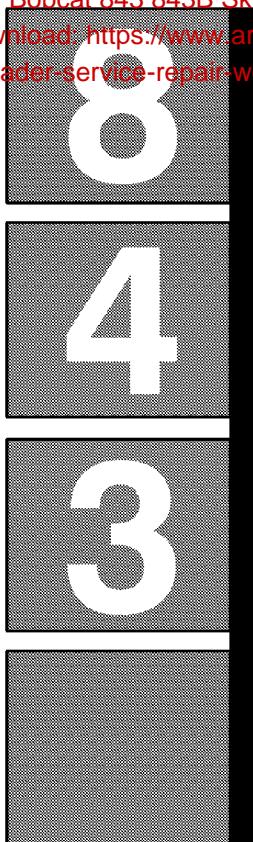
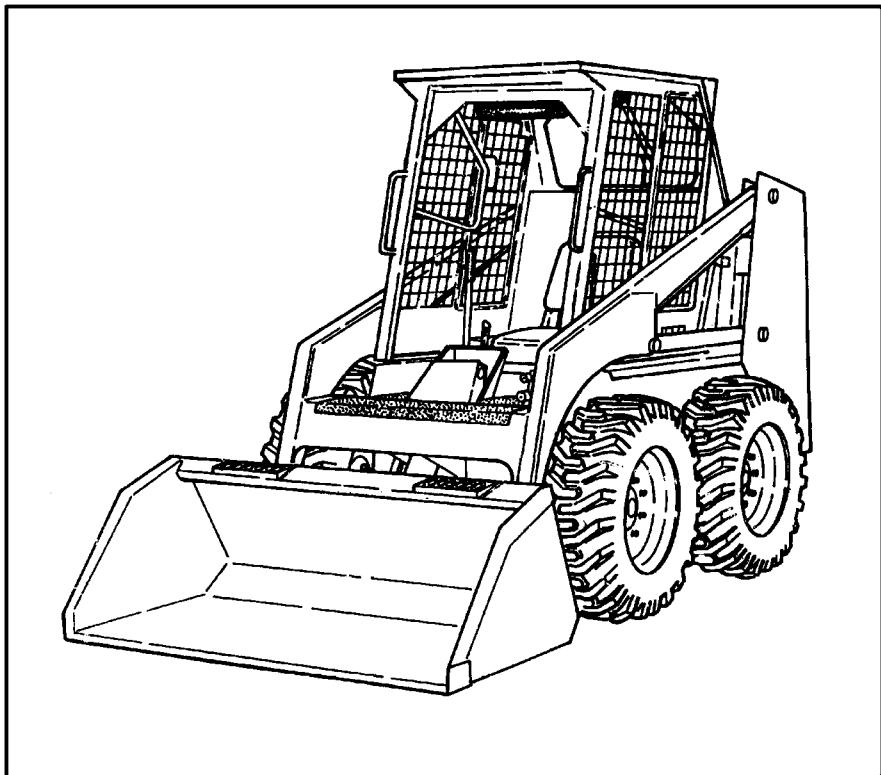
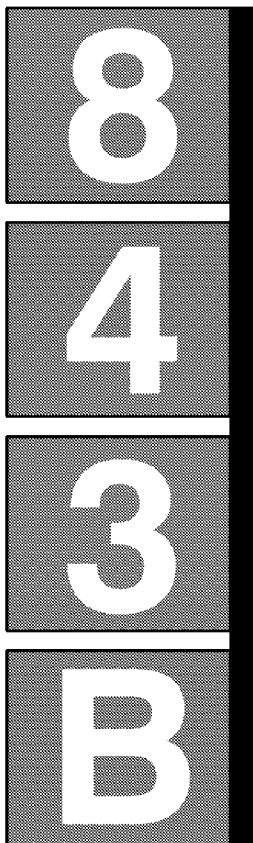


Product: Bobcat 843 843B Skid Steer Loader Service Repair Workshop Manual
Full Download: <https://www.arepairmanual.com/downloads/bobcat-843-843b-skid-steer-loader-service-repair-workshop-manual/>



Service Manual



MELROE
INGERSOLL-RAND

Sample of manual. Download All 545 pages at:

6566091 (12-85)

<https://www.arepairmanual.com/downloads/bobcat-843-843b-skid-steer-loader-service-repair-workshop-manual/>

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 **bobcat**®

Product: Bobcat 843 843B Skid Steer Loader Service Repair Workshop Manual

Full Download: <https://www.arepairmanual.com/downloads/bobcat-843-843b-skid-steer-loader-service-repair-workshop-manual/>

Sample of manual. Download All 545 pages at:

<https://www.arepairmanual.com/downloads/bobcat-843-843b-skid-steer-loader-service-repair-workshop-manual/>

MAINTENANCE SAFETY



WARNING

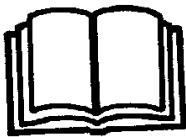
Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, Operator's Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after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

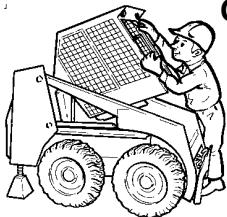
CORRECT



B-10731a

- ⚠ Never service the Bobcat Skid-Steer Loader without instructions.

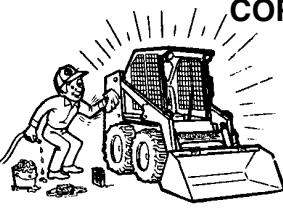
CORRECT



B-12365

- ⚠ Use the correct procedure to lift or lower operator cab.

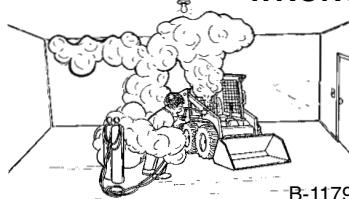
CORRECT



B-7469

- ⚠ Cleaning and maintenance are required daily.

WRONG



B-11799

- ⚠ 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.

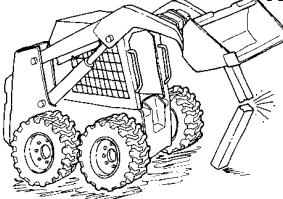
WRONG



B-15231

- ⚠ Disconnecting or loosening any hydraulic tube, 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.

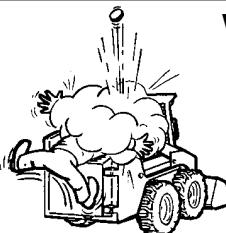
WRONG



B-15280

- ⚠ 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.

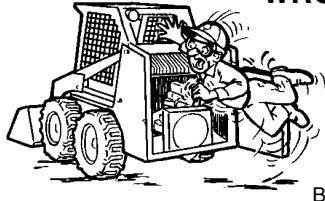
WRONG



B-6590

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

WRONG



B-6580

- ⚠ 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.

WRONG



B-6589

- ⚠ 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.

