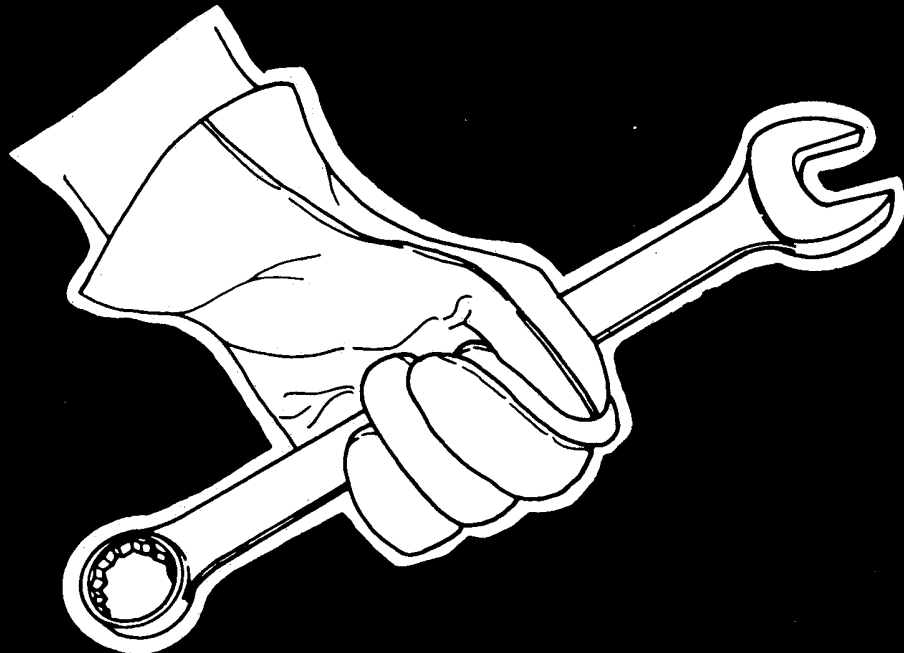




2410

S/N 13001 & Above

SERVICE MANUAL



MAINTENANCE SAFETY



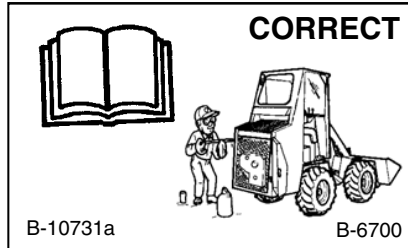
WARNING

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

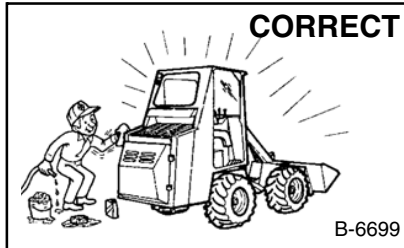
W-2003-0903



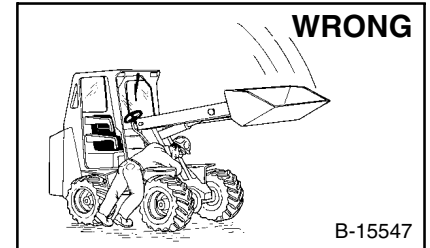
Safety Alert Symbol: This symbol with a warning statement, means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.



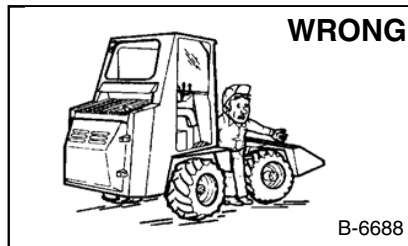
- ⚠ Never service the Bobcat Loader without instructions. See Service Manual.
- ⚠ Check engine and hydraulic fluids daily.
- ⚠ Use recommended fluids.



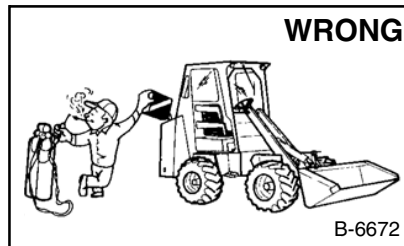
- ⚠ Cleaning and maintenance are required daily.



