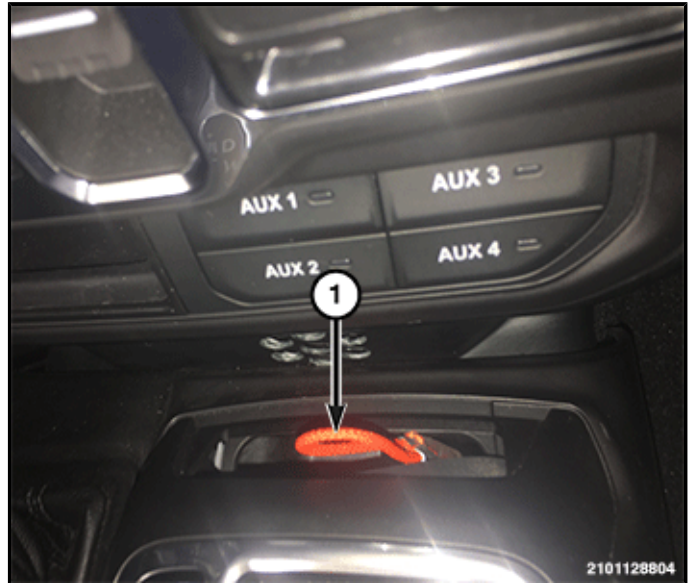


## ENGAGE

**WARNING:** Always secure your vehicle by fully applying the parking brake, before activating the Manual Park Release. Activating the Manual Park Release will allow your vehicle to roll away if it is not secured by the parking brake or by proper connection to a tow vehicle. Activating the Manual Park Release on an unsecured vehicle could lead to serious injury or death for those in or around the vehicle.

- Apply firm pressure to the brake pedal while seated in the driver's seat.

2. Pull the MPR tether strap (1) out again, then release it.
3. Allow the MPR tether (1) to retract with the lever back to its original position.
4. Verify that the transmission is in **PARK**.



5. Confirm that the MPR tether has fully retracted and re-install the MPR access cover (1).

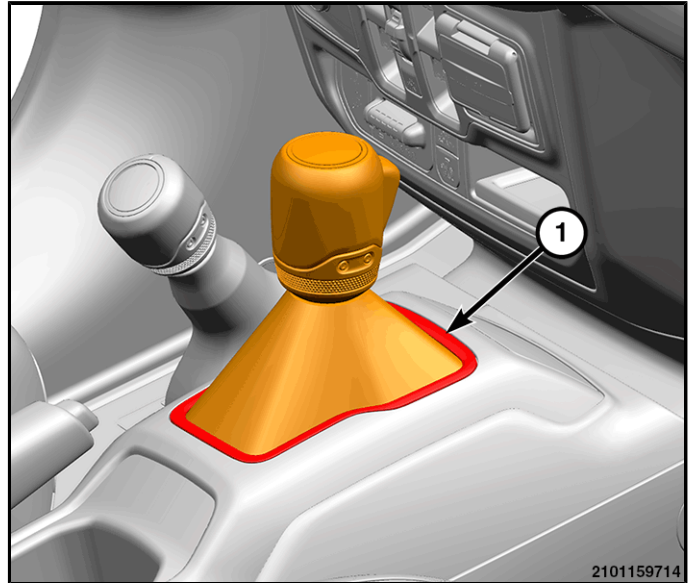


## REMOVAL AND INSTALLATION

### REMOVAL

1. Using a plastic trim tool, carefully pry upward on the shifter boot (1) while gently pulling upward on the fabric to release it.

**NOTE:** Be careful not to damage the trim or boot.

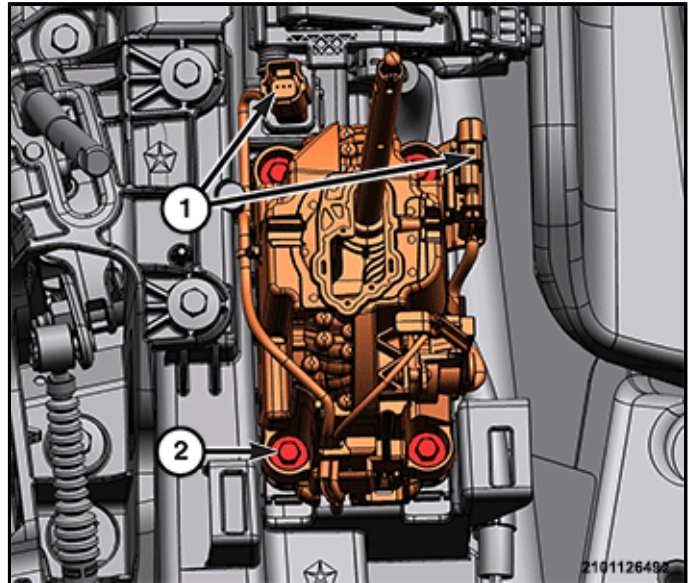


2. Remove the shifter knob bolt (1) and remove the shifter knob.



3. Remove any necessary console parts for access to the Shift Lever Assembly (SLA).(Refer to 23 - Body/Interior/ CONSOLE, Floor/Removal and Installation).

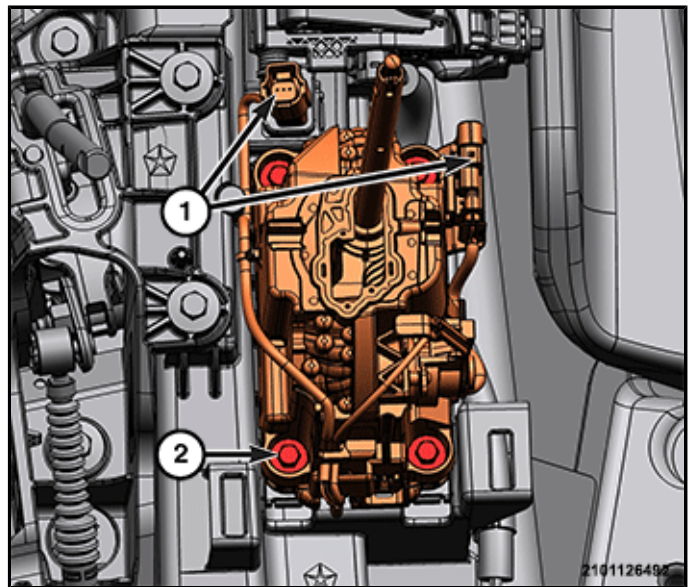
4. Disconnect the wire harness connectors (1) from the SLA.
5. Remove the shifter bolts (2).



6. Remove the SLA from the vehicle.

### INSTALLATION

1. Install SLA in the vehicle.
2. Install the SLA bolts (2) and tighten the SLA bolts to the proper (Torque Specifications).
3. Connect the wire harness connectors (1).



4. Verify shifter operation.
5. Install center console parts removed for access to SLA. (Refer to 23 - Body/Interior/CONSOLE, Floor/Removal and Installation).

6. Install the shifter knob onto the SLA, install the shifter knob bolt (1) and tighten to the proper (Torque Specifications).



7. Pull the shift boot (1) down and press firmly around boot to seat all clips to the console.

