

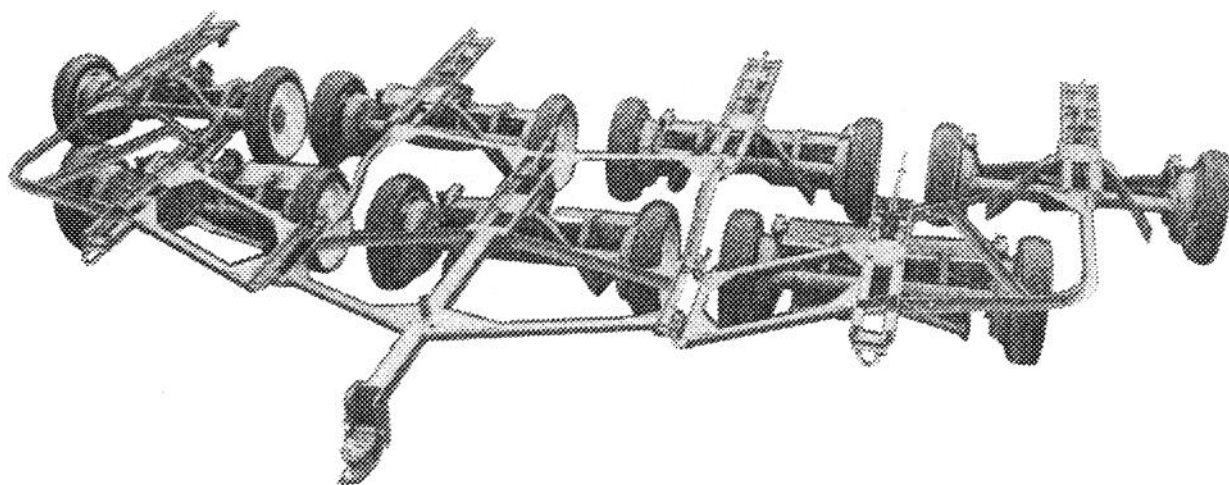


3 UNIT MODEL NO. 33145  
3-5 CONVERSION MODEL NO. 33155  
5-7 CONVERSION MODEL NO. 33165  
9 UNIT MODEL NO. 33855

**OPERATOR'S  
MANUAL**

**REELMASTER™ UNIVERSAL FRAME**

(3 - 5 - 7 & 9 UNIT)



# FOREWORD

The REELMASTER™ Universal Frame was developed to meet the ever increasing demand for fine turf-grass mowing and proper turf care.

Because the REELMASTER™ Universal Frame is a high quality turf-care machine produced with the most advanced concepts of engineering and design, Toro is concerned about the future use of the machines and safety of the users. Therefore, those persons involved with all aspects of use and maintenance of these machines should read this manual to familiarize themselves with safety, proper set-up, operation and maintenance instructions.

Safety, mechanical and some general information in this manual is emphasized. DANGER, WARNING and CAUTION identify safety messages. Whenever the triangular safety symbol appears, it is followed by a safety message that must be read and understood. More complete details on safety are covered on page 3. IMPORTANT identifies special mechanical information and NOTE identifies general information worthy of special attention.

Contact the local Authorized TORO Distributor if help concerning set-up, operation, maintenance or safety is ever needed. The local Authorized TORO Distributor is stocked with genuine TORO replacement parts and optional equipment for the complete line of TORO turf care equipment. Keep your TORO all TORO. Buy genuine Toro parts and accessories.

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# SAFETY INSTRUCTIONS



This 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.

The REELMASTER™ Universal Frame is designed, engineered and tested to offer reasonably safe and effective service. However, improper use or maintenance of the machine can result in injury. Compliance with the following safety instructions will reduce the potential for injury.

## BEFORE OPERATING

1. Read and understand the contents of this manual before operating the machine. A free replacement manual is available by sending complete Model and Serial Number to:

The Toro Company  
8111 Lyndale Ave. So.  
Minneapolis, MN 55420

2. Keep all shields and safety devices in place. If a shield, safety device, or decal is defective or damaged, repair or replace it before operation is commenced. Tighten any loose nuts, bolts and screws to make sure machine is in safe operating condition.

