

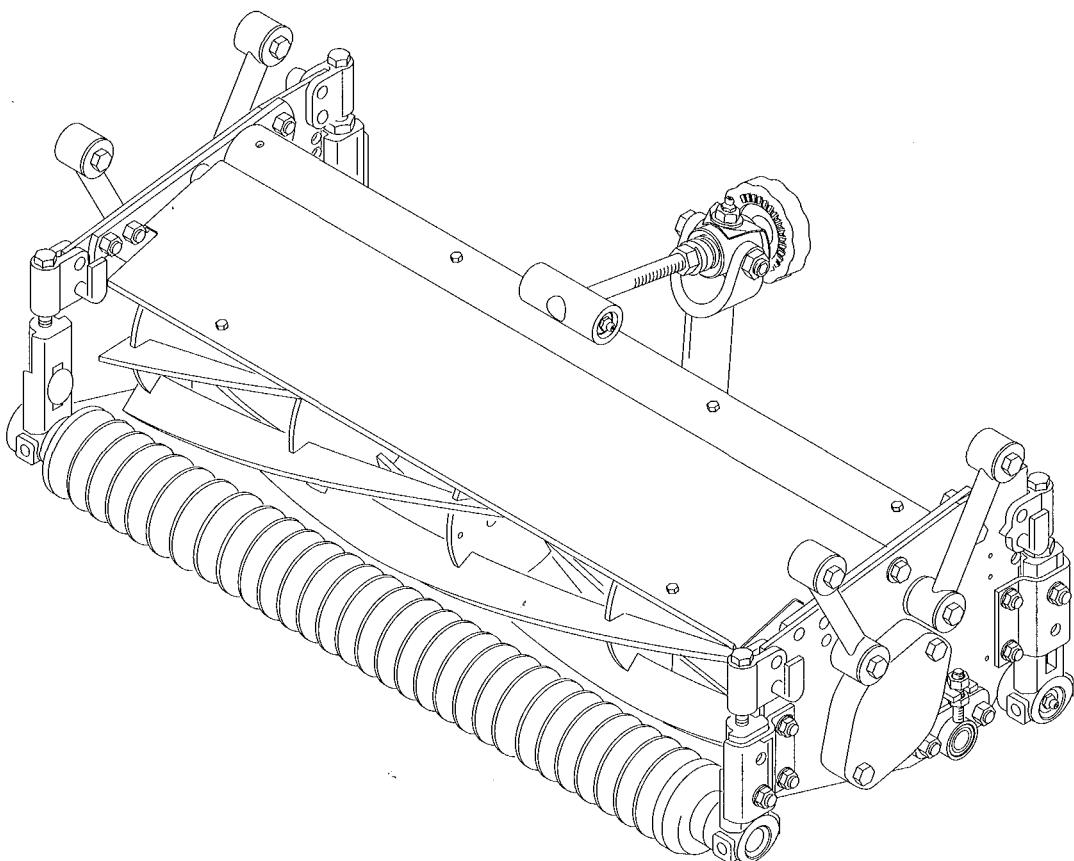
TORO[®]MODEL NO. 03461-50001 & UP
MODEL NO. 03462-50001 & UP**OPERATOR'S
MANUAL****5 & 8 BLADE CUTTING UNITS
(For Reelmaster[®] 2300D)**

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SPECIFICATIONS

Type of Cutter: All cutting units supported by equal length independent lift arms; interchangeable to all three cutting unit positions.

Construction: 5 or 8 blades, 7" (18 cm) diameter, welded to 5 stamped steel spiders. Reels mounted on greaseable self-aligning ball bearings.

Height-of-Cut: 1/4"–1–3/4" (6.4mm –44.4mm)

Frequency of Clip:

(With variable speed set to maximum rpm)

5 blade @880 reel rpm @ 4 mph (6.4 km/h)
.96" (24.4 mm) clip.

5 blade @880 reel rpm @ 5 mph (8 km/h)
1.19" (30.3 mm) clip.

