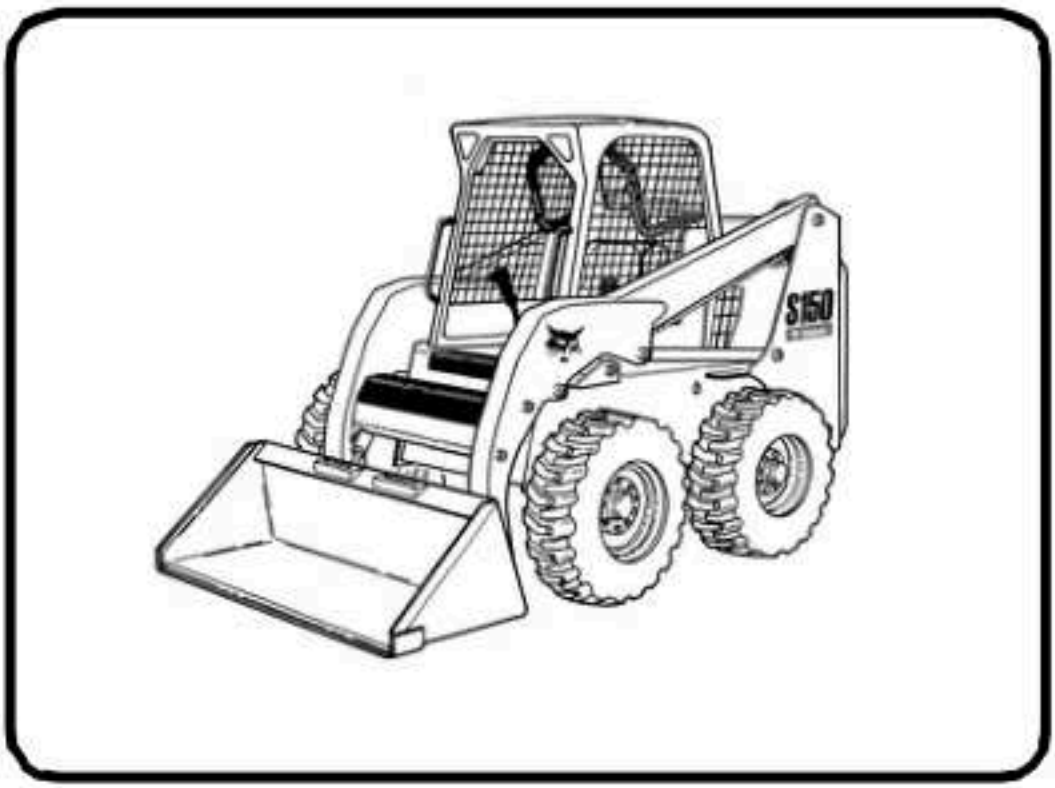
Bobcat®

Service Manual
S150 Skid-Steer Loader

S/N A3L120001 & Above



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)

6987033 (8-08)

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HYDRAULIC/HYDROSTATIC SCHEMATIC
WITH SJC OPTION
S150 (S/N A3L120001 AND ABOVE)

(PRINTED MARCH 2008)
V-1112legend

LEGEND

1. RESERVOIR:
   Capacity . . . . . 19.2 qt. (18,2 L)
2. SPRING LOADED FILTER BY-PASS VALVE: 45-55 PSI (3,1-3,8 bar)
3. DIFFERENTIAL PRESSURE SWITCH:
   36-44 PSI (2,5-3,0 bar)
   Normally Closed
4. DRIVE MOTOR SHUTTLE VALVE
5. RELIEF/REPLENISHING VALVE - HIGH PRESSURE: 5075 PSI (350 bar)
6. RELIEF VALVE - CHARGE INLET:
   360 PSI (24,8 bar)
   at High Engine Idle
   With 140 degrees F. (60 degrees C.) Fluid
7. FRONT AUXILIARY MANUAL PRESSURE BLEED-OFF VALVE
8. HYDRAULIC PUMP . . . . . Gear Type
   16.9 GPM (64 L/min.) at High Engine Idle
9. RELIEF VALVE - MAIN:
   3250-3350 PSI (224-231 bar)
   at Front Quick Couplers
10. PORT RELIEF/ANTICAVITATION VALVE
    3500 PSI (241,3 bar)
11. ANTICAVITATION VALVE
12. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - AUXILIARY
13. PORT RELIEF/ANTICAVITATION VALVE:
    . . . . . (Optional)
    3500 PSI (241,3 bar)
14. LOAD CHECK VALVE
15. LIFT CYLINDER SPOOL - MADE TO RESTRICT FLOW DURING BOOM DOWN BUT NOT DURING BOOM UP
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 - BASE
24. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - ROD
25. LOAD SHUTTLE VALVE - BLEED OFF
26. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - TWO COIL
27. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - REAR AUXILIARY
28. RESTRICTOR - 0.140 inch (3,6 mm)
29. RESTRICTOR - 0.031 inch (0,8 mm)
30. RELIEF VALVE: 3300 PSI (228 bar)
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 BI-DIRECTIONAL HYDROSTATIC PUMP
37. SHUTTLE RELIEF VALVE
    (Not Adjustable - Factory Set)
    65 PSI (4,5 bar)
38. FIXED CAPACITY DISPLACEMENT BI-DIRECTIONAL HYDROSTATIC MOTOR
39. CHECK VALVE - With 80 PSI (5,5 bar) Spring
40. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BUCKET POSITION VALVE (ON/OFF)
41. CHECK VALVE - BICS CONTROL VALVE
42. RESTRICTION - 0.343 inch (8,7 mm)
43. FILTER - Bob-Tach Valve
44. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - HYDRAULIC POWERED BOB-TACH
45. RESTRICTION - 0.089 inch (2,26 mm)
46. RESTRICTION - 0.025 inch (0,6 mm)
47. RELIEF VALVE - 2000 PSI (137 bar)
48. RELIEF VALVE - 1200 PSI (83 bar)
49. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE (TWO COIL)
50. FIXED CAPACITY DISPLACEMENT HYDRAULIC MOTOR - FAN
51. ANTICAVITATION VALVE
52. PROPORTIONAL RELIEF VALVE – (Fan Speed Regulator):
    1566 - 1784 PSI (108 - 123 bar)
53. CHARGE PUMP -
    12.8 GPM (48,5 L/min) at High Engine Idle
54. CHECK VALVE - With 300 PSI (20,7 bar) Spring with 0.016 inch (0,40 mm) orifice
55. SOLENOID ACTIVATED CONTROL VALVE - FORWARD/REVERSE
56. SERVO PISTON -Swash Plate
57. POSITION SENSOR -Swash Plate
58. CHARGE PRESSURE SENSOR
59. SENSOR – CHARGE PRESSURE – Fan Filter
60. SENSOR – HYD. TEMP. – Hyd. Filter

