

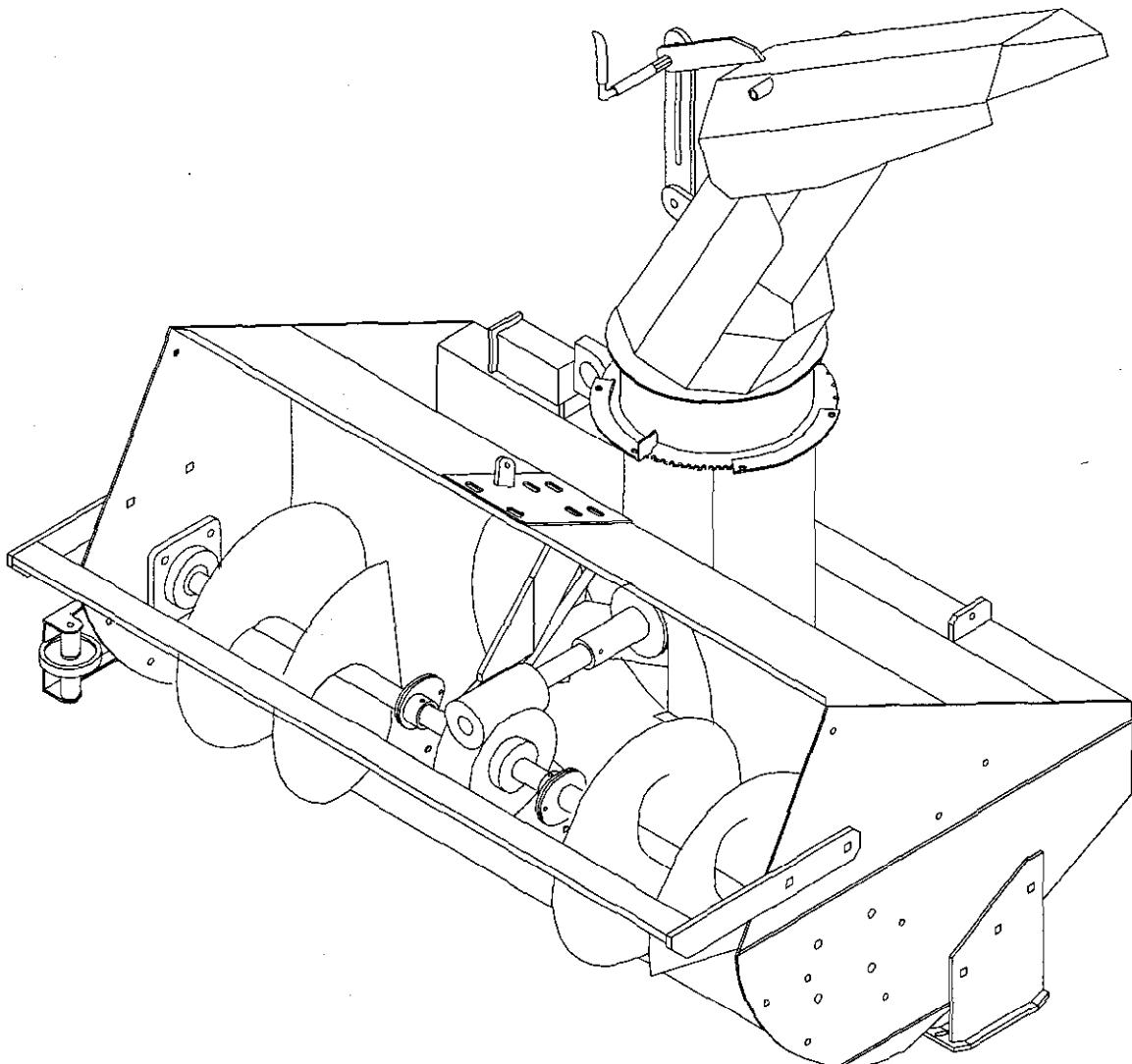
TORO[®]

MODEL NO. 44910 - 70001 & UP

**OPERATOR'S
MANUAL**

SNOW BLOWER 150

Attachment For Groundsmaster[®] 300 Series



FOREWORD

Thank you for buying a high quality Toro turf care product. To get the best performance from this machine, operate and maintain it according to the instructions in this manual.

Toro also wants to stress the importance of safety. You and anyone else using or maintaining this machine are strongly urged to read this manual, especially all the safety instructions.

DANGER, **WARNING** and **CAUTION**, used with the triangular safety alert symbol, highlight safety messages. Always read and understand these messages because they relate to personal injury and your safety.

