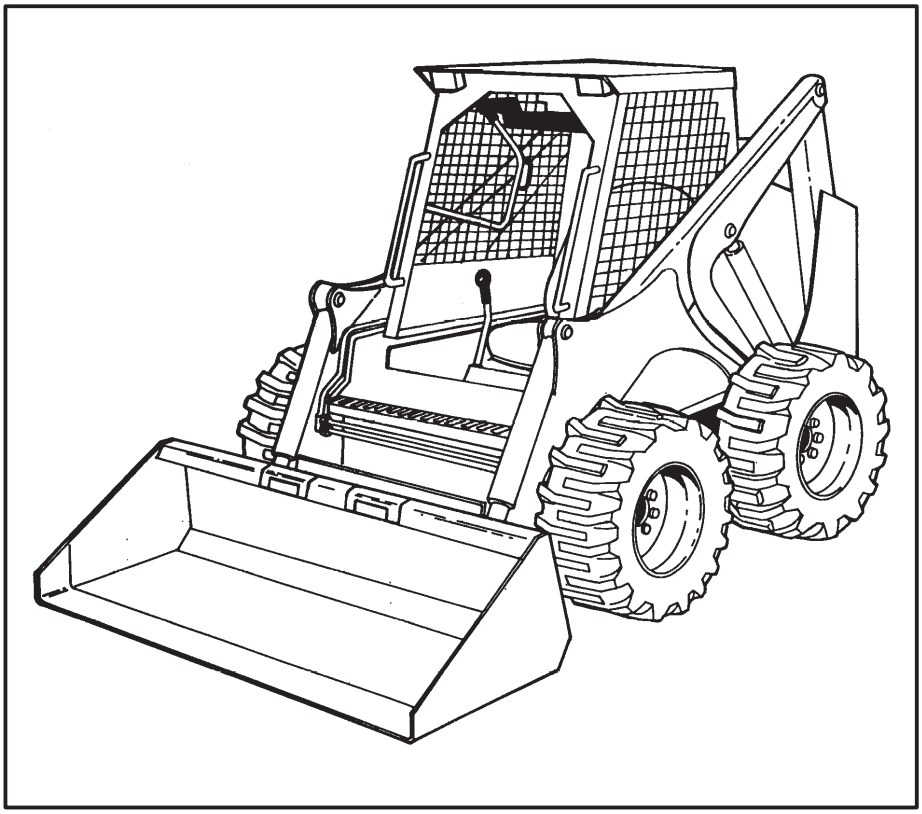
873

Service Manual

(S/N 514114999 & Below)
(S/N 514212999 & Below)



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)

6724280 (7-10) Printed in U.S.A.

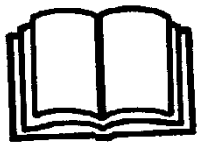
MAINTENANCE SAFETY

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.

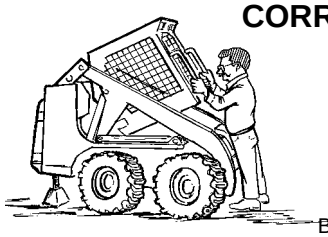
CORRECT



B-10731a

Never service the Bobcat Skid-Steer Loader without instructions.

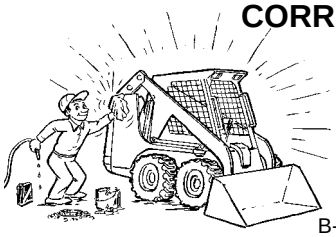
CORRECT



B-13573

Use the correct procedure to lift or lower operator cab.

CORRECT



B-13561

Cleaning and maintenance are required daily.

WRONG

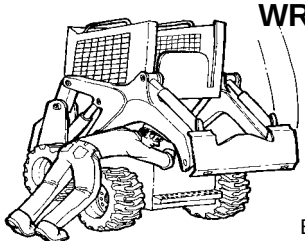
B-13574

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.

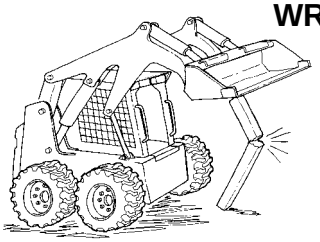
WRONG



B-15232

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.

WRONG

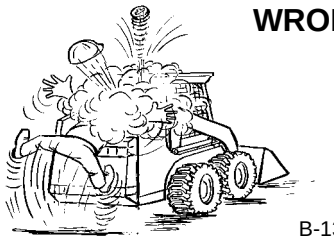


B-15281

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-13576

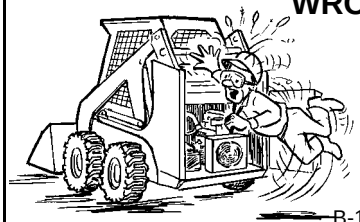
Stop, cool and clean engine of flammable materials before checking fluids.

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-13577

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.

MSW03-0805

ALPHABETICAL INDEX

CONTENTS

CALIFORNIA
PROPOSITION 65 WARNING

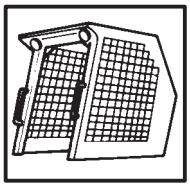
Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

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:

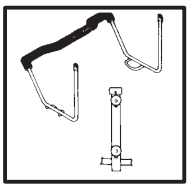
1. Check that the ROPS/FOPS (Including sidescreens) is in good condition and is not modified.



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

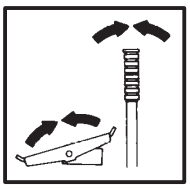
3. The seat belt must be correctly installed, functional and in good condition.

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.



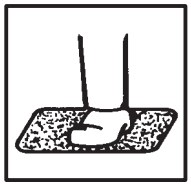
7. Check for correct funtion of the work lights.

8. The parking brake must function correctly.

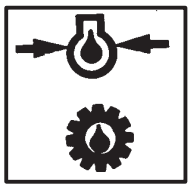
9. Enclosure door latches must open and close freely.

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

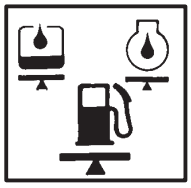
11. Safety treads must in good condition.



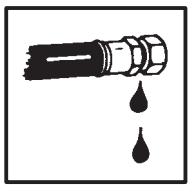
12. Check for correct function of indicator lamps (Optional on some models).



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

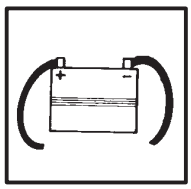


14. Inspect for fuel, oil or hydraulic fluid leaks.

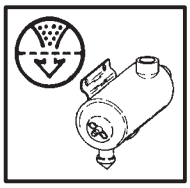


15. Lubricate the loader.

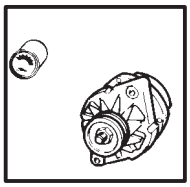
16. Check the condition of the battery and cables.



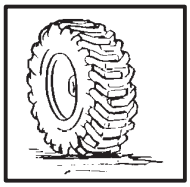
17. Inspect the air cleaner for damage or leaks. Check the condition of the element.



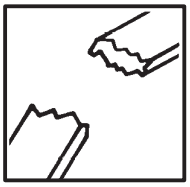
18. Check the electrical charging system.



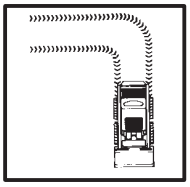
19. Check tires for wear and pressure.



20. Inspect for loose or broken parts or connections.

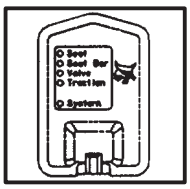


21. Operate the loader and check all functions.

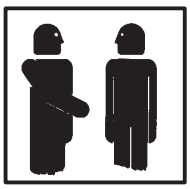


22. Check for any field modification not completed.

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 an English edition or one of the following languages: French, German, Italian, Dutch, Spanish, Portuguese, Finnish, Danish & Swedish.
- 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.

⚠WARNING

Warnings on the machine and in the manuals are for your safety. Failure to obey warnings can cause injury or death.

W–2044–1285

IMPORTANT

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

I–2019–0284

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

SAFETY INSTRUCTIONS (Cont'd)

- Wear tight fitting clothing. Always wear safety glasses when maintaining or servicing loader. Safety glasses, hearing protection or loader special applications kit are required for some work. See your dealer for Bobcat 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 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 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 or Service Manuals for connecting the battery.

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

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 outside of the loader frame **[A]**.

Explanation of loader Serial Number:

XXXX XXXXX

Module 2. – Production Sequence (Series)

Module 1. – Model/Engine Combination

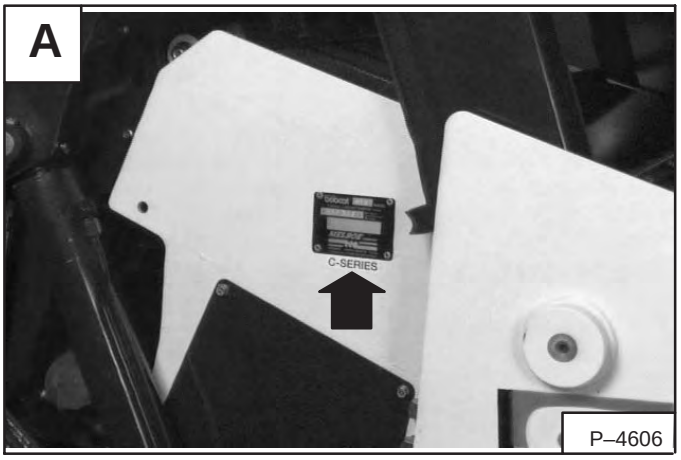
The four digit Model/Engine Combination module number identifies the model number and engine combination. This number (in parenthesis beside the model number) is used in the Service Manual to more easily identify the standard, optional and field accessory equipment included or available for each specific model.

The five digit Production Sequence Number identifies the order which the loader is produced.

ENGINE SERIAL NUMBER

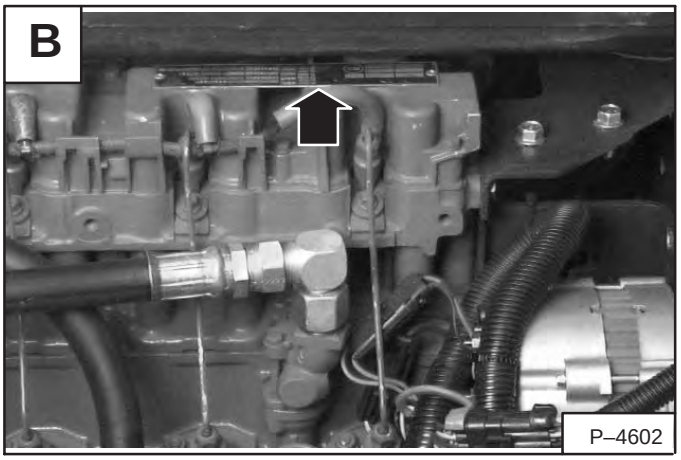
The serial number is located on the valve cover at the right side of the engine **[B]**.