8 blade @880 reel rpm @ 4 mph (6.4 km/h)
.60" (15.2 mm) clip.

8 blade @880 reel rpm @ 5 mph (8 km/h)
.75" (19.1 mm) clip.

Bedknife to Reel Adjustment: Single knob screw adjustment for bedknife to reel, located at center of bedbar. Adjustment knob detent with .001 movement of bedknife for each indexed position.

Suspension System: Fully floating with adjustable spring counterbalance. L-I-N-K-S™ cutting unit suspension system provides fore and aft oscillation. Main center pivot allows side-to-side oscillation. With optional Fixed Kit, Part No. 93-6915, cutting units can be locked into fixed (fore/aft) position for use without front roller.

Cutting Unit Lift: Hydraulic lift with automatic reel shut off. All units are controlled from one lever.

Optional Equipment:

Full Roller Kit	Model No. 03440
Sectional Roller Kit	Model No. 03445
Wiehle Roller Kit	Model No. 03450
Anti-Scalp Kit	Model No. 03447
Grass Basket Kit	Model No. 03443
Roller Scraper Kit	Part No. 60-9560
Comb Kit	Part No. 67-9400
Fixed Kit	Part No. 93-6915
Skid Kit	Part No. 94-3664

Specifications and design subject to change without notice.

ADJUSTING CUTTING UNITS

IMPORTANT: Read this Operator's Manual thoroughly before operating cutting unit. Failure to do so may result in damage to the cutting unit.

After the cutting unit is unboxed, use the following procedures to assure the cutting units are adjusted properly.

1. Check each end of the reel for grease. Grease should be visibly evident in the reel bearings.
2. Insure that all nuts and bolts are securely fastened.
3. Adjust bedknife to reel.
4. Adjust front roller.
5. Level rear roller.
6. Set set height-of-cut.

MOUNT FRONT ROLLER (Fig. 1)

1. Remove (2) locknuts securing each angle bracket to cutting unit.

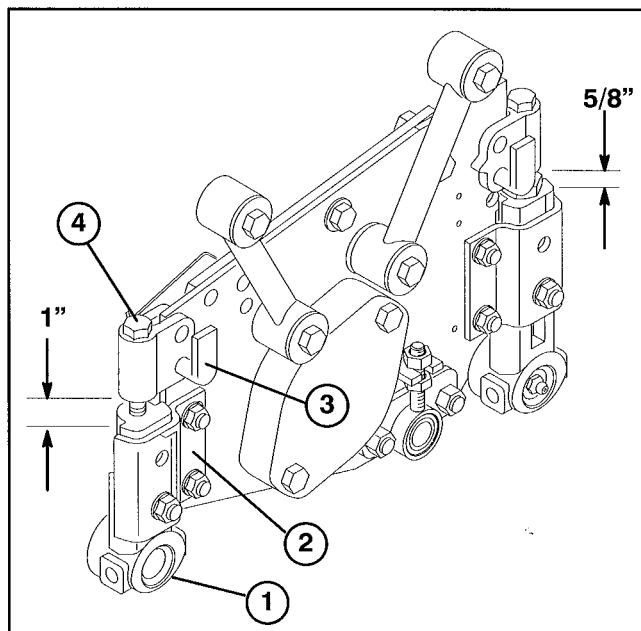


Figure 1

1. Roller bracket
2. Angle bracket
3. Height-of-cut pin
4. Support capscrew

2. Remove height-of-cut pins.
3. Insert smaller dia. shaft end of roller into white bushing in roller bracket, making sure flanged end of nylon bushing faces inside toward roller. **Hex of roller bracket must mate with hex of adjustment nut.**
4. Press roller bracket onto other shaft end of roller. **Hex of roller bracket must mate with hex of adjustment nut.**
5. Hold one roller bracket stationary and use other bracket as a wrench to loosen or tighten bearing clearance to allow roller to rotate freely and to eliminate bearing end play.

