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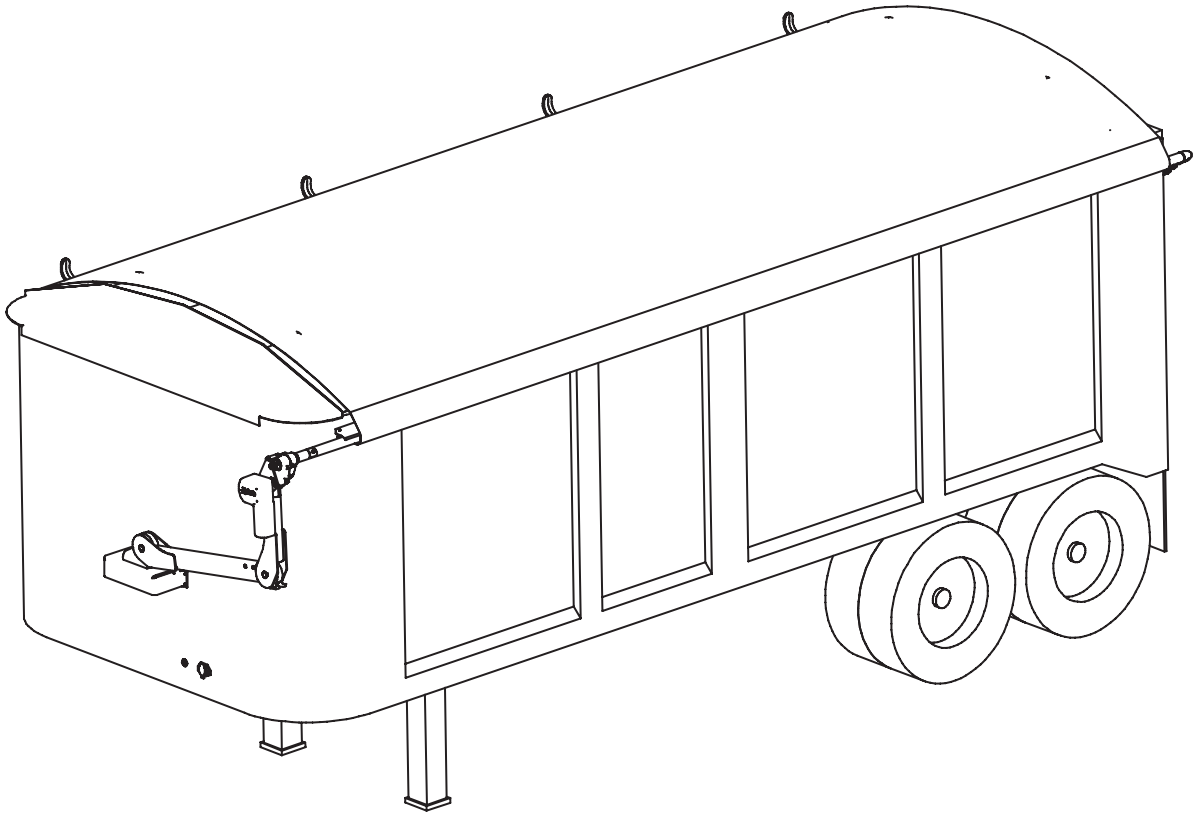
AeroForce S2S
For End Dumps



AeroForce S2S

Installation Instructions

Attention Dealers: Please give this manual to the customer when product is delivered.

Call 800-535-9545 | www.aeroindustries.com

Indianapolis, IN | Omaha, NE | Kent, OH

AeroForce S2S

For Dumps

Installation Directory

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Important Safety Information

Explanation of Signal Words

⚠ **WARNING:** Indicates a hazardous situation which, if not avoided could result in death or serious injury.

⚠ **CAUTION:** Indicates a hazardous situation which, if not avoided could result in minor or moderate injury.

General Safety Messages

⚠ **WARNING**: Read this entire manual and all safety messages before installing and operating this product.

⚠ **WARNING:** Always wear safety glasses during installation and operation.

⚠ **CAUTION:** Keep all clothing clear of moving parts.

⚠ **CAUTION:** Keep everyone clear of the area.

Safety Messages related to the Installation of AeroForce S2S

⚠ **CAUTION:** Use caution lifting heavy components. Use more than one person and/or proper equipment to handle components.

⚠ **CAUTION:** Use caution while installing the swing arms, springs are under spring tension. Arms may rotate unexpectedly.

⚠ **WARNING:** Use OHSA approved ladders or scaffolding to work above ground level. Be sure that your working platform is secure as you work on the truck.

⚠ **WARNING:** Properly fasten all components. If not properly secured components may come loose.