MSW01-0805



Bobcat®

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**PREVENTIVE
MAINTENANCE**

**HYDRAULIC
SYSTEM**

**HYDROSTATIC
SYSTEM**

**DRIVE
SYSTEM**

**MAIN
FRAME**

**ELECTRICAL
SYSTEM**

**ENGINE
SERVICE**

SPECIFICATIONS

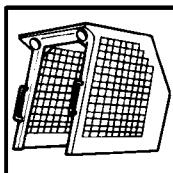


FOREWORD

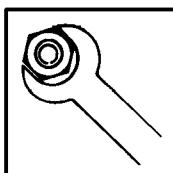
This manual is for the Bobcat loader mechanic. It provides necessary servicing and adjustment procedures for the Bobcat loader and its component parts and systems. Refer to the Operation & Maintenance Manual for operating instructions, starting procedure, daily checks, etc.

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

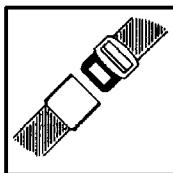
1. Check that the ROPS/FOPS (Including sidescreens) is in good condition and is not modified.



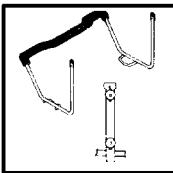
2. Check that ROPS mounting hardware is tightened and is Melroe approved.



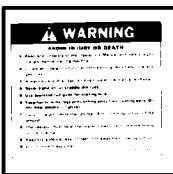
3. The seat belt must be correctly installed, functional and in good condition.



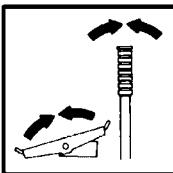
4. The seat bar and pedal interlocks must be correctly adjusted, clean and lubricated.



5. Machine signs must be legible and in the correct location.



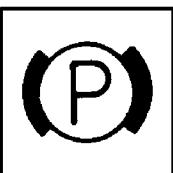
6. Steering levers and foot pedals must return to neutral.



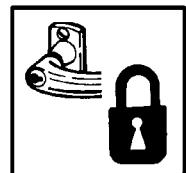
7. Check for correct function of the work lights.



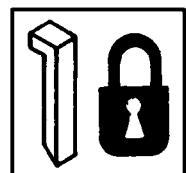
8. The parking brake must function correctly.



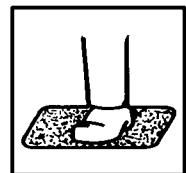
9. Enclosure door latches must open and close freely.



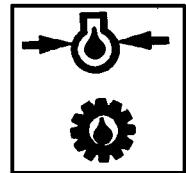
10. Bob-Tach wedges and linkages must function correctly and be in good condition.



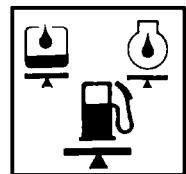
11. Safety treads must be in good condition.



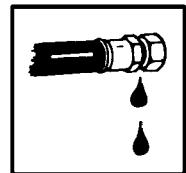
12. Check for correct function of indicator lamps (Optional on some models).



13. Check hydraulic fluid level, engine oil level and fuel supply.



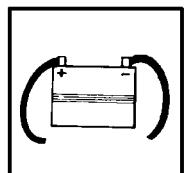
14. Inspect for fuel, oil or hydraulic fluid leaks.



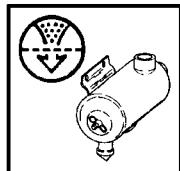
15. Lubricate the loader.



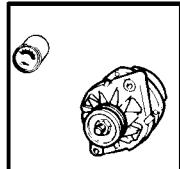
16. Check the condition of the battery and cables.



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



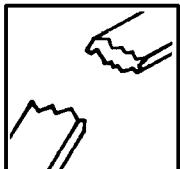
18. Check the electrical charging system.



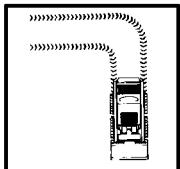
19. Check tires for wear and pressure.



20. Inspect for loose or broken parts or connections.



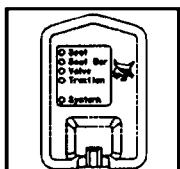
21. Operate the loader and check all functions.



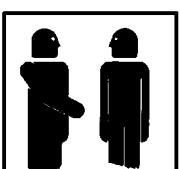
22. Check for any field modification not completed.



23. Check for correct function of the Bobcat Interlock Control System (BICS™) before the machine is returned to the customer.



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-2003-0797

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

- 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.
- 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. Replacement Operation & Maintenance manuals can be ordered from your Bobcat loader dealer.
- The loader has a plastic Operator's Handbook fastened to the operator cab. Its brief instructions are convenient to the operator. The handbook is available from your dealer in an English edition or one of the following languages: French, German, Italian, Dutch & Spanish.
- The EMI Safety Manual (available in Spanish) delivered with the loader gives general safety information.
- The Service Manual and Parts Manual are available from your dealer for use by mechanics to do shop-type service and repair work.
- The Skid-Steer Loader Operator training Course is available through your local Bobcat dealer. This course is intended to provide rules and practices for correct operation of the Bobcat loader. The course is available in English and Spanish version.
- The Bobcat Skid-Steer Loader Safety Video is available from your Bobcat Dealer.

!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

FIRE PREVENTION

The loader has several components that are at high temperature 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 will increase the fire hazard. The loader must be cleaned as often as necessary to avoid this accumulation. Flammable debris in the engine compartment is a fire hazard when the loader is parked with a hot engine.

The spark arrestor muffler 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.

- Do not use the Bobcat loader where exhaust, arcs, sparks or hot components can contact flammable material, explosive dust or gases.
- The engine compartment and engine cooling system must be inspected every day and cleaned if necessary to prevent fire hazard and overheating.
- Check all electrical wiring and connections for damage. Keep the battery terminals clean and tight. Repair or replace any damaged part.
- 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.
- Do not use ether or starting fluids on this engine. It has glow plugs. These starting aids can cause explosion and injure you or bystanders.
- Always clean the loader and disconnect the battery 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 grinding or welding painted parts. Wear dust mask when grinding painted parts. Toxic dust or gas can be produced.
- Stop the engine and let it cool before adding fuel. No smoking!
- Use the procedure in the Operation & Maintenance Manual for connecting the battery.
- Use the procedure in the Operation & Maintenance Manual for cleaning the spark arrestor muffler.
- Know where fire extinguishers and first aid kits are located and how to use them.

A fire extinguisher is available from your Bobcat dealer. The fire extinguisher can be installed in the location shown [A].



S106-0398

P-10650

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.

LOADER SERIAL NUMBER

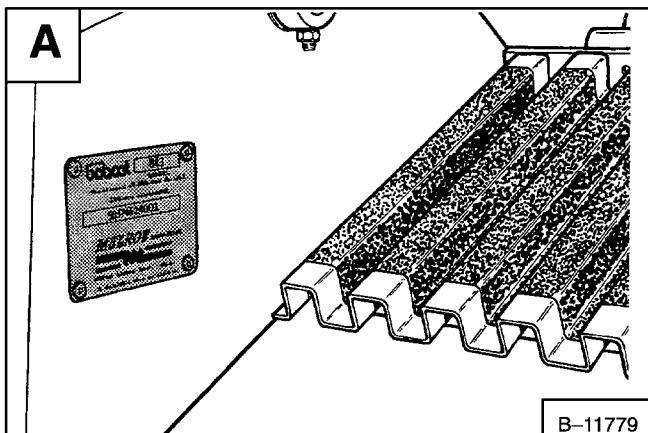
The loader serial number plate is located on the inside of the left upright, above the grill [A].

