

# PARTS & SERVICE NEWS

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**SUBJECT:** RETROFIT OF TRANSMISSION SHIFTER

**PURPOSE:** To introduce a new transmission shifter that incorporates a parking brake switch and increased resistance to wear and failure.

**APPLICATION:** GD530A-2BC Motor Grader Serial Number 202001 through 203480  
 GD530A-2BY Motor Grader Serial Number 203481 through 210242  
 GD530A-2CC Motor Grader Serial Number 202001 through 203200  
 GD530A-2CY Motor Grader Serial Number 203201 through 210242  
 GD530AW-2BC Motor Grader Serial Number 202001 through 203200  
 GD530AW-2BY Motor Grader Serial Number 203201 through 210242  
 GD530AW-2CC Motor Grader Serial Number 202001 through 203289  
 GD530AW-2CY Motor Grader Serial Number 203290 through 210242  
 GD650A-2BC Motor Grader Serial Number 202001 through 203246  
 GD650A-2BY Motor Grader Serial Number 203247 through 210242  
 GD650A-2CC Motor Grader Serial Number 202001 through 202641  
 GD650A-2CY Motor Grader Serial Number 202642 through 210242  
 GD650AW-2BC Motor Grader Serial Number 202001 through 203327  
 GD650AW-2BY Motor Grader Serial Number 203328 through 210242  
 GD650AW-2CC Motor Grader Serial Number 202001 through 202661  
 GD650AW-2CY Motor Grader Serial Number 202662 through 210242  
 GD670A-2BC Motor Grader Serial Number 202001 through 203281  
 GD670A-2BY Motor Grader Serial Number 203282 through 210242  
 GD670A-2CC Motor Grader Serial Number 202001 through 202680  
 GD670A-2CY Motor Grader Serial Number 202681 through 210242  
 GD670AW-2BC Motor Grader Serial Number 202001 through 203337  
 GD670AW-2BY Motor Grader Serial Number 203338 through 210242  
 GD670AW-2CC Motor Grader Serial Number 202001 through 203233  
 GD670AW-2CY Motor Grader Serial Number 203234 through 210242  
 850J Motor Grader Serial Number 202001 through 210513  
 850C Motor Grader Serial Number 202001 through 210513  
 850B Motor Grader Serial Number 202001 through 210513  
 850C Motor Grader Serial Number 202001 through 210513  
 870B Motor Grader Serial Number 202001 through 210513  
 870C Motor Grader Serial Number 202001 through 210513

**FAILURE CODE:** 4370MA

**DESCRIPTION:**

Introduction:

The in-line transmission shifter (1433 426 H92) can fail internally because of wear and/or dust contamination. By replacing this unit with U-shift transmission shifter (1439 905 H91), reliability is enhanced.

Also, the earlier shifter had no provision for engaging the parking brake. A separate switch is required to activate the parking brake, even when the shifter is in the PARK position. The new shifter includes the ability to control a park brake circuit, so new wiring has been added to allow the shifter to control this circuit.

After the rework, the parking brake may be applied with either the shifter or by actuating the park brake switch. Disconnecting the circuit at either device will cause the parking brake spring to be applied.

This PARTS AND SERVICE NEWS provides a procedure for strengthening the transmission oil tubes on the above machines. The parts listed below should be obtained from the Parts Depot.

**PARTS LIST**

Part Number	Description	Quantity
1439 905 H91	Transmission shifter	1
1439 907 H1	Cover	1
1439 941 H1	Screw	14
1439 943 H1	Wire	1
1439 942 H1	Wire	1
935 522 C1	Plastic tie	4
	Heat-shrink electrical tubing	As required

**TOOLS**

- Wire cutters
- Allen wrenches
- 1/4-inch Socket wrench
- Phillips screwdriver (large)

**Machine Preparation:**

PLEASE OBSERVE ALL SAFETY AND PRECAUTIONARY STANDARDS AS DICTATED BY THE ENVIRONMENT AND WORK CONDITIONS UNDER WHICH THE EQUIPMENT WILL BE INSPECTED, REWORKED OR REPAIRED. CONSULT THE "SHOP MANUAL", "OPERATOR'S AND MAINTENANCE MANUAL", OR YOUR KOMATSU DISTRICT SERVICE MANAGER WITH ANY/ALL QUESTIONS REGARDING SAFETY.

**NOTE:** These instructions are intended to supplement the service data contained in the appropriate Shop Manual. Refer to the Shop Manual for removal, installation, disassembly and reassembly instructions not contained in this Parts and Service News.

