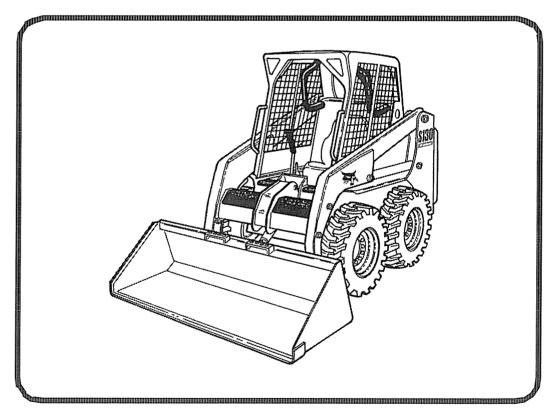




Operation & Maintenance Manual S130 Skid-Steer Loader

S/N 529211001 & Above S/N 529611001 & Above S/N A1Z711001 - A1Z759999 S/N A84W11001 & Above S/N A8NW11001 & Above S/N A8KA11001 - A8KA59999



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS)

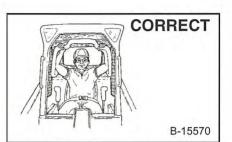


Operator must have instructions before running the Untrained operators machine. can cause injury or death.

W-2001-1285

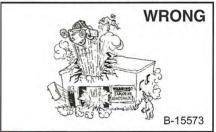


Safety Alert Symbol: This symbol with a warning statement, means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.

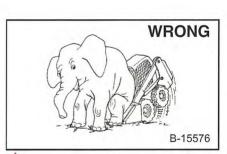


Always use the seat bar and fasten seat belt snugly.

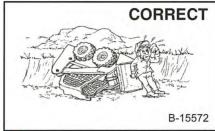
Always keep feet on the foot pedals or footrests when operating loader.



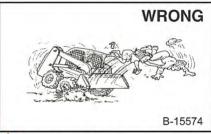
Do not use loader in atmosphere with explosive dust, explosive gas, or where exhaust can contact flammable material.



Never exceed Rated Operating Capacity.



Never use loader without operator cab with ROPS and FOPS approval. Fasten your seat belt.

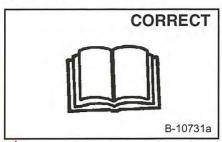


Never carry riders.

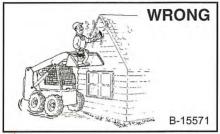
Keep bystanders away from work



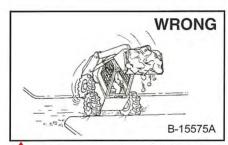
Never leave loader with engine running or with lift arms up. To park, engage parking brake and put attachment flat on the ground.



Never the loader without instructions. See machine signs (decals), Operation & Maintenance Manual, and Operator's Handbook.



Never use loader as man lift or elevating device for personnel.



Always carry bucket attachments as low as possible. Do not travel or turn with lift arms

Load, unload, and turn on flat level ground.



Never modify equipment.

Use only attachments approved by Bobcat Company for this model loader.

SAFETY EQUIPMENT

The Bobcat Loader must be equipped with safety items necessary for each job. Ask your dealer for information on the safe use of attachments and accessories.

- SEAT BELT: Check belt fasteners and check for damaged webbing or buckle.
- SEAT BAR: When up, it must lock the loader controls.

 OPERATOR CAB (ROPS and FOPS): It must be on the loader with all fasteners tight.
- HANDBOOK: Must be in the cab.
- SAFETY SIGNS (DECALS): Replace if damaged. SAFETY TREADS: Replace if damaged.

- GRAB HANDLES: Replace if damaged.
 LIFT ARM SUPPORT DEVICE: Replace if damaged. 8. PARKING BRAKE
- 10. BOBCAT INTERLOCK CONTROL SYSTEM (BICS)

Bobcat_®

CONTENTS

FOREWORDIII					
SAFETY & TRAINING RESOURCESXI					
OPERATING INSTRUCTIONS					
PREVENTIVE MAINTENANCE PM-1					
SYSTEM SETUP & ANALYSIS SA-1					
MACHINE SIGN TRANSLATIONS MST-1					
SPECIFICATIONSSPEC-1					
WARRANTY					
ALPHABETICAL INDEX INDEX-1					
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 Drève Richelle 167 B-1410 WATERLOO Belgium

I

FOREWORD

SAFETY & TRAINING RESOURCES

OPERATING INSTRUCTIONS (OI)

PREVENTIVE MAINTENANCE (PM)

SYSTEM SETUP & ANALYSIS (SA)

MACHINE SIGN TRANSLATIONS (MST)

SPECIFICATIONS (SPEC)

WARRANTY

ALPHABETICAL INDEX



FOREWORD

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 ISO 9001:2000 CERTIFIED
DELIVERY REPORTV
FEATURES, ACCESSORIES AND ATTACHMENTS
OADER IDENTIFICATIONVII
REGULAR MAINTENANCE ITEMS
SERIAL NUMBER LOCATIONS



Bongat_®

BOBCAT COMPANY IS ISO 9001:2000 CERTIFIED





ISO 9001:2000 is an international standard that controls the processes and procedures which we use to design, develop, manufacture and distribute Bobcat products.

British Standards Institute (**BSI**) is the Certified Registrar Bobcat Company chose to assess the Company's compliance with the ISO 9001:2000 standard. The BSI registration certifies that Bobcat's manufacturing facilities in Gwinner and Bismarck, North Dakota (North America), Pontchateau (France), Dobris (Czech Republic) and the Bobcat corporate offices (Gwinner, Bismarck & West Fargo) in North Dakota are in compliance with ISO 9001:2000. Only certified assessors, like BSI, can grant registrations.

ISO 9001:2000 means that as a company we say what we do and do what we say. In other words, we have established procedures and policies, and we provide evidence that the procedures and policies are followed.

CALIFORNIA PROPOSITION 65 WARNING

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

REGULAR MAINTENANCE ITEMS

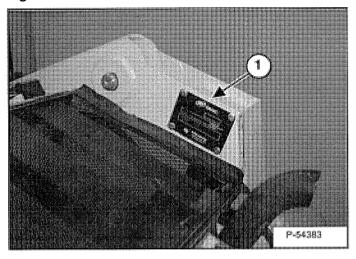
	ENGINE OIL FILTER (6 Pack) 6675517	6	HYDROSTATIC CASE DRAIN FILTER 6661022
	FUEL FILTER 6667352		BATTERY 6674687
	AIR FILTER, Outer 6598492		FLUID, Hydraulic/Hydrostatic 6903117 - (2.5 Gal.) 6903118 - (5 Gal.)
	AIR FILTER, Inner 6598362		6903119 - (55 Gal.)
	HYDRAULIC CHARGE FILTER 6686926		HYDRAULIC FILL / BREATHER CAP 6727475
	HYDROSTATIC FILTER 6661248		ANTI-FREEZE, Propylene Glycol 6724094 - Premixed 6724354 - Concentrate
• MOTOR OIL 6903105 6903107 6903109	SAE 15W40 CE/SG (12 qt.) SAE 10W30 CE/SG (12 qt.) SAE 30W CE/SG (12 qt.)	6903106 6903108 6903110	SAE 15W40 CE/SG (1 Gal.) SAE 10W30 CE/SG (1 Gal.) SAE 30W CE/SG (1 Gal.)
6903113 6903112 6903111	SAE 15W40 CE/SG (2.5 Gal.) SAE 10W30 CE/SG (2.5 Gal.) SAE 30W CE/SG (2.5 Gal.)		

NOTE: Always verify Part Numbers with your Bobcat dealer.

SERIAL NUMBER LOCATIONS

Always use the serial number of the loader when requesting service information or when ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use a different procedure in doing a specific service operation.

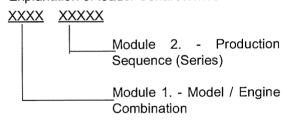
Figure 1



Loader Serial Number

The loader serial number plate is located on the outside of the loader frame [Figure 1].

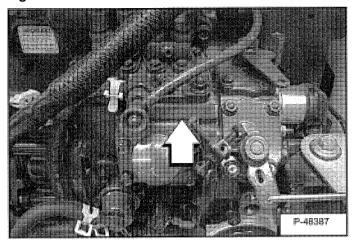
Explanation of loader Serial Number:



- 1. The four digit Model/Engine Combination Module number identifies the model number and engine combination.
- 2. The five digit Production Sequence Number identifies the order which the loader is produced.

Engine Serial Number

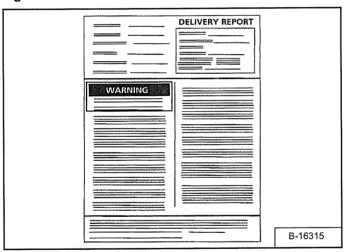
Figure 2



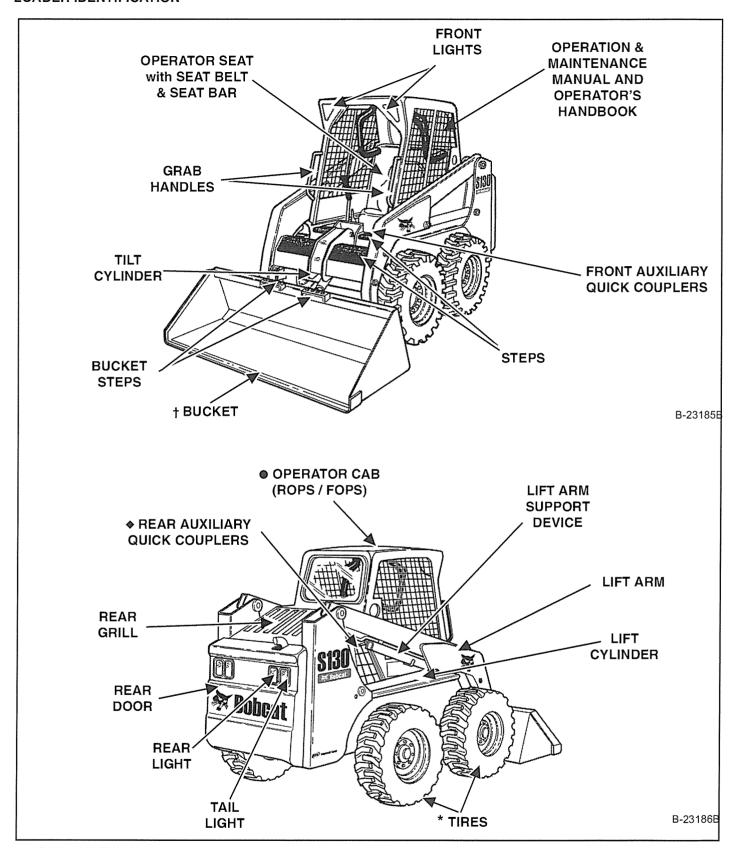
The engine serial number is located on the side of the engine [Figure 2].

DELIVERY REPORT

Figure 3



The delivery report must be filled out by the dealer and signed by the owner or operator when the Bobcat Loader is delivered. An explanation of the form must be given to the owner. Make sure it is filled out completely [Figure 3].



- Optional or Field Accessory (Not Standard Equipment)
- TIRES Tires shown may not be standard. The machine is factory equipped with standard tires. Other tires are available.
- bucket Several different buckets and other attachments are available for this machine.
- ROPS, FOPS Roll Over Protective Structure, per ISO 3471, and Falling Object Protective Structure per ISO 3449, Level I, Level II is available.

FEATURES, ACCESSORIES AND ATTACHMENTS

Standard Items

Model S130 Bobcat Loaders are equipped with the following standard items:

- · Adjustable Cushion Seat
- · Automatically Activated Glow Plugs
- Auxiliary Hydraulics, Front: Variable Flow / Maximum Flow
- Bobcat Interlock Control System (BICS™)
- Bob-Tach
- Deluxe Cab (includes: interior insulation, top & rear windows, accessory harness, dome light and 12 volt power port (ROPS & FOPS Approved)
- · Dual Path Cooling System
- Engine/Hydraulic Systems Shutdown
- Instrumentation: Hourmeter, Engine Temperature and Fuel Gauges and Warning Lights
- · Lift Arm Support Device
- · Lights, Front & Rear
- Parking Brake
- Seat Bar
- Seat Belt
- Spark Arrestor Exhaust System
- Tires (10-16.5, Bobcat Standard Duty, 8 ply Rating)

Options and Accessories

Below is a list of some equipment available from your Bobcat Loader dealer as Dealer and / or Factory Installed Accessories and Factory Installed Options. See your Bobcat dealer for other available options, accessories and attachments.

- Access Cover (Foot Pedal Area)
- Accessories Electrical Harness
- Adjustable Suspension Seat
- Advanced Control System (ACS) (Selectable Foot Pedal or Hand Control)
- Selectable Joystick Control (SJC) (Selectable 'ISO' or 'H' Pattern Control)
- Air Deflector
- Auxiliary Hydraulics, Rear
- · Auxiliary Hydraulics, Secondary Front
- Attachment Control Device (ACD)
- Back-up Alarm
- · Cab Door
- Cab Enclosure
- Cab Enclosure (Vinyl)
- Cab Heater
- Catalytic Exhaust Purifier
- · Counterweight Kit
- · Dual Attachment Control Kit
- · Engine Heater
- · Extended Pedals

Options and Accessories (Cont'd)

- Fire Extinguisher
- Falling Object Protective Structure (FOPS) (Level II)
- GPS System (GlobalTRACS®)
- Horn
- Hose Guide
- Hydraulic Bucket Positioning (Includes On/Off Selection)
- Keyless Instrument Panel
- Lift Kit (4-Point, Single Point)
- Locking Fuel Cap
- MSHA Approval Kit
- Power Bob-Tach
- · Radiator Screen Kit
- Rear Window Wiper
- Ride Control
- · Seat Belt with 3-Point Restraint
- · Seat Belt 3 Inch Wide
- · Seatbelt Retractable
- Sound Cab (Reduces noise at operator ear)
- Sound Insulation (Reduces noise to bystanders)
- Special Applications Kit
- Steel Tracks
- Tailgate Lock
- Taillights
- Tires:

Offset Tires

Heavy Duty

Severe Duty

Flotation

Solid

- Tool Container
- Warning Lights: Four-Way Flasher (Includes Direction Signals), Rotating Beacon, Strobe Light
- Weighlog
- Windows

Top and Rear Windows

Side Windows

Polycarbonate Rear Window

Polycarbonate Top Window

Externally Removable Rear Window

Specifications subject to change without notice.

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FEATURES, ACCESSORIES AND ATTACHMENTS (CONT'D)

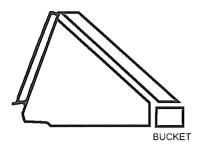
These and other attachments are approved for use on this model loader. Do not use unapproved attachments. Attachments not manufactured by Bobcat may not be approved.

The versatile Bobcat Loader quickly turns into a multi-job machine with a tight-fit attachment hook-up from bucket to grapple to pallet fork to backhoe and a variety of other attachments.

See your Bobcat dealer for more details on these and other attachments and field accessories.

Increase the versatility of your Bobcat Loader with a variety of bucket styles and sizes.

Buckets Available



Many bucket styles, widths and different capacities are available for a variety of different applications. They include Construction & Industrial, Low Profile, Fertilizer and Snow, to name a few. See your Bobcat dealer for the correct bucket for your Bobcat Loader and application.

Attachments

- Angle Broom
- Auger
- Backhoe
- Blades

Dozer Blade Snow Blade V-Blade

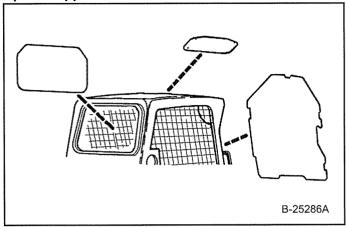
- Breaker
- Brush Saw
- Bucket Adapter
- Buckets
- Chipper
- Combination Bucket
- Concrete Mixer
- Cutter Crusher
- Digger
- Dumping Hopper
- Finish Mower
- Flail Cutter
- Grader
- Industrial Bucket Grapple
- Industrial Fork Grapple
- Landplane
- Landscape Rake
- Packer Wheel

- Pallet Fork
- Planer
- · Rear Stabilizers
- Rotary Cutter (Brushcat)
- Seeder
- Scarifier
- Scraper
- Snow Blower
- Snow Pusher
- Sod Layer
- Soil Conditioner
- Spreader
- Sweeper
- Three-Point Hitch
- Tiller
- Tilt-Tatch
- Tracks
- Trencher
- Trench Compactor
- Utility Fork
- Utility Frame
- Utility / Farm Grapple
- Vibratory Roller
- Water Kit
- · Whisker Broom
- X-Change Frame

Page 14 - BOBM022075-09-B1003 - 08/24/2008 21:24:50 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

FEATURES, ACCESSORIES AND ATTACHMENTS (CONT'D)

Special Applications Kit



Available for special applications to restrict material from entering cab openings. Kit includes 1/2 inch polycarbonate front door, top and rear windows.

See your Bobcat dealer for availability.

Special Applications Kit Inspection And Maintenance

- Inspect for cracks or damage. Replace if required.
- Pre-rinse with water to remove gritty materials.
- Wash with a mild household detergent and warm water.
- Use a sponge or soft cloth. Rinse well with water and dry with a clean soft cloth or rubber squeegee.
- Do not use abrasive or highly alkaline cleaners.
- Do not clean with metal blades or scrapers.

Page 15 - BOBM022075-09-51003 - 08/24/2008 21:24:50 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

SAFETY & TRAINING RESOURCES

FIRE PREVENTION
ElectricalXV
Fire Extinguishers
FuelingXVI
Hydraulic SystemXVI
MaintenanceXV
Operation
Spark Arrestor Exhaust SystemXVI
StartingXVI
Welding And Grinding
MACHINE SIGNS (DECALS)
PUBLICATIONS AND TRAINING RESORCESXX
SAFETY INSTRUCTIONSXIII
Avoid Silica Dust
Before Operation
Safe Operation Needs A Qualified Operator
Sale Operation Needs A Qualified Operator





BODGAT_®

SAFETY INSTRUCTIONS

Before Operation

Carefully follow the operating and maintenance instructions in this manual.

The Bobcat loader is highly maneuverable and compact. It is rugged and useful under a wide variety of conditions. This presents an operator with hazards associated with off highway, rough terrain applications, common with Bobcat loader usage.

The Bobcat loader has an internal combustion engine with resultant heat and exhaust. All exhaust gasses can kill or cause illness so use the Loader with adequate ventilation.

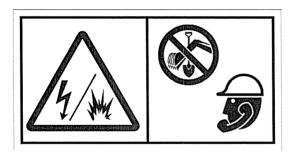
The dealer explains the capabilities and restrictions of the Bobcat loader and attachment for each application. The dealer demonstrates the safe operation according to Bobcat instructional materials, which are also available to operators. The dealer can also identify unsafe modifications or use of unapproved attachments. The attachments and buckets are designed for a Rated Operating Capacity (some have restricted lift heights). They are designed for secure fastening to the Bobcat loader. The user must check with the dealer, or Bobcat literature, to determine safe loads of materials of specified densities for the machine - attachment combination.

The following publications and training materials 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 and attachment is in safe operating condition.
- The Operation & Maintenance Manual delivered with the machine or attachment gives 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 is fastened to the operator cab of the loader. 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 Skid-Steer Loader Operating Training Course is available through your Bobcat dealer. This course is intended to provide rules and practices of correct operation of the Bobcat loader. The course is available in English and Spanish versions.
- Service Safety Training Courses are available from your Bobcat dealer. They provide information for safe and correct service procedures.
- See the PUBLICATIONS AND TRAINING RESOURCES Page in this manual or your Bobcat dealer for Service and Parts Manuals, printed materials, videos, or training courses available. Also check the Bobcat web sites www.training.bobcat.com or www.bobcat.com

The dealer and owner / operator review the recommended uses of the product when delivered. If the owner / operator will be using the machine for a different application(s) he or she must ask the dealer for recommendations on the new use.



Call Before You Dig Dial 811 (USA Only) 1-888-258-0808 (USA & Canada)

When you call, you will be directed to a location in your state / province, or city for information about buried lines (telephone, cable TV, water, sewer, gas, etc.).

SI SSL-1007

SAFETY INSTRUCTIONS (CONT'D)

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.

1-2019-0284

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.

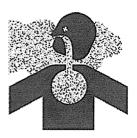
Know the Work Conditions

- 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

SAFETY INSTRUCTIONS (CONT'D)

Avoid Silica Dust



Cutting or drilling concrete containing sand or rock containing quartz may result in exposure to silica dust. Do not exceed Permissible Exposure Limits (PEL) to silica dust as determined by OSHA or other job site Rules and Regulations. Use a respirator, water spray or other means to control dust. Silica dust can cause lung disease and is known to the state of California to cause cancer.

FIRE PREVENTION



Maintenance

The machine and some attachments have components that are at high temperatures under normal operating conditions. The primary source of high temperatures is the engine and exhaust system. The electrical system, if damaged or incorrectly maintained, can be a source of arcs or sparks.

Flammable debris (leaves, straw, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it can cause a fire hazard. Clean often to avoid this accumulation. Flammable debris in the engine compartment is a potential fire hazard.

The operator's area, engine compartment and engine cooling system must be inspected every day and cleaned if necessary to prevent fire hazards and overheating.

All fuels, most lubricants and some coolants mixtures are flammable. Flammable fluids that are leaking or spilled onto hot surfaces or onto electrical components can cause a fire.

Operation

Do not use the machine where exhaust, arcs, sparks or hot components can contact flammable material, explosive dust or gases.

Electrical







Check all electrical wiring and connections for damage. Keep the battery terminals clean and tight. Repair or replace any damaged part or wires that are loose or frayed.

Battery gas can explode and cause serious injury. Use the procedure in the Operation & Maintenance Manual for connecting the battery and for jump staring. Do not jump start or charge a frozen or damaged battery. Keep any open flames or sparks away from batteries. Do not smoke in battery charging area.

SI SSL-1007

FIRE PREVENTION (CONT'D)

Hydraulic System

Check hydraulic tubes, hoses and fittings for damage and leakage. Never use open flame or bare skin to check for leaks. Hydraulic tubes and hoses must be properly routed and have adequate support and secure clamps. Tighten or replace any parts that show leakage.

Always clean fluid spills. Do not use gasoline or diesel fuel for cleaning parts. Use commercial nonflammable solvents.

Fueling



Stop the engine and let it cool before adding fuel. No smoking! Do not refuel a machine near open flames or sparks. Fill the fuel tank outdoors.

Starting

Do not use ether or starting fluids on any engine that has glow plugs. These starting aids can cause explosion and injure you or bystanders.

Use the procedure in the Operation & Maintenance Manual for connecting the battery and for jump starting.

Spark Arrestor Exhaust System

The spark arrestor exhaust system is designed to control the emission of hot particles from the engine and exhaust system, but the muffler and the exhaust gases are still hot.

Check the spark arrestor exhaust system regularly to make sure it is maintained and working properly. Use the procedure in the Operation & Maintenance Manual for cleaning the spark arrestor muffler (if equipped).

Welding And Grinding

Always clean the machine and attachment, disconnect the battery, and disconnect the wiring from the Bobcat controllers before welding. Cover rubber hoses, battery and all other flammable parts. Keep a fire extinguisher near the machine when welding.

Have good ventilation when grinding or welding painted parts. Wear dust mask when grinding painted parts. Toxic dust or gas can be produced.

Dust generated from repairing nonmetallic parts such as hoods, fenders or covers can be flammable or explosive. Repair such components in a well ventilated area away from open flames or sparks.

Fire Extinguishers

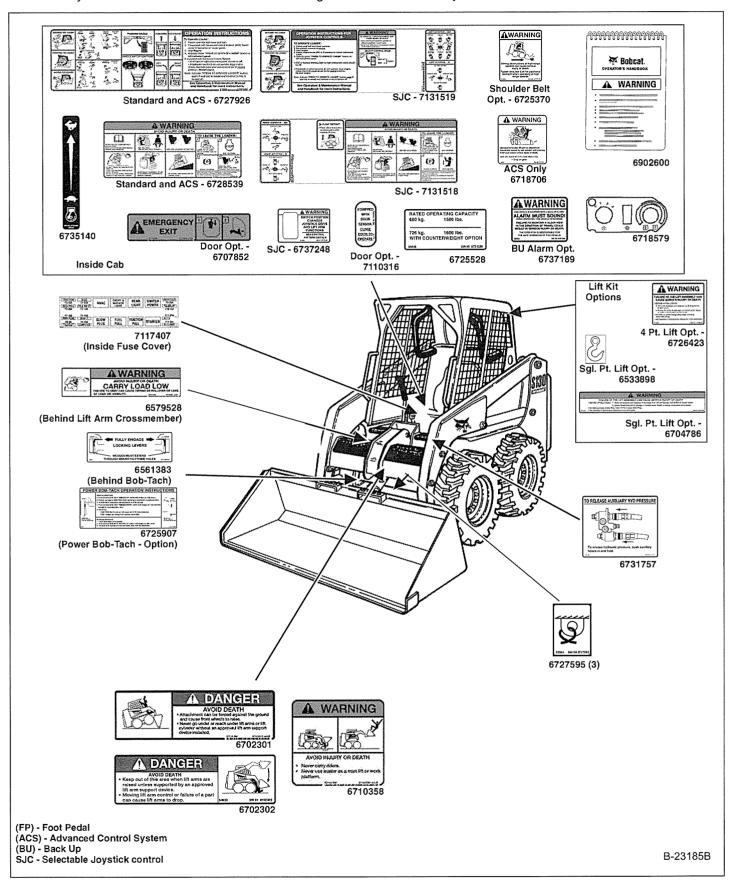


Know where fire extinguishers and first aid kits are located and how to use them. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instructions plate.



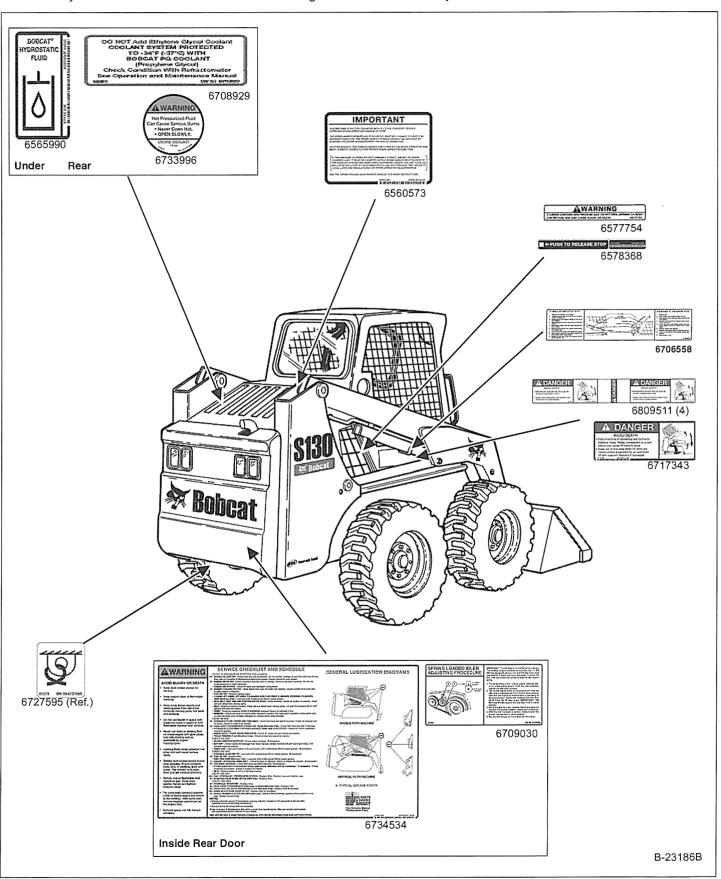
MACHINE SIGNS (DECALS)

Follow the instructions on all the Machine Signs (Decals) that are on the loader. Replace any damaged machine signs and be sure they are in the correct locations. Machine signs are available from your Bobcat Loader dealer.



MACHINE SIGNS (DECALS) (CONT'D)

Follow the instructions on all the Machine Signs (Decals) that are on the loader. Replace any damaged machine signs and be sure they are in the correct locations. Machine signs are available from your Bobcat Loader dealer.



PUBLICATIONS AND TRAINING RESORCES

The following publications are also available for your Bobcat Loader. You can order them from your Bobcat dealer.

For the latest information on Bobcat products and the Bobcat Company, visit our web site at www.training.bobcat.com or www.bobcat.com



OPERATION & MAINTENANCE MANUAL

6904119

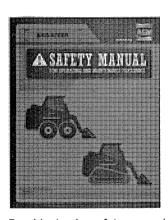
Complete instructions on the correct operation and the routine maintenance of the Bobcat Loader



SERVICE MANUAL

6904121

Complete maintenance instructions for your Bobcat Loader.



SAFETY MANUAL (English & Spanish)

6556500

Provide basic safety procedures and warnings for your Bobcat Loader in both English and Spanish.



OPERATOR'S HANDBOOK

6902600

Gives basic operation instructions and safety warnings



SKID-STEER LOADER OPERATOR TRAINING COURSE

6901726

Introduces operator to step-by-step basics of Skid-Steer Loader operation. Also available in Spanish P/N 6724036



OPERATOR SAFETY VIDEO

6902176



OPERATOR SAFETY DVD (English & Spanish)

6904762

Provides basic safety instructions contained in all Bobcat Safety Videos in both English and Spanish.



SKID-STEER LOADER SERVICE SAFETY TRAINING COURSE

6900641

Introduces Service Technicians to step-by-step basics of proper and safe Skid-Steer Loader maintenance and servicing procedures.

Page 25 - BOBM022075-09-B1001 - 08/24/2008 21:24:50 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

OPERATING INSTRUCTIONS

ATTACHMENT CONTROL DEVICE (ACD)	
ATTACHMENTS	OI-41 OI-42 OI-44
BACK-UP ALARM SYSTEM	
BOBCAT INTERLOCK CONTROL SYSTEM (BICS)	
DAILY INSPECTION	
DRIVING AND STEERING THE LOADER	OI-14 OI-15 OI-16
ENGINE SPEED CONTROL	
Advanced Control System (ACS) in HAND Control Mode. Description	OI-21 OI-24 OI-23 OI-23 OI-25 OI-25 OI-25 OI-25 OI-25 OI-25 OI-25

OPERATING INSTRUCTIONS (OI)

Continued On Next Page

OPERATING INSTRUCTIONS (CONT'D)

INSTRUMENT PANEL IDENTIFICATION Cab Light Left Panel Side And Front Panels Right Panel (Keyless) Right Panel (Key Switch)	OI-8 OI-5 OI-9
LIFT ARM BYPASS CONTROL	
LIFTING THE LOADERFour Point LiftSingle Point Lift	OI-57
MONITORING THE DISPLAY PANELS Left Panel	OI-38
OPERATING PROCEDURE. Digging And Filling A Hole (ACS - Handles, SJC - 'H' Pattern). Digging And Filling A Hole (Foot Pedals). Digging And Filling A Hole (SJC - 'ISO' Pattern). Filling And Emptying The Bucket (ACS - Handles, SJC - 'H' Pat Filling And Emptying The Bucket (Foot Pedals). Filling And Emptying The Bucket (SJC - 'ISO' Pattern). Inspect The Work Area Leveling The Ground Using Float (ACS - Handles, SJC - 'H' Pat Leveling The Ground Using Float (Foot Pedals). Leveling The Ground Using Float (SJC - 'ISO' Pattern). Operating With A Full Bucket. Operating With An Empty Bucket	OI-53 OI-53 OI-55 ttern) OI-51 OI-47 OI-47 ottern) OI-52 OI-55 OI-55
PARKING BRAKE	
PRE-STARTING PROCEDURE Entering The Loader Operation & Maintenance Manual And Operator's Handbook Lose Seat Adjustment Seat Bar Seat Belt Adjustment	Ol-30 ocations Ol-30 Ol-30

Continued On Next Page

OPERATING INSTRUCTIONS (CONT'D)

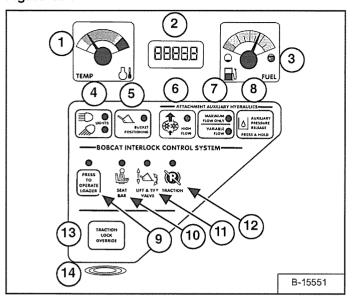
SEAT BAR RESTRAINT SYSTEM	
SPEED MANAGEMENT	
STARTING THE ENGINE)I-36)I-35)I-33
STEERING DRIFT COMPENSATION C Description)I-18)I-19
STOPPING THE LOADER	
STOPPING THE ENGINE AND LEAVING THE LOADER)I-40
TOWING THE LOADER	
TRACTION LOCK OVERRIDE	
TRANSPORTING THE LOADER ON A TRAILER)I-58

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INSTRUMENT PANEL IDENTIFICATION

Left Panel

Figure OI-1



The left instrument panel [Figure OI-1] is the same for both Key Switch and Keyless equipped machines.

The table below shows the DESCRIPTION and FUNCTION / OPERATION for each of the components of the left panel.

REF. NO	DESCRIPTION	FUNCTION / OPERATION			
1	TEMPERATURE GAUGE	Shows the engine coolant temperature.			
2	HOURMETER / CODE DISPLAY / ENGINE PREHEAT COUNTDOWN	HOURMETER - Records operating hours of loader. CODE DISPLAY - Display numeric SERVICE CODES* relating to the loader monitoring system. ENGINE PREHEAT COUNTDOWN - Preheat time remaining.			
3	FUEL GAUGE	Shows the amount of fuel in the tank.			
4	LIGHTS / HOLD FOR CODES	LIGHTS - Press once for FRONT LIGHTS. Press a second time for FRONT AND REAR lights. Press a third time to turn all lights off. HOLD FOR CODES - Press and hold two seconds for display of SERVICE CODES (Item 2). (CODES* show only when there is an error found by loader monitoring system.)			
5	BUCKET POSITIONING (Option)	Press to engage the BUCKET POSITIONING function. Press again to disengage. Press and hold two seconds to view [SHTDN] and Operational Code Number in HOURMETER / CODE DISPLAY.			
	ATTACHMENT AUXIL	IARY HYDRAULICS			
6	HIGH-FLOW (Option)	Press to engage the HIGH-FLOW auxiliary hydraulics. Press again to disengage.			
7	MAXIMUM FLOW / VARIABLE FLOW	Press once to engage the VARIABLE FLOW auxiliary hydraulics. Press a second time to engage MAXIMUM FLOW. Press a third time to disengage all auxiliary hydraulics. [VARIABLE FLOW allows for slow-to-fast movement of auxiliary functions (The farther you move the switch, the faster the movement of auxiliary functions.) MAXIMUM FLOW allows for only fast movement.]			
8 AUXILIARY PRESSURE RELEASE Rear Auxiliary Only - With key ON and engine running, press to shut down engine and relieve rear auxiliary Only - With key ON and engine running, press to shut down engine and relieve rear auxiliary Only - With key ON and engine running, press to shut down engine and relieve rear auxiliary Only - With key ON and engine running, press to shut down engine and relieve rear auxiliary Only - With key ON and engine running, press to shut down engine and relieve rear auxiliary Only - With key ON and engine running, press to shut down engine and relieve rear auxiliary Only - With key ON and engine running, press to shut down engine and relieve rear auxiliary Only - With key ON and engine running, press to shut down engine and relieve rear auxiliary Only - With key ON and engine running, press to shut down engine and relieve rear auxiliary Only - With key ON and engine running, press to shut down engine and relieve rear auxiliary Only - With key ON and engine running, press to shut down engine and relieve rear auxiliary Only - With key ON and engine running, press to shut down engine and relieve rear auxiliary Only - With key ON and engine running, press to shut down engine and relieve rear auxiliary Only - With key ON and engine running, press to shut down engine and relieve rear auxiliary only - With key ON and engine running, press to shut down engine and relieve rear auxiliary only - With key ON and engine running, press to shut down engine and relieve rear auxiliary only - With key ON and engine running, press to shut down engine and relieve rear auxiliary only - With key ON and engine running, press to shut down engine running, press to shut down engine running ru					
	BOBCAT INTERLOCK	CONTROL SYSTEM (BICS)			
	(See SYSTEM SETUP & ANA	ALYSIS, Content page SA-1 for more information.)			
9 PRESS TO OPERATE LOADER Press to activate BICS when the Seat Bar is down and operator is seated in operating position. Press and hold three seconds to engage Steering Drift Compensation. (See STEERING DRIFT COMPENSATION on Page OI-18.)		Press and hold three seconds to engage Steering Drift Compensation. (See STEERING DRIFT			
10	10 SEAT BAR The light comes ON when the seat bar is down.				
11	LIFT & TILT VALVE	& TILT VALVE The light comes ON when the seat bar is down and the PRESS TO OPERATE button is pressed. The lift and to functions can be operated when the light is ON.			
12	TRACTION	The light comes <i>ON</i> when the seat bar is down, engine is running, and parking brake is released. The loader <u>can</u> be moved forward or backward when the light is <i>ON</i> .			
	TRACTION LOCK OVERRIDE	(Functions Only When Seat Bar Is Raised And The Engine Is Running) Press to unlock the brakes. Allows you to use the steering levers to move the loader forward or backward when using the backhoe attachment or for loader service. (See TRACTION LOCK OVERRIDE Page OI-12). Press a second time to lock the brakes.			
14	ALARM	The ALARM beeps when there is an Error, WARNING or SHUTDOWN condition.			

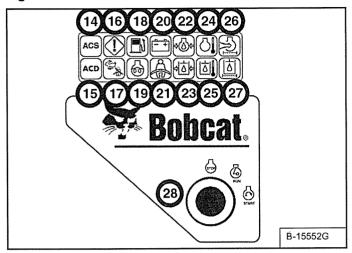
^{*} See SYSTEM SETUP & ANALYSIS, (See DIAGNOSTIC SERVICE CODES on Page SA-4.) for further description of SERVICE CODES.

Page 30 - BOBM022075-09-B1003 - 08/24/2008 21:24:51 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

INSTRUMENT PANEL IDENTIFICATION (CONT'D)

Right Panel (Key Switch)

Figure OI-2



The right instrument panel shown [Figure OI-2] is the Key Switch Panel.

The table below shows the icons and other components of the Right Key Switch Panel.

* These functions are monitored and have SERVICE CODES associated with them. For descriptions, (See DIAGNOSTIC SERVICE CODES on Page SA-4.)

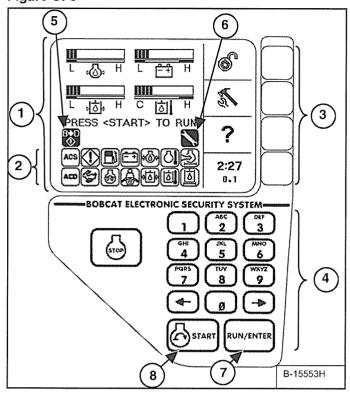
REF.	FUNCTION	ICON/ LIGHT	ALARM	CODE	CONDITION	DESCRIPTION
ACS 14	Advanced Control System (ACS) (Opt.)	ON	3 Beeps	*	Error	Error with Advanced Control System (ACS).
ACD 15	Attachment Control Device (ACD) (Opt.)	ON FLASHING	3 Beeps	- *	Error	Electrical controlled attachment is present. Error with Attachment Control Device (ACD)
① ₁₆	General Warning	ON ON FLASHING	3 Beeps 3 Beeps Continuous	**	Error WARNING SHUTDOWN	Error with one or more engine or hydraulic functions. Engine speed high or in shutdown. Engine speed extremely high. Engine will stop in 10 seconds.
17	NOT USED Fuel Level	ON FLASHING	3 Beeps 3 Beeps	*	Error WARNING	Fuel level sender system fault. Fuel level low.
6 19 19	Engine Preheat	ON FLASHING	3 Beeps	*	 Error	Glow plugs are energized. Error with glow plugs
(1) ₂₀	System Voltage	ON	3 Beeps	*	WARNING	Voltage low, high or extremely high.
<u>a</u> 21	Seat Belt	ON		-		Light stays on for 45 seconds to remind operator to fasten seat belt.
	Engine Oil Pressure	ON ON FLASHING	3 Beeps 3 Beeps Continuous	* *	Error WARNING SHUTDOWN	Engine oil pressure sender out of range. Engine oil level low. Engine oil pressure extremely low. Engine will shutdown in 10 seconds.
翻 23	Hydrostatic Charge Pressure	ON ON FLASHING	3 Beeps 3 Beeps Continuous	* *	Error WARNING SHUTDOWN	Hydraulic oil pressure sender out of range. Hydraulic oil pressure low. Hydraulic charge pressure extremely low. Engine will stop in 10 seconds.
(1) ₂₄	Engine Coolant Temperature	ON ON FLASHING	3 Beeps 3 Beeps Continuous	* *	Error WARNING SHUTDOWN	Engine coolant sender out of range Engine coolant temperature high. Engine coolant temperature extremely high. Engine will stop in 10 seconds.
1 25 25	Hydraulic Oil Temperature	ON ON FLASHING	3 Beeps 3 Beeps Continuous	*	Error WARNING SHUTDOWN	Hydraulic oil temperature out of range. Hydraulic oil temperature high. Hydraulic oil temperature extremely high. Engine will stop in 10 seconds.
2 ₂₆	Engine Air Filter	ON FLASHING	3 Beeps 3 Beeps	*	Error WARNING	Air filter with high restriction. Air filter switch not connected.
[<u></u>]	Hydraulic Filter	ON FLASHING	3 Beeps 3 Beeps	*	Error WARNING	Hydraulic filter with high restriction. Hydraulic filter switch not connected.
28	Key Switch	-	-		-	Used to start and stop the engine.

^{*} These functions are monitored and have associated SERVICE CODES. See SYSTEM SETUP AND ANALYSIS for description of SERVICE CODES.