Explanation of loader Serial Number:

XXXX XXXXX

Production Sequence (Series)

Model/Engine Version



ENGINE SERIAL NUMBER

Perkins (4.154)

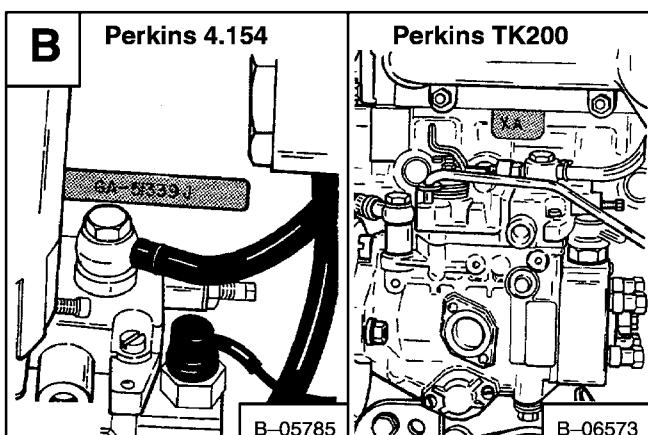
The engine serial number is on the left side of the engine block, above the fuel injection pump [B].

Perkins TK200 (4.154)

The engine serial number is on the left side of the engine block, above the fuel injection pump [B].

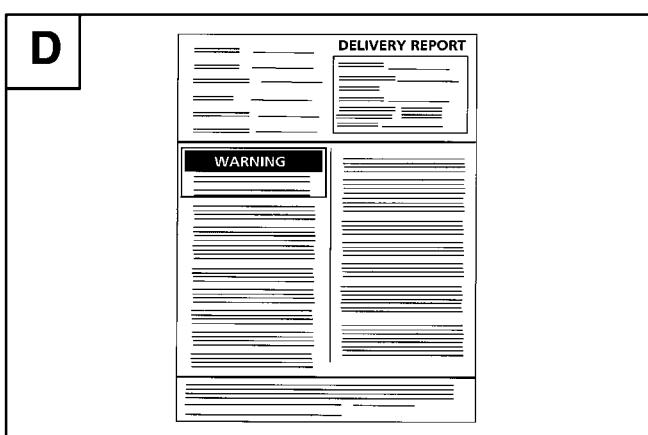
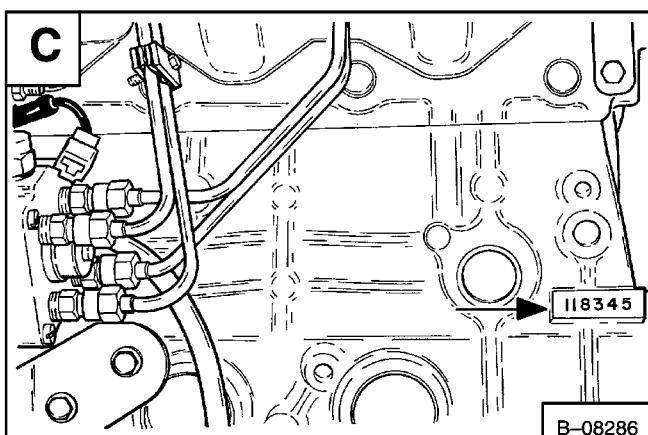
Isuzu 4JB1-PK01

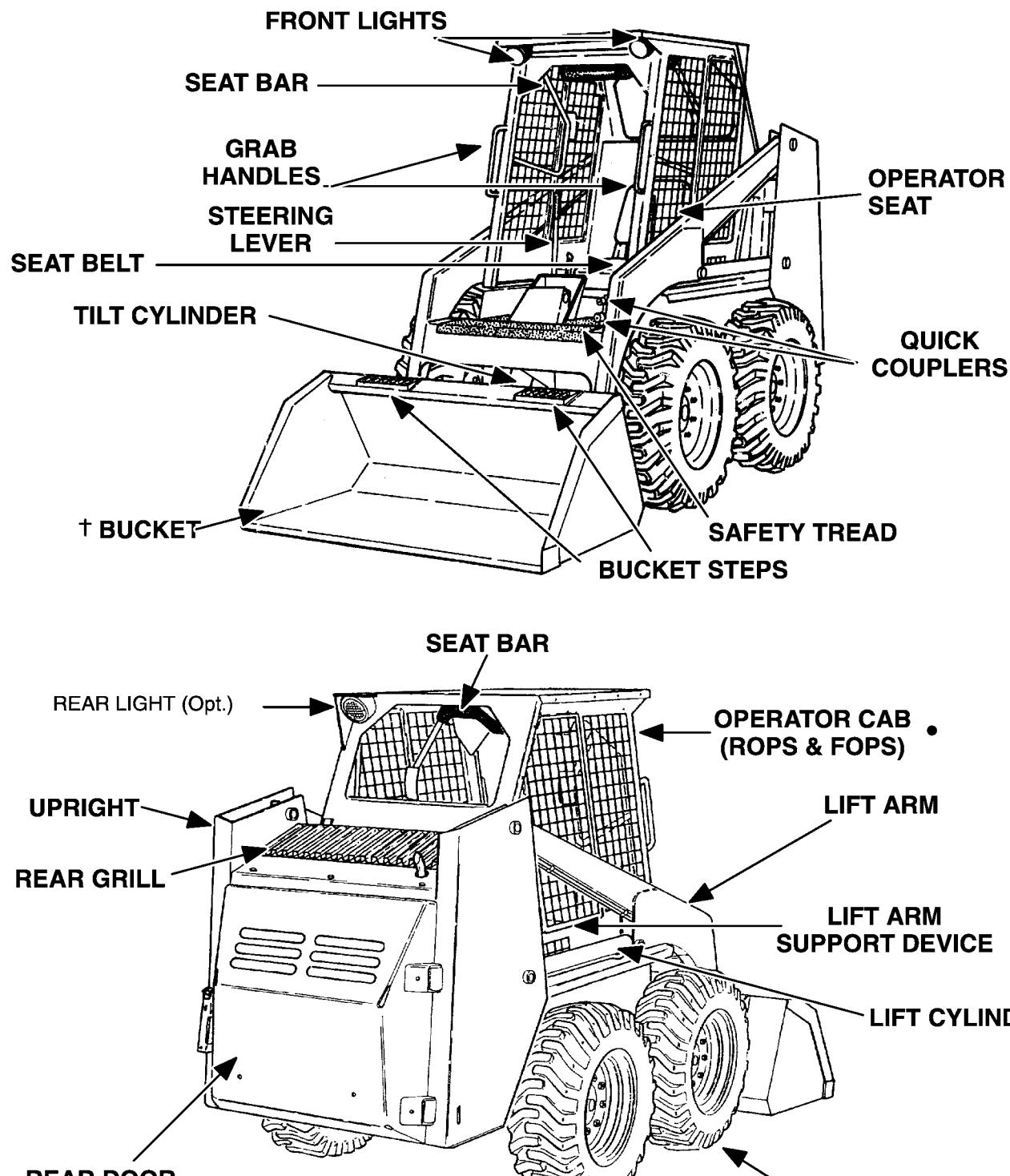
The engine serial number is located on the fuel injection pump side and at the rear of the engine block [C].



