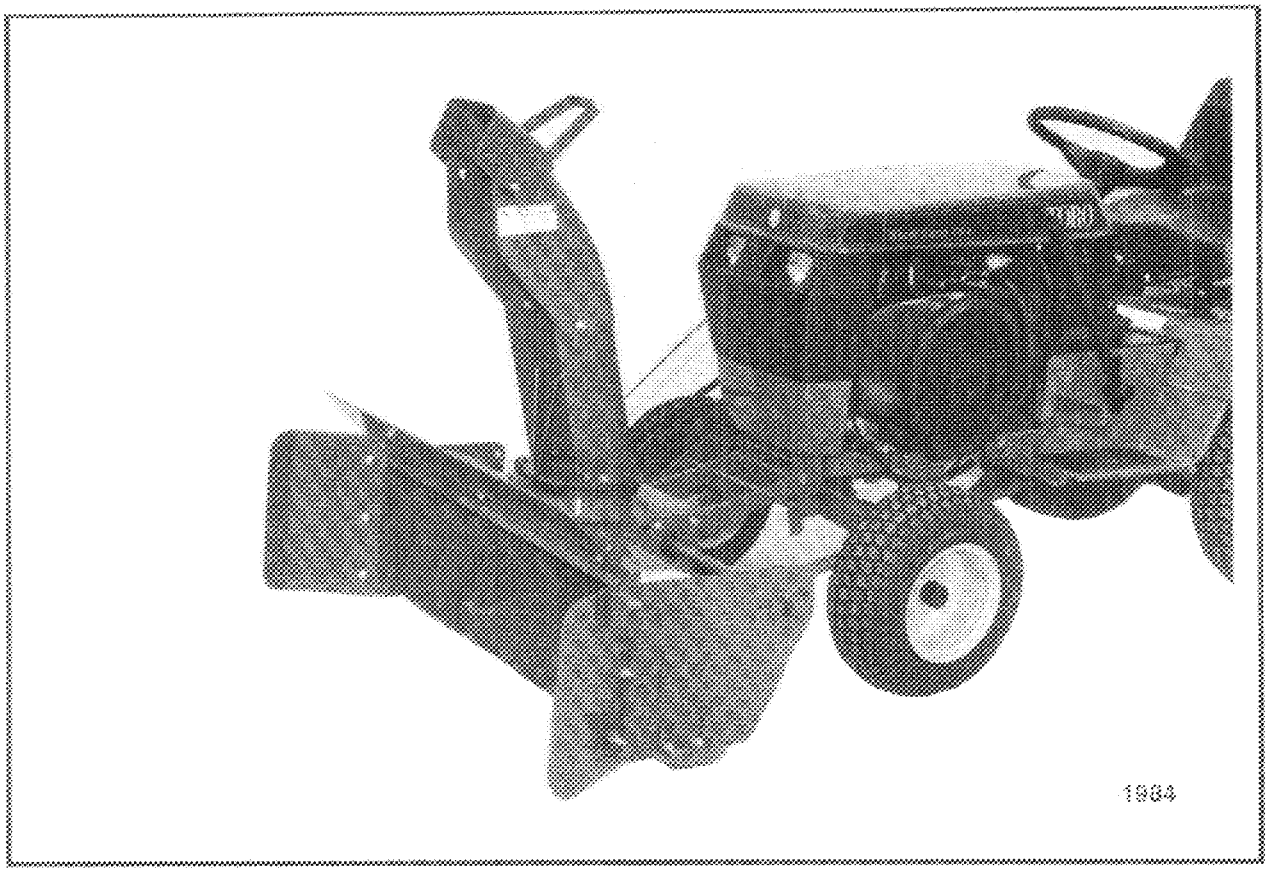
Operating & Maintenance Instructions



42 in. (107 cm) Snowthrower

Garden Tractor Snowthrower

TORO®

Wheel Horse®
Tractors & Riding Mowers

PART NUMBER 810719R1

SAFETY SUGGESTIONS

TRAINING

1. Regard your snowthrower as a piece of power equipment and teach this regard to all who operate it.
2. Never allow children or young teen-agers to operate tractor or snowthrower.
3. Be sure you know how to stop tractor and snowthrower at a moment's notice.
4. Instruct children to keep away from area of operation at all times.

PREPARATION

1. Check tractor and snowthrower to make certain both are in good operating condition.
2. Fill gas tank out of doors and avoid spilling gasoline over engine. Do not fill tank with gasoline while smoking or while engine is running.
3. Keep guards and covers in place while operating tractor and snowthrower.