INSTRUMENT PANEL IDENTIFICATION (CONT'D)

Right Panel (Keyless)

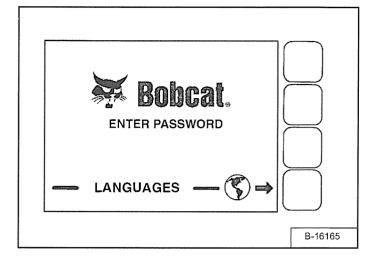
Figure OI-3



The right instrument panel shown [Figure OI-3] is the Keyless Panel.

- Display Screen: The Display Screen is where all system setup, monitoring, troubleshooting, and error conditions are displayed.
- Function Icons: The lower left area of the Display Screen contains the same icons as the Key Switch Panel. These icons are only visible when the monitoring system has detected the associated condition.
- 3. **Selection Buttons:** The four Selection Buttons allow you to select items from the Display Screen and scroll through screens.
- 4. **Keypad:** The numeric keypad has two functions:
 - To enter a number code (password) to allow starting the engine (Keyless Start).
 - To enter a number as directed for further use of the Display Screen.
- Bobcat Controller / Display Icon: Indicates communication error between Bobcat controller and instrument panel. (See DIAGNOSTIC SERVICE CODES on Page SA-4.)
- BobCARE PMSM Icon: Indicates planned maintenance is due. (See MAINTENANCE CLOCK on Page SA-14.)

Figure OI-4



The first screen you will see on your new loader will be as shown in [Figure Ol-4].

When this screen is on the display you can enter the password and start the engine or change the Display Panel setup features.

NOTE: Your new loader (with Keyless Instrument Panel) will have an Owner Password. Your dealer will provide you with this password. Change the password to one that you will easily remember to prevent unauthorized use of your loader. (See Changing The User Passwords on Page SA-13.) Keep your password in a safe place for future needs.

Start Engine: Use the Keypad to enter the numbers (letters) of your password and press the RUN / ENTER key (Item 7) [Figure OI-3].

Press and hold the START button (Item 8) [Figure OI-3] until the engine starts.

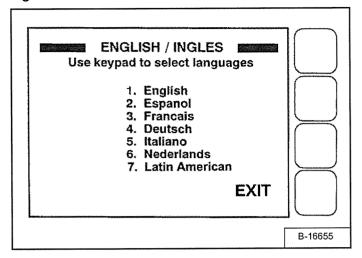
Change Language: Press the Selection button at the end of the arrow [Figure OI-4] to go to the next screen.

Page 32 - BOBM022075-09-B1003 - 08/24/2008 21:24:51 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

INSTRUMENT PANEL IDENTIFICATION (CONT'D)

Right Panel (Keyless) (Cont'd)

Figure OI-5



Use the Keypad to select the number of the language [Figure OI-5]

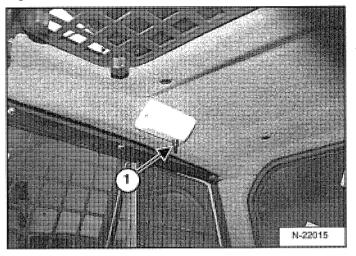
Press EXIT. The screen will return to [Figure Ol-4]. You can then enter the password and start the engine.

See DISPLAY CONTROLLER PANEL SETUP for further description of screens to setup the system for your use. (See CONTROL PANEL SETUP on Page SA-10.)

NOTE: Pressing the EXIT key will go to the previous screen and you can continue pressing until you get to the initial (home) screen. SHORTCUT: Press the "0" (zero) key to get to the home screen immediately.

Cab Light

Figure OI-6



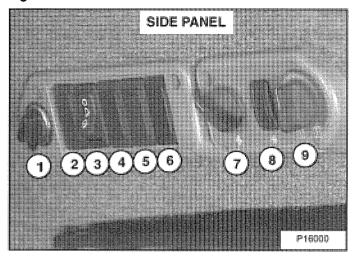
Push the button (Item 1) [Figure OI-6] to turn the light ON. Push the button again to turn OFF.

Page 33 - BOBM022075-09-B1003 - 08/24/2008 21:24:51 - Printed by Ren Cock Co. - eXprint.exe (v2.24.2 6/9/2008)

INSTRUMENT PANEL IDENTIFICATION (CONT'D) Side Panel [Figure OI-7].

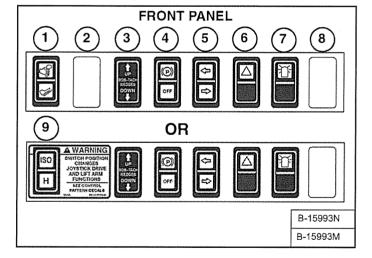
Side And Front Panels

Figure OI-7



REF. NO.	DESCRIPTION	FUNCTION / OPERATION
1	POWER PLUG	Provides a 12V receptacle for accessories.
2	NOT USED	
3	FRONT WIPER	Press the top of the switch to start the front wiper (press and hold for washer fluid). Press the bottom of the switch to stop the wiper.
4	REAR WIPER	Press the bottom of the switch to start the rear wiper. Press the top of the switch to provide washer fluid to clean the rear window.
5	NOT USED	
6	NOT USED	
7	FAN MOTOR	Turn clockwise to increase fan speed; counterclockwise to decrease. There are four positions; OFF-1-2-3.
8	NOT USED	
9	TEMPERATURE CONTROL	Turn clockwise to increase the temperature; counterclockwise to decrease.

Figure OI-8



NOTE: Parking Brake (Item 4) [Figure OI-8] is Standard on all loaders.

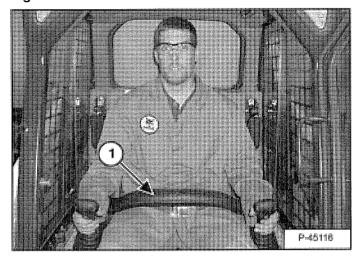
Front Panel [Figure OI-8]

REF. NO.	DESCRIPTION	FUNCTION / OPERATION
1	ADVANCED	Press the top to select Hand
	CONTROL	Controls; bottom to select Foot
	SYSTEM (ACS)	Controls.
2	NOT USED	
3	POWER BOB-TACH	Press and hold the up arrow to disengage the the Bob-Tach wedges. Press and hold the down arrow to engage the wedges into the mounting frame holes.
4	PARKING BRAKE (Standard on all Loaders)	Press the top to engage the PARKING BRAKE; bottom to disengage.
5	TURN SIGNAL INDICATORS	Indicates left or right TURN SIGNALS are ON.
6	HAZARD LIGHTS	Press the top to turn the HAZARD LIGHTS ON; bottom to turn OFF.
7	ROTATING BEACON	Press the top to turn the ROTATING BEACON ON; bottom to turn OFF.
8	NOT USED	
9	SELECTABLE	Press the top to select 'ISO' Control
	JOYSTICK CONTROL (SJC)	Pattern; bottom to select 'H' Control Pattern.

SEAT BAR RESTRAINT SYSTEM

Operation

Figure OI-9



The seat bar restraint system has a pivoting seat bar with arm rests (Item 1) [Figure OI-9].

The operator controls the use of the seat bar. The seat bar in the down position helps to keep the operator in the seat.



AVOID INJURY OR DEATH

When operating the machine:

- Keep the seat belt fastened snugly.
- · The seat bar must be lowered.
- Keep your feet on the pedal controls or footrests and hands on steering levers.

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When the seat bar is down, the PRESS TO OPERATE LOADER button is activated, and the brake is released, the lift, tilt, and traction drive functions <u>can</u> be operated. (Traction drive will operate only when the engine is running.)

When the seat bar is up, the lift, tilt and traction drive functions are deactivated and both foot pedals (if equipped) will be locked.



Before you leave the operator's seat:

- Lower the lift arms, put the attachment flat on the ground.
- Stop the engine.
- Engage the parking brake.
- Raise seat bar.
- (Foot Pedal Controls) Move pedals until both lock.
- (Advanced Control System-ACS) Move the hydraulic controls to the NEUTRAL POSITION to make sure that both lift and tilt functions are deactivated.

The seat bar system must deactivate the lift and tilt control functions when the seat bar is up. Service the system if hand controls do not deactivate.

 (Selectable Joystick Controls-SJC) Move the joysticks to the NEUTRAL POSITION to make sure that travel and hydraulic functions are deactivated.

The seat bar system must deactivate these functions when the seat bar is up. Service the system if controls do not deactivate.

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BOBCAT INTERLOCK CONTROL SYSTEM (BICS)

Operation

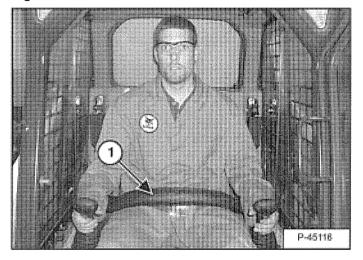


AVOID INJURY OR DEATH

The Bobcat Interlock Control System (BICS) must deactivate the lift, tilt and traction drive functions. If it does not, contact your dealer for service. DO NOT modify the system.

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Figure OI-10



The Bobcat Interlock Control System (BICS) has a pivoting seat bar with arm rests (Item 1) [Figure OI-10].

The operator controls the use of the seat bar. The seat bar in the down position helps to keep the operator in the seat.

The BICS requires the operator to be seated in the operating position with the Seat Bar (Item 1) [Figure Ol-10] fully lowered before the lift, tilt, auxiliary hydraulics, and traction functions can be operated. The seat belt must be fastened anytime you operate the machine.



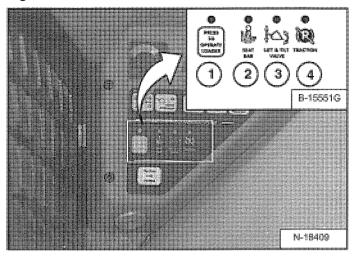
AVOID INJURY OR DEATH

When operating the machine:

- Keep the seat belt fastened snugly.
- The seat bar must be lowered.
- Keep your feet on the pedal controls or footrests and hands on steering levers.

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Figure OI-11



There are display lights (Items 1, 2, 3, & 4) [Figure Ol-11] located on the left instrument panel that must be ON to operate the machine.

When the seat bar is down, PRESS TO OPERATE LOADER button is activated, and the parking brake is released, the lift, tilt, auxiliary hydraulics, and traction drive functions can be operated.

When, the seat bar is up, the lift, tilt, auxiliary hydraulics, and traction drive functions are deactivated.



Before you leave the operator's seat:

- Lower the lift arms, put the attachment flat on the ground.
- Stop the engine.
- Engage the parking brake.
- Raise seat bar.
- (Foot Pedal Controls) Move pedals until both lock.
- (Advanced Control System-ACS) Move the hydraulic controls to the NEUTRAL POSITION to make sure that both lift and tilt functions are deactivated.

The seat bar system must deactivate the lift and tilt control functions when the seat bar is up. Service the system if hand controls do not deactivate.

(Selectable Joystick Controls-SJC) Move the joysticks to the NEUTRAL POSITION to make sure that travel and hydraulic functions are deactivated.

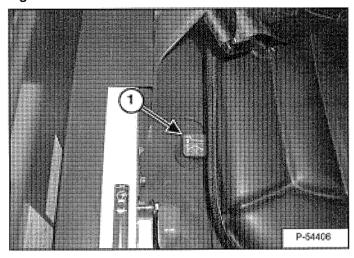
The seat bar system must deactivate these functions when the seat bar is up. Service the system if controls do not deactivate.

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LIFT ARM BYPASS CONTROL

Operation

Figure OI-12



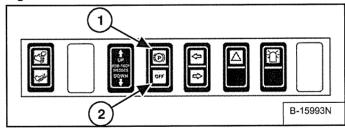
The lift arm bypass control (Item 1) [Figure OI-12] is used to lower the lift arms if the lift arms cannot be lowered during normal operations.

- · Sit in the operator's seat.
- Fasten the seat belt and lower the seat bar.
- Turn the knob (Item 1) [Figure OI-12] clockwise 1/4
- Pull up and hold the knob until the lift arms lower.

PARKING BRAKE

Operation

Figure OI-13



Press the top of the switch (Item 1) [Figure OI-13] to engage the parking brake. The traction drive system will be locked.

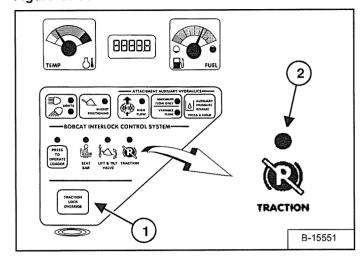
Press the bottom of the switch (Item 2) [Figure OI-13] to disengage the parking brake. The traction drive system will be unlocked.

NOTE: The TRACTION light on the left instrument panel will remain OFF until the engine is started, the PRESS TO OPERATE LOADER button is pressed and the parking brake is disengaged.

TRACTION LOCK OVERRIDE

Operation

Figure OI-14



(Functions Only When The Seat Bar Is Raised And The Engine Is Running) There is a TRACTION LOCK OVERRIDE button (Item 1) [Figure OI-14] on the left instrument panel which will allow you to use the steering levers to move the loader forward & backward when using the backhoe attachment or for loader service.

- Press the TRACTION LOCK OVERRIDE button once to unlock traction drive. The TRACTION light (Item 2) [Figure OI-14] will be ON.
- Press the button a second time to lock the traction drive. The TRACTION light (Item 2) [Figure OI-14] will be OFF.

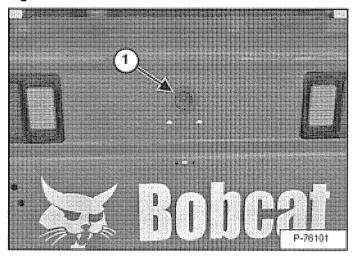
NOTE: The TRACTION LOCK OVERRIDE button will unlock the traction drive when seat bar is raised and the engine is running.

NOTE: The TRACTION LOCK OVERRIDE button will function if the parking brake is in the engaged or disengaged position and the engine is running.

BACK-UP ALARM SYSTEM

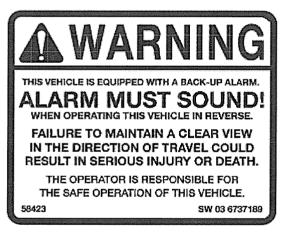
Operation

Figure OI-15



This machine may be equipped with a back-up alarm system. The back-up alarm (Item 1) [Figure OI-15] is located on the inside of the rear door.

Figure Ol-16



The back-up alarm will sound when the operator moves both steering levers or joystick(s) in the reverse position [Figure Ol-16]. Slight movement of the steering levers in the reverse position is required with hydrostatic transmissions, before the back-up alarm will sound.

If alarm does not sound or for adjustment instructions, see inspection and maintenance instructions for the back-up alarm system in the preventive maintenance section of this manual. (See BACK-UP ALARM SYSTEM on Page PM-13.)

ENGINE SPEED CONTROL

Operation

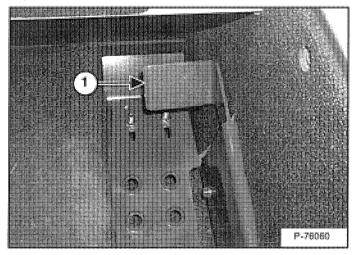
Figure OI-17



The speed control lever is at the right side of the operator's seat (Item 1) [Figure OI-17].

Move the lever forward to increase engine speed. Move backward to decrease engine speed.

Figure OI-18



There is a foot operated speed control (Item 1) [Figure OI-18] in addition to the speed control lever on SJC equipped machines. It is located on the right side floor above the footrest.

DRIVING AND STEERING THE LOADER

Available Control Configurations

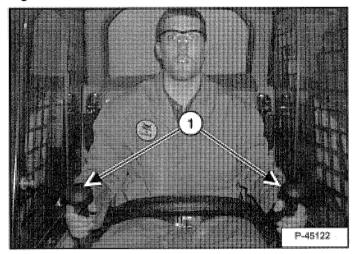
The loader has three configurations available:

- Standard Controls Two Levers control drive and steering functions.
- Advanced Control System (ACS) (Option or Field Accessory) - Two Levers control drive and steering functions.
- Selectable Joystick Controls (SJC) (Option) ('ISO' Pattern) Left joystick controls the drive and steering functions.

('H' Pattern) Left and right joysticks control left and right side drive and steering functions.

Operation (Standard and ACS)

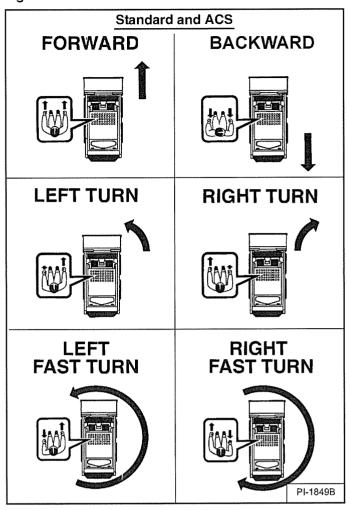
Figure OI-19



The control levers (Item 1) [Figure OI-19] are on the left and right side in front of the seat.

Move the levers smoothly. Avoid sudden starting and stopping.

Figure OI-20



The levers control forward and backward travel and turning the loader [Figure OI-20].

Forward Travel - Push both levers forward.

Backward Travel - Pull both levers backward.

Normal Turning - Move one lever farther forward than the other.

Fast Turning - Push one lever forward and pull the other lever backward.



AVOID INJURY OR DEATH

When operating the machine:

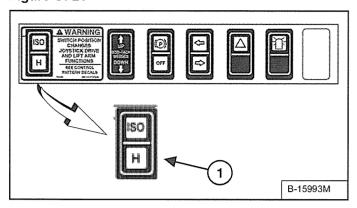
- Keep the seat belt fastened snugly.
- The seat bar must be lowered.
- Keep your feet on the pedal controls or footrests and hands on steering levers.

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DRIVING AND STEERING THE LOADER (CONT'D)

Operation (SJC) In 'H' Control Pattern

Figure OI-21



Select the 'H' control pattern by pressing the bottom of the switch (Item 1) [Figure Ol-21].



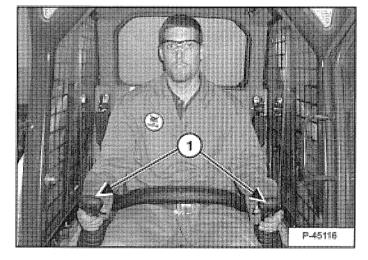
AVOID INJURY OR DEATH

When operating the machine:

- Keep the seat belt fastened snugly.
- The seat bar must be lowered.
- Keep your feet on the foot rests and hands on control levers.

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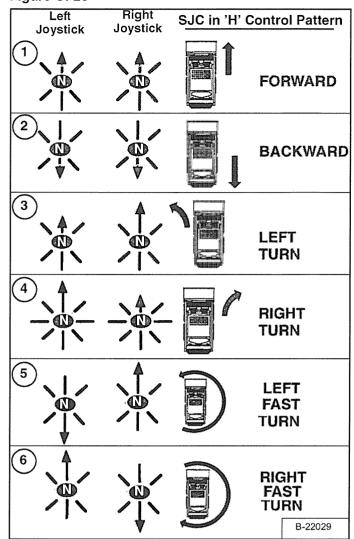
Figure OI-22



Both joysticks control drive and steering and are located on the right and left side in front of the seat (Item 1) [Figure OI-22].

Move the joysticks smoothly. Avoid sudden starting and stopping.

Figure OI-23



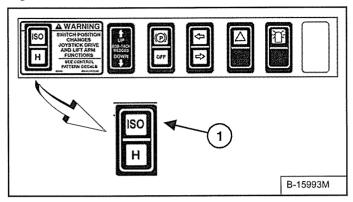
Joystick Functions (Drive and Steering) [Figure Ol-23]

- 1. Forward Travel Move both joysticks forward.
- 2. **Backward Travel** Move both joysticks backward.
- 3. **Forward Left Turn** Move the right joystick farther forward than the left joystick.
- 4. **Forward Right Turn** Move the left joystick farther forward than the right joystick.
- 5. **Left Fast Turn** Move the left joystick backward and the right joystick forward.
- 6. **Right Fast Turn** Move the left joystick forward and the right joystick backward.

DRIVING AND STEERING THE LOADER (CONT'D)

Operation (SJC) In 'ISO' Control Pattern

Figure OI-24



Select the 'ISO' control pattern by pressing the top of the switch (Item 1) [Figure OI-24].



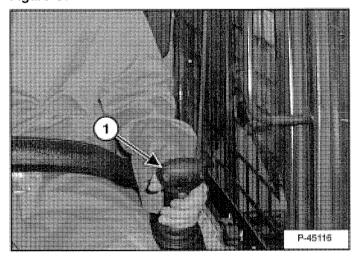
AVOID INJURY OR DEATH

When operating the machine:

- Keep the seat belt fastened snugly.
- · The seat bar must be lowered.
- Keep your feet on the foot rests and hands on control levers.

W-2399-0501

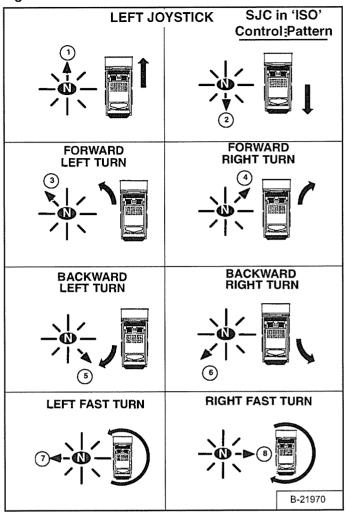
Figure OI-25



The joystick which controls drive and steering is on the left side in front of the seat (Item 1) [Figure Ol-25].

Move the joystick smoothly. Avoid sudden starting and stopping.

Figure OI-26



<u>Left</u> Joystick Functions (Drive and Steering) [Figure Ol-

Move the joystick smoothly. Avoid sudden starting and stopping.

- 1. Forward Travel Move joystick forward.
- 2. **Backward Travel** Move joystick backward.
- 3. **Forward Left Turn** Move joystick forward and to the left.
- Forward Right Turn Move joystick forward and to the right.
- 5. **Backward Left Turn** Move joystick backward and to the right.
- 6. **Backward Right Turn** Move joystick backward and to the left.
- 7. **Left Fast Turn** Move joystick to the left.
- 8. **Right Fast Turn** Move joystick to the right.

STOPPING THE LOADER

Using The Control Levers Or Joysticks

When the levers or joysticks are moved to the neutral position, the hydrostatic transmission will act as a *service brake* to stop the loader.

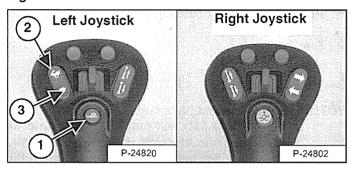
SPEED MANAGEMENT

Speed Management is available on SJC equipped machines.

Operation

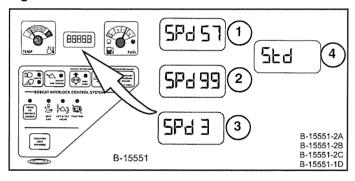
Speed Management allows the loader to be maneuvered at slow travel speed for installing attachments, loading or unloading, and work applications such as trenching, tilling and landscaping.

Figure OI-27



Press the button (Item 1) [Figure OI-27] on the left joystick once to engage Speed Management.

Figure OI-28



When Speed Management is engaged, the machine will travel at 57% of Standard travel speed and the percentage [SPd 57] will appear in the display (Item 1) [Figure OI-28].

While Speed Management is engaged, press the top of the Speed Control switch (Item 2) [Figure OI-27] to increase the speed up to 99% [SPd 99] or the bottom of the switch (Item 3) [Figure OI-27] to decrease the speed down to 3% [SPd 3]. The percentages will appear in the display (Items1, 2 and 3) [Figure OI-28].

Press button (Item 1) [Figure OI-27] again to disengage Speed Management and return to Standard Travel Speed ([Std] (Item 4) [Figure OI-28] will appear in display.)

NOTE: <u>Early model loaders</u> will show SnI in the display [Figure OI-28] instead of SPd.

The system will retain the speed percentage as long as the key remains ON (Key Switch Panel) or the STOP button has not been pressed (Keyless Panel).

EXAMPLE: You can be using the machine at 40% and then disengage Speed Management to reposition the loader, then re-engage Speed Management. The speed percentage will still be at 40%.

If you turn the key OFF or press the STOP button, the next time you start the engine and engage Speed Management, the speed will be at 57% of Standard Travel Speed.

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STEERING DRIFT COMPENSATION

Steering Drift Compensation is available on SJC equipped machines.

NOTE: Software version 61 or higher is required to support this feature. The loader's software version can be displayed in the HOURMETER / CODE display. (See Hydraulic Bucket Positioning on Page Ol-22.) See your Bobcat dealer to update your machine's software version if necessary.

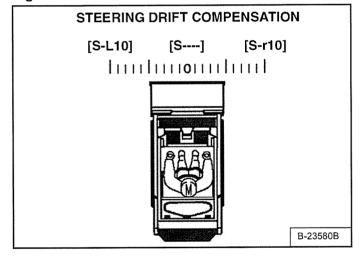
Description

Steering Drift Compensation can be used to reduce steering drift to maintain a desired travel path.

Examples of applications where this feature can be used:

- To compensate for normal variations such as tire inflation pressure, track tension, tire wear and track wear.
- Using side shift attachments such as trenchers, planers and silt fence installers.
- Driving on uneven terrain such as crowned road surfaces.

Figure OI-29



Steering drift compensation contains a total of 21 settings. Steering drift compensation can be set to any point from neutral to [S-L10] left and from neutral to [S-r10] right. [S----] is displayed when set for neutral [Figure OI-29].

Selecting And Adjusting

NOTE: Changes <u>CANNOT</u> be performed until the seat bar is lowered, the engine is started and the PRESS TO OPERATE LOADER button is pressed to enable the BICS.

Perform pre-starting and starting procedures:

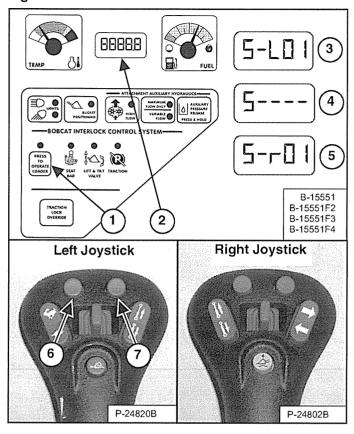
- 1. Fasten seat belt.
- Lower seat bar.
- 3. Place joysticks in neutral position.
- 4. Start the engine.
- 5. Press the PRESS TO OPERATE LOADER button.

NOTE: Raising the seat bar or changing drive control patterns (ISO / H) will cause the machine to disengage from steering drift compensation. The current settings will remain in effect until the STOP button is pressed (Keyless Panel) or the key is turned OFF (Key Switch Panel).

STEERING DRIFT COMPENSATION (CONT'D)

Selecting And Adjusting (Cont'd)

Figure OI-30



Press and hold the PRESS TO OPERATE LOADER button (Item 1) for **three seconds**. The current steering drift compensation setting will appear in the HOURMETER / CODE display (Item 2) [Figure OI-30].

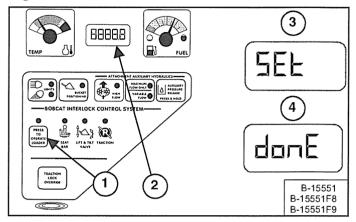
Press the upper left button (Item 6) on the left joystick to adjust the machine left. [S-L01] (Item 3) through a maximum of [S-L10] will appear in the display (Item 2) [Figure Ol-30]. The number will increase by one each time you press the button. The higher the number, the greater the amount of steering drift compensation to the left. Adjustments to steering drift compensation will be effective immediately.

Press the upper right button (Item 7) on the left joystick to adjust back toward center. The display will decrease down to neutral displayed as [S----] (Item 4). Another press of the upper right button will cause [S-r01] (Item 5) to appear in the display (Item 2) [Figure OI-30]. The number will increase by one each time you press the button up to a maximum of [S-r10]. The higher the number, the greater the amount of steering drift compensation to the right. Adjustments to steering drift compensation will be effective immediately.

NOTE: The display will revert back to hourmeter after a brief period of time. The machine will remain in steering drift compensation and continue at the current setting. Pressing the upper left or upper right button on the left joystick will adjust steering drift compensation accordingly and cause the new setting to appear in the display.

Exiting And Saving

Figure OI-31



The current setting can be saved by pressing and holding the PRESS TO OPERATE LOADER button (Item 1) for **three seconds**. [SEt] (Item 3) will appear in the display (item 2) [Figure OI-31] and the machine will disengage from steering drift compensation.

OR

Press the PRESS TO OPERATE LOADER button to disengage from steering drift compensation without saving the current setting. [donE] (Item 4) will appear in the display (Item 2) [Figure OI-31] and the upper left and upper right buttons on the left joystick will no longer make changes to steering drift compensation. The current settings will remain in effect until the STOP button is pressed (Keyless Panel) or the key is turned OFF (Key Switch Panel). The machine will revert back to the last saved settings the next time it is started.

HYDRAULIC CONTROLS

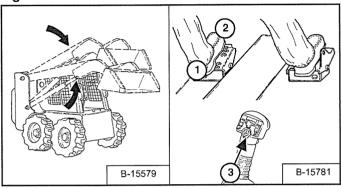
Description

Two foot pedals (or optional hand controls) control the hydraulic cylinders for the lift and tilt functions.

Put your feet on the pedals (or footrests) and KEEP THEM THERE any time you operate the loader.

Standard Controls (Also ACS in Foot Pedal Mode)

Figure OI-32



Lift Arm Operation - (Left Pedal)

Push the heel (Item 1) [Figure Ol-32] of the pedal to raise the lift arms.

Push the toe (Item 2) [Figure OI-32] of the pedal to lower the lift arms.

Lift Arm Float Position Operation - (Left Pedal)

Push the toe (Item 2) [Figure OI-32] of the pedal all the way forward until it locks into the float position.

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

Raise the lift arms to disengage the float position.

Lift Arm Float Position (With ACS) - (Left Pedal)

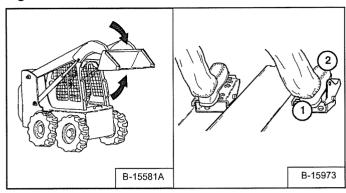
Press and hold the Float button (Item 3) [Figure Ol-32].

Push the toe (Item 2) [Figure OI-32] of the pedal forward to lower the lift arms. Then release the float button.

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

Raise the lift arms to disengage the float position.

Figure OI-33



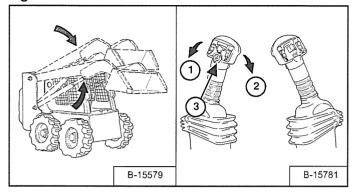
Tilt Operation - (Right Pedal)

Push the heel (Item 1) [Figure OI-33] of the pedal to tilt the bucket backward.

Push the toe (Item 2) [Figure OI-33] of the pedal to tilt the bucket forward.

Advanced Control System (ACS) in HAND Control Mode

Figure OI-34



Lift Arm Operation - (Left Hand Lever)

Move the lever outward (Item 1) [Figure OI-34] to raise the lift arms.

Move the lever inward (Item 2) [Figure Ol-34] to lower the lift arms.

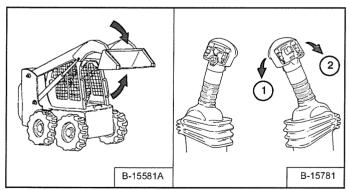
Lift Arm Float Position - (Left Hand Lever)

Press and hold the Float button (Item 3) [Figure OI-34] while the lever is in neutral. Move the lever to lift arm down position (Item 2) [Figure OI-34], then release the button.

Press Float button (Item 3) [Figure OI-34] 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-35



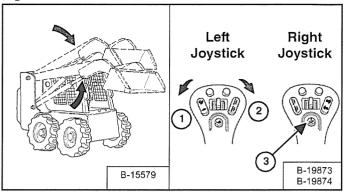
Tilt Operation - (Right Hand Lever)

Move the lever inward (Item 1) [Figure OI-35] to tilt the bucket backward.

Move the lever outward (Item 2) [Figure OI-35] to tilt the bucket forward.

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

Figure OI-36



Lift Arm Operation (Left Hand Joystick)

Move the joystick outward (Item 1) [Figure OI-36] to raise the lift arms.

Move the joystick inward (Item 2) [Figure OI-36] to lower the lift arms.

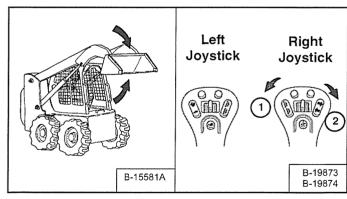
Lift Arm Float Position - (Left & Right Hand Joysticks)

Press and hold the Float button (Item 3) [Figure Ol-36] while the joysticks are in neutral. Move the left joystick to lift arm down position (Item 2) [Figure Ol-36], then release the button.

Press Float button (Item 3) [Figure OI-36] 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-37



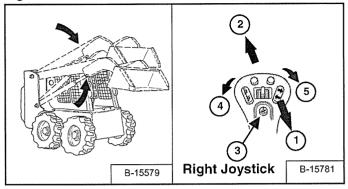
Tilt Operation - (Right Hand Joystick)

Move the joystick inward (Item 1) [Figure OI-37] to tilt the bucket backward.

Move the joystick outward (Item 2) [Figure OI-37] to tilt the bucket forward.

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

Figure OI-38



Lift Arm Operation - (Right Hand Joystick)

Move the joystick backward (Item 1) [Figure OI-38] to raise the lift arms.

Move the joystick forward (Item 2) [Figure OI-38] to lower the lift arms.

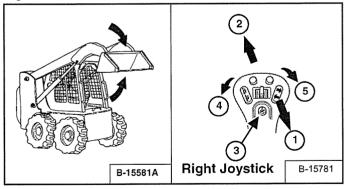
Lift Arm Float Position - (Right Hand Joystick)

Press and hold the Float button (Item 3) [Figure Ol-38] while the joystick is in neutral. Move the joystick to lift arm down position (Item 2) [Figure Ol-38], then release the button.

Press Float button (Item 3) again or move the joystick to lift arm up position (Item 1) [Figure OI-38] to disengage.

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

Figure OI-39



Tilt Operation - (Right Hand Joystick)

Move the joystick inward (Item 4) [Figure OI-39] to tilt the bucket backward.

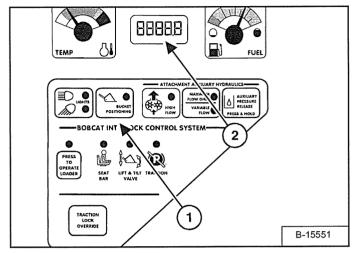
Move the joystick outward (Item 5) [Figure OI-39] to tilt the bucket forward.

Hydraulic Bucket Positioning

This machine may be equipped with Hydraulic Bucket Positioning.

The function of bucket positioning is to keep the bucket in the same approximate position it is in before you begin raising the lift arms.

Figure OI-40



Press BUCKET POSITIONING button (Item 1) [Figure OI-40] to engage the bucket positioning function. (The light will be on.) Press again to disengage.

Bucket positioning functions only during upward lift cycle.

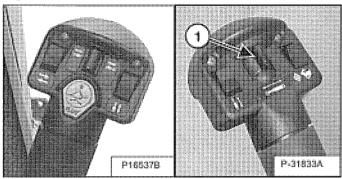
SHUTDOWN FEATURE

If the Bucket Positioning button (Item 1) [Figure OI-40] is pressed and held for 2 seconds, [Shtdn] and the software version will appear in the HOURMETER / CODE DISPLAY (Item 2) [Figure OI-40].

FRONT Auxiliary Hydraulics Operation (VARIABLE FLOW)

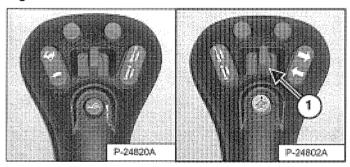
Standard and ACS (If Equipped)

Figure OI-41



SJC (If Equipped)

Figure OI-42



VARIABLE FLOW allows for slow-to-fast movement of auxiliary hydraulic functions.

Press the auxiliary hydraulics button (Item 1) [Figure Ol-43] once to set variable flow.

The light (Item 2) [Figure OI-43] will be ON.

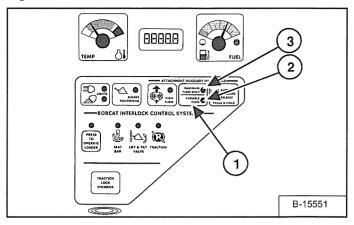
Move the front auxiliary hydraulic switch (Item 1) [Figure OI-41] or [Figure OI-42] to the right or left to change the fluid flow direction of the front quick couplers. If you move the switch half-way, the auxiliary functions move at approximately one-half speed; release the switch to stop auxiliary functions. (EXAMPLE: Open and close grapple teeth.)

To disengage, press the auxiliary hydraulics button (Item 1) [Figure OI-43] two more times.

Both lights (Items 2 & 3) [Figure OI-43] will be OFF.

NOTE: When the operator is seated and raises the seat bar, the Auxiliary Hydraulic System (Front and Rear) will deactivate.

Figure OI-43



FRONT Auxiliary Hydraulics Operation (MAXIMUM FLOW)

MAXIMUM FLOW ONLY allows for fast movement only of auxiliary hydraulic functions.

Press the auxiliary hydraulics button (Item 1) [Figure Ol-43] twice.

The light (Item 3) [Figure OI-43] will be ON.

Move the front auxiliary hydraulic switch (Item 1) [Figure OI-41] or [Figure OI-42] to the right or left to change the fluid flow direction of the front quick couplers. The auxiliary functions move at fast speed only; release the switch to stop auxiliary functions. (EXAMPLE: Open and close grapple teeth.)

To disengage, press the auxiliary hydraulics button (Item 1) [Figure OI-43] a third time.

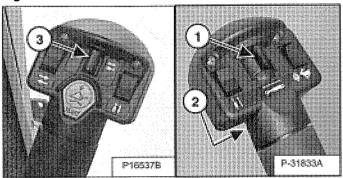
Both lights (Items 2 & 3) [Figure OI-43] will be OFF.

NOTE: When the operator is seated and raises the seat bar, the Auxiliary Hydraulic System (Front and Rear) will deactivate.

FRONT Auxiliary Hydraulics Operation (CONTINUOUS FLOW)

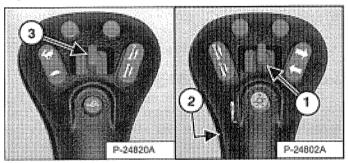
Standard and ACS (If Equipped)

Figure OI-44



SJC (If Equipped)

Figure OI-45



After selecting VARIABLE or MAXIMUM FLOW, press the front switch (Item 2) [Figure OI-44] or [Figure OI-45] to give the front quick couplers a constant flow of fluid with the female coupler being pressurized. (EXAMPLE: Operate a backhoe.)

REVERSE CONTINUOUS FLOW - To set reverse flow (male coupler pressurized), select VARIABLE or MAXIMUM FLOW, then, while holding the auxiliary switch (Item 1) [Figure OI-44] or [Figure OI-45] to the left, press the front switch (Item 2) [Figure OI-44] or [Figure OI-45]. Reverse flow can be used only with augers, power rakes, sweepers, tillers, and vibratory rollers.

To release from continuous operation, press the front switch (Item 2) [Figure OI-44] or [Figure OI-45] a second time.

NOTE: When the operator is seated and raises the seat bar, the Auxiliary Hydraulic System (Front and Rear) will deactivate.

REAR Auxiliary Hydraulics Operation

This machine may be equipped with REAR Auxiliary Hydraulics.

Figure OI-46

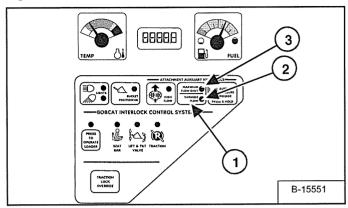
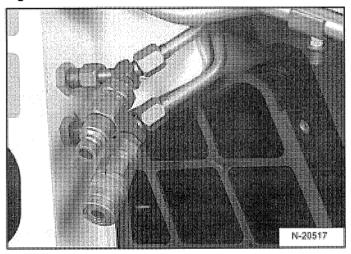


Figure OI-47



The switches on the left hand lever control the rear auxiliary hydraulics.

Press the auxiliary hydraulics button (Item 1) [Figure Ol-46] twice.

The light (Item 3) [Figure OI-46] will be ON.

Push the switch (Item 3) [Figure OI-44] or [Figure OI-45] to the right or left to change the fluid flow direction to rear quick couplers [Figure OI-47]. (EXAMPLE: Raise and lower rear stabilizers.)

To disengage, press the auxiliary hydraulics button (Item 1) [Figure OI-46] a third time.

Both lights (Items 2 & 3) [Figure Ol-46] will be OFF.

NOTE: When the operator is seated and raises the seat bar, the Auxiliary Hydraulic System (Front and Rear) will deactivate.

Quick Couplers

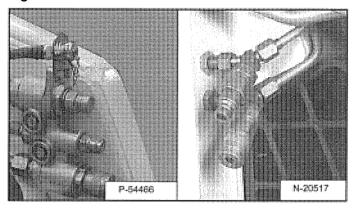


AVOID INJURY OR DEATH

Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes, causing serious injury or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention from a physician familiar with this injury.

W-2072-0807

Figure OI-48



To Connect: Remove dirt or debris from the surface of both the male and female couplers, and from the outside diameter of the male coupler. Visually check the couplers for corroding, cracking, damage or excessive wear. If any of these conditions exist, the coupler(s) [Figure OI-48] must be replaced.

Install the male coupler into the female coupler. Full connection is made when the ball release sleeve slides forward on the female coupler.

To Disconnect: Hold the male coupler. Retract the sleeve on the female coupler until the couplers disconnect.

Relieve Hydraulic Pressure (Loader And Attachment)



AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running machine and attachments. Be careful when connecting and disconnecting quick couplers.

