

Table 1 - Functional Test

Step	Action	Yes	No
1	<ol style="list-style-type: none"> 1. Ensure the transmission shift select is in the "P" park position. 2. Turn the ignition switch to the "OFF" position for 6 seconds. 3. Turn the ignition switch to the "RUN" position and note the three transfer case shift select buttons. <p>Do all three shift select buttons blink once?</p>	Go to step 2.	Go to table 2, step 2.
2	<p>Did one of the shift select buttons stay lit to indicate the transfer case shift position?</p>	Go to step 3.	Go to table 2, step 4.
3	<ol style="list-style-type: none"> 1. Shift the transfer case to "4HI". 2. Shift the transfer case to "2HI". 3. Shift the transfer case back to "4HI". <p>Does the transfer case mode shift between "4HI" and "2HI"?</p>	Go to step 4.	Go to table 2, step 6.
4	<ol style="list-style-type: none"> 1. Apply the park brake. 2. (Automatic Transmission Only) Ensure the transmission shift select is in the "P" park position. 3. (Manual Transmission Only) Ensure the transmission is shifted into first gear. 4. Ensure the ignition switch is in the "RUN" position. 5. Ensure the transfer case is in the "4HI" position. 6. Press the "4LO" transfer case shift select button. <p>Does the "4LO" shift select button blink for 30 seconds and then stops blinking when the "4HI" shift select button illuminates?</p>	Go to step 5.	Go to table 2, step 8.
5	<ol style="list-style-type: none"> 1. Ensure the ignition switch is in the "RUN" position. 2. Ensure the transfer case is in the "4HI" position. 3. Press the "4LO" transfer case shift select button and note the blinking. 4. (Automatic Transmission Only) Position the transmission shift select to "N" neutral. 5. (Manual Transmission Only) Push the clutch pedal to the floor panel. <p>Does the "4LO" shift select button stop blinking and stay lit when the transmission is shifted to neutral (Automatic Transmission) or the clutch pedal is pushed in (Manual Transmission)?</p>	Go to step 6.	Go to table 8.
6	<ol style="list-style-type: none"> 1. Press the "2HI" shift select button and shift the transfer case into "2HI". 2. (Automatic Transmission Only) Position the transmission shift select in the "P" park position. 3. (Manual Transmission Only) Position the transmission into first gear. 4. Position the ignition switch to "OFF". 5. Using a wire, connect pin 13 on the data link connector to a vehicle ground source. 6. Position the ignition switch to "RUN". <p>Do all three shift select buttons blink once and then stay off?</p>	Test complete, transfer case electronic shift system operates properly.	Go to table 2, step 9.

Table 2 - Functional Test Failed

Step	Action	Yes	No
1	Were you sent here from table 1?	Go to step 2.	Go to table 1.
2	Did any of the three shift select buttons blink once.	Go to step 3.	Go to table 3.
3	Did one of the shift select buttons stay lit to indicate the transfer case shift position?	Go to step 4.	Go to step 5.
4	Does the transfer case mode shift between "4HI" and "2HI"?	Go to step 5.	Go to step 6.
5	<ol style="list-style-type: none"> 1. Ensure the ignition switch is positioned to "RUN". 2. Ensure the transmission is positioned in neutral. 3. Push the vehicle forward about five feet. <p>Does the transfer case mode shift between "4HI" and "2HI"?</p>	Refer to transfer case mechanical diagnosis.	Go to table 8.
6	Does more than one shift select button stay lit?	Go to table 5.	Go to step 7.
7	<ol style="list-style-type: none"> 1. Ensure the park brake is applied. 2. (Automatic Transmission Only) Ensure the transmission shift select is in the "P" park position. 3. (Manual Transmission Only) Ensure the transmission is shifted into first gear. 4. Ensure the ignition switch is in the "RUN" position. 5. Press the "4LO" transfer case shift select button. <p>Does the "4LO" shift select button blink for 30 seconds?</p>	Go to step 8.	Go to step 9.
8	<ol style="list-style-type: none"> 1. Ensure the ignition switch is in the "RUN" position. 2. Press the "4LO" transfer case shift select button and note the blinking. 3. (Automatic Transmission Only) Position the transmission shift select to "N" neutral. 4. (Manual Transmission Only) Push the clutch pedal to the floor panel. <p>Does the "4LO" shift select button stop blinking and stay lit when the transmission is shifted to neutral (Automatic Transmission) or the clutch pedal is pushed in (Manual Transmission)?</p>	Go to table 9.	Go to table 8.
9	Does the transfer case range shift to "4LO"?	Go to table 5.	Go to table 8.

