



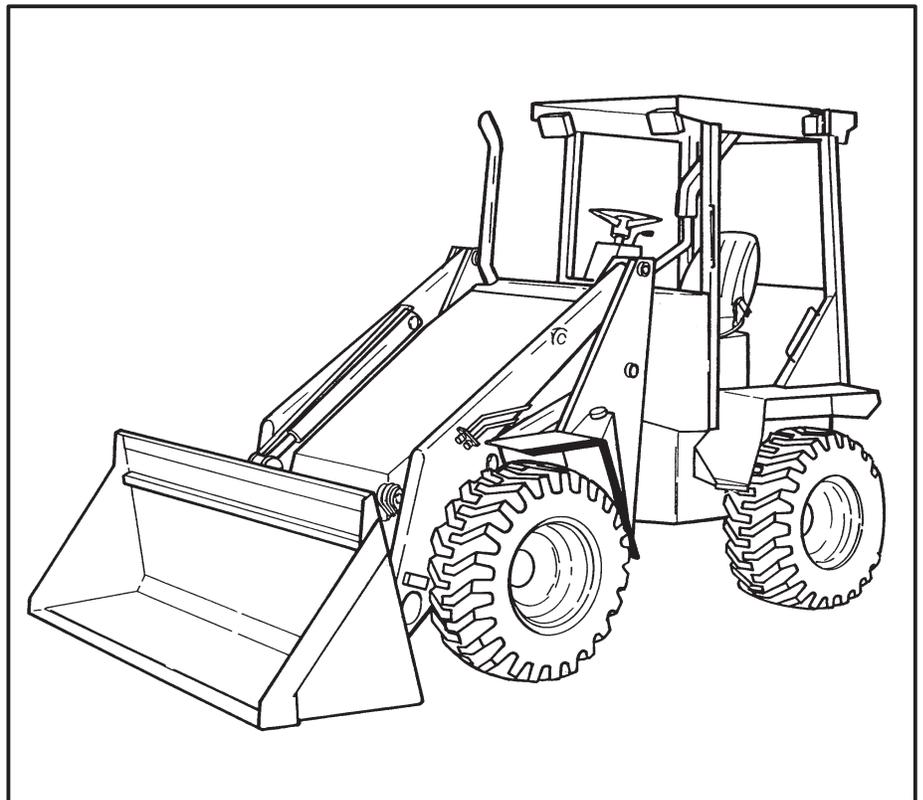
# Service Manual

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**MELROE**  
**INGERSOLL-RAND**



Product: Bobcat 2400 Skid Steer Loader Service Repair Workshop Manual  
Full Download: <https://www.arepairmanual.com/downloads/bobcat-2400-skid-steer-loader-service-repair-workshop-manual/>

Sample of manual. Download All 390 pages at:  
<https://www.arepairmanual.com/downloads/bobcat-2400-skid-steer-loader-service-repair-workshop-manual/>

# MAINTENANCE SAFETY



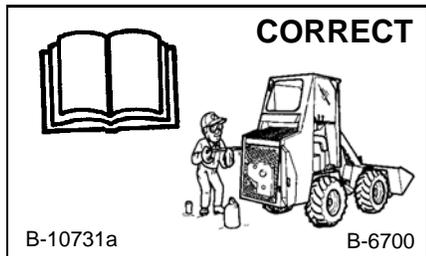
## WARNING

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.



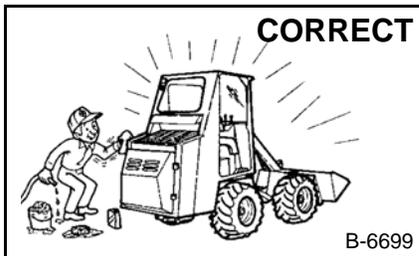
B-10731a

B-6700

⚠ Never service the Bobcat Loader without instructions. See Service Manual.

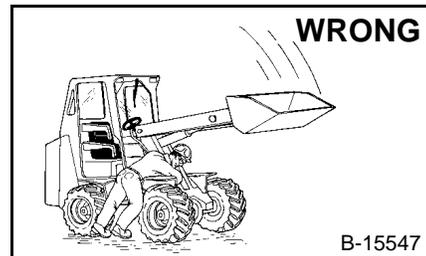
⚠ Check engine and hydraulic fluids daily.

⚠ Use recommended fluids.



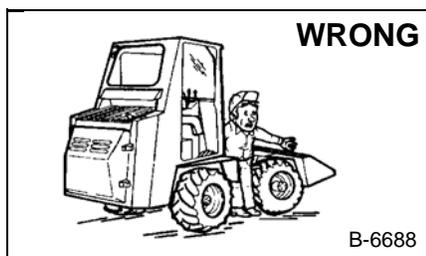
B-6699

⚠ Cleaning and maintenance are required daily.



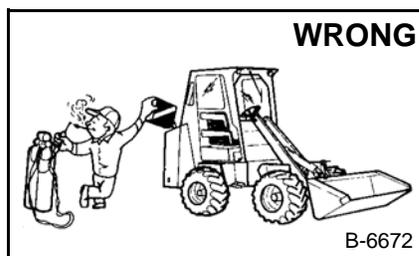
B-15547

⚠ 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.



B-6688

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



B-6672

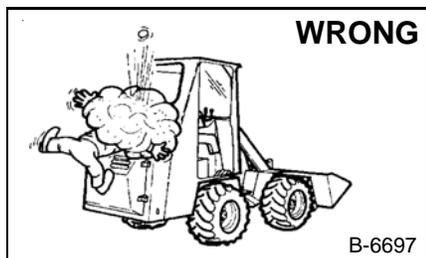
⚠ Do not fill the fuel tank with engine running, while smoking or when near an open flame.



B-6673

⚠ 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.

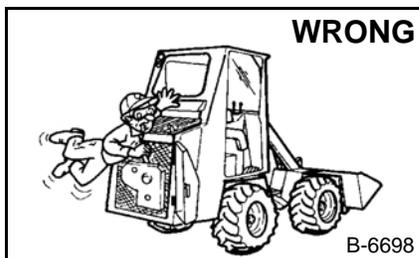


B-6697

⚠ 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.



B-6698

⚠ 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.



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.

MSW04-0805



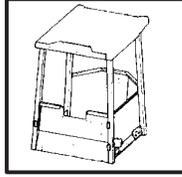
**Bobcat®**

# 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:

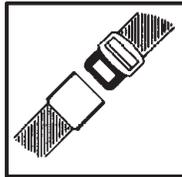
1. Check that the ROPS/FOPS is in good condition and is not modified.