- ⚠ 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 unless supported by an approved lift arm support device. Replace it if damaged.



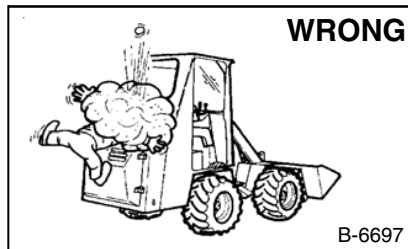
- ⚠ Always connect steering frame lock before working on the loader.



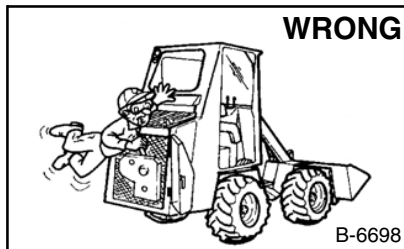
- ⚠ Do not fill the fuel tank with engine running, while smoking or when near an open flame.



- ⚠ Never work on loader with lift arms up unless lift arms are held by an approved lift arm support device.
- ⚠ Never modify equipment or add attachments not approved by Bobcat Company.



- ⚠ Stop, cool and clean engine of flammable materials before 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 under pressure. It can penetrate the skin or eyes.



- ⚠ 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.



- ⚠ Lead-acid batteries produce flammable and explosive gases.
- ⚠ Keep arcs, sparks, flames and lighted tobacco away from batteries.
- ⚠ 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.

MSW04-0805



Bobcat®

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**PREVENTIVE
MAINTENANCE**

**HYDRAULIC
SYSTEM**

**HYDROSTATIC
SYSTEM**

**DRIVE
SYSTEM**

**MAIN
FRAME**

**ELECTRICAL
SYSTEM**

**ENGINE
SERVICE**

SPECIFICATIONS

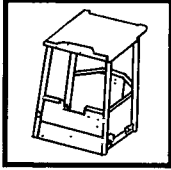

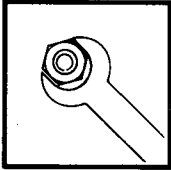
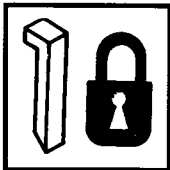
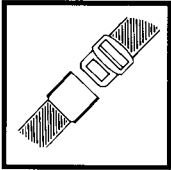
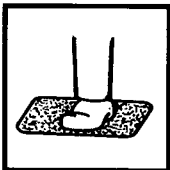
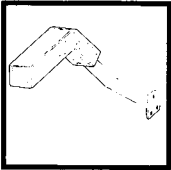
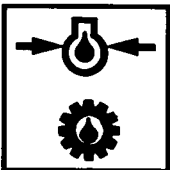

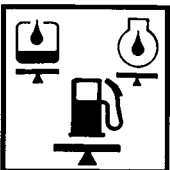
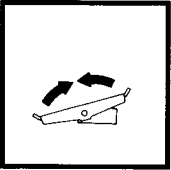
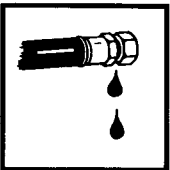


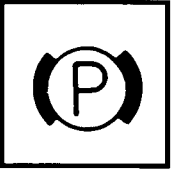
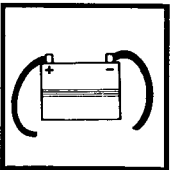


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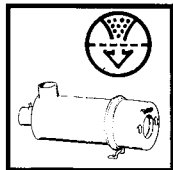
FOREWORD

This manual is for the Bobcat loader mechanic. It provides necessary servicing and adjustment procedures for the Bobcat loader and its component parts and systems. Refer to the Operation & Maintenance Manual for operating instructions, starting procedure, daily checks, etc.