OPERATION

1. Give complete and undivided attention to job at hand.
2. Keep area clear of all persons, particularly small children.
3. Stop engine when tractor is unattended.
4. Disengage PTO clutch when someone approaches.
5. Do not allow anyone other than operator to ride on tractor or to be towed behind.
6. Extreme caution should be exercised under slippery conditions. Reduce forward speed. Install tire chains to traction wheels for added safety.
7. Do not attempt to clear auger, impeller or discharge elbow while engine is running.
8. When changing position of deflector, disengage PTO clutch. Shut off engine.
9. Never direct snow discharge at people or buildings.
10. Disengage PTO clutch when transporting.
11. If snowthrower becomes plugged with snow, or jammed due to hitting a foreign object, disengage PTO immediately and stop tractor engine. Clear snow from spout if plugged, before resuming operation.

⚠ CAUTION ⚠

If auger or impeller is jammed, or bent from hitting foreign object, remove spark plug wire(s) from tractor engine spark plug(s) and then remove foreign object from auger or impeller. If auger or impeller damage is noted, repair prior to continuing operation. Then replace spark plug wire(s) and resume operation.

MAINTENANCE AND STORAGE

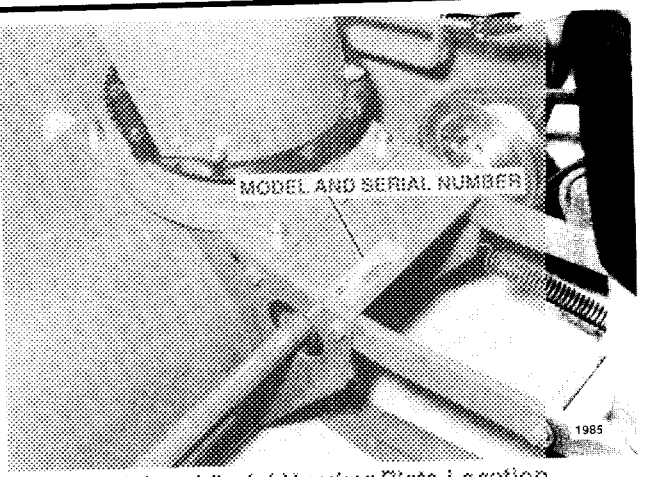
1. Follow implicitly the manufacturer's recommendations for maintenance.
2. Have a competent service man make thorough inspection of snowthrower before snow season begins.
3. Store gasoline in a safe container. Store container in a cool, dry place, not in a house or near heating appliances.
4. Keep snowthrower, tractor and gas container in locked storage to prevent children from playing and tampering with them.
5. Maximum snow removal results and safety can be expected only if snowthrower is maintained and operated correctly.
6. Gasoline powered equipment or fuel containers should not be stored in basement or in any closed area where heating appliances or open pilot lights are present.

MODEL AND SERIAL NUMBER

A Model and Serial Number identifies your Toro Wheel Horse attachment. These numbers should always be referred to when consulting with your dealer or factory concerning service, replacement parts, or questions you may have. If plate is removed during repair operations it should always be replaced. For your reference, record numbers from Model and Serial Number plate on your attachment.

MODEL
SERIAL

TORO Wheel Horse
515 WEST IRELAND ROAD
SOUTH BEND, INDIANA 46614 USA



Model and Serial Number Plate Location

ASSEMBLY

LOOSE PARTS PACKAGE CONTENTS

PART	QTY
Straight Key	1
Sq. Hd. Set Screw	2
Carriage Bolt 3/8-16 x 1	9
Washer 3/8 SAE	9
E.S. Nut 3/8-16	14
Hairpin Cotter	1
Bolt 3/8-16 x 1	4
Spring - Heavy	1
Eyebolt	1
Washer 1/2 SAE	1
Washer 3/4 SAE	2
Washer .625 SAE	1
Cotter Pin 3/16 x 1	1
Spring - Light	1

INSTALL FRAME, DRIVE PULLEY AND PLATES

Locate mounting frame, four 3/8-16 x 7/8" bolts and Eslok nuts.

Mounting frame is "notched" on bottom front of right bar. Insert mounting frame into snowthrower housing (Fig. 1). Secure frame to snowthrower with four bolts (heads to outside) and nuts.