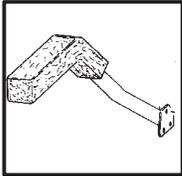
2. Check that ROPS mounting hardware is tightened and is Melroe approved.



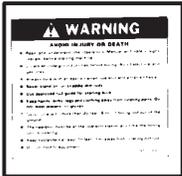
3. The seat belt must be correctly installed, functional and in good condition.



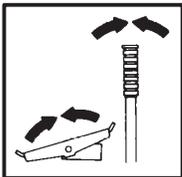
4. The restraint arm must function correctly.



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



6. Foot pedal must return to neutral.



7. Check for correct function of the work lights.



8. The parking brake must function correctly.



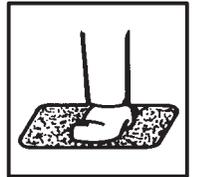
9. Enclosure door latches must open and close freely.



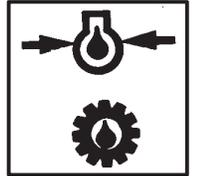
10. Bob-Tach wedges and linkages must function correctly and be in good condition.



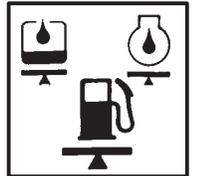
11. Safety treads must be in good condition.



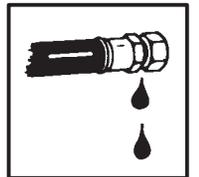
12. Check for correct function of indicator lamps.



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



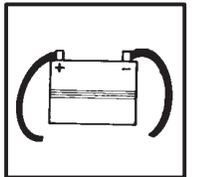
14. Inspect for fuel, oil or hydraulic fluid leaks.



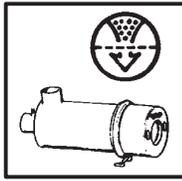
15. Lubricate the loader.



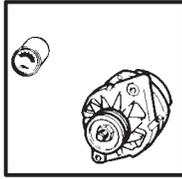
16. Check the condition of the battery and cables.



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



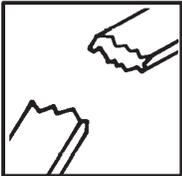
18. Check the electrical charging system.



19. Check tires for wear and pressure.



20. Inspect for loose or broken parts or connections.



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



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**PREVENTIVE  
MAINTENANCE**

**HYDRAULIC  
SYSTEM**

**HYDROSTATIC  
DRIVE SYSTEM**

**DRIVE  
SYSTEM**

**MAIN  
FRAME**

**ELECTRICAL  
SYSTEM**

**ENGINE  
SERVICE**

**SPECIFICATIONS**



## 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 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 Excavator dealer.
- \* The loader has machine signs (decals) which instruct on the safe operation and care. The signs and their locations are shown in the Operation & Maintenance Manual. Replacement signs are available from your Bobcat loader dealer.
- \* The FIEI Safety Manual 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.



This safety message 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 extinguisher 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. Remove both battery cables (negative (-) cable first). Cover rubber hoses, battery and all other flammable parts. Keep a fire extinguisher near the excavator when welding.
- \* Have good ventilation when welding or grinding painted parts. Wear a 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 procedures in this manual for connecting batteries.
- \* Use the procedures in this manual for cleaning the spark arrestor muffler after each 100 hours of operation.

## SERIAL NUMBER LOCATIONS

Always use the serial number of the machine 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].



