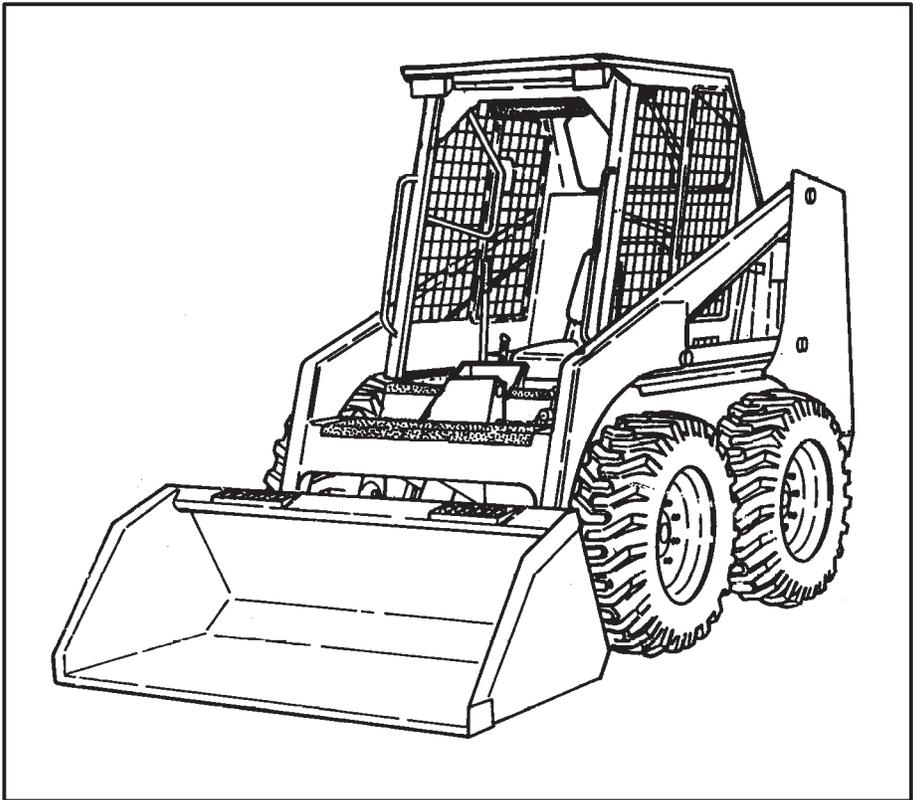




Service Manual

S/N 513011001 & Above
Europe Only – S/N 513031001 & Above



5

5

3

EQUIPPED WITH
**BOBCAT INTERLOCK
CONTROL SYSTEM (BICS™)**

**MELROE
INGERSOLL-RAND**
6724024 (11-95)



Product: Bobcat 553 Skid Steer Loader Service Repair Workshop Manual 513011001-513031001

Full Download: <https://www.arepairmanual.com/downloads/bobcat-553-skid-steer-loader-service-repair-workshop-manual-513011001-513031001/>

Sample of manual. Download All 296 pages at:

<https://www.arepairmanual.com/downloads/bobcat-553-skid-steer-loader-service-repair-workshop-manual-513011001-513031001/>

MAINTENANCE SAFETY



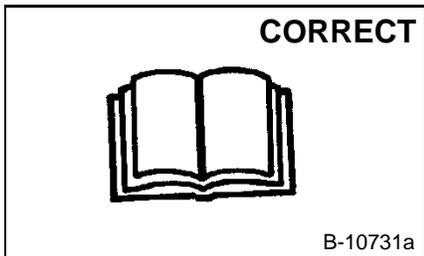
WARNING

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.

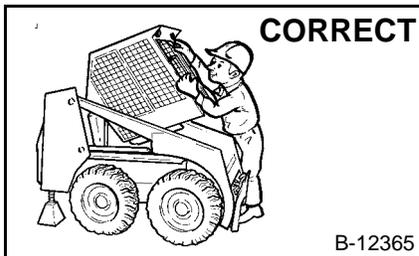
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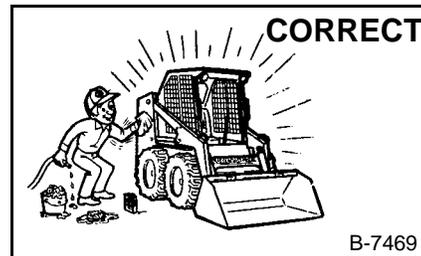
Safety Alert Symbol: This symbol with a warning statement, means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.



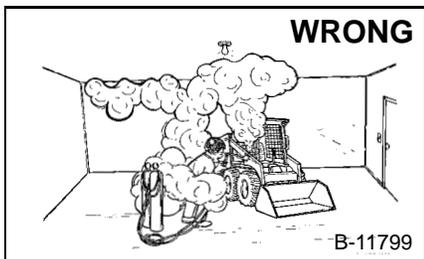
Never service the Bobcat Skid-Steer Loader without instructions.



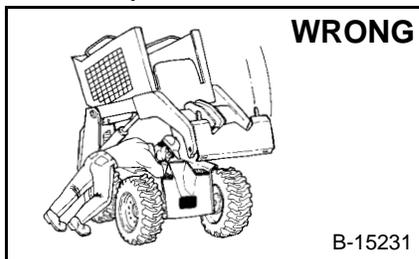
Use the correct procedure to lift or lower operator cab.



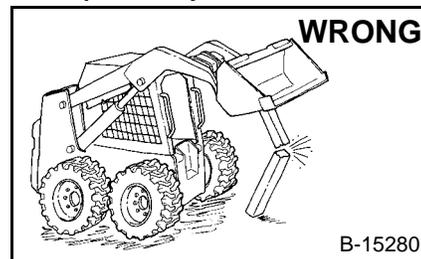
Cleaning and maintenance are required daily.



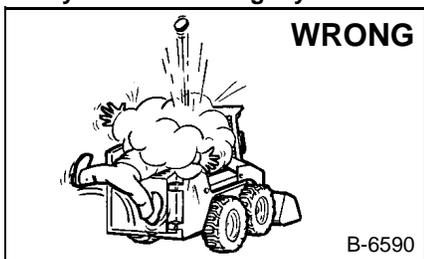
- Have good ventilation when welding or grinding painted parts.
- Wear dust mask when grinding painted parts. Toxic dust and gas can be produced.
- Avoid exhaust fume leaks which can kill without warning. Exhaust system must be tightly sealed.



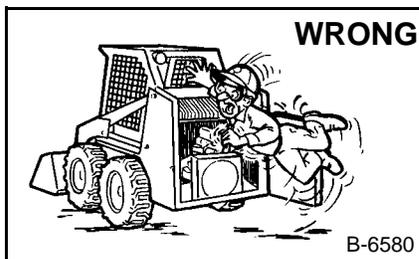
Disconnecting or loosening any hydraulic tubeline, hose, fitting, component or a part failure can cause lift arms to drop. Do not go under lift arms when raised unless supported by an approved lift arm support device. Replace it if damaged.



- 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.



- 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.



- 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.



Bobcat®

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**CALIFORNIA
PROPOSITION 65 WARNING**
Diesel engine exhaust and some of its
constituents are known to the State of California
to cause cancer, birth defects and other
reproductive harm.

**PREVENTIVE
MAINTENANCE**

**HYDRAULIC
SYSTEM**

**HYDROSTATIC
SYSTEM**

**DRIVE
SYSTEM**

**MAIN
FRAME**

**ELECTRICAL
SYSTEM**

**ENGINE
SERVICE**

**BICS™/BOSS®
SYSTEM**

SPECIFICATIONS

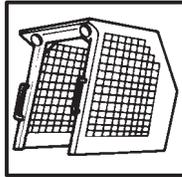


FOREWORD

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:

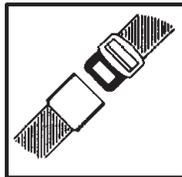
1. Check that the ROPS/FOPS (Including sidescreens) is in good condition and is not modified.



