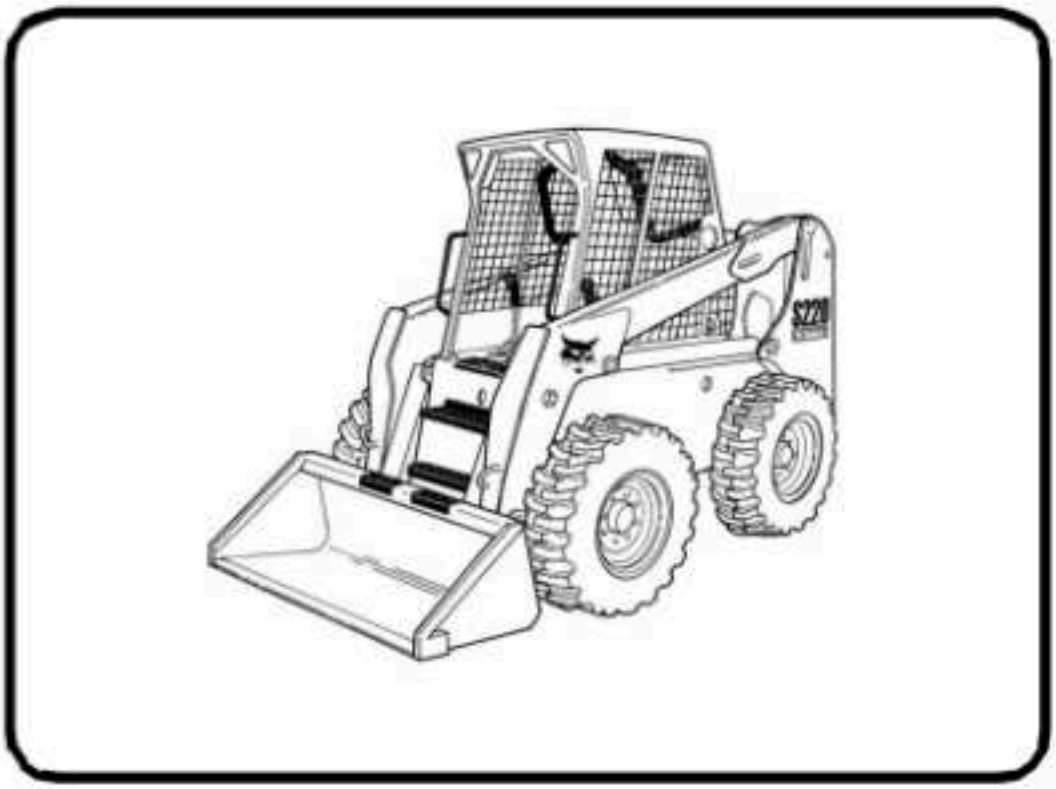
Bobcat®

Operation & Maintenance Manual
S220 Skid-Steer Loader

S/N A5GK11001 - A5GK19999
S/N A5GL11001 - A5GL19999



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS)

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REFERENCE INFORMATION

Write the correct information for YOUR Bobcat Loader in the spaces below. Always use these numbers when referring to your Bobcat Loader.

Loader Serial Number

Engine Serial Number

NOTES:

YOUR BOBCAT DEALER:

ADDRESS:

PHONE:

Bobcat Company
P.O. Box 128
Gwinner, ND 58040-0128

Bobcat Company Europe
Dréve Richelle 167
B-1410 WATERLOO
Belgium

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FOREWORD

This Operation & Maintenance Manual was written to give the owner/operator instructions on the safe operation and maintenance of the Bobcat Loader. READ AND UNDERSTAND THIS OPERATION & MAINTENANCE MANUAL BEFORE OPERATING YOUR BOBCAT LOADER. If you have any questions, see your Bobcat dealer. This manual may illustrate options and accessories not installed on your loader.

