

TORO

2-POST ROPS

MOUNTING INSTRUCTIONS

**With Parts Listings and Drawings to fit
GM 223-D, GM 223-D 4WD, GM 224, GM 225 and
GM 1000-L**

MOUNTING INSTRUCTIONS

**For
Optional Canopy
To fit
GM 223-D, GM 223-D 4WD, GM 224, GM 225 and
GM 1000-L
2-Post ROPS**



CUSTOM PRODUCTS
OF LITCHFIELD, INC.

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(320) 693-3221 Fax: (320) 693-7252
1-800-222-5463

December 1999
05-10332



SAFETY INSTRUCTIONS

Read operator's manual. Be thoroughly familiar with the controls, capabilities, and proper use of the equipment.

NEVER ALLOW ANY RIDERS.

Never allow children to operate.

Thoroughly inspect Roll Bar, Roll Bar Mounting, Seat Belt and Seat Belt Mounting periodically.

Stay alert for hidden hazards and traffic.

Always use Seat Belt with ROPS installed.

Avoid sudden starts, excessive speeds, and sudden stops when operating on hillside, rough ground and most off-the-road operations.

Use extreme care when working close to fences, ditches, or on hillsides.

Wait for mower to STOP before dismounting.

Keep all shields and guards in place.

Check clearance carefully before driving under any objects.

Mow up and down the face of a steep slope, NEVER across the face or side to side.

Never exceed factory recommended specifications.

Do not weld, cut, drill or modify ROPS in any manner unless instructed by manufacturer.

Decals should be replaced when any portion becomes illegible, damaged, or missing.

ROLL BAR SPECIFICATIONS

MODEL **MAXIMUM WEIGHT CAPACITY** (Tractor and implements)

GM 223-D, GM 223-D 4WD,

GM 224, GM 225, GM 1000-L

2500#

MOUNTING INSTRUCTIONS
For
TORO 2-POST ROPS
To fit
GROUNDMASTER 223-D, 224, 225, 1000-L

1. Preparation of machine:
 - A. Raise Hood.
 - B. Raise Seat.
 - C. Lower Belly Pan. Figure #1.

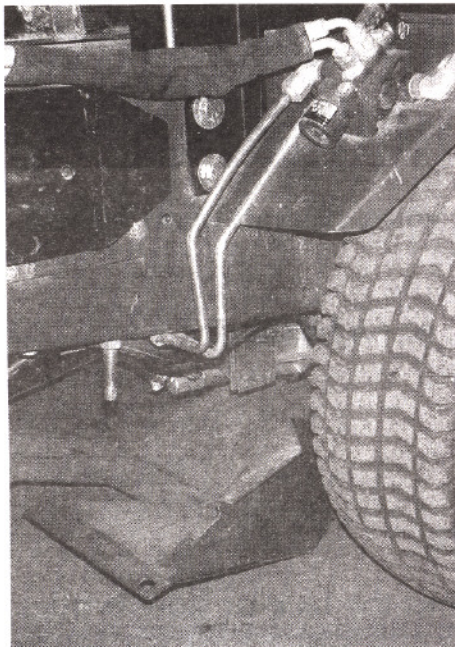


Figure 1

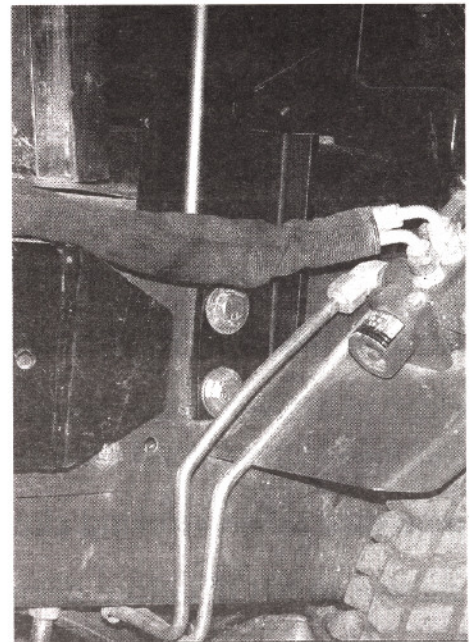


Figure 2

2. Installation of roll bar:
 - A. Lower roll bar on to machine and fasten with two 1/2" x 2 1/4" Grade 5 bolts, four 1/2" flat washers, and two 1/2" lock nuts on the right side, on the other side fasten with two 1/2" x 4" Grade 5 bolts, four 1/2" flat washers, and two 1/2" lock nuts. Figures # 2 & 3. Torque to specifications found on the Torque Tightening Chart.
3. Installation of seat retention kit and seat belt:
 - A. On seat kit #30769 and #30772 there will need to be a retention kit installed.
 - B. Measure in 1" from the outside edge of seat pan on the high side of rib that runs across seat pan and drill a 17/32" diameter hole on each side. Figure #5.
 - C. Fasten tether strap bracket to seat pan using two 7/16" x 1" Grade 5 bolts and nylock nuts. Figure #5. Torque to specifications found on the Torque Tightening Chart.

