Utility Vehicle
2100
2100S

Bobcat®

Service Manual

S/N 522711001 & ABOVE
S/N 524411001 & ABOVE



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CONTENTS

SECTION 1 – SAFETY

General Warning 1-1

SECTION 2 – VEHICLE SPECIFICATIONS

SECTION 3 – GENERAL INFORMATION

General Information 3-1
Serial Number Identification 3-1
Storage 3-2
Preparing the Vehicle for Extended Storage 3-2
To Return Vehicle to Service 3-2

SECTION 4 – BODY AND TRIM

Cleaning the Vehicle 4-1
Front Body Repair 4-1
Abrasions and Haze 4-1
Light Scratches 4-2
Large Scratches and Abrasions 4-2
Front Body Components 4-2
Dashboard Removal 4-2
Dashboard Installation 4-2
Front Body Removal 4-3
Front Fender Removal 4-3
Front Fender Installation 4-4
Front Body Installation 4-4
Seat 4-4
Seat Adjustment 4-4
Front Seat Support 4-6
Front Seat Support Removal 4-6
Front Seat Support Installation 4-7
Rear Seat Support 4-7
Rear Seat Support Removal 4-7
Rear Seat Support Installation 4-7

MidWestTech | Bobcat 2100, 2100S Utility Vehicle Service Manual | Publication 6901987_5... Order the manual at mid-west-tech.com >

Cargo Bed 4-9
Cargo Bed Removal 4-9
Cargo Bed Installation 4-9
Bed Stop Bumper Adjustment 4-11
Rear Fender Removal 4-12
Rear Fender Installation 4-12
Tailskirt 4-12
Tailskirt Removal 4-12
Tailskirt Installation 4-12
Receiver Hitch 4-12
Receiver Hitch Removal 4-12
Receiver Hitch Installation 4-13
Floor Mat 4-14
Floor Mat Removal 4-14
Floor Mat Installation 4-14

SECTION 5 – ACCELERATOR AND BRAKE PEDAL ASSEMBLIES

Brake Pedal 5-1
Brake Pedal Removal 5-1
Brake Pedal Installation 5-1
Brake Pedal Adjustment 5-2
Accelerator Pedal 5-4
Accelerator Pedal Removal 5-4
Accelerator Pedal Installation 5-5
Accelerator Pedal Adjustment 5-5

SECTION 6 – MC012C-AS00 TRANSAXLE: HYDRAULIC AND PARK BRAKE SYSTEMS

Brake System Inspection 6-1
Brake System Troubleshooting 6-3
Brake Drum Removal 6-6
Front Wheel Brake Drum Removal 6-6
Rear Wheel Brake Drum Removal 6-8
Brake Shoe Removal 6-8
Front Brake Shoe Removal 6-8
Rear Brake Shoe Removal 6-9
Brake Cluster Inspection and Cleaning 6-10
Brake Shoe Installation 6-11
Front Brake Shoe Installation 6-12
Rear Brake Shoe Installation 6-12

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Brake Drum Installation 6-14
Front Wheel Brake Drum Installation 6-14
Rear Wheel Brake Drum Installation 6-16
Brake Cluster Assembly Replacement 6-17
Front Brake Cluster Assembly Removal 6-17
Front Brake Cluster Assembly Installation 6-17
Rear Brake Cluster Assembly Removal 6-18
Rear Brake Cluster Assembly Installation 6-19
Wheel Cylinder Replacement 6-19
Front Wheel Cylinder Removal 6-19
Front Wheel Cylinder Installation 6-20
Rear Wheel Cylinder Removal 6-20
Rear Wheel Cylinder Installation 6-20
Brake Shoe Adjuster Replacement 6-21
Front Brake Shoe Adjuster Removal 6-22
Front Brake Shoe Adjuster Installation 6-22
Rear Brake Shoe Adjuster Removal 6-22
Rear Brake Shoe Adjuster Installation 6-22
Hydraulic Line and Hose Replacement 6-23
Front Brake Line Removal 6-23
Front Brake Line Installation 6-23
Front Brake Hose Assembly Removal 6-24
Front Brake Hose Assembly Installation 6-24
Rear Brake Line Removal 6-24
Rear Brake Line Installation 6-26
Rear Brake Hose Removal 6-26
Rear Brake Hose Installation 6-27
Master Cylinder And Bell Crank Replacement 6-27
Bell Crank Removal 6-27
Bell Crank Installation 6-27
Master Cylinder Removal 6-29
Master Cylinder Installation 6-29
Bleeding the Hydraulic Brake System 6-31
Purging the Hydraulic System 6-32
Filling the Hydraulic System 6-32
Park Brake System 6-33
Park Brake Cable Removal 6-33
Park Brake Cable Installation 6-34
Park Brake Handle Removal 6-35
Park Brake Handle Installation 6-35
Park Brake Adjustment 6-35