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 [D].





* TIRES – Flotation tires are shown. THE Bobcat loader is base-equipped with standard tires.

† BUCKET – Several different buckets and other attachments are available for the Bobcat loader.

• ROPS, FOPS – Roll-Over Protective Structure, Falling Object Protective Structure, per SAE J1040 and SAE J1043. The Bobcat loader is base-equipped with a standard operator cab as shown.

PREVENTIVE MAINTENANCE

	Page Number
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LIFTING AND BLOCKING THE LOADER	
Procedure	1-2
OPERATOR CAB	
Lowering the Operator Cab.....	1-7
Raising the Operator Cab.....	1-7
Seat Bar Inspection.....	1-5
Seat Bar Maintenance.....	1-6
Seat Bar System.....	1-5
REMOTE START SWITCH	
Procedure	1-9
SERVICE SCHEDULE	
Chart	1-1
TRANSPORTING THE LOADER	
Procedure	1-3
USING AND EXTRA BATTERY (JUMP START)	
Procedure	1-8

**PREVENTIVE
MAINTENANCE**



bobcat

SERVICE SCHEDULE

The service schedule is a guide for correct maintenance of the Bobcat loader that must be done regularly. Always use these service intervals unless very hot, cold, dusty or corrosive operating conditions make it necessary to increase the frequency of service. Failure to do so will cause damage to the loader or the engine.



WARNING

Instructions are necessary before operating or servicing machine. Read Operator's 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-2003-1285

ITEM	SERVICE REQUIRED	HOURS					
		8-10	50	100	250	500	1000
Engine Oil	Check the oil level and add oil as needed.						
Engine Air Cleaner	Empty the dust cup. Replace the outer filter element only when the red ring shows in the indicator window. Check for leaks and damaged components.						
Engine Cooling System	Clean debris from shrouds and grills. Check coolant level in the recovery tank and add as needed.						
Tires	Check for damaged tires and correct air pressure.						
Seat Belt and Seat Bar	Check the condition of seat belt. Check the seat bar for correct operation.						
Safety Signs (Decals)	Check for damaged signs (Decals). Replace damaged signs (Decals) and signs (Decals) that are not in the correct location.						
Lift Arm and Bob-Tach Pivot Areas	Add grease to the fittings until extra grease shows.						
Engine Fuel Filter	Remove water from filter.						
Operator Cab	Check the fastening bolts, washers and nuts. Check the condition of the cab.						
Wheel Nuts	★ Check for loose wheel nuts. Tighten to correct torque if loose.						
Engine Oil and Filter	Replace the oil and the engine oil filter.						
Battery	Check the water level. Check battery cables for corrosion. Check that the battery cables are tight. Check covers.						
Hydraulic Fluid, Tubelines and Hoses	Check the fluid level and add as needed. Check for damage and leaks and replace as needed.						
Alternator Drive Belt	Check the tension and adjust as needed.						
Chaincase	Check the fluid level and add as needed.						
Controls and Brakes	Check operation and adjust as needed.						
Spark Arrestor Muffler	Remove the plug and clean the spark chamber.						
Seat Bar	Grease pivot as needed.						
Steering Shaft Pivots	Grease two (2) fittings. Add oil to steering shaft.						
Hydraulic and Hydrostatic Filters	Replace filter elements.						
U-Joint	Grease three (3) fittings with correct grease.						
Engine Fuel Filter	● Replace the filter element.						
Hydraulic/Hydrostatic Reservoir Breather Cap	Replace breather cap.						
Chaincase	Replace the fluid.						
Hydraulic Fluid Reservoir	Replace the hydraulic fluid.						

★ Check wheel nut torque every 8 hours for the first 24 hours of operation.

● Also replace hydrostatic filter element when the transmission warning light stays on for five (5) minutes after the hydrostatic fluid is at operating temperature.

PREVENTIVE MAINTENANCE



WARNING

Instructions are necessary before operating or servicing machine. Read Operator's 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-2003-1285

A



B-7023

LIFTING AND BLOCKING THE BOBCAT LOADER

Procedure

Always park the loader on a level surface.



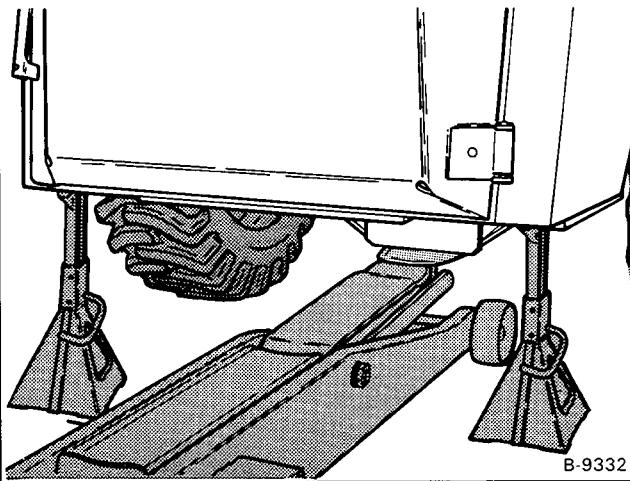
WARNING

Put jackstands under the front axles and rear corners of frame before raising the operator cab, raising the lift arms or when the engine is running for service. Failure to use jackstands can allow the machine to fall or move and cause injury or death.

W-2017-1285

*

B



B-9332

Put floor jack under the rear of the loader.

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

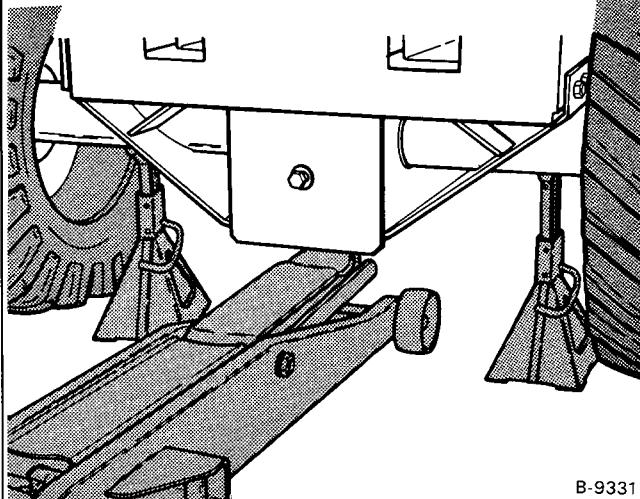
Put floor jack under the front of the loader.

Lift the front of the loader and put jackstands under the axle tubes **C**.

