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Operation & Maintenance Manual

BASE
PLUS
HIGH
HORSEPOWER



MELROE COMPANY

A BUSINESS UNIT OF CLARK EQUIPMENT COMPANY

6722406 (11-92)-1.5M

Printed in U.S.A.

 **bobcat**[®]
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OPERATOR SAFETY WARNINGS



WARNING

Operator must have instructions before running the machine. Untrained operators can cause injury or death.

W-2001-1285

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

CORRECT



B-10731

! Never use the loader without instructions. See machine signs (decals) Operation & Maintenance Manual and Handbook.

CORRECT



B-7403

! Always use the seat bar and fasten seat belt snugly.
! Always keep feet on the pedals when operating loader.

CORRECT



B-6582

! Never use loader without operator cab with ROPS and FOPS approval.

WRONG



B-13418

! Never use loader as man lift or elevating device for personnel.

WRONG



B-6578

! Do not use loader in atmosphere with explosive dust or gas or where exhaust can contact flammable material.

WRONG



B-6585

! Never carry riders.
! Keep bystanders away from work area.

WRONG



B-6595

! Always carry bucket or attachments as low as possible.
! Do not travel or turn with lift arms up.
! Load, unload and turn on flat level ground.

WRONG



B-6587

! Never exceed rated operating capacity.

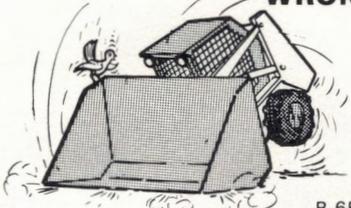
WRONG



B-6594

! Never leave loader with engine running or with lift arms up.
! To park, engage parking brake and put attachment flat on the ground.

WRONG



B-6591

! Never modify equipment.
! Use only attachments approved by Melroe Company for this model loader.

SAFETY EQUIPMENT

The Bobcat loader must be equipped with safety items necessary for each job. Ask your dealer about attachments and accessories.

1. SEAT BELT: Check belt fasteners and check for damaged webbing or buckle.
2. SEAT BAR: When up, it must lock the pedals.
3. OPERATOR CAB (ROPS and FOPS): It must be on the loader with all fasteners tight.
4. HANDBOOK: Must be in the cab.
5. SAFETY SIGNS (DECALS): Replace if damaged.
6. SAFETY TREADS: Replace if damaged.
7. GRAB HANDLES: Replace if damaged.

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FOREWORD

SAFETY

OPERATING
INSTRUCTIONS

PREVENTIVE
MAINTENANCE

SERVICE
CODES

SAFETY
SIGNS

SPECIFICATIONS

REFERENCE INFORMATION

Write the correct information for YOUR Bobcat loader in the spaces below. Always use these numbers when referring to your Bobcat loader.

Loader Serial Number _____
Engine Serial Number _____

NOTES: _____

YOUR BOBCAT LOADER DEALER: _____
ADDRESS: _____
PHONE: _____



bobcat

FOREWORD

This Operation & Maintenance Manual was written to give the owner/operator instructions on the safe operation and maintenance of the Bobcat loader. **READ AND UNDERSTAND THIS OPERATION & MAINTENANCE MANUAL BEFORE OPERATING YOUR LOADER.** If you have any questions, see your Bobcat loader dealer.

SERIAL NUMBER LOCATIONS i
DELIVERY REPORT i
BOBCAT SKID STEER LOADER IDENTIFICATION ii
853 SERIES EQUIPMENT v



bobcat

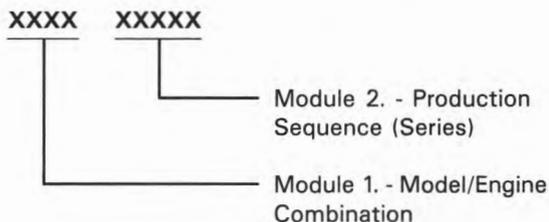
SERIAL NUMBER LOCATIONS

Always use the serial number of the loader when requesting service information or when ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use a different procedure in doing a specific service operation.

LOADER SERIAL NUMBER

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

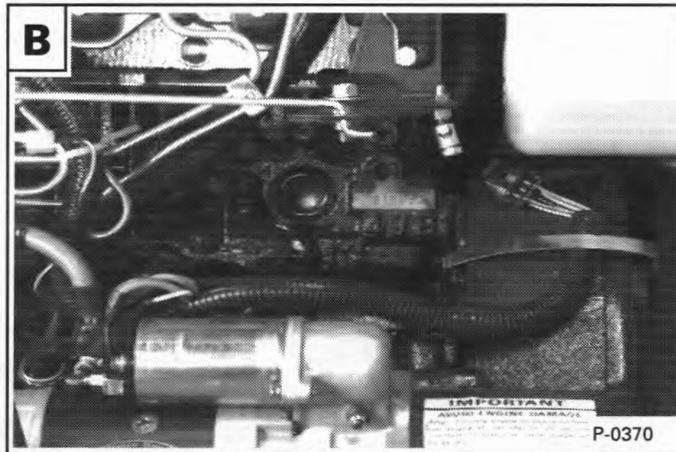
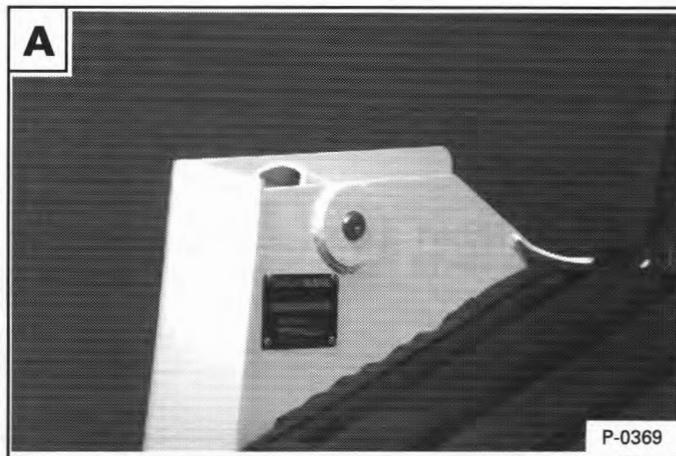
Explanation of loader Serial Number:



1. 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 Operation & Maintenance Manual to more easily identify the standard, optional and field accessory equipment included or available for each specific model.
2. The five digit Production Sequence Number identifies the order which the loader is produced.

ENGINE SERIAL NUMBER

The serial number is above the starter on the engine block **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**.

LOADER DELIVERY REPORT

Dealer Name _____ Dealer No. _____ Address _____ State _____ Zip _____ City _____ Customer Name _____ Company Name _____ Address _____ State _____ Zip _____ City _____	Machine or Attachment Name _____ Model No. _____ Serial No. _____ Engine Serial No. _____ Bucket Size _____ Attachment _____ Deck Delivered _____ Transferred From _____
---	---

WARNING

Read the manual in full before operating the loader. See the manual for important safety information. Do not use the loader unless you are trained and qualified to do so. See the Operator's Manual for more information.

1. Read the Operator's Manual, Safety Manual, and Warranty Booklet. After reading, sign the acknowledgment, under "OPERATOR'S MANUAL READ" on the back of this report.
2. Read the Operator's Manual, Safety Manual, and Warranty Booklet. After reading, sign the acknowledgment, under "OPERATOR'S MANUAL READ" on the back of this report.
3. Explain capabilities and limitations of loader and attachments for use under the conditions of the Operator's Manual.
4. Review and discuss Safety Signs, Decals, Operator's Manual, and Safety Manual instructions.
5. Explain the Operator's Manual attachment with a label on the operator's cab.
6. Show how to enter and exit the loader, with hand brake, bucket steps and safety latch.
7. Demonstrate use and maintenance of the loader and all attachments.
8. Demonstrate how to stop, stop, turn and dump the loader. Also show how to lift, carry and dump the load.
9. Explain use of operator cab which is a Bobcat and using Operator Protective Structure (OPS) for all attachments. Do NOT modify or remove operator cab.

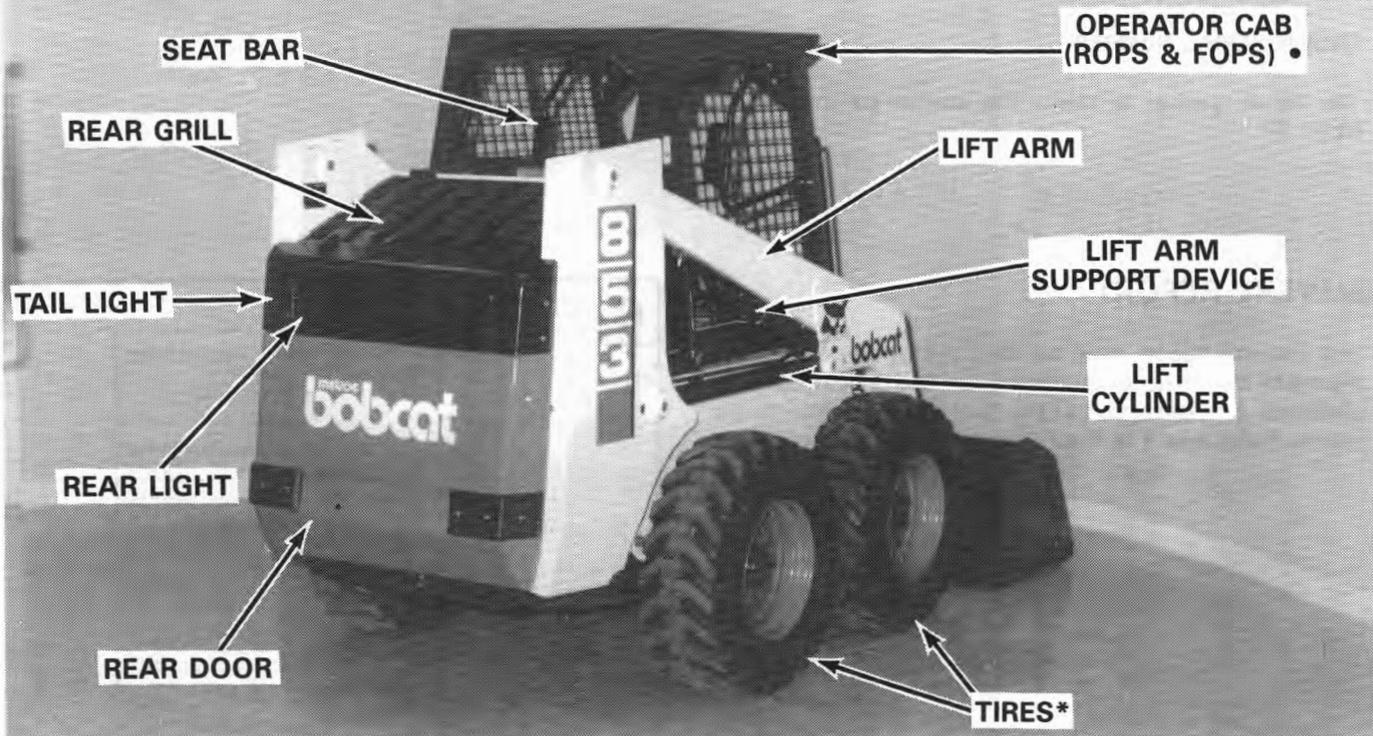
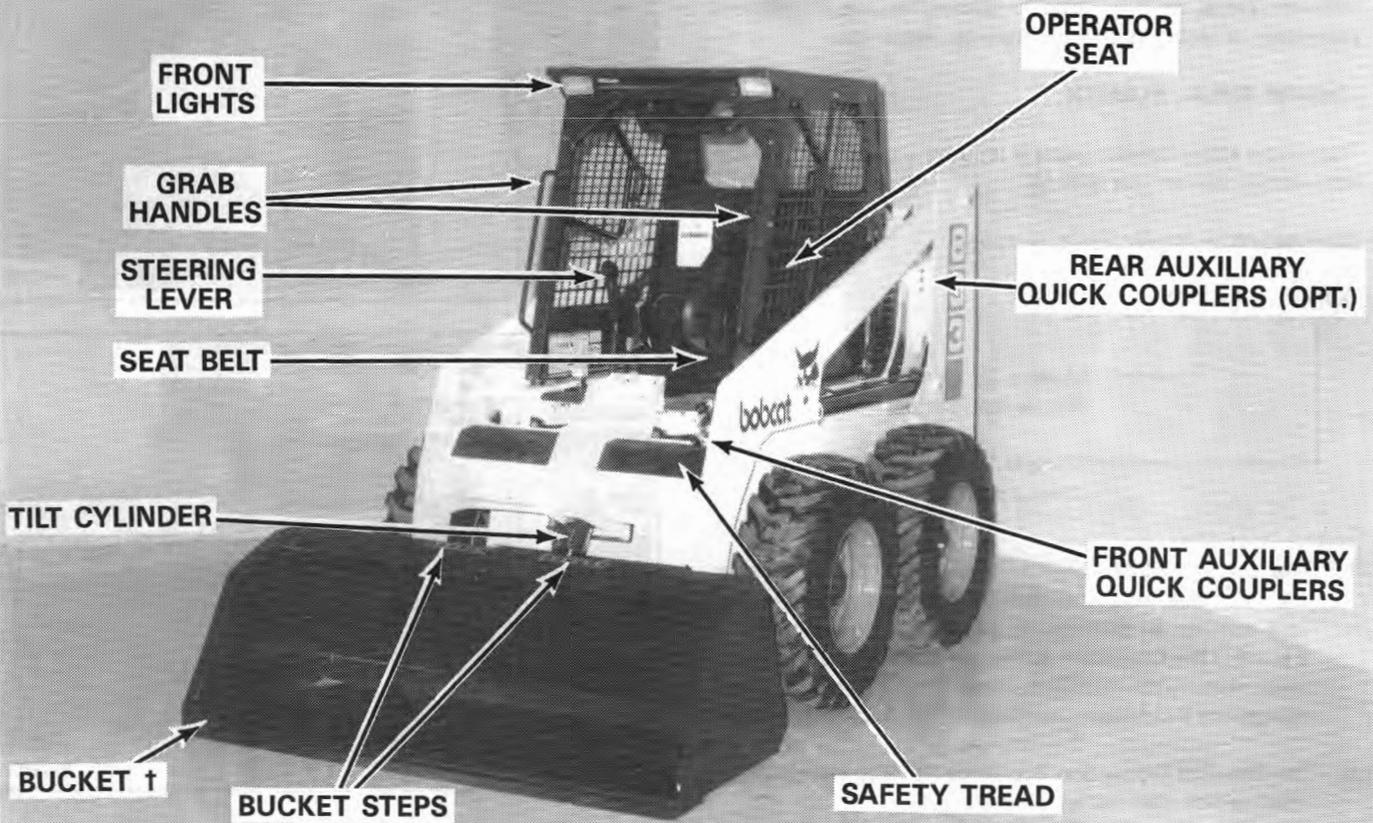
The dealer delivery information has been explained to me. I understand the operation and requirements of this machine and I am authorized to warrant, conditions and conditions as outlined in the copy of the warranty statement.

Dealer Operator Signature _____ Date _____

Owner Representative Signature _____ Date _____

BOBCAT LOADER IDENTIFICATION

853 Plus (5102)



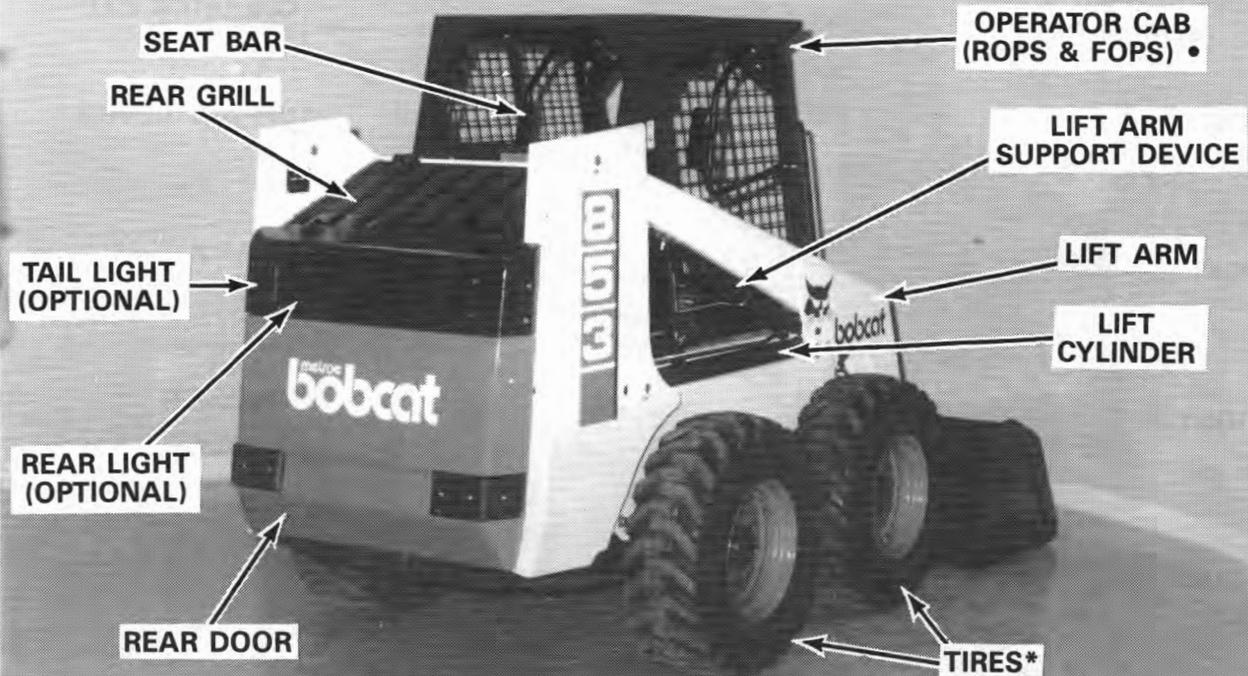
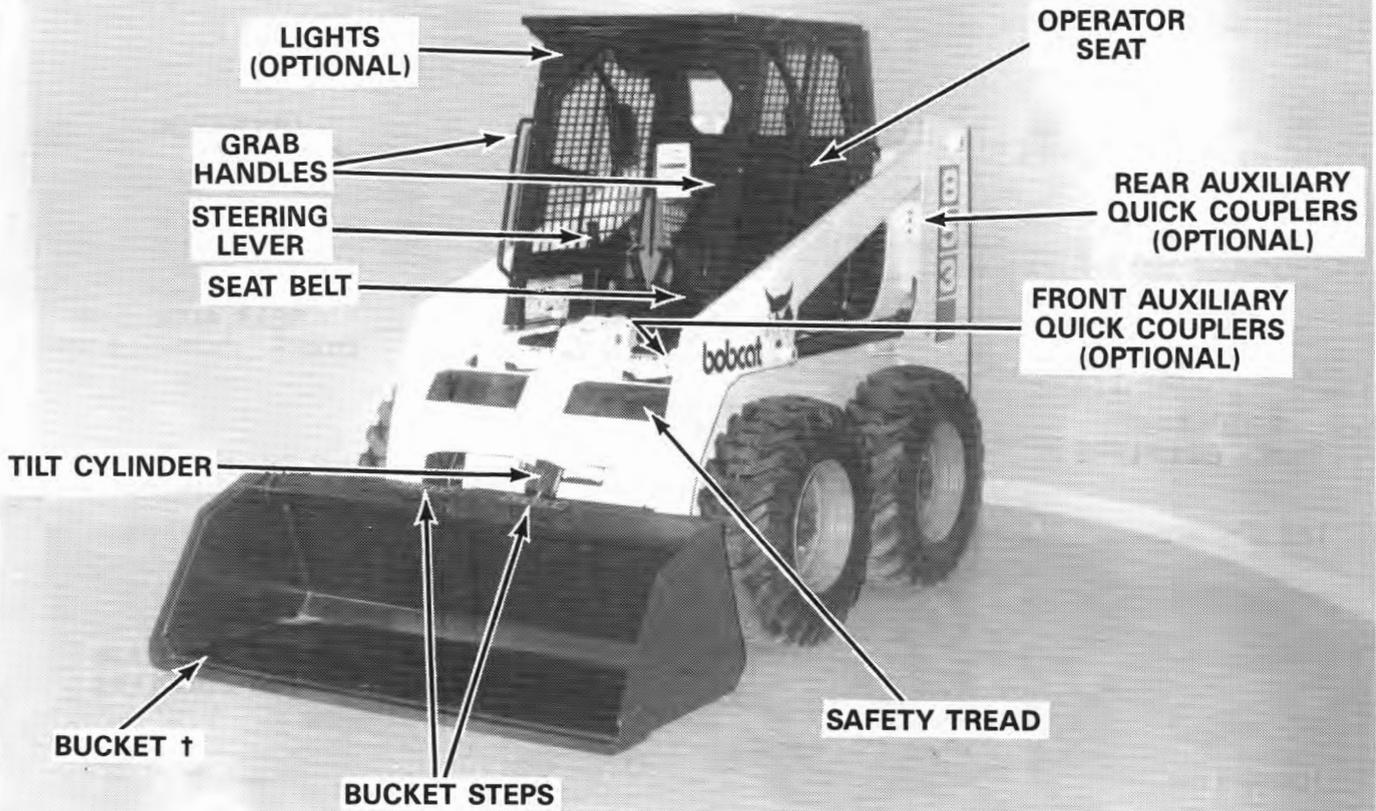
* TIRES – Flotation tires are shown. The Bobcat loader is base-equipped with standard tires.

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

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

BOBCAT LOADER IDENTIFICATION (Cont'd)

853 Base (5101)



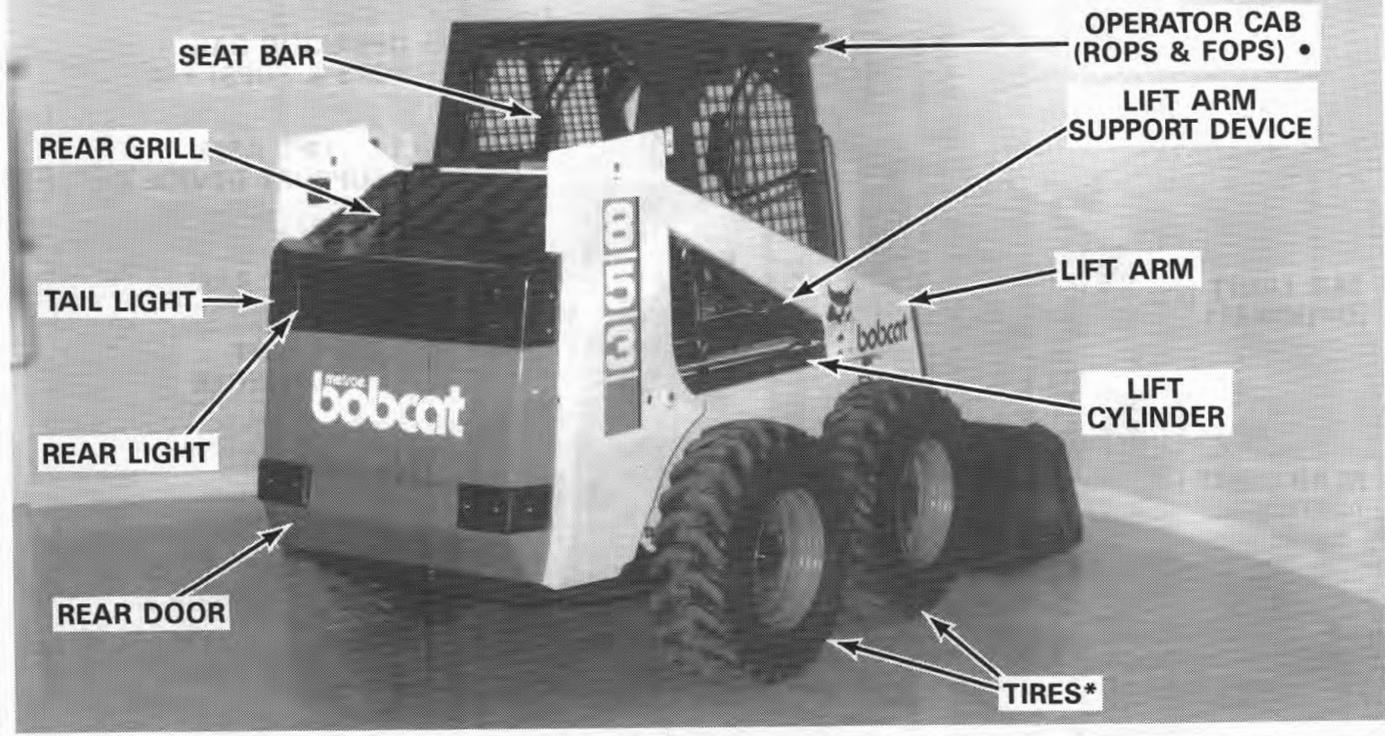
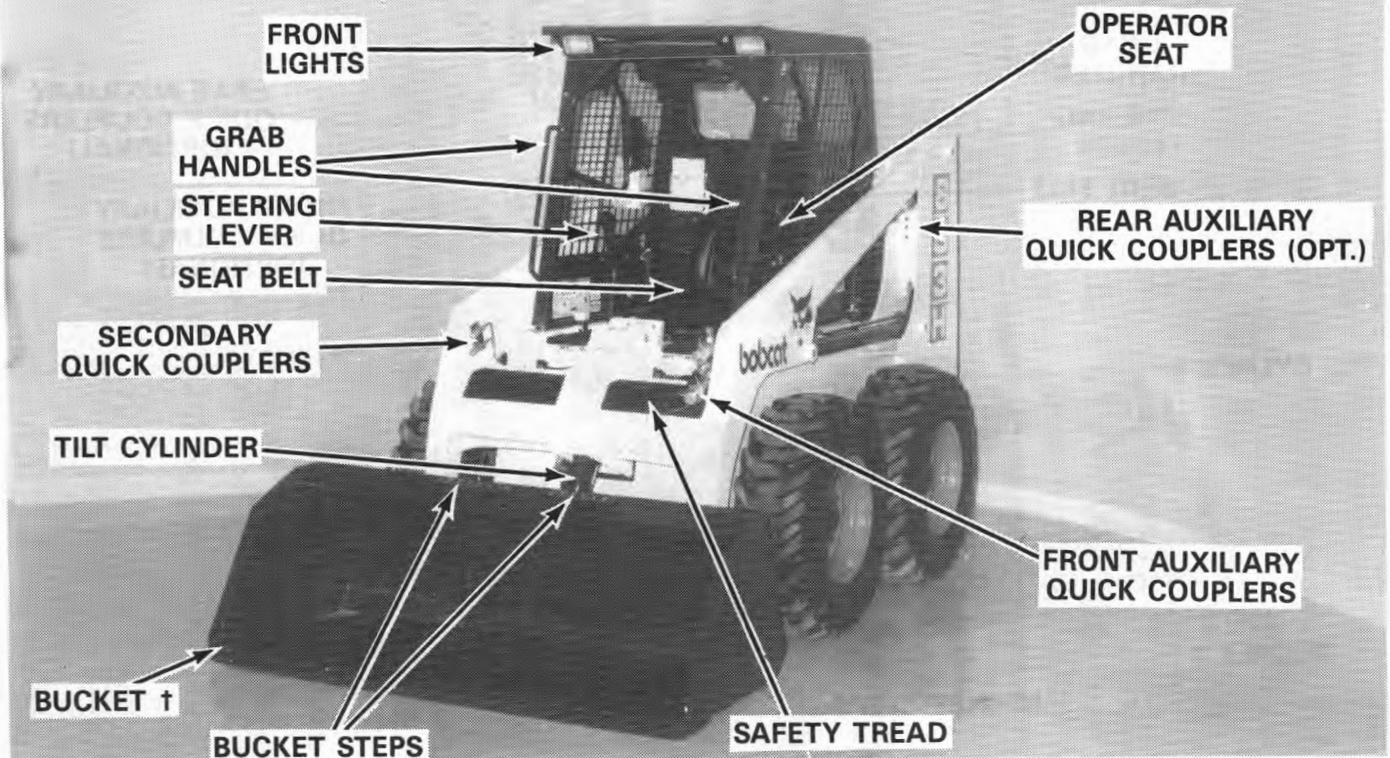
* TIRES — Flotation tires are shown. The Bobcat loader is base-equipped with standard tires.

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

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

BOBCAT LOADER IDENTIFICATION (Cont'd)

853H Plus (5103)



* TIRES — Flotation tires are shown. The Bobcat loader is base-equipped with standard tires.

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

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

853 SERIES EQUIPMENT

All 853 Bobcat loaders are standard equipped with the following items:

Bob-Tach	Operator Cab
Servo Assist Steering	Seat Belt
Spark Arrestor Muffler	Seat Bar
Lift Arm Support Device	Parking Brake

Below is a listing of the equipment which varies by model.

	<u>† 853 Base (5101)</u>	<u>† 853 Plus (5102)</u> <u>† 853H Plus (5103)</u>
<u>Tires</u>		
8.25-15 6 PR	Std.	Std.
12.00-16.5 6 PR Flotation	Opt.	Opt.
8.00-16 Solid	Opt.	Opt.
<u>Operator Cab</u>		
Black Cushion Seat	Std.	Std.
Suspension Seat	Opt.	Opt.
85 dBa Sound Package	NA	Opt.
90 dBa Sound Package	Opt.	Std.
Lights, Front & Rear	Opt.	Std.
Top Window	FA	FA
Rear Window	FA	Std.
Side Windows (Rear Portion Only)	NA	*NA
Horn	FA	FA
<u>Hydraulics</u>		
Front Auxiliary Hydraulics	Opt.	Std.
Hyd. Bucket Positioning	Opt.	Std.
Rear Auxiliary Hydraulics	**FA	FA
<u>INSTRUMENTATION</u>		
Gauges	Std.	NA
Bobcat Operating Sensing System (BOSS®)	NA	Std.

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

- * Not available individually. Included with 85 bBa sound package
- ** Loader must be equipped with front auxiliary hydraulics.
- † Refer to Loader Serial Number on Page i for explanation of four digit prefix number used in identifying loader models.

Specifications subject to change without notice.



bobcat

SAFETY

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bobcat

SAFETY INSTRUCTIONS

A. SAFETY IS THE OPERATOR'S RESPONSIBILITY

The Skid Steer Loader is a highly maneuverable and compact machine. In operation, it is rugged and useful under a wide variety of conditions. This presents an operator with hazards associated with off highway, rough terrain applications. The loader has an internal combustion engine with resultant heat and exhaust. All exhaust gases can kill so the loader must be used with adequate ventilation. The loader has a spark arrestor muffler which is required for operation in certain areas.

The dealer explains the capabilities and restrictions of the loader and attachments for each application. The dealer demonstrates the safe operation of the loader according to Melroe's instructional materials; which are also available to operators. The dealer can also identify unsafe modifications or use of unapproved attachments. The attachments and buckets are designed for rated capacity and secure fastening to the loader. The user must check with the dealer, or Melroe Company literature, to determine safe loads of materials of specified densities for his loader-attachment combination.

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 Operator Handbook fastened to the operator cab. It's brief instructions are convenient to the operator. The handbook is available from your dealer in English edition or a combination English, French, German, Spanish, Italian & Dutch edition.
- The EMI Manual delivered with the loader gives general safety information.
- The Service Manual and Parts Manual are available from Bobcat loader dealers for use by mechanics to do shop-type service and repair work.

The dealer and owner/operator review the recommended uses of the loader and attachments when the loader is delivered. If the owner/operator will be using the loader for a different application than was originally demonstrated by the dealer, ask the dealer for recommendations on the new use.

B. BEFORE OPERATING THE BOBCAT LOADER

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

**WARNING**

Operator must have instructions before running the machine. Untrained operators can cause injury or death.

W-2001-1285



B-10731

The Bobcat loader must be in good operating condition before use.

Check all of the items on the Service Schedule under the 8 - 10 hour column.

**WARNING**

Warnings on the machine 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

C. SAFE OPERATION NEEDS A QUALIFIED OPERATOR

A QUALIFIED OPERATOR* MUST DO THE FOLLOWING:

1. UNDERSTAND THE WRITTEN INSTRUCTIONS, RULES AND REGULATIONS
 - a. The written instructions from Melroe Company include the delivery report, Operation & Maintenance Manual and handbook, EMI manual and machine signs (decals).
 - b. Check the rules and regulations at your location. The rules may include an employer's work safety requirements. Regulations may identify a hazard such as utility supply line.
2. HAVE TRAINING WITH ACTUAL OPERATION
 - a. Operator training must consist of a demonstration and verbal instruction. This training is given by your dealer before the loader is delivered.
 - b. The new operator should start in an area without bystanders and use all the controls until he can operate the loader safely under all conditions of the work area. Always fasten seat belt and lower seat bar before operating.
3. KNOW THE WORK CONDITIONS
 - a. For each material to be handled, the operator must know how to avoid exceeding the rated operating capacity of the loader. For example, in handling certain loose material with a given bucket, he must know whether he can safely take a full load, or only part of a bucket load.
 - b. The operator must know any prohibited uses or work areas, for example, he needs to know about excessive slopes.
 - c. 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 about Melroe safety equipment.

* For an operator to be qualified, he must not use drugs or alcoholic drinks which impair his alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he can safely operate a machine.

FIRE PREVENTION

The loader has several components that are at high temperature under normal operating conditions. The primary source of high temperatures is the engine and exhaust system. The electrical system, if damaged or incorrectly maintained, can be a source of arcs or sparks.

Flammable debris (leaves, straw, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it will increase the fire hazard. The loader must be cleaned as often as necessary to avoid this accumulation. Flammable debris in the engine compartment is a fire hazard when the loader is parked with a hot engine.

The spark arrestor muffler is designed to control the emission of hot particles from the engine and exhaust system, but the muffler and the exhaust gases are still hot.

- 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.
- 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 Operation & Maintenance Manual for connecting the battery.
- Use the procedure in the Operation & Maintenance Manual for cleaning the spark arrestor muffler.

SAFETY SIGNS (DECALS)

Follow the instructions on all the Safety Signs (Decals) that are on the loader. Replace any damaged safety signs and be sure they are in the correct locations. Safety signs are available from your Bobcat loader dealer.

bobcat
OPERATOR'S HANDBOOK
 This Handbook is for Bobcat Loader Models 853 and 853.

WARNING
AVOID INJURY OR DEATH

- Never use the loader without instructions. Read the operator's manual, the Operator's Handbook and the P22 Safety Manual.
- Always lower and lock the boom on the ground before leaving the loader. Keep feet on pedals.
- Never use loader without operator's seat which has ROPS & TPOE approval.
- Always carry bucket or attachment to low or parallel.
- Do not travel or turn with lift arms up.
- Load, unload and turn on the level ground.
- Do not exceed rated operating capacity.
- Before leaving the operator's seat: Lower lift arms. Place attachment flat on ground. Shut the engine. Apply the parking brake. Place feet on the seat and lower pedals until both lock.
- Never modify the loader or add attachments not approved by Bobcat Company.

810088 (2-85)

6703728 (853 Plus - 5102)
 (853H Plus - 5103)
 6704762 (853 Base - 5101)

6703723

WARNING
 CYLINDER CONTAINS HIGH PRESSURE GAS. DO NOT OPEN. OPENING CYLINDER CAN RELEASE ROD AND CAUSE INJURY OR DEATH.

6577754 (2)

WARNING
AVOID INJURY OR DEATH
 Never operate loader without pedal lock added 8708474 on both interlocks. Straps prevent foot from unlatching interlocks unless leaving loader seat.

8708474

6705720

FAST **SLOW**
 SCHNELL LANGSAM
 RAPIDO LENTO
 VITE LEHTO

8537566

6557566

RATED OPERATING CAPACITY
 7700 lbs.
 FAIRBAIRE NUTILAST
 CAPACIDAD DE OPERACION
 CAPACITE MAXIMUM DE LEVAGE

8531376

6561376

FULLY ENGAGE LOCKING LEVERS
 ENGANCHE COMPLETAMENTE LAS PALANCAS
 HEBEL VOLLIG ENKASTEN
 ENGAGER A FOND LES LEVIERS DE VERROUILLAGE

8561383

6561383

KEY SWITCH PRE-HEAT POSITION	PRE-HEAT BUTTON	AIR TEMP	PRE-HEAT TIME
RUN		70°F (21°C) & Above	NO TIME
		50°F to 70°F (10° to 21°C)	5 SECONDS
		0°F to 50°F (-18° to 10°C)	15 SECONDS
		0°F (-18°) & Below	25 SECONDS

SEE OPERATION & MAINTENANCE MANUAL FOR MORE INSTRUCTIONS

8708712

6705712
 (853 Base - 5101)

DANGER
AVOID DEATH
 Keep out of this area when lift arms are raised unless supported by lift arm stop.
 Moving lift arm control or failure of a part can cause lift arms to drop.

8702302

6702302

DANGER
AVOID DEATH
 Attachment can be forced against the ground and cause front wheels to raise.
 Never go under or reach under lift arms or lift cylinder without an approved lift arm stop installed.

8702301

6702301

WARNING
AVOID INJURY OR DEATH
CARRY LOAD LOW
 FAILURE TO OBEY CAN CAUSE TIPPING OR ROLLOVER OR LOSS OF LOAD OR VISIBILITY.

8579528

6579528

WARNING
AVOID INJURY OR DEATH

NEVER USE THE LOADER WITHOUT INSTRUCTIONS. READ OPERATOR'S AND MAINTENANCE MANUAL AND HANDBOOK.		USE SEAT BAR FASTEN SEAT BELT SECURELY.		KEEP FEET ON PEDALS.	
	DO NOT TRAVEL OR TURN WITH LIFT ARMS UP. LOAD, UNLOAD AND TURN ON THE LEVEL GROUND. DO NOT EXCEED RATED OPERATING CAPACITY (SEE SIGN ON LOADER).		NEVER MODIFY EQUIPMENT OR USE ATTACHMENTS NOT APPROVED BY MELroe COMPANY.		ON SLOPES, KEEP HEAVY END OF LOADER UPHILL.
TO LEAVE THE LOADER:					
1	LOWER THE LIFT ARMS. PUT ATTACHMENT FLAT ON GROUND.	2	STOP THE ENGINE.		
3	ENGAGE THE BRAKE.	4	RAISE SEAT BAR. MOVE PEDALS UNTIL BOTH LOCK.		

8579510

6579510

B-12555

853 Bobcat Loader
 Operation & Maintenance Manual

x

SAFETY SIGNS (DECALS) (Cont'd)

IMPORTANT

THIS MACHINE IS FACTORY EQUIPPED WITH A U.S.D.A. FORESTRY SERVICE APPROVED SPARK ARRESTOR MUFFLER. IT IS NECESSARY TO DO MAINTENANCE ON THIS SPARK ARRESTOR MUFFLER TO KEEP IT IN WORKING CONDITION. THE SPARK ARRESTOR MUFFLER MUST BE SERVICED BY DUMPING THE SPARK CHAMBER EVERY 100 HOURS OF OPERATION.