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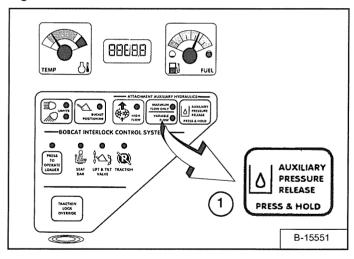
Front Auxiliary Quick Couplers

When Connecting: Push the quick couplers tightly together and hold for five seconds; the pressure is automatically released as the couplers are installed.

When Disconnecting: Push the quick couplers tightly together and hold for five seconds; then retract the sleeve until the couplers disconnect.

Rear Auxiliary Quick Couplers

Figure OI-49

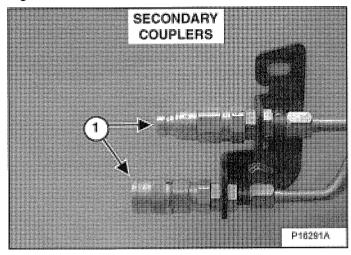


Press the AUXILIARY PRESSURE RELEASE button (Item 1) [Figure OI-49]. Hold it for two seconds after the engine comes to a complete stop. The pressure will be released.

Secondary Front Auxiliary Hydraulics

This machine may be equipped with Secondary Front Auxiliary Hydraulics.

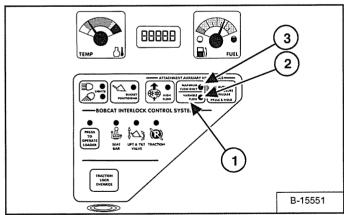
Figure OI-50



The secondary front auxiliary quick couplers (Item 1) [Figure OI-50] are available as a Field Installed Accessory. These are used when there is a need for additional auxiliary hydraulics. (EXAMPLE: Side shift on the Planer.)

Connect the attachment to the secondary front auxiliary hydraulics (Item 1) [Figure OI-50].

Figure OI-51

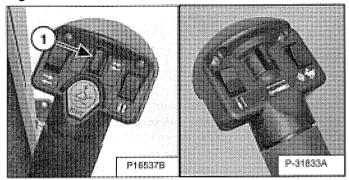


Set the Auxiliary Hydraulics button for *Variable Flow* or *Maximum Flow Only*.

Press the auxiliary hydraulics button (Item 1) [Figure Ol-51] once for VARIABLE FLOW or twice for MAXIMUM FLOW ONLY.

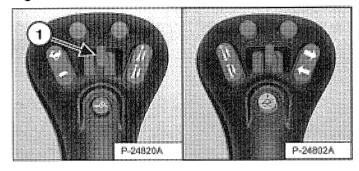
Standard and ACS (If Equipped)

Figure OI-52



SJC (If Equipped)

Figure OI-53



Push switch (Item 1) [Figure OI-52] or [Figure OI-53] to the right or left to change fluid flow direction. (EXAMPLE: Side shift on the Planer.)

NOTE: The secondary front auxiliary hydraulics and the rear auxiliary hydraulics operate from the same auxiliary section of the control valve. To operate an attachment with secondary front auxiliary hydraulics, you must disconnect any attachment connected to the rear auxiliary hydraulic quick couplers.

To disengage, press the auxiliary hydraulics button (Item 1) until both lights (Items 2 & 3) [Figure OI-51] are off.

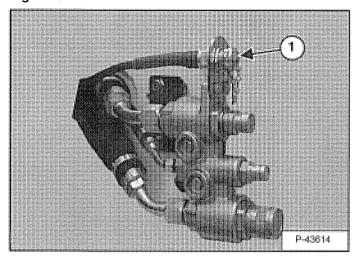
NOTE: When the operator is seated and raises the seat bar, the Auxiliary Hydraulic System (Front and Rear) will deactivate.

ATTACHMENT CONTROL DEVICE (ACD)

This machine may be equipped with an Attachment Control Device.

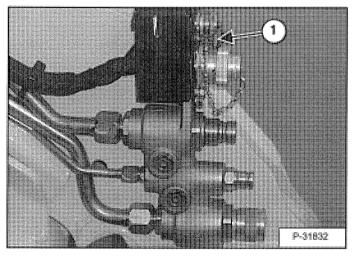
Description

Figure OI-54



Connect the attachment's electrical harness to the attachment control device (Item 1) [Figure OI-54].

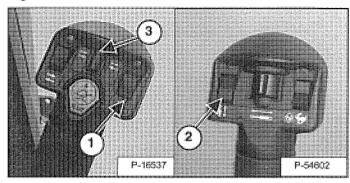
Figure OI-55



You will need the Dual-Connector (7-pin / 14-pin) kit (Item 1) [Figure OI-55] to operate early model attachments. See your Bobcat Loader dealer.

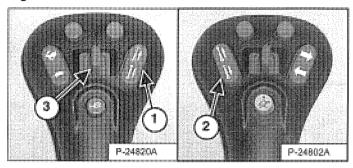
Standard and ACS (If Equipped)

Figure OI-56



SJC (If Equipped)

Figure OI-57



Additional switches (Items 1, 2 and 3) [Figure OI-56] or [Figure OI-57] on the right and left control handles or joysticks are used to control some attachment functions through the attachment control device.

NOTE: ACD takes over the function of auxiliary hydraulic switch (Item 3) [Figure OI-56] or [Figure OI-57] from Rear Auxiliary Hydraulics and Secondary Front Auxiliary Hydraulics when an attachment electrical harness is attached to the ACD.

See the appropriate attachment Operation & Maintenance Manual for control details.

SERVICE CHECKLIST AND SCHEDULE

EVERY TO HIS IBEFORE STARTING THE LOADER)

**ENGINE OIL & THEF-Check loved and bot an oecoded. Do not overfil. Change oil and filter after first 50 Med. there refer to Operation & Maintel for proper change interval for your Model.

**ENGINE AIR FILTER -Check condition indicator and/ or display. Service only when required. Do not use

AVOID INJURY OR DEATH

compressed air to clean elements.

RENGINE AIR SYSTEM - Check for the and damaged components.

RENGINE AIR SYSTEM - Check for obbits from grill, oil cooler and radiator. Check coolern level cold; add

RENGINE COOLING SYSTEM - Clean dobris from grill, oil cooler and radiator. Check coolern level cold; add

coolant inknura if required.

• FUEL FILTER - Ramona isapsed white,

• LOADER ILFT ARMS, LIFT LINKS, CYLINDERS, BOB-TACH PROT & WEDGES, STEERING CYLINDERS,

• LOADER ILFT ARMS, LIFT LINKS, CYLINDERS, BOB-TACH PROT & WEDGES, STEERING CYLINDERS,

• KWS Machina Châyl - Ludiciae with multipurposa Riblam based greate.

• SEAT BELT, SEAT BAR AND CONTROL INTERLOCKS - Chock function, Ropal or replace as recoded. Groon

dirt and debris from moving parts. • EACS - Check for correct function. Clean dirt and debris from moving parts. Lift and Tilf functions MUST NOT

oporate with soat bar raised. * YIRES - Check at prassure, Intate to MAXINUM pressure shown on sidowall of tire, * GENEIAL. - Check for locate or bricken puts, darraged operator eat, irstrument operation, loose wheel muts

clothing away from electrical contacts, moving parts, hot parts

and exhaust,

Keep body, loose objects and

Keep engine clean of Hammable

Keep door closed except for

or track sprockot nuts, oil leaks, damaged or missing safety signs (decate).

EVERY SO HRS

- HYDRAULIC FLUID, HOSES AND TUBELINES - Check fluid lovel and add if required. Check for damage and for leaks. Repair or regiace as needed.

** FINAL DRIVE TRANSMISSION (CHAINCASE, Wheel Machines Only) - Check full lovel and add it registed.

 HYDHAULIC & STEERING CONTROLS (PEDALS, HAND, 88d/ or JOYSTICK) - Chock for cornect operation. Adjust as needed.

• WHEEL NUTS. TRACK DRIVE SPROCKETS - Check for bose nuts and tighten as needed.

• TRACK TENSION (freck Machines Only) - Check tension and adjust as needed.

 SPARK ARRESTOR MUFFLER - Empty spark chamber. (if equipped.)
 BATTERY - Check battery for damage, hold down clamps, cables, connections and electrolyte level. Add EVERY 100 HAS

distilled water as needed.

• DRIVE LINE - Lubricate Engine-to-Pamp Coupler with multipurpose lithium based grease. (If equipped.)

 STEERING LEVER PNOTS - Lubricate with multipurpose lithkun based greade. (if equippod.) EVERY 250 HRS

Leaking fluids under pressure can

manufacturer.

enter skin and cause serious

Battery acid causes severe burns;

wear goggles. If acid contacts

eyes, skin, or clothing, flush with water. For contact with eyes,

flush and get medical attention

Battery makes flammable and

sparks, flames and lighted explosive gas. Keep arcs,

tobacco away.

- FUEL FILTER - Roplace filter.

- KING PRIS JAWS Rehelines Only - Lucirtate with multipurpose filtium based greece.

- KING PRIS JAWS Rehelines Only - Lucirtate with multipurpose filtium based greece.

- KINGINE I HYDRALIUE DIRIE BELT - Check for wear or damage. Adjust or replace as needed.

- FAN PINE GERANDY. - Check fuel feed and add if required, if equipped.)

- OTHER DRIVE BETS flykdenstatic burn, water pump, atternator, and air conditions - if equipped.) - Check condition and tension. Adjust or replace as needed.

- BICS - Check function of Lift Arm By-base control.

» B • FAN / HYDRAULIC / HYDROSTATIC SYSTEM - Roplace filor. Roplace reservoir treather cap. • STEERING VALVE INLINE FILTER (AWS Only) - Roplace filor.

EVERY 1000 HPS

HYDRAULIC RESERVOIR - Replace fluid:
 FINAL DRIVE TRANSMISSION (Chemease on Winsel Machines Only) - Replace fluid:
 FINAL DRIVE TRANSMISSION (Chemease on Winsel Machines Only) - Replace fluid (if required).
 TRACK ROLLER, IDLER ASSEMBLES (Frack Machines Only) - Replace fluid (if required).
 ** TRACK ROLLER, IDLER ASSEMBLES (Frack Machines (flux)) (required).
 ** TRACK ROLLER SPLINES (AWS only) - Repack wheel boarings, greese internal splines in hub.
 ** WHEEL BEARING & OUTER SPLINES (AWS only) - Repack wheel boarings, greese internal splines in hub.

yoke, (Doaler Service Only) NOTES

For jump start, connect negative cable to loader engine last (never

at the battery). After jump start, remove negative connection at

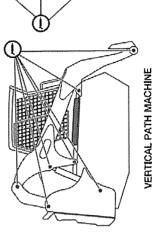
the engine first.

Exhaust gases can kill. Always

Bee Operation & Maintonance Manual for correct fluid specifications, filter part number and location, and appropriate service interval for your Model. Roplace element sooner if transmission warning indicator remains on for more than 5 minutes after hydraulic fluid is at operating temperature. Service at first 50 Hours, then as scheduled.

SEE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION AND INSTRUCTIONS.

GENERAL LUBRICATION DIAGRAMS RADIUS PATH MACHINE



TYPICAL GREASE POINTS

Use Genuine Bobcat Replacement Parts

70382 SW 6734534D enUS

6734534-V

Page 52 - BOBM022075-09-B1003 - 08/24/2008 21:24:52 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 8/9/2008)

Never use ether or starting fluid on diesel engine with glow plugs. Use only starting aids as approved by engine

flammable material near exhaust explosive dusts or gases or with

Do not use foader in space with

le 53 - BOBM022075-09-B1003 - 08/24/2008 21:24:52 - Printed by Ken Cook Co. - eXprint.exe (v2.24,2 6/9/2008)

DAILY INSPECTION (CONT'D)

Daily Inspection and Maintenance

Maintenance work must be done at regular intervals. Failure to do so will result in excessive wear and early failures. The Service Schedule (above) is a guide for correct maintenance of the Bobcat Loader. It is located inside the rear door of the loader and also in this manual. (See SERVICE SCHEDULE (6734534) on Page MST-3.)

- · Engine Oil Level
- Hydraulic/Hydrostatic Fluid Level
- Engine Air Filter, Check System for Damage or Leaks
- Engine Coolant System, Check System for Damage or Leaks
- Operator Cab and Cab Mounting Hardware
- Seat Belt
- · Seat Bar and Control Interlocks
- Grease Pivot Pins (Lift Arms, Bob-Tach, Cylinders, Bob-Tach Wedges)
- Tires, Check for Wear, Damage, Correct Air Pressure
- Fuel Filter, Remove Trapped Water
- Loose or Broken Parts, Repair or Replace as Necessary
- Lift Arm Support Device. Replace if Damaged
- Bobcat Interlock Control System (BICS)



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

W-2001-0502

NOTE: Fluids such as engine oil, hydraulic fluid, coolant, etc. must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local, state and federal regulations for correct disposal.

IMPORTANT

PRESSURE WASHING DECALS

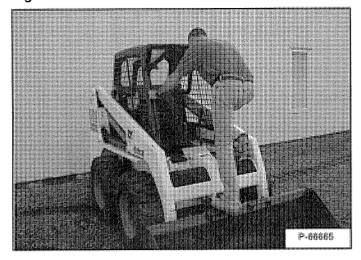
- Never direct the stream at a low angle toward the decal that could damage the decal causing it to peel from the surface.
- Direct the stream at a 90 degree angle and at least 12 inches (300 mm) from the decal. Wash from the center of the decal toward the edges.

1-2226-0104

PRE-STARTING PROCEDURE

Entering The Loader

Figure OI-59



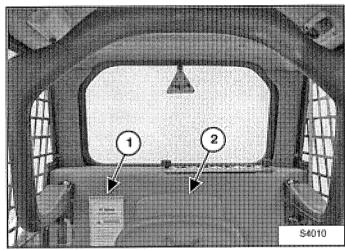
Use the bucket or attachment steps, grab handles and safety treads (on the loader lift arms and frame) to get on and off the loader [Figure OI-59]. Do not jump.

Safety treads are installed on the Bobcat Loader to provide a slip resistant surface for getting on and off the loader.

Keep safety treads clean and replace when damaged. Replacement treads are available from your Bobcat dealer.

Operation & Maintenance Manual And Operator's Handbook Locations

Figure OI-60



Read and understand the Operation & Maintenance Manual and the Operator's Handbook (Item 1) [Figure OI-60] before operating the loader.

The Operation & Maintenance Manual and other manuals can be kept in a container (Item 2) [Figure Ol-60] provided behind the operator seat.



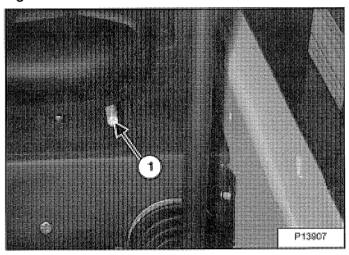
AVOID INJURY OR DEATH

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-2003-0807

Seat Adjustment

Figure OI-61

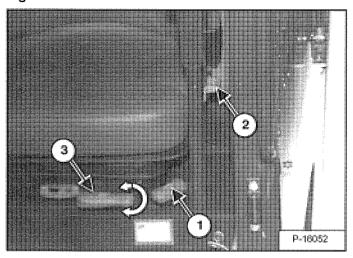


Release the seat lever (Item 1) [Figure OI-61] and adjust the seat position for comfortable operation of the loader controls.

PRE-STARTING PROCEDURE (CONT'D)

Seat Adjustment (Cont'd)

Figure OI-62



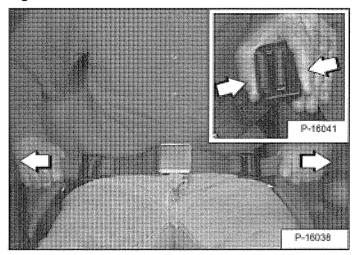
Suspension Seat - (If Equipped) Release the lever (Item 1) **[Figure Ol-62]** to adjust the seat distance from the joysticks and footrests.

Release the lever (Item 2) [Figure OI-62] to adjust the angle of the seat back.

Turn the lever (Item 3) [Figure OI-62] to adjust the seat cushion for weight of the operator.

Seat Belt Adjustment

Figure OI-63

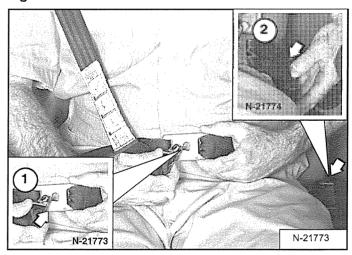


Squeeze both seat belt adjusters to release and lengthen each half of the seat belt [Figure OI-63].

Fasten the seat belt.

Pull the ends of the belt through the belt adjusters so that the seat belt is snug and the buckle is centered between your hips [Figure OI-63].

Figure OI-64



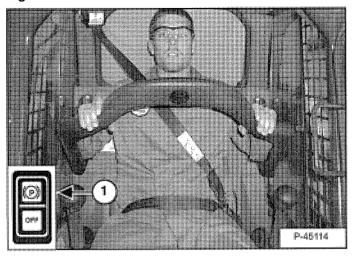
3-Point Restraint - (if equipped) Connect the shoulder belt to the lap belt (Item 1) [Figure OI-64]. Pull the lap belt across to the left side of the seat (Item 2) [Figure OI-64] and fasten.

The shoulder belt must be positioned over your right shoulder and the lap belt must be snug over your lower hips [Figure OI-64].

PRE-STARTING PROCEDURE (CONT'D)

Seat Bar

Figure OI-65



Lower the seat bar and engage the parking brake (Item 1) [Figure OI-65].

Put the foot pedals or hand controls in neutral position.

NOTE: Keep your hands on the steering levers and your feet on the foot pedals (or footrests) while operating the loader.



AVOID INJURY OR DEATH

When operating the machine:

- Keep the seat belt fastened snugly.
- The seat bar must be lowered.
- Keep your feet on the pedal controls or footrests and hands on steering levers.

W-2261-0799

STARTING THE ENGINE

Key Switch



AVOID INJURY OR DEATH

- Engines can have hot parts and hot exhaust gas.
 Keep flammable material away.
- Do not use machines in atmosphere containing explosive gas.

W-2051-1086

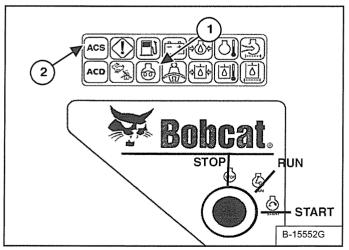
Perform the PRE-STARTING PROCEDURE. (See PRE-STARTING PROCEDURE on Page OI-30.)

Figure OI-66



Set the engine speed control to the idle position [Figure OI-66].

Figure OI-67



Turn the key switch to RUN [Figure OI-67]. The indicator lights on the right instrument panel [Figure OI-67] will come ON briefly and the Instrument Panel / monitoring system will do a self test.

If the temperature is cold, the glow plugs will automatically cycle. The icon light (Item 1) [Figure OI-67] will be ON and the cycle time remaining will show in the hour meter.

When the icon light goes OFF, turn the key switch to START [Figure 01-67].

Advanced Control System (ACS): Make sure both hand controls are in the neutral position before starting the engine. Do not move the Hand Control levers from the neutral position when turning the key to RUN or START [Figure OI-67].

Advanced Control System (ACS): Make sure both hand controls are in the neutral position before starting the engine. Do not move the Hand Control levers from the neutral position when turning the key to RUN or START [Figure OI-67].

NOTE: Make sure both hand controls (ACS) or Joysticks (SJC) are in the neutral position before starting the engine. Do not move the levers or joysticks from the neutral position when turning the key to RUN or START [Figure OI-67].

If either hand control is moved:

a. The neutral position for the hydraulic valve spool and hand control may not be correctly calibrated. This can result in movement of the lift or tilt hydraulic cylinders when the hand control lever is returned to the neutral position after start-up.

OR

b. ACS (Item 2) [Figure OI-67] indicator light on right instrument panel will be ON.

If either condition occurs, return key to STOP [Figure OI-67]. Put the controls in neutral position and restart the engine.

Release the key when the engine starts. It will return to the RUN position.



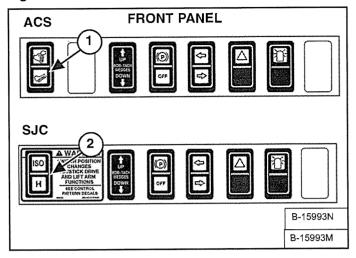
AVOID INJURY OR DEATH

- Fasten seat belt, start and operate only from the operator seat.
- Never wear loose clothing when working near machine.

W-2135-1188

Key Switch (Cont'd)

Figure OI-68

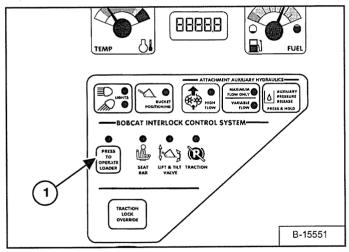


(ACS) Select hand control or foot pedal operation (Item 1) [Figure OI-68].

OR

(SJC) Select 'ISO' or 'H' Control Pattern (Item 2) [Figure OI-68].

Figure OI-69



Press the PRESS TO OPERATE LOADER button (Item 1) [Figure OI-69] to activate the BICS system and to perform hydraulic and loader functions. (See Cold Temperature Starting on Page OI-36.)

NOTE: (SJC) The pending mode will flash which will indicate PRESS TO OPERATE LOADER is required. The light will flash when key is ON and continue to flash until the PRESS TO OPERATE LOADER button is pressed and thereafter it will light solid. If the mode (ISO/H) is changed while driving, the active mode will be solid and the pending mode will flash. When operation of the machine is returned to neutral, the active mode will then turn off and the pending mode will continue to flash until the PRESS TO OPERATE LOADER button is pressed.



AVOID INJURY OR DEATH

When an engine is running in an enclosed area, fresh air must be added to avoid concentration of exhaust fumes. If the engine is stationary, vent the exhaust outside. Exhaust fumes contain odorless, invisible gases which can kill without warning.

W-2050-0807

Keyless



AVOID INJURY OR DEATH

- Engines can have hot parts and hot exhaust gas.
 Keep flammable material away.
- Do not use machines in atmosphere containing explosive gas.

W-2051-1086

Perform the PRE-STARTING PROCEDURE. (See PRE-STARTING PROCEDURE on Page OI-30.)

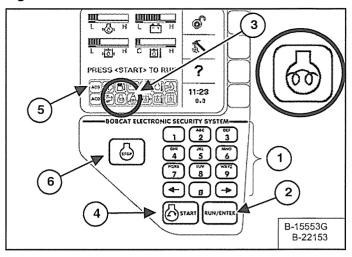
Figure OI-70



Set the engine speed control to the idle position [Figure OI-70].

NOTE: Loaders with Keyless Instrument Panel have a permanent, randomly generated Master Password set at the factory. Your loader will be assigned an Owner Password. Your dealer will provide you with this password. Change the password to one that you will easily remember to prevent unauthorized use of your loader. (See Changing The User Passwords on Page SA-13.) Keep your password in a safe place for future needs.

Figure OI-71



Use the numeric keypad (Item 1) [Figure OI-71] to enter the password, then press the RUN / ENTER button (Item 2) [Figure OI-71].

If the temperature is cold, the glow plugs will automatically cycle and the icon (Item 3) [Figure OI-71] will be ON.

When the icon light goes OFF, press the START button (Item 4) [Figure OI-71]. Release the button when the engine starts.

NOTE: Make sure both hand controls (ACS) or Joysticks (SJC) are in the neutral position before starting the engine. Do not move the levers or joysticks from the neutral position when attempting to start the engine.

If either hand control is moved:

a. The neutral position for the hydraulic valve spool and hand control may not be correctly calibrated. This can result in movement of the lift or tilt hydraulic cylinders when the hand control lever is returned to the neutral position after startup.

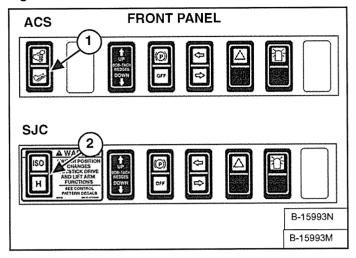
OR

b. ACS indicator light (Item 5) [Figure OI-71] on right instrument panel will be ON.

If either condition occurs, press the STOP button (Item 6) [Figure OI-71]. Put the controls in neutral position and re-start the engine.

Keyless (Cont'd)

Figure OI-72

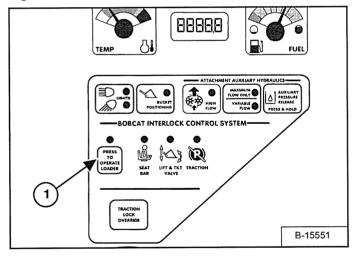


(ACS) Select hand control or foot pedal operation (Item 1) [Figure OI-72].

OR

(SJC) Select 'ISO' or 'H' Control Pattern (Item 2) [Figure OI-72].

Figure OI-73



Press the PRESS TO OPERATE LOADER button (Item 1) [Figure OI-73] to activate the BICS system and to perform hydraulic and loader functions. (See Cold Temperature Starting on Page OI-36.)

NOTE: (SJC) The pending mode will flash which will indicate PRESS TO OPERATE LOADER is required. The light will flash when key is ON and continue to flash until the PRESS TO OPERATE LOADER button is pressed and thereafter it will light solid. If the mode (ISO/H) is changed while driving, the active mode will be solid and the pending mode will flash. When operation of the machine is returned to neutral, the active mode will then turn off and the pending mode will continue to flash until the PRESS TO OPERATE LOADER button is pressed.



AVOID INJURY OR DEATH

When an engine is running in an enclosed area, fresh air must be added to avoid concentration of exhaust fumes. If the engine is stationary, vent the exhaust outside. Exhaust fumes contain odorless, invisible gases which can kill without warning.

W-2050-0807

Cold Temperature Starting



AVOID INJURY OR DEATH

Do not use ether with glow plug (preheat) systems. Explosion can result which can cause injury, death, or severe engine damage.

W-2071-0907

If the temperature is below freezing, perform the following to make starting the engine easier:

- Replace the engine oil with the correct type and viscosity for the anticipated starting temperature. (See ENGINE LUBRICATION SYSTEM on Page PM-25.)
- Make sure the battery is fully charged.
- Install an engine heater, available from your Bobcat Loader dealer.
- Move engine speed control lever halfway before starting. Return to idle position after engine starts.

NOTE: The LCD of the *Keyless Panel* may not be immediately visible when the temperature is below -15°F (-26°C). It may take <u>30 seconds to several minutes</u> for the Display Panel to warm up. All systems remain monitored even when the display is off.

Warming The Hydraulic / Hydrostatic System

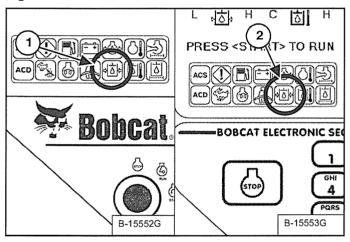
IMPORTANT

When the temperature is below -20°F (-30°C), hydrostatic oil must be warmed before starting. The hydrostatic system will not get enough oil at low temperatures and will be damaged. Park the machine in an area where the temperature will be above 0°F (-18°C) if possible.

I-2007-1285

Let the engine run for a minimum of 5 minutes to warm the engine and hydrostatic transmission fluid before operating the loader.

Figure OI-74

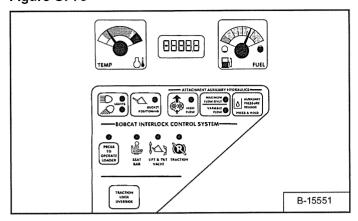


If the Fluid Pressure icon (Item 1) [Figure OI-74] (Key Switch Panel) or (Item 2) [Figure OI-74] (Keyless Panel) comes ON when operating the loader (cold), more warm up time is needed.

MONITORING THE DISPLAY PANELS

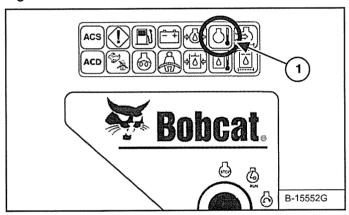
Left Panel

Figure OI-75



Frequently monitor the temperature and fuel gauges and BICS lights (all must be ON to operate loader) [Figure 01-75].

Figure OI-76



Right Panel (Key Switch)

After the engine is running, frequently monitor the right instrument panel [Figure OI-76] for error conditions.

The associated icon will be ON if there is an error condition.

EXAMPLE: Engine Coolant Temperature is High

The Engine Temperature icon (Item 1) [Figure OI-76] will be ON.

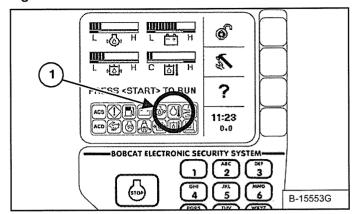
Press and hold LIGHTS button for 2 seconds. One of the following SERVICE CODES will be displayed.

- 08-10 Engine Coolant Temperature High
- **08-11** Engine Coolant Temperature Extremely High

Find the cause of the error code and correct before operating the loader again.

Right Panel (Keyless)

Figure OI-77



After the engine is running, frequently monitor the right instrument panel [Figure OI-77] for error conditions.

The associated icon will be ON if there is an error condition.

EXAMPLE: Engine Coolant Temperature is High

The Engine Temperature icon (Item 1) [Figure OI-77] will be ON.

Press and hold LIGHTS button for 2 seconds. One of the following SERVICE CODES will be displayed.

- **08-10** Engine Coolant Temperature High
- 08-11 Engine Coolant Temperature Extremely High

In addition, the Keyless Panel display screen will describe the extreme condition that can cause damage to the engine or loader systems [Figure OI-77].

Find the cause of the error code and correct before operating the loader again.

Warning and Shutdown

When a WARNING condition exists, the associated icon light will come ON and there will be 3 beeps from the alarm. Be aware that, if this condition is allowed to continue, there may be damage to the engine or loader hydraulic systems.

When a SHUTDOWN condition exists, the associated icon light will come ON and there will be a continuous beep from the alarm and the monitoring system will automatically stop the engine in 10 seconds. The engine can be restarted to move or relocate the loader.

The SHUTDOWN feature is associated with the following icons:

General Warning Engine Oil Pressure Engine Coolant Temperature Hydraulic Oil Temperature Hydrostatic Charge Pressure

Whenever STOP appears on the display screen, lower the lift arms all the way, put the attachment flat on the ground and stop the engine to prevent damage to the engine or loader systems.

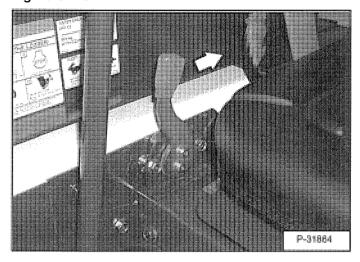
STOPPING THE ENGINE AND LEAVING THE LOADER

Procedure

Stop the loader on level ground.

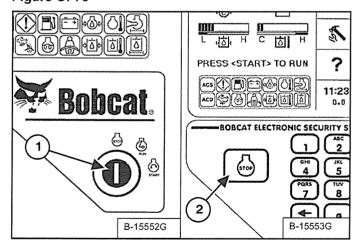
Fully lower the lift arms and put the attachment flat on the ground.

Figure OI-78



Pull the engine speed control fully backward [Figure Ol-78] to decrease the engine speed.

Figure OI-79



Engage the parking brake.

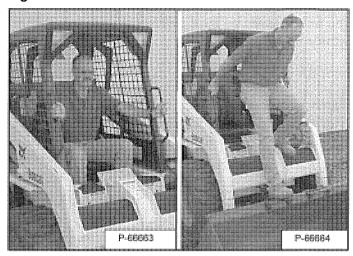
Turn the key switch to the STOP position (Item 1) [Figure OI-79] (Key Switch) or press the STOP button (Item 2) [Figure OI-79] (Keyless).

Lift the seat bar and make sure the lift and tilt functions are deactivated.

Unbuckle the seat belt.

Remove the key from the switch (Key Switch) to prevent operation of the loader by unauthorized personnel.

Figure OI-80



Exit the loader using grab handles, safety tread and steps (maintaining a 3-point contact) [Figure OI-80].



Before you leave the operator's seat:

- Lower the lift arms, put the attachment flat on the ground.
- Stop the engine.
- Engage the parking brake.
- Raise seat bar.
- (Foot Pedal Controls) Move pedals until both
- (Advanced Control System-ACS) Move the hydraulic controls to the NEUTRAL POSITION to make sure that both lift and tilt functions are deactivated.

The seat bar system must deactivate the lift and tilt control functions when the seat bar is up. Service the system if hand controls do not deactivate.

 (Selectable Joystick Controls-SJC) Move the joysticks to the NEUTRAL POSITION to make sure that travel and hydraulic functions are deactivated.

The seat bar system must deactivate these functions when the seat bar is up. Service the system if controls do not deactivate.

W-2463-0603

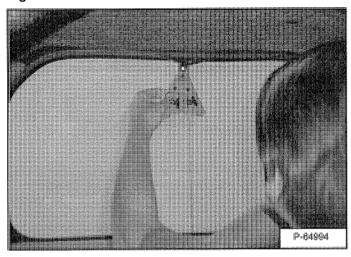
STOPPING THE ENGINE AND LEAVING THE LOADER (CONT'D)

Emergency Exit

The front opening on the operator cab and rear window provide exits.

Rear Window (If Equipped)

Figure OI-81



Pull on the tag on the top of the rear window to remove the rubber cord [Figure OI-81].

Push the rear window out of the rear of the operator cab.

Figure OI-82



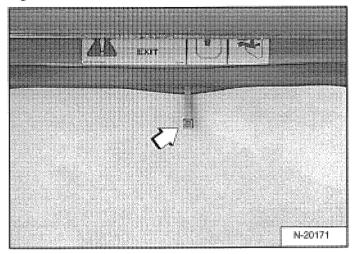
Exit through the rear of the operator cab [Figure OI-82].

Front Door (If Equipped)

NOTE: When an Operator Cab Enclosure Kit is installed, the window of the front door can be used as an emergency exit. [Figure OI-83]

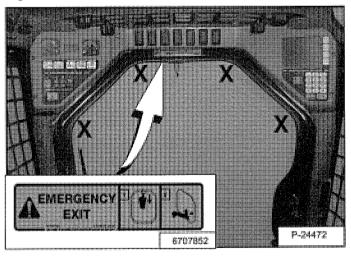
NOTE: If the loader has a Special Application Door Kit installed, the window of the front door is NOT an emergency exit.

Figure OI-83



Pull the plastic loop at the top of the window in the front door to remove the rubber cord [Figure OI-83].

Figure OI-84



Push the window out with your foot [Figure OI-84] at any corner of the window.

Exit through the front door.

ATTACHMENTS

Choosing The Correct Bucket



AVOID INJURY OR DEATH

Never use attachments or buckets which are not approved by Bobcat Company. Buckets and attachments for safe loads of specified densities are approved for each model. Unapproved attachments can cause injury or death.

W-2052-0907

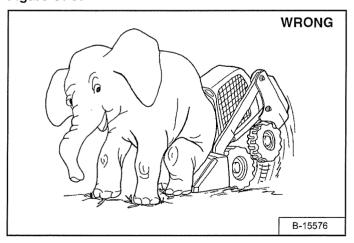
NOTE: Warranty is void if non-approved attachments are used on the Bobcat Loader.

The dealer can identify, for each model loader, the attachments and buckets approved by Bobcat. The buckets and attachments are approved for Rated Operating Capacity (ROC) and for secure fastening to the Bob-Tach.

The ROC for this loader is shown on a decal in the operator cab. (See (S130) LOADER SPECIFICATIONS on Page SPEC-3.)

The ROC is determined by using a standard dirt bucket, and material of normal density, such as dirt or dry gravel. If longer buckets are used, the load center moves forward and reduces the ROC. If very dense material is loaded, the volume must be reduced to prevent overloading.

Figure OI-85



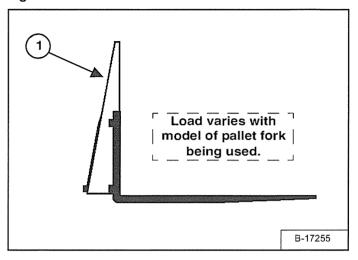
Exceeding the ROC [Figure OI-85] can cause the following problems:

- Steering the loader may be difficult.
- Tires will wear faster.
- There will be a loss of stability.
- The life of the Bobcat Loader will be reduced.

Use the correct bucket size for the type and density of material being handled. For safe handling of materials and avoiding machine damage, the attachment (or bucket) should handle a full load without going over the (ROC) for the loader. Partial loads make steering more difficult.

Pallet Fork

Figure OI-86



The maximum load to be carried when using a pallet fork is shown on a decal located on the pallet fork frame (Item 1) [Figure OI-86].

See your Bobcat dealer for more information about pallet fork inspection, maintenance and replacement. See your Bobcat Loader dealer for ROC when using a pallet fork and for other available attachments.



AVOID INJURY OR DEATH

Do not exceed Rated Operating Capacity (ROC).

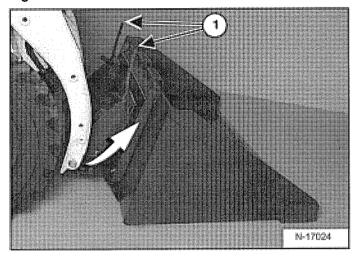
Excessive load can cause tipping or loss of control.

W-2053-0903

Installing And Removing The Attachment (Hand Lever Bob-Tach)

The Bob-Tach is used for fast changing of buckets and attachments. See the appropriate Attachment Operation & Maintenance Manual to install other attachments.

Figure OI-87



Installing

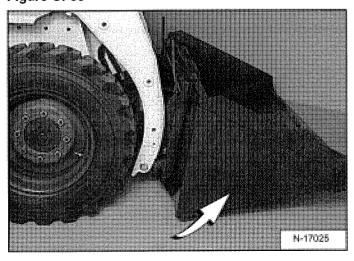
Pull the Bob-Tach levers all the way up (Item 1) [Figure OI-87].

Enter the loader and perform the PRE-STARTING PROCEDURE. (See PRE-STARTING PROCEDURE on Page OI-30.)

Lower the lift arms and tilt the Bob-Tach forward.

Drive the loader forward until the top edge of the Bob-Tach is completely under the top flange of the bucket [Figure OI-87] (or other attachment). Be sure the Bob-Tach levers do not hit the bucket.

Figure OI-88



Tilt the Bob-Tach backward until the cutting edge of the bucket (or other attachment) is slightly off the ground [Figure Ol-88].

Stop the engine and exit the loader.



Before you leave the operator's seat:

- Lower the lift arms, put the attachment flat on the ground.
- Stop the engine.
- Engage the parking brake.
- Raise seat bar.
- (Foot Pedal Controls) Move pedals until both lock.
- (Advanced Control System-ACS) Move the hydraulic controls to the NEUTRAL POSITION to make sure that both lift and tilt functions are deactivated.

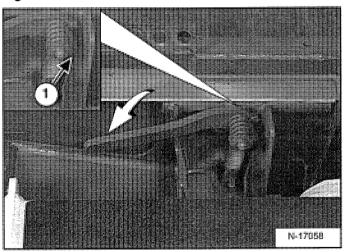
The seat bar system must deactivate the lift and tilt control functions when the seat bar is up. Service the system if hand controls do not deactivate.

 (Selectable Joystick Controls-SJC) Move the joysticks to the NEUTRAL POSITION to make sure that travel and hydraulic functions are deactivated.

The seat bar system must deactivate these functions when the seat bar is up. Service the system if controls do not deactivate.

W-2463-0603

Figure OI-89

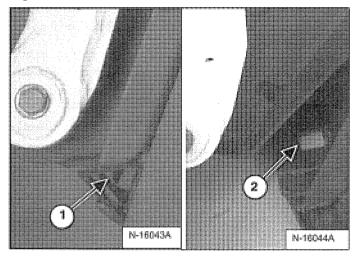


Push down on the Bob-Tach levers until they are fully engaged in the locked position (Item 1) [Figure OI-89] (wedges fully extended).

Installing And Removing The Attachment (Hand Lever Bob-Tach) (Cont'd)

Installing (Cont'd)

Figure OI-90



The wedges (Item 1) [Figure OI-90] must extend through the holes (Item 2) [Figure OI-90] in the mounting frame of the bucket (or attachment), securely fastening the bucket to the Bob-Tach.

A WARNING

Bob-Tach wedges must extend through the holes in attachment. Lever(s) must be fully down and locked. Failure to secure wedges can allow attachment to come off and cause injury or death.

W-2102-0497

Removing

Lower the lift arms and put the attachment flat on the ground and lower or close the hydraulic equipment.

- If the attachment is hydraulically controlled (combination bucket, backhoe, etc.), stop the engine and relieve hydraulic pressure at the quick couplers. (See Relieve Hydraulic Pressure (Loader And Attachment) on Page OI-25.)
- Disconnect the hydraulic hoses.

Raise the seat bar, unfasten the seat belt, set the parking brake and exit the loader.



Before you leave the operator's seat:

- Lower the lift arms, put the attachment flat on the ground.
- Stop the engine.
- Engage the parking brake.
- Raise seat bar.
- (Foot Pedal Controls) Move pedals until both lock.
- (Advanced Control System-ACS) Move the hydraulic controls to the NEUTRAL POSITION to make sure that both lift and tilt functions are deactivated.

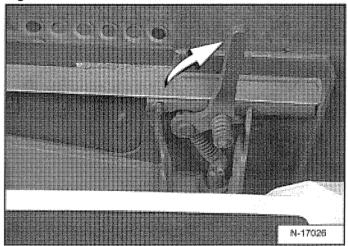
The seat bar system must deactivate the lift and tilt control functions when the seat bar is up. Service the system if hand controls do not deactivate.

 (Selectable Joystick Controls-SJC) Move the joysticks to the NEUTRAL POSITION to make sure that travel and hydraulic functions are deactivated.

The seat bar system must deactivate these functions when the seat bar is up. Service the system if controls do not deactivate.