If you ever need help or have questions about your new Toro turf care product, contact your local Authorized Toro Distributor. The Toro Distributor has a complete supply of replacement parts, a full line of accessories and a professional service staff to support you. Keep your Toro all Toro. Buy genuine Toro parts and accessories.

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SAFETY INSTRUCTIONS



The safety alert symbol means CAUTION, WARNING or DANGER - "personal safety instruction". Read and understand the instruction because it has to do with safety. Failure to comply with the instruction may result in personal injury.

BEFORE OPERATING

1. Read and understand the contents of this manual before starting and operating this machine. Become familiar with all controls and know how to stop quickly. A free replacement manual is available by sending complete Model and Serial Number to:

The Toro Company
8111 Lyndale Avenue South
Minneapolis, MN 55420

2. Do not allow children to operate the machine. Do not allow adults to operate the machine without proper instruction.
3. **Never** operate the machine while under the influence of drugs or alcohol.
4. Keep all shields and safety devices in place. If a shield, safety device or decal becomes damaged, malfunctioning or illegible, repair or replace it before operation is commenced. Also tighten loose nuts, bolts to ensure machine is in safe operating condition. This includes all shields on the PTO.
5. Before each use, be sure all bolts and nuts are tight; Check the general condition of the PTO.

6. Do not alter this equipment in any manner which may cause hazardous conditions.

7. Inspect area thoroughly where snow blower will be used. Remove door mats, sleds, boards, sticks, wire and any foreign objects which might be picked up and thrown by the snow blower.

8. Wear adequate winter clothing and rubber boots that will ensure proper footing on slippery surfaces. Do not wear loose fitting clothing that could possibly get caught in moving parts.

WHILE OPERATING



DANGER

ROTATING IMPELLER OR AUGER CAN CUT OFF OR INJURE FINGERS, HANDS OR FEET.

- Stay behind the snow blower and away from discharge opening while operating the snow blower.
- Keep hands, face, feet and any other part of your body or clothing away from concealed, moving or rotating parts.

9. Allow the Groundsmaster® engine to warm up outdoors before clearing snow.

SAFETY INSTRUCTIONS (Continued)

10. Using the machine demands attention, and to prevent loss of control:

- A. Operate only in daylight or when there is good artificial light.
- B. Drive slowly.
- C. Watch for holes or other hidden hazards.
- D. Do not drive close to a sand trap, ditch, creek or other hazards.
- E. Reduce speed when making sharp turns and when turning on a hillside.
- F. Avoid sudden stops and starts.

11. Operator must be skilled and trained in how to drive on hillsides. Failure to use caution on slopes or hills may cause loss of control possibly resulting in personal injury or death.

12. If engine stalls or machine loses headway and cannot make it to the top of a slope, do not turn machine around. Always back slowly straight down the slope.

13. Do not carry passengers on the machine or Groundsmaster and keep everyone away from the areas of operation.

14. **ALWAYS** follow all safety precautions in the Groundsmaster operator's manual pertaining to attachments.

15. **NEVER** direct discharge of snow or operate snow blower near bystanders, glass enclosures, automobiles and trucks, window wells or a drop off without proper adjustment of the snow chute and deflector angle.

16. If the snow blower strikes a solid object or the machine vibrates abnormally, disengage PTO, move throttle to slow, set parking brake and shut engine off. Remove key from ignition switch and pull high tension wire off spark plug to prevent possibility of accidental starting. Check snow blower and traction unit for damage and defective parts. Make all repairs before restarting the engine and operating the unit.

17. Clear snow from slopes by going up and down; never across the face, and use caution when changing directions. Never clear snow from steep slopes.

18. Lower the snow blower to the ground and remove key from ignition switch whenever machine is left unattended.

MAINTENANCE

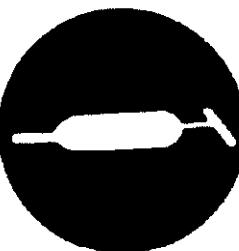
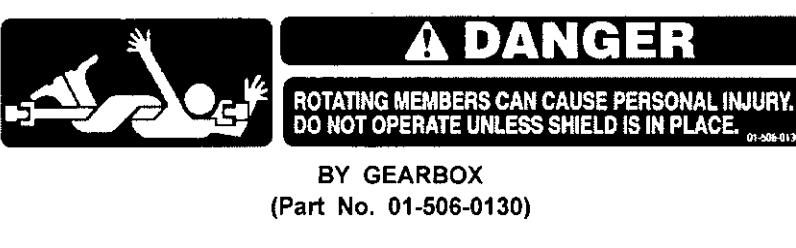
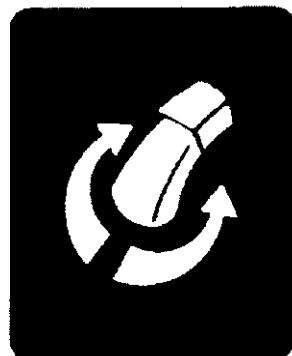
19. Remove the key from the ignition switch to prevent accidental starting of the engine when servicing, adjusting or storing the machine.

