



Rework Instruction: Remote Shifter with BTSI Retrofit – P/No. W8005674

Revision Level /Date: 001 August 16, 2007

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NOTE: This Instruction is applicable only to vehicles fitted with Morgan Olsen bodies.

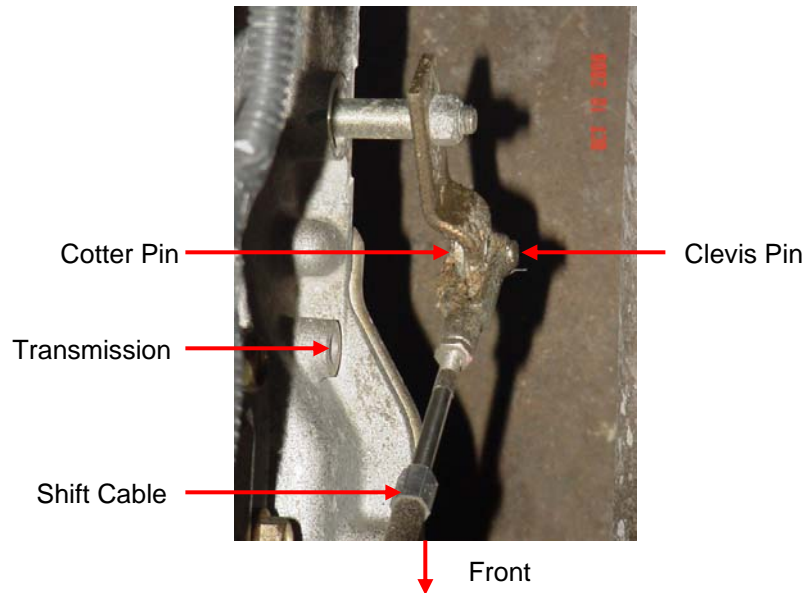
Very Important Safety Notice:

Before performing any work on a vehicle:

- Apply the Park Brake.
- Chock the wheels to prevent the vehicle from moving while being worked on.
- Make sure that the shifter is in the “P” - PARK Position.

Step 1: Removal of Existing Shifter and Cable Assembly:

1. Loosen the 6x quick release fasteners in floor panel.
2. Remove floor panel from floor (pry loose sealer if needed).
3. Un-clip 4x latches on engine cover (“doghouse”).
4. Remove engine cover from floor panel/ firewall.



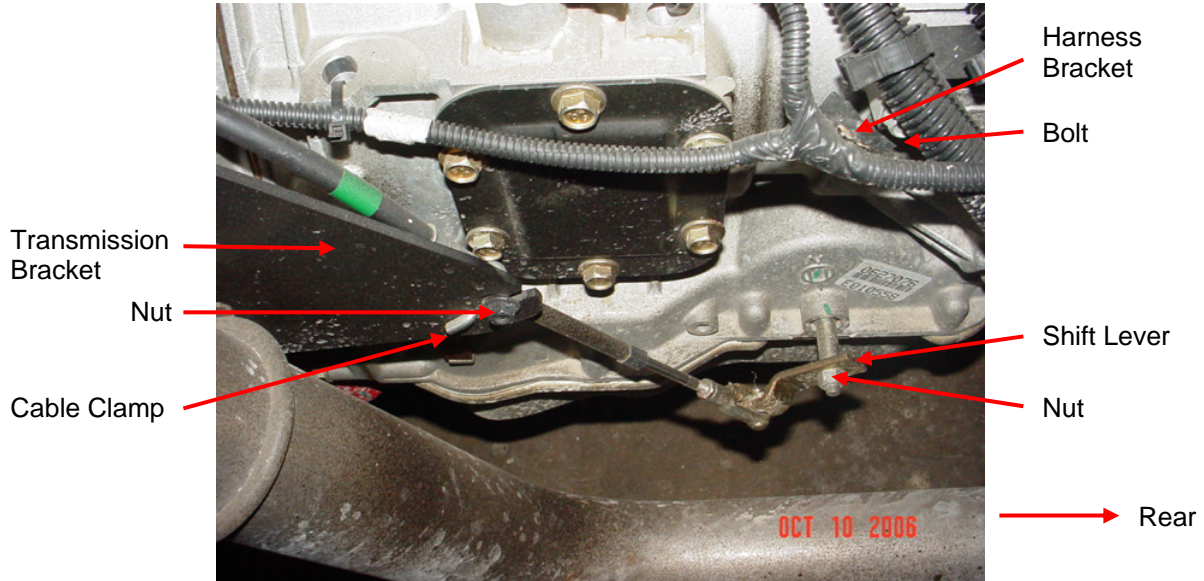
5. Remove cotter pin from clevis pin in transmission shift bracket.
6. Remove clevis pin from transmission shift bracket and separate shift cable clevis from transmission.



