

PARTS & SERVICE NEWS

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(C)

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SUBJECT: TRANSMISSION SHIFTER UPGRADE AND NEW DIAGNOSTIC INFORMATION

PURPOSE: Inform the field of the new shifter for the graders.

APPLICATION: 830B Motor Grader Serial Number 210513 AND UP
 830C Motor Grader Serial Number 210513 AND UP
 850B Motor Grader Serial Number 210513 AND UP
 850C Motor Grader Serial Number 210513 AND UP
 870B Motor Grader Serial Number 210513 AND UP
 870C Motor Grader Serial Number 210513 AND UP
 GD530A-2BY Motor Grader Serial Number 210242 AND UP
 GD530A-2CY Motor Grader Serial Number 210242 AND UP
 GD530AW-2BY Motor Grader Serial Number 210242 AND UP
 GD530AW-2CY Motor Grader Serial Number 210242 AND UP
 GD650A-2BY Motor Grader Serial Number 210242 AND UP
 GD650A-2CY Motor Grader Serial Number 210242 AND UP
 GD650AW-2BY Motor Grader Serial Number 210242 AND UP
 GD650AW-2CY Motor Grader Serial Number 210242 AND UP
 GD670A-2BY Motor Grader Serial Number 210242 AND UP
 GD670A-2CY Motor Grader Serial Number 210242 AND UP
 GD670AW-2BY Motor Grader Serial Number 210242 AND UP
 GD670AW-2CY Motor Grader Serial Number 210242 AND UP

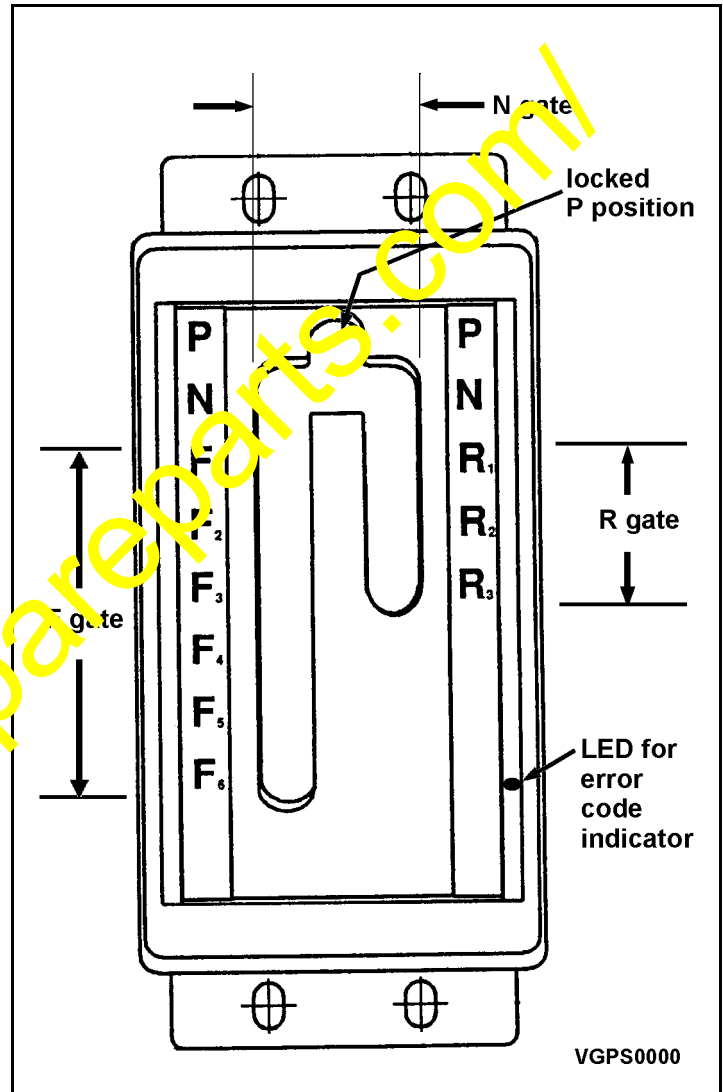
FAILURE CODE: DAQ0Z9

DESCRIPTION:

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For better quality and enhanced diagnostics, a new transmission shifter p/n 1439 905 H91 replaces transmission shifter p/n 1433 426 H92. The new shifter uses a U-shift pattern, the industry standard.

The new shifter is different from the old shifter. The old shifter did not control the parking brake while the new shifter controls the parking brake circuit in the "Park" position. The new shifter also has on-board diagnostics. A red LED is located on the right side of the shifter. The LED flashes a code to indicate the type of problem.



