753

Bobcat®

Service Manual

G Series

(S/N 515830001 & Above)
(S/N 516220001 & Above)



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)

6900976 (9-10)

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HYDRAULIC/HYDROSTATIC SCHEMATIC
753 (S/N 515830001 - 515845424)
(S/N 516220001 - 516226372)

(PRINTED APRIL 2003)
V-0264legend

LEGEND

1. RESERVOIR:
   Capacity . . . . . 14 Qts. (13,2 L)
2. SPRING LOADED FILTER BY-PASS VALVE: 45-55 PSI (311-379 kPa)
3. DIFFERENTIAL PRESSURE SWITCH: 36-44 PSI (250-300 kPa) Normally Closed
4. DRIVE MOTOR SHUTTLE VALVE
5. RELIEF/REPLENISHING VALVE - HIGH PRESSURE: 5000 PSI (34475 kPa)
6. RELIEF VALVE - CHARGE INLET: 155-165 PSI (1069-1138 kPa) at 14.3 GPM (54 L/min.) at 2800 RPM With 140 degrees F. (60 degrees C.) Fluid
7. RELIEF/REPLENISHING VALVE - HIGH PRESSURE: 5000 PSI (34475 kPa)
8. HYDRAULIC PUMP . . . . . Gear Type 14.3 GPM (54 L/min.) at 2800 RPM at 1150 PSI (7929 kPa)
9. RELIEF VALVE - MAIN: 2500-2600 PSI (17236-17926 kPa) at Front Quick Couplers
10. RELIEF VALVE - PORT: . . . . . (Optional) 3500 PSI (24132 kPa)
11. ANTICAVITATION VALVE
12. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - AUXILIARY
13. RELIEF VALVE - PORT: . . . . . (Optional) 3500 PSI (24132 kPa)
14. LOAD CHECK VALVE
15. ONE WAY RESTRICTOR VALVE (Optional - ADVANCED HAND CONTROLS ONLY)
16. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BICS CONTROL
17. PILOTED ACTIVATED DIRECTIONAL CONTROL VALVE - TILT CONTROL
18. PILOTED ACTIVATED DIRECTIONAL CONTROL VALVE - LIFT CONTROL
19. PULL BUTTON ACTIVATED DIRECTIONAL CONTROL VALVE - LIFT ARM BY-PASS
20. PILOTED ACTIVATED DIRECTIONAL CONTROL VALVE - UNLOADING SPOOL
21. PILOTED ACTIVATED DIRECTIONAL CONTROL VALVE - FLOW CONTROL SPOOL
22. FLOW DIVIDER ADJUSTMENT VALVE
23. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BLEED OFF REAR AUXILIARY ("SV2")
24. LOAD SHUTTLE VALVE - BLEED OFF
25. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - FOR REAR AUXILIARY - NORMALLY CLOSED ("P2" and "F2")
26. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - FOR REAR AUXILIARY - NORMALLY OPEN ("D1" and "P1")
27. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - FOR REAR AUXILIARY - NORMALLY OPEN ("D2" and "P2")
28. FILTER - DIVERTER VALVE (SINTERED BRONZE)
29. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - TO ACTIVATE REAR AUXILIARY ("SV1")
30. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - FOR REAR AUXILIARY - NORMALLY CLOSED ("P1" and "F1")
31. FILTER - HYDRAULIC (CANISTER)
32. FILTER - CASE DRAIN (SINTERED BRONZE)
33. FILTER - BICS CONTROL VALVE (SCREEN)
34. CHECK VALVE - BUCKET POSITION VALVE
35. RESTRICTION
36. VARIABLE CAPACITY DISPLACEMENT BIDIRECTIONAL HYDROSTATIC PUMP
37. SHUTTLE RELIEF VALVE (Not Adjustable - Factory Set) 65 PSI (448 kPa)
38. FIXED CAPACITY DISPLACEMENT BIDIRECTIONAL HYDROSTATIC MOTOR
39. ONE WAY RESTRICTOR VALVE
40. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BUCKET POSITION VALVE (ON/OFF)
41. CHECK VALVE - BICS CONTROL VALVE
42. MUFFLER (If equipped)
43. LOAD SHUTTLE VALVE - AUXILIARY BLEED VALVE (USED ON MACHINES WITHOUT REAR AUXILIARY)
44. ANTICAVITATION VALVE (TILT BASE END)
45. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - AUXILIARY BLEED VALVE (USED ON MACHINES WITHOUT REAR AUXILIARY)

