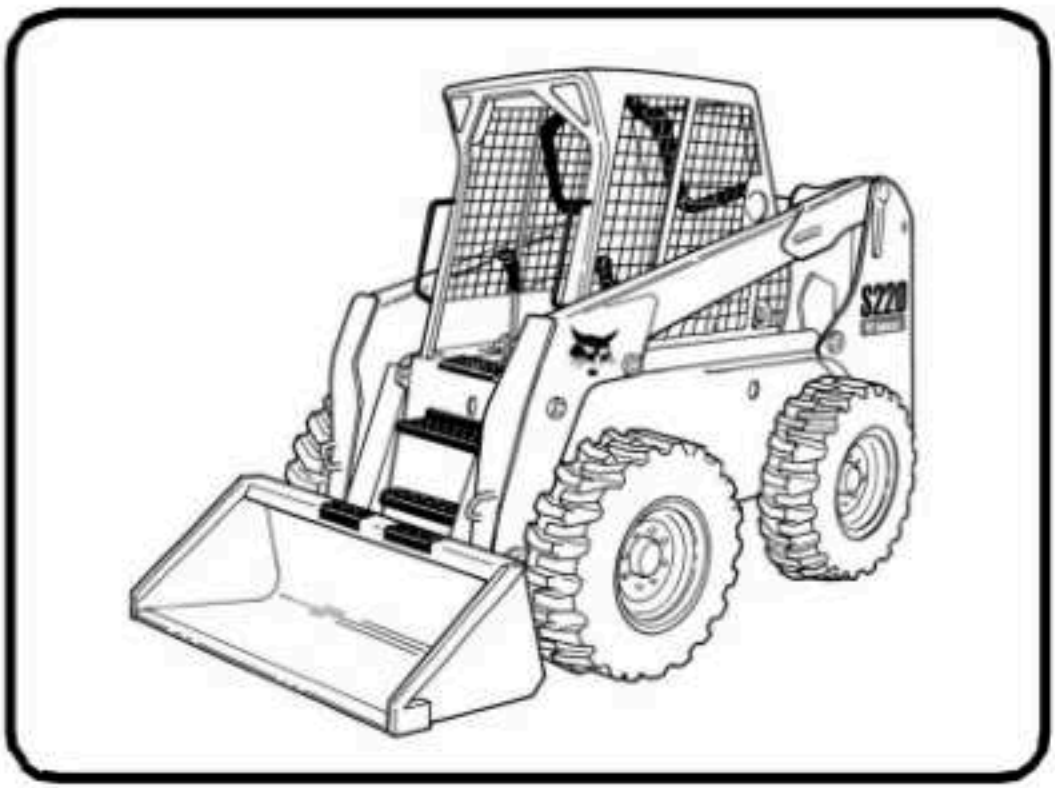
Bobcat®

Operation & Maintenance Manual
S220 Skid-Steer Loader

S/N A5GK20001 & Above
S/N A5GL20001 & Above



EQUIPPED WITH
BOBCAT INTERLOCK
CONTROL SYSTEM (BICS™)

6986989 (12-09) Revised (4-10) (B)

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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
UNITED STATES OF AMERICA

Doosan Benelux SA
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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.

BOBCAT COMPANY IS IS0 9001 CERTIFIED V

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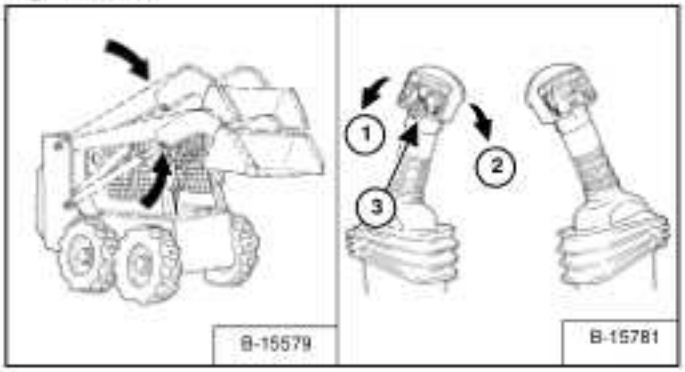
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Advanced Control System (ACS) In HAND Control Mode

Figure OI-51



Lift Arm Operation - (Left Hand Lever)

Move the lever outward (Item 1) **[Figure OI-51]** to raise the lift arms.

Move the lever inward (Item 2) **[Figure OI-51]** to lower the lift arms.

