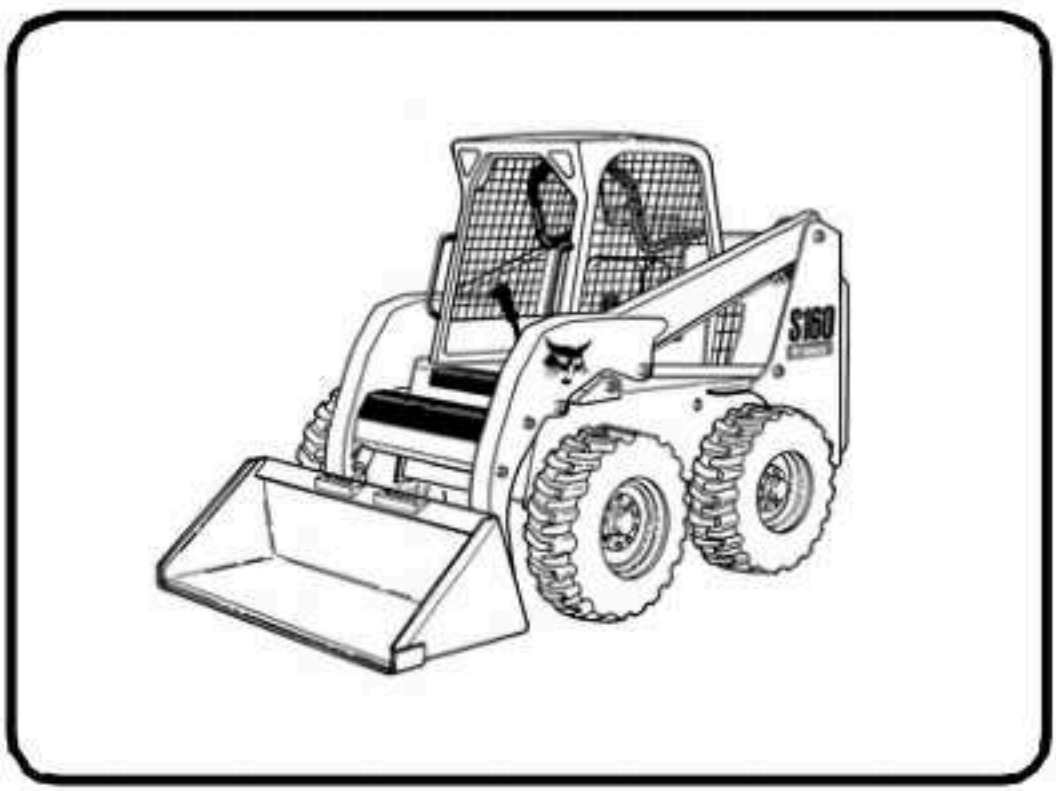
Bobcat

Service Manual

S160 Skid-Steer Loader

S/N 529960001 & Above
S/N 530060001 & Above
S/N AC3260001 & Above
S/N AHWA11001 & Above



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)

6987034 (9-09)

Printed in U.S.A.

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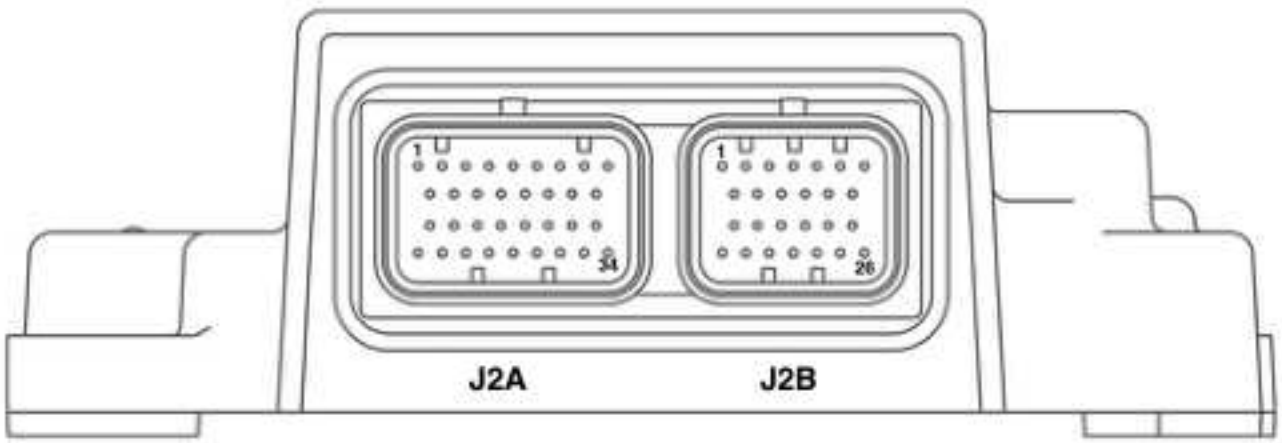
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Connector Identification (Cont'd)

Auxiliary Controller



Harness Connector View



J2A

Harness Connector View



J2B

P-76647
P-76646
P-76645

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Specifications (Cont'd)

All dimensions are given in inches. Respective metric dimensions are given in millimeters enclosed by parentheses.