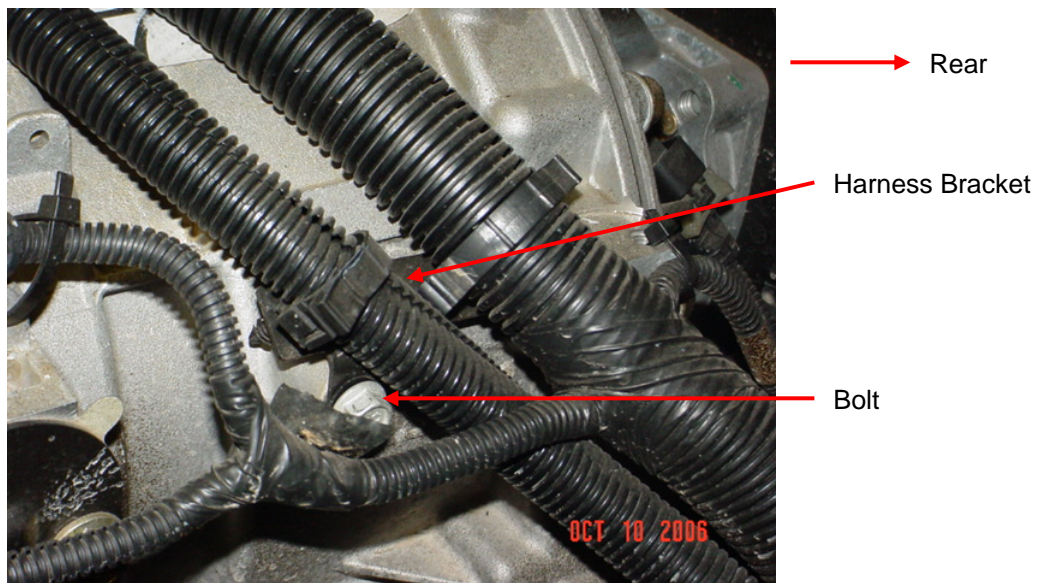
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7. Loosen the nut and remove the cable clamp from the transmission bracket.
8. Loosen the nut and remove the shift lever from shift selector shaft on the transmission. **Note:** Support the bracket with an adjustable wrench (or similar tool) to prevent moving the selector shaft while loosening it.



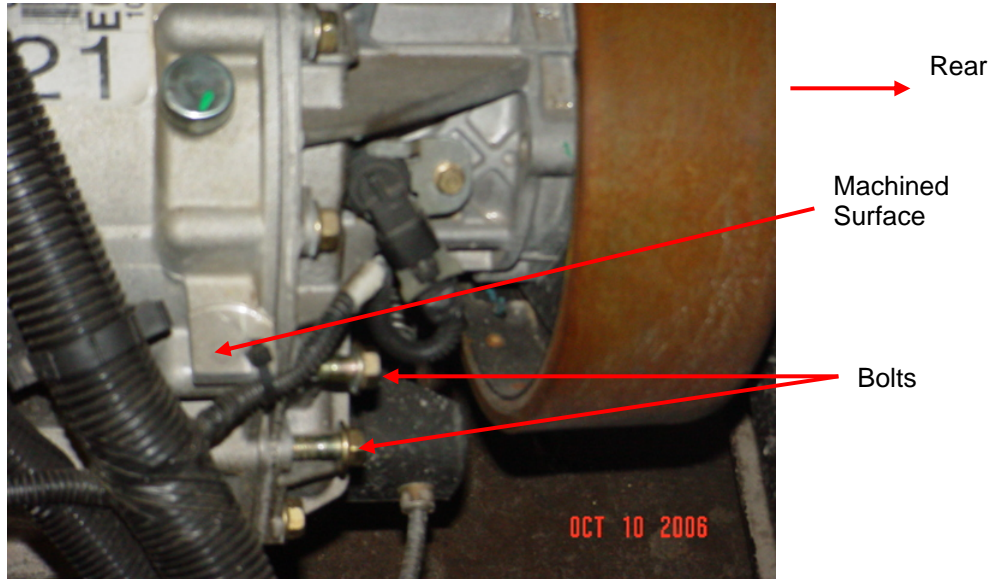
9. Remove the bolt holding the harness bracket to the transmission.