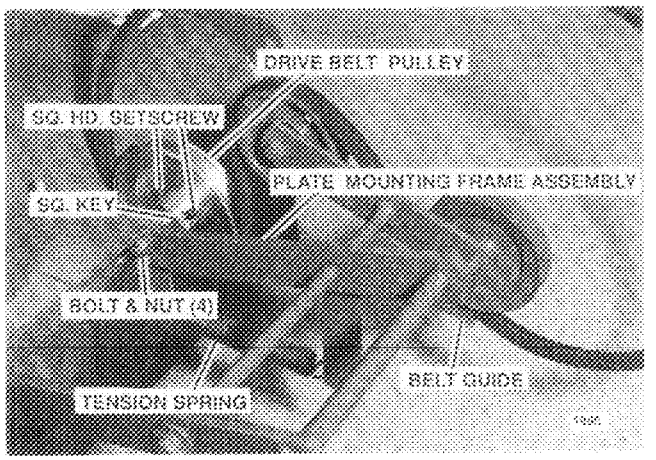


FIG. 1 Frame and Pulley

Install drive belt and pulley on snowthrower drive shaft using square key and two square head set screws (Fig. 1). Make sure square key is secured with set screw and pulleys are aligned properly. Install tension spring (shorter of two springs supplied) to snowthrower and idler arm. Route belt through idler pulleys and tighten belt guide on "V" idler pulley.

Locate top plate packaged between cardboard and side of shipping carton. Position plate to outside of snowthrower housing (Fig. 2). Using three 3/8-16 x 1" carriage bolts (heads on bottom), washers and Eslok nuts, attach plate to snowthrower housing.

Locate and position side plates to outside of snowthrower housing with cutting edge parallel to side of housing (Fig. 2). Secure plates to housing with three 3/8-16 x 1" carriage bolts (heads to inside), washers and Eslok nuts.

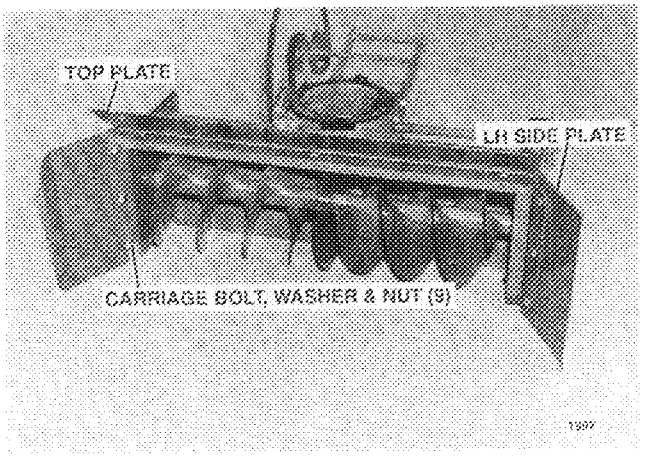


FIG. 2 Install Plates

INSTALL DISCHARGE CHUTE AND LIFT TUBE

Locate and install discharge chute assembly on housing using three 5/16-18 x 3/4" carriage bolts (heads to inside), washers and E. S. nuts (Fig. 3).

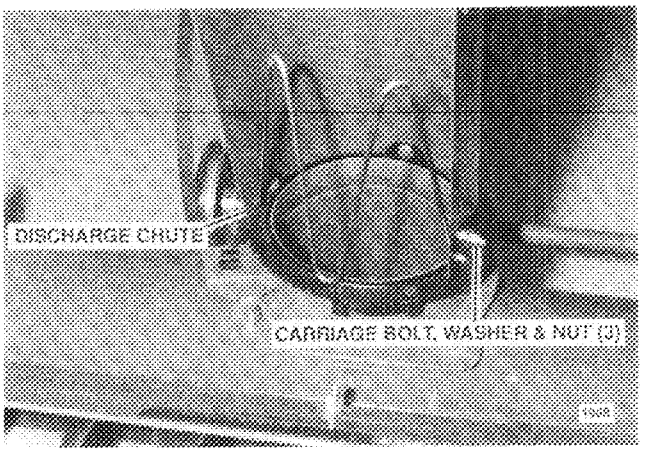


FIG. 3 Install Discharge Chute

Locate and install discharge chute handle assembly on housing with 5/16-18 x 1" carriage bolt, washer and E.S. nut, 3/8" wave washer, 3/8" flat washer and 3/16 x 1" cotter pin (Fig. 4). Adjust worm gear and assembly so that chute turns freely.