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

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TRACTION LOCK

Description

The Traction Lock Control System will lock the traction drive system when the engine stops. The Traction Lock Control System is incorporated into the BICS System.

Troubleshooting

The following troubleshooting chart is provided for assistance in locating and correcting BICS system problems. It is recommended that these procedures be done by authorized Bobcat Service Personnel only.

⚠ WARNING

Check for correct function after adjustments, repairs or service. Failure to make correct repairs or adjustments can cause injury or death.

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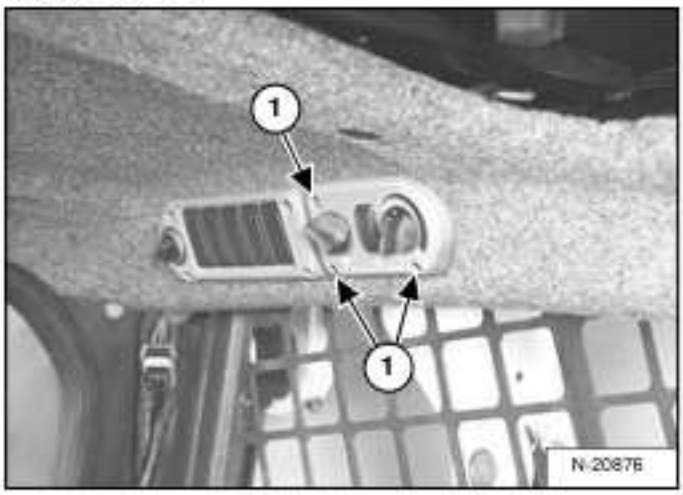
PROBLEM	CAUSE
Traction lock stays engaged.	1, 2, 3, 4, 5, 6, 7,11,12,13
Intermittent activation of traction lock.	8, 9, 10, 11

KEY TO CORRECT THE CAUSE
1. Make sure brake pedal is not engaged.
2. Maneuver loader to allow brake discs to move and remove pressure on the brake wedge so it can retract.
3. If all lights indicate the brake should be released, but it has not released, check the brake 30 amp. fuse.
4. When checking fuse, also check other fuses. Check the fuse block for correct orientation and location of fuses. (See Fuse And Relay Location / Identification on Page 60-10-9.)
5. To test the solenoid, the pull coil should be about 0.3 ohms and the hold coil should be about 10.9 ohms.
6. Check brake solenoid and cover mounting hardware for the correct torque.
7. Remove brake cover and check wedges for binding in the wedge guides.
8. Check wire connections for loose connector body.
9. Check for loose or bent pins in connectors.
10. Check for loose spade connectors in fuse holder.
11. Check flywheel RPM sensor and wiring.
12. Check the Display Panel for an error code. (See Electrical System Service Manual)
13. Check brake solenoid wiring voltage, solenoid wiring should read 12 volts.