W-2463-0603

Figure OI-91



Pull the Bob-Tach levers [Figure OI-91] all the way up.



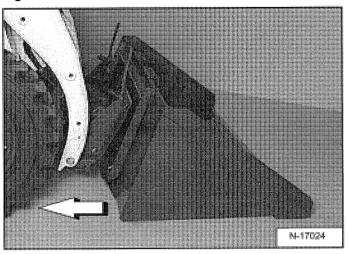
Bob-Tach levers have spring tension. Hold lever tightly and release slowly. Failure to obey warning can cause injury.

W-2054-1285

Installing And Removing The Attachment (Hand Lever Bob-Tach) (Cont'd)

Removing (Cont'd)

Figure OI-92



Move the loader backward, away from the bucket or attachment [Figure OI-92].

Installing And Removing The Attachment (Power Bob-Tach)

This machine may be equipped with a Power Bob-Tach.

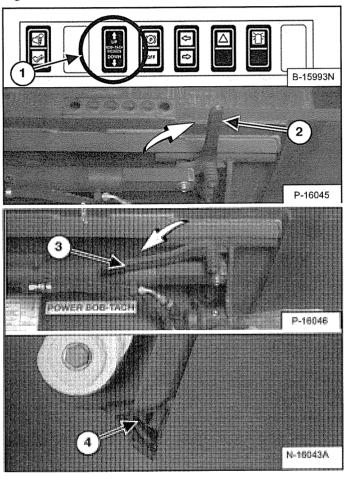
Installing

The Bob-Tach is used for fast changing of buckets and attachments. See the appropriate Attachment Operation & Maintenance Manual to install other attachments.

Perform the PRE-STARTING PROCEDURE. (See PRE-STARTING PROCEDURE on Page OI-30.)

Lower the lift arms and tilt the Bob-Tach forward.

Figure OI-93

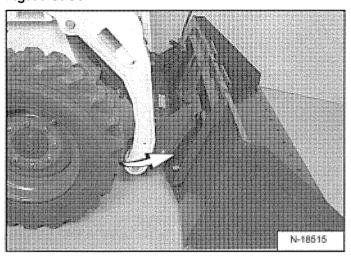


Push and hold BOB-TACH "WEDGES UP" switch (Front Panel) (Item 1) [Figure Ol-93] until levers are in unlocked position (Item 2) [Figure Ol-93] (wedges fully raised).

Installing And Removing The Attachment (Power Bob-Tach) (Cont'd)

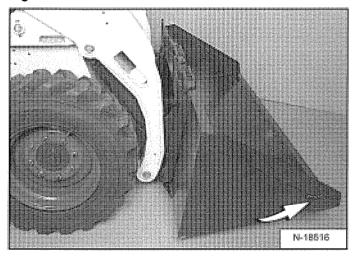
Installing (Cont'd)

Figure OI-94



Drive the loader forward until the top edge of the Bob-Tach is completely under the top flange of the bucket [Figure OI-94] (or other attachment).

Figure OI-95



Tilt the Bob-Tach backward until the cutting edge of the bucket (or other attachment) is slightly off the ground [Figure OI-95].

Push and hold BOB-TACH "WEDGES UP" switch (Item 1) [Figure OI-93] (Front Panel) to make sure the levers are all the way up.

NOTE: The Power Bob-Tach system has continuous pressurized hydraulic oil to keep the wedges in the engaged position and prevent attachment disengagement. Because the wedges can slowly lower, the operator may need to reactivate the switch (WEDGES UP) to be sure both wedges are fully raised before installing the attachment.

Push and hold BOB-TACH "WEDGES DOWN" switch (Front Panel) (Item 1) until levers are fully engaged in the locked position (Item 3) [Figure OI-93] (wedges fully extended).

The wedges (Item 4) [Figure OI-93] must extend through the holes in the mounting frame of the bucket (or attachment), securely fastening the bucket to the Bob-Tach.



Bob-Tach wedges must extend through the holes in attachment. Lever(s) must be fully down and locked. Failure to secure wedges can allow attachment to come off and cause injury or death.

W-2102-0497

Installing And Removing The Attachment (Power Bob-Tach) (Cont'd)

Removina

Lower the lift arms and put the attachment flat on the ground and lower or close the hydraulic equipment.

 If the attachment is hydraulically controlled (combination bucket, backhoe, etc.):

Stop the engine and relieve hydraulic pressure in the auxiliary circuit. (See Relieve Hydraulic Pressure (Loader And Attachment) on Page OI-25.)

Exit the loader and disconnect the hydraulic hoses from the attachment.

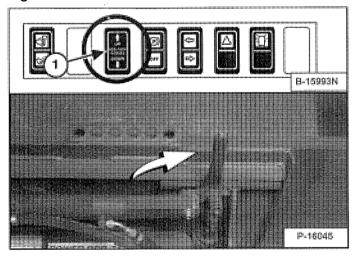
Enter the loader.

Perform the PRE-STARTING PROCEDURE. (See PRE-STARTING PROCEDURE on Page OI-30.)

Start the engine.

Release the parking brake.

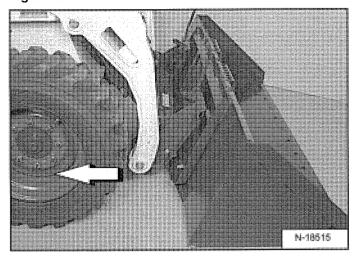
Figure OI-96



Push and hold the BOB-TACH "WEDGES UP" switch (Front Panel) (Item 1) [Figure Ol-96] until the wedges are fully raised.

Tilt the Bob-Tach forward.

Figure OI-97



Move the loader backward, away from the bucket or attachment [Figure OI-97].

NOTE: The Power Bob-Tach system has continuous pressurized hydraulic oil to keep the wedges in the engaged position and prevent attachment disengagement. Because the wedges can slowly lower, the operator may need to reactivate the switch (WEDGES UP) when removing an attachment to be sure both wedges are fully raised.

OPERATING PROCEDURE

Inspect The Work Area

Before beginning operation, inspect the work area for unsafe conditions.

Look for sharp drop-offs or rough terrain. Have underground utility lines (gas, water, sewer, irrigation, etc.) located and marked.

Remove objects or other construction material that could damage the loader or cause personal injury.

Operating With A Full Bucket

When operating on a public road or highway, always follow local regulations.For example: Slow Moving Vehicle Sign or direction signals may be required.

Always warm the engine and hydrostatic system before operating the loader.

IMPORTANT

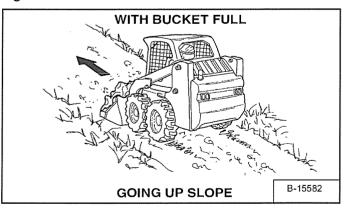
Machines warmed up with moderate engine speed and light load have longer life.

1-2015-0284

Operate the loader with engine at full speed for maximum horsepower. Move the steering levers only a small amount to operate the loader slowly.

New operators must operate the loader in an open area without bystanders. Operate the controls until the loader can be handled at an efficient and safe rate for all conditions of the work area.

Figure OI-98





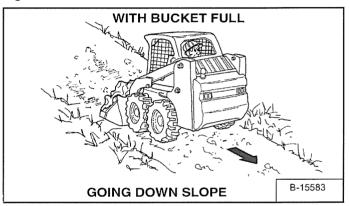
AVOID INJURY OR DEATH

- Keep the lift arms as low as possible.
- Do not travel or turn with the lift arms up.
- Turn on level ground.
- Go up and down slopes, not across them.
- Keep the heavy end of the machine uphill.
- Do not overload the machine.

Failure to obey warnings can cause the machine to tip or roll over and cause injury or death.

W-2018-1187

Figure OI-99



With a full bucket, go up or down the slope with the heavy end toward the top of the slope [Figure Ol-98] and [Figure Ol-99].

OPERATING PROCEDURE (CONT'D)

Operating With An Empty Bucket

Figure OI-100

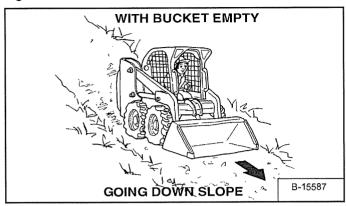


Figure OI-101



With an empty bucket, go down or up the slope with the heavy end toward the top of the slope [Figure OI-100] and [Figure OI-101].

Filling And Emptying The Bucket (Foot Pedals)

Filling

Figure OI-102

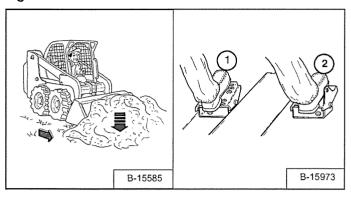
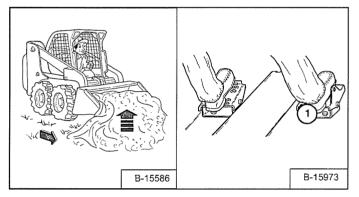


Figure OI-103



Lower the lift arms all the way (Item 1) [Figure OI-102].

Tilt the bucket forward (Item 2) [Figure Ol-102] until the cutting edge of the bucket is on the ground.

Drive slowly forward into the material. Tilt the bucket backward (Item 1) [Figure OI-103] all the way when the bucket is full.

Drive backward away from the material.

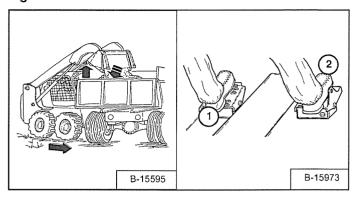


Load, unload and turn on flat level ground. Do not exceed Rated Operating Capacity (ROC) shown on sign (decal) in cab. Failure to obey warnings can cause the machine to tip or roll over and cause injury or death.

W-2056-0903

Emptying

Figure OI-104



Keep the bucket low when moving to the area where you want to empty the bucket.

Raise the lift arms (Item 1) [Figure OI-104]. Level the bucket (Item 2) [Figure OI-104] while raising the lift arms to help prevent material from falling off the back of the bucket.

Drive forward slowly until the bucket is over the top of the truck box or bin.

Empty the bucket (Item 2) [Figure OI-104]. If all the material is near the side of the truck or bin, use the bucket tilt to move it to the other side.

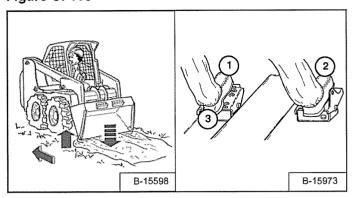


Never dump over an obstruction, such as a post, that can enter the operator cab. The machine could tip forward and cause injury or death.

W-2057-0694

Leveling The Ground Using Float (Foot Pedals)

Figure OI-105



Put the lift arms in *float* position by pushing the pedal all the way forward (Item 1) **[Figure OI-105]** until the pedal is locked in the forward position.

Tilt the bucket forward (Item 2) [Figure OI-105] to change the position of the cutting edge of the bucket.

With the bucket tilted farther forward, there is more force on the cutting edge and more loose material can be moved.

Drive backward to level loose material.

Push the bottom of the lift pedal (Item 3) [Figure OI-105] to unlock the float position.

IMPORTANT

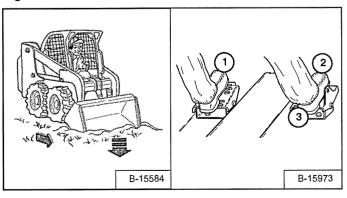
Never drive forward when the hydraulic control for lift arms is in float position.

I-2005-1285

Digging And Filling A Hole (Foot Pedals)

Digging

Figure OI-106

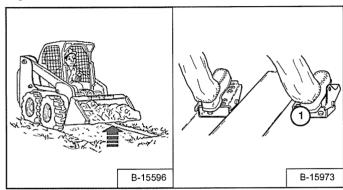


Lower the lift arms all the way (Item 1) [Figure OI-106]. Put the cutting edge of the bucket on the ground (Item 2) [Figure OI-106].

Drive forward slowly and continue to tilt the bucket down (Item 2) [Figure OI-106] until it enters the ground.

Raise the cutting edge a small amount (Item 3) [Figure OI-106] to increase traction and keep an even digging depth. Continue to drive forward until the bucket is full. When the ground is hard, raise and lower the cutting edge of the bucket (Items 2 & 3) [Figure OI-106] while driving forward slowly.

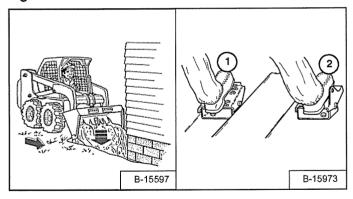
Figure OI-107



Tilt the bucket backward (Item 1) [Figure OI-107] as far as it will go when the bucket is full.

Filling

Figure OI-108



Lower the lift arms (Item 1) [Figure OI-108] and put the cutting edge of the bucket on the ground (Item 2) [Figure OI-108]. Drive forward to the edge of the hole to push the material into the hole.

Tilt the bucket forward (Item 2) [Figure OI-108] as soon as it is past the edge of the hole.

If necessary, raise the lift arms to empty the bucket.

Filling And Emptying The Bucket (ACS - Handles, SJC - 'H' Pattern)

Filling

Figure OI-109

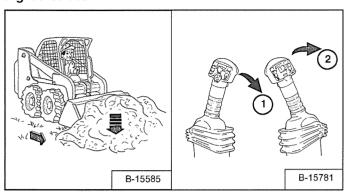
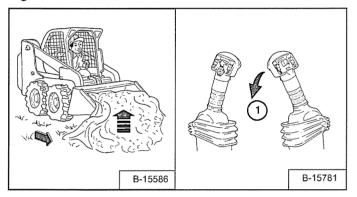


Figure OI-110



Lower the lift arms all the way (Item 1) [Figure Ol-109].

Tilt the bucket forward (Item 2) [Figure Ol-109] until the cutting edge of the bucket is on the ground.

Drive slowly forward into the material. Tilt the bucket backward (Item 1) [Figure OI-110] all the way when the bucket is full.

Drive backward away from the material.

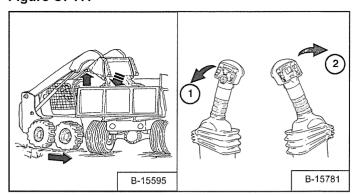


Load, unload and turn on flat level ground. Do not exceed Rated Operating Capacity (ROC) shown on sign (decal) in cab. Failure to obey warnings can cause the machine to tip or roll over and cause injury or death.

W-2056-0903

Emptying

Figure OI-111



Keep the bucket low when moving to the area where you want to empty the bucket.

Raise the lift arms (Item 1) [Figure Ol-111]. Level the bucket (Item 2) [Figure Ol-111] while raising the lift arms to help prevent material from falling off the back of the bucket.

Drive forward slowly until the bucket is over the top of the truck box or bin.

Empty the bucket (Item 2) [Figure OI-111]. If all material is near the side of the truck or bin, use the bucket tilt to move it to the other side.



Never dump over an obstruction, such as a post, that can enter the operator cab. The machine could tip forward and cause injury or death.

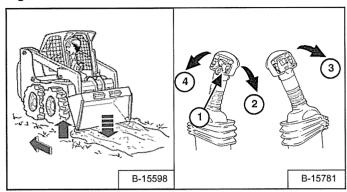
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OPERATING PROCEDURE (CONT'D)

Leveling The Ground Using Float (ACS - Handles, SJC - 'H' Pattern)

Figure OI-112



Press and hold the float button (Item 1) [Figure OI-112] while the lever is in neutral. While lowering the lift arms (Item 2) [Figure OI-112], release the float button.

Tilt the bucket forward (Item 3) [Figure OI-112] to change the position of the cutting edge of the bucket.

With the bucket tilted farther forward, there is more force on the cutting edge and more loose material can be moved.

Drive backward to level loose material.

To disengage float, press the float button again or raise the lift arms (Item 4) [Figure OI-112].

IMPORTANT

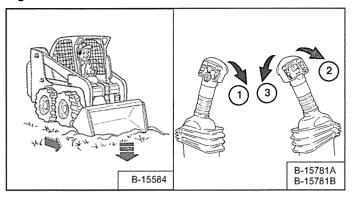
Never drive forward when the hydraulic control for lift arms is in float position.

I-2005-1285

Digging And Filling A Hole (ACS - Handles, SJC - 'H' Pattern)

Digging

Figure OI-113

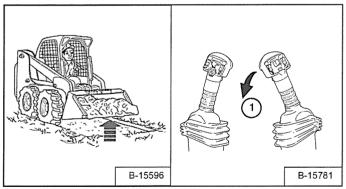


Lower the lift arms all the way (Item 1) [Figure Ol-113]. Tilt the bucket forward (Item 2) [Figure Ol-113] until the cutting edge of the bucket is on the ground.

Drive forward slowly and continue to tilt the bucket down (Item 2) [Figure OI-113] until it enters the ground.

Tilt the bucket backward a small amount (Item 3) [Figure OI-113] to increase traction and keep an even digging depth. Continue to drive forward until the bucket is full. When the ground is hard, raise and lower the cutting edge (Items 1 & 2) [Figure OI-113] while driving forward.

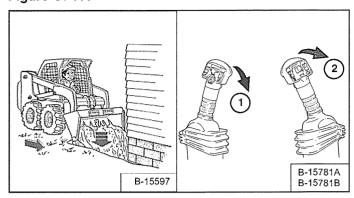
Figure OI-114



Tilt the bucket backward (Item 1) [Figure Ol-114] as far as it will go when the bucket is full.

Filling

Figure OI-115



Lower the lift arms (Item 1) [Figure OI-115] and put the cutting edge of the bucket on the ground (Item 2) [Figure OI-115]. Drive forward to the edge of the hole to push the material into the hole.

Tilt the bucket forward (Item 2) [Figure OI-115] as soon as it is past the edge of the hole.

If necessary, raise the lift arms to empty the bucket.

Filling And Emptying The Bucket (SJC - 'ISO' Pattern)

Filling

Figure OI-116

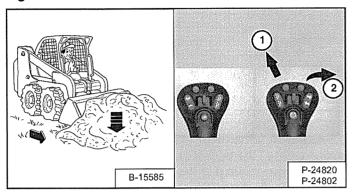
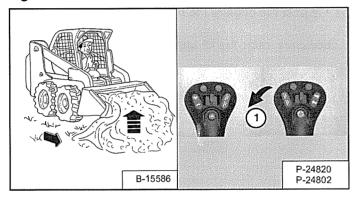


Figure OI-117



Lower the lift arms all the way (Item 1) [Figure OI-116].

Tilt the bucket forward (Item 2) [Figure OI-116] until the cutting edge of the bucket is on the ground.

Drive slowly forward into the material. Tilt the bucket backward (Item 1) [Figure Ol-117] all the way when the bucket is full.

Drive backward away from the material.

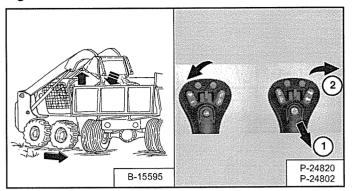


Load, unload and turn on flat level ground. Do not exceed Rated Operating Capacity (ROC) shown on sign (decal) in cab. Failure to obey warnings can cause the machine to tip or roll over and cause injury or death.

W-2056-0903

Emptying

Figure OI-118



Keep the bucket low when moving to the area where you want to empty the bucket.

Raise the lift arms (Item 1) [Figure OI-118]. Level the bucket (Item 2) [Figure OI-118] while raising the lift arms to help prevent material from falling off the back of the bucket.

Drive forward slowly until the bucket is over the top of the truck box or bin.

Empty the bucket (Item 2) [Figure OI-118]. If all material is near the side of the truck or bin, use the bucket tilt to move it to the other side.

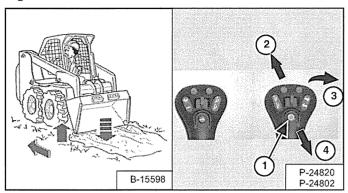


Never dump over an obstruction, such as a post, that can enter the operator cab. The machine could tip forward and cause injury or death.

W-2057-0694

Leveling The Ground Using Float (SJC - 'ISO' Pattern)

Figure OI-119



Press and hold the float button (Item 1) [Figure OI-119] while the joystick is in neutral. While lowering the lift arms (Item 2) [Figure OI-119], release the float button.

Tilt the bucket forward (Item 3) [Figure OI-119] to change the position of the cutting edge of the bucket.

With the bucket tilted farther forward, there is more force on the cutting edge and more loose material can be moved.

Drive backward to level loose material.

To disengage, press the float button again or raise the lift arms (Item 4) [Figure OI-119].

IMPORTANT

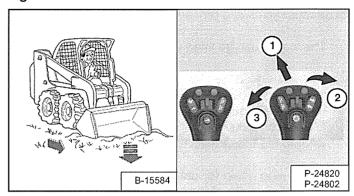
Never drive forward when the hydraulic control for lift arms is in float position.

I-2005-1285

Digging And Filling A Hole (SJC - 'ISO' Pattern)

Digging

Figure OI-120



Lower the lift arms all the way (Item 1) [Figure Ol-120]. Put the cutting edge of the bucket on the ground (Item 2) [Figure Ol-120].

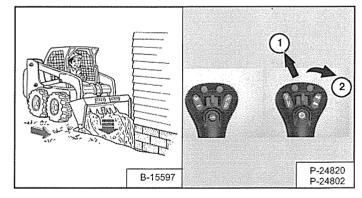
Drive forward slowly and continue to tilt the bucket down (Item 2) [Figure Ol-120] until it enters the ground.

Raise the cutting edge a small amount (Item 3) [Figure OI-120] to increase traction and keep an even digging depth. Continue to drive forward until the bucket is full. When the ground is hard, raise and lower the cutting edge (Items 2 & 3) [Figure OI-120] while driving forward.

Tilt the bucket backward (Item 3) [Figure OI-120] as far as it will go when the bucket is full.

Filling

Figure OI-121



Lower the lift arms (Item 1) [Figure OI-121] and put the cutting edge of the bucket on the ground (Item 2) [Figure OI-121]. Drive forward to the edge of the hole to push the material into the hole.

Tilt the bucket forward (Item 2) [Figure OI-121] as soon as it is past the edge of the hole.

If necessary, raise the lift arms to empty the bucket.

TOWING THE LOADER

Procedure

Because of the design of the loader, there is not a recommended towing procedure.

- The loader can be lifted onto a transport vehicle.
- The loader can be skidded a short distance to move for service (EXAMPLE: Move onto a transport vehicle.) without damage to the hydrostatic system. (The tires/tracks will not turn.) There might be slight wear to the tires/tracks when the loader is skidded.

The towing chain (or cable) must be rated at 1 & 1/2 times the weight of the loader. (See Performance on Page SPEC-4.)

LIFTING THE LOADER

Single Point Lift



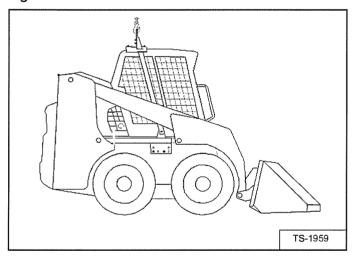
AVOID INJURY OR DEATH

- Before lifting, check fasteners on single point lift and operator cab.
- Assemble front cab fasteners as shown in this manual.
- Never allow riders in the cab or bystanders within
 15 feet (5 meters) while lifting the machine.

W-2007-0497

The loader can be lifted with the Single Point Lift which is available as a kit from your Bobcat Loader dealer.

Figure OI-122



Install the kit as explained in the Instructions with the kit and attach lift as shown [Figure OI-122].

The Single Point Lift, supplied by Bobcat, is designed to lift and support the Bobcat Loader without affecting roll over and falling object protection features of the operator cab.

Four Point Lift



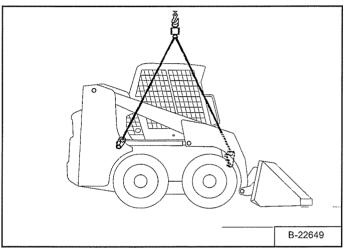
AVOID INJURY OR DEATH

- Before lifting, check fasteners on four point lift.
- Never allow riders in the cab or bystanders within 15 ft. (5 m) while lifting the machine.

W-2160-0694

The loader can be lifted with the Four Point Lift which is available as a kit from your Bobcat Loader dealer. The backhoe mounting kit must also be installed to provide lift points at the front of the loader.

Figure OI-123



Attach cables or chains to lift eyes [Figure OI-123].

TRANSPORTING THE LOADER ON A TRAILER

Loading And Unloading



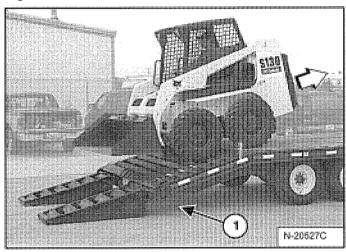
AVOID SERIOUS INJURY OR DEATH

Adequately designed ramps of sufficient strength are needed to support the weight of the machine when loading onto a transport vehicle. Wood ramps can break and cause personal injury.

W-2058-0807

Be sure the transport and towing vehicles are of adequate size and capacity. (See Capacities on Page SPEC-6.)

Figure OI-124

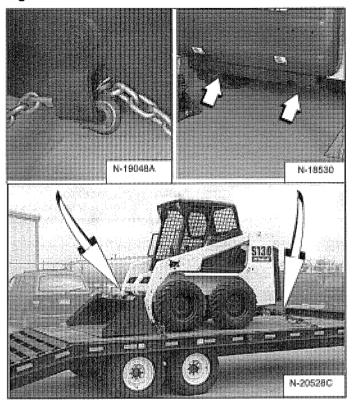


A loader with an empty bucket or no attachment must be loaded backward onto the transport vehicle [Figure Ol-124].

The rear of the trailer must be blocked or supported (Item 1) [Figure OI-124] when loading or unloading the loader to prevent the front end of the trailer from raising up.

Fastening

Figure OI-125



Use the following procedure to fasten the Bobcat Loader to the transport vehicle to prevent the loader from moving during sudden stops or when going up or down slopes [Figure OI-125].

- Lower the bucket or attachment to the floor.
- · Stop the engine.
- Engage the parking brake.
- Install chains at the front and rear loader tie down positions (Inset) [Figure OI-125].
- Fasten each end of the chain to the transport vehicle.

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PREVENTIVE MAINTENANCE

AIR CLEANER SERVICE	
ALTERNATOR BELT	PM-39
BACK-UP ALARM SYSTEM	PM-13 PM-13
BOB-TACH (HAND LEVER)	PM-44 PM-44
BOB-TACH (POWER)	
BOBCAT INTERLOCK CONTROL SYSTEM (BICS) Inspecting Deactivation Of Lift And Tilt Functions (ACS and SJC) Inspecting Deactivation Of The Auxiliary Hydraulics System (Engine STOPPED - Key ON). Inspecting The BICS Controller (Engine STOPPED - Key ON). Inspecting The Lift Arm By-Pass Control. Inspecting The Seat Bar Sensor (Engine RUNNING). Inspecting The Traction Lock (Engine RUNNING)	PM-8 PM-8 PM-8 PM-8
DRIVE BELT	PM-40
ELECTRICAL SYSTEM Battery Maintenance Description Fuse And Relay Location / Identification Removing And Installing Battery Using A Booster Battery (Jump Starting)	PM-29 PM-28 PM-28 PM-31
ENGINE COOLING SYSTEM	PM-26 PM-26

PREVENTIVE MAINTENANCE (PM)

Continued On Next Page

Page 84 - BOBM022075-09-B1003 - 08/24/2008 21:24:54 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

PREVENTIVE MAINTENANCE (CONT'D)

ENGINE LUBRICATION SYSTEM	. PM-25 . PM-25
FINAL DRIVE TRANSMISSION (CHAINCASE)	. PM-38
FUEL SYSTEM	. PM-22 . PM-23 . PM-24 . PM-22
HEATING SYSTEM. Cleaning And Maintenance. Filters Heater Coil. Troubleshooting.	. PM-19 . PM-19 . PM-19
HYDRAULIC / HYDROSTATIC SYSTEM Breather Cap Checking And Adding Fluid Hydraulic / Hydrostatic Fluid Chart Removing And Replacing Case Drain Filters Removing And Replacing Hydraulic Charge Filter Removing And Replacing Hydraulic Fluid Removing And Replacing Hydraulic Fluid Removing And Replacing Hydraulic / Hydrostatic Filter	PM-35 PM-32 PM-32 PM-34 PM-35
LIFT ARM SUPPORT DEVICE	PM-11
LOADER STORAGE AND RETURN TO SERVICE	PM-46
LUBRICATING THE LOADER	
MAINTENANCE SAFETY	PM-5

Continued On Next Page

85 - BOBM022075-09-B1803 - 08/24/2008 21:84:54 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008

PREVENTIVE MAINTENANCE (CONT'D)

OPERATOR CABPNCab Door SensorPNDescriptionPNLoweringPNRaisingPN	Л-16 Л-14 Л-15
PIVOT PINS	
REAR DOORPN AdjustingPN Opening And ClosingPN	√l-17
REAR GRILLPI RemovingPI InstallingPI	VI-18
SEAT BAR RESTRAINT SYSTEM F Description F Inspecting F Maintaining F	PM-9 PM-9
SEAT BELT	
SERVICE SCHEDULE	
SPARK ARRESTOR MUFFLER	
TIRE MAINTENANCE PI Mounting PI Rotating PI Wheel Nuts PI	M-37 M-37



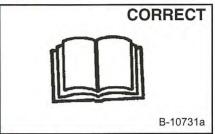
MAINTENANCE SAFETY



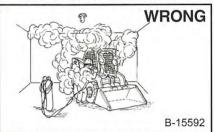
Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, Operator's Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after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

W-2003-0903

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



Never service the Bobcat Skid-Steer Loader without instructions.

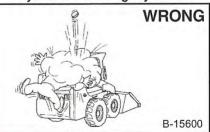


Have good ventilation when welding or grinding painted

parts. Wear dust mask when grinding painted parts. Toxic dust and gas

can be produced.

Avoid exhaust fume leaks which can kill without warning. Exhaust system must be tightly sealed.

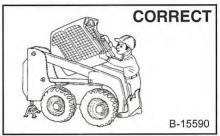


Stop, cool and clean engine of flammable materials checking fluids.

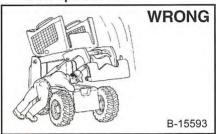
Never service or adjust loader with the engine running unless instructed to do so in the manual.

Avoid contact with leaking hydraulic fluid or diesel fuel Avoid under pressure. It can penetrate the skin or eyes.

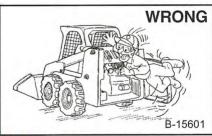
Never fill fuel tank with engine running, while smoking or when near open flame.



Use the correct procedure to lift or lower operator cab.



Disconnecting or loosening any hydraulic tubeline, hose, fitting, component or a part failure can cause lift arms to drop. Do not go under lift arms when raised supported approved lift arm support device. Replace it if damaged.



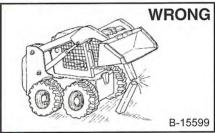
Keep body, jewelry and clothing away from moving parts, electrical contact, hot parts and exhaust.

Wear eye protection to guard from battery acid, compressed springs, fluids under pressure and flying debris when engines are running or tools are used. Use eye protection approved for type of welding.

Keep rear door closed except for service. Close and latch door before operating the loader.



Cleaning and maintenance are required daily.



Never work on loader with lift arms up unless lift arms are held by an approved lift arm support device. Replace if damaged.

Never modify equipment or add attachments not approved by Bobcat Company.



produce batteries Lead-acid flammable and explosive gases.

Keep arcs, sparks, flames and lighted tobacco batteries. away from

Batteries contain acid which burns eyes or skin on contact. Wear protective clothing. If acid contacts body, flush well with water. For eye contact flush well and get immediate medical attention.

Maintenance procedures which are given in the Operation & Maintenance Manual can be performed by the owner/ operator without any specific technical training. Maintenance procedures which are **not** in the Operation & Maintenance Manual must be performed **ONLY BY QUALIFIED BOBCAT SERVICE PERSONNEL**. **Always use genuine Bobcat** replacement parts. The Service Safety Training Course is available from your Bobcat dealer.

MSW08-0805

Bobcat_®

SERVICE SCHEDULE

Chart

Maintenance work must be done at regular intervals. Failure to do so will result in excessive wear and early failures. The service schedule is a guide for correct maintenance of the Bobcat Loader.



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.

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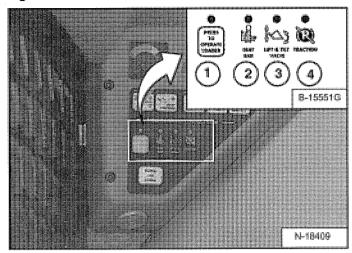
	SERVICE SCHEDULE			НО	URS		
ITEM	SERVICE REQUIRED	8-10	50	100	250	500	1000
Engine Oil	Check the oil level and add as needed. Do not overfill.						
Engine Air Filter and Air System	Check display panel. Service only when required. Check for leaks and damaged components.						
Engine Cooling System	Clean debris from oil cooler, radiator and grill. Check coolant level COLD and add premixed coolant as needed.						
Fuel Filter	Remove the trapped water.						
Lift Arms, Cylinders, Bob-Tach Pivot Pins and Wedges	Lubricate with multi-purpose lithium based grease.						
Tires	Check for damaged tires and correct air pressure. Inflate to MAXIMUM pressure shown on the sidewall of the tire.						
Seat Bar, Control Interlocks, Seat Belt, Seat Belt Retractors	Check the condition of seat belt. Clean or replace seat belt retractors as needed. Check the seat bar and control interlocks for correct operation. Clean dirt and debris from moving parts.						:
Bobcat Interlock Control Systems (BICS)	Check for correct function. Lift and Tilt functions MUST NOT operate with seat bar raised. See details in this Manual.						
Safety Signs and Safety Treads	Check for damaged signs (decals) and safety treads. Replace any signs or safety treads that are damaged or worn.						
Operator Cab	Check the fastening bolts, washers and nuts. Check the condition of the cab.						
Indicators and Lights	Check for correct operation of all indicators and lights.	Strategie Strategie					
Heater and A/C Filters (If Equipped)	Clean or replace filters as needed.						
Hydraulic Fluid, Hoses and Tubelines	Check fluid level and add as needed. Check for damage and leaks. Repair or replace as needed.						
Final Drive Trans. (Chaincase),	Check fluid level and add as needed.						
Parking Brake, Foot Pedals, Hand Controls and Steering Levers or Joysticks	Check for correct operation. Repair or adjust as needed.						
Wheel Nuts	Check for loose wheel nuts and tighten to correct torque. (See TIRE MAINTENANCE in this manual.)	0					
Spark Arrestor Muffler	Clean the spark chamber.						
Battery	Check cables, connections and electrolyte level. Add distilled water as needed.						
Steering Lever Pivots	Grease fittings.						
Fuel Filter	Replace filter element.						
Engine / Hydro. Drive Belt	Check for wear or damage. Check idler arm stop.		A				
Drive Belts (Alternator, air conditioner, water pump)	Check condition and tension. Adjust or replace as needed.						
Bobcat Interlock Control System (BICS)	Check the function of the lift arm bypass control.						
Hydraulic / Hydrostatic Filter, Charge Filter, Reservoir Breather			0				
Engine Oil and Filter	Replace oil and filter.				*		
Final Drive Trans. (Chaincase)	Replace the fluid.						
Hydraulic Reservoir	Replace the fluid.						
Case Drain Filters	Replace the filters.		Δ				
Engine Valves	Adjust the engine valves.					0	
Coolant	Replace the coolant		E	very 2	2 year	S	

- ▲ Perform at first 50 hours, then as scheduled.
- ☐ Check every 8 10 hours for the first 24 hours, then at 50 hour intervals.
- Replace the hydraulic / hydrostatic filter element after the first 50 hours, then when the transmission warning light comes ON while operating or as scheduled.
- * Change oil and filter every 250 hours when operating under severe conditions.
- O Perform at first 500 hours, then as scheduled.

BOBCAT INTERLOCK CONTROL SYSTEM (BICS)

Inspecting The BICS Controller (Engine STOPPED - Key ON)

Figure PM-1



- 1. Sit in operator's seat. Turn key ON. (Key Switch Panel), press RUN/ENTER button (Keyless Panel), lower seat bar and disengage parking brake. Press the PRESS TO OPERATE LOADER button. Three BICS lights (Items 1, 2 & 3) [PRESS TO OPERATE LOADER, SEAT BAR, AND LIFT & TILT VALVE] on left instrument panel should be ON [Figure PM-1].
- Raise seat bar fully. All four BICS lights (Items 1, 2, 3, and 4) [PRESS TO OPERATE LOADER, SEAT BAR, LIFT & TILT VALVE AND TRACTION*] on left instrument panel should be OFF [Figure PM-1].

NOTE: Record what lights are blinking (if any) and the number of light flashes. (See BOBCAT INTERLOCK CONTROL SYSTEM (BICS) on Page SA-3.)

Inspecting Deactivation Of The Auxiliary Hydraulics System (Engine STOPPED - Key ON)

 Sit in operator's seat, lower seat bar, and press the PRESS TO OPERATE LOADER button. Press the auxiliary hydraulics FLOW button. The auxiliary FLOW button light will come ON. Raise the seat bar. The light should be OFF.

Inspecting The Seat Bar Sensor (Engine RUNNING)

- 4. Sit in operator's seat, lower seat bar, engage parking brake and fasten seat belt.
- 5. Start engine and operate at low idle. Press the PRESS TO OPERATE LOADER button. While raising the lift arms, raise the seat bar fully. The lift arms should stop. Repeat using the tilt function.

Inspecting The Traction Lock (Engine RUNNING)

- 6. Fasten seat belt, disengage parking brake, press the PRESS TO OPERATE LOADER button and raise seat bar fully. Move steering levers slowly forward and backward. The TRACTION lock should be engaged. Lower the seat bar. Press the PRESS TO OPERATE LOADER button.
- 7. Engage parking brake and move steering levers slowly forward and backward. The TRACTION lock should be engaged.

NOTE: *The TRACTION light on the left instrument panel will remain OFF until the engine is started, the PRESS TO OPERATE LOADER button is pressed and the parking brake is disengaged.

Inspecting The Lift Arm By-Pass Control

8. Raise the lift arms 6 feet (2 meters) off the ground. Stop engine. Turn lift arm by-pass control knob clockwise 1/4 turn. Pull up and hold lift arm by-pass control knob until lift arms slowly lower.

Inspecting Deactivation Of Lift And Tilt Functions (ACS and SJC)

- Sit in operator's seat and fasten seat belt. Lower seat bar, start engine and press the PRESS TO OPERATE LOADER button.
- 10. Raise lift arms about 6 feet (2 meters) off the ground.
- 11. Turn key OFF (Key Switch Panel), press STOP button (Keyless Panel), and wait for the engine to come to a complete stop.
- Turn key ON (Key Switch Panel), press RUN/ENTER button (Keyless Panel). Press the PRESS TO OPERATE LOADER button, move hand control or joystick to lower the lift arms. Lift arms should <u>not</u> lower.
- 13. Move the control (foot pedal, hand control or joystick) to tilt the bucket (or attachment) forward. The bucket (or attachment) should not tilt forward.



AVOID INJURY OR DEATH

The Bobcat Interlock Control System (BICS) must deactivate the lift, tilt and traction drive functions. If it does not, contact your dealer for service. DO NOT modify the system.

W-2151-0394

SEAT BAR RESTRAINT SYSTEM

Description

The seat bar restraint system has a pivoting seat bar with arm rests.

The operator controls the use of the seat bar. The seat bar in the down position helps to keep the operator in the seat.

<u>Models with foot pedals</u> have hydraulic valve spool interlocks for the lift and tilt functions. The spool interlocks require the operator to lower the seat bar in order to operate the foot pedal controls.

When the seat bar is down, the PRESS TO OPERATE LOADER button is activated and the engine is running, the lift, tilt and traction drive functions can be operated.

When the seat bar is up, the lift and tilt control pedals are locked when returned to the NEUTRAL position.

<u>Models with the Advanced Control System (ACS)</u> have mechanical interlocks for the handles and pedals. The interlocks for the handles and pedals require the operator to lower the seat bar in order to operate the selected controls.

When the seat bar is down, the PRESS TO OPERATE LOADER button is activated and the engine is running, the lift, tilt and traction drive functions can be operated using the selected controls (handles, or foot pedals).

When the seat bar is up, the handles and pedals are locked when returned to the NEUTRAL position.

<u>Models with Selectable Joystick Control (SJC)</u> have electrical deactivation of joystick functions. Activation of functions require the operator to lower the seat bar.

When the seat bar is down, the PRESS TO OPERATE LOADER button is activated and the engine is running, the lift, tilt and traction drive functions can be operated.

When the seat bar is up, the joystick functions are deactivated even though the joystick does not mechanically lock.

Inspecting

Sit in the seat and fasten the seat belt. Engage the parking brake. Pull the seat bar all the way down. Start the engine. Press the PRESS TO OPERATE LOADER button.

Operate the hydraulic controls to check that both the lift and tilt functions operate correctly. Raise the lift arms until the attachment is about 2 feet (600 mm) off the ground.

Raise the seat bar. Move the hydraulic controls. Pedals and handles (if equipped) must be firmly locked in the NEUTRAL position (except joysticks). There must be no motion of the lift arms or tilt (attachment) when the controls are moved.

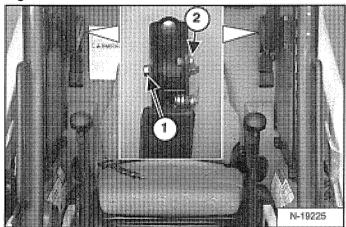
Lower the seat bar, press the PRESS TO OPERATE LOADER button, lower the lift arms. Operate the lift control. While the lift arms are going up, raise the seat bar. The lift arms must stop.

Lower the seat bar, press the PRESS TO OPERATE LOADER button, lower the lift arms and put the attachment flat on the ground. Stop the engine. Raise the seat bar. Operate the foot pedals and handles (if equipped) to be sure they are firmly locked in the NEUTRAL position (except joysticks).

