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MANUAL PREVIEW

Bobcat
Operator's Manual
310
Skid Steer

Operator's Manual

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CLARK

SERIES

bobcat

OWNER'S MANUAL

310



CLARK Melroe
Division

CLARK EQUIPMENT COMPANY, GWINNER, NORTH DAKOTA 58040

FOREWORD

This book is written to give the owner/operator necessary operating, routine servicing and preventive maintenance instruction for the Bobcat Loader.

Read this manual thoroughly and become completely familiar with the machine before proceeding with operating and servicing. To locate desired section, place thumb on respective tab and flip pages until corresponding section tab is reached.

For any additional information required, please refer to your Bobcat dealer.

Maintenance which is beyond the scope of the manual should not be attempted by anyone other than qualified, authorized Melroe Dealer Servicing personnel.

ADDITIONAL PUBLICATIONS

Part Books, Service Manuals and additional Owner's Manuals are available through the local Bobcat dealer at a reasonable charge.

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OPERATING
INSTRUCTIONS

PREVENTIVE
MAINTENANCE

TROUBLE-
SHOOTING

MAJOR
PARTS

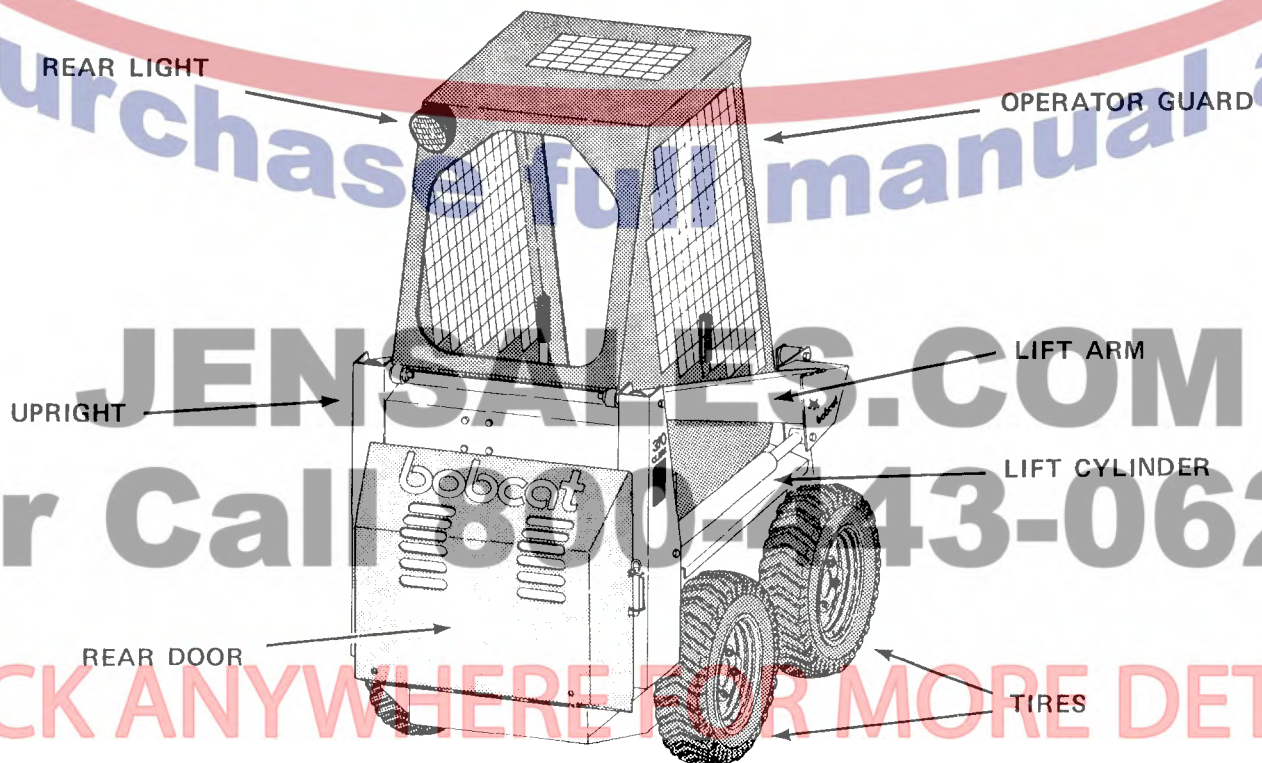
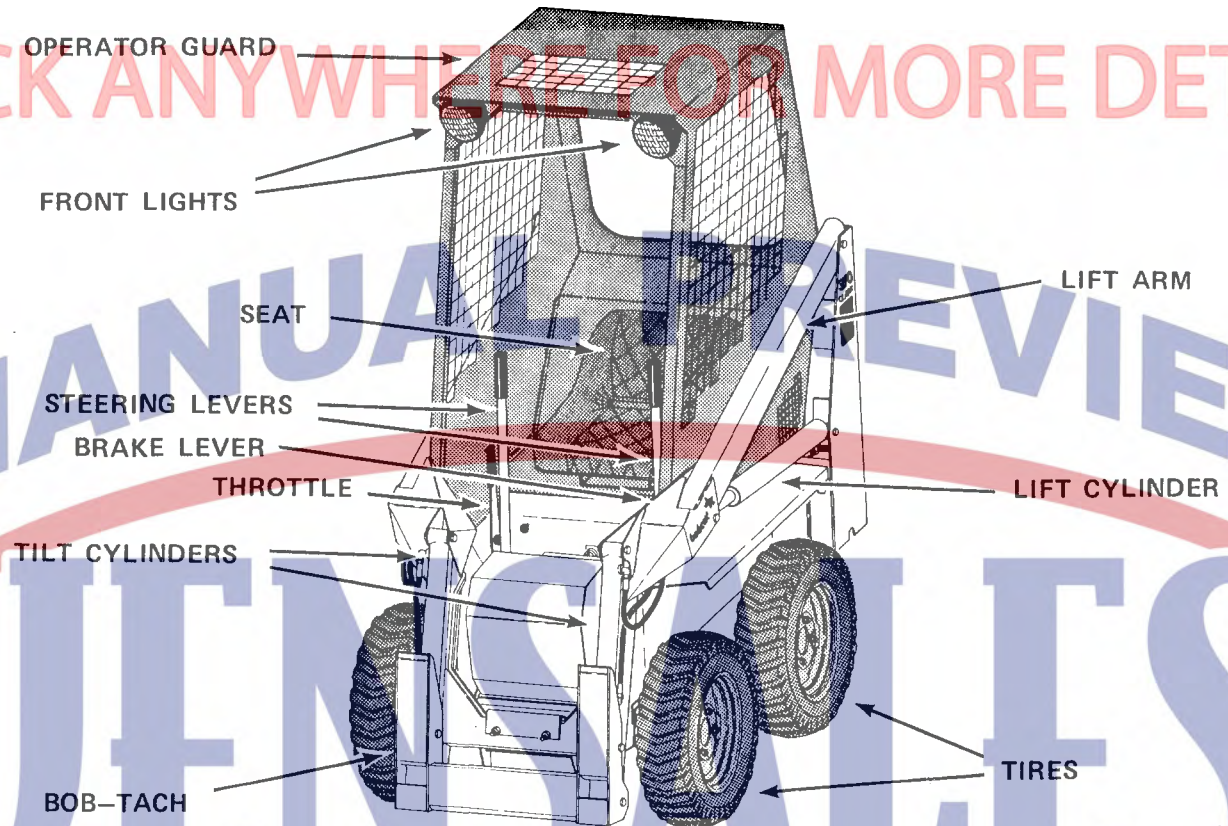
GENERAL
INFORMATION

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This manual covers Model 310, Series 11001 & Up.

310 Loader
Owner's Manual

310 BOBCAT LOADER



LUBRICATION

Figure 20 shows the grease fittings locations. Use a good lithium base grease on all fittings.

Also occasionally lubricate the seat rails (Fig. 21) to maintain easy movement for seat adjustment.

TIRE INFLATION

Inflate the 5:70 x 12 tires to 50 PSI maximum. Do not allow the pressure to go lower than 40 PSI or the machine will be hard to turn and tire wear will be much greater.

Inflate 23:00 - 8.50 x 12 flotation tires to 20-25 PSI. These tires may be inflated to 50 PSI for road travel, or to provide easier steering and more efficient operation on hard surfaces.

TIRE ROTATION

If both rear or front tires wear excessively, rotate them to the opposite end of the machine as shown in Figure 22. Excessive wear can be caused by improper tire inflation or by operating the machine with the front wheels held off the ground by the bucket.