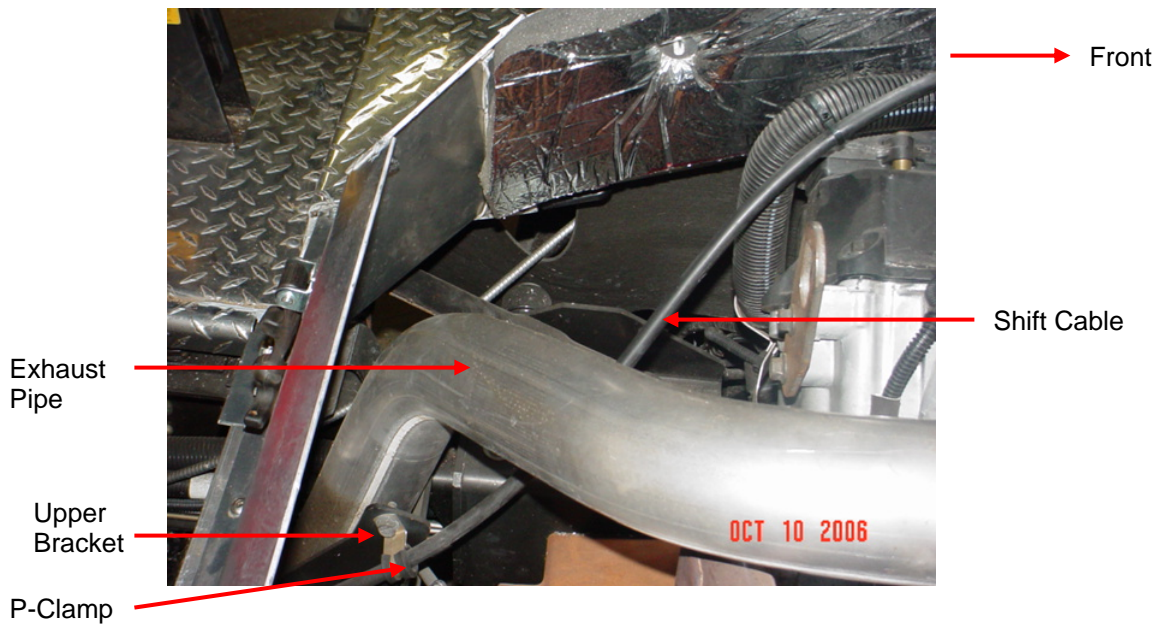
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10. Remove the 2x rear transmission bolts as shown – Use the machined surface as a reference point.



11. Loosen the bolt and remove the P-clamp from the shift cable at the upper transmission bracket .

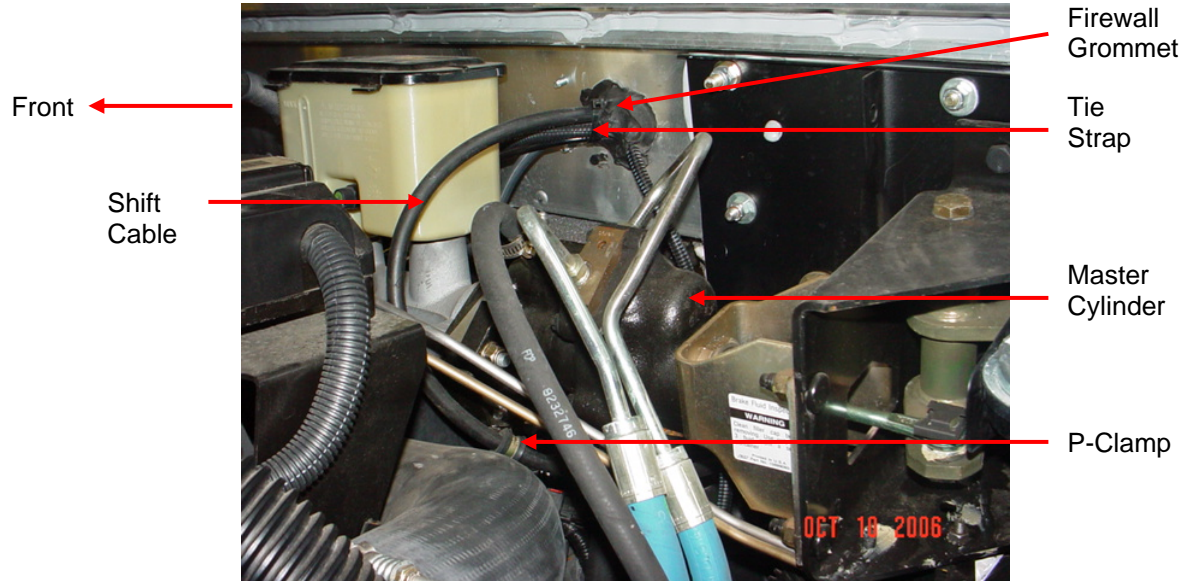
Note: The cable is routed underneath the exhaust pipe



