

4-Tier Bleacher System Tip and Roll Design

NOTE: ALL HARDWARE IS GALVANIZED

PART #	PART LIST	BL-4TR-7.5DR	BL-4TR-9DR	BL-4TR-12DR
BL-4TR-STRINGER	4-Tier Stringer	2 ea	3 ea	3 ea
	FOOT PAD HARDWARE			
HW-613A-017K	Non-marring rubber footpads	10 ea	15 ea	15 ea
HW-B-50000	5/16 x 1-1/4" carriage bolt	10 ea	15 ea	15 ea
HW-N-10001	5/16" flange nut	10 ea	15 ea	15 ea
HW-W-1000-Z	3/8" flat washer	10 ea	15 ea	15 ea
	BRACING HARDWARE			
BL-48	48-spacer	n/a	2 ea	n/a
BL-60	60-spacer	n/a	n/a	2 ea
BL-72	72-spacer	1 ea	n/a	n/a
BL-48-12-BRACE	48-12 diagonal	n/a	4- ea	n/a
BL-60-12-BRACE	60-12 diagonal	n/a	n/a	4 ea
BL-72-12-BRACE	72-12 diagonal	2 ea	n/a	n/a
HW-B-40000	3/8" x 1-1/4" bolt	7 ea	11 ea	11 ea
HW-N-10000	3/8" flange nut	7 ea	11 ea	11 ea
	PLANK HARDWARE			
AL-16723A	2"x10" plank (anodized finish)	4 ea	4 ea	4 ea
AL-16723M	2"x10" plank (mill finish)	6 ea	6 ea	6 ea
AL-20773M	1"x6" plank (mill finish)	3 ea	3 ea	3 ea
BL-17400A	2"x10" end cap (anodized finish)	8 ea	8 ea	8 ea
BL-17400M	2"x10" end cap (mill finish)	12 ea	12 ea	12 ea
BL-3326-6	1"x6" end cap (mill finish)	6 ea	6 ea	6 ea
BL-20774	Retainer Clip	46 ea	69 ea	69 ea
HW-B-50000	5/16" x 1-1/4" carriage bolt	56 ea	69 ea	69 ea
HW-N-10001	5/16" flange nut	56 ea	69 ea	69 ea
HW-R-10000	3/16" aluminum pop rivets	52 ea	52 ea	52 ea
	CASTER HARDWARE			
HW-21-04254-445-10	Non-marring locking caster	2 ea	2 ea	2 ea
HW-2-04254-445-10	Non-marring non-locking caster	4 ea	6 ea	6 ea
HW-N-2000-Z	1/2" serrated flange nut	6 ea	8 ea	8 ea
	OUTRIGGER HARDWARE			
BL-4TR-OUTRIGGER	Outrigger arm	2 ea	2 ea	2 ea
HW-W-17W15003	Nylon bushing	4 ea	4 ea	4 ea
HW-B-4002-Z	3/8" x 2-1/2" bolt	2 ea	2 ea	2 ea
HW-N-30000	3/8" nylon lock nut	2 ea	2 ea	2 ea
HW-W-1000-Z	3/8" flat washer	9 ea	4 ea	4 ea
HW-38-26LP	3/8" x 3" Locking pin	2 ea	2 ea	2 ea