IF THIS MACHINE IS OPERATED ON FLAMMABLE FOREST BRUSH OR BRANCH COVERED LAND, IT MUST BE EQUIPPED WITH A SPARK ARRESTOR ATTACHED TO THE EXHAUST SYSTEM AND MAINTAINED IN WORKING ORDER. FAILURE TO DO SO WILL BE IN VIOLATION OF CALIFORNIA STATE LAW, SECTION 4602, P.C. PLEASE REFERENCE TO LOCAL LAWS AND REGULATIONS FOR SPARK ARRESTOR REQUIREMENTS.

SEE OPERATOR'S MANUAL FOR MORE INSTRUCTIONS.

WEITERE INSTRUKTIONEN FINDEN SIE IN DER BEDIENUNGSANLEITUNG. CONSULTA EL MANUAL DEL OPERADOR PARA MAS INSTRUCCIONES. SE REPORTER AU MANUEL DE L'OPERATEUR POUR PLUS ENSEIGNEMENTS. 888873

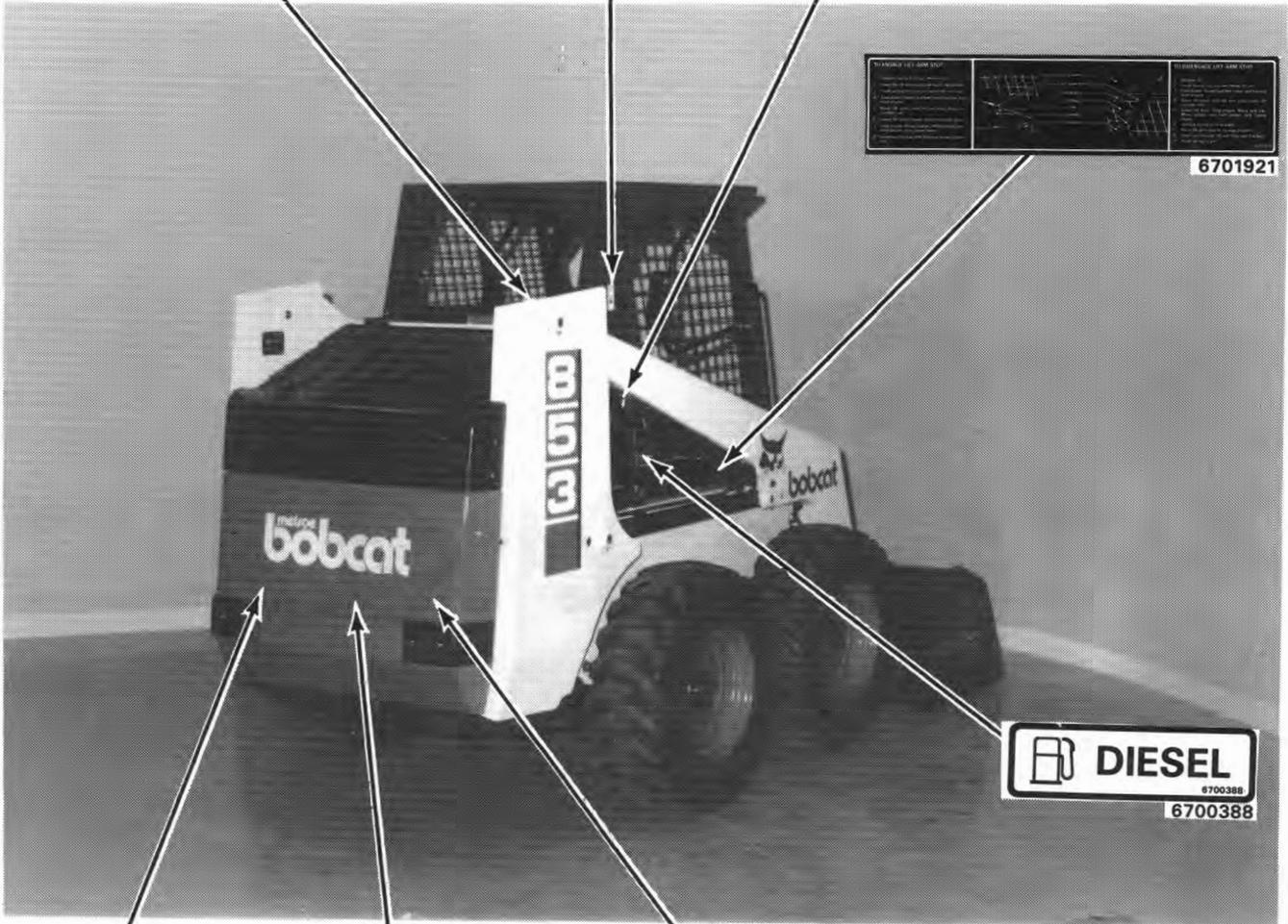
6560573



6565990

← PUSH TO RELEASE STOP

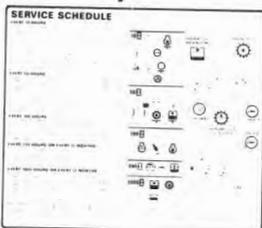
6578368



6701921



6700388



*6578218

Bobcat Filters

MODEL	BS3	HOURS (See Foot)
	6560482	
	6560482	
	6621933	
	6647773	
	6620077	
	6620077	

SEE SERVICE SCHEDULE FOR ALL LOCATIONS OR CONTACT AN AUTHORIZED BOBCAT DEALER. 888822

*6700237

WARNING
AVOID INJURY OR DEATH

- Keep clear of the wheel for safety.
- Keep engine clear of flammable material.
- Keep back, loose objects and clothing away from exhaust system, moving parts, hot parts and wheels.
- Do not use loader to support or support loads or general or other flammable material near exhaust or hot exhaust gases (see also "Exhaust system").
- Never use engine or starting fluid on diesel engines with glow plugs. Use only starting aids as approved by engine manufacturer.
- Exhaust system components are hot and can cause burns. Never touch exhaust manifold, exhaust pipes, turbochargers, heat shields, and other exhaust components. Never lean or standing, touch and safety warning "Exhausts and operators pin. Touch only inside. Exhaust and safety related pins."
- For jump start, connect negative cable to the engine's negative terminal or the battery. After jump start, remove negative connection at the engine first.

*6579511

* Located inside the engine compartment.



bobcat

OPERATING INSTRUCTIONS

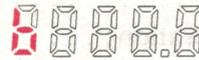
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**OPERATING
INSTRUCTIONS**

MONITOR SERVICE CODES

One of the following Alphabetic Codes may appear on your monitor.

  **E**ngine **C**oolant **L**evel

  **b**attery

  **E**ngine **C**oolant Temperature

  **FUEL** Level

  **E**ngine Oil **P**ressure

  **H**ydraulic **F**ilter

  **E**ngine **S**peed

  **H**ydraulic Fluid **P**ressure

  **A**ir **F**ilter

  **H**ydrostatic Fluid Temperature

One of the following Numeric Codes will appear following one of the above Alphabetic Codes. Example:  

  Shut Down

  Warning

  Wiring Not Connected

  Wiring Shorted

  High Sensor Voltage

  Sensor No Signal

  Sensor Out of Range

(See Page 53 & 54 for additional code information)

INSTRUMENT PANEL

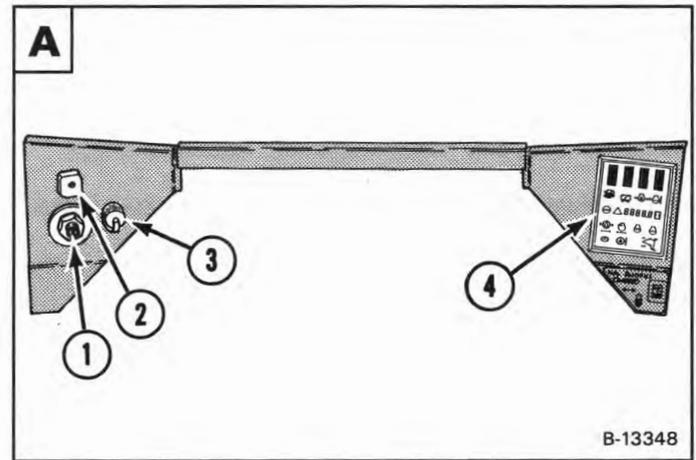
853 Plus (5102), 853H Plus (5103)

The following items are located on the instrument panel **A** & **B**:

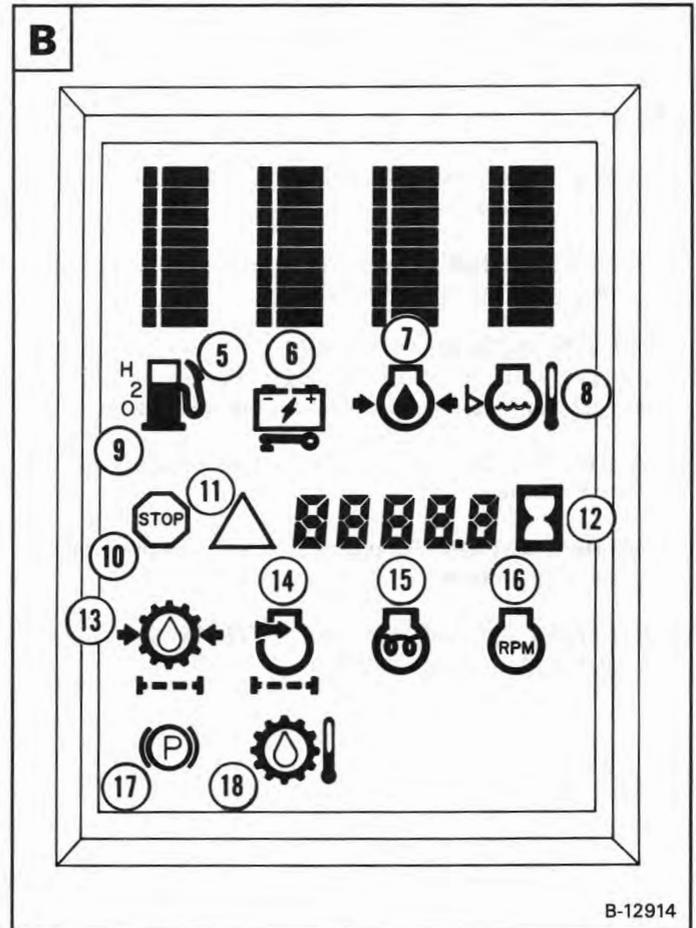
1. **IGNITION SWITCH** - Controls the starting and stopping of the engine.
2. **LIGHT SWITCH** - Controls the work and travel lights.
3. **DIAGNOSTIC COUPLER** - Connector for diagnostic tool to make service checks of the system operation unit and other components.
4. **DISPLAY PANEL** - The display has the following symbols and functions (Ref. 5 thru 18).
5. **FUEL** - Shows the amount of fuel in the tank.
6. **BATTERY VOLTAGE** - Shows the condition of the battery and charge rate. Also will indicate a WARNING for high and low voltage.
7. **ENGINE OIL SYMBOL** - Shows engine oil pressure. Flashing symbol indicates low oil pressure.
8. **ENGINE COOLANT SYMBOL** - Shows engine coolant temperature and/or low coolant level. (SHUT-DOWN & WARNING)
9. **FUEL FILTER** - If fuel pump and bar flashes it is a low fuel WARNING. H₂O symbol indicates water in the fuel filter (This feature is optional).

NOTE: The engine can be restarted for 30-second periods to move the loader after a shut-down condition.

10. **SHUT-DOWN SYMBOL** - The symbol is associated with any shut-down condition. When this symbol comes "ON" the shut-down will occur in 30 seconds. During shut-down the buzzer will sound continuously and the symbol will flash.
11. **WARNING SYMBOL** - The symbol will be "ON" when any warning or shut-down is activated. The warning symbol is also used to indicate a warning if there is no related symbol on the display. During a warning the buzzer will beep three times and symbol will continue to flash.
12. **HOURMETER** - Records the total operating hours of the loader. The five character code will display the operating hours to the nearest tenth. When SHUT-DOWNS or WARNINGS occur an alpha-numeric code will be displayed in the hourmeter area to inform the operator of the problem (See Page 53 for code listing). During a SHUT-DOWN or WARNING the hourmeter symbol is not visible.
13. **CHARGE PRESSURE AND FILTER CONDITION** - Flashing symbol indicates low fluid charge pressure and SHUT-DOWN. If arrows are "ON" with gear/drop it is fluid charge pressure. This symbol will also indicate a clogged hydraulic fluid filter.
14. **AIR FILTER CONDITION** - This symbol will indicate a clogged air filter element.



B-13348



B-12914

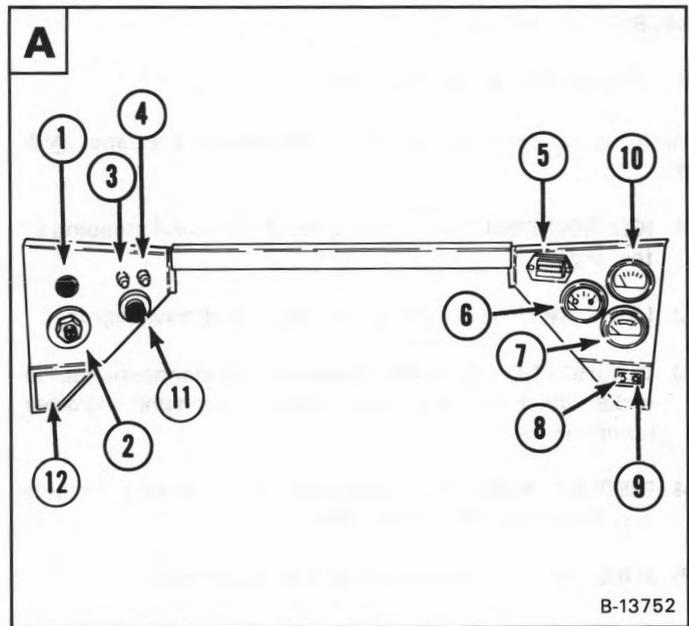
15. **GLOW PLUG** - The symbol will flash when the glow plugs are energized. The hourmeter will also contain characters GLOXX where XX indicates the remaining time the glow plugs will be "ON". Glow plug will count down in 5 second increments.
16. **ENGINE SPEED** - This symbol will indicate an engine over-speed WARNING and SHUT-DOWN.
17. **PARKING BRAKE** - This symbol will indicate when the brake is engaged (NOT FUNCTIONAL AT THIS TIME).
18. **HYDRAULIC FLUID TEMPERATURE** - This symbol will indicate a high fluid temperature and SHUT-DOWN.

INSTRUMENT PANEL (Cont'd)

853 Base (5101)

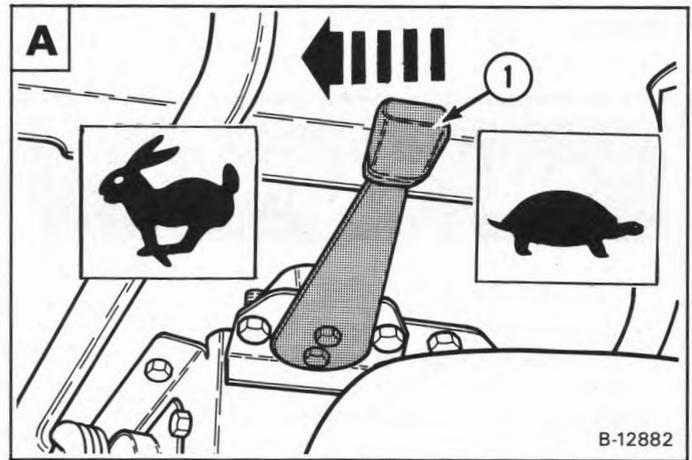
The instrument panel has the following instruments **A** :

1. **LIGHT SWITCH (OPT.)** - Controls the work and travel lights.
2. **KEY SWITCH** - For starting, stopping and "pre-heating" the engine.
3. **FUSE (ACCESSORIES)** - To protect the electrical system from overload.
4. **FUSE (IGNITION)** - To protect the electrical system from overload.
5. **HOURMETER** - Records the total operating hours of the loader.
6. **FUEL GAUGE** - Shows the amount of fuel in the fuel tank.
7. **ENGINE TEMPERATURE GAUGE** - Shows the engine coolant temperature.
8. **ENGINE WARNING LIGHT** - Engine oil pressure is low. Stop the engine if the light comes "ON".
9. **TRANSMISSION WARNING LIGHT** - Low transmission charge pressure, hydraulic filter needs replacement or high fluid temperature. Stop the engine if the light comes "ON".
10. **VOLTMETER** - Shows the condition of the battery and the rate of charge.
11. **PRE-HEAT BUTTON** - For pre-heating the glow plugs before starting the engine.
12. **AUXILIARY HYDRAULICS MODE SWITCH (OPT.)** - For engaging the auxiliary hydraulics (front & rear).



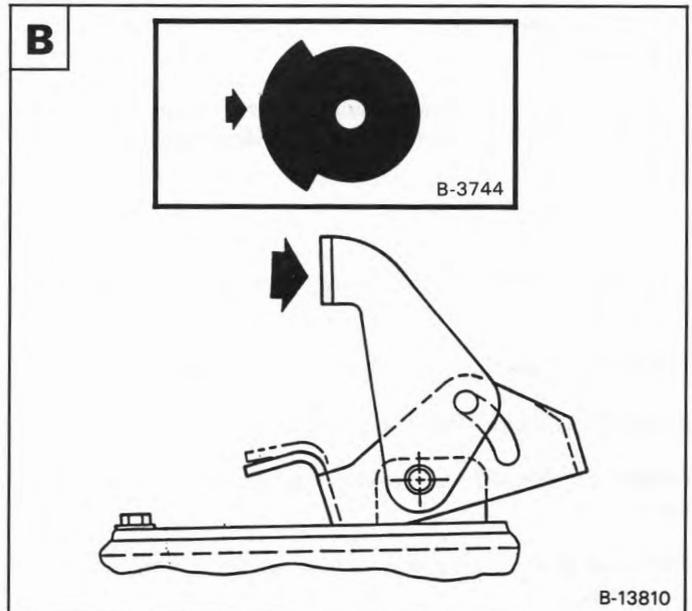
THROTTLE CONTROL

The throttle (Item 1) is at the right side of the operator's seat. Engine speed is controlled by moving the throttle forward to increase the engine RPM and backward to decrease the engine RPM **A**.

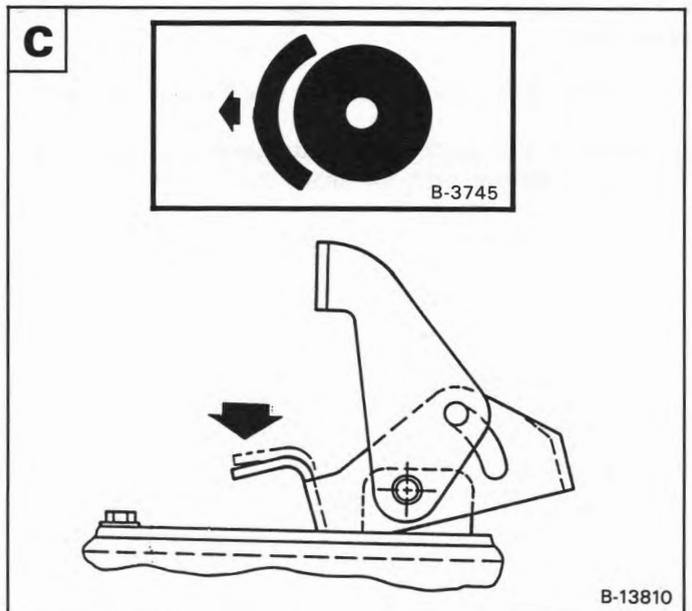


PARKING BRAKE

Lock the parking brake by pushing on the top (toe) of the pedal **B**.



To release the parking brake, push down on the bottom (heel) of the pedal **C**.



STEERING LEVERS



WARNING

When operating the machine:

- Keep the seat belt fastened snugly.
 - The seat bar must be lowered.
 - Keep your feet on the pedal controls.
- Failure to obey warnings can cause injury or death.

W-2046-1285

NOTE: The 853 Base (5101) steering levers are not shown. The levers perform the same driving functions, but do not have the button function grips.

The steering levers (Item 1) are on the right and left side in front of the seat **A**.

For safe control of the loader always move the levers slowly and smoothly. Only a small movement is necessary to move the loader.

The steering levers control forward and reverse travel of the loader **B**.

FORWARD TRAVEL - Push both levers forward.

REVERSE TRAVEL - Pull both levers backward.

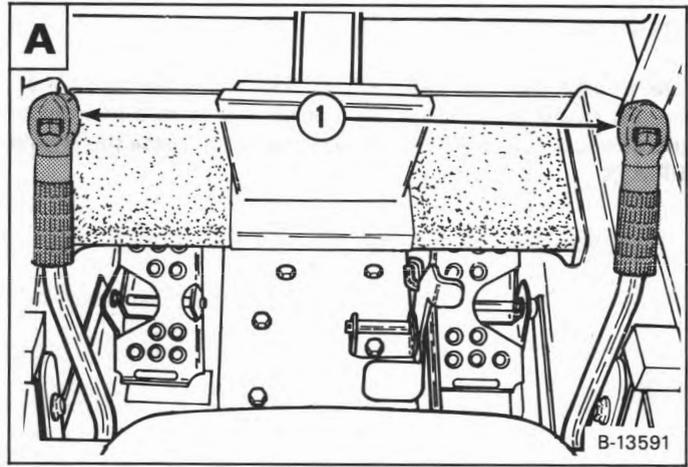
NORMAL TURNING - Move one lever farther forward than the other.

FAST TURNING - Push one lever forward and pull the other lever backward.

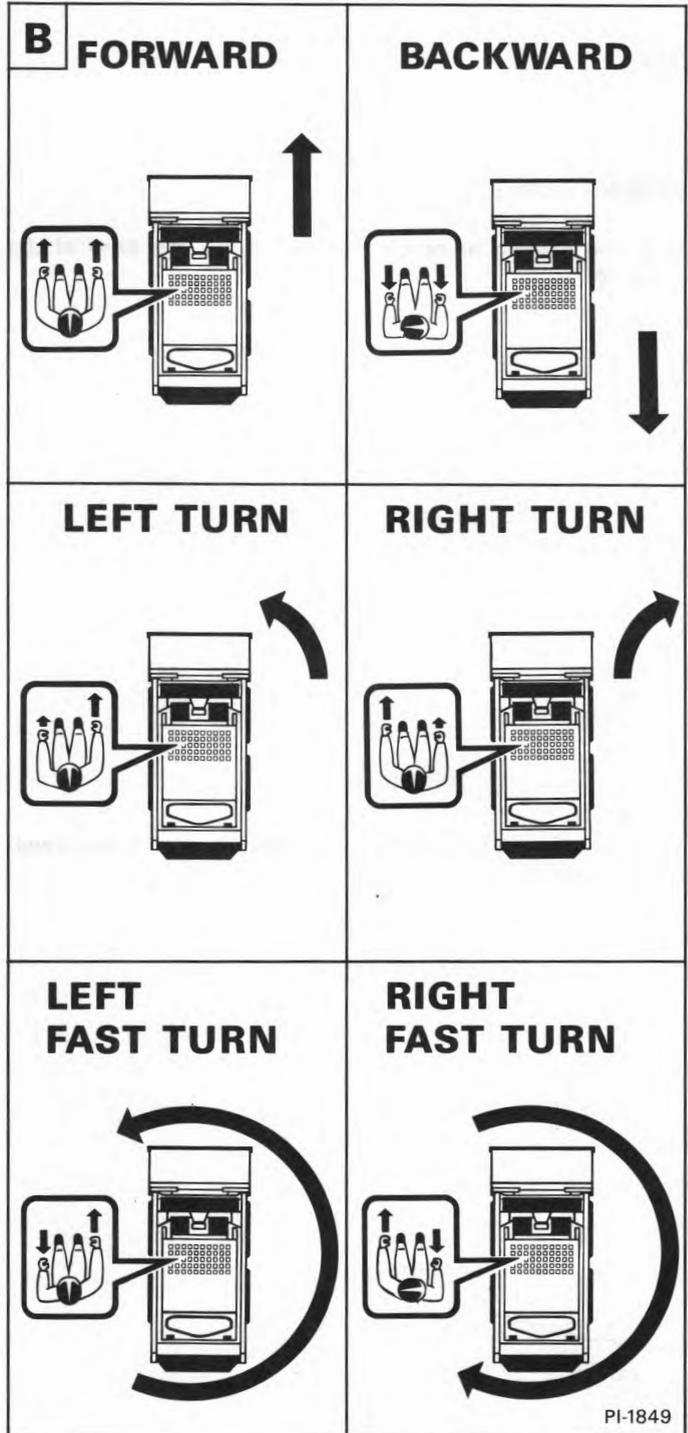
For slow travel speed, push the steering levers forward only a small amount.

To increase travel speed, push both levers farther forward.

For maximum pushing force, push the steering levers forward only a small amount with the engine at full RPM.



B-13591



PI-1849

HYDRAULIC CONTROLS

Foot Pedals



WARNING

Keep both feet on pedals while operating machine. Failure to do so can cause serious injury.

W-2002-1285

IMPORTANT

Clean dirt and debris from the foot pedals and surrounding area before operating the loader, to ensure proper operation of the foot pedals.

Put your feet on the pedals and KEEP THEM THERE any time you operate the loader.

Two foot pedals (Item 1) control the hydraulic cylinders for the lift and tilt function **A**.

Lift Arm Operation

The left pedal controls the lift arms. Push on the bottom (heel) (Item 2) of the pedal to raise the lift arms **A**.

Push on the top (toe) (Item 3) of the pedal to lower the lift arms **A**.

Push the top (toe) (Item 3) of the lift pedal all the way forward until it locks into "detent" (float) **A**. Use the "float" position of the lift arms to level loose material while driving backward.

Tilt Operation (Bucket)

The right pedal controls the action of the bucket. Push the top (toe) (Item 4) of the pedal to tilt the bucket forward **A**.

Push the bottom of the pedal (heel) (Item 5) to tilt the bucket backward **A**.

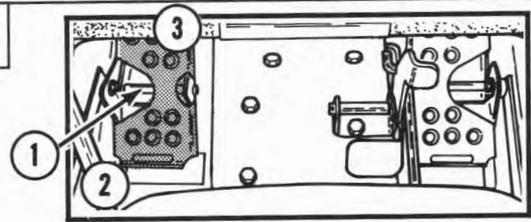
Bucket Position Valve Operation

The bucket positioning valve is a standard feature on the 853 Plus (5102) and the 853H Plus (5103) loaders. It is optional on the 853 Base (5101) loader.

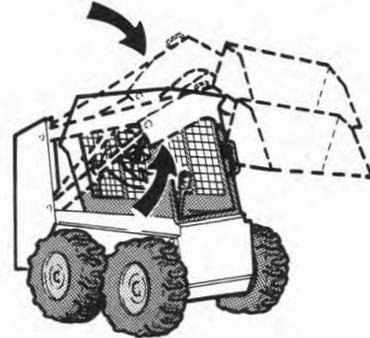
The function of the bucket positioning valve is to keep the bucket in the same approximate position it is placed in, prior to the upward lift cycle.

Bucket positioning functions automatically during the upward lift cycle only.

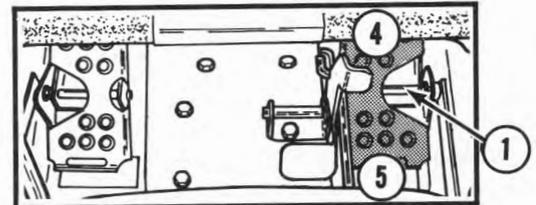
A



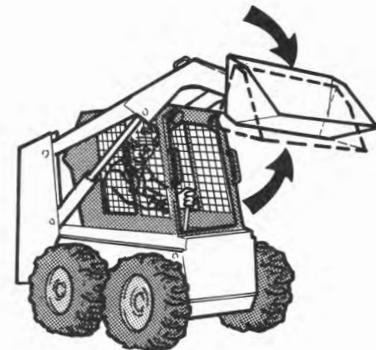
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B-7440



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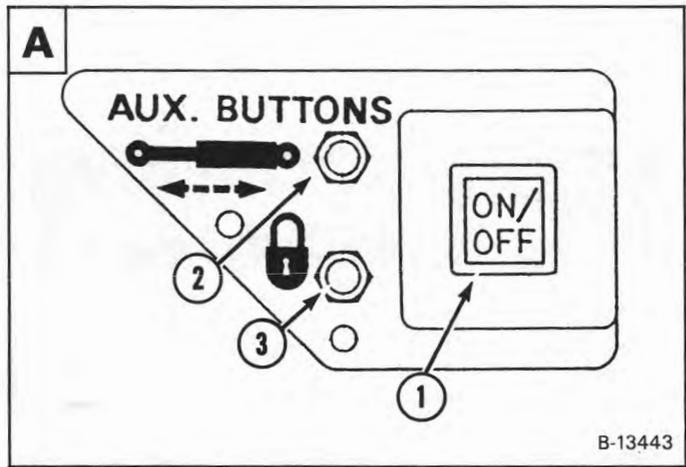
HYDRAULIC CONTROLS (Cont'd)

Auxiliary Hydraulics Operation

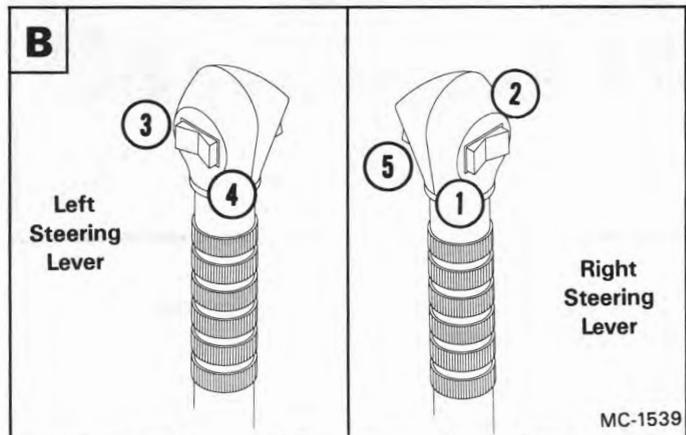
853 Plus (5102), 853 Base (5101)

NOTE: Auxiliary Hydraulics is optional on the 853 Base (5101) loader. Front and rear auxiliary hydraulics are available. When installing the auxiliary hydraulics, it is also necessary to install the Electric Control Kit. Order these kits from your dealer. The auxiliary hydraulics operation for the 853 Base is the same as the 853 Plus (5102).

Press the mode switch (Item 1) (on the instrument panel) to engage the front and optional rear auxiliary hydraulics, the light (Item 2) will come "ON" **A**.



The buttons (switches) ① or ② on the right steering lever control the front auxiliary hydraulics and the buttons ③ or ④ on the left steering lever control the optional rear auxiliary hydraulics **B**.

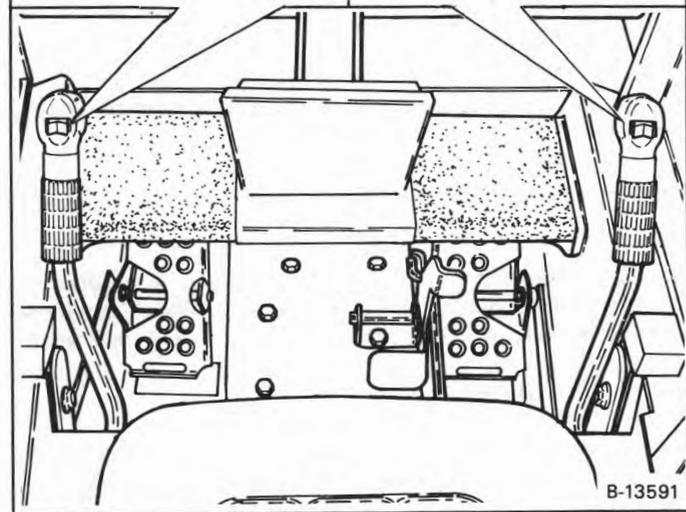


FRONT AUXILIARY CONTROL:

Push either button ① or ② **B** (with mode switch engaged & top light "ON") to change fluid flow direction to the front quick couplers **C** (Example: Open and close grapple teeth).

OPTIONAL REAR AUXILIARY CONTROL:

Push the button ③ or ④ **B** (with mode switch engaged & top light "On") to change the fluid flow direction to the rear quick couplers **C** (Example: Raise or lower rear stabilizers).



DETENT CONTROL:

Push the mode switch (Item 1) the second time to engage the "detent" function and both lights (Item 2 & 3) will come "ON" **A**. Push the front button ⑤ to give the front auxiliary hydraulics a constant flow of fluid **B** (Example: Operate a backhoe).

To release the "detent" position, push the button ⑤ again **B**.

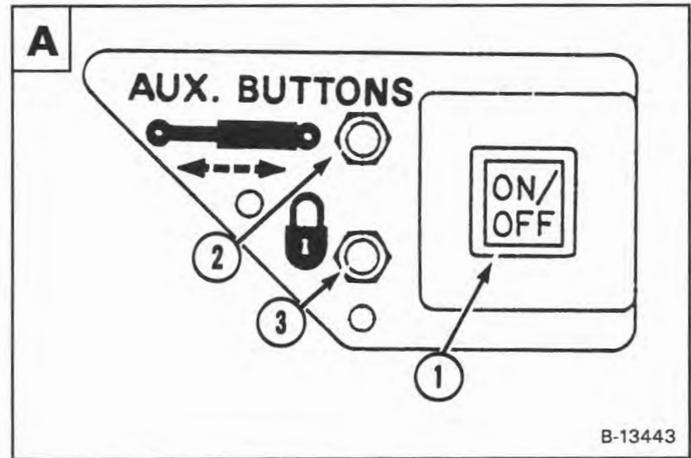
RELIEVE PRESSURE AT QUICK COUPLERS:

Turn the key switch to the "OFF" position, as the engine stops running, turn the key switch all the way to the left (hold the key in this position until the engine stops) to release the hydraulic pressure at the quick couplers.

HYDRAULIC CONTROLS (Cont'd)

Auxiliary Hydraulics Operation - 853H Plus (5103)

Press the mode switch (Item 1) **A** (on the instrument panel) once to engage the auxiliary hydraulics, for "momentary operation". The light (Item 2) **A** will come "ON". Press the mode switch a second time for "continuous operation". Both lights (Item 2 & 3) **A** will come "ON". Pressing the mode switch a third time will disengage the auxiliary hydraulics and both lights will be "OFF".



B-13443

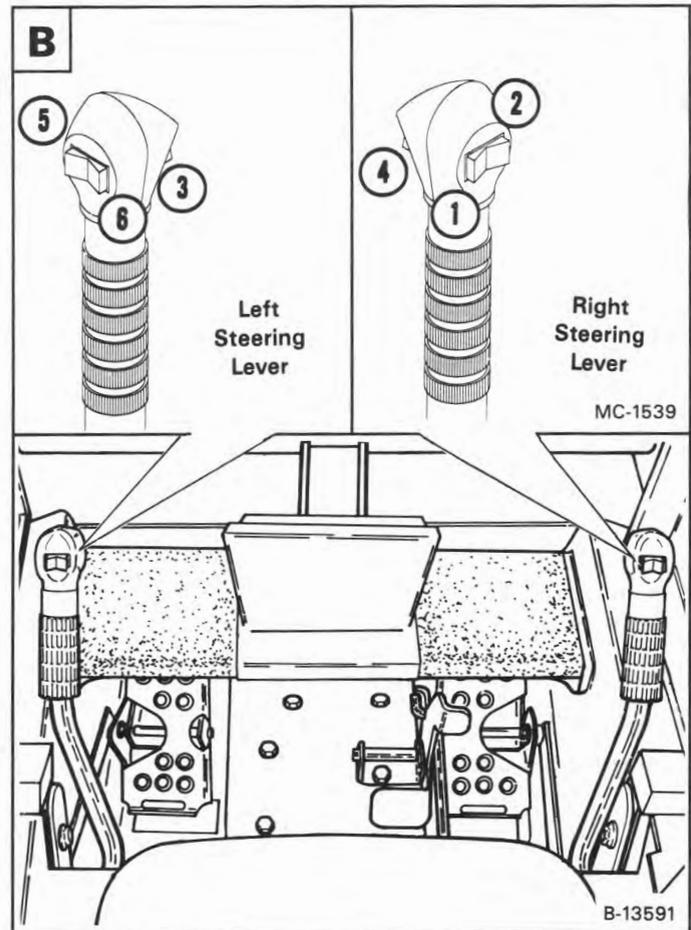
The buttons (switches) (1, 2, 4, 5 & 6) **B** on the right and left steering levers control the front and rear auxiliary hydraulics. Button (3) **B** controls the horn, if the loader is so equipped.

FRONT AUXILIARY CONTROL (Momentary) (Normal Flow):

Push either button (1 or 2) **B** (with mode switch engaged) for momentary or continuous operation to change fluid flow direction to the front quick couplers (Item 1) **C** (Example: Open and close grapple teeth).

FRONT AUXILIARY CONTROL (Continuous) (Detent) (Normal Flow):

Push the front button (4) **B** once (with mode switch engaged for continuous operation) for continuous flow to the front auxiliary quick couplers (Item 1) **C**. (Example: backhoe). To disengage continuous (detent) flow, push button (4) **B** a second time.



MC-1539

B-13591

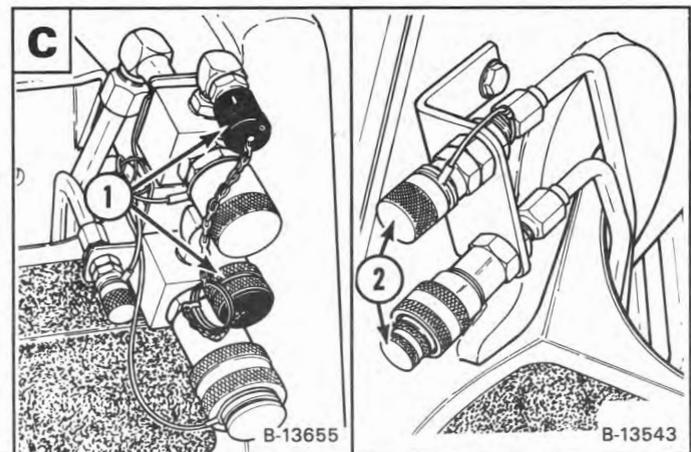
IMPORTANT

If the high horsepower switch is in the "ON" position (See Auxiliary High Horsepower Hydraulics Operation, Page 8), High Horsepower Hydraulics will flow through the front auxiliary quick coupler (Item 1) **C**. Damage to unapproved attachments can result.

SECONDARY AUXILIARY (Momentary Only):

There is also a set of couplers (Item 2) **C** on the right front of the loader. These couplers are used when there is an additional connection needed for attachment operation (Example: Side shift on the planer).