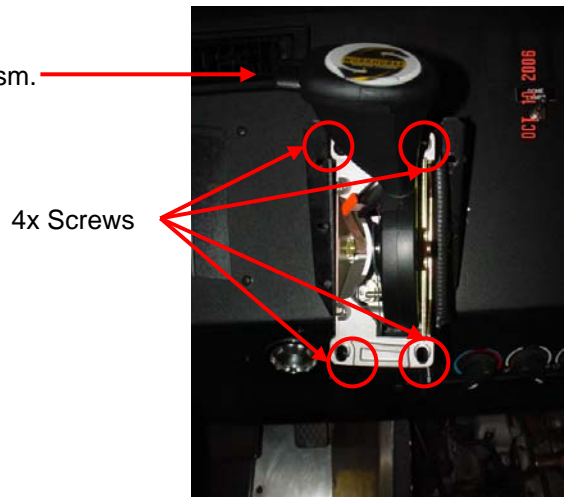
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12. Loosen the bolt and remove the P-clamp from the shift cable at master cylinder bracket.
13. Cut off the tie strap securing the shift cable to the harnesses at the firewall grommet.



14. Remove the screw on the RH side of the shifter.
15. Lift and rotate the shifter surround to slip it over the shifter. Remove the shift indicator.
16. Remove the 4x screws holding the shifter in place.
17. Unclip the shifter harness connector from the body harness.
18. Cut loose any cable ties securing the shifter harness to the body harness.



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19. Pull the shifter and cable assembly from the dash.

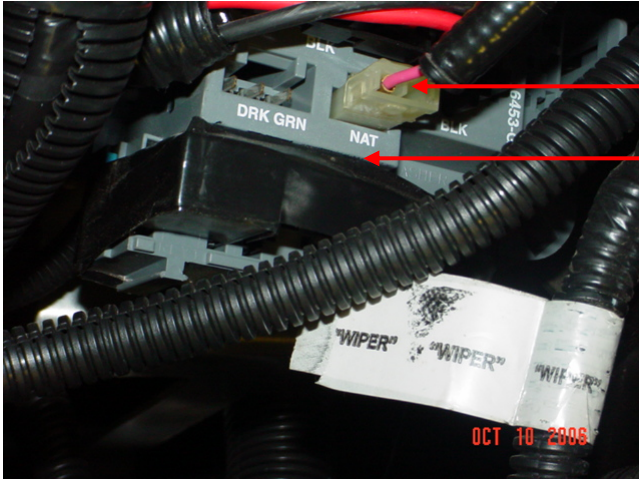


20. Remove the 6x screws holding the shifter mounting bracket to the dash.

Step 2: Installation of New Shifter and Cable Assembly:

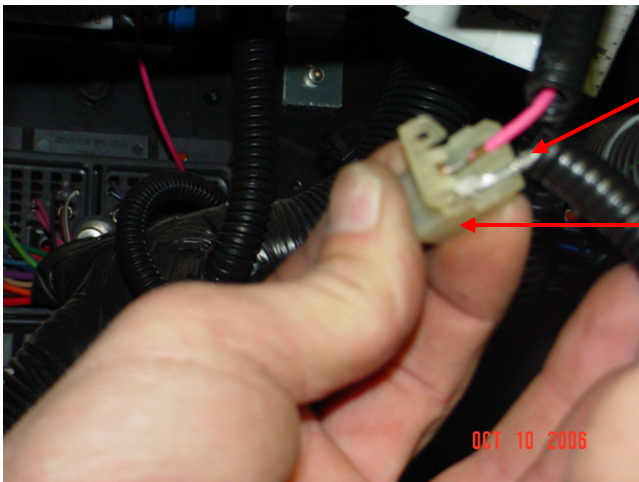
Kit Breakdown: W8005673 – Kit
 W8005674 – Installation Instruction
 W8005672 – Shifter Mounting Bracket (spacer)
 W0010333 – Harness assembly – jumper
 W0009745 – Remote Shifter Assembly with BTSI

1. Secure the new shifter mounting bracket to the dash with the 6x screws previously removed. Torque to 12 Nm (9 Lb Ft).
2. Remove the screw on the side of the new shifter.
3. Remove the shifter surround and shift indicator.
4. Route the cable thru the opening in the dash.
5. Route the cable thru the grommet in the firewall.
6. Secure the shifter assembly to the mounting bracket with the 4x screws previously removed. Torque to 12 Nm (9 Lb Ft).
7. Install the shift indicator and shifter surround to the shifter. Secure with screw on the side – Torque to 3 Nm (26 In-Lbs) **MAX**.
8. Install the jumper harness (part of kit) between the shifter harness and the body harness.



“NAT” Connector
Convenience Center

9. Unplug the “NAT” connector from the convenience center.



Shifter “Pigtail” Terminal
“NAT” Connector

10. Open up the “NAT” connector.
11. Insert the shifter pigtail terminal – clip it into place.
12. Close the connector.
13. Plug the connector back into the “NAT” opening in the convenience center.
14. Plug in the pigtail to the open connector on the convenience center.
15. Secure the jumper harness to the body harness with cable ties (use as needed).