4-Tier Bleacher System Tip and Roll Design

NOTE: ALL HARDWARE IS GALVANIZED

PART #	PARTS LIST	BL-4TR-13DR	BL-4TR-15DR	BL-4TR-18DR
BL-4TR-STRINGER	4-tier stringer	3 ea	3 ea	4 ea
	FOOT PAD HARDWARE			
HW-613A-017K	Non-marring rubber footpads	15 ea	15 ea	20 ea
HW-B-50000	5/16" x 1 1/4" carriage bolt	15 ea	15 ea	20 ea
HW-N-10001	5/16" flange nut	15 ea	15 ea	20 ea
HW-W-1000-Z	3/8" flat washer	15 ea	15 ea	20 ea
	BRACING HARDWARE			
BL-60	60-spacer	n/a	n/a	3 ea
BL-72	72-spacer	2 ea	2 ea	n/a
BL-60-12-BRACE	60-12 diagonal	n/a	n/a	6 ea
BL-72-12-BRACE	72-12 diagonal	4 ea	4 ea	n/a
HW-B-40000	3/8" x 1 1/4" bolt	11 ea	11 ea	15 ea
HW-N-10000	3/8" flange nut	11 ea	11 ea	15 ea
	PLANK HARDWARE			
AL-16723A	2"x10" plank (anodized finish)	4 ea	4 ea	4 ea
AL-16723M	2"x10" plank (mill finish)	6 ea	6 ea	6 ea
AL-20773M	1"x6" plank (mill finish)	3 ea	3 ea	3 ea
BL-17400A	2"x10" end cap (anodized finish)	8 ea	8 ea	8 ea
BL-17400M	2"x10" end cap (mill finish)	12 ea	12 ea	12 ea
BL-3326-6	1"x6" end cap (mill finish)	6 ea	6 ea	6 ea
BL-20774	Retainer clip	69 ea	69 ea	92 ea
HW-B-50000	5/16" x 1 1/4" carriage bolt	69 ea	69 ea	92 ea
HW-N-10001	5/16" flange nut	69 ea	69 ea	92 ea
HW-R-10000	3/16" aluminum pop rivets	52 ea	52 ea	52 ea
	CASTER HARDWARE			
HW-21-04254-445-10	Non-marring locking caster	2 ea	2 ea	2 ea
HW-2-04254-445-10	Non-marring non-locking caster	6 ea	6 ea	8 ea
HW-N-2000-Z	1/2" flange nut	8 ea	8 ea	10 ea
	OUTRIGGER HARDWARE			
BL-4TR-OUTRIGGER	Outrigger arm	2 ea	2 ea	2 ea
HW-W-17W15003	Nylon bushing	4 ea	4 ea	4 ea
HW-B-4002-Z	3/8" x 2 1/2" bolt	2 ea	2 ea	2 ea
HW-N-30000	3/8" nylon lock nut	2 ea	2 ea	2 ea
HW-W-1000-Z	3/8" flat washer	4 ea	4 ea	4 ea
HW-38-26LP	Locking pin	2 ea	2 ea	2 ea

4-Tier Bleacher System Tip and Roll Design

PART #	PART LIST	BL-4TR-20DR	BL-4TR-21DR
BL-4TR-STRINGER	4-tier stringer	4 ea	5 ea
	FOOT PAD HARDWARE		
HW-613A-017K	Non-marring rubber footpads	20 ea	25 ea
HW-B-50000	5/16" x 1 1/4" carriage bolt	20 ea	25 ea
HW-N-10001	5/16" flange nut	20 ea	25 ea
HW-W-1000-Z	3/8" flat washer	20 ea	29 ea
	BRACING HARDWARE		
BL-60	60-spacer	n/a	4 ea
BL-72	72-spacer	3 ea	n/a
BL-60-12-BRACE	60-12 diagonal	n/a	8 ea
BL-72-12-BRACE	72-12 diagonal	6 ea	n/a
HW-B-40000	3/8" x 1 1/4" bolt	15 ea	19 ea
HW-N-10000	3/8" flange nut	15 ea	19 ea
	PLANK HARDWARE		
AL-16723A	2"x10" plank (anodized finish)	4 ea	4 ea
AL-16723M	2"x10" plank (mill finish)	6 ea	6 ea
AL-20773M	1"x6" plank (mill finish)	3 ea	3 ea
BL-17400A	2"x10" end cap (anodized finish)	8 ea	8 ea
BL-17400M	2"x10" end cap (mill finish)	12 ea	12 ea
BL-3326-6	1"x6" end cap (mill finish)	6 ea	6 ea
BL-20774	Retainer clip	92 ea	115 ea
HW-B-50000	5/16" x 1 1/4" carriage bolt	92 ea	115 ea
HW-N-10001	5/16" flange nut	92 ea	115 ea
HW-R-10000	3/16" aluminum pop rivets	52 ea	52 ea
	CASTER HARDWARE		
HW-21-04254-445-10	Non-marring locking caster	2 ea	2 ea
HW-2-04254-445-10	Non-marring non-locking caster	8 ea	10 ea
HW-N-2000-Z	1/2" flange nut	10 ea	12 ea
	OUTRIGGER HARDWARE		
BL-4TR-OUTRIGGER	Outrigger arm	2 ea	2 ea
HW-W-17W15003	Nylon bushing	4 ea	4 ea
HW-B-4002-Z	3/8" x 2 1/2" bolt	2 ea	2 ea
HW-N-30000	3/8" nylon lock nut	2 ea	2 ea
HW-W-1000-Z	3/8" flat washer	4 ea	4 ea
HW-38-26LP	Locking pin	2 ea	2 ea