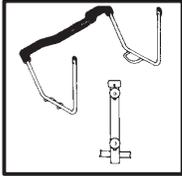
2. Check that ROPS mounting hardware is tightened and is Melroe approved.



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



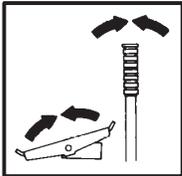
4. The seat bar and pedal interlocks must be correctly adjusted, clean and lubricated.



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.



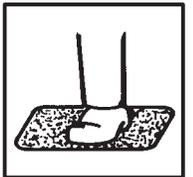
9. Enclosure door latches must open and close freely.



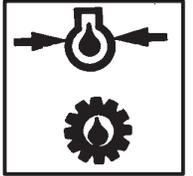
10. Bob-Tach wedges and linkages must function correctly and be in good condition.



11. Safety treads must in good condition.



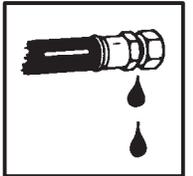
12. Check for correct function of indicator lamps (Optional on some models).



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



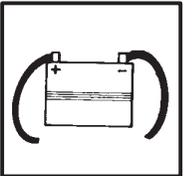
14. Inspect for fuel, oil or hydraulic fluid leaks.



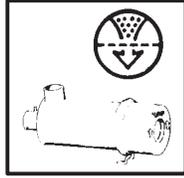
15. Lubricate the loader.



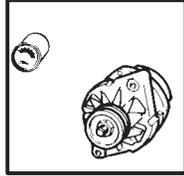
16. Check the condition of the battery and cables.



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



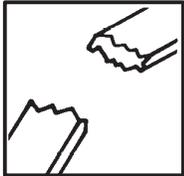
18. Check the electrical charging system.



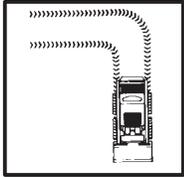
19. Check tires for wear and pressure.



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-2003-1289

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 loader 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 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 English edition or a combination English, French, German, Italian, Dutch & Spanish edition.
- 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 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 versions.



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.

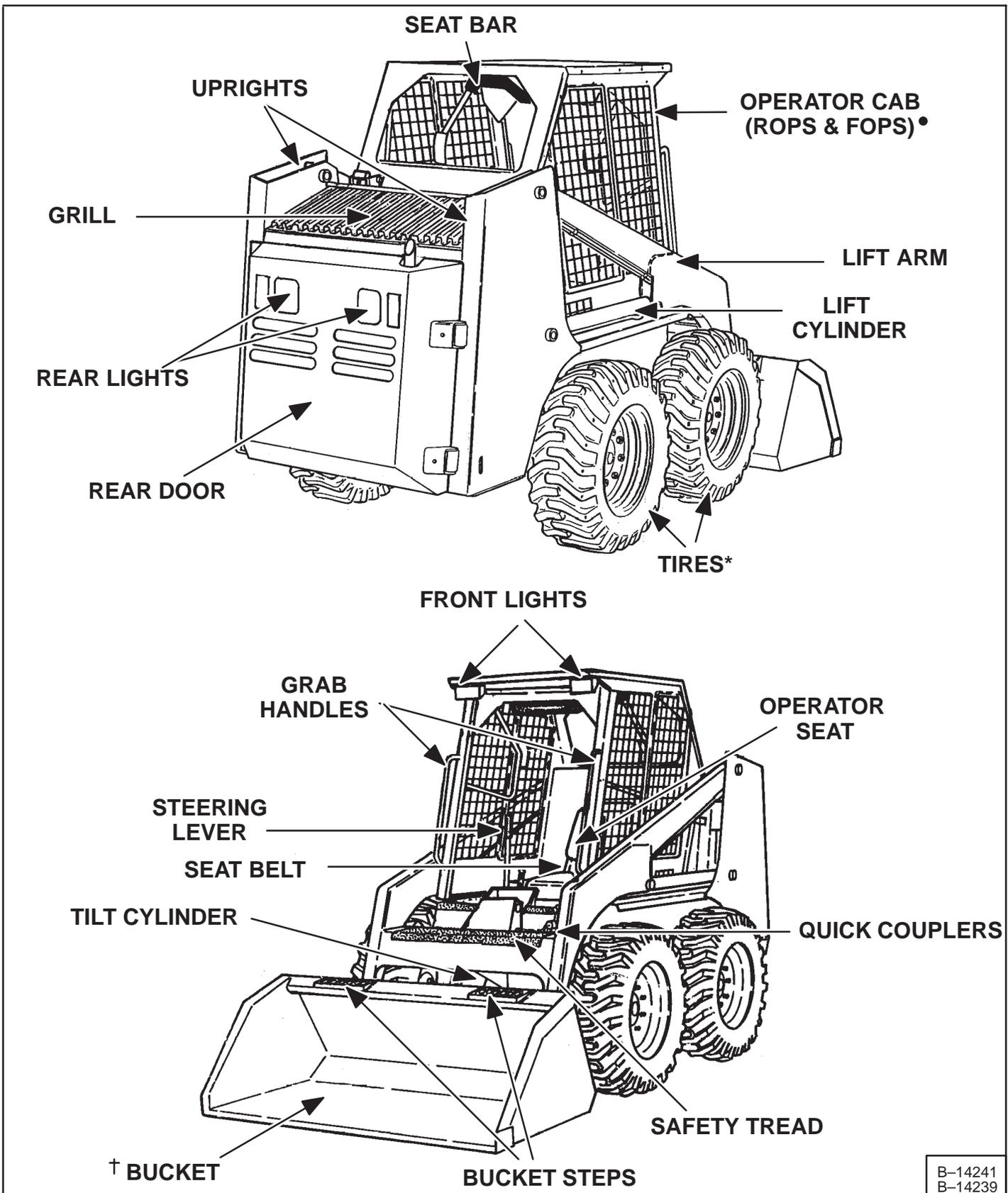
SAFETY INSTRUCTIONS (Cont'd)

- Wear tight fitting clothing. Always wear safety glasses when maintaining or servicing the loader. Safety glasses, hearing protection or loader special application kits are required for some work. See your dealer for Melroe Safety equipment.
- Know where fire extinguishers and first aid kits are located and how to use them.
- 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 a 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.
- Follow any environmental safety regulations when disposing of used fluids such as engine oil, grease or anti-freeze.
- Do not use ether or starting fluids on this engine. It has glow plugs. These starting aids can cause an 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 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 procedure in the Operation & Maintenance or Service Manuals for connecting the battery.
- Use the procedure in the Operation & Maintenance or Service Manuals for cleaning the spark arrestor muffler.

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



553 BOBCAT LOADER IDENTIFICATION



B-14241
B-14239

* TIRES – The 553 Bobcat loader is base-equipped with flotation tires as shown.

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

• ROPS, FOPS – Roll Over Protective Structure, per SAE J1040 and ISO 3471 and Falling Object Protective Structure per SAE J1043 and ISO 3449 Level I. Level II FOPS is available for protection from heavy falling objects. The Bobcat loader is base-equipped with a standard operator cab as shown. An extra insulated cab is available as an option (Reduced noise level).

OPTIONS AND ACCESSORIES

All 553 Bobcat loaders are equipped with the following standard items:

Bob-Tach	Seat Bar
Spark Arrestor Muffler	Parking Brake
Lift Arm Support Device	Gauges/Warning Lights
Operator Cab (W/ROPS & FOPS Approval)	Bobcat Interlock Control System (BICS™)
Seat Belt	

Below is a listing of the optional equipment which is available through your Bobcat loader dealer.