ℹ ***IMPORTANT:*** *Contains information critical to installation, operation, or warranty policy.*

NOTICE: *Is used to address practices not related to physical injury. Risk of product or vehicle being damaged.*

NOTE: Contains information critical to the installation or operation of this product.

ℹ ***IMPORTANT:*** *This tarp system must have arched bows to support the tarp fabric when closed. As such, When not in use, the tarp should be fully opened to prevent moisture from collecting on the tarp surface. Failure to open tarp could cause damage to the tarp system and will not be covered by warranty.*

This manual explains how to install and maintain an AeroForce S2S Roll Tarp system.

Aero Warranty

Aero Products come with a one year warranty on all parts. It's another example of our ongoing commitment to customer satisfaction and quality.

Customer: If you have any concerns or questions prior to the installation of this product, please call our Customer Service at 1-800-535-9545.

Tools Required for Installation

Marker or Felt Pen	Drill Bits: 9/32", 11/32", 13/32"
Tape Measure	Sockets: 5/16", 7/16", 9/16", 3/4", 1", 1-1/8"
Black Electrical Tape	Open End or Box Wrenches: 5/16", 7/16", 9/16", 3/4", 1", 1-1/8"
Awl	Phillips: #3
Hammer	Electric or Air Drill
Saw	Welder
	Allen Wrench Set

Step 1a

Fabric Front Cap: Mark Top Rail for Bow Placement

1) **Figures 5-1 & 5-2.** Mark the top rail where flat on side of trailer starts. Also mark 10" from there for heavy duty bows. The dimension of the **R**adius, **D**iagonal, or **O**ffset.

