FORM NO. 3315-430

TORO®

MODEL NO. 78400-490001 & UP

INSTALLATION INSTRUCTIONS

PROLINE

38" Side Discharge Mower - ZRT



© The TORO Company - 1993

CONTENTS

	Page
MODEL AND SERIAL NUMBER	2
ATTACH DISCHARGE CHUTE	2
MOWER INSTALLATION	2-3
ATTACH MOWER TO MACHINE	2-3
INSTALL DRIVE BELT	3
MOWER REMOVAL	3-4
LEVEL MOWER	4
OPERATION	5
TIPS FOR CUTTING GRASS	5
STOPPING MACHINE WHEN MOWING	5
MOW AT PROPER INTERVALS	6
TIPS FOR CUTTING LEAVES	6
SIDE DISCHARGING OR BAGGING	6
MAINTENANCE AND STORAGE	6-7
LUBRICATION	6-7
BLADE MAINTENANCE	7
UNDERSIDE CLEANING	7
MOWER DRIVE BELT REPLACEMENT	7
SPINDLE BELT REPLACEMENT	7
GENERAL CARE AND STORAGE	7

⚠ SAFETY DECALS AND INSTRUCTIONS

Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or lost.



Under Discharge Chute
Part Number 66-6380



Discharge Chute
Part Number 54-9220



Each Side of Deck
Part Number 66-1340

MODEL AND SERIAL NUMBER

A Model and Serial Number identifies your Toro attachment. These numbers should always be referred to when consulting with your dealer or factory concerning service, replacement parts, or questions you may have. For your reference, record numbers from Model and Serial Number plate on your attachment.

MODEL _____

SERIAL NO. _____

ATTACH DISCHARGE CHUTE

Locate supplied side discharge chute and spring (Fig. 1). Position rod in front clip on mower deck. Start retainer rod into front part of discharge chute. Position spring in center slot of discharge chute with long end inward and small end resting on top of discharge chute. Slide retainer rod through center of spring. Hook spring on end of retainer rod to hold it in place. Discharge chute should be spring loaded when in down position.

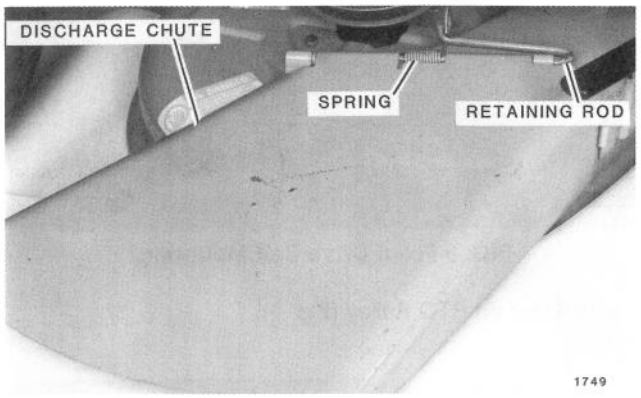


FIG. 1 Side Discharge Chute

MOWER INSTALLATION

ATTACH MOWER TO MACHINE

IMPORTANT

Before installation, check that all mower blade nuts are tight:

Blade nut Torque 50ft. lbs. (68 Nm) Min.

Check that front belt pulley and belt arm pivot have been lubricated. Use a pressure grease gun and #2 multi-purpose lithium grease. See Maintenance section for locations.

⚠ CAUTION ⚠

Sharp edges of mower blades can cut you during blade maintenance or adjustment. Use suitable covering over cutting edges of blade to prevent bodily harm.

Position mower along left side of tractor. Turn both front wheels to the left at a 90° angle (Fig. 2). Position height control lever in top slot of quadrant.

Position mower belt tension lever to inside of mower. Place drive belt over top of front drive pulley.

Slide mower under machine. Front pulley must pass between front Attach-A-Matic hitch and front shield (Fig. 3).

Open right and left Attach-A-Matic hitches (Fig. 4), push release buttons in and lower handles. Lower mower height control lever all the way down. Raise left and right front mower attaching arms into hitches. Raise handles and be sure they lock in raised position.