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TROUBLESHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSES	REFER TO
Spark plug fouls repeatedly, continued.	Ignition coil failed	Section 11 – Troubleshooting and Electrical System: FE400 Engine Test Procedures 14, 15, and 16
	Rings are heavily worn, low cylinder pressure	Section 13 – FE400 Engine
Carburetor floods.	Inlet valve or seat is leaking, dirty, worn, or damaged	Section 14 – Fuel System
	Float is damaged and filled with gasoline	Section 14 – Fuel System
	Float needle valve not functioning properly	Section 14 – Fuel System
	Carburetor vent is clogged	Section 14 – Fuel System
Starter fails to operate.	Lockout cam is in the wrong position	Section 11 – Troubleshooting and Electrical System: FE400 Engine Lockout Cam Circuit on page 11-12
	Fuse is blown	Section 11 – Troubleshooting and Electrical System: FE400 Engine Test Procedure 2
	Battery is dead	Section 11 – Troubleshooting and Electrical System: FE400 Engine Test Procedure 1
	Starter control circuit is not operating	Section 11 – Troubleshooting and Electrical System: FE400 Engine Starter Circuit on page 11-15
	Starter/generator failed	Section 11 – Troubleshooting and Electrical System: FE400 Engine Test Procedure 8
	Starter solenoid failed	Section 11 – Troubleshooting and Electrical System: FE400 Engine Test Procedure 6
	Key switch failed	Section 11 – Troubleshooting and Electrical System: FE400 Engine Test Procedure 4
	Lockout limit switch failed	Section 11 – Troubleshooting and Electrical System: FE400 Engine Test Procedure 7
	Loose or broken wire in starter/generator circuit	**See Starter/Generator, Section 12, Page 12-1.**
	Cylinder and/or crankcase flooded with fuel	Section 14 – Fuel System
Starter/Generator does not charge battery.	Diode failed (open condition)	Section 11 – Troubleshooting and Electrical System: FE400 Engine Test Procedure 10
	Loose or broken wire in the starter/ generator circuit	Section 11 – Troubleshooting and Electrical System: FE400 Engine Test Procedure 11
	Generator field coil is shorted	Section 11 – Troubleshooting and Electrical System: FE400 Engine Test Procedure 11
	Brushes are worn or commutator is dirty	**See Starter/Generator, Section 12, Page 12-1.**

Troubleshooting Guide continued on next page...

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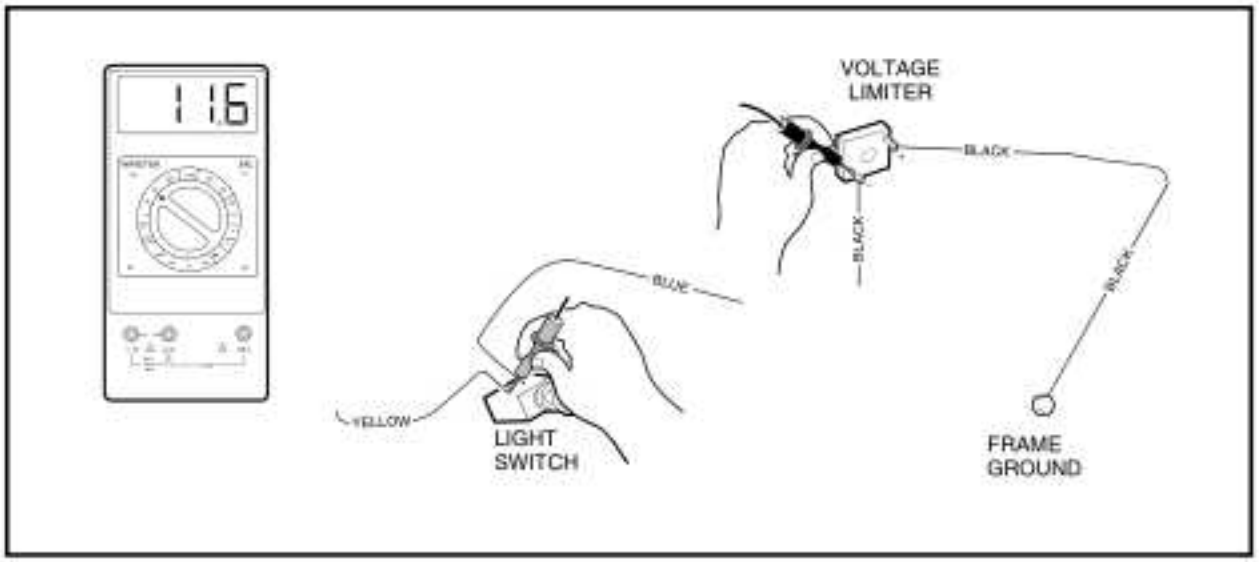