1. Park the machine on a flat, level surface. Lower the work equipment, shut off the engine, and remove the key. Exercise the equipment controls to eliminate pressure locked in the system.

2. Attach a tag to the key start stating:

"THIS MACHINE IS BEING SERVICED. DO NOT ATTEMPT TO START THIS MACHINE UNTIL THIS TAG IS REMOVED BY THE PERSON PERFORMING THE SERVICE".

#### Installation Procedure:

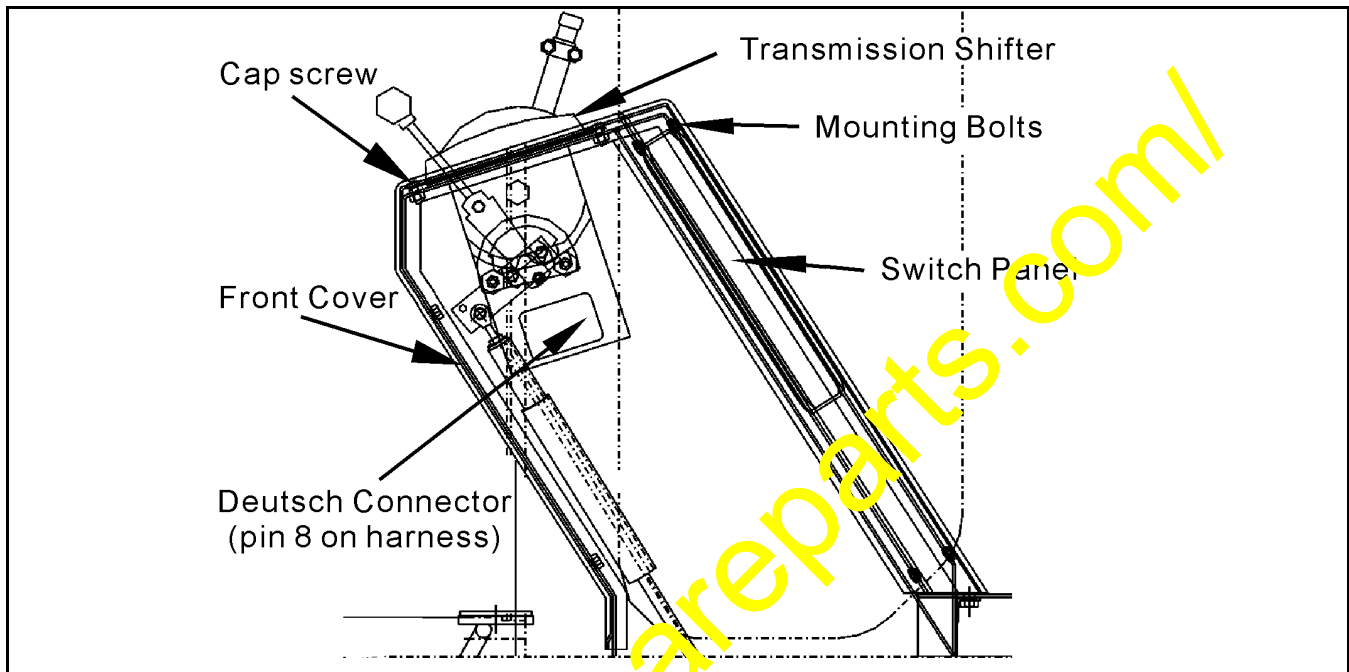


Figure 1. Transmission Shifter

1. Disconnect the battery negative terminal.
2. Remove the 1/4-inch cap screws that hold the shifter cover to the right hand console, and remove the plastic shifter cover. Remove switch panel from the console. See Figure 1.
3. Remove the four cap screws that hold the front cover to the right hand console, and remove the cover panel.
4. Disconnect the 24-pin Deutsch electrical connector from the transmission shift with the appropriate allen wrench. Disconnect any other electrical connections from the shifter.
5. Remove the 1/4 inch cap screws that hold the transmission shifter to the right hand console, and remove the transmission shifter from the console.
6. Loosen the 24-pin Deutsch electrical connector at the switch panel with the appropriate allen wrench.

