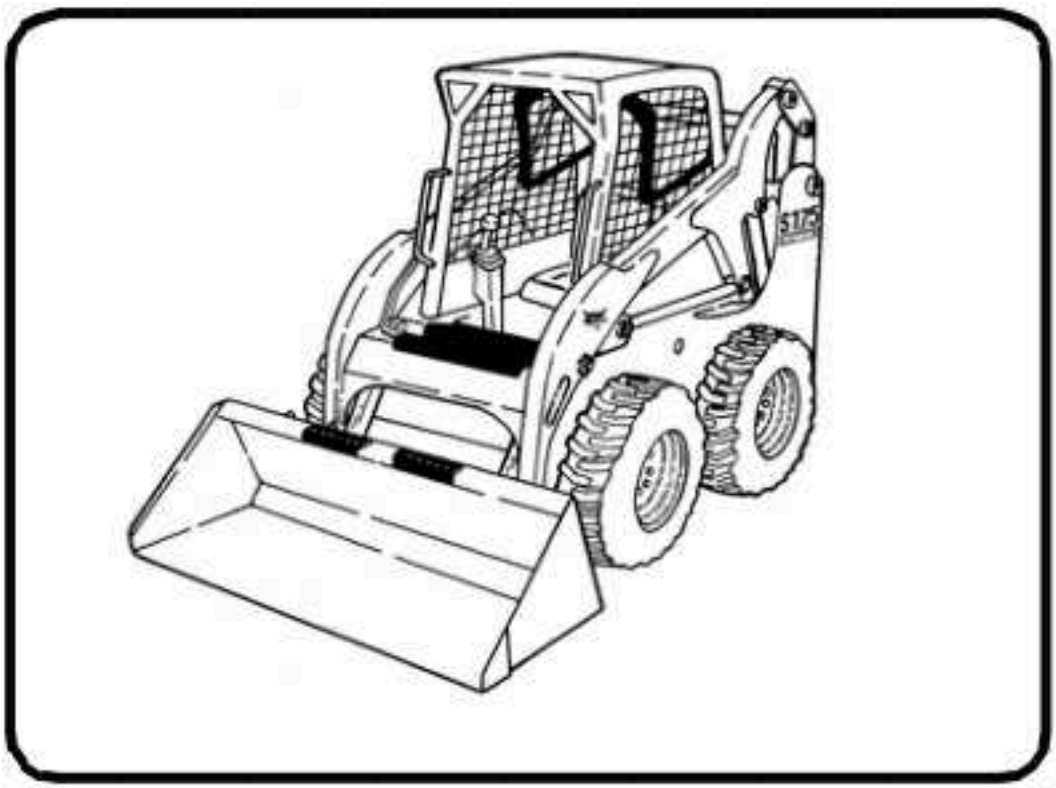
Bobcat®

Service Manual
S175 Skid-Steer Loader

S/N A3L511001 - A3L519999



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)

6986567 (7-09)

Printed in U.S.A.

© Bobcat Company 2009

MidWestTech | Bobcat S175 Skid Steer Loader Service Manual | Publication 6986567_7_09 Order the manual at mid-west-tech.com >

ALPHABETICAL INDEX

ACCESS PANEL (INSIDE) 50-01
ACCESS PANEL (INSIDE) (SJC) 50-01
AIR CLEANER 70-01
AIR CLEANER SERVICE 10-01
AIR CONDITIONING SYSTEM FLOW 80-01
ALTERNATOR 60-01

BATTERY 60-01
BLOWER FAN 80-01
BLOWER FAN 80-01
BOBCAT INTERLOCK CONTROL SYSTEM (BICS) 60-01
BOBCAT CONTROLLER 60-01
BOB-TACH (HAND LEVER) 10-01, 50-01
BOB-TACH (POWER) 50-01
BRAKE (SINGLE SPEED) 40-01
BRAKE (TWO-SPEED) 40-01
BUCKET POSITION VALVE 20-01

CALIBRATION 60-01
CAMSHAFT AND TIMING GEARS 70-01
CHAINCASE 40-01
CHARGE PRESSURE 30-01
CONTROL HANDLE/LEVER 50-01
CONTROL HANDLE/LEVER (ACS) 50-01
CONTROL HANDLE/LEVER (SJC) 50-01
CONTROL PANEL 50-01
CONTROL PANEL (SJC) 50-01
CONTROL PEDALS AND LINKAGE 50-01
CONTROL PEDALS (ACS) 50-01
CONTROL SYSTEM (ACS) 60-01
CONVERSIONS SPEC-01
CRANKSHAFT AND PISTONS 70-01
CYLINDER (LIFT) 20-01
CYLINDER (BOB-TACH) 20-01
CYLINDER (TILT) 20-01
CYLINDER HEAD 70-01