To activate the secondary auxiliary push either button (5 or 6) **B** (with mode switch engaged for momentary or continuous operation) to change fluid flow direction to the secondary auxiliary quick couplers (Item 2) **C**.



B-13655

B-13543

HYDRAULIC CONTROLS (Cont'd)

REAR AUXILIARY CONTROL (OPTIONAL):

Push the front button ④ **B** (Page 7) (with mode switch engaged) to engage the main control valve. Then push either button ① or ② **B** (Page 7) to change fluid flow direction to the rear quick couplers (Item 1) **A**.

RELIEVE PRESSURE AT FRONT COUPLERS

With the engine running, turn ignition switch quickly to the left (counterclockwise) past the "OFF" position and hold until engine comes to a complete stop. This relieves pressure that may be trapped in the front auxiliary circuit which would hinder the engagement of attachment couplers.

AUXILIARY "HIGH HORSEPOWER" HYDRAULICS OPERATION:

The "ON/OFF" toggle switch (Item 1) located on the left side of the operator's seat controls the "High Horsepower" function **B**.

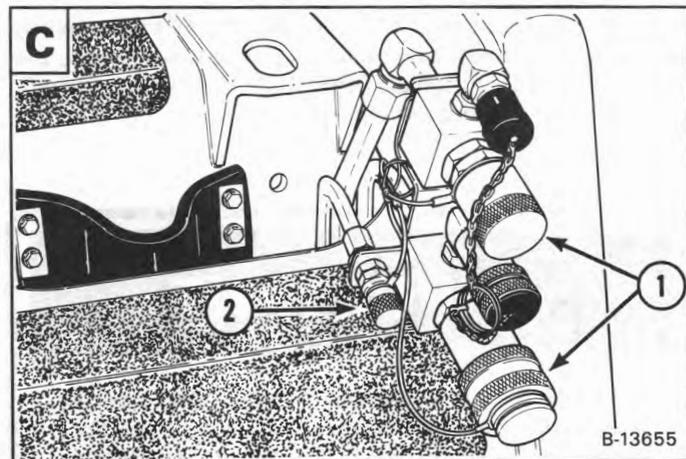
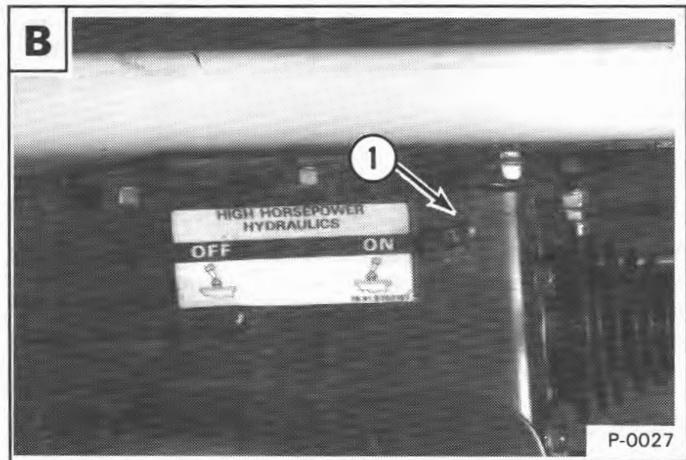
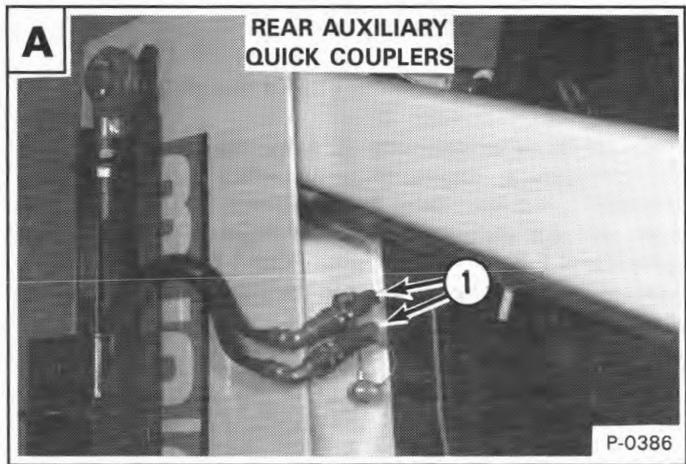
The "High Horsepower" function provides additional GPM to the system to operate a "High Horsepower" attachment (Example: Planer). There is a total of 24 GPM available to operate the attachment. System pressure is also increased from 2300 PSI to 3300 PSI while the "High Horsepower" function is in use.

NOTE: Use only the large quick couplers for the "High Horsepower" function.

With the toggle switch in the "OFF" position, connect the attachment quick couplers to the large quick couplers (Item 1) **C** on the left front of the loader. The "High Horsepower" attachment may have a case drain which needs to be connected to the male coupler (Item 2) **C** on the left front of the loader.

When all the couplers are connected turn the toggle switch to the "ON" position. For continuous high pressure/high flow in forward direction push the "Detent" button on the front side of the right steering lever (the mode switch must be in the "continuous flow" mode (See Page 5). To stop continuous flow push the "Detent" button a second time.

Momentary operation of the front auxiliary is also possible with the toggle switch in the "ON" position (the mode switch must be either in the "Momentary" or in the "Continuous" mode). Momentary forward flow (high flow and high pressure) results from pushing the right button on the rear of the right steering lever (Example: closing a LaBounty Shear). Momentary reverse flow (high pressure and high flow) results from pushing the left rear button on the right steering lever (Example: opening a LaBounty Shear).



DAILY INSPECTION

The loader must be in good operating condition **A**.

Check the following items:

- Engine Oil
- Hydraulic/Hydrostatic Fluid
- Engine Cooling System
- Operator Cab, Seat Belt, Seat Bar & Pedal Interlocks
- Lift Arm & Cylinder Pivot Pins
- Tires
- Any Loose or Broken Parts
- Safety Tread & Safety Signs
- Check the instrument panel display readout for faulty codes (Page 53).

Follow the maintenance requirements on the Service Schedule Decal, located inside the rear door.

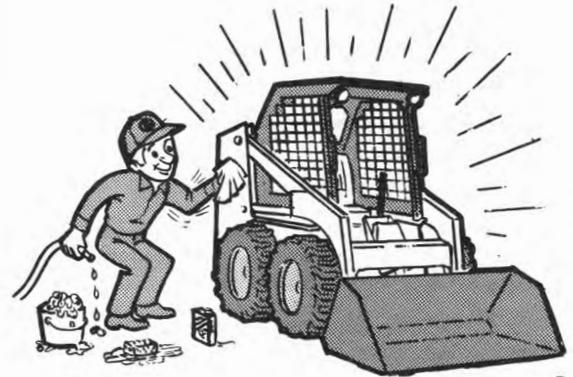
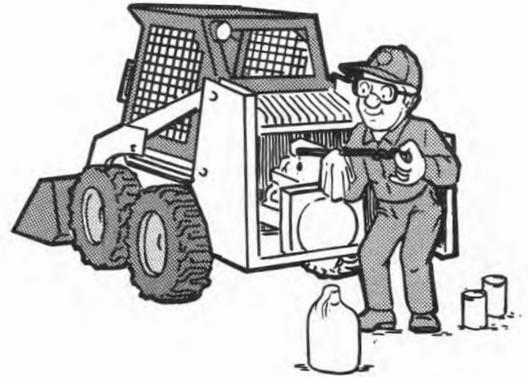


WARNING

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

W-2003-1089

A



B-6583

B-6592

SERVICE SCHEDULE

EVERY 10 HOURS

1. Engine Oil — Check level—do not overfill (See Operation & Maintenance Manual for recommended oil).
2. Engine Air Filter — Check gauge and/or display. Service only when required.
3. Engine Cooling System — Clean debris from oil cooler, radiator and grills. Check coolant level cold, add 50–50 ethylene glycol–water as needed.
4. Loader Lift Arm, cylinders, Bob-Tach pivot and wedges, lubricate with multi-purpose lithium base grease (12 places).
5. Engine Air System — Check for leaks and damaged components.
6. General — Check for loose or broken parts, damaged operator cab, instrument operations, loose wheel nuts, oil leaks.
7. Seat Belt/Seat Bar and Control Interlocks—Check function. Repair or replace as needed. Clean dirt and debris from moving parts.
8. Fuel Filter — Remove trapped water (diesel engine only).

EVERY 50 HOURS

1. Hydraulic Fluid — Check the fluid level. See your Operation & Maintenance Manual for recommended fluid.
2. Chaincase — Check the fluid level. See your Operation & Maintenance Manual for recommended fluid.
3. Battery — Check condition.
4. Controls and Brakes — Check operation, adjust if needed.
5. Tires — Check inflation pressure, FLOTATION - 35 PSI (241 kPa), STANDARD and 8 Ply Rating - 50 PSI (340 kPa).

EVERY 100 HOURS

1. Spark Arrestor Muffler — Empty spark chamber.
2. Ignition System — If using leaded fuel, check spark plugs and ignition system. If using unleaded fuel, service only as required to maintain good starting and smooth operation (Gas Engine Only).
3. Engine Oil — Drain hot and change filter. See Operation & Maintenance Manual for recommended oil.
4. Check all drive belts — water pump, alternator, fan drive for condition and tension. Adjust or replace as needed.

EVERY 250 HOURS (OR EVERY 12 MONTHS)

1. Final Fuel Filter — Replace filter element.
2. Seat Bar Pivot — Grease as needed.
3. Steering Lever Pivots — Lubricate with multi-purpose lithium based grease (2 places).
4. Replace hydraulic reservoir breather cap.
5. *Check hydrostatic drive belt. Adjust as needed.
*Check new hydrostatic drive belt after the first 50 hours of operation; adjust as needed.

EVERY 1000 HOURS (OR EVERY 12 MONTHS)

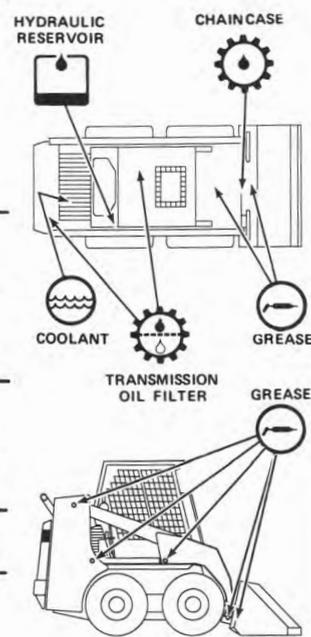
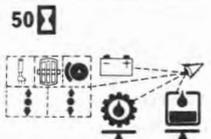
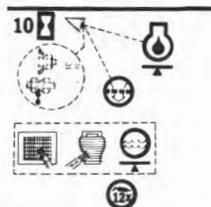
1. Hydraulic Reservoir — Change fluid and filter. See your Operation & Maintenance Manual for recommended fluid and filter.
2. Chaincase — Drain fluid and replace. See your Operation & Maintenance Manual for recommended fluid.
3. Fan Drive Gearbox — Check fluid level. See your Operation & Maintenance Manual for recommended fluid.

See the Operation & Maintenance Manual for more instructions.

Weitere Anweisungen finden sie in der Bedienungs-und Instandhaltungsanleitung.

Para más instrucciones, vea el Manual de Operación y Mantenimiento.

Voir le Manuel de l'opérateur et d'entretien pour d'autres renseignements.



6578218

6578218

SEAT BAR RESTRAINT SYSTEM

The seat bar restraint system has a pivoting seat bar (Item 1) 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 control pedals are locked when returned to the neutral position **A**.



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 pedal controls.

W-2046-0592

The spring loaded interlocks (Item 1) control the locking and unlocking functions of the control pedals **B**.

The interlocks (Item 1) require the operator to lower the seat bar (Item 2) which allows the operator to move the foot pedals to control the lift and tilt functions **B**.

When the seat bar is lowered, it pushes the interlock (Item 1) down on both sides, releasing the pedal linkages (Item 3) from the interlocks **B**.

The pedals will pivot in both directions when the interlock is down.



WARNING

AVOID INJURY OR DEATH

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, move pedals until both lock.

W-2045-1086



WARNING

AVOID INJURY OR DEATH

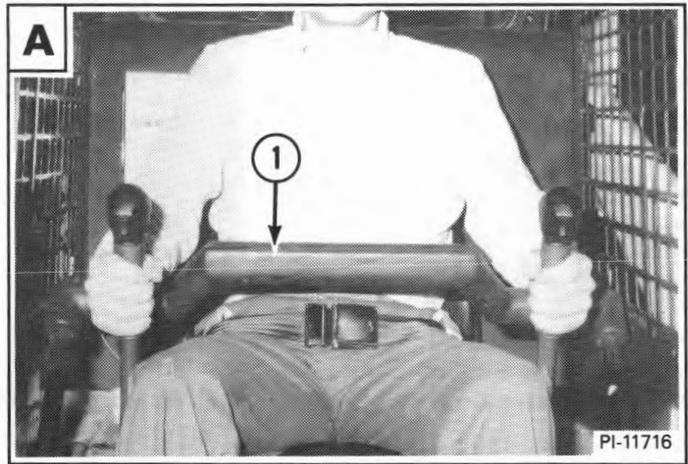
The seat bar system must lock the lift and tilt control pedals in neutral when the seat bar is up. Service the system if pedals do not lock correctly.

W-2105-1285

When the seat bar is raised, spring forces raise the interlocks **C**.

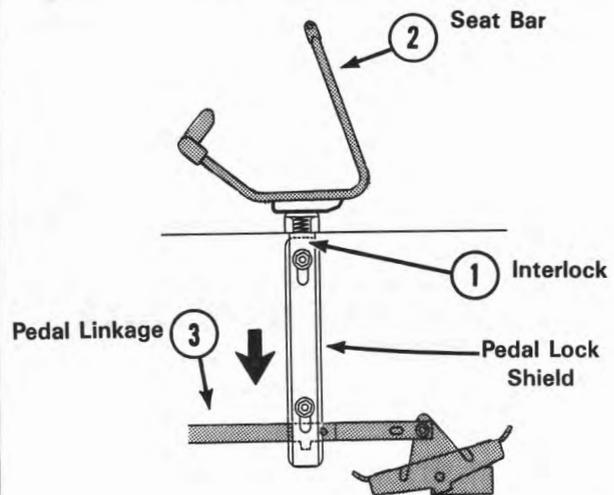
The foot pedals will not pivot when the interlock is up.

Refer to the Preventive Maintenance section for Seat Bar Restraint System Inspection & Maintenance.



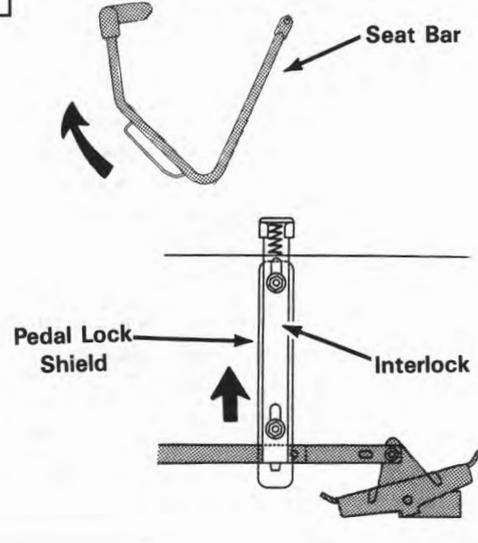
B

SEAT BAR DOWN



C

SEAT BAR RAISED



GETTING READY FOR OPERATION

Read the Operation & Maintenance Manual and Operator's Handbook before operating the loader **A**.



WARNING

Operator must have instructions before running the machine. Untrained operators can cause injury or death.

W-2001-1285

Use the bucket or attachment steps, grab handles and safety treads (on top of the loader lift arms and frame) to get on and off the loader **B**.

Safety treads are installed on the Bobcat loader to provide a slip resistant surface for getting on and off the loader. Keep safety treads clean and replace when damaged. Replacement treads are available from your dealer.

Pull the seat lever (Item 1) and adjust the seat position for comfortable operation of the loader controls **C**.

Fasten the seat belt snugly and adjust it so that the buckle is centered between the hips **D**.



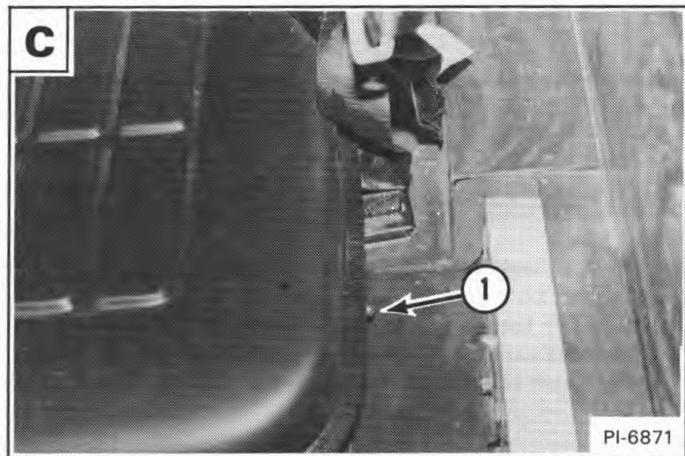
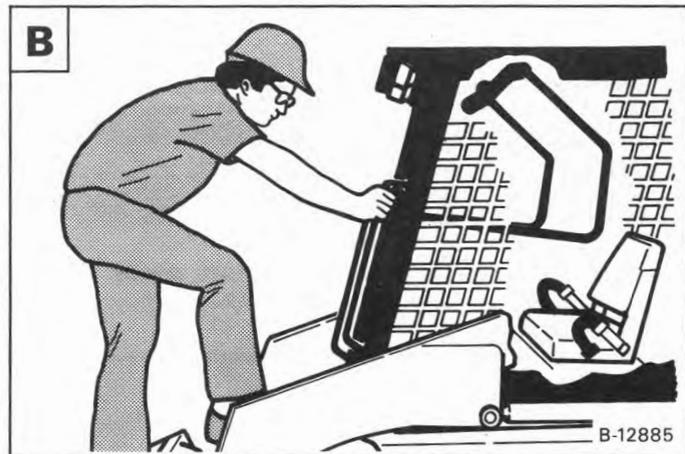
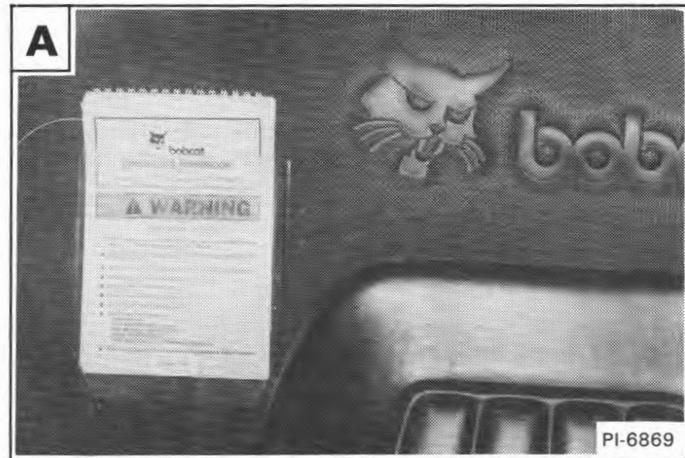
WARNING

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 pedal controls.

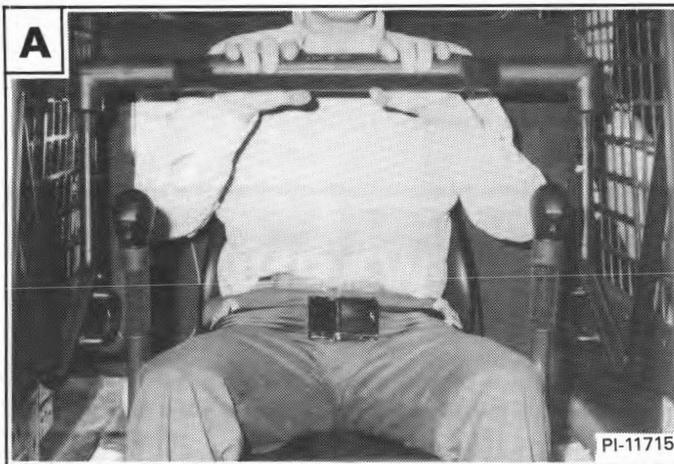
W-2046-0592



GETTING READY FOR OPERATION (Cont'd)

Lower the seat bar **A**.

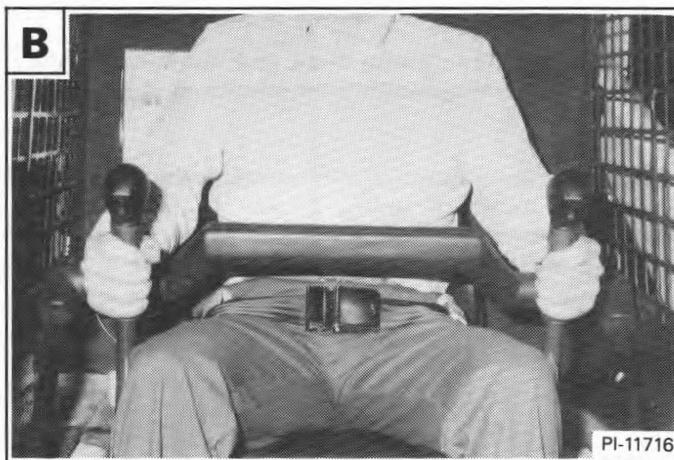
All controls must be in the neutral position before you start the engine (See "Normal Starting Condition", Page 13 & 14).



Keep feet on the pedals while seated in the loader **B**.

IMPORTANT

Clean dirt and debris from the foot pedals and surrounding area before operating the loader, to ensure proper operation of the foot pedals.



STARTING THE ENGINE



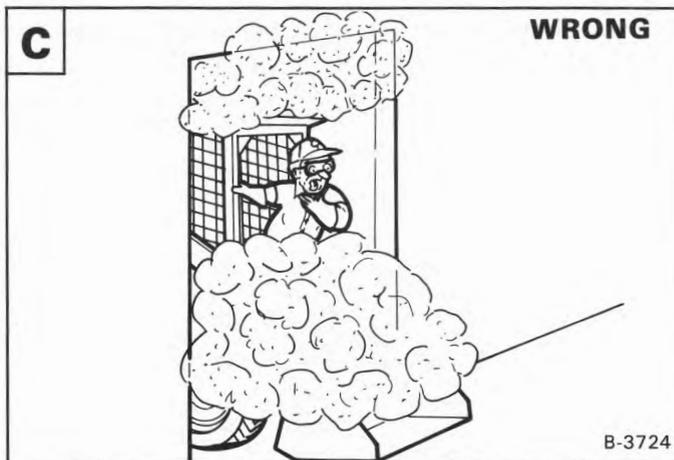
WARNING

When an engine is running in an enclosed area, fresh air must be added to avoid concentration of exhaust fumes. If the engine is stationary, vent the exhaust outside. Exhaust fumes contain odorless, invisible gases which can kill without warning.

W-2050-1285

- Engines can have hot parts and hot exhaust gas. Keep flammable material away.
- Do not use machines in atmosphere containing explosive gas.

W-2051-1086



STARTING THE ENGINE (Cont'd)

Normal Starting Condition - 853 Plus (5102), 853H Plus (5103)

Adjust the seat position for comfortable operation of the foot pedals and steering levers.

Fasten the seat belt snugly and adjust it so the buckle is centered between the hips.

Lower the seat bar **A**.

Put the foot pedals and steering levers in neutral (center) position (Item 1) **B**.

Set the throttle to 1/2 throttle position (Item 2) **B**.

Turn the key to the "ON" position, one beep will sound and the display symbols will be "ON" **C**. Turn the key to "START" (Also See "Cold Temperature Starting Condition"). Release the key when the engine starts.

IMPORTANT

Do not engage the starter for longer than 15 seconds at a time. Longer use can damage the starter by overheating. Cool the starter for one minute between uses.

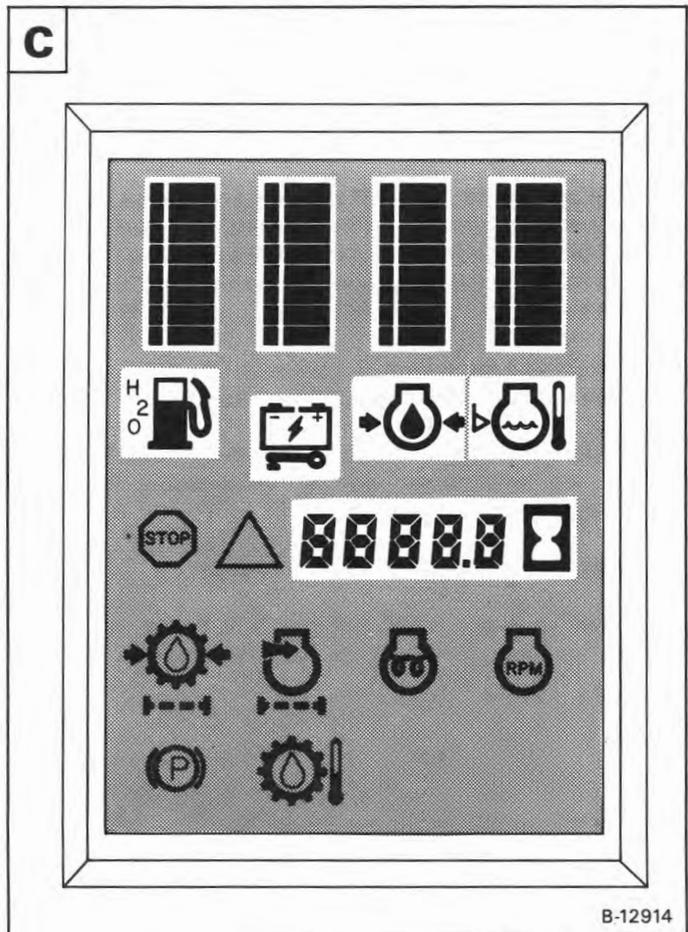
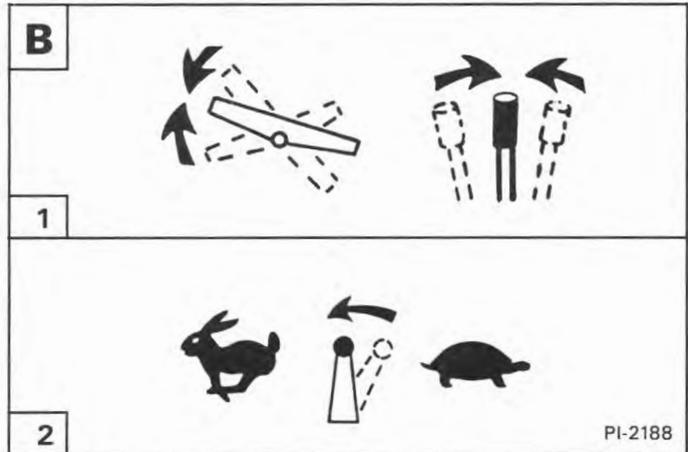
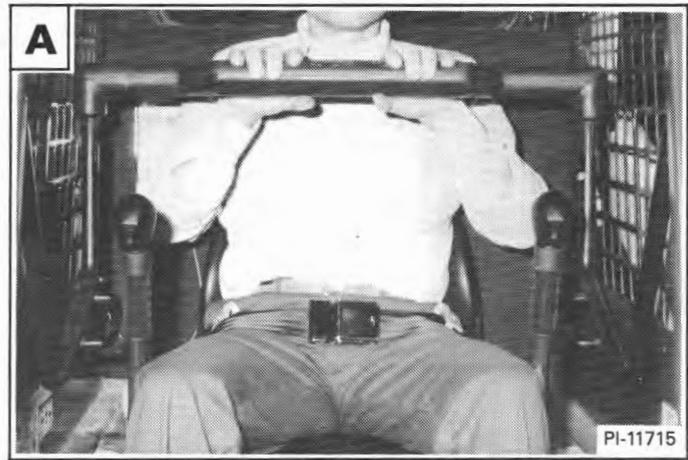
I-2034-0284

When the key is turned "ON" and the alpha numeric display will show various readout codes for three second intervals each. The readout codes are from the previous work shift when a "WARNING" may have occurred (See "Service Codes", Page 53).

The readout codes may be viewed again by turning the key switch "OFF" and then "ON" again without starting the engine.

Once the engine is started, the microprocessor will clear all readout codes from memory. The codes will not reappear in subsequent key "ON" conditions unless the problem recurs.

When the readout codes are completed, the numerical display will return to the operating hours.



STARTING THE ENGINE (Cont'd)



WARNING

Do not use ether with glow plug (preheat) systems. Explosion can result which can cause injury or death.

W-2071-1285

Cold Temperature - Starting Condition - 853 Plus (5102), 853H (5103)

Also See "Normal Starting Condition", Page 13. Turn the key switch to the "ON" position (readout codes will show first) and the glow plug symbol will be "ON" **A**.

NOTE: If display is showing readout codes (see above description), the timing of the glow plug activation may be obscured on the display. However, the glow plugs will actually be energized.

The alpha numeric display will indicate the characters **GLOXX** where **XX** will show remaining time the glow plugs will be energized. The following chart shows the time glow plugs will be energized dependent on engine coolant temperature.

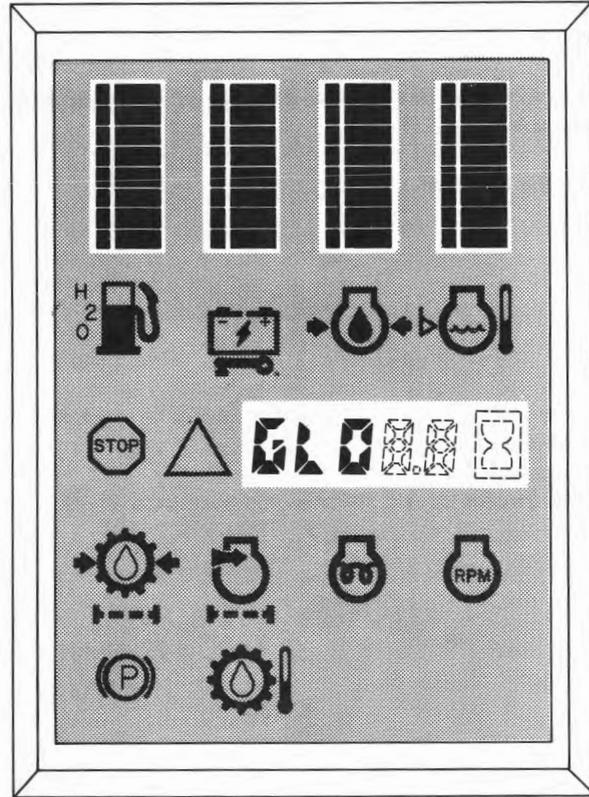
COOLANT TEMPERATURE	GLOW PLUG "ON" TIME
0°F. (-18°C.) & Below	25 Seconds
0° to 50°F. (-18 to 10°C.)	15 Seconds
50° to 70°F. (10 to 21°C.)	5 Seconds
70° (21°C) & Above	NO TIME

Turn the key to the "START" position and release when the engine starts. If the engine does not start, turn the key switch to the "OFF" position and "ON" again to cycle the glow plugs again. When the engine is running, slowly move the throttle forward to increase engine RPM.

If the starting temperature is below 32° F. (0° C.), use the following procedure to make starting easier:

1. Replace the engine oil with the correct type and viscosity for the anticipated starting temperature (See "Oil Specifications Chart", Page 35).
2. Make sure the battery is at full charge.
3. Install an engine block heater or tank heater.

A



B-12914

IMPORTANT

When the temperature is below -20° F. (-30° C.), hydrostatic oil must be warmed before starting. The hydrostatic system will not get enough oil at low temperatures and will be damaged. Park the machine in an area where the temperature will be above 0° F. (-18° C.) if possible.

I-2007-1285

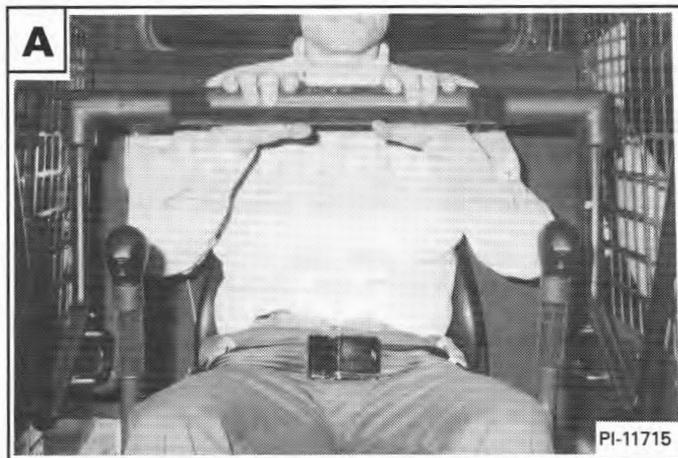
STARTING THE ENGINE (Cont'd)

Normal Starting Condition - 853 Base (5101)

Adjust the seat position for comfortable operation of the foot pedals and steering levers.

Fasten the seat belt snugly and adjust it so the buckle is centered between the hips.

Lower the seat bar **A**.



Put the foot pedals and steering levers in neutral (center) position (Item 1) **B**.

Set the throttle to the half throttle position (Item 2) **B**. The engine stop control must be pushed down.

Turn the key to the "ON" position. The engine and transmission warning lights will be "ON" when the key is on and the engine is stopped (Item 3) **B**.

Turn the key to start position (Item 4) and release it when the engine starts **B**.

IMPORTANT

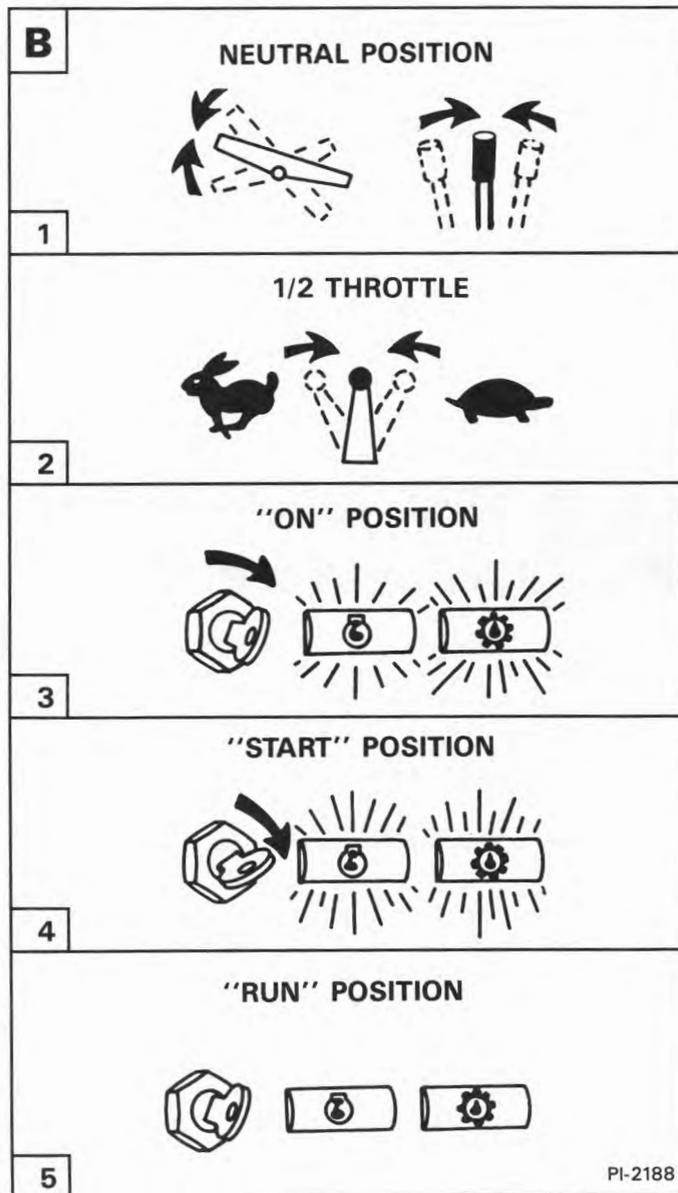
Do not engage the starter for longer than 15 seconds at a time. Longer use can damage the starter by overheating. Cool the starter for one minute between uses.

I-2034-0284

When the engine starts, release the key and it will return to the run position (Item 5) **B**.

STOP THE ENGINE IF THE WARNING LIGHTS DO NOT GO OFF.

Without turning the key to the "START" position, turn the key to the "RUN" position (Item 5) for starting the loader in cold weather (See also Cold Temperature Starting Condition Page 16) **B**.



STARTING THE ENGINE (Cont'd)



WARNING

Do not use ether with glow plug (pre-heat) systems. Explosion can result which can cause injury or death.

W-2071-1285

Cold Temperature Starting Condition - 853 Base (5101)

Also See "Normal Starting Condition", Page 15. Turn the key switch to the "RUN" position.

Push the "PRE-HEAT" button (Item 1) on the left side of the instrument panel to pre-heat the glow plugs **A**.

Refer to the decal on the left side of the operator cab for operation of the pre-heat system **B**.

Follow the steps under "Normal Starting Condition" and repeat the "Pre-Heating" procedure until the engine starts.

If the temperature is below 32°F (0°C), use the following procedure to make starting the engine easier:

1. Replace the engine oil with the correct type and viscosity for the anticipated starting temperature (See "Oil Specifications", Page 35).
2. Make sure the battery is at full charge.
3. Install a block or tank heater on the engine.

Warming the Hydraulic/Hydrostatic System

IMPORTANT

When the temperature is below -20°F (-30°C), hydrostatic oil must be warmed before starting. The hydrostatic system will not get enough oil at low temperatures and will be damaged. Park the machine in an area where the temperature will be above 0°F (-18°C) if possible.

I-2007-1285

Let the engine run for a minimum of 5 minutes to warm the engine and hydrostatic transmission fluid before operating the loader. If the warning light comes "ON" when operating the loader (cold), more warm up time is needed.

STOPPING THE ENGINE

Pull the throttle fully backward to decrease the engine RPM. Turn the key switch to the "OFF" position.

A



B-13752

B

KEY SWITCH PRE-HEAT POSITION	PRE-HEAT BUTTON	AIR TEMP.	PRE-HEAT TIME
		70°F (21°C) & Above	NO TIME
		50°F to 70°F (10° to 21° C)	5 SECONDS
		0°F to 50°F (-18° to 10°C)	15 SECONDS
		0°F (-18°) & Below	25 SECONDS

SEE OPERATION & MAINTENANCE MANUAL FOR MORE INSTRUCTIONS.

6705712

6705712

!
WARNING

Never use attachments or buckets which are not approved by Melroe Company. Buckets and attachments for safe loads of specified densities are approved for each model. Unapproved attachments can cause injury or death.

W-2052-1285

The dealer can identify, for each model loader, the attachments and buckets approved by Melroe Company. The buckets and attachments are approved for Rated Operating Capacity and for secure fastening to the Bob-Tach.