3. Do not operate machine while wearing sandals, tennis shoes, sneakers or shorts. Also, do not wear loose fitting clothing because it could get caught in

moving parts. Always wear long pants and substantial shoes. Wearing safety glasses, safety shoes and a helmet is advisable and required by some local ordinances and insurance regulations.

4. Never carry passengers on either the tractor or the frame.

5. Use of this machine demands complete operator attention. To prevent loss of control and machine damage:

- A. Mow and transport only in daylight or when there is good artificial light.
- B. Watch for holes or other hidden hazards, in terrain.
- C. Be careful when near sand traps, ditches, water holes, creeks or other hazards.
- D. Reduce speed when making sharp turns and when turning on a hillside.
- E. Avoid sudden stops and starts.
- F. Do not exceed 6 MPH (9.7 Km/hr) during mowing or transport operation. Operate more slowly while traveling over rough terrain or in adverse weather conditions.

6. Make sure frame is parked on a level surface when disconnecting from tow tractor so it does not move.

7. Refer to operators manual for tractor or tow unit for complete operating and safety instructions pertaining to that unit.

8. If major repairs are ever needed or assistance is desired contact an Authorized TORO Distributor.

# SPECIFICATIONS

**Cutting Units:** 3, 5, 7 and 9.

**Width of Cut:**

- 3 Unit – approximately 7'
- 5 Unit – approximately 11'1/2"
- 7 Unit – approximately 16'
- 9 Unit – approximately 21'1/2"

**Overall Width-Cutting Position:**

	Mowers with Iron Wheels	Mowers with Rubber Wheels
3 Unit	7'10"	8'2"
5 Unit	12'4"	12'8"
7 Unit	16'10"	17'2"
9 Unit	21'4"	21'8"

**Overall Length-Cutting Position:**

3, 5 or 7 Unit	10'
9 Unit	11'8"

**Cutting Unit:** Reelmaster Cutting Unit or Spartan Cutting Unit. Spartan cutting unit will require (2) of 5-1090 drawbar clamp, and fasteners, per unit.

**Frame:** Welded, fabricated construction, with structural sections and tubing. Flexible attachment allows mowers to follow contour of terrain; ball

socket hinge joints for the number 4 and 5 wing units, with other units utilizing a U-Bolt and eyelet for positive attachment. Conversion kits available to expand frame for 3 to 5 and 5 to 7 cutting units. The 9 unit frame includes a different center frame section, with no conversion kit available.

Each cutting unit rear roller may be raised from ground, for transport. Stand provided, at coupler, for easy attachment to tow tractor. Cutting units may be used with 14 inch to 18 inch diameter wheels.

**OPTIONAL EQUIPMENT:**

**Trailing Hitch:** Tool less, snap hook, and attachment fasteners, used in place of the u-bolt attachment. This feature allows the frame sections to be placed and track within an eight foot width for transport purposes, and also mow between obstructions with limited distance.

**Ball Coupler Kit, 53-9760:** A ball type coupler assembly, and 2-5/16 diameter ball, rated for 9,900 pound capacity. Coupler bolts directly to frame and replaces the standard clevis type hitch.