Cylinder Liner

Cylinder Bore I.D.	3.2677 - 3.2686 (83,0 - 83,022)
Allowable Limit	+0.0059 (+0,15)
Oversized Cylinder Liner (Bore) I.D.	3.2776 - 3.2784 (83,25 - 83,27)
Allowable Limit	+0.0059 (+0,15)

Piston Rings

Ring Gap (Top Ring)	0.0079 - 0.0138 (0,2 - 0,35)
Allowable Limit	0.0492 (1,25)
Ring Gap (2nd Ring)	0.0157 - 0.0217 (0,4 - 0,55)
Allowable Limit	0.0492 (1,25)
Ring Gap (Oil Ring)	0.0098 - 0.0177 (0,25 - 0,45)
Allowable Limit	0.0492 (1,25)
Side Clearance of Ring Groove:	
Second Ring	0.0037 - 0.0050 (0,093 - 0,128)
Allowable Limit	0.20 (0,0079)
Oil Ring	0.0008 - 0.0021 (0,02 - 0,060)
Allowable Limit	0.0059 (0,15)

Pistons

Piston Pin Bore	0.9843 - 0.9848 (25,0 - 25,013)
Allowable Limit	0.9862 (25,05)

Connecting Rod

Piston Pin O.D.	0.9843 - 0.9847 (25,002 - 25,011)
Small End Bushing I.D.	0.9852 - 0.9858 (25,025 - 25,04)
Clearance Between Piston Pin & Small End Bushing	0.0006 - 0.0015 (0,014 - 0,038)
Allowable Limit	0.0059 (0,15)
Connecting Rod Alignment Allowable Limit	0.002 (0,05)

Oil Pump

Oil Pressure Rated RPM	43 - 64 PSI (294 - 441 bar)
Allowable Limit	36 PSI (245 bar)
Idle Speed Allowable Limit	7 PSI (49 bar)
Clearance Between Inner Rotor & Outer Rotor	0.0012 - 0.0055 (0,03 - 0,14)
Clearance Between Outer Rotor & Pump Body	0.0043 - 0.0075 (0,11 - 0,19)
End Clearance Between Inner Rotor & Cover	0.0041 - 0.0059 (0,105 - 0,15)

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TROUBLESHOOTING

Blower Motor Does Not Operate

Possible Cause	Inspection	Solution
1. Blown fuse.	Inspect the fuse/wiring.	Replace fuse/repair wiring.
2. Broken wiring or bad connection.	Check the fan motor ground and connectors.	Repair the wiring or connector.
3. Fan motor malfunction.	Check the lead wires form the motor with a circuit tester.	Replace Motor.
4. Resistor malfunction.	Check resistor using a circuit tester.	Replace Resistor.
5. Fan motor switch malfunction.	Check power into and out of the fan switch.	Replace Fan Switch.

Blower Motor Operates Normally, But Air Flow Is Insufficient

Possible Cause	Inspection	Solution
1. Evaporator inlet obstruction.	Check evaporator for plugging.	Remove obstruction and clean evaporator fins with air or water.
2. Air leak.	Check to make sure air hoses are properly hooked to Louvers, and air ducts.	Repair of adjust.
3. Defective thermo. switch (frozen evaporator).	Check thermostat using a circuit tester.	Replace thermostat.
4. Plugged cab filters	Check cab filter condition.	Clean or replace filters.

Insufficient Cooling Although Air Flow And Compressor Operation Are Normal

Possible Cause	Inspection	Solution
1. System low on refrigerant.	The high side pressure will be low and bubbles may be present in sight glass on receive drier.	Repair any leaks and recharge the refrigerant to the correct level.
2. Excessive refrigerant.	The high pressure side pressure will be high.	Use refrigerant recovery equipment to capture excess refrigerant. Charge to the correct refrigerant level.

The Compressor Does Not Operate At All, Or Operates Improperly

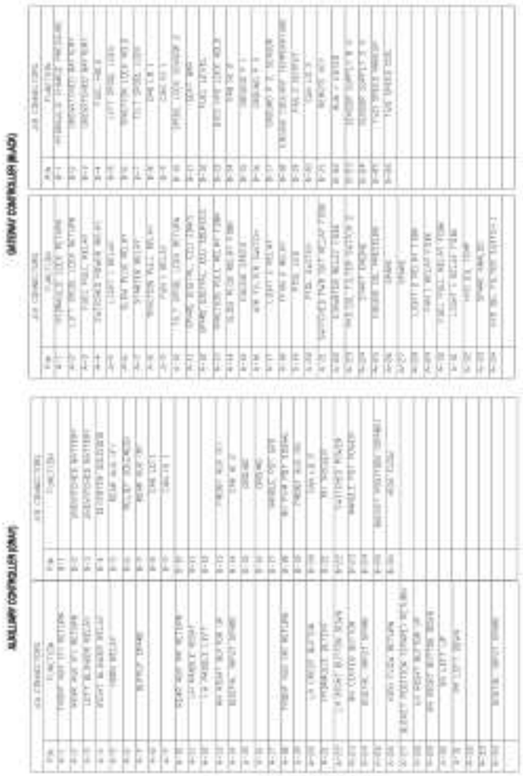
Possible Cause	Inspection	Solution
1. Loose drive belt.	The belt is vibrating or oscillating.	Adjust tension.
2. Internal compressor malfunction.	The compressor is locked up and the belt slips.	Replace compressor.
	Magnetic clutch related	
3. Low battery voltage.	Clutch slips.	Recharge the battery.
4. Faulty coil.	Clutch slips.	Replace the magnetic clutch.
5. Oil on the clutch surface.	Clutch slips.	Replace or clean the clutch surface.
6. Open Coil.	Clutch does not engage and there is no reading when a circuit tester is connected between the coil and terminals.	Replace clutch.
7. Broken wiring or poor ground.	Clutch will not engage. Inspect the ground and connections.	Repair.
8. Wiring harness components.	Test the conductance of the pressure switch, thermostat, Relay, etc.	Check operation.