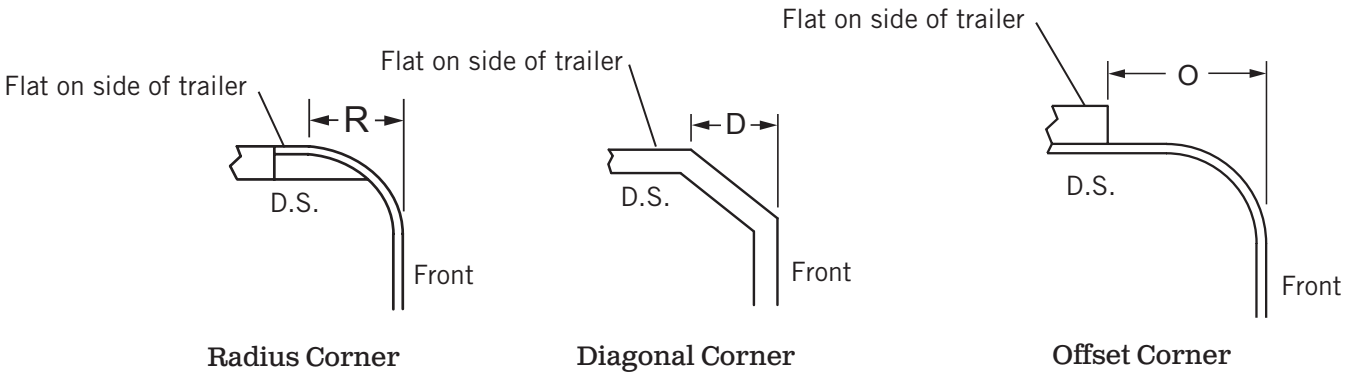


Figure 5-1

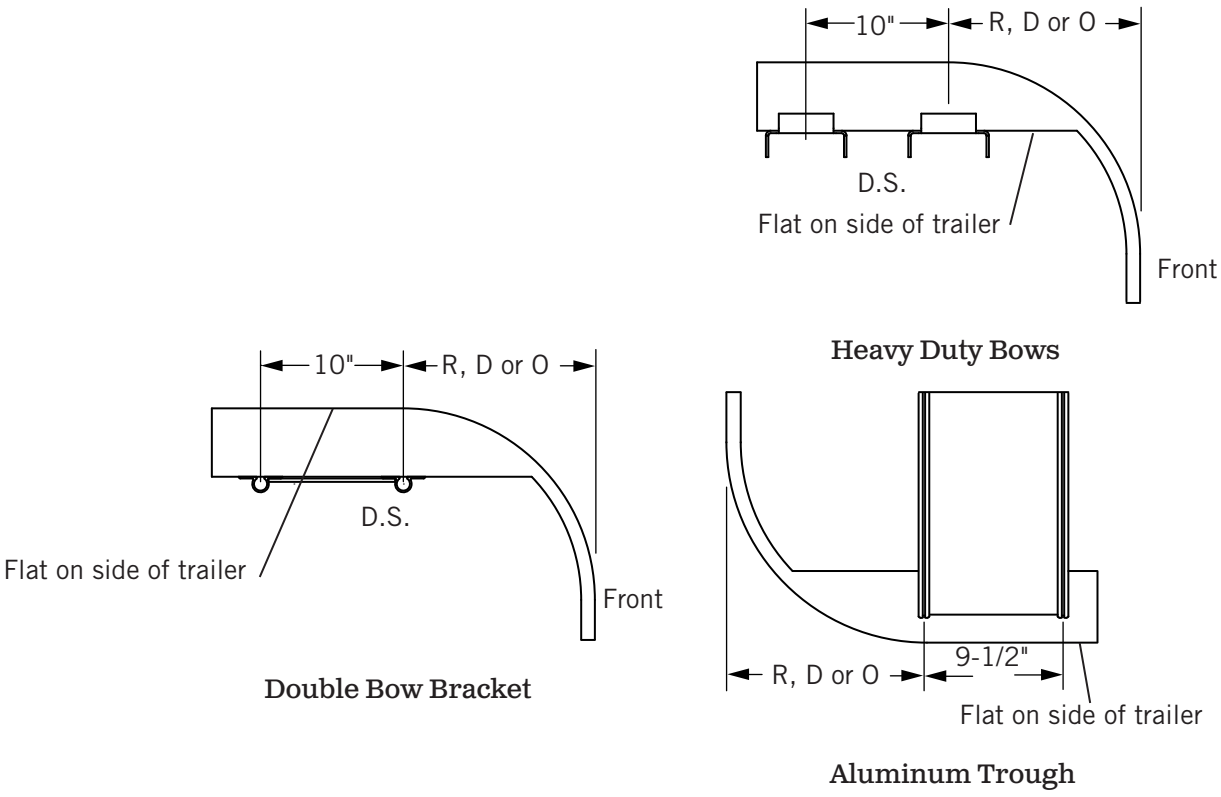


Figure 5-2

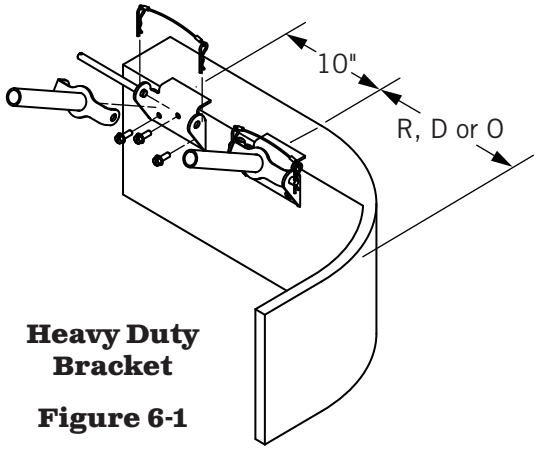
Step 1b

Fabric Front Cap: Install Double Bow Bracket or Heavy Duty Bows

Index	Description	Qty
1	Fabric Front Cap	1
2	Heavy Duty Bracket	4
2A	Double Bow or Double Bow W/Insert	2
3	Bows	2
4	3/8 x 1 Type F HWH	24
5	5/16 x 1-1/2 Type F Torx	15
6	Aluminum Flat Bar 1/8" x 1"	12 ft
7	Bow Tie Bar	1

Install Heavy Duty Bracket

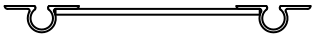
Figure 6-1. Position heavy duty brackets centered on marks on top rail. Attach with 3/8 x 1 type F HWH bolts.



Heavy Duty Bracket

Figure 6-1

Install Double Bow Bracket



Double Bow Bracket No Insert

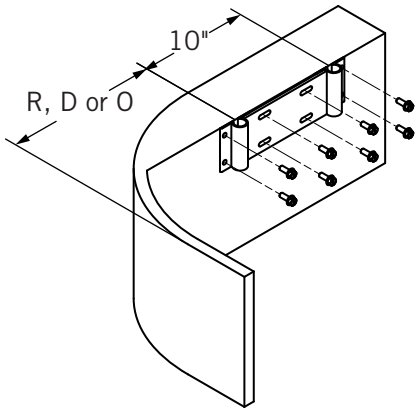
Double Bow Bracket W/Insert

1) **Figure 6-1.** Clamp first pocket of double bow bracket centered on mark on top rail.
2) **Figure 6-2.** Position bracket as shown to reduce tarp wear.

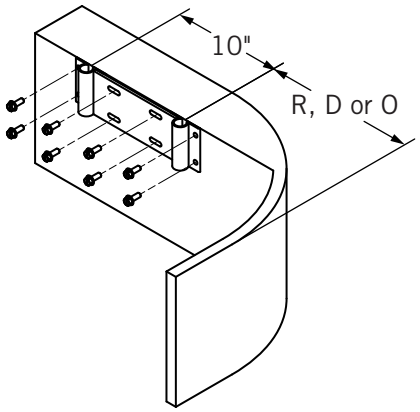
Note: Put the bolts in the center of the slots in case pocket needs to be adjusted.

