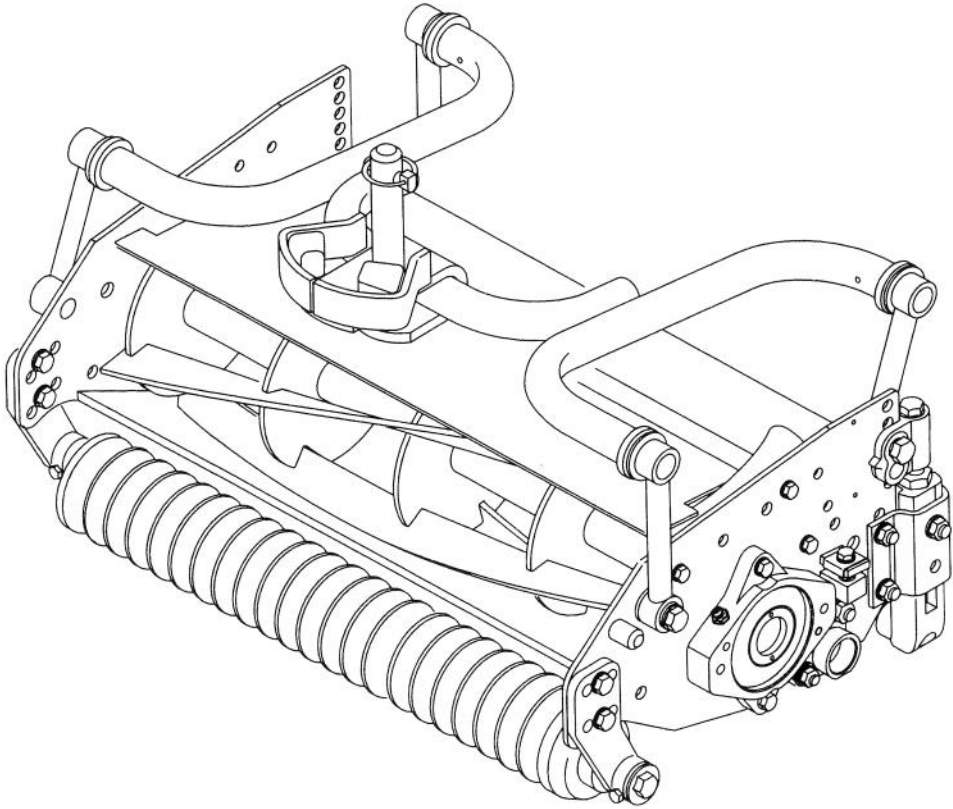




MODEL NO. 03854—60001 & UP  
MODEL NO. 03856—60001 & UP

**OPERATOR'S  
MANUAL**

**5- & 11-BLADE REELS**  
(For Reelmaster® 6000-D)



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## Safety Instructions

**REEL CONSTRUCTION:** Fairway reels. All welded. 5 or 11 blades.

**HEIGHT OF CUT RANGE:**

5 Blade—19mm to 32mm

11 Blade—9.5mm to 19mm

**REEL DIAMETER:** 17.8 cm

**POWER:** Reel motors feature quick disconnect for removal or installation onto the cutting unit. Cutting units can be driven from either end.

**HEIGHT-OF-CUT & ROLLER ADJUSTMENT:**

Height-of-cut adjustment is made at the rear roller with the quick locating pin and/or threaded micro-adjustment. The front roller position is adjustable to 3 locations to set cutting unit attitude.

**BEDKNIFE AND BEDBAR ADJUSTMENT:** Single-point adjustment mechanism.

**CLIP FREQUENCY:** 9.5mm–31.7mm.. Reel speed automatically adjusts to maintain proper clip. Reel speed is continuously calculated based on the current

forward speed and the pre-set reel type and height of cut.

**ROLLERS:**

**Front rollers:** 7.6 cm-diameter Wiehle rollers.

Replacement 7.6 cm-diameter full rollers, Part No. 93-3040, are available for the front position.

**Rear rollers:** 6.25 cm-diameter full rollers. All rollers use the same heavy duty ball bearings with two conventional single lip seals and a Toro labyrinth seal to provide four sealing surfaces to protect the bearings.

**ROLLER SCRAPER KITS:**

Front Roller Scraper Kit, P/N 93-2967.

Rear Roller Scraper Kit, P/N 93-2962.

# Adjusting The Cutting Units

**IMPORTANT: Read this Operator's Manual thoroughly before operating the 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 and internal splines of the reel shaft.
2. Insure that all nuts and bolts are securely fastened.
3. Adjust the bedknife to the reel.
4. Adjust the front roller.
5. Level the rear roller.
6. Set the height-of-cut.