20. If major repairs are ever needed or assistance desired, contact an Authorized TORO Distributor.

21. Make sure machine is in safe operating condition by keeping nuts, bolts and screws tight.

SAFETY AND INSTRUCTION DECALS

The following safety and instruction decals are installed on the unit. Replace any decals that becomes damaged or illegible. Part numbers for decals are listed below and in your Parts Catalog. Order replacements from your Authorized Toro Distributor.



BOTH SIDES OF DEFLECTOR
(Part No. 01-506-0300)



BOTH SIDES OF MAIN FRAME
(Part No. 53-7670)

SPECIFICATIONS

FRAME: All welded steel construction, sides - 10ga.; front - 12ga.

AUGERS: Solid flight, 14" diameter, 14" pitch, 7ga. base tapered to 1/8".

AUGER SHAFTS: w/bronze bushings to prevent steel on steel contact if shear bolts break.

IMPELLER: 7" wide, 17-3/4" diameter, 1/4" plate w/braces.

IMPELLER/AUGER: 1800 RPM input through 2:1gearbox turns impeller 900 RPM,

SPEED: 5:1 gearbox turns auger approx. 180 RPM.

DIRECTIONAL CHUTE: Electric, controlled by operator, 180 degree rotation.

BEARINGS: (2) 1-1/4" flange mount, greasable.

STABILIZERS: Chain, adjustable.

DIMENSIONS: 52" wide;
operational width: 51-1/2".

WEIGHT: Approx. 400 lbs.

SET UP INSTRUCTIONS

ATTACHING OPTIONAL DRIFT KNIVES (Fig. 1)

1. Fasten the drift knives to each side of the Snow blower as shown in Fig. 1 using the 3/8 x 1" bolts.

2. Tighten all hardware.

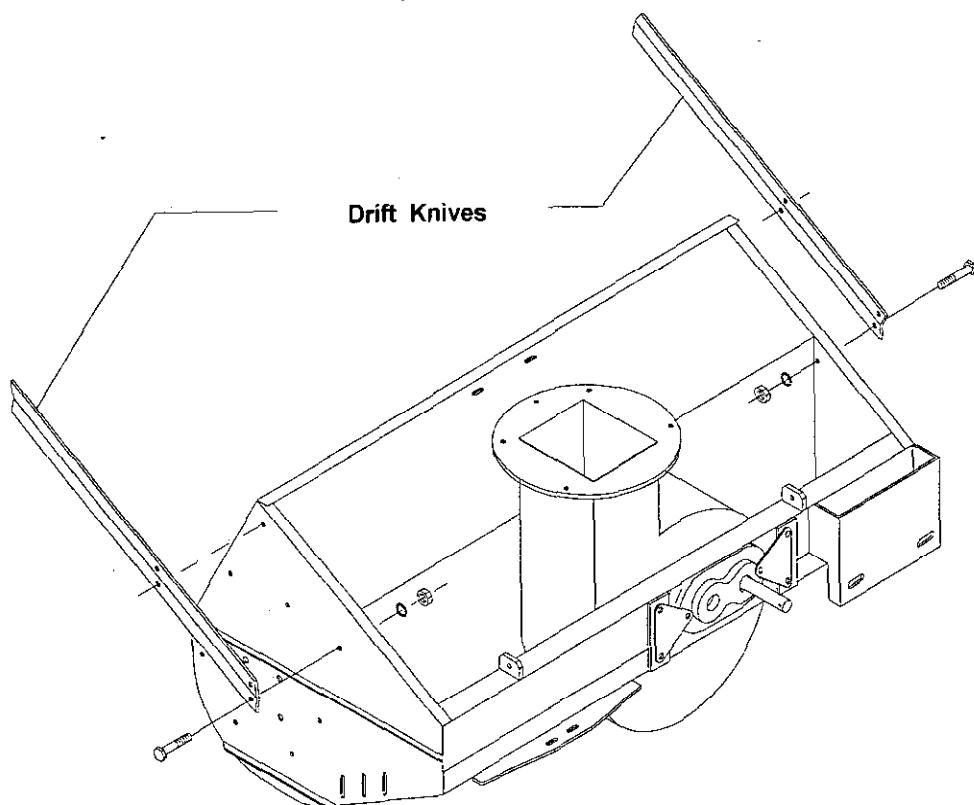


Figure 1

BEFORE OPERATING

ATTACH SNOW BLOWER TO 300 SERIES GROUNDSMASTER (Fig. 1)