The Rated Operating Capacity for this loader is shown on a label in the operator cab (Also see the "Specifications" section, Page 61).

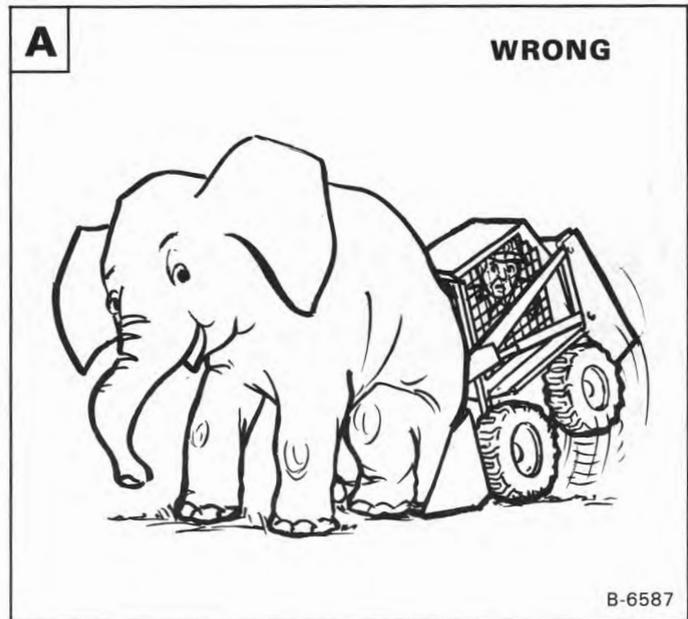
It is determined by using a standard dirt bucket, and material of normal density, such as dirt or gravel. If longer buckets are used the load center moves forward and reduces the Rated Operating Capacity. If very dense material is loaded, the volume must be reduced.

Exceeding the Rated Operating Capacity can cause the following problems:

1. Steering the loader may be difficult.
2. Tires may wear faster.
3. There will be a loss of stability.
4. The life of the Bobcat loader will be reduced.

Use the correct size bucket for the type and density of material being handled. For safe handling of materials and avoiding machine damage, the attachment (or bucket) should handle a full load without going over the Rated Operating Capacity for the loader. Partial loads make steering more difficult.

Maximum loads to be carried when using a pallet fork are shown in figure B.

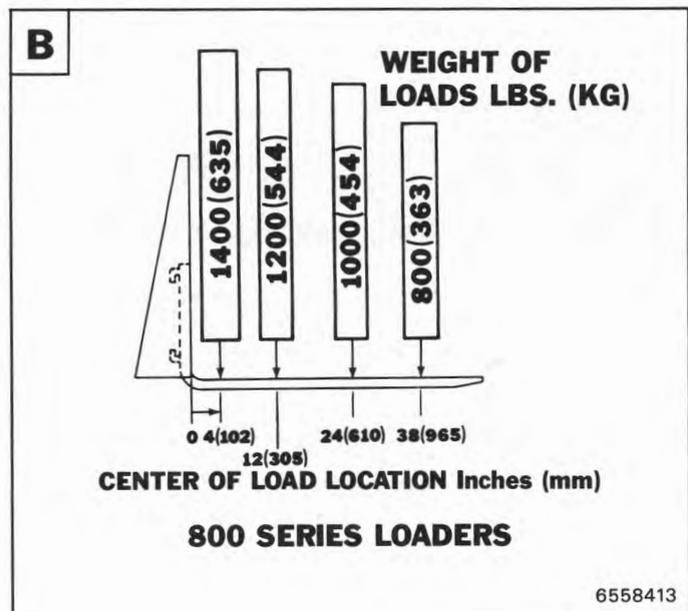


!
WARNING

AVOID INJURY OR DEATH

Do not exceed rated operating capacity. Excessive load can cause tipping or loss of control.

W-2053-0887



ATTACHMENTS AND BUCKETS (Cont'd)

Installation and Removal of the Bucket

The loader is equipped with the Bob-Tach system. The Bob-Tach is used for fast changing of buckets and attachments. See the Attachment Operator's Manual to install other attachments.



WARNING

Bob-Tach levers have spring tension. Hold lever tightly and release slowly. Failure to obey warning can cause injury.

W-2054-1285

Pull the Bob-Tach levers all the way up.

Tilt the Bob-Tach forward. Drive the loader forward until the top edge of the Bob-Tach is completely under the flange of the bucket **A**.

DO NOT hit the Bob-Tach levers on the bucket.

Tilt the Bob-Tach backward until the bucket is off the ground **B**. Stop the engine.



WARNING

AVOID INJURY OR DEATH

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, move pedals until both lock.

W-2045-1086

Push down on the Bob-Tach levers until they are in the locked position **C**.



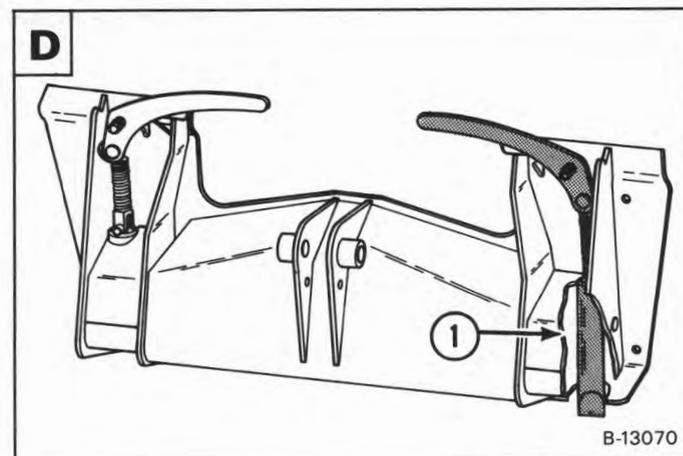
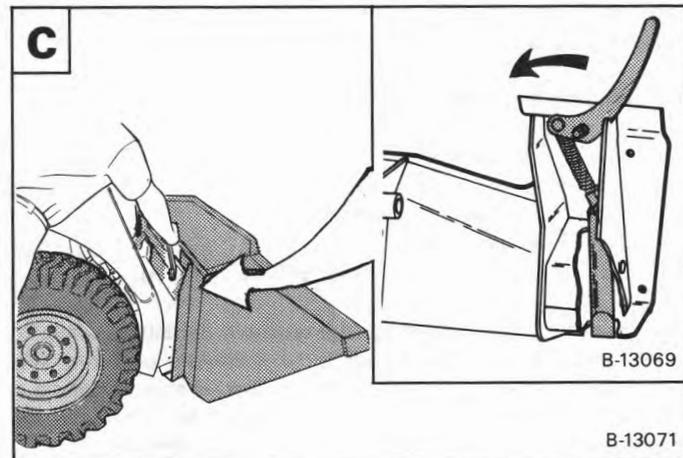
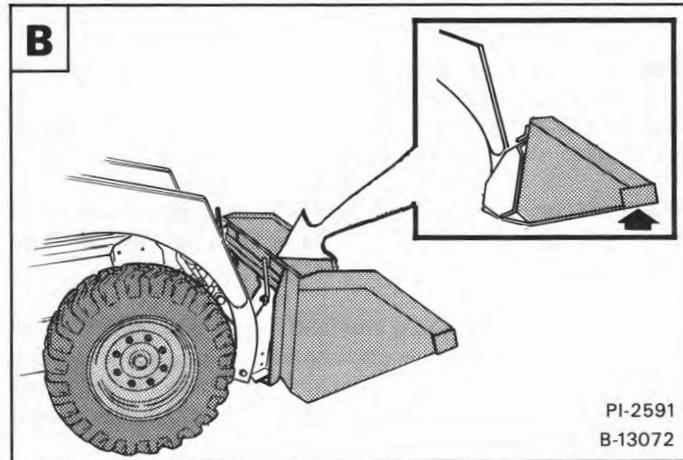
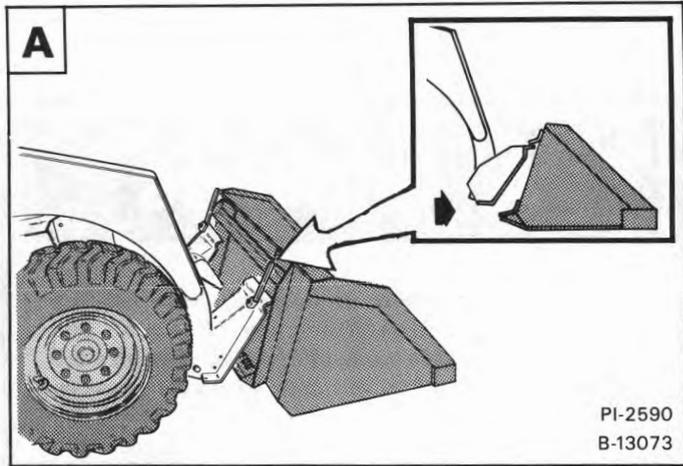
WARNING

Bob-Tach wedges must extend through the holes in attachment. Levers must be fully down and locked. Failure to secure wedges can allow attachment to come off and cause injury or death.

W-2102-0588

The wedges (Item 1) must extend through the holes in the bucket or attachment **D**.

Removal: Reverse the above procedure to remove the bucket or attachment from the Bob-Tach.



OPERATING PROCEDURES

Always warm up the engine and hydrostatic system before operating the loader.

IMPORTANT

Machines warmed up with moderate engine speed and light load have longer life.

I-2015-0284

Operate the loader with the engine at full throttle for maximum horsepower. Move the steering levers only a small amount to operate the loader slowly.

New operators must operate the loader in an open area without bystanders. Operate the controls until the loader can be handled at an efficient and safe rate for all conditions of the work area.

With a full bucket, go up or down the slope with the heavy end toward the top of the slope **A** & **B**.

With empty bucket, go down or up the slope with the heavy end toward the top of the slope **C** & **D**.



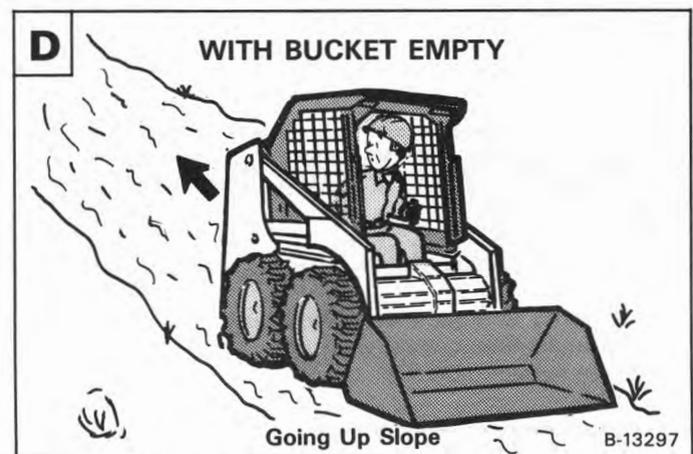
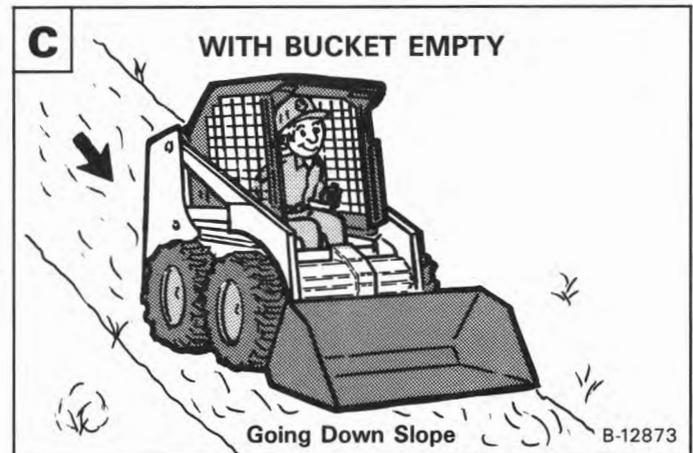
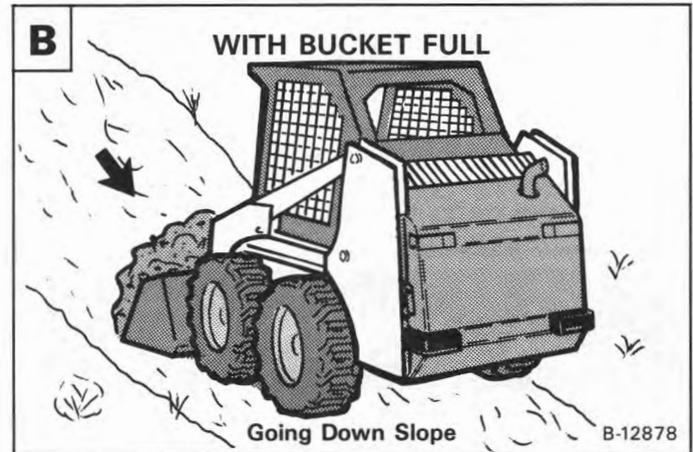
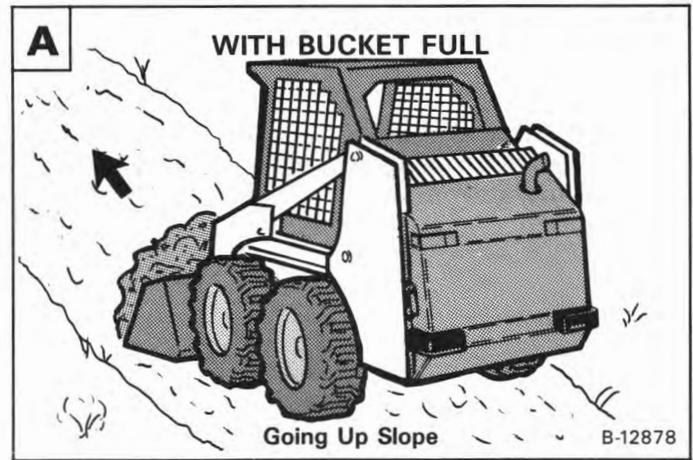
WARNING

- Keep the lift arms as low as possible.
- Do not travel or turn with the lift arms up.
- Turn on level ground.
- Go up and down slopes, not across them.
- Keep the heavy end of the machine uphill.
- Do not overload the machine.

Failure to obey warnings can cause the machine to tip or roll over and cause injury or death.

W-2018-1187

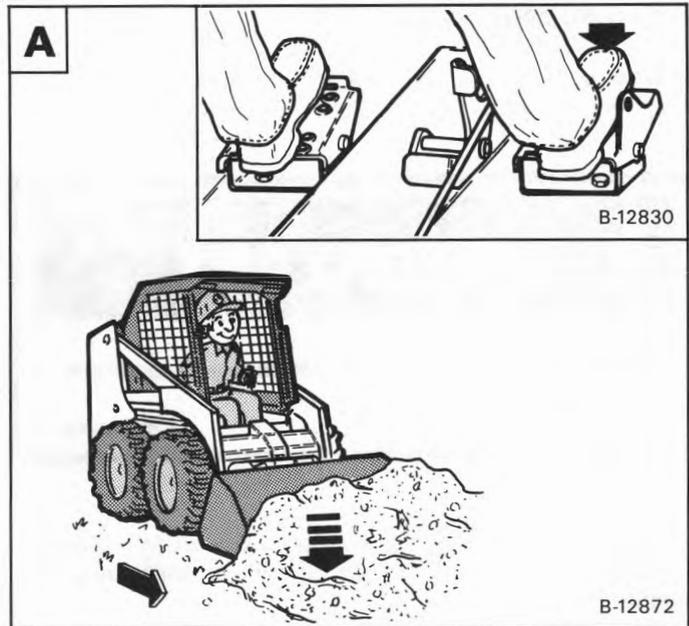
Raise the bucket only high enough to avoid obstructions on rough ground.



OPERATING PROCEDURES (Cont'd)

Filling the Bucket

Push down on the top of the lift pedal until the lift arms are all the way down. Push the top of the tilt pedal to put the cutting edge of the bucket on the ground **A**.

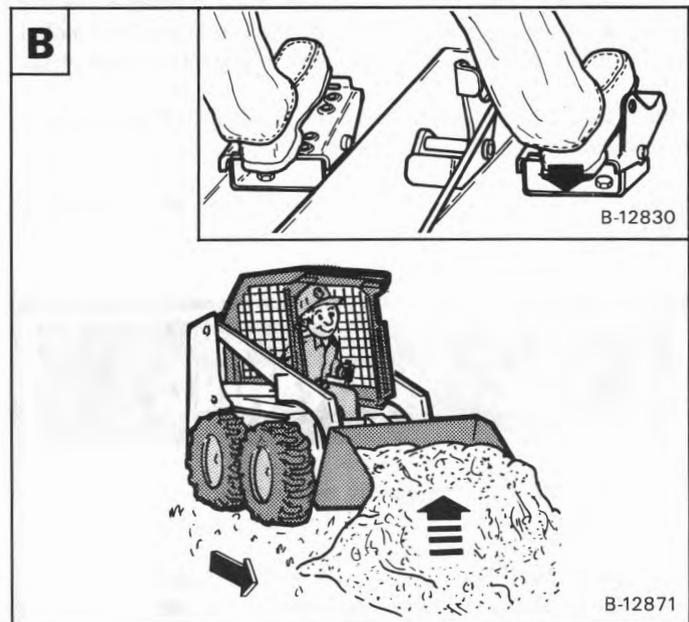


Drive slowly forward into the material. Push the bottom of the lift pedal to raise the front of the bucket **B**.

WARNING

Load, unload and turn on flat level ground. Do not exceed rated operating capacity shown on sign (decal) in cab. Failure to obey warnings can cause the machine to tip or roll over and cause injury or death.

W-2056-1186



Drive backward away from the material.

Emptying the Bucket

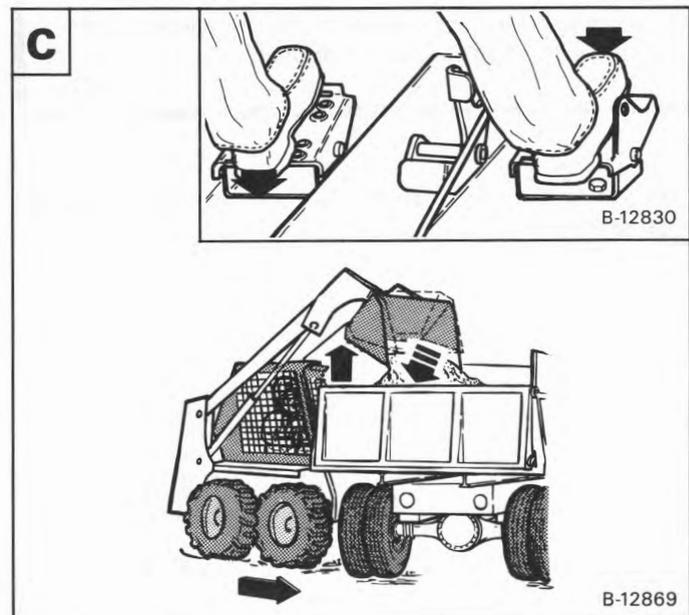
Push down on the bottom of the lift pedal to raise the bucket over the truck box or bin **C**.

Drive forward slowly until the bucket is over the top of the truck box or bin. Push the top of the tilt pedal until the bucket is empty **C**. If all the material is near the side of the truck or bin, push it to the other side with the bucket.

WARNING

Never dump over an obstruction that can enter the operator cab. The machine could tip forward and cause injury or death.

W-2057-1285



OPERATING PROCEDURES (Cont'd)

Digging Into the Ground

Put the lift arms all the way down. Push the top of the tilt pedal until the cutting edge of the bucket is on the ground. Drive forward slowly and continue to tilt the bucket down until it enters the ground **A**.

Push the bottom of the tilt pedal a small amount to increase traction and keep an even digging depth. Continue to drive forward until the bucket is full. When the ground is hard, raise and lower the cutting edge of the bucket with the tilt pedal while driving forward slowly.

Push the bottom of the tilt pedal to tilt the bucket backward as far as it will go when the bucket is full **B**.

Leveling the Ground (Using Lift Arm in Float Position)

Push the top of the lift pedal all the way forward until the pedal is in the locked position (detent) to put the lift arms in a "float" position **C**.

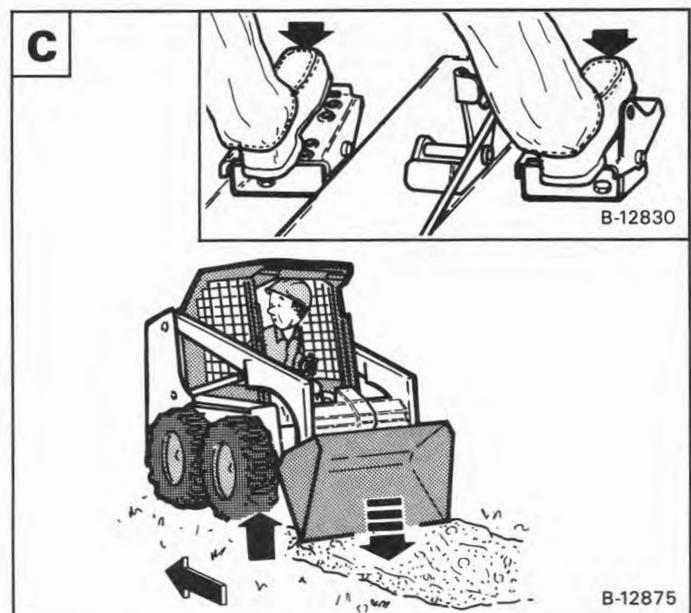
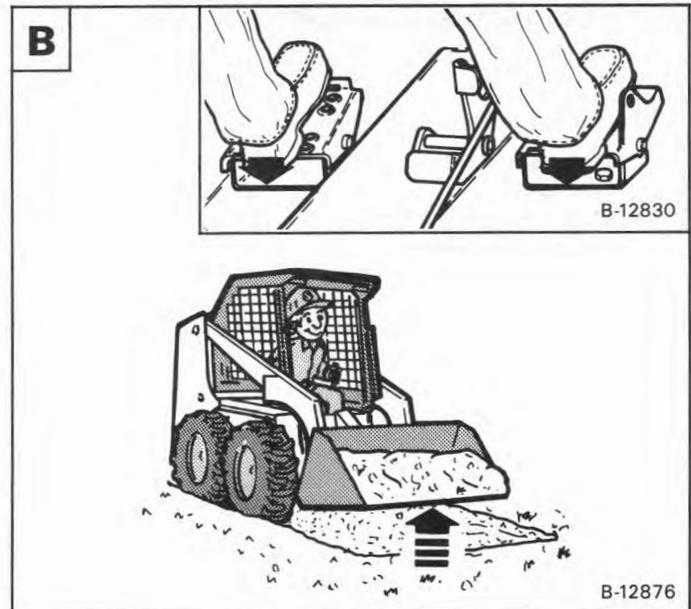
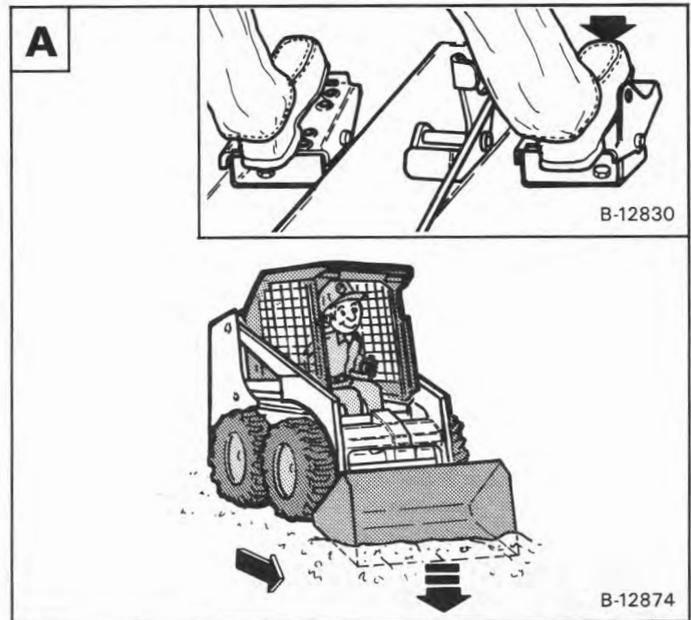
Push the tilt pedal to change the position of the cutting edge on the bucket. With the bucket tilted farther forward, there is more force on the cutting edge and more loose material can be moved.

IMPORTANT

Never drive forward when the hydraulic control for lift arms is in float position.

I-2005-1285

Drive backward to level loose material. Push the bottom of the lift pedal to unlock from the "detent" position.



OPERATING PROCEDURES (Cont'd)

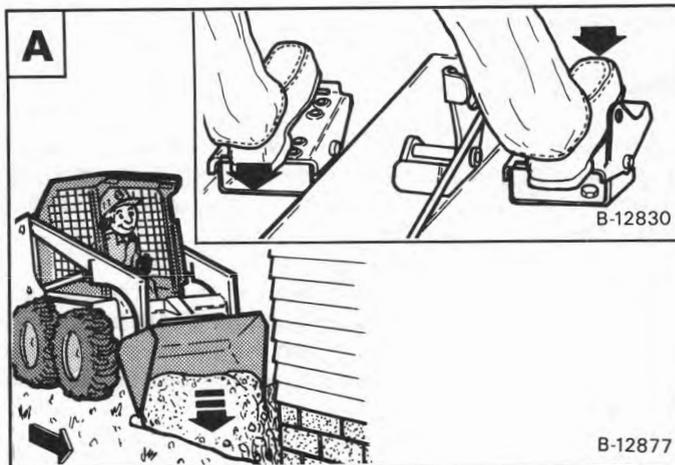
Backfilling

Lower the lift arms and put the cutting edge of the bucket on the ground. Drive forward to the edge of the hole to push the material into the hole **A**.

Tilt the bucket forward as soon as it is past the edge of the hole **A**. If necessary, raise the lift arms to empty the bucket.

PARKING THE BOBCAT LOADER

1. Stop the Bobcat loader on level ground.
2. Lower the lift arms and put the edge of the bucket on the ground.
3. Pull the throttle all the way backward. Turn the key switch to the "OFF" position.



WARNING

AVOID INJURY OR DEATH

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, move pedals until both lock.

W-2045-1086

4. Engage the parking brake.
5. Lift the seat bar and make sure the foot pedals are in the locked position.
6. Un-buckle the seat belt. Remove the key from the switch to prevent operation of the loader by unauthorized personnel.

TRANSPORTING THE BOBCAT LOADER



WARNING

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

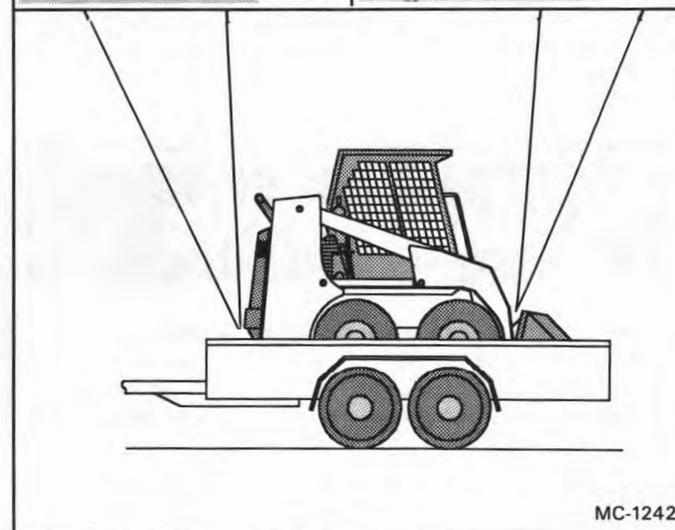
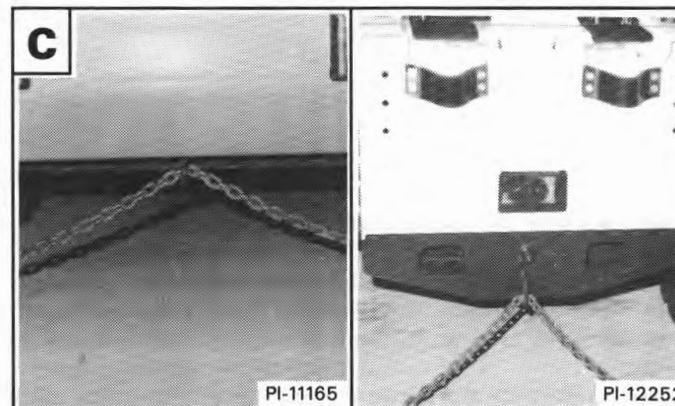
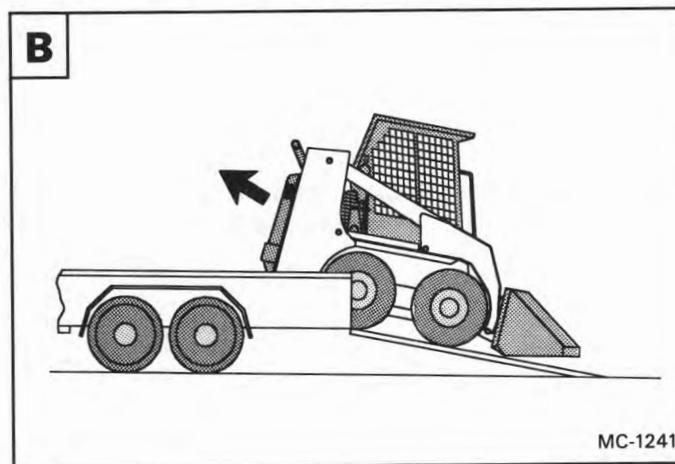
W-2058-0887

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

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.

Lower the bucket or attachment to the floor **C**.

Stop the engine. Engage the parking brake. Install chains at the front and rear of the loader and to the transport vehicle.



LIFTING THE LOADER

Four Point Lift

 **WARNING**

AVOID INJURY OR DEATH

- Before lifting, check fasteners on four point lift.
- Never allow riders in the cab or bystanders within 15 feet (5 meters) while lifting the machine.

W-2046-1290

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

Install the lift eyes **A** in the kit as shown.

Single Point Lift

 **WARNING**

AVOID INJURY OR DEATH

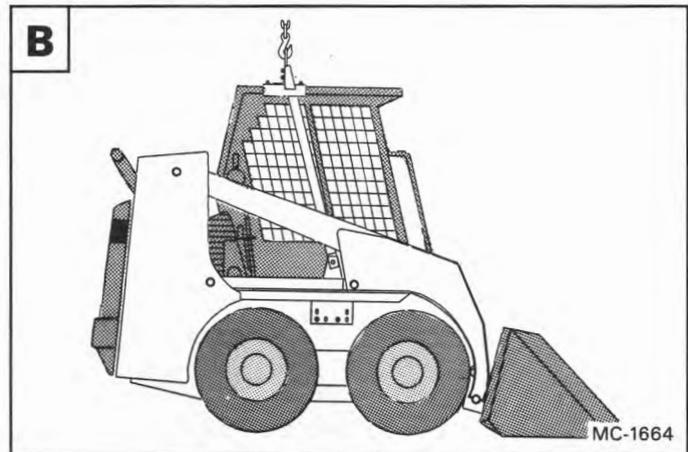
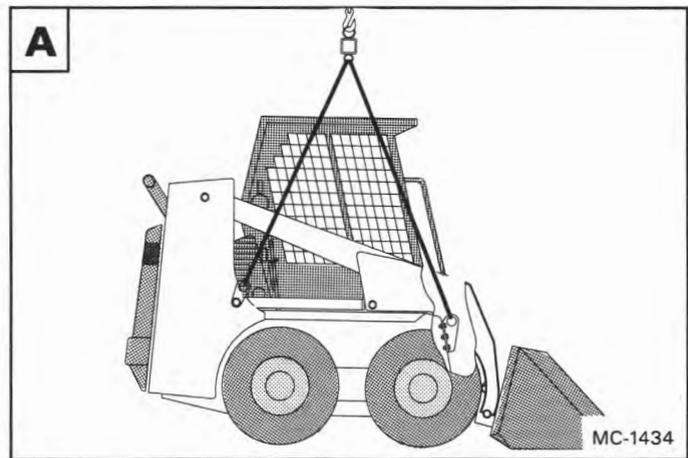
- Before lifting, check fasteners on single point lift and operator cab.
- Assemble front cab fasteners as shown in manual.
- Never allow riders in the cab or bystanders within 15 feet (5 meters) while lifting the machine.

W-2007-1285

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

Install the kit and lift as shown **B**.

The single point lift, supplied by Melroe Company is designed to lift and support the Bobcat loader without affecting roll over and falling object protection features of the operator cab.





bobcat

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PREVENTIVE
MAINTENANCE

MAINTENANCE SAFETY

WARNING

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

W-2003-1089

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

CORRECT



B-10731

! Never service the Bobcat loader without instructions.

CORRECT



B-12365

! Use the correct procedure to lift or lower operator cab with lift arms down.

CORRECT



B-7469

! Cleaning and maintenance are required daily.
! Keep rear door closed except for service. Close and latch door before operating the loader.

WRONG



B-11799

! Have good ventilation when welding or grinding painted parts. Wear dust mask when grinding painted parts. Toxic dust and gas can be produced.

WRONG



B-3724

! Vent exhaust to outside when engine must be run for service.
! Avoid exhaust fume leaks which can kill without warning. Exhaust system must be tightly sealed.

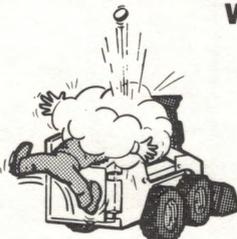
WRONG



B-6593

! Never work on loader with lift arms up unless lift arms are held by a lift arm support device.
! Never modify equipment or add attachments not approved by Melroe Company.

WRONG



B-6590

! Stop, cool and clean engine of flammable materials before checking fluids.
! Never service or adjust loader with the engine running unless instructed to do so in the manual.
! Avoid contact with leaking hydraulic fluid or diesel fuel under pressure. It can penetrate the skin or eyes.
! Never fill fuel tank with engine running, while smoking or when near open flame.

WRONG



B-6580

! Keep body, jewelry and clothing away from moving parts, electrical contacts, 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.

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.

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 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

SERVICE SCHEDULE		HOURS				
ITEM	SERVICE REQUIRED	8-10	50	100	250	1000
Engine Oil	Check the oil level & add oil as needed.					
Air Cleaner	Check display or condition indicator. Service only when required.					
Engine Cooling System	Clean debris from oil cooler, radiator & grill. Check coolant level cold in recovery tank. Add 50/50 ethylene glycol & water as needed.					
Lift Arms, Cyl., Bob-Tach Pivot Pins & Wedges	Lubricate with multi-purpose lithium based grease (12 places.)					
Engine Air System	Check for leaks & damaged components.					
Tires	Check for damaged tires & correct air pressure.					
Seat Belt, Seat Bar & Pedal Interlocks	Check the condition of seat belt. Check the seat bar & pedal interlocks for correct operation. Clean dirt & debris from moving parts.					
Safety Signs & Safety Tread	Check for damaged signs (decals) & safety tread. Replace any signs or safety treads that are damaged or worn.					
Operator Cab	Check the fastening bolts, washers & nuts. Check the condition of cab.					
Fuel Filter	Remove the trapped water.					
Hyd. Fluid, Hoses & Tubelines	Check fluid level & add as needed. Check for damage & leaks. Repair & replace as needed.					
Final Drive Trans. (Chaincase)	Check oil level.					
Battery	Check cables & electrolyte level.					
Control Pedals & Steering	Check for correct operation. Repair or adjust as needed.					
Wheel Nuts	★ Check for loose wheel nuts & tighten to 105-115 ft.-lbs. (142-156 Nm) torque.					
Parking Brake	Check operation & adjust as needed.					
Alternator Belt	Check tension & adjust as needed.					
Engine Oil & Filter	Replace oil & filter.					
Spark Arrestor Muffler	Clean the spark chamber.					
Engine/Hydro. Drive Belt	* Check for wear or damage. Make adjustment as needed.					
Fuel Filter	Replace filter element.					
Seat Bar	Grease pivots as needed.					
Steering Shaft	Grease two fittings.					
Hyd./Hydro. Filter	● Replace the filter element.					
Hyd. Reservoir Breather Cap	Replace the reservoir breather cap.					
Fan Drive Gearbox	Check gear lube level.					
Final Drive Trans.	Replace the oil in the chaincase.					
Hyd. Reservoir	Replace the fluid.					
Hyd. Motors.	† Clean or replace case drain filters.					

★ 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.

† Clean or replace case drain filters in the event of any major hydraulic or hydrostatic repair.

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 Engage Lift Arm Support Device

Maintenance and service work can be done with the lift arms lowered. If the lift arms are raised, use the following procedure:

Put jackstands under the rear corners of the loader.

Disconnect the spring from the lift arm support device retaining pin and remove the retaining pin **A**.

Lower the lift arm support device on top of the lift cylinder. Hook the free end of the spring to the lift arm support device so there will be no interference with the support device engagement.

With the operator in the seat, seat belt fastened and seat bar lowered, start the engine. Raise the lift arms, until the lift arm support device drops onto the lift cylinder rod **B**.

Lower the lift arms slowly until the support device is held between the lift arms and the lift cylinder. Stop the engine. Raise the seat bar and move the foot controls until both controls are locked. Install pin into the rear of the lift arm support device below the cylinder rod.