	553
Tires	
27 x 8:50-15, 4PR	Std.
27 x 8:50-15, 6 PR Heavy Duty	Opt.
Operator Cab	
Sound Cab (85 dBa)	Opt. (Std. in Europe)
Deluxe Cab	Opt.
Suspension Seat	Opt. & FA
Operating Lights (Front & Rear)	Opt. & FA
Horn	FA (Std. in Europe)
Back-Up Alarm	Opt. & FA
Heated Enclosed Cab	Opt. & FA
Top Window	FA (Std. in Europe)
Rear Window	FA (Std. in Europe)
Cab Enclosure Kit	FA
Vinyl Cab Enclosure	FA
Cover Kit (Pedals Area)	FA (Std. in Europe)
Cover Kit (Hydraulic Reservoir Area)	FA
Fire Extinguisher	FA
Flasher Lights	FA
Strobe or Rotating Beacon Light	FA
3" Seat Belt	FA
Special Applications Kit	FA
Turn Signal Kit	FA (Std. in Europe)
FOPS Level II Kit	FA
Hydraulics	
Front Auxiliary Hydraulics	Opt. & FA (Std. in Europe)
Hydraulic Bucket Positioning	Opt. & FA
Bucket Positioning On/Off	FA
Other	
Engine Block Heater	FA
Single Point Lift	FA
Locking Fuel Cap	FA
Radiator Screen Kit	FA
Tool Box	FA (Std. in Europe)
Low Coolant Sensor Kit	FA
Rental Kit	FA

Std. = Standard Equipment
 Opt. = Factory Installed Option
 FA = Field Accessory
 NA = Not Available

***Specifications subject to
 change without notice***



PREVENTIVE MAINTENANCE

PREVENTIVE MAINTENANCE

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TRANSPORTING THE LOADER	
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USING A BOOSTER BATTERY (JUMP STARTING)	
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SERVICE SCHEDULE

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



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 manual 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

SERVICE SCHEDULE		HOURS				
ITEM	SERVICE REQUIRED	8-10	50	100	250	1000
Engine Oil	Check the oil level and add oil as needed.					
Engine Air Cleaner	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 oil cooler, radiator & grill. Check coolant level in recovery tank and add as needed.					
Tires	Check for damaged tires and correct air pressure.					
Seat Belt, Seat Bar	Check the condition of seat belt. Check the seat bar & pedal interlocks for correct operation. Clean dirt and debris from moving parts.					
Safety Signs and Safety Tread	Check for damaged signs (decals) and safety treads. Replace any signs or safety treads that are damaged or worn.					
Indicator & Lights (Opt.)	Check for correct operation of all indicators & lights.					
Operator Cab	Check the fastening bolts, washers & nuts. Check the condition of cab.					
Lift Arms, Cyl., Bob-Tach Pivot Pins and Wedges	Lubricate with multi-purpose lithium based grease.					
Engine Fuel Filter	Remove the trapped water.					
Bobcat Interlock Control System (BICS™)	Check BICS System Controller functions. Clean dirt, debris or objects from under or behind seat as required.					
Battery	Check cables & electrolyte level.					
Hyd. Fluid, Hoses & Tubelines	Check fluid level & add as needed. Check for damage & leaks. Repair & replace as needed.					
Control Pedals & Steering	Check for correct operation. Repair or adjust as needed.					
Wheel Nuts	<input type="checkbox"/> Check for loose wheel nuts & tighten to 105-115 ft.-lbs. (142-156 Nm) torque.					
Parking Brake	Check operations & adjust as needed.					
Alternator Belt	Check tension & adjust as needed.					
Final Drive Trans. (Chaincase)	Check fluid level and add as needed.					
Engine Oil & Filter	Replace oil & filter.					
Spark Arrestor Muffler	Clean the spark chamber.					
Steering Lever Pivots	Grease two fittings. Add oil to steering shaft.					
U-Joint	Grease three (3) fittings with correct grease.					
Fuel Filter	Replace filter element.					
Hyd./Hydro. Reservoir & Filter	Replace the reservoir breather cap and hydraulic/hydrostatic filter.					
Chaincase	• Replace the fluid.					
Hyd. Reservoir	Replace the fluid and filter.					
Bobcat Interlock Control System (BICS™)	Check lift arm bypass control.					

- Check wheel nut torque every 8 hours for the first 24 hours.
- Also replace hydraulic/hydrostatic filter element when the transmission warning light stays on for five minutes after the fluid is at operating temperature.
- Or every 12 months.

PREVENTIVE MAINTENANCE

WARNING

Instructions are necessary before operating or servicing machine. Read Operation & Maintenance Manuals, 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-2003-1289

LIFTING AND BLOCKING THE LOADER

Procedure

Always park the loader on a level surface.

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 a floor jack under the rear of the loader [B].

Lift the rear of the loader and install jackstands [B].

Put the floor jack under the front of the loader [C].

Lift the front of the loader and put jackstands under the loader frame.

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

A



B-7023

B



P-5824

C



P-5821

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.

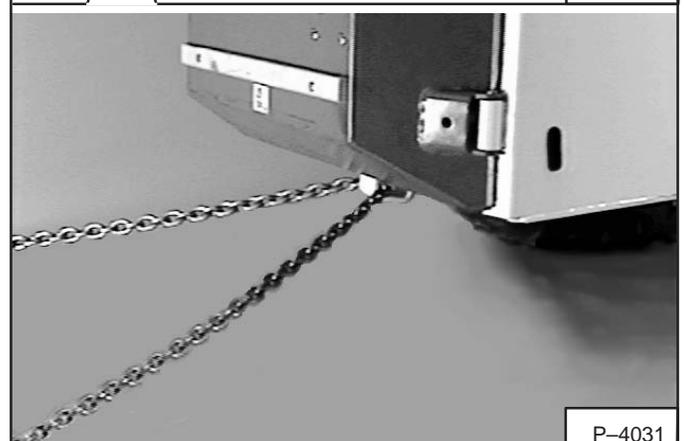
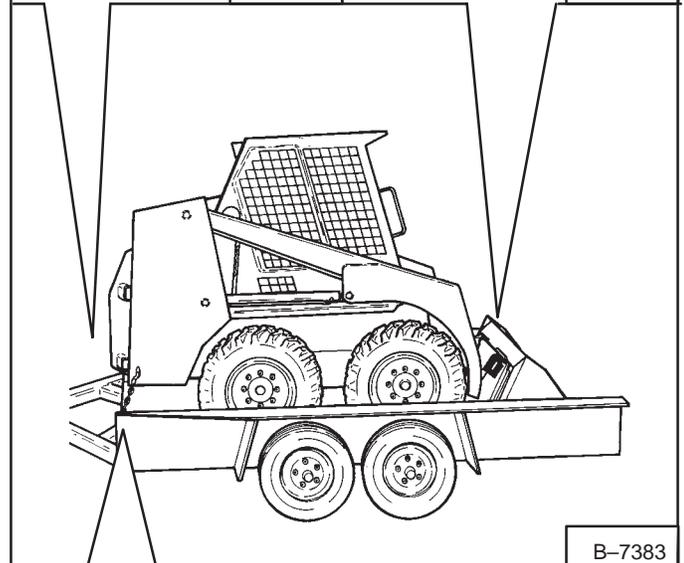
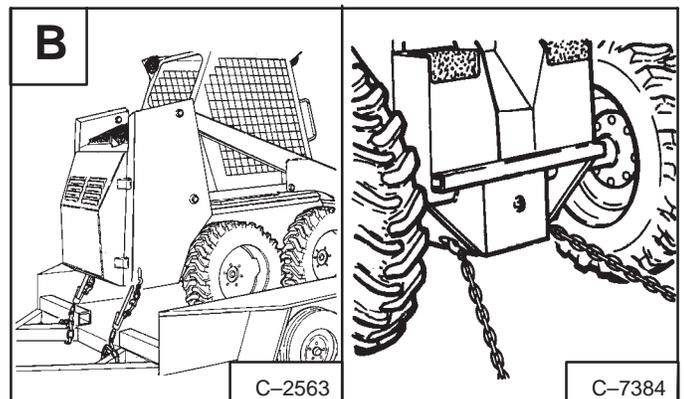
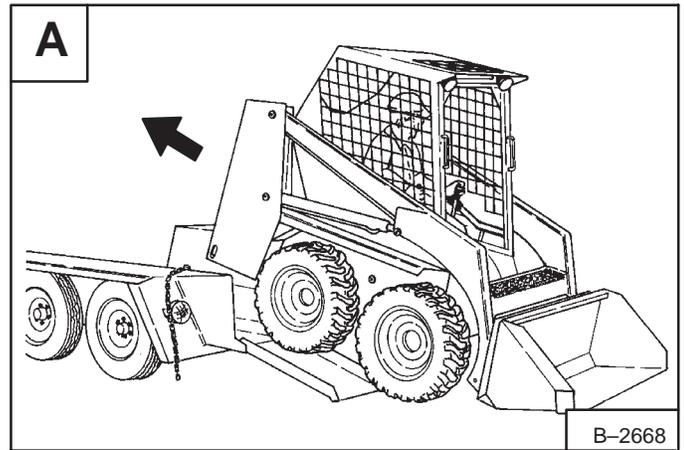
W-2058-0494