6. Roller brackets must be aligned for installation onto cutting unit. If necessary to align after bearing adjustment, remove roller bracket on side with flanged nyliner, align with opposite roller bracket within \pm one hex flat and replace.

7. Reinstall Height-of-Cut pins.
8. Reinstall (2) locknuts securing each angle bracket to cutting unit.

SET HEIGHT OF CUT AND LEVEL REAR ROLLER (Fig. 1)

1. Position cutting unit on a flat level table or board.
2. Slightly loosen (crack) nut securing each roller bracket to angle bracket.
3. Adjust support capscrew to achieve 1" \pm 1/16 dimension between Height-of-Cut support and front roller bracket (2 places).
4. Adjust support capscrew to achieve 5/8" \pm 1/16 dimension between Height-of-Cut support and rear roller bracket (2 places).
5. Remove hairpin cotters securing rear Height-of-Cut pins and reinstall in the 1/2" setting as indicated on Height-of-Cut plate.
6. Remove hairpin cotters securing front Height-of-Cut pins and reinstall in the 1/4" setting as indicated on Height-of-Cut plate to allow clearance between roller and table.
7. Position a 1/2" or thicker bar under the reel blades and against the front face of the bedknife. Make sure bar covers the full length of reel blades.
8. Verify if rear roller is level, by inserting a piece of paper under each end of roller.
9. Level roller by adjusting appropriate support capscrew on rear roller supports until roller is parallel and entire length of roller contacts table.
10. When roller is level, adjust both rollers to desired Height-of-Cut pins. **Tighten nuts securing roller brackets.**

ADJUST BEDKNIFE PARALLEL TO REEL (Fig. 2-3)

1. Make sure reel contact is removed by turning bedknife adjustment knob counterclockwise (Fig. 2). Tip cutting unit to gain access to reel and bedknife (Fig. 3).
2. On either end of reel, insert a long strip of dry newspaper between reel and bedknife. While slowly rotating reel into bedknife, turn bedknife adjusting knob clockwise, one click at a time until paper is pinched lightly, which results in a slight drag when paper is pulled.