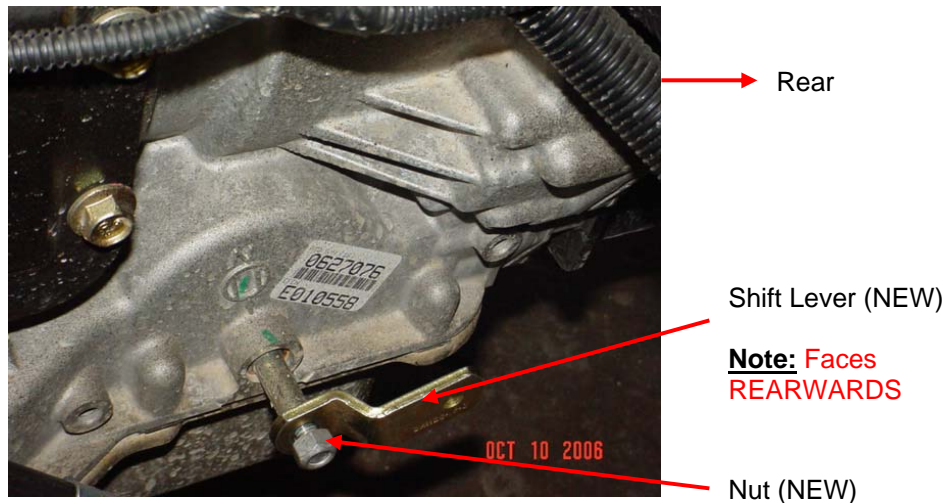
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16. Route the cable:

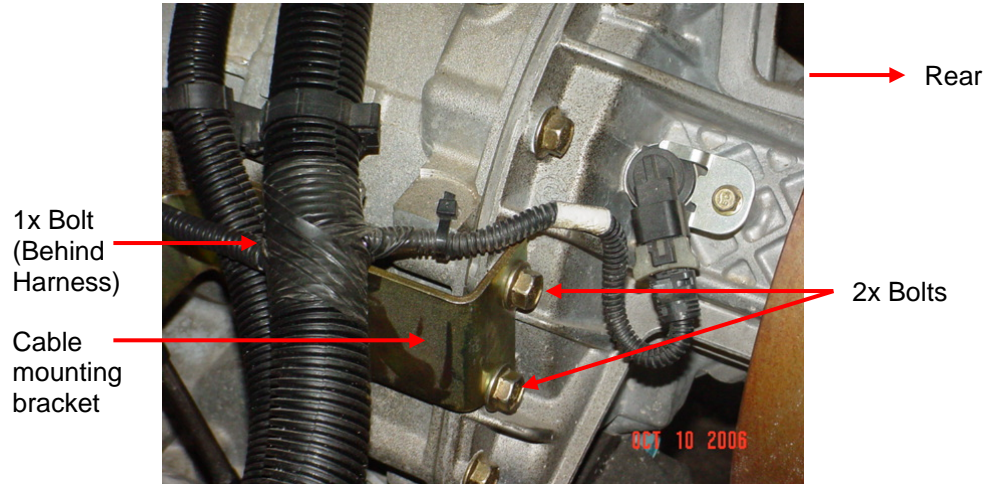
- In between the master cylinder and the brake lines
- Over the LH side of the engine
- Underneath the exhaust pipe
- On the inside of the upper transmission mounting bracket
- Towards the rear of the transmission and the shift selector shaft



17. Install the new shift lever to the shift selector shaft on the transmission

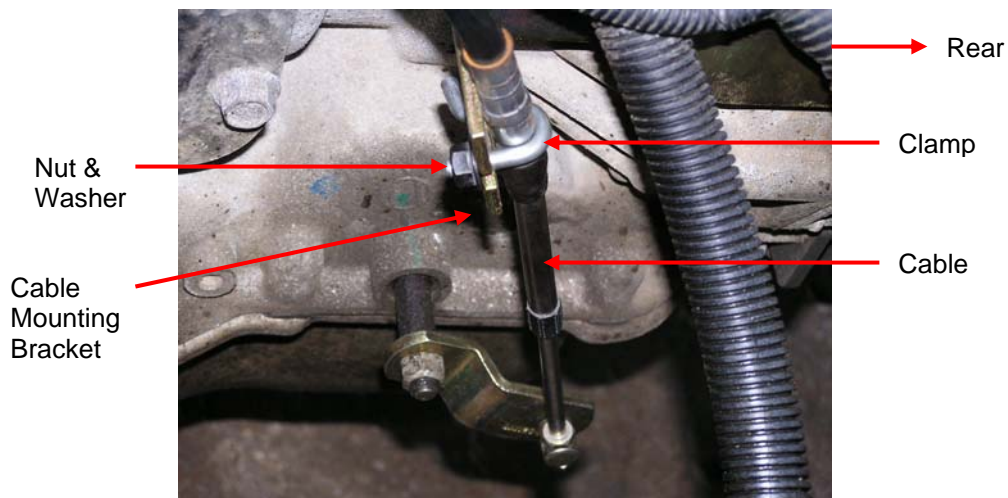
Note:

