

INSTALLATION INSTRUCTIONS FOR ROLL OVER PROTECTION SYSTEM (ROPS)

A-11252

FOR USE ON TORO Z-MASTER Z-200 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.

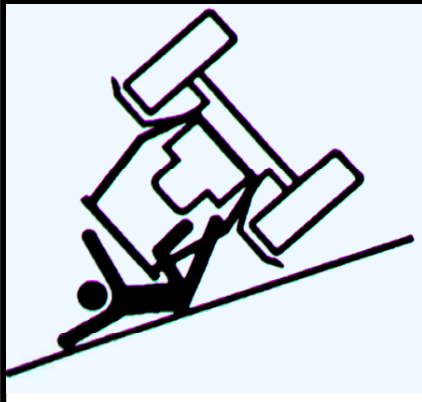
The ROPS will reduce the risk of serious or fatal injury in the unlikely event of a tip over although the system cannot protect the operator from all possible injuries. By following the operating, maintenance, and safety instructions, you will prolong the life of your mower and ROPS, maintain its maximum 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 2500 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 2500 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

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. Locate the three holes in the rear of the frame shown in Figure 1. Attach the right and left hand rear post assemblies (Item #1 & #2) to frame using three 3/8" x 1 1/2" bolts (Item #11), Belleville washers (Item #9), and serrated flange nuts (Item #10) per side. Loosely secure this hardware.

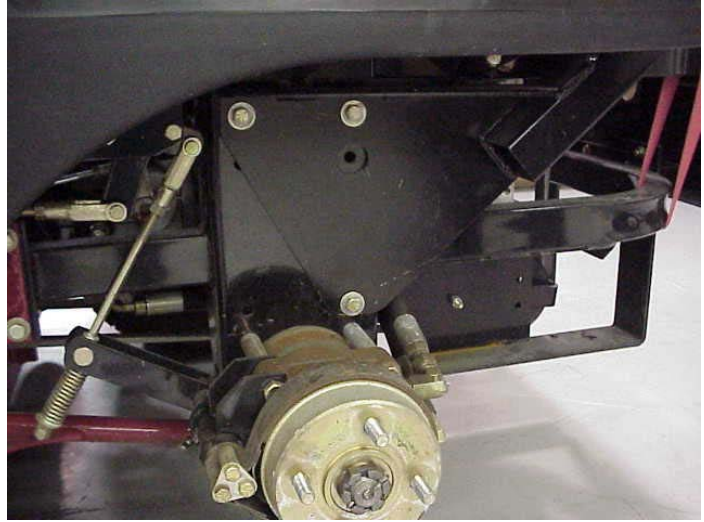


Figure 1

3. Install the cross member (Item #5), with the two outer clamp brackets (Item #6), 3/8" x 3" bolts (Item #8), Belleville washers and serrated flange nuts to the rear posts. Note: be sure warning decals can be read.

Note: When installing the ROPS on a unit with a quick lift deck assist pedal, remove the pedal before installing the ROPS. Reinstall the pedal after the ROPS has been mounted.

4. To provide maximum working room, lower the deck to the 1 1/2" position. Mount the right 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 using four 3/8" x 3" bolts and Belleville washers and serrated flange nuts per side. Loosely secure this hardware. With bottom of front posts resting on the frame as shown in Figure 2 attach outside brackets (Item #7) using proper sized spacer (Item #12) on the top hole and three 3/8" x 3 1/2" bolts (Item # 20), Belleville washers, and serrated flange nuts per side. Units with 72" decks will use the 1 7/8" spacers, units with 52" and 60" decks will use the 1 3/8" spacers. Loosely secure this hardware.



Figure 2

5. Push the front mounts as far forward as possible on the frame. Re-install quick lift deck assist pedal. Move deck lift through full range of motion to verify clearance.
6. Tighten all hardware in the following sequence.
 1. Top cross member
 2. Rear posts at the mower frame
 3. Front post at the mower frame
 Reinstall rear wheels and lower unit from supports.
7. Remove the cable clamps that hold down the wires, hoses and throttle cables as they pass over the top of the pump drive compartment. Layout the hole location for the seat belt bracket as shown in Figure 3. Make sure that the front hole will pass through the heavy gage material that makes up the front panel and upper flange of the pump drive compartment. Drill 7/16" holes through the mower frame members. **Use caution so as not to damage the throttle, fuel, or electrical systems.** Repeat the procedure on the opposite side.