## LOOSE PARTS

ITEM NO.	PART DESCRIPTION	APPLICATION	3 UNIT	5 UNIT	7 UNIT	9 UNIT
1	Frame Support	Supports center frame when not mounted on tractor	1	1	1	1
2	Cotter Pin – 5/16 x 3"	Secures Frame Support to center frame	1	1	1	1
3	Drawbar (Stationary)	Attaches cutting units to 3 Unit Center Frame & all trail units	3	3	5	5
4	Drawbar (Pivoting)	Attaches cutting units to 9 unit center frame & all wing units	–	2	2	4
5	Locknut – 1/2 - 13	Mounts cutting units to Drawbar Assy.	6	10	14	18
6	Spacer		6	10	14	18
7	Capscrew – 1/2-13 x 2-1/2"		6	10	14	18
8	Capscrew – 1/2-13 x 1-1/4"	Mounts Drawbar Assy's. (Stationary & Pivoting) to center frame, wing, and trailing units	12	20	28	36
9	Locknut – 1/2-13		12	20	28	36
10	Cotter Pin – 1/8 x 3/4"	Secures lift chains to cutting units	3	5	7	9
11	Shackle		3	5	7	9
12	Clevis Pin – 3/8 x 1-1/2"		3	5	7	9
13	U-Bolt	Connects trailing units to center frame	2	2	2	3
14	Locknut – 1/2-13		4	4	4	5
15	Capscrew – 1/2-13 x 1-1/4"	Secures hinge to center frame	–	8	8	8
16	Locknut – 1/2-13		–	8	8	8
17	Hinge Socket (left)	Mounts left wing unit to center frame	–	2	2	2
18	Hinge Socket (right)	Mounts right wing nut to center frame	–	2	2	2
19	Grease Fitting	Mount to hinge cap	–	4	4	4
20	Hinge Cap	Mount wing units to center frame	–	4	4	4
21	Hinge Clamp Bolt		–	4	4	4
22	Lockwasher – 1/2"		–	4	4	4
23	Cotter Pin – 3/32 x 3/4"		–	–	4	4
24	Capscrew – 1/2 - 13 x 1"	Mounts wing extensions to wing units	–	–	12	12
25	Locknut – 1/2 - 13		–	–	12	12
26	U-Bolt	Mount trailing units to wing extensions	–	–	2	2
27	Locknut – 1/2 - 13		–	–	4	4
28	Pointed Hitch Pin	Connect hitch to tractor	1	1	1	1
29	Hairpin Cotter		1	1	1	1
30	Hitch Extension	Extends hitch	1	1	1	1
31	Frame Tongue Member	Mounts to center frame	–	–	–	2
32	Capscrew – 1/2 - 13 x 2-1/2"	Mounts tongue member to center frame	–	–	–	6
33	Locknut – 1/2 - 13		–	–	–	6
34	Hitch Bracket	Mounts to center frame	–	–	–	1
35	Capscrew – 1/2 - 13 x 2-1/4"	Mounts hitch bracket to center frame	–	–	–	6
36	Locknut – 1/2 x 13		–	–	–	6

# ASSEMBLY

**Note:** Remove parts from shipping container and lay out all hardware and fasteners to ease assembly. Use loose parts chart and illustration to identify and locate parts.

## 3 UNIT ASSEMBLY (Fig. 2)

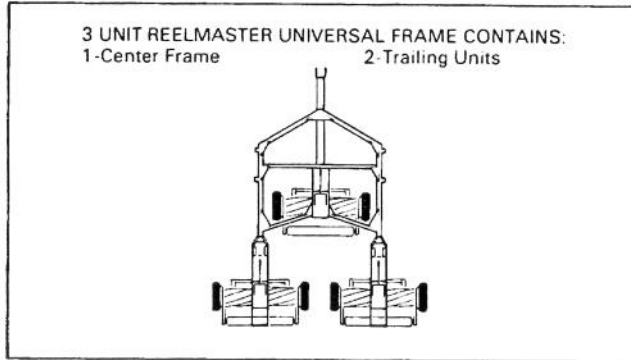


Figure 2

## Install Drawbars to Reelmaster Cutting Units

1. Align holes in stationary (non pivoting) drawbars with brackets on mower crosstube. Secure each side with 1/2-13 x 2-1/2" lg. capscrew, spacer, and 1/2-13 locknut. Position capscrew heads to the inside of brackets when mounting. Use same procedure on remaining stationary drawbars.

**Note:** If Spartan mowers are to be attached, drawbar clamps, part no. 5-1090 and mounting fasteners will be required to mount drawbar to cross tube of mower (Fig. 3). Contact your local Authorized Toro Distributor to order parts or for assistance.