A



P–4606

B

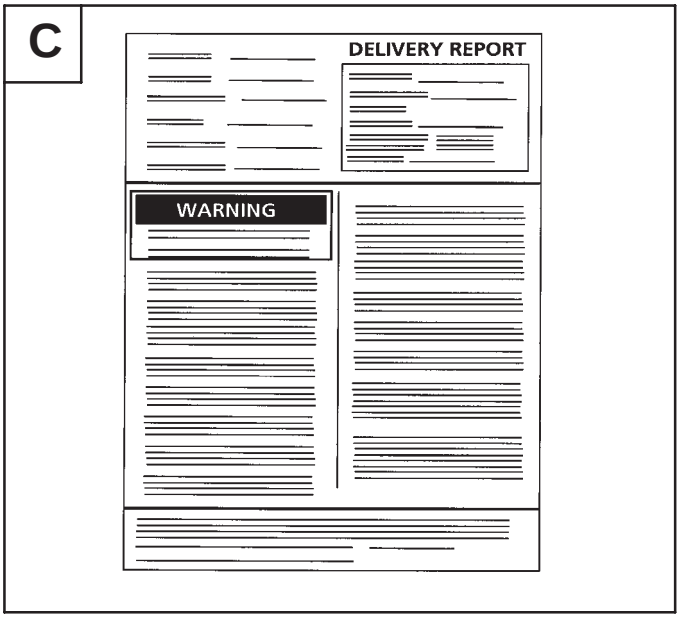


P–4602

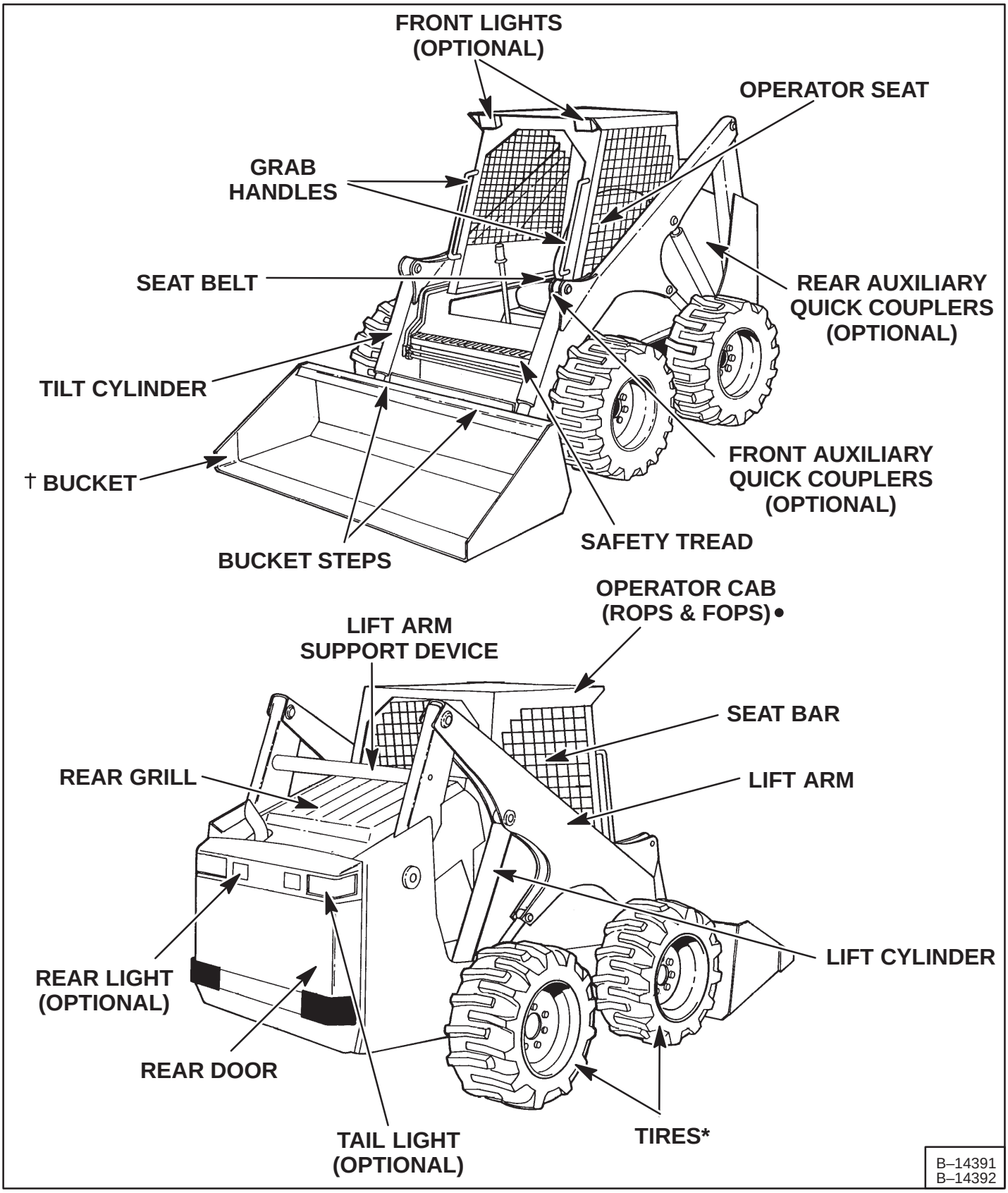
DELIVERY REPORT

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]**.

C



BOBCAT LOADER IDENTIFICATION



* **TIRES – Flotation tires are shown. Optional tires are available.**

† **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 l. Level ll FOPS is available for protection from heavy falling objects. The Bobcat loader is base–equipped with a standard operator cab as shown. Extra insulated cab is available as an option (Reduced noise level).**

OPTIONS AND ACCESSORIES

All 873 Bobcat loaders are equipped with the following standard items:

Bob–Tach	Seat Belt
Servo Assist Steering	Seat Bar
Spark Arrestor Exhaust System	Parking Brake
Lift Arm Support Device	Gauges/Warning Lights
Operator Cab (W/ROPS & FOPS Approval	Bobcat Interlock Control System (BICS™)
Adjustable Cushion Seat	Push Button Activated Glow Plug

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

	873
Tires	
12–16.5, 10 PR Bobcat Heavy Duty Flotation	Std.
8.25–15, 6 PR	Opt.
12.00–16.5, Segmented	Opt.
12.00–16.5, 6 PR Flotation	Opt.
8.00–16 Solid	Opt.
10.00–33 Solid	Opt.
31–15.5 x 18, 8 PR Terra Grip Flotation	Opt.
Operator Cab	
Sound Cab (85 dBa)	Opt. (Std. in Europe)
Deluxe Cab	Opt.
Suspension Seat	Opt. & FA (Std. in Europe)
Operating Lights (Front & Rear)	Opt. & FA (Std. in Europe)
Horn	FA
Backup Alarm	Opt. & FA
Heated Enclosed Cab	Opt. & FA
Top Window	Opt. & FA (Std. in Europe)
Rear Window	Opt. & FA (Std. in Europe)
Cab Enclosure Panels	FA
Vinyl Cab Enclosure	FA
Cover Kit (Pedals Area)	FA
Cover Kit (Hydraulic Reservoir Area)	FA (Std. in Europe)
Fire Extinguisher	FA
Flasher Lights	FA
Strobe or Rotating Beacon Light	FA
3” Seat Belt	FA
Special Applications Kit (Includes Front Door, Top & Rear Windows)	FA
Hydraulics	
Front Auxiliary Hydraulics	Opt. & FA
Rear Auxiliary Hydraulics	Opt. & FA
Hydraulic Bucket Positioning (Includes On/Off Switch)	Opt. & FA
Other	
Counterweight Kit (2400 ROC)	Opt. & FA
Single Point Lift	FA
Locking Fuel Cap	FA
Rear Door Bumpers	FA
Tailgate Lock	FA
Tool Box	FA
Instrumentation	
Gauges and Warning Lights	Std.
Bobcat Operating Sensing System (BOSS®)	Opt.

Std. = Standard Equipment
Opt. = Factory Installed Option
FA = Field Accessory

Specifications subject to change without notice.


bobcat

Page Number

Continued On Next Page

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**	**250**	**500**	**■ 1000**	**◊ 3000**
Engine Oil	Check the oil level and add oil as needed.	■					
Engine Air Cleaner	Check condition indicator or display panel. Service only when required.	■					
Engine Cooling System	Clean debris from oil cooler and grill.	■					
Lift Arms, Cyl., Bob–Tach Pivot Pins and Wedges	Lubricate with multi–purpose lithium based grease (12 places).	■					
Engine Air System	Check for leaks and damaged components.	■					
Tires	Check for damaged tires and correct air pressure.	■					
Seat Belt, Seat Bar and Pedal Interlocks	Check the condition of seat belt. Check the seat bar and foot pedal interlocks for correct operation. Clean dirt and debris from moving parts.	■					
Bobcat Interlock Control System (BICS™)	Check BICS™ functions. Clean dirt, debris or objects from under or behind seat and around brake pedal as required.	■					
Safety Signs and Safety Treads	Check for damaged signs (decals) and safety treads. Replace any signs or safety treads that are damaged or worn.	■					
Operator Cab	Check the fastening bolts, washers and nuts. Check the condition of cab.	■					
Fuel Filter	Remove the trapped water.	■					
Traction Lock Control Sys.	Check operation and correct as needed.		■				
Hyd. Fluid, Hoses and Tubelines	Check fluid level and add as needed. Check for damage and leaks. Repair or replace as needed.		■				
Final Drive Trans.(Chaincase)	Check oil level.		■				
Battery	Check battery for damage, hold downs, cables, connections and electrolyte level. Add distilled water as needed.		■				
Foot Pedals and Steering	Check for correct operation. Repair or adjust as needed.		■				
Wheel Nuts	□ Check for loose wheel nuts and tighten to 105–115 ft.–lbs. (142–156 Nm) torque.		■				
Parking Brake	Check operation of the brake.		■				
Alternator Belt	Check tension and adjust as needed.			■			
Engine/Hydro. Drive Belt	* Check for wear or damage. Check idler arm stop.			■			
Fuel Filter	Replace filter element.			■			
Steering Shaft	Grease three fittings.			■			
Hydraulic Reservoir Breather Cap	Replace the reservoir breather cap.				■		
Hyd./Hydro. Filters	● Replace the filter elements.				■		
Engine Oil and Filter	† Replace oil and filter. Use CD or better grade oil and Bobcat filter.				■		
Final Drive Trans.	Replace the oil in the chaincase.					■	
Hydraulic Reservoir	Clean or replace the fluid.					■	
Hydraulic Motors	Clean or replace the case drain filters.					■	
Bobcat Interlock Control System (BICS™)	Check lift arm by–pass control.					■	
Fan Drive Gearbox	Check gear lube level.					■	
Engine Valves	∞ Adjust the engine valves.					■	
Engine Timing Belt	◊ Replace the timing belt and belt tensioner assy.						■

□ **Check wheel nut torque every 8 hours for the first 24 hours.**
● **Also replace hydraulic/hydrostatic filter element when the transmission warning light comes ON.**
■ **Or every 12 months.**
* **Inspect the new belt after first 50 hours.**
† **After the first 50 hours.**
∞ **After the frist 500 hours on new engine, adjust engine valves; 1000 hours thereafter.**
◊ **Or every 5 years.**

⚠ 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.

W–2003–1289

Read the Removal & Installation, Disassembly & Assembly, etc. completely to become familiar with the procedure before beginning **[A]**.

A

B–07023

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

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

B

P–05325

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

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

P–05322

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]**.

The rear of the trailer must be blocked or supported **[A]** when loading or unloading the loader to prevent the front end of the trailer from raising up.