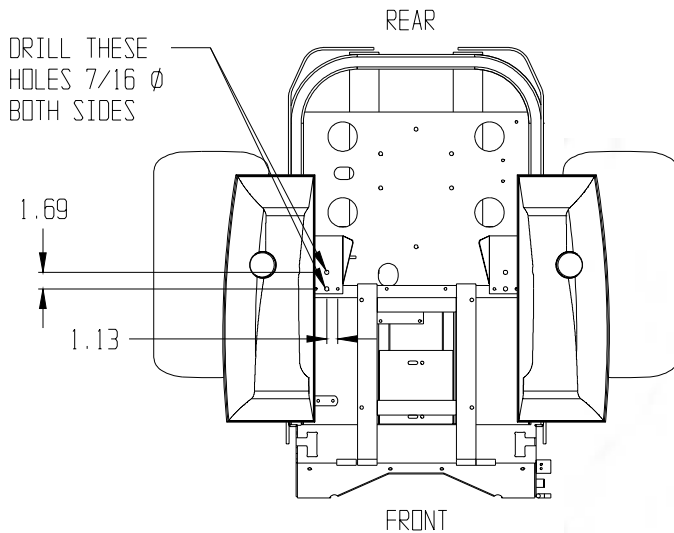
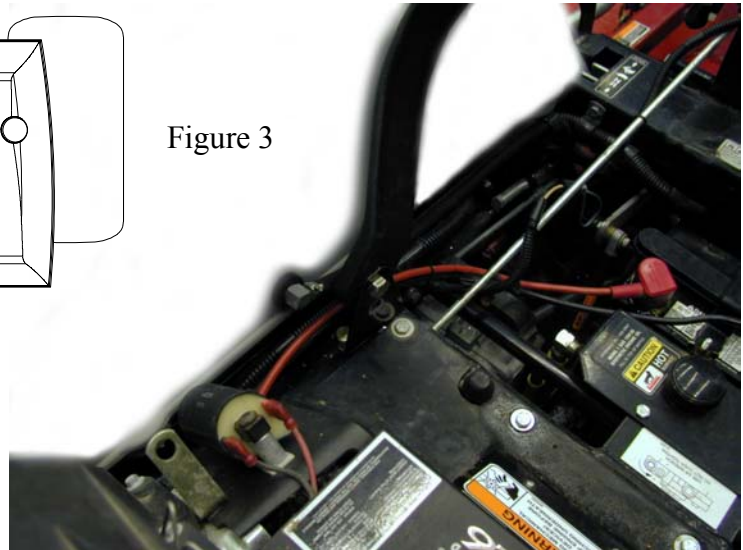
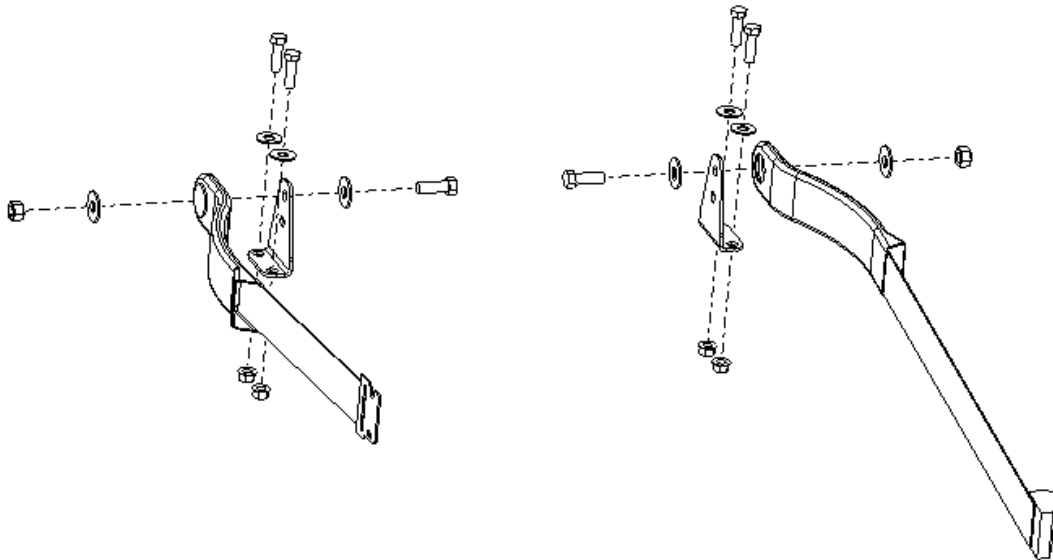