TIRE REPLACEMENT

If you need to replace a damaged or worn tire, it is important that the replacement be the same size as the tires still on the Bobcat. Two different size tires on the same side of the machine will cause undue drive chain and tire wear, and loss of power. To replace two worn tires, install the new ones on the same side of the machine. Put the two used tires on the opposite side.

If tires slip on the rim while loading bucket, increase inflation pressure slightly and be sure to keep all four wheels on the ground while loading.

WHEEL BOLTS

Wheel mounting bolts should be frequently checked for tightness. This is particularly important after the first few hours of operation. Loose mounting bolts will result in enlarging of the bolt holes and wheel loss. Tighten wheel mounting bolts to 45 ft.-lbs. torque.

OPERATOR PROTECTIVE GUARD

The Operator Protective Guard is installed to provide maximum safety for the operator. Regularly check that all mounting bolts are in place and tightened. Check the pivot bracket welds for cracks and weld when necessary (Fig. 23).

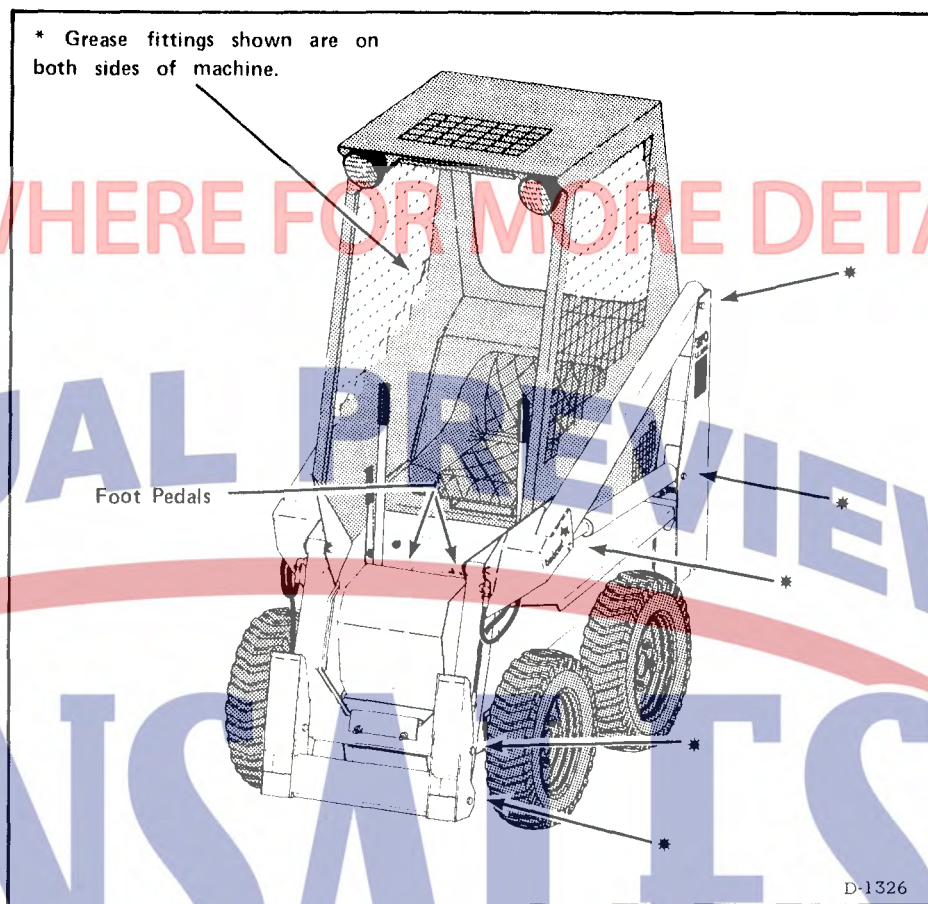


Fig. 20 Grease Fitting Locations

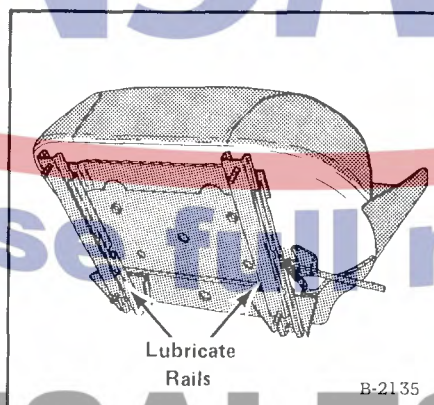


Fig. 21 Lubricate Seat Rails

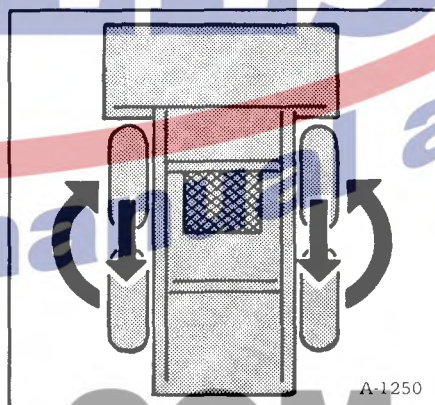


Fig. 22 Tire Rotation

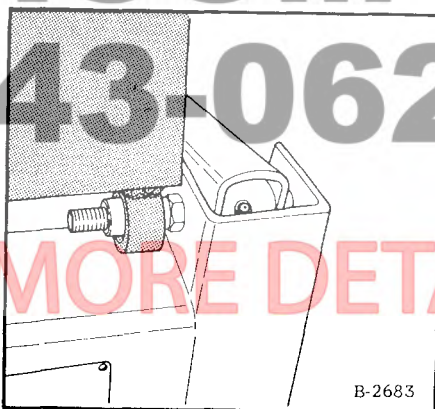


Fig. 23 Operator Guard Pivot

DRIVE CHAIN ADJUSTMENT

All the chains have idler sprockets for adjusting chain tension. To check for loose chains, raise the Bobcat so all four wheels are off the ground. Block it up securely. Stop the engine and set both steering levers in neutral.