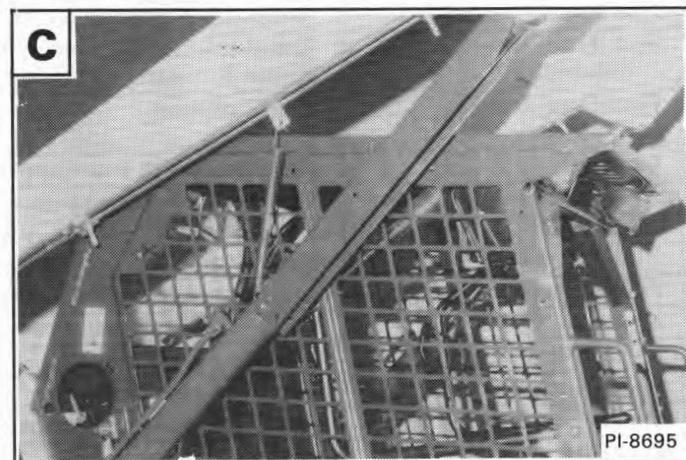
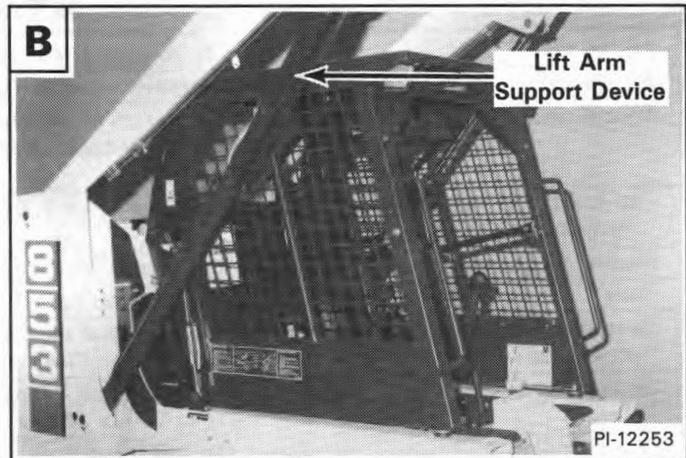
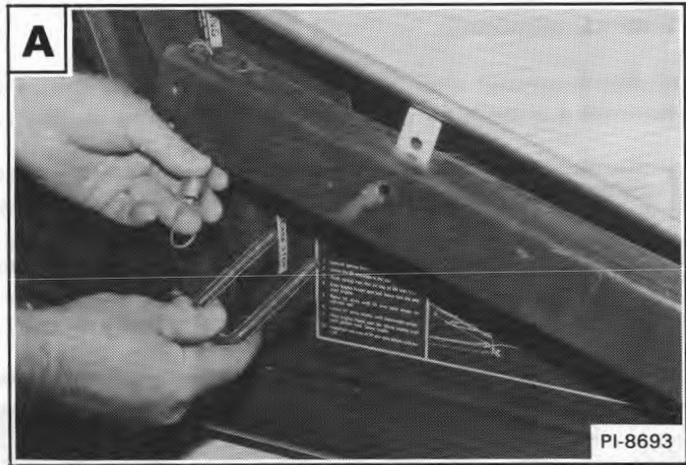
To Disengage Lift Arm Support Device

Connect the spring from the lift arm support device to the bracket below the lift arms **C**.

With the operator in the seat, seat belt fastened and seat bar lowered, start the engine. Raise the lift arms a small amount and the spring will lift the support device off the lift cylinder rod. Lower the lift arms. Stop the engine.

Disconnect the spring from the bracket. Raise the support device into storage position and install pin through lift arm support device and bracket **A**.

Connect spring to pin **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 the dealer if the operator cab has been damaged.



WARNING

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

W-2069-1285

Raising the Operator Cab

Stop the loader on a level surface. Lower the lift arms. If the lift arms must be up while raising the operator cab, install the lift arm support device (Page 26).



WARNING

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

W-2014-1285

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

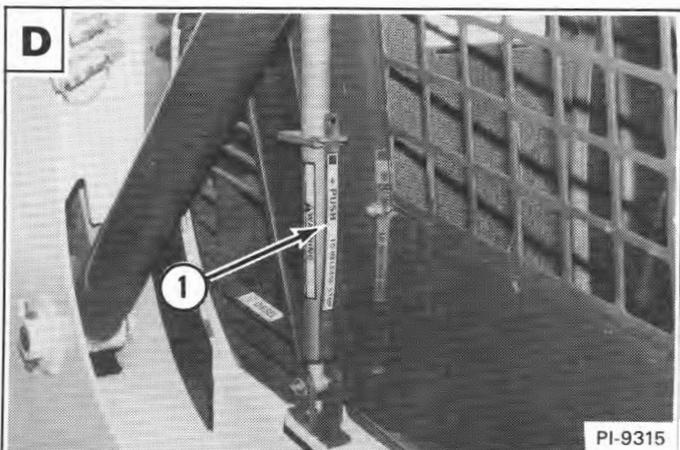
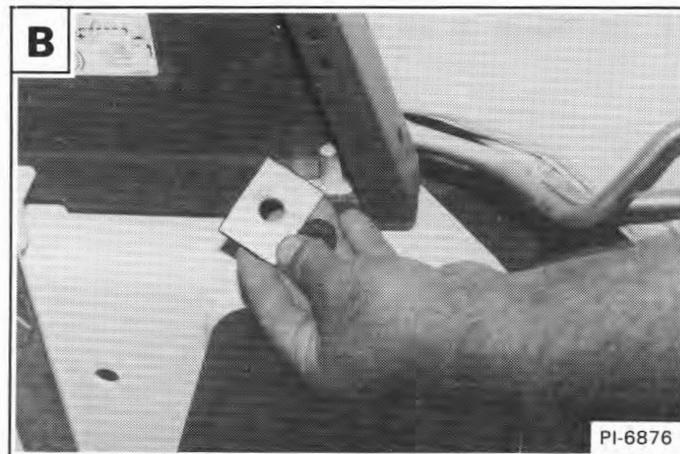
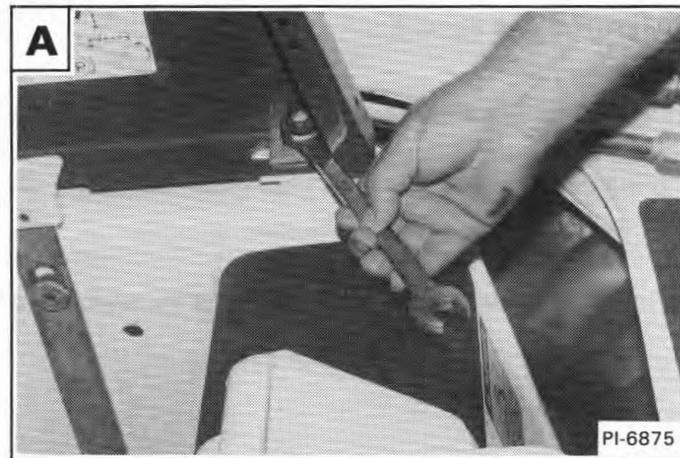
Remove the nut and plate (both sides) **B**.

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

Lowering the Operator Cab

Pull down on the bottom of the operator cab until it stops on the latching mechanism. Release the latching mechanism (Item 1) and pull the cab all the way down **D**.

Install the plate and nut (both sides). Tighten the nuts to 40-50 ft.-lbs. (54-69 Nm) torque **A**.



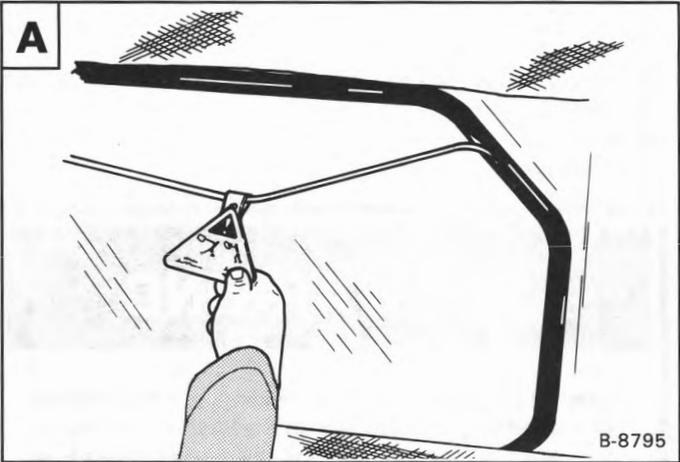
OPERATOR CAB (Cont'd)

Emergency Exit

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

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

1. Pull on the tag at the rear window to remove the rubber cord **A**.
2. Push the rear window out of the rear of the operator cab.



3. Exit through the rear of the operator cab **B**.



SEAT BAR RESTRAINT SYSTEM

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 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. Un-buckle the seat belt.

 **WARNING**

AVOID INJURY OR DEATH

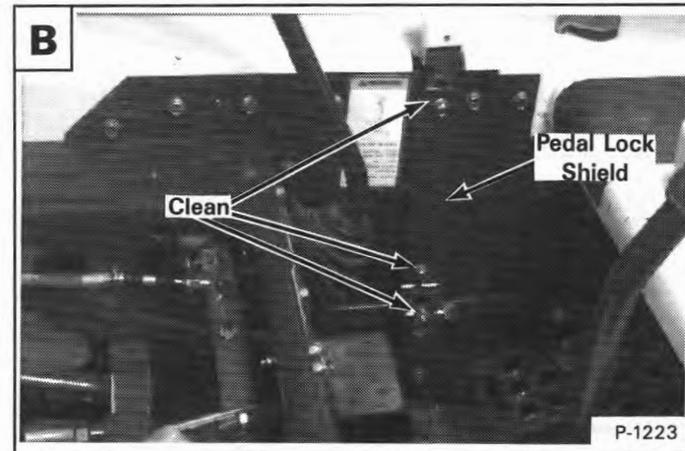
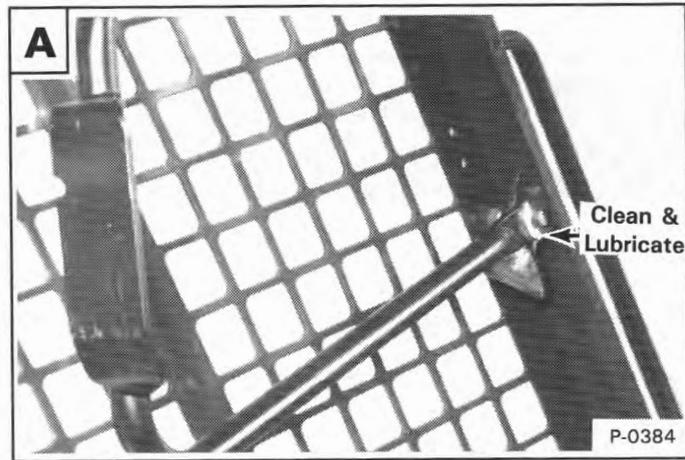
Never operate loader without pedal lock shield 6705474 on both interlocks. Shields prevent foot from unlocking interlocks when leaving loader seat.

Seat Bar Maintenance

See the Service Schedule (Page 25) 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).

Use a general purpose grease to lubricate the seat bar pivot points at each side of the cab **A**. If the seat bar system does not function correctly, check for free movement of each linkage part. Check for excessive wear. Adjust pedal control linkage. Replace parts that are worn or damaged. Use only genuine Melroe replacement parts.



REAR DOOR



WARNING

AVOID INJURY OR DEATH

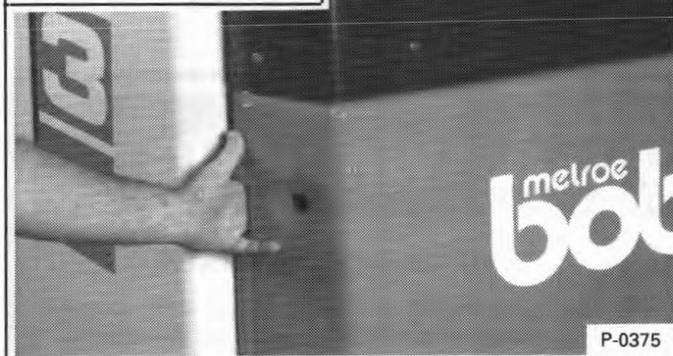
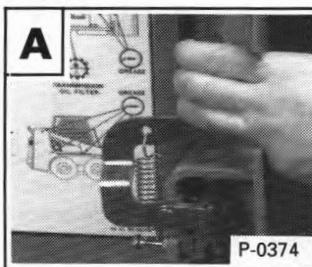
Never service or adjust the machine when the engine is running unless instructed to do so in the manual.

W-2012-1285

To open the rear door, use the following procedure:

Put your fingers into the slot in the rear door and pull on the latch handle (Inset **A**).

Pull the rear door open.



WARNING

Keep the rear door closed when operating the machine. Failure to do so could seriously injure a bystander.

W-2020-1285

Adjustment

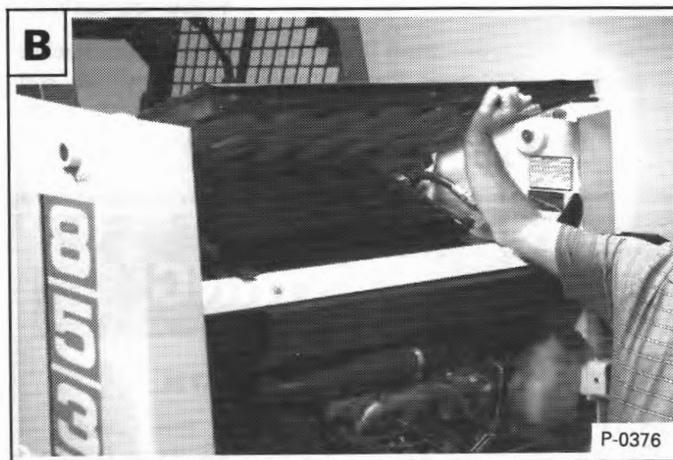
The door latch catch can be adjusted up or down for alignment with the door latch mechanism.

REAR GRILL

To open the rear grill, use the following procedure:

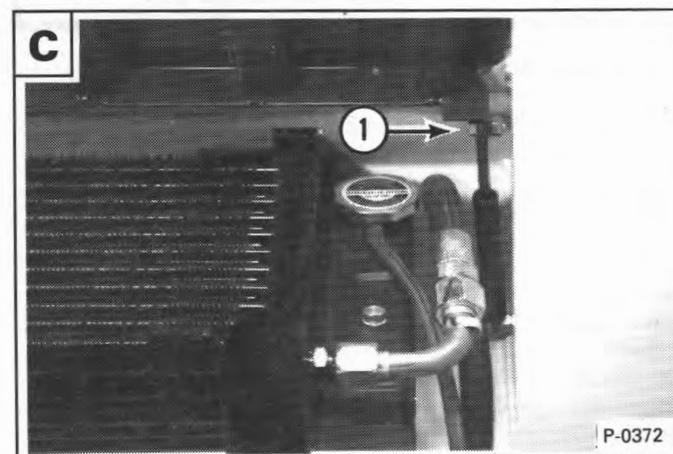
Open the rear door.

Raise the rear grill **B**.



The rear grill is held open by the cylinder (Item 1) **C**.

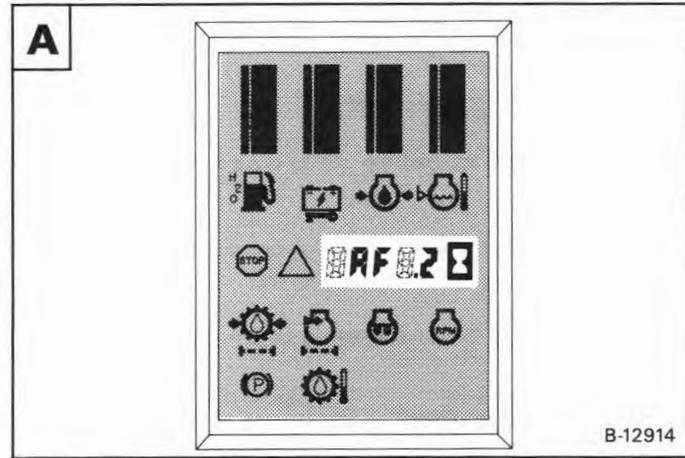
NOTE: To prevent damage to the rear grill, always lower the rear grill before raising the operator cab.



AIR CLEANER SERVICE

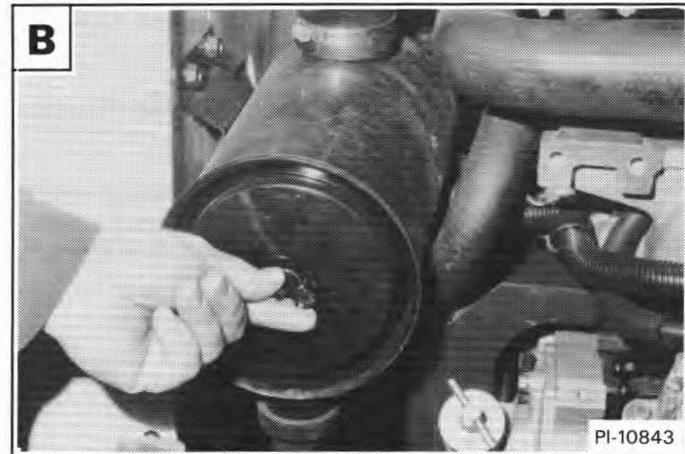
853 Plus (5102), 853H Plus (5103)

It is important to change the air filter element only when the service code (on the instrument panel) shows the symbols as in figure **A**.

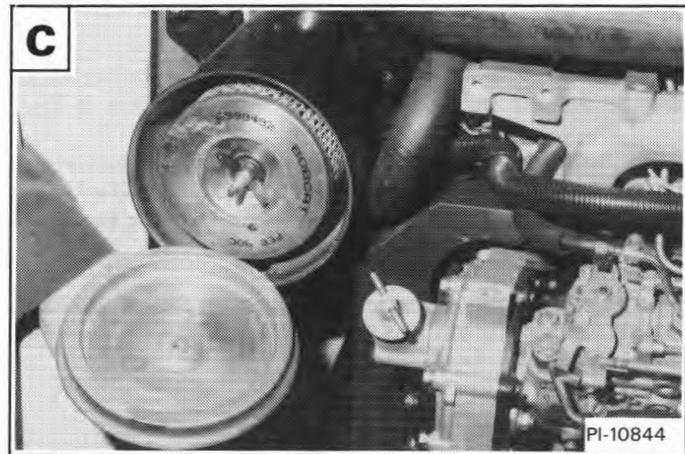


Service the air cleaner as follows:

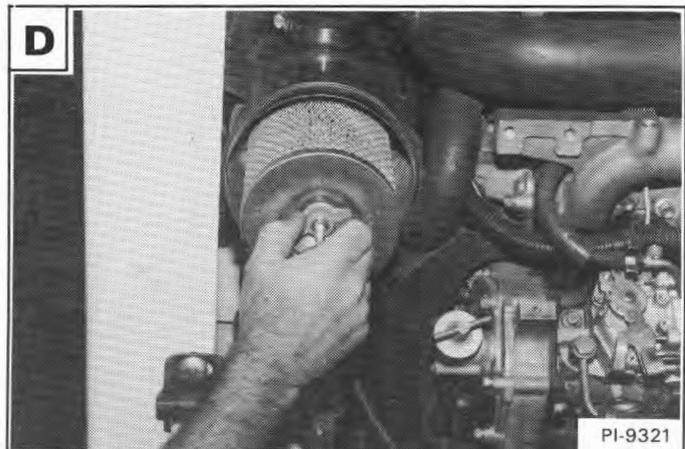
Remove the dust cover wing nut **B**.



Remove the dust cover **C**.



Remove the wing nut at the large air filter element **D**.



AIR CLEANER SERVICE (Cont'd)
853 Plus (5102), 853H Plus (5103)

Remove the large filter element **A**.

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

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

NOTE: Make sure the evacuator is in the down position.

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**:

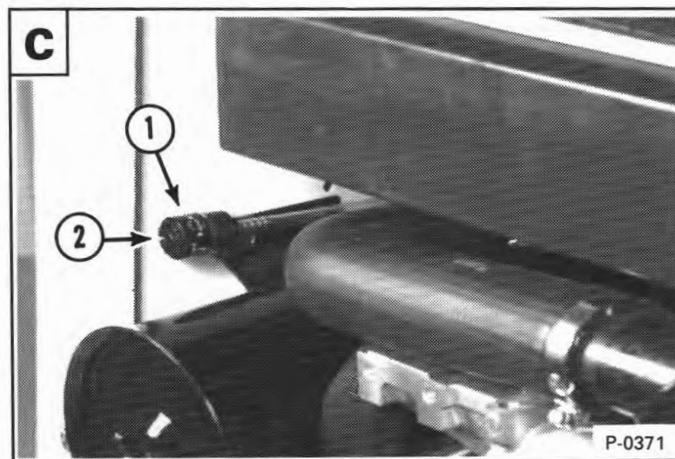
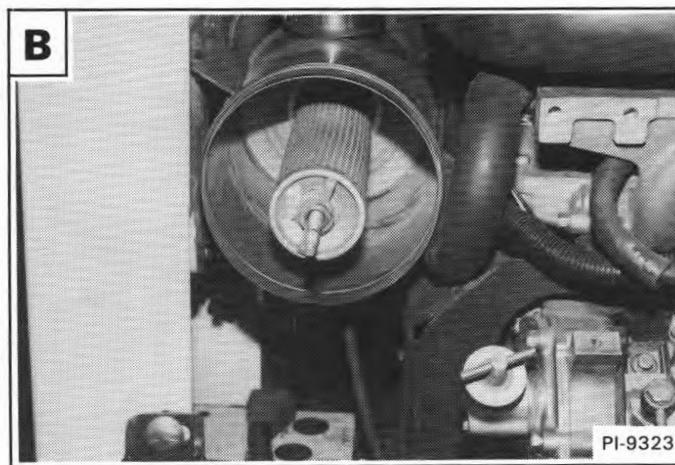
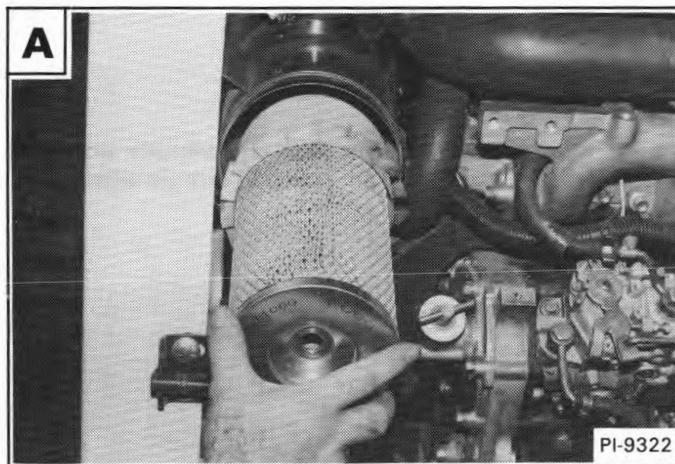
1. Replace the inner filter element every third time the outer filter is replaced.
2. Replace the inner filter element when the service codes show symbols (Page 31, Figure **A**), only after the outer filter element has been changed and the engine speed is at full RPM.

AIR CLEANER SERVICE - 853 Base (5101)

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

NOTE: Before replacing the filter element, push the button on the condition indicator (Item 2) **C**, 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.



FUEL SYSTEM

Fuel Specifications

Use only clean, high quality fuel. Use Grade No. 2 fuel above 40°F. (4°C.). Use Grade No. 1 fuel at temperatures below 40°F. (4°C.).

Filling the Fuel Tank

WARNING

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

W-2063-0887

Remove the fuel fill cap **A**.

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

Install and tighten the fuel fill cap **A**.

Fuel Filter

WARNING

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

W-2103-1285

See the Service Schedule (Page 25) for the service interval when to remove the water from the fuel filter.

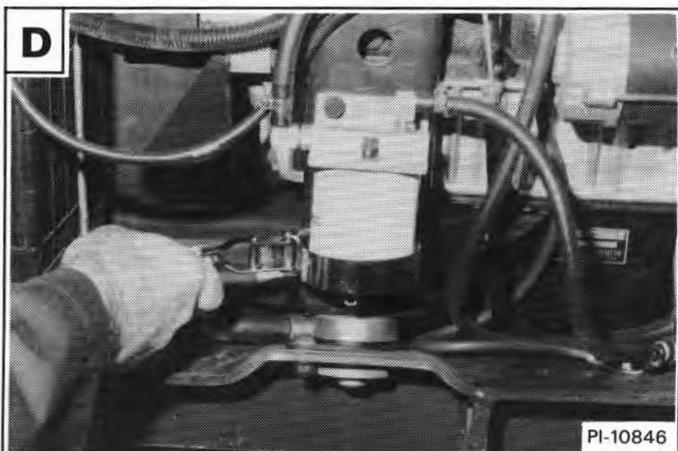
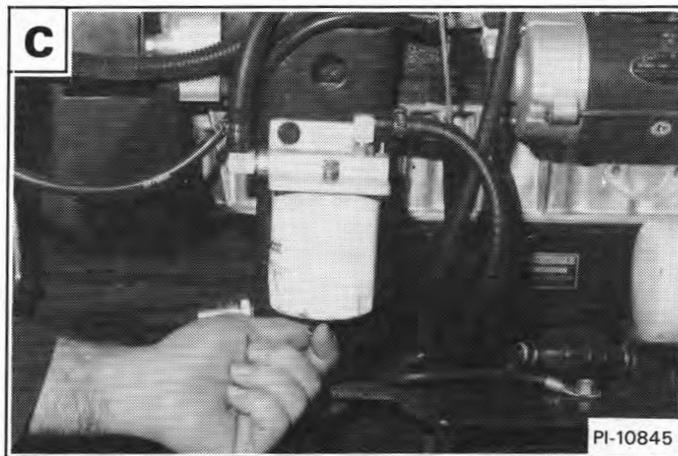
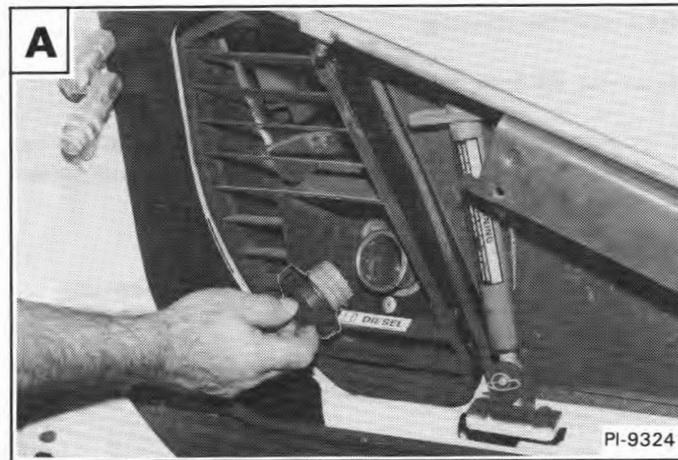
Loosen the drain at the bottom of the filter element to drain the water from the filter **C**.

See the Service Schedule (Page 25) for the service interval when to replace the fuel filter.

Use a filter wrench to remove the filter element **D**.

Clean the area around the filter housing. Put oil on the seal of the new filter element. Install the fuel filter, hand tighten the filter element.

Remove the air from the fuel system (Page 34).

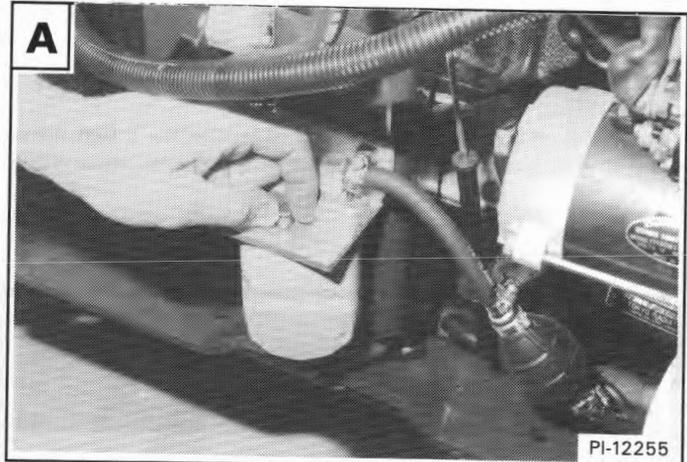


FUEL SYSTEM (Cont'd)

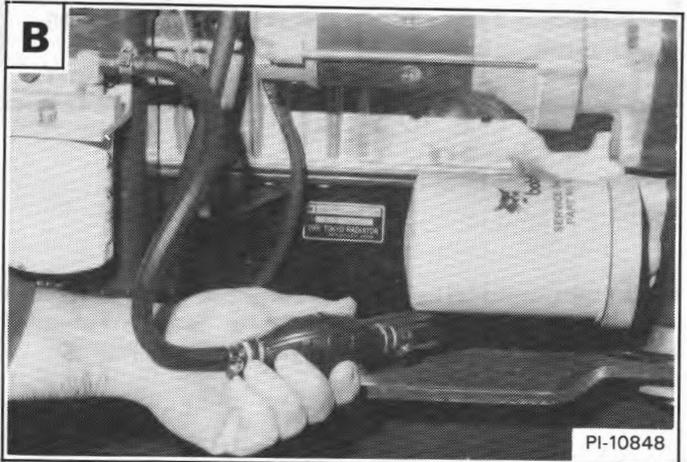
Removing Air from the Fuel System

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

Loosen the air vent plug at the top of the fuel filter **A**.



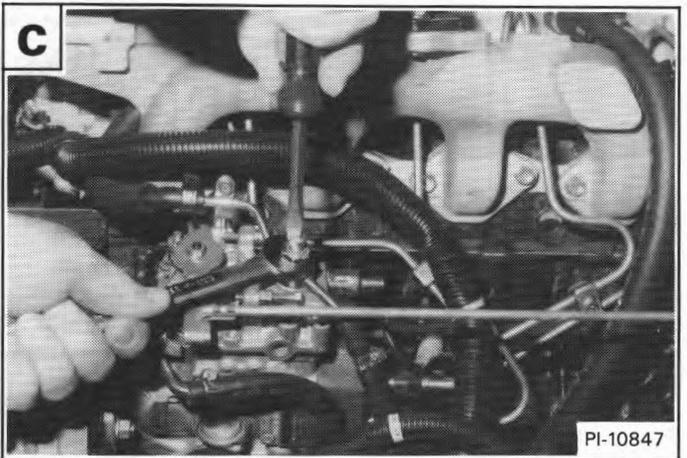
Operate the priming bulb until fuel flows from the filter vent plug **B**. Tighten the fuel filter vent plug.



Loosen the air vent plug at the top of the fuel injection pump **C**.

Again operate the priming bulb until fuel flows from the air vent plug with no air bubbles showing **B**.

Tighten the air vent plug at the fuel injection pump **C**.



WARNING

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

W-2103-1285

ENGINE LUBRICATION SYSTEM

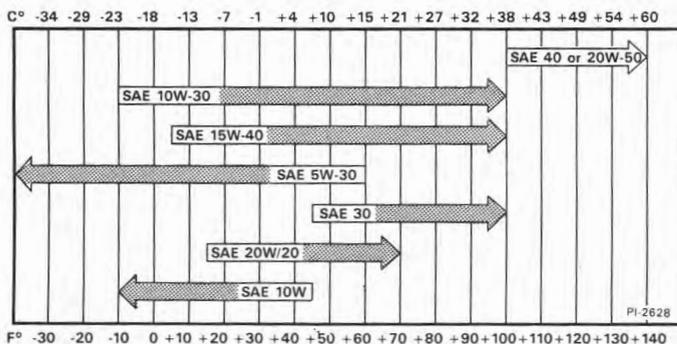
Check the oil level every day.

Before starting the engine for the work shift. Open the rear door. Remove the dipstick **A**.

Keep the oil level between the marks on the dipstick.

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

RECOMMENDED SAE VISCOSITY NUMBER (LUBRICATION OILS FOR ENGINE CRANKCASE)

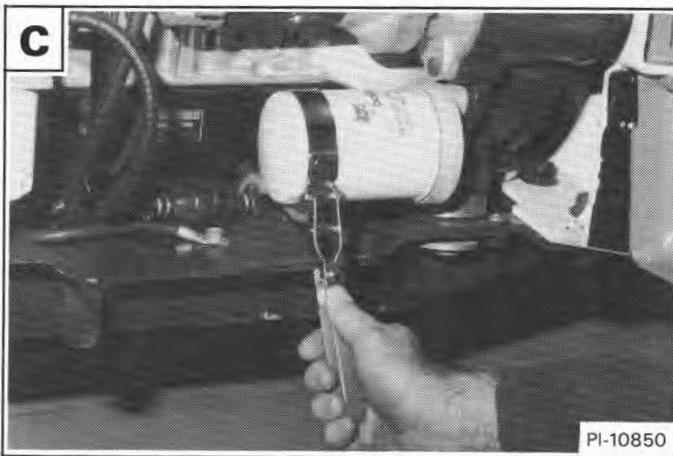
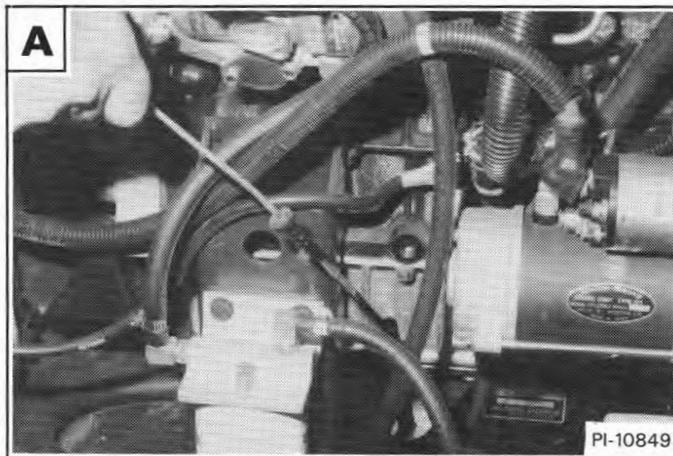


TEMPERATURE RANGE ANTICIPATED BEFORE NEXT OIL CHANGE (DIESEL: USE API CLASSIFICATION CC, CD or CE)

Replacement of Engine Oil and Filter

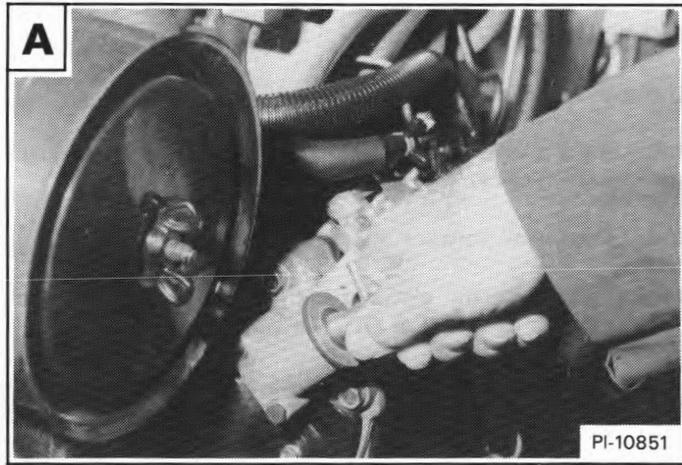
See the Service Schedule (Page 25) for the service interval for replacing the engine oil and filter.

1. Run the engine until it is at operating temperature. Stop the engine.
2. Open the rear door. Remove the drain plug **B**. Drain the oil into a container.
3. Remove the oil filter **C**.
4. Clean the filter housing surface. Put clean oil on the new oil filter gasket. Install the filter and hand tighten only.
5. Install and tighten the drain plug.



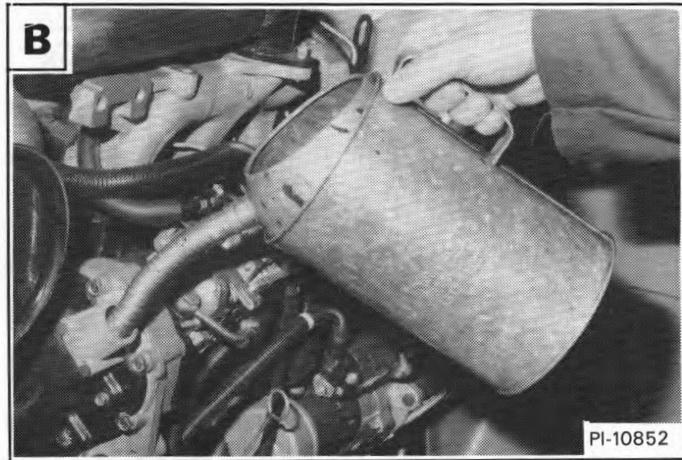
ENGINE LUBRICATION SYSTEM (Cont'd)

6. Remove the filler cap **A**.



7. Put 8 qts. (7,6 L) of oil in the engine (See Oil Chart, Page 35) **B**.

8. 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

COOLING SYSTEM

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

Cleaning the Cooling System

Raise the rear grill.

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

Raise the oil cooler and clean on the top of the radiator **B**.

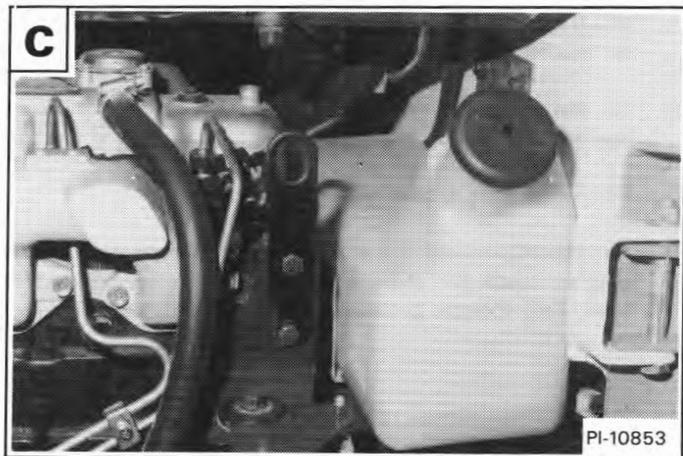
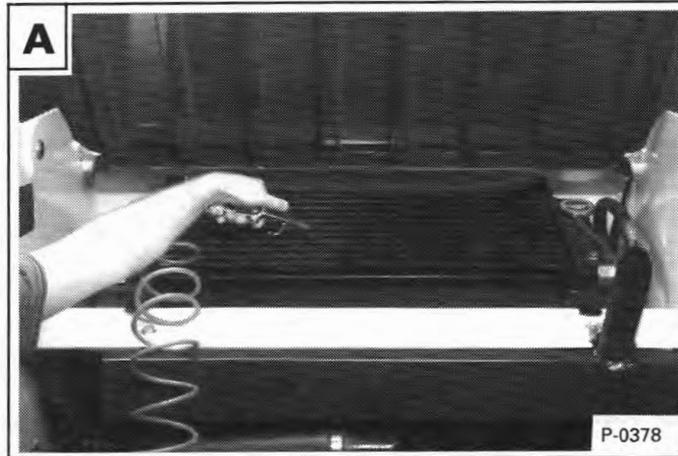
Check cooling system for leaks.

Checking the Coolant Level

Open the rear door. Check the coolant level in the coolant recovery tank on the right side of the engine **C**.

The coolant recovery tank must be 1/3 full (engine cold).

Add pre-mixed coolant, 50% water and 50% ethylene glycol to the recovery tank if the coolant level is low.



