Product: Bobcat 873 Skid Steer Loader Service Repair Workshop Manual 514115001-514213001
Full Download: https://www.arepairmanual.com/downloads/bobcat-873-skid-stee
r-loader-service-repair-workshop-manual-514115001-514213001/

873

Service Manual

(S/N 514115001 & Above)
(S/N 514213001 & Above)

EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)

Sample of manual. Download All 592 pages at:
https://www.arepairmanual.com/downloads/bobcat-873-skid-steer-loader-service-repair-workshop-manual-514115001-5142130

MELROE
INGERSOLL-RAND

bobcat®

6900382 (7–97) Printed in U.S.A.

© Melroe Company 1997

Product: Bobcat 873 Skid Steer Loader Service Repair Workshop Manual 514115001-514213001
Full Download: https://www.arepairmanual.com/downloads/bobcat-873-skid-stee
r-loader-service-repair-workshop-manual-514115001-514213001/

Sample of manual. Download All 592 pages at:
https://www.arepairmanual.com/downloads/bobcat-873-skid-steer-loader-service-repair-workshop-manual-514115001-51421300

MAINTENANCE SAFETY

WARNING

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

W-2003-0903

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

Never service the Bobcat 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.

MSW03-0805

Bobcat®

ALPHABETICAL INDEX

ACTUATORS 10–1
ACTUATOR VOLTAGE TEST 10–1
A.H.C. COMPONENTS 10–1
A.H.C./PWM CONTROLLER 10–1
A.H.C. HANDLE 10–1
A.H.C. STEERING LEVER 10–1
AIR CLEANER HOUSING 7–1
AIR CLEANER SERVICE 1–1
ALTERNATOR 6–1
ALTERNATOR BELT 1–1
AXLE, SPROCKET AND BEARINGS 4–1
AXLE SEAL 4–1

BATTERY 6–1
BICS™ SYSTEM CONTROLLER 8–1
BICS™ VALVE 2–1, 10–1
BLOWER FAN 7–1
BLOWER HOUSING/FAN GEARBOX 7–1
BOBCAT INTERLOCK
CONTROL SYSTEM (BICS™) 8–1, 10–1
BOB–TACH 5–1
BOSS® DIAGNOSTIC TOOL 8–1
BOSS® INSTRUMENT PANEL 8–1
BRAKE DISC 4–1

CAMSHAFT BEARING 7–1
CHAINCASE FLUID 4–1
CONNECTING ROD 7–1
CONNECTING ROD GUIDE BUSHING 7–1
CONTROL VALVE 2–1
CRANKSHAFT 7–1
CRANKSHAFT GEAR MOUNTING BOLT 7–1
CYLINDER LINERS 7–1
CYLINDER HEAD 7–1

DECIMAL & MILLIMETER EQUIVALENTS 9–1
DRIVE BELT 3–1
DRIVE BELT SHIELD 3–1
DRIVE BELT TENSIONER PULLEY 3–1
DRIVE CHAIN 4–1
DUETZ ENGINE TOOLS 7–1

ELECTRICAL/HYDRAULIC
CONTROLS REFERENCE 8–1
ELECTRICAL SYSTEM INFORMATION 6–1
ENGINE 7–1
ENGINE MOUNTS 7–1
ENGINE COOLING SYSTEM 1–1
ENGINE LUBRICATION SYSTEM 1–1
ENGINE MUFFLER 7–1
ENGINE SPECIFICATIONS 9–1
ENGINE SPEED CONTROL 7–1
ENGINE TORQUE 9–1

FAN DRIVE TENSION PULLEY 7–1
FAN GEARBOX 1–1, 7–1
FINAL DRIVE TRANSMISSION (CHAINCASE) . . . 1–1
FLYWHEEL 7–1
FLYWHEEL HOUSING 7–1
FRONT CHAINCASE COVER 4–1
FRONT COVER 7–1
FRONT LIGHTS 6–1
FRONT SIDE PANEL 2–1
FUEL INJECTOR 7–1
FUEL INJECTION PUMP 7–1
FUEL SYSTEM 1–1
FUEL TANK 5–1