3a) **Figure 6-1.** Attach with 3/8 x 1 type F HWH bolts.

3b) **Figure 6-3.** Attach with 3/8 x 2-1/2 carriage bolts.



Double Bow Bracket on Passenger Side



Double Bow Bracket W/Insert on Drive Side

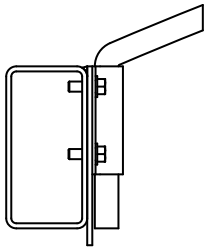


Figure 6-2

Install Double Bow Bracket to Sideboards

Hardware to Mount to Sideboards

Index	Description	Qty
7	5/16 X 2-1/2 CARRIAGE BOLT	16
8	5/16 FLAT WASHER	16
9	5/16 LOCK WASHER	16
10	5/16 HEX NUT	16

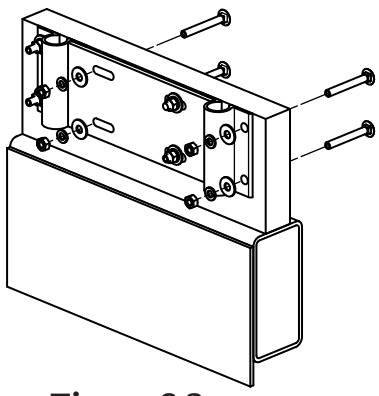


Figure 6-3

Step 1b (cont.)

5) **Figure 7-1.** Feed bow through pocket of fabric cap and install on trailer. On adjustable bows remove bolt and pin. Orient the bow so the end with the removable pin is on the passenger side.

6) Install heavy duty bows per **Step 3d**.

6a) **Figure 7-2.** Adjustable bows are tied together with the Bow Tie Bracket, flat washers, lock washers, and bolts removed in earlier step.

7) **Figure 7-3.** Pull cap tight over top rail.

8) **Figure 7-4.** Drill holes evenly spaced through aluminum flat bar and attach with 5/16 x 1-1 /2 Type F Torx.

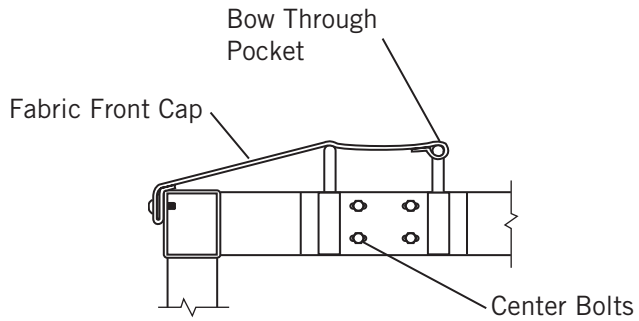


Figure 7-1

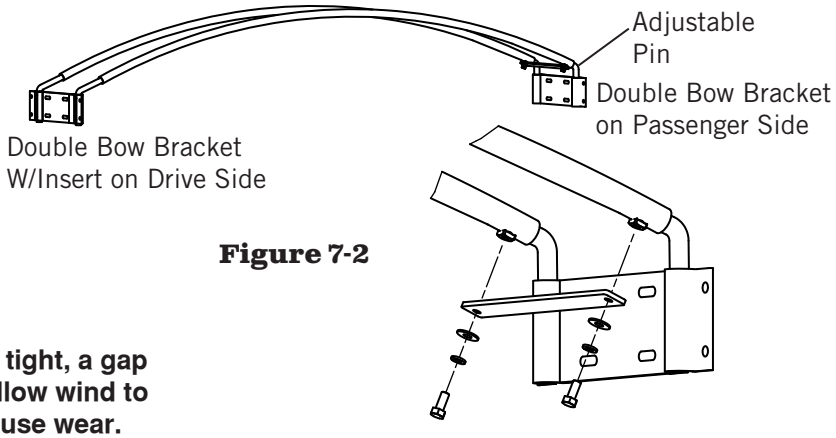


Figure 7-2

IMPORTANT: **If the cap is not pulled tight, a gap with the roll tarp will allow wind to get underneath and cause wear.**

