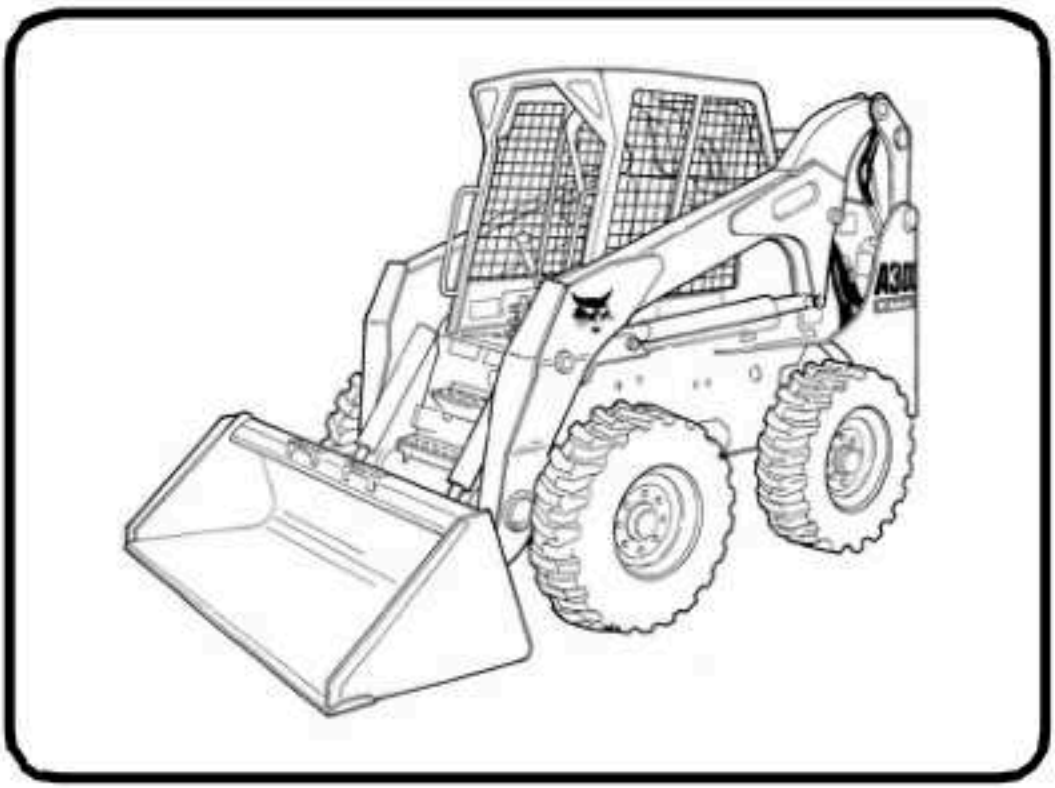
Bobcat

Service Manual
A300 All Wheel Steer

S/N A5GW11001 - A5GW19999
S/N A5GY11001 - A5GY19999



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS)

6986684 (5-08)

Printed in U.S.A.

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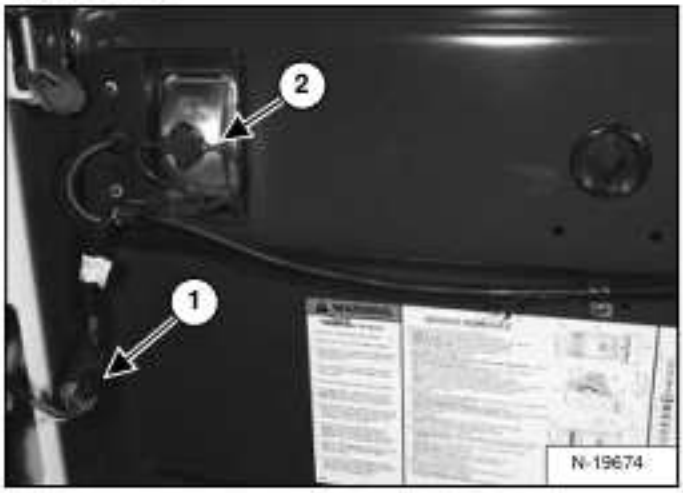
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REAR DOOR

Removal And Installation

Figure 50-70-1



Disconnect the light harness connector (Item 1) **[Figure 50-70-1]** from the engine harness.

Remove both rear lights (Item 2) **[Figure 50-70-1]** from the door. (See LIGHTS on Page 60-60-1.)

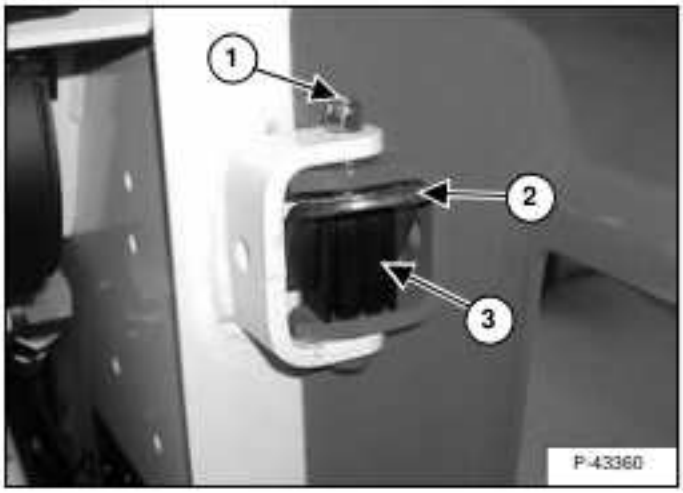
Figure 50-70-2



Secure the chain hooks (Item 1) **[Figure 50-70-2]** to the door as shown.