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

*

C



B-9331

TRANSPORTING THE BOBCAT LOADER

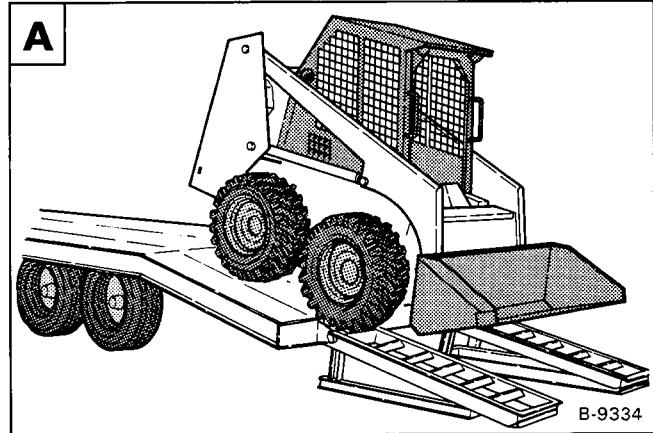
Procedure



WARNING

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

W-2058-1285



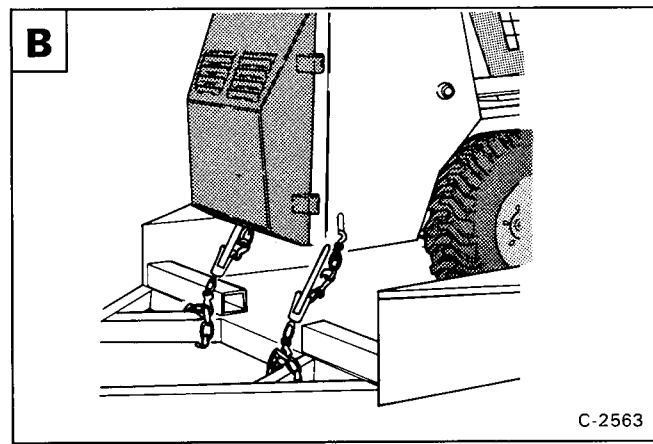
B-9334

A loader with an empty bucket or no attachment must be driven backwards onto the transport vehicle **A**.

Lower the lift arms and bucket to the transport vehicle.

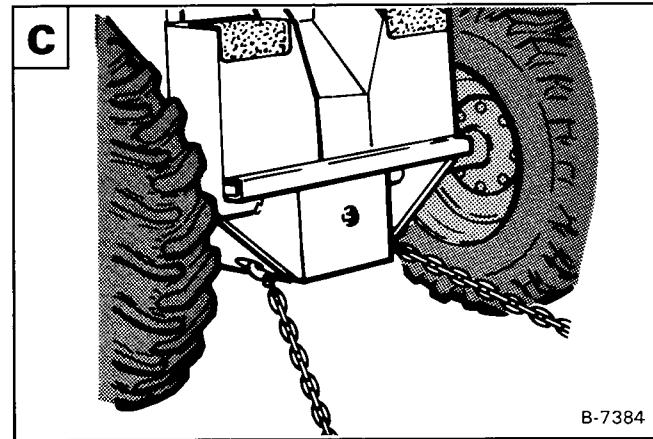
Stop the engine. Engage the parking brake.

Fasten chains to the uprights as shown **B**.



C-2563

Fasten chains to the front as shown **C**.



B-7384

LIFT ARM STOP

Procedure

One person must stay in the operator cab with the seat belt fastened and the seat bar lowered, while the second person installs the stop over the rod of one lift cylinder **A**.

Start the engine and raise the lift arms.

Have a second person install the lift arm stop over the rod of one lift cylinder.

The lift arm stop must be tight against the cylinder rod.

Lower the lift arms until the stop is held between the lift arm and the lift cylinder.

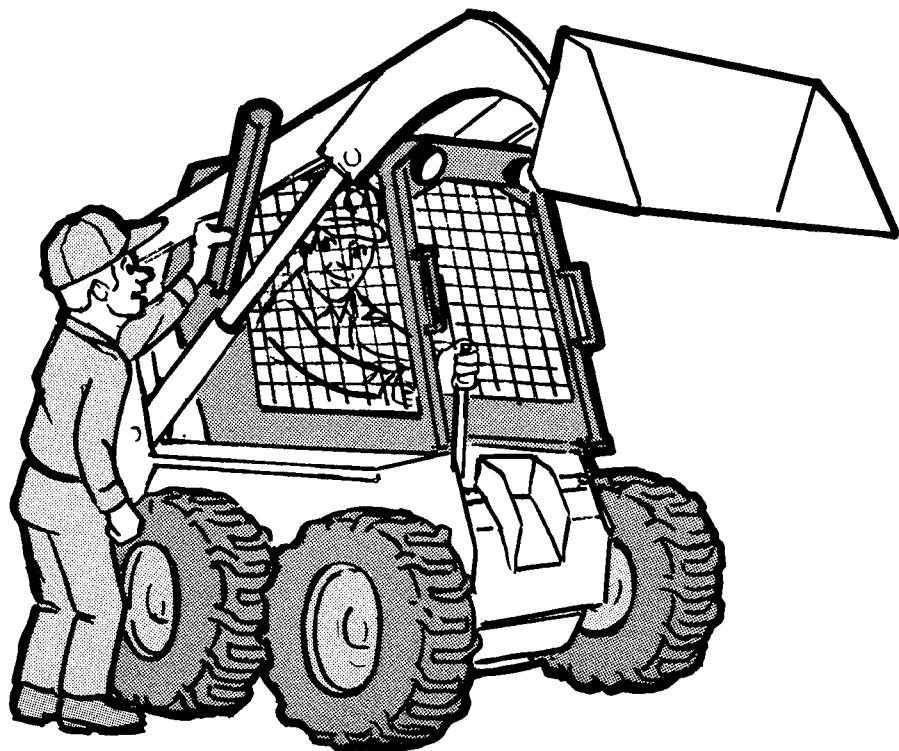


WARNING

Eye and body protection is required when welding or grinding. Wear approved goggles, helmet and clothing. Failure to wear eye and body protection can result in serious injury.

W-2009-1285

A



B-6581

OPERATOR CAB

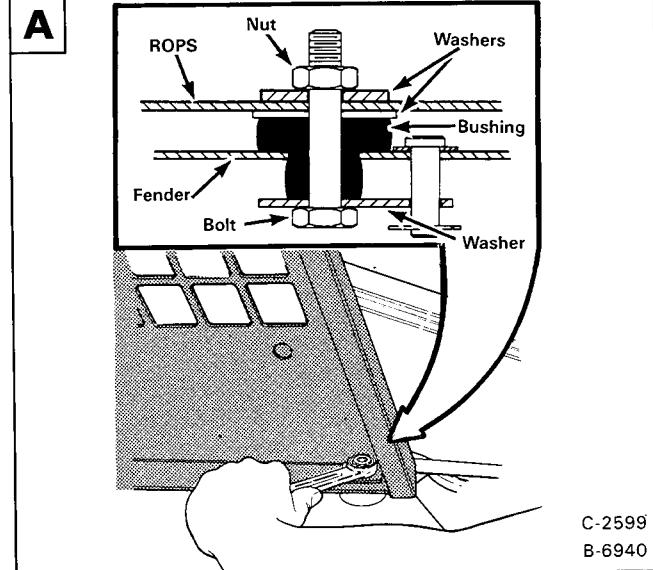
The loader has an operator cab (ROPS and FOPS) as standard equipment. The ROPS and FOPS protect the operator from roll-over and falling objects.