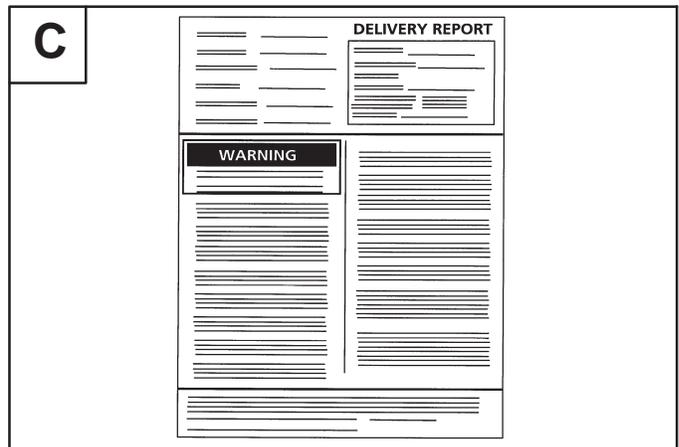
### ENGINE SERIAL NUMBER

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

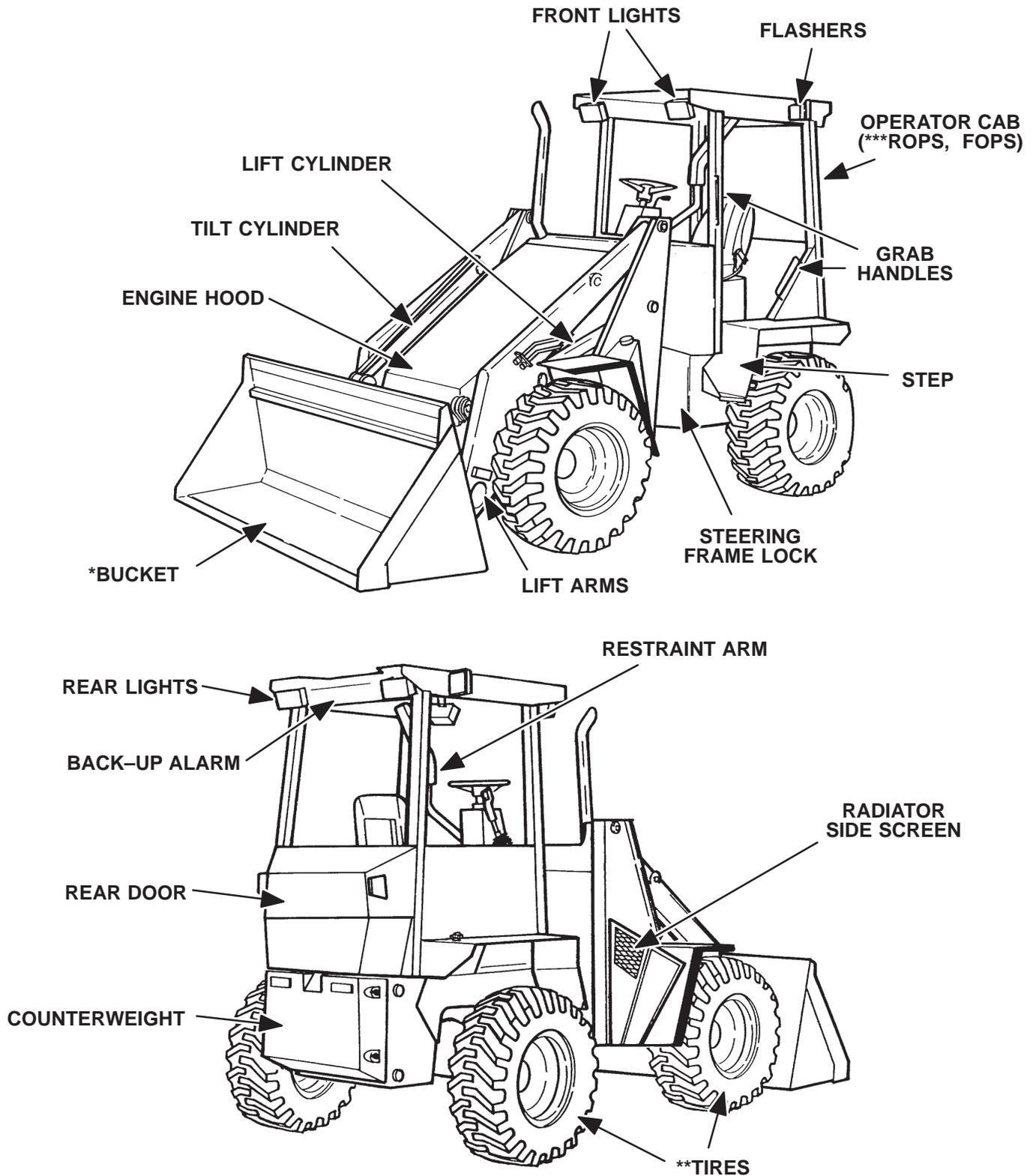


### DELIVERY REPORT

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].



# BOBCAT ARTICULATED LOADER IDENTIFICATION



B-13224  
B-13225

- \* 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.



**PREVENTIVE MAINTENANCE**

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## SERVICE SCHEDULE

You must do maintenance work at regular intervals. Failure to do so may 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 loader 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 and add as needed.						
Engine Air Cleaner	Check restriction indicator. See Page 1-5 for correct procedure to service filter elements.						
Engine Coolant System	Check coolant recovery tank level and add coolant as needed. Remove debris from the grill area.						
Seat Belt	Check the condition of seat belt and restraint arm.						
Loader Pivot Points	Add lubricant to all fittings. (See Page 1-17.)						
Fuel Filter	Remove any trapped water.						
Hyd.Tubelines and Hoses	Check for damage and leaks and replace as needed.						
Tires	Check tires for damage and correct pressure.						
Hyd. Fluid Reservoir	Check the fluid level & add as needed.						
Safety Signs (Decals) & Safety Tread	Check for damaged decals and 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 battery condition. Clean cable ends and cover with grease.						
Hydraulic Control Lever	Check the lever for correct operation. Make repair and adjust as needed.						
Bob-Tach	Check the locking levers and wedges for condition and correct operation.						
Brakes and Controls	Check the brake for correct operation.						
Alternator Belt	Check condition and tension of belt.						
Drive Belt	* Check condition and tension. Adjust as needed. (See Page 3-21.)						
Deluxe Cab Blower Filter	Remove and clean with reduced air pressure.						
Engine Oil and Filter	Replace oil and filter.						
Spark Arrestor Muffler	Empty spark chamber.						
U-Joints (Drive Shaft)	Lubricate with the correct grease. (See Page 1-17.)						
Pivot Points	Lubricate axle oscillation and Bob-Tach wedge fittings.						
Fuel Filter	Replace the filter element.						
Front and Rear Axle	Check oil level and add as needed (See Page 1-16).						
Hydraulic Filter	● Replace filter element.						
Hydraulic/Hydrostatic System	Replace the fluid and 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 [A].

W-2003-0797

A



B-07023

## LIFTING AND BLOCKING THE LOADER

### Procedure

Always park the loader on a level surface.

Install the steering frame lock. (See 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].

B



PI-05901

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 housing [C].

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

C



PI-05900

## TRANSPORTING THE LOADER

### Procedure



# WARNING

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-2058-0494

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. (See 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 STOP

### 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-2059-0991

Remove the knob fastening the lift arm stop. Remove the lift arm stop from the operator cab [A].

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

Start the engine and raise the lift arms. Have the second person install the lift arm stop over the rod of one of the lift cylinders [B].

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

**NOTE:** Always store the lift arm stop in the correct location in the operator cab.

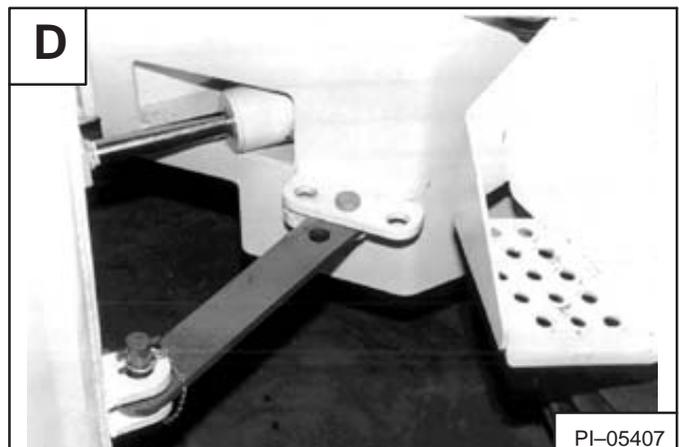
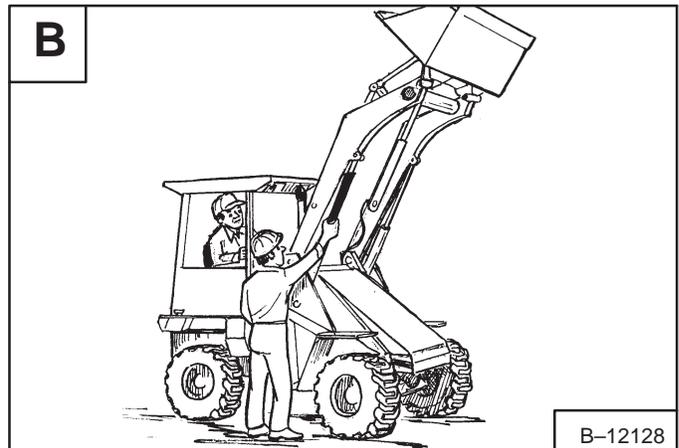
## STEERING FRAME LOCK

### Procedure

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

1. Remove the cotter pin at the pin [C].
2. Remove the pin 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 and cotter 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.