Be sure the transport and towing vehicles are of adequate size and capacity.

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 tie down positions (Inset) **[B]**. Fasten each end of the chain to the transport vehicle and tighten the chain with a chain tightener.

The Inset **[B]** shows the decal with attachment points for towing and tie down.

TOWING THE LOADER

Procedure

To prevent damage to the loaders 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).

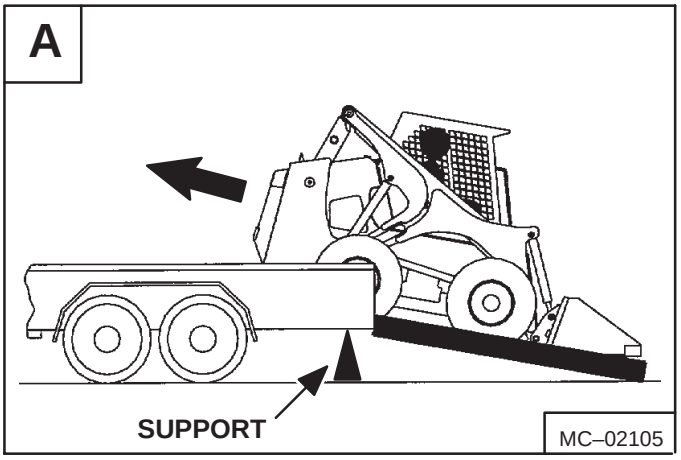
- Turn the key switch to ON and press the Traction Lock Override button.
- Tow the Bobcat at 2 MPH (3,2 km/hr.) or less for not more than 25 feet (7,6 meters).

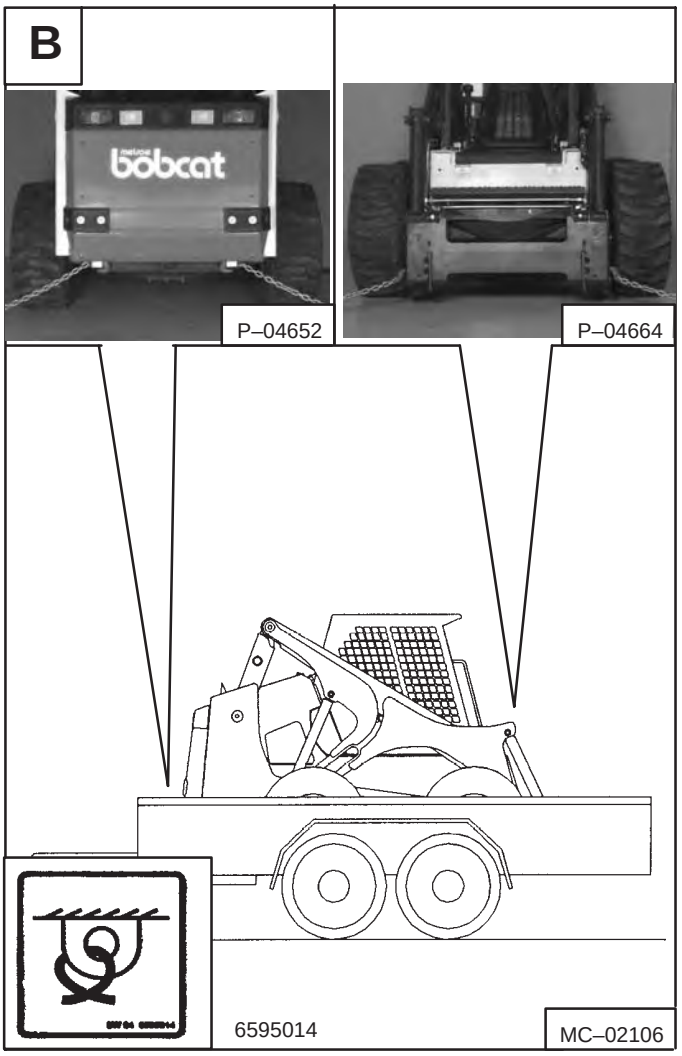
If the electrical system is not functioning part of the brake system must be disassembled to move the loader. See *Traction Lock* removal and installation procedure. (See Page 8–1.)

STOPPING THE BOBCAT LOADER

Procedure

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

⚠ WARNING

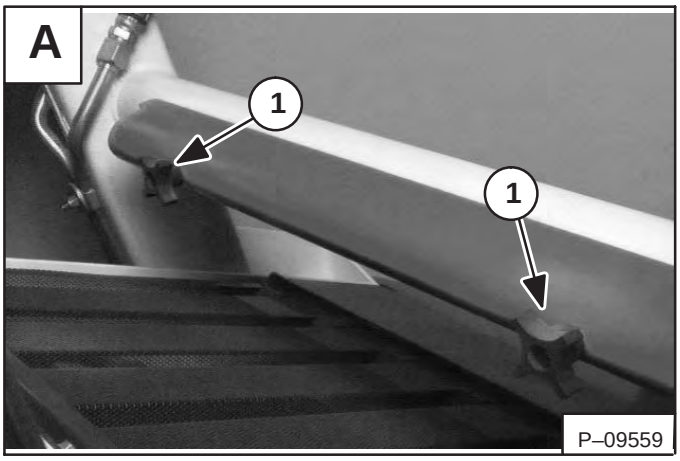
Never work on a machine with the lift arms up unless the lift arms are secured by a lift arm support device. Failure to use an approved lift arm support device can allow the lift arms or attachment to fall and cause injury or death.

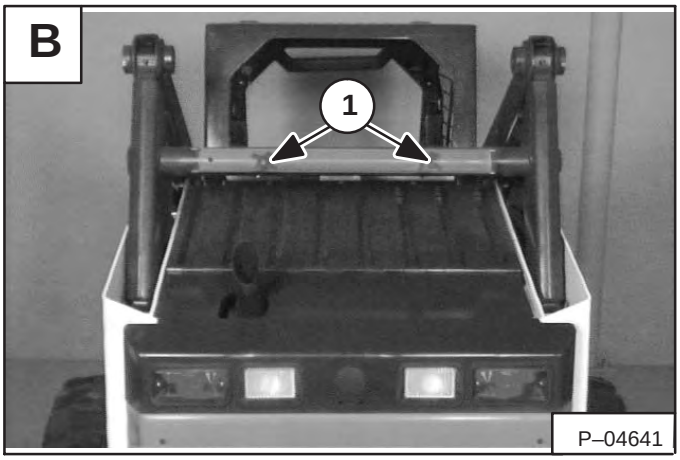
W–2059–0991

To Install The Lift Arm Support Device

Remove the retainer knobs (Item 1) **[A]** or **[B]**.

Remove the lift arm support device from the crossmember.



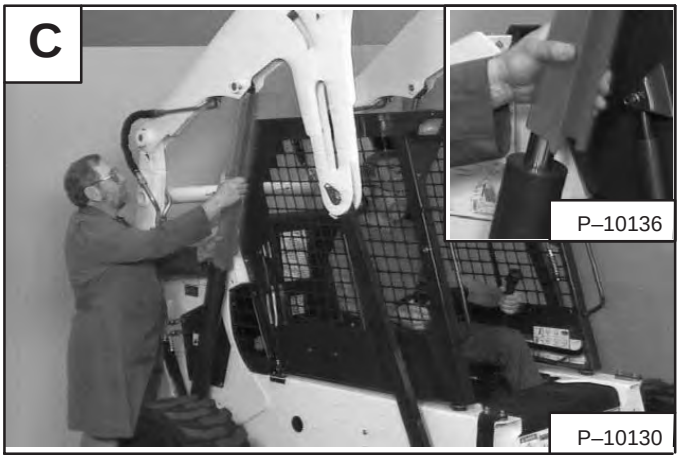


One person must stay in the operator seat **[C]** with the seat belt fastened and the seat bar lowered, while second person installs the lift arm support device.

Start the engine and raise the lift arms.

Have a second person install the lift arm support device over the rod of one of the lift cylinders **[C]**.

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



Lower the lift arms slowly until the support device is held between the lift arms and lift cylinder **[D]**.

To Remove The Lift Arm Support Device

Raise the lift arms while a second person removes the lift arm support device **[C]**.

Stay in the seat until the lift arms are lowered all the way.

Return the lift arm support device to the storage position and secure the retainer knobs (Item 1) **[A]** or **[B]**.

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 Bobcat Company. Changes to the cab can cause loss of operator protection from rollover and falling objects, and result in injury or death.

W–2069–1285

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 trees, rocks; for machines involved in site clearing, overhead demolition or forestry.

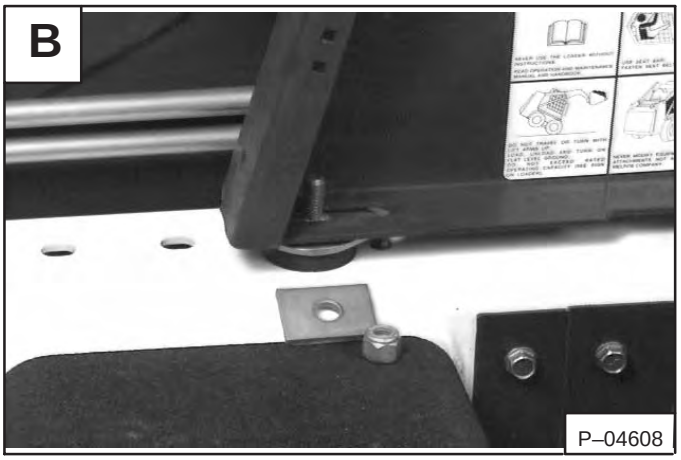
Raising The Operator Cab

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. (See Page 1–6.)

Loosen the nut (both sides) at the front corner of the operator cab **[A]**.

Remove the nut and plate (both sides) **[B]**.

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



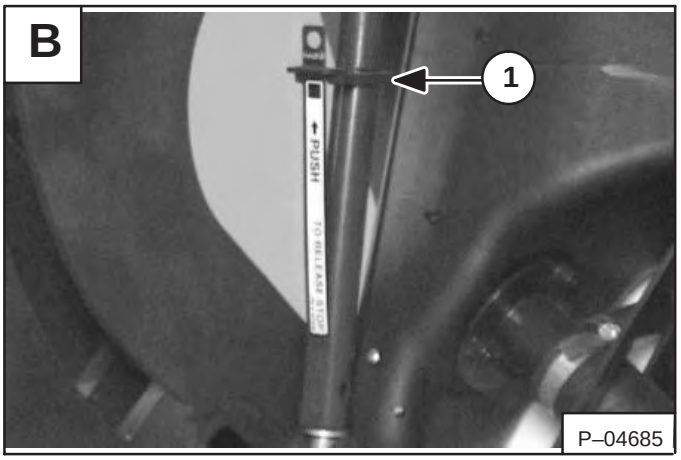
OPERATOR CAB (Cont'd)

Lowering The Operator Cab

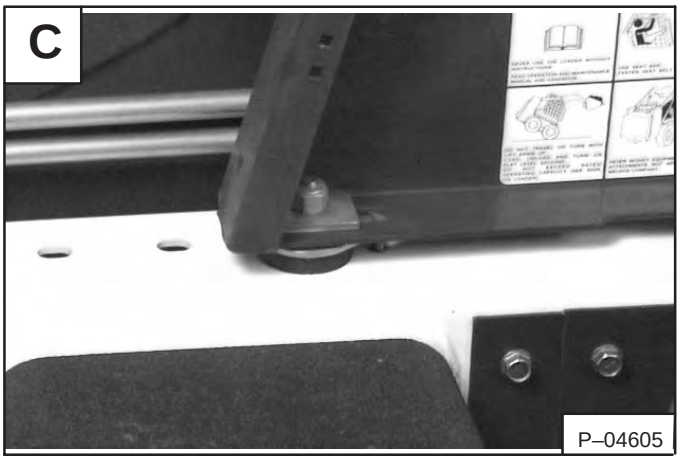
NOTE: Make sure the seat bar is fully raised or lowered when lowering the cab.