COOLING SYSTEM (Cont'd)

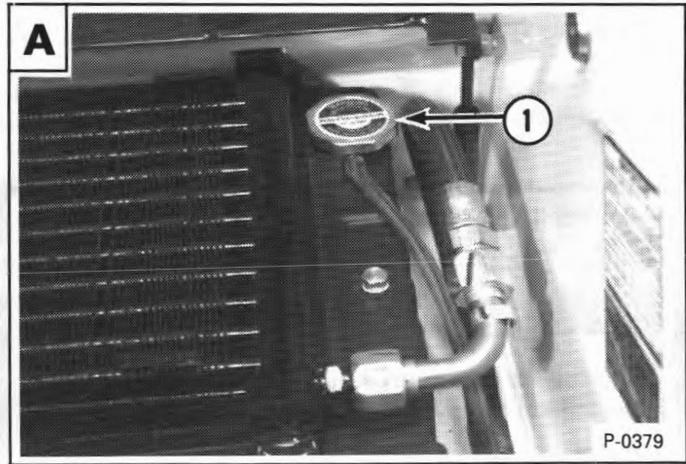
Removing Coolant from the Cooling System



WARNING

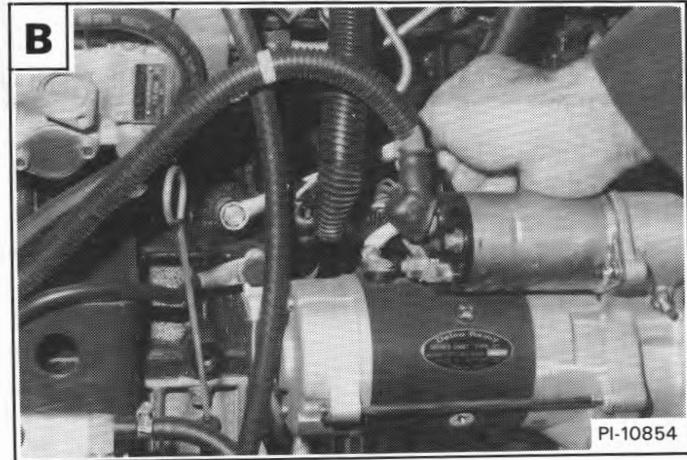
Do not remove radiator cap when the engine is hot. You can be seriously burned.

W-2070-1285



1. Open the rear door. Open the rear grill.
2. Remove the radiator cap (Item 1) **A**.
3. Remove the drain plug from the side of the engine block **B**. Drain the coolant into a container.
4. After all the coolant is removed, install and tighten the drain plug.

NOTE: Protect the cooling system by adding pre-mixed 50% ethylene glycol and 50% water to the system. This mixture will protect the cooling system to -34°F. (-36°C.).



5. Mix the coolant in separate container (See Specifications for correct capacity, Page 61).
6. Fill the radiator and engine block with the pre-mixed coolant. Install the radiator cap.
7. Fill the coolant recovery tank 1/3 full.
8. Run the engine until it is at operating temperature. Stop the engine. Check the coolant level in the recovery tank when cool. Add coolant to the recovery tank as needed.

ALTERNATOR BELT

Adjusting the Alternator Belt

To adjust the belt tension for the alternator, use the following procedure:

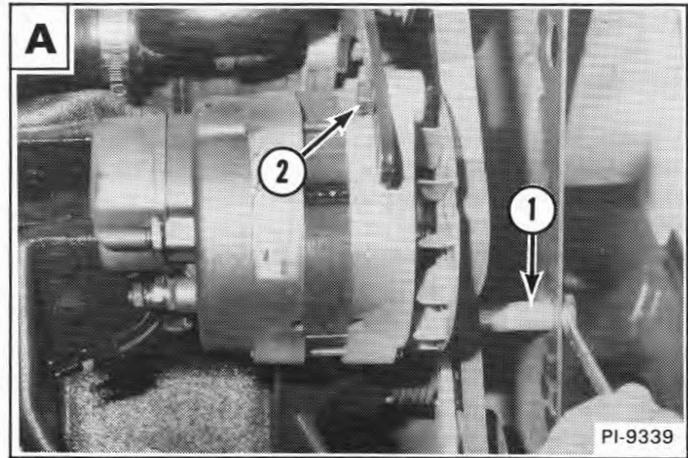
Stop the engine.

Raise the operator cab (Page 27).

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

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

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



ELECTRICAL SYSTEM

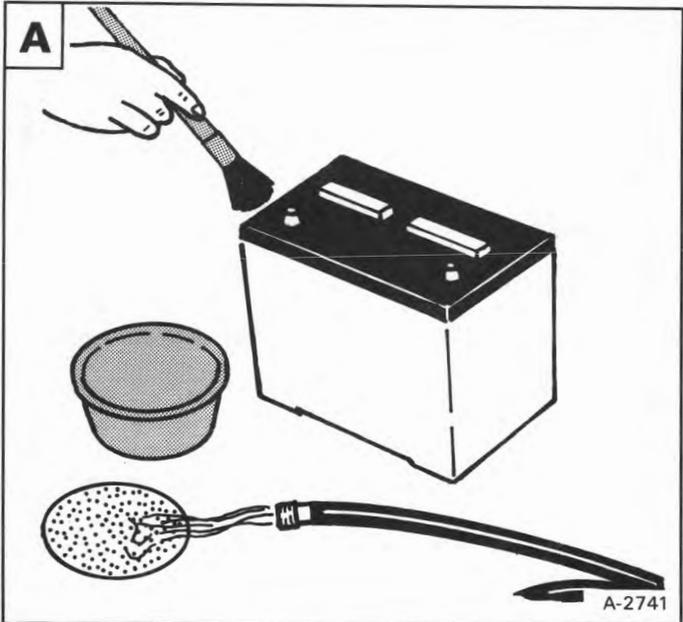
Description

The loader has a 12 volt, negative ground alternator charging system. The electrical system is protected by fuses located in the instrument panel or the engine compartment. The fuses will protect the electrical system when there is an electrical over-load. The reason for the over-load must be found before starting the engine again.

Electrical System Service

The battery cables must be clean and tight. Check the water level in the battery. Remove any acid or corrosion from the battery and cables with a sodium bicarbonate and water solution **A**.

Cover the battery terminals and cable ends with grease.



WARNING

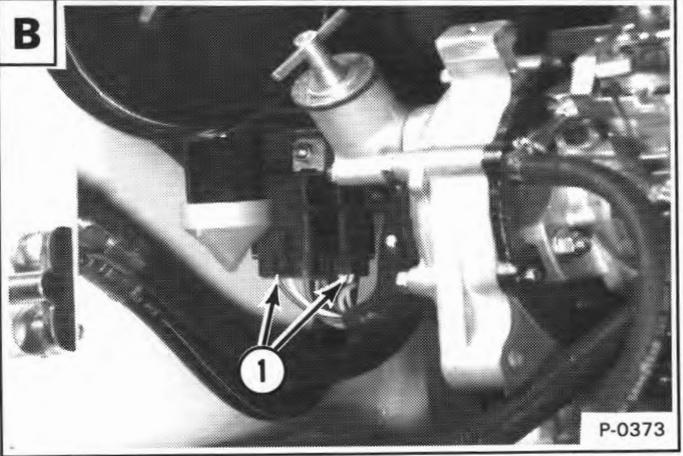
Batteries contain acid which burns eyes and skin on contact. Wear goggles, protective clothing and rubber gloves to keep acid off body.

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

W-2065-1286

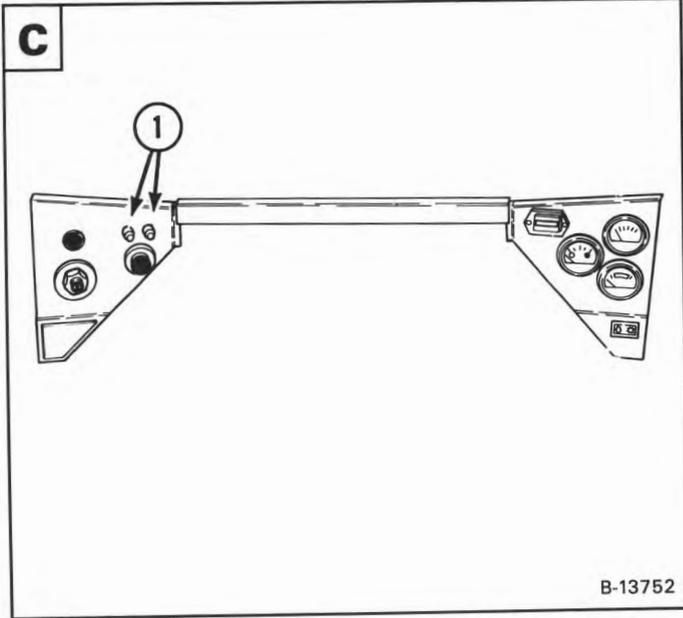
Fuses - 853 Plus (5102) & 853H Plus (5103)

The electrical system for loaders is protected by two fuses (Item 1) installed in the wiring harness **B**. Fuses protect the electrical system from an overload. The fuses are located in the engine compartment under the air cleaner.



Fuses - 853 Base (5101)

The electrical system for this model loader is protected by two fuses (Item 1) located in the instrument panel **C**.



ELECTRICAL SYSTEM (Cont'd)

Using A Booster Battery (Jump Starting)



WARNING

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

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

Battery gas can explode and cause serious injury.

W-2066-0189

If it is necessary to use a booster battery to start the engine, BE CAREFUL! There must be one person in the operator's seat and one person to connect and disconnect the battery cables.

The ignition must be in the "OFF" position. The booster battery to be used must be 12 volt.

Connect the end of the first cable (Item 1) to the positive (+) terminal of the booster battery. Connect the other end of the same cable (Item 2) to the starter **A**.

Connect the end of the second cable (Item 3) to the negative (-) terminal of the booster battery. Connect the other end of the same cable (Item 4) to the engine **A**.

Keep cables away from moving parts. Start the engine (Also see "Pre-Heat Condition", Page 15).

After the engine has started, remove the ground (-) cable (Item 4) first **A**.

Remove the cable from the starter.

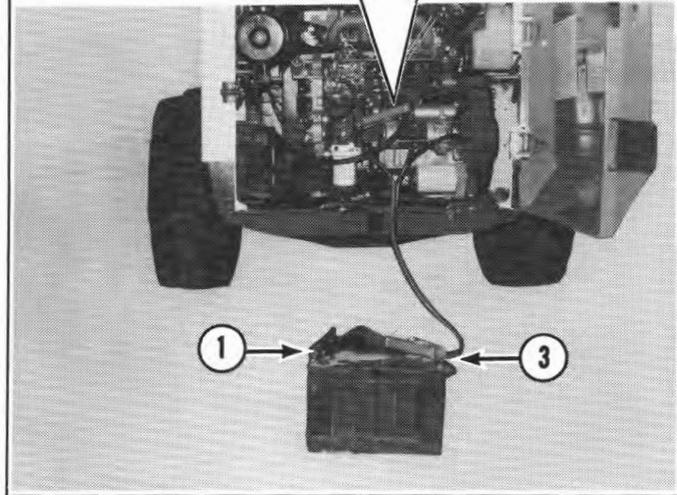
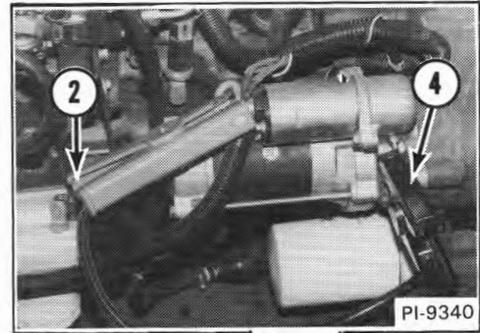
IMPORTANT

Damage to the alternator can occur if:

- Engine is operated with battery cables disconnected.
- Battery cables are connected when using a fast charger or when welding on the loader (Remove both cables from the battery).
- Extra battery cables (booster cables) are connected wrong.

I-2023-1285

A

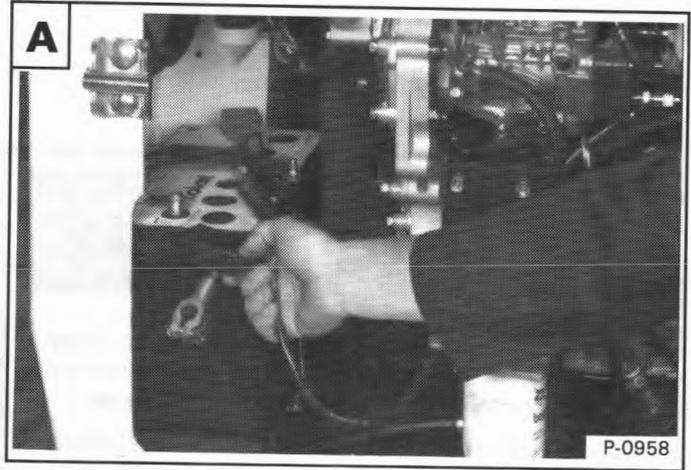


ELECTRICAL SYSTEM (Cont'd)

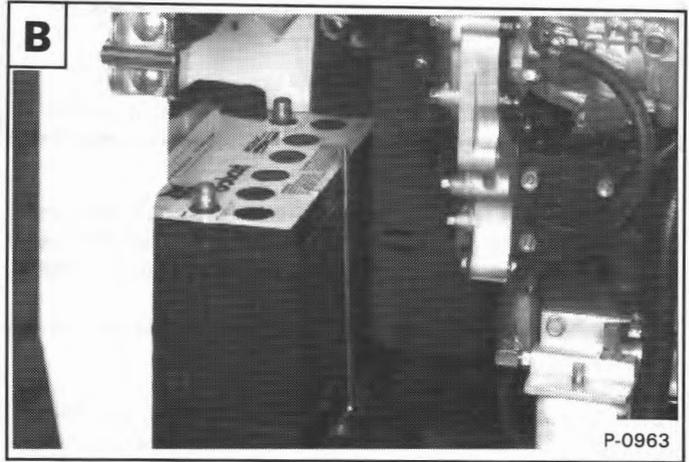
Battery Removal and Installation

Open the rear door. Disconnect the negative (–) battery cable **A**.

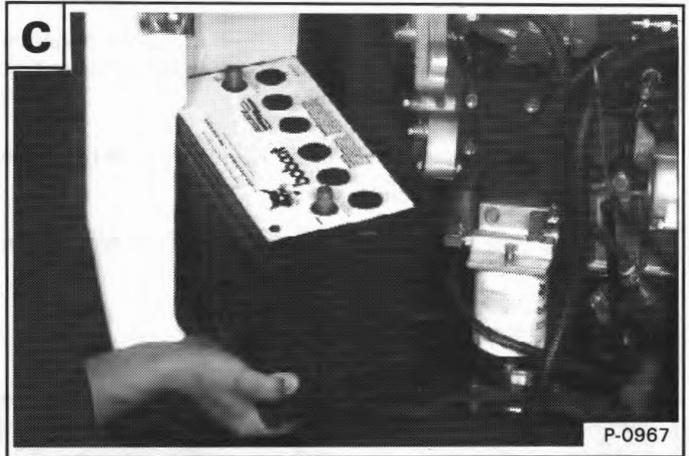
Disconnect the positive (+) battery cable (Item 1) **A**.



Remove the battery holddown clamp **B**.



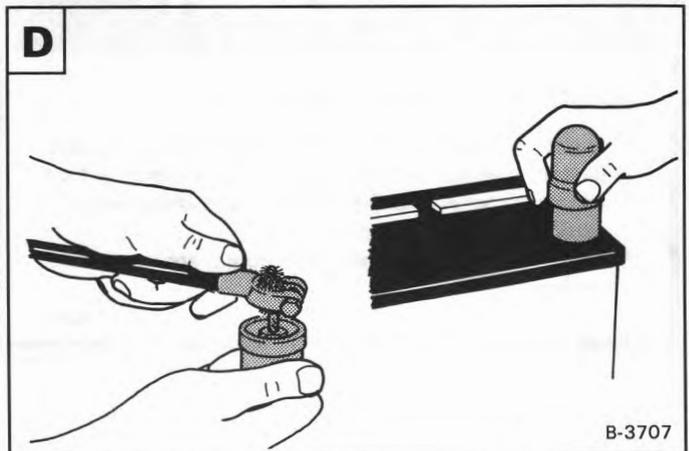
Remove the battery from the loader **C**.



Always clean the terminals and cable ends when installing a new battery **D**.

When installing the battery in the loader, do not touch any metal parts with the battery terminal posts.

Connect and tighten the battery cables. Connect the negative (–) cable last to prevent sparks.



HYDRAULIC/HYDROSTATIC SYSTEM

Checking and Adding Fluid

Use only recommended fluid in the hydraulic system (See Specifications Section for the correct fluid, Page 62).

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.

Remove the dipstick **A**.

The fluid level must be between the marks on the dipstick.

If fluid is needed, remove the fill cap **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 top mark on the dipstick **C**.

Hydraulic/Hydrostatic Filter Replacement

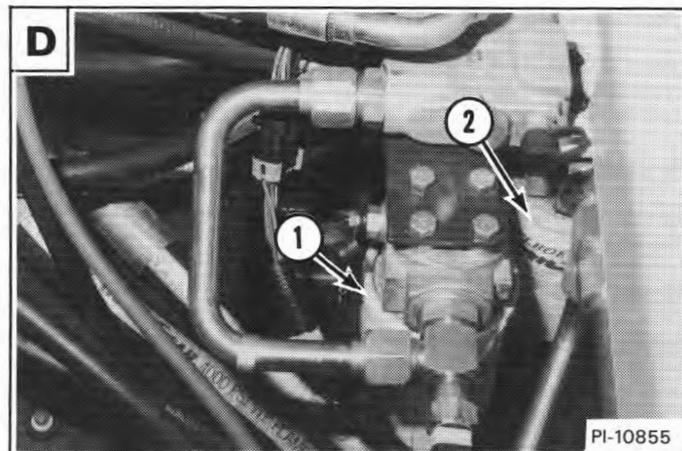
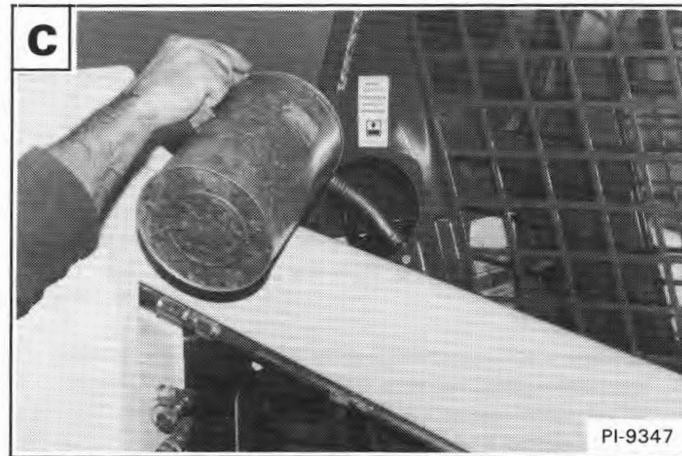
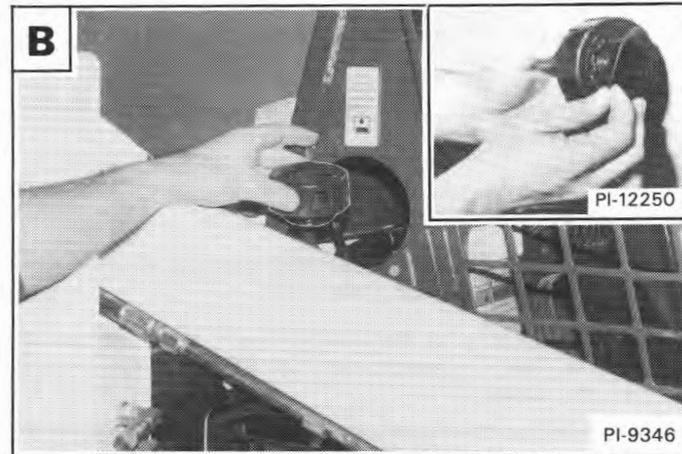
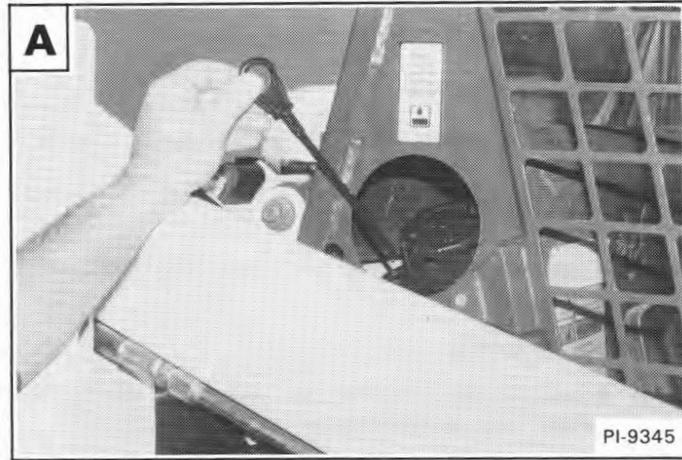
See the Service Schedule (Page 25) for the correct service interval.

Raise the operator cab (Page 27).

Use a filter wrench and remove both filter elements (Item 1 & 2) **D**.

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.



HYDRAULIC/HYDROSTATIC SYSTEM (Cont'd)

Hydraulic Fluid Replacement

See the Service Schedule (Page 25) for the service interval.

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

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

Remove the fill cap **A**.

NOTE: Before installing the fill cap, make sure the rubber gasket is installed on the fill cap (Inset **A**).

Raise the operator cab (Page 27).

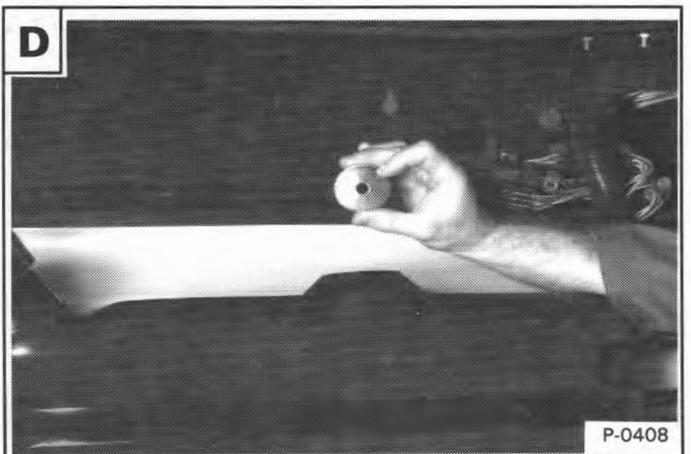
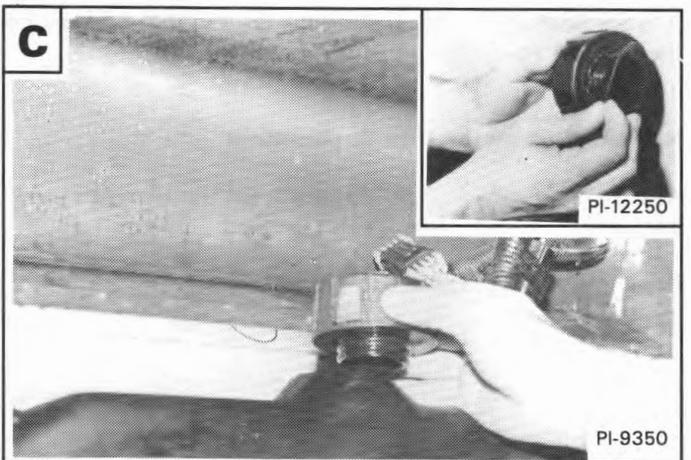
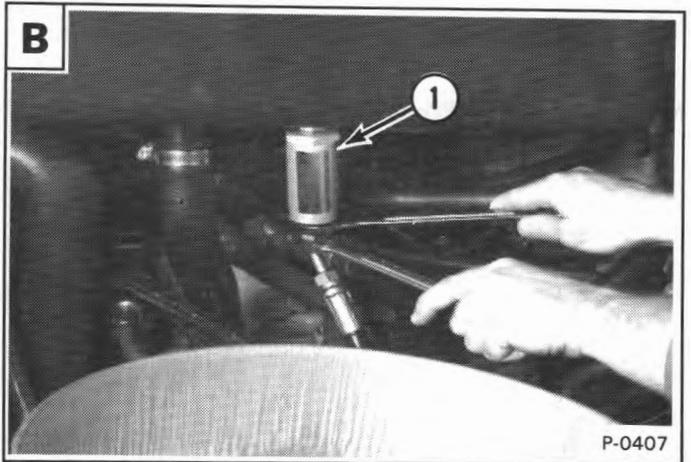
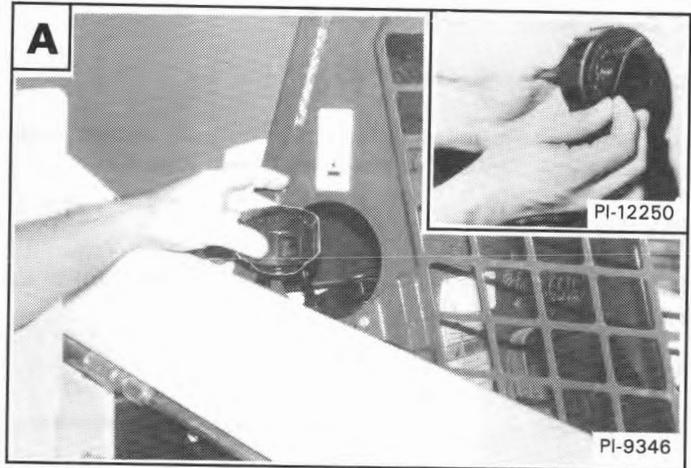
Disconnect the hose from the hydrostatic motor case drain filter (Item 1) **B**.

NOTE: There is a 90 micron filter in each hydrostatic motor case drain line.

Remove the case drain filters (Item 1) and clean thoroughly from both hydrostatic motors **B**.

When all the fluid is removed from the reservoir, connect and tighten the filters and case drain hoses.

Add the correct fluid to the reservoir until the fluid level is between the marks on the dipstick. DO NOT fill above the top mark on the dipstick.



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.

Hydraulic Reservoir Breather Cap

See the Service Schedule (Page 25) for the correct service interval.

Remove the breather cap and replace it with a new cap **C**.

NOTE: Make sure the rubber gasket is installed on the breather cap (Inset **C**).

Make sure the baffle washer is installed in the hydraulic reservoir **D**.

SPARK ARRESTOR MUFFLER

See the Service Schedule (Page 25) for service interval for cleaning the spark arrestor muffler.

Do not operate the loader with a defective exhaust system.

IMPORTANT

This machine is factory equipped with a U.S.D.A. Forestry Service approved spark arrestor muffler. To keep it in working condition, dump the spark chamber after every 100 hours of operation.

If this machine is operated in California on flammable forest, brush or grass covered land, it must be equipped with a spark arresting exhaust system that is correctly maintained. Failure to do so will be in violation of California State Law, Section 4442 PRC.

Refer to local laws and regulations for spark arrestor requirements.

I-2022-1285

Stop the engine. Open the rear door and raise the rear grill.

Remove the plug from the bottom of the muffler **A**.



WARNING

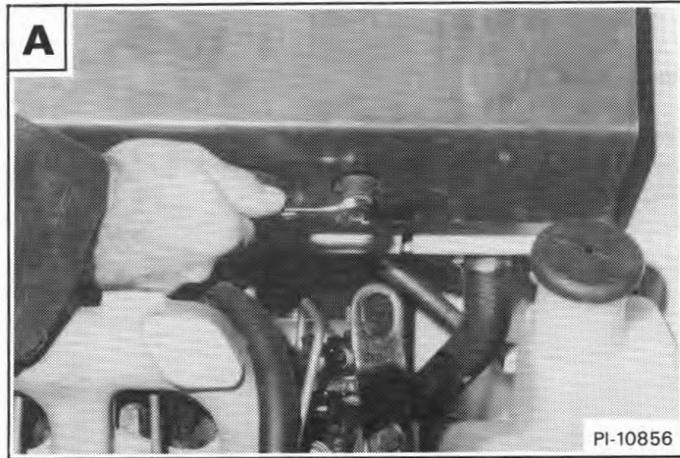
When the engine is running during service, the steering levers must be in neutral and the parking brake engaged. Failure to do so can cause injury or death.

W-2006-0284

Start the engine and run for about 10 seconds while a second person, wearing safety glasses, holds a piece of wood over the outlet of the muffler.

Stop the engine. Install and tighten the plug.

Lower the rear grill and close the rear door.



WARNING

When an engine is running in an enclosed area, fresh air must be added to avoid concentration of exhaust fumes. If the engine is stationary, vent the exhaust outside. Exhaust fumes contain odorless, invisible gases which can kill without warning.

W-2050-1285

Stop engine and allow the muffler to cool before cleaning the spark chamber. Wear safety glasses or goggles. Failure to obey can cause serious injury.

W-2011-1285

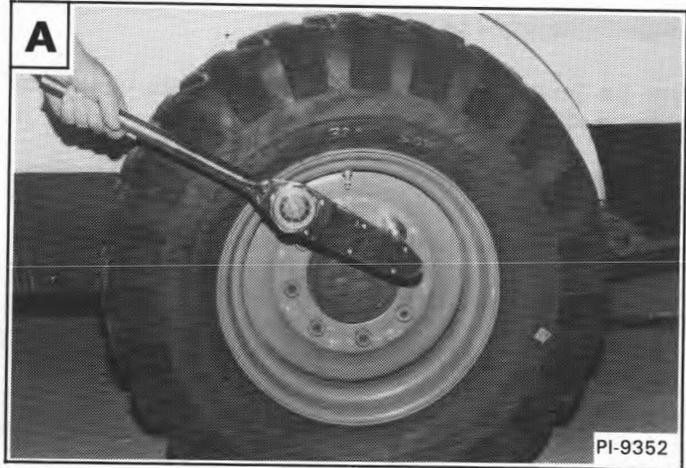
Never use machine in atmosphere with explosive dust or gases or where exhaust can contact flammable material. Failure to obey warnings can cause injury or death.

W-2068-1285

TIRE MAINTENANCE

Wheel Nuts

See the Service Schedule (Page 25) for the service interval to check the wheel nuts. The correct torque is 105-115 ft.-lbs. (142-156 Nm) **A**.

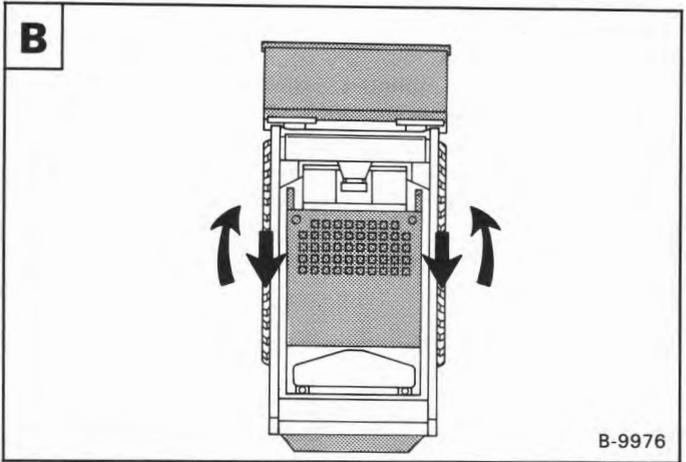


Tire Rotation

Check the tires regularly for wear, damage and pressure (See Specifications, Page 62 for the correct tire pressure).

Rear tires usually wear faster than front tires. To keep the 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 to avoid excessive wear. If different sizes are used, each tire will be turning at a different speed and cause excessive wear. When tires wear, install two new tires on the same side of the loader. 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

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 62).

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

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

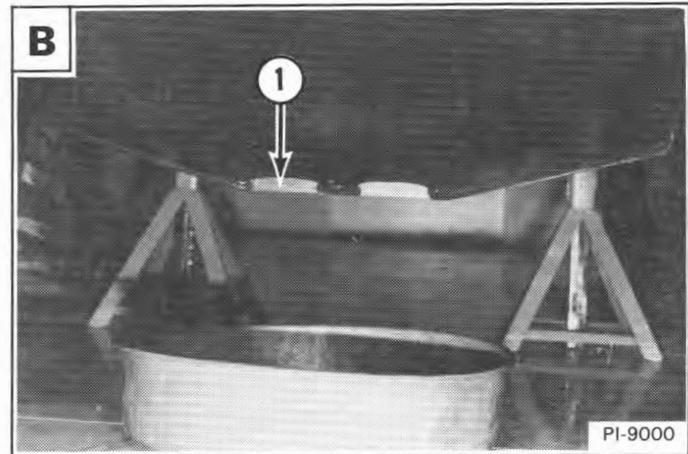
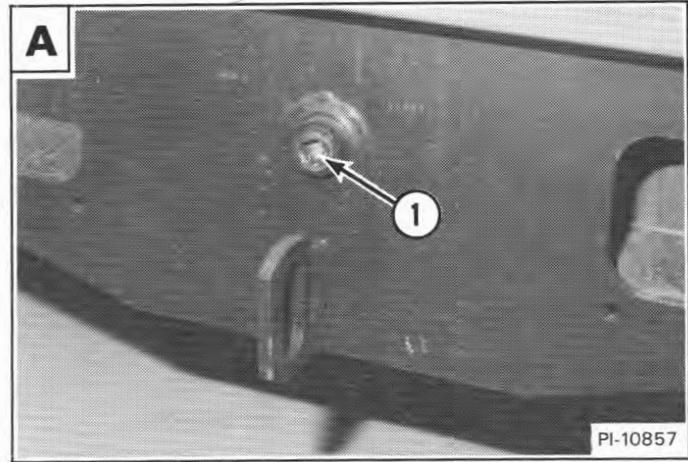
Remove the plug (Item 1) from the front of the chaincase housing **A**.

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.

To drain the oil from the chaincase, remove the drain plug (Item 1) at the rear of the chaincase **B**.

Drain the oil into a container.



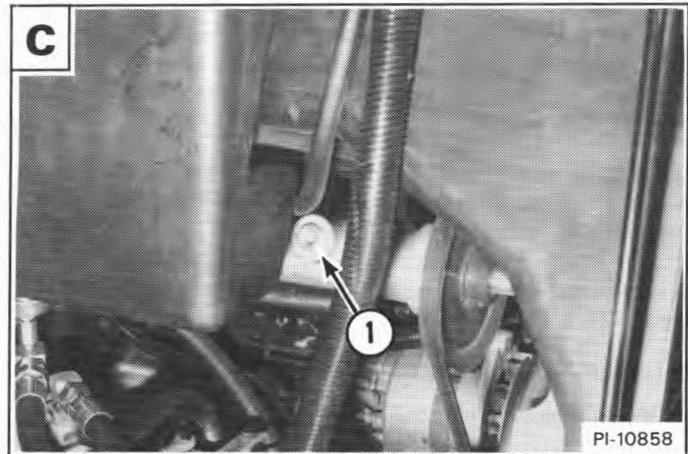
FAN GEARBOX

See the Service Schedule (Page 25) for the correct service interval.

Raise the operator cab (Page 27).

Remove the plug (Item 1) to check the lubricant level **C**.

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



DRIVE BELT

Adjustment

See the Service Schedule (Page 25) for the service interval.

To adjust the drive belt between the engine flywheel and the hydrostatic pump pulley, use the following procedure:

Stop the engine. Open the rear door.

Remove the belt shield holddown clips **A**.

Remove the belt shield **B**.

Use the following tools to check the belt tension:

MEL-1404 — Bar

MEL-1406 — Spring Scale

1. Install the tool on the drive belt. The pin (Item 1) must be pulled tight against the engine drive pulley **C**.
2. Make a mark (Item 2) on the cast flange just above the tool handle **C**.
3. Install the spring scale on the tool handle. The line of pull (Item 3) on the spring scale must be at approximately 90° from the tool handle **C**.
4. Loosen bolt (Item 4) and jam nut (Item 5) **C**.
5. Tighten adjustment nut (Item 6) to increase belt tension; loosen to decrease belt tension **C**.
6. Tighten bolt (Item 4) and jam nut (Item 5) **C**.

NEW BELT: (less than .5 hours use): with 14 lbs. (62 N) of force, the tool should move 1.25 inches (32 mm) (the width of the tool handle). Run the engine approximately 5 minutes and readjust the tension.

USED BELT: (more than .5 hour use): With 12 lbs. (53 N) of force, the tool should move 1.25 inches (32 mm) (the width of the tool handle).

Always readjust if a tension check results in a reading of less than 10 lbs. (44 N) of force.

Drive Belt Replacement

Stop the engine. Open the rear door.

Raise the operator cab (Page 27).

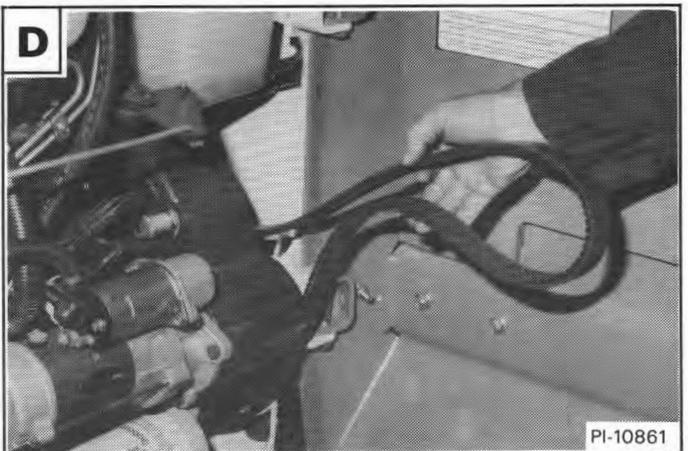
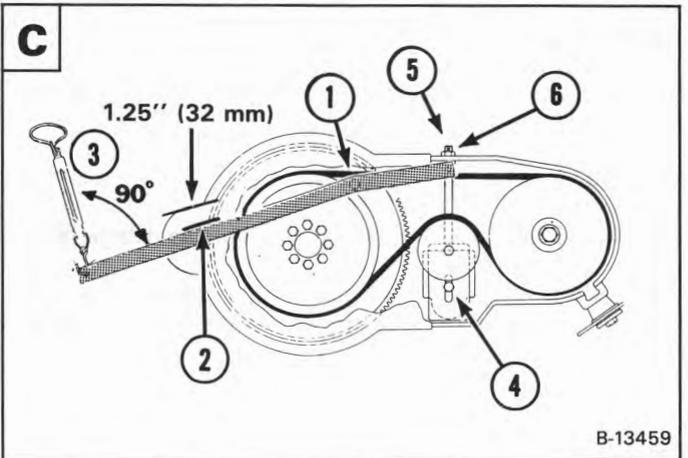
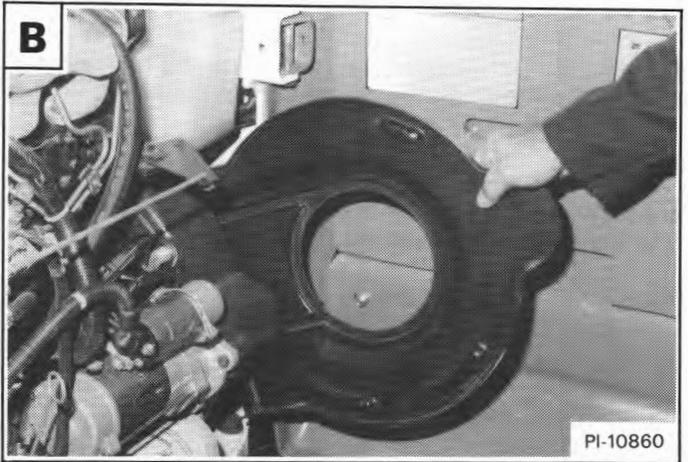
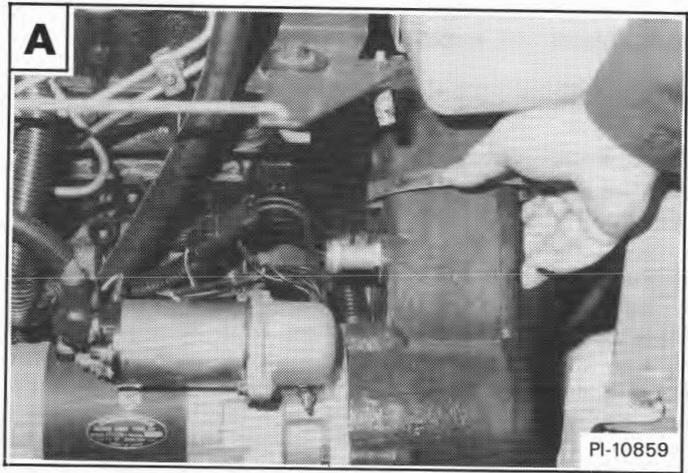
Remove the belt shield holddown clips **A**.