NOTE: Unless otherwise specified springs have NO significant pressure value.

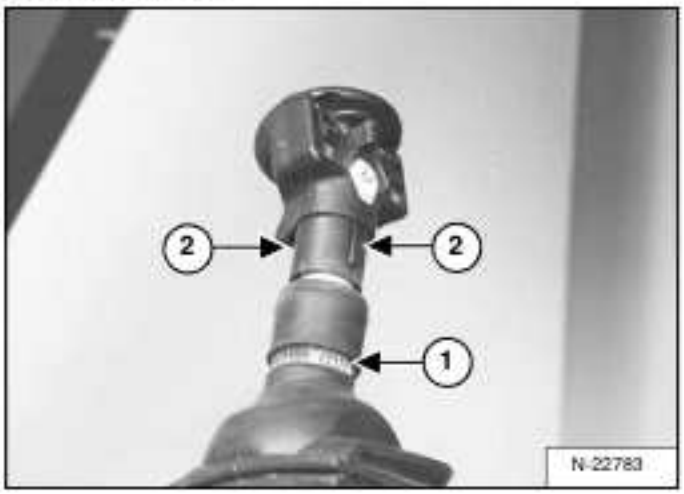
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Switch Handle Removal (Cont'd)

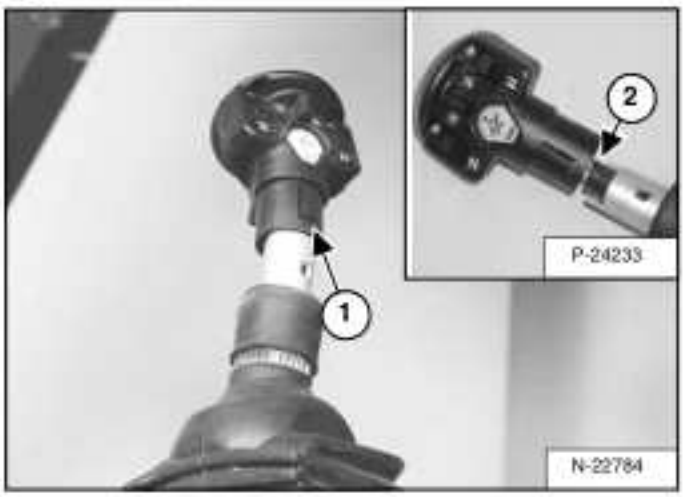
Figure 60-123-18



Roll the pistol grip handle cover (Item 1) **[Figure 60-123-18]** down.

Using a small screwdriver, lift the handle tabs (Item 2) **[Figure 60-123-18]** and slightly rotate the switch handle.