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

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

Lower the bucket or attachment to the floor. Stop the engine. Engage the parking brake. Install chains at the front and rear loader as shown [B].

NOTE: Rear of the loader can be chained using the upright slots or using the loop below the rear door [B].



LIFTING THE LOADER

Single Point Lift

! WARNING

AVOID INJURY OR DEATH

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

W-2007-1285

The loader can be lifted with the single point lift which is available as a kit from your Bobcat loader dealer.

Fasten the pins (Item 1) in the kit as shown in figure [A].

The single point lift, supplied by Melroe Company is designed to safely lift and support the Bobcat loader.

TOWING THE LOADER

Procedure

IMPORTANT

Never attempt to start the engine by pushing or pulling. Hydrostatic pumps and motors will be damaged.

I-2001-1285

To prevent damage to the loader hydrostatic system, the loader must be towed only a short distance at slow speed. (Example: Moving the loader onto a transport vehicle).

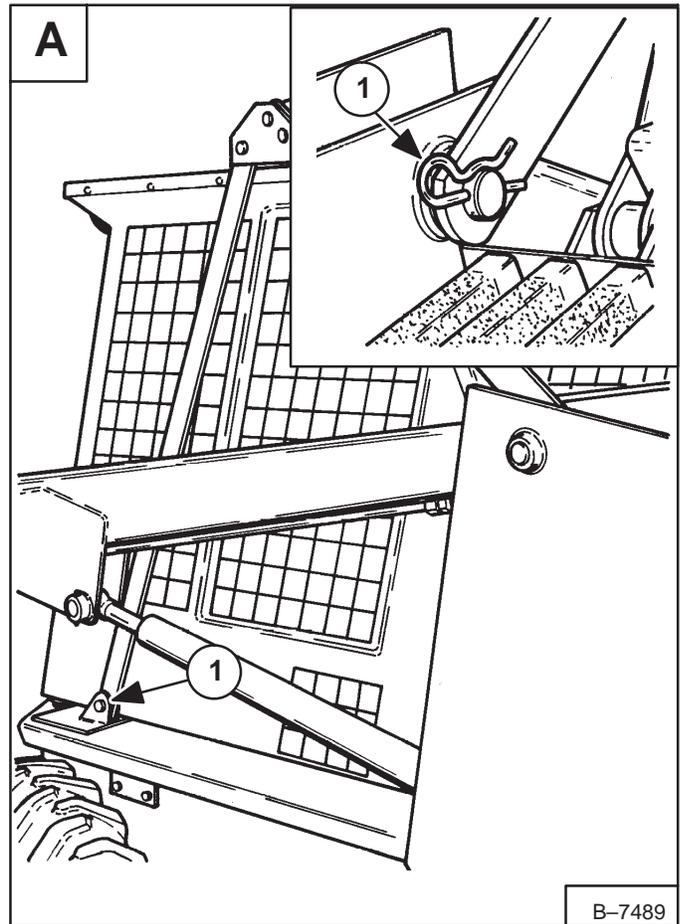
The towing chain (or cable) must be rated at 1-1/2 times the weight of the loader. (See Specifications, Page 9-1.)

- Turn the key switch to ON and press the Traction Lock Override button. Towing tool (MEL1220) must be installed in the hydrostatic pump. (Available from your Bobcat dealer.)
- Tow the Bobcat at 2 MPH (3,2 km/hr.) or less for not more than 25 feet (7,6 meters).

If the electrical system is not functioning, the brake system must be disassembled to move the loader. Refer to the Traction Lock Removal and Installation procedure (Page 8-1).

STOPPING THE BOBCAT LOADER

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



IMPORTANT

Do not push or pull the machine at more than 2 MPH (3,2 km/h) or for a distance of more than 25 feet (7,6 meters) with the towing tool in place.

I-2017-0389

LIFT ARM SUPPORT DEVICE

Installing and Removing Lift Arm Support Device

! 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

Put jackstands under the rear corners of the loader.

Open the rear door of the loader and remove the lift arm support device (Item 1) [A].

One person must be in the operator's seat, with the seat belt fastened and seat bar lowered, until the lift arm support device is installed [B].

Start the engine and raise the lift arms all the way up. Have a second person install the lift arm support device over the rod of one of the lift cylinders [B]. The lift arm support device must be tight against the cylinder rod.

The 90° notch should be installed against the outer case of the lift cylinder (See Inset).

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

Repeat the procedure used above to remove the lift arm support device from the loader.

OPERATOR CAB

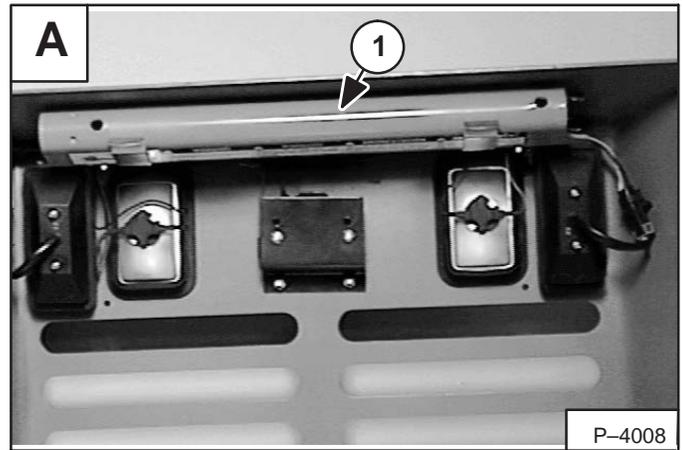
Description

The Bobcat loader has an operator cab (ROPS and FOPS) as standard equipment to protect the operator from rollover and falling objects. Check with your dealer if the operator cab has been damaged.

! WARNING

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

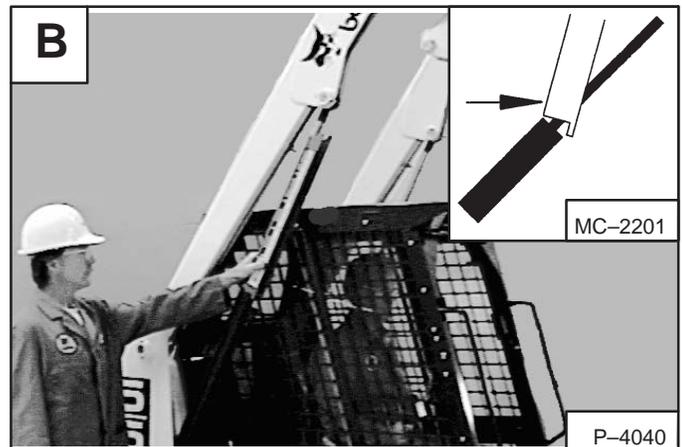
W-2069-1285



! WARNING

Both sets of fasteners at the front of the operator cab (ROPS) must be assembled as shown in this Operation & Maintenance Manual. Failure to secure ROPS correctly can cause injury or death.