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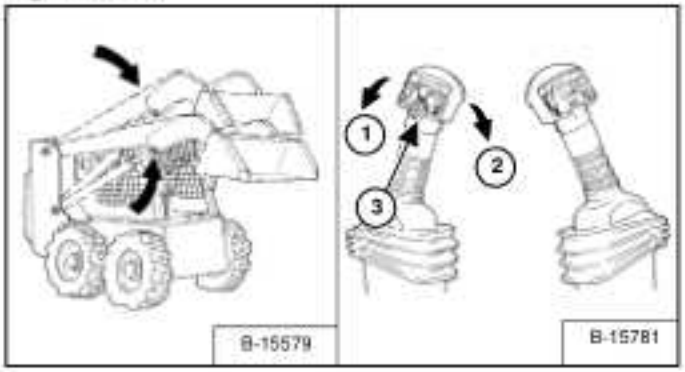
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Advanced Control System (ACS) in HAND Control Mode

Figure OI-37



Lift Arm Operation - (Left Hand Lever)

Move the lever outward (Item 1) **[Figure OI-37]** to raise the lift arms.

Move the lever inward (Item 2) **[Figure OI-37]** to lower the lift arms.

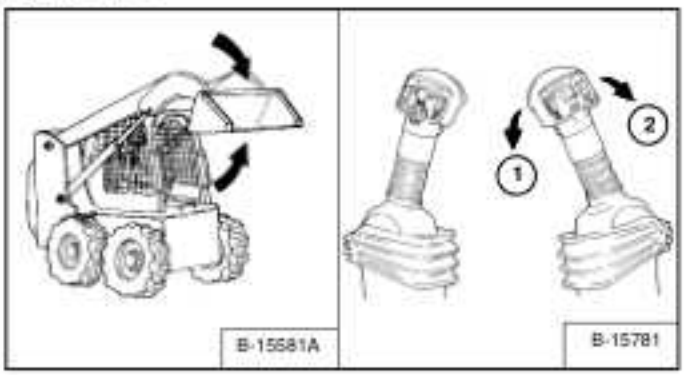
Lift Arm Float Position - (Left Hand Lever)

Press and hold the Float button (Item 3) **[Figure OI-37]** while the lever is in neutral. Move the lever to lift arm down position (Item 2) **[Figure OI-37]**, then release the button.

Press Float button (Item 3) **[Figure OI-37]** again or move the lever to lift arm up position to disengage.

Use the float position of the lift arms to level loose material while driving backward.

Figure OI-38



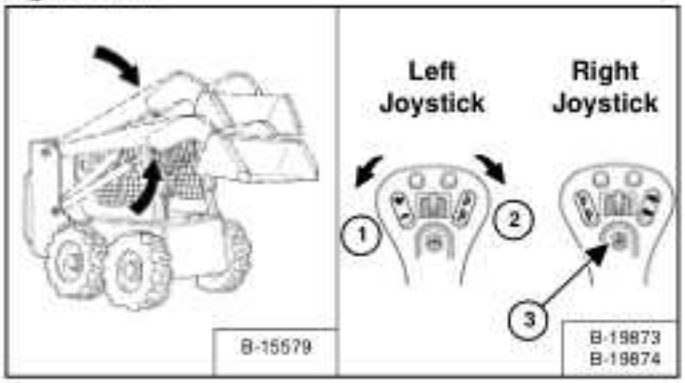
Tilt Operation - (Right Hand Lever)

Move the lever inward (Item 1) **[Figure OI-38]** to tilt the bucket backward.

Move the lever outward (Item 2) **[Figure OI-38]** to tilt the bucket forward.

Selectable Joystick Control (SJC) - 'H' Control Pattern

Figure OI-39



Lift Arm Operation - (Left Hand Joystick)

Move the joystick outward (Item 1) **[Figure OI-39]** to raise the lift arms.

Move the joystick inward (Item 2) **[Figure OI-39]** to lower the lift arms.