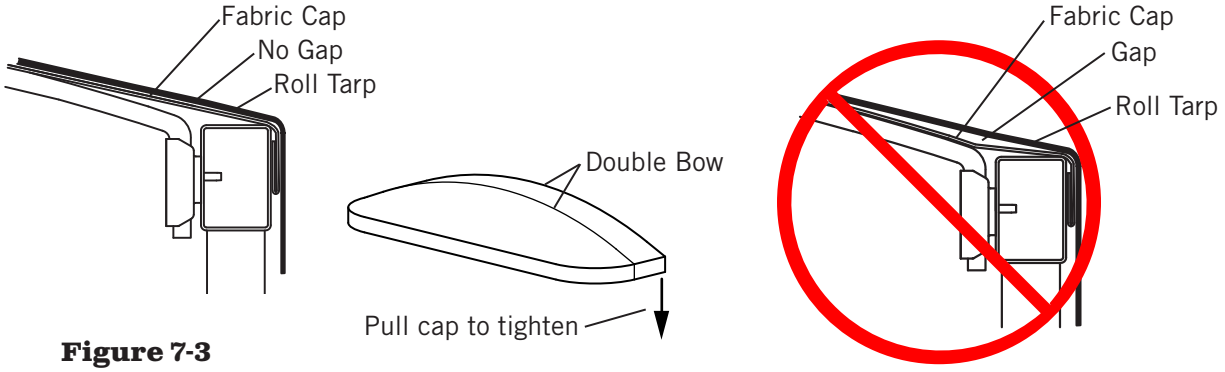


Figure 7-3

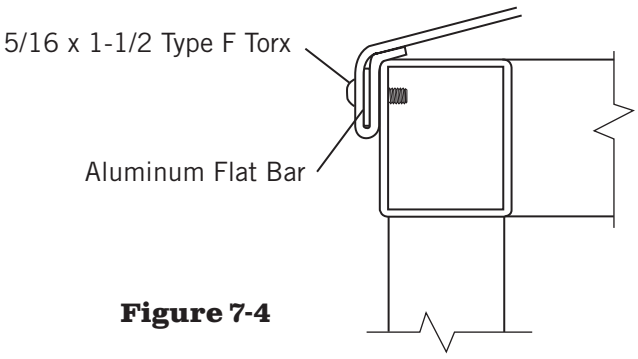


Figure 7-4

Step 1c

Fabric Front Cap: Install Aluminum Trough

Index	Description	Qty
1	Fabric Front Cap	1
2	Angle Bracket Trough	2
3	Trough Extrusion Rolled	1
4	3/8 x 1 Type F HWH	4

Index	Description	Qty
5	Bolt Carr 3/8-16x1-1/4	4
6	Nut Hex 3/8-16	4
7	Washer Flat 3/8"	4
8	Aluminum Flat Bar 1/8" x 1"	12 Ft

1) **Figure 8-1.** Verify trailer width subtract 1" for trough width, see table, find length base on trailer width and rise, cut to size.
2) **Figures 8-2 & 8-3.** Position Angle Bracket Trough with the slotted holes against the trailer and clamp to trough.
3) **Figure 8-2.** Position trough 1/2" from outside edge of trailer on both sides and clamp in place.

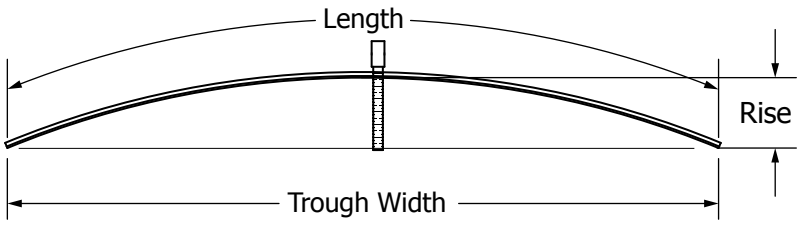


Figure 8-1

NOTE: The trough width maybe wider than the trailer, push the trough so it is 1/2" from the outside of the trailer and clamp in place. Check the rise to verify it is correct and make any necessary adjustments.

4) **Figure 8-4.** Drill two 1/2" diameter holes through trough and bracket.
5) **Figure 8-4.** Attach with 3/8-16 x 1-1/4" carriage bolt, 3/8 flat washer, and 3/8-16 nylon hex nut.
6) **Figure 8-5.** Grind end of trough at 30 angle, free from burrs, to reduce wear on tarp.

Trailer Width	Trough Width	Length	Rise
96"	95"	96"	6"
96"	95"	97-3/4"	10"
102"	101"	101-15/16"	6"
102"	101"	103-5/8"	10"

NOTE: Bracket can be welded to Aluminum Trailer.