GLOW PLUGS 7–1

HYDRAULIC CONNECTION SPECIFICATIONS . . 9–1
HYDRAULIC CONTROL VALVE (AHC) 2–1, 10–1
HYDRAULIC CYLINDER 2–1
HYDRAULIC FILTER HOUSING 2–1
HYDRAULIC FLUID RESERVOIR 2–1
HYDRAULIC/HYDROSTATIC
FLUID SPECIFICATIONS 9–1
HYDRAULIC/HYDROSTATIC SYSTEM 1–1
HYDRAULIC/HYDROSTATIC BRACKET 2–1
HYDRAULIC/HYDROSTATIC HOUSING 2–1
HYDRAULIC PUMP 2–1
HYDRAULIC SYSTEM INFORMATION 2–1
HYDROSTATICMOTOR 3–1
HYDROSTATIC PUMP 3–1
HYDROSTATIC SYSTEM INFORMATION 3–1

LIFT ARM LINK 5–1
LIFT ARMS 5–1
LIFT ARM BY–PASS CONTROL VALVE 2–1
LIFT ARM STABILIZER BAR 5–1
LIFT ARM SUPPORT DEVICE 1–1
LIFT CYLINDER(S) 2–1
LIFT LOCK BY–PASS VALVE 2–1
LIFTING AND BLOCKING THE LOADER 1–1
LOADER SPECIFICATIONS 9–1
LUBRICATION OF THE BOBCAT LOADER 1–1

MAIN RELIEF VALVE 2–1
MONITOR SERVICE CODES 8–1
MOTOR CARRIER 3–1

OIL COOLER 3–1, 7–1
OIL PUMP 7–1
OPERATOR CAB 1–1, 5–1
OPERATOR CAB GAS CYLINDER 5–1
OPERATOR SEAT 5–1
OPERATION SENSING SYSTEM UNIT 8–1

PWM CONTROL HANDLE 8–1
PWM ELECTRIC SOLENOID 8–1
PWM MODULE 8–1
PWM TROUBLESHOOTING 8–1
PARKING BRAKE PEDAL 4–1
PEDAL INTERLOCK LINKAGE 2–1
PISTON AND CONNECTING ROD 7–1
POSITIVE CRANKCASE VENTILATION SYSTEM . 7–1

REAR AUXILIARY CONVERTER 2–1
REAR CHAINCASE COVER 4–1
REAR COVER SEAL 7–1
REAR DOOR 5–1
REAR GRILL 5–1
RECONDITIONING THE ENGINE 7–1
RELAY SWITCHES 6–1
REMOTE START SWITCH 1–1
ROCKER ARM AND SHAFT 7–1
RPM SENSOR 8–1

SEAT BAR 5–1
SEAT BAR RESTRAINT SYSTEM 1–1
SEAT BAR SENSOR 8–1
SEAT SENSOR 8–1
SENDER AND SENSOR 8–1
SERVICE SCHEDULE 1–1
SPRING LOADED DRIVE BELT
TENSIONER PULLEY 3–1
STANDARD INSTRUMENT PANEL 6–1
STARTER 6–1
STOPPING THE BOBCAT LOADER 1–1
STEERING LEVERS 3–1
STEERING LINKAGE 3–1
SWITCH HANDLE 10–1

TILT CYLINDER 2–1
TILT LOCK VALVE 2–1
TIMING BELT 7–1
TIRE MAINTENANCE 1–1
TORQUE SPECIFICATIONS FOR BOLTS 9–1
TORQUE SPECIFICATIONS FOR LOADER 9–1
TOWING THE LOADER 1–1
TRACTION LOCK 8–1
TRACTION LOCK CONTROL SYSTEM 8–1
TRANSPORTING THE LOADER 1–1
TROUBLESHOOTING 2–1, 3–1, 6–1, 7–1, 10–1
TROUBLESHOOTING
THE BOSS® & L.C.D. DISPLAY 8–1