- The orientation is different from the lever previously removed – now faces rearwards.
- Secure with a new nut – part of Kit.
- Hold lever in place with an adjustable wrench (or similar tool) to prevent movement of the shift selector shaft during assembly.
- Torque to 20 – 27 Nm (15 – 20 Lb Ft).



18. Install the new cable mounting bracket to the transmission with:

- 1xbolt at wiring harness bracket (bolt previously removed). Torque to 25 ± 5 Nm (18 ± 4 Lb Ft).
- 2x bolts at rear of the transmission (bolts previously removed). Torque to 51 – 61 Nm (38 – 45 Lb Ft).



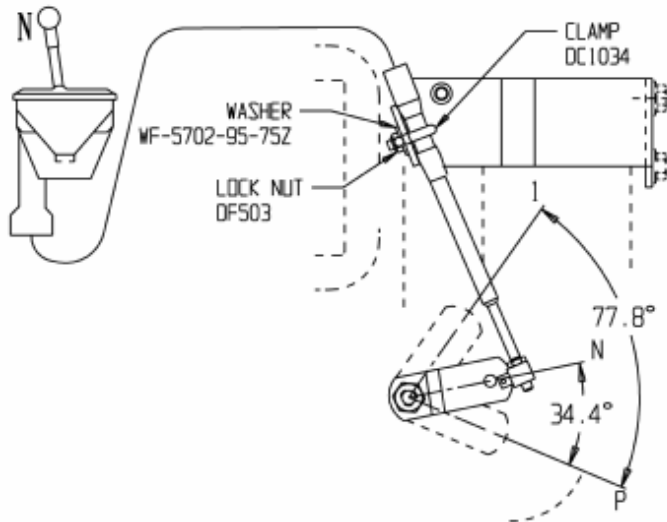
19. Secure the cable to the cable mounting bracket with a **NEW** clamp, washer and nut (part of kit). Torque to 6 ± 2 Nm (4 ± 2 Lb Ft).

20. Install the P-clamp at the upper transmission bracket – Torque to 12 ± 2 Nm (9 ± 2 lb ft).

21. Install the P-clamp at the master cylinder bracket – Torque to 12 ± 2 Nm (9 ± 2 lb ft).

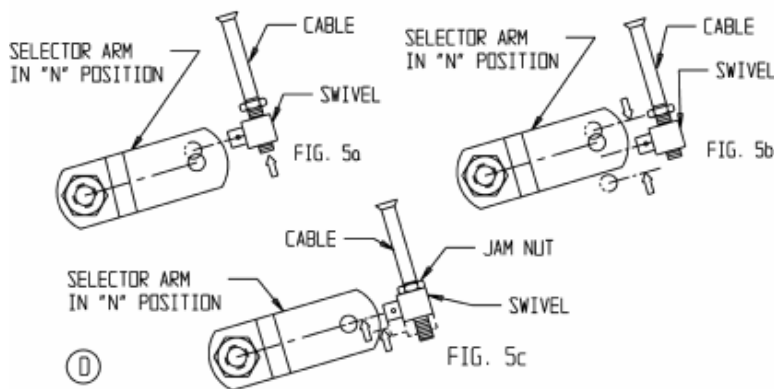


22. Adjustment Procedure: Follow the steps below:



Ⓓ

- MOVE SHIFTER HANDLE TO "N" POSITION.
- MOVE SELECTOR ARM TO "N" POSITION.



Ⓓ

- PUSH THE CABLE UNTIL IT STOPS. NOTE THIS POSITION OF THE SWIVEL SHANK WITH RESPECT TO THE HOLE ON SELECTOR ARM. (FIG. 5a).
- PULL THE CABLE UNTIL IT STOPS. NOTE THIS POSITION OF THE SWIVEL SHANK WITH RESPECT TO THE HOLE ON SELECTOR ARM. (FIG. 5b).
- MOVE THE CABLE TO MIDPOINT OF TRAVEL (MIDWAY BETWEEN "PUSH" AND "PULL" POSITIONS). (FIG. 5b)
- HOLDING THE CABLE AT THE POSITION DETERMINED IN FIG. 5b, ROTATE THE SWIVEL ON THREADED END OF CABLE END UNTIL IT IS ALIGNED WITH THE HOLE IN THE SELECTOR ARM. VERIFY "FREE PIN FIT" BETWEEN SWIVEL AND SELECTOR ARM. INSTALL RIE RING COTTER (DF711-2) AND TORQUE THE JAM NUT TO 8.5 N-m (75 in-lb). (FIG. 5c)