Figure 60-123-19

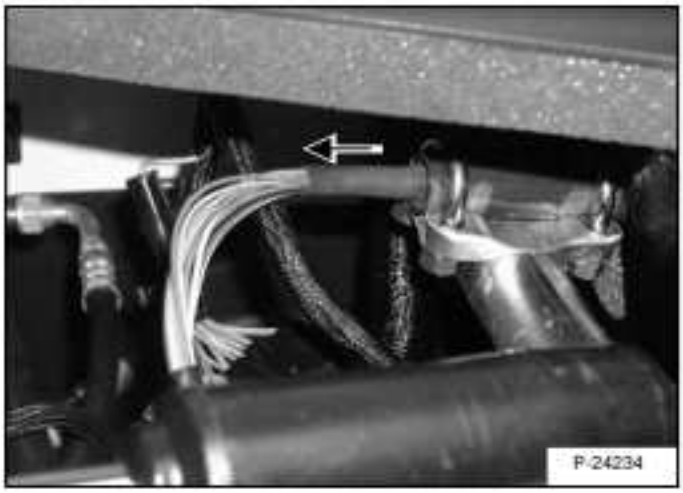


Pull the switch handle and wiring harness assembly (Item 1) **[Figure 60-123-19]** from the control lever.

Cut the wires (Item 2) **[Figure 60-123-19]** below the switch handle and remove switch handle.

NOTE: Only cut the wires if the switch handle is bad and needs replacement. If the switch handle is good and just needs to be removed for control handle or lever replacement, then remove the connectors on the end of the harness and pull switch handle up out of lever tube.

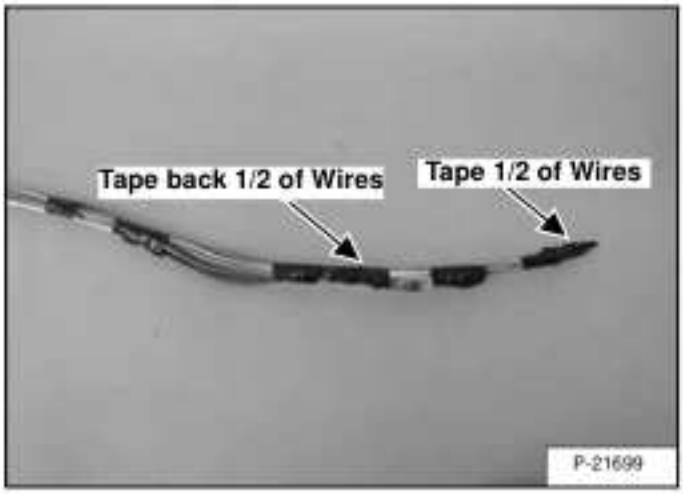
Figure 60-123-20



Pull harness (Item 1) **[Figure 60-123-20]** out the bottom of the control lever tube.

Switch Handle Installation

Figure 60-123-21



When installing the new switch handle, tape the wire terminals together.

The switch handle comes with a 6 inch piece of heat shrink tube side on the end of the wires. Remove the heat shrink tube from the end of the wires before routing through handle and control lever tube.

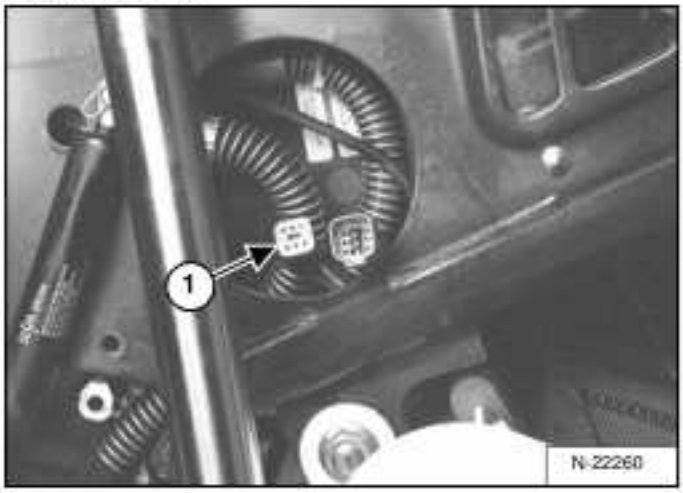
NOTE: Leave all the other heat shrink tube on the wires for protection.

Tape half of the wires back and half forward **[Figure 60-123-21]** to keep the harness small enough to route through the control lever tube.

