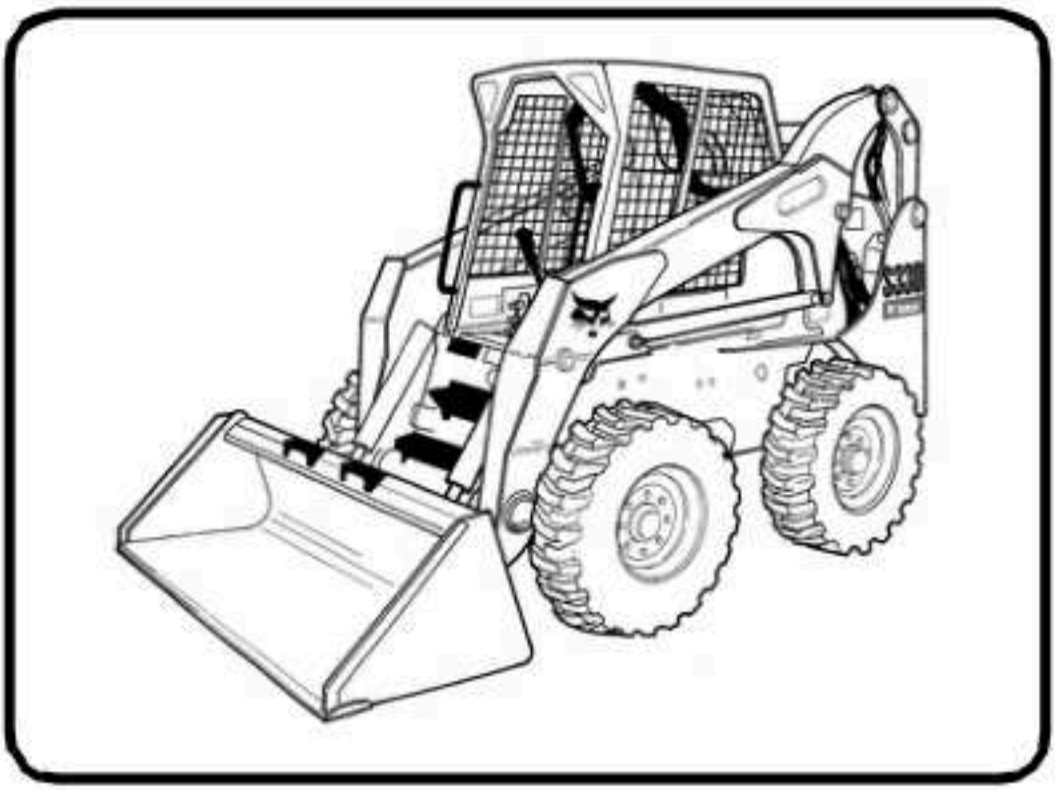
Bobcat®

Service Manual
S330 Skid-Steer Loader

S/N A02011001 - A02059999
S/N A02111001 - A02159999



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS)

6904887 (3-08)

Printed in U.S.A.

© Bobcat Company 2008

MidWestTech | Bobcat S330 Skid Steer Loader Service Manual | Publication 6904887_3_08 Order the manual at mid-west-tech.com >

ALPHABETICAL INDEX

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

BAC-UP ALARM SYSTEM 60-01
BATTERY 60-01
BLOWER FAN 80-01
BOBCAT CONTROLLER (ACS) 60-01
BOBCAT CONTROLLER (MAIN) 60-01
BOBCAT CONTROLLER (SJC) (DRIVE) 60-01
BOBCAT INTERLOCK CONTROL SYSTEM (BICS) 60-01
BOB-TACH (HAND LEVER) 10-01, 50-01
BOB-TACH (POWER) BLOCK 20-01
BOB-TACH (POWER - OPTION) 10-01, 50-01
BRAKE 40-01
BRAKE (TWO-SPEED) 40-01
BUCKET POSITION VALVE 20-01