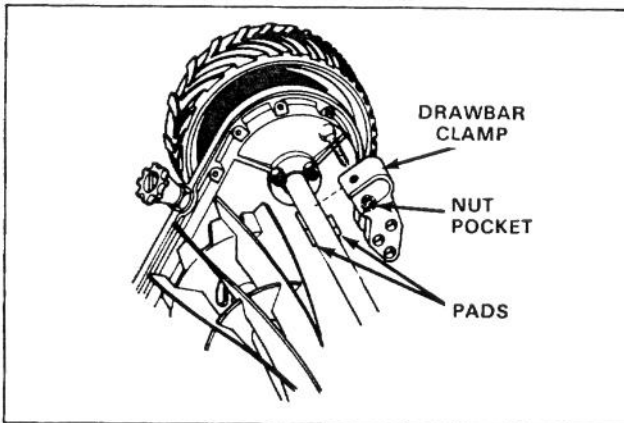


Figure 3

4. Install lift chain to mower 1/8 x 3/4 cotter pin, shackle, and 3/8 x 1-1/2 clevis pin.

## Install Trailing Frames

1. Align mounting holes in trailing frame with holes in drawbar/cutting unit. Secure with 1/2-13 x 1-1/4" lg. capscrews and 1/2-13 locknuts.

2. Install lift chain from trailing unit to mower with 1/8 x 3/4 cotter pin, shackle and 3/8 x 1-1/2 clevis pin. Repeat assembly procedure to remaining trailing units.

3. Connect trailing units to rear corners of center frame with U-bolts and 1/2-13 locknuts.

4. Lubricate all moving parts of frame; refer to lubrication, page 12.

## 3 TO 5 UNIT CONVERSION (Fig. 4)

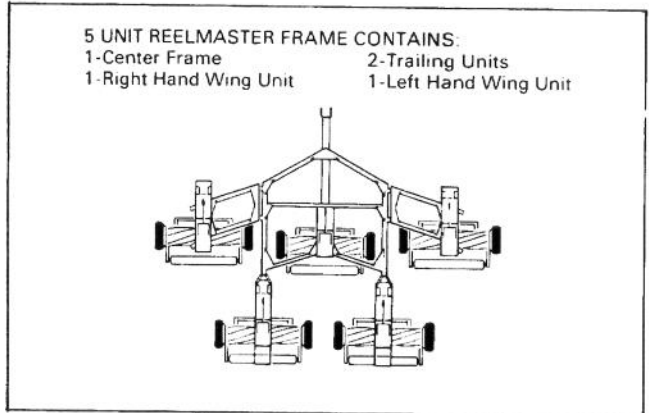


Figure 4

## Install Drawbars to Cutting Units

1. Align holes in pivoting drawbar with brackets on mower crosstube. Secure each side with 1/2-13 x 2-1/2" lg. capscrew, spacer, and 1/2-13 locknut. Position capscrew head to the inside of bracket when mounting. Use same procedure on remaining pivoting drawbar.

## Install Wing Units

1. Align mounting holes in wing units with mounting holes in drawbar/cutting units. Secure with 1/2-13 x 1-1/4" lg. capscrews and 1/2-13 locknuts.

2. Install lift chains from wing units to mower with 1/8 x 3/4 cotter pins, shackles, and 3/8 x clevis pins.

3. Attach (2) left hand and (2) right hand hinge sockets to respective sides of center frame with 1/2-13 x 1-1/4" lg. capscrews and 1/2-13 locknuts. The ball socket openings should be facing toward the front of the frame.

4. Install a grease fitting into each hinge cap.

5. Install a hinge clamp bolt and lockwasher into each hinge cap.

6. Move wing nuts into position so hinge balls are inserted into hinge sockets.

# ASSEMBLY

7. Position hinge caps over hinge balls and tighten hinge clamp bolts. Secure hinge clamp bolt with 3/32 x 3/4 cotter pin.

8. Lubricate all grease fittings and moving parts of frame members; refer to lubrication, page 12.

## 5 TO 7 UNIT CONVERSION

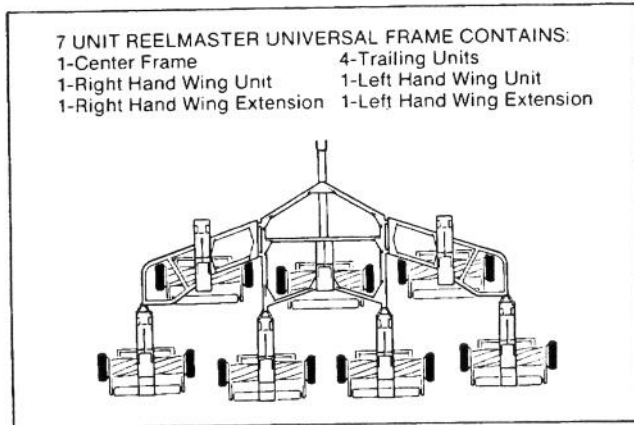


Figure 5

## Mount Wing Extensions to Wing Units

1. Align mounting holes of right and left wing extensions with mounting holes in respective wing units. Secure with 1/2-13 x 1" lg. capscrews and 1/2-13 locknuts.