Maintaining

See the SERVICE SCHEDULE for correct service interval. (See SERVICE SCHEDULE on Page PM-7.)

Figure PM-2



Use compressed air to clean any debris or dirt from the pivot parts. Do not lubricate. Inspect all mounting hardware. The correct hinge bolt (Item 1) torque is 25-28 ft.-lb. (34-38 N*m). The seat bar sensor nut (left side only) (Item 2) [Figure PM-2] torque is 50-70 in.-lb. (6-8 N*m).

If the seat bar system does not function correctly, replace parts that are worn or damaged. Use only genuine Bobcat replacement parts.



The seat bar system must deactivate the lift and tilt control functions when the seat bar is up. Service the system if hydraulic controls do not deactivate.

W-2465-0703

SEAT BELT

Inspection and Maintenance



Failure to properly inspect and maintain the seat belt can cause lack of operator restraint resulting in serious injury or death.

W-2466-0703

Check the seat belt daily for correct function.

Inspect the seat belt system thoroughly yearly or more often if the machine is exposed to severe environmental conditions or applications.

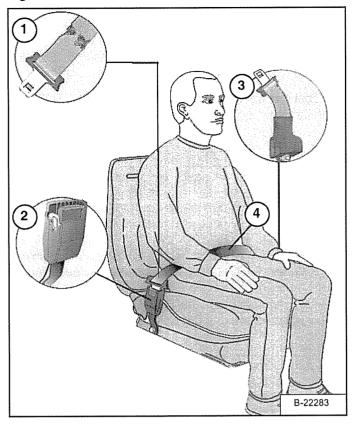
The seat belt system should be repaired or replaced if it shows cuts, fraying, extreme or unusual wear, significant discolorations due to ultraviolet (UV) rays from the sun, dusty / dirty conditions, abrasion to the seat belt webbing, or damage to the buckle, latch plate, retractor (if equipped), or hardware.

The items below are referenced in [Figure PM-3].

- Check the seat belt webbing. If the system is equipped with a retractor, pull the webbing completely out and inspect the full length of the webbing. Look for cuts, wear, fraying, dirt and stiffness.
- 2. Check the buckle and latch for proper function. Make sure latch plate is not excessively worn, deformed or buckle is not damaged.
- 3. Check the retractor web storage device (if equipped) by extending the seat belt webbing to determine if it extends and retracts the webbing correctly.
- 4. Check webbing in areas exposed to ultraviolet (UV) rays from the sun or extreme dust or dirt. If the original color of the webbing in these areas is extremely faded and / or the webbing is packed with dirt, the webbing strength may have weakened.

See your Bobcat dealer for approved seat belt system replacement parts for your machine.

Figure PM-3



LIFT ARM SUPPORT DEVICE

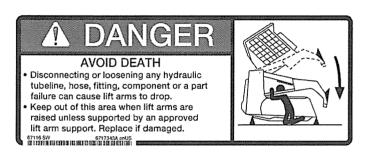
Installing



Never work on a machine with the lift arms up unless the lift arms are secured by an approved lift arm support device. Failure to use an approved lift arm support device can allow the lift arms or attachment to fall and cause injury or death.

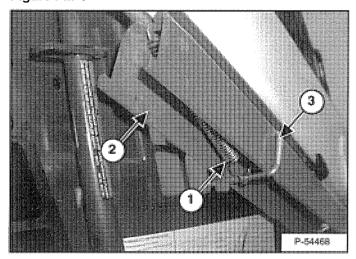
Service lift arm support device if damaged or if parts are missing. Using a damaged lift arm support or with missing parts can cause lift arms to drop causing injury or death.

W-2572-0407



Remove attachment from the loader. (See Installing And Removing The Attachment (Hand Lever Bob-Tach) on Page OI-42.) *OR* (See Installing And Removing The Attachment (Power Bob-Tach) on Page OI-44.)

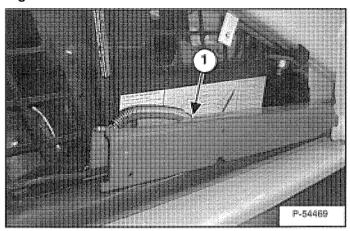
Figure PM-4



Put jackstands under the rear corners of the loader frame.

Disconnect the spring (Item 1) [Figure PM-4] from the lift arm support device retaining pin. Support the lift arm support device (Item 2) [Figure PM-4] with your hand and remove the retaining pin (Item 3) [Figure PM-4].

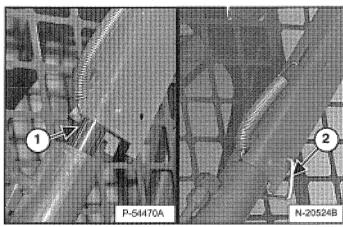
Figure PM-5



Lower the lift arm support device to the top of the lift cylinder. Hook the free end of the spring (Item 1) [Figure PM-5] to the lift arm support device so the spring does not interfere with the support device engagement.

Sit in the operator's seat, fasten the seat belt and lower the seat bar. Start the engine.

Figure PM-6



Raise the lift arms until the lift arm support device drops onto the lift cylinder rod (Item 1) [Figure PM-6].

Lower the lift arms slowly until the support device is held between the lift arm and the lift cylinder. Stop the engine. Raise the seat bar and move both pedals until both pedals lock.

Install pin (Item 2) [Figure PM-6] into the rear of the lift arm support device below the cylinder rod.

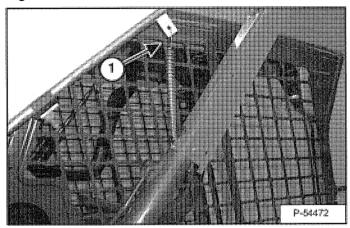
Page 94 - BOBM022075-09-B1003 - 08/24/2008 21:24:54 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

LIFT ARM SUPPORT DEVICE (CONT'D)

Removing

Remove the pin from the lift arm support device.

Figure PM-7

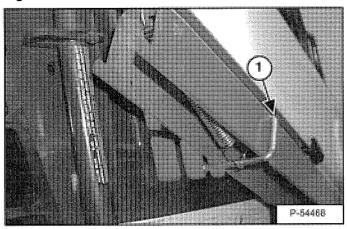


Connect the spring (Item 1) [Figure PM-7] from the lift arm support device to the bracket below the lift arms.

Sit in the operator's seat fasten the seat belt and lower the seat bar.

Start the engine.

Figure PM-8



Raise the lift arms a small amount. The spring will lift the support device off the lift cylinder rod. Lower the lift arms. Stop the engine.

Raise the seat bar, disconnect the seat belt, move pedals until both pedals lock and exit the cab.

Disconnect the spring from the bracket.

Raise the support device into storage position and insert pin (Item 1) [Figure PM-8] through lift arm support device and bracket. Connect the spring to the pin.

Remove the jackstands.

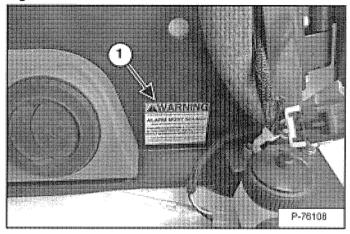
BACK-UP ALARM SYSTEM

Description

This machine may be equipped with a back-up alarm system. The back-up alarm will sound when the operator moves both steering levers or joystick(s) in the reverse position. Slight movement of the steering levers in the reverse position is required with hydrostatic transmissions, before the back-up alarm will sound.

Inspecting

Figure PM-9



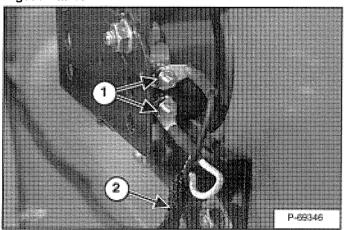
Inspect for damaged or missing back-up alarm decal (Item 1) [Figure PM-9]. Replace if required.

Sit in the seat and fasten the seat belt. Engage the parking brake. Pull the seat bar all the way down. Start the engine. Press the PRESS TO OPERATE LOADER button. Disengage the parking brake.

Move both steering levers or joystick(s) in the reverse position. The back-up alarm must sound when all wheels or both tracks are moving in reverse.

The back-up alarm is located on the inside of the rear door.

Figure PM-10



Inspect the back-up alarm electrical connections (Item 1) [Figure PM-10], wire harness (Item 2) [Figure PM-10] and back-up alarm switches (if equipped) (Item 2) [Figure PM-11] for tightness and damage. Repair or replace any damaged components.

If the back-up alarm switches require adjustment, (See Adjusting Switch Position on Page PM-13.)

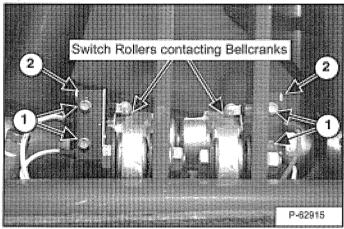
Adjusting Switch Position

NOTE: Joystick equipped machines do not have back-up alarm switches and can not be adjusted. See your Bobcat dealer for service if your back-up alarm does not sound.

Standard Controls and ACS (If Equipped)

Stop the engine and raise the operator cab. (See Raising on Page PM-14.)

Figure PM-11



Place the steering levers in the neutral position.

Loosen the screws (Item 1) [Figure PM-11] securing the back-up alarm switches.

Position the back-up alarm switch rollers so that they just make contact with bellcranks without compressing the switch springs [Figure PM-11]. Torque the screws (Item 1) [Figure PM-11] securing the switches to the bracket to 14-19 in.-lb. (1,6-2,1 N•m).

Lower the operator cab. (See Lowering on Page PM-15.) Inspect back-up alarm system for proper function. (See Inspecting on Page PM-13.)

OPERATOR CAB

Description

The Bobcat Loader has an operator cab (ROPS and FOPS) as standard equipment to protect the operator from rollover and falling objects. Check with your dealer if the operator cab has been damaged. The seat belt must be worn for rollover protection.

ROPS / FOPS - Roll Over protective Structure per ISO 3471, and Falling Object Protective Structure per SAE J1043 and ISO 3449, Level I. Level II is available.

Level I - Protection from falling bricks, small concrete blocks, and hand tools encountered in operations such as highway maintenance, landscaping, and other construction sites.

Level II - Protection from falling trees, rocks: for machines involved in site clearing, overhead demolition or forestry.



Never modify operator cab by welding, grinding, drilling holes or adding attachments unless instructed to do so by Bobcat Company. Changes to the cab can cause loss of operator protection from rollover and falling objects, and result in injury or death.

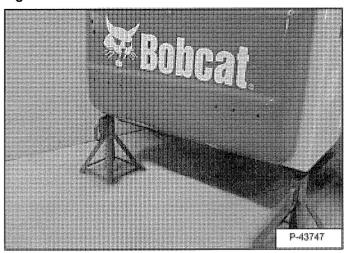
W-2069-0200

Raising

Always stop the engine before raising or lowering the cab.

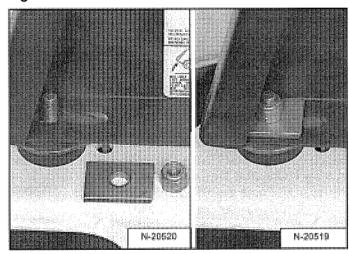
Stop the loader on a level surface. Lower the lift arms. If the lift arms must be up while raising the operator cab, install the lift arm support device. (See LIFT ARM SUPPORT DEVICE on Page PM-11.)

Figure PM-12



Install jackstands under the rear of the loader frame [Figure PM-12].

Figure PM-13



Remove the nuts and plates [Figure PM-13] (both sides) at the front corners of the cab.

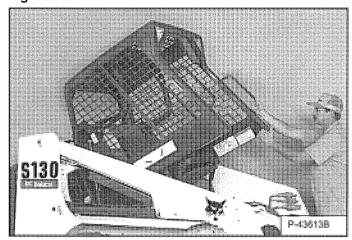


NOTE: On Advanced Control System (ACS) equipped machines, the steering levers could contact the cab frame while raising or lowering the operator cab. The engine MUST be stopped before raising or lowering the cab.

OPERATOR CAB (CONT'D)

Raising (Cont'd)

Figure PM-14



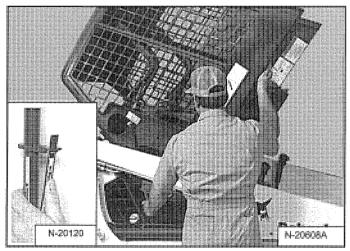
Lift on the grab handle and bottom of the operator cab slowly until the cab is all the way up and the latching mechanism engages [Figure PM-14].

Lowering

Always stop the engine before raising or lowering the cab.

NOTE: Always use the grab handles to lower the cab.

Figure PM-15



Pull down on the bottom of the operator cab until it stops at the latching mechanism [Figure PM-15].

NOTE: The weight of the cab increases when equipped with options and accessories such as cab door, heater, air conditioning, etc. In these cases, the cab may need to be raised slightly from the latch to be able to release the latch.



NOTE: On Advanced Control System (ACS) equipped machines, the steering levers could contact the cab frame while raising or lowering the operator cab. The engine MUST be stopped before raising or lowering the cab.

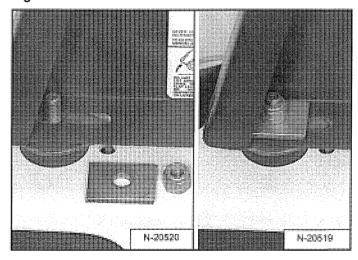
Support the cab and release the latching mechanism (Inset) [Figure PM-15]. Remove your hand from latching mechanism when the cab is past the latch stop. Use both hands to lower the cab all the way.



PINCH POINT CAN CAUSE INJURY
Remove your hand from the latching mechanism when the cab is past the latch stop.

W-2469-0803

Figure PM-16



Install the plates and nuts (both sides) [Figure PM-16].

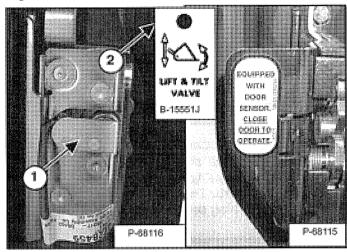
Tighten the nuts to 40-45 ft.-lb. (54-61 N•m) torque.

OPERATOR CAB (CONT'D)

Cab Door Sensor

This machine may be equipped with a Cab Door Sensor.

Figure PM-17



The cab door (option) has a sensor (Item 1) [Figure PM-17] installed which deactivates the lift and tilt valves when the door is open.

CLOSE DOOR TO OPERATE lift and tilt valves.

The LIFT & TILT VALVE light (Item 2) [Figure PM-17] will be ON when the door is closed and the PRESS TO OPERATE LOADER BUTTON is pressed.

REAR DOOR

Opening And Closing

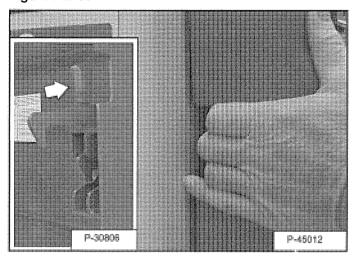


AVOID INJURY OR DEATH

Never service or adjust the machine when the engine is running unless instructed to do so in the manual.

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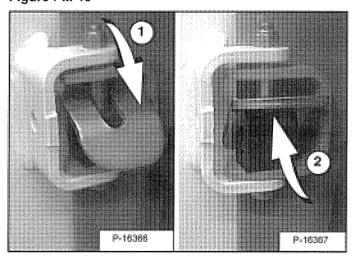
Figure PM-18



Reach into the slot in the rear door and pull the latch handle [Figure PM-18].

Pull the rear door open.

Figure PM-19



Move the door stop into the engaged position (Item 1) [Figure PM-19] to hold the door open. Move the door stop up (Item 2) [Figure PM-19] and allow the door to close.

Close the rear door.

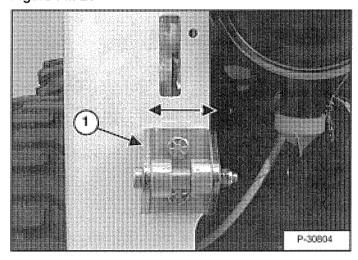


Keep the rear door closed when operating the machine. Failure to do so could seriously injure a bystander.

W-2020-1285

Adjusting

Figure PM-20



The door latch catch (Item 1) [Figure PM-20] can be adjusted up and down for alignment with the door latch mechanism.

Close the rear door before operating the loader.

REAR GRILL

Removing

Open the rear door.

Figure PM-21



Raise the rear grill and remove it from the loader [Figure PM-21].

Installing

Align the two tabs of the rear grill into the two slots in the loader frame (Inset) [Figure PM-21].

Lower the rear grill.

HEATING SYSTEM

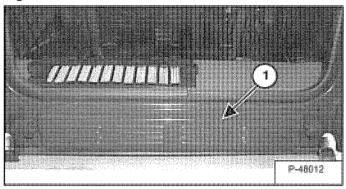
This machine may be equipped with a Heating System.

Cleaning And Maintenance

The heating system requires regular inspection and maintenance. (See SERVICE SCHEDULE on Page PM-7.)

Filters

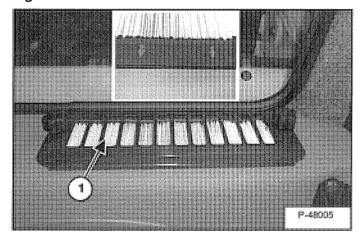
Figure PM-22



The Fresh Air Filter (Item 1) [Figure PM-22] is located below the rear window outside the cab. Remove the clamping knobs, filter cover and filter.

Shake the filter or use low pressure air to remove dirt. This can be done several times before replacement is required. Install the filter, filter cover and clamping knobs.

Figure PM-23



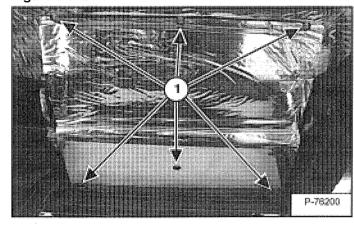
The *Recirculation Filter* (Item 2) **[Figure PM-23]** is located in front of the rear window inside the cab. Remove the clamping knobs, filter cover, and filter.

Shake the filter or use a vacuum to clean. This can be done several times before replacement is required. Install the filter with the arrows pointing forward (Inset) [Figure PM-23], install the filter cover and clamping knobs.

Heater Coil

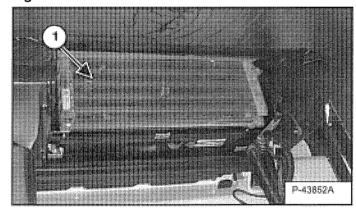
Raise the operator cab. (See Raising on Page PM-14.)

Figure PM-24



Remove the cover screws (Item 1) [Figure PM-24] and remove the cover.

Figure PM-25



Use low pressure air or water to remove debris from the heater coil (Item 1) [Figure PM-25].

Install the cover and lower the operator cab. (See Lowering on Page PM-15.)

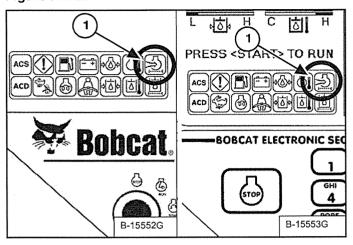
Troubleshooting

If the fan does not run, check the fuse. (See ELECTRICAL SYSTEM on Page PM-28.)

AIR CLEANER SERVICE

Replacing Filter Elements

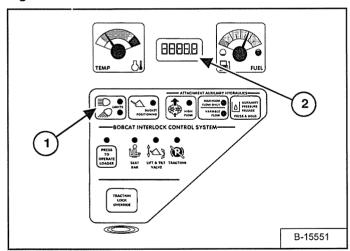
Figure PM-26



It is important to change the air filter element only when the Air Cleaner icon in the right panel is ON (Item 1) [Figure PM-26] and you hear three beeps from the alarm.

Replace the inner filter every third time the outer filter is replaced or as indicated.

Figure PM-27

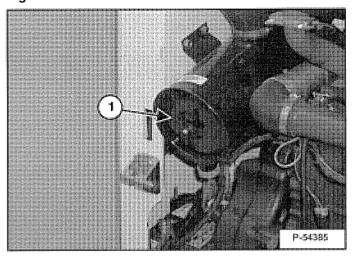


Press and hold the LIGHT button (Item 1) [Figure PM-27] for two seconds.

If the filter element needs replacement, the CODE [01-17] (Air Filter Plugged) will show in the HOURMETER / CODE DISPLAY (Item 2) [Figure PM-27].

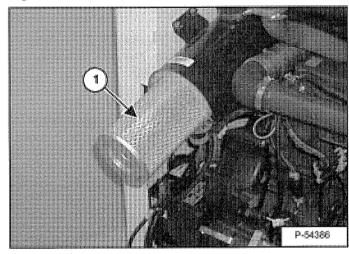
Outer Filter

Figure PM-28



Remove the wing nut and remove the dust cover (Item 1) [Figure PM-28].

Figure PM-29



Remove the wing nut and remove the outer filter element (Item 1) [Figure PM-29].

NOTE: Make sure all sealing surfaces are free of dirt and debris. Do not use air pressure to clean.

Install a new outer element.

Install the dust cover and the wing nut [Figure PM-28]. (Be sure the evacuator is down.)

Check the air intake hose and the air cleaner housing for damage. Make sure all connections are tight.

AIR CLEANER (CONT'D)

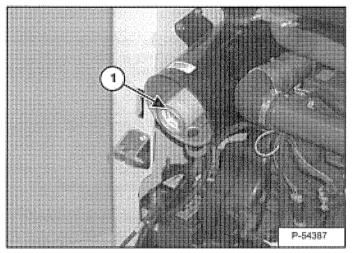
Replacing Filter Elements (Cont'd)

Inner Filter

Only replace the inner filter element the following conditions:

- Replace the inner filter element every *third* time the outer filter is replaced.
- After the outer element has been replaced, start the engine and run at full RPM. If the HOURMETER / CODE DISPLAY shows [01-17] (Air Filter Plugged), replace the inner filter element.

Figure PM-30



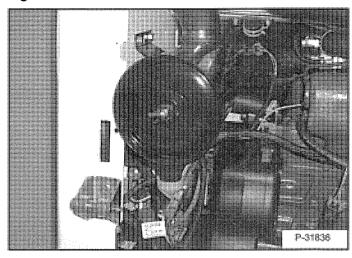
Remove the wing nut and remove the inner filter element (Item 1) [Figure PM-30].

NOTE: Make sure all sealing surfaces are free of dirt and debris.

Install the new inner element.

Install the outer element.

Figure PM-31



Install the dust cover and the wing nut [Figure PM-31] (Be sure the evacuator is down).

FUEL SYSTEM

Fuel Specifications

Use only clean, high quality diesel fuel, Grade No. 2 or Grade No. 1.

The following is one suggested blending guideline which should prevent fuel gelling during cold temperatures:

TEMPERATURE F° (C°)	NO. 2	NO. 1
+15° (9°)	100%	0%
Down to -20° (-29°)	50%	50%
Below -20° (-29°)	0%	100%

The following fuels may be used in this machine:

- Low Sulfur (500 ppm sulfur) Diesel Fuel.
- Ultra Low Sulfur (15 ppm sulfur) Diesel Fuel.
- Biodiesel Blend Fuel Must contain no more than five percent biodiesel mixed with low sulfur or ultra low sulfur petroleum based diesel. This is commonly marketed as B5 blended diesel fuel. B5 blended diesel fuel must meet ASTM D975 (US Standard) or EN590 (EU Standard) specifications.

Biodiesel Blend Fuel

Biodiesel blend fuel has unique qualities that should be considered before using in this machine:

- Cold weather conditions can lead to plugged fuel system components and hard starting.
- Biodiesel blend fuel is an excellent medium for microbial growth and contamination which can cause corrosion and plugging of fuel system components.
- Use of biodiesel blend fuel may result in premature failure of fuel system components, such as plugged fuel filters and deteriorated fuel lines.
- Shorter maintenance intervals may be required, such as cleaning the fuel system and replacing fuel filters and fuel lines.
- Using biodiesel blended fuels containing more than five percent biodiesel can affect engine life and cause deterioration of hoses, tubelines, injectors, injector pump and seals.

Apply the following guidelines if biodiesel blend fuel is used:

- Ensure the fuel tank is as full as possible at all times to prevent moisture from collecting in the fuel tank.
- Ensure that the fuel tank cap is securely tightened.
- Biodiesel blend fuel can damage painted surfaces, remove all spilled fuel from painted surfaces immediately.
- Drain all water from the fuel filter daily before operating the machine.
- Do not exceed engine oil change interval. Extended oil change intervals can cause engine damage.
- Before vehicle storage; drain the fuel tank, refill with 100% petroleum diesel fuel, add fuel stabilizer and run the engine for at least 30 minutes.

NOTE: Biodiesel blend fuel does not have long term stability and should not be stored for more than three months.



AVOID INJURY OR DEATH

Stop and cool the engine before adding fuel. NO SMOKING! Failure to obey warnings can cause an explosion or fire.

W-2063-0807

32].

Install and tighten the fuel fill cap (Item 1) [Figure PM-

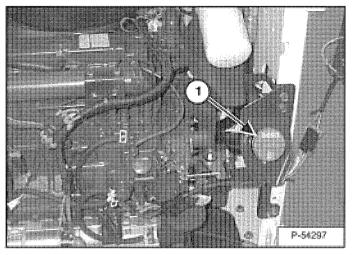


AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire which can result in injury or death.

W-2103-0807

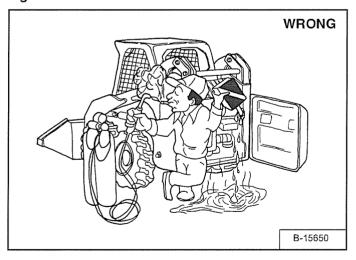
Figure PM-32



Open the rear door.

Remove the fuel fill cap (Item 1) [Figure PM-32].

Figure PM-33



Use a clean, approved safety container to add fuel of the correct specification. Add fuel only in an area that has free movement of air and no open flames or sparks. NO SMOKING! [Figure PM-33].

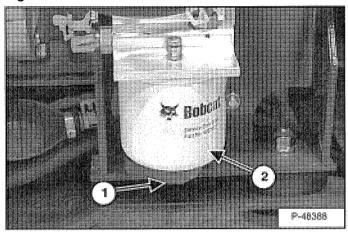
FUEL SYSTEM (CONT'D)

Fuel Filter

For the service interval for removing water from, or replacing the fuel filter (See SERVICE SCHEDULE on Page PM-7.)

Removing Water

Figure PM-34



Loosen the drain (Item 1) [Figure PM-34] at the bottom of the filter element to remove water from the filter.

Replacing Element

Remove the filter element (Item 2) [Figure PM-34].

Clean the area around the filter housing. Put clean oil on the seal of the new filter element. Install the fuel filter, and hand tighten.

Remove air from the fuel system. (See Removing Air From The Fuel System below.)

Removing Air From The Fuel System

After replacing the filter element or when the fuel tank has run out of fuel, the air must be removed from the fuel system before starting the engine.

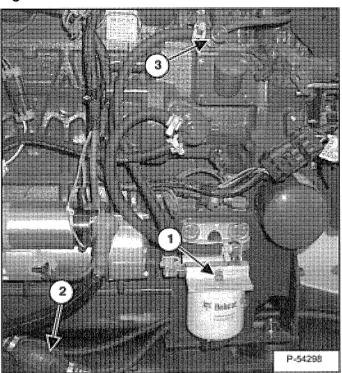


AVOID INJURY OR DEATH

Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes, causing serious injury or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention from a physician familiar with this injury.

W-2072-0807

Figure PM-35



Open the vent (Item 1) [Figure PM-35] on the fuel filter housing.

Squeeze the hand pump (priming bulb) (Item 2) [Figure PM-35] until fuel flows from the vent with no air bubbles.

Close the vent (Item 1) [Figure PM-35] on the fuel filter housing

Open the vent (Item 3) [Figure PM-35] on the fuel injection pump

Squeeze the hand pump (priming bulb) (Item 2) [Figure PM-35] until the pump feels solid.

Tighten the vent plug (Item 3) [Figure PM-35].

Start the engine.

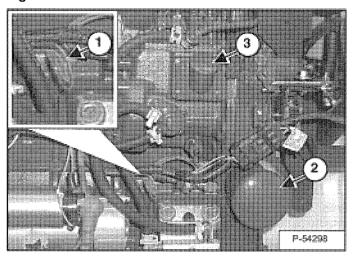
It may be necessary to open the vent plug (Item 3) [Figure PM-35] briefly while the engine is running. Close the vent when the engine runs smoothly.

ENGINE LUBRICATION SYSTEM

Checking And Adding Engine Oil

Check the engine oil level every day before starting the engine for the work shift.

Figure PM-36

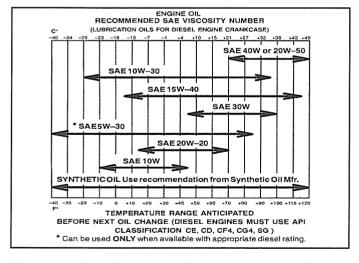


Open the rear door and remove the dipstick (Item 1) [Figure PM-36].

Keep the oil level between the marks on the dipstick.

Engine Oil Chart

Figure PM-37



Use a good quality motor oil that meets API Service Classification of CD or better See Oil Chart [Figure PM-37].

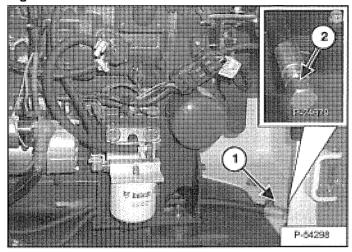
Install the dipstick and close the rear door.

Removing And Replacing Oil And Filter

For the service interval for replacing the engine oil and filter (See SERVICE SCHEDULE on Page PM-7.)

Run the engine until it is at operating temperature. Stop the engine.

Figure PM-38



Open the rear door.

Remove the drain hose from its storage position (Item 1) and remove the drain plug (Item 2) [Figure PM-38].

Drain the oil into a container and dispose of used oil in an environmentally safe manner.

Remove the oil filter (Item 2) [Figure PM-36] and clean the filter housing surface.

Fut clean oil on the new oil filter gasket, install the filter and hand tighten.

Install and tighten the drain plug.

Remove the fill cap (Item 3) [Figure PM-36].

Put oil in the engine. (See Capacities on Page SPEC-6.) (Also See Engine Oil Chart [Figure PM-37].)

Start the engine and let it run for several minutes.

Stop the engine and check for leaks at the oil filter.

Remove the dipstick and check the oil level.

Add oil as needed if it is not at the top mark (Item 1) [Figure PM-38] on the dipstick.

Install the dipstick and close the rear door.



AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire which can result in injury or death.

W-2103-0807

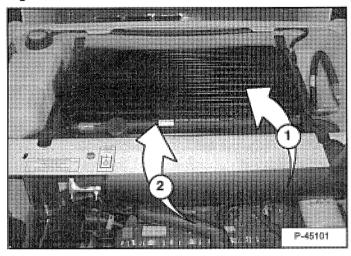
ENGINE COOLING SYSTEM

Check the cooling system every day to prevent overheating, loss of performance or engine damage.

Cleaning

Open the rear door and raise the rear grill.

Figure PM-39



Use low air pressure or water pressure to clean the top of the oil cooler (Item 1) [Figure PM-39].

NOTE: Be careful when raising and lowering the oil cooler so that the oil cooler does not fall on the radiator and damage the fins.

Raise the oil cooler and use low air pressure or water pressure to clean the top of the radiator (Item 2) [Figure PM-39].

Lower the oil cooler.

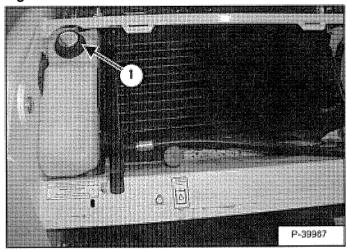
Check the cooling system for leaks.

Lower the rear grill and close the rear door.

Checking Level

Open the rear door and raise the rear grill.

Figure PM-40



Remove the coolant fill cap (Item 1) [Figure PM-40]. Check the coolant level. The level markers are on the tank. Coolant must be at the bottom marker when the engine is cold; top marker when hot.

Close the rear door before operating the loader.

IMPORTANT

AVOID ENGINE DAMAGE Always use the correct ratio of water to antifreeze.

Too much antifreeze reduces cooling system efficiency and may cause serious premature engine damage.

Too little antifreeze reduces the additives which protect the internal engine components; reduces the boiling point and freeze protection of the system.

Always add a premixed solution. Adding full strength concentrated coolant can cause serious premature engine damage.

I-2124-0497



AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

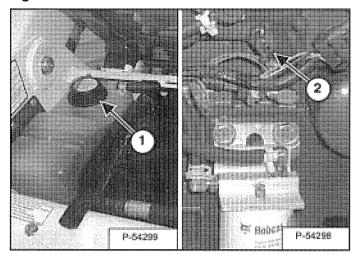
W-2019-0907

ENGINE COOLING SYSTEM (CONT'D)

Removing And Replacing Coolant

Open the rear door and raise the rear grill.

Figure PM-41



Remove the coolant fill cap (Item 1) [Figure PM-41].

Connect a hose to the engine block drain valve (Item 2) [Figure PM-41]. Open the drain valve and drain the coolant into a container.

After all the coolant is removed, close the drain valve and remove the hose.

Recycle or dispose of coolant in an environmentally safe manner.

Mix the coolant in a separate container. (See Capacities on Page SPEC-6.)

NOTE: The loader is factory filled with propylene glycol coolant (purple color). DO NOT mix propylene glycol with ethylene glycol.

Add premixed coolant, 47% water and 53% propylene glycol to the recovery tank. (See Checking Level on Page PM-26.)

One gallon and one pint of propylene glycol mixed with one gallon of water is the correct ratio (53%/47%) to provide -34°F (-37°C) freeze protection.

Remove the coolant fill cap. Fill the tank until it is at the lower marker on the tank.

Use a refractometer to check the condition of propylene glycol in your cooling system and replace the coolant fill cap.

NOTE: When installing the coolant fill cap, the cap must be tightened until it clicks.

Run the engine until it is at operating temperature. Stop the engine. Check the coolant level when cool. Add coolant as needed.

Install the rear grill and close the rear door.

IMPORTANT

AVOID ENGINE DAMAGE
Always use the correct ratio of water to antifreeze.

Too much antifreeze reduces cooling system efficiency and may cause serious premature engine damage.

Too little antifreeze reduces the additives which protect the internal engine components; reduces the boiling point and freeze protection of the system.

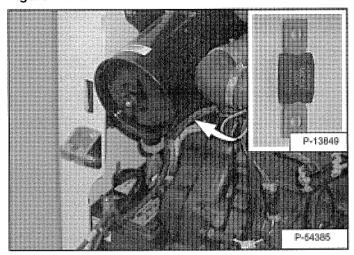
Always add a premixed solution. Adding full strength concentrated coolant can cause serious premature engine damage.

I-2124-0497

ELECTRICAL SYSTEM

Description

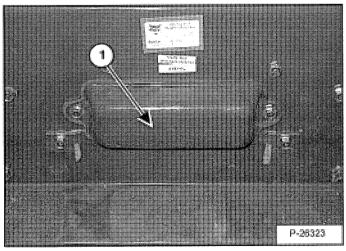
Figure PM-42



The loader has a 12 volt, negative ground alternator charging system. The electrical system is protected by fuses located in the cab on the steering control panel and a 100 amp master fuse [Figure PM-42] in the engine compartment on the left side of the engine. The fuses will protect the electrical system when there is an electrical overload. The reason for the overload must be found before starting the engine again.

Fuse And Relay Location / Identification

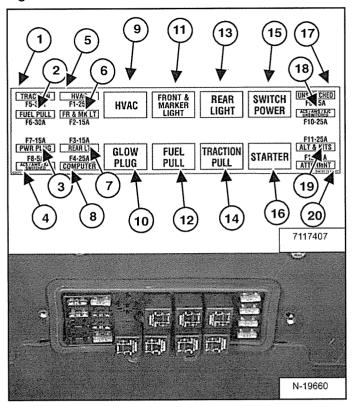
Figure PM-43



The electrical system is protected from overload by fuses and relays under the fuse panel cover (Item 1) [Figure PM-43]. A decal is inside the cover to show location and amp ratings.

Remove the cover to check or replace the fuses.

Figure PM-44



The location and sizes are shown below and [Figure PM-44].

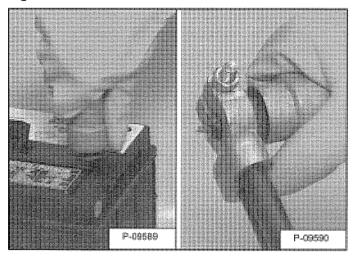
REF	DESCRIPTION	AMP	REF	DESCRIPTION	AMP
1	Traction	30	11	Front & Marker Lights	R
2	Fuel Shutoff	30	12	Fuel Shutoff	R
3	Power Plug		13	Rear Lights	R
4	ACS/AWS/SJC		14	Traction	R
5	Heater	25	15	Switch Power	R
6	Front & Marker 15 16 St Lights		Starter	R	
7	Rear Lights	15	17	Unswitched Attach.	25
8	Bobcat Controller	25	18	Switched Attach.	25
9	Not Used		19	Alternator & Accessories	25
10	Not Used	R	20	Accessory Plug	25

R - Relay

ELECTRICAL SYSTEM (CONT'D)

Battery Maintenance

Figure PM-45



The battery cables must be clean and tight [Figure PM-45]. Check electrolyte level in the battery. Add distilled water as needed. Remove acid or corrosion from battery and cables with sodium bicarbonate (baking soda) and water solution.

Put Battery Saver (6664458) or grease on the battery terminals and cable ends to prevent corrosion.



AVOID INJURY OR DEATH

Batteries contain acid which burns eyes and skin on contact. Wear goggles, protective clothing and rubber gloves to keep acid off body.

In case of acid contact, wash immediately with water. In case of eye contact get prompt medical attention and wash eye with clean, cool water for at least 15 minutes.

If electrolyte is taken internally drink large quantities of water or milk! DO NOT induce vomiting. Get prompt medical attention.

W-2065-0807

Using A Booster Battery (Jump Starting)

If it is necessary to use a booster battery to start the engine, BE CAREFUL! There must be one person in the operator's seat and one person to connect and disconnect the battery cables.

The key switch must be OFF (Key Switch Panel) OR the STOP button must be pressed (Keyless Panel). The booster battery must be 12 Volts.



AVOID INJURY OR DEATH

Batteries contain acid which burns eyes and skin on contact. Wear goggles, protective clothing and rubber gloves to keep acid off body.

In case of acid contact, wash immediately with water. In case of eye contact get prompt medical attention and wash eye with clean, cool water for at least 15 minutes.

If electrolyte is taken internally drink large quantities of water or milk! DO NOT induce vomiting. Get prompt medical attention.

W-2065-0807



AVOID INJURY OR DEATH

Keep arcs, sparks flames and lighted tobacco away from batteries. When *jumping* from booster battery make final connection (negative) at machine frame.

Do not jump start or charge a frozen or damaged battery. Warm battery to 60°F (16°C) before connecting to a charger. Unplug charger before connecting or disconnecting cables to battery. Never lean over battery while boosting, testing or charging.

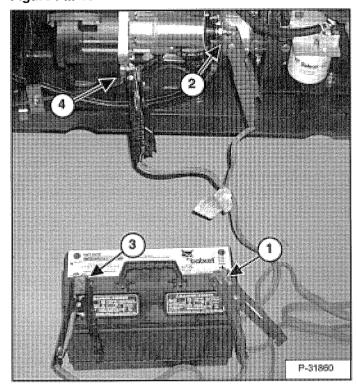
Battery gas can explode and cause serious injury.
W-2066-0705

Page 112 - BOBM022075-09-B1003 - 08/24/2008 21:24:55 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

ELECTRICAL SYSTEM (CONT'D)

Using A Booster Battery (Jump Starting) (Cont'd)

Figure PM-46



Connect the end of the first cable (Item 1) [Figure PM-46] to the positive (+) terminal of the booster battery. Connect the other end of the same cable (Item 2) [Figure PM-46] to the positive terminal on the loader starter.

Connect the end of the second cable (Item 3) [Figure PM-46] to the negative (-) terminal of the booster battery. Connect the other end of the same cable (Item 4)[Figure PM-46] to the engine.

Keep cables away from moving parts. Start the engine. (See STARTING THE ENGINE on Page OI-33.)

After the engine has started, remove the ground (-) cable (Item 4) [Figure PM-46] first.

Remove the cable from the positive terminal (Item 2) [Figure PM-46].

IMPORTANT

Damage to the alternator can occur if:

- Engine is operated with battery cables disconnected.
- Battery cables are connected when using a fast charger or when welding on the loader. (Remove both cables from the battery.)
- Extra battery cables (booster cables) are connected wrong.

1-2023-1285

ELECTRICAL SYSTEM (CONT'D)

Removing And Installing Battery



AVOID INJURY OR DEATH

Batteries contain acid which burns eyes and skin on contact. Wear goggles, protective clothing and rubber gloves to keep acid off body.

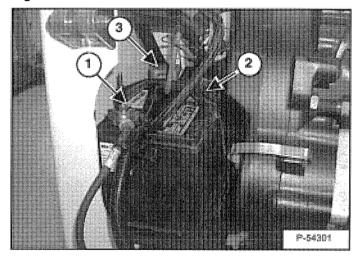
In case of acid contact, wash immediately with water. In case of eye contact get prompt medical attention and wash eye with clean, cool water for at least 15 minutes.

If electrolyte is taken internally drink large quantities of water or milk! DO NOT induce vomiting. Get prompt medical attention.

W-2065-0807

Open the rear door.

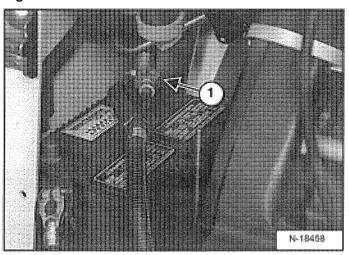
Figure PM-47



Disconnect the negative (-) battery cable (Item 1) [Figure PM-47].