## AIR CLEANER

### Replacement Of Filter Element

It is important to service the air cleaner at regular intervals, see the *SERVICE SCHEDULE* Page 1-1.

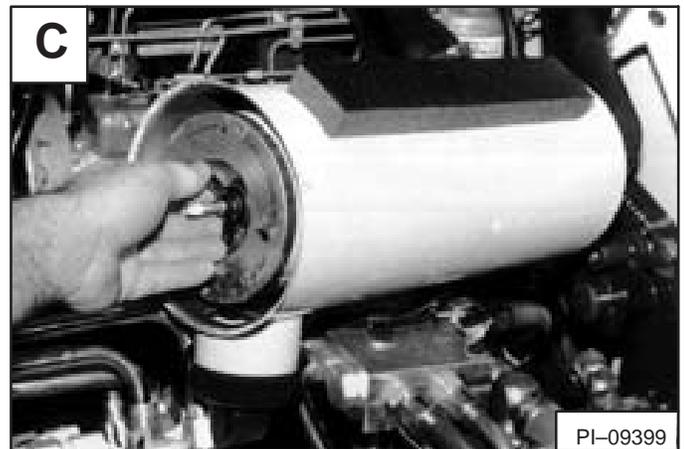
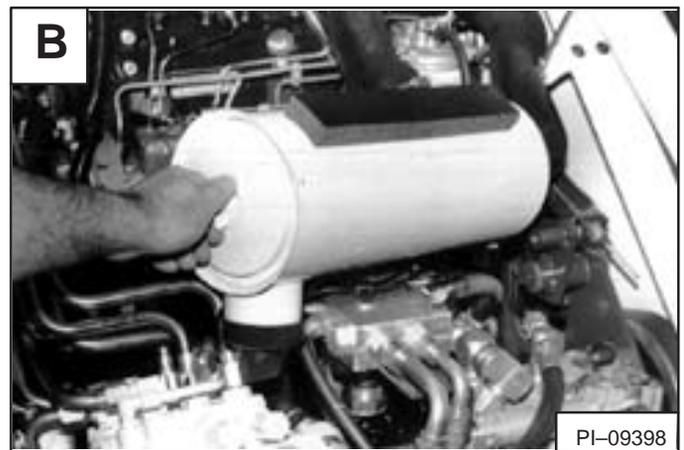
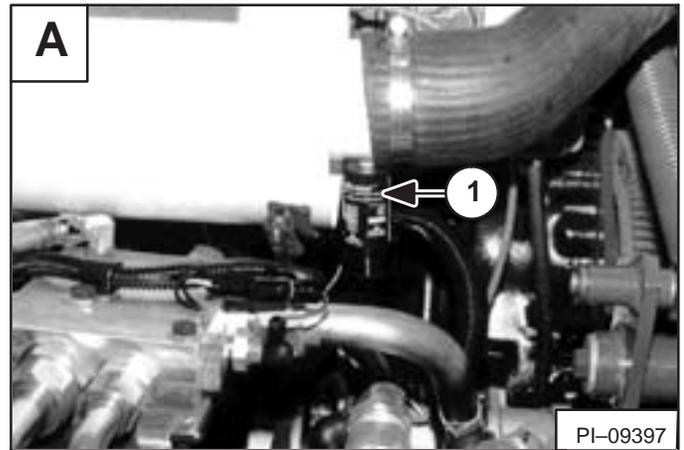
The large filter element (outer) must be replaced when the restriction indicator (Item 1) **[A]** reads more than 22 in. H<sub>2</sub>O.

Before replacing the outer filter element, push the button on the restriction indicator and start the engine. Run the engine at full RPM. If the reading is less than 22 in. H<sub>2</sub>O, do not replace the filter element. Service the air cleaner as follows:

1. Stop the engine. Open the engine hood.
2. Loosen the wing nut and remove the air cleaner cap from the housing **[B]**.

3. Remove the wing nut from the filter element **[C]**.

4. Remove the outer filter element **[D]**. DO NOT remove the inner filter element.
5. Install the new filter element and tighten the wing nut.
6. Install the end cap and tighten the wing nut.
7. Push the button at the restriction indicator (Item 1) **[A]**.



## AIR CLEANER (Cont'd)

### Replacement Of Filter Element (Cont'd)

**NOTE:** Replace the inner filter element every third time the outer filter element is replaced or when the restriction indicator reads 15 in. H<sub>2</sub>O at full engine RPM after the outer filter element has been replaced [A].

8. Check to make sure the air cleaner hose clamps are tight.



## FUEL SYSTEM

### Fuel Specifications

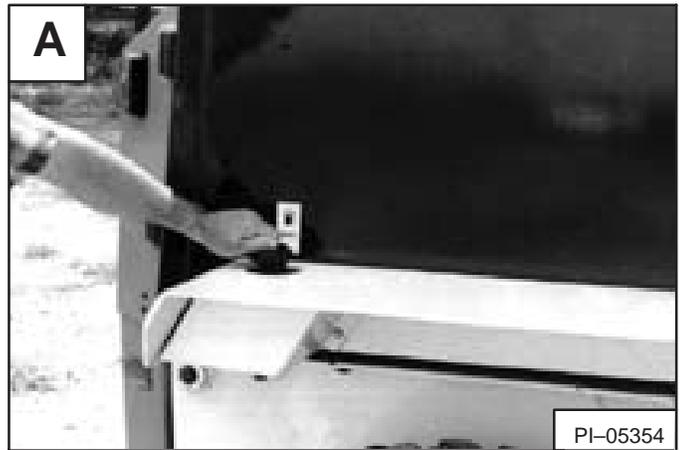
Use only clean, high-quality fuel.

Use Grade No. 2 fuel above 40°F (4°C). Use Grade No. 1 fuel at temperatures below 40°F (4°C).

### Filling The Fuel Tank

Clean the area around the fuel fill cap.

Remove the fuel fill cap [A].