## Install Drawbars to Cutting Units

1. Align holes in stationary (non pivoting) drawbars with brackets on mower crosstube. Secure each side with 1/2-13 x 2-1/2" lg. capscrew, spacer, and 1/2-13 locknut. Position capscrew heads to the inside of brackets when mounting. Use same procedure on remaining stationary drawbars.

## Install Trailing Frames

1. Align mounting holes in trailing frame with holes in drawbar/cutting unit. Secure with 1/2-13 x 1-1/4" lg. capscrews and 1/2-13 locknuts.

2. Install lift chain from trailing unit to mower mounting bracket with 1/8 x 3/4 cotter pin, shackle and 3/8 x 1-1/2 clevis pin. Repeat assembly procedure to remaining trailing units.

3. Connect trailing units to rear corner of each wing extension with U-bolts and 1/2-13 locknuts.

4. Lubricate all moving parts of frame members, refer to Lubrication, page 12.

## 9 UNIT ASSEMBLY

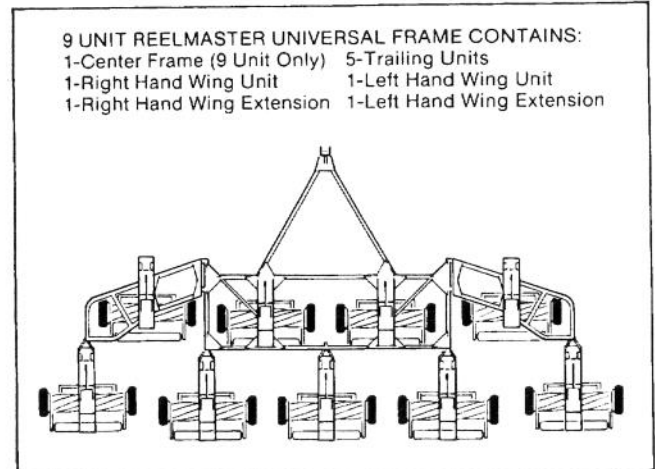


Figure 6

## Assemble Center Frame

1. Align tongue member mounting holes with mounting holes in front cross member of center frame. Secure each with 1/2-13 x 2-1/4" lg. capscrews and 1/2-13 locknuts.

2. Align holes in hitch bracket with holes in tongue members. Secure with 1/2-13 x 2-1/4" lg. capscrews and 1/2-13 locknuts.

## Install Drawbars to Cutting Units

1. Align holes in pivoting drawbar with brackets on mower crosstube. Secure each side with 1/2-13 x 2-1/2" lg. capscrew, spacer, and 1/2-13 locknut. Position capscrew head to the inside of bracket when mounting. Use same procedure on remaining pivoting drawbar.

**Note:** If Spartan mowers are to be attached, drawbar clamps, part no. 5-1090 and mounting fasteners will be required to mount drawbar to cross tube of mower (Fig. 7). Contact your local Authorized Toro Distributor to order parts or for assistance.

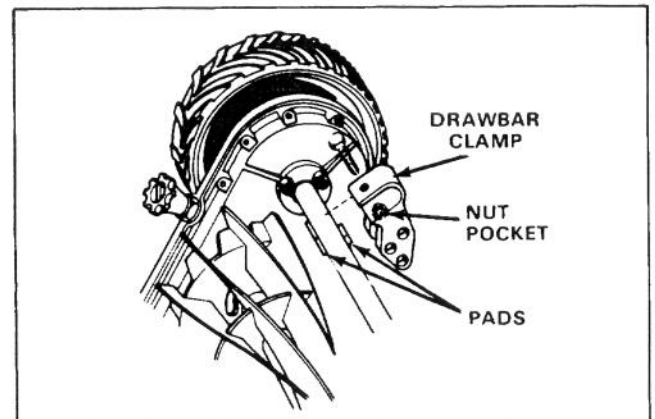


Figure 7



# ASSEMBLY

## Mount Center Frame

1. Position drawbar/cutting unit under each mounting plate of center frame section.
2. Align mounting holes of drawbars with holes in center frame. Secure with 1/2-13 x 1-1/4" lg. capscrews and 1/2-13 locknuts.
3. Insert support stand through hole in hitch bracket from bottom up, align holes and install cotter pin.
4. Install lift chains to mower with 1/8 x 3/4 cotter pin, shackle and 3/8 x 1-1/2 clevis pin.