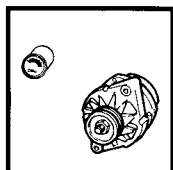
A general inspection of the following items must be made after the loader has had service or repair:

- | | | | |
|---|---|--|---|
| 1. Check that the ROPS/FOPS is in good condition and is not modified. |  | 9. Enclosure door latches must open and close freely. |  |
| 2. Check that ROPS mounting hardware is tightened and is Melroe approved. |  | 10. Bob-Tach wedges and linkages must function correctly and be in good condition. |  |
| 3. The seat belt must be correctly installed, functional and in good condition. |  | 11. Safety treads must be in good condition. |  |
| 4. The operator restraint arm must function correctly. |  | 12. Check for correct function of indicator lamps. |  |
| 5. Machine signs must be legible and in the correct location. |  | 13. Check hydraulic fluid level, engine oil level and fuel supply. |  |
| 6. Foot pedal must return to neutral. |  | 14. Inspect for fuel, oil or hydraulic fluid leaks. |  |
| 7. Check for correct function of the work lights. |  | 15. Lubricate the loader. |  |
| 8. The parking brake must function correctly. |  | 16. Check the condition of the battery and cables. |  |

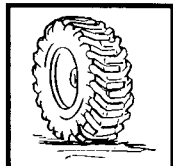
17. Inspect the air cleaner for damage or leaks. Check the condition of the element.



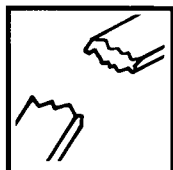
18. Check the electrical charging system.



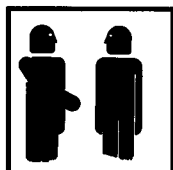
19. Check tires for wear and pressure.



20. Inspect for loose or broken parts or connections.



Recommend to the owner that all necessary corrections be made before the machine is returned to service.



SAFETY INSTRUCTIONS



WARNING

Instructions are necessary before operating or servicing machine. Read Operation & Maintenance Manual, 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. Failure to follow instructions can cause injury or death.

W-2003-1289

The following publications provide information on the safe use of the loader and attachments:

1. The Delivery Report is used to assure that complete instructions have been given to the new owner and that the machine is in safe operating condition.
2. The Operation & Maintenance Manual delivered with the loader gives operating information as well as routine maintenance and service procedures. It is a part of the loader and must stay with the machine when it is sold.
3. The loader has machine signs (decals) which instruct on the safe care and operation. The signs and their locations are shown in the Operation & Maintenance Manual. Replacement signs are available from Bobcat loader dealers.
4. The FIEI Manual delivered with the loader gives general safety information.
5. The Service Manual and Parts Manual are available from Bobcat loader dealers for use by mechanics to do shop-type service and repair work.



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

IMPORTANT

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

I-2019-0284



Safety Alert Symbol: This Safety Symbol is used for important safety messages. When you see this symbol follow the safety message to avoid personal injury or death.

- Wear tight fitting clothing and any other required safety apparel when operating or servicing the loader.
- Wear safety glasses when maintaining or servicing the loader.
- Exhaust gases can kill, vent engine exhaust outdoors.
- Know where fire extinguishers and first aid kits are located and how to use them.
- Do not run the Bobcat loader where exhaust, arcs, sparks or hot components can contact flammable material, explosive dust or gases.
- Check fuel and hydraulic tubes, hoses and fittings for damage and leakage. Never use open flame or bare skin to check for leaks. 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.
- Clean the loader before doing any welding. Cover rubber hoses, battery and all other flammable parts. Keep a fire extinguisher near the loader when welding.
- Have good ventilation when welding or grinding painted parts. Wear a dust mask when grinding painted parts. Toxic dust and gas can be produced.
- Stop the engine and let it cool before adding fuel. No smoking!
- Use the procedure in this manual for connecting battery.
- Use the procedure in this manual for cleaning the spark arrestor muffler after each 100 hours of operation.

SERIAL NUMBER LOCATIONS

Always use the serial number 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.

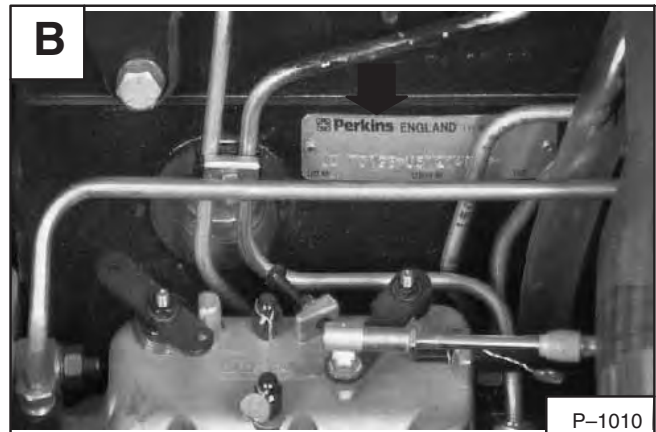
LOADER SERIAL NUMBER

The Bobcat loader serial number is located on the left upright frame above the left engine door [A].