WARNING

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

W-2069-1285



Check with your dealer if the operator cab has been damaged.

The operator cab fastening bolts and nuts must be tight **A**.

Seat Bar System

The seat bar system has a pivoting seat bar with arm rests and has spring loaded latches for the lift and tilt control pedals. The operator controls the use of the seat bar. The seat bar in the down position keeps the operator in the seat and unlocks the foot pedals. When the seat bar is up, the lift and tilt pedals are locked in neutral position.

Seat Bar Inspection

Sit in the seat and fasten the seat belt snugly.

Pull the seat bar all the way down and start the engine.

Operate each foot pedal to check both lift arm and tilt functions. Raise the lift arms until the bucket is about two feet (600 mm) off the ground.

OPERATOR CAB (Cont'd)

Raise the seat bar. Try to move each foot pedal. Pedals must be firmly locked in the neutral position. There must be no motion of the lift arms or tilt (bucket) when the pedals are pushed.

Pull the seat bar down, lower the lift arms all the way.

Stop the engine. Engage the parking brake. Raise the seat bar and operate the foot pedals to be sure that the pedals are firmly locked in the neutral position. Unfasten the seat belt.

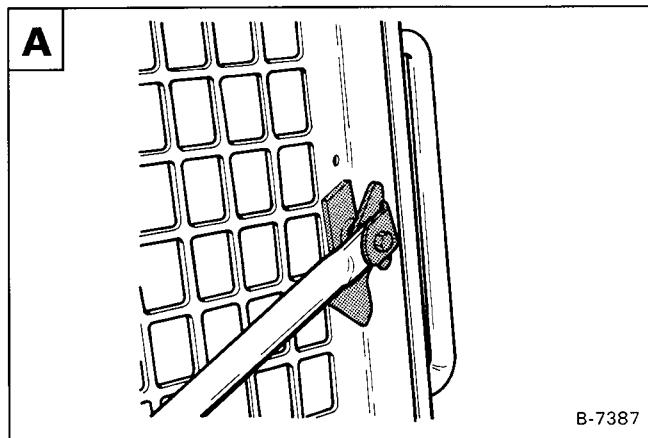
Seat Bar Maintenance

Clean the debris or dirt from moving parts **A**.

Inspect the linkage bolts and nuts. The correct torque is 25-28 ft.-lbs. (34-38 Nm).

Use general purpose grease to lubricate the seat bar pivot points at each side of the cab **A**.

If seat bar system does not function correctly, check for free movement of each linkage part. Check for excessive wear. Adjust pedal control linkages (See Page 2-62 for correct procedure). Replace parts that are worn, bent or broken.



WARNING

Seat bar system must lock the lift and tilt control pedals in neutral when seat bar is up. Service the system if pedals do not lock correctly.

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OPERATOR CAB (Cont'd)

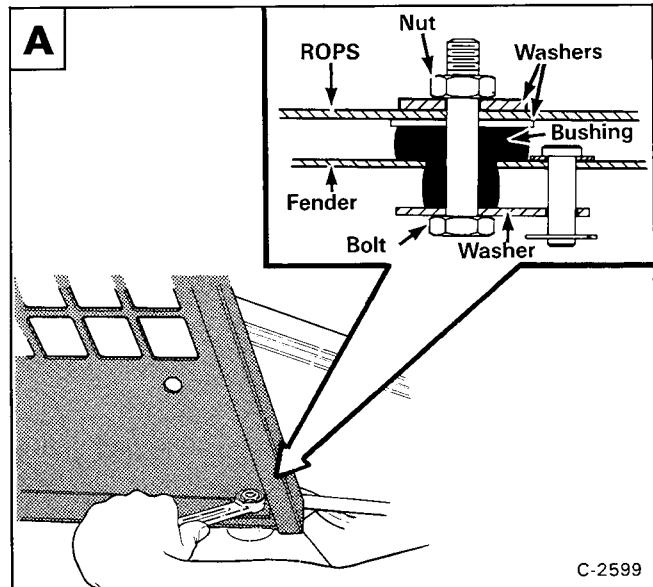
Raising the Operator Cab

The cab can be raised or lowered with the lift arms up or down.

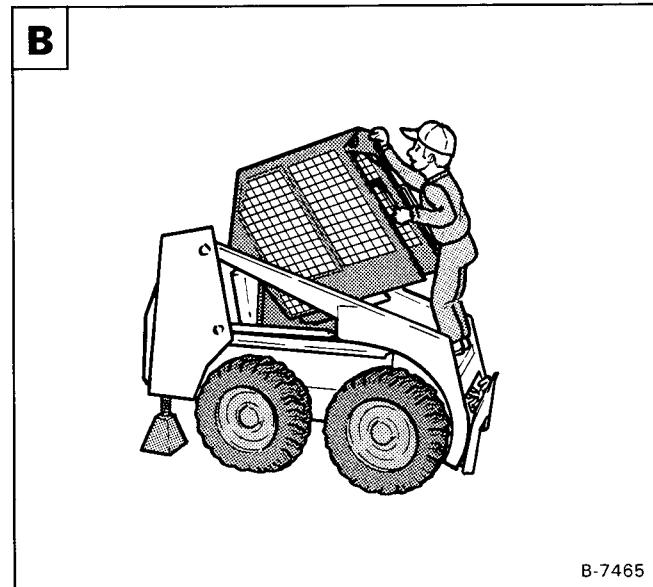
If the lift arms are up, a lift arm stop must be installed (See Page 1-4).

Stop the loader on a level surface. Stop the engine and engage the brake. Put jackstands under the rear of the loader.

Disconnect the two front fasteners **A**.



If the lift arms are down, stand on the safety tread **B**.

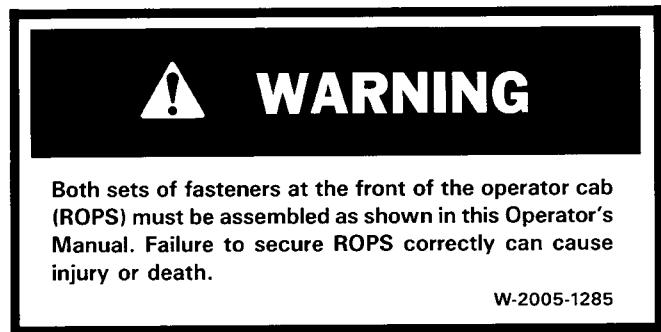


If the lift arms are up, stand beside the loader **C**.

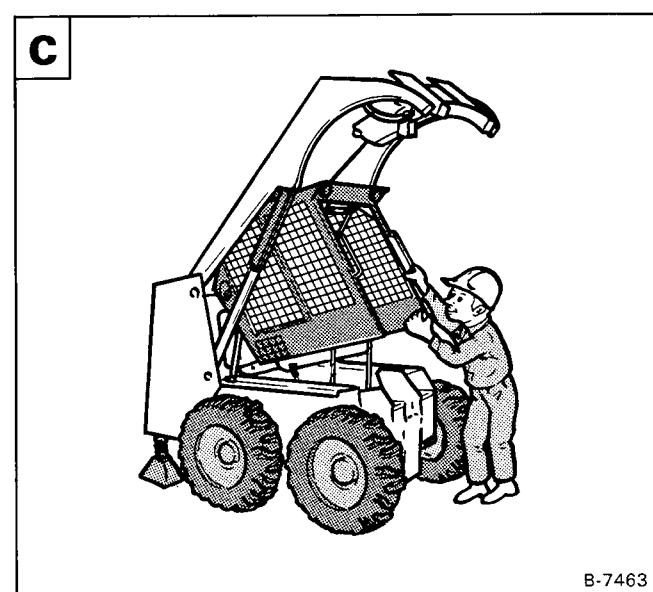
Slowly raise the cab until it is all the way up **B** or **C**.