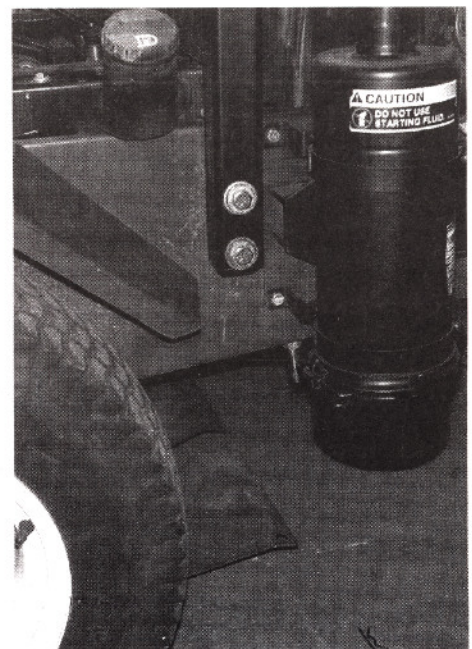


Figure 3

D. Attach one end of the tether strap to the tether strap bracket using 7/16" x 1" Grade 5 bolt and nylock nut. Figure #5

NOTE: Be sure the end of the tether strap can swivel when seat adjusted.

E. Install the other end of the tether strap and seat belt to the back of seat using two 7/16" x 1 Grade 5 fine threaded bolts, flat washers, and lock washers. Figure #4. Torque to specifications found on the Torque Tightening Chart.

F. If seat kit #30786 is used, the retention kit is not needed. The seat belt attaches to the back of the seat as in Figure #4.