WARNING

- Left hand push arm on Groundsmaster is spring loaded.
- Sudden release of the push arm could cause serious personal injury.
- Keep hands and face away from arm when it is held and blocked in the downward position.
- Use a helper and a wooden block to hold push arm down during installation of accessory.

1. Remove cutting unit or other attachment from Groundsmaster. Refer to cutting unit or attachment operator's manual.

2. Position the Groundsmaster to the rear of the snow blower.

3. Slide the PTO of the Groundsmaster into the PTO of the snow blower.

NOTE: If you are mounting the 150 Snow Blower on a unit that has a 72" Recycler deck, you will need to replace the short male end of the PTO with the longer male end, part number 92-4663.

4. Have a helper push down on the left lift arm; then insert a 2" x 4" block of wood between the frame and the top of the lift arm.

5. Pull down the right lift arm until it is level with the left lift arm. Try to keep both arms level as possible for easier installation.

6. Line up the left lift arm with the lower lift arm bracket(A). Fasten with 7/16" x 1-1/2" bolts and leave the bolts finger tight.

7. Line up the right lift arm with the lower lift arm bracket (B) on the snow blower housing. Fasten with 7/16" x 1-1/2" bolts and leave the bolts finger tight.

8. Secure the bolts on the left lift arm.

9. Secure the bolts on the right lift arm.

10. Have a helper push down the left push arm; then remove the 2" x 4" blocks of wood.

11. Have a helper push down the right push arm; then remove the 2" x 4" blocks of wood.

12. Attach the Arm Pitch Bracket to the Upper Lift Arm using the u-bolt. Tighten with 3/8" hex nuts.

13. Attach the Pivot Tube to the Arm Pitch Bracket. Attach a 1/2" nut and tighten enough so the arm can pivot. Place second 1/2" nut on and tighten against the first nut.

14. Adjust the 1/2" nuts on the Adjustment Bolt until the unit is straight horizontal along the LENGTH of the machine..

15. Attach the Lift Chains to each end of the Upper Lift Arm using the clevis pins.

16. Tighten the Left hand chain using the Adjustment Bolt until the unit is horizontal along the WIDTH of the machine.

17. Using the lift mechanism on the Groundsmaster, lower the unit on a level surface.

18. Practice raising and lowering the snow blower.

19. Route wiring harness under the front support tube of the tractor's frame. Mount the switch plate to the steering column.

IMPORTANT: The switch and two white wires with green & yellow stripes should already be attached to the switch plate.

20. Attach the white wire with black stripe (ground) to the u-bolt that mounts the switch plate to the steering column.

21. Route and secure the white wire with red stripe (hot) so it will not interfere with operation. Attach to the positive side of the ammeter on TORO instrument panel.

22. The machine is now ready for operation.

IMPORTANT: if the directional chute operates opposite of what the decals on the switch plate say, reverse the two connections.

BEFORE OPERATING (Continued)