Try to turn the wheels by hand. There should be a slight freeplay ($1/8''$ at the tread). Do this on both sides of the machine.

If any chains are too loose, or too taut, adjust according to the following procedure:

1. Disconnect the foot pedal linkages from the hydraulic control valve.
2. Remove the transmission case cover to expose the drive system. Do this in a clean area.
3. Check the tension of the final drive chains. They should have about $1/4''$ of freeplay with slight finger pressure (Fig. 52). Final drive idler sprockets are adjusted from outside of the machine. To make adjustment, loosen the bracket holding nuts and use a bar to move the holding bracket for correct tension. Tighten the bracket holding nuts. After the chain tension has been set it is necessary to align the sprocket while tightening the holding nuts. With the holding nuts loose, the sprocket may be "cocked" at a slight angle. This must be corrected during tightening of the holding nuts or chain scuffing, sprocket wear or bearing failure will result. Tighten the lower $15/16''$ holding nut first. This will tend to draw the idler up squarely. Further prying with a bar against the innermost edge of the bracket while tightening the $3/4''$ nut should assure correct alignment. Torque the $15/16''$ nut to 120 ft.-lbs. and the $3/4''$ nut to 80 ft.-lbs. Tighten the adjusting nuts securely.

Check the tension of the outside clutch chains (Fig. 46). They should have about $1/4''$ freeplay with slight finger pressure. The outside clutch chain idler sprockets are adjusted from outside of the machine (Fig. 53, Item 2). To adjust, loosen the $5/8''$ nut and move the idler until desired tension is set. Tighten the nut to 60 ft.-lbs. torque.