Remove the battery hold down clamp (Item 2) [Figure PM-47].

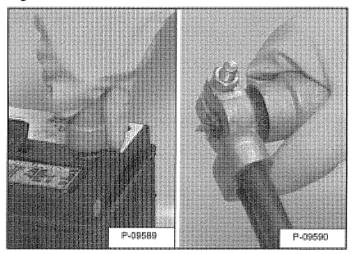
Figure PM-48



Disconnect the positive (+) cable (Item 1) [Figure PM-48] from the battery.

Remove the battery from the loader.

Figure PM-49



Always clean the battery terminals and cable ends when installing a new or used battery [Figure PM-49].

When installing the battery in the loader, do not touch any metal parts with the battery terminals.

Install the battery hold down clamp.

Connect the negative (-) cable last to prevent sparks.

Connect and tighten the battery cables.

Close the rear door before operating the loader.

HYDRAULIC / HYDROSTATIC SYSTEM

Checking And Adding Fluid

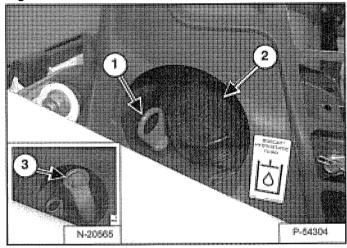
Use only recommended fluid in the hydraulic system. (See Hydraulic System on Page SPEC-5.)

Stop the loader on a level surface.

Lower the lift arms and tilt the Bob-Tach fully back.

Stop the engine.

Figure PM-50



Remove the dipstick (Item 1) [Figure PM-50].

Remove the fill cap (Item 2) [Figure PM-50].

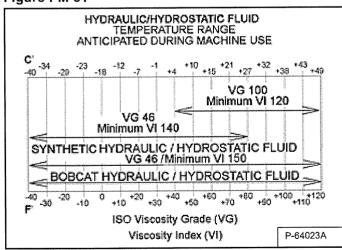
Add fluid as needed to bring the level to the top mark on the dipstick. Do not overfill.

Remove the screen (Item 3) [Figure PM-50] and clean with solvent as needed.

Install the fill cap [Figure PM-50].

Hydraulic / Hydrostatic Fluid Chart

Figure PM-51



Use the correct hydraulic / hydrostatic fluid shown in chart [Figure PM-51].

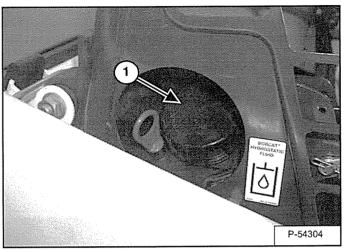
Removing And Replacing Hydraulic Fluid

For the correct service interval (See SERVICE SCHEDULE on Page PM-7.)

Replace the fluid if it becomes contaminated or after major repair.

Always replace the hydraulic / hydrostatic filter, the case drain filters and the hydraulic charge filter whenever the hydraulic fluid is replaced. (See Removing And Replacing Hydraulic / Hydrostatic Filter on Page PM-33.)

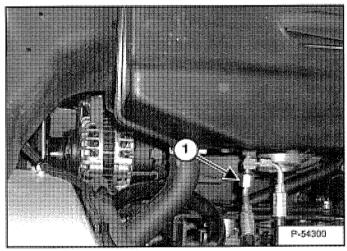
Figure PM-52



Remove the fill cap (Item 1) [Figure PM-52].

Raise the operator cab. (See Raising on Page PM-14.)

Figure PM-53



Disconnect the hose (Item 1) [Figure PM-53] from the hydraulic reservoir and drain the fluid into a container.

Reconnect the hose when reservoir is empty.

HYDRAULIC / HYDROSTATIC SYSTEM (CONT'D)

Removing And Replacing Hydraulic Fluid (Cont'd)



AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire which can result in injury or death.

W-2103-0807

Recycle or dispose of used fluid in an environmentally safe manner.

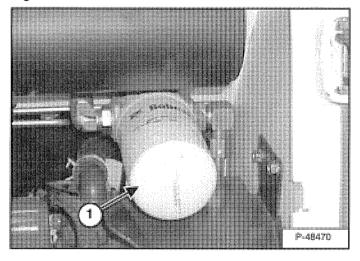
Add the correct fluid to the reservoir until the fluid level is at the top mark on the dipstick. Do not overfill. (See Checking And Adding Fluid on Page PM-32.)

Removing And Replacing Hydraulic / Hydrostatic Filter

For the correct service interval (See SERVICE SCHEDULE on Page PM-7.)

Open the rear door.

Figure PM-54



Remove the filter (Item 1) [Figure PM-54].

Clean the surface of the filter housing where the filter seal contacts the housing.

Put clean oil on the seal of the new filter. Install and hand tighten the new filter.



AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire which can result in injury or death.

W-2103-080

Close the rear door.

Start the engine and operate the loader hydraulic controls.



AVOID INJURY OR DEATH

Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes, causing serious injury or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention from a physician familiar with this injury.

W-2072-0807

Stop the engine and check for leaks at the filter.

Check the fluid level in the reservoir and add as needed. (See Checking And Adding Fluid on Page PM-32.)

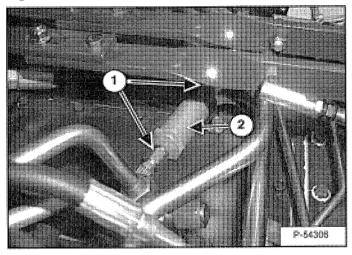
HYDRAULIC / HYDROSTATIC SYSTEM (CONT'D)

Removing And Replacing Case Drain Filters

For the correct service interval (See SERVICE SCHEDULE on Page PM-7.)

Raise the operator cab. (See Raising on Page PM-14.)

Figure PM-55

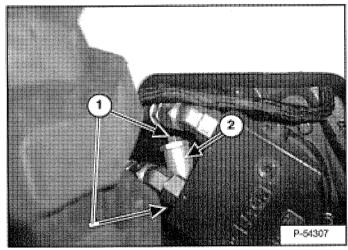


Disconnect the hoses from the case drain filter (Item 1) [Figure PM-55].

Remove the case drain filter (Item 2) [Figure PM-55].

Install new case drain filter.

Figure PM-56



Remove the right side access cover.

Disconnect the hoses from the case drain filter (Item 1) [Figure PM-56].

Remove the filter (Item 2) [Figure PM-56].

Install new case drain filter.



AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire which can result in injury or death.

W-2103-0807

Install right side access cover and lower the cab. (See Lowering on Page PM-15.)

Start the engine and operate the loader hydraulic controls. Stop the engine and check for leaks.



Hydraulic fluid escaping under pressure can have sufficient force to enter a person's body by penetrating the skin. This can cause serious injury and possible death if proper medical treatment by a physician familiar with this injury is not received immediately.

W-2145-0290

Check the fluid level in the reservoir and add as needed. (See Checking And Adding Fluid on Page PM-32.)

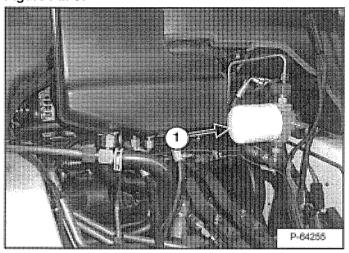
HYDRAULIC / HYDROSTATIC SYSTEM (CONT'D)

Removing And Replacing Hydraulic Charge Filter

The hydraulic charge filter is located under the cab. See your SERVICE SCHEDULE for correct interval. (See SERVICE SCHEDULE on Page PM-7.)

Raise the cab. (See Raising on Page PM-14.)

Figure PM-57



Remove the filter (Item 1) [Figure PM-57].

Clean the surface of the filter housing where the filter seal contacts the housing.

Put clean oil on the seal of the new filter. Install and hand tighten the new filter.



AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire which can result in injury or death.

W-2103-0807

Lower the cab. (See Lowering on Page PM-15.)

Start the engine and operate the loader.



AVOID INJURY OR DEATH

Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes, causing serious injury or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention from a physician familiar with this injury.

W-2072-0807

Stop the engine and check for leaks at the filter.

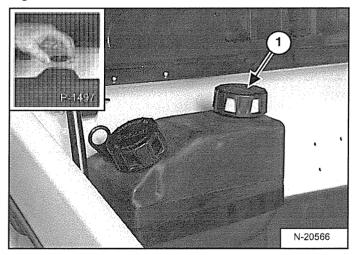
Check the fluid level in the reservoir and add as needed. (See Checking And Adding Fluid on Page PM-32.)

Breather Cap

See your SERVICE SCHEDULE for correct replacement interval. (See SERVICE SCHEDULE on Page PM-7.)

Raise the cab (See Raising on Page PM-14.)

Figure PM-58



Remove and discard the hydraulic breather (Item 1) [Figure PM-58]. Install new breather. Be sure baffle is installed under breather cap (Inset) [Figure PM-58].

Lower the cab. (See Lowering on Page PM-15.)

SPARK ARRESTOR MUFFLER

Cleaning Procedure

See the SERVICE SCHEDULE for service interval for cleaning the spark arrestor muffler. (See SERVICE SCHEDULE on Page PM-7.)

Do not operate the loader with a defective exhaust system.

IMPORTANT

This loader is factory equipped with a U.S.D.A. Forestry Service approved spark arrestor muffler. It is necessary to do maintenance on this spark arrestor muffler to keep it in working condition. The spark arrestor muffler must be serviced by dumping the spark chamber every 100 hours of operation.

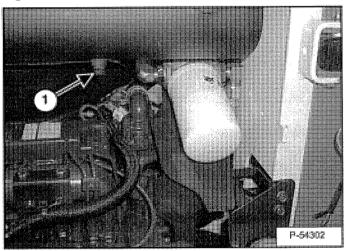
If this machine is operated on flammable forest, brush or grass covered land, it must be equipped with a spark arrestor attached to the exhaust system and maintained in working order. Failure to do so will be in violation of California State Law, Section 4442 PRC.

Consult local laws and regulations for spark arrestor requirements

I-2022-0807

Stop the engine and open the rear door.

Figure PM-59



Remove the plug (Item 1) [Figure PM-59] from the bottom of the muffler.



When the engine is running during service, the steering levers must be in neutral and the parking brake engaged. Failure to do so can cause injury or death.

W-2006-0284

Start the engine and run for about 10 seconds while a second person, wearing safety goggles, holds a piece of wood over the outlet of the muffler.

This will force contaminants out through the cleanout hole.

Stop the engine.

Install and tighten the plug.

Close the rear door.



AVOID INJURY OR DEATH

When an engine is running in an enclosed area, fresh air must be added to avoid concentration of exhaust fumes. If the engine is stationary, vent the exhaust outside. Exhaust fumes contain odorless, invisible gases which can kill without warning.

W-2050-0807



Stop engine and allow the muffler to cool before cleaning the spark chamber. Wear safety goggles. Failure to obey can cause serious injury.

W-2011-1285



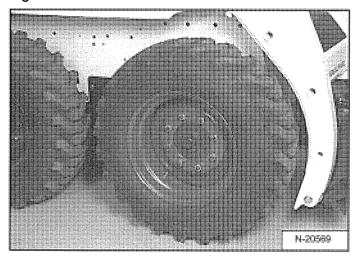
Never use machine in atmosphere with explosive dust or gases or where exhaust can contact flammable material. Failure to obey warnings can cause injury or death.

W-2068-1285

TIRE MAINTENANCE

Wheel Nuts

Figure PM-60



See the SERVICE SCHEDULE for the service interval to check the wheel nuts [Figure PM-60]. (See SERVICE SCHEDULE on Page PM-7.)

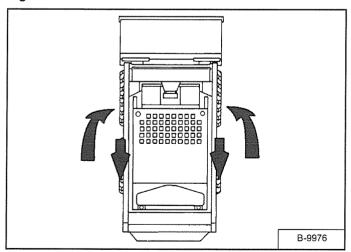
When <u>installing</u> wheel nuts, tighten to 160 ft.-lb. (217 N•m) torque.

When <u>checking</u> wheel nut torque, set the torque wrench to 140 ft.-lb. (190 N•m) to prevent over-tightening.

Rotating

Check the tires regularly for wear, damage and pressure. Inflate tires to the maximum pressure shown on the sidewall of the tire.

Figure PM-61



Rear tires usually wear faster than front tires. To keep tire wear even, move the front tires to the rear and rear tires to the front [Figure PM-61].

It is important to keep the same size tires on each side of the loader. If different sizes are used, each tire will be turning at a different rate and cause excessive wear. The tread bars of all the tires must face the same direction.

Recommended tire pressure must be maintained to avoid excessive tire wear and loss of stability and handling capability. Check for the correct pressure before operating the loader.

Mounting

Tires are to be repaired only by an authorized person using the proper procedures and safe equipment.

Tires and rims must always be checked for correct size before mounting. Check rim and tire bead for damage.

The rim flange must be cleaned and free of rust.

The tire bead and rim flange must be lubricated with a rubber lubricant before mounting the tire.

Avoid excessive pressure which can rupture the tire and cause serious injury or death.

During inflation of the tire, check the tire pressure frequently to avoid over inflation.



AVOID INJURY OR DEATH

Do not inflate tires above specified pressure. Failure to use correct tire mounting procedure can cause an explosion which can result in injury or death.

W-2078-1007

IMPORTANT

Inflate tires to the MAXIMUM pressure shown on the sidewall of the tire. DO NOT mix brands of tires used on the same loader.

I-2057-0794

Page 120 - BOBM022075-09-B1003 - 08/24/2008 21:24:56 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

FINAL DRIVE TRANSMISSION (CHAINCASE)

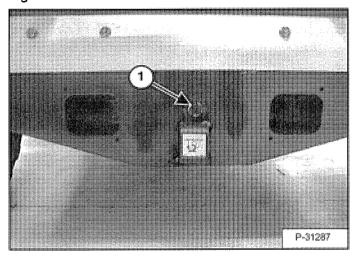
Checking And Adding Oil

The chaincase contains the final drive sprockets and chains. Use the same type of oil as the hydraulic / hydrostatic system. (See (S130) LOADER SPECIFICATIONS on Page SPEC-3.)

Stop the loader on a level surface.

Stop the engine.

Figure PM-62



Remove the check plug (Item 1) [Figure PM-62] from the front of the chaincase housing.

If oil can be reached with the tip of your finger through the hole, the oil level is correct.

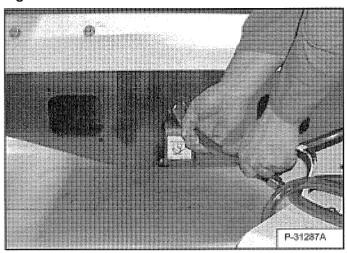
If the level is low, add lubricant through the check plug hole until it reaches the desired level.

Install and tighten the plug.

Removing And Replacing Oil

Remove the check plug (Item 1) [Figure PM-62] from the front of the chaincase housing.

Figure PM-63



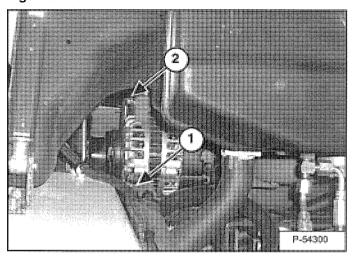
Use a pump to suction the oil from the chaincase [Figure PM-63].

Recycle or dispose of the used oil in an environmentally safe manner.

ALTERNATOR BELT

Belt Adjustment

Figure PM-64



Stop the engine.

Raise the operator cab. (See Raising on Page PM-14.)

Loosen the alternator mounting bolt (Item 1) [Figure PM-64].

Loosen the adjustment bolt (Item 2) [Figure PM-64].

Move the alternator until the belt has 5/16 in. (8,0 mm) movement at the middle of the belt span with 15 lbf.(66 N) of force.

Tighten the adjustment bolt and mounting bolts.

Lower the operator cab. (See Lowering on Page PM-15.)

Belt Replacement

Loosen the alternator mounting and adjustment bolts (Item 1 & 2) [Figure PM-64] and loosen the belt all the way.

Remove the belt and install a new belt.

DRIVE BELT

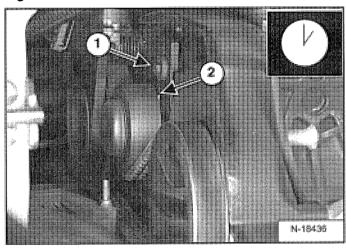
Belt Adjustment

Stop the engine.

Open the rear door and disconnect the negative (-) cable from the battery.

Remove three belt shield fasteners and remove the belt shield.

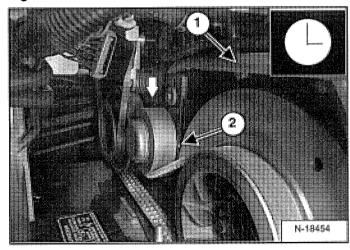
Figure PM-65



Loosen the bolt (Item 1) [Figure PM-65] on the spring loaded drive idler.

NOTE: The pointer will be at the 1 o'clock position (Item 2) [Figure PM-65] when the belt tensioner is not under spring tension.

Figure PM-66



Push the idler pulley against the belt, using a pry bar (Item 1) [Figure PM-66]. The pointer will be at the 3 o'clock position (Item 2) [Figure PM-66] when the idler pulley is against the stop (maximum movement).

Raise the idler assembly slightly so that the pulley is operating on spring tension and not against the stop.

NOTE: Do not set the idler against the travel stop in the 3 o'clock position.

Tighten the mounting bolt (Item 1) [Figure PM-65] to 25-28 ft.-lb. (34-38 N•m) torque.

Run the engine for a few minutes. Stop the engine and recheck the pointer position.

Readjust if necessary.

After the idler has been in service, readjust when the pointer reached the 1 o'clock position.

Install the belt shield and fasteners.

Connect the negative (-) battery cable.

Close the rear door.

Belt Replacement

Follow the steps above to loosen the drive belt tensioner.

Remove the bolt (Item 1) [Figure PM-65] from the tensioner and remove the tensioner assembly.

Remove the fan drive belt.

Remove the drive belt from the pump pulley and flywheel and remove the belt from the loader.

Install new drive belt. Install the belt tensioner assembly.

Install the fan drive belt.

Adjust the drive belt, reinstall previously removed components and continue procedure from *Belt Adjustment* above.

LUBRICATING THE LOADER

Lubrication Locations

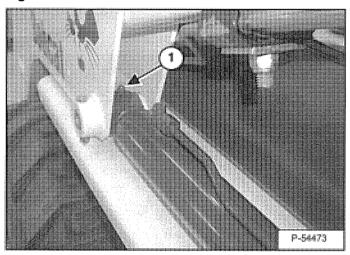
Lubricate the loader as specified for the best performance of the loader. (See SERVICE SCHEDULE on Page PM-7.)

Record the operating hours each time you lubricate the Bobcat Loader.

Always use a good quality lithium based multi-purpose grease when you lubricate the loader. Apply the lubricant until extra grease shows.

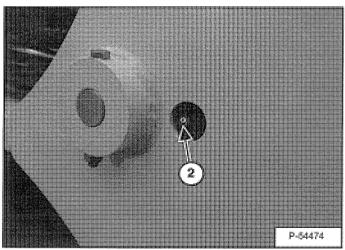
Lubricate the following locations on the loader:

Figure PM-67



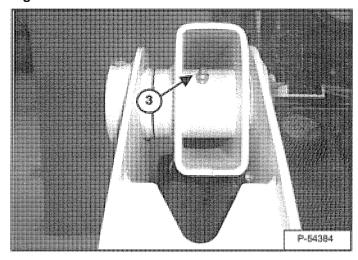
1. Rod End Lift Cylinder (Both Sides) [Figure PM-67].

Figure PM-68



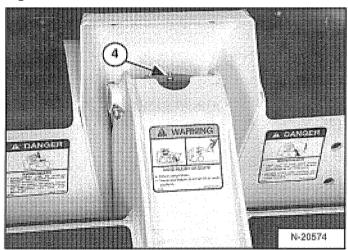
2. Base End Lift Cylinder (Both Sides) [Figure PM-68].

Figure PM-69



3. Lift Arm Pivot Pin (Both Sides) [Figure PM-69].

Figure PM-70

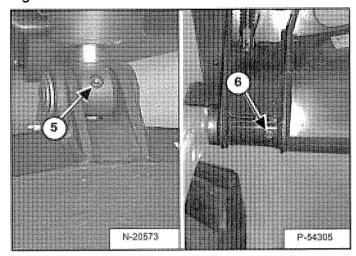


4. Base End Tilt Cylinder (Both Sides) [Figure PM-70].

LUBRICATING THE LOADER (CONT'D)

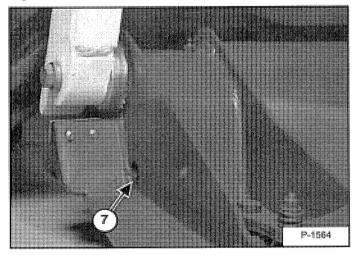
Lubrication Locations (Cont'd)

Figure PM-71



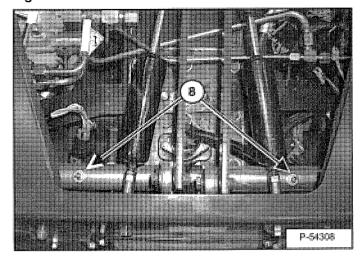
- 5. Rod End Tilt Cylinder (Both Sides) [Figure PM-71].
- 6. Bob-Tach Pivot Pin (Both Sides) [Figure PM-71].

Figure PM-72



7. Bob-Tach Wedge (Both Sides) [Figure PM-72].

Figure PM-73



8. 250 Hours: Steering Lever Shaft (2) [Figure PM-73].

Figure PM-74

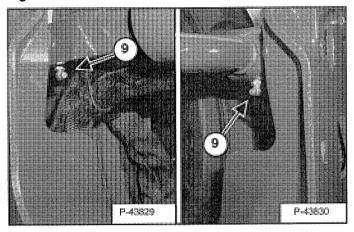
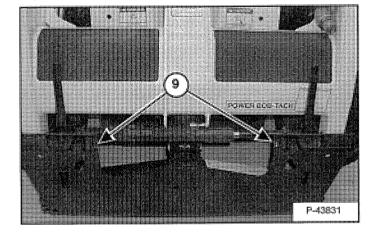


Figure PM-75



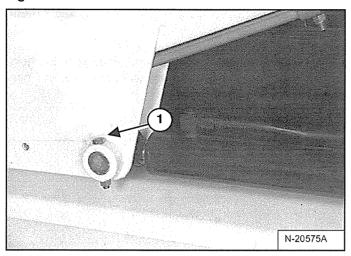
9. Power Bob-Tach Pivot Pins (If Equipped) [Figure PM-74] and [Figure PM-75].

Page 125 - BOBM022075-09-B1003 - 08/24/2008 21:24:56 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

PIVOT PINS

Inspection And Maintenance

Figure PM-76



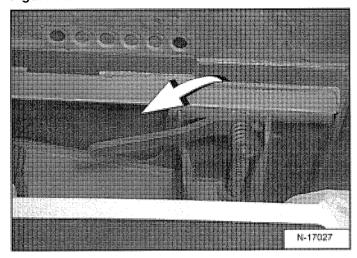
All lift arm and cylinder pivots have a large pin held in position with a retainer bolt and lock nut (Item 1) [Figure PM-76].

Check that the lock nuts are tightened to 35-40 ft.-lb. (48-54 N•m) torque.

BOB-TACH (HAND LEVER)

Inspection And Maintenance

Figure PM-77



Move the Bob-Tach levers down to engage the wedges [Figure PM-77].

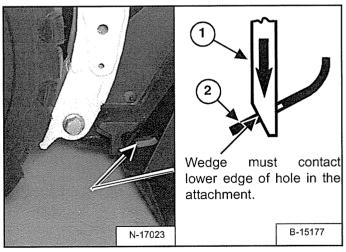
The levers and wedges must move freely.



Bob-Tach wedges must extend through the holes in attachment. Lever(s) must be fully down and locked. Failure to secure wedges can allow attachment to come off and cause injury or death.

W-2102-0497

Figure PM-78

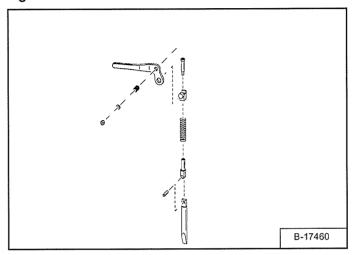


The wedges (Item 1) [Figure PM-78] must extend through the holes in the attachment mounting frame (Item 2) [Figure PM-78].

The spring loaded wedge (Item 1) [Figure PM-78] must contact the lower edge of the hole in the attachment (Item 2) [Figure PM-78].

If the wedge does not contact the lower edge of the hole [Figure PM-78], the attachment will be loose and can come off the Bob-Tach.

Figure PM-79



Inspect the mounting frame on the attachment and Bob-Tach, linkages and wedges for excessive wear or damage [Figure PM-79]. Replace any parts that are damaged, bent or missing. Keep all fasteners tight.

Look for cracked welds. Contact your Bobcat dealer for repair or replacement parts.

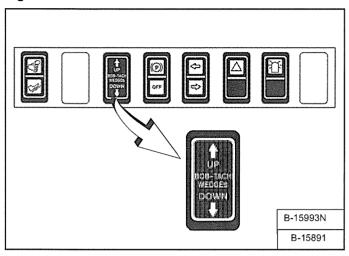
Lubricate the wedges. (See SERVICE SCHEDULE on Page PM-7.) (See also LUBRICATING THE LOADER on Page PM-41.)

BOB-TACH (POWER)

This machine may be equipped with a Power Bob-Tach.

Inspection And Maintenance

Figure PM-80



Push and hold the BOB-TACH "WEDGES UP" switch [Figure PM-80] until wedges are fully raised. Push and hold the BOB-TACH "WEDGES DOWN" switch [Figure PM-80] until the wedges are fully down.

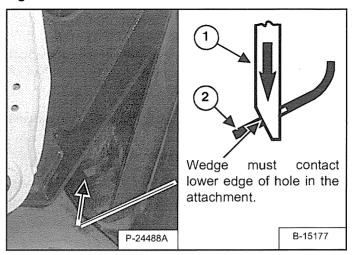
The levers and wedges must move freely.



Bob-Tach wedges must extend through the holes in attachment. Lever(s) must be fully down and locked. Failure to secure wedges can allow attachment to come off and cause injury or death.

W-2102-0497

Figure PM-81

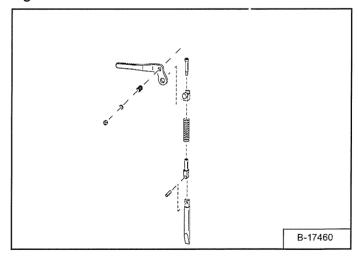


The wedges must extend through the holes in the attachment mounting frame (Item 2) [Figure PM-81].

The spring loaded wedge (Item 1) [Figure PM-81] must contact the lower edge of the hole in the attachment (Item 2) [Figure PM-81].

If the wedge does not contact the lower edge of the hole [Figure PM-81], the attachment will be loose and can come off the Bob-Tach.

Figure PM-82



Inspect the mounting frame on the attachment and the Bob-Tach, linkages and wedges for excessive wear or damage [Figure PM-82]. Replace any parts that are damaged, bent, or missing. Keep all fasteners tight.

Look for cracked welds. Contact your Bobcat dealer for repair or replacement parts.

Lubricate the wedges (See SERVICE SCHEDULE on Page PM-7.) (See also LUBRICATING THE LOADER on Page PM-41.)

Page 128 - BOBM022075-09-B1003 - 08/24/2008 21:24:56 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

LOADER STORAGE AND RETURN TO SERVICE

Storage

Sometimes it may be necessary to store your Bobcat Loader for an extend period of time. Below is a list of items to perform before storage.

- Thoroughly clean the loader including the engine compartment.
- · Lubricate the loader.
- · Replace worn or damaged parts.
- · Park the loader in a dry protected shelter.
- Lower the lift arms all the way and put the bucket flat on the ground.
- Put blocks under the frame to remove weight from the tires.
- Put grease on any exposed cylinder rods.
- Put fuel stabilizer in the fuel tank and run the engine a few minutes to circulate the stabilizer to the pump and fuel injectors.

If biodiesel blend fuel has been used, perform the following:

Drain the fuel tank, refill with 100% petroleum diesel fuel, add fuel stabilizer and run the engine for at least 30 minutes.

- Drain and flush the cooling system. Refill with premixed coolant.
- Replace all fluids and filters (engine, hyd. / hydro.).
- Replace air cleaner, heater and air conditioning filters.
- Put all controls in neutral position.
- Remove the battery. Be sure the electrolyte level is correct then charge the battery. Store it in a cool dry place above freezing temperatures and charge it periodically during storage.
- Cover the exhaust pipe opening.
- Tag the machine to indicate that it is in storage condition.

Return to Service

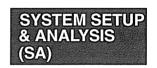
After the Bobcat Loader has been in storage, it is necessary to follow a list of items to return the loader to service.

- Check the engine and hydraulic oil levels; check coolant level.
- Install a fully charged battery.
- Remove grease from exposed cylinder rods.
- Check all belt tensions.
- Be sure all shields and guards are in place.
- · Lubricate the loader.
- Check tire inflation and remove blocks from under frame.
- Remove cover from exhaust pipe opening.
- Start the engine and let run for a few minutes while observing the instrument panels and systems for correct operation.
- Operate machine, check for correct function.
- Stop the engine and check for leaks. Repair as needed.

Page 129 - BOBM022075-09-B1003 - 08/24/2008 21:24:56 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

SYSTEM SETUP & ANALYSIS

BOBCAT INTERLOCK CONTROL SYSTEM (BICS)	
CONTROL PANEL SETUP	-11
DIAGNOSTIC SERVICE CODES	۹-5 ۹-4
MAINTENANCE CLOCK. SA- Description. SA- Reset SA- Setup. SA-	-14 -14
PASSWORD SETUP	-12 -13 -12





BOOGAI®

BOBCAT INTERLOCK CONTROL SYSTEM (BICS)

Troubleshooting Chart

The following list shows the effects which can happen to the loader, and the probable causes when the BICS System lights are off or flashing and the associated service codes. (See DIAGNOSTIC SERVICE CODES on Page SA-4.)

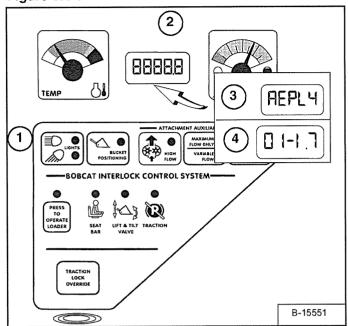
Indicator	Light ON	Light OFF	Effect on Operation of Loader When Light is OFF	SERVICE CODES Means System Error (See Your Bobcat Dealer for Service)			
Light				No. of Flashes	Service Code	Causes	
PRESS 10 OPTEATE LOADER	PRESS TO OPERATE LOADER button is pressed.	PRESS TO OPERATE LOADER button is not pressed.					
0	Seat Bar is down.	Seat Bar is up.	Lift and tilt functions will	2	11-05	Seat Bar sensor circuit shorted to battery voltage*.	
SHAT SMA			not operate.	3	11-06	Seat Bar sensor circuit shorted to ground.	
				Continuous	03-09	System voltage low	
				Flashing	03-10	System voltage high	
	Control valve	Control valve	Lift and tilt	1	17-07	Valve output circuit is open.	
	can be used.	cannot be used.	functions will not operate.	2	17-05	Valve output circuit shorted to battery voltage*.	
				3	17-06	Valve output circuit shorted to ground.	
UFT & TILT YALVE				3	17-06	Controller not grounded or intermittent ground.	
				Continuous	03-09	System voltage low	
				Flashing	03-10	System voltage high	
	Loader can be	Loader cannot	Loader cannot	1	16-07	Traction lock hold solenoid circuit is cpen.	
	moved forward & backward	be moved forward and	be moved forward and	2	16-05	Traction lock hold solenoid circuit shorted to battery voltage*.	
TRACTION	back	backward.	backward.	3	16-06	Traction lock hold solenoid circuit shorted to ground.	
				5	15-02	Traction lock pull solenoid circuit is shorted to battery voltage* - ERROR ON (Should be OFF).	
				6	15-03	Traction lock pull solenoid circuit ERROR OFF (Should be ON).	
				Continuous	03-09	System voltage low	
				Flashing	03-10	System voltage high	

^{*} Normal BICS operating voltage is less than electrical system voltage.

DIAGNOSTIC SERVICE CODES

Viewing Service Codes (Key Switch)

Figure SA-1



Press and hold the LIGHTS button (Item 1) for two seconds to view SERVICE CODES in the HOURMETER/CODE DISPLAY (Item 2) [Figure SA-1]. If more than one SERVICE CODE is present, the codes will scroll on the HOURMETER/CODE DISPLAY.

NOTE: Corroded or loose grounds can cause multiple service codes and/or abnormal symptoms. All instrument panel lights flashing, alarm sounding, headlights and taillights flashing, could indicate a bad ground. The same symptoms could apply if the voltage is low, such as loose or corroded battery cables. If you observe these symptoms, check grounds and positive leads first.

Service Codes may be either a word (Item 3) or a number (Item 4) [Figure SA-1]. (See following pages for service codes.)

The following word errors may be displayed.

REPLY One or both instrument panel(s) not communicating with the controller.

INPUT The controller not communicating with the left instrument panel.

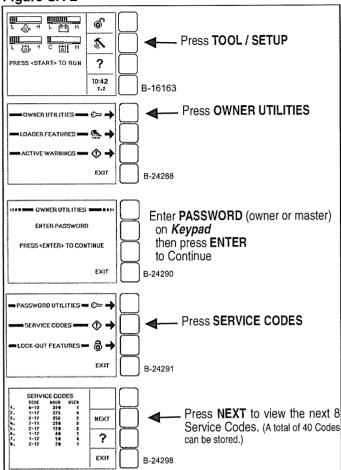
CODE The controller is asking for a password. (Keyless instrument panel only.)

ERROR The wrong password was entered. (Keyless instrument panel only.)

Viewing Service Codes (Keyless)

The Service Codes will aid your dealer in diagnosing conditions which can damage your machine.

Figure SA-2



The Display Panel will list the Code Number, (CODE) hourmeter reading when the error occurred (HOUR), and the User (USER) who was logged in to operate the machine when the error occurred.

A total of 40 Codes can be stored. When more than 40 codes occur, the oldest code will disappear and the newest code will be in No. 1 position.

Service Codes List

CODE		CODE	
01-16	Air filter not connected	11-05	Seat bar sensor short to battery
01-17	Air filter plugged	11-06	Seat bar sensor short to ground
02-16	Hydraulic/Hydrostatic filter not connected	12-21	Front auxiliary PWM switch out of range high
02-17	Hydraulic/Hydrostatic filter plugged	12-22	Front auxiliary PWM switch out of range low
		12-23	Front auxiliary PWM switch not in neutral
03-09	Battery voltage low		
03-10	Battery voltage high	13-05	Fuel shut-off hold solenoid short to battery
03-11	Battery voltage extremely high	13-06	Fuel shut-off hold solenoid short to ground
03-14	Battery voltage extremely low	13-07	Fuel shut-off solenoid open circuit
03-22	Battery voltage out of range low		
		14-02	Fuel shut-off pull solenoid error ON
04-09	Engine oil pressure low	14-03	Fuel shut-off pull solenoid error OFF
04-14	Engine oil pressure extremely low		
04-15	Engine oil pressure shutdown level	15-02	Traction lock pull solenoid error ON
04-21	Engine oil pressure out of range high	15-03	Traction lock pull solenoid error OFF
04-22	Engine oil pressure out of range low		
		16-05	Traction lock hold solenoid short to battery
05-09	Hydraulic charge pressure low	16-06	Traction lock hold solenoid short to ground
05-10	Hydraulic charge pressure high	16-07	Traction lock hold solenoid open circuit
05-11	Hydraulic charge pressure extremely high		
05-14	Hydraulic charge pressure extremely low	17-05	Hydraulic lock valve solenoid short to battery
05-15	Hydraulic charge pressure shutdown level	17-06	Hydraulic lock valve solenoid short to ground
05-21	Hydraulic charge pressure out of range high	17-07	Hydraulic lock valve solenoid open circuit
05-22	Hydraulic charge pressure out of range low		
		18-05	Spool lock solenoid short to battery
06-10	Engine speed high	18-06	Spool lock solenoid short to ground
06-11	Engine speed extremely high	18-07	Spool lock solenoid open circuit
06-13	Engine speed no signal		
06-15	Engine speed shutdown level	19-02	Bucket positioning solenoid error ON
06-18	Engine speed out of range	19-03	Bucket positioning solenoid error OFF
07-10	Hydraulic oil temperature high	20-02	Two-speed solenoid error ON
07-11	Hydraulic oil temperature extremely high	20-03	Two-speed solenoid error OFF
07-15	Hydraulic oil temperature shutdown level		
07-21	Hydraulic oil temperature out of range high	21-02	Glow plug error ON
07-22	Hydraulic oil temperature out of range low	21-03	Glow plug error OFF
08-10	Engine coolant temperature high	22-02	Starter error ON
08-11	Engine coolant temperature extremely high	22-03	Starter error OFF
08-15	Engine coolant temperature shutdown level		
08-21	Engine coolant temperature out of range high	23-02	Rear base solenoid error ON
08-22	Engine coolant temperature out of range low	23-03	Rear base solenoid error OFF
09-09	Fuel level low	24-02	Rear rod solenoid error ON
09-21	Fuel level out of range high	24-03	Rear rod solenoid error OFF
09-22	Fuel level out of range low		
		25-02	Rear auxiliary relief solenoid error ON
10-17	Hydraulic charge filter plugged		Rear auxiliary relief solenoid error OFF
10-1/	Hydraulic charge filter plugged	25-03	Rear auxiliary relief solehold error UFF

CODE		CODE	
26-02	Front base solenoid error ON	32-63	ACS Pedal lock short to ground
26-03	Front base solenoid error OFF	32-64	ACS Pedal lock short to battery
		32-65	ACS Sensor supply voltage out of range
27-02	Front rod solenoid error ON	32-66	ACS Battery voltage out of range
27-03	Front rod solenoid error OFF	32-67	ACS Switch flipped while operating
		32-68	ACS Lift handle information error
28-02	Diverter solenoid error ON	32-70	ACS Right hand drive short to ground
28-03	Diverter solenoid error OFF	32-71	ACS Right hand drive short to battery
		32-74	ACS Left joystick X-axis out of range
29-02	High flow solenoid error ON	32-75	ACS Interrupted unswitched power
29-03	High flow solenoid error OFF	32-76	ACS CAN joystick information error
		32-77	ACS Remote control information error
30-28	Controller memory failure		
		33-23	Main Controller (Bobcat Controller) not programmed
31-28	Interrupted power failure (Also occurs after software updates)		
		34-04	Keyless panel no communication to Bobcat controller
32-04	ACS not communicating with Bobcat Controller		
32-23	ACS calibration required	35-02	Hydraulic fan error ON
32-24	ACS calibration performed	35-03	Hydraulic fan error OFF
32-31	ACS Tilt actuator fault		
32-32	ACS Tilt actuator wiring fault	36-48	ACD multiple controllers present
32-33	ACS Tilt handle wiring fault		
32-34	ACS Tilt actuator not in neutral	37-02	Two-speed secondary error ON
32-35	ACS Tilt handle/pedal not in neutral	37-03	Two-speed secondary error OFF
32-36	ACS Lift actuator fault		
32-37	ACS Lift actuator wiring fault	38-01	CAN joystick information error
32-38	ACS Lift handle wiring fault	38-02	Remote control information error
32-39	ACS Lift actuator not in neutral	38-04	No communication from joystick controller
32-40	ACS Lift handle/pedal not in neutral	38-05	Left joystick X axis not in neutral
32-41	ACS No communication	38-06	Right joystick X axis not in neutral
32-49	ACS Lift actuator short to ground	38-07	Left joystick Y axis not in neutral
32-50	ACS Tilt actuator short to ground	38-08	Right joystick Y axis not in neutral
32-51	ACS Lift actuator short to battery	38-09	Control pattern switch - Short to Battery or Ground
32-52	ACS Tilt actuator short to battery	38-10	Actuator calibration performed
32-53	ACS Lift handle/pedal short to ground	38-11	Lift actuator not in neutral
32-54	ACS Tilt handle/pedal short to ground	38-12	Tilt actuator not in neutral
32-55	ACS Lift handle/pedal short to battery	38-13	Lift actuator fault
32-56	ACS Tilt handle/pedal short to battery	38-14	Tilt actuator fault
32-57	ACS Lift actuator reduced performance	38-15	Right wheel speed fault
32-58	ACS Tilt actuator reduced performance	38-16	Left wheel speed fault
32-59	ACS Lift actuator wrong direction	38-17	Tilt actuator reduced performance
32-60	ACS Tilt actuator wrong direction	38-18	Lift actuator reduced performance
32-61	ACS Handle lock short to ground	38-19	Left joystick X axis out of range high
32-62	ACS Handle lock short to battery	38-20	Right joystick X axis out of range high