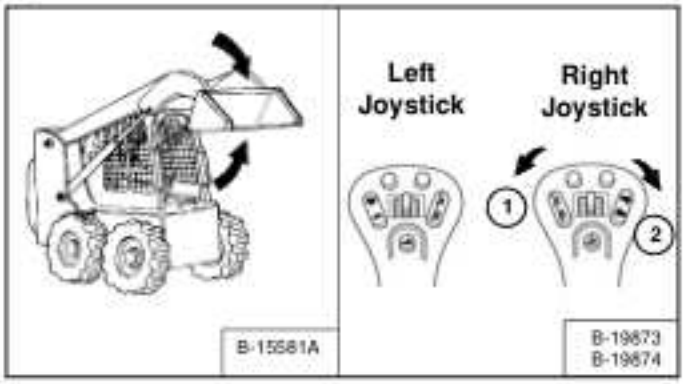
Lift Arm Float Position - (Left & Right Hand Joysticks)

Press and hold the Float button (Item 3) **[Figure OI-39]** while the joysticks are in neutral. Move the left joystick to lift arm down position (Item 2) **[Figure OI-39]**, then release the button.

Press Float button (Item 3) **[Figure OI-39]** again or move the left joystick to lift arm up position to disengage.

Use the float position of the lift arms to level loose material while driving backward.

Figure OI-40



Tilt Operation - (Right Hand Joystick)

Move the joystick inward (Item 1) **[Figure OI-40]** to tilt the bucket backward.

Move the joystick outward (Item 2) **[Figure OI-40]** to tilt the bucket forward.

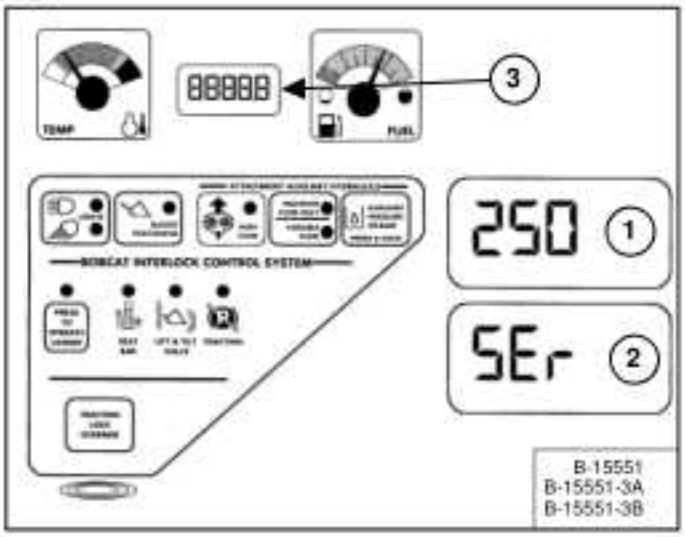
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MAINTENANCE CLOCK

Description

The Maintenance Clock alerts the operator when the next service interval is due. *EXAMPLE:* The Maintenance Clock can be set to a 250 hour interval as a reminder for the next 250 hour planned maintenance.

Figure SA-9



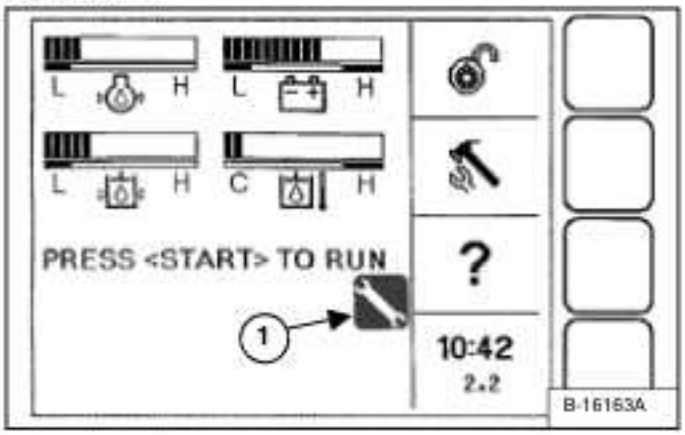
During machine operation, a two beep alarm will sound when there are less than 10 hours until the next planned maintenance. The hour interval (Item 1) and **[SEr]** (Item 2) will alternate in the display screen (Item 3) **[Figure SA-9]** for 10 seconds. The display will then revert back to the previous display and will appear for 10 seconds every time the machine is started until the maintenance clock is reset.