DIAGNOSTICS SERVICE CODES 60-01
DRIVE BELT 30-01
DRIVE COMPONENTS 40-01

ELECTRICAL SYSTEM INFORMATION 60-01
ELECTRICAL/HYRAULIC CONTROLS 60-01
ELECTRICAL/HYRAULIC CONTROLS (SJC) 60-01
ENGINE COOLING SYSTEM 10-01, 70-01
ENGINE INFORMATION 70-01
ENGINE LUBRICATION SYSTEM 10-01
ENGINE SPEED CONTROL (SJC) 70-01

FINAL DRIVE TRANSMISSION (CHAINCASE) 10-01
FLYWHEEL AND HOUSING 70-01
FLYWHEEL RPM SENSOR 60-01
FRONT AUXILIARY HYD. COUPLER BLOCK 20-01
FUEL SYSTEM 10-01, 70-01
FUEL TANK 50-01

HEATER COIL 80-01
HEATER SYSTEM 80-01
HEATER UNIT 80-01
HEATER VALVE 80-01
HIGH FLOW VALVE 20-01
HYDRAULIC CONNECTION SPECS. SPEC-01
HYDRAULIC CONTROL VALVE 20-01
HYD./HYDRO FLUID SPECIFICATIONS SPEC-01
HYDRAULIC FLUID RESERVOIR 20-01
HYDRAULIC/HYDROSTATIC FILTERS 20-01
HYDRAULIC/HYDROSTATIC SYSTEM 10-01
HYDRAULIC PUMP (STANDARD) 20-01
HYDRAULIC PUMP (STANDARD) (HIGH FLOW) 20-01
HYDRAULIC PUMP (HIGH FLOW) (SJC) 20-01
HYDARULIC PUMP (SJC) 20-01
HYDRAULIC SYSTEM INFORMATION 20-01
HYDROSTATIC MOTOR 30-01
HYDROSTATIC MOTOR (TWO SPEED) 30-01
HYDROSTATIC MOTOR CARRIER (SINGLE ANDTWO-SPEED WITH MANUAL CONTROLS) 30-01
HYDROSTATIC MOTOR CARRIER (SINGLE ANDTWO-SPEED WITH SJC CONTROLS) 30-01
HYDROSTATIC PUMP 30-01
HYDROSTATIC PUMP (SJC) 30-01
HYDROSTATIC SYSTEM INFORMATION 30-01

INSTRUMENT PANELS 60-01

LIFT ARMS 50-01
LIFT ARM BYPASS CONTROL VALVE 20-01
LIFT ARM SUPPORT DEVICE 10-01
LIFTING AND BLOCKING THE LOADER 10-01
LIGHTS 60-01
LOADER STORAGE AND RETURN TO SERVICE 10-01
LUBRICATING THE LOADER 10-01
LUBRICATION SYSTEM 70-01

MAIN RELIEF VALVE 20-01
MUFFLER 70-01

OIL COOLER 20-01
OPERATOR CAB 10-01, 50-01
OPERATOR SEAT 50-01
OPERATOR SEAT (SUSPENSION) 50-01

PIVOT PINS 10-01
POWER BOB-TACH BLOCK 20-01

MidWestTech | Bobcat S175 Skid Steer Loader Service Manual | Publication 6986567_7_09 Order the manual at mid-west-tech.com >

REAR AUXILIARY DIVERTER VALVE 20-01
REAR DOOR 50-01
REAR GRILL 50-01
REGULAR MAINTENANCE 80-01
REMOTE START TOOL KIT-MEL1563 10-01
REMOTE START TOOL (SERVICE TOOL)
KIT-6689779 10-01

S175 LOADER SPECIFICATIONS SPEC-01
S185 LOADER SPECIFICATIONS SPEC-01
SEAT BAR 50-01
SEAT BAR SENSOR 60-01
SERVICE PC (LAPTOP COMPUTER) 60-01
SERVICE SCHEDULE 10-01
SPARK ARRESTOR MUFFLER 10-01
SPEED SENSORS (SJC) 60-01
STARTER 60-01
STEERING DRIFT COMPENSATION 60-01
STOPPING THE ENGINE AND
LEAVING THE LOADER 10-01
SYSTEM CHARGING AND RECLAMATION 80-01

