

**INSTALLATION INSTRUCTIONS FOR ROLL OVER
PROTECTION SYSTEM (ROPS)
A-11251
FOR USE ON TORO Z-MASTER Z-100 SERIES**

This manual contains assembly, operating, maintenance and safety instructions for your ROPS.

BEFORE INSTALLING THE ROPS OR OPERATING A MOWER EQUIPPED WITH A ROPS, CAREFULLY READ THIS MANUAL IN ITS ENTIRETY.

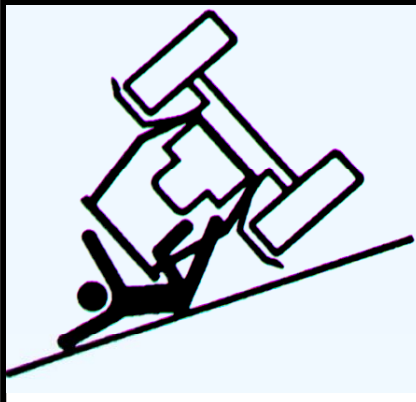
The ROPS will reduce the risk of serious or fatal injury in the unlikely event of a tip over although the system cannot protect the operator from all possible injuries. By following the operating, maintenance, and safety instructions, you will prolong the life of your mower and ROPS, maintain its maximum efficiency and promote safe operation.

If additional information is needed, contact your authorized equipment dealer or distributor.

**Keep this manual with the operators' manual for the mower for future reference.
IMPORTANT: Do not modify or repair a ROPS. Always replace a damaged ROPS. Always use the seatbelt and ROPS together.**

WARNING!

This ROPS is certified for use on machines with a maximum gross vehicle weight (GVW) of 2000 LB. The GVW INCLUDES the weight of the base machine, operator, fuel, ROPS, and other attachments and payloads. When attachments are added, causing the GVW of the machine to be more than 2000 LB., the ROPS may not provide adequate protection resulting in serious injury or death. Use caution when installing attachments and **DO NOT EXCEED** the GVW rating of the ROPS.



WARNING!

**SERIOUS INJURY OR DEATH MAY RESULT FROM
MACHINE ROLLOVER**

- DO NOT OPERATE MACHINE ON STEEP SLOPES OR NEAR DROP OFFS
- ALWAYS USE SEAT BELTS
- AVOID SHARP AND/OR QUICK TURNS
- DO NOT EXCEED THE MACHINE WEIGHT RATING OF THE ROPS

 WARNING

ROLLOVER MAY CAUSE PERMANENT INJURY OR DEATH.

- ROPS RAISES THE CENTER OF GRAVITY AND REDUCES STABILITY ON SLOPES.
- SUDDEN STARTS OR TURNS ON RAMPS OR SLOPES CAN CAUSE OVERTURN.
- USE GREATER CARE ON RAMPS AND AS THE SLOPE INCREASES.

INSTALLATION

IMPORTANT: This ROPS is not compatible with the Toro 100-series Z-Stand Kit. If the machine requiring this ROPS is currently equipped with a Z-Stand, please remove the kit prior to installing the ROPS.

NOTE: Do not tighten any hardware until instructed to do so.

1. Safely and securely block or support the rear of the mower frame so the rear wheels can be removed. Remove the rear wheels.
2. Affix the full size paper drill template marked "RIGHT HAND FRAME DRILL TEMPLATE", included with these instructions, to the right side of the mower frame as shown in Figure 1. Follow the guidelines noted on the template for proper location. Use a center punch to mark the two hole locations on the frame. Drill a smaller pilot hole then follow with a 7/16" drill. **Use caution so as not damage the hydraulic system, hydraulic filter or filter mount.**