W-2005-1089



OPERATOR CAB (Cont'd)

Emergency Exit

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

To exit through the rear window, use the following procedure:

Pull on the tag on the top of the rear window to remove the rubber cord [A].

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

Exit through the rear of the operator cab [B].

ROPS/FOPS – Roll-Over Protection Structure per SAE J1040 and ISO 3471 and Falling Object Protective Structure per SAE J1043 and ISO 3449 Level I. Level II is available.

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

Level II – Protection from falling tree, rocks; for machines involved in site clearing, overhead demolition or forestry.

Raising the Operator Cab

Stop the loader on a level surface. Lower the lift arms. If the lift arms must be up while raising the operator cab, install the lift arm support device (Page 1–6).



WARNING

Before the cab or the lift arms are raised for service, jackstands must be put under the rear corners of the frame. Failure to use jackstands may allow the machine to tip backward causing injury or death.

W-2014-1285

Remove the nut and plate (both sides) (Inset [C]).

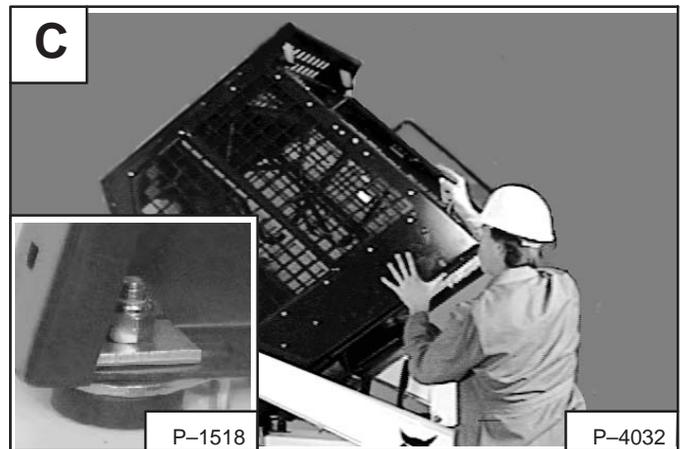
Lift on the grab handle and bottom of the operator cab slowly until the cab latching mechanism engages and the cab is all the way up [C].

Lowering the Operator Cab

Pull down on the bottom of the operator cab until it stops at the latching mechanism. Release the latching mechanism and pull the cab all the way down [D].

Install the plate and nut (Inset [C]).

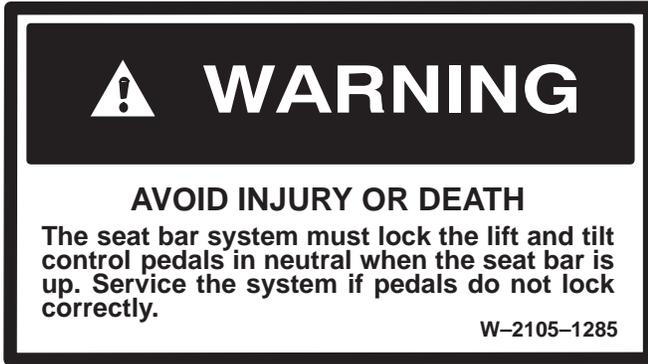
Tighten the nuts to 40–50 ft.-lbs. (54–68 Nm) torque (Inset [C]).



SEAT BAR RESTRAINT SYSTEM

Description

The seat bar restraint system has a pivoting seat bar with arm rests and has spring loaded interlocks for the lift and tilt control pedals. The operator controls the use of the seat bar. The seat bar in the down position helps to keep the operator in the seat. The interlocks require the operator to lower the seat bar in order to operate the foot pedal controls. When the seat bar is up, the lift and tilt pedals are locked when returned to the neutral position.



Seat Bar Inspection

Sit in the seat and fasten the seat belt. Engage the parking brake. Pull the seat bar all the way down. Start the engine.

Operate each foot pedal to check both the lift and tilt functions.

Raise the lift arms until the bucket is about 2 feet (600 mm) off the ground. Raise the seat bar, try to move each pedal. The pedals must be firmly locked in neutral position. There must be no motion of the tilt (bucket) or the lift arms when the pedals are pushed.

Pull the seat bar down, lower the lift arms. Operate the lift pedals. While the lift arms are going up, raise the seat bar and the lift arms should stop.

Lower the seat bar, lower the lift arms and place the bucket flat on the ground. Stop the engine. Raise the seat bar and operate the foot pedals to be sure that the pedals are firmly locked in the neutral position. Unbuckle the seat belt.

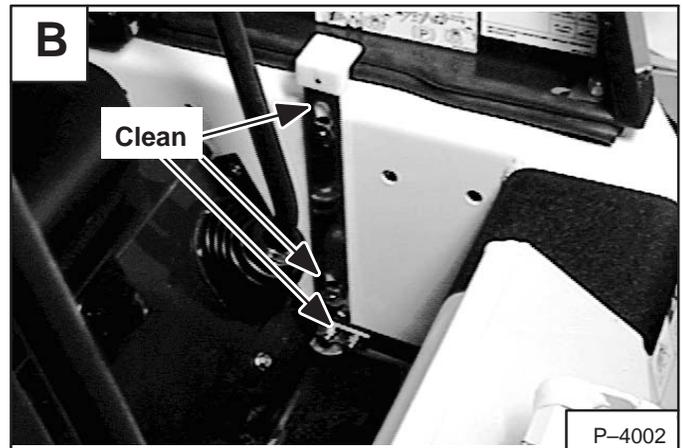
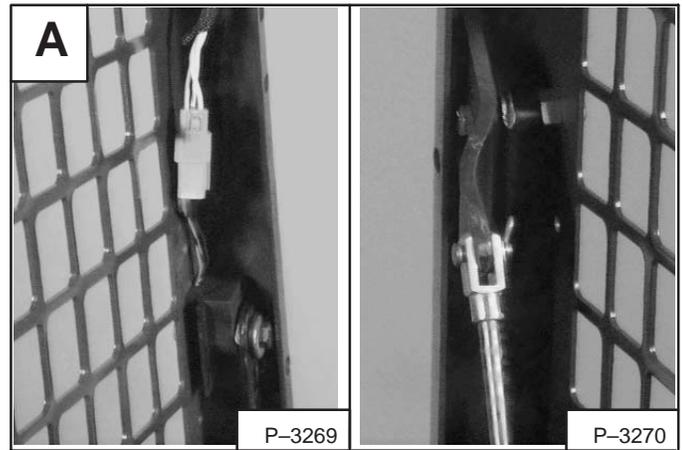
Seat Bar Maintenance

See the Service Schedule Page 1-3 and on the loader for correct service interval.

Clean any debris or dirt from the moving parts **[A]** & **[B]**.

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

If the seat bar system does not function correctly, check for free movement of each linkage part. Check for excessive wear. Adjust pedal control linkage. Replace parts that are worn or damaged. Use only genuine Melroe replacement parts.



AIR CLEANER SERVICE

Replacing Filter Element

See the Service Schedule Page 1–3 for the interval to service the air cleaner system.

Check the air intake hose for damage. Check the air cleaner housing for damage. Check to make sure all connections are tight.

Replace the large (outer) filter element only when the red ring shows in the window of the condition indicator (Item 1) [A].