CODE		CODE	
38-21	Left joystick Y axis out of range high	38-68	Wheel angles (alignment) not calibrated
38-22	Right joystick Y axis out of range high	38-69	Lift & tilt actuators calibration fault
38-23	Front right steering sensor out of range high	38-70	Recovery mode failure
38-24	Front left steering sensor out of range high	38-71	Battery out of range
38-25	Rear right steering sensor out of range high	38-72	Drive pump not calibrated
38-26	Rear left steering sensor out of range high	38-73	Steering mode switch flipped while operating
38-27	Lift actuator out of range high	38-74	Right wheel speed uncommanded motion
38-28	Tilt actuator out of range high	38-75	Left wheel speed uncommanded motion
38-29	Left joystick X axis out of range low	38-76	Undercurrent steer pressure solenoid
38-30	Right joystick X axis out of range low	38-77	Undercurrent front right extend steer solenoid
38-31	Left joystick Y axis out of range low	38-78	Undercurrent front right retract steer solenoid
38-32	Right joystick Y axis out of range low	38-79	Undercurrent front left extend steer solenoid
38-33	Front right steering sensor out of range low	38-80	Undercurrent front left retract steer solenoid
38-34	Front left steering sensor out of range low	38-81	Undercurrent rear right extend steer solenoid
38-35	Rear right steering sensor out of range low	38-82	Undercurrent rear right retract steer solenoid
38-36	Rear left steering sensor out of range low	38-83	Undercurrent rear left extend steer solenoid
38-37	5 volt sensor supply 1 out of range low	38-84	Undercurrent rear left retract steer solenoid
38-38	5 volt sensor supply 2 out of range low	38-85	5 Volt sensor supply 1 out of range high
38-39	Lift actuator short to ground / out of range low	38-86	5 Volt sensor supply 2 out of range high
38-40	Tilt actuator short to ground / out of range low	38-87	Front right steering error
38-41	Tilt actuator wrong direction	38-88	Front left steering error
38-42	Lift actuator wrong direction	38-89	Rear right steering error
38-43	Left forward drive solenoid error ON	38-90	Rear left steering error
38-44	Left reverse drive solenoid error ON	38-90	Right speed sensor missing pulses
38-45		38-92	Left speed sensor missing pulses
38-46	Right forward drive solenoid error ON	38-93	
	Right reverse drive solenoid error ON		Unresponsive right speed sensor
38-47	Front right steering solenoid error ON	38-94	Unresponsive left speed sensor
38-48	Front left steering solenoid error ON	38-95	Left speed sensor reverse direction
38-49	Rear right steering solenoid error ON	38-96	Right speed sensor reverse direction
38-50 38-51	Rear left steering solenoid error OFF	38-98	Controller in drive calibration mode
38-51	Steering pressure solenoid error ON	38-99	Controller in wheel position calibration mode
	Back-up alarm error ON	20.04	Left investigle an approximation to Doboot
38-53	Left forward drive solenoid error OFF	39-04	Left joystick no communication to Bobcat controller
38-54	Left reverse drive solenoid error OFF	39-05	X-axis not in neutral
38-55	Right forward drive solenoid error OFF	39-07	Y-axis not in neutral
38-56	Right reverse drive solenoid error OFF	39-07	Left joystick thumb switch not in neutral
38-57	Front right extend steering solenoid error OFF	39-12	Left joystick triumb switch not in neutral
38-58	Front right retract steering solenoid error OFF	39-13	Left joystick grip not connected Left joystick not connected
38-59	Front left extend steering solenoid error OFF	39-18	Left joystick not connected Left joystick internal failure
38-60	Front left exterior steering solenoid error OFF	39-48	Left joystick multiple
38-61	Rear right extend steering solenoid error OFF	00-40	Lott joyottok matupio
38-62	Rear right retract steering solenoid error OFF	40-04	Right joystick no communication to Bobcat
00-02	Treat right retract steering solelible entit Of t	70-04	controller
38-63	Rear left extend steering solenoid error OFF	40-05	Right joystick X-axis not in neutral
38-64	Rear left retract steering solenoid error OFF	40-07	Right joystick Y-axis not in neutral
38-65	Steering pressure solenoid error OFF	40-12	Right joystick thumb switch not in neutral
38-66	Back-up alarm error OFF	40-13	Right joystick grip not connected
38-67	No communication from Bobcat controller	40-16	Right joystick not connected

CODE		CODE	
40-28	Right joystick internal failure	75-18	Right swash plate not in neutral
40-48	Right joystick multiple	75-19	Left joystick X-axis out of range high
		75-21	Left joystick Y-axis out of range high
41-09	Alternator voltage low	75-22	Right joystick Y-axis out of range high
41-10	Alternator voltage high	75-23	Right front wheel angle sensor out of range high
41-11	Alternator voltage extremely high	75-24	Left front wheel angle sensor out of range high
		75-25	Right rear wheel angle sensor out of range high
44-02	Horn error ON	75-26	Left rear wheel angle sensor out of range high
44-03	Horn error OFF	75-27	Left swash plate out of position
		75-28	Right swash plate out of position
45-02	Right blinker error ON	75-29	Left joystick X-axis out of range low
45-03	Right blinker error OFF	75-31	Left joystick Y-axis out of range low
	<u> </u>	75-32	Right joystick Y-axis out of range low
46-02	Left blinker error ON	75-33	Right front wheel angle sensor out of range low
46-03	Left blinker error OFF	75-34	Left front wheel angle sensor out of range low
		75-35	Right rear wheel angle sensor out of range low
47-21	8 volt sensor supply out of range high	75-36	Left rear wheel angle sensor out of range low
47-22	8 volt sensor supply out of range low	75-37	5 volt sensor supply 1 out of range low
	l someone exppy care ang	75-38	Sensor supply 2 out of range low
48-02	Front light relay error ON	75-39	Left swash plate sensor out of range high
48-03	Front light relay error OFF	75-40	Left swash plate sensor out of range low
	Tronking trokey one over	75-41	Right swash plate sensor out of range high
49-02	Rear light relay error ON	75-42	Right swash plate sensor out of range low
49-03	Rear light relay error OFF	75-43	Left forward drive solenoid error ON
+5 00	Treat light rolay of or or or	75-44	Left reverse drive solenoid error ON
60-21	Rear auxiliary control out of range high	75-45	Right forward drive solenoid error ON
60-22	Rear auxiliary control out of range low	75-46	Right reverse drive solenoid error ON
60-23	Rear auxiliary control not in neutral	75-47	Right front steer extend short to battery
	Trodi daxiidiy contact free ii	75-48	Left front steer extend short to battery
64-02	Switched power relay error ON	75-49	Right rear steer extend short to battery
64-03	Switched power relay error OFF	75-50	Left rear steer extend short to battery
0-1 00	Cincolog power lotaly direct of	75-51	Steer pressure short to battery
73-04	Remote control in error	75-52	Backup alarm error ON
73-13	Remote control no signal	75-53	Left forward drive solenoid error OFF
70-10	remote control no digital	75-54	Left reverse drive solenoid error OFF
74-72	Bobcat controller in boot code	75-55	Right forward drive solenoid error OFF
17-12	Bobbat Controller in Boot Code	75-56	Right reverse drive solenoid error OFF
75-01	CAN joystick information error	75-57	Right front steer extend short to ground
75-01	No communication from drive controller	75-58	Right front steer retract short to ground
75-04	Left joystick X-axis not in neutral	75-59	Left front steer extend short to ground
75-03	Left joystick Y-axis not in neutral	75-60	Left front steer retract short to ground
75-07	Right joystick Y-axis not in neutral	75-61	Right rear steer extend short to ground
75-06	ISO/H pattern switch short to ground or battery	75-62	Right rear steer extend short to ground
75-09	Right front wheel angle sensor stuck	75-63	Left rear steer extend short to ground
75-13	Left front wheel angle sensor stuck	75-64	Left rear steer extend short to ground
		75-65	Steer pressure short to ground
75-15	Right rear wheel angle sensor stuck	75-66	Backup alarm error OFF
75-16	Left rear wheel angle sensor stuck	75-67	No communication from Bobcat controller
75-17	Left swash plate not in neutral	10-01	140 communication nom bobcat controller

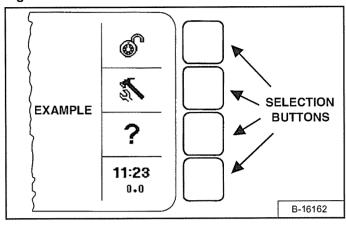
CODE		CODE	
75-68	Angle sensors not calibrated	80-03	ACD output 'A' error OFF
75-69	Battery voltage out of range high		
75-70	Interrupted power (Also occurs after software updates)	81-02	ACD output 'B' error ON
75-71	Battery voltage out of range low	81-03	ACD output' B' error OFF
75-72	Drive pump not calibrated		
75-73	ISO/H pattern switch flipped while operating	82-02	ACD output 'C' error ON
75-74	Right wheel speed uncommanded motion	82-03	ACD output 'C' error OFF
75-75	Left wheel speed uncommanded motion		
75-76	No communication from ACS controller	83-02	ACD output 'D' error ON
75-77	Left speed sensor out of range high	83-03	ACD output 'D' error OFF
75-78	Right speed sensor out of range high		
75-79	Left speed sensor out of range low	84-02	ACD output 'E' error ON
75-80	Right speed sensor out of range low	84-03	ACD output 'E' error OFF
75-81	Right front steer retract short to battery		
75-82	Left front steer retract short to battery	85-02	ACD output 'F' error ON
75-83	Right rear steer retract short to battery	85-03	ACD output 'F' error OFF
75-84	Left rear steer retract short to battery		
75-85	5 volt sensor supply 1 out of range high	86-02	ACD output 'G' error ON
75-86	Sensor supply 2 out of range high	86-03	ACD output 'G' error OFF
75-88	Controller in programming mode		
75-91	Left swash plate sensor reversed	87-02	ACD output 'H' error ON
75-92	Right swash plate sensor reversed	87-03	ACD output 'H' error OFF
75-93	Unresponsive right speed sensor		
75-94	Unresponsive left speed sensor	90-02	Service tool output 'C' error ON
75-95	Left speed sensor reverse direction	90-03	Service tool output 'C' error OFF
75-96	Right speed sensor reverse direction		
75-98	Controller in calibration mode	91-02	Service tool output 'D' error ON
		91-03	Service tool output 'D' error OFF
76-73	Left hand panel system RX error		
		92-02	Service tool output 'E' error ON
77-48	Key switch multiple	92-03	Service tool output 'E' error OFF
78-74	Door/transport lock open/active	93-02	Service tool output 'F' error ON
		93-03	Service tool output 'F' error OFF
80-02	ACD output 'A' error ON		

CONTROL PANEL SETUP

Right Panel Setup (Keyless)

Icon Identification

Figure SA-3

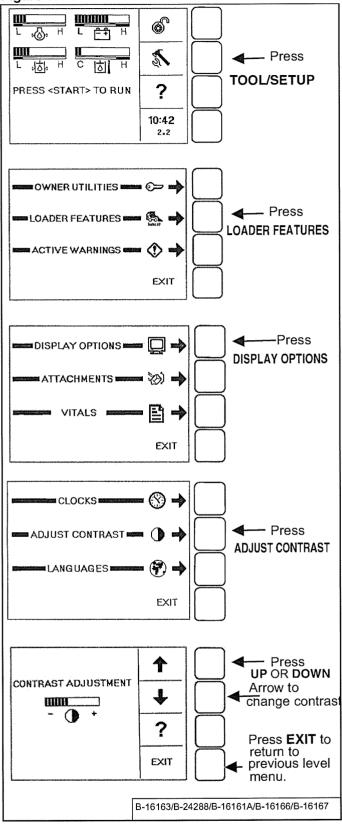


Make selection by pressing the SELECTION BUTTON adjacent to the icon [Figure SA-3].

ICON	DESCRIPTION
	LOCK/UNLOCK: Allows machine to be locked/unlocked. You must lock machine to activate security system.
	When system is unlocked, the user can press RUN/ENTER then press START to begin operation.
**	A valid password will need to be entered at startup to run a locked machine.
	TOOL/SETUP: Access system options.
ES.	Use to set clock, check system warnings, select language, set passwords, etc.
?	HELP: Access help on current menu item.
EXIT	EXIT returns you to previous level menu.
11:23 0.0	CLOCK/JOB CLOCK: Press to clear or lock job clock; TOOL/SETUP to set time.
1	UP ARROW: Goes backward one screen.
•	DOWN ARROW: Goes forward one screen.
Û	OUTLINE ARROWS: No screen available (backward/forward).
•	SELECTION ARROW: Use to select menu item.
NEXT	Goes to the NEXT screen in series. EXAMPLE: the next Active Warning screen.
INFO	Goes to more information about attachments.
YES/NO	Answer yes/no to current setup question.
CLEAR	Removes previously installed password.
SET	Set accepts current installed password.

Examples

Figure SA-4



CONTROL PANEL SETUP (CONT'D)

Right Panel Setup (Keyless) (Cont'd)

More Examples

Clocks

Press...
TOOL/SETUP
LOADER FEATURES
DISPLAY OPTIONS
CLOCKS

SET CLOCK

Use the keypad to set time.
Press **RUN/ENTER** to set clock.
Press **EXIT** to return to previous level menu.

RESET JOB CLOCK (Password required) (Job Clock keeps a running total for job hours) Press CLEAR to reset Job Clock to zero. Press LOCK/UNLOCK to unlock. Enter Password and press RUN/ENTER.

Languages

Press...
TOOL/SETUP
LOADER FEATURES
DISPLAY OPTIONS

LANGUAGES

Select the language, press **RUN/ENTER**. Press **EXIT** to return to previous level menu.

<u>Vitals</u> (Monitor the engine, hydraulic/hydrostatic, electrical functions when engine is running.)

Press...
TOOL/SETUP
LOADER FEATURES.

VITALS

Press **SELECTION ARROW** to select METRIC or ENGLISH **(M/E)** readouts

You can monitor real-time readouts of:

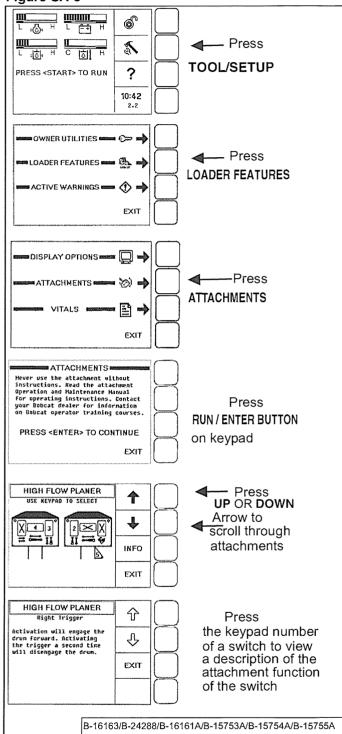
Engine Oil Pressure
Engine Coolant Temperature
Hydraulic Charge Pressure
Hydraulic Oil Temperature
System Voltage
Engine Speed

The Keyless Right Panel is easy to use. Continue to set your own preferences for running / monitoring your Bobcat Loader.

Attachment Control Information (Keyless)

The Keyless Right Panel allows the user to view information concerning the operation of Bobcat attachments.

Figure SA-5



Attachments are listed alphabetically. Press the exit button to return one screen or press the "0" (zero) key to return to the home screen immediately [Figure SA-5].

PASSWORD SETUP

Password Setup is available on Keyless Start equipped machines.

Password Description

All new machines with keyless start arrive at Bobcat dealerships with the keypad in locked mode. This means that a password must be used to start the engine.

For security purposes, your dealer may change the password and also set it in the locked mode. Your dealer will provide you with the password.

Master Password:

A permanent, randomly selected password set at the factory which cannot be changed. This password is used for service by the Bobcat dealer if the owner password is not known; or to change the owner password.

Owner Password:

Allows for full use of the loader and to setup the Keyless Right Panel. There is only one owner password. It must be used to change the owner or user passwords. Owner should change the password as soon as possible for security of the loader.

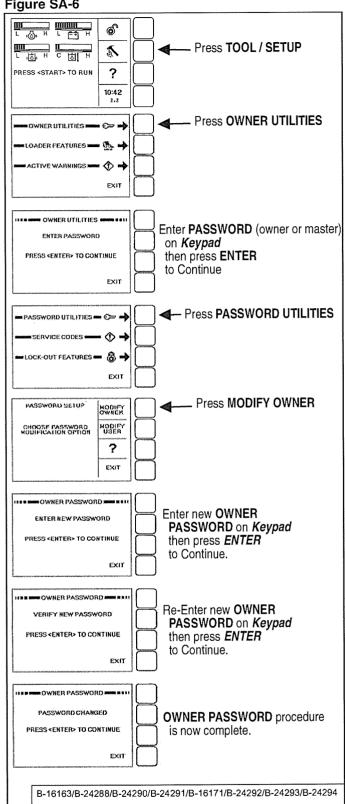
User Password:

Allows starting and operating the loader; cannot change password or any of the other setup features.

For the procedures to change passwords (See Changing The Owner Password on Page SA-12.) (See Changing The User Passwords on Page SA-13.)

Changing The Owner Password

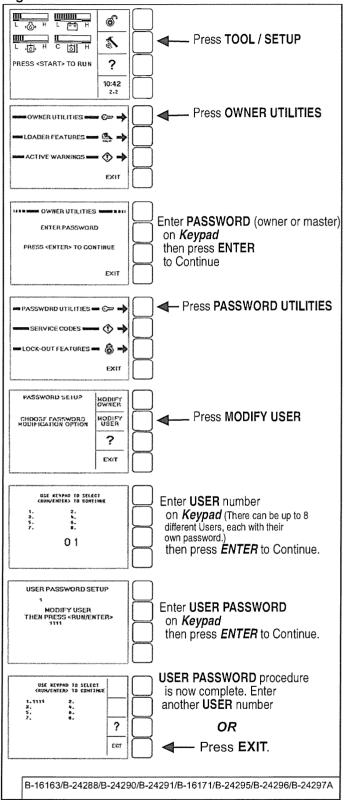
Figure SA-6



PASSWORD SETUP (CONT'D)

Changing The User Passwords

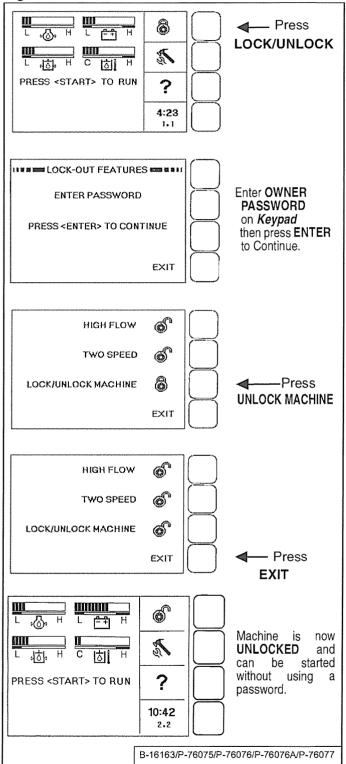
Figure SA-7



Password Lockout Feature

This feature allows the owner to unlock the password feature so that a password does not need to be used every time the engine is started.

Figure SA-8

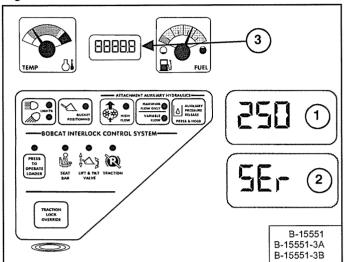


MAINTENANCE CLOCK

Description

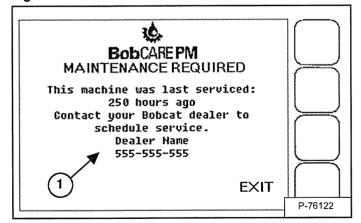
The Maintenance Clock alerts the operator when the next service interval is due. *EXAMPLE*: The Maintenance Clock can be set to a 250 hour interval as a reminder for the next 250 hour planned maintenance.

Figure SA-9



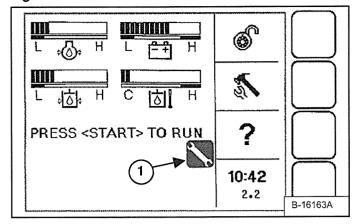
During machine operation, a two beep alarm will sound when there are less than 10 hours until the next planned maintenance. The hour interval (Item 1) and [SEr] (Item 2) will alternate in the display screen (Item 3) [Figure SA-9] for 10 seconds. The display will then revert back to the previous display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

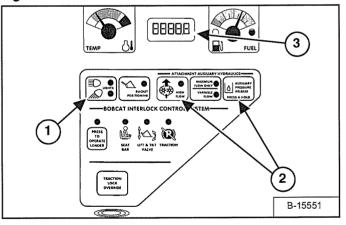
NOTE: Key Switch machines will not display the BobCARESM PM message or wrench icon on the right panel.

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].

Page 143 - BOBM022075-09-B1003 - 08/24/2008 21:24:57 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

MACHINE SIGN TRANSLATIONS

DANGER (6702301)	-6
DANGER (6702302)	-6
DANGER (6717343)	-6
IMPORTANT (6560573)	-7
LIFT ARM SUPPORT DEVICE (6706558) MST-1	11
SERVICE SCHEDULE (6734534) MST-	-3
WARNING (6725370)	11
WARNING (6577754)	-7
WARNING (6579528)	-6
WARNING (6710358)	0
WARNING (6718706)	0
DANGER (6809511)	0
WARNING (6728539)	-8
WARNING (6725370)	11
WARNING (6737189)	11
WARNING (6727926)	-9
WARNING (6726423)	5
WARNING (6704786)	-7
WARNING (7131518)	2
WARNING (6737248)	3
WARNING (7131519)	4





Bongat_®

AVOID INJURY OR DEATH

- Keep door closed except for
- Keep engine clean of flammable
- contacts, moving parts, hot parts Keep body, loose objects and clothing away from electrical and exhaust.
- flammable material near exhaust Do not use loader in space with explosive dusts or gases or with
- Never use ether or starting fluid on diesel engine with glow plugs. Use only starting aids as approved by engine manufacturer
- Leaking fluids under pressure can enter skin and cause serious
- Battery acid causes severe burns; wear goggles. If acid contacts eyes, skin, or clothing, flush with water. For contact with eyes,
 - flush and get medical attention. Battery makes flammable and explosive gas. Keep arcs, sparks, flames and lighted
- cable to loader engine last (never jump start, connect negative at the battery). After jump start remove negative connection at tobacco away. Fo
- ventilate.

CHECKLIST AND SCHEDULE SERVICE

EVERY 10 HRS (BEFORE STARTING THE LOADER)

- ENGINE OIL & FILTER Check level and add as needed. Do not overfill. Change oil and filter after first 50 Hrs, then refer to Operation & Maintenanco Manual for proper change interval for your Model.

 • ENGINE AIR FILTER Check condition indicator and/ or display. Sorvice only when required. Do not use compressed air to clean elements.
 - ENGINE AIR SYSTEM Check for leaks and damaged components.

 • ENGINE COOLING SYSTEM Clean debris from grill, oil cooler and radiator. Check coolant level cold; add
 - coolant mixture if required.
- FUEL FILTER Remove trapped water.
 LADARE LIFT ARMS, LIFT LINKS, CYLINDERS, BOB-TACH PNOT & WEDGES, STEERING CYLINDERS
 LAMS Machines Only) Lubricate with multipurpose lithium based grease.
 SEAT BELT, SEAT BARAD CONTROL INTERLOCKS Chock function. Repair or replace as needed. Clean dirt and dobris from moving parts.
- - BICS Check for correct function. Clean dirt and debnis from moving parts. Lift and Tilt functions MUST NOT
 - operate with seat bar raised.

 TIRES Check air pressure, Inflate to MAXIMUM pressure shown on sidewall of tire.

 GENERAL Check for loose or broken parts, damaged operator cab, instrument operation, loose wheel nuts or track sprocket nuts, oil leaks, damaged or missing safety signs (decals). **EVERY 50 HRS**
- • HYDRAULIC FLUID, HOSES AND TUBELINES Check fluid level and add if required. Check for damage and role leaks. Appaid or politice as need RAHALASE, Wheel Machines Oraly Check fluid level and add if required.
 • FINAL BRIVE TRANSMISSION (FANIOASE, Wheel Machines Oraly) Check fluid level and add if required.
 - HYDRAULIC & STEERING CONTROLS (PEDALS, HAND, and/ or JOYSTICK) Check for correct operation.
 - Adjust as needed.

 WHEEL NUTS / TRACK DRIVE SPROCKETS Check for loose nuts and tighten as needed.

 TRACK TENSION (frack Machines Only) Check tension and adjust as needed.
- SPARK ARRESTOR MUFFLER Empty spark chamber, (If equipped.)
 BATTERY Chack battery for damage, hold down clamps, cables, connections and electrolyte level. Add
 - distilled water as needed.

 DRIVE LINE Lubricate Engine-to-Pump Coupler with multipurpose lithium based grease. (if equipped.)

 - EVERY 250 HRS

 STEERING LEVER PIVOTS Lubricate with multipurpose lithium based grease, (If equipped.)
- FUEL FILTER Replace filter.

 KING PIRS (AWK Machinos Only) Lubricato with multipurpose lithium based grease.

 KING PIRS (AWK Machinos Only) Lubricato with multipurpose lithium based grease.

 KING PIRS (AWK Machinos Only) Lubricato with multipurpose is needed, (if equipped.)

 FANDINE GEARBOX Chock fluid level and add if required. (if equipped.)

 OTHER DRIVE BELTS (Hydrostatic pump, water pump, alternator, and all remittion if equipped.) Check
- BICS Check function of Lift Arm By-Pass control.

condition and tension. Adjust or replace as needed

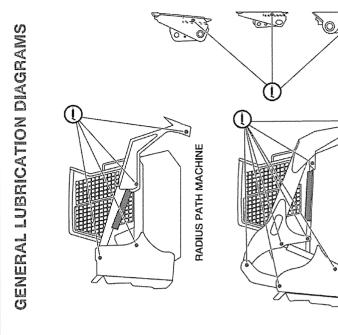
- EVERY 500 HRS
- • HYDRAULIC RESERVOIR Replace fluid. EVERY 1000 HRS

*8 • FAN / HYDRAULIC / HYDROSTATIC SYSTEM - Replace filter. Replace reservoir breather cap. 11 • STEERING VALVE INLINE FILTER (AWS Orly) - Replace filter.

- • FINAL DRIVE THANSMISSION (Chaincase on Whoel Machines Only) Replace fluid. • TRACK ROLLER, IDLER ASSEMBLIES (Track Machines Only) Replace fluid (If required).
- ► BRIVE MOTOR CASE DRAIN FILTER Replace (ilter (if equipped.)

 • WHEEL BEARING & OUTER SPLINES (AWS only) Repack wheel bearings, grease internal splines in hub yoke. (Dealer Service Only)
 - Replace element sooner if transmission warning indicator remains on for more than 5 minutes after hydraulic fluid is at operating temperature. NOTES:
- See Operation & Maintenance Manual for correct fluid specifications, filter part number and location, and appropriate service interval for your Model. Service at first 50 Hours, then as scheduled.

SEE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION AND INSTRUCTIONS.





FRTICAL PATH MACHINE

Use Genuine Bobcat Replacement Parts

70382 SW 6734534D enUS

Exhaust gases can kill. Always

the engine first.

DIAGRAMAS DE LUBRICACIÓN GENERAL

Page 146 - BOBM022075-09-B1003 - 08/24/2008 21:24:57 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

ADVERTENCIA

EVITE LESIONES O FATALIDADES

- excepto para dar servicio a la unidad Mantenga la compuerta cerrada
- Mantenga el aceite libre de material Inflamable
- Mantenga el cuerpo, objetos y prendas de vestir hotgados alejados de contactos eléctricos, piezas móviles, partes calientes y el escape.
- con polvo o gases explosivos, o con No utilice el cargador en ambientes material inflamable cerca al escape
- Jamás utilice éter o fluido de arranque en motores diesel con bujías de precalentamiento. Utilice solo ayudas de encendido aprobados por el fabricants del motor.
- Los fluidos que se fugan bajo presión pueden atravesar la piel y causar lesiones graves.
- limple bien y obtenga atención médica. ojos, piel o ropa, limple bien con agua. El ácido de batería causa quemaduras graves; porte lentes de seguridad. Si el ácido entra en contacto con los Si entra en contacto con los ojos,
- explosivo. Mantenga arcos, chispas, llamas y tabaco encendido alejados, La batería produce gas inflamable y
- (jamás a la batería), Después del arranque en puente, retire la conexión Para arranques en puente, conecte el cable negativo al cargador primero negativa en el motor primero.

LISTA DE CHEQUEO Y PROGRAMA DE MANTENIMIENTO CADA 10 HORAS (ANTES DE ENCENDER EL MOTOR DEL CARGADOR)

LE + ACEITE Y FILTRO DE MOTOR - revise el rivel y agregue, si os del caso. No llene escesavamento. Cambie el acelto filtro después de las primeras 50 herra. Luego, reliforase si Manual de Operación y Mantenimento para conocer el

- intervale de cambio adocuado do su madoto.

 * FILTE OLE METOR DEL METORA revise da condición del tradeador y/o pantalla. Dá servicio solo cuando sea del caso. No utilico aine comprando para impigal fos elementos.

 utilico aine comprando para impigal fos elementos.
 - utilico aira comprando para limpiar los elementos.

 * SISTEMA DE AIRE DEL MOTOR—reviso la presentacia de fugus y componentos aveolíados.

 * SISTEMA DE MARE DEL MOTOR—reviso la presentacia de fugus y componentos aveolíados.

 * SISTEMA DE ENFRIAMIENTO DEL MOTOR—reviso bas escentosos de la parifila, entrindor de aceita y radiadoto. Howise of nivel dot entitled of free, agregue to messan de enthador al es dol caso. • FILTRO DE COMBUSTIBLE - polite el agua atrapada.
- BRAZOS ELEVADORES DEL CARIGADOR, ACOPLAMIENTOS DE ELEVACIÓN, PIVOTE Y CUÍAS DEL BOB-TACH, CILINDROS DE DIRECCIÓN (colo máquinse ANS) » Lubriquo con grasa multipropósito a baso de lifo.
- CINTURÓN DE SEGURIDAD, BARRA DEL ASIENTO Y ENCLAVAMIENTOS DE CONTROL -- tuviso su funcionamionto Rapara o raponga, si as del caso. Raliro arana y escombros de las piezas mávilos
 - BICS reviso que tuncione correctamento. Restru arona y ecocombros de las plezas móvilos. Las tuncienos do
 elevación o inclinación NO DECEN operar con la borta da taxiento los vada.
 RUEDAS reviso la presión de atre, nife hasta la presión MÁXIMA que aparcos en la pared lateral de la rueda,
 GENERAL reviso es titury piozas avoltas o rotas, a la cubina del operador está evoritada, ol tuncionamiento de
 los instrumentos, tuercas do ruedas o tuercos dentadas de orugas flejas, (lugas de acolte, calcomanfas avertadas
 - o que faltan. CADA 50 HORAS
- presencia de avortes y lugas. Reparco o cambito, si es del caso. R. F ELUIDO HIDRÁULICO, MANGUERAS Y TUBERÍAS - reviso el nivel de fluido y agregue, si es del caso. Reviso la
 - y agregue, si es del case.
 CONTROLES HIDRÁULICOS Y DE DIRECCIÓN (PEDALES, MANUALES y/o JOYSTICK) revise si funcionen
- contrataments. Attaito, sis ed elecato * TUBECAS DE RUEDAS / RUEDAS DENTADAS DE TRANSMISIÓN DE ORUGAS reviso al hay tuoreas linga y aprioto, al es del easo. * TENSIÓN DE CARLIGAS (solo máquinas con caugas) reviso la tensión y calibro, si es del easo.
 - CADA 100 HORAS SILENCIADOR DEL SIBTEMA PARACHISPAS vasío la cúmera do chispas (a viene equipada).
- EATERÍA niviso si la batoría cesti averiada, los sujetadores de rotención, cables, conzalence y el nivel electrolítico. Agregue egua destilada, si es del caso. •LÍNEA DE TRANSMISIÓN « lubrique di acople motor a bomba con grasa multusco a baso do litio (si ostá oquipado).
 - CADA 250 HORAS
- PIYOTES DE LA PALANCA DE DIRECCIÓN subriqua con graza multipropósito a baso do fitio (si vieno equipada).
 FILTRO DE COMBUSTIBLE cambio el filtro. PINES DE DRECCIÓN (colo máquinas AWS) — Abrique con grasa multipropósito a base de litto.
- 🛦 🖈 CORREA DE MOTOR / TRANSMISIÓN HIDRÁULICA reviso si está desgastada o averiada. Calbro o cambio, si ca del
 - caro (stoste equipotd).

 * CAJA DE ETGRÁNALES DEL VENTILADOR -- Roviso el nivel de fluido y agregas, si es del caso (si vinne equipada).

 * OTRAS CORRERAD DE TRANSMISIÓN (bomba hidrastifica, homba de agua, alternador, y alte accendicionado -- si eadan equipados) – reviso la ecardición y tenibrir. Ajusto o reemplace, si os del caso.

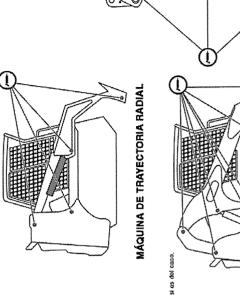
 • BLCS – reviso el turacinamiento del control de derivación del brazo elevador.

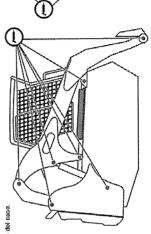
 CABDA 500 HORAS.

 • BLCS – POR HORAS PARIDOSTATICO – nemplaco la topa del reservorio.
- * * FILTRO EN LÍNEA DE VÁLYULA DE DIRECCIÓN (solo AWS) -- cambie el filtro.
- CADA 1900 HORAS = *RESENVEND HORALILICO cambio el luido. = *TRANSIBIGIÓN DE DIRECCIÓN FINAL (ceja de la cadena solo en máquinas con ruedaa) cambio el fluido.
- E RODILLO DE ORUGAS, CONJUNTOS DE FUEDAS TENSORAS (solo máquinas con orugas) cambio ol fluido (si os del caso). 8 FILTRO DE DESCARGA DE LA CAJA DE MANDO DEL MOTOR cambio ol filto (si cols equipado).
- RODAMIENTO DE RUEDA Y RANURAS EXTERNAS (solo AWS) Roumpaque los rodamientos de rurdas, engraso la culata inferna
 de las ranuras del cubo. (Solamente servicio del concestionento).

- Cambio el atemento antes si el indicador de advostencia de la transmisión permasece encondido más de 5 minutes después de que el fluido hidráulico está a temperatura de operación.
- II. Consulto on of manual de operación y menterimiento has correctas especificaciones de fluido, el número de la parte y la ublicación def littro, y el intervalo de mantentmiento correcto para su medelo. Dé servicio las primeras 50 horas. Luego según lo programado.

PARA MÁS INFORMACIÓN E INSTRUCCIONES, CONSULTE EL MANUAL DE OPERACIÓN Y MANTENIMIENTO.





MÁQUINA DE TRAYECTORIA VERTICAL

PUNTOS DE ENGRASE TÍPICOS



USE REPUESTOS GENUINOS DE BOBCAT

Los gases de escape pueden matar,

Ventile siempre.

TOUTES LES 10 HEURES (AVANT DE DEMARRER LA CHARGEUSE) AVERTISSEMENT

RISQUE DE BLESSURES

Maintenez in porto fermée, sauf pour les entretiens.

GRAVES, VOIRE MORTELLES

CHRCUIT DU REFROIDISSEMENT DU MOTEUR - Eliminez los débris du rotroidisseur d'huile des grilles. Vélifaz le nivoau de défidigémb à foid ; faites éventuellement l'appoint avec un mélango. ELTRE D'ALINENTATION - Vidangoz l'oau de condensation.

(machines AWS souloment). Lubriflez avec une graisse tous usages à base de lithium. CEINTURE DE SECURITE, ARGEAU DE SIEGE ET VERROUILLAGE DES COMMANDES

de cavage NE DOIVENT PAS fenctionner avec l'arceau de siègo relevé.

VENTILATION DU MOTEUR - Contrôlez l'étanchéité du système et l'état des composants

- Débarrassez le moteur do tous matériaux inflammables.
- Maintenoz le corps, les objets et les vêtements à l'écard des contacts électriques, des pièces mobiles, des parties brûlantes et de l'échappement.
- . . : N'utilisez pas la chargeuse dans un environ-noment chargé de gaz ou de peussières oxptosifs, ou dans lequel l'échappement risque d'entrer en contact avec des matériaux inflam-

HUILE HYDRAULIQUE, FLEXIBLES ET CONDUITES - Vörifloz lo nivoau d'hluile et failes éventuellement l'appoint. Vériflez l'état et l'étanchétité des canalisations. Réparez-les ou remplacez-les si nécessaire. TRANSMISSION FINALE (CARTER DE CHAINES, machines sur roues soulement)- Vérifiez le niveau d'huile et faites éventuellement l'appoint. COMMANDES HYDRAULIQUES (PEDALES OU LEVIERS) ET DIRECTION - Vérifiez si elles fonctionnent

correctement et règlez-les si nécessaire. ECROUS DE ROUE/BARBOTIN Vérifiez les cent pas desserrés et serrez-les carractement. TRISION DES CHEVILLES (machines sur chenilles seulement) - Vérifiez et règlez si nécessaire.

TOUTES LES 100 HEURES

- N'utilisaz jamais de l'éther ou du liquido d'aide au démarrage avec un moteur diesel utilisant des bougies de préchauffage. Employez uniquement des aites au démarrage approuvées par le fabricant du meteur.
- En cas do fuite, fes liquidos sous pression pouvent traversor la poau et entraîner des blessures graves.

PIVOTS DE LEVIERS DE DIRECTION - Lubrifiez avec une graisse tous usages à base de lithium (le cas échéant).

SILENCIEUX PARE-ETINCELLES - Nottoyoz la cuve à útincolles (le cas óchéant).
 BATTERIE - Vérifiez l'étet de la batterle, dos fixations, des cables, des connexions, et le niveau d'éléctrolyte, éjoutor de l'eau distilée si nécessaire.

TOUTES LES 250 HEURES

FILTRE D'ALIMENTATION - Rompiacez le filtre. AXES FUSEES (machines AWS seuloment) - Lubrificz avec uno graisse taus usages à beasc de lithium. COURROIE D'ENTRAINEMENT MOTEUR/HYDRAULIQUE - Vérificz félat de la courroie, règlez et

romplacez si nécessaire (le cas échéant).

.

- : • ; L'acido dos batterios causo do graves brûlures Portez des luntites de sécurido. Sil hacido entre en contact avec los youx, la poeu ou hos vêtements, rincoz abondamment avec de l'essu. En cas de contact avec les yeux, rincez abondamment et consultez un médecin.
- et explosifs.

 Wapprochez pas la battorie avec des sources d'arc, des élincelles, des flammes ou des cigarettes alumées. Los battorios dégagent des gaz inflammables
- En cas de démarrago à l'aide d'une batterie d'appoint, branchez le câble négatif au motour de la préngeuse en demier lieu [iamais à la battèrie). Des que le moteur forme, debranchez d'abord le câble négatif du moteur.

::

Les gaz d'échappement peuvent être mortels. Travaillez toujours en ntmosphère correcteme ventilée.

PLAN DE GRAISSAGE GENERAL



CINEMATIQUE DE LEVAGE RADIALE $(\mathbb{U}$ RÉDUCTEUR DU VENTILÀTEUR - Variliez i o niveau d'huile et faites l'appoint si nécessaire (le cas échéant). AUTRES COURROIES D'ENTRAÎNEMENT (pompe hydrostatique, pompe à eau, afternateur et climatiseur - le cas échéant), -Várifica iviat des courraise et leur tension. Réglez-les ou remplacez-les si nécessaire.

CINEMATIQUE DE LEVAGE VERTICALE

VENTILATEUR DU CIRCUIT HYDRAULIQUE/HYDROSTATIQUE - Rempiacaz la lilira. Rempiacaz la bauchon mniflard de réservoir. FILTRE EN LIGNE DU CLAPET DE DIRECTION (AWS seulement) - Rempiacaz le filtre.

BICS - Várifioz la fonction de la commande de dérivation des bras de levage. TOUTES LES 500 HEURES

GALETS ET ROUES DE TENSION (machines sur chenilles seulament). • Vidangez l'huile (le cas échéant). FILTRE DE RETOUR DE CARTER DU MOTEUR D'ENTRAÎNEMENT • Vidangez l'huile (le cas échéant). ROULEMENTS DE ROUE ET CANNELURES EXTERIEURES (AWS seulement) • Réparez les roulements,

lubrifiez les cannelures internas de l'étrier de moyeu (chez le concessionnaire uniquement).

RESERVOIR HYDRAULIQUE - vidangez l'huile.
TRANSMISSION FINALE (carter de chaînes sur machines sur roues soulement) - Vidangez l'huile.

TOUTES LES 1000 HEURES



Utilisez des pièces de rechange d'origine Bobcat

N.B.:

* If last remplace I 'elément de filtre plus tot si le témoin de transmission reste allumé pendant plus de 5
minutos après que l'huile iviqualique alt attoint sa rempérature de forndiementent.

A Remplacez aux premières 50 heures, ensuitez le tableau des entretiens.

B Consultaz le Manuel de l'Opérateur/Éntrollen pour le type d'huile à utiliser, le numéro de pièce et l'emplacement du filtre

ainsi que pour les intervalles d'ontreuen correspondant à votre modèle. VOIR LE MANUEL DE L'OPERATEUR ET D'ENTRETIEN POUR PLUS D'INFORMATIONS.

AVOID DEATH

- Attachment can be forced against the ground and cause front wheels to raise.
 Never go under or reach under lift arms or lift
- without an approved lift arm support device installed.

67116 SW 6702301D enUS



PELICIRO

EVITE ACCIDENTES FATALES

- El implemento puede ser foizado contra el suelo y causar la elevación de los neumáticos delanteros.
- Jamás pase ni se estire por debajo de los brazos de elevación o del cilindro de elevación sin un dispositivo de soporte aprobado instalado.

67116 SW 6702301D enUS BINDED HINER HER HER SHIPE



DANGER

EVITER LA MORT

- L'accessoire peut être appuye contre le soi et soulever les roues avant
- Ne jamais alier sous ni mettre les mains sous les bras ou le verin de levage sans qu'un arret de bras de levage approuve soit installe.