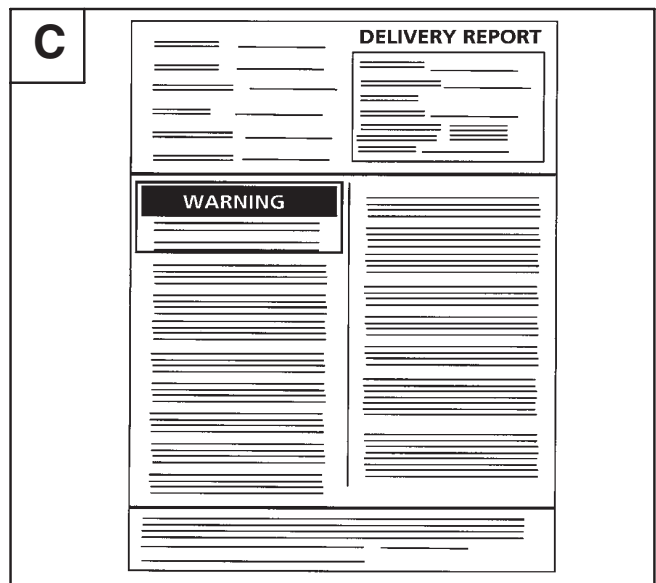
ENGINE SERIAL NUMBER

The serial number is located on the engine block by the fuel injection pump [B].



DELIVERY REPORT

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 [C].

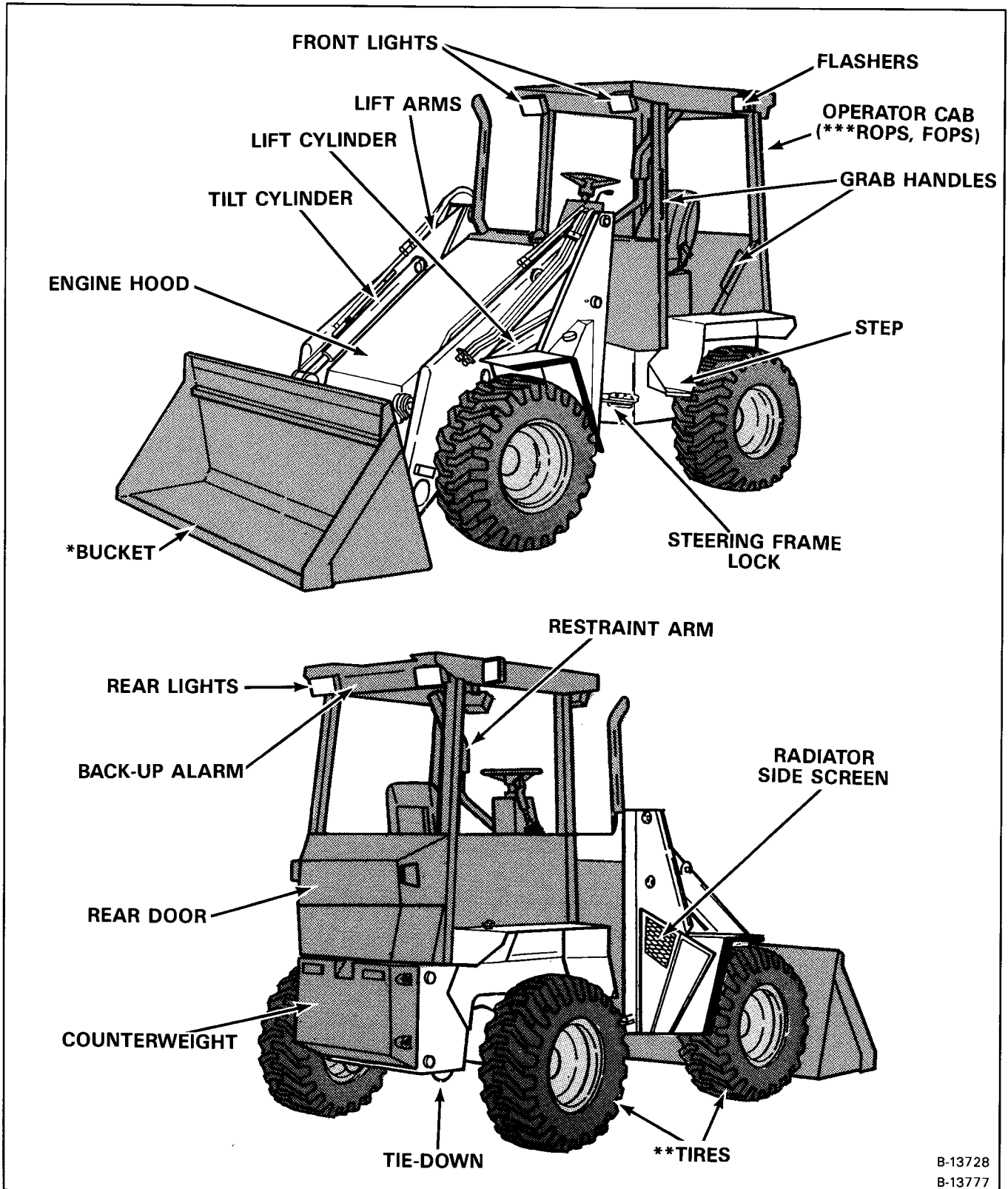
A black and white image of a 'DELIVERY REPORT' form. The form is divided into several sections. At the top right is the title 'DELIVERY REPORT'. Below it is a section with several horizontal lines for text. To the left of this section is another section with several horizontal lines. Below these sections is a section titled 'WARNING' in a bold, black box, followed by several horizontal lines. At the bottom of the form are several horizontal lines for a signature or date. A small white box with the text 'C' is in the top left corner of the form.