## **WARNING**

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

W-2063-0887



Use a clean, approved safety container to add fuel of the correct specifications [C].

Add fuel only in an area that has free movement of air and no open flames or sparks. **NO SMOKING!**

Install and tighten the fuel fill cap.



## ENGINE LUBRICATION SYSTEM

### Checking Engine Oil

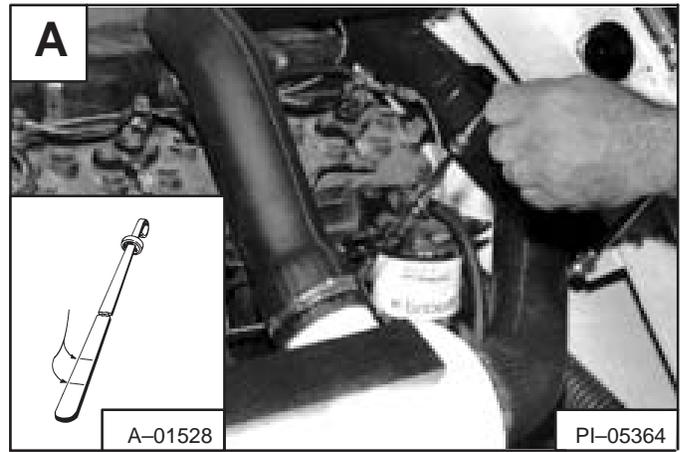
To check the oil level, open the engine hood and remove the dipstick [A].

Keep the oil level between the marks on the dipstick [A].

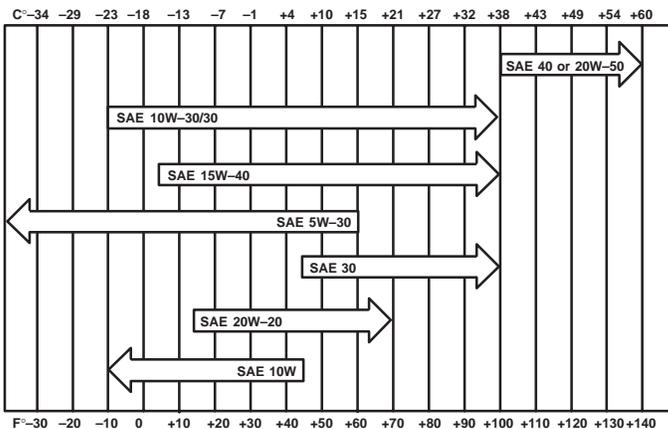
Do not fill above the top mark. Use a good quality engine oil that meets API Service Classification of CC or CD. (See Chart.)

### Replacement Of Oil And Filter

See the *SERVICE SCHEDULE* Page 1-1, for the correct interval when to replace the engine oil and filter.



### RECOMMENDED SAE VISCOSITY NUMBER (LUBRICATION OILS FOR ENGINE CRANKCASE)



### TEMPERATURE RANGE ANTICIPATED BEFORE NEXT OIL CHANGE (DIESEL: USE API CLASSIFICATION CC OR CD)

1. Let the engine warm to operating temperature. Stop the engine.
2. Open the engine hood and right access door.
3. Remove the plug from the oil drain hose and drain the oil into a container [B].
4. Clean the area around the oil filter housing. Remove the oil filter [C].
5. Put clean oil on the filter gasket. Install the oil filter and hand tighten. Install and tighten the plug in the oil drain hose.
6. Remove the oil fill cap. Fill the engine with oil of the correct grade and viscosity [D]. (See *SPECIFICATIONS*, Section 8 for correct capacity.)
7. Operate the engine and check for leaks at the oil filter. Stop the engine. Check the oil level and add oil as needed to bring the oil level to the top mark on the dipstick.

## ENGINE COOLANT SYSTEM

### Checking Coolant Level

The coolant recovery tank (Item 1) [A] is located in the engine compartment at the right side.

When the engine is cool, the coolant recovery tank must be 1/3 full. Add coolant to the recovery tank when the coolant level is low.

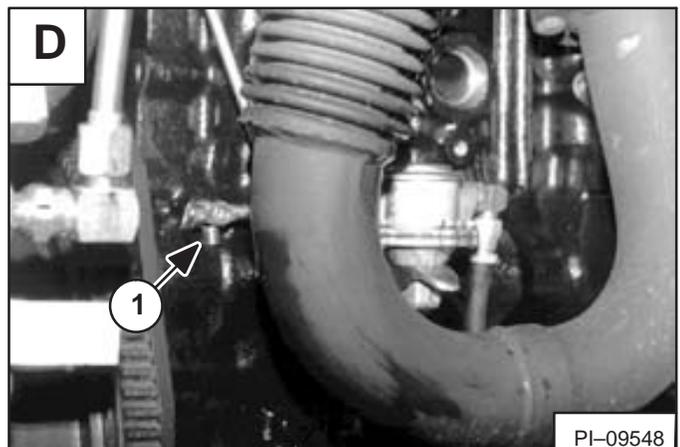
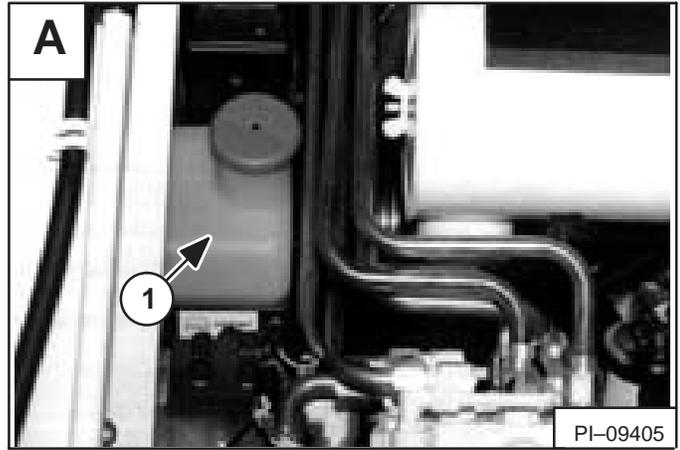
### Removing Coolant From The Cooling System

## WARNING

Do not remove radiator cap when the engine is hot. You can be seriously burned.