Pull down on the bottom of the operator cab until it stops at the latching mechanism **[A]**.

Release the latching mechanism (Item 1) **[B]** and pull the cab all the way down.



Install the plate and nut (both sides). Tighten the nuts to 40–50 ft.–lbs. (54–68 Nm) torque **[C]**.



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]**.

NOTE: When the Operator Cab Enclosure Kit is installed, the window of the front door can be used as an emergency exit.

Pull the plastic loop at the top of the window in the front door to remove the rubber cord **[C]**.

Push the window out with your foot **[D]**.

Exit through the front door.

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.

⚠ WARNING

AVOID INJURY OR DEATH

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

W–2105–1285

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 foot pedal. Pedals must be firmly locked in 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. 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.

⚠ WARNING

AVOID INJURY OR DEATH

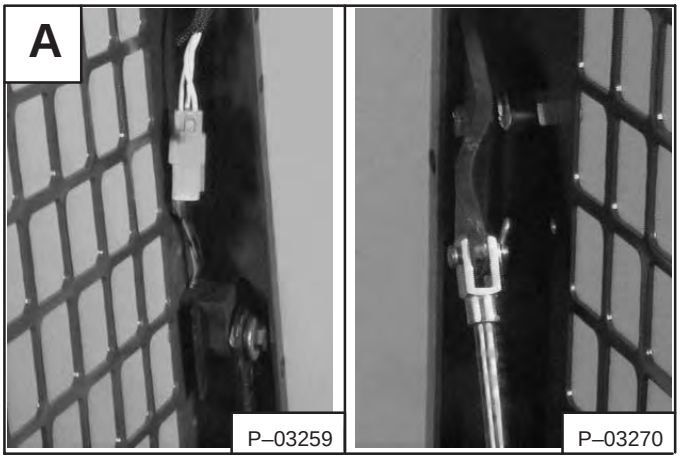
Never operate loader without pedal lock shield 6705474 on both interlocks. Shields prevent foot from unlocking interlocks when leaving loader seat.

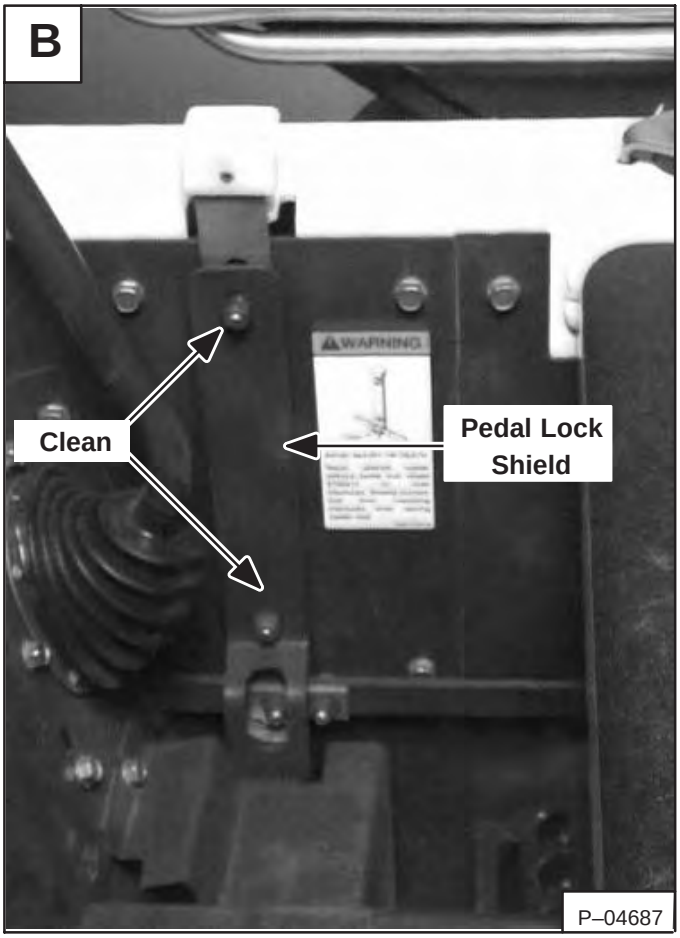
Seat Bar Maintenance

See the Service Schedule Page 1–3 or 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 Bobcat replacement parts.





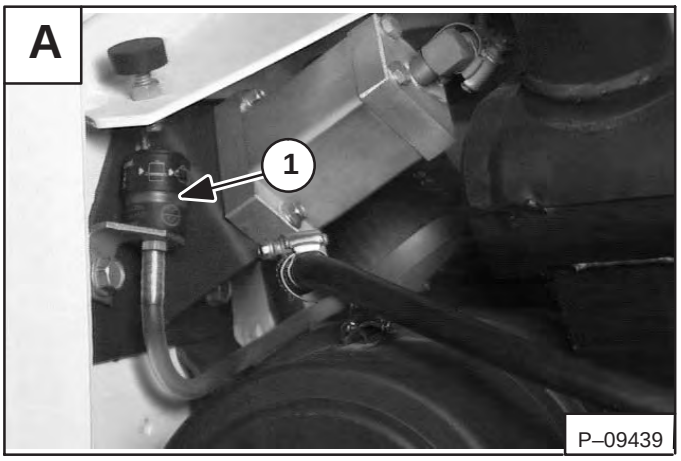
AIR CLEANER SERVICE

Replacing Filter Element

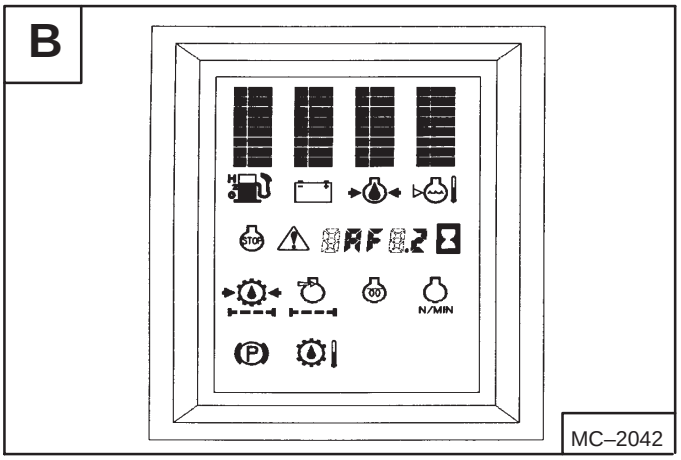
WITH CONDITION INDICATOR: Replace the large (outer) filter element only when the red ring shows in the window of the condition indicator (Item 1) **[A]**.

NOTE: Before replacing the filter element, push the button on the condition indicator. Start the engine. If the red ring does not show, do not replace the filter element.

Replace the inner filter every third time the outer filter is replaced or when the red ring still shows in the indicator window after the outer filter has been replaced.



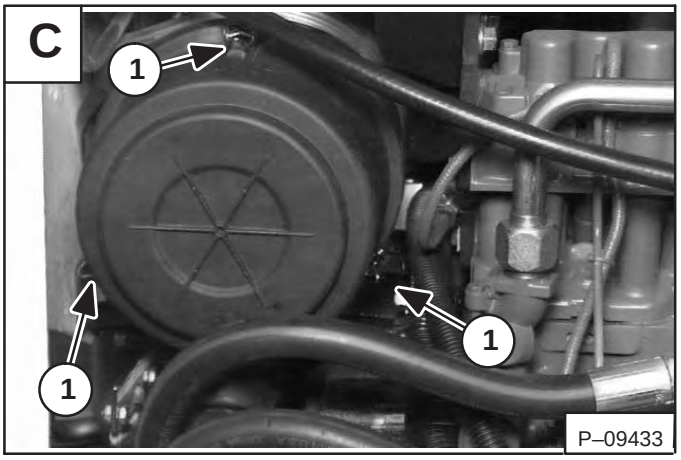
WITH BOSS® OPTION: It is important to change the air filter element only when the service codes (on the optional instrument panel) shows the symbols [***AF.2***] **[B]**.



Service the air cleaner as follows:

Remove the dust cover clips (Item 1) **[C]**.

Remove the dust cover.



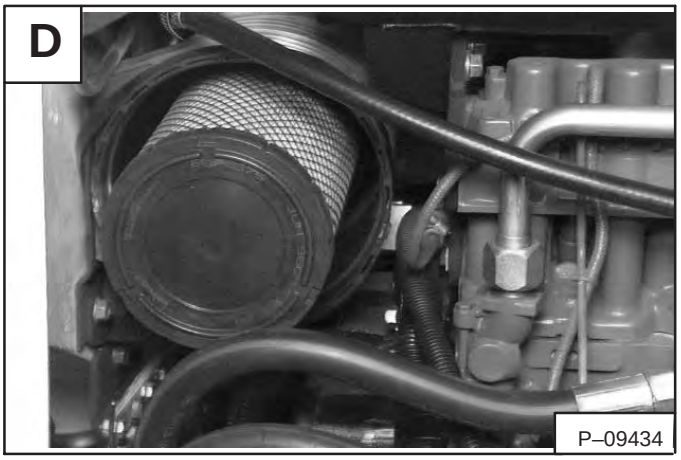
Remove the large filter element **[D]**.

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

Install the new filter element.

Install dust cover.

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



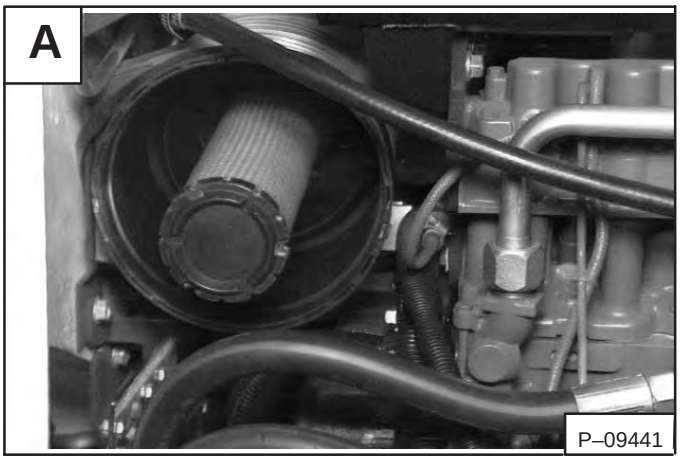
AIR CLEANER SERVICE (Cont'd)

Replacing Filter Element (Cont'd)

Only replace the inner filter element under the following conditions **[A]**:

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

2. When the service codes show symbols (Page 1–11 **[B]**) during full engine speed, replace the inner filter element only after the outer filter element has been changed.