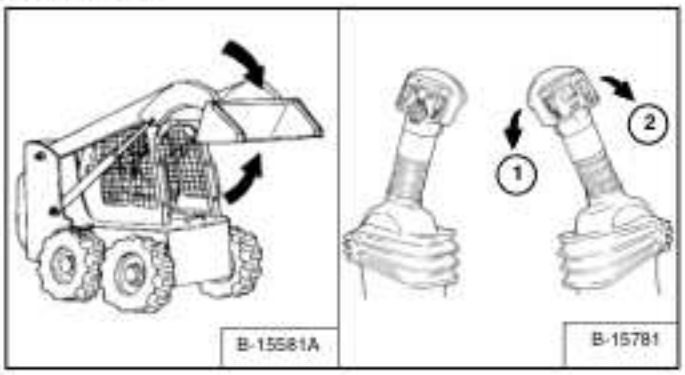
Lift Arm Float Position - (Left Hand Lever)

Press and hold the Float button (Item 3) **[Figure OI-51]** while the lever is in neutral. Move the lever to lift arm down position (Item 2) **[Figure OI-51]**, then release the button.

Press Float button (Item 3) **[Figure OI-51]** 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-52



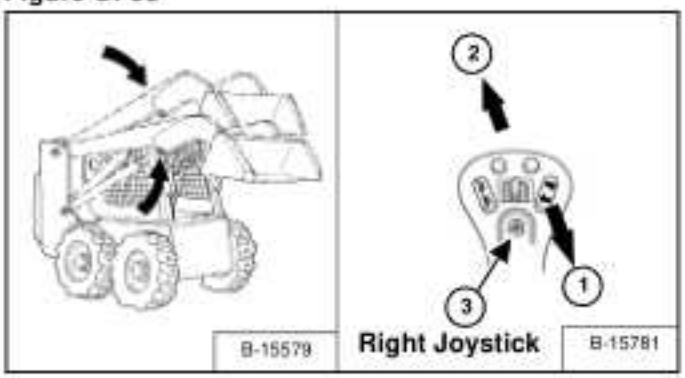
Tilt Operation - (Right Hand Lever)

Move the lever inward (Item 1) **[Figure OI-52]** to tilt the bucket backward.

Move the lever outward (Item 2) **[Figure OI-52]** to tilt the bucket forward.

Selectable Joystick Controls (SJC) In 'ISO' Control Pattern

Figure OI-53



Lift Arm Operation - (Right Hand Joystick)

Move the joystick backward (Item 1) **[Figure OI-53]** to raise the lift arms.

Move the joystick forward (Item 2) **[Figure OI-53]** to lower the lift arms.

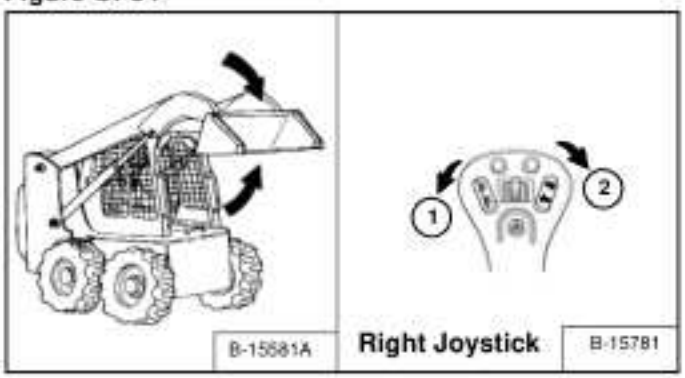
Lift Arm Float Position - (Right Hand Joystick)

Press and hold the Float button (Item 3) **[Figure OI-53]** while the joystick is in neutral. Move the joystick to lift arm down position (Item 2) **[Figure OI-53]**, then release the button.

Press Float button (Item 3) again or move the joystick to lift arm up position (Item 1) **[Figure OI-53]** to disengage.

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

Figure OI-54



Tilt Operation - (Right Hand Joystick)

Move the joystick inward (Item 1) **[Figure OI-54]** to tilt the bucket backward.

Move the joystick outward (Item 2) **[Figure OI-54]** to tilt the bucket forward.

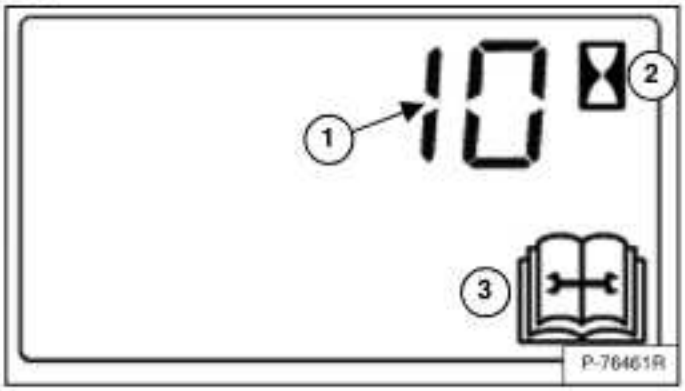
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MAINTENANCE CLOCK

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-12



During machine operation, a two beep alarm will sound when there are less than 10 hours until the next planned maintenance.

The remaining hours before maintenance is required will appear in the data display (Item 1) for five seconds while the service icon (Item 3) and hourmeter icon (Item 2) **[Figure SA-12]** flash.

NOTE: The display will show negative numbers after counting down to zero.

The display will then revert back to the previous display and will appear for five seconds every time the machine is started until the maintenance clock is reset.