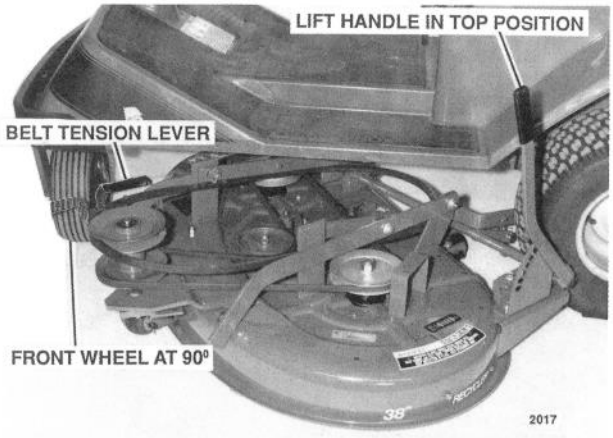


FIG. 2 Position Mower at Left Side of Machine

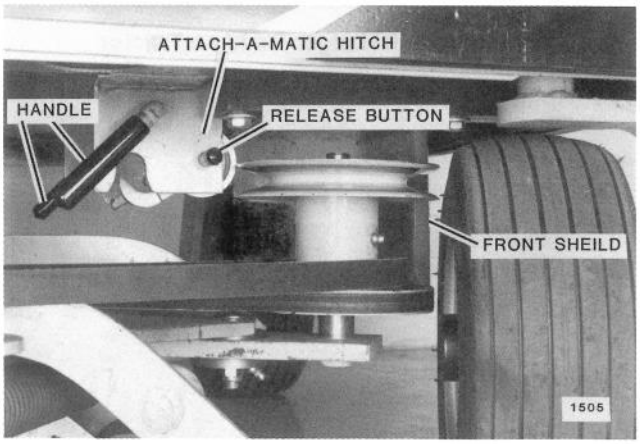


FIG. 3 Position Mower Under Machine

Locate two hanger rod assemblies (Fig. 5). Insert mower hanger rods into left and right front holes of machine frame. Install spacers and trunnions on rods with nuts. Tighten nuts until nut ends are flush with rod.

Install trunnion on mower lift arms using hairpin cotters (Fig. 6). Adjust left and right nuts to obtain 2 3/4" from machine frame to bottom of trunnions.

Install mower drive belt and level mower as described under "INSTALL DRIVE BELT" and "LEVEL MOWER".