Install lift tube on housing with 5/8" flat washer and 3/16 x 1" cotter pin (Fig. 5).

Note: For installation on 1974 and 1975 "B" Series tractors and 1973 and prior Short Frame tractors, either replace lift tube supplied with a 104664 lift tube, or shorten supplied lift tube by cutting 1 1/2 in. (3.8 cm) off rear end of tube.

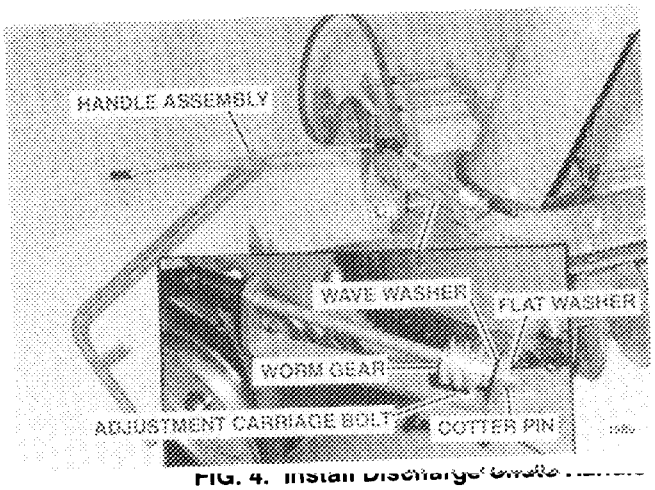


FIG. 4. Install Discharge Chute Handle

Open mid Attach-A-Matic hitch and install handle support in hitch (Fig. 7).

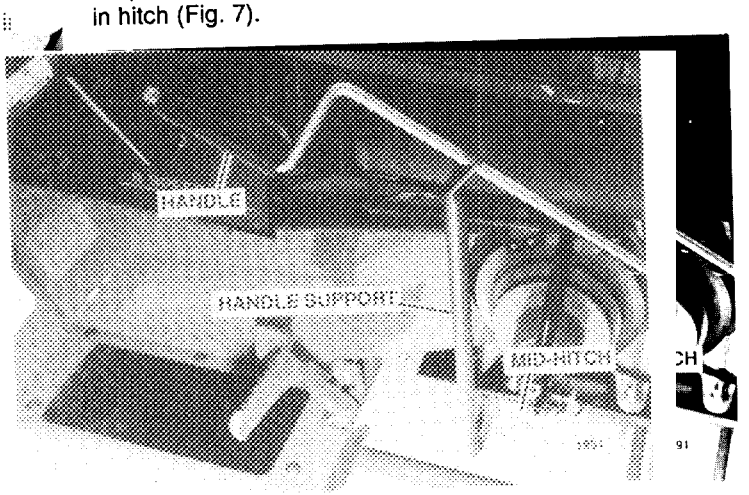


FIG. 7 Install Handle Support

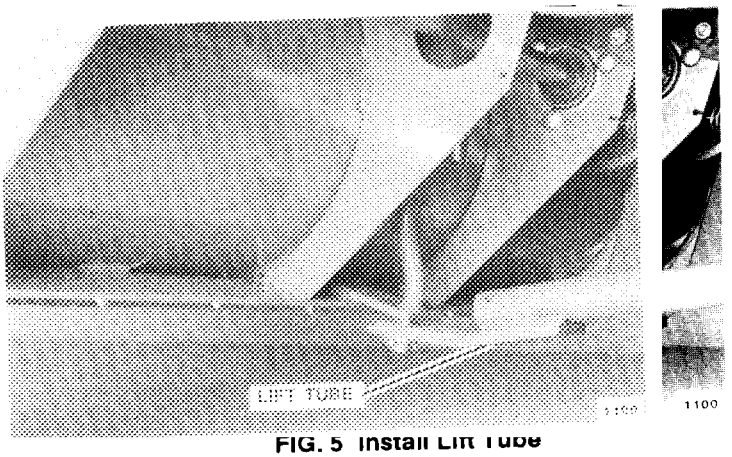


FIG. 5 Install Lift Tube

LIFT ROD AND SPRING ASSIST

Locate lift rod, two 3/4" washers, hairpin cotter, eyebolt, 3/8-16 elastic stop nut and helper spring.

Lower tractor's attachment lift. Place two flat washers on shaft of lift rod and insert shaft into lift tube. Connect lift rod stud to top hole of tractor's lift arm and secure with a hairpin cotter (Fig. 8).