## ADJUSTING THE BEDKNIFE TO THE REEL (Fig. 1–3)

1. A 19 mm (3/4 inch) wrench will be needed to rotate the bedknife adjustment knob. Each notch on the knob will move the bedknife .0005 inches (.013 mm) (Fig. 1).
2. Tip cutting unit rearward to gain access to the reel and bedknife (Fig. 2).
3. On either end of the reel, insert a long strip of dry newspaper between the reel and bedknife. While slowly rotating the reel into the bedknife, turn bedknife adjusting knob clockwise, one click at a time until the paper is pinched lightly, which results in a slight drag when the paper is pulled.
4. Check for light contact at the other end of the reel using paper. If light contact is not evident, go to the next step.
5. Slightly loosen (crack) the (2) locknuts securing the pivot hub to the left sideplate (Fig. 3).
6. Rotate the pivot hub adjusting screw until a slightly larger gap exists between the reel blades and the bed knife on the left end than on the right end (Fig. 3).

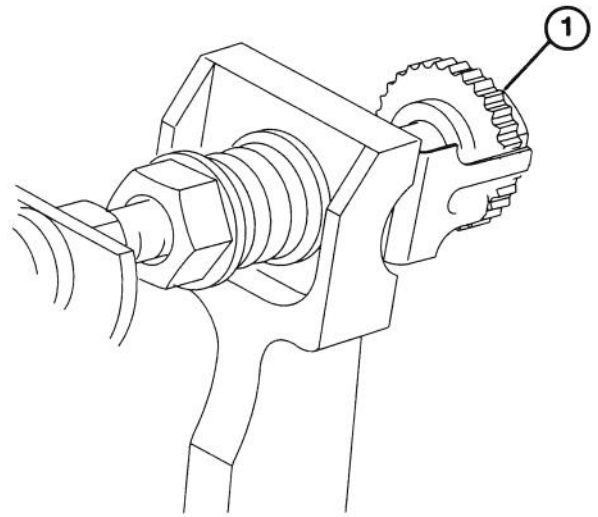


Figure 1

1. Bedknife adjusting knob

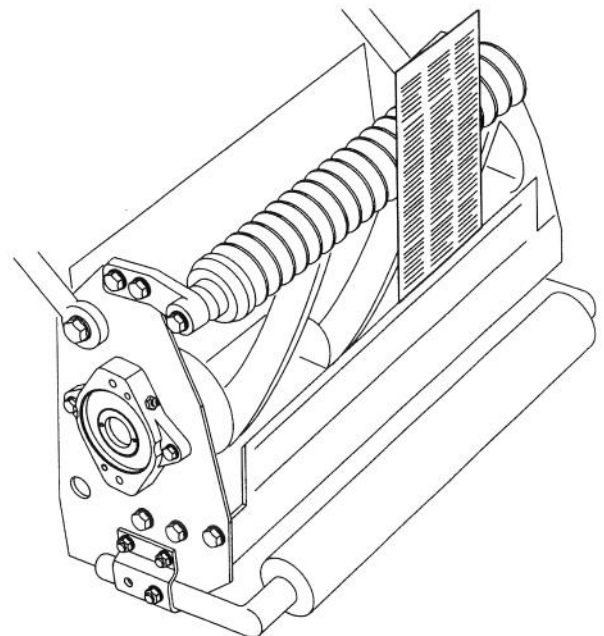


Figure 2

7. On the right end of the reel, insert a long strip of dry newspaper between the reel and bedknife. While slowly rotating the reel into the bedknife, turn the bedknife adjusting knob clockwise, one click at a time until the paper is pinched lightly, which results in a slight drag when the paper is pulled.
8. Rotate the pivot hub adjusting screw until the gap between the reel blades and bedknife is equal on both ends.
9. Tighten the locknuts securing the pivot hub to the left side-plate and verify adjustment.

## ADJUSTING THE FRONT ROLLER

The front roller has three mounting positions. Use the following chart to determine the desired location of the roller.

Roller Position	Bedknife Position	Application
A	Behind Reel Center Line	Aggressive Mowing
B	Mid Point	Normal Mowing
C	Ahead of Reel Center Line	Less Aggressive Cutting Action

**Note:** Cutting units are shipped from the factory with the front roller mounted in the B (Middle) position.

When repositioning or installing a front roller to the cutting unit, proceed as follows:

1. Position the cutting unit on a flat level surface.
2. Align the roller bracket mounting holes to the cutting unit side plate's mounting holes.
3. Loosely secure each roller bracket to the side plates with (2) flange-head capscrews and locknuts. Position the roller as shown in Figure 4. Position the capscrew heads on the outside of the roller brackets.
4. Push rearward on the roller, hold the mounting capscrews stationary and tighten the nuts. Do not turn the capscrews; doing so may alter the roller adjustment.