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 (Item 1) **[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

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

Loosen the drain (Item 1) **[C]** at the bottom of the filter element to drain any water from the filter.

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

To replace the fuel filter element, use a filter wrench to remove the filter element **[C]**.

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

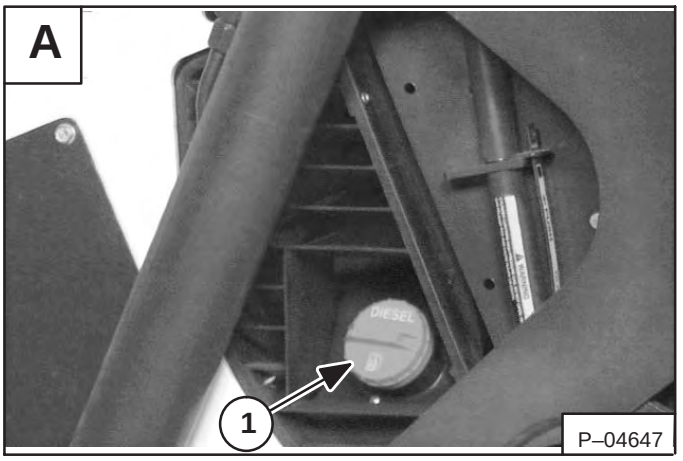
Removing Air From The Fuel System

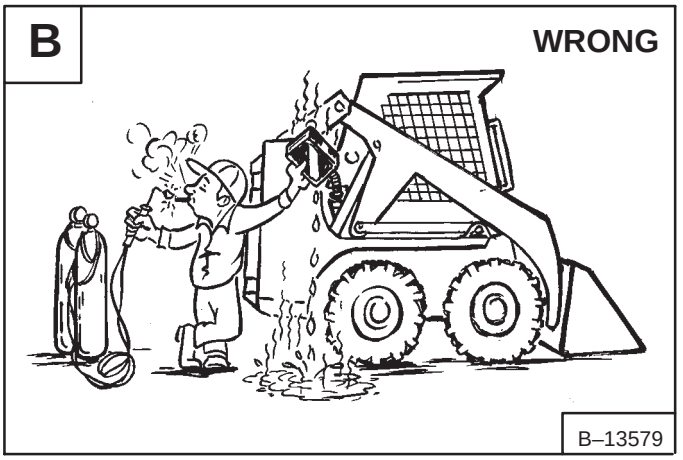
After replacing the fuel filter element or when the fuel tank has run out of fuel, the air must be removed from the fuel system prior to starting the engine.

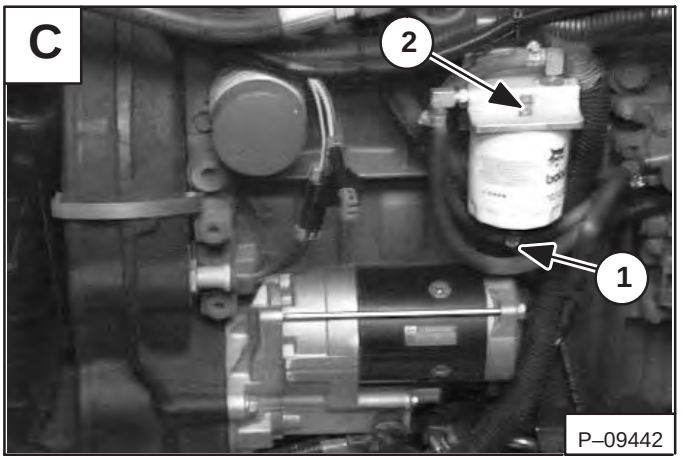
Loosen the air vent plug (Item 2) **[C]** at the top of the fuel filter.

Crank the engine until fuel flows from the vent.

Tighten the air vent plug.







⚠ 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

ENGINE LUBRICATION SYSTEM

Checking Engine Oil

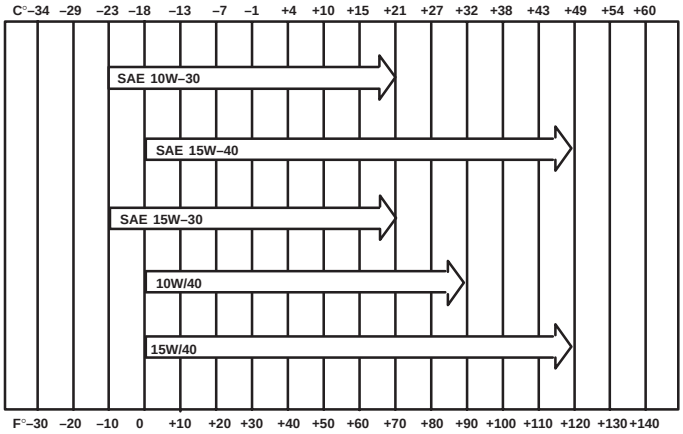
Check the engine oil level every day.

Before starting the engine for the work shift, open the rear door. Remove the dipstick (Item 1) **[A]**.

Keep the oil level between the marks on the dipstick.

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

RECOMMENDED SAE VISCOSITY NUMBER (LUBRICATION OILS FOR ENGINE CRANKCASE)



TEMPERATURE RANGE ANTICIPATED BEFORE NEXT OIL CHANGE

Replacing Oil And Filter

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

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

Open the rear door. Remove the drain plug (Item 1) **[B]**. Drain the oil into container.

Remove the oil filter (Item 1) **[C]**.

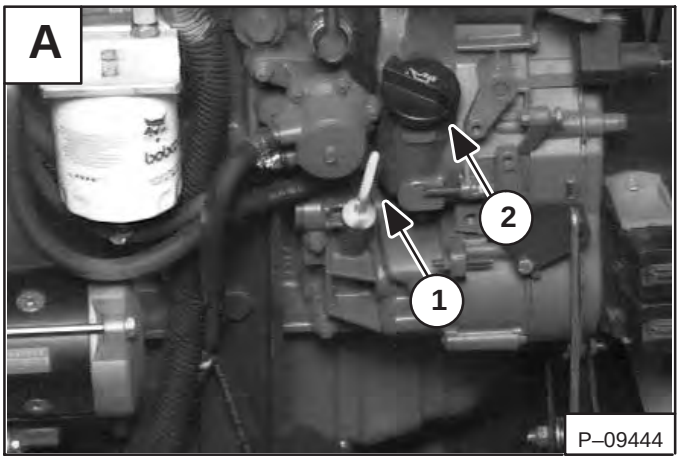
Clean the filter housing surface. Put clean oil on the new oil filter gasket. Install the filter and hand tighten only.

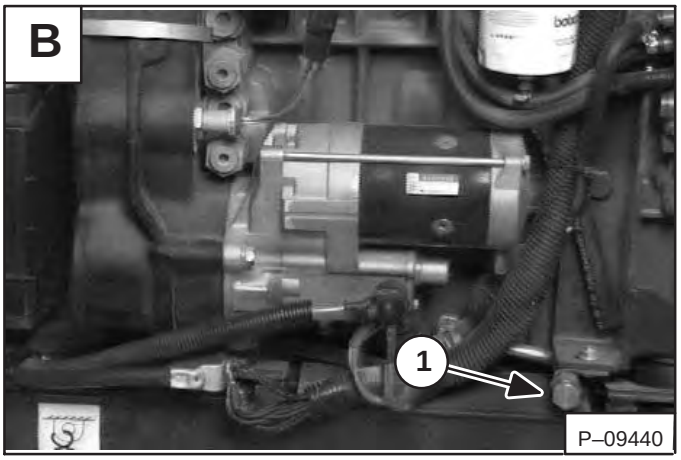
Install and tighten the drain plug.

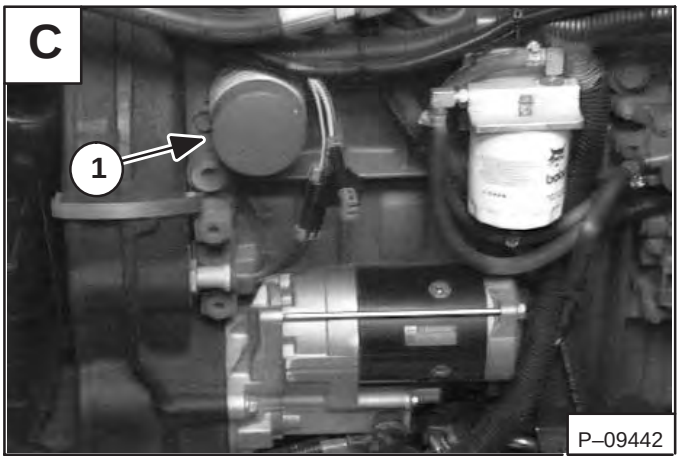
Remove the filler cap (Item 2) **[A]**.

Put 10 qts. (9,5 L) of oil in the engine.

Start the engine and let it run for several minutes. Stop the engine. Check for leaks and check the oil level. Add oil as needed if it is not at the top mark on the dipstick.







⚠ 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

ENGINE COOLING SYSTEM

Cleaning Cooling System (S/N 514111516 –514114999)

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

⚠ 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

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

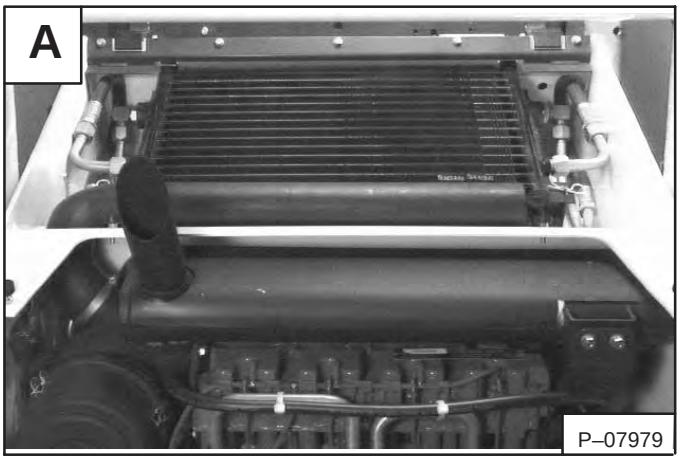
Use air pressure or water pressure to clean the top of the oil cooler **[A]**.

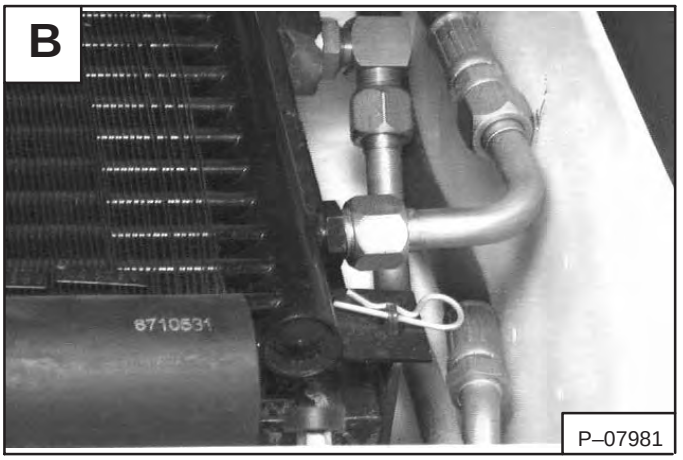
Remove the cotter pin (Item 1) **[B]** (both sides) from the oil cooler.