ETITO SW GF00000 670000 WE GFF18

DANGER (6702302)

DANGER

AVOID DEATH

- Keep out of this area when lift arms are raised unless supported by an approved lift arm support device.
- Moving lift arm control or failure of a part can cause lift arms to drop.



SW 01 6702302



EVITE ACCIDENTES FATALES

- Manténgase alejado de esta área a menos que los brazos de elevación estén apoyados por un dispositivo de soporte aprobado.
- Mover el control del brazo de elevación o la falla de una parte puede causar la caída de los brazos de elevación.



SW 01 6702302 AF

DANGER

EVITER LA MORT

- EVITEZ CETTE ZONE LORSQUE LES BRAS DE LEVAG RELEVES NE SONT PAS ASSURES PAR DES ARRIETS DE BRAS DE LEVAGE
 LE DEPLACEMENT DE LA COMMANDE DE BRAS DE
- LEVAGE OU UNE PIECE DEFECTUEUSE PEUVENT PROVOQUER L'ABAISSEMENT DES BRAS DE LEVAGE.



DANGER (6717343)

AVOID DEATH

- Disconnecting or loosening any hydraulic tubeline, hose, fitting, component or a part failure can cause lift arms to drop.
- Keep out of this area when lift arms are raised unless supported by an approved lift arm support. Replace if damaged.



PELIGRO

EVITE LA MUERTE

La desconexión o el afloja miento de oualquier tubería, manguera, conector, componente hidráulico o la falla de una parte puede coasionar la caída de los brazos de elevación. Manténguso alejado del área cuando los brazos de elevación se encuentren elevados, a menos que están sostenidos por medio de un soporte para brazos de elevación aprobado. Cámbielo de un soporte p si está dañado.

57116 SW 6717343A coluS BE } BERN H UT ENNER IN HOT TO HON TO NO KE UTE HE HE

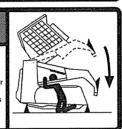


EVITER LA MORT

- Le desserrement ou le débranchement d'une conduite hydraulique, d'un flexible, d'un raccord ainsi qu'un riguranque, d'un rexible, à un raccord ainsi qu'un composant ou une pièce défectueux peuvent provoquer la chute des bras de levage.

 Ecartez-vous de cette zone si les bras de levage relevés
- ne sont pas soutenus par un arrêt de bras de levage

67176 SW 6717343A cnUS 選起料料項目目集経料與目開閉線經過試解阻



WARNING (6579528)



AVOID INJURY OR DEATH CARRY LOAD LOW

FAILURE TO OBEY CAN CAUSE TIPPING OR ROLLOVER OR LOSS OF LOAD OR VISIBILITY. \$2702 SW 8579528C enUS as (Not an inc and an inc and a share or in any in in



EVITE LESIONES O LA MUERTE

TRANSPORTE LA CARGA BAJA

DE LO CONTRARIO SE PUEDE CAUSAR INCLINACIÓN, VUELCO O PÉRDIDA DE LA CARGA O REDUCCIÓN DE LA VISIBILIDAD.





EVITER LES BLESSURES OU LA MORT TENEZ LA CHARGE VERS LE BAS

LE NON RESPECT PEUT ENTRAINER UN BASCULEMENT OU UN RENVER-SEMENT DE LA MACHINE, UNE PERTE DE LA CHARGE OU DE VISIBILITE.

MST-6

ADVERTENCIA

EL CILINDRO CONTIENE GAS DE ALTA PRESIÓN. NO LO ABRA. SI SE ABRE EL CILINDRO, SE PUEDE LIBERAR EL VÁSTAGO Y SE PUEDEN OCASIONAR LESIONES O LA MUERTE. 29779 SW 01 6577754 AR

♠ AVERTISSEMENT

LES VERINS RENFERMENT UN GAZ SOUS PRESSION. NOUVREZ JAMAIS UN VERIN, SOUS PEINE DE VOIR SECHAPPER BRUTALEMENET LA TIGE, CAUSANT AINSI DES BLESGURES GRAVES, VOIRE MORTELLES. DV-99-6577754-FR

IMPORTANT (6560573)

IMPORTANT

this machine in Factory Equipped with a U.B.D.A. Forestry Service Approved Byark airieston exhaust dystem.

the rpaix adrestor muffler, if equipped, bust be cleaned to keep if of Worning Constitut, the Braix arrestor muffler must de terficed Dy Durpong the Spaix Charder Berli 100 hos of Departor.

on bone models, the turbocharger functions as the spair arrestor and wigt destrits correctly for proper spair arrestor function.

this madying 10 operated on Flammable Porest, Drubk, or gradd Veriod lard, it busst be Edwinfed with a spram, airestor aftached to Econates Yosefa and Mamtaneo in worknood order fraunce to 00 ad 1. Get 10 wik.afton 65 caldomma atate aam, ecotion 444, pro., refer to Or, lards and reducations for abrain airestory micliangues.

IMPORTANT

est coupée en utre d'un système d'échappement pare-rituré par le seuvice américain des éaux et forêts

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veurlez consulter le namuel de l'operation et d'entreten pour des Butemetran complémentaires

ensk Right en en en en en en en

WARNING (6733996)



Can Cause Serious Burns Never Open Hot.
 OPEN SLOWLY. ENGINE COOLANT

ADVERTENCIA

El fluido caliente a presión ABRA LENTAMENTE

AAVERTISSEMENT

La liquide hydraulique chaud sous pression peut provoques de graves britures. • Ne jamais cuvrir à chaud. • CUVRIR LENTEMENT.

REFREGIRANT MOTEUR

IMPORTANTE

evia máchich está ecripada de fágirca coicum baenchador del distema Pracciochas apagbado por el senifoto de devocetura de la U.S.D.A.

el elepciados del futema peraculpar, si esta ecupedo, dese lutparde Para hanteriene en conducato de tradillo, an memo, dele desecas Para prancio la campa de crema ello no moda de crema esta

en algunog necklos, el terrochagadon funciona ecrio el parachispas y Buys operan correctanem e cono ell

SI VIA A OPPIANDENTA NÁCIONA EN ECOLOGIE INFLIMACILES O EN FERRENCE CHERITOR DE RIMMA O CÉPTRA DES E CENOME DE INCOMENTA DE INCOMENDA A REAL, SISTEMA DE REMAPE VIANTORIO DE PROCESSO CONTRIBORIS DE TRABAJA, NO QUIVER EL ESTA APPEATICUL PRESIDORIA LA SÉCULIÓ AND ES LA LEY DEL ESTADO DE CALIFORNA CONTRIBORIO A PARA VITE LIAM SISTEMA LO CALIFORNA DE CALIFORNA CONTRIBORIO PARA VITE LIAM SISTEMAS PARACHISTAS.

Para manties definectiones, comparte es mainal et comparidon v Blantribustato

WARNING (6704786)

WARNING

FAILURE OF THE LIFT ASSEMBLY CAN CAUSE SERIOUS INJURY OR DEATH

- * BEFORE LIFTING LOADER: 1. Check the hardware and fasteners of the Single Point Lift and Operator Cab (ROPS) for proper torque.
 - 2. Inspect Single Point Lift for damage or cracked welds. Repair or replace components as necessary.
- . No riders on loader during lifting, Keep 15 ft (5 m) away while lifting.

* See Operation & Maintenance Manual for more information.

SW 05 6704786

ADVERTENCIA

UNA FALLO EN EL CONJUNTO DE ELEVACIÓN PUEDE PROVOCAR HERIDAS GRAVES O LA MUERTE

- ANTES DE LEVANTAR LA PALA MECÁNICA: 1. Verificar los herrajes y sujetadores del Punto único de elevación y la Cabina del operador (ROPS, Estructura protectora de vuelcos) para garantizar que la toraión sea la correcta.

 2. Controlar que el Punto único de elevación no esté dañedo ni haya griatas en la soldadura. Reparar o reemplazar los componentes según sea necesario.

 No debe habor ocupantes en la cargadora durante la elevación. Mantenerse a una distancia de 15 pies (5 m) durante la elevación.

 Consultar el Manuel de utilización à mantenimiento para obtener más información.

 SW 6704766 or

AVERTISSEMENT

UNE DÉFAILLANCE DE L'ENSEMBLE DE LEVAGE PEUT ENTRAÎNER DES BLESSURES GRAVES, VOIRE MORTELLES.

- AVANT DE LEVER LA CHARGEUSE: 1. Vérifiez que le couple de serrage de la visserie de fixation et des fixations du kit de levage à point uraique et de la cabine de l'opérateur (ROPS) est correct.
 2. Vérifiez que le kit de levage à point unalque n'est pas endommagé et que ses soudures ne sont pas fissurées. Réparez les composants endommagée ou rempiacez-les di nécessaire.

 Personne ne doit se trouver sur la chargeuse durant son levage. Maintenez toute personne à une distance d'au moins 15 ft (5 m) pendant le levage.

 Voir le Manuel de l'Opérateur et d'Entrelien pour plus d'informations.

 SW 6704786-fr

Page 150 - BOBM022075-09-B1003 - 08/24/2008 21:24:58 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

A WARNING

AVOID INJURY OR DEATH



NEVER USE THE LOADER WITHOUT INSTRUCTIONS. READ OPERATION AND MAINTENANCE MANUAL AND HANDBOOK



DO NOT TRAVEL OR TURN WITH LIFT RMS HP LOAD, UNLOAD AND TURN ON FLAT LEVEL GROUND.

DO NOT EXCEED RATED OPERATING CAPACITY (SEE SIGN ON LOADER).



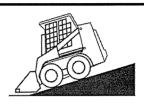
USE SEAT BAR. EASTEN SEAT RELT SECURELY

NEVER MODIFY EQUIPMENT OR USE ATTACHMENTS NOT APPROVED BY





KEEP FEET ON PEDALS OR FOOT BEST.



ON SLOPES, KEEP HEAVY END OF LOADER UPHILL.

TO LEAVE THE LOADER:



LOWER THE LIFT ARMS. PUT ATTACHMENT FLAT ON GROUND.



STOP THE ENGINE.



ENGAGE THE BRAKE.



CONTROLS UNTIL BOTH LOCK.

Weltere Anweisungen finden sie in der Bedienung- und Instandhaltungsanleitung. Para mås instrucciones, vea ei Manual de Operación y Mantenimiento. Voir le Manuel de l'opérateur et d'entretten pour d'autres renseignements.

67116 SW 6720539C enUS 1811年1月1日 1811年1日 1811



EVITE LESIONES O ACCIDENTES FATALES



JAMÁS USE EL CARGADOR SIN LEET LAS INSTRUCCIONES.
LEA EL MANUAL DE OPERACIÓN Y
MANTENIMIENTO Y LA GUÍA.



NO SE DESPLACE O GIRE CON LOS BRAZOS DE ELEVACIÓN ARRIBA. CARGUE, DESCARGUE Y GIRE SOBRE SUELOS PLANOS NIVELADOS. NO EXCEDA LA CAPACIDAD DE OPERACIÓN NOMINAL (VEA EL AVISO EN EL CARGADOR



BOBCAT COMPANY.

USE LA BARRA DEL ASIENTO ABRÓCHESE EL CINTURÓN DE SEGURIDAD





JAMÁS MODIFIQUE EL EQUIDO O USE IMPLEMENTOS NO APROBADOS POR BORCAT COMPANY.



MANTENGA LOS PIÉS EN LOS PEDALS O APOYAPIES.



EN PENDIENTES, MANTENGA EL EXTREMO PESADO DEL CARGADOR CUESTA ARRIBA.

PARA SALIR DEL CARGADOR:



BAJE LOS BRAZOS DE ELEVACIÓN. COLOQUE EL IMPLEMENTO EN EL SUELO.



3



COLOQUE EL FRENO



BLOQUEEN.

67110 SW 6728539C onUS

EVITER LES BL ESSURES OU LA MORT



NE VOUS SERVEZ JAMAIS DE LA CHARGEUSE SANS INSTRUCTIONS USEZ LE MANUEL DE L'OPERATEUR ET D'ENTRETIEN AINSI QUE LE GUIDE D'UTILISATION.



BRAS RELEVES. CHARGEZ DEGHARGEZ ET VIREZ SUR UN SOL PLAT EL HORIZONTAL. NE DEPASSEZ PAS LE CAPACITE OPERATIONNELLE (CONSULTER L'AUTOCOLLANT APPOSE SUR LA CHARGEUSE)



UTILISEZ L'ARCEAU DE SECURITE. ATTACHEX SOIGNEUSEMENT LA CEINTURE DE SECURITE



NE JAMAIS MODIFIER L'EQUIPEMENT NI SE SERVIR D'ACCESSOIRES QUE NE SONT PAS APROUVES PAR BOBCAT COMPANY.



SUBLES PEDALES



DANS LES PENTES, MAINTENEZ TOUJOURS LA PARTIE LA PLUS LOURDE DE LA CHARGEUSE VERS LE HAUT.

POUR QUITTER LA CHARGEUSE:

2



ABAUSSEZ KES BRAS DE LEVAGE POSEZ L'EQUIPEMENT A PLAT SUR LE SOL.



ARRETEZ LE MOTEUR

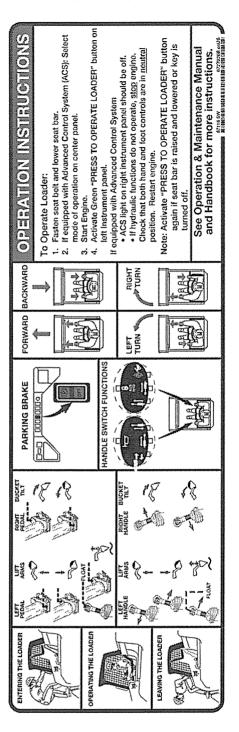


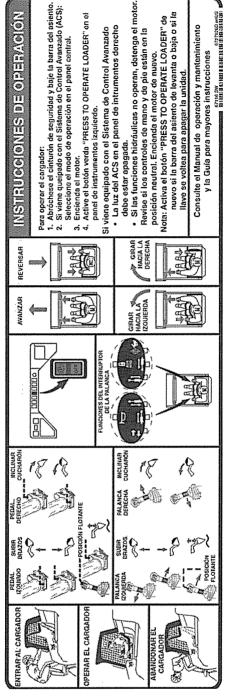
ACTIVEZ LE FREIN

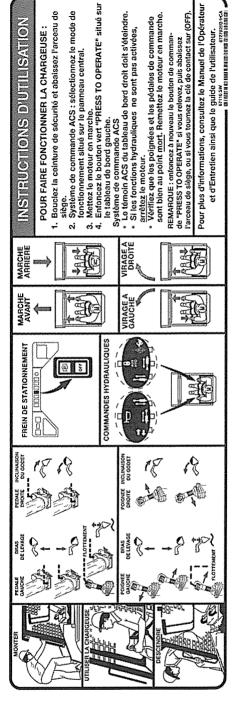


MELEVEZ L'ARCEAU DE SIEGE. DEPLACEZ LES PEDALES ET LES COMMANDES MANUELLES JUSQU CE QU'ELLES SOENT TOUTES DE VERROULLEES.

Weitere Anweisungen (Inden eis in der Bedienung- und instandhaltungsamleitung. Para mist Instrucciones, vas ei Manual de Operación y Mardanimiento. Votr le Manuel de l'opérateur d'édrieble pour l'aduter enseignements. © 7710 SW 6728530 enUS 8728530 enU









Unexpected loader, lift arm or attachment movement caused by cab contact with steering levers can cause serious injury or death.

BEFORE RAISING OR LOWERING CAB:

Stop engine

SW 99 6718706

ADVERTÊNCIA



El movimiento inesperado del cargador, brazo de elevación o implemento causado por el contacto de la cabina con las palancas de

direccionamiento puede causar lesiones serias o accidentes fatales.

ANTES DE LEVANTAR O BAJAR LA CABINA:

Apague el motor_{sw 01 6716706 AR}

AVERTISSEMENT



Un mouvement intempestif de la chargeuse, du bras de levage ou de l'accessoire dû au contact de la cabine avec les leviers de direction peut entraîner des blessures graves, voire mortelles.

AVANT DE RELEVER OU D'ABAISSER LA CABINE : · Arrêtez le moteur

VM-01-6718705-F

WARNING (6710358)

WARNING





AVOID INJURY OR DEATH

- Never carry riders.
- Never use loader as a man lift or work platform.

62702 SW 6710358A onUS

ADVERTENCIA





EVITE LESIONES O LA MUERTE

- Nunca lleve pasajeros.
- Nunca use el cargador como elevador o plataforma de trabajo.

51306

SW 01 6710358 AR

AVERTISSEMENT





EVITER DES BLESSURES **OU LA MORT**

- Ne transportez jamais de passagers.
- N'utilisez jamais la chargeuse comme plate-forme élévatrice ou de travail.

DANGER (6809511)

AVOID DEATH

- Disconnecting hydraulic lines can ca lift arms or attachment to drop.
- Always use an approved lift arm support when lift arms are in a raised position.





AVOID DEATH

- Disconnecting hydraulic lines can cause the lift arms or attachment to drop.
- Always use an approved lift arm support when lift arms are in a raised position.



EVITE LESIONES FATALES

- esconectar las lineas hidráulicas puede pro-ue los brazos de elevación o el implemento



Ū Ħ

EVITE LESIONES FATALES

- Desconectar las líneas hidráulicas puede prov que los brazos de elevación o el implemento
- Utilice siempre un soporte aprobado cuando los brazos de elevación están tevantados.



D)ANGER

DANGER DE MORT

- Le depranchement des conduces nydrauques
 peut provoquer la chute des bras de levage ou
 de l'accessoire.

 Utilisez toujours un arrêt de bras de levage
 approuvé quand les bras de levage sont relevé







DANGER DE MORT

- Le capranchement des conductes sycazolaques
 peut provoquer la chute des bras de levage ou
 de l'accessoire.

 Utilisez toujours un arrêt de bras de levage
 approuvé quand les bras de levage sont relevé

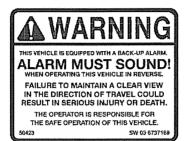








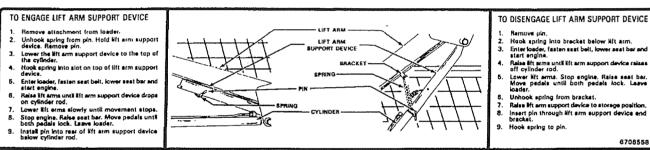
WARNING (6737189)

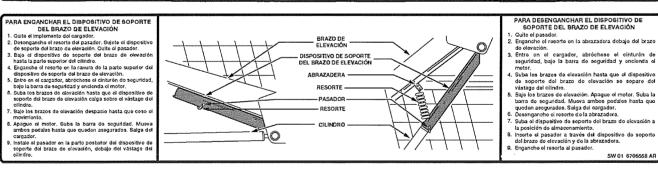


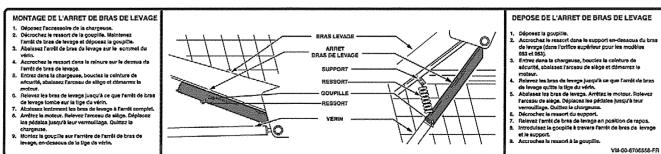


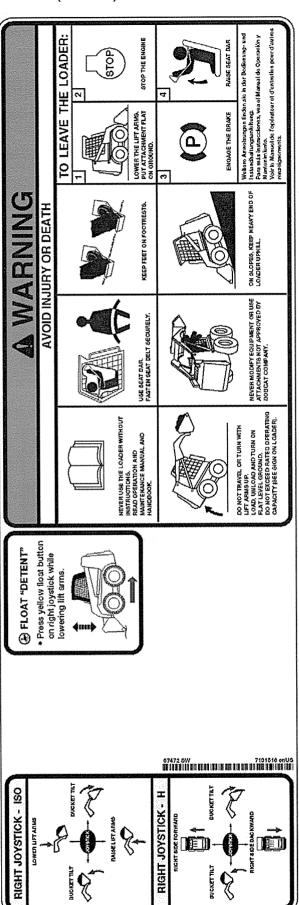


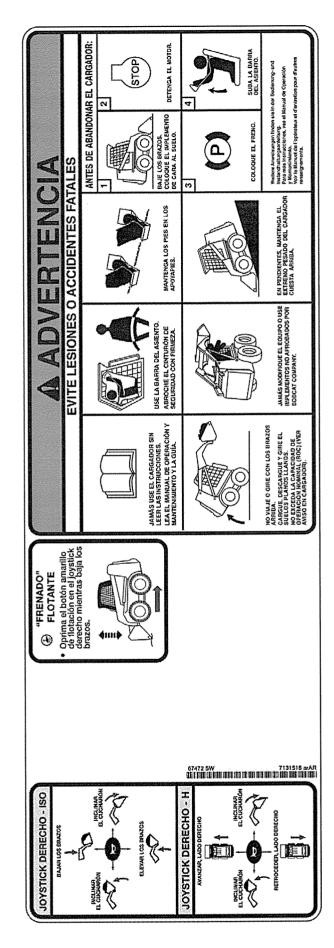
LIFT ARM SUPPORT DEVICE (6706558)



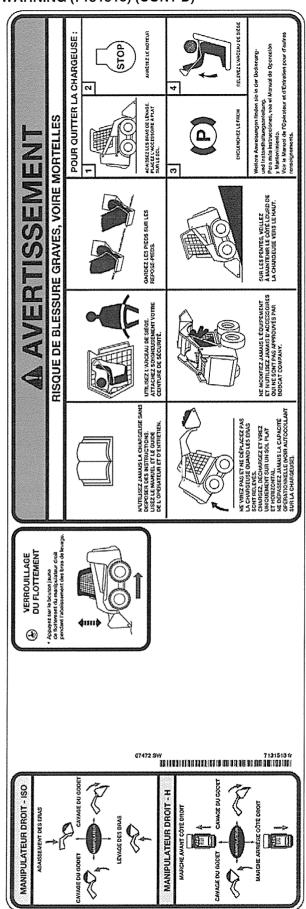




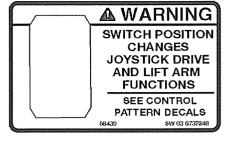




WARNING (7131518) (CONT'D)



WARNING (6737248)







JOYSTICK

ENTERING THE LOADER

10

- ACS or General Warning light on right instrument panel should

LEFT JOYSTICK - H

LEST SIDE PORWARD

TAISE LIFT ARM

If hydraulic or drive functions do not operate, stop engine.
 Check that both joysticks are in the <u>neutral</u> position.
 Re-start engine.

LEAVING THE LOADER

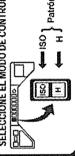
Note: Activate "PRESS TO OPERATE LOADER" button again if seat bar is raised and lowered or key is turned off. See Operation & Maintenance Manual

and Handbook for more instructions.

Know and understand the selected control mode before operating. Pattern Drive and lift arm functions operate on SELECT CONTROL MODE CAUSE INJURY OR DEATH different joysticks in each mode. SO I 요ㅋ •000000M ACCIDENTAL

LEFT SLDE DACKWAND

SELECCIONE EL MODO DE CONTROL



A ADVERTENCIA

Patrón

OYSTICK IZQUIERDO – H

LABO IZQUIERDO,

MI TO COMPANY TO THE TOTAL PROPERTY OF THE T

EL MOVAMENTO ACCIDENTAL DEL CARGADOR PUEDE PROVOCAR LESIONES O ACCIDENTES FATALES • La tracción y el brazo de diovación so accionan con diferentes joysticks en cada modo. Conozca y entienda el modo de control seleccionado antes de operar. DE LOS CONTROLES EN JOYSTICI Abroche el cinturón de seguridad y baje la barra del asiento. RUGCIONES DE OPERACIÓN 5. Oprima el botón verde "PRESS TO OPERATE LOADER" en 4. Seleccione el modo de control (patrón ISO o H) en el panel La lámpara de ACS o Advertencia General en el panel de instrumentos derecho debe apagarse.

Ver más instrucciones en el Manual de Operación y Mantenimiento.

Nota: Oprima el botón "PRESS TO OPERATE LOADER" de nuevo

si la barra del asiento se sube o la llave se gira a OFF

Si las funciones hidráulicas o de tracción no se accionan,

el panel de instrumentos izquierdo

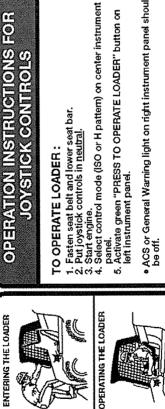
de instrumentos central.

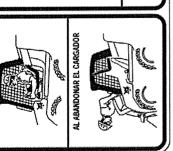
Revise que ambos joysticks estén en la posición <u>neutral</u>

Encienda el motor de nuevo.

detenga el motor.

Page 156 - BOBM022075-09-B1003 - 08/24/2008 21:24:58 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)





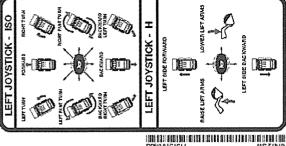
OPERATION INSTRUCTIONS FOR JOYSTICK CONTROLS

ENTERING THE LOADER

TO OPERATE LOADER:

4.00€

OPERATING THE LOADER



Know and understand the selected centrol mode before operating. Pattern Drive and lift arm functions operate on different jaysticks in each mode. SELECT CONTROL MODE ACCIDENTAL LOADER MOVEMENT CAUSE INJURY OR DEATH WARNING Sign I 8 ∓

ACS or General Warning light on right instrument panel should be off. Fasten seat belt and lower seat bar. Put joystick controls in neutral. Start engine. Select control mode (ISO or H pattern) on center instrument panel. Activate green "PRESS TO OPERATE LOADER" button on left instrument panel.

Note: Activate "PRESS TO OPERATE LOADER" button again if seat bar is raised and lowered or key is turned off. • If hydraulic or drive functions do not operate, stop engine. Check that both joysticks are in the <u>neutral</u> position. Re-start engine.

EAVING THE LOADER

See Operation & Maintenance Manual and Handbook for more instructions.

WARNING (6726423)



FAILURE OF THE LIFT ASSEMBLY CAN CAUSE SERIOUS INJURY OR DEATH

- · BEFORE LIFTING LOADER:
- Check the hardware and fasteners at all lift points for proper torque.
- 2. Inspect lift points for damage or cracked welds. Repair or replace components as necessary.
- No riders on loader during lifting, Keep 15 ft (5 m) away while lifting.
- · See Operation & Maintenance Manual for more information

SW 05 6726423



ADVERTENCIA

LA FALLA DEL CONJUNTO ELEVADOR PUEDE PROVOCAR LESIONES GRAVES O FATALIDADES

- ANTES DE ELEVAR EL CARGADOR:

- ANTES DE ELEVAR EL CARGADOR:

 1. Revise que el armamento y los sujetadores en todos los puntos de sievación tengan el torque correcto.

 2. Inspeccione si los puntos de elevación están averiados o tienen sotiaduras agrietadas. Reparo o reponga los componentes, si es del caso.

 No transporte personas en el cargador mientras lo eleva.

 Mattidingas a una distancia de 15 pies (5 metros) durente la elevación.
- Para mayor información, consulte el manual de operación y mantenimiento.



AVERTISSEMENT

UNE DÉFAILLANCE DE L'ENSEMBLE DE LEVAGE PEUT ENTRAÎNER DES BLESSURES GRAVES, VOIRE MORTELLES

- ITHAINER DES SILESSURES GRAVES, VOINE MORTELLE:

 AVANT DE LEVER LA CHARGEUSE:

 I. Vérifica que le couple de serrage de la visserie de fixation et
 des fixations est correct à tous les points de levage.

 Vériflez que les points de levage ne sont pas endommagés
 et que leurs soudures ne sont pas fissurées. Réparez les
 composants endommagés ou remplacez-les si nécessaire.

 Personne ne doit se trouver sur la chergeuse durant son
 levage. Maintenez toute personne à une distance d'au
 moins 5 m pendant le levage.

 Voir le Manuel de l'Opérateur et d'Entretlen pour plus
 d'informations.

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SW 05 6726423FR



Page 159 - BOBM022075-09-B1003 - 08/24/2006 21:24:58 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

SPECIFICATIONS

(S130) LOADER SPECIFICATIONS	SPEC-3
Capacities	SPEC-6
Controls	SPEC-4
Drive System	SPEC-6
Electrical	SPEC-5
Engine	SPEC-4
Hydraulic System	SPEC-5
Machine Dimensions	SPEC-3
Performance	SPEC-4
Tires	SPEC-6

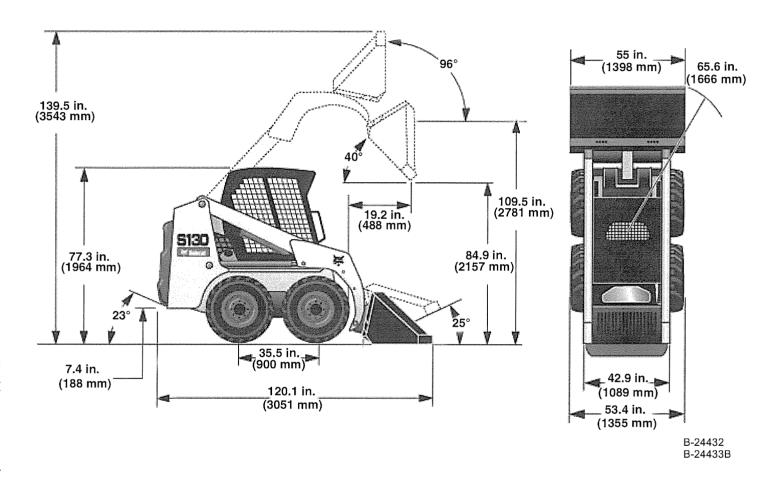




(S130) LOADER SPECIFICATIONS

Machine Dimensions

- Dimensions are given for loader equipped with standard tires and 54 inch dirt bucket and may vary with other bucket types. All dimensions are shown in inches. Respective metric dimensions are given in millimeters enclosed by parentheses.
- · Where applicable, specification conform to SAE or ISO standards and are subject to change without notice.



Changes of structure or weight distribution of the loader can cause changes in control and steering response and can cause failure of the loader parts.

Page 162 - BOBM022075-09-B1003 - 08/24/2008 21:24:58 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

(S130) LOADER SPECIFICATIONS (CONT'D)

Performance

Rated Operating Capacity (ISO)	1300 lb. (590 kg)	
Tipping Load (ISO)	2634 lb. (1195 kg)	
Operating Weight	5235 lb. (2375 kg)	
SAE Breakout Force - Lift - Tilt	2800 lb. (1270 kg) 3000 lb. (1361 kg)	
Push Force	3400 lb. (1542 kg)	
Travel Speed	7.3 mph (11,8 km/hr.)	

Controls

Vehicle Steering	Direction and speed controlled by two hand levers or optional joysticks.
Loader Hydraulics	
- Lift and Tilt	Controlled by separate foot pedals or optional Advanced Control System
	(ACS) or Selectable Joystick Control (SJC)
 Front Auxiliary 	Controlled by electrical switch on Right Hand steering lever
	or optional Right Hand Selectable Joystick Control (SJC)
 Rear Auxiliary (Option) 	Controlled by electrical switch on Left Hand steering lever
- ,	or optional Right Hand Selectable Joystick Control (SJC)
Engine	Hand lever speed control, key type start switch or optional keyless start, and function error shutdown.
Starting Aid	Glow Plugs - Automatically activated by Key Switch or Keyless instrumentation.
Service Brake	Two independent hydrostatic systems controlled by two hand operated steering levers.
Secondary Brake	One of the hydrostatic transmissions.
Parking Brake	Mechanical disc, hand operated rocker switch on front instrument panel

Engine

Make/Model	Kubota V2203-M-DI
Fuel/Cooling	Diesel / Liquid
Horsepower (SAE Net)	46 HP (34,3 kW) @ 2800 RPM
Torque (SAE Net)	103.5 ftlb. (140,4 N•m) @ 1700 RPM
Number of Cylinders	Four
Displacement	134 cu. in. (2,2 L)
Bore/Stroke	3.425 in. / 3.638 in. (87 mm / 92,4 mm)
Lubrication	Gear Pump Pressure system with Filter
Crankcase Ventilation	Closed Breathing
Air Cleaner	Dry replaceable paper cartridge with separate safety element
Ignition	Diesel Compression
Low Idle	1075 - 1225 RPM
High Idle	2860 - 3000 RPM

(S130) LOADER SPECIFICATIONS (CONT'D)

Hydraulic System

Pump	Engine driven gear type
Pump Capacity	16.9 GPM (64 L/min.) @ 3135 Pump RPM @ 91% efficiency
System Relief at Quick Couplers	2650 - 2750 PSI (182,7 - 189,6 bar)
Filters	Full flow replaceable, 3 micron synthetic media element.
Hydraulic Cylinders Bore Diameter: Lift Cylinder (2) Tilt Cylinder (1) Rod Diameter: Lift Cylinder (2) Tilt Cylinder (1) Stroke: Lift Cylinder (2) Tilt Cylinder (1)	Double acting; Tilt cylinder has cushioning feature on dump & rollback 2.00 in. (50,8 mm) 3.50 in. (88,9 mm) 1.25 in. (31,8 mm) 1.50 in. (38,1 mm) 26.57 in. (674,9 mm) 14.50 in. (368,3 mm)
Control Valve	3 spool, open center type with float detent on lift and electrically controlled auxiliary spool.
Fluid Lines	SAE standard tubelines, hoses and fittings.
Fluid Type	BOBCAT FLUID, Hydraulic / Hydrostatic 6903117 - (2.5 Gal.) 6903118 - (5 Gal.) 6903119 - (55 Gal.)
Hydraulic Function Time: Raise Lift Arms Lower Lift Arms Bucket Dump Bucket Rollback	2.7 Seconds 1.8 Seconds 2.2 Seconds 1.9 Seconds

Electrical

Alternator	Belt driven, 90 amps ventilated
Battery	12 volts, 600 cold cranking amps @ 0°F. (-18°C);
	115 minute reserve capacity at 25 amps
Starter	12 volts; Gear Reduction Type; 4.02 HP (3 kW)
Instrumentation	Standard Instrumentation:
	Gauges:
	Hourmeter, Fuel, Engine Temperature.
	Warning Lights:
	Engine Coolant Temperature, Engine Oil Pressure, Hydraulic Oil Temperature & Charge Pressure, Hydraulic Filter, Engine Air Filter, Seat Belt, Fuel Level, General Warning, System Voltage. Indicators:
	Attachment Control Device (ACD), Advanced Control System (ACS), BICS Functions, Engine Preheat, Headlights, Bucket Positioning, Attachment Auxiliary Hydraulics modes.
	Optional Instrumentation:
	 Same gauges and warning lights as standard Instrumentation. Additional bar-type gauges for: Engine Oil Pressure, System Voltage, Hydrostatic Charge Pressure and Hydraulic Oil Temperature. Additional Features Include: Keyless Start with password capability, Digital Clock, Attachment Information, Digital Tachometer, High-Flow & Two-Speed Lockouts, Multi-Language Display, Help Screens, Diagnostic Capability & Engine / Hydraulic Systems Shutdown Function.

Page 164 - BOBM022075-09-B1003 - 08/24/2008 21:24:59 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

(S130) LOADER SPECIFICATIONS (CONT'D)

Drive System

Main Drive	Hydrostatic 4 wheel drive
Transmission	Infinitely variable tandem hydrostatic piston pumps, driving 2 fully reversing hydrostatic motors.
Final Drive	#80 HS endless roller chain & sprockets in sealed chaincase with oil lubrication.
Total Engine to Wheel Reduction	33:1
Axle Size	2.00 (50,3)
Wheel Bolts	(8) 9/16 in.

Capacities

Cooling System Without Heater With Heater	12 qt. (11,4 L) 12.6 qt. (11,9 L)	
Fuel	13.3 Gal. (50,4 L)	
Engine Oil With Filter	9.2 qt. (8,7 L)	
Hydraulic Reservoir	14 qt.(13,3 L)	
Hydraulic/Hydrostatic System (Including Reservoir)	6 Gal. (22,7 L)	
Chaincase Reservoir	7.5 Gal. (28,4 L)	

Tires

Standard Duty	10.00-16.5, 8 ply rating
Heavy Duty	10.00-16.5, 10 ply rating
Severe Duty	10.00-16.5, 10 ply rating
Flotation	31.5x13-16.5
Solid	10.00-16.5 Poly Foam Filled, 10 ply rating
Recommended Pressure	Inflate tires to MAXIMUM pressure shown on the side wall of the tire. DO NOT mix brands of tires used on the same loader.

WARRANTY

WARRANTY



Bolcate

WARRANTY

Bobcat Loaders

Bobcat Company warrants to its authorized dealers and authorized dealers of Bobcat Equipment Ltd., who in turn warrant to the owner, that each new Bobcat loader will be free from proven defects in material and workmanship with respect to (i) all components of the product except as otherwise specified herein for twelve (12) months, (ii) the drive belt from the hydrostatic pump to the engine, for thirty six (36) months, provided that after the initial twelve month warranty period, such warranty shall be limited to parts only and does not include labor, (iii) tracks and Bobcat brand tires, for twelve (12) months on a prorated basis based on the remaining depth of the track or tire at the time any defect is discovered, and (iv) Bobcat brand batteries, for an additional twelve (12) months after the initial twelve month warranty period, provided that Bobcat Company shall only reimburse a fixed portion of the cost of replacing the battery during such additional twelve months. The foregoing time periods shall all commence after delivery by the authorized Bobcat dealer to the original buyer.

During the warranty period, the authorized Bobcat dealer shall repair or replace, at Bobcat Company's option, without charge for parts and labor, any part of the Bobcat product except as otherwise specified herein which fails because of defects in material or workmanship. The owner shall provide the authorized Bobcat dealer with prompt written notice of the defect and allow reasonable time for repair or replacement. Bobcat Company may, at its option, require failed parts to be returned to the factory. Travel time of mechanics and transportation of the Bobcat product to the authorized Bobcat dealer for warranty work are the responsibility of the owner. The remedies provided in this warranty are exclusive.

This warranty does not apply to diesel engine fuel injection pumps and injectors or tires (except Bobcat brand tires). The owner shall rely solely on the warranty, if any, of the respective manufacturers thereof. This warranty does not cover replacement of scheduled service items such as oil, filters, tune-up parts, and other high-wear items. This warranty does not cover damages resulting from abuse, accidents, alterations, use of the Bobcat product with any accessory or attachment not approved by Bobcat Company, air flow obstructions, or failure to maintain or use the Bobcat product according to the instructions applicable to it.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND CONDITIONS, EXCEPT THE WARRANTY OF TITLE. BOBCAT COMPANY DISCLAIMS ALL OTHER WARRANTIES AND CONDITIONS, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL BOBCAT COMPANY OR THE AUTHORIZED BOBCAT DEALER BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, LOSS OR INTERRUPTION OF BUSINESS, LOST PROFITS, OR LOSS OF MACHINE USE, WHETHER BASED ON CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY, STATUTE OR OTHERWISE, EVEN IF BOBCAT COMPANY OR THE AUTHORIZED BOBCAT DEALER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE TOTAL LIABILITY OF BOBCAT COMPANY AND THE AUTHORIZED BOBCAT DEALERS WITH RESPECT TO THE PRODUCT AND SERVICES FURNISHED HEREUNDER SHALL NOT EXCEED THE PURCHASE PRICE OF THE PRODUCT UPON WHICH SUCH LIABILITY IS BASED.



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Page 169 - BOBM022075-09-B1003 - 08/24/2008 21:24:59 - Printed by Ken Cook Co. - eXprint.exe (v2.24.2 6/9/2008)

ALPHABETICAL INDEX

AIR CLEANER SERVICE	PM-39 . OI-27
BACK-UP ALARM SYSTEM. BACK-UP ALARM SYSTEM. BOBCAT COMPANY IS ISO 9001:2000 CERTIFIED. BOBCAT INTERLOCK CONTROL SYSTEM (BICS). BOBCAT INTERLOCK CONTROL SYSTEM (BICS) BOBCAT INTERLOCK CONTROL SYSTEM (BICS) BOBCAT INTERLOCK CONTROL SYSTEM (BICS) BOB-TACH (HAND LEVER). BOB-TACH (POWER).	PM-13 V OI-11 PM-8 SA-3 PM-44
CONTROL PANEL SETUP	SA-10
DAILY INSPECTION DELIVERY REPORT DIAGNOSTIC SERVICE CODES DRIVE BELT DRIVING AND STEERING THE LOADER	VI SA-4 PM-40
ELECTRICAL SYSTEM	PM-26 PM-25
FEATURES, ACCESSORIES AND ATTACHMENTS	PM-38 XV
HEATING SYSTEMF HYDRAULIC CONTROLS	OI-20
INSTRUMENT PANEL IDENTIFICATION	. OI-5
LIFT ARM BYPASS CONTROL	PM-11

ALPHABETICAL INDEX

Continued On Next Page

ALPHABETICAL INDEX (CONT'D)

LOADER SERIAL NUMBER	SPEC-3
MACHINE SIGNS (DECALS)	SA-14 PM-5
OPERATING PROCEDURE	
PARKING BRAKE PASSWORD SETUP PIVOT PINS PRE-STARTING PROCEDURE PUBLICATIONS AND TRAINING RESORCES	SA-12 PM-43 OI-30
REAR DOORREAR GRILLREGULAR MAINTENANCE ITEMS	PM-18
SAFETY INSTRUCTIONS SEAT BAR RESTRAINT SYSTEM SEAT BAR RESTRAINT SYSTEM SEAT BELT SERIAL NUMBER LOCATIONS SERVICE SCHEDULE SPARK ARRESTOR MUFFLER SPEED MANAGEMENT STARTING THE ENGINE STEERING DRIFT COMPENSATION STOPPING THE ENGINE AND LEAVING THE LOADER STOPPING THE LOADER	OI-10PM-9PM-10PM-7PM-36OI-17OI-18OI-39
TIRE MAINTENANCE	OI-56 OI-12
WARRANTYW	'ARRANTY-3