TIRE MAINTENANCE 10-01
TORQUE SPECIFICATIONS FOR BOLTS SPEC-01
TOWING THE LOADER 10-01
TRACTION LOCK 60-01
TRANSPORTING LOADER ON A TRAILER 10-01
TROUBLESHOOTING 80-01
TURBOCHARGER 70-01
TWO-SPEED VALVE 30-01

WINDOW (FRONT DOOR) 50-01
WINDOW (REAR) 50-01
WINDOW (SIDE) 50-01
WINDOW (TOP) 50-01

MidWestTech | Bobcat S175 Skid Steer Loader Service Manual | Publication 6986567_7_09 Order the manual at mid-west-tech.com >

CONTENTS

FOREWORD II

SAFETY INSTRUCTIONS V

FIRE PREVENTION VII

SERIAL NUMBER LOCATIONS IX

DELIVERY REPORT X

LOADER IDENTIFICATION XI

SAFETY AND MAINTENANCE 10-01

HYDRAULIC SYSTEM 20-01

HYDROSTATIC SYSTEM 30-01

DRIVE SYSTEM 40-01

MAIN FRAME 50-01

ELECTRICAL SYSTEM & ANALYSIS 60-01

ENGINE SERVICE 70-01

HEATER 80-01

SPECIFICATIONS SPEC-01

MidWestTech | Bobcat S175 Skid Steer Loader Service Manual | Publication 6986567_7_09

Order the manual at mid-west-tech.com >

HYDRAULIC/HYDROSTATIC SCHEMATIC
WITH SJC AND HIGH FLOW OPTION
S175 (S/N A3L511001 - A3L519999)

(PRINTED FEBRUARY 2007)
V-1068legend

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. RELIEF VALVE - 3300 PSI (228 bar)
51. DUMP VALVE - (ON/OFF)
52. CHECK VALVE
53. AUXILIARY HYDRAULIC PUMP -
    9.5 GPM (36 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. CHARGE PUMP -
    12.8 GPM (48,5 L/min) at High Engine Idle
60. FIXED CAPACITY DISPLACEMENT HYDRAULIC MOTOR
61. ANTICAVITATION VALVE
62. PROPORTIONAL RELIEF VALVE –
    (Fan Speed Regulator):
    1566 - 1784 PSI (108 - 123 bar)
63. SENSOR – CHARGE PRESSURE – Fan Filter
64. SENSOR – HYD. TEMP. – Hyd. Filter

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

Printed in U.S.A.

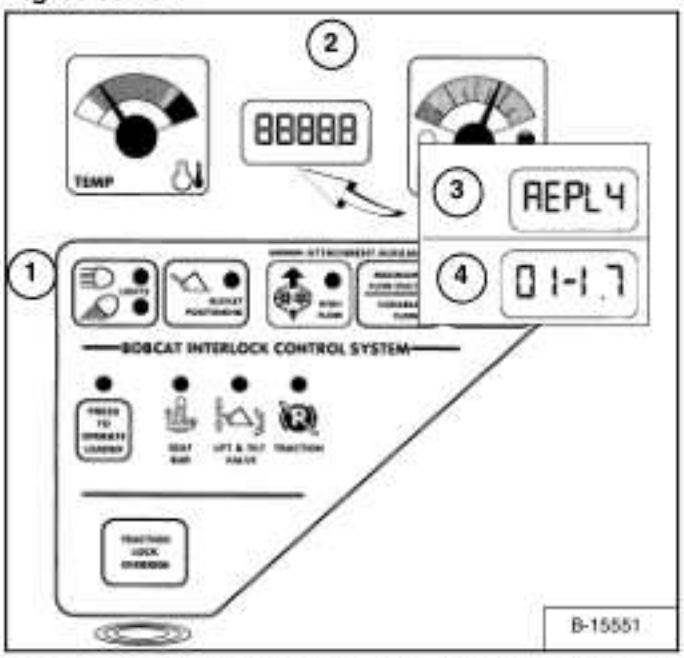
V-1068legend (2-7-08)

Order the manual at mid-west-tech.com >

DIAGNOSTIC SERVICE CODES

Viewing Service Codes (Key Switch)

Figure 60-90-1



Press and hold LIGHTS Button (Item 1) **[Figure 60-90-1]** for two seconds to view SERVICE CODES in the HOURMETER/CODE DISPLAY (Item 2) **[Figure 60-90-1]**. If more than one SERVICE CODE is present, the codes will scroll on the HOURMETER/CODE DISPLAY.