## Install Drawbars to Cutting Units

1. Align holes in pivoting drawbar with brackets on mower crosstube. Secure each side with 1/2-13 x 2-1/2" lg. capscrew, spacer, and 1/2-13 locknut. Position capscrew head to the inside of bracket when mounting. Use same procedure on remaining pivoting drawbar.

## Install Wing Units

1. Align mounting holes in wing units with mounting holes in drawbar/cutting units. Secure with 1/2-13 x 1-1/4" lg. capscrews and 1/2-13 locknuts.
2. Install lift chains from wing units to mower mounting brackets with 1/8 x 3/4 cotter pins, shackles, and 3/8 x 1-1/2" clevis pins.
3. Attach (2) left hand and (2) right hand hinge sockets to respective sides of center frame with 1/2-13 x 1-1/4" lg. capscrews and 1/2-13 locknuts. The ball socket openings should be facing toward the front of the frame.
4. Install a grease fitting into each hinge cap.
5. Install a hinge clamp bolt and lockwasher into each hinge cap.
6. Move wing units into position so hinge balls are inserted into hinge sockets.

7. Position hinge caps over hinge balls and tighten hinge clamp bolts. Secure hinge clamp bolt with 3/32 x 3/4 cotter pin.

8. Lubricate all grease fittings and moving parts of frame members; refer to lubrication, page 12.

## Mount Wing Extensions to Wing Units

1. Align mounting holes of right and left wing extensions with mounting holes in respective wing units. Secure with 1/2-13 x 1" lg. capscrews and 1/2-13 locknuts.

## Install Drawbars to Cutting Units

1. Align holes in stationary (non pivoting) drawbars with brackets on mower crosstube. Secure each side with 1/2-13 x 2 1/2" lg. capscrew, spacer, and 1/2-13 locknut. Position capscrew heads to the inside of brackets when mounting. Use same procedure on remaining stationary drawbars.

## Install Trailing Frames

1. Align mounting holes in trailing frame with holes in drawbar/cutting unit. Secure with 1/2-13 x 1-1/4" lg. capscrews and 1/2-13 locknuts.
2. Install lift chain from trailing unit to mower with 1/8 x 3/4 cotter pin, shackle and 3/8 x 1-1/2 clevis pin. Repeat assembly procedure to remaining trailing units.
3. Connect trailing units to rear corners and center position of center frame and to each rear corner of wing extensions. Secure with U-bolts and 1/2-13 locknuts.

**Note:** When installing trailing unit to center position on center frame, the U-bolt attaches with only one locknut.

4. Lubricate all grease fittings and moving parts of frame members; refer to Lubrication, page 12.

# OPERATING INSTRUCTIONS

## INSTALL TRACTOR HITCH EXTENSION

The tractor hitch extension must be installed on all tow vehicles, to allow frame operation on undulating terrain.

Mounting holes must be drilled in hitch extension to accommodate tow vehicle hitch.

## ADJUSTING HITCH HEIGHT

To accommodate varying heights of tractor hitches, the hitch height can be raised or lowered.

1. Be sure the frame is located on a level surface and frame support is adjusted to level frame.
2. Back the tractor up close to the frame hitch to gauge the difference in height between the tractor hitch extension and the frame hitch.
3. If the frame hitch height must be changed, remove the capscrews and locknuts securing hitch to frame. Move hitch to one of the other settings or, if these settings do not exactly match, a more optimal adjustment may be achieved by rotating the hitch 180°.
4. Secure tractor hitch extension to frame hitch with hitch pin and hair pin cotter.
5. Remove cotter pin securing frame support to frame hitch, push frame support up through hitch and resecure to hitch. Frame support is now in storage position.