Figure 3



8. Arrange the cable clamps for the wires, hoses, and throttle cables so that they will pass by the seat belt brackets without sharp bends or contact with sharp edges. The clamps may be mounted to the seat belt bracket mounting screws, or the lower hole in the seat belt bracket as necessary. Install the seat belt brackets using two 3/8" x 1 1/4" bolts (Item #18), two flat washers (Item #19), and two serrated flange nuts (Item #10) per side. A 1/4" x 5/8" bolt (Item #22) and a serrated flange nut (Item #23) can be used to mount clamps to the seat belt brackets.
9. Attach the seat belt (Item #14) to the seat belt brackets (Item #13) using the hardware provided (7/16" x 1.50 bolt Item #16, 7/16" flat washer Item #17, 7/16" nylock nut Item #18), with the seat belt. Hardware must be oriented as shown in Figure 4 to provide proper clearances. Tighten all hardware and route seatbelt ends under the arm rests of the seat.

Figure 4



10. If Z-Stand is installed on mower; attach the anti skid tape (Item 24) to the top surface of the Z-Stand (Figure 5).



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</u> <u>ITEM NO.</u>	<u>QTY.</u>	<u>PARTS</u> <u>NUMBER</u>	<u>DESCRIPTION</u>
1	1	7-15487	REAR POST, LEFT
2	1	7-15488	REAR POST, RIGHT
3	1	7-15486	FRONT POST, RIGHT
4	1	7-15485	FRONT POST, LEFT
5	1	7-15484	CROSS MEMBER
6	2	6-41350	BRACKET, OUTER CLAMP, CROSSMEMBER
7	2	6-41347	BRACKET, FRONT MOUNT
8	8	3-13473	HHCS, 3/8-16NC X 3", GR 5
9	20	3-17621	WASHER, BELLEVILLE, .413 ID, .945 ID, .146 TK
10	24	3-17622	NUT, HEX, SERRATED FLANGE, 3/8-16 NC
11	6	3-10157	HHCS, 3/8-16NC X 1 1/2", GR 5
12	2	6-41501	SPACER, 3/4 OD X 11 GA WALL X 1 3/8", USED ON 72" DECKS
	2	6-41502	SPACER, 3/4 OD X 11 GA WALL X 1 7/8", USED ON 52" & 60" DECKS
13	2	6-41546	BRACKET, SEAT BELT
14	1	3-17646	SEAT BELT WITH SLEEVE
15	2	3-10026	HHCS, 7/16NC X 1 1/4", GR 5
16	4	3-10166	WASHER, FLAT, 7/16, .08 TK
17	2	3-10472	NUT, HEX, NYLOCK, 7/16-14 NC
18	4	3-10394	HHCS, 3/8-16 NC X 1 1/4", GR 5
19	4	3-10086	WASHER, FLAT, 3/8, .07 TK
20	6	3-10395	HHCS, 3/8-16 NC X 3 1/2", GR 5
21	2	6-41357	SPACER, USED WITH BAGGER OPTION
22	1	3-10002	HHCS, 1/4-20 NC X 5/8", GR 5, USED FOR CABLE MOUNTING
23	1	3-14924	NUT, HEX, SERRATED FLANGE, 1/4-20 NC, USED FOR CABLE MOUNTING
24	1'	3-17685	TAPE, ANTI SKID, PSA BACKED (NOT SHOWN)