C

DELIVERY REPORT

WARNING

BOBCAT ARTICULATED LOADER IDENTIFICATION



* BUCKET — Several different buckets and other attachments are available for the loader.

** TIRES — Tires shown are optional flotation tires.

*** ROPS — Roll-Over Protective Structure Per SAE 1040.

*** FOPS — Falling Object Protective Structure Per SAE J1043.



bobcat

PREVENTIVE MAINTENANCE

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Cooling System Maintenance	1-10
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Procedure	1-11



bobcat

SERVICE SCHEDULE

You must do maintenance work at regular intervals. Failure to do so will result in damage to the loader or the engine. The service schedule is a guide for correct maintenance of the Bobcat loader. Follow this service schedule as explained below unless it is to increase the frequency of intervals when the Bobcat is used in very hot, cold, dusty or corrosion conditions.

WARNING

Instructions are necessary before operating or servicing machine. Read Operation & Maintenance Manual, 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. Failure to follow instructions can cause injury or death.

W-2003-1089

SERVICE SCHEDULE		HOURS					
ITEM	SERVICE REQUIRED	8-10	50	100	250	500	1000
Engine Oil	Check the oil level & add as needed.						
Air Cleaner	Check restriction indicator. Service only when required.						
Engine Cooling System	Check coolant recovery tank level & add coolant as needed. Remove debris from the grill area.						
Seat Belt	Check the condition of seat belt & restraint arm.						
Loader Pivot Points	Lubricate with multi-purpose lithium based grease.						
Fuel Filter	Remove any trapped water.						
Hyd. Tubelines & Hoses	Check for damage & leaks & replace as needed.						
Tires	Check tires for damage & correct pressure.						
Hydraulic Fluid Reservoir	Check the fluid level & add as needed.						
Safety Signs (Decals) & Safety Tread	Check for damaged decals & safety treads. Replace any decals or safety treads that are damaged or missing.						
Wheel Nuts	★ Tighten wheel nuts to 140 ft.-lbs. (190 Nm) torque.						
Battery and Cables	Check the electrolyte level. Clean cable ends & cover with grease.						
Hydraulic Control Lever	Check the lever for correct operation. Adjust as needed.						
Bob-Tach	Check the locking levers & wedges for condition & correct operation. Lubricate wedges with grease.						
Brakes & Controls	Check the brake for correct operation.						
Alternator Belt	Check condition & tension of belt.						
Drive Belt	* Check condition & tension. Adjust as needed.						
Deluxe Cab Blower Filter	Remove & clean with reduced air pressure.						
Engine Oil & Filter	Replace oil & filter.						
Spark Arrestor Muffler	Empty spark chamber.						
U-Joints (Drive Shaft)	Lubricate with the correct grease.						
Axle Oscillation Pivots	Lubricate axle oscillation pivots.						
Fuel Filter	Replace the filter element.						
Front & Rear Axle	Check gear lube level & add as needed.						
Hydraulic Filter	● Replace filter element.						
Hydraulic/Hydrostatic System	Replace the fluid & filter. Replace the vent filter.						