Remove the belt shield **B**.

Loosen the bolt (Item 1) on the idler pulley tensioner housing **C**.

Remove the belt from the hydrostatic pump pulley and flywheel. Remove the drive belt **D**.

Install the new drive belt and adjust (See "Adjustment" Above).



LUBRICATION OF THE BOBCAT LOADER

Lubricate the loader as specified in the Service Schedule (Page 25) for the best performance of the loader.

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

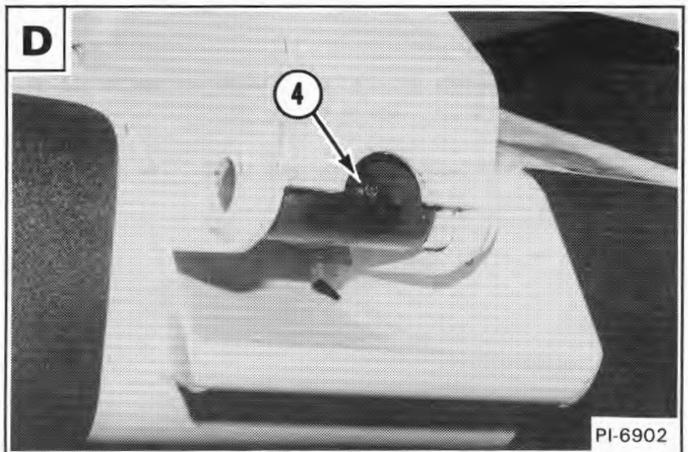
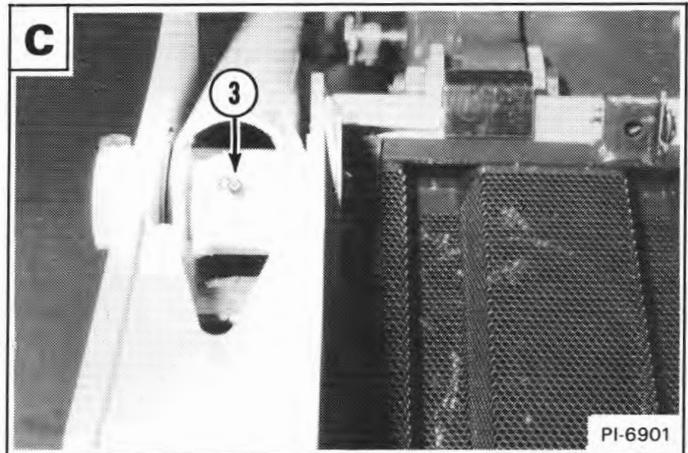
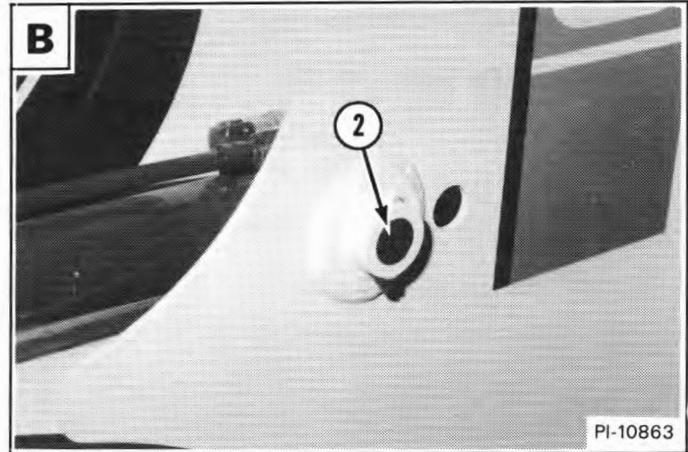
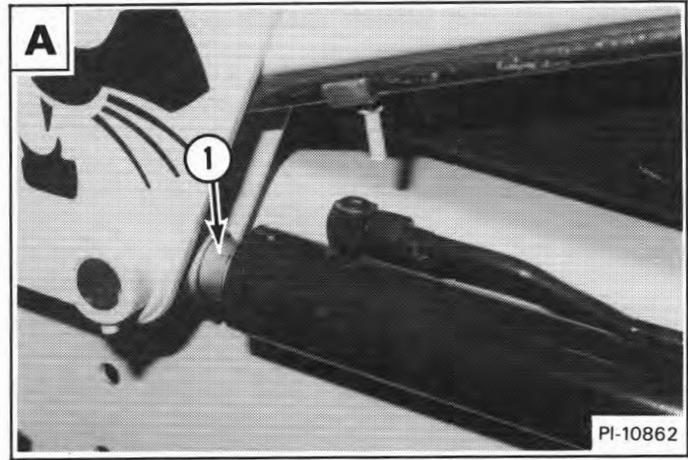
Lubricate the following locations on the loader:

1. Rod End Lift Cylinder (both sides) **A**.

2. Base End Lift Cylinder (both sides) **B**.

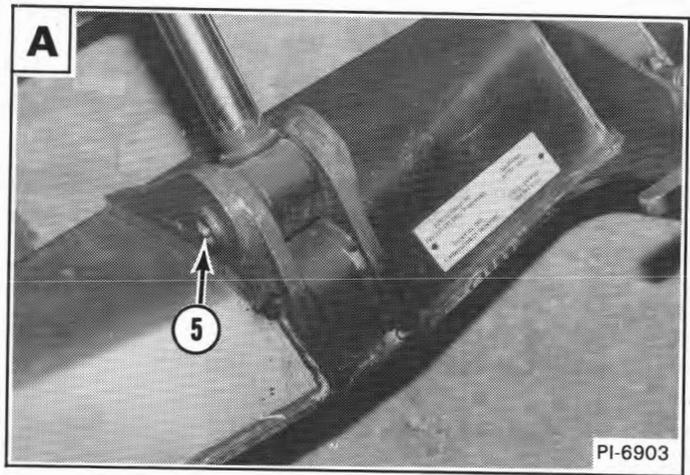
3. Lift Arm Pivot Pin (both sides) **C**.

4. Base End Tilt Cylinder **D**.



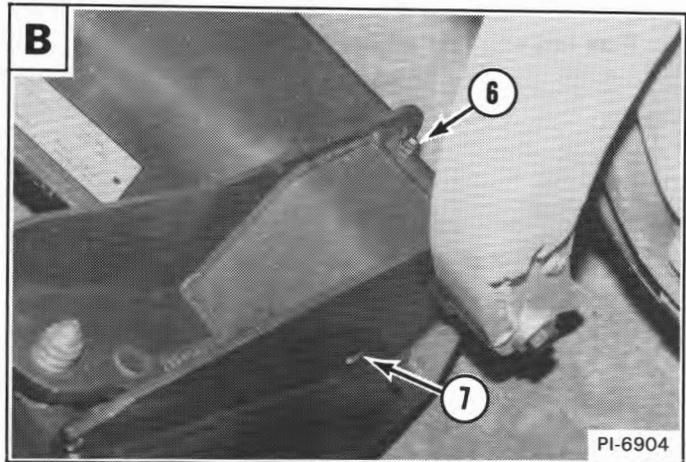
LUBRICATION OF THE BOBCAT LOADER (Cont'd)

5. Rod End Tilt Cylinder **A**.

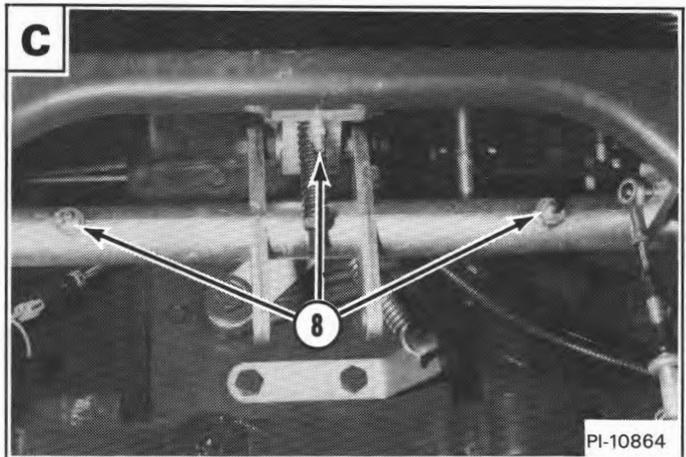


6. Bob-Tach Pivot Pin (both sides) **B**.

7. Bob-Tach Wedge (both sides) **B**.



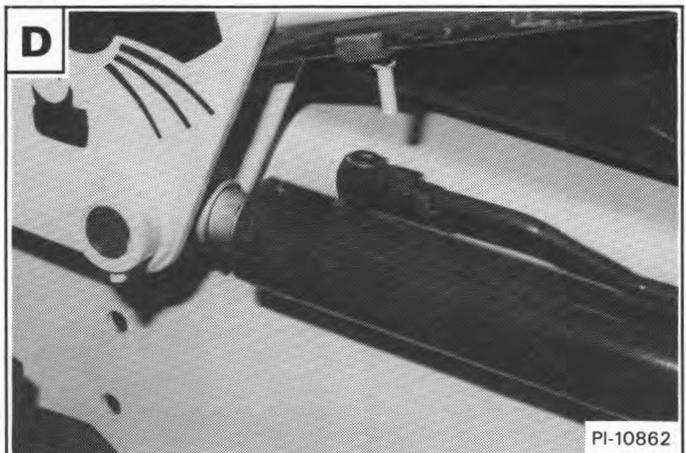
8. 250 HOURS: Steering Lever Shaft (2) **C**.
Centering Mechanism (1)



PIVOT PINS

All lift arms and cylinder pivots have a large pin held in position with a retainer bolt and lock nut **D**.

Check that the lock nuts are tightened to 18-20 ft.-lbs. (24-27 Nm) torque.



BOB-TACH

Check for free movement of wedges and Bob-Tach levers.

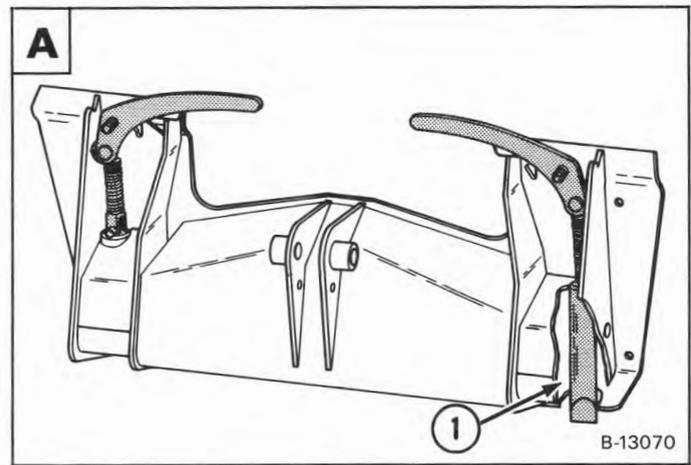
The wedges (Item 1) must extend far enough to engage the holes in the attachment **A**.



WARNING

Bob-Tach wedges must extend through the holes in attachment. Levers must be fully down and locked. Failure to secure wedges can allow attachment to come off and cause injury or death.

W-2102-0588



Replace wedges that are bent or broken.

PARKING BRAKE PEDAL

Adjustment

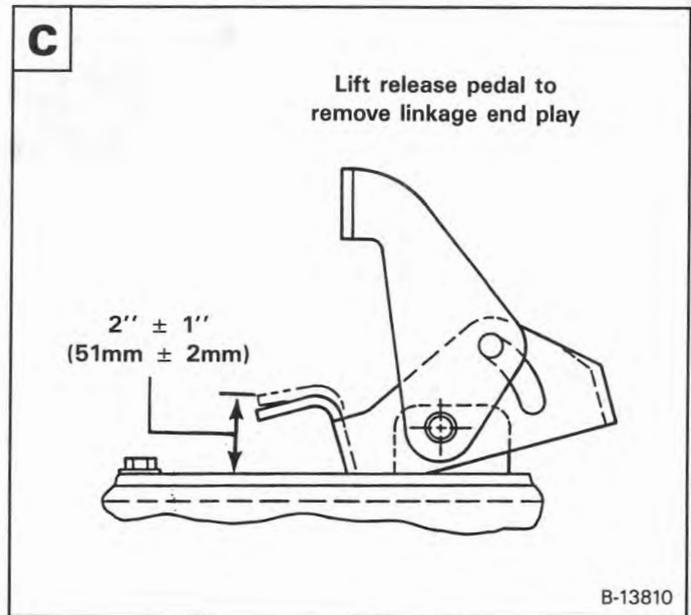
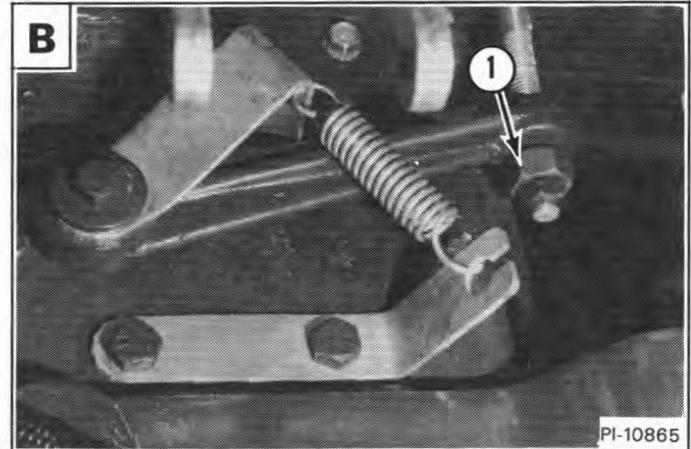
Raise the operator cab (Page 27).

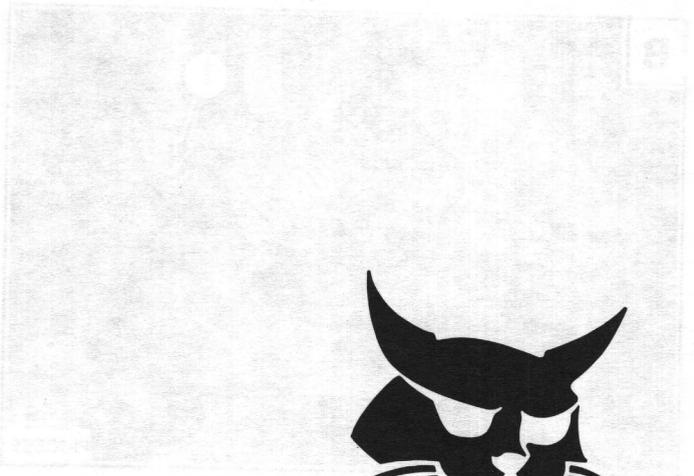
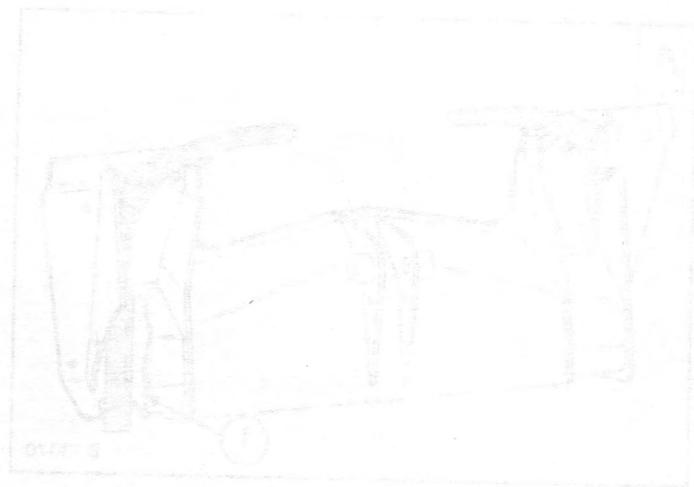
Loosen the two nuts (Item 1) and turn them to adjust the brake pedal **B**.

With the brake released, lift the release pedal to remove linkage end play.

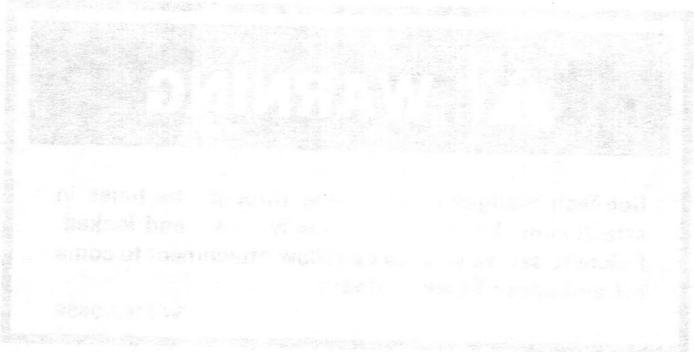
Adjust the release pedal so there is 2" ± 1" (51 mm ± 2 mm) from the top of the release pedal to the top of the chaincase cover **C**.

Tighten the two nuts when the adjustment is correct.





bobcat



SERVICE CODES

SERVICE CODES.....53

**SERVICE
CODES**

52A

MONITOR SERVICE CODES

One of the following Alphabetic Codes may appear on your monitor.

0000.0  **E**ngine **C**oolant **L**evel

0000.0  **b**attery

0000.0  **E**ngine **C**oolant Temperature **FUEL** Level

0000.0  **E**ngine Oil **P**ressure **H**ydraulic **F**ilter

0000.0  **E**ngine **S**peed **H**ydraulic Fluid **P**ressure

0000.0  **A**ir **F**ilter

0000.0  **H**ydrostatic Fluid Temperature

One of the following Numeric Codes will appear following one of the above Alphabetic Codes. Example: 0000.0 

0000.0  Shut Down

0000.0  Warning

0000.0  Wiring Not Connected

0000.0  Wiring Shorted

0000.0  High Sensor Voltage

0000.0  Sensor No Signal

0000.0  Sensor Out of Range

SERVICE CODES

The following list references the defect codes that are transmitted to the instrument panel display which can occur. Some service procedures for correcting the problems can be found in this manual and other procedures must be performed **ONLY BY QUALIFIED BOBCAT SERVICE PERSONNEL.**



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-2003-1285

SERVICE CODES

SUBJECT	DISPLAY READS	CONDITION
Engine Coolant Level 	ECL 1	SHUTDOWN, No Coolant
Engine Coolant Temp. 	EC-1.1	SHUTDOWN, Engine Temperature
	EC-2.1	WARNING, Engine Temperature
	EC 3	Wiring Not Connected
	EC 4	Wiring Shorted
	EC 5	High Sensor Voltage
	EC 7	Sensor Out Of Range
Engine Oil Pressure 	EP 1	SHUTDOWN, Pressure
	EP 2	WARNING, Pressure
	EP 3	Wiring Not Connected
	EP 4	Wiring Shorted
	EP 5	High Sensor Voltage
	EP 7	Sensor Out Of Range
Engine Speed 	ES 1	SHUTDOWN, Engine Speed Too High
	ES-2.1	WARNING, Engine Speed Slightly High
	ES-6	Sensor No Signal
	ES-7	Sensor Out Of Range
Air Filter 	AF 2	WARNING, Restriction Too High.
	AF 6	Sensor No Signal.
Battery 	b-2.1	WARNING, Bad Battery
	b-2.2	WARNING, Battery Voltage Low
Fuel Level 	FUEL2	WARNING, Low Level.
	FUEL3	Wiring Not Connected.
	FUEL4	Wiring Shorted.
	FUEL5	High Sensor Voltage.
	FUEL7	Sensor Out Of Range.

SERVICE CODES

SUBJECT	DISPLAY READS	CONDITION
Hydrostatic Charge Filter Condition 	HF1-2	WARNING, High Restriction.
	HF1-6	Sensor No Signal.
Hydrostatic Fluid Pressure 	HP 1	SHUTDOWN, Pressure.
	HP 2	WARNING, Pressure.
	HP 3	Wiring Not Connected.
	HP 4	Wiring Shorted.
	HP 5	High Sensor Voltage.
	HP 7	Sensor Out Of Range.
Hydrostatic Fluid Temperature 	HC 1	SHUTDOWN, temperature.
	HC 2	WARNING, temperature.
	HC 3	Wiring Not Connected
	HC 4	Wiring Shorted
	HC 5	High Sensor Voltage
	HC 6	Sensor No Signal
	HC 7	Sensor Out Of Range

SAFETY SIGNS

IMPORTANT (6560573).....	55
WARNING (6579511).....	56
SERVICE SCHEDULE (6578218).....	57
WARNING (6579510).....	59
WARNING (6579528, 6577754, 6702302, 6702301).....	60

**SAFETY
SIGNS**



bobcat

IMPORTANTE (SPANISH)

ESTA MAQUINA ESTA EQUIPADA POR LA FABRICA CON UN AMORTIGUADOR DE CHISPAS DEL SILENCIADOR, APROBADO POR EL SERVICIO DE SILVICULTURA DEL U.S.D.A. (DEPARTAMENTO DE AGRICULTURA DE LOS ESTADOS UNIDOS).

ES NECESARIO LIMPIAR ESTE AMORTIGUADOR DE CHISPAS DEL SILENCIADOR PARA MANTENERLO EN BUEN ESTADO. HAY QUE DARLE SERVICIO AL AMORTIGUADOR, VACIANDO LA CAMARA DE CHISPAS CADA 100 HORAS DE FUNCIONAMIENTO.

SI ESTA MAQUINA ESTA DESTINADA PARA TRABAJAR EN BOSQUES, MATORRALES O EN PASTOS QUE PUEDAN INCENDIARSE, ENTONCES TIENE QUE ESTAR EQUIPADA CON UN AMORTIGUADOR DE CHISPAS EN EL SISTEMA DEL ESCAPE Y TIENE QUE MANTENERSE EN PERFECTAS CONDICIONES DE TRABAJO. ES NO HACER ESTO CONSTITUYE UNA INFRACCION DE LA LEY ESTATAL DE CALIFORNIA, SECCION 4442,PRC.

REFIERASE A LAS LEYES Y REGULACIONES LOCALES EN CUANTO A LOS REQUISITOS DEL AMORTIGUADOR DE CHISPAS.

IMPORTANT (FRENCH)

CETTE CHARGEUSE EST EQUIPEE A LA SORTIE DE L'USINE D'UN SILENCIEUX PARA-ETINCELLES APPROUVE PAR LE SERVICE DES EAUX ET FORETS DE ETATS-UNIS.

IL EST INDISPENSABLE D'EFFECTUER UN ENTRETIEN REGULIER DE CE PARE-ETINCELLES AFIN DE LE GARDER EN BON ETAT DE MARCHE. L'ENTRETIEN CONSISTE A VIDER LA CHAMBRE A ETINCELLES TOUTES LES 100 HEURES DE MARCHE.

SI CET ENGIN EST UTILISE SUR UN TERRAIN COUVERT D'ARBRES, DE BROUSSAILLES, OU D'HERBAGES INFLAMMABLES, IL FAUT INSTALLER LE PARE-ETINCELLES ET LE GARDER EN BON ETAT DE MARCHE.

CONSULTER LES REGLEMENTATIONS LOCALES APPLICABLES.

IMPORTANT

THIS MACHINE IS FACTORY EQUIPPED WITH A U.S.D.A. FORESTRY SERVICE APPROVED SPARK ARRESTOR MUFFLER.

IT IS NECESSARY TO CLEAN THIS SPARK ARRESTOR MUFFLER TO KEEP IT IN WORKING CONDITION. THE SPARK ARRESTOR MUFFLER MUST BE SERVICED BY DUMPING THE SPARK CHAMBER EVERY 100 HOURS OF OPERATION.

IF THIS MACHINE IS OPERATED ON FLAMMABLE FOREST, BRUSH OR GRASS COVERED LAND, IT MUST BE EQUIPPED WITH A SPARK ARRESTOR ATTACHED TO THE EXHAUST SYSTEM AND MAINTAINED IN WORKING ORDER. FAILURE TO DO SO WILL BE IN VIOLATION OF CALIFORNIA STATE LAW, SECTION 4442, PRC.

REFER TO LOCAL LAWS AND REGULATIONS FOR SPARK ARRESTOR REQUIREMENTS.

SEE THE OPERATION AND MAINTENANCE MANUAL FOR MORE INSTRUCTIONS.

PARA MÁS INSTRUCCIONES. VEA EL MANUAL DE OPERACIÓN Y MANTENIMIENTO.

WEITERE ANWEISUNGEN FINDEN SIE IN DER BEDIENUNGS- UND INSTANDHALTUNGSANLEITUNG.

VOIR LE MANUEL DE L'OPÉRATEUR ET D'ENTRETIEN POUR D'AUTRES RENSEIGNEMENTS.

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ADVERTENCIA (SPANISH)

EVITE HERIDAS O LA MUERTA

- Mantenga la puerta cerrada excepto para dar servicio.
- Mantenga el motor limpio y que no tenga material inflamable.
- Mantenga el cuerpo, objetos sueltos y la ropa lejos de los conductores eléctricos, piezas móviles, piezas calientes y del escape.
- No use el cargador en lugares donde hay polvo o gases explosivos o materiales inflamables cerca al escape.
- Todos los gases del escape pueden matar. Ventile siempre el lugar de trabajo.
- No use nunca éter o líquido del arranque en los motores de diesel que tienen tapones encendedores. Use solamente las ayudas para el arranque que sean aprobados por el fabricante del motor.
- Escapes de líquido bajo presión pueden penetrar en la piel y causar heridas graves. Se requiere atención médica inmediata. Use gafas. Use cartón para revisar si hay fugas.
- El ácido de la batería puede causar quemaduras severas, use gafas. Si el ácido hace contacto con los ojos, la piel o la ropa, lávelos bien con agua. Si el contactor fuel en los ojos, lávelo bien y vaya al médico.
- Las baterías producen gas inflamable y explosivo. Mantenga lejos, arcos, chispas, llamas y tabaco encendido.
- Para arranque con batería auxiliar, conecte de último el cable negativo al motor del cargador (nunca la batería). Después de hacer el arranque con cables, quite primero la conexión negativa del motor.

AVERTISSEMENT (FRENCH)

- Maintenir la porte arrière fermée, sauf pour les entretiens.
- Débarasser le moteur de toute matière inflammable.
- Maintenir le corps, les objets non attachés et les vêtements à l'écart des contacts électriques, de pièces mobiles et brûlantes et de l'échappement.
- Ne pas utiliser la machine dans un endroit chargé de poussières ou de gaz explosifs, et où l'échappement risque de toucher des matériaux inflammables.
- Les gaz d'échappement peuvent être mortels. Toujours aérer.
- Les liquides sous pression peuvent pénétrer au travers de la peau et causer de graves blessures. Consulter immédiatement un médecin, porter des lunettes de sécurité. Utiliser du carton pour repérer les fuites.



WARNING

AVOID INJURY OR DEATH

- Keep door closed except for service.
- Keep engine clean of flammable material.
- Keep body, loose objects and clothing away from electrical contacts, moving parts, hot parts and exhaust.
- Do not use loader in space with explosive dusts or gases or with flammable material near exhaust.
- All exhaust gases can kill. Always ventilate.
- Never use ether or starting fluid on diesel engine with glow plugs. Use only starting aids as approved by engine manufacturer.
- Leaking fluids under pressure can enter skin and cause serious injury. Immediate medical attention is required. Wear goggles. Use cardboard to check for leaks.
- Battery acid causes severe burns wear goggles. If acid contacts eyes, skin or clothing, flush well with water. For contact with eyes flush and get medical attention.
- Battery makes flammable and explosive gas. Keep arcs, sparks, flames and lighted tobacco away.
- For jump start, connect negative cable to the loader engine last (never at the battery). After jump start, remove negative connection at the engine first.

6579511

- L'acide des batteries provoque de graves brûlures, porter des lunettes de sécurité. S'il entre en contact avec les yeux, la peau ou les vêtements, rincer généreusement à l'eau. Pur les yeux, appeler un médecin.
- Les batteries dégagent des gaz inflammables et explosifs. Tenir les arcs électriques, les étincelles, les flammes et les cigarettes allumées à l'écart.
- En cas de démarrage par pontage, effectuer le dernier branchement (Câble négatif) au moteur (jamais à la batterie). Pour débrancher, déconnecter d'abord le câble négatif du moteur.
- Ne jamais utiliser d'éther ou de liquide de démarrage sur un moteur diesel avec des bougies de préchauffage. N'employer que les aides au démarrage approuvées pour le fabricant.

SERVICE SCHEDULE

EVERY 10 HOURS

1. Engine Oil — Check level—do not overfill (See Operation & Maintenance Manual for recommended oil).
2. Engine Air Filter — Check gauge and/or display. Service only when required.
3. Engine Cooling System — Clean debris from oil cooler, radiator and grills. Check coolant level cold, add 50–50 ethylene glycol–water as needed.
4. Loader Lift Arm, cylinders, Bob-Tach pivot and wedges, lubricate with multi-purpose lithium base grease (12 places).
5. Engine Air System — Check for leaks and damaged components.
6. General — Check for loose or broken parts, damaged operator cab, instrument operations, loose wheel nuts, oil leaks.
7. Seat Belt/Seat Bar and Control Interlocks—Check function. Repair or replace as needed. Clean dirt and debris from moving parts.
8. Fuel Filter — Remove trapped water (diesel engine only).

EVERY 50 HOURS

1. Hydraulic Fluid — Check the fluid level. See your Operation & Maintenance Manual for recommended fluid.
2. Chaincase — Check the fluid level. See your Operation & Maintenance Manual for recommended fluid.
3. Battery — Check condition.
4. Controls and Brakes — Check operation, adjust if needed.
5. Tires — Check inflation pressure, FLOTATION - 35 PSI (241 kPa), STANDARD and 8 Ply Rating - 50 PSI (340 kPa).

EVERY 100 HOURS

1. Spark Arrestor Muffler — Empty spark chamber.
2. Ignition System — If using leaded fuel, check spark plugs and ignition system. If using unleaded fuel, service only as required to maintain good starting and smooth operation (Gas Engine Only).
3. Engine Oil — Drain hot and change filter. See Operation & Maintenance Manual for recommended oil.
4. Check all drive belts — water pump, alternator, fan drive for condition and tension. Adjust or replace as needed.

EVERY 250 HOURS (OR EVERY 12 MONTHS)

1. Final Fuel Filter — Replace filter element.
2. Seat Bar Pivot — Grease as needed.
3. Steering Lever Pivots — Lubricate with multi-purpose lithium based grease (2 places).
4. Replace hydraulic reservoir breather cap.
5. *Check hydrostatic drive belt. Adjust as needed.
*Check new hydrostatic drive belt after the first 50 hours of operation; adjust as needed.

EVERY 1000 HOURS (OR EVERY 12 MONTHS)

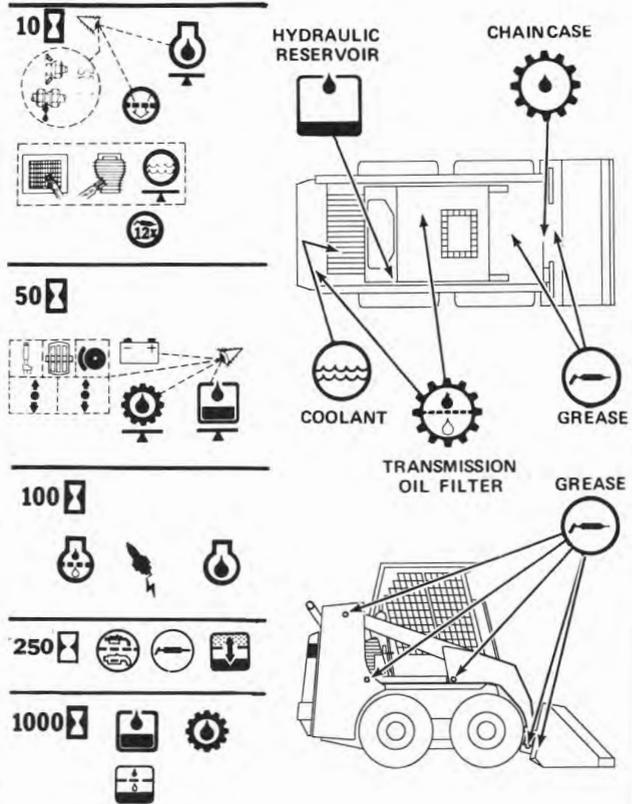
1. Hydraulic Reservoir — Change fluid and filter. See your Operation & Maintenance Manual for recommended fluid and filter.
2. Chaincase — Drain fluid and replace. See your Operation & Maintenance Manual for recommended fluid.
3. Fan Drive Gearbox — Check fluid level. See your Operation & Maintenance Manual for recommended fluid.

See the Operation & Maintenance Manual for more instructions.

Weitere Anweisungen finden sie in der Bedienungs- und Instandhaltungsanleitung.

Para más instrucciones, vea el Manual de Operación y Mantenimiento.

Voir le Manuel de l'opérateur et d'entretien pour d'autres renseignements.



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PROGRAMA DE SERVICIO (SPANISH)

CADA 10 HORAS

1. Aceite del Motor—Revise el nivel—no lo llene demasiado (Consulte el Manual del Operario para saber que aceite recomienda).
2. Filtro del Aire del Motor—Revise el medidor y/o el cuadrante. Dele servicio solamente cuando se necesite.
3. Sistema de Enfriamiento del Motor—Quite la basura del enfriador del aceite, del radiador y de las rejillas. Revise el nivel del líquido enfriador en frío, agregue una mezcla de 50% agua y 50% etilenglicol a medida que sea necesario.
4. Brazo de Elevación del Cargador, Cilindros, Pivote y Cuñas del Bob-Tach—Lubríquelos con grasa de base de litio para uso múltiple (12 sitios).
5. Sistema de Aire del Motor—Revise para ver si hay fugas o componentes dañados.
6. En General—Verifique a ver si hay piezas flojas o rotas, daños en el cinturón de seguridad o en la cabina del operario, revise también el funcionamiento de los instrumentos, vea si hay tuercas flojas en las ruedas y fugas de aceite. Inspeccione el funcionamiento de la barra del aciento y arregle o reemplace la que sea necesario antes de poner a trabajar el cargador.
7. Filtro del Combustible—Purgue el agua atrapada (Únicamente motor de diesel).

CADA 50 HORAS

1. Líquido Hidráulico—Revise el nivel del líquido. Vea el Manual del Operario para saber el líquido recomendado.
2. Caja de la Cadena—Revise el nivel del líquido. Vea su Manual del Operario para saber el líquido recomendado.
3. Batería—Revise su condición.
4. Mandos y Frenso—Verifique su funcionamiento, ajústelos si es necesario.
5. Neumáticos—Revise la presión de inflación, FLOTACION - 35 PSI (241 kPa). ESTANDARD y con clasificación de 8 telas - 50 PSI (340 kPa).
6. Inspeccione todas las correas de impulso—Verifique las condición y la tensión de todas las correas—Impulso del hidrostático, impulso de la bomba del agua, el alternador y el ventilador. Ajústelas y reemplácelas a medida que sea necesario.

CADA 100 HORAS

1. Silenciador con Amortiguador de Chispas—Desocupe la cámara de las chispas.
2. Sistema del Encendido—Si usa combustible que contine plomo, inspeccione las bujías y el sistema del encendido. Si usa combustible sin plomo, de servicio únicamente cuando sea necesario para mantener un encendido bueno y funcionamiento suave (Únicamente para Motores de Gasolina).
3. Aceite del Motor—Drene el aceite caliente y cambie el filtro. Vea el Manual de Operario para saber el aceite recomendado.

CADA 250 HORAS (O CADA 12 MESES)

1. Filtro Final del Combustible—Reemplace el elemento del filtro.
2. Pivot de la Barra del Asiento—Engrasarlo cuando sea necesario.
3. Pivotes de la Palanca de la Dirección—Lubríquelos con grasa de base de litio para uso múltiple (2 sitios).
4. Reemplace la tapa del respiradero del depósito del hidráulico.

CADA 100 HORAS (O CADA 12 MESES)

1. Depósito del Hidráulico—Cambie el líquido y el filtro. Vea su Manual del Operario para saber el líquido y filtro recomendados.
2. Caja de la Cadena—Drene el líquido y reemplácelo. Vea su Manual del Operario para saber el líquido recomendado.
3. Caja de Engranajes de Impulso del Ventilador—Revise el nivel del líquido.

PROGRAMME D'ENTRETIEN (FRENCH)

TOUTES LES 10 HEURES

1. Huile moteur—Contrôler le niveau—Ne pas dépasser le niveau (consulter le Manuel de l'Opérateur pour l'huile recommandée).
2. Filtre à air du moteur—Contrôler la jauge et/ou l'affichage. Entretenir uniquement si nécessaire.
3. Circuit de refroidissement du moteur—nettoyer les débris du refroidisseur d'huile, du radiateur et des grilles. Contrôler à froid le niveau du liquide de refroidissement et rajouter si nécessaire un mélange d'éthylène-glycol/eau à 50/50.
4. Bras de levage de la chargeuses, vérins, pivots et cale du Bob-Tach: lubrifier avec de la graisse tous usages à base de lithium (12 points).
5. Circuit d'air du moteur—Rechercher les fuites et les éléments endommagés.
6. Généralités—Rechercher les pièces desserrées ou brisées, voir si la ceinture de sécurité est endommagée de même que la cabine de l'opérateur, contrôler le fonctionnement des instruments, rechercher les écrous de roue desserrés, les fuites d'huile, etc . . . Vérifier l'arceau de sécurité et réparer ou remplacer selon besoin avant d'utiliser la chargeuse.
7. Filtre d'alimentation—Vidanger l'eau de condensation (moteur diesel uniquement).

TOUTES LES 50 HEURES

1. Huile hydraulique—Vérifier le niveau d'huile. Consulter le Manuel de l'Opérateur pour l'huile.
2. Carter de chaînes—Vérifier le niveau. Consulter le Manuel de l'Opérateur pour l'huile.
3. Batterie—Contrôler l'état de la batterie.
4. Commandes et freins—Contrôler le fonctionnement et régler si nécessaire.
5. Pneus—Contrôler la pression de gonflage: PNEUS LARGES: 241 kPa; PNEUS STANDARDS ET PNEUS 8PR: 340 kPa.
6. Contrôler tous les entraînements par courroie: hydrostatique, pompe à eau, alternateur et ventilateur; vérifier l'état et la tension des courroies. Régler ou remplacer selon besoin.