4-Tier Bleacher System Tip and Roll Design

	TOOL REQUIRED
	Tape measure
	Hammer
	Cordless drill
	9/16" deep socket on ratchet
	9/16" wrench
	¾" socket on ratchet
	¾" wrench
	½" deep socket on ratchet
	level
	3/16" metal drill bit
	Pop rivet gun

Operational instructions:

Raising for storage/transportation:

1. Apply the brakes on the casters
2. Have 2 people minimum stand at the lower end of the bleachers and raise it until both casters are on the ground
3. Place the outriggers in the storage/travel position using provided locking pin
4. Release the brakes prior to transporting
5. Use 2 people for transporting the bleacher
6. Always apply the brakes while bleacher is stored

Lowering for use

1. Apply the brakes on the casters
2. Place the outriggers in the upward position and lock in place using the provided locking pins
3. Have 2 people minimum lower the bleacher so that all rubber foot pads make contact with the ground

NOTE:

- do not use or transport bleacher on uneven ground
- do not use bleacher in the rain or windy conditions
- bleacher only to be used by qualified individuals
- use caution when transporting bleacher over thresholds or bumps in the surface
- outriggers must be in locked in downward position when transporting or storing

4-Tier Bleacher System Tip and Roll Design

1. Install five **non-marring rubber footpads** to the base of all the **4-tier stringers**.

2. Place one **3/8" flat washer** on one **5/16"x 1 1/4" carriage bolt** and put through the base of the **non-marring rubber footpad**.

3. Place the pad/washer/bolt through the base of the **4 tier stringer** and attach using one **5/16" flange nut**.



1. Space **4-tier stringers** out so that they are 5' or 6' on centre depending on model (consult attached drawing for reference).

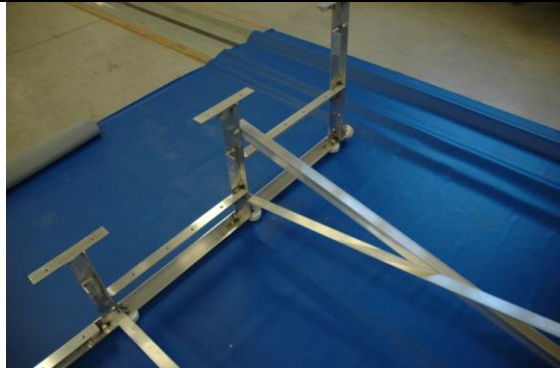
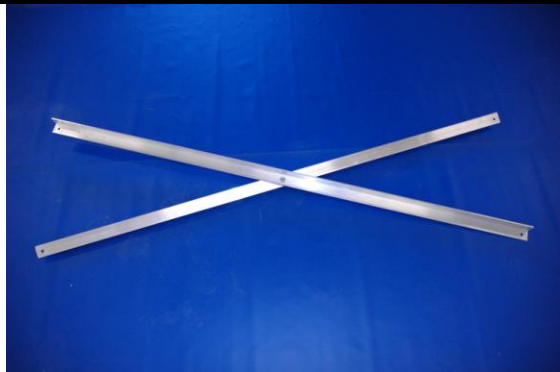
2. Install the **48, 60 or 72 - spacer brace** on 2nd row using a **3/8" x 1 1/4" bolt**.

NOTE: install with the angle facing down so that the angle does not collect dirt and debris.