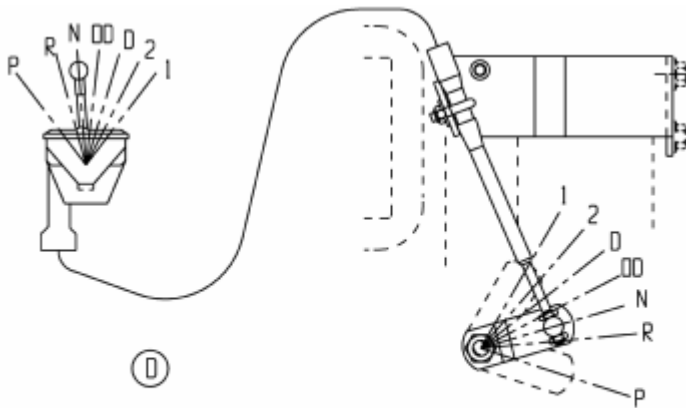


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- 22.1. Install the washer and locking clip (part of kit) to the swivel on the cable.
- 22.2. Hold the adjusting nut in place and torque the Jam nut on the shift cable to 8.5 Nm (75 In-lbs).



-CYCLE THE HANDLE THRU ALL SHIFTER POSITIONS A FEW TIMES.
-SHIFT HANDLE FROM ONE POSITION TO ANOTHER AT A NORMAL SHIFTING SPEED TO SEE IF SHIFTER POSITIONS ARE MATCHING WITH TRANSMISSION POSITIONS.
(THE SHIFTER OUTPUT VIA CABLE MUST PUSHES OR PULLS THE TRANSMISSION SELECTOR ARM INTO APPROPRIATE DETENTS IN TRANSMISSION).

- 22.3. Check for proper transmission and shifter operation.

Note: This shifter assembly will not allow the vehicle to shift into Reverse, unless the brake pedal is applied.

23. Reinstall the engine and floor covers and secure in place.
24. Seal the area around the shift cable at the grommet with silicone (or similar) sealant to prevent any dirt from entering the vehicle.

Following the installation of the shifter P/N W0009745 equipped with a brake switch activated solenoid, the shift inhibit function can be disabled in the transmission. This upgrade will eliminate any possibility of miscommunication between the engine and the transmission related to brake switch signal.

1. Take the vehicle to your nearest Allison dealer.
2. Request that the vehicle's TCM be reflashed with the latest WCC Model Year 2008 calibration file, file # A41008TO.



UPS Day 2 kit installation instructions addendum:

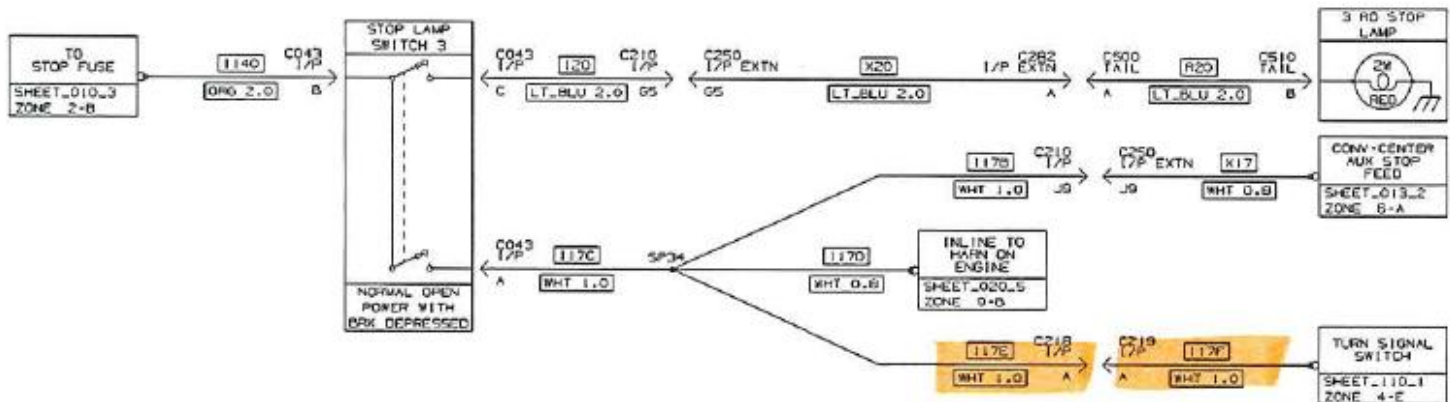
RE: P57D Remote shifter installation P57D2-004