CAB DOOR 50-01
CALIBRATION 60-01
CAMSHAFT AND TIMING GEARS 70-01
CASE DRAIN FILTER 30-01
CHAINCASE 40-01
CHARGE PRESSURE 30-01
COMPRESSOR 80-01
CONDENSER 80-01
CONTROL HANDLE / LEVER 50-01
CONTROL HANDLE (ACS) 50-01
CONTROL HANDLE (SJC) 50-01
CONTROL PANEL 50-01
CONTROL PANEL (SJC) 50-01
CONTROL PANEL SETUP 60-01
CONTROL PEDALS (ACS) 50-01
CONTROL PEDALSAND LINKAGES 50-01
CONTROL SYSTEM (ACS) 60-01
CONVERSIONS SPEC-01
CRANKSHAFT AND PISTONS 70-01
CYLINDER HEAD 70-01
CYLINDER (LIFT) 20-01
CYLINDER (BOB-TACH) 20-01
CYLINDER (TILT) 20-01

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

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

EVAPORATOR 80-01
EVAPORATOR / HEATER UNIT 80-01
EXPANSION VALVE 80-01

FAN GEARBOX 10-01
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 VALVE 80-01
HYDRAULIC CONNECTION SPECS SPEC-01
HYDRAULIC CONTROL VALVE (ACS) OR (SJC) 20-01
HYDRAULIC CONTROL VALVE (STANDARD) 20-01
HYDRAULIC FLUID RESERVOIR 20-01
HYDRAULIC / HYDROSTATIC FLUID SPECIFICATIONS SPEC-01
HYDRAULIC / HYDROSTATIC FILTERS 20-01
HYDRAULIC / HYDROSTATIC SYSTEM 10-01
HYDRAULIC PUMP (STANDARD) (HIGH FLOW) 20-01
HYDRAULIC PUMP (STANDARD) 20-01
HYDRAULIC PUMP (SJC) (HIGH FLOW) 20-01
HYDRAULIC PUMP (SJC) 20-01
HYDRAULIC SYSTEM INFORMATION 20-01
HYDROSTATIC MOTOR 30-01
HYDROSTATIC MOTOR (TWO SPEED) 30-01
HYDROSTATIC MOTOR CARRIER 30-01
HYDROSTATIC MOTOR CARRIER (SJC) 30-01
HYDROSTATIC PUMP 30-01
HYDROSTATIC PUMP (SJC) 30-01
HYDROSTATIC SYSTEM INFORMATION 30-01

INSIDE ACCESS PANEL 50-01
INSIDE ACCESS PANEL (SELECTABLE JOYSTICK CONTROL) (SJC) 50-01
INSTRUMENT PANEL 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
S250 LOADER SPECIFICATIONS SPEC-01
S300 LOADER SPECIFICATIONS SPEC-01
LOADER STORAGE AND RETURN TO SERVICE 10-01
LUBRICATION SYSTEM 10-01
LUBRICATING THE LOADER 10-01

MAINTENANCE CLOCK 60-01
MAIN RELIEF VALVE 20-01
MAIN RELIEF VALVE (FOOT CONTROL) 20-01
MAIN RELIEF VALVE (SELECTABLE JOYSTICK CONTROL) (SJC) 20-01
MUFFLER 70-01

MidWestTech | Bobcat S330 Skid Steer Loader Service Manual | Publication 6904887_3_08 Order the manual at mid-west-tech.com >

OIL COOLER 30-01
OPERATOR CAB 10-01, 50-01
OPERATOR SEAT 50-01
OPERATOR SEAT - SUSPENSION 50-01

PASSWORD SETUP (IF EQUIPPED WITH KEYLESS START) 60-01
PIVOT PINS 10-01

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

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

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

WHEEL SPEED SENSOR (SJC) 60-01
WINDOW (REAR) 50-01
WINDOW (SIDE) 50-01
WINDOW (TOP) 50-01

MidWestTech | Bobcat S330 Skid Steer Loader Service Manual | Publication 6904887_3_08 Order the manual at mid-west-tech.com >