U.S. TO METRIC CONVERSION 9–1

VALVE CLEARANCE 7–1
VALVE TIMING 7–1

WATER PUMP 7–1

bobcat®

CONTENTS

FOREWORD ii
SAFETY INSTRUCTIONS v
SERIAL NUMBER LOCATIONS vii
DELIVERY REPORT vii
BOBCAT LOADER IDENTIFICATION viii
PREVENTIVE MAINTENANCE 1–1
HYDRAULIC SYSTEM 2–1
HYDROSTATIC SYSTEM 3–1
DRIVE SYSTEM 4–1
MAIN FRAME 5–1
ELECTRICAL SYSTEM 6–1
ENGINE SERVICE 7–1
SYSTEM ANALYSIS 8–1
SPECIFICATIONS 9–1

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 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. Check lift arm support device, replace if damaged.

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

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

8. Check for correct function of the work lights.

9. The parking brake must function correctly.

10. Enclosure door latches must open and close freely.

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

12. Safety treads must in good condition.

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

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

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

16. Lubricate the loader.

17. Check the condition of the battery and cables.

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

19. Check the electrical charging system.

20. Check tires for wear and pressure.

21. Inspect for loose or broken parts or connections.

22. Operate the loader and check all functions.

23. Check for any field modification not completed.

24. 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.

WARNING

Instructions are necessary before operating or servicing machine. Read and understand the 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–2003–1298

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 many other languages. See your Bobcat dealer for more information on translated versions.
- 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 version.
- The Bobcat Skid–Steer Loader Safety Video is available from your Bobcat Dealer.

WARNING

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

W–2044–1285

IMPORTANT

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

I–2019–0284

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

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 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 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

- XXXXX — Module 2. – Production Sequence (Series)
- XXXX — 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]**.

DELIVERY REPORT

The Delivery Report must be filled out by the dealer and signed by the owner or operator when the Bobcat loader is delivered. An explanation of the form must be given to the owner. Make sure it is filled out completely **[C]**.

BOBCAT LOADER IDENTIFICATION

◊ OPTIONAL OR FIELD ACCESSORY (Not Standard Equipment)

* TIRES – Flotation tires ◊ are shown. The Bobcat loader is factory equipped with standard tires.

† 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 is available. 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

Model 873 Bobcat loaders are equipped with the following Standard items:

Adjustable Cushion Seat
Bob–Tach
Spark Arrestor Exhaust System (Turbo Charger)
Lift Arm Support Device
Operator Cab (with ROPS & FOPS Approval)
Bobcat Interlock Control System (BICS™)
Seat Belt
Seat Bar
Parking Brake
Gauges/Warning Lights
Glow Plug Preheat system
Tires, 12–16.5, 10PR Bobcat Heavy Duty

Below is a list of some equipment available as a Factory Installed Option or as a Field Installed Accessory from your Bobcat Loader dealer. See your Bobcat dealer for other available accessories and attachments.

Tires

31 x 15.5–15, 8PR Ultra Grip Tread	Opt. & FA
12 x 16.5 Bobcat H.D., 10 PR Flotation	FA

Operator Cab

Sound Cab (Reduces Noise at Operator's Ear)	Opt.
Deluxe Cab	Opt. & FA
Operating Lights (Front & Rear)	Opt. & FA
Back–up Alarm	Opt. & FA
Top Window	FA
Rear Window	FA
Cab Enclosure and Heater	Opt. & FA
Hand Control Conversion	Opt. & FA
Cover Kit (Hydraulic Reservoir Area)	FA
Fire Extinguisher	FA
Flasher Lights	FA
Strobe or Rotating Beacon Light	FA
3" Seat Belt	FA
Special Applications Enclosure*	FA
Suspension Seat	Opt. & FA
Rear Window Wiper	FA

Instrumentation

Bobcat Operation Sensing System (BOSS®)	Opt.
Keyless Start System	FA

Hydraulics

Front Auxiliary Hydraulics (Proportional Control)	Opt. & FA
Rear Auxiliary Hydraulics	Opt. & FA
Hydraulic Bucket Positioning (Includes On/Off Selection)	Opt. & FA

Other

Catalytic Exhaust Purifier	Opt. & FA
Engine Heater (Oil Pan)	Opt. & FA
Single Point Lift or Four Point Lift	FA
Locking Fuel Cap	FA
Counterweight Kit	Opt. & FA