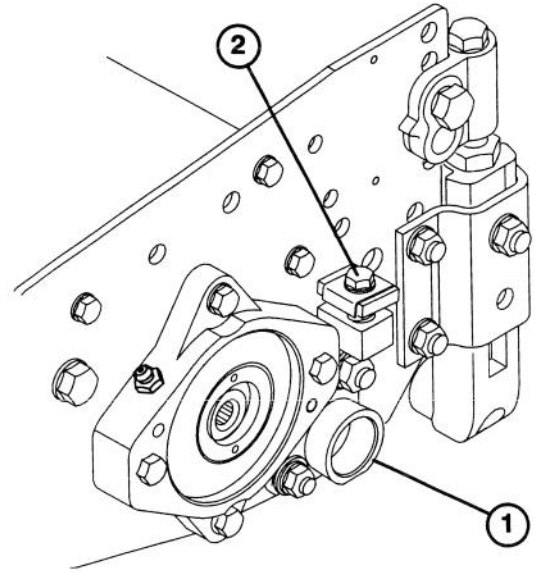


Figure 3

1. Pivot hub
2. Adjusting Screw

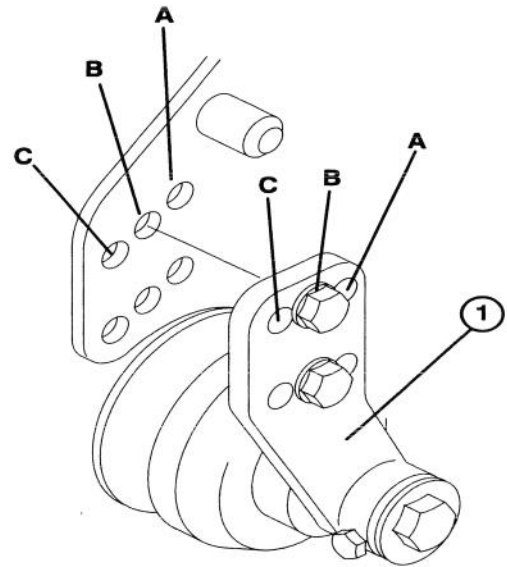


Figure 4

1. Roller bracket

# LEVELING THE REAR ROLLER

**IMPORTANT:** The rear roller must be leveled before setting the height of cut. For initial set-up of the cutting unit, set the quick height-of-cut pins in the lower holes of height-of-cut supports and through the #3 hole in the cutting unit side plate (Fig. 9).

1. Position the cutting unit on a flat level surface.
2. Slightly loosen (crack) the nut, on each side of the cutting unit, securing the angle bracket to the roller bracket.

**Note:** Do not tighten the quick height-of-cut pin beyond 25–30 in.lb.

3. Position a 1/2" (13mm) or thicker bar under the reel blades and against the front face of the bedknife. Make sure the bar covers the full length of the reel blades.
4. Adjust the capscrew on each side of cutting unit to attain proper distance between the height-of-cut support and the rear roller bracket. Refer to figures 6 & 7 for the required distance between the height-of-cut support and the rear roller bracket (dimension X in figure 7) per front roller mounting location.

Front Roller Position	Distance Between the Height-of-Cut Support and Rear Roller Bracket (Dimension X in Figure 7)
A	24 mm
B	16 mm
C	13 mm

Figure 6

5. Continue to adjust the height-of-cut capscrew to achieve contact between the table surface and each end of the roller. The final gap between the height-of-cut support and the rear roller bracket may vary slightly from those listed in the chart due to manufacturing tolerances.

# SET HEIGHT OF CUT

The height-of-cut adjustment is made by moving the rear roller up or down, after leveling the rear roller to the reel. This can be done by using the adjusting screw or the quick height-of-cut locating pin (Fig. 5).