NOTE: Corroded or loose grounds can cause multiple service codes and/or abnormal symptoms. All dash lights flashing, buzzer going off, headlights and taillights flashing, could indicate a bad ground. The same symptoms could apply if the voltage is low, such as loose or corroded battery cables. If you observe these symptoms, check grounds and positive leads first.

Service Codes may be either a word (Item 3) or a number (Item 4) **[Figure 60-90-1]**. (See following pages for service codes.)

The following word errors may be displayed.

REPLY One or both instrument panel(s) not communicating with the controller.

INPUT The controller not communicating with the left instrument panel.

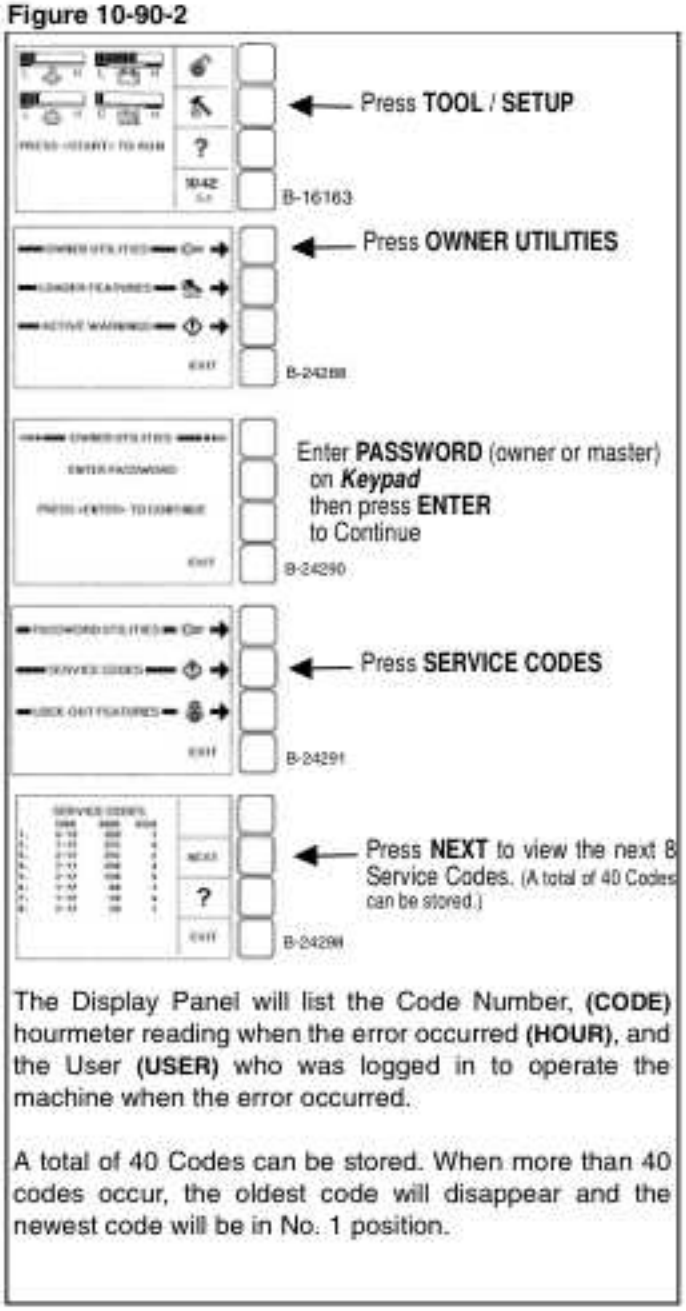
CODE The controller is asking for a password. (Keyless instrument panel only.)

ERROR The wrong password was entered. (Keyless instrument panel only.)

Viewing Service Codes (Keyless)

The Service Codes will aid your dealer in diagnosing conditions which can damage your machine.

Figure 10-90-2



The Display Panel will list the Code Number, **(CODE)** hourmeter reading when the error occurred **(HOUR)**, and the User **(USER)** who was logged in to operate the machine when the error occurred.