W-2070-1285

1. Remove the radiator cap [B].
  2. Remove the drain plug at the bottom of the radiator and drain the coolant into a container [C].
  3. Remove the plug (Item 1) [D] to drain all the coolant from the engine block.
  4. After all the coolant is removed, close and tighten the engine block drain. Install and tighten the radiator plug drain.
  5. Mix the coolant in a separate container. (See *SPECIFICATIONS* Section for the correct capacity.)
- NOTE: Protect the cooling system by adding pre-mixed 50% ethylene glycol and 50% water to the system. This mixture will protect the cooling systems to -34°F (-36°C).**
6. Fill the radiator with the pre-mixed coolant. Install the radiator cap.
  7. Add coolant to the recovery tank until it is 1/3 full.
  8. Run the engine until it is at operating temperature. Stop the engine. Check the coolant level in the recovery tank and add coolant as needed.

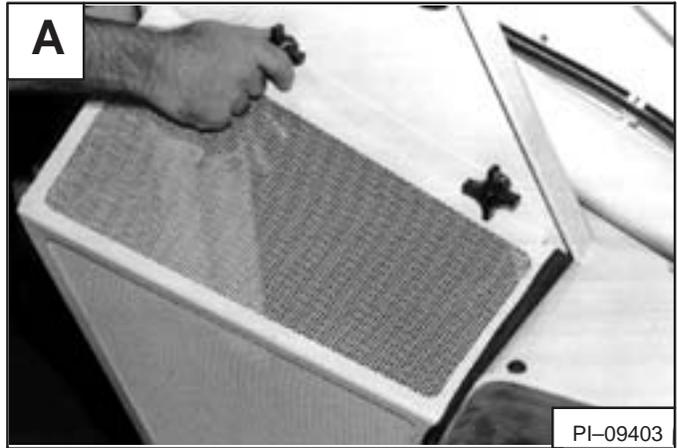


## ENGINE COOLING SYSTEM (Cont'd)

### Radiator Side Screen

To remove the radiator side screen, use the following procedure:

1. Remove both fastening knobs [A].



2. Remove the side screen from the loader frame [B].

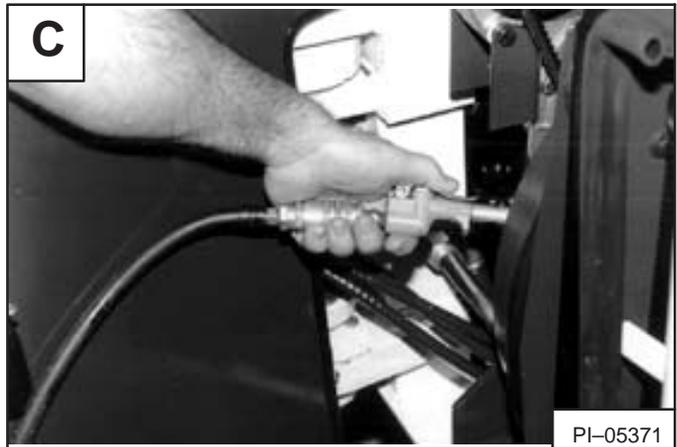


### Cooling System Maintenance

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

Check for leaks in the cooling system. Check for worn or damaged hoses, clamps or radiator. Check for loose or worn water pump belt.

1. Open the right access door.
2. Remove the radiator side screen.



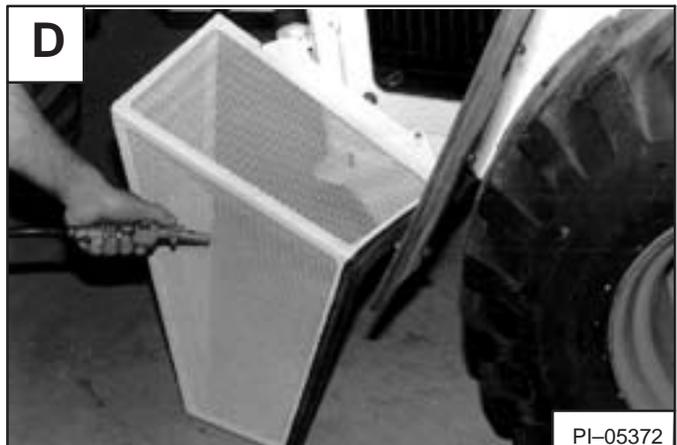
## **WARNING**

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-2019-1285

3. Use air pressure to clean the radiator and oil cooler fins [C].
4. Clean the radiator side screen using air pressure [D].



## USING A BOOSTER BATTERY (JUMP STARTING)

### Procedure

If it is necessary to use a booster battery to start the engine, use the following procedure:

This is a two person operation. There must be one person in the operator seat and one person to connect and disconnect the jumper cables from the battery.

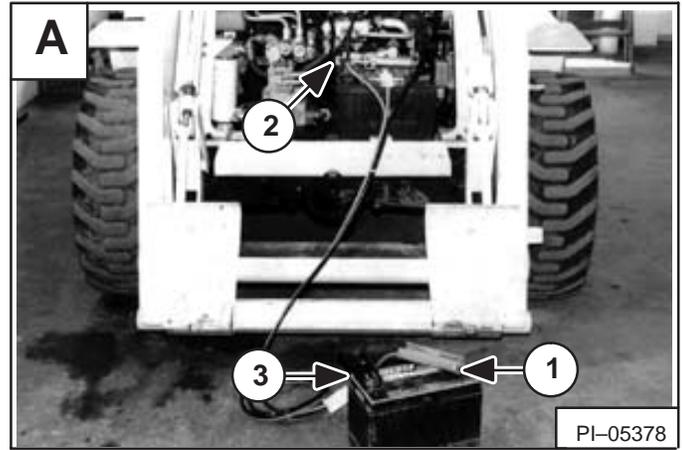
1. The key switch must be in the OFF position.
2. The booster battery must be 12 volts.
3. Connect the end of the first cable (Item 1) [A] to the positive (+) terminal of the booster battery. Connect the other end of the same cable to the positive (+) terminal (Item 2) [A] of the loader battery.
4. Connect the end of the second cable (Item 3) [A] to the negative (-) terminal of the booster battery. Connect the other end of the same cable to a good clean ground (-) on the loader frame.
5. Keep the cables away from moving parts.
6. Start the engine. (See the Operation and Maintenance Manual, *Cold Starting Procedure*.)
7. After the engine is running. Remove the ground (-) cable first.
8. Remove the cable connected to the positive (+) terminal of the loader 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

Keep arcs, sparks, flames and lighted tobacco away from batteries. When *jumping* from booster battery make final connection (negative) at engine 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-2066-1296



## WARNING

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.