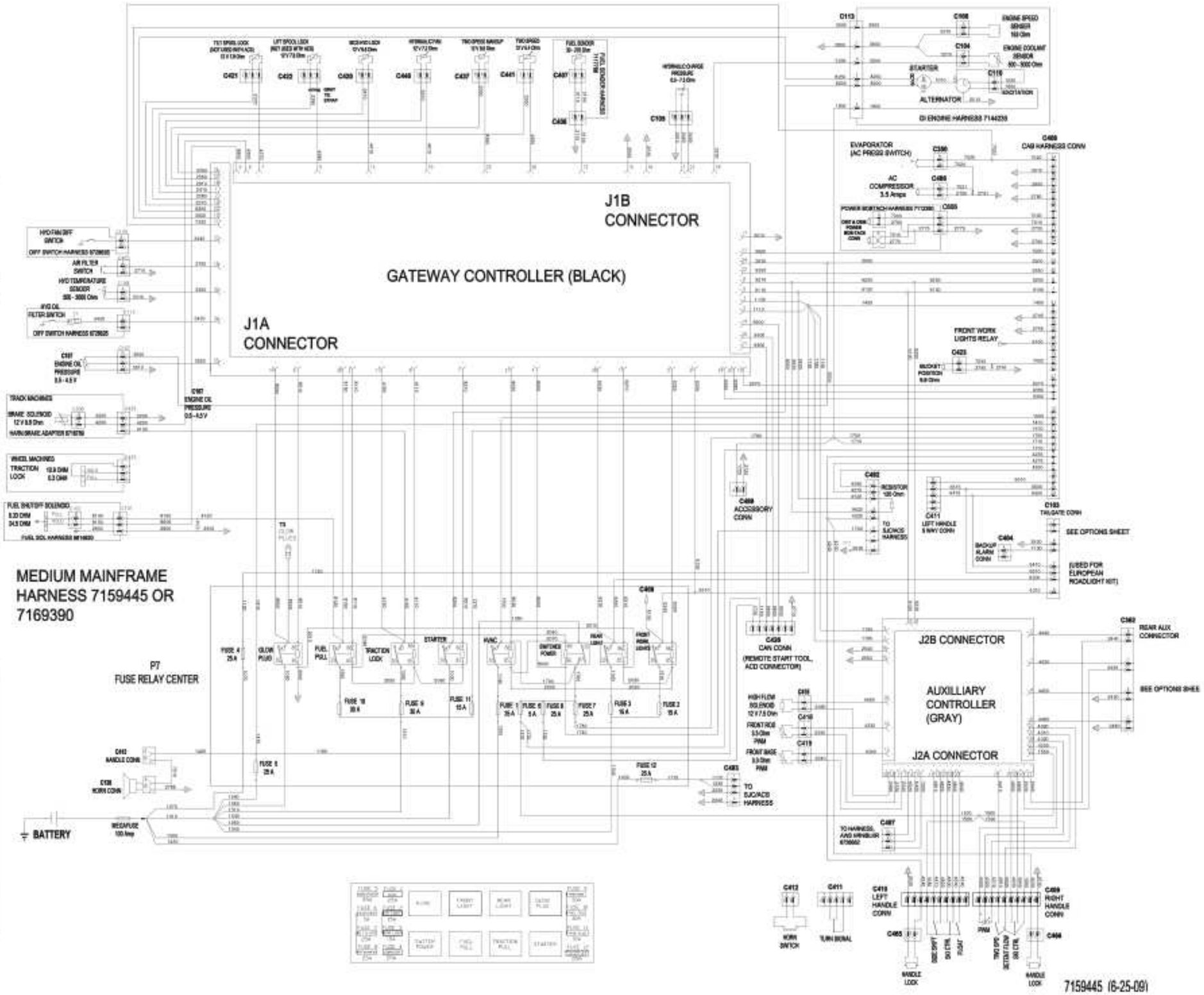
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WIRING SCHEMATIC
MAINFRAME
S160 (S/N 529960001 AND ABOVE)
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(S/N AC3260001 AND ABOVE)
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