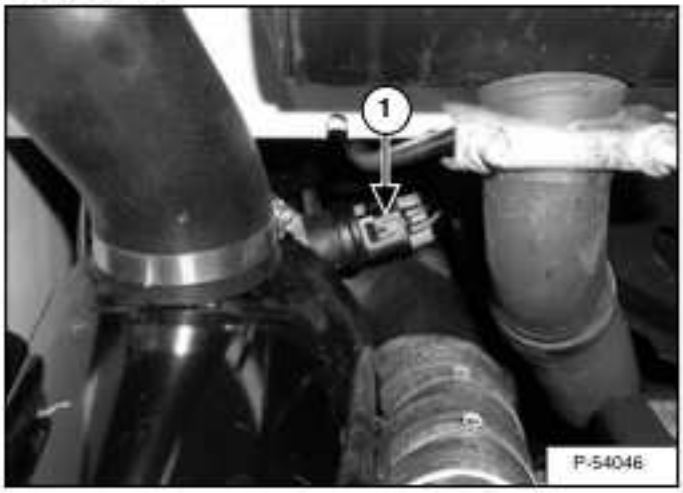
A total of 40 Codes can be stored. When more than 40 codes occur, the oldest code will disappear and the newest code will be in No. 1 position.

MidWestTech | Bobcat S175 Skid Steer Loader Service Manual | Publication 6986567_7_09 Order the manual at mid-west-tech.com >

AIR CLEANER

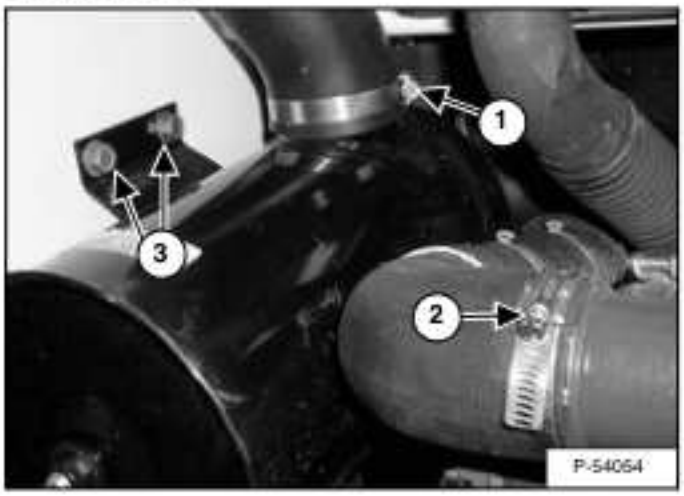
Housing Removal And Installation

Figure 70-40-1



Disconnect the wire harness connector (Item 1) **[Figure 70-40-1]** from the air cleaner sensor on the air cleaner.

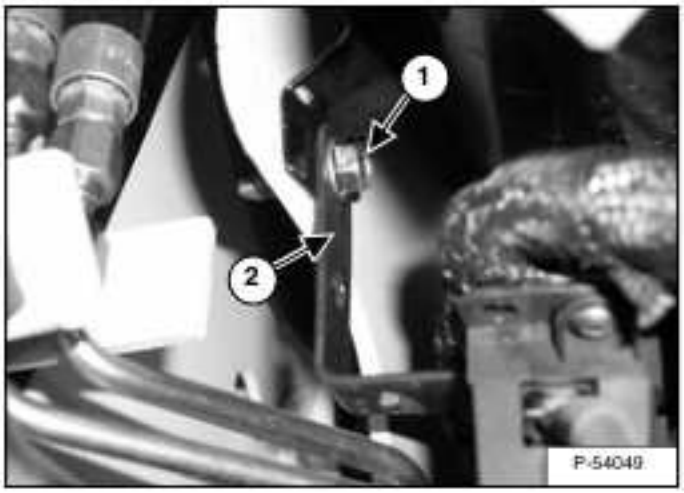
Figure 70-40-2



Loosen the hose clamp (Item 1) **[Figure 70-40-2]** on the air cleaner hose.

Loosen the clamp (Item 2) **[Figure 70-40-2]** from the hose on the engine manifold.

Figure 70-40-3



Remove the lower mounting bolt (Item 1) and engine harness mounting bracket (Item 2) **[Figure 70-40-3]** from the air cleaner.

Remove the two upper mounting bolts (Item 3) **[Figure 70-40-2]** from the top mount of the air cleaner.

Installation: Tighten the three mounting bolts to 15 - 20 ft.-lb. (20 - 27 N•m) torque.

Remove the air cleaner from the engine compartment.

Reverse the removal procedure to install the air cleaner.