CONTENTS

DELIVERY REPORT IX

FOREWORD III

FIRE PREVENTION VII

SAFETY INSTRUCTIONS V

SERIAL NUMBER LOCATION IX

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

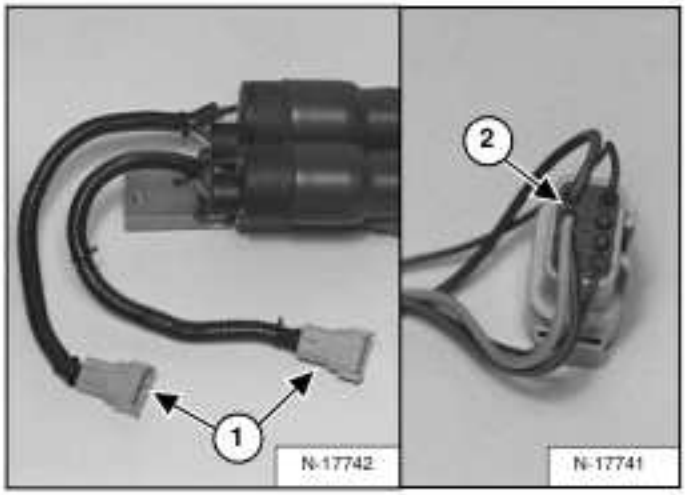
HEATING, VENTILATION, AIR CONDITIONING 80-01

SPECIFICATIONS SPEC-01

MidWestTech | Bobcat S330 Skid Steer Loader Service Manual | Publication 6904887_3_08 Order the manual at mid-west-tech.com >

Actuator Connector Disassembly And Assembly (Cont'd)

Figure 60-130-24



Check the actuator wiring harness connector (Item 1) **[Figure 60-130-24]** and replace if broken.

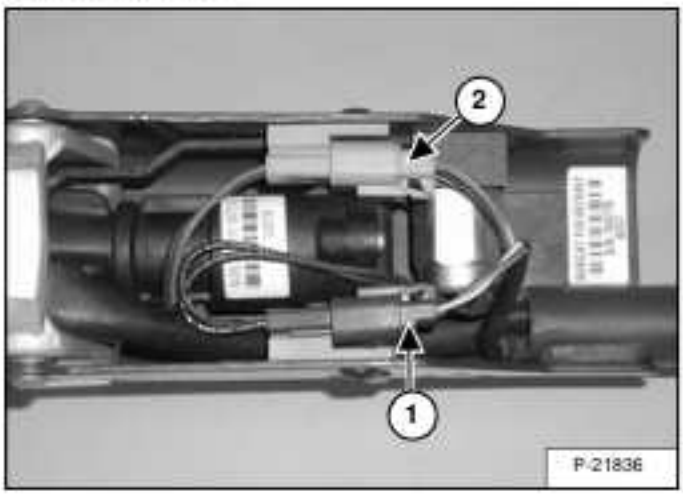
Installation: Install the wires into the connector as listed below. The terminal numbers are written on the back of the connector (Item 2) **[Figure 60-130-24]**.

Lift and Tilt Actuator
1 - Terminal-Black/Green-Larger dia. wire (16 gauge)
2 - Terminal-Green-Larger diameter wire (16 gauge)
3 - Terminal-Red/Green-Larger diameter wire (16 gauge)
4 - Terminal-Open
5 - Terminal-Red-Smaller diameter wire (18 gauge)
6 - Terminal-Open
7 - Terminal-Open
8 - Terminal-Black-Smaller diameter wire (18 gauge)

NOTE: The calibration procedure must be followed when replacing a handle sensor, foot pedal sensor, actuator or ACS Controller. (See Lift And Tilt Calibration (ACS) on Page 60-160-3.)

Handle Lock Solenoid Removal And Installation

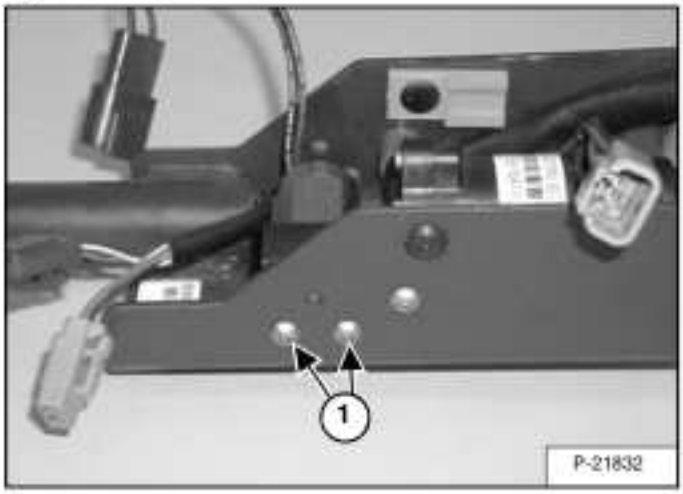
Figure 60-130-25



Disconnect the harness connector (Item 1) **[Figure 60-130-25]** from the handle sensor connector.