Lowering the Operator Cab

Stand on the safety tread **A** or beside the loader **C** and slowly lower the operator cab.



Install the fasteners **A** before operating the loader.



USING AN EXTRA BATTERY (JUMP START)

Procedure

If it is necessary to use an extra 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 extra battery must be the same voltage as the loader battery.

1. Turn the key switch to the "OFF" position.
2. Connect the first jumper cable to the positive (+) terminal of the extra battery (Item 1) and to the positive (+) terminal of the battery (Item 2) **A**.
- NOTE:** Never connect the negative (-) cable to the negative (-) terminal of the battery.
3. Connect the second jumper cable to the negative (-) terminal of the extra battery (Item 3) and to the engine (Item 4) **A**.
4. Keep the jumper cables away from moving parts.
5. Start the engine.
6. Immediately remove the negative (-) cable (Item 4) from the engine **A**.
7. Remove the positive (+) cable from the starter.
8. Remove the cables from the extra battery.

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.

I-2023-1285

WARNING

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

In case of acid contact, wash immediately with water for several minutes and get medical attention.

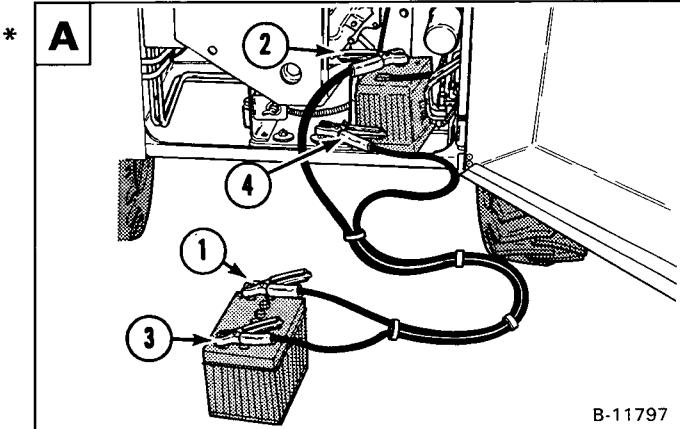
W-2065-1285

Keep arcs, sparks, flames and lighted tobacco away from batteries. When "jumping" from an extra battery make final connection (negative) at engine frame.

Do not jump start or charge a frozen battery. Warm battery to 60°F (16°C) before connecting to a charger. Unplug charger before connecting or disconnecting cables at battery.

Battery gas can explode and cause serious injury.

W-2066-1285



REMOTE START SWITCH

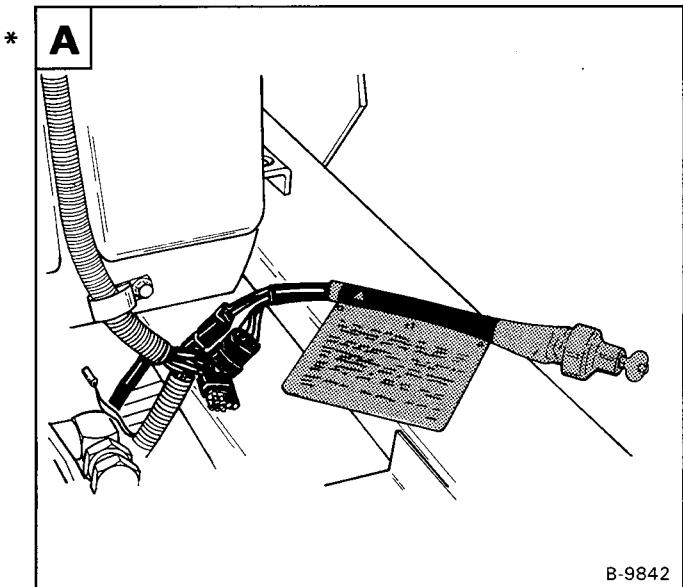
Procedure

The tool listed will be needed to do the following procedure:

MEL-1138A — Remote Start Switch

The remote start switch is required when the operator cab is in the raised position for service and the serviceman needs to start the engine. The wire harness must be separated at the operator cab and engine wiring harness connectors and the remote start switch connected **A**.

This remote start switch is required when the serviceman is adjusting the steering linkage or check the hydraulic/hydrostatic system.



B-9842



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



bobcat

HYDRAULIC SYSTEM

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HYDRAULIC
SYSTEM

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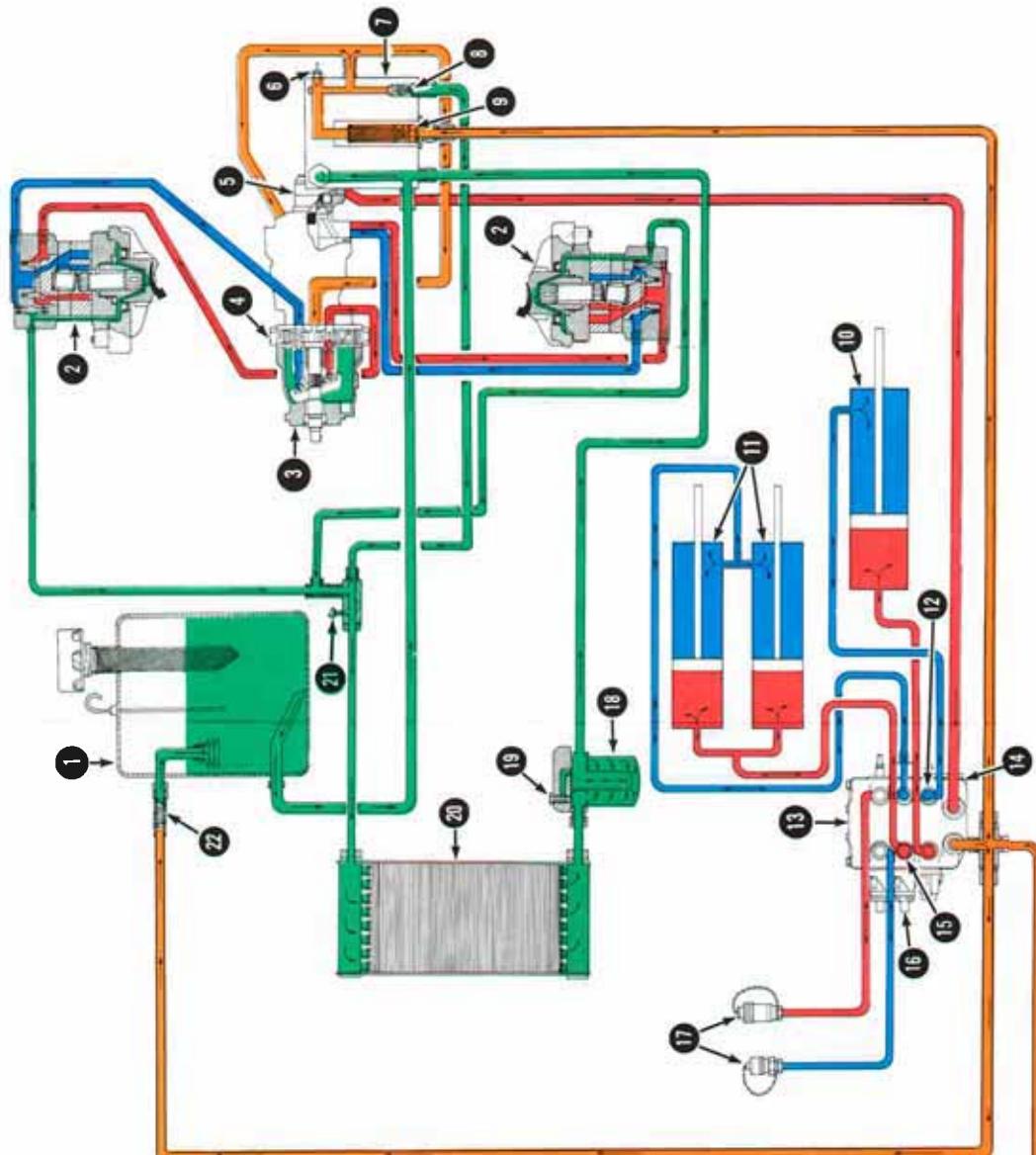
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HYDRAULIC / HYDROSTATIC FLOW CHART
For Model
843 (S/N 11001 Thru 12999)
Chart #6566716 (Printed November 1988)