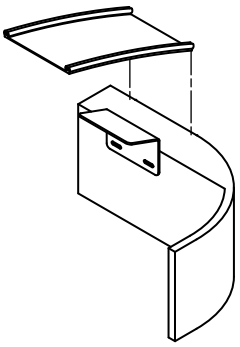


Figure 8-2

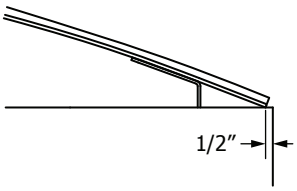


Figure 8-3

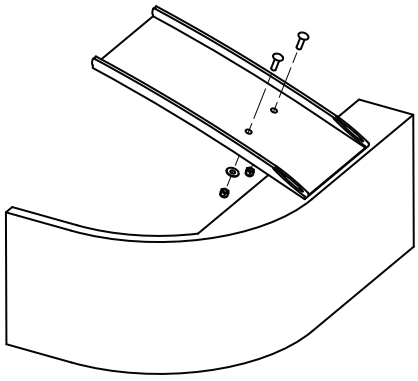


Figure 8-4

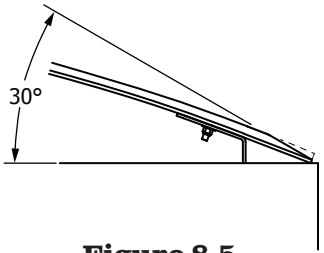


Figure 8-5

Step 1c (cont.)

7) **Figure 9-1.** Position aluminum trough at the R, D, or O plus any trough offset specified on order.

8) **Figure 9-1.** Drill pilot holes for 3/8" x 1" type F and secure to trailer.

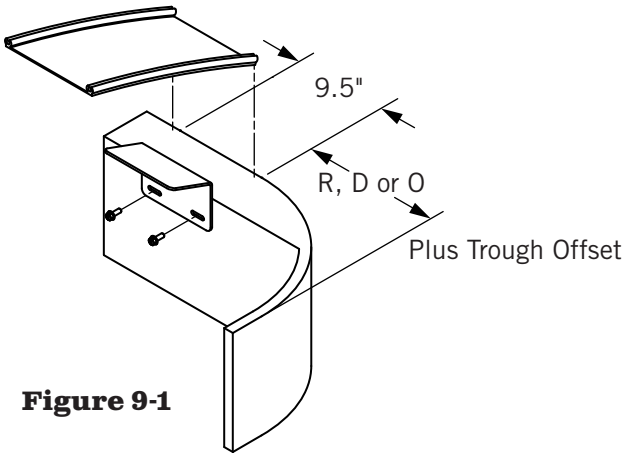


Figure 9-1

9) **Figure 9-2.** Feed aluminum flat bar through bottom of fabric cap.

10) **Figure 9-2.** Feed fabric cap through front keder of aluminum trough.

11) **Figure 9-3.** Pull cap tight over top rail.

12) **Figure 9-4.** Drill holes evenly spaced through aluminum flat bar and attach with 5/16 x 1-1 /2 Type F Torx.

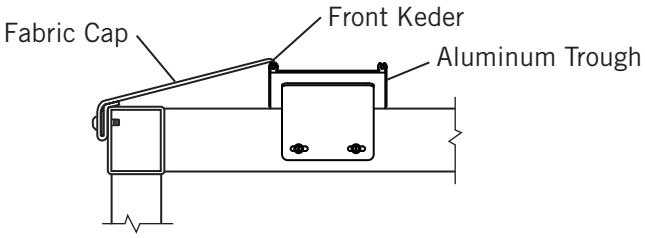


Figure 9-2

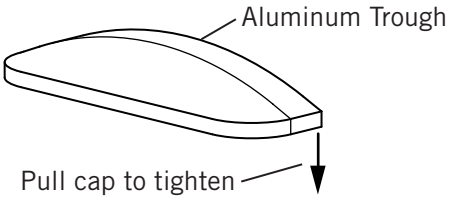


Figure 9-3

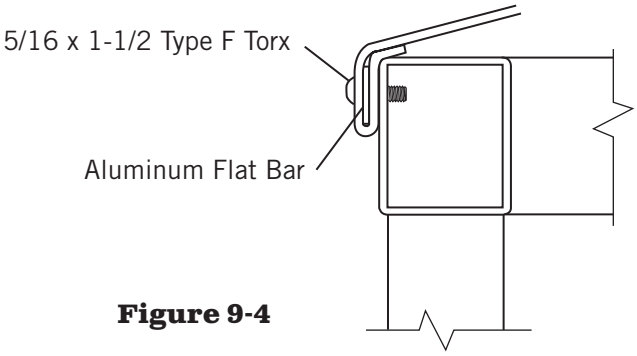


Figure 9-4

Step 1d

Aluminum Front Cap: Install Square Nose

Index	Description	Qty
1	Front Cap Square Aluminum	1
2	3/8 x 1 Type F HWH	4

1) **Figure 10-1.** Measure and make any cut-outs and place cap on trailer.
2) Attach with 3/8 x 1 Type F HWH Bolts through trough into top rail.