## PROPER FRAME USE

Never exceed 6 MPH (9.66 km/hr) ground speed or quality of cut will be greatly reduced and damage to the frame and mowers more likely to occur. Best quality of cut under most normal conditions is while operating at approximately 4-6 MPH (6.4 – 9.66 km/hr). Reduce ground speed when turning to be sure the outer mowers do not bounce and skip on the turf.

Before leaving the tractor to adjust the frame or mowers, be sure the tractor and frame is on a level surface, the engine is stopped and the parking brake set. To transport the mowers from one area to another:

1. Disengage the mower reels by rotating the reel throwout knobs outward; refer to the Operators Manual for the mowers.
2. Grasp the handle grip of the lift handles on the frame and rotate each handle 180° forward. This will raise the mower/s rear roller/s off the ground.

**IMPORTANT:** Do not back up tractor with frame attached. If unit must be backed up, each trailing and wing unit must be removed and manually repositioned. Failure to do so will result in damage to frame.

## OPTIONAL TRAILING KITS

To reduce the width of the frame when narrow areas must be traversed between mowing areas, optional trailing kits with fasteners are available.

Refer to the Parts Catalog for part numbers and order the required parts from your Authorized Toro Distributor.

Use the following illustrations and instructions for positioning and installing the kits.

### Trailing Kit Applications

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**5 UNIT UNIVERSAL FRAME TRAILING KITS REQD:**  
 2-Trailing Unit Trailing Kits      2-Wing Unit Trailing Kits

MOWING POSITION

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**7 UNIT UNIVERSAL FRAME TRAILING KITS REQD:**  
 4-Trailing Unit Trailing Kits      2-Wing Unit Trailing Kits

MOWING POSITION

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**9 UNIT UNIVERSAL FRAME TRAILING KITS REQD:**  
 1-Center Frame Trailing Kit (9 Unit Only)  
 5-Trailing Unit Trailing Kits  
 2-Wing Unit Trailing Kits

MOWING POSITION

# OPERATING INSTRUCTIONS

## Installation Of Trailing Kits

1. Locate and drill required mounting holes in trailing units, wing units, and 9 Unit center frame (Fig. 8, 9, 10).
2. Install kit parts to trailing unit by mounting trailing bar to rear of frames with hinge pin and (2) cotter pins. Secure snap hook to underside of frame with (2) capscrews and locknuts (Fig. 8).

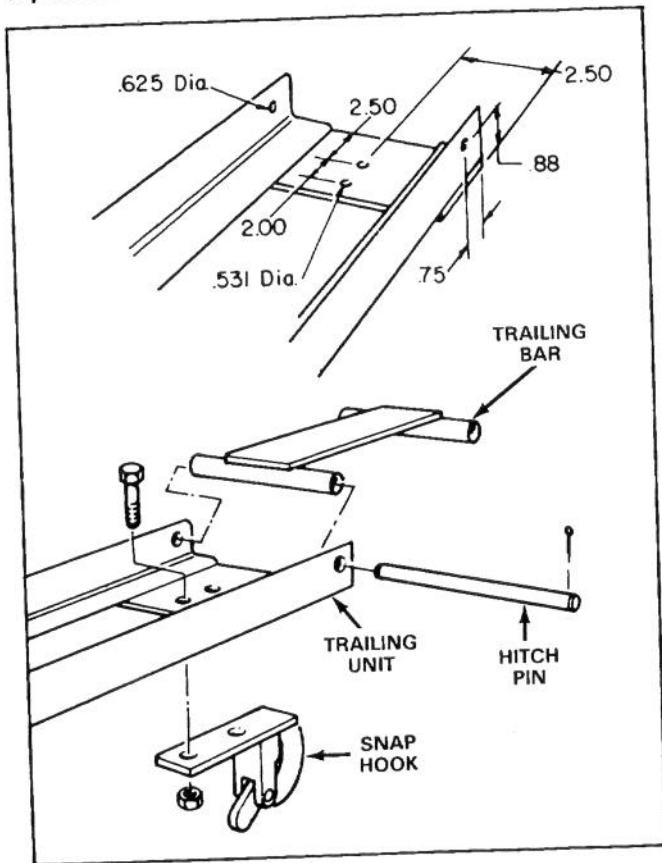


Figure 8

3. Install kit parts to wing unit by securing trailing hitch to underside of frame with (2) capscrews and locknuts (Fig. 9).