Disconnect the harness connector (Item 2) **[Figure 60-130-25]** from the handle lock solenoid connector.

Figure 60-130-26



Remove the two screws (Item 1) **[Figure 60-130-26]** holding the handle lock solenoid to the handle.

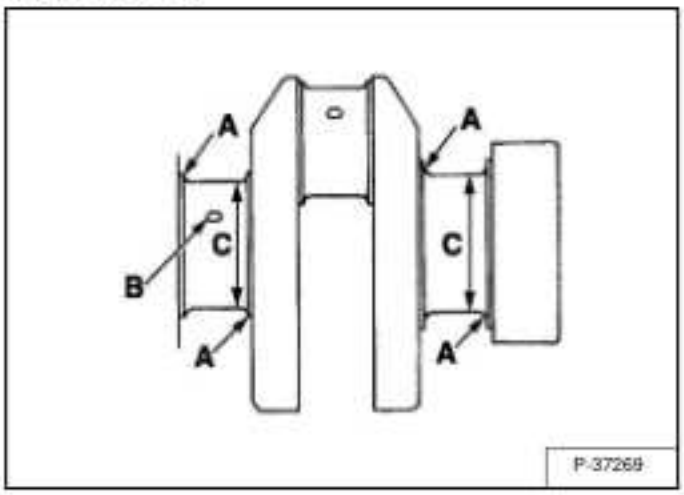
Installation: Tighten the screws to 32-38 in.-lb. (3,6-4,3 N•m) torque.

Remove handle lock solenoid assembly from handle.

MidWestTech | Bobcat S330 Skid Steer Loader Service Manual | Publication 6904887_3_08 Order the manual at mid-west-tech.com >

Crankshaft And Bearings - Servicing (Cont'd)

Figure 70-90-44



Undersize dimensions of crank pin **[Figure 70-90-44]**.

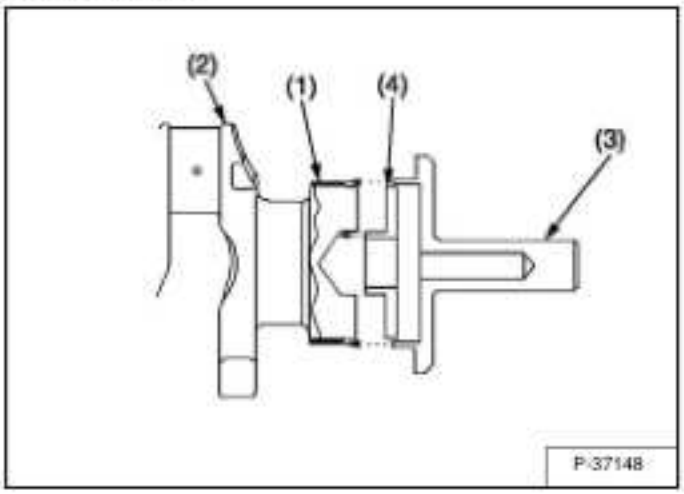
Undersize	0.008 in. (0,2 mm)	0.016 in. (0,4 mm)
Dimension A	0.1102 - 0.1260 in. radius (2,8 - 3,2 mm radius)	0.1102 - 0.1260 in. radius (2,8 - 3,2 mm radius)
Dimension B	0.0394 - 0.0591 in. radius (1,0 - 1,5 mm radius)	0.0394 - 0.0591 in. radius (1,0 - 1,5 mm radius)
Dimension C	2.9440 - 2.9445 in. (74,777 - 74,790 mm)	2.9361 - 2.9366 in. (74,577 - 74,590 mm)
The crank pin must be fine-finished to higher than (0.8-S)		

Undersize crank pin bearing.

Undersize	Bearing	Code Number	Marking
0.008 in. (0,2 mm)	Crankshaft bearing 02	1C020-23910	020 US
0.016 in. (0,4 mm)	Crankshaft bearing 04	1C020-22920	040 US

Crankshaft Sleeve

Figure 70-90-45



Remove the used crankshaft sleeve (Item 1) **[Figure 70-90-45]** using a special-use puller set (Code No.: 07916-09032).