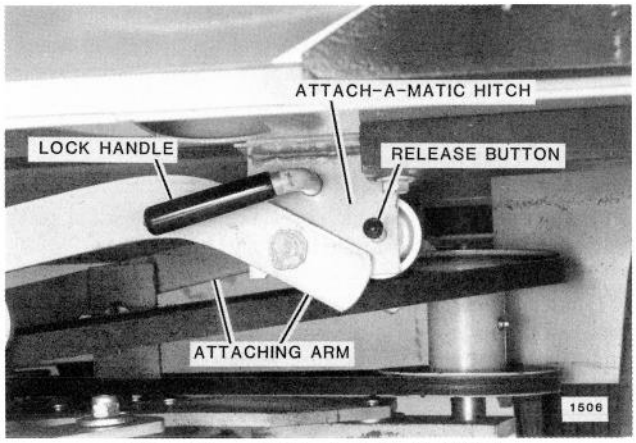


FIG. 4 Front Attach-A-Matic Hitch

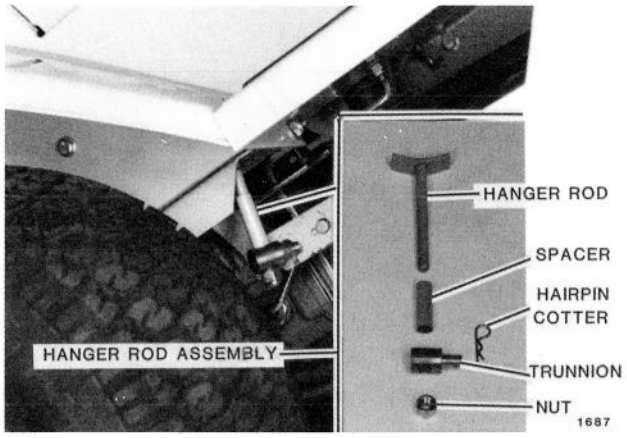


FIG. 5 Install Hanger Rods on Tractor

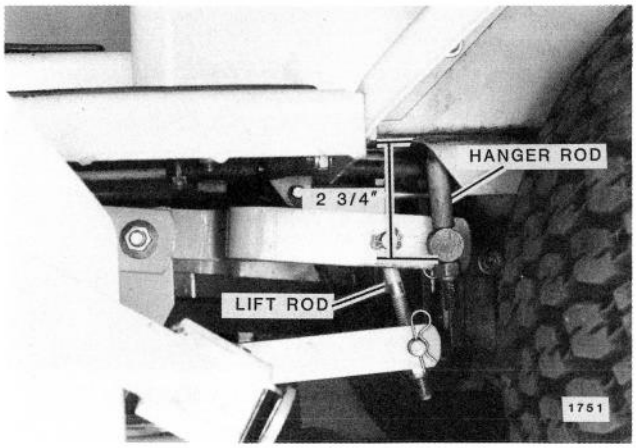


FIG. 6 Adjust Length of Rod

INSTALL DRIVE BELT

Lower height control lever all the way down (Fig.7).

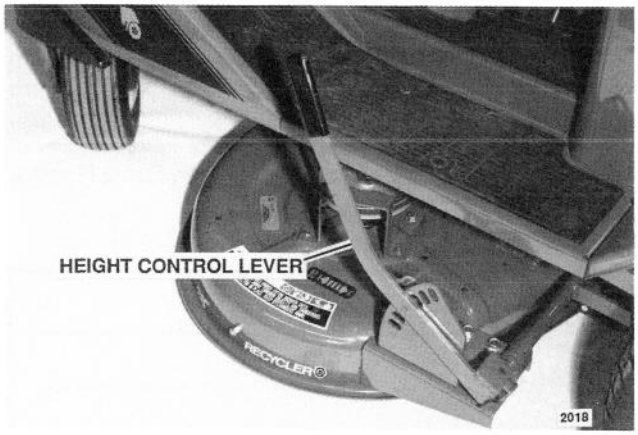


FIG. 7 Lower Height Control Lever

Move belt tension handle to center of mower (Fig. 8). Position drive belt on top groove of front pulley. Check that spindle belt is on lower pulley.

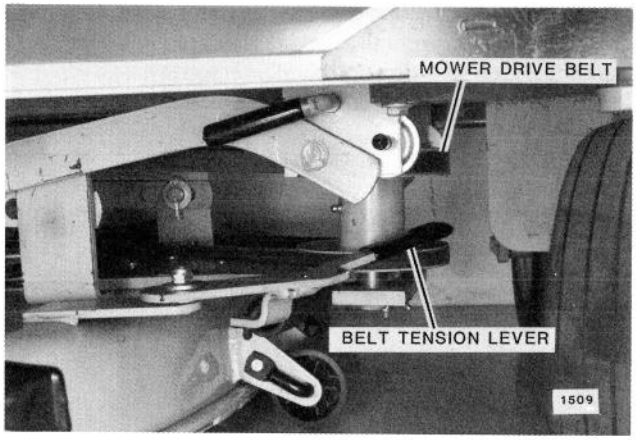


FIG. 8 Front Drive Belt Mounting

Install Belt on PTO Pulley (Fig. 9).