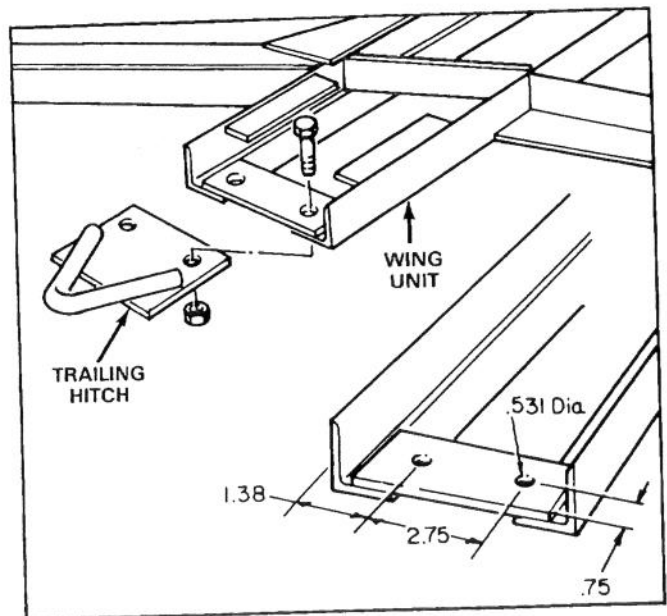


Figure 9

4. Install kit parts to 9 Unit center frame by securing snap hooks to underside of mounting plates with (2) capscrews and locknuts (Fig. 10).

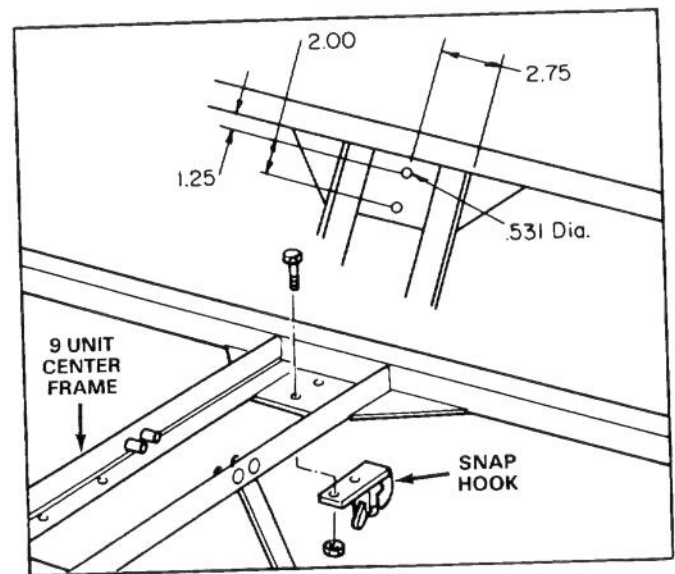


Figure 10

5. Pull entire trailing unit forward and insert bar under two welded plates on frame. Pull unit back snapping the hitch into the snap hook.

# MAINTENANCE

## LUBRICATION

Every eight hours or daily, whichever occurs first, grease the ball sockets and the drawbars equipped with greaseable pivots with General Purpose No. 2 Lithium Base grease.

1. Wipe each fitting with a clean rag.
2. Apply grease with the gun until clean grease appears around the ball socket openings or around the pivot shafts of the drawbars.

3. Wipe the excess grease away.

## FRAME INSPECTION

Once each week or every 40 hours, check the frame for loose or missing fasteners and broken or damaged frame members. Repair or replace components as necessary.

## The Toro Promise

*A ONE YEAR LIMITED WARRANTY ON COMMERCIAL PRODUCTS OTHER THAN TRIMMERS AND BLOWERS.*

*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
Trimmers and Blowers . . . . .	90 Days

*The costs of parts and labor are included, but the customer pays the transportation costs on walk rotary mowers, trimmers and blowers.*

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, Minnesota 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 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 or limitation of incidental or consequential damages, so the above limitation or 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.