Figure SA-10



The Keyless Right Panel, if equipped, will display a message (Item 1) **[Figure SA-10]** alerting the operator to service the machine. This message will remain for 10 seconds before reverting back to the previous screen and will appear for 10 seconds every time the machine is started until the maintenance clock is reset.

Figure SA-11



The Keyless Right Panel, if equipped, will display a wrench icon (Item 1) **[Figure SA-11]** alerting the operator to service the machine. This icon will remain on the display until the maintenance clock is reset.

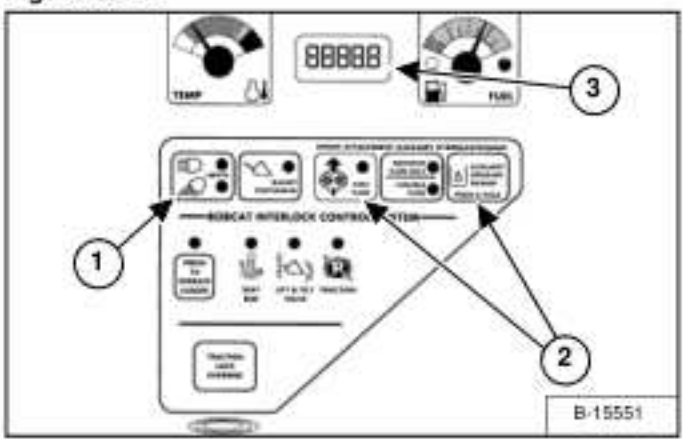
NOTE: Key Switch machines will not display the BobCARE^{SM} PM message or wrench icon on the right panel.

Setup

See your Bobcat dealer about installation of this feature.

Reset

Figure SA-12



Place the key switch in the OFF position (Key Switch) or press the STOP button (Keyless).

Press the LIGHTS button (Item 1) **[Figure SA-12]** to turn the panel ON.

Press and hold the HIGH FLOW and AUXILIARY PRESSURE RELEASE buttons (Item 2) simultaneously, until **[rEsET]** appears in the display screen (Item 3) **[Figure SA-12]**.

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(S220) LOADER SPECIFICATIONS (CONT'D)

Performance

Rated Operating Capacity (ISO)	2200 lb. (999 kg)
Rated Operating Capacity (SAE) With Counterweight	2300 lb. (1043 kg)
Tipping Load (ISO Rating)	4561 lb. (2069 kg)
Operating Weight	7483 lb. (3394 kg)
SAE Breakout Force - Lift	4500 lb. (2041 kg)
SAE Breakout Force - Tilt	5000 lb. (2268 kg)
Push Force	4400 lb. (1996 kg)
Travel Speed - Single Speed Loader - Two-Speed Loader (Opt.) Low/High	 6.9 mph (11,1 km/hr.) 6.9 mph (11,1 km/hr.) / 12.0 mph (19,1 km/hr.)