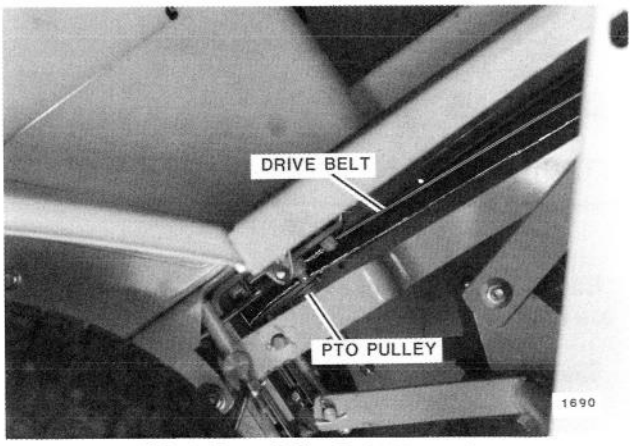


FIG. 9 Rear Drive Belt Mounting

Move belt tension lever to outside of mower in operate position(Fig. 10). Check and adjust mower level as necessary.

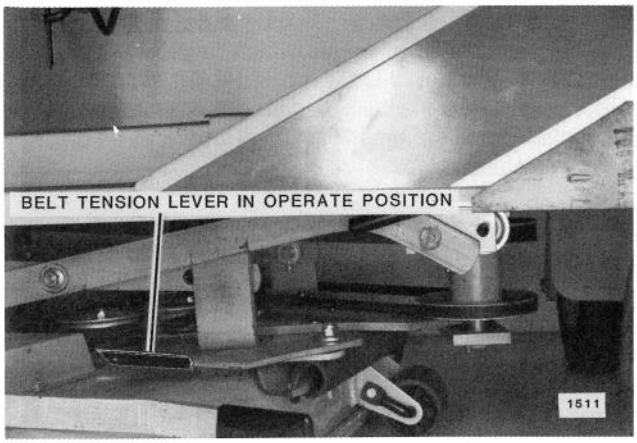


FIG. 10 Belt Tension Handle (Operate Position)

MOWER REMOVAL

Remove drive belt by reversing procedures under "INSTALL DRIVE BELT" section of this manual. Lower mower all the way down and remove left and right hanger rod trunnions from mower (Fig. 11).



FIG. 11 Rear Mower Mounting

Open left and right front Attach-A-Matic hitches (Fig. 12). Raise lift lever into top cutting height. Remove attaching arms from hitches and move belt tension lever to outside of mower. Turn wheels to the left 90° and remove mower from left side of machine.

LEVEL MOWER

Position tractor on a level surface and adjust front tire pressure to 8 PSI and rear tires pressure to 8 PSI.

Adjust left and right hanger rod nuts to obtain 2 3/4 inches from frame to bottom of trunnions (Fig. 13). Place front wheels in forward operating position and place mower height control in 4th notch from top.

Adjust side-to-side mower level:

1. Turn each outside mower blade side-to-side.

2. Measure outside end of each side blade tip and adjust either right or left lift rod adjustment nut to obtain equal distances from surface to blade tips (Figs. 14 & 15).

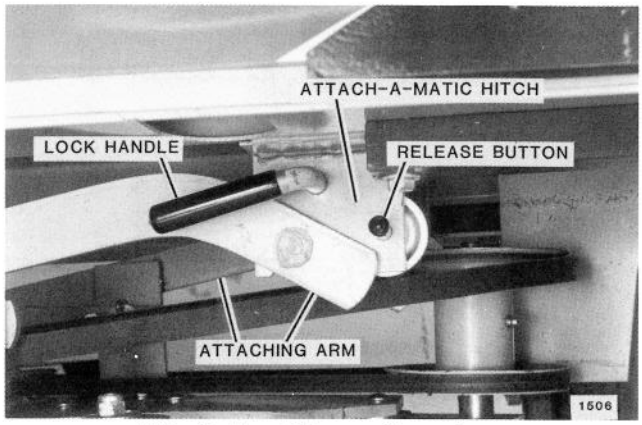


FIG. 12 Front Mower Mounting

Adjust front-to-back mower level:

1. Turn mower blades front-to-back.

2. Measure blade tips and adjust hanger rods evenly so that distance from surface to front and rear of blade tips are equal to 1/8 inch low in front (Figs. 14 & 15).