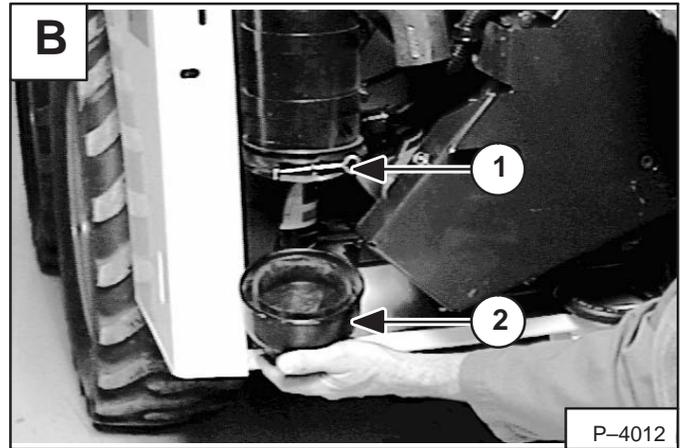
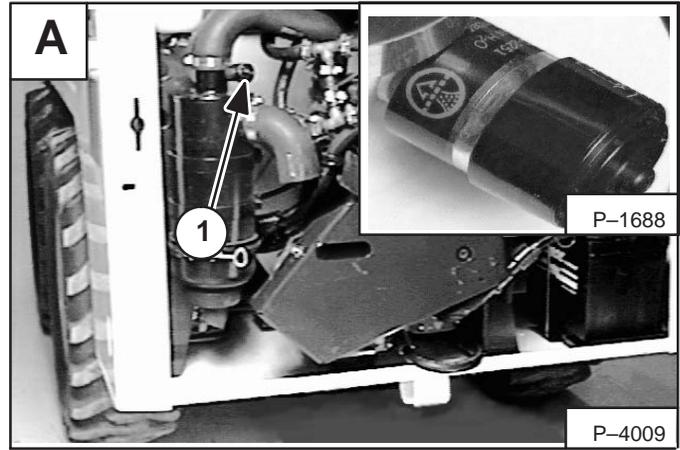
NOTE: Push the button on the condition indicator (See Inset) and start the engine. If the red ring does not show, do not replace the filter element [A].

Service the air cleaner as follows:

Loosen the clamp (Item 1) [B] and remove the dust cover (Item 2) [B].

Remove the dust cup from the cover [C].

Remove the wing nut from the large air filter element [D].



AIR CLEANER SERVICE (Cont'd)

Replacing Filter Element (Cont'd)

Remove the large air filter element [A].

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

Install the new filter element and tighten the wing nut. Install the dust cover and tighten the wing nut.

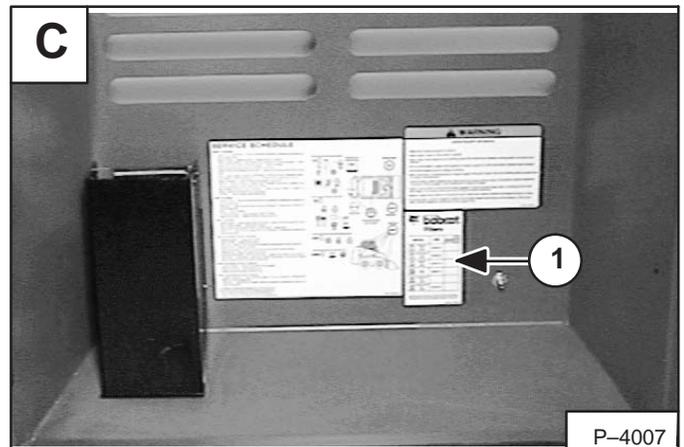
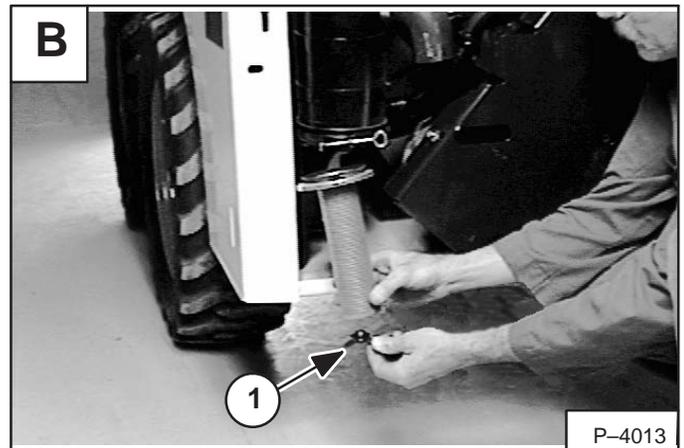
Only replace the inner filter element under the following conditions:

Replace the inner filter element every third time the outer filter is replaced.

Replace the inner filter element when the red ring still shows in the condition indicator window after the outer filter is replaced.

Remove the wing nut (Item 1) [B] and the inner filter element.

Record the operating hours of the loader on the decal (Item 1) [C] inside the rear door.



FUEL SYSTEM

Fuel Specifications

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

The following is one suggested blending guideline which should prevent fuel gelling problems:

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

We recommend an operator contact their fuel supplier for local recommendations.

Filling the Fuel Tank

! WARNING

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

W-2063-0887

Remove the fuel fill cap [A].

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

Install and tighten the fuel fill cap [A].

Fuel Filter

! 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

See the Service Schedule Page 1-3 for the service interval when to remove the water from the fuel filter.

Turn the fuel shut-off valve clockwise to shut-off the fuel supply [C].

Loosen the drain at the bottom of the filter element (See Inset) [D] to drain the water from the filter.

Open the shut-off valve [C].

See the Service Schedule Page 1-3 for the service interval when to replace the fuel filter.

Clean the area around the fuel filter. Close the shut-off valve [C].

Use a wrench to loosen the fuel filter bolt (Item 2) [D].

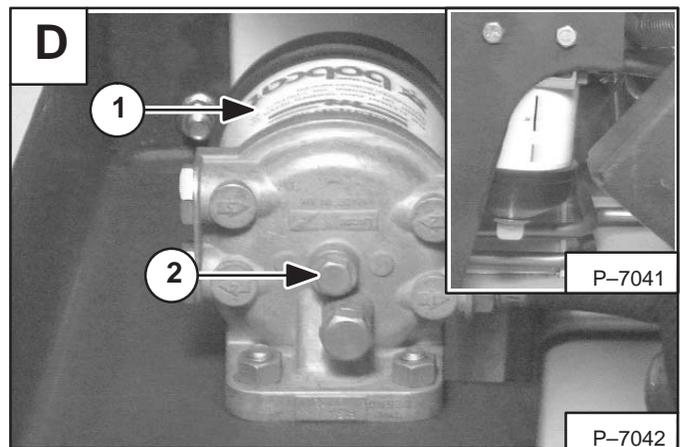
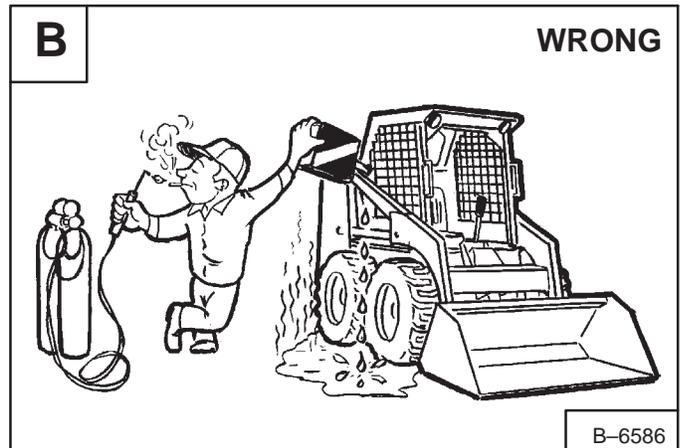
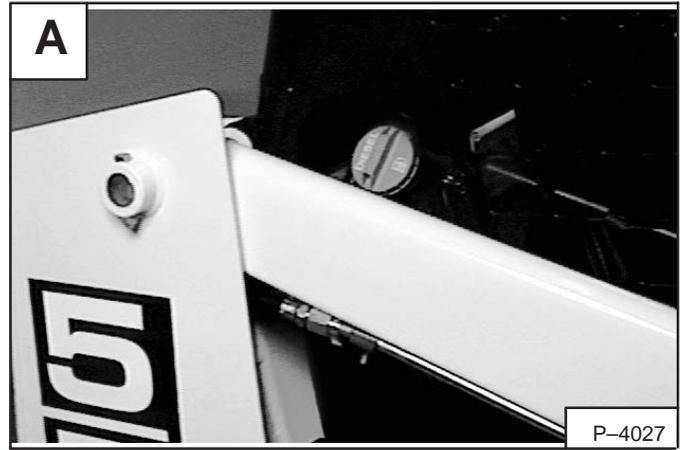
Remove the water trap and fuel filter (Item 1) [D].