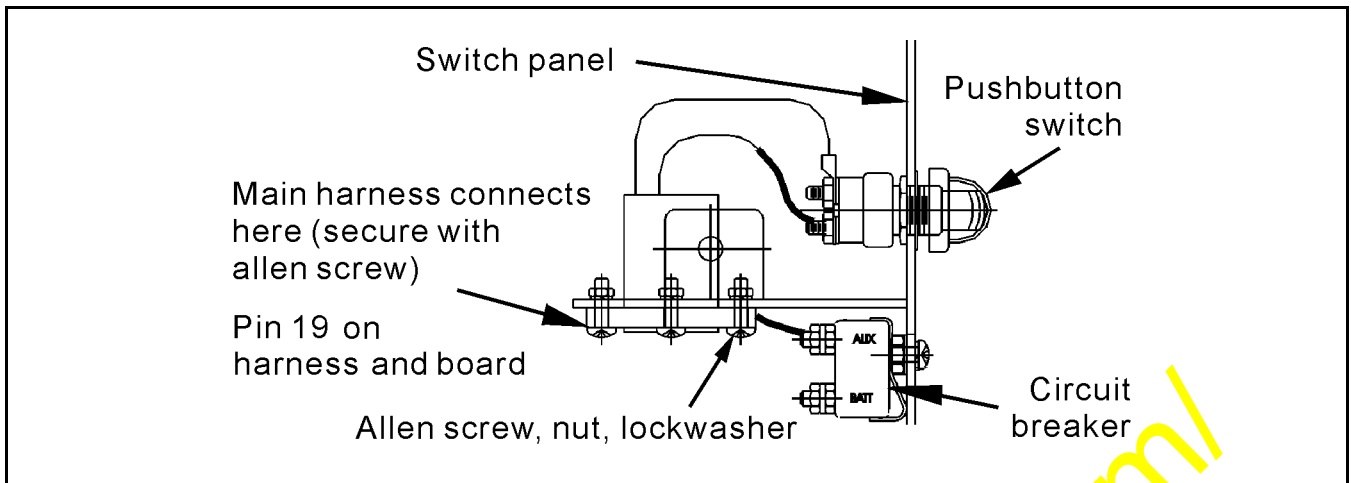


Figure 2. Switch Panel Connections

7. Remove plugs from pin 8 on the transmission shifter connector and from pin 19 on the main harness at the switch panel connector.
8. Insert wire terminals from wire (1439 942 H1) into the Deutsch connectors at pin 8 (shifter) and pin 19 (main harness at switch panel). Push the pin into the connector gently until the pin seats with an audible click in the connector body.
9. Remove plug 19 from the switch panel harness's 24-pin Deutsch connector. This connector is attached to the switch panel board.
10. Insert wire terminals from wire (1439 943 H1) into the switch panel's Deutsch connector at pin 19.

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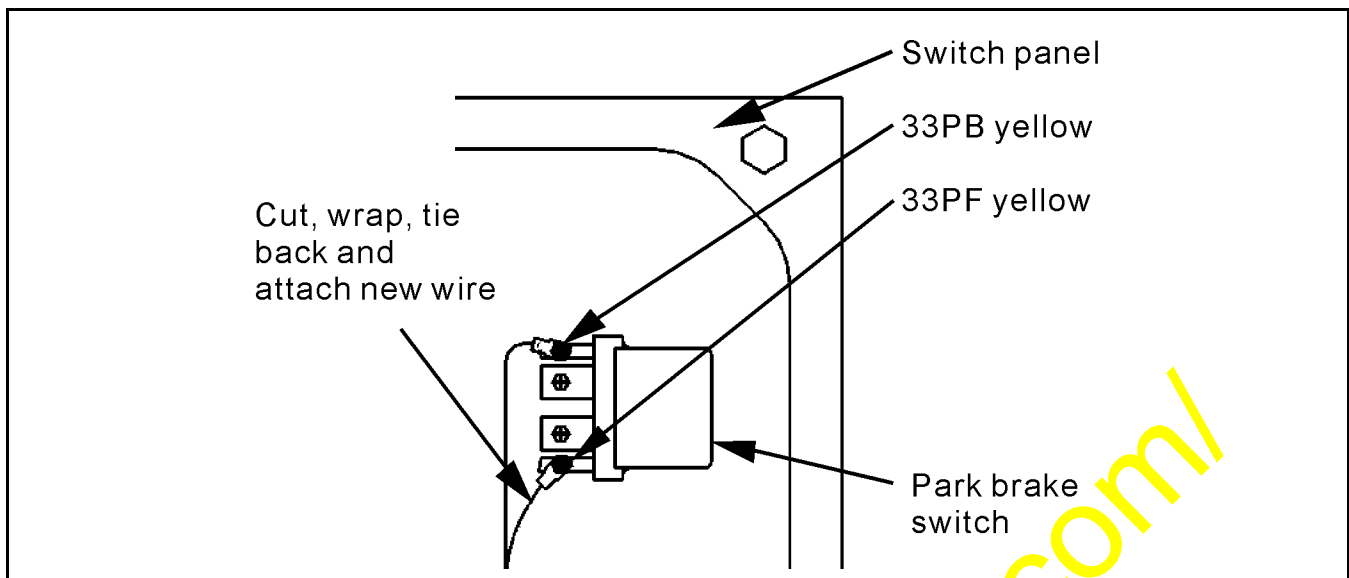