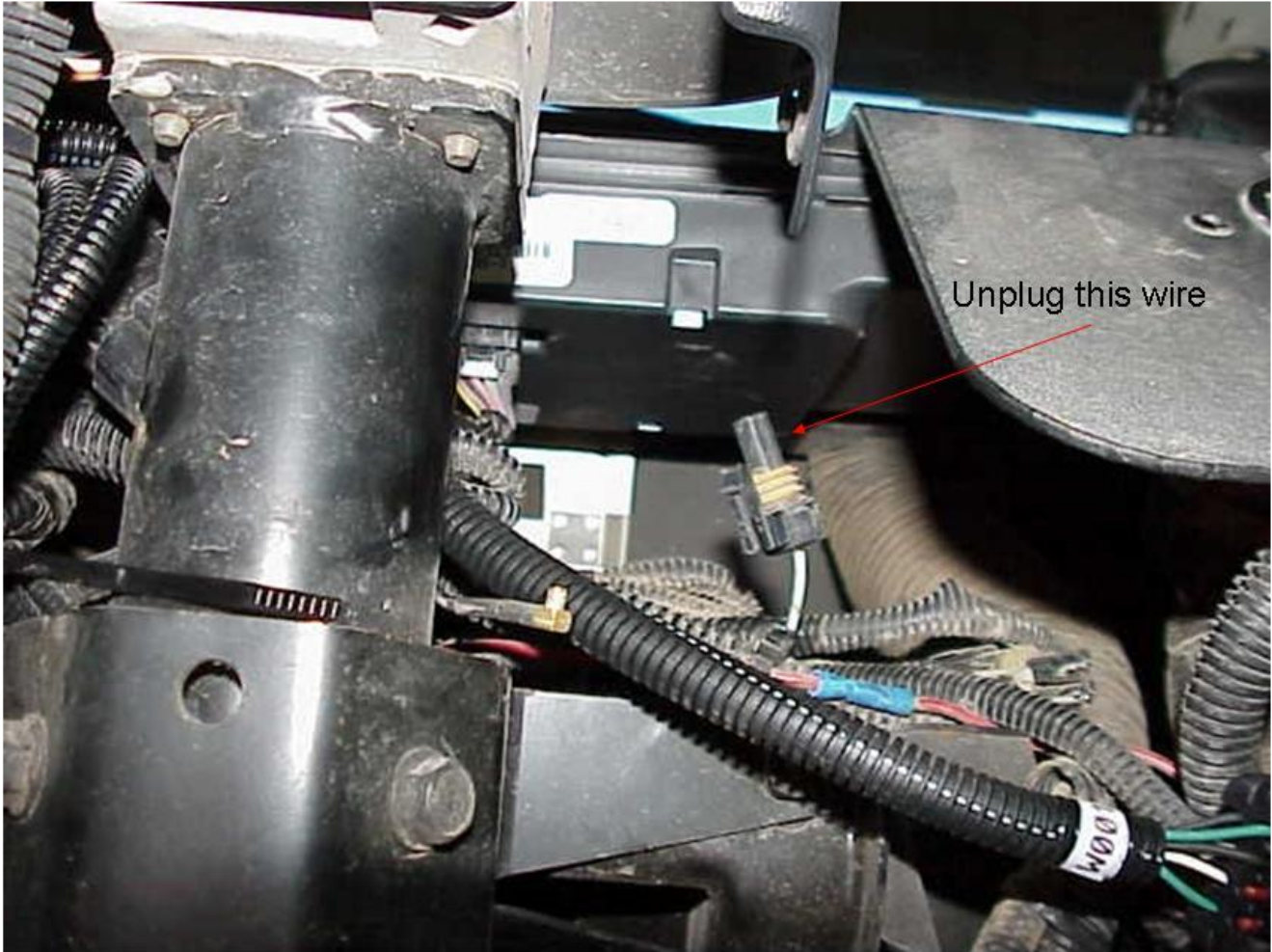
Car Range: 571360 - 571609

Complaint: After completion of the remote shifter (W0009745) and harness (W0010333) installation, instruction P57D2-004, the Brake Transmission Interlock Solenoid may continuously click while the Hazard Flashers are activated. The hazard lights may stay on solid and not flash.

Cause: Undesirable feedback through the turn signal switch

Correction: Unplug the 117E/117F circuit connector. This connection provides optional use of a combined stop and turn light feature (plugged in) vs. separated stop and turn light feature (unplugged) on vehicles with 4 tail lights. Some MorganOlson bodied cars had the combined stop and turn light feature inadvertently activated. The 117E/117F is a single white wire connector located on right side of the steering column above the column mounting bracket. It is advisable to cap off connector once unplugged.





8/13/2007