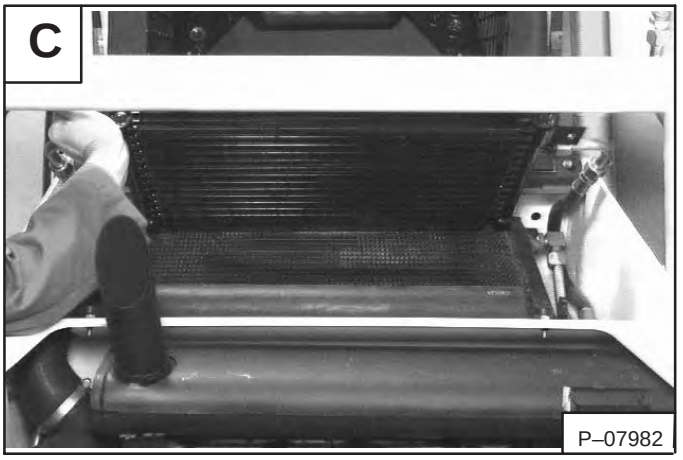
Raise the oil cooler **[C]**.

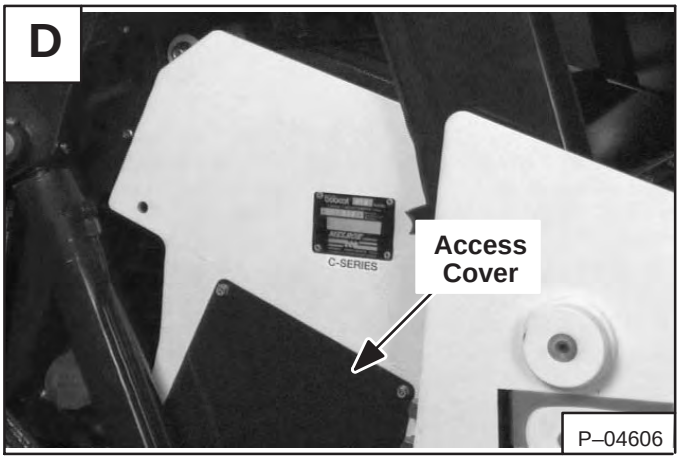
Use air pressure or water pressure to clean the top of the engine oil cooler.

NOTE: The access cover (both sides) must be in place to ensure proper air flow thrugh the oil cooler which will ensure correct cooling for the enging/hydraulic system [D].









ENGINE COOLING SYSTEM

Cleaning The Cooling System (S/N 514111515 & Below)

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

⚠ 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.**

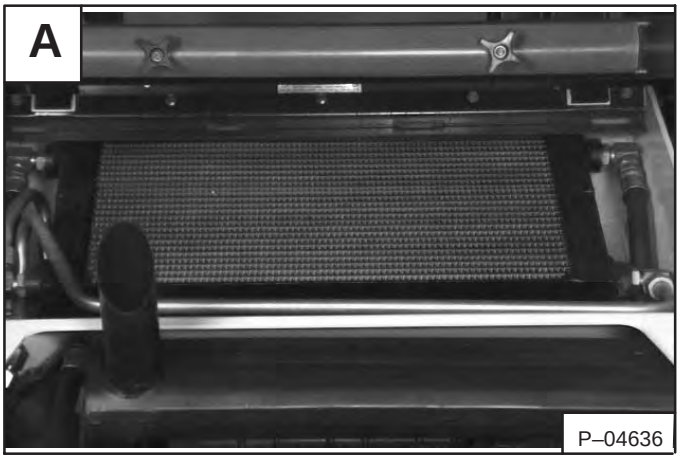
W–2019–1285

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

Use air pressure or water pressure to clean the top of the oil cooler **[A]**.

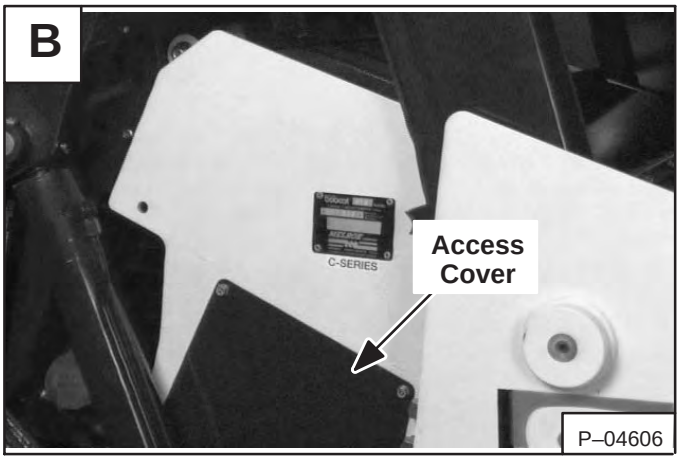
NOTE: The access cover (both sides) must be in place to ensure proper air flow through the oil cooler which will ensure correct cooling for the engine/hydraulic system [B].

A



P–04636

B



P–04606

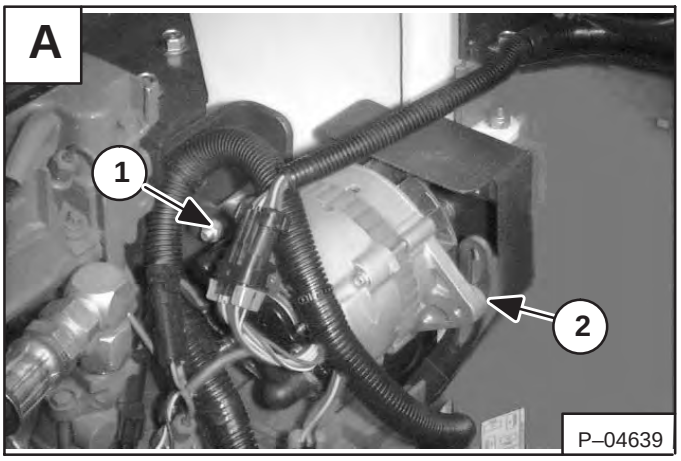
ALTERNATOR BELT

Adjusting The Alternator Belt

Stop the engine.

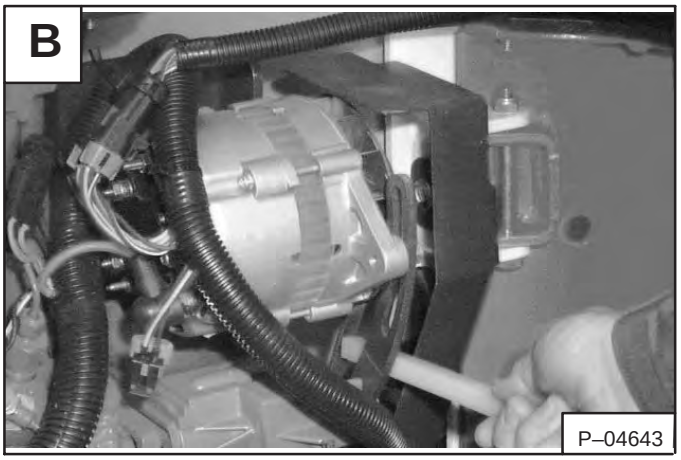
Loosen the alternator mounting bolt (Item 1) **[A]**.

Loosen the adjustment bolt (Item 2) **[A]**.



Move the alternator until the belt has 5/16 inch (8,0 mm) movement at the middle of the belt span with 15 lbs. (66 N) of force **[B]**.

Tighten the adjustment and mounting bolts.



HYDRAULIC/HYDROSTATIC SYSTEM

Checking And Adding Fluid

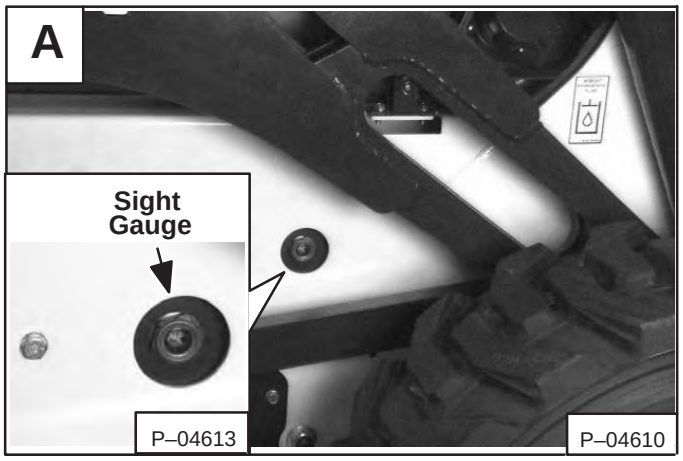
Use only recommended fluid in the hydraulic system. (See Specifications Page 9–1.)

To check the reservoir, use the following procedure:

Put the Bobcat loader on a level surface. Lower the lift arms and tilt the Bob–Tach fully back.

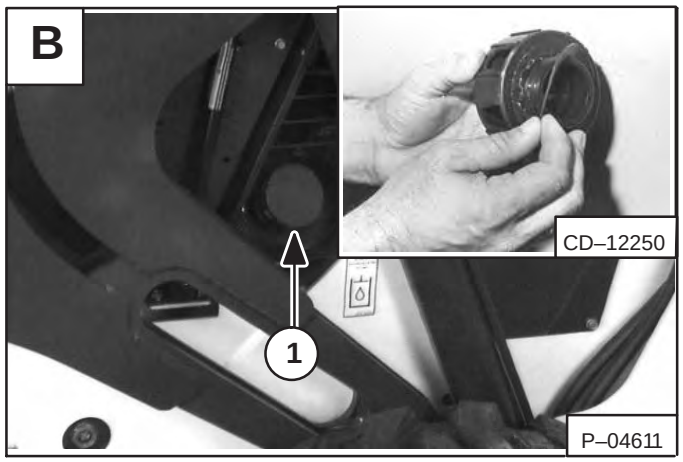
Check the fluid level at the sight gauge **[A]**. The fluid level must show in the sight gauge.

If fluid is needed, remove the fill cap (Item 1) **[B]**.



NOTE: Before installing the fill cap, make sure the rubber gasket is installed on the fill cap (Inset) [B].

Add the fluid as needed to bring the level to the sight gauge.



Hydraulic/Hydrostatic Filter Replacement

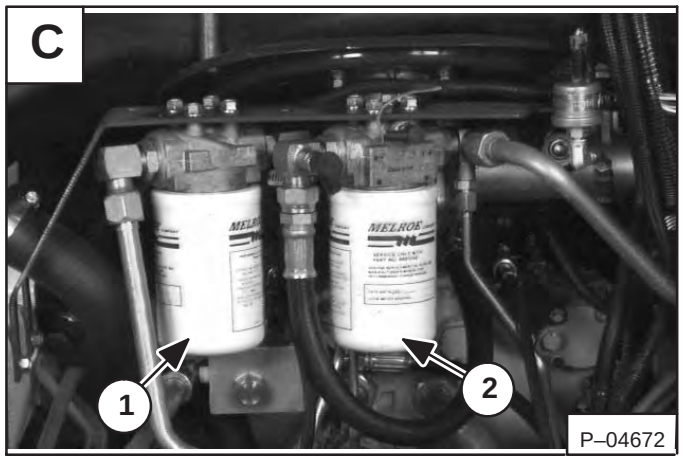
See the Service Schedule Page 1–3 for the correct service interval.