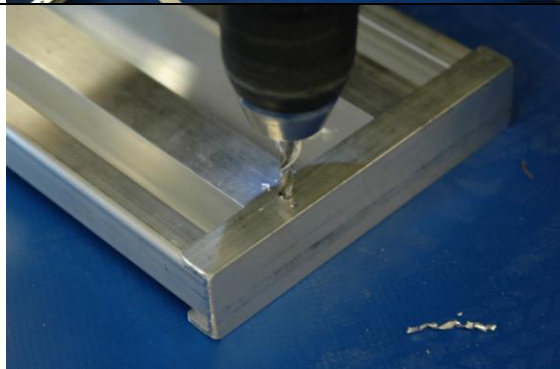


4-Tier Bleacher System Tip and Roll Design

1. Place one **x-brace (48-12, 60-12 or 72-12)** member back to back with another **x-brace** member to form the x-brace scissor.
2. Insert a **3/8" x 1 1/4" bolt and 3/8" flange nut** in the centre of two pieces of angle to form x-brace. Loosely tighten these bolts so that the x-brace can be maneuvered like a scissor.
3. Use a **3/8" x 1 1/4" bolt and 3/8" flange nut** hardware to connect the x-braces to the **4-tier stringers** on the 3rd row.
4. Plumb the **4-tier stringers** prior to tightening the x-braces using a level in order to ensure the stringers are level and sitting 4', 5' or 6' on centre depending on model.
5. Use ratchet with 9/16" socket and a 9/16" wrench to tighten all **x-braces** to the **stringer frames**.



1. Place **2"x10" end cap (anodized finish)** on end of **2"x10" plank (anodized finish)**.
- NOTE: the anodized aluminum plank will have a dull grey appearance when set beside a mill-finished aluminum plank. The anodized aluminum planks will become the seat planks for the bleacher system. Anodized planks are less likely to oxidize and give off aluminum dust and are therefore designed to act as a seat



4-Tier Bleacher System Tip and Roll Design

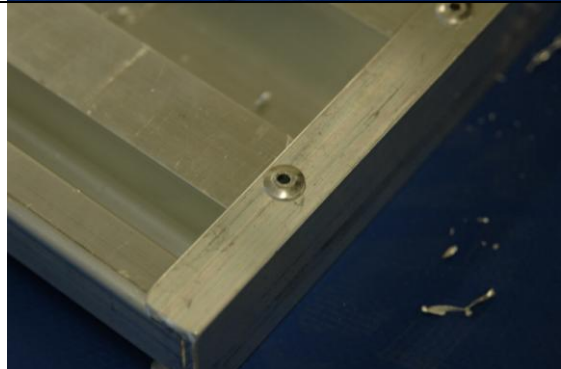
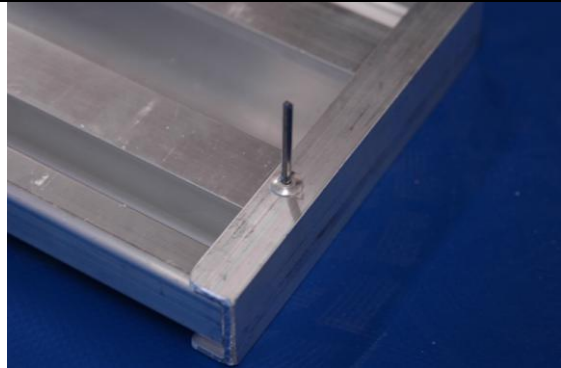
plank. The end caps fit snugly on the end of the aluminum plank and may need to be tapped on using a hammer and block of wood or a rubber mallet. Place end cap so that the long leg of the channel is on the underside of the seat plank.

2. When fit on the plank, drill through the end cap and plank with 3/16" metal bit in 2 places.

3. Secure the channel to the plank with **3/16" aluminum pop rivets** x 2 ea.

4. Repeat this step on the opposite end of the plank.

5. Repeat steps 1-4 for the **2"x10" planks (mill finish)**.




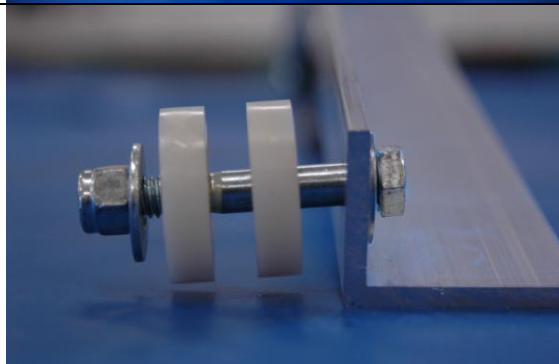


1. Use **5/16" x 1 1/4" bolt and 5/16" flange nuts** with **retainer clips** to secure planks to riser board areas. Use 1/2" deep socket to secure this hardware arrangement.