- ★ Check wheel nut torque every 8 hours for the first 24 hours of operation.
- Replace the element sooner if the warning light comes "ON".
- * Check every 8 hours for the first 40 hours of operation.

PREVENTIVE MAINTENANCE



WARNING

Instructions are necessary before operating or servicing machine. Read Operation & Maintenance Manual, 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. Failure to follow instructions can cause injury or death.

W-2003-1089

LIFTING AND BLOCKING THE LOADER

Procedure

Always park the loader on a level surface.

Install the steering frame lock (Page 1–4).



WARNING

Put jackstands under the front axles and rear corners of the frame before running the engine for service. Failure to use jackstands can allow the machine to fall or move and cause injury or death.

W-2017-0286

Put the floor jack under the rear of the loader **B**.

Lift the rear of the loader and install the heavy duty jackstands **B**.

Put the floor jack under the front axle differential housing **C**.

Lift the front of the loader and put heavy duty jackstands under the axle tube housings **C**.

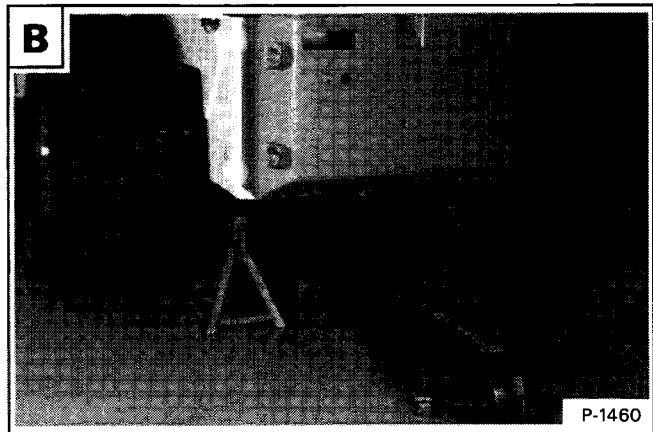
NOTE: Make sure the jackstands do not touch the tires.