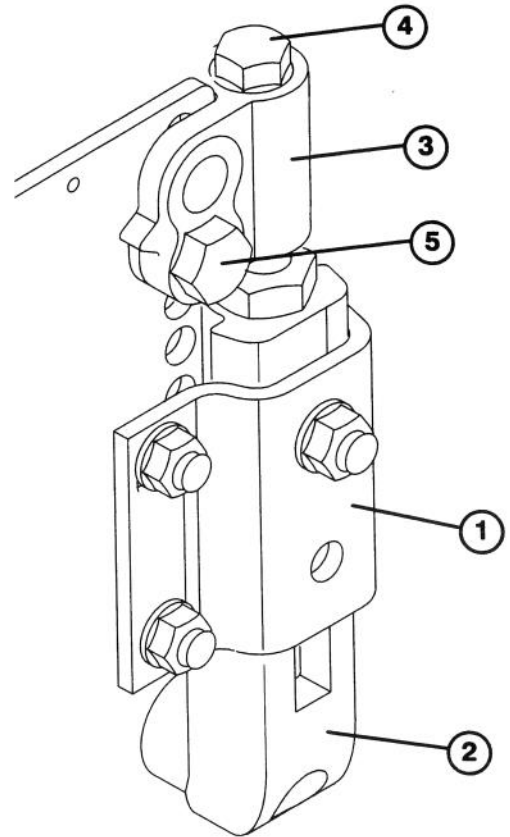


Figure 5

1. Angle bracket
2. Roller bracket
3. Height-of-cut support
4. Height-of-cut adjusting screw
5. Quick height-of-cut pin

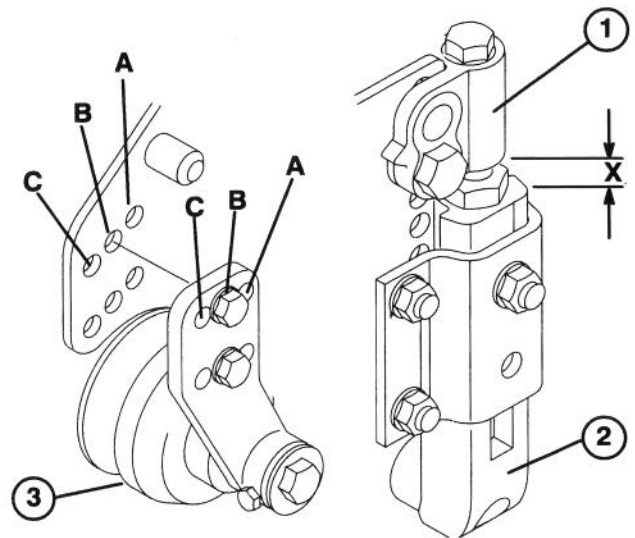


Figure 7

1. Height-of-cut support
2. Roller bracket
3. Front roller

The following chart shows the height-of-cut settings that can be achieved by installing the quick height-of-cut pin in the different hole combinations.

If height-of-cut settings other than those shown in figure 8 are desired, adjust the rear roller position by adjusting the screw on each end of the cutting unit.

Height of Cut	Height- of-Cut Hole in Support		Side Plate Hole					
	Upper	Lower	1	2	3	4	5	6
9mm	X		X					
13mm		X			X			
16mm	X			X				
19mm		X				X		
22mm	X				X			
25mm		X					X	
28mm	X					X		
31mm		X						X

Figure 8

## VERIFY THE HEIGHT-OF-CUT SETTING

1. On a gauge bar, set the head of the screw to the desired height-of-cut. This measurement is from the bar face to the underside of the screw head.
2. Place the bar across the front and rear rollers and adjust the rear roller up or down until the underside of the screw head engages the bedknife edge. Do this on both ends of the reel.

## ADJUST GRASS SHIELD AND FINS

Adjust the grass shield and/or shield fin angle for desired grass clippings dispersion.

1. Position the cutting unit on a flat level surface.
2. To adjust the fins, unhook and move the front mounting tab to the straight-ahead or angled position slot.
3. To change the grass shield angle, loosen the flange-head capscrew securing the shield to the left side plate, move the shield to the desired angle and tighten the screw.

