325
328

Bobcat®

Service Manual

325 - S/N 234111001 & Above
328 - S/N 234211001 & Above
(G Series)



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Troubleshooting Chart

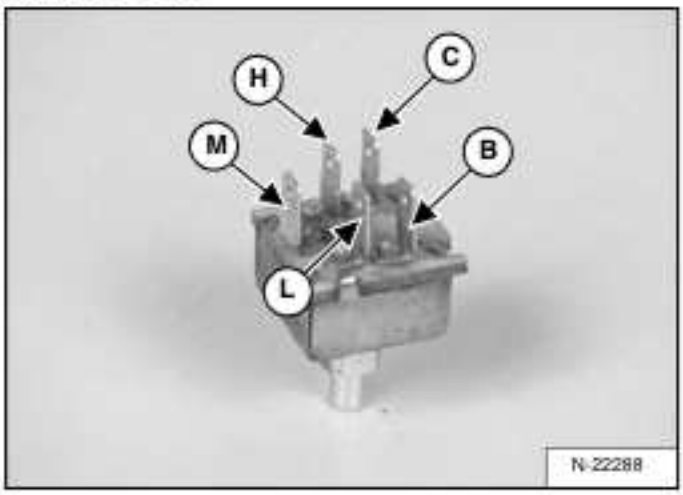
Troubleshooting The Hydraulic Circuit

TROUBLESHOOTING THE HYDRAULIC CIRCUIT		
PROBLEM	**CAUSE**	**CORRECTION**
No hydraulic operation at one or more circuits	Hydraulic oil level low.	Refill with correct oil.
	Hydraulic pump drive coupling damaged.	Replace
	Hydraulic pump defective.	Check, repair or replace.
	Main relief valve defective.	Readjust or replace.
Hydraulic power insufficient to one or more circuits.	Main relief valve pressure setting incorrect.	Readjust or replace.
Hydraulic speed too slow.	Hydraulic oil level or viscosity incorrect.	Refill or replace.
	Engine RPM reduced.	Readjust or replace.
	Control valve linkage defective.	Check, repair or replace
	Hydraulic pump volume low.	Check, repair or replace.
Oil temperature too high.	Oil cooler or radiator fins plugged.	Clean oil cooler external surface.
	Hydraulic oil level low.	Refill or replace
	Non recommended hydraulic oil	Replace
	Relief valve excessively activated.	Use proper operating procedures.
	One or more relief valves not set correctly.	Test, readjust or replace.
	Extreme operating conditions. High ambient temperature (IE: enclosed structure).	

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Electrical System (Cont'd)

Figure 70-30-15



If there is voltage at the wiring harness, check the blower switch **[Figure 70-30-15]** for resistance.

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

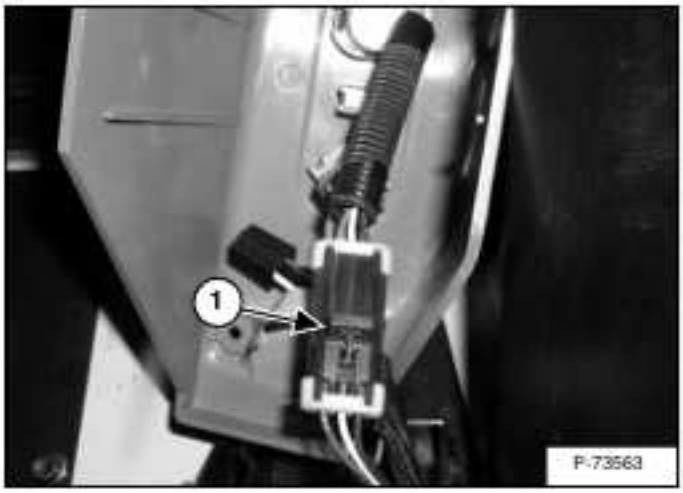
With the switch in the **1** position, there should be resistance between **C** terminal and the **B** terminal. And also between the **C** terminal and the **L** terminal frame **[Figure 70-30-15]**.

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 70-30-15]**.

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 70-30-15]**.