Under some unusual mowing conditions, mower may leave a "streak" of uncut grass, which can be caused by any of the following conditions:

1. Engine being operated at less than full throttle.

2. Dull blades or underside of mower deck clogged with matted grass.

3. Ground speed too high for conditions - adjust speed as necessary.

4. Streaking on turns indicates turns are being made too sharply.

5. If blades have been sharpened a number of times, they may be too short to "overlap' each other and must be replaced.

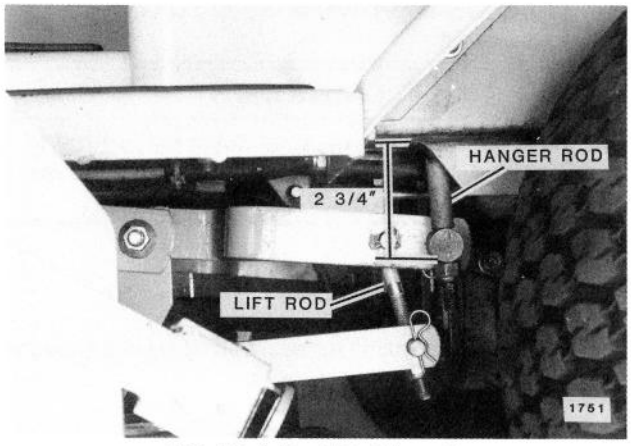


FIG. 13 Adjust Rod Length

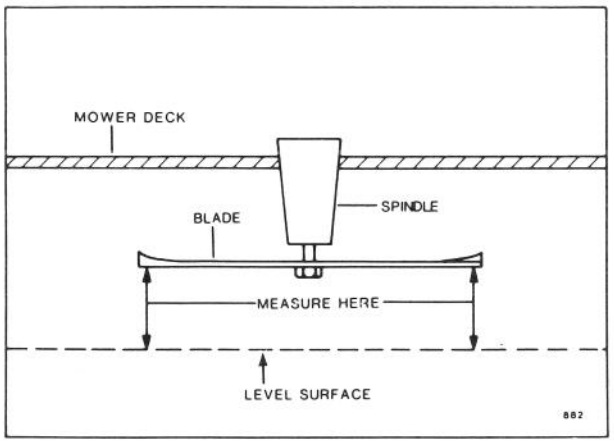


FIG. 14 Mower Level Measurement

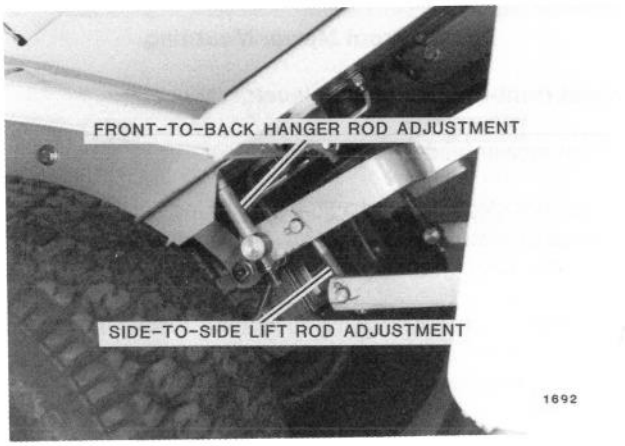


FIG. 15 Level Adjusting Rods

OPERATION

IMPORTANT
Every time mower is installed, check for proper operation of PTO clutch and brake. Adjustment of PTO is covered in machine Operator's Manual.

⚠ CAUTION ⚠

Mower can be equipped with a rear grass bagger attachment. Make sure steel discharge chute or Recycler® discharge cover is in place whenever bagger is removed.

⚠ CAUTION ⚠

To avoid loss of control, slow down when turning, backing and changing direction. Look behind machine to ensure area is clear before backing.