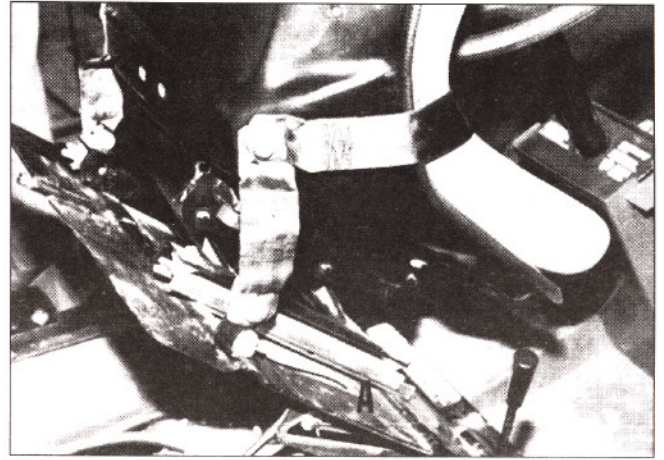


Figure 5

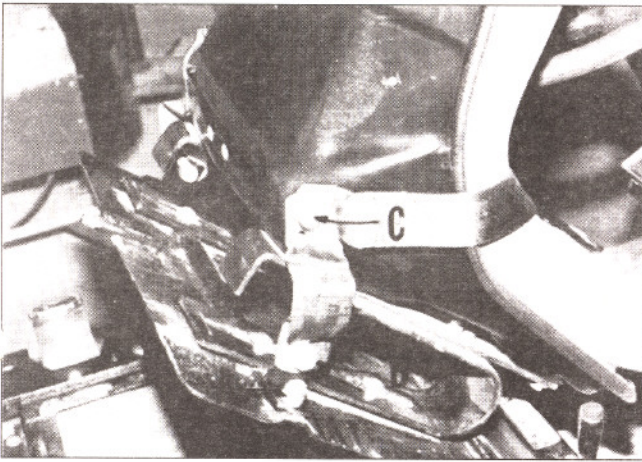


Figure 4

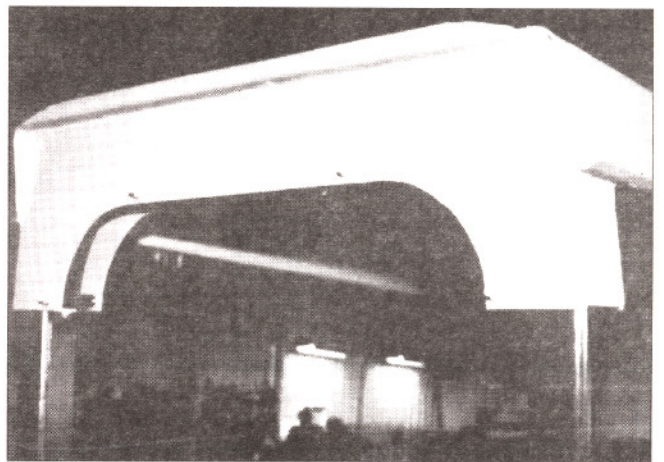


Figure 6

MOUNTING INSTRUCTIONS

For

TORO CANOPY

To fit

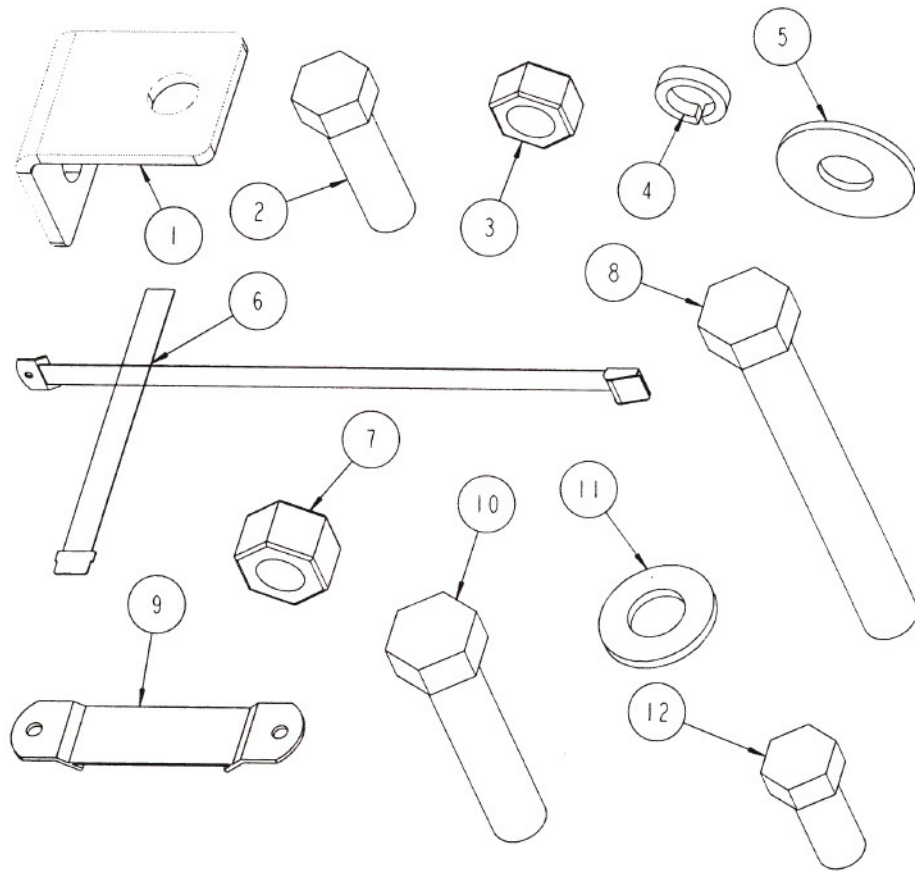
GROUNDMASTER 223-D, 224, 225, 1000-L

2-POST ROPS

1. Set canopy on roll bar and center.
2. Install pipe spacers between canopy ends and install four 3/8" x 3" bolts, flat washers, and

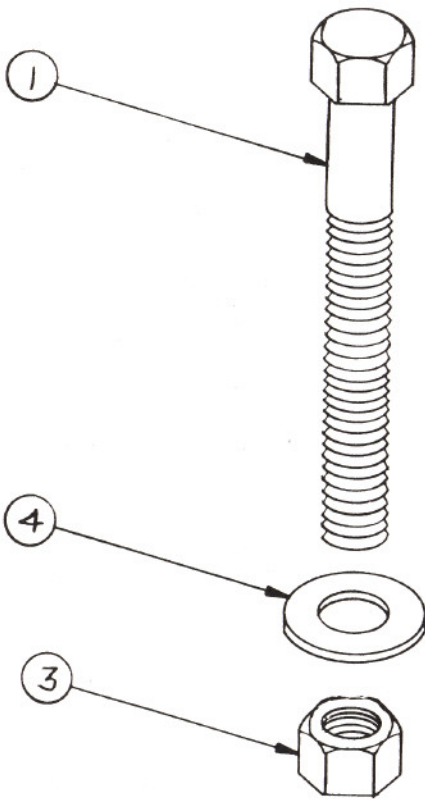
nylock nuts. Figure #6. Torque to specifications found on the Torque Tightening Chart.