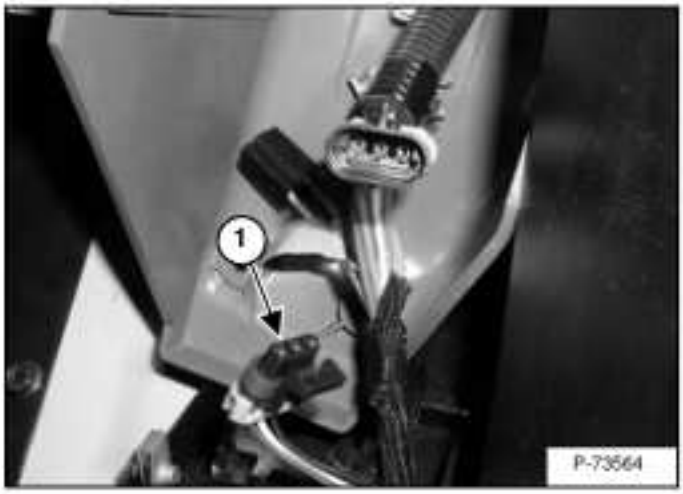
If any of the above resistance tests fail, replace the blower switch.

Figure 70-30-16



Disconnect the wire harness (Item 1) **[Figure 70-30-16]** from the potentiometer.

Figure 70-30-17



Check the wire harness (Item 1) **[Figure 70-30-17]** for voltage. Between pins **A** and **C** the voltage should be approximately 12 volts.

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

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

Valve Springs

Free Length	1.642 - 1.661 (41,7 - 42,2)
Allowable Limit	1.622 (41,2)
Fitted Length	1.378 (35,0)
Compress to Fitted Length	26.4 lb. (117,6 N)
Allowable Limit	22.5 lb. (100,0 N)
Inclination Allowable Limit	0.039 (1,0)

Valve Timing

Intake Valve (Open)	9 degrees B.T.D.C.
(Close)	45 degrees A.B.D.C.
Exhaust Valve (Open)	50 degrees B.B.D.C.
(Close)	12 degrees A.T.D.C.

Rocker Arms

O.D. of Rocker Arm Shaft	0.5501 - 0.5506 (13,97 - 13,98)
I.D. of Rocker Arm	0.5512 - 0.5520(14,0 - 14,02)
Clearance Between Rocker Arm & Shaft	0.0006 - 0.0018 (0,02 - 0,05)
Allowable Limit	0.004 (0,1)

Camshaft

Journal O.D.	1.572 - 1.573 (39,93 - 39,95)
Cylinder Block Bore I.D.	1.575 - 1.576 (40,0 - 40,025)
Oil Clearance	0.002 - 0.0036 (0,05 - 0,091)
Allowable Limit	0.006 (0,15)
Alignment Allowable Limit	0.0004 (0,01)
Cam Lobe Height	1.335 (33,9)
Allowable Limit	1.333 (33,85)
End Clearance	0.0028 - 0.0087 (0,07 - 0,22)
Allowable Limit	0.012 (0,3)

Tappet

Clearance Between Tappet & Guide	0.0008 - 0.0024 (0,02 - 0,062)
Allowable Limit	0.0028 (0,07)
Tappet O.D.	0.943 - 0.944 (23,96 - 23,98)
Tappet Guide I.D.	0.945 - 0.946 (24,0 - 24,021)

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SAFETY INSTRUCTIONS

Safety Alert Symbol

This symbol with a warning statement means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.

WARNING

Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, Operator's Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

W-2003-0903

IMPORTANT

This notice identifies procedures which must be followed to avoid damage to the machine.

I-2019-0284

DANGER

The signal word DANGER on the machine and in the manuals indicates a hazardous situation which, if not avoided, will result in death or serious injury.