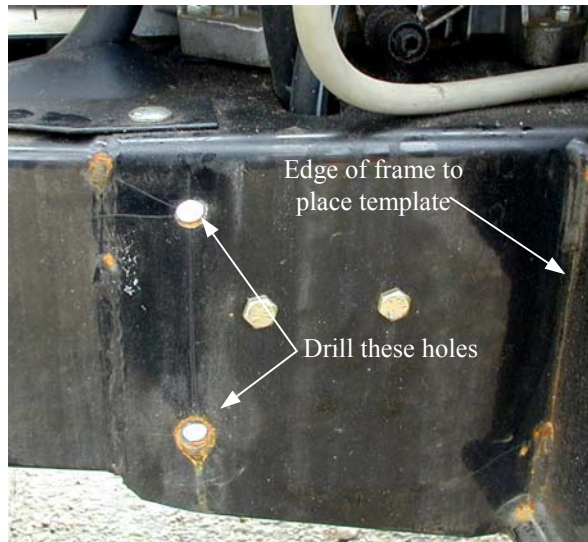


Figure 1

3. Affix the full size paper drill template marked "LEFT HAND FRAME DRILL TEMPLATE", included with these instructions, to the left side of the mower frame. Follow the guidelines noted on the template for proper location. Use a center punch to mark the two hole locations on the frame. Drill a smaller pilot hole then follow with a 7/16" drill.
4. Attach the left hand and right hand rear post assemblies (Item #1 & #2) to the mower frame using two 3/8" x 1 1/2" bolts (Item #8), Belleville washers (Item #9), serrated flange nuts (Item #10) on each side. Loosely secure this hardware.
5. Mount the rear cross member (Item #6) between the rear post assemblies using two 3/8" x 3" bolts (Item #11), Belleville washers, and serrated flange nuts per side. **Note that the end plates are configured at a slight angle. The narrowest end between the plates should be oriented upward.** Loosely secure this hardware.
6. Mount the upper cross member (Item #5) and two outer clamp brackets (Item #7) to the top of the rear post assemblies using two 3/8" x 3" bolts, Belleville washers, and serrated flange nuts per side. Loosely secure this hardware. Note the orientation of the warning decal on the cross member. It should be upright and readable to ensure proper orientation of the cross member.

INSTALLATION (CONTINUED)

7. Remove the four bolts (A), shown in Figure 2, securing the front floor pan to the front mower frame. Mount the right hand and left hand front posts (Item #3 & #4) by inserting the top portion between the top cross member and the outer clamp brackets at the top and to the front mower frame where the four bolts were previously removed. Loosely secure the top of the front posts using two $3/8'' \times 3''$ bolts, Belleville washers and serrated nuts per side. Loosely secure the bottom of the front posts using four $3/8'' \times 1\ 1/2''$ bolts, Belleville washers and nuts.

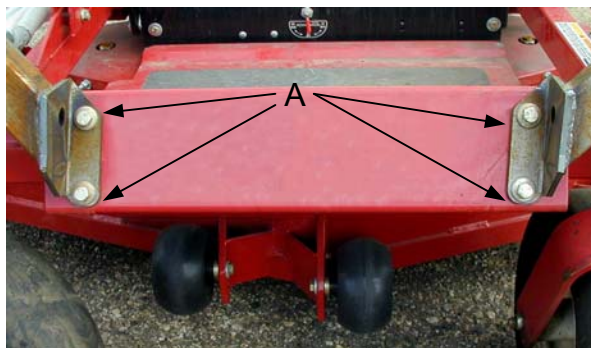


Figure 2

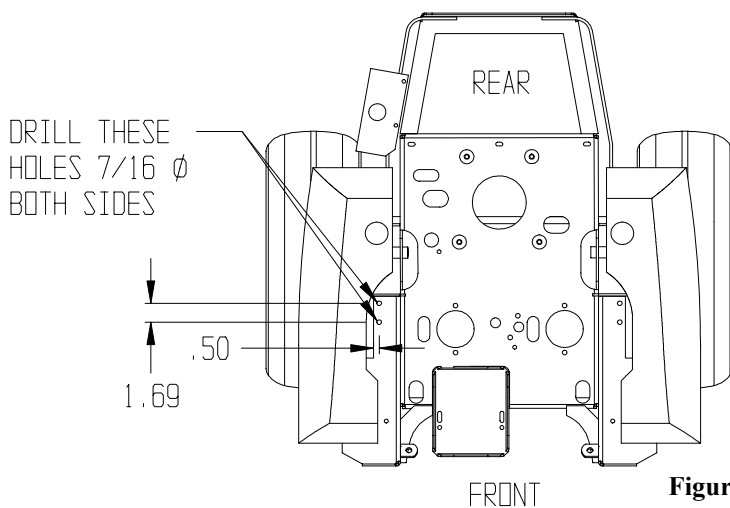


Figure 3

Seat belt
bracket holes

8. Tighten all hardware in the following sequence.
1. Top cross member
 2. Rear cross member
 3. Rear posts at the mower frame
 4. Front posts at the mower frame