**REPLACEMENT PARTS
TORO 2-POST ROPS
4-14357**



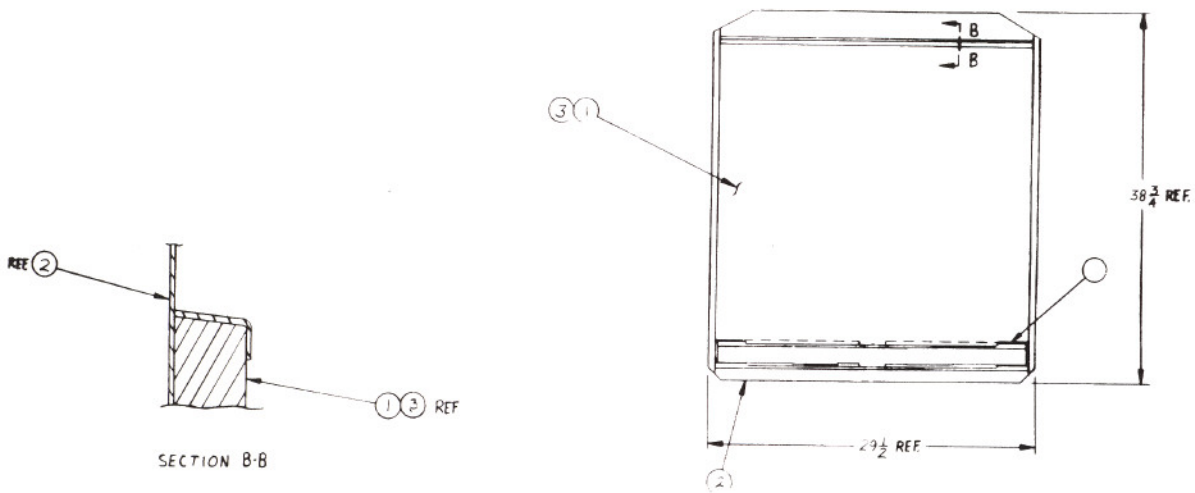
Item	Qty.	C.P. Part No.	Description
1	2	1-30076	Tether Strap Mount
2	4	3-10045	.437-14 NC x 1.00" Bolt
3	4	3-10066	.437-14 NC Hex Nut
4	6	3-10152	.437 Lock Washer
5	6	3-10166	.437 Flat Washer
6	1	3-10287	Seat Belt
7	4	3-10379	.500-13 NC Nylock Nut
8	2	3-10411	.500-13 NC x 4.00" Bolt
9	2	3-11685	7" Tether Strap
10	2	3-12247	.500-13 x 2.25" Bolt
11	8	3-12466	.500 Flat Washer
12	2	3-13708	.437-20 NF x 1.00" Bolt
13	1	05-10332	Mounting Instructions

**NOTE: Order replacement parts from:
Custom Products of Litchfield, Inc.
P.O. Box 718
Litchfield, Minnesota 55355
(320) 693-3221**



**REPLACEMENT PARTS
Toro GROUNDMASTER 220-D
Mounting Kit for Canopy
(4-12334)**

ITEM	QTY	PART NO.	DESCRIPTION
1	4	3-13473	3/8"-16 x 3" NC Hex Cap Screw - Grade
2	4	1-30018	Roll Bar Mount Spacer
3	4	3-10073	3/8"-16 NC Nylock Hex Nut
4	8	3-10086	3/8" Flat Washer
5	1	05-10332	Mounting Instructions



**REPLACEMENT PARTS
Toro GROUNDMASTER 220-D
Canopy for 2-Post ROPS
(4-12321)**

ITEM	QTY	PART NO.	DESCRIPTION
1	1	1-30066	Roof Liner (28 3/8" x 29 1/2")
2	1	2-13471	Canopy Weldment
3	1	4-12338	Adhesive (Pint Can)

TORQUE TIGHTENING CHART

Use the following charts for all torque applications.

U.S. Bolt Size	Torque	
	ft.-lb.	N•m
1/4-20	7-9	9-12
5/16-18	10-15	15-20
3/8-16	20-25	25-35
7/16-14	30-40	40-55
1/2-13	50-60	70-80
9/16-12	70-90	95-120
5/8-11	100-120	135-160
3/4-10	180-220	245-300

Metric Bolt Size	Torque	
	ft.-lb.	N•m
M- 8	17-20	23-27
M-10	34-40	45-55
M-12	55-65	75-90
M-14	91-109	125-145
M-16	145-166	196-225

NOTE All torque specifications apply to plated or oiled fasteners. When non-plated or dry fasteners are used, increase recommended torque by 20%. When tightening bolts into aluminum parts, tightening torques are 65% of the specified value in the charts.