ADJUSTING CUTTING UNITS

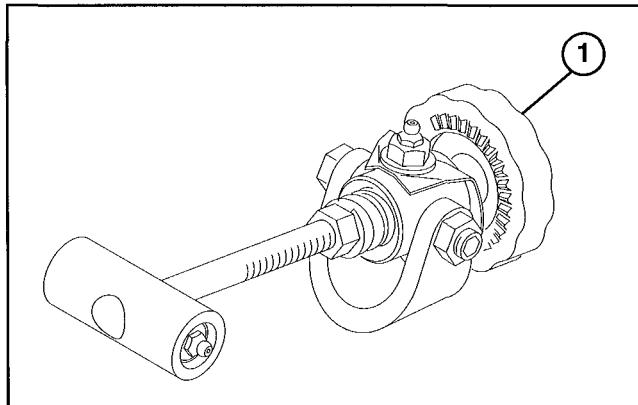


Figure 2
1. Bedknife adjusting screw

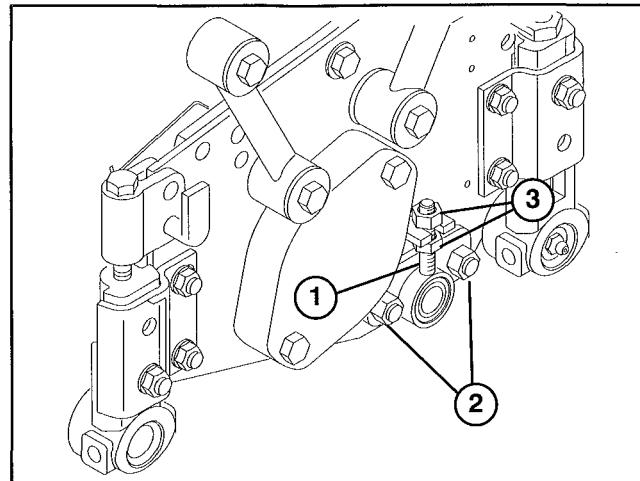


Figure 4

1. Bedbar adjuster
2. Carriage bolts
3. Adjustment nuts

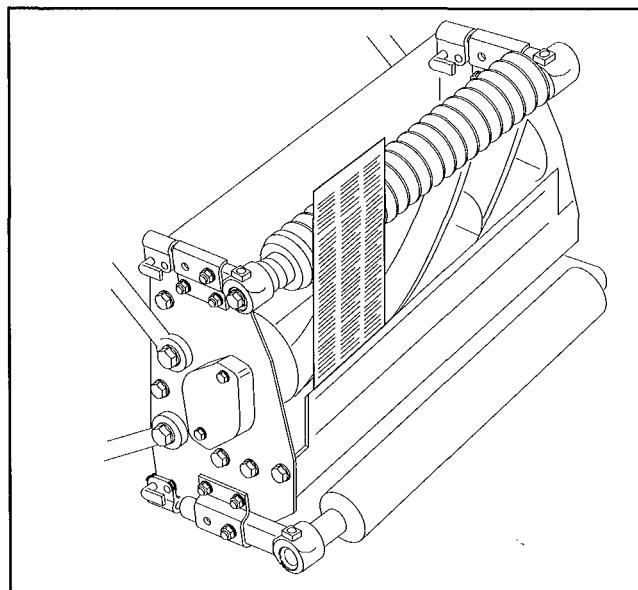


Figure 3

3. Check for light contact at other end of reel using paper. If light contact is not evident, proceed to next step.
4. Loosen (2) carriage bolts on bedbar adjuster (Fig. 4).
5. Adjust nuts to move bedbar adjuster up or down until paper is pinched along entire bedknife surface, when bedknife adjustment knob is adjusted to no more than two clicks beyond first contact of reel bedknife (Fig. 4).
6. Tighten nuts and carriage bolts and verify adjustment.

VERIFY HEIGHT-OF-CUT SETTING

(Fig. 5)

1. On gauge bar, set head of screw to desired Height-of-Cut. This measurement is from bar face to underside of screw head. Gauge bar (Toro Part No. 13-8199) may be obtained from your local Toro Distributor.

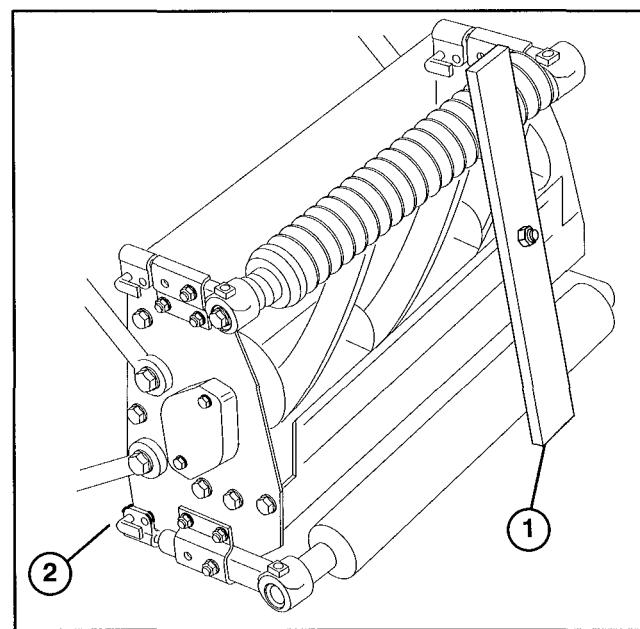


Figure 5

1. Gauge bar
2. Front roller support screw

2. Slightly loosen (crack) nut securing each front roller bracket to angle bracket.
3. Place the bar across the front and rear rollers and adjust the front roller support screws until the underside of screw head engages the bedknife cutting edge. Do this on both ends of reel.
4. Tighten nuts securing roller brackets.