Raise tractor's attachment lift and check that lift tube does not contact front axle. If contact is noted, remove one or both flat washers from lift rod shaft, as required. Flat washers increase effective length of lift tube, regulating maximum raised height of snowthrower.

INSTALLATION

ATTACH SNOWTHROWER TO TRACTOR

Position tractor behind snowthrower, with lift tube extending rearward between tractor's front wheels. Open tractor's front Attach-A-Matic hitch.

Insert snowthrower's mounting frame into hitch slots. Close and lock front Attach-A-Matic Hitch (Fig. 6).

⚠ CAUTION ⚠
Block snowthrower up in raised position while installing helper spring - DO NOT work under tractor with snowthrower unsupported.

Hook one end of helper spring on frame cross rod and other end to eyebolt. Insert eyebolt through bracket on lift rod and secure with 3/8-16" nut. Thread nut onto eyebolt until spring is under slight tension.

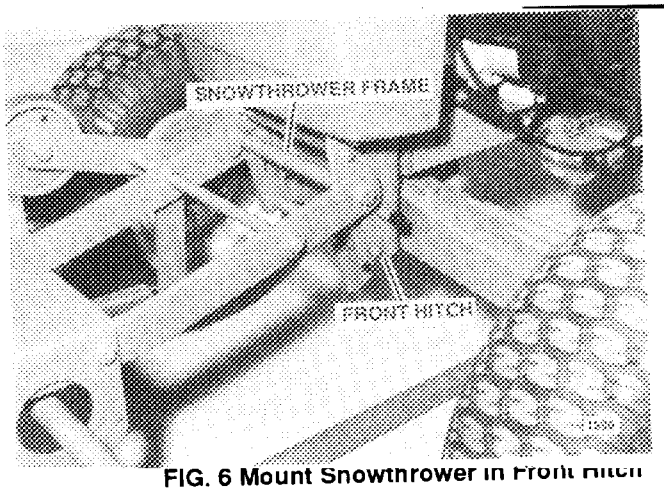
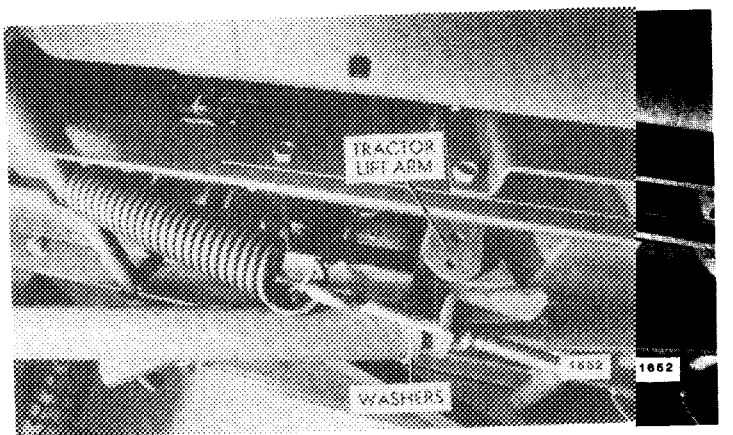


FIG. 6 Mount Snowthrower in Front Hitch



Lift Rod and Spring Assist Mounting

BELT INSTALLATION

Check that drive belt is routed properly and install belt on outside PTO pulley (Fig. 9).

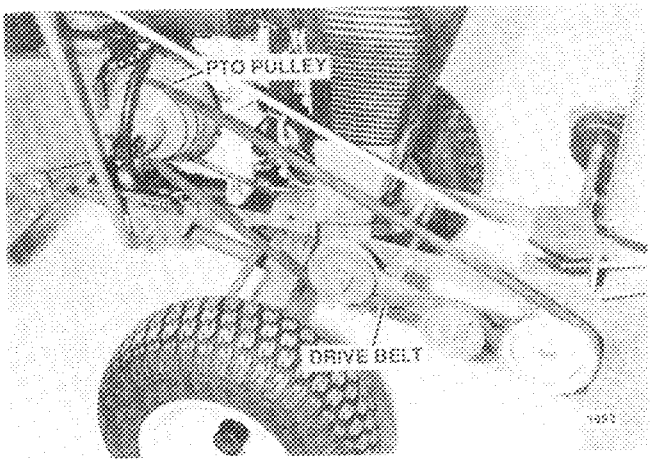


FIG. 9 Correct Belt Installation

Lubricate drive chain with SAE 10 or SAE 10w30 engine oil (Fig. 10). Lubricate all moving parts of linkage with a light grade of machine oil. Lubricate drive shaft bearing with #2 multi-purpose lithium base grease (Fig. 14). Drive auger runs in sealed bearings and does not require lubrication.