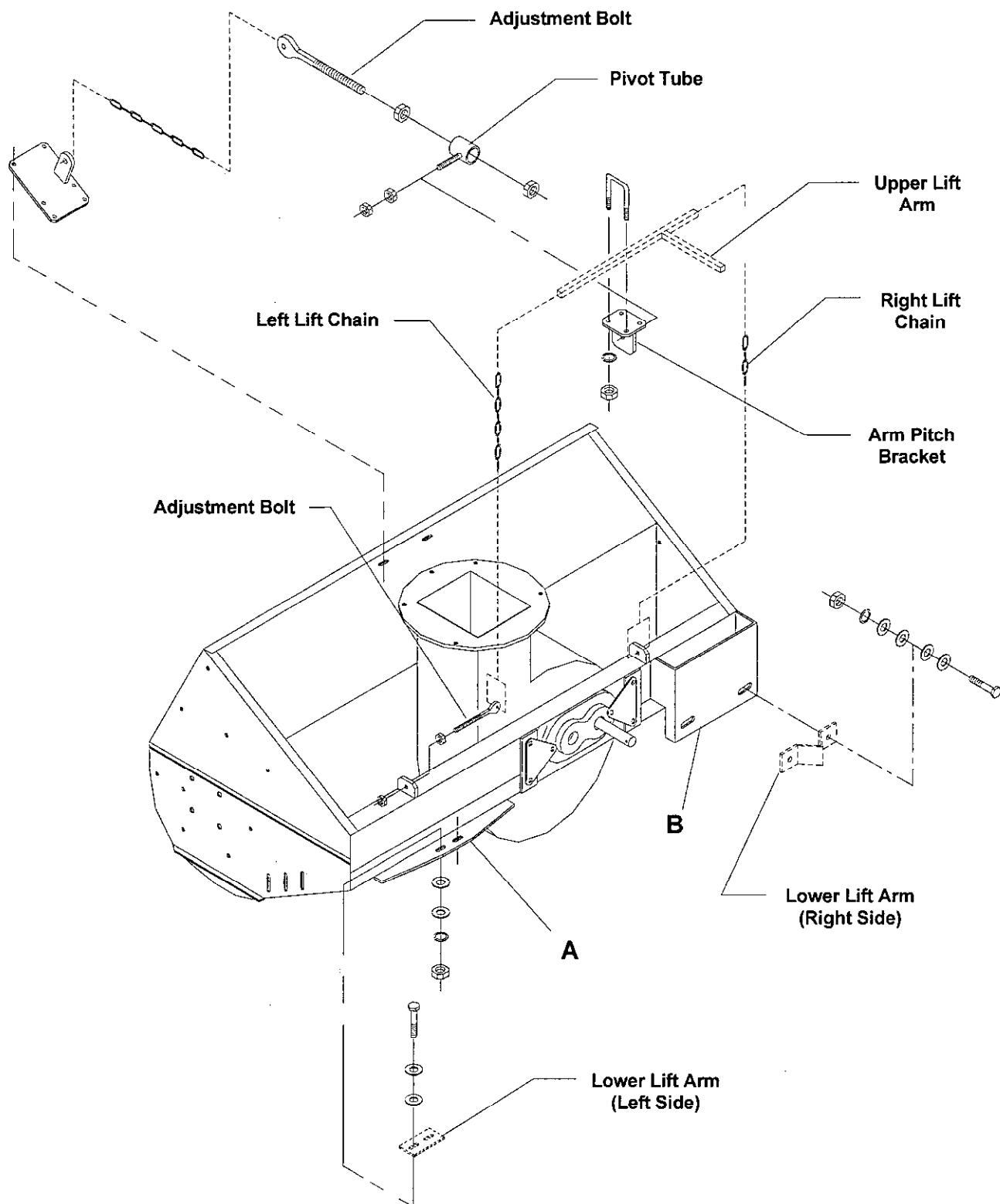


Figure 2

OPERATING INSTRUCTIONS



DANGER

ROTATING IMPELLER OR AUGER CAN CUT OFF OR INJURE FINGERS OR HANDS.

- Keep face, hands, feet and any other part of your body or clothing away from concealed, moving or rotating parts.

1. Start the Groundsmaster and run at a low RPM.
2. Lower the snow blower using the Groundsmaster lift mechanism.
3. Engage the PTO while the engine is at idle speed.
4. Increase the PTO speed to 1800 RPM.

5. Practice blowing material. It is advisable to blow the same direction the wind is blowing to prevent material from blowing back into the cleared area.



CAUTION

- Always adjust skids to allow snow blower to clear gravel or crushed rock surfaces.

TRANSPORTING SNOW BLOWER

1. Reduce the engine speed to idle position.
2. Disengage the PTO and wait for the PTO to stop.
3. Raise the snow blower to transport position.

LUBRICATION

BEARINGS (Fig. 3)

The Snow blower has two self sealing bearings that must be lubricated with a No. 2 Lithium based grease.

IMPORTANT: Lubricate the bearings as often as necessary to maintain a slight leakage on the seals. Too much grease can cause overheating.

PTO (Fig. 3)

1. Grease the PTO fittings weekly or every 40 operating hours. Use a No. 2 Lithium based grease.

GEARBOX (Fig. 3)

1. Check lubricant level in both gearbox's every 40 hours of operation. Add good quality transmission oil, 80-90 weight. Fill gearbox to level of side filler plug. Oil should seep from opening when plug is removed. Change oil in the gearbox after the first 100 hours of operation. Thereafter, change oil every 2500 hours or every six months which ever comes first.