OPERATING INSTRUCTIONS

CUTTING UNIT CHARACTERISTICS

The single knob bedknife-to-reel adjustment system incorporated in this cutting unit simplifies the adjustment procedure needed to deliver optimum mowing performance. The precise adjustment possible with the single knob/bedbar design gives the necessary control to provide a continual self-sharpening action — thus maintaining sharp cutting edges, assuring good quality-of-cut, and greatly reducing the need for routine backlapping.

In addition, the rear roller positioning system permits optimum bedknife attitude and location for varying height-of-cuts and turf conditions.

CUTTING UNIT DAILY ADJUSTMENTS

Prior to each day's mowing, or as required, each cutting unit must be checked to verify proper bedknife-to-reel contact. **This must be performed even though quality of cut is acceptable.**

1. Lower cutting units onto a hard surface, shut off engine and remove key from ignition.

2. Slowly rotate reel in reverse direction listening for reel-to-bedknife contact. If no contact is evident, turn bedknife adjusting knob clockwise, one click at a time, until light contact is felt and heard.

3. If excessive contact is felt, turn bedknife adjusting knob counterclockwise, one click at a time until no contact is evident. Then turn bedknife adjusting knob one click at a time clockwise, until light contact is felt and heard.

IMPORTANT: Light contact is preferred at all times. If light contact is not maintained, bedknife / reel edges will not sufficiently self-sharpen and dull cutting edges will result after a period of operation. If excessive contact is maintained, bedknife/reel wear will be accelerated, uneven wear can result, and quality of cut may be adversely affected.

Note: As the reel blades continue to run against the bedknife a slight burr will appear on the front cutting edge surface the full length of the bedknife. If a file is occasionally run across the front edge to remove this burr, improved cutting can be obtained.

After extended running, a ridge will eventually develop at both ends of the bedknife. These notches must be rounded off or filed flush with cutting edge of bedknife to assure smooth operation.

LUBRICATION

GREASING BEARINGS, BUSHINGS AND PIVOT POINTS

Each cutting unit has (8) grease fittings (with optional front roller installed) that must be lubricated regularly with No. 2 General Purpose Lithium Base Grease.

1. The grease fitting locations and quantities are: Bedknife adjuster (2) (Fig. 6); Reel bearings (inside sideplate), (2) and front and rear rollers (2 ea.) (Fig. 7)

IMPORTANT: Lubricating cutting units immediately after washing helps purge water out of bearings and increases bearing life.

1. Wipe each grease fitting with a clean rag.
2. Apply grease until pressure is felt against handle.
3. Wipe excess grease away.