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Checking The Electrical System (Cont'd)

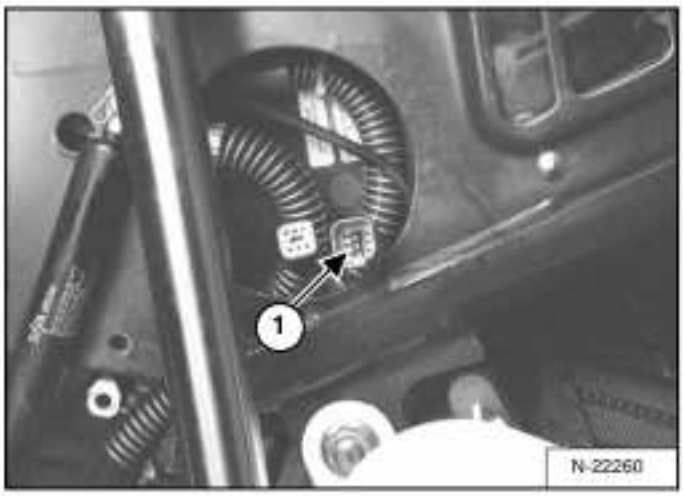
Figure 80-30-12



Check the loader harness (Item 1) **[Figure 80-30-12]** for voltage. The voltage should be 12 volts.

If there is no voltage at the wiring harness, check the harness for broken wires or blown fuse.

Figure 80-30-13

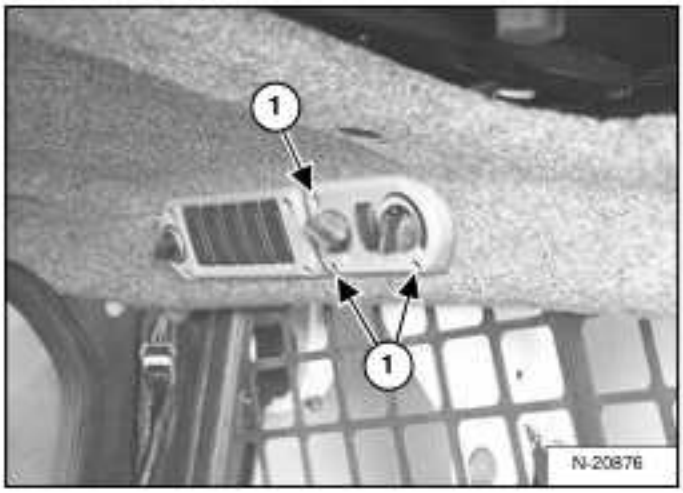


If there is voltage at the wiring harness, check the resistance to the blower fan at the blower fan wiring connector (Item 1) **[Figure 80-30-13]**.

If there is no resistance value replace the blower fan. (See Removal And Installation on Page 80-70-1.)

If there is a resistance value check the climate controls at the control panel inside the loader cab.

Figure 80-30-14



Remove the three mount screws (Item 1) **[Figure 80-30-14]** from the cab control panel.

Figure 80-30-15



Remove the control panel and wiring harness from the cab **[Figure 80-30-15]**.

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753 WIRING SCHEMATIC

WITH ADVANCED HAND CONTROL OPTION

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S/N 516220001-21999
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V-0010

WIRES CONNECT BY LETTER ACROSS CONNECTORS

SOME CONNECTOR BODIES NOT SHOWN FOR DRAWING CLARITY

* NOTE: THESE ARE NOT FOUND ON ALL MACHINES.

TAILGATE/ WORK LIGHTS
HARNESS 6716419

C103

ENGINE
HARNESS 6716871

C102

HYD FILTER

C101

MAIN FRAME
HARNESS 6719883 or 6727129

C403

C404 C405 C406

C407

C408

C427

C401 C402

C426

CAB
HARNESS 6716870

C428 C429

ADVANCED HAND CONTROL MODULE

C430 C431

C432 C433

C409 C410 C411 C412 C413

700 SERIES

GROUNDS

BATTERY

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