DIRECTIONAL CHUTE (Fig. 3)

Always maintain a light coat of grease on the worm gear and chute flange. Use a No. 2 Lithium based grease.

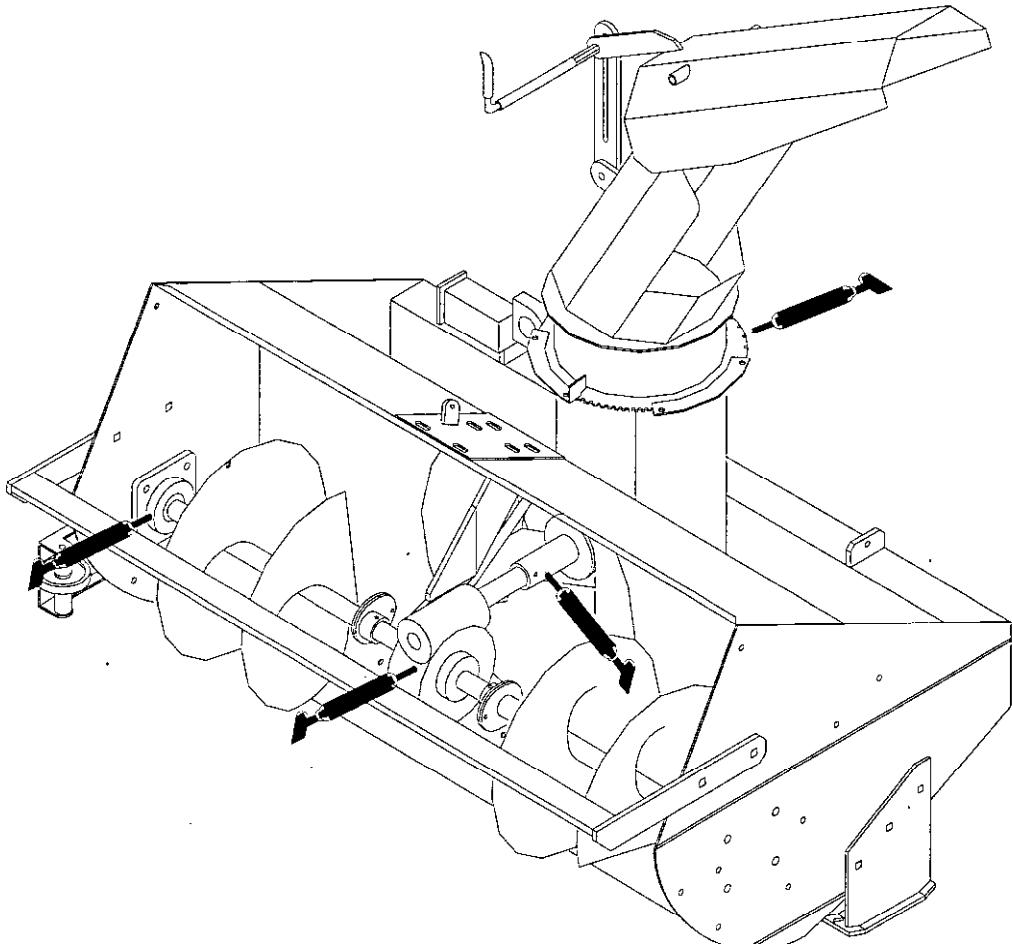


Figure 3

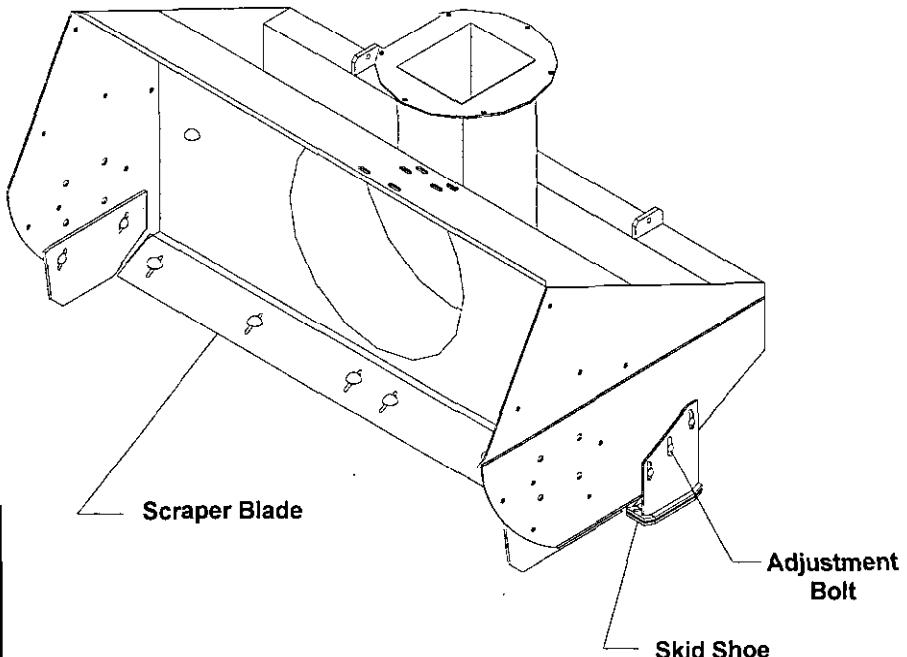
MAINTENANCE

SCRAPER BLADE (Fig. 4)

Check the scraper blade periodically for wear. Replace the scraper blade before it is excessively worn to prevent damage to the auger housing.

SKID SHOES (Fig. 4)

The skid shoe bottom must be replaced when it wears past the head of the carriage bolt that attaches it to the skid shoe.



CAUTION

- Always adjust skids to allow snow blower to clear gravel or crushed rock surfaces.

Figure 4

AUGER

There are four bronze bushings on the augers located on each end. Check the machine before each use for sloppiness of the augers on the gearbox shafts.

Check the shear bolts before each use for breakage. Replace any sheared bolts.

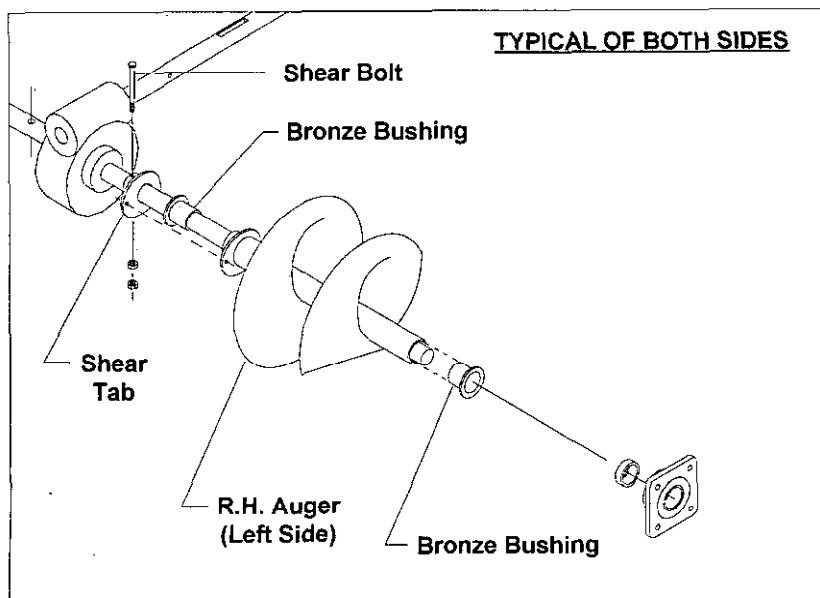


Figure 5

TROUBLESHOOTING

CONDITION	CAUSE	CORRECTION
AUGERS QUIT TURNING	<ul style="list-style-type: none"> Check shear bolts on end of augers. May have sheared. If gear box shaft is not turning a key may be sheared on worm gears inside of gear box. 	<ul style="list-style-type: none"> Replace bolts with proper bolts(Grade 5). Replace key and any damaged parts.
EXCESSIVE VIBRATION	<ul style="list-style-type: none"> Ice and snow may be packed on augers or impeller. Check impeller shaft and auger shaft for straightness. Either shaft may be bent. PTO shaft may be bent. Check for wobble. 	<ul style="list-style-type: none"> Clean off snow and ice. Replace any bent shafts. Replace PTO shaft.
FAILURE TO PICK UP SNOW	<ul style="list-style-type: none"> If snow packs in front of augers the ground speed may be too fast. Snow may be packed inside of chute. Wire or other material may be wrapped around the impeller. If clogs in first 5 minutes of running, machine may be too warm. If unit is stored inside, before using unit should be set outside so metal can cool down to outside temperatures. Running when warm causes ice to build up. 	<ul style="list-style-type: none"> Keep impeller speed at 700 RP with 3/4 throttle. (Maximum speed 900 RPM with full throttle.) Clean out chute. Clean out any foreign objects from impeller. Set machine outside to cool down before using.
UNIT NOT LEAVING CLEAN SWEEP	<ul style="list-style-type: none"> Machine may be pitched too far backward. Scrapers on bottom may be worn. When in running position should be lightly touching ground. 	<ul style="list-style-type: none"> See adjustments in manual. Slide scrapers down on slots to re-adjust.