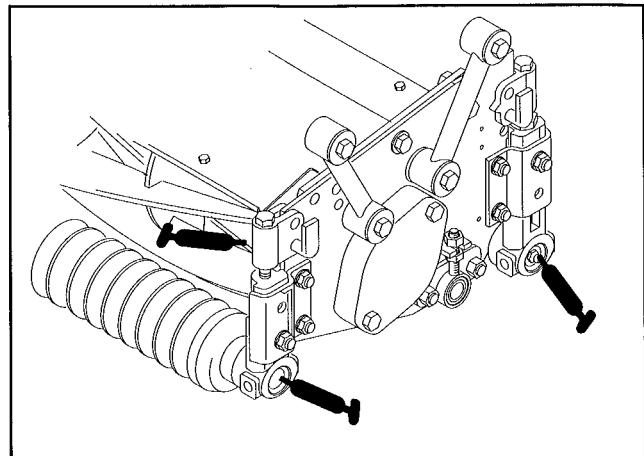


Figure 7

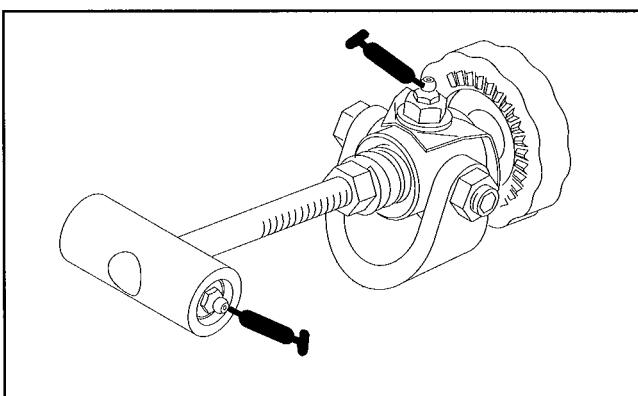


Figure 6

BACKLAPPING CUTTING UNITS



DANGER

TO AVOID PERSONAL INJURY OR DEATH:

- Never place hands or feet in reel area while engine is running.
- While backlapping, reels may stall and then restart.
- Do not attempt to restart reels by hand or foot.
- Do not adjust reels while engine is running.
- If reel stalls, stop engine before attempting to clear reel.

1. Position machine on a clean, level surface, lower the cutting units, stop the engine, engage parking brake and remove key from ignition switch.
2. Unlatch and raise hood to expose controls.
3. Rotate backlap knob, on valve block, clockwise to backlap position. Rotate reel speed knob to position 1.
4. Make initial reel to bedknife adjustments appropriate for backlapping on all cutting units. Start engine and set engine to low idle speed.
5. Engage reels by pulling out knob on instrument panel.

6. Apply lapping compound with long handled brush supplied with machine.



CAUTION

Be careful when lapping the reel because contact with the reel or other moving parts can result in personal injury.

7. To make an adjustment to the cutting units while backlapping, turn reels OFF by pushing in on knob on instrument panel and turning engine OFF. After adjustments have been completed, repeat steps 4–6.
8. When backlap operation is completed, rotate backlap knob counter clockwise to MOW position, set reel speed controls to desired mowing setting and wash all lapping compound off cutting units.

Note: Additional instructions and procedures on Backlapping are available in the TORO Sharpening Reel & Rotary Mowers Manual Form No. 80-300PT.

NOTE: For a better cutting edge, run a file across the front face of the bedknife when the lapping operation is completed. This will remove any burrs or rough edges that may have built up on the cutting edge.

The Toro Promise

A One Year Limited Warranty

The Toro Company promises to repair your TORO Product if defective in materials or workmanship. The following time periods from the date of purchase apply:

Commercial Products **1 Year**

The cost of parts, labor and transportation are included.

If you feel your TORO Product is defective and wish to rely on The Toro Promise, the following procedure is recommended:

1. Contact your Authorized TORO Distributor or Commercial Dealer (the Yellow Pages of your telephone directory is a good reference source).
2. The TORO Distributor or Commercial Dealer will advise you on the arrangements that can be made to inspect and repair your product.
3. The TORO Distributor or Commercial Dealer will inspect the product and advise you whether the product is defective and, if so, make all repairs necessary to correct the defect without an extra charge to you.

If for any reason you are dissatisfied with the distributor's analysis of the defect or the service performed, you may contact us.

Write:

TORO Commercial Products Service Department
8111 Lyndale Avenue South
Minneapolis, MN 55420

The above remedy of product defects through repair by an Authorized TORO Distributor or Commercial Dealer is the purchaser's sole remedy for any defect.

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.

This Warranty applies only to parts or components which are defective and does not cover repairs necessary due to normal wear, misuse, accidents, or lack of proper maintenance. Regular, routine maintenance of the unit to keep it in proper operating condition is the responsibility of the owner.

All warranty repairs reimbursable under The Toro Promise must be performed by an Authorized Toro Commercial Dealer or Distributor using Toro approved replacement parts.

Repairs or attempted repairs by anyone other than an Authorized TORO Distributor or Commercial Dealer are not reimbursable under the TORO Promise. In addition, these unauthorized repair attempts may result in additional malfunctions, the correction of which is not covered by warranty.

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 EQUIPMENT 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.

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.