Controls

Vehicle Steering	Direction and speed controlled by two steering levers *or* optional joysticks
Loader Hydraulics - Lift and Tilt - Front Auxiliary (Standard) - Rear Auxiliary (Option)	 Controlled by separate foot pedals *or* optional Advanced Control System (ACS) *or* optional Selectable Joystick Control (SJC) Controlled by electrical switch on Right Hand steering lever or joystick Controlled by electrical switch on Left Hand steering lever or joystick
Auxiliary Pressure Release	Pressure relieved through quick couplers. Push couplers in, hold for 5 seconds.
Engine	Hand lever speed control; key-type starter switch and shutdown (or optional keyless start).
Starting Aid	Intake Air Heater automatically activated as needed by Instrument Panel
Service Brake	Two independent hydrostatic systems controlled by two hand operated steering levers
Secondary Brake	One of the hydrostatic transmissions
Parking Brake (Standard)	Mechanical disc, hand operated rocker switch on instrument panel
Parking Brake (Two-Speed Option)	Spring applied pressure release multi-disk brake activated by rocker switch in instrument panel

Engine

Make / Model	Kubota V3800-DI-TE3 Turbo-Charged
Fuel / Cooling	Diesel / Liquid
Horsepower (SAE Net)	71.7 HP (53,5 kW) @ 2400 RPM
Low Idle RPM	1150 - 1300
High Idle RPM	2525 - 2575
Torque (SAE Net)	201.9 lbf.-ft. (273,7 N•m) @ 1500 RPM
Number of Cylinders	4
Displacement	230 cu. in. (3,769 L)
Bore / Stroke	3.94 in. / 4.72 in. (100 mm / 120 mm)
Lubrication	Gear Pump Pressure System with Filter
Crankcase Ventilation	Open Breathing
Air Cleaner	Dry replaceable paper cartridge with safety element
Ignition	Diesel - Compression
Engine Coolant	Propylene Glycol / Water Mixture
Starting Aid	Intake Air Heater

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Safe Operation Is The Operator's Responsibility

Safety Alert Symbol

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

WARNING

Operator must have instructions before running the machine. Untrained operators can cause injury or death.

W-2001-1285

IMPORTANT

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

I-2019-0284

WARNING

Warnings on the machine and in the manuals are for your safety. Failure to obey warnings can cause injury or death.

W-2044-1285

The Bobcat loader and attachment must be in good operating condition before use.

Check all of the items on the Bobcat Service Schedule Decal under the 8-10 hour column or as shown in the Operation & Maintenance Manual.

Safe Operation Needs A Qualified Operator

For an operator to be qualified, he or she must not use drugs or alcoholic drinks which impair alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he or she can safely operate a machine.

A Qualified Operator Must Do The Following:

Understand the Written Instructions, Rules and Regulations

- The written instructions from Bobcat Company include the Delivery Report, Operation & Maintenance Manual, Operator's Handbook, Safety Manual and machine signs (decals).
- Check the rules and regulations at your location. The rules may include an employer's work safety requirements. Regulations may apply to local driving requirements or use of a Slow Moving Vehicle (SMV) emblem. Regulations may identify a hazard such as a utility line.

Have Training with Actual Operation

- Operator training must consist of a demonstration and verbal instruction. This training is given by your Bobcat dealer before the product is delivered.
- The new operator must start in an area without bystanders and use all the controls until he or she can operate the machine and attachment safely under all conditions of the work area. Always fasten seat belt before operating.
- Operator Training Courses are available from your Bobcat dealer in English and Spanish. They provide information for safe and efficient equipment operation. Safety videos are also available.
- Service Safety Training Courses are available from your Bobcat dealer. They provide information for safe and correct service procedures.

Know the Work Conditions

- Know the weight of the materials being handled. Avoid exceeding the Rated Operating Capacity (ROC) of the machine. Material which is very dense will be heavier than the same volume of less dense material. Reduce the size of the load if handling dense material.
- The operator must know any prohibited uses or work areas, for example, he or she needs to know about excessive slopes.
- Know the location of any underground lines. Call local utilities or the TOLL FREE phone number found in the *Before Operation* Section of this manual.
- Wear tight fitting clothing. Always wear safety glasses when doing maintenance or service. Safety glasses, respiratory equipment, hearing protection or Special Applications Kits are required for some work. See your Bobcat dealer about Bobcat Safety Equipment for your model.

SI SSL-1007

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