Connect a chain hoist (Item 2) **[Figure 50-70-2]** to the lifting chain.

Figure 50-70-3



Remove the top and bottom door hinge mounting bolts (Item 1) **[Figure 50-70-3]** and nuts.

NOTE: Install the door stop (Item 2) and the door stop retainer (Item 3) [Figure 50-70-3] in the top hinge as shown.

Installation: Tighten the mounting bolts and nuts to 25-28 ft.-lb. (34-38 N•m) torque.

Lift the door away from the loader frame and put the door flat on the floor.

Installation: Reverse the removal procedure to install the rear door.

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Specifications (Cont'd)

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

Timing Gear

Timing Gear Backlash	
Crank Gear - Idler Gear	0.00193 - 0.00759 in. (0,049 - 0,193 mm)
Allowable Limit	0.0087 in. (0,22 mm)
Idler Gear - Cam Gear	0.00193 - 0.00744 in. (0,049 - 0,189 mm)
Allowable Limit	0.0087 in. (0,22 mm)
Idle Gear - Injection Pump Gear	0.00119 - 0.00649 in. (0,0300 - 0,165 mm)
Allowable Limit	0.0087 in. (0,22 mm)
Clearance Between Idle Gear Shaft And Idle Gear Bushing	0.0020 - 0.0035 in. (0.050 - 0.091 mm)
Allowable Limit	0.0039 in. (0,10 mm)
Idle Gear Bushing I.D.	1.7727 - 1.7736 in. (45,025 - 45,050 mm)
Idle Gear Shaft O.D.	1.7701 - 1.7706 in. (44,959 - 44,975 mm)
Idle Gear Side Clearance	0.0059 - 0.011 in. (0,15 - 0,30 mm)
Allowable Limit	0.04 in. (0,9 mm)

Cylinder Head

Cylinder Head Surface Flatness - Allowable Limit	0.002 in. (0,05 mm)
Compression Pressure	504 PSI / 250 RPM (34,749 bar / 250 RPM)
Compression Pressure - Allowable Limit	371 PSI / 250 RPM (25,579 bar / 250 RPM)
Compression Ratio	19.0
Variance Among Cylinder - Allowable Limit	10% or less
Firing Order	1-3-4-2

Piston And Piston Ring

Piston Pin Bore I.D.	1.1811 - 1.1816 in. (30,000 - 30,013 mm)
Allowable Limit	1.183 in. (30,05 mm)
Clearance Between Compression Ring 1 and Ring Groove	0.002 - 0.003 in. (0,05 - 0,09 mm)
Allowable Limit	0.0059 in. (0,15 mm)
Clearance Between Compression Ring 2 and Ring Groove	0.00367 - 0.00472 in. (0,0930 - 0,120 mm)
Allowable Limit	0.0079 in. (0,20 mm)
Clearance Between Oil Ring And Ring Groove	0.0008 - 0.0023 in. (0.020 - 0,060 mm)
Allowable Limit	0.0059 in. (0,15 mm)
Ring Gap	
Compression Ring 1	0.012 - 0.017 in. (0,30 - 0,45 mm)
Allowable Limit	0.0492 in. (1,25 mm)
Compression Ring 2	0.012 - 0.017 in. (0,30 - 0,45 mm)
Allowable Limit	0.0492 in. (1,25 mm)
Oil Ring	0.0099 - 0.017 in. (0,25 - 0,45 mm)
Allowable Limit	0.0492 in. (1,25 mm)

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Gauge Pressure Related Troubleshooting

Normal compressor suction (low side) and discharge (high side) pressure at ambient temperatures of 86-96 degrees F (30-38 degrees C) and compressor speed of approximately 2000 RPM are:

High pressure side pressure: 210-265 PSI

Low pressure side pressure: 15-33 PSI

As a rule of thumb the high side pressure will be around eight times greater then the low side pressure.