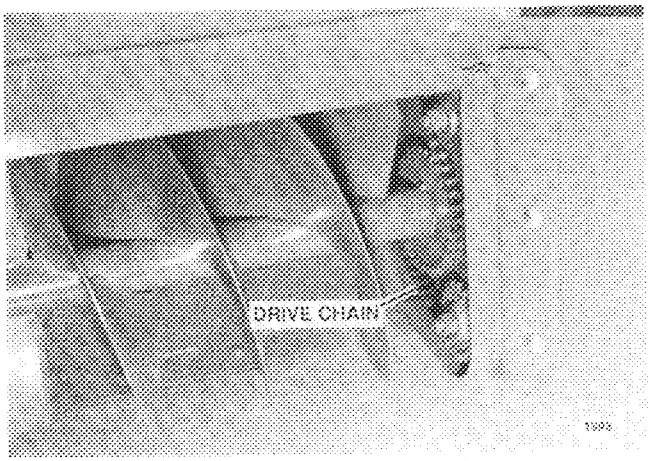


FIG. 10 Auger Drive Chain

REMOVAL

Remove drive belt from PTO pulley.

Open mid - Attach-A-Matic hitch and remove crank support.

Support snowthrower in raised position and remove lift assist spring. Remove lift rod from tractor lift arm.

Open front Attach-A-Matic hitch and move tractor away from snowthrower.

OPERATION AND ADJUSTMENT

⚠ CAUTION ⚠

To minimize the possibility of injury, become familiar with all safety suggestions at the front of this manual before placing the snowthrower into operation.

IMPORTANT

Each time snowthrower is installed, check for proper operation of PTO clutch and brake. Adjustment of PTO is covered in tractor Operator's Manual.

Use of rear wheel weights and tire chains is recommended for extra traction, particularly when heavy snow or icy conditions occur. These accessory items are available through your authorized Toro Wheel Horse dealer.

Direction snow is thrown is controlled by turning crank rod. Discharge chute will rotate through a 180 degree arc. Deflector on upper portion of discharge chute can be adjusted up and down to control height and distance snow is thrown.

Distance between auger and ground is regulated by skid shoes at each side of snowthrower housing (Fig. 11). Auger height should be adjusted so that scraper will not catch on uneven surfaces. When operating snowthrower over loose material, such as a gravel driveway, raise auger sufficiently to prevent picking up stones or other debris, To adjust auger height, raise snowthrower and loosen bolts securing skid shoes to side of snowthrower housing. Raise or lower skid shoes equally on both sides, to obtain level auger height.

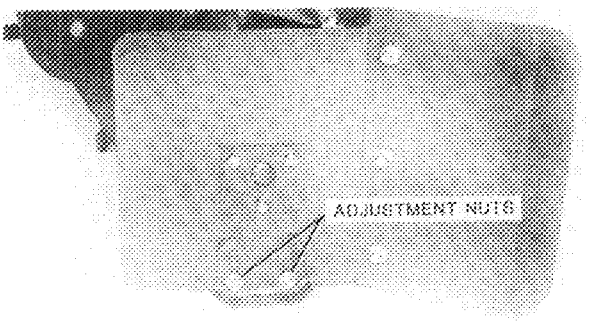


FIG. 11 Skid Shoe Adjustment

⚠ CAUTION ⚠

When making any adjustment to snowthrower, disengage PTO, shut off engine and remove ignition key. Make sure wire is installed in discharge chute (Fig. 12).

Snow removal conditions vary greatly. Depth of snow,

wind direction, temperature and condition of area to be cleared are all factors which must be taken into consideration when throwing snow. Best results are obtained with high auger speed and slow forward movement. Therefore, operate tractor at full engine speed, using transmission to adjust ground speed to about 1 MPH (1.6 KPH).