D-1002-1107

WARNING

The signal word WARNING on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

W-2044-1107

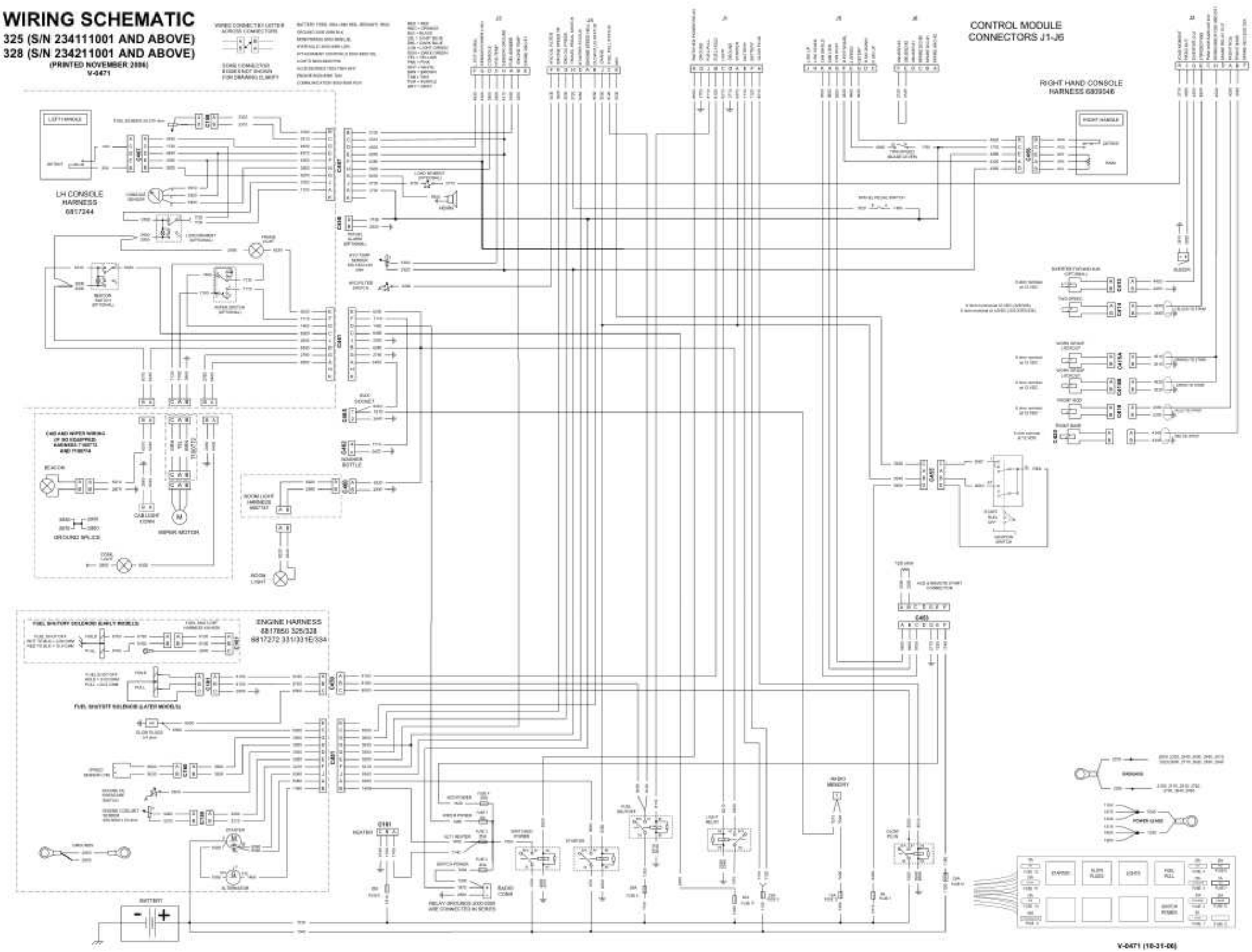
The following publications provide information on the safe use and maintenance of the Bobcat machine and attachments:

- The Delivery Report is used to assure that complete instructions have been given to the new owner and that the machine is in safe operating condition.
- The Operation & Maintenance Manual delivered with the machine or attachment contains operating information as well as routine maintenance and service procedures. It is a part of the machine and can be stored in a container provided on the machine. Replacement Operation & Maintenance Manuals can be ordered from your Bobcat dealer.
- Machine signs (decals) instruct on the safe operation and care of your Bobcat machine or attachment. The signs and their locations are shown in the Operation & Maintenance Manual. Replacement signs are available from your Bobcat dealer.
- An Operator's Handbook fastened to the operator cab. It's brief instructions are convenient to the operator. The handbook is available from your dealer in an English edition or one of many other languages. See your Bobcat dealer for more information on translated versions.
- The AEM Safety Manual delivered with the machine gives general safety information.
- The Service Manual and Parts Manual are available from your dealer for use by mechanics to do shop-type service and repair work.
- The Compact Excavator Operator Training Course is available through your local dealer or at **www.training.bobcat.com** or **www.bobcat.com**. This course is intended to provide rules and practices of correct operation of the Bobcat excavator. The course is available in English and Spanish versions.
- Service Safety Training Courses are available from your Bobcat dealer or at **www.training.bobcat.com** or **www.bobcat.com**. They provide information for safe and correct service procedures.
- The Bobcat compact excavator Safety Video is available from your Bobcat dealer or at **www.training.bobcat.com** or **www.bobcat.com**.

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WIRING SCHEMATIC

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