A

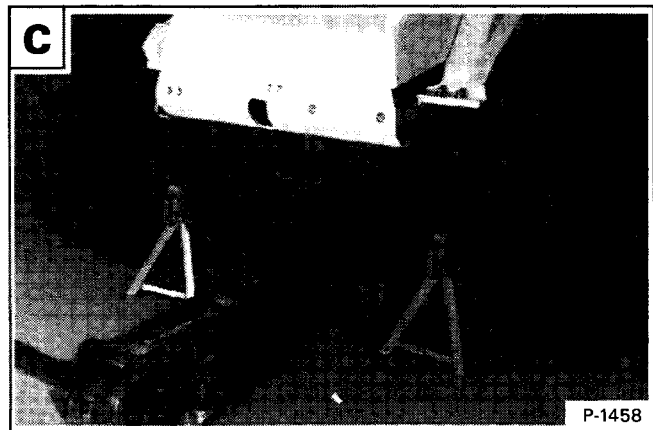


8-7023

B




C



TRANSPORTING THE LOADER

Procedure

 **WARNING**

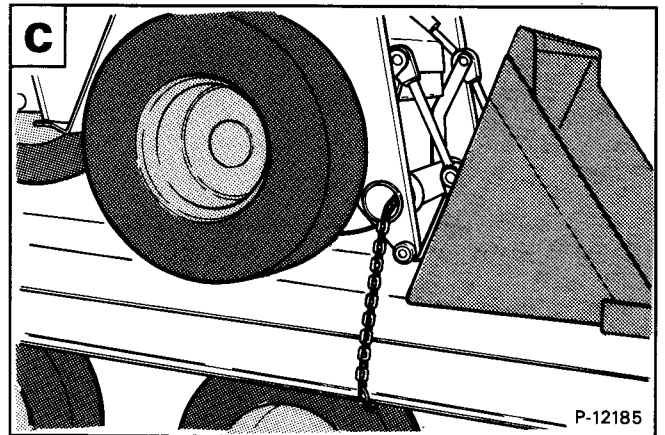
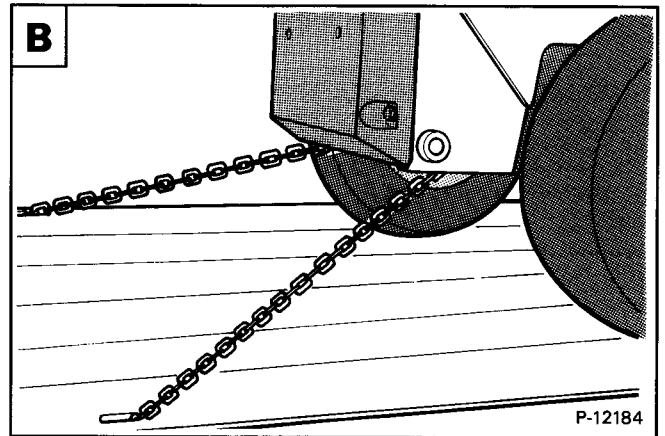
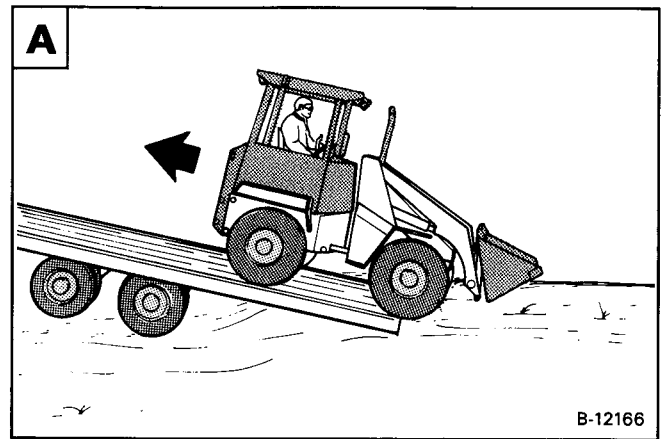
Steel loading ramps are needed to support the weight of the machine when loading onto a transport vehicle. Wood ramps can break and cause personal injury.

W-2058-0887

A loader with an empty bucket or no attachment should be loaded backward onto the transport vehicle **A**.

Install chains to hold the loader in position during sudden stops or when going up or down slopes. Use the following procedure to fasten the Bobcat loader to the transport vehicle:

1. Lower the bucket or attachment to the floor. Stop the engine.
2. Engage the parking brake.
3. Install the steering frame lock (Page 1–4).
4. Fasten a chain under the rear of the loader frame and transport vehicle **B**.
5. Put a chain through the tube at the lift arms **C**. Fasten the chain to both sides of the transport vehicle. Use chain binders to tighten all the chains.



LIFT ARM SUPPORT DEVICE

Procedure



WARNING

Never work on a machine with the lift arms up unless the lift arms are secured by a 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.

W-2059-0487

Remove the knob (Item 1) fastening the lift arm support device. Remove the lift arm support device from the operator cab **A**.

One person must stay in the operator seat, with the seat belt fasten and restraint arm lowered, while the other person installs the lift arm support device.

Start the engine and raise the lift arms. Have the second person install the lift arm support device over the rod of one of the lift cylinders **B**.

Lower the lift arms slowly until the support device is held between the lift arm and lift cylinder.

NOTE: Always store the lift arm support device in the correct location in the operator cab.