TOUTES LES 100 HEURES

1. Silencieux para-étincelles—Vider la chambre à étincelles.
2. Circuit d'allumage—Si on utilise de carburant au plomb, vérifier les bougies et l'allumage. Si on utilise du carburant sans plomb, effectuer l'entretien uniquement selon besoin afin de maintenir de bonnes performances au démarrage et un fonctionnement régulier (moteur à essence uniquement).
3. Huile moteur—Vidanger à chaud et changer le filtre. Consulter le Manuel de l'Opérateur pour l'huile.

TOUTES LES 250 HEURES (OU TOUS LES 12 MOIS)

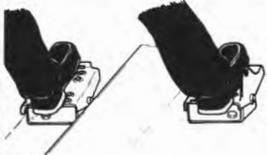
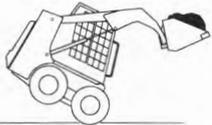
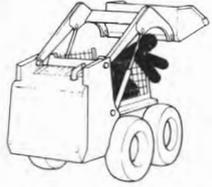
1. Filtre d'alimentation final—Remplacer l'élément du filtre.
2. Pivot d'arceau de sécurité—Graisser selon besoin.
3. Pivots des leviers de direction—Lubrifier avec de la graisse tous usages à base de lithium (2 points).
4. Remplacer la bouchon de reniflard du réservoir hydraulique.

TOUTES LES 1000 HEURES (OU TOUS LES 12 MOIS)

1. Réservoir hydraulique—Changer l'huile et le filtre. Consulter le Manuel de l'Opérateur pour l'huile et le filtre recommandés.
2. Carter de chaînes—Vidanger l'huile et la remplacer. Consulter le Manuel de l'Opérateur pour l'huile.
3. Réducteur de ventilateur—Contrôler le niveau de l'huile. Consulter le Manuel de l'Opérateur pour l'huile.

⚠ WARNING

AVOID INJURY OR DEATH

 <p>NEVER USE THE LOADER WITHOUT INSTRUCTIONS. READ OPERATION AND MAINTENANCE MANUAL AND HANDBOOK.</p>	 <p>USE SEAT BAR. FASTEN SEAT BELT SECURELY.</p>	 <p>KEEP FEET ON PEDALS.</p>	TO LEAVE THE LOADER:	
 <p>DO NOT TRAVEL OR TURN WITH LIFT ARMS UP. LOAD, UNLOAD AND TURN ON FLAT LEVEL GROUND. DO NOT EXCEED RATED OPERATING CAPACITY (SEE SIGN ON LOADER).</p>	 <p>NEVER MODIFY EQUIPMENT OR USE ATTACHMENTS NOT APPROVED BY MELROE COMPANY.</p>	 <p>ON SLOPES, KEEP HEAVY END OF LOADER UPHILL.</p>	1  <p>LOWER THE LIFT ARMS PUT ATTACHMENT FLAT ON GROUND.</p>	2  <p>STOP THE ENGINE</p>
<p>Weitere Anweisungen finden sie in der Bedienungs- und Instandhaltungsanleitung. Para más instrucciones, vea el Manual de Operación y Mantenimiento. Voir le Manuel de l'opérateur et d'entretien pour d'autres renseignements.</p>			3  <p>ENGAGE THE BRAKE.</p>	4  <p>RAISE SEAT BAR. MOVE PEDALS UNTIL BOTH LOCK.</p>

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ADVERTENCIA (SPANISH)

EVITE HERIDAS O LA MUERTE

NO USE NUNCA EL CARGADOR SIN LEER LAS INSTRUCCIONES.
LEA EL MANUAL DEL OPERARIO, EL MANUAL DE SERVICIO Y LA GUIA DEL OPERARIO.

NO VIAJE O DE LA VUELTA CON LOS BRAZOS DE ELEVACION ARRIBA.
CARGUE, DESCARGUE Y DE :A VUE:TA ESTANDO EN UN SITIO PLANO Y NIVELADO.
NO EXCEDA LA CAPACIDAD NOMINAL DE FUNCIONAMIENTO (VEA EL AVISO EN EL CARGADOR).

USE LA BARRA DEL ASIENTO.
ASEGURESE BIEN EL CINTURON DE SEGURIDAD.

NUNCA MODIFIQUE EL EQUIPO NI USE ADITAMENTOS QUE NO ESTEN APROBADOS POR LA COMPAÑIA MELROE.

MANTENGA LOS PIES EN LOS PEDALES.

EN LAS PENDIENTES, MANTENGA EL EXTREMO PESADO DE CARGADOR EN POSICION ASCENDENTE.

ANTES DE BAJARSE DEL CARGADOR

1. BAJE LOS BRAZOS DE ELEVACION.
COLOQUE EL ADITAMENTO BEIN EN EL SUELO.
2. PARE EL MOTOR.
3. PONGA EL FRENO.
4. LEVANTE LA BARRA DEL ASIENTO.
MUEVA LOS PEDALES HASTA QUE AMBOS SE TRABEN.

ATTENTION (FRENCH)

EVITER LES BLESSURES OU LA MORT

NE JAMAIS SE SERVIR DE LA CHARGEUSE SANS INSTRUCTIONS.
LIRE LE MANUEL DE L'OPERATEUR EL D'ENTRETIEN AINSI QUE LE GUIDE D'UTILISATION.

NE PAS SE DEPLACER NI VIRER AVEC LE BRAS RELEVES.
CHARGER, DECHARGER ET VIRER SUR UN SOL PLAT ET HORIZONTAL.

NE PAS DEPASSER LE CAPACITE NOMINALE (CONSULTER L'AUTOCOLLANT APPOSE SUR LA CHARGEUSE).

UTILISER L'ARCEAU DE SECURITE.
ATTACHER SOIGNEUSEMENT LA CEINTURE DE SECURITE.
NE JAMAIS MODIFIER L'EQUIPEMENT NI SE SERVIR D'ACCESSOIRES QUI NE SONT PAS APPROUVES PAR MELROE COMPANY.

MAINTENIR LES PIEDS SUR LES PEDALES.

DANS LES PENTES, TOUJOURS MAINTENIR LA PARTIE LA PLUS LOURDE DE LA CHARGEUSE VERS LE HAUT.

POUR QUITTER LA CHARGEUSE:

1. ABAISSER LES BRAS DE LEVAGE.
POSER L'EQUIPEMENT A PLATE SUR LE SOL.
2. ARRETER LE MOTEUR.
3. ENCLENCHER LE FREIN DE STATIONNEMENT.
4. RELEVER L'ARCEAU DE SECURITE.
DEPLACER LES PEDALES JUSQU'A CE QU'ELLES SOIENT TOUTES DEUX VERROILLEES.



ADVERTENCIA (SPANISH)

EVITE HERIDAS O LA MUERTE

LLEVE LA CARGA EN POSICION BAJA

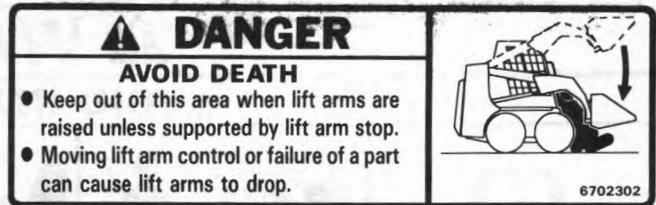
EL NO OBEDECER ESTA ADVERTENCIA PUEDE CAUSAR LADEAMIENTO O VUELCOS O PERDIDA DE LA CARGA Y DE LA VISIBILIDAD.

AVERTISSEMENT (FRENCH)

EVITER DE BLESSURES OU LA MORT

TENIR LA CHARGE VERS LE BAS.

LE NON RESPECT PEUT ENTRAINER UN BASVULEMENT OU UN RENVERSEMENT DE LA MACHINE, UNA PERTE DE LA CHARGE OUT DE VISIBILITE.



PELIGRO (SPANISH)

EVITE LA MUERTE

- MANTENGASE RETIRADO DE ESTA AREA CUANDO LOS BRAZOS DE ELEVACION ESTAN ELEVADOS, A MENOS QUE ESTEN TRABADOS POW EL TOPE.
- EL MOVER EL PIE DEL PEDAL O FALLA DE UNA PIEZA PUEDEN CAUSAR LA CAIDA DE LOS BRAZOS DE ELEVACION.

DANGER (FRENCH)

EVITER LA MORT

- EVITER CETTER ZONE LORSQUE LES BRAS DE LEVAGE RELIVÉS NE SONT PAS ASSURÉS PAR DES ARRETS DE BRAS DE LEVAGE.
- UNE PEDALE ACTIONNÉE OU UNE PIECE DE FECTUEUSE PEUT PROVOQUER L'ABAISSEMENT DES BRAS DE LEVAGE.

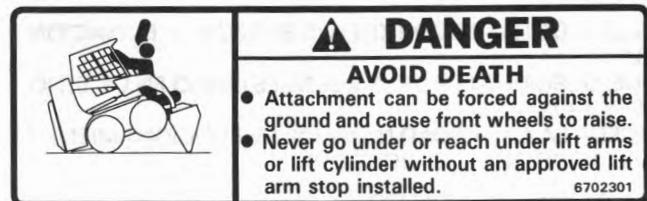


ADVERTENCIA (SPANISH)

EL CILINDRO CONTIENE GAS BAJO ALTA PRESION. EL ABRIR EL CILINDRO PUEDE SOLTAR LA VARILLA Y CAUSAR HERIDAS O LA MUERTE.

AVERTISSEMENT (FRENCH)

LES VERINS RENFERMENT UN GAZ SOUS PRESSION. NE JAMAIS OUVRIR UN VERIN CAR LA TIGE RISQUE DE S'ÉCHAPPER BRUTALEMENT ET DE CAUSER DES BLESSURES OU MEME LA MORT.



PELIGRO (SPANISH)

EVITE LA MUERTE

- EL FORZAR EL IMPLEMENTO CONTRA EL SUELO HACE QUE LA RUEDDAS DELANTERAS SE ELEVEN.
- NUNCA SE META DEBAJO NI ALCANCE NADA DEBAJO DE LOS BRAZOS DE ELEVACION O DEL CILINDRO DE ELEVACION SIN QUE ESTE INSLADO UN TOPE APROBADO EN LOS BRAZOS DE ELEVACION.

DANGER (FRENCH)

EVITER LA MORT

- NE JAMAIS ALLER SOUS NI METTRE LES MAINS SOUS LES BRAS OU LE VERIN DE LEVAGE SANS QU'UN ARRET DE BRAS DE LEVAGE APPROUVE SOIT INSTALLE.

SPECIFICATIONS

CAPACITIES	62, 64
DRIVE SYSTEM	62, 64
ELECTRICAL	62, 64
ENGINE SPECIFICATIONS	61, 63
HYDRAULIC SYSTEM	62, 64
OPERATION & PERFORMANCE	61, 63
TIRES	62, 64

SPECIFICATIONS

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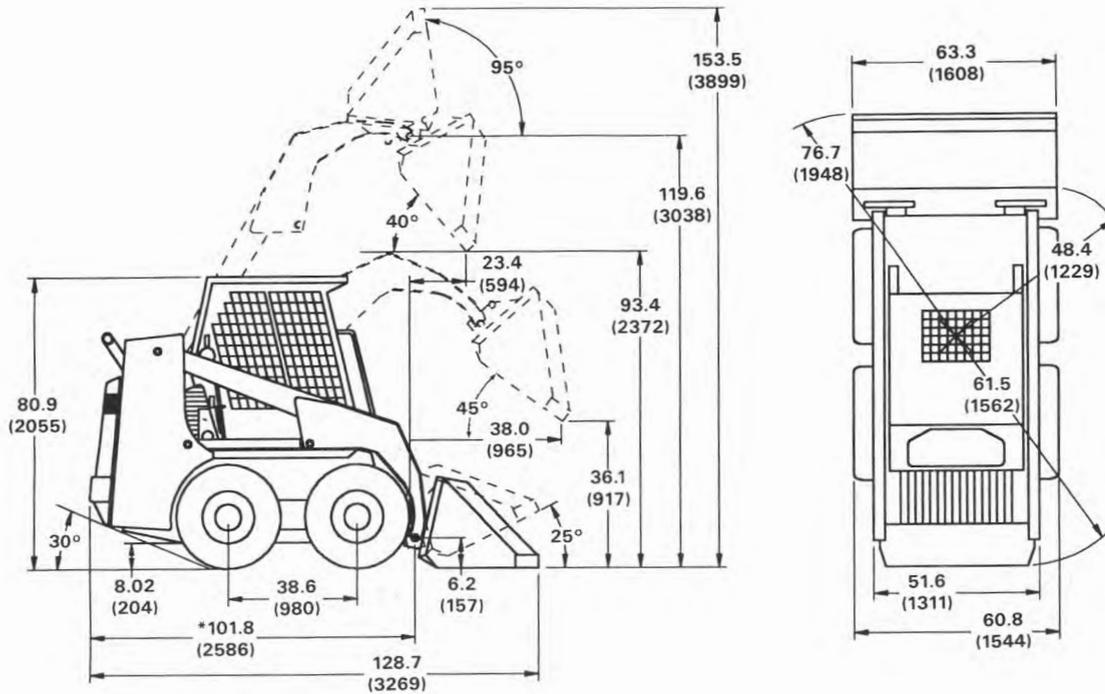
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10-29	OPERATION
10-30	OPERATION
10-31	OPERATION



bobcat

LOADER SPECIFICATIONS

- Dimensions are given for loader equipped with standard tires and dirt bucket. Dimensions may vary with other types. All dimensions are shown in inches. Respective metric dimensions are given in millimeters enclosed by parentheses.
- Where applicable, specifications conform to SAE standards and are subject to change without notice.



MC-1113

* Overall Length W/O Bucket

This loader was designed without counterweights or ballasts. Changes of structure or weight distribution of the loader can cause changes in control and steering response and can cause failure of the loader parts.

OPERATIONS & PERFORMANCE

Weights

Operating Weight.....
 Rated Operating Capacity.....
 Tipping Load.....

Travel Speed

Controls

Vehicle.....
 Loader Function.....

 Engine.....
 Main Drive.....
 Parking Brake.....

853 Base (5101) & 853 Plus (5102)

6497 lbs. (2950 kg)
 1700 lbs. (722 kg)
 3420 lbs. (1553 kg)

Infinitely variable 0-6.4 MPH (10,3 km/hr.)

Direction & speed controlled by two hand levers.
 Lift, tilt function controlled by separate foot pedals. Auxiliary functions controlled by electrical push buttons on steering levers
 Hand lever throttle; key-type starter switch;
 Hydrostatic
 Mechanical disc, foot operated pedal

ENGINE

Make.....
 Model.....
 Fuel.....
 Horsepower.....
 Maximum Governed RPM.....
 Torque.....
 Number of Cylinders.....
 Bore/Stroke.....
 Displacement.....
 Cooling System.....
 Lubrication.....
 Crankcase Ventilation.....
 Air Cleaner.....
 Ignition.....
 Low Idle.....
 High Idle.....

Isuzu
 4JB1 PK-03
 Diesel
 62 HP (46 kW)
 2600 RPM
 137 ft.-lbs. (186 Nm) @ 1800 RPM
 Four
 3.66/4.02 (93/102)
 169 cu.in. (2769 cu. cm.)
 Liquid
 Pressure System W/Filter
 External
 Dry replaceable cartridge, dual safety element
 Diesel-Compression
 1150 RPM
 2750-2850 RPM

LOADER SPECIFICATIONS (Cont'd)

HYDRAULIC SYSTEM

Pump
 Pump Capacity
 System Main Relief
 Filters (charge & implement)

Hydraulic Cylinders

Bore Diameter:

Lift Cylinder (2)
 Tilt Cylinder (1)

Rod Diameter:

Lift Cylinder (2)
 Tilt Cylinder (1)

Stroke:

Lift Cylinder (2)
 Tilt Cylinder (1)

Control Valve

Fluid Lines

Hydraulic Function Time

Raise Lift Arms to Maximum Height
 Lower Lift Arms from Maximum Height
 Move Empty Bucket to Dump Position
 Move Bucket to Retracted Position

Fluid Type

ELECTRICAL

Alternator
 Battery
 Starter

DRIVE SYSTEM

Transmission
 Final Drive
 Total Engine to Wheel Reduction
 Filters

CAPACITIES

Cooling System
 Fuel
 Engine Oil W/Filter
 Hydraulic Reservoir
 Hydraulic/Hydrostatic System
 Chaincase Reservoir

TIRES

Standard
 Pressure
 Flotation
 Pressure
 Flotation
 Pressure

853 Base (5101) & 853 Plus (5102)

Engine driven, gear type
 18.0 GPM (68,1 L/min.) @ 2750 RPM @ 1150 PSI (7929 kPa)
 2550-2600 PSI (17582-17927 kPa) @ Quick Couplers
 Full flow, replaceable 3 media synthetic element

Doubleacting

2.25 (57,2)
 3.25 (82,6)

1.50 (38,1)
 1.50 (38,1)

33.5 (851)
 18.9 (480)

3-spool, open center, series type W/float detent on lift, single spool electrical control front
 auxiliary & electrical controlled rear auxiliary
 SAE standard tubes, hoses & fittings

4.0 Seconds
 3.6 Seconds
 2.3 Seconds
 1.9 Seconds

Bobcat Fluid (P/N 6563328) If fluid is not available, use
 10W-30/10W-40 Class SE Motor Oil for temperatures above 0°F (-18°C)
 & 5W-30 Motor Oil for temperatures below 0°F (-18°C).

Belt drive, 55 amps. Open

12 volt, 700 cold crank amps. @ 0°F (-18°C) 170 min. reserve capacity
 12 volt, 3.7 HP (2,8 kW)

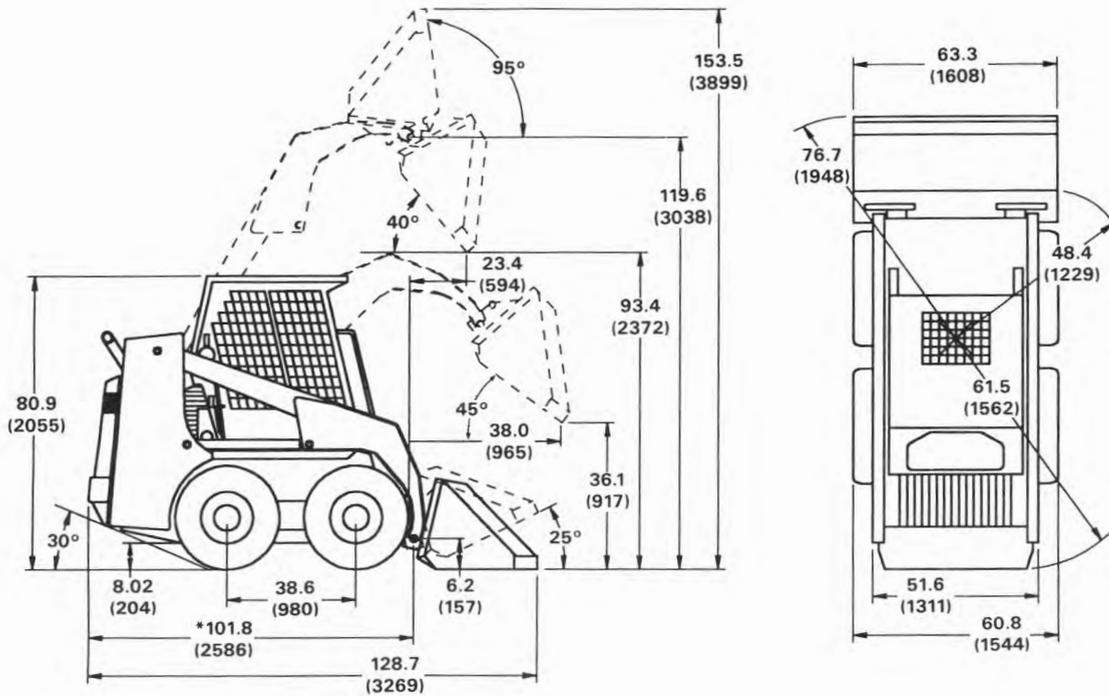
Tandem hydro. pumps infinitely variable, driving 2 fully reversing hydrostatic motors
 Gear Reduction & #100 HS roller chain & sprockets in sealed chaincase with oil lubrication
 47:27:1
 Case Drain 90 Micron

22 qts. (20,8 L)
 25 gals. (95 L)
 8 qts. (7,6 L)
 15.5 qts. (14,7 L)
 8 gals. (30,3 L)
 9 gals. (34,1 L)

8.25-15, 6 Ply Rating, Nylon with Bar Lug Tread.
 45-50 PSI (310-345 kPa)
 12:00-16.5, 6 Ply Rating, Nylon with Sure Grip Lug
 30-35 PSI (207-240 kPa)
 12:00-16.5, 8 or 10 Ply Rating
 45-50 PSI (310-345 kPa)

LOADER SPECIFICATIONS

- Dimensions are given for loader equipped with standard tires and dirt bucket. Dimensions may vary with other types. All dimensions are shown in inches. Respective metric dimensions are given in millimeters enclosed by parentheses.
- Where applicable, specifications conform to SAE standards and are subject to change without notice.



MC-1113

* Overall Length W/O Bucket

This loader was designed without counterweights or ballasts. Changes of structure or weight distribution of the loader can cause changes in control and steering response and can cause failure of the loader parts.

OPERATIONS & PERFORMANCE

Weights

Operating Weight.....	
Rated Operating Capacity.....	
Tipping Load.....	

853H Plus (5103)

Operating Weight.....	6497 lbs. (2950 kg)
Rated Operating Capacity.....	1700 lbs. (722 kg)
Tipping Load.....	3420 lbs. (1553 kg)

Travel Speed.....

Infinitely variable 0-6.4 MPH (10,3 km/hr.)

Controls

Vehicle.....	
Loader Function.....	

Direction & speed controlled by two hand levers.
Lift, tilt function controlled by separate foot pedals. Auxiliary functions controlled by electrical push buttons on steering levers and toggle switch in operator area.
Hand lever throttle; key-type starter switch;
Hydrostatic
Mechanical disc, foot operated pedal

Engine.....	
Main Drive.....	
Parking Brake.....	

ENGINE

Make.....	
Model.....	
Fuel.....	
Horsepower.....	
Maximum Governed RPM.....	
Torque.....	
Number of Cylinders.....	
Bore/Stroke.....	
Displacement.....	
Cooling System.....	
Lubrication.....	
Crankcase Ventilation.....	
Air Cleaner.....	
Ignition.....	
Low Idle.....	
High Idle.....	

Make.....	Isuzu
Model.....	4JB1 PK-03
Fuel.....	Diesel
Horsepower.....	62 HP (46 kW)
Maximum Governed RPM.....	2600 RPM
Torque.....	137 ft.-lbs. (186 Nm) @ 1800 RPM
Number of Cylinders.....	Four
Bore/Stroke.....	3.66/4.02 (93/102)
Displacement.....	169 cu.in. (2769 cu. cm.)
Cooling System.....	Liquid
Lubrication.....	Pressure System W/Filter
Crankcase Ventilation.....	External
Air Cleaner.....	Dry replaceable cartridge, dual safety element
Ignition.....	Diesel-Compression
Low Idle.....	800-1000 RPM
High Idle.....	2750-2850 RPM

LOADER SPECIFICATIONS (Cont'd)

853H Plus (5103)	
HYDRAULIC SYSTEM	
Pump	Engine driven, gear type
Pump Capacity	18.0 GPM (68,1 L/min.) @ 2750 RPM @ 1150 PSI (7929 kPa)
Hi Flow Pump Capacity	24 GPM (90,8 L/min.) @ 2750 RPM @ 1150 PSI (7929 kPa)
System Main Relief	2550-2600 PSI (17582-17927 kPa) @ Quick Couplers
Hi Flow Main Relief	3300 PSI (22754 kPa) @ Quick Couplers
Filters (Charge & Implement)	Full flow, replaceable 3 media synthetic element
Hydraulic Cylinders	Doubleacting
Bore Diameter:	
Lift Cylinder (2)	2.25 (57,2)
Tilt Cylinder (1)	3.25 (82,6)
Rod Diameter:	
Lift Cylinder (2)	1.50 (38,1)
Tilt Cylinder (1)	1.50 (38,1)
Stroke:	
Lift Cylinder (2)	33.5 (851)
Tilt Cylinder (1)	18.9 (480)
Control Valve	3-spool, open center, series type W/float detent on lift, single spool electrical control front auxiliary & electrical controlled rear auxiliary
Fluid Lines	SAE standard tubes, hoses & fittings
Hydraulic Function Time	
Raise Lift Arms to Maximum Height	4.0 Seconds
Lower Lift Arms from Maximum Height	3.6 Seconds
Move Empty Bucket to Dump Position	2.3 Seconds
Move Bucket to Retracted Position	1.9 Seconds
Fluid Type	Bobcat Fluid (P/N 6563328). If fluid is not available, use 10W-30/10W-40 Class SE Motor Oil for temperatures above 0°F (-18°C) & 5W-30 Motor Oil for temperatures below 0°F (-18°C).
ELECTRICAL	
Alternator	Belt drive, 55 amps. Open
Battery	12 volt, 700 cold crank amps. @ 0°F (-18°C) 170 min. reserve capacity
Starter	12 volt, 3.7 HP (2,8 kW)
DRIVE SYSTEM	
Transmission	Tandem hydro. pumps infinitely variable, driving 2 fully reversing hydrostatic motors
Final Drive	Gear Reduction & #100 HS roller chain & sprockets in sealed chaincase with oil lubrication
Total Engine to Wheel Reduction	47:27:1
Filters	Case Drain 90 Micron
CAPACITIES	
Cooling System	22 qts. (20,8 L)
Fuel	25 gals. (95 L)
Engine Oil W/Filter	8 qts. (7,6 L)
Hydraulic Reservoir	15.5 qts. (14,7 L)
Hydraulic/Hydrostatic System	8 gals. (30,3 L)
Chaincase Reservoir	9 gals. (34,1 L)
TIRES	
Standard	8.25-15, 6 Ply Rating, Nylon with Bar Lug Tread.
Pressure	45-50 PSI (310-345 kPa)
Flotation	12:00-16.5, 6 Ply Rating, Nylon with Sure Grip Lug
Pressure	30-35 PSI (207-240 kPa)
Flotation	12:00-16.5, 8 or 10 Ply Rating
Pressure	45-50 PSI (310-345 kPa)

ATTACHMENTS & ACCESSORIES

The versatile Bobcat loader quickly turns into a multi-job machine with a tight-fit attachment hook-up . . . from bucket to grapple to pallet fork to backhoe and a variety of other attachments. See your Bobcat dealer for more details on the attachments and field accessories shown on the following pages.

COMBINATION BUCKET



Perform a wide variety of job functions. The versatile Melroe Bobcat® Combination Bucket is ideal for dozing, grappling, leveling, digging, loading and dumping.

PALLET FORK



Move bulky or bagged materials in one load. Hook on a pallet fork and move your bagged or bulk material fast. Ideal for all kinds of farm chores and fertilizer handling. In industrial plants and landscaping, handle baled or pallet materials.

SWEEPER



- Cleans up construction sites.
- Cutting edge for scraping mud.
- Sweeps parking lots, warehouses, docks, etc.
- Sweeps and collects debris with one attachment.

GRAPPLE BUCKET



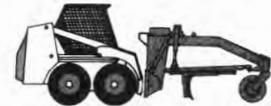
Clamp onto heavy and odd-shaped objects, and move them with ease. The Bobcat Industrial Grapple is the ideal attachment for handling scrap, waste or pipe. It's built strong for tough working conditions.

BACKHOES



Bobcat backhoe attachments are designed for the pipeliner, municipal worker or contractor, for high production digging.

GRADER



Turn your Bobcat Loader into a high performance grading machine. Designed for use by landscaping, asphalt, curb and gutter and concrete flatwork contractors. Featuring a seven foot, six-way hydraulically controlled moldboard, operated with switches mounted on the loader's steering levers for precise control.

INDUSTRIAL FORK GRAPPLE



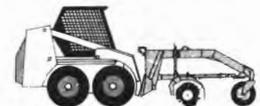
The Fork Grapple is perfect for handling irregular-shaped metal and other assorted scrap and heavy-duty agricultural applications.

REAR STABILIZER



Increase your backhoe performance. Increase your versatility in a wide range of jobs with a set of frame mounted Bobcat Loader rear stabilizers.

INDUSTRIAL BROOM



Sweep up to a 7' wide swath with the Bobcat Industrial Broom. It's ideal for sweeping out large building, parking lots and street cleaning. Featuring Bob-Tach mounting, replaceable wafer bristles, electric angle broom and an optional wafer kit for dust control.

UTILITY FORK/GRAPPLE



Cut down on daily hand chores and free up your time. The Bobcat Loader Utility Fork and Grapple is the ideal attachment for handling bundled material, loose straw, and manure.

ANGLE BROOM



Put your Bobcat Loader to work and clean up almost everything in sight with the hydraulically driven and controlled Angle Broom attachment. Use it to sweep driveways, sidewalks, parking lots, loading docks, warehouses, or countless other applications.

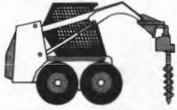
HYDRAULIC* BREAKER



- Up to 750 ft.-lb. impact energy class.
- Backhoe or loader mounting.
- 2-position loader mounting frame for vertical and horizontal breaking.
- Quick-change tool system - variety of tool system.
- Low recoil operating cycle.

*SPECIAL APPLICATIONS KIT WHICH INCLUDES A 1/2-INCH LEXAN FRONT DOOR WITH 1/4-INCH TOP AND REAR WINDOWS MUST BE USED WHEN OPERATING THE BOB-TACH MOUNTED LONGWOOD GRAPPLE.

EARTH AUGER



Dig 6'' - 36'' holes with speed and plumb-line accuracy. Utilizing Bobcat Loader hydraulics, the heavy-duty hydraulic auger bites in with low speed, high torque power. Because of a unique knuckle-joint design, the auger will dig vertical holes even though the Bobcat Loader is working on uneven terrain.

LANDSCAPE RAKE



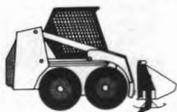
Break up limpy soil, pick up rocks as small as 3/4'', grade, level and scarify in close quarters with the Bobcat® Landscape Rake. Use it for ground preparation, for seeding, sodding and lawn leveling. Pick up rocks or hard-packed clumps of soil and dump them where you need them with the Bobcat® Landscape Rake.

VIBRATORY ROLLER



Pack and level smooth and easy. The Bobcat Loader Vibratory Roller features either a smooth or padded 48-inch wide drum. The roller provides up to 4156 pounds of force at 2153 vibrations per minute and is ideal for flatwork, trenching and asphalt patchwork contractors. A bolt-on smooth outer shell is also available for converting the padded drum to a smooth drum.

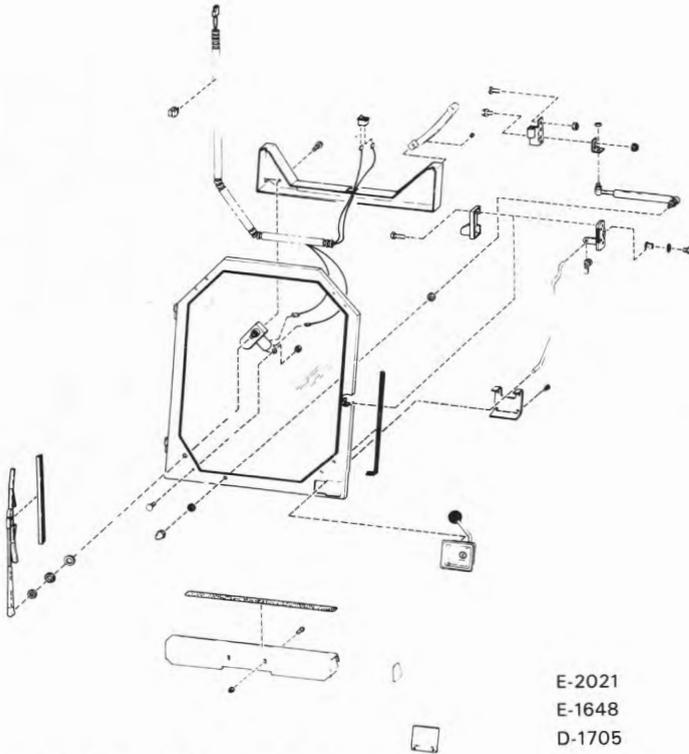
SCARIFIER



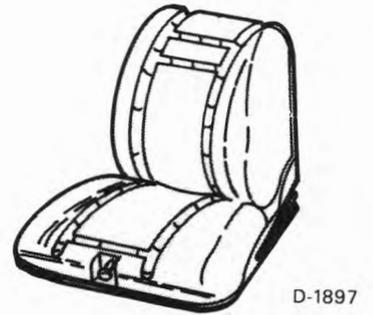
- Adjustable depth skids for presetting digging depth.
- Prepares hard-packed ground for digging or landscaping.
- One- to seven-tooth versatility.
- Standard five-tooth unit with additional teeth available.
- Rips asphalt for removal.

ATTACHMENTS & ACCESSORIES (Cont'd)

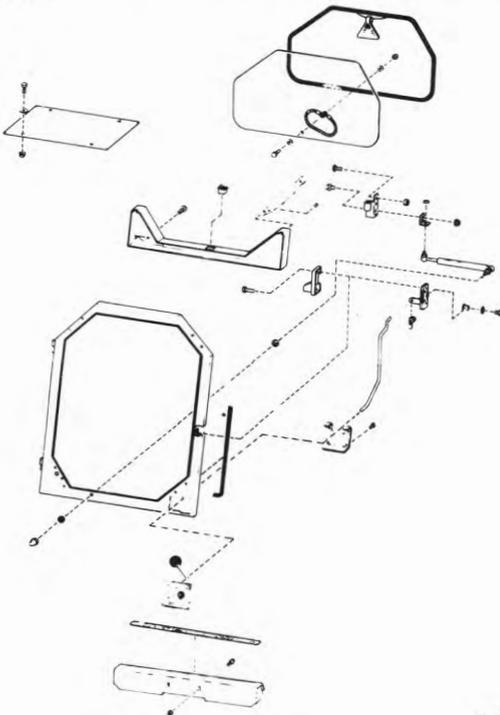
STANDARD OPERATOR CAB ENCLOSURE PANELS
(Includes Front Door W/Wiper, Top and Side Windows)



SUSPENSION SEAT



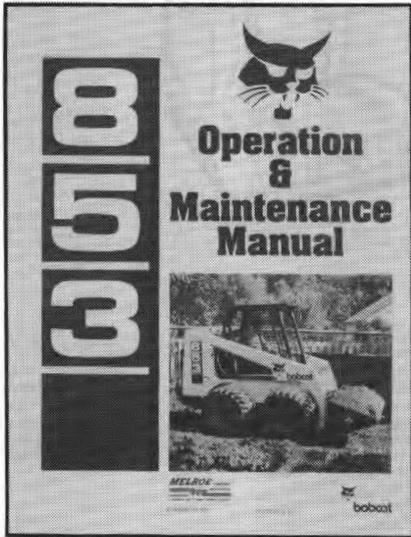
SPECIAL APPLICATIONS KIT*
(Includes 1/2" Lexan Front Door & 1/4" Lexan Top and Rear Windows)



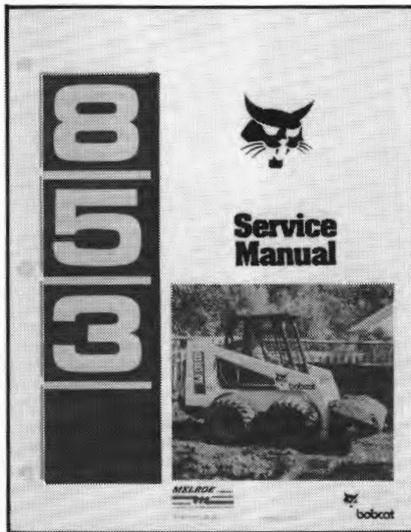
*USED TO PREVENT OBJECTS FROM ENTERING THE OPERATOR CAB.

ADDITIONAL PUBLICATIONS

The following publications are also available for your Bobcat Loader. You can order them from your Bobcat dealer.

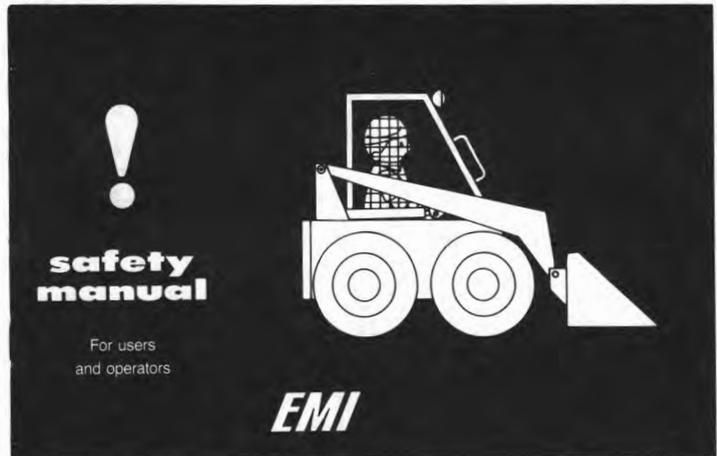


—complete instruction on the correct operation and the routine maintenance of the BOBCAT loader.



—gives complete maintenance and overhaul instructions for your BOBCAT loader.

**SAFETY
 MANUAL
 6556500**

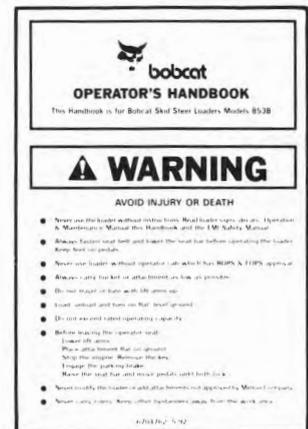


**OPERATOR'S
 MANUAL
 6720008**

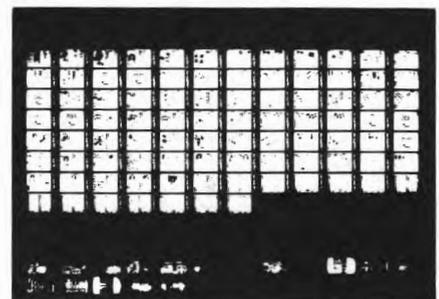
—provides basic safety procedures and warnings for your BOBCAT loader.

**6703728
 OPERATOR'S
 HANDBOOK
 6700986
 (854H Plus - 5103
 853 Plus - 5102)**

**6704762
 (853 Base - 5101)**



—gives basic operation instruction and safety warnings.



Up-to-date PARTS information is also available. See your BOBCAT dealer.