TIPS FOR CUTTING GRASS

Follow these instructions for best cutting results and lawn appearance:

1. Always use FAST (full) throttle when mowing.

2. Maintain sharp blades throughout the cutting season. A sharp blade cuts cleanly and without tearing or shredding grass blades like a dull blade. Tearing and shredding causes grass to turn brown at edges which impairs growth and increases susceptibility to diseases. About every 30 days, remove wire from machine engine spark plug and check cutter blade for sharpness. File down any nicks on blade to restore its sharp edge.

3. Clean any residue from under side of mower deck and kickers after each use. If residue is allowed to build up in mower deck and on kickers, cutting performance may be unsatisfactory.

⚠ DANGER ⚠

Before removing any obstruction from mower deck, move PTO control into DISENGAGED position, shift into neutral and turn ignition key to OFF position. Remove wire from machine engine spark plug to prevent possibility of accidentally starting engine.

4. When mower is used to cut a lawn for the first time, remove about one inch or not more than one third of the grass blades. When cutting grass over six inches tall, cut twice to hide-clippings down in grass.

5. If grass is ever allowed to grow slightly longer than normal, or if it contains a high degree of moisture, raise cutting height higher than usual and cut grass at this setting. Next, cut grass again using a lower normal setting. This method of cutting long grass results in an even distribution of clippings and an acceptable quality-of-cut.

6. In heat of summer, it is best to cut only about one third of the grass blades. Cutting more than one third of grass off is not recommended unless grass is sparse or it is late fall when grass growth begins to slow down. Cutting grass down to thatch will reduce room to hide cut grass and will greatly increase amount of loose clippings.

7. If cutting width of mower is wider than a mower previously used, raise height-of-cut setting one notch to ensure undulations in turf are not cut too short.

8. Very long or extremely wet grass can be cut, using specific operating techniques. Start by setting height-of-cut in highest position. Using slow speed and maximum throttle speed, move mower into grass and cut a swath that is only half as wide as mower deck. Slow forward movement occasionally to allow mower deck to clear itself. Cutting too much grass may clog mower deck. If mower deck does clog, disengage PTO, move to cut grass, raise deck to transport position and engage PTO to clear mower. Lower deck and move slowly over clumps to disperse. If cutting with side discharge chute installed, direct grass clippings toward area that was cut previously.

STOPPING MACHINE WHEN MOWING

If forward motion of machine has to be stopped while cutting, a clump of grass clippings may be deposited on lawn. Follow this procedure for stopping machine while cutting:

1. With blade engaged, move onto a previously cut area.

2. Move throttle control lever to SLOW position, stop motion of machine, disengage PTO and rotate ignition key to OFF position.

MOW AT PROPER INTERVALS

Under most normal conditions you need to mow approximately every 4-5 days. However, grass grows at different rates at different times. This means that in order to maintain same height-of-cut, which is a good practice, your need to cut more frequently in early spring; as grass growth rate slows in mid summer, cut only every 8-10 days. If you are unable to mow for an extended period due to weather conditions or other reasons, mow first with height-of-cut at a higher level; then mow again 2-3 days later with a normal height setting.

Alternate mowing direction. This helps dispense clippings over lawn for even fertilization.

TIPS FOR CUTTING LEAVES

In the fall, you can cut your leaves up into finely cut particles and inject particles down into grass. When spring arrives, leaf particles will have decomposed and restored valuable nutrients into soil.

When cutting is complete, always be sure that 50% of lawn shows through finely cut leaf cover. This may require one or more passes over leaves.

If there are more than five inches of leaves on lawn, raise mower one or two settings higher, This makes it easier to feed leaves under mower deck.

If leaves are not cut up finely enough to be hidden down in grass, make a second pass 90° to first pass.

If you cut up a lot of oak leaves, you may want to add lime to your grass in the spring, Lime reduces acidity of oak leaves.

SIDE DISCHARGING OR BAGGING

⚠ CAUTION ⚠

Never mow grass without side discharge chute or entire bagger installed. Discharge chute should be installed to route grass down toward ground. If discharge chute or bagger elbow become damaged, replace them. Without discharge chute or entire bagger installed, discharged material could cause personal injury or blade contact could occur.