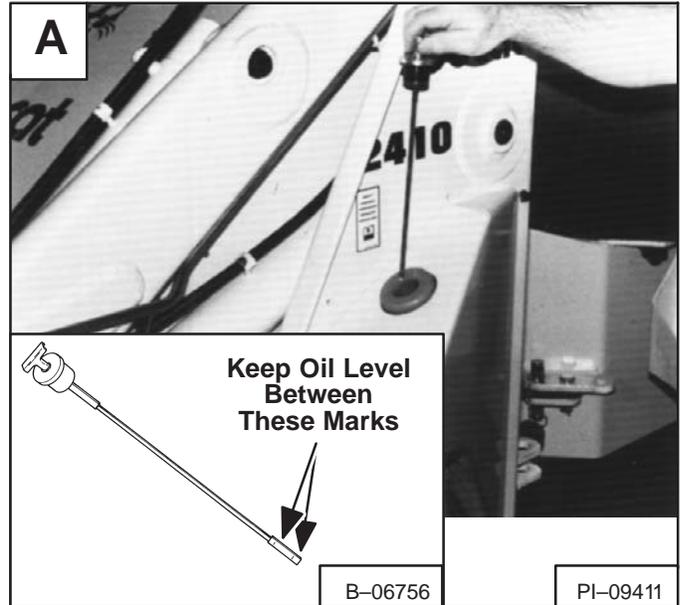
If electrolyte is taken internally drink large quantities of water or milk! DO NOT induce vomiting. Get prompt medical attention.

W-2065-1296

## HYDRAULIC/HYDROSTATIC SYSTEM

### Checking And Adding Fluid

1. Put the loader on a level surface. Lower the lift arms and tilt the Bob-Tach fully back. Stop the engine.
2. Remove the dipstick from the fluid reservoir. The fluid level must be between the top and bottom mark on the dipstick **[A]**.



3. If the fluid level is not correct, add fluid as needed to bring it to the top mark on the dipstick **[B]**. (See *SPECIFICATIONS* Section for the correct fluid.)

### Hydraulic/Hydrostatic Filter Replacement

See the *SERVICE SCHEDULE* Page 1-1 for the correct service interval.

1. Clean the area around the filter housing.
2. Remove the filter element **[C]**.
3. Clean the surface of the filter housing head where the element seal makes contact.
4. Lubricate the seal of the new filter element with clean fluid.
5. Install the filter element and hand tighten.
6. Start the engine, operate the loader hydraulic functions. Stop the engine. Check the fluid level in the reservoir and add as needed.

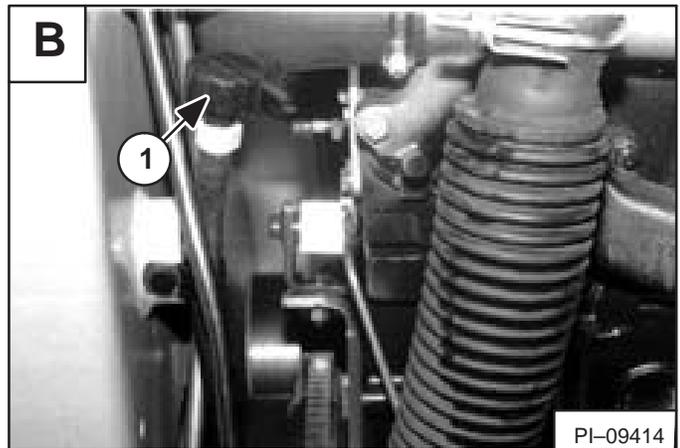


## HYDRAULIC/HYDROSTATIC SYSTEM (Cont'd)

### Hydraulic Fluid Replacement

See the *SERVICE SCHEDULE* Page 1-1 for the correct service interval.

1. Lower the lift arms and tilt the Bob-Tach fully back. Stop the engine.
2. Remove the plug at the bottom of the reservoir and drain the fluid into a container [A].
3. Remove the hydraulic/hydrostatic filter. (See Page 1-12.)
4. Install a new filter element. Install and tighten the drain plug. Do Not over-tighten the plug.
5. Fill the fluid reservoir to the top mark on the dipstick. (See *SPECIFICATIONS*, Section 8 for capacity and fluid type.)
6. Check the hydraulic reservoir breather cap (Item 1) [B]. Replace the breather if plugged.



## WARNING

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-2103-1285

## SPARK ARRESTOR MUFFLER

### Cleaning Procedure

Do not use the loader with a defective exhaust system.

Stop the engine. Install the steering frame lock. (See Page 1-4.)

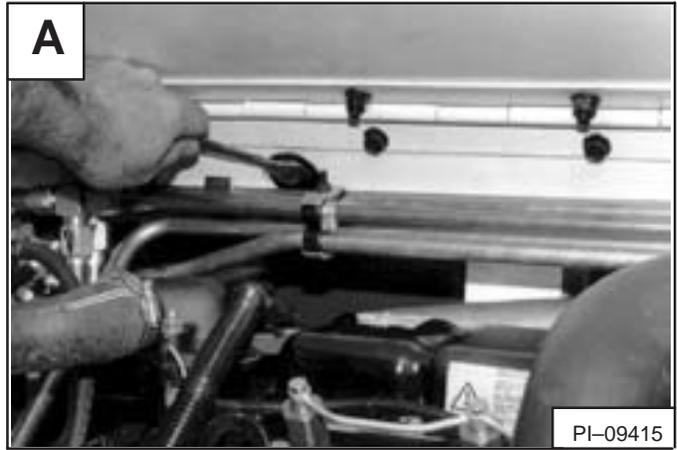
Open the engine hood.

Wear safety glasses. Remove the plug from the muffler [A].

Engage the parking brake. Start the engine. Hold a piece of wood over the outlet of the muffler for about 10 seconds.

Stop the engine. Install and tighten the plug.

Disengage the steering frame lock.



## 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.

Make reference to local laws and regulations for spark arrestor requirements.

I-2022-0595



## WARNING

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-2050-1285

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

See the *SERVICE SCHEDULE* Page 1-1 for the service interval to check the wheel nuts.

The correct torque for the wheel nuts is 140 ft.-lbs. (190 Nm). [A].

### Tire Rotation

Check the tires regularly for wear, damage and pressure. (See *SPECIFICATIONS*, Section 8 for the correct tire pressure.)