Std. = Standard Equipment
Opt. = Factory Installed Option
FA = Field Accessory
N/A = Not Available
***** Includes 1/2 inch Lexan Front Door; 1/4 inch Lexan Top & Rear Windows

Specifications subject to change without notice

Page Number

AIR CLEANER SERVICE
Replacing Filter Element 1–13

ALTERNATOR BELT
Adjusting The Alternator Belt 1–18

ENGINE COOLING SYSTEM
Cleaning The Cooling System 1–17

ENGINE LUBRICATION SYSTEM
Checking Engine Oil 1–16
Replacing Oil And Filter 1–16

FAN GEARBOX
Checking And Maintaining 1–23

FINAL DRIVE TRANSMISSION (CHAINCASE)
Checking And Adding Oil 1–23

FUEL SYSTEM
Filling the Fuel Tank 1–15
Fuel Filter 1–15
Fuel Specifications 1–15
Removing Air From The Fuel System 1–15

HYDRAULIC/HYDROSTATIC SYSTEM
Checking And Adding Fluid 1–19
Hydraulic/Hydrostatic Filter Replacement 1–19
Replacing Hydraulic Fluid 1–20

LIFT ARM SUPPORT DEVICE
To Install The Lift Arm Support Device 1–6
To Remove The Lift Arm Support Device 1–6

LIFTING AND BLOCKING THE LOADER
Procedure 1–4

LUBRICATING THE LOADER
Procedure 1–24

OPERATOR CAB
Description 1–7
Lowering The Operator Cab 1–8
Raising The Operator Cab 1–7
Emergency Exit 1–9

REMOTE START SWITCH
Procedure 1–27

SEAT BAR RESTRAINT SYSTEM (ADVANCED HAND CONTROLS)
Seat Bar Inspection 1–12
Seat Bar Maintenance 1–12

Continued On Next Page

Page Number

SEAT BAR RESTRAINT SYSTEM (FOOT PEDALS)
Seat Bar Inspection 1–10
Seat Bar Maintenance 1–10

SEAT BAR RESTRAINT SYSTEM (MECHANICAL HAND CONTROLS)
Seat Bar Inspection 1–11
Seat Bar Maintenance 1–11

SERVICE SCHEDULE
Chart 1–3

STOPPING THE BOBCAT LOADER
Procedure 1–5

TIRE MAINTENANCE
Tire Mounting 1–22
Tire Rotation 1–22
Wheel Nuts 1–22

TOWING THE LOADER
Procedure 1–5

TRANSPORTING THE LOADER
Procedure 1–5

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 and understand the 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–2003–1298

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 Melroe 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 first 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 and understand 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–2003–1298

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

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]**.

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.

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 an approved 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–2059–0598

To Install The Lift Arm Support Device

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

Remove the approved lift arm support device from the crossmember.

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

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 **[B]**.

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

WARNING

Service lift arm support device if damaged or if parts are missing. Using a damaged lift arm support or with missing parts can cause lift arms to drop causing injury or death.

W–2271–1197

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 **[B]**.

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 with the retainer knobs **[A]**.

OPERATOR CAB

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.

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 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.

⚠ 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

Raising The Operator Cab

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

Put jackstands under the rear of the loader frame (Inset) **[A]**.

Mechanical Hand Controls Only: Disconnect the control linkage joint from the bottom hole (work position) and move to the TOP hole on the control handle (both sides) **[B]**. Both control handles must be in the vertical position so there will be no cab interference with the steering levers when the operator cab is raised or lowered.

Advanced Hand Controls Only: Hold the steering levers forward so that the cab does not hit the levers when raising the cab.

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

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

IMPORTANT

Use care when raising or lowering the operator cab to prevent damaging the shaft of the lift arm by–pass control.

I–2070–0596

⚠ 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 can allow the machine to tip backward causing injury or death.

W–2014–0895

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 (FOOT PEDALS)

The seat bar restraint system has a pivoting, spring assist seat bar with arm rests and has spring loaded interlocks for the lift and tilt control functions.