Set the sleeve guide (Item 4) to the crankshaft (Item 2) **[Figure 70-90-45]**.

Heat a new sleeve to a temperature between 150 and 200°C (302 and 392°F), and fix the sleeve to the crankshaft.

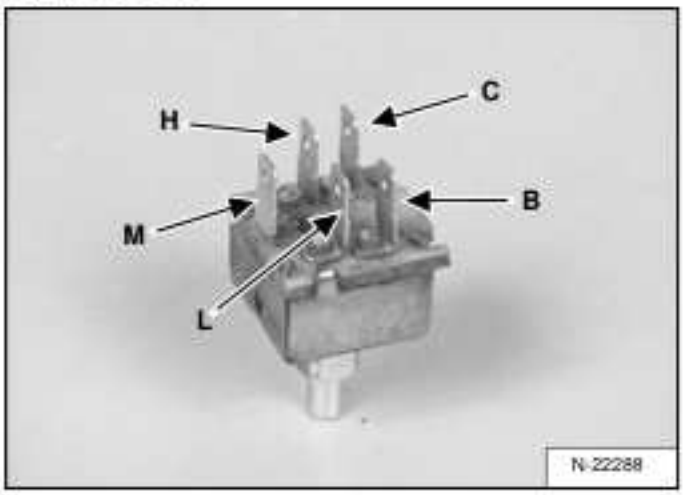
Press fit the sleeve using the auxiliary socket for pushing (Item 3) **[Figure 70-90-45]**.

NOTE: Mount the sleeve with its largely chamfered surface facing outward.

MidWestTech | Bobcat S330 Skid Steer Loader Service Manual | Publication 6904887_3_08 Order the manual at mid-west-tech.com >

Electrical System (Cont'd)

Figure 80-30-20



If there is voltage at the wiring harness, check the blower switch **[Figure 80-30-20]** for resistance.

With the switch in the **OFF** position, there should be zero resistance between all terminals.

With the switch in the **1** position, there should be resistance between **C** terminal and the **B** terminal. And also between the **C** terminal and the **L** terminal frame **[Figure 80-30-20]**.

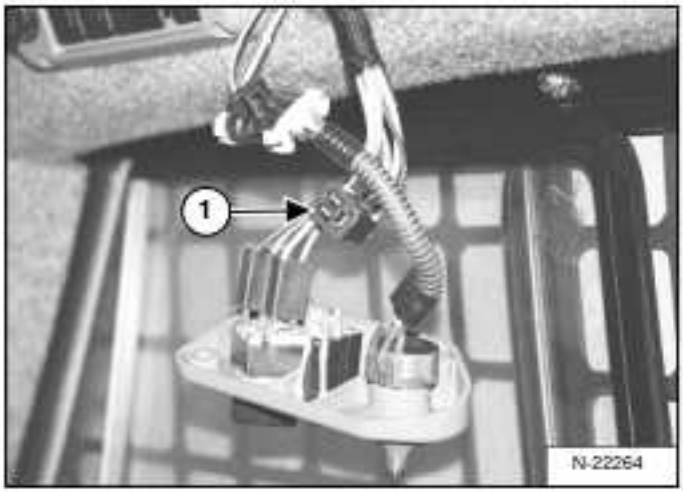
With the switch in the **2** position, there should be resistance between **C** terminal and the **B** terminal. And also between the **C** terminal and the M terminal frame **[Figure 80-30-20]**.

With the switch in the **3** position, there should be resistance between **C** terminal and the **B** terminal. And also between the **C** terminal and the **H** terminal frame **[Figure 80-30-20]**.

If any of the above resistance tests fail, replace the blower switch.

If the above resistance tests are good, check the A/C switch.

Figure 80-30-21



At the loader cab, disconnect the loader harness (Item 1) **[Figure 80-30-21]** from the A/C switch.

Check the harness for voltage. The voltage should be 12 volts.