Figure 3. Park brake switch connections

11. Clip the hot side wire at the parking brake switch (33PF yellow). Cover the exposed conductor end with heat-shrink tubing. Figure 3 shows orientation of wire on this switch.
12. Attach the other end of the wire (1439 943 H1) to the hot side of the parking brake switch. Figure 4 shows orientation of wire on this switch.
13. Secure loose wires to adjacent harnesses with suitable cable ties (935 522 C1).
14. Attach switch panel back to the right hand console with 1/4-inch cap screws.
15. Insert new transmission shifter in opening at top of the console and connect the 24-pin Deutsch connector to the new shifter through the front access panel.
16. Figure 4 is a circuit diagram of the system after the rework.

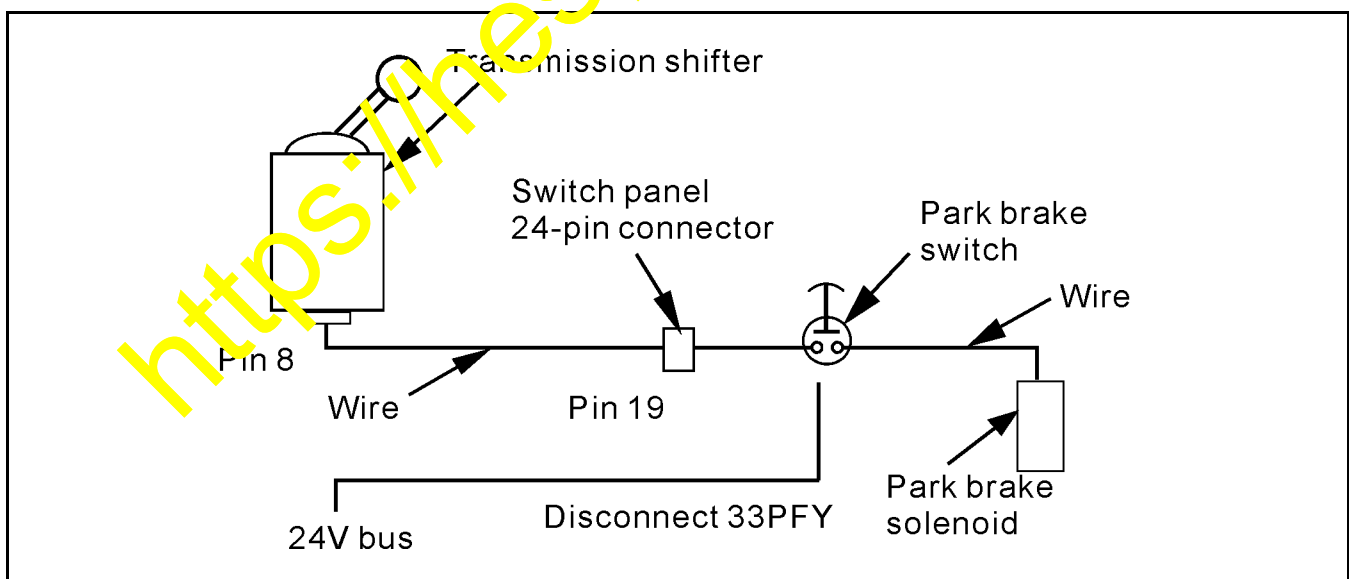


Figure 4. Circuit diagram

17. Connect the negative terminal of the battery and test the system.
  - a. Turn the key on.
  - b. Apply the brake with the foot pedal.
  - c. Place the park brake switch in the OFF position and place the transmission shifter in neutral.
  - d. Note the condition of the park brake indicator lamp on the steering console. If the park brake indicator lamp is not visible, the system is working properly.

If the park brake indicator lamp remains visible, the system is not working properly. Check that connections to ensure that each pin is seated in the connector body. Check to make sure the "hot" side of the park brake switch was replaced (not the switched side).

**NOTE:** One of two procedures now will apply the parking brake. Either move the shifter to PARK or pull the park brake switch to apply the brake. It is not necessary to both pull the switch and move the shifter.

When the system is working satisfactorily, secure the new transmission shifter to the right hand console with the black 1/4-inch phillips head screws. Replace the front cover and plastic shifter cover with console top cover (1439 907 H1) and the new 1/4-inch screws provided. The shape of this console top cover will accommodate the new shifter.

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