MAINTENANCE AND STORAGE

LUBRICATION

Front belt pulley spindle bearings and belt tension arm pivot should be lubricated at 50 operating hour intervals (Figs. 16 & 17). Use a pressure type grease gun and #2 multi-purpose lithium grease.

Four to six pumps of a hand type grease gun will usually fill pulley after 50 hours use. Grease fittings are conveniently located at center of pulley.

Lubricate pivoting arms and levers at 25 hour intervals with light machine oil applied directly to wear surfaces. Anti-scalp rollers should NOT be lubricated.

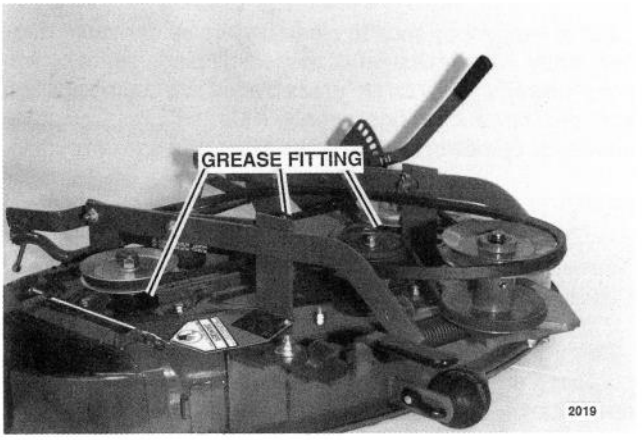


FIG. 16 Mower Lubrication Fittings

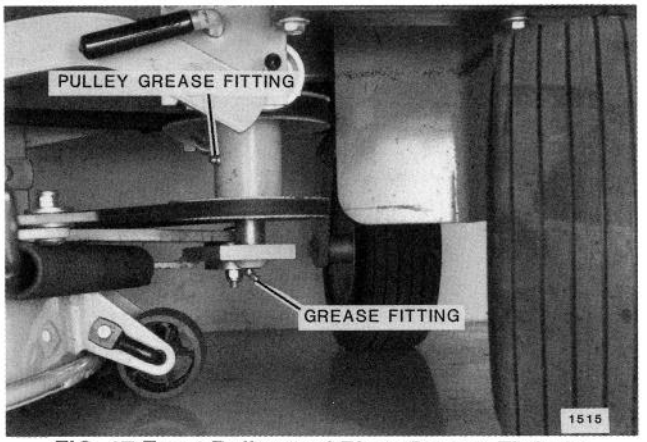


FIG. 17 Front Pulley and Pivot Grease Fittings

BLADE MAINTENANCE

⚠ CAUTION ⚠

Sharp edges of mower blades can cut you during blade maintenance or adjustment. Use suitable covering over cutting edges of blade to prevent bodily harm.

To obtain optimum mowing results, mower blades should be kept sharp and well balanced. To sharpen blades, remove mower from machine and invert mower. Secure blade and remove locknut, anti-scalp cup and blade. A short piece of 2" x 4" block of wood may be placed between side of mower deck and blade to "lock" it in position while removing attaching hardware.

File or grind blades evenly. Take care to retain angle of original cutting edge. Blade balance can be checked on an inexpensive blade balancer, available at most hardware stores.

Reinstall blades with lift area (turned up section) facing mower deck. Tighten blade attaching nuts to a torque at 50 ft. lbs. (68 Nm) Min.

Reinstall mower on machine.

UNDERSIDE CLEANING

It is of vital importance to clean underside of mower deck frequently. Accumulation of matted clippings seriously impairs mower's ability to "lift" grass blades into cutting position and discharge clippings evenly. Matted grass clogging underside of mower is often times a cause of uneven cutting.

MOWER DRIVE BELT REPLACEMENT

Remove drive belt by reversing procedures under "INSTALL DRIVE BELT" section of this manual.

Be sure to purchase genuine Toro belts for replacement purposes as these belts are designed specifically for each application.

Install new drive belt as outlined under "INSTALL DRIVE BELT" section of this manual.