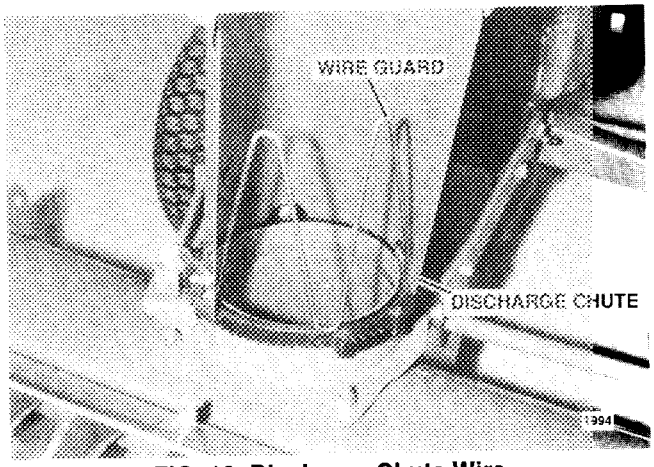


FIG. 12 Discharge Chute Wire

To begin snow removal, start tractor's engine and allow it to warm up. Lower snowthrower to ground using tractor's attachment lift, and then engage PTO.

⚠ CAUTION ⚠

Never permit anyone to stand in front of auger or discharge chute when tractor engine is running. Keep children and pets away from area when throwing snow. There may be objects in snow being thrown which could cause injury to anyone being struck by them.

A definite pattern of operating is required to thoroughly clean snow area. This will avoid a second removal of snow and throwing snow into unwanted places. Snow should be thrown downwind. However, where it is possible to throw snow to right and left, as on a long driveway, it is advantageous to start in middle and work progressively outward, throwing snow to both sides without changing position of discharge chute (Fig. 13).

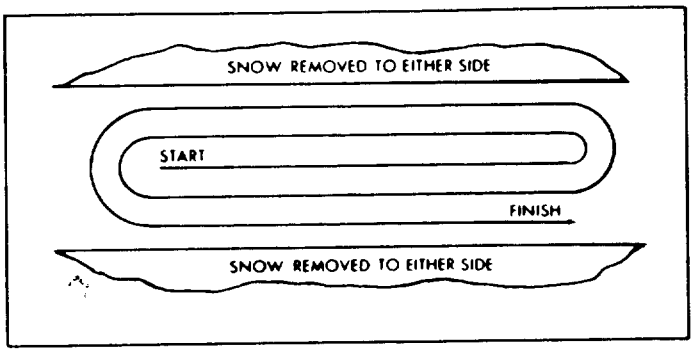


FIG. 13 Throwing Snow To Both Sides

If snow can only be thrown to one side, start on side farthest from where snow is to be thrown, rotating discharge chute 180 degrees at end of each pass.

Before starting tractor engine, make sure auger and impeller will rotate freely. This is especially important when unit has been in use and left standing in cold weather. Auger or impeller could be frozen in housing and, if PTO clutch is engaged under these conditions, clutch or belt or both could be damaged. Also check discharge chute to be sure it is free to turn.

For normal operations, snowthrower is used with unit resting on ground.

In deep, drifted, or banked snow, it will be necessary to slowly drive auger into snow and then stop tractor to allow auger to clear snow. Repeat this method until a path is cleared. On second pass, overlap first path enough to allow snowthrower to operate without repeated stopping and starting of tractor.

In extremely deep snow, raise snowthrower from ground using tractor's attachment lift. Drive tractor ahead into deep snow, removing top layer first. Tractor itself should not enter snowbank. Reverse tractor and lower snowthrower to ground. Drive tractor ahead and repeat process to remove balance of snow. Working with repeated passes in and out of drifts will eventually move deep snow.

⚠ CAUTION ⚠

If snowthrower becomes plugged with snow or jammed due to hitting a foreign object, proceed as follows:

1. Declutch snowthrower and stop tractor engine immediately.
2. Disconnect spark plug wire(s).
3. Clear snow from discharge chute or impeller if plugged.
4. If auger or impeller is jammed, remove foreign object and repair any damage to snowthrower before continuing.
5. Reconnect spark plug wire(s).
6. Resume operation.

Snowthrower should not be used to remove ice or hard packed frozen snow, which can cause damage to unit. For best results, snow should be removed as soon as possible after it falls.

Before snow season begins, it is suggested that snow removal area be thoroughly inspected and cleared of all stones, sticks, etc. which might be picked up by auger. Mark location of all obstacles that could become hidden under snow and cause damage to auger or tractor if struck.

MAINTENANCE AND STORAGE

Before each use, check that all bolts, set screws and other fasteners are tight and in place. Drive chain tension

can be adjusted by loosening and shifting lower idler sprocket in its slot on snowthrower housing. This idler sprocket is located on left side of snowthrower at lower front corner of housing. Tighten nut securely after adjustment.