Replace the seals as needed.

Install the new filter element and water trap.

Tighten the fuel filter bolt.

Open the shut-off valve [C].



FUEL SYSTEM (Cont'd)

Removing Air From the Fuel System

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

Open the rear door. The engine must be cool.

Open the vent plug (Item 1) [A].

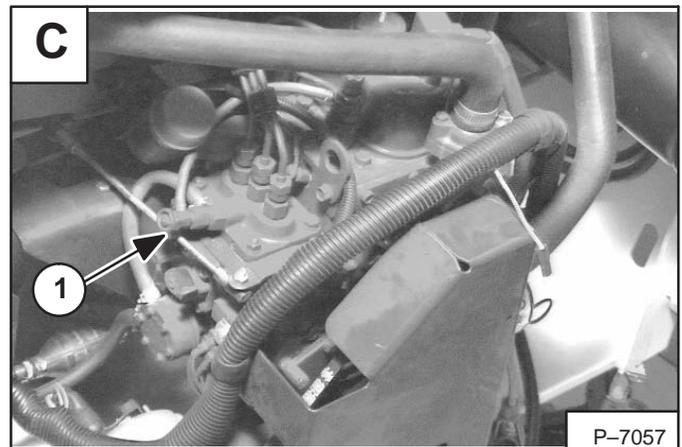
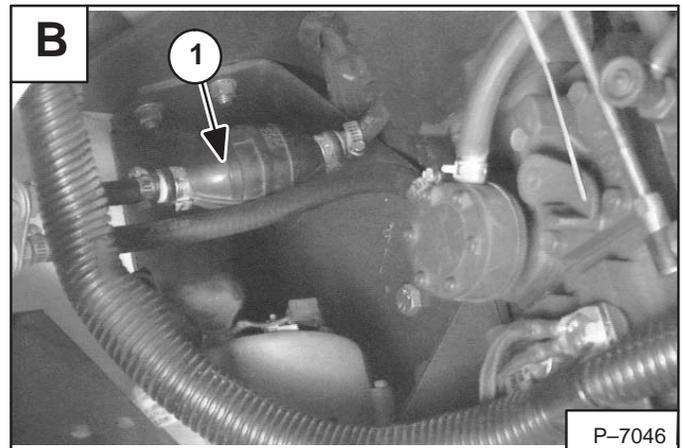
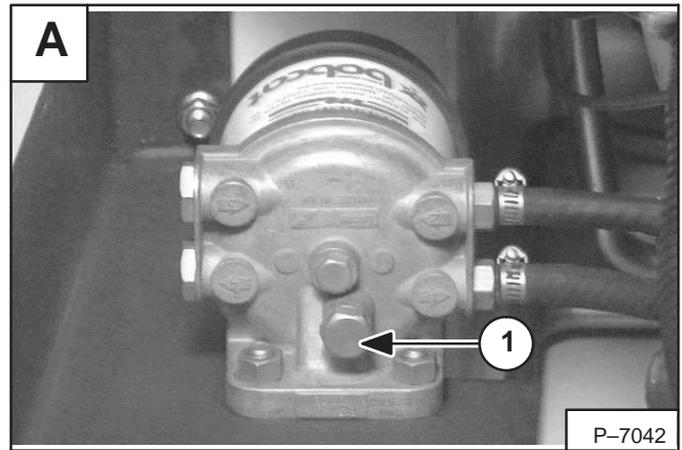
Operate the hand pump (Item 1) [B] until fuel flows from the vent plug with no air bubbles.

Tighten the vent plug.

Operate the hand pump until it feels solid [B].

Move the engine speed control to minimum RPM. Open the valve (Item 1) [C] and squeeze the hand pump several times.

Start the engine. When the engine runs smoothly, close the valve (Item 1) [C].



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.

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ENGINE LUBRICATION SYSTEM

Checking Engine Oil

Check the oil level every day.

Stop the engine and remove the dipstick [A].

Keep the oil level between the marks on the dipstick.

Use a good quality motor oil that meets API Service Classification of CD or better (See Oil Chart).

Replacing Oil and Filter

See the Service Schedule Page 1–3 for the service interval for replacing the engine oil and filter.

Use the following procedure to replace the oil and filter:

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

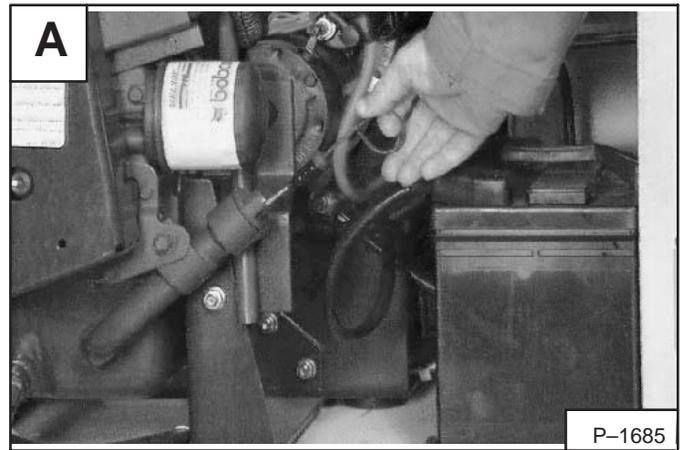
Open the rear door and remove the cap from the end of the hose and drain the oil into a container [B].

Remove the filter (Item 1) [C].

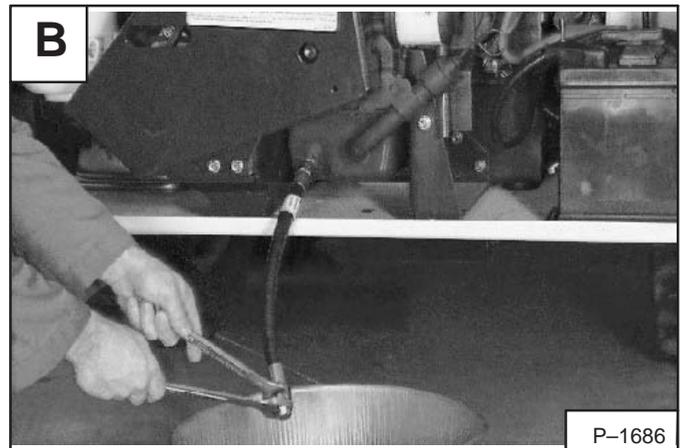
Clean the filter housing surface. Put clean oil on the gasket of the new filter install the filter and hand tighten.

Remove the oil filler cap [D].

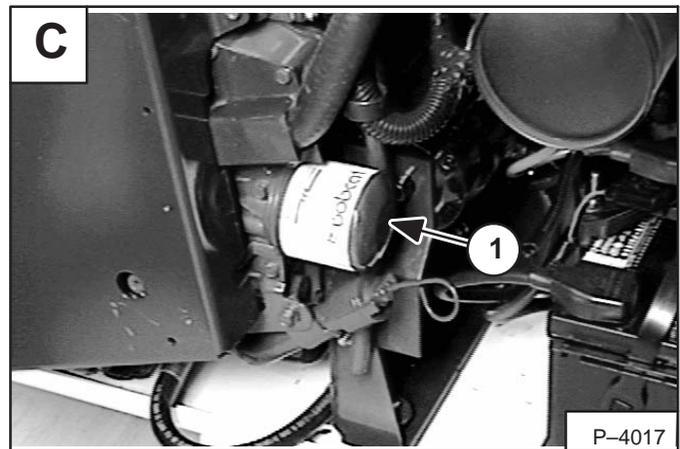
Use a good quality motor oil that meets API Service Classification of CD or better (See Oil Chart).