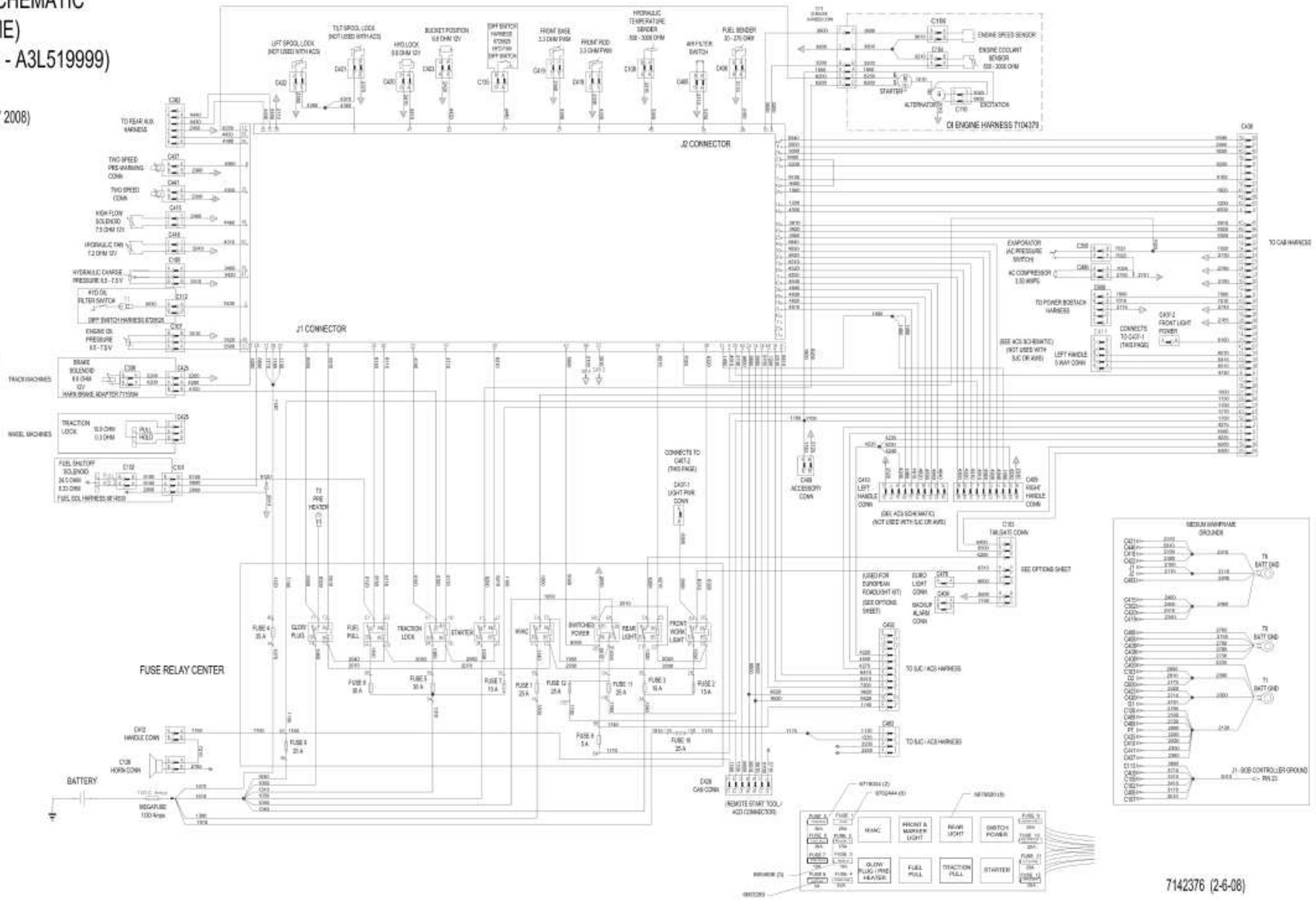
MidWestTech | Bobcat S175 Skid Steer Loader Service Manual | Publication 6986567_7_09 Order the manual at mid-west-tech.com >

ELECTRICAL SCHEMATIC
(MAINFRAME)
S175 (S/N A3L511001 - A3L519999)

(PRINTED FEBRUARY 2008)

7142376

MEDIUM MAINFRAME
HARNESS 7142376



PRINTED IN U.S.A.

7142376 (2-6-08)

Order the manual at mid-west-tech.com >