## IMPORTANT

**Always keep the same size tires on each axle to avoid damage to the differentials.**

It is important to keep the same size tires on each axle/differential of this loader to avoid excessive wear. If different sizes are used on the same differential, each tire will be turning at a different speed and cause excessive wear on the gears in the differentials. When a tire wears, always install two new tires on the same axle/differential. 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 correct tire pressure before operating the loader.

### Tire Inflation

Tires are to be repaired only by an authorized person using the proper procedures and safety equipment. Tires and rims must always be checked for proper size before operating the loader.

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 to avoid damage to the rim or tire. When inflating a tire avoid excess pressure which can rupture the tire and cause serious injury. During inflation of the tire, check the tire pressure frequently to avoid over-inflation. (See *SPECIFICATIONS*, Section 8 for the correct tire pressure.)



## WARNING

**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-2078-1285

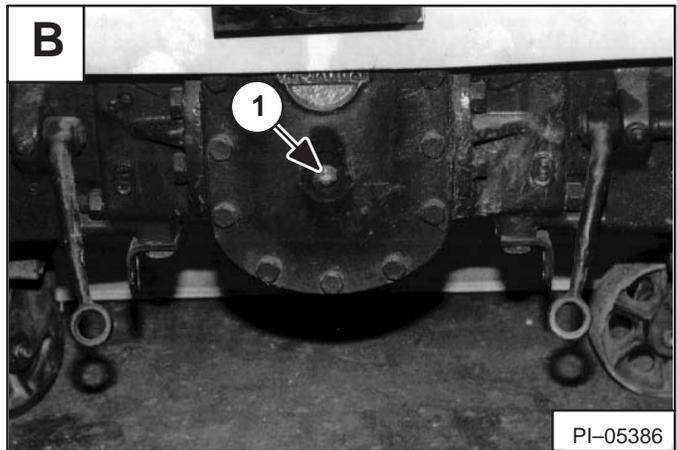
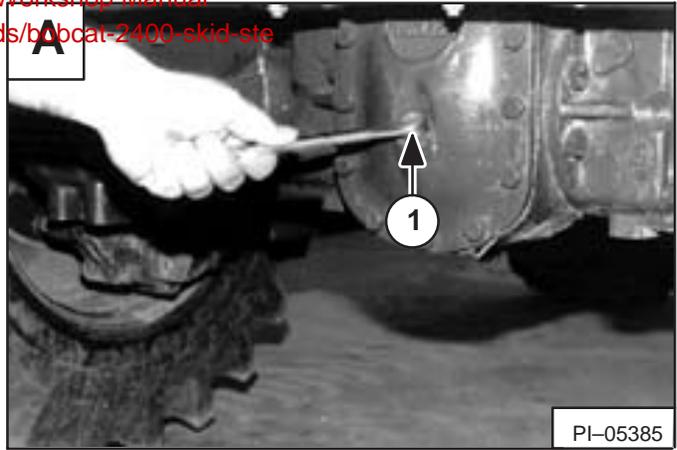
## FRONT AND REAR DIFFERENTIAL

### Checking Differential Oil Level

**NOTE:** The gear-drop box, differentials and wheel ends use SAE 90W weight gear lube. Each has a separate reservoir and must be checked separately.

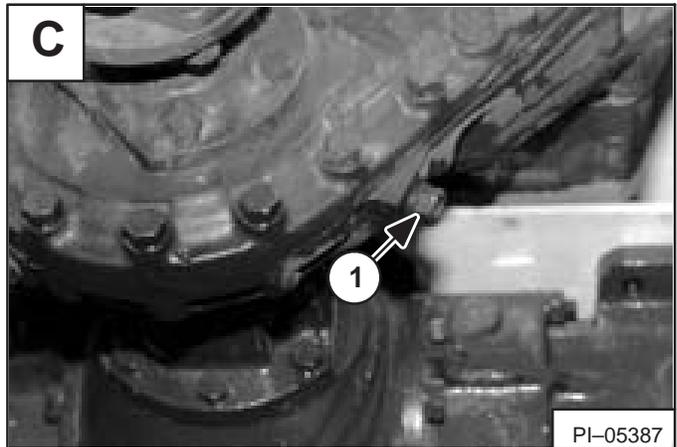
See the *SERVICE SCHEDULE* Page 1-1 for the correct service interval.

1. Put the loader on a level surface. Lower the lift arms. Stop the engine.
2. Remove the check/fill plug at the differentials; Front (Item 1) [A]: Rear (Item 1) [B].
3. The gear lube level must be at the check plug hole. If not, add the gear lube through the hole until it flows from the plug hole.
4. Install and tighten the plug.



### Checking Gear-Drop Box Oil Level

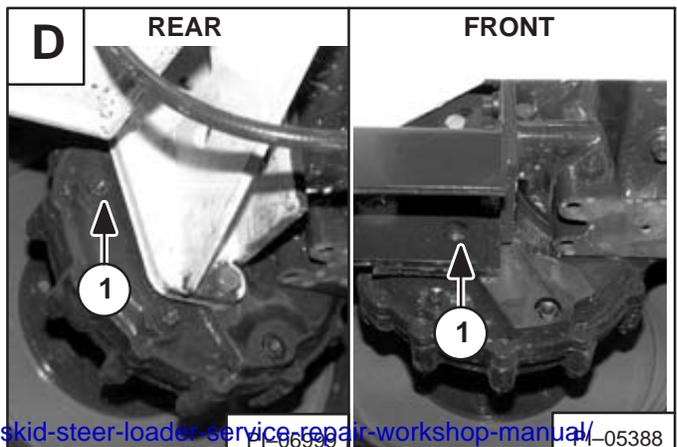
1. Put the loader on a level surface. Lower the lift arms. Stop the engine.
2. Remove the check/fill plug (Item 1) [C] at the gear-drop box.
3. The gear lube level must be at the check plug hole. If not, add gear lube through the hole until it flows from the plug hole.
4. Install and tighten the plug.



### Checking Wheel End Oil Level

The gear lube level at the four wheel ends is separate from the differential gear lube.

1. Put the loader on a level surface. Lower the lift arms. Stop the engine.
2. Remove the check/fill plug (Item 1) [D] at the wheel end.
3. The gear lube level must be at the check plug hole. If not, add gear lube through the hole until it flows from the plug hole.
4. Install and tighten the plug.



Sample of manual. Download All 390 pages at:

<https://www.aresairmanual.com/downloads/bobcat-2400-skid-steer-loader-service-repair-workshop-manual/>