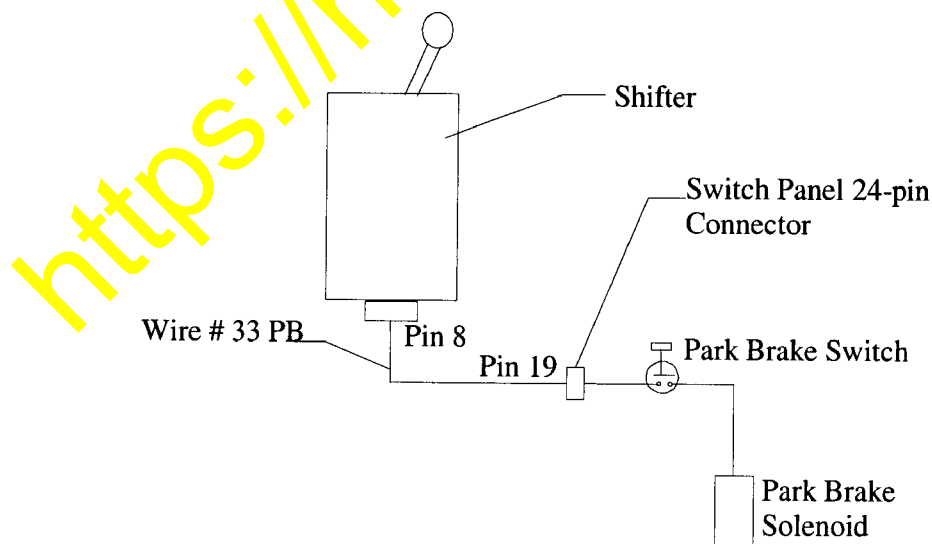
NOTE: When the LED flashes an error code, the transmission automatically shifts to Neutral despite the gearshift remaining at the selected position. Thus, the machine cannot move. Move the gearshift to the Neutral position to coincide with the transmission being in neutral, and which also clears the controller's memory. After clearing the controller's memory, the transmission gears can once again be engaged. To determine if the problem is a "glitch" or one-time occurrence, reposition the gearshift to the desired gear range and continue with the operation. If the LED flashes again, count the number of flashes because a problem exists. See the following table for a diagnostic interpretation of the LED flash code, and make the needed repairs. After repairing the problem, clear the controller's memory before returning the machine to service.