RED - - - - - High Pressure
BLUE - - - - - Low Pressure
GREEN - - - - - Case Drain & Reservoir
ORANGE - - - - - Charge Pressure



NOTE
Chart shows oil flow in Forward Drive
Position and with Hydraulic Cylinders
Partially Extended. For Hydraulic/
Hydrostatic System Operation, refer to
Sheet 2 of this publication.



HYDRAULIC / HYDROSTATIC SYSTEM OPERATION

To Be Used With

HYDRAULIC / HYDROSTATIC FLOW CHART

For Model

843 (S/N 11001 Thru 12999)

Chart # 6566716 (Printed November 1988)

CHART LEGEND

- 1 FLUID RESERVOIR,** Cap.: 6.0 Gals. (22.7 L)
Working Cap.: 3.5-4.0 Gal. (13.2-15.1 L)
- 2 HYDROSTATIC MOTOR, . . .** 15 cu. in. (246 cm³)
- 3 HYDROSTATIC PUMP**
- 4 HIGH PRESSURE RELIEF REPLENISHING VALVES, . . .** 3500 PSI (24132 kPa)
- 5 HYDRAULIC PUMP, . . .** 15.4 GPM (58.3 L/min.) at 2720 RPM
- 6 TEMPERATURE SWITCH, . . .** 210°F. (99°C)
- 7 PORT BLOCK**
- 8 RELIEF VALVE, . . .** 43-57 PSI (296-393 kPa)
- 9 FILTER . . .** 40 Micron
- 10 TILT CYLINDER (Cushioned)**
- 11 LIFT CYLINDERS**
- 12 ORIFICE, . . .** 0.099" (2.51 mm) Dia.
S/N 11935 & Below
ORIFICE, . . . 0.138" (3.51 mm) Dia.
Starting With S/N 11936
- 13 HYDRAULIC CONTROL VALVE,** Self-Level
- 14 MAIN RELIEF, . . .** 2325-2500 PSI (16030-17237 kPa) (Measured at Quick Couplers)
- 15 RESTRICTOR (In Float and Lower Position Only)**
- 16 PORT RELIEF (Lift Section)** 3500 PSI (24132 kPa)
- 17 AUXILIARY QUICK COUPLERS**
- 18 FILTER, . . .** 10 Micron
- 19 FILTER BY-PASS, . . .** 30 PSI (207 kPa)
- 20 OIL COOLER**
- 21 PRESSURE SWITCH, . . .** 2.5-3.5 PSI (17.3-24.1 kPa)
- 22 BY-PASS VALVE, . . .** 180-200 PSI (1241-1379 kPa)
- 23 ACCUMULATOR, Nitrogen Precharge** 120 PSI (827 kPa) (Starting at S/N 11936)

The fluid flows from the reservoir ① to the inlet of the port block ⑦. Reservoir fluid is joined by the hydrostatic motor ② case drain and the return fluid from the oil cooler ⑩. This combined flow supplies fluid to the hydraulic pump ⑤.

The hydraulic pump ⑤ (a "gear" type) forces the fluid to the hydraulic control valve ⑬. When all three spools are in neutral position, the fluid goes through the control valve ⑬ and either to the reservoir ① or to the port block ⑦. The hydraulic control valve ⑬ is a three section, parallel open center, closed port valve with a main relief valve ⑭ built into the inlet section of the control valve ⑬.

When one of the spools is activated, the fluid flow is directed to either the base end or the rod end of the cylinder(s) ⑩ ⑪. Return fluid from the other end of the cylinder(s) ⑩ ⑪ goes back to the hydraulic control valve ⑬ and goes to the 40 micron filter ⑨ in the port block ⑦. The "tee" fitting at the outlet of the control valve ⑬ allows fluid to return to either the by-pass valve ⑫ and to the fluid reservoir ① through a diffuser or to the 40 micron filter ⑨ in the port block ⑦ during normal operation. *The "tee" fitting also connects to an accumulator ⑬ which will provide a temporary charge pressure flow when the lift and tilt cylinders are being extended. Two sections on the control valve ⑬ can be used at the same time if the main relief valve ⑭ is not open.

*The accumulator ⑬ is standard beginning with serial number 11936.

The by-pass valve ⑫ will open during cold weather or if there is excessive fluid pressure. The normal fluid flow through the 40 micron filter ⑨, goes by the temperature switch ⑥, and against the neutral charge by-pass valve ⑪. The normal flow is through the "tee" fitting between the temperature switch ⑥ and the charge by-pass valve ⑪ to the front and the rear hydrostatic pumps ③. The fluid flow is called "charge pressure" and supplies the hydrostatic pumps ③ and the hydrostatic motors ② with charge fluid. The charge fluid is used by the pump and motor, but as the charge pressure increases, the charge by-pass valve ⑪ will open to prevent excessive pressure built up.

The neutral charge fluid flows into each hydrostatic pump ③ and hydrostatic motor ② to cool, lubricate and replenish the fluid supply which is lost through case drain. Hydrostatic pumps ③ case drain flows into the inlet side of the hydraulic pump ⑤ through internal porting.

There are two hydrostatic pumps ③ and two hydrostatic motors ②. One pump and one motor work together as a pair to drive on one side of the loader. The other pump and motor work as a pair to drive the opposite side of the loader.

When the hydrostatic pumps ③ swashplate are angled in either direction, the hydrostatic

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