SPINDLE BELT REPLACEMENT

Remove mower from machine. Note routing of belt, pull on idler pulley to relieve belt tension and remove spindle belt. Check to be sure all pulleys work freely. Install new Toro Wheel Horse belt.

Reinstall mower on machine.

GENERAL CARE AND STORAGE

Top of mower deck should be washed with a garden hose after each use. A mild automotive detergent may be used to remove stubborn dirt. After washing, allow mower to dry, then start machine and engage mower for approximately one minute to remove excess water from belts and pulleys.

Touch-up painted surfaces with a fresh coat of "Toro Red" paint, available from your authorized Dealer in aerosol cans.

Store mower in a clean, dry place or protect it with a weather-proof cover when stored outdoors.

TORO ProLine Products

THE TORO TOTAL COVERAGE GUARANTEE

A One Year Limited Warranty
(A Full Two-Year Warranty for Residential Use)

What Is Covered By This Express Warranty?

The Toro Company promises to repair any TORO ProLine product used for commercial, institutional, or rental purposes if defective in materials or workmanship for a period of one year from the date of purchase. The cost of parts and labor are included as well as transportation within a 15 mile radius of a TORO ProLine Service Dealer.

What Products Are Covered By This Warranty?

ProLine products covered by this warranty include the ProLine 118, 120, 220, 616, 620, 724 riding products and wide area walk behind mowers and their cutting decks and accessories.

How About Residential Use?

TORO ProLine products used for residential use are covered by a full two–year warranty.

How Do You Get Warranty Service?

Should you feel your TORO ProLine product contains a defect in materials or workmanship, contact the dealer who sold you the product or any TORO ProLine Service Dealer. The Yellow Pages of your telephone directory is a good reference source; look under TORO Commercial Service Dealers. The Service Dealer will either arrange service at his/her dealership or recommend another authorized Service Dealer who may be more convenient. You may need proof of purchase (copy of registration card, sales receipt, etc.) for warranty validation.

If for any reason you are dissatisfied with a Service Dealer's analysis of the defect in materials or workmanship or if you need a referral to a TORO ProLine Service Dealer, please feel free to contact us at the following address:

Toro Customer Service Department
8111 Lyndale Avenue South
Bloomington, MN 55420-1196
612-888-8801

What Must You Do To Keep The Warranty In Effect?

You must maintain your TORO Product by following the maintenance procedures described in the operator's manual. Such routine maintenance, whether performed by a dealer or by you, is at your expense.

What Does This Warranty Not Cover? and How Does Your State Law Relate To This Warranty?

There is no other express warranty except as described above. This express warranty does not cover:

- Cost of regular maintenance service or parts, such as filters, fuel, lubricants, tune–up parts, blade sharpening, brake and clutch adjustments.
- Any product or part which has been altered or misused or required replacement or repair due to normal wear, accidents, or lack of proper maintenance.
- Repairs necessary due to improper fuel, contaminants in the fuel system, or failure to properly prepare the fuel system prior to any period of non–use over three months.
- Pickup and delivery charges for distances beyond a 15 mile radius from a TORO ProLine Service Dealer.

All repairs covered by this warranty must be performed by a TORO Service Dealer using Toro approved replacement parts.

Repair by a TORO Service Dealer is your sole remedy under this warranty.

The Toro Company is not liable for indirect, incidental or consequential damages in connection with the use of the TORO Products covered by this warranty, including any cost or expense of providing substitute equipment or service during reasonable periods of malfunction or non–use pending completion of repairs under this warranty. Some states do not allow exclusions of incidental or consequential damages, so the above exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

COUNTRIES OTHER THAN THE UNITED STATES OR CANADA

Customers who have purchased TORO products exported from the United States or Canada should contact their TORO Distributor (Dealer) to obtain guarantee policies for your country, province, or state. If for any reason you are dissatisfied with your Distributor's service or have difficulty obtaining guarantee information, contact the TORO importer. If all other remedies fail, you may contact us at The Toro Company.

PRINTER PROJECT NO. 8963 **PRINTED IN U.S.A.**