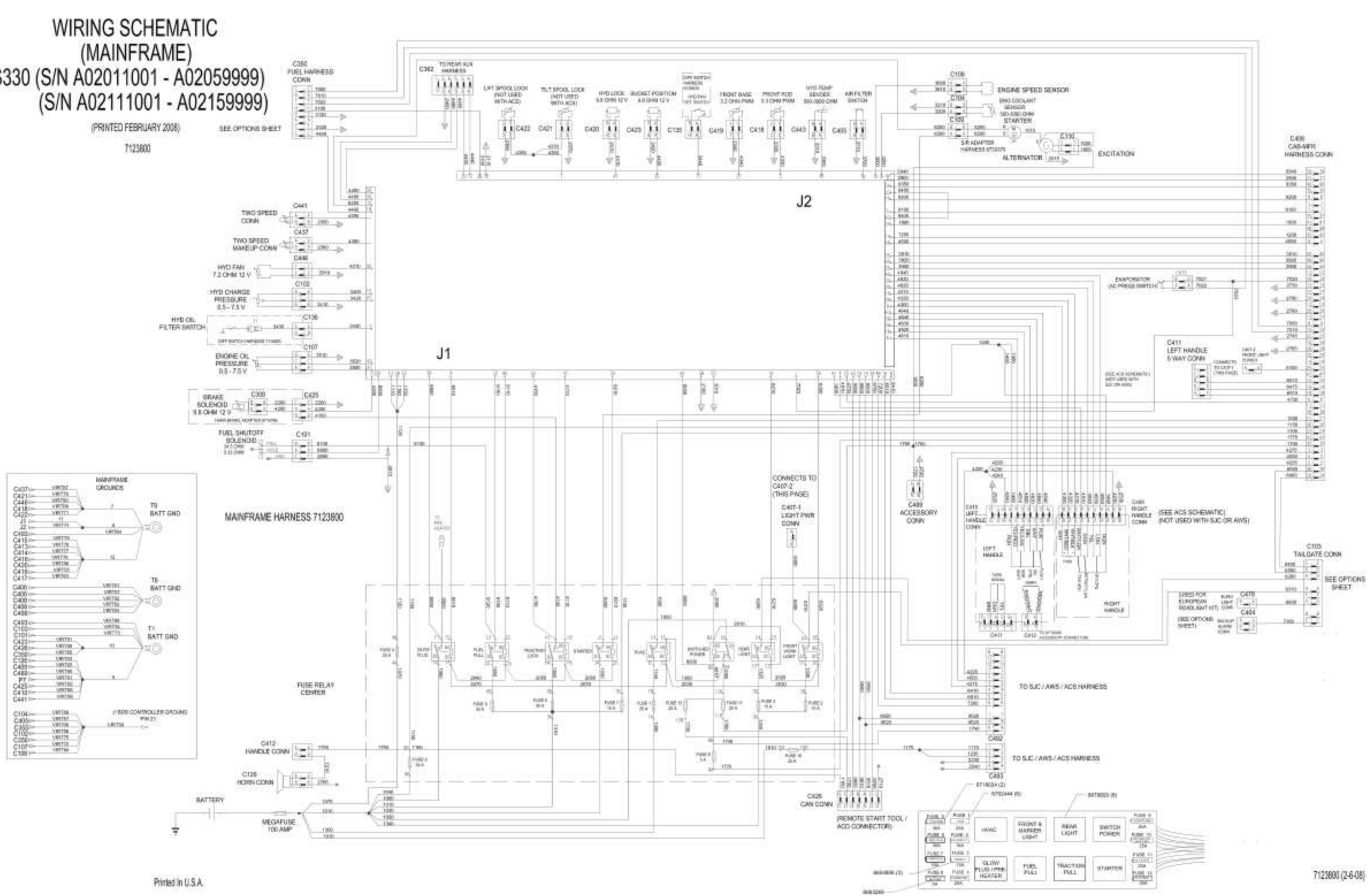
If there is no voltage at the wiring harness, check the harness for broken wires.

MidWestTech | Bobcat S330 Skid Steer Loader Service Manual | Publication 6904887_3_08 Order the manual at mid-west-tech.com >

WIRING SCHEMATIC
(MAINFRAME)
S330 (S/N A02011001 - A02059999)
(S/N A02111001 - A02159999)

(PRINTED FEBRUARY 2008)

7123800



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