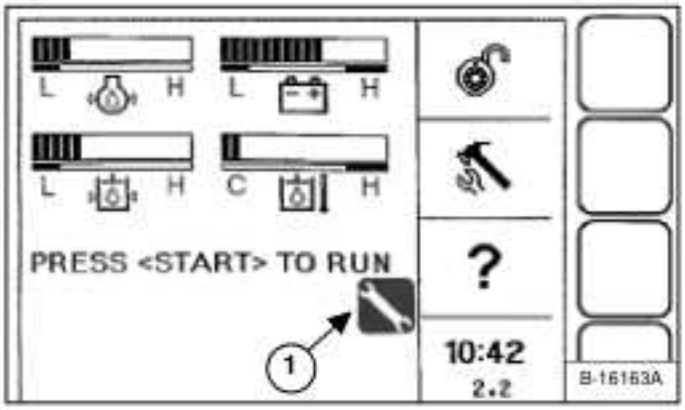
Figure SA-13



The Deluxe Instrumentation Panel, if equipped, will display a message (Item 1) **[Figure SA-13]** 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-14



The Deluxe Instrumentation Panel, if equipped, will display a wrench icon (Item 1) **[Figure SA-14]** alerting the operator to service the machine. This icon will remain on the display until the maintenance clock is reset.

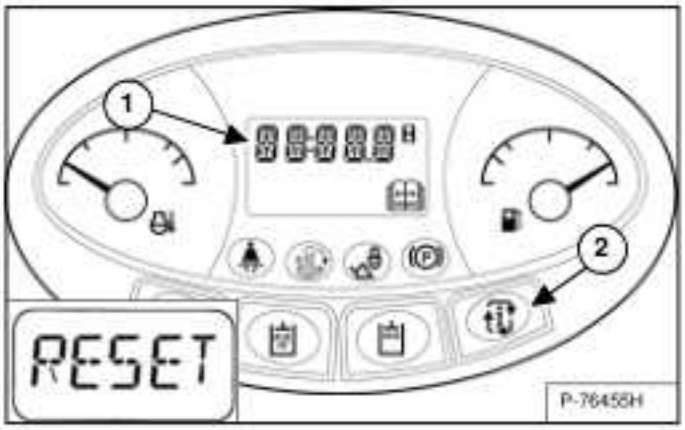
NOTE: Loaders equipped with a Standard Key Panel or Keyless Start Panel will not display the BobCARE^{SM} PM message or wrench icon on the right panel.

Setup

See your Bobcat dealer about installation of this feature.

Reset

Figure SA-15



Press the information button (Item 2) until the display screen (Item 1) **[Figure SA-15]** shows the maintenance clock.

Press and hold the information button (Item 2) for seven seconds until **[RESET]** (Inset) appears in the display screen (Item 1) **[Figure SA-15]**.

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(S220) LOADER SPECIFICATIONS (CONT'D)

Performance

Rated Operating Capacity (ISO)	2200 lb. (999 kg)
with 200 Pound Frame Mounted Counterweight Kit	2350 lb. (1065 kg)
with 300 Pound Frame Mounted Counterweight Kit	2400 lb. (1088 kg)
with 400 Pound Frame Mounted Counterweight Kit	2500 lb. (1133 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 (19,1 km/hr.)

Hydraulic System

Pump Type	Engine driven, gear type
Pump Capacity - Standard	20.7 GPM (78,4 L/min.) @ 2550 Engine RPM @ 91% Pump Efficiency
Pump Capacity - High-Flow Option	36.7 GPM (138,9 L/min.) @ 2550 Engine RPM @ 91% Pump Efficiency
System Relief at Quick Couplers	3250 - 3350 PSI (224 - 231 bar)
Filter (Hydraulic)	Full flow replaceable, 3-micron synthetic media element
Hydraulic Cylinders	Double-acting; tilt cylinders have cushioning feature on dump and rollback
Bore Diameter: Lift Cylinder (2)	2.50 in. (63,5 mm)
Tilt Cylinder (2)	3.00 in. (76,2 mm)
Rod Diameter: Lift Cylinder (2)	1.75 in. (44,4 mm)
Tilt Cylinder (2)	1.50 in. (38,1 mm)
Stroke: Lift Cylinder (2)	32.50 in. (825.0 mm)
Tilt Cylinder (2)	15.10 in. (384.0 mm)
Control Valve	3-Spool, open center type with spring detent on lift float and electrically controlled auxiliary spool
Fluid Lines	SAE Standard tubelines, hoses and fittings
Fluid Type	BOBCAT FLUID, Hydraulic / Hydrostatic 6903117 - (Two - 2.5 Gal.) 6903118 - (5 Gal.) 6903119 - (55 Gal.)
Hydraulic Function Time:	
Raise Lift Arms	3.9 Seconds
Lower Lift Arms	2.5 Seconds
Bucket Dump	2.8 Seconds
Bucket Rollback	2.1 Seconds

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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

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 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-1008

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