Figure 11-57 Headlight Diode Circuit Test

3. Remove the wiring harness from the headlight **(Figure 11-58, Page 11-48)**.
4. Use a multimeter set to 20 volts DC and place the black (–) probe of meter into the black wire terminal of the wiring harness. Place the red (+) probe into the blue wire terminal.
5. Pull the light switch to the ON position. If the multimeter reads approximately 12 volts, replace the headlight bulb.
6. If there is no voltage reading at the wiring harness, check continuity of the 16-gauge blue wire from the headlight to the light switch. Use a multimeter set to 20 volts DC and attach the black (–) probe of multimeter onto the negative battery terminal and place the red (+) probe into the blue wire terminal of the wiring harness. If the multimeter reading is approximately 12 volts, the blue wire has continuity.
7. Check continuity of the 16-gauge black wire from the headlight to the ground terminal. Use a multimeter set to 20 volts DC and place the black (–) probe of multimeter into the black wire terminal of the wiring harness and attach the red (+) probe onto the positive battery terminal. If the multimeter reading is approximately 12 volts, the black wire has continuity.

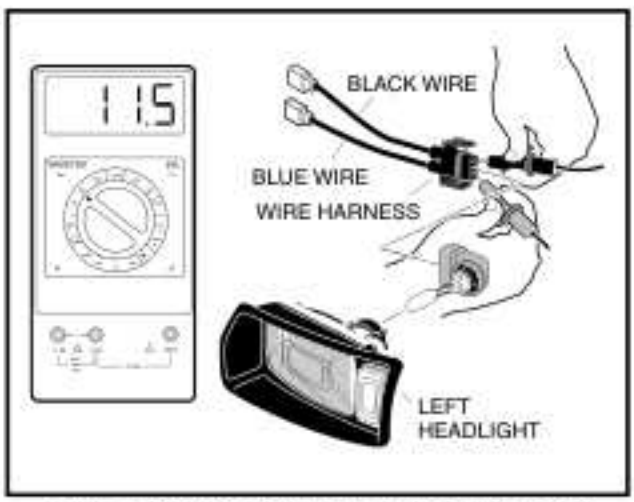


Figure 11-58 Check Voltage to Headlight Socket

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ITEM	SERVICE LIMIT FE400 ENGINE
Rocker shaft	0.4704 in. (11.949 mm) outer diameter min.
Valve face angle (exhaust, intake)	45° (ex.), 30° (in.) standard
Valve guide (exhaust, intake)	0.2756 to 0.2762 in. (7.00 to 7.015 mm) inner diameter standard
Valve guide hole (exhaust)	0.2781 in. (7.065 mm) inner diameter max.
Valve guide hole (intake)	0.2781 in. (7.065 mm) inner diameter max.
Valve margin (exhaust, intake)	0.024 in. (0.6 mm) max.
Valve seat angle (exhaust, intake)	45° (Ex.), 30° (In.) standard
Valve seat width	0.0197 to 0.0433 in. (0.50 to 1.10mm) standard
Valve seat width	0.075 in. (1.9 mm) max.
Valve spring (free length)	1.5157 in. (38.50 mm) min.
Valve stem (exhaust)	0.2722 in. (6.915 mm) outer diameter min.
Valve stem (exhaust, intake) (stem bend)	0.0012 in. (0.03 mm) max.
Valve stem (intake)	0.2728 in. (6.930 mm) outer diameter min.

SPECIFICATIONS FOR RESIZING CYLINDER BORE

ITEM	OVERSIZE	FE400 LIMITS
Finished honed bore diameter	Not Applicable	3.4478 in. (87.574 mm)

TORQUE SPECIFICATIONS

ITEM	SIZE	FE400 LIMITS
Cylinder head bolts	M8	17.5 ft-lb (24 N·m)
Connecting rod bolts (coat threads with engine oil)	M7	16.5 ft-lb (23 N·m)
Flywheel retaining nut	M18	100 ft-lb (135 N·m)
Crankcase cover to block bolts	M8	22 ft-lb (31 N·m)
Starter/Generator bracket to block bolts	M8	16.5 ft-lb (23 N·m)
Oil drain plug	M14	16.5 ft-lb (23 N·m)
Fan housing screws	M6	90 in-lb (10 N·m)
Fan shroud screws	M6	25 in-lb (2.8 N·m)
Bolts marked with "4" (when used with nuts)	M8 M6 M5	130 in-lb (15 N·m) 50 in-lb (5.9 N·m) 30 in-lb (3.4 N·m)

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