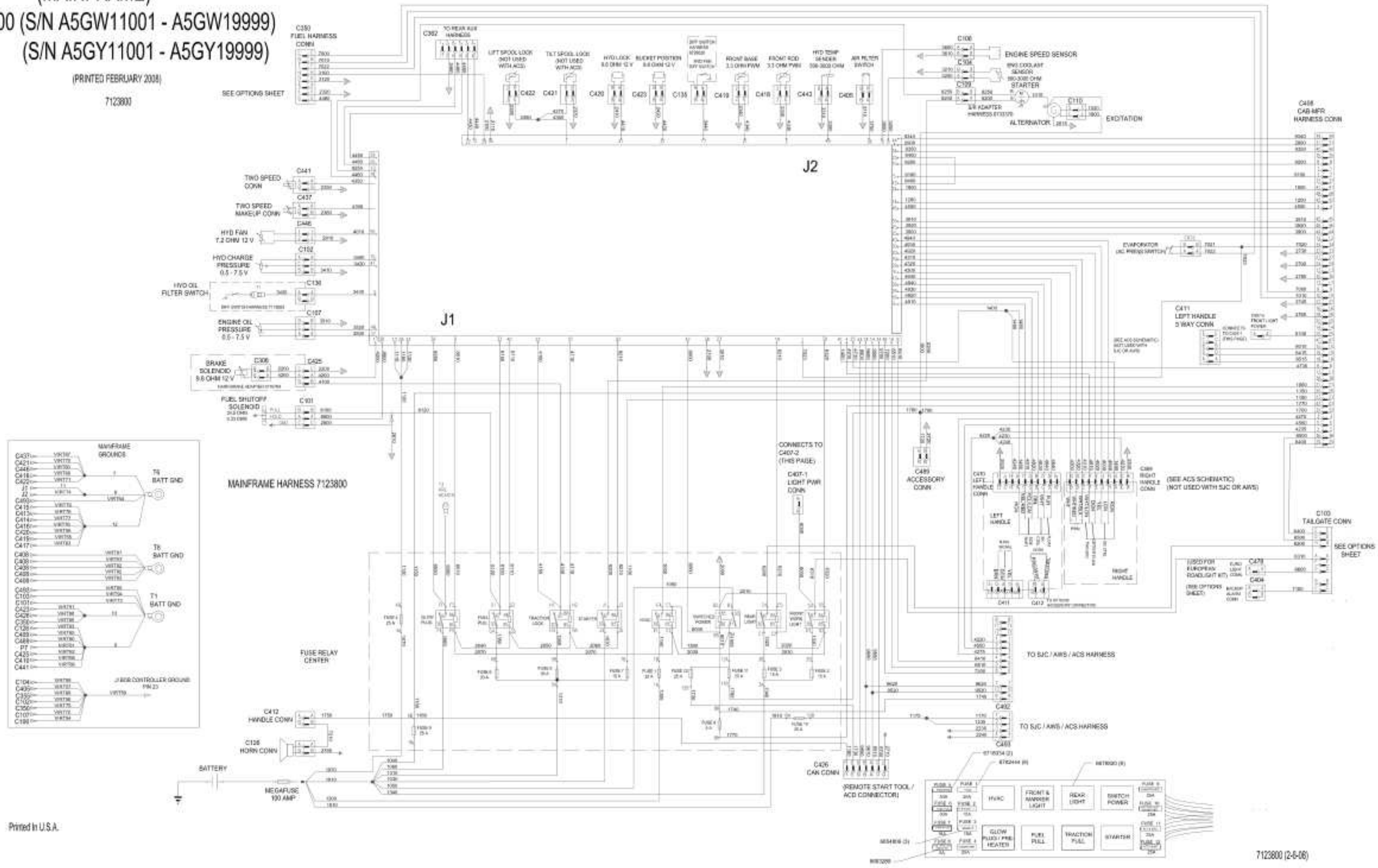
Possible Cause	Inspection	Solution
Low pressure side Too high.	The low pressure side pressure normally becomes too high when the high pressure side pressure is too high. As this is explained below, the following inspection is only used when the low pressure side is too high.	
1. Expansion valve opens too far.	Frost is present on the suction hose.	Replace expansion valve.
2. Defective compressor.	The high and low pressure side gauge pressures equalize when the magnetic clutch is engaged.	Replace compressor.
Low pressure side Too low.		
1. Low refrigerant charge.	The high side pressure will be low and bubbles may be present in sight glass on receiver drier.	Repair any leaks and recharge the refrigerant to the correct level.
2. Clogged or closed expansion valve.	The expansion valve's inlet side is frosted. Moisture or other Contaminants can be the cause.	Clean or replace the expansion Valve.
3. Restriction between drier and expansion valve.	Frost on the line between drier and expansion valve. A Negative low pressure reading may be shown.	Flush system or replace hose.
4. Thermostat malfunction.	The evaporator is frozen.	Adjust thermostat temperature setting or probe placement or replace thermostat.
5. Restriction in receiver drier.	Excessive frost on receiver drier.	Replace receiver drier.
High pressure side Too high.		
1. Poor condenser performance.	Dirty or clogged condenser fins. Condenser fans not Operating.	Clean fins, and/or repair the fan.
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.
3. Excessive oil charge.	The high pressure side will be high.	Evacuate system. Remove oil from condenser and compressor. Measure oil from compressor and add correct oil charge back into compressor. Flush system with nitrogen. Replace drier.
4. Air in system.	Pressure is high on both high and low sides.	Evacuate and recharge with Refrigerant.
5. Restriction in drier, condenser or high pressure line.	High pressure side will be high, and low pressure side will be low.	Evacuate and flush system replacing defective parts.

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WIRING SCHEMATIC
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A300 (S/N A5GW11001 - A5GW19999)
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(PRINTED FEBRUARY 2008)

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