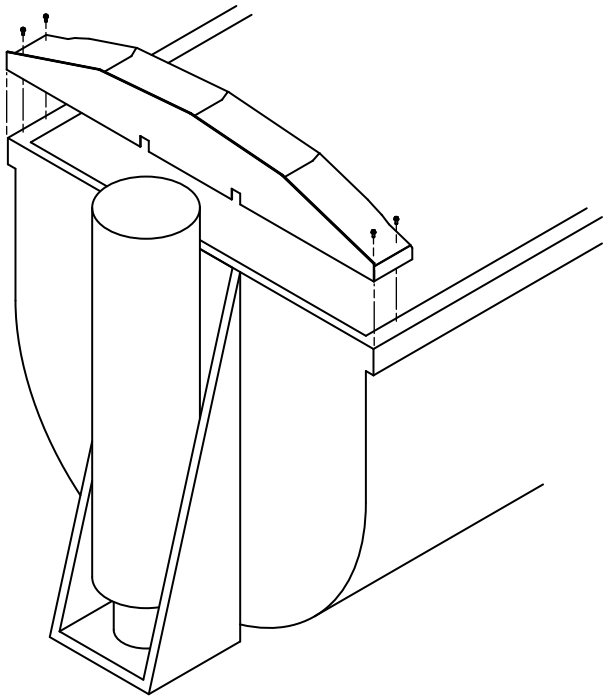


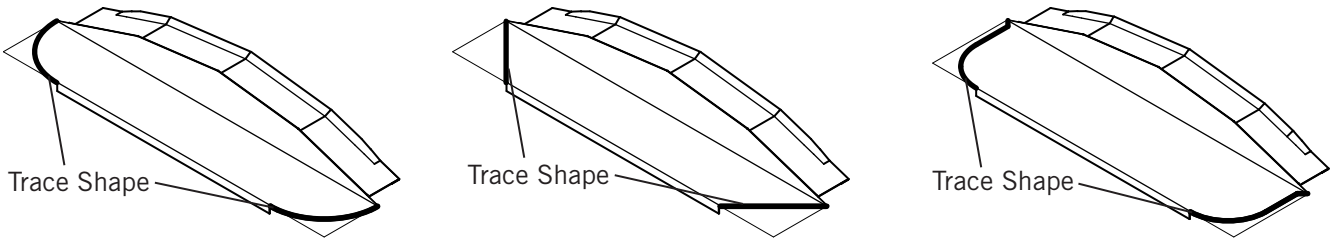
Figure 10-1

Step 1e

Aluminum Front Cap: Install Shaped to Nose

Index	Description	Qty
1	Front Cap Aluminum	1
2	Aluminum Strip 1/8 x 3	2
3	3/8 x 1 Type F HWH	4

1) Place cap on front of trailer, center and push lip up against the trailer.
2) **Figure 10-2.** Trace the corner shape of nose onto front cap and cut-out shape



Radius Corner | Diagonal Corner | Offset Corner

Figure 10-2

3) **Figure 10-3.** Attach with 3/8 x 1 Type F HWH Bolts through trough into top rail.
4) **Figure 10-3.** Shape the aluminum strip around the corner of the trailer, mark and cut to length for both sides.
5) **Figure 10-4.** Weld both pieces to the front cap.

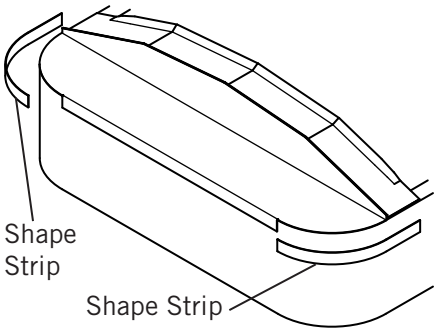


Figure 10-3

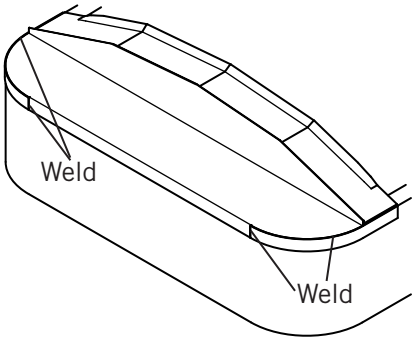


Figure 10-4

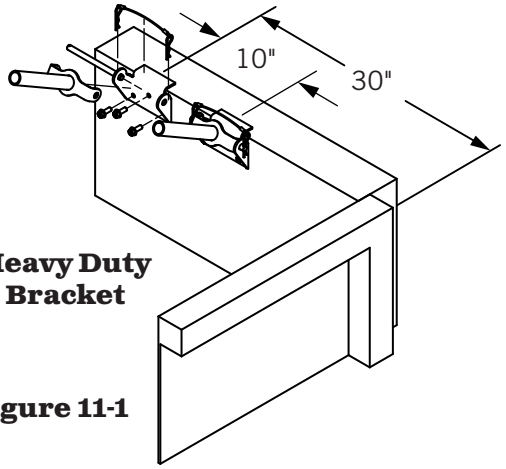
Step 2a

Fabric Rear Cap: Install Double Bow Bracket or Heavy Duty Bows

Index	Description	Qty
1	Fabric Rear Cap	1
2	Heavy Duty Bracket	4
2A	Double Bow or Double Bow W/Insert	2
3	Bows	2
4	3/8 x 1 Type F HWH	16
5	Bow Tie Bar	1