Table 3 - Shift Select Buttons Did Not Light During the Functional Test

Step	Action	Yes	No
1	Were you sent here from a diagnostic table?	Go to step 2.	Go to table 1.
2	1. Check the 10 Amp Gauges Fuse (Number 4) for an open. 2. Check the 20 Amp Park Lamp Fuse (Number 3) for an open. Is one of the fuses open?	Go to step 3.	Go to step 5.
3	1. Replace the fuse 2. Turn the ignition switch to the "Run" position. 3. Check the operation of the electronic shift system. 4. Check the fuse for an open. Is the Fuse open?	Go to step 4.	Go to table 1
4	1. Turn the ignition switch to the "OFF" position. 2. Check CKT 39 for a ground if the Gauges Fuse was open. 3. Check CKT 240 for a ground if the Park Lamp Fuse was open. Was one of the CKT grounded?	Go to step 5.	Go to step 6.

Step	Action	Yes	No
5	1. Position the ignition switch to "OFF". 2. Repair the grounded CKT. 3. Replace the fuse. Is the repair completed?	Go to table 1.	—
6	1. Check pin C on the back of the shift select switch for B+ voltage Is B+ voltage on pin C?	Go to step 8.	Go to step 7.
7	1. Open wire in CKT 39 between the fuse and pin C. 2. Repair the open in CKT 39. 3. Check for loose electrical connectors on CKT 39. Is the repair complete?	Go to table 1.	—
8	1. Ensure the ignition switch is positioned to "RUN". 2. Do not unplug the harness connector from the shift select switch. 3. Depress all three shift select buttons as the following pins are checked for B+ Voltage. 4. Check pins B, D, and F on the back of the shift select switch for B+ voltage. Is B+ voltage at pin B, D, or F?	Go to step 9.	Go to step 10.
9	1. Position the ignition switch to "OFF". 2. Ensure pins D10 and C10 on the TCCM are grounded. Are pins D10 and C10 grounded?	Go to step 12.	Go to step 11.
10	1. Position the ignition switch to "OFF". 2. Replace the shift select switch. Has the shift select switch been replaced?	Go to table 1.	—
11	1. Open in CKT 150 between pin D10 and/or C10 and ground. 2. Repair the open in CKT 150. Is the repair completed?	Go to table 1.	—
12	1. Check pins C6 and C8 on the TCCM for B+ voltage. Is B+ voltage at pins C6 and C8?	Go to table 9.	Go to step 13.
13	1. If no B+ is on C6, an open exists on CKT 240 between the fuse and pin C6 on the TCCM.	Go to table 1.	—

Table 4**One or Two Shift Select Buttons Did Not Light During the Functional Test**

Step	Action	Yes	No
1	Were you sent here from a diagnostic table?	Go to step 2.	Go to table 1.
2	<ol style="list-style-type: none"> 1. Position the ignition switch to "OFF" for at least 6 seconds. 2. Position the ignition switch to "RUN". Can mode and range shifts be made?	Go to step 3.	Go to table 8.
3	<ol style="list-style-type: none"> 1. If the "2HI" button will not light, check for and open on CKT 901/1563 between pin A on the shift select switch and pin C 11 on the TCCM. 2. If the "4HI" button will not light, check for and open on CKT 1566 between pin H on the shift select switch and pin C 12 on the TCCM. 3. If the "4LO" button will not light, check for and open on CKT 1565 between pin G on the shift select switch and pin C 14 on the TCCM. Is an open found on the CKT checked?	Go to step 4.	Go to step 5.
4	<ol style="list-style-type: none"> 1. Repair the open CKT. Is the repair completed?	Go to table 1.	—
5	<ol style="list-style-type: none"> 1. If "2HI" does not light, check for B+ voltage at pin C11 on the TCCM. 2. If "4HI" does not light, check for B+ voltage at pin C12 on the TCCM. 3. If "4LO" does not light, check for B+ voltage at pin C14 on the TCCM. Is B+ voltage at the checked pin?	Go to step 7.	Go to step 6.
6	<ol style="list-style-type: none"> 1. If "2HI" does not light, check for an open in CKT 901/1563 between pin A on the shift select switch and pin C11 on the TCCM. 2. If "4HI" does not light, Check for an open in CKT 1566 between pin H on the shift select switch and pin C12 on the TCCM. 3. If "4LO" does not light, Check for an open in CKT 1565 between pin G on the shift select switch and pin C14 on the TCCM. Is the checked CKT open?	Go to step 8.	Go to step 9.
8	<ol style="list-style-type: none"> 1. Position the ignition switch to "OFF". 2. Repair the open in the CKT. Is the repair completed?	Go to table 1.	—
9	<ol style="list-style-type: none"> 1. Position the ignition switch to "OFF". 2. If "2HI" does not light, position a jumper from pin C11 to a vehicle ground source. 3. If "4HI" does not light, position a jumper from pin C12 to a vehicle ground source. 4. If "4LO" does not light, position a jumper from pin C14 to a vehicle ground source. 5. Position the ignition switch to "RUN". Does the shift select button light?	Go to table 9.	Go to step 10.
10	<ol style="list-style-type: none"> 1. Replace the shift select switch. Has the switch been replaced?	Go to table 1.	—