Do not overtighten chain. A correctly adjusted chain will have a slight amount of slack. An overtightened chain will result in early failure of the auger drive chain.

Lubricate drive chain every 20 operating hours with SAE 10 Or SAE 10w30 engine oil. Be sure oil penetrates inside each roller. Wipe off excess oil. Other moving parts of linkage should be lubricated with light machine oil applied directly to wear surfaces.

A coat of wax applied to inside of auger housing will help prevent snow from sticking to it. Inside of discharge chute and deflector should also be waxed several times during snow removal season. Coat bare metal surfaces of snowthrower with oil or grease to prevent rust until permanent repairs can be made. Contact with corrosive road salt should be avoided whenever possible.

Lubricate drive shaft bearings every 25 operating hours or at end of season (Fig. 14). Apply #2 multi-purpose lithium base grease with a pressure grease gun.

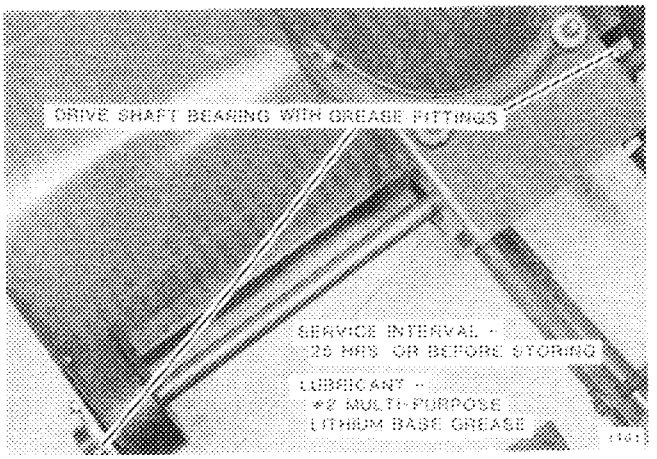


FIG. 14 Drive Shaft Bearing Grease Fittings

To prevent damage to snowthrower housing, periodically inspect snowthrower scraper. When scrapper becomes worn - before working surface comes in contact with housing - remove carriage bolts attaching scraper to housing (Fig. 15), flip scraper over and reinstall with unused side exposed.

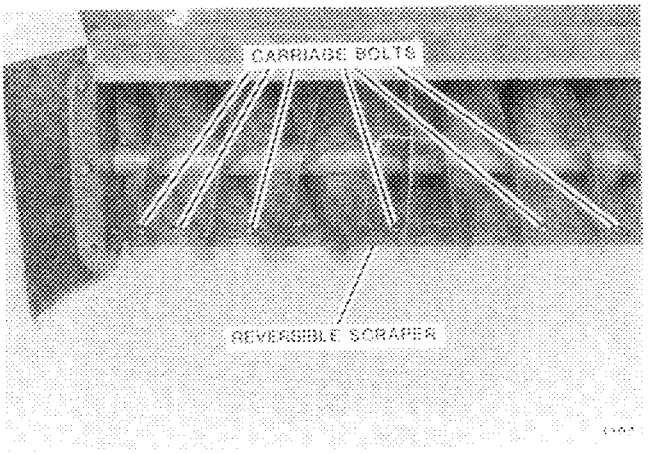


FIG. 15 Reversible Scraper

Before storing snowthrower at end of season, thoroughly clean it by washing with a garden hose. A mild automotive type detergent may be used to remove stubborn dirt. Touch up damaged paint areas as necessary. Aerosol cans of "Toro Wheel Horse Red" touch up paint are available through your authorized dealer.

Auger should be coated with oil or treated with a rust preventative. Lubricate snowthrower as described in this section and store it in a clean, dry place. Protect it with a weather-proof cover if stored outdoors.

A separate parts manual for your Toro Wheel Horse attachment can be obtained by completing the attached form below. You will receive an invoice with manual.

PUBLICATIONS
TORO WHEEL HORSE
8111 Lyndale Ave. So.
Bloomington, Minnesota 55420

PARTS MANUAL ORDER FORM

Enter number shown on your attachment:

MODEL
SERIAL

TORO Wheel Horse
515 WEST IRELAND ROAD
SOUTH BEND, INDIANA 46614 USA

MAIL LABEL -- PLEASE PRINT CLEARLY

TO:

Name _____

Address _____

_____

City **State** **Zip**

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TORO®

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Tractors & Riding Mowers