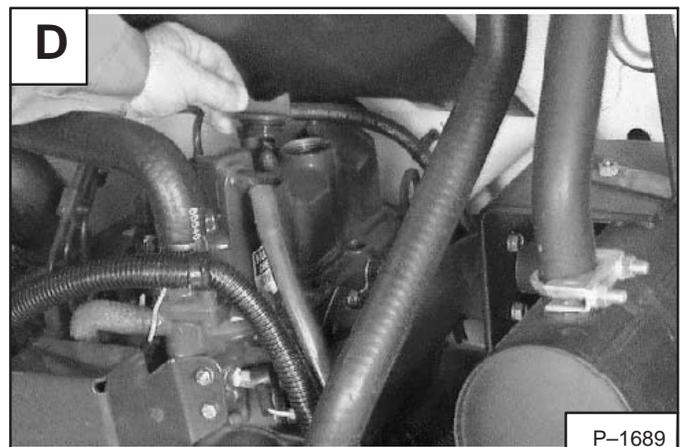
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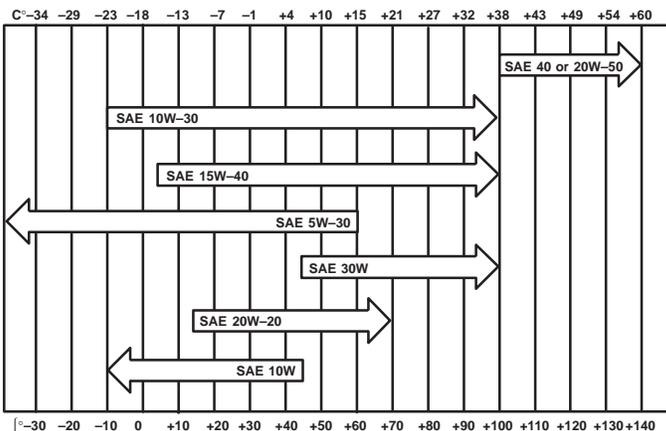


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P-1689

RECOMMENDED SAE VISCOSITY NUMBER (LUBRICATION OILS FOR ENGINE CRANKCASE)



TEMPERATURE RANGE ANTICIPATED BEFORE NEXT OIL CHANGE (DIESEL: USE API CLASSIFICATION CD or BETTER)

Fill to capacity (See Specification Section, Page 9–1).

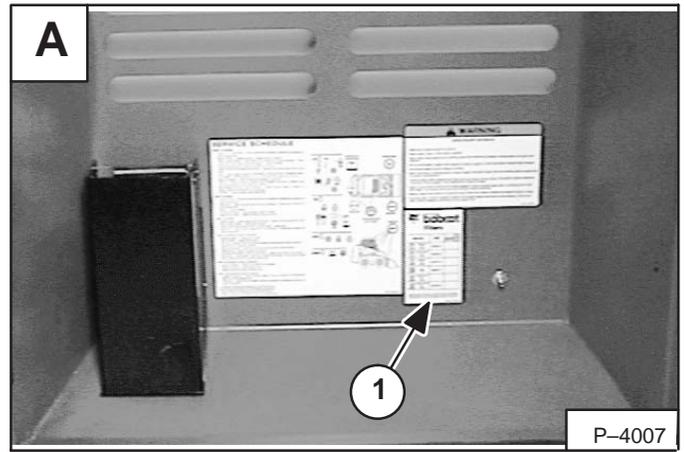
Start the engine and let it run for about 5 minutes. Check for leaks at the filter. Check the oil level. Add oil until the level is at the FULL mark on the dipstick. Install the oil filler cap [D].

NOTE: DO NOT overfill the crankcase.

ENGINE LUBRICATION SYSTEM (Cont'd)

Replacing Oil and Filter (Cont'd)

Record the operating hours of the loader on the decal (Item 1) **[A]** inside the rear door.



ENGINE COOLING SYSTEM

Product: Bobcat 553 Skid Steer Loader Service Repair Workshop Manual 513011001-513031001

Full Download: <https://www.arepairmanual.com/downloads/bobcat-553-skid-steer-loader-service-repair-workshop-manual-513011001-513031001/>

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

Checking the Coolant Level

Open the rear door.

The coolant recovery tank (Item 1) [A] must be at the FULL COLD mark when engine is cool.

The loader is factory filled with propylene glycol mixture. DO NOT mix propylene glycol with ethylene glycol.

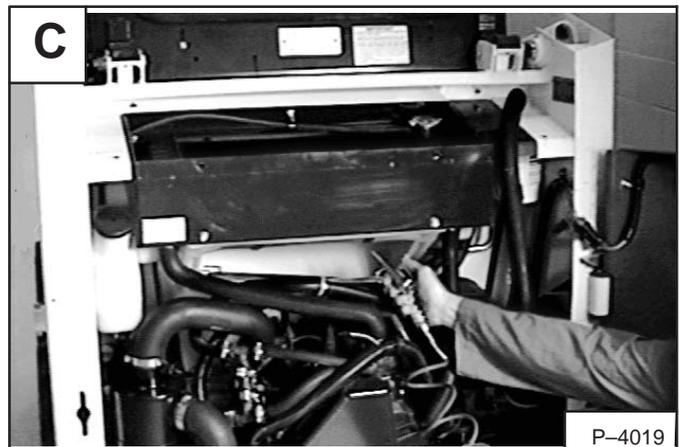
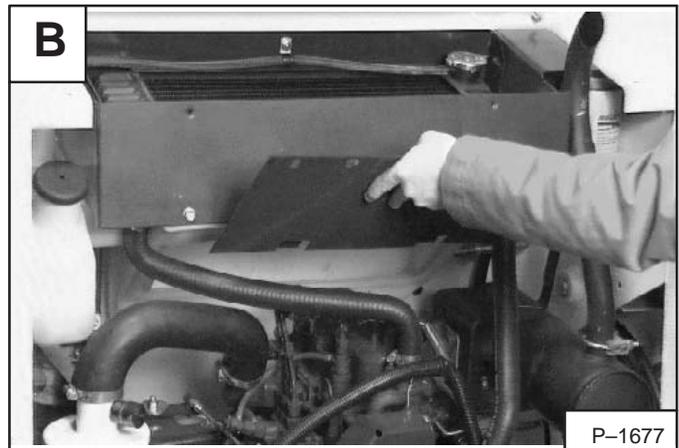
NOTE: The loader is factory filled with propylene glycol coolant. DO NOT mix propylene glycol with ethylene glycol.

Propylene Glycol

Add premixed coolant; 47% water and 53% propylene glycol to the recovery tank if the coolant level is low.

One gallon and one pint of propylene glycol mixed with one gallon of water is the correct mixture of coolant to provide a -34°F (-37°C) freeze protection.

Use a refractometer to check the condition of propylene glycol in your cooling system.



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

Cleaning the Cooling System

Open the rear door.

Remove the access panels at the blower housing [B].

Remove the rear grill. (See Page 5-1.)

Use air pressure or water pressure to remove the debris in the area of the radiator and oil cooler [C].

If debris is a problem, check with your dealer about the special debris screens.

Removing Coolant From the Cooling System

Remove the rear grill. (See Page 5-1.) Remove the radiator cap [D].

Sample of manual. Download All 296 pages at:

<https://www.arepairmanual.com/downloads/bobcat-553-skid-steer-loader-service-repair-workshop-manual-513011001-513031001/>