Table 5 - All Shift Select Buttons Remain Lit

Step	Action	Yes	No
1	Were you sent here from a diagnostic table?	Go to step 2.	Go to table 1.
2	1. Position the ignition switch to "OFF" for at least 6 seconds. 2. Position the ignition switch to "RUN". Can any mode or range shifting be made?	Go to step 3.	Go to step 8.
3	Can mode shifts ("2HI" to "4HI" to "2HI") be made?	Go to step 4.	Go to step 7.
4	1. Position the ignition switch to "RUN". 2. Check for B+ voltage at pins D2 and D16 on the TCCM. Was B+ voltage on both pins?	Go to table 9.	Go to step 5.
5	1. Position the ignition switch to "OFF". 2. Check for an open between CKT 434 and D16 on the TCCM. 3. Check for an open between CKT 275 and D2 on the TCCM. Was an open found on one of the CKT?	Go to step 6.	Go to table 9.
6	1. Ensure the ignition switch is positioned to "OFF". 2. Repair the open in the CKT. Is the repair completed?	Go to table 1.	—
7	1. Position the ignition switch to "RUN". 2. If 2HI can not be selected, check for an open on CKT 900/1562 between pin C4 on the TCCM and pin B on the shift select switch. 3. If 4HI can not be selected, check for an open on CKT 1564 between pin C5 on the TCCM and pin D on the shift select switch. Was an open found on one of the CKT?	Go to step 6.	Go to table 9.
8	1. Position the ignition switch to "RUN". 2. Check for an open on CKT 1556 between pin D5 on the TCCM and pin 8 on the motor/encoder. Was an open found on CKT 1556?	Go to step 6.	Go to table 9.

Table 6 - More Than One Shift Select Button Remains Lit

Step	Action	Yes	No
1	Were you sent here from a diagnostic table?	Go to step 2.	Go to table 1.
2	<ol style="list-style-type: none"> If "2HI" remains lit, check for an ground in CKT 901/1563 between pin A on the shift select switch and pin C11 on the TCCM. If "4HI" remains lit, check for an ground in CKT 1566 between pin H on the shift select switch and pin C12 on the TCCM. If "4LO" remains lit, check for an ground in CKT 1565 between pin G on the shift select switch and pin C14 on the TCCM. <p>Is the checked CKT grounded?</p>	Go to step 3.	Go to table 9.
3	<ol style="list-style-type: none"> Ensure the ignition switch is positioned to "OFF". Repair the ground in the CKT. <p>Is the repair completed?</p>	Go to table 1.	—

Table 7 - No Shift Select Button Remains Lit to Ind Shift SEL

Step	Action	Yes	No
1	Were you sent here from a diagnostic table?	Go to step 2.	Go to table 1.
2	<ol style="list-style-type: none"> Check for an open in CKT 1554 between pin 3 on the motor/encoder and pin C9 on the TCCM. <p>Is CKT 1554 open?</p>	Go to step 3.	Go to table 9.
3	<ol style="list-style-type: none"> Ensure the ignition switch is positioned to "OFF". Repair the open in the CKT 1554. <p>Is the repair completed?</p>	Go to table 1.	—

Table 8 - Reduced or No Mode and Range Shift Operation

Step	Action	Yes	No
1	Were you sent here from a diagnostic table?	Go to step 2.	Go to table 1.
2	<ol style="list-style-type: none"> Ensure the electrical harness connector and pins to the motor/encoder are clean and not corroded. Ensure the electrical harness connector to the motor/encoder is properly installed. Check the following CKT between the motor/encoder and the TCCM. Check for opens and grounds on CKT 1552, CKT 1553, CKT 1555, CKT 1556, CKT 1557, and CKT 1558. <p>Are any opens or grounds found on any of the CKT?</p>	Go to step 3.	Go to table 9.
3	<ol style="list-style-type: none"> Ensure the ignition switch is positioned to "OFF". Repair the open or ground in the CKT. <p>Is the repair completed?</p>	Go to table 1.	—

Table 9 - Perform A Diagnostic on the TCCM

Step	Action	Yes	No
1	Were you sent here from a diagnostic table?	Go to step 2.	Go to table 1.
2	1. Perform a diagnostic on the TCCM. Refer to "Obtaining Stored Diagnostic Trouble Codes (DTC)"	—	—