Operational Error Code Identification

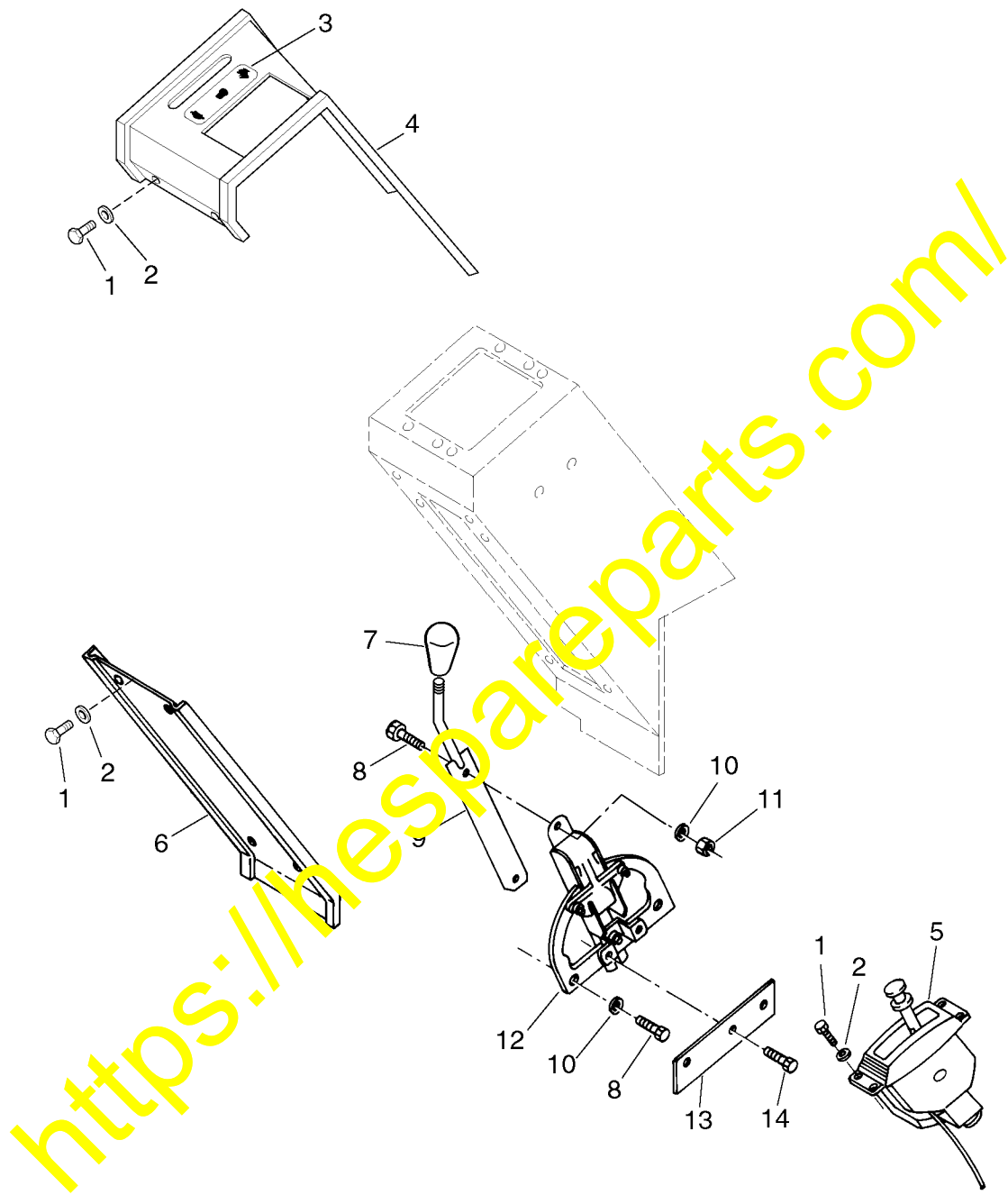
Error Code	Description	LED response	Time needed in Park or Neutral to clear the error code	Action
1	A Hall sensor may have failed or a magnet may have fallen out.	1 flash, 2 second pause before LED flashes again.	1.5 seconds	Replace the shifter
2	One of the output lines to the battery has shorted.	2 flashes, 2 second pause before LED flashes again	2.5 seconds	Using an allen wrench, loosen the 24 pin connector at the shifter. Turn the the ignition switch on. Using a voltmeter, probe the wiring harness pins and determine if there is a positive voltage on pins 7, 8, 12, 13, 18, 19, 20, 21, 22, 23 or 24. Determine cause of positive voltage and correct.
3	One of the output lines to ground has shorted	3 flashes, 2 second pause before LED flashes again	1.5 seconds	Remove the shifter connector using a hex allen wrench. With a volt meter probe the wiring harness pins and determine if there is a short to ground on pin's 7, 8, 12, 13, 18, 19, 20, 21, 22, 23 or 24. Determine the cause of the short circuit and correct.
4	The signal to the processor is lost. There is an unknown source for the interrupt. If the problem does not clear the unit is nonfunctional	4 flashes, 2 second pause before LED flashes again	4.5 seconds	Return the gearshift to Neutral. If the source does not clear, replace the shifter.
5	The unit has failed if this condition cannot be cleared by powering the system off and on.	Stays on continuously. No flashes or pauses.	Will not clear	Replace the shifter

PIN#	USAGE	OTHER NAME
1	Logic Power	Logic Power (+BATT)
2	Logic Ground	Logic Ground (-BATT)
3	Solenoid Power	Dirty Power (+BATT)
4	Solenoid Power	
5	Solenoid Ground	Dirty Ground (-BATT)
6	Solenoid Ground	
7	Solenoid S4	Drive S4
8	Not Park	
9	Not used	
10	Declutch Pedal	Communication Input 3
11	Not used (CAN/H)	
12	Variable Horsepower	Drive S8
13	Solenoid S3	Drive S3
14	Not used (J1708/A)	
15	Not used (J1708/B)	
16	Parking Brake	Communication Input 1
17	Not used (CAN/L)	
18	Reverse Signal	Communication Output 1
19	Forward Signal	Communication Output 2
20	Solenoid S2	Drive S2
21	Solenoid S1	Drive S1
22	Solenoid S5	Drive S5
23	Solenoid S6	Drive S6
24	Neutral Start	Drive S7

NOTE: Moving the shifter to park or pulling the park brake switch should apply the brake. Both are not required to be in the park position. Illustrated below is the revised wiring to activate the parking brake function in the shifter.



VGPS0001



G12BV011

1	1439 941 H1	SCREW, MACHINE	4
2	120 392	WASHER, FLAT	4
3	1434 783 H1	DECAL - THROTTLE	1
4	1439 907 H1	COVER, CONSOLE - TOP	1
5	1439 905 H91	SHIFTER, U-PATTERN - TRANSMISSION . .	1
6	1434 781 H1	COVER, CONSOLE - LOWER FRONT	1
7	628 588 C1	KNOB, THROTTLE LEVER	1
8	25 222 R1	BOLT	4
9	1433 006 H92	LEVER, THROTTLE CONTROL	1
10	25 532 R1	WASHER, FLAT	3
11	26 110 R1	NUT, LOCK	2
12	152 864	CONTROLLER, THROTTLE	1
13	1287 526 H2	ARM, THROTTLE CONTROL	1
14	25 752 R1	BOLT	2
	26 110 R1	NUT, LOCK	2

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