9. Layout the hole location for the seat belt bracket as shown in Figure 3 and the diagram. Drill two $7/16''$ holes through the mower frame member under the seat. **Use caution so as not to damage the hydraulic system or electrical system.** Repeat procedure on the opposite side.

10. Attach the seat belt (Item #13) to the seat belt brackets (Item #12) using the hardware provided with the seat belt (7/16" x 1 1/2" bolt Item #14, 7/16" flat washers Item #15, 7/16" nylock nut Item #16). Install the seat belt brackets using two 3/8" x 1 1/4" bolts (Item #17), 3/8" flat washers (Item #18) and serrated flange nuts. Tighten all hardware and route seatbelt ends under the armrests of the seat.

OPERATION OF A MACHINE EQUIPPED WITH A ROLL OVER PROTECTIVE STRUCTURE (ROPS)

1. ROPS is intended to offer protection in the event of a rollover. Aggressive use of the controls when turning, accelerating or braking can cause overturn on any slope. To reduce the possibility of overturn, progressively greater care is needed as the slope increases. Never operate the machine on a slope greater than that allowed in the operators' manual.
2. When operating a machine with ROPS, always use the seat belt. Adjust the belt snug to take up the slack. The seat belt will keep the operator in the seat.
3. Use extra caution when operating the machine around bodies of water such as lakes, ponds, canals, ditches or streams. Make sure the seat belt can be quickly released if the machine is driven or rolls into the water.
4. Check carefully for the overhead clearances, such as branches, doorways or electrical wires before driving under any objects and do not contact them.
5. Do not drill holes in or modify the ROPS. Holes could weaken the ROPS.
6. Do not tow the machine by the ROPS because this can raise the center of gravity and reduce stability.
7. Do not allow anyone to hang from or ride on the ROPS. Riders can fall off. Riders will also raise the center of gravity and reduce stability.
8. In the event of a rollover, have the dealer inspect the ROPS for possible structural damage before further use. Always replace a damaged ROPS. **NEVER** repair a ROPS.
9. Check the ROPS mounting hardware periodically for tightness. Check the seat belt for wear and proper latching. Replace worn or damaged components.

<u>DRAWING ITEM NO.</u>	<u>QTY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	1	7-15479	REAR POST, LEFT
2	1	7-15475	REAR POST, RIGHT
3	1	7-15477	FRONT POST, RIGHT
4	1	7-15476	FRONT POST, LEFT
5	1	7-15478	CROSS MEMBER, UPPER
6	1	7-15480	CROSS MEMBER, REAR
7	2	6-41350	BRACKET, OUTER CLAMP, CROSSMEMBER
8	8	3-10157	HHCS, .375-16 NC X 1.50", GR 5
9	20	3-17621	WASHER, BELLEVILLE, .413 ID, .945 OD, .146 TK
10	24	3-17622	NUT, HEX, SERRATED FLANGE, .375-16 NC
11	12	3-13473	HHCS, .375-16 NC X 3.00", GR 5
12	2	6-41546	BRACKET, SEAT BELT
13	1	3-17646	SEAT BELT WITH SLEEVE
14	2	3-10026	HHCS, .437-14 NC X 1.25", GR 5
15	4	3-10166	WASHER, FLAT, .437, .08 TK
16	2	3-10472	NUT, HEX, NYLOCK, .437-14 NC
17	4	3-10394	HHCS, .375-16 NC X 1.25", GR 5
18	4	3-10086	WASHER, FLAT, .375, .07 TK