Raise the operator cab. (See Page 1–7.)

Use a filter wrench to remove the filter elements (Items 1 & 2) **[C]**.

Clean the surface of the filter housing where the element seal contacts the housing. Put clean oil on the rubber seal of the filter elements.

Install and hand tighten the filter elements.



Replacing Hydraulic Fluid

See the Service Schedule, Page 1–3 for the service interval.

Replace the fluid if it becomes contaminated or after major repair.

Also clean the two hydrostatic motor case drain filters thoroughly after a major repair.

Remove the fill cap. Remove the screen from the reservoir **[A]**. Wash the screen in clean solvent and air dry.

Raise the operator cab. (See Page 1–7.)

Replace the two filter elements. (See Page 1–17.)

Disconnect the hoses from the hydrostatic motor case drain filter (Item 1) **[B]** & **[C]**.

Remove the case drain filters (Item 1) **[B]** & **[C]** and clean thoroughly with clean solvent.

Install the case drain filters and tighten the hoses.

Remove the left side hydrostatic motor cover. Pull the reservoir hose (Item 1) **[D]** out the motor cover hole. Remove the plug and drain the reservoir fluid into a container.

Install the plug in the hose and tighten. Install the motor cover.

Add the correct fluid to the reservoir until the fluid level is at the sight gauge. (See Page 1–17.)

⚠ WARNING

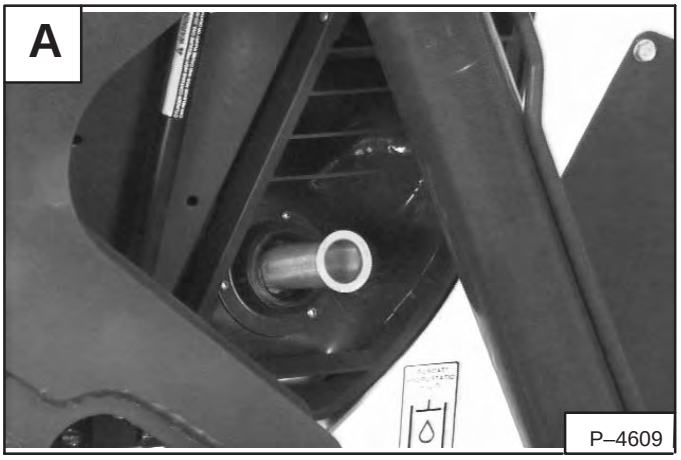
Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes causing serious injury. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention.

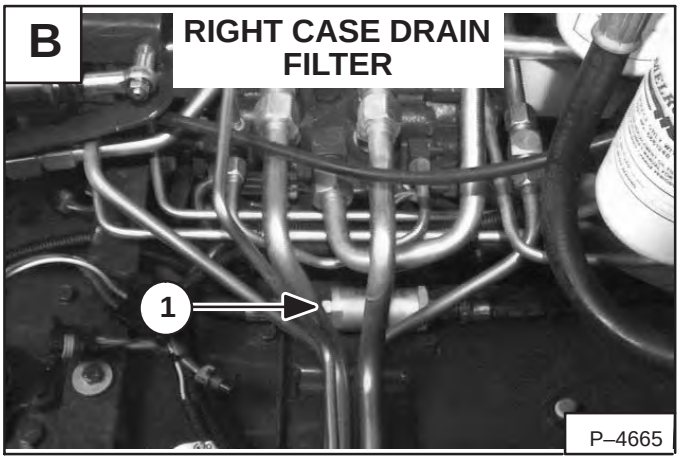
W–2074–1285

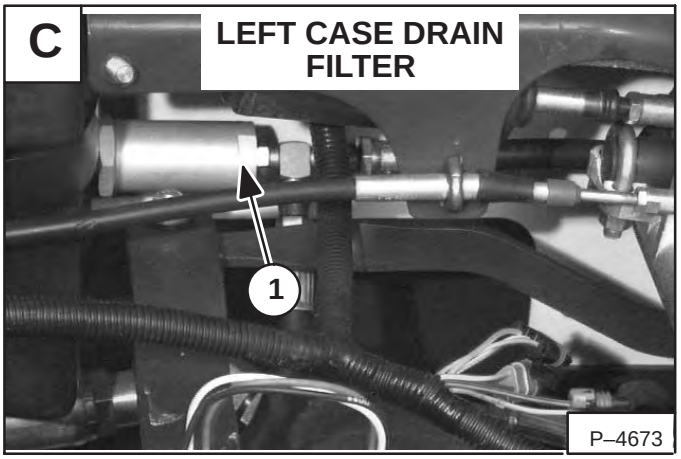
Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire which can result in injury or death.

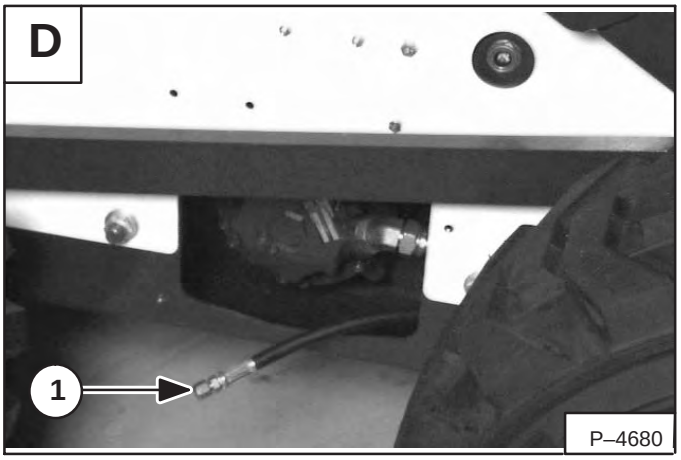
W–2103–1285

Lower the operator cab. Start the engine and operate the loader hydraulic controls. Stop the engine. Check for leaks. Check the fluid level in the reservoir and add as needed.









TIRE MAINTENANCE

Wheel Nuts

See the Service Schedule, Page 1–3 for the service interval to check the wheel nuts. The correct torque is 105–115 ft.–lbs. (142–156 Nm) torque **[A]**.

Tire Rotation

Check the tires regularly for wear, damage and pressure. (See Specifications, Page 9–1.)

Rear tires usually wear faster than front tires. To keep tire wear even, move the front tires to the rear and rear tires to the front **[B]**.

It is important to keep the same size tires on each side of the loader. If different sizes are used, each tire will be turning at a different rate and cause excessive wear. The tread bars of all the tires must face the same direction.

Recommended tire pressure must be maintained to avoid excessive tire wear and loss of stability and handling capability. Check for the correct pressure before operating the loader.

Tire Mounting

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 correct size before mounting. Check rim and tire bead for damage.

The rim flange must be cleaned and free of rust. The tire bead and rim flange must be lubricated with a rubber lubricant before mounting the tire, avoid excessive pressure which can rupture the tire and cause serious injury or death. During inflation of the tire, check the tire pressure frequently to avoid over inflation.

⚠ 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.

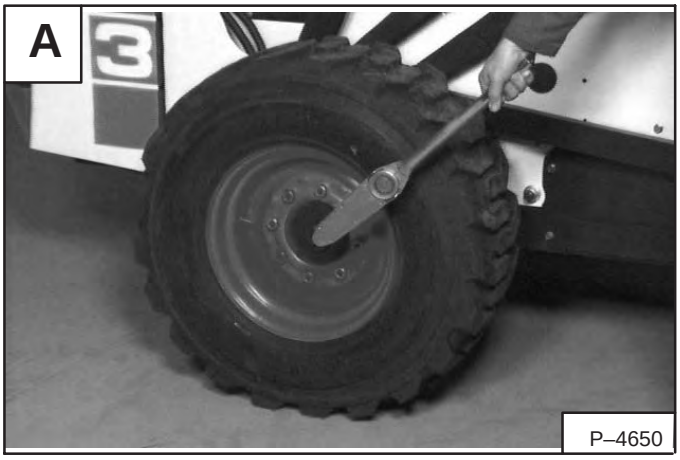
W–2078–1285

IMPORTANT

Inflate tires to the MAXIMUM pressure shown on the sidewall of the tire. DO NOT mix brands of tires used on the same loader.

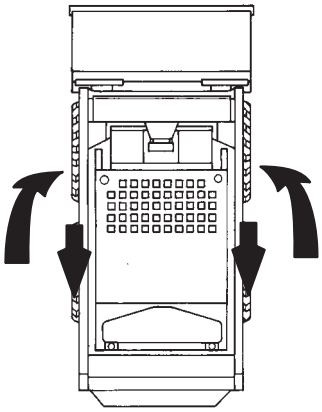
I–2057–0794

A



P–4650

B



B–9976

FINAL DRIVE TRANSMISSION (CHAINCASE)

Checking And Adding Oil

The chaincase contains the final drive sprockets and chains and uses the same type of oil as the hydraulic/hydrostatic system. (See Specifications, Page 9–1.)

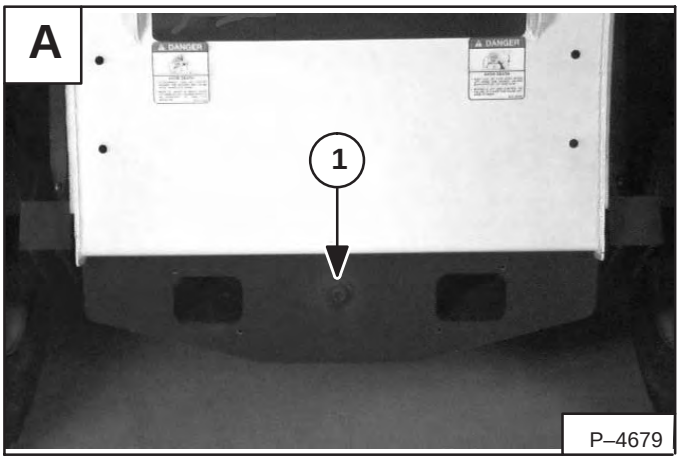
To check the chaincase oil level, use the following procedure:

Drive the loader on a level surface. Stop the engine.

Remove the plug (Item 1) **[A]** from the front of the chaincase housing.

If oil can be reached with the tip of the your finger through the hole the oil level is correct.

If the level is low, add oil through the check plug hole until the oil flows from the hole. Install and tighten the plug.



FAN GEARBOX

Checking And Maintaining

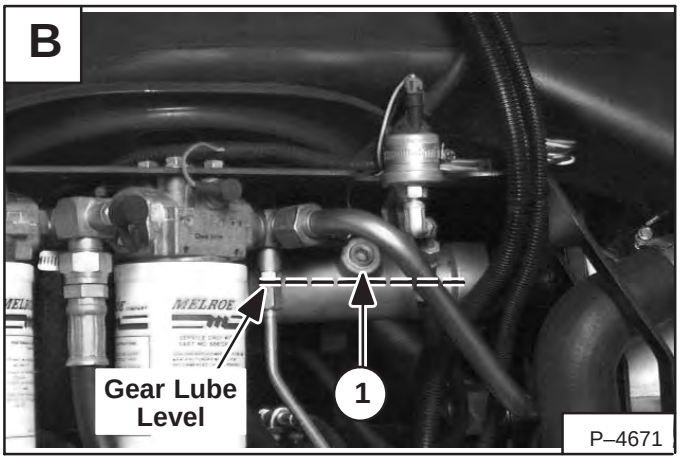
See the Service Schedule, Page 1–3 for the correct service interval.