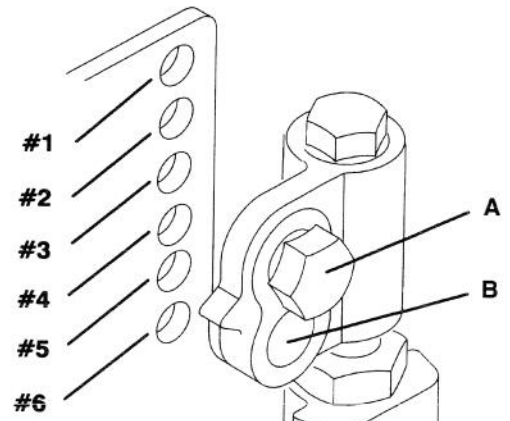


Figure 9

- A. Upper  
B. Lower

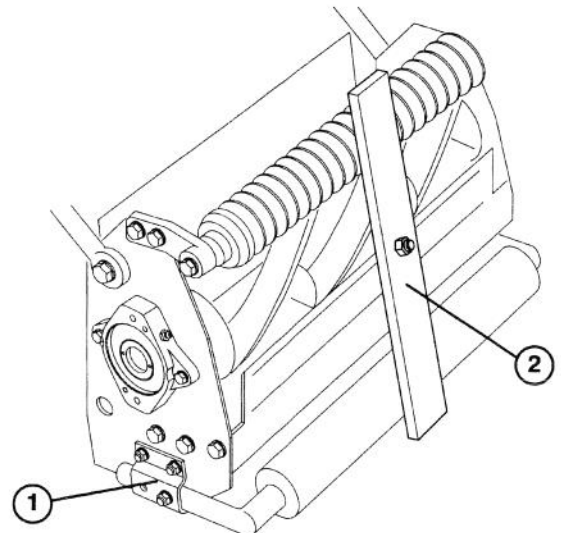


Figure 10

1. Gauge bar  
2. Front roller support screw

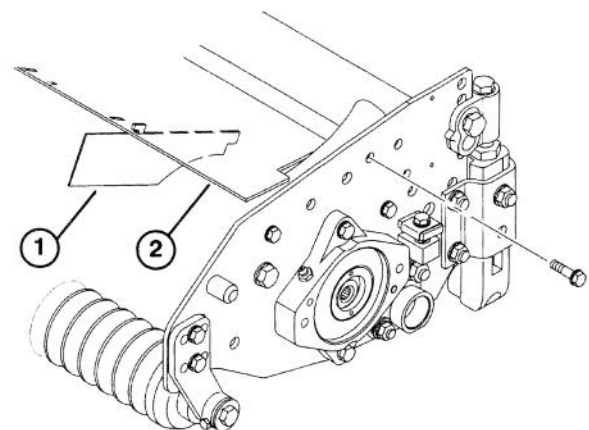


Figure 11

1. Shield fin  
2. Grass shield

# Backlapping The Cutting Units



## DANGER

### TO AVOID PERSONAL INJURY OR DEATH:

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



## CAUTION

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

**Note:** Backlap either the front cutting units together or the rear ones together.

1. Position the machine on a clean, level surface, lower the cutting units, stop the engine, engage the parking brakes, move the enable/disable switch to the disable position and remove the key from the ignition switch.
2. Unlock and raise the seat to expose the controls.
3. Make initial reel-to-bedknife adjustments appropriate for backlapping on all cutting units. Start the engine and set it to low idle speed.
4. Set the reel speed control to Position P. Select either the front or rear on the backlap switch to determine which units to backlap.
5. Move the enable/disable switch to the enable position. Move the lower mow/raise lever forward to start backlapping operation on designated reels.
6. Apply lapping compound with the long-handled brush supplied with the machine.



7. To make an adjustment to the cutting units while backlapping, turn reels OFF by moving the Lower mow/Raise lever REARWARD. Move the Enable/Disable switch to DISABLE and turn the engine OFF. After adjustments have been completed, repeat steps 3–6.
8. Repeat the procedure for the remaining cutting units.
9. When backlap operation is completed, return the backlap switch to OFF, set the reel speed controls to the desired mowing setting and wash all lapping compound off the 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.

## GREASING THE BEARINGS, BUSHINGS AND PIVOT POINTS

Each cutting unit has (6) grease fittings (Fig. 12) that must be lubricated regularly with No. 2 General Purpose Lithium Base Grease. The grease fitting locations and quantities are: reel bearings (2) and front and rear rollers (2 each)

**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 cloth.
2. Apply grease until pressure is felt against the handle.

**IMPORTANT:** Do not apply too much pressure or grease seals will be permanently damaged.

3. Wipe away excess grease.

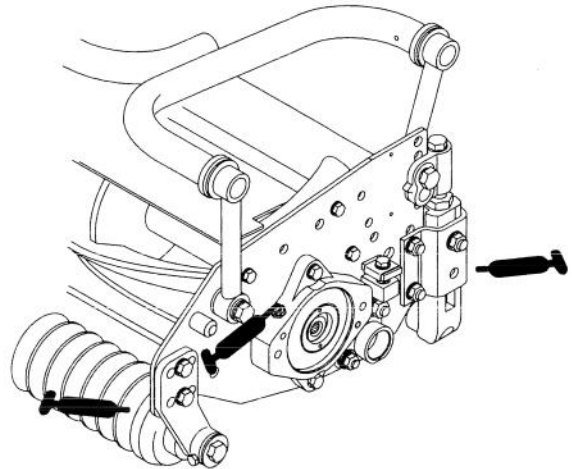


Figure 12