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Electrical System (Cont'd)

Figure 80-30-4



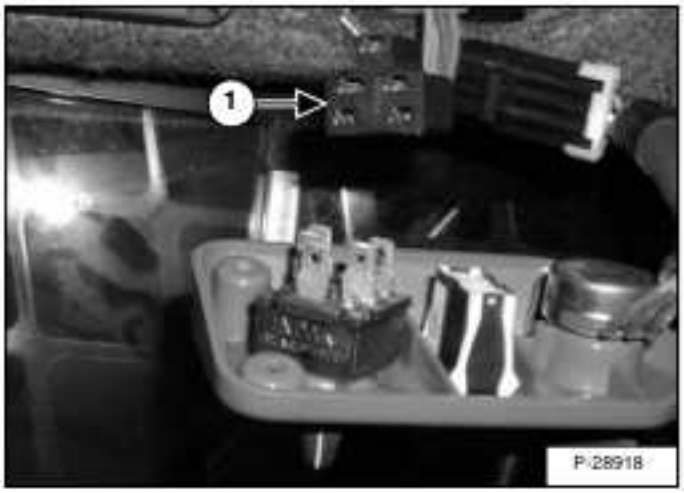
Remove the three mount screws (Item 1) **[Figure 80-30-4]** from the cab control panel.

Figure 80-30-5



Remove the control panel and wiring harness from the cab **[Figure 80-30-5]**.

Figure 80-30-6



Disconnect the loader wiring harness (Item 1) **[Figure 80-30-6]** from the blower switch.

Check the loader harness 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.

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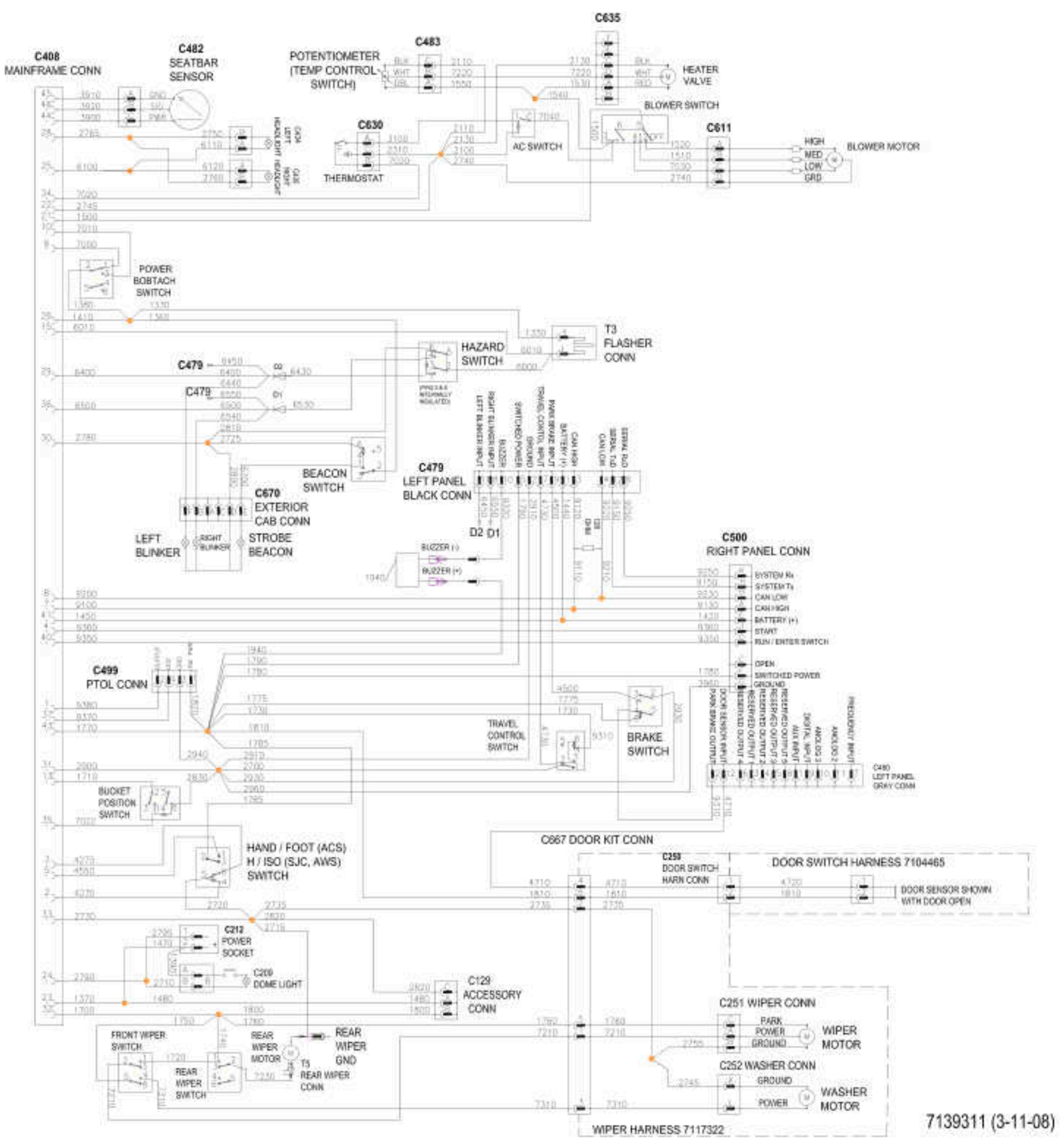
WIRING SCHEMATIC
(DELUXE CAB)
S150 (S/N A3L120001 AND ABOVE)

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DLX CAB HARNESS
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TO
MAINFRAME
HARNESS



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