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 control functions are locked when returned to the neutral position.

⚠ WARNING

AVOID INJURY OR DEATH

The Seat Bar System must lock the lift and tilt foot pedals or hand controls in neutral when the Seat Bar is up. Service the system if controls do not lock correctly.

W–2263–0597

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 pedal. 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 put 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 Bobcat loader replacement parts.

⚠ WARNING

AVOID INJURY OR DEATH

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

W–2158–0594

SEAT BAR RESTRAINT SYSTEM (MECHANICAL HAND CONTROLS)

The seat bar restraint system has a pivoting, spring assist seat bar with arm rests and has spring loaded interlocks for the lift and tilt control functions.

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 hand controls.

When the seat bar is up, the lift and tilt control functions are locked when returned to the neutral position.

WARNING

AVOID INJURY OR DEATH

The Seat Bar System must lock the lift and tilt foot pedals or hand controls in neutral when the Seat Bar is up. Service the system if controls do not lock correctly.

W–2263–0597

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 hand control 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 hand control. The controls must be firmly locked in neutral position. There must be no motion of the lift arms or tilt (bucket) when the controls are pushed.

Pull the seat bar down, lower the lift arms. Operate the lift control. 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 hand controls to be sure that the controls are firmly locked in the neutral position. Unbuckle the seat belt.

Seat Bar Maintenance

See the *SERVICE SCHEDULE* Page 1–3 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 hand control linkage. Replace parts that are worn or damaged. Use only genuine Bobcat loader replacement parts.

WARNING

AVOID INJURY OR DEATH

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

W–2158–0594

SEAT BAR RESTRAINT SYSTEM (ADVANCED HAND CONTROLS)

The seat bar restraint system has a pivoting seat bar (Item 1) **[A]** with arm rests.

The operator controls the use of the seat bar. The seat bar in the down position helps to keep the operator in the seat.

When the seat bar is down the lift, tilt, and traction drive functions can be operated.

When the seat bar is up, the lift, tilt, and traction drive functions are deactivated.

Inspecting The Seat Bar

Sit in the operator's seat. Turn the key ON, lower the seat bar. Both lights on the left handle should be ON.

Move each hand control back and forth. You should hear the *zip,zip* sound of the lift and tilt actuators moving the control valve spools (under the seat).

Raise the seat bar fully. Both lights on the left handle should be OFF.

Move each hand control back and forth. There must be no sound of the lift or tilt actuators. If either actuator makes a sound while the seat bar is raised. (See Page 10–1.)

Maintaining The Seat Bar

See the *SERVICE SCHEDULE* Page 1–3 for correct service interval.

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

If the seat bar system does not function correctly replace parts that are worn or damaged. Use only genuine Bobcat replacement parts.

⚠ WARNING

AVOID INJURY OR DEATH

When operating the machine:

- **Keep the seat belt fastened snugly.**
- **The seat bar must be lowered.**
- **Keep your feet on the foot rests.**

W–2179–0694

Before you leave the operator's seat:

- **Lower the lift arms, put the attachment flat on the ground.**
- **Stop the engine.**
- **Engage the parking brake.**
- **Raise seat bar.**
- ***(Advanced Hand Controls)* Move the hand controls to the NEUTRAL POSITION to make sure that both lift and tilt functions are deactivated.**
  The seat bar system must deactivate the lift and tilt control functions when the seat bar is up. Service the system if hand controls do not deactivate.

W–2321–0698

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]** or **[B]**.

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] [C]**.

Service the air cleaner as follows:

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

Remove the dust cover.

Product: Bobcat 873 Skid Steer Loader Service Repair Workshop Manual 514115001-514213001
Full Download: https://www.arepairmanual.com/downloads/bobcat-873-skid-stee
r-loader-service-repair-workshop-manual-514115001-514213001/

Replacing Filter Element (Cont'd)

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

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

Install the new filter element.

Install the dust cover.

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

Only replace the inner filter element under the following conditions **[B]**.

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

Sample of manual. Download All 592 pages at:
https://www.arepairmanual.com/downloads/bobcat-873-skid-steer-loader-service-repair-workshop-manual-514115001-5142130