2. Install one riser per row for rows 2-4.

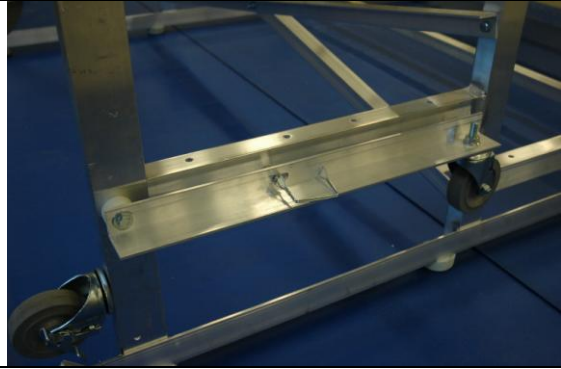
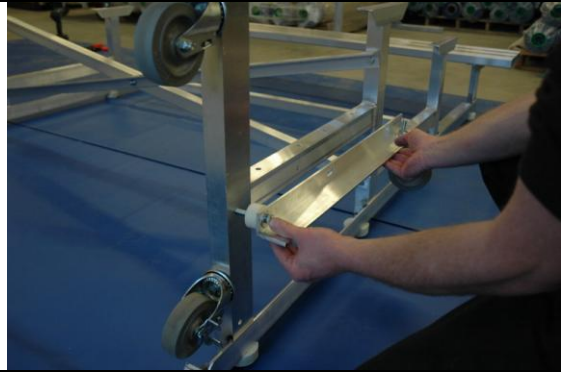


4-Tier Bleacher System Tip and Roll Design

<p>1. Use 5/16" x 1 1/4" carriage bolt, 5/16" lock washer and 5/16" nuts with retainer clips to secure planks to seat and footboard areas. Use 1/2" deep socket to secure this hardware arrangement.</p> <p>NOTE: 2"x10" plank (anodized finish) (dull finish) will act as seat boards and 2"x10" plank (mill finish) (shiny finish) will act as footboards.</p>	
<p>1. Attach a non-marring locking caster to the bottom end of the 4-tier stringer using a 1/2" flange nut on outer most stringers only.</p> <p>2. Attach a non-marring non-locking caster to all other locations on 4-tier stringer using a 1/2" flange nut.</p>	
<p>1. Attach a non-marring non-locking caster to the outrigger arm with a 1/2" flange nut.</p> <p>2. Repeat to make two complete units.</p>	
<p>1. Insert a 3/8" x 2 1/2" bolt through the outrigger arm with two nylon bushings.</p> <p>2. Install the outrigger arm on the side of the 4-tier stringer using the provided hole and attach using a 3/8" lock nut.</p> <p>NOTE: outrigger arms are only installed on the two outer 4 tier stringers</p>	

4-Tier Bleacher System Tip and Roll Design

3. Repeat for opposite side of 4 tier stringer.
4. Secure the **outrigger arm** in the upright position using a **locking pin**.



IMPORTANT

4-Tier Bleacher System Tip and Roll Design

Sport Systems makes every effort to ensure that its assembly instructions and other printed material are kept up to date. However, written specifications are subject to change without notice.

Installation

Unless Sport Systems has agreed expressly to provide installation services, Buyer is responsible for installing & assembling products. Buyer assumes full responsibility for the proper installation & assembly of products.

Instructions and Warnings

Sport Systems shall have no liability whatsoever for injury, damages, losses and expenses arising as a result of a failure to follow instructions from Sport Systems related to the proper installation, use, care and maintenance of products. Buyer should follow all such instructions, including without limitation:

PRODUCTS SHOULD BE INSPECTED PRIOR TO EACH USE FOR DAMAGE AND DETERIORATION AND SHOULD NOT BE USED IF DAMAGED OR DETERIORATED.

PRODUCTS SHOULD NOT BE USED BY PARTICIPANTS WITHOUT PROPER TRAINING AND SUPERVISION.

Building Codes

These Tip & Roll bleachers are designed in accordance with both the NBC 2005 (National Building Code of Canada) and the OBC 2006 (Ontario Building Code). The buyer remains responsible for compliance with any other local or jurisdictional codes. Drawings stamped by a registered professional engineer are not included unless noted in the associated quote or invoice. Please consult with local code officials to determine any additional features which may be desired or required. Official interpretation and application rests solely with local authorities. Sport Systems Canada Inc. and its representatives cannot assume liability for code compliance and presents this information as unofficial guidelines only.