Install Heavy Duty Bracket

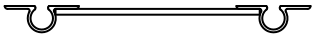
Figure 11-1. Position heavy duty brackets centered on marks on top rail. Attach with 3/8 x 1 type F HWH bolts.



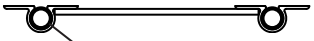
Heavy Duty Bracket

Figure 11-1

Install Double Bow Bracket



Double Bow Bracket No Insert



Double Bow Bracket W/Insert

1) **Figure 11-1.** Measure and mark 30" from the outside of the tailgate and 10" towards the rear from the previous mark.

2) **Figure 11-1.** Clamp first pocket of double bow bracket centered on mark on top rail.

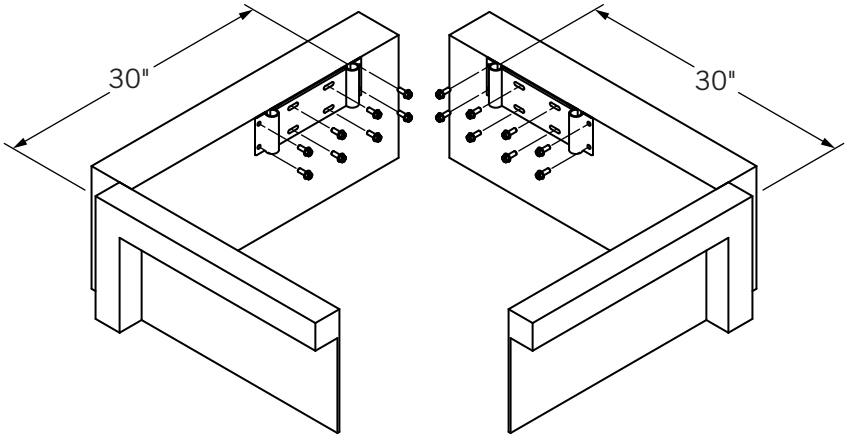
3) **Figure 11-2.** Position bracket and bow as shown to reduce tarp wear.

Note: Put the bolts in the center of the slots in case pocket needs to be adjusted.

4a) Figure 11-1. Attach with 3/8 x 1 type F HWH bolts.

4b) Figure 11-3. Attach with 3/8 x 2-1/2 carriage bolts.

Note: There may be up to 3 different widths of aluminum bows, make sure you have the right one.



Double Bow Bracket W/Insert on Drive Side

Double Bow Bracket on Passenger Side

Install Double Bow Bracket to Sideboards

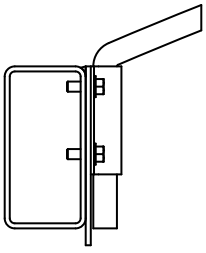


Figure 11-2

Hardware to Mount to Sideboards

Index	Description	Qty
7	5/16 X 2-1/2 CARRIAGE BOLT	16
8	5/16 FLAT WASHER	16
9	5/16 LOCK WASHER	16
10	5/16 HEX NUT	16

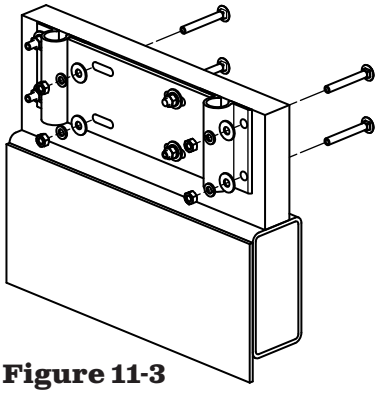


Figure 11-3

Step 2a (cont.)

5) **Figure 12-1.** Feed bow through pocket of fabric cap and install on trailer. On adjustable bows remove bolt and pin. Orient the bow so the end with the removable pin is on the passenger side.

6a) Install heavy duty bows per **Step 3d**.

6b) Figure 12-2. Adjustable bows are tied together with the Bow Tie Bracket, flat washers, lock washers, and bolts removed in earlier step.

Note: Driving with the tarp open may cause air to lift the rear cap and the bow coming out of the pocket. Placing a pin through the bow and pocket will prevent this from happening.

7) **