STORAGE

1. Thoroughly clean the snow blower. The fan housing should be free of dirt, leaves and debris.
2. Lubricate all grease fittings. Wipe off any excess lubricant.
3. Place a light coat of grease on the splines of the PTO adapter.
4. Tighten all fasteners.

IDENTIFICATION AND ORDERING

MODEL AND SERIAL NUMBER.

The SNOW BLOWER 150 has two identification numbers: a model number and serial number. The two numbers are stamped on a plate which is located on the housing. In any correspondence concerning the Snow Blower 150, supply model and serial numbers to be sure that the correct information and replacement parts are obtained.

To order replacement parts from an authorized TORO Distributor, supply the following information:

1. Model and serial numbers of the machine.
2. Part number, description and quantity of parts desired.

Note: Do not order by reference number if a parts catalog is being used; use the part number.

MAINTENANCE RECORD

The Toro Commercial Products Two Year Limited Warranty

The Toro Company warrants your 1996 or newer Toro Commercial Product ("Product") purchased after January 1, 1997, to be free from defects in materials or workmanship for the period of time listed below*. Where a warrantable condition exists, Toro will repair the Product at no cost to you including diagnosis, labor, parts, and transportation. This warranty begins on the date the Product is delivered to the original retail purchaser.

Warranty Duration: Two years or 1500 operational hours*, whichever occurs first.

* Product equipped with hour meter.

Owner Responsibilities:

As the Product owner, you are responsible for required maintenance and adjustments stated in your Owner's Manual. Failure to perform required maintenance and adjustments can be grounds for disallowing a warranty claim.

Instructions For Obtaining Warranty Service:

You are responsible for notifying the Commercial Products Distributor or Authorized Commercial Products Dealer from whom you purchased the Product as soon as you believe a warrantable condition exists.

If you need help locating a Commercial Products Distributor or Authorized Dealer, or if you have questions regarding your warranty rights or responsibilities, you may contact us at:

Toro Commercial Products Service Department
8111 Lyndale Avenue South
Minneapolis, MN, 55420-1196
Telephone: (612) 888-8801
Facsimile: (612) 887-8258
E-Mail: Commercial.Service@Toro.Com

Maintenance Parts:

Parts scheduled for replacement as required maintenance ("Maintenance Parts"), are warranted for the period of time up to the scheduled replacement time for that part.

Items/Conditions Not Covered:

Not all product failures or malfunctions that occur during the warranty period are defects in materials or workmanship. The items/conditions listed below are not covered by this warranty:

- Product failures which result from the use of non-Toro replacement parts, or from installation and use of add-on, modified, or unapproved accessories are not covered.
- Product failures which result from failure to perform required maintenance and/or adjustments are not covered.
- Product failures which result from operating the Product in an abusive, negligent or reckless manner are not covered.

- This warranty does not apply to parts subject to consumption through use unless found to be defective. Examples of parts which are consumed, or used up, during normal Product operation include, but are not limited to, blades, reels, bedknives, tines, spark plugs, castor wheels, tires, filters, belts, etc.
- This warranty does not apply to failures caused by outside influence. Items considered to be outside influence include, but are not limited to, weather, storage practices, contamination, use of unapproved coolants, lubricants, additives, or chemicals, etc.
- This warranty does not apply to normal "wear and tear" items. Normal "Wear and Tear" includes, but is not limited to, damage to seats due to wear or abrasion, worn painted surfaces, scratched decals or windows, etc.

Other Legal Disclaimers:

The above remedy of product defects through repair by an authorized distributor or dealer is the purchaser's sole remedy for any defect. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Except for the Emissions warranty referenced below, if applicable, there is no other express warranty. All implied warranties of merchantability and fitness for use are limited to the duration of the express warranty.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

The Toro Company is not liable for indirect, incidental or consequential damages in connection with the use of the Product, including any cost or expense of providing substitute Product or service during periods of malfunction or non-use.

Some states do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply to you.

Note to California residents: The Emissions Control System on your Product may be covered by a separate warranty meeting requirements established by the U.S. Environmental Protection Agency (EPA), or the California Air Resources Board (CARB). The hour limitations set forth above do not apply to the Emissions Control System Warranty. Refer to the California Emission Control Warranty Statement printed in your Owner's Manual or contained in the engine manufacturer's documentation for details.