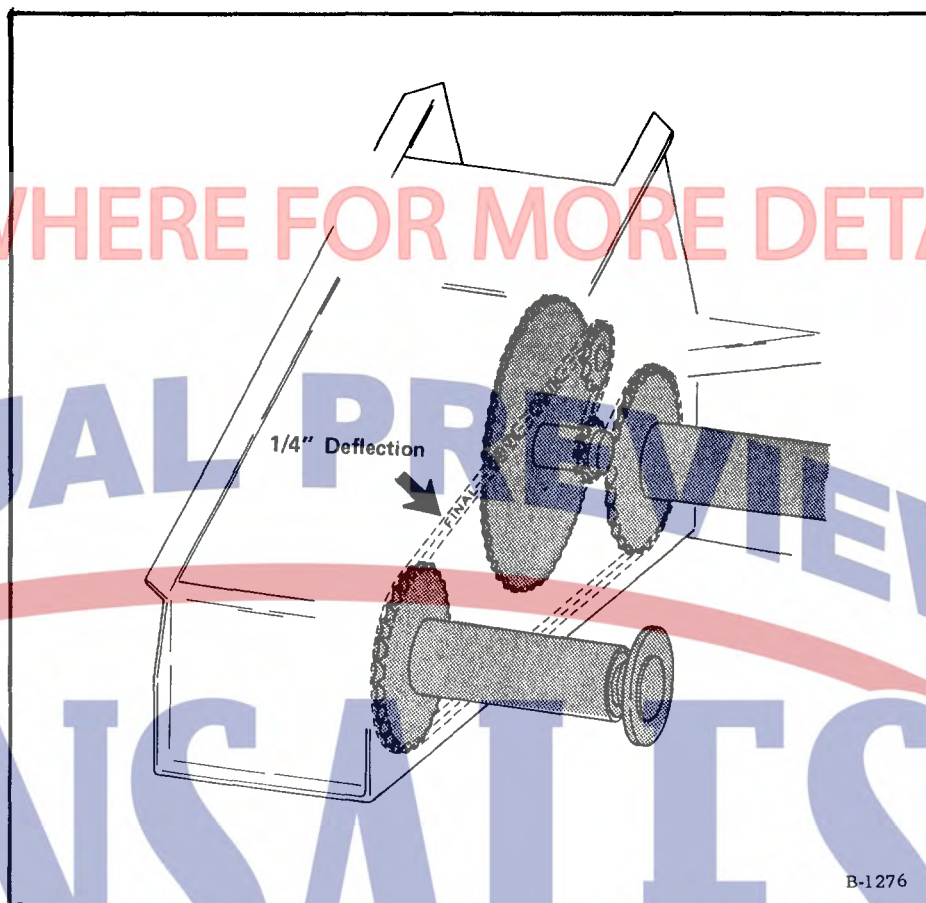


Fig. 52 Final Drive Chain Tension



Fig. 53 Adjust Final Drive Idler Sprockets

HYDRAULIC SYSTEM

Pump Type Belt driven gear type
Pump Capacity 5 GPM @ 3000
Control Valve Open center with lift, tilt & auxiliary sections
System Relief Pressure 1200 PSI
Filtration 10 micron, replaceable cartridge

Hydraulic Fluid

When it becomes necessary to replace fluid or add fluid to maintain reservoir level, use 10W-30 or 10W-40, API Class SE, motor oil.

HYDRAULIC CYLINDERS

Function	Lift	Tilt
Bore	2.0 in. (50,80 mm)	3.0 in. (76,20 mm)
Rod	1.25 in. (31,75 mm)	1.50 in. (38,10 mm)
Stroke	22.2 in. (563,88 mm)	12.4 in. (314,96 mm)

ELECTRICAL SYSTEM

Alternator 12 amp. enclosed flywheel type
Battery 12 volt
Starter 12 volt, gear drive
Spark Plug Gap025" (.635 mm)
Breaker Point Gap020" (.508 mm)

POWER TRAIN

Transmission V-belt drive
Clutches 4 (2 each side) single disc
oil bath lubricated
Final Drive #60 roller chain running in
sealed oil bath
Total Engine to Wheel Reduction:
High Range 43:1
Low Range 80.1:1

TIRES

Flotation 23.00 x 8.50 x 12-4 ply flotation
Standard 5.70 x 12-4 ply nylon lawn
& garden tread.

FLUID CAPACITIES

Fuel Tank 5.5 gal. (20,8 L)
Engine Lube Oil 2 qts. (1,9 L)
Hydraulic Reservoir & Final Drive Chain 8 gal. (30,28 L)

TORQUE SPECIFICATIONS

Wheel Bolts 45 (61 Nm)
Axle Sprocket Bolts 245 ft.-lbs. (332 Nm)
Crankshaft Sheave Bolt (On Engine) 45 (61 Nm)
Hydraulic Pump Sheave Bolt 20 - 25 (27 - 34 Nm)
Steering Lever Bushing Nuts 130 (176 Nm)
Pivot Bolts 160 ft.-lbs. (217 Nm)
5/8" Clutch Pin Lock Nut 60 ft.-lbs. (81,4 Nm)
Engine Cylinder Head Bolts 25 - 30 ft.-lbs. (34 - 40,7 Nm)
Spark Plugs 20 ft.-lbs. (27 Nm)