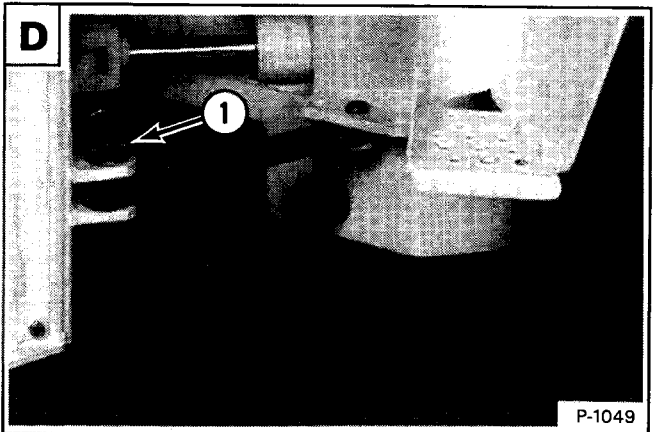
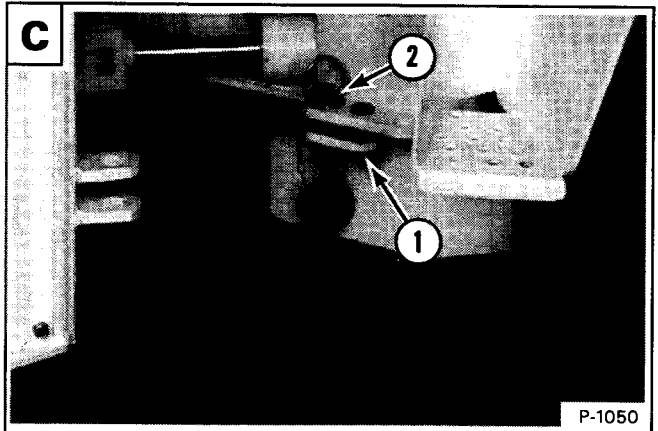
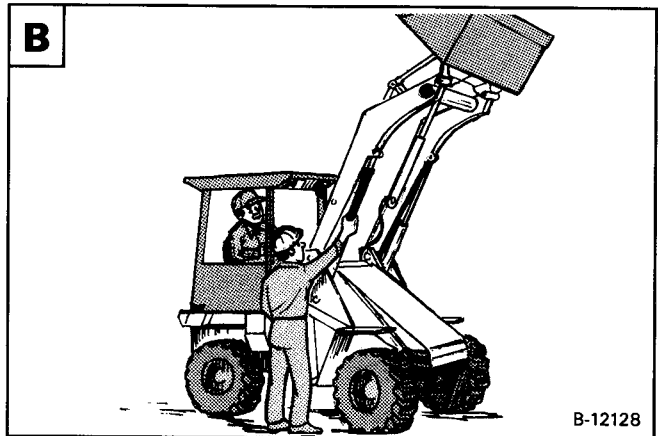
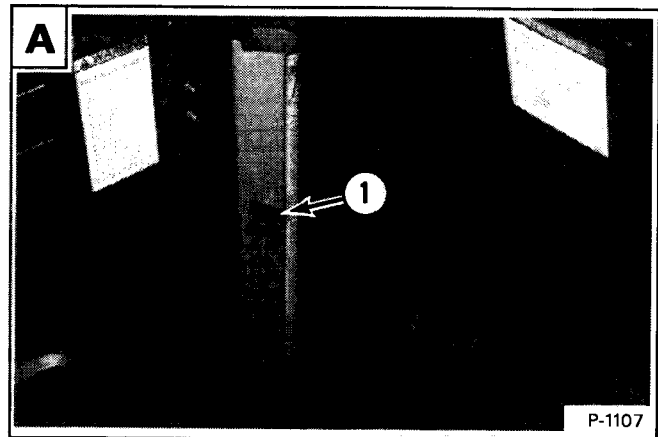
STEERING FRAME LOCK

Procedure

Before any service work is done on the Bobcat loader, always install the steering frame lock, use the following procedure:

1. Remove the retainer pin (Item 1) **C**.
2. Remove the pin (Item 2) from the mounting bracket and steering frame lock **C**.
3. Rotate the steering frame lock into the brackets at the front loader frame.
4. Install the pin (Item 1) and retainer pin **D**.

NOTE: The steering frame lock is shown on the left side of the loader. There are brackets installed on the right side of the loader frame so the steering frame lock can be used on the right side also.



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