Raise the operator cab. (See Page 1–7.)

Remove the plug (Item 1) **[B]** to check the lubricant level.

If the level is low, add SAE 90W gear lube through the check plug hole until the lubricant flows from the hole. Install and tighten the plug.

When adding the gearbox lube, make sure the level does not go above the top of the shaft in the gearbox **[B]**. Use SAE 90W gear lube if the level is low.



LUBRICATING THE LOADER

Procedure

Lubricate the loader as specified in the Service Schedule, Page 1–3 for the best performance of the loader.

Record the operating hours each time you lubricate the Bobcat loader.

Always use a good quality lithium based multi–purpose grease when you lubricate the loader. Apply the lubricant until extra grease shows.

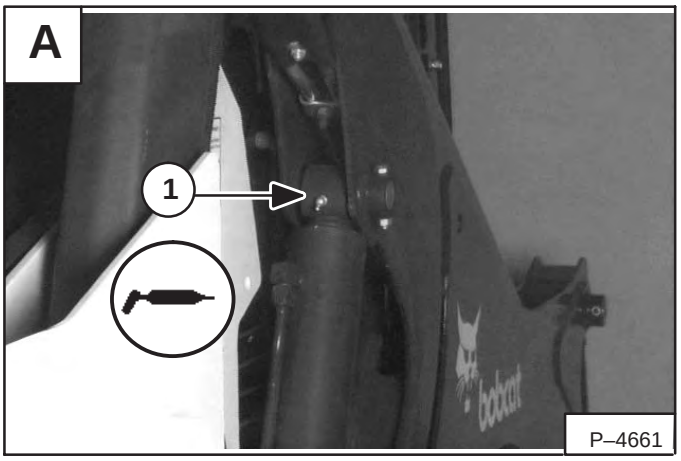
Lubricate the following locations on the loader:

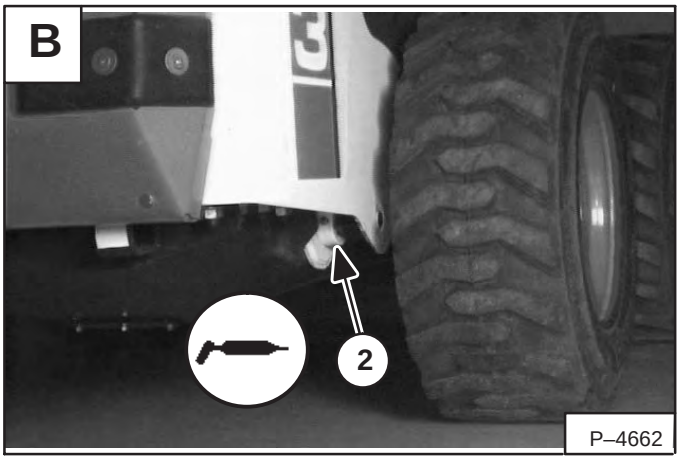
1. Rod End Lift Cylinder (Both Sides) **[A]**.

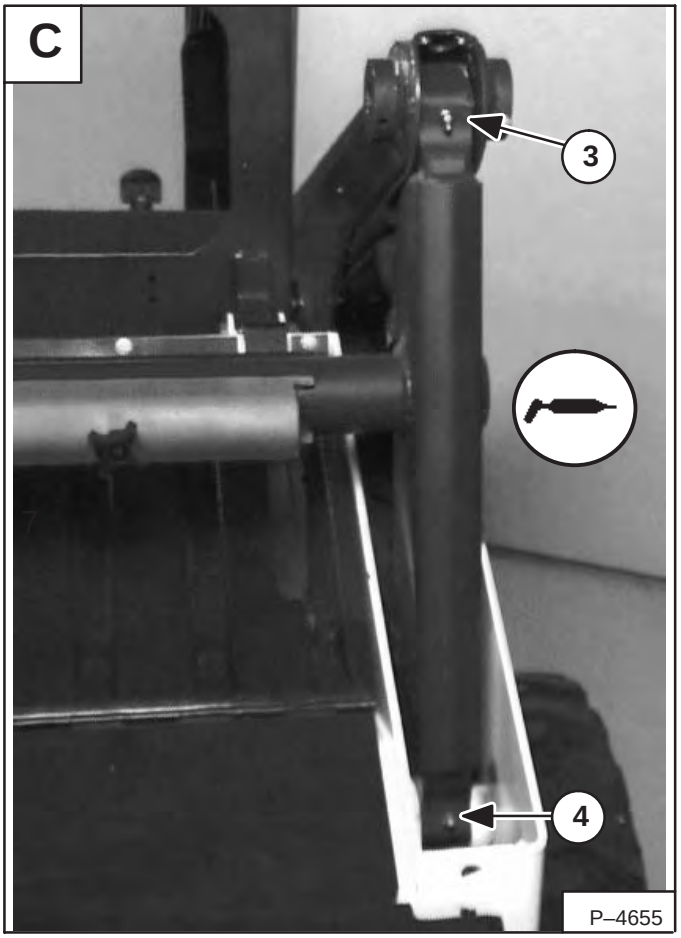
2. Base End Lift Cylinder (Both Sides) **[B]**.

3. Lift Arm Pivot Pin (Both Sides) **[C]**.

4. Lift Arm Link Pivot (Both Sides) **[C]**.



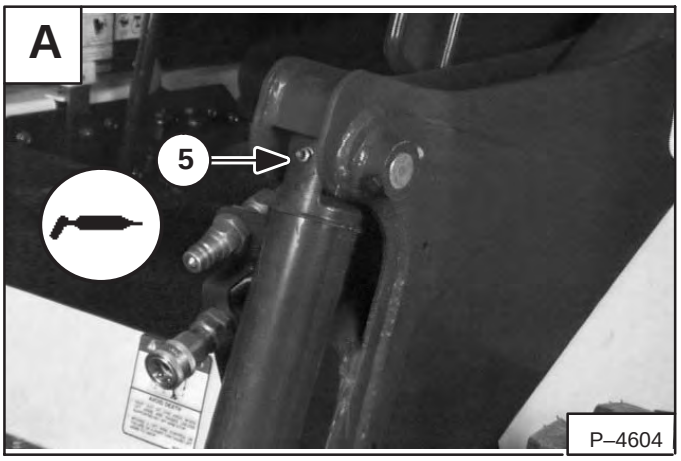




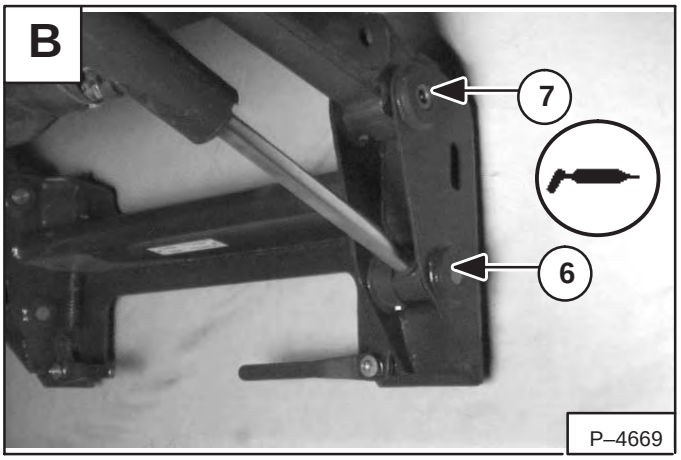
LUBRICATING THE LOADER (Cont'd)

Procedure (Cont'd)

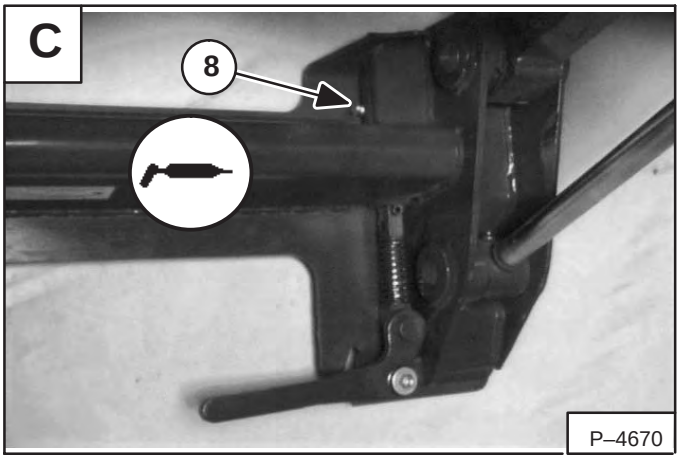
5. Base End Tilt Cylinder (Both Sides) **[A]**.



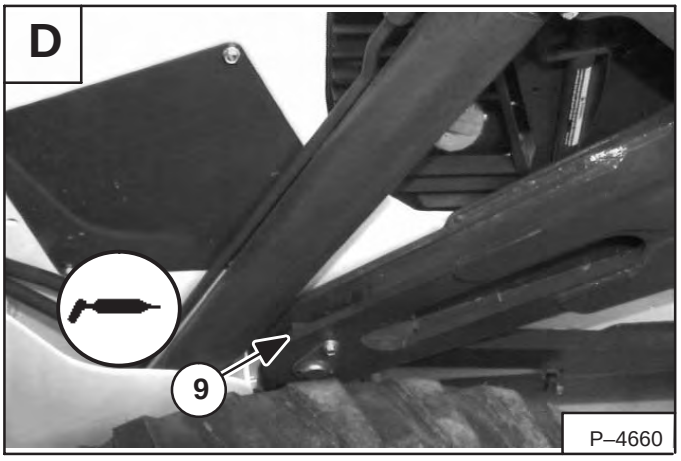
6. Rod End Tilt Cylinder (Both Sides) **[B]**.
7. Bob–Tach Pivot Pin (Both Sides) **[B]**.



8. Bob–Tach Wedge (Both Sides) **[C]**.



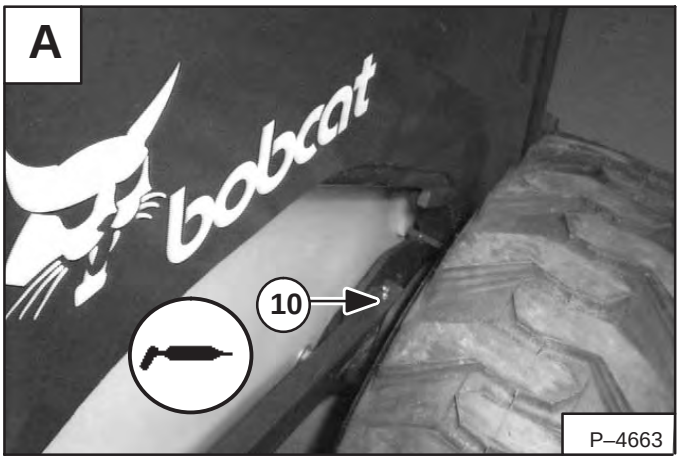
9. Stabilizer Bar (Both Sides) **[D]**.



LUBRICATION OF THE LOADER (Cont'd)

Procedure (Cont'd)

10. Stabilizer Bar (Both Sides) **[A]**.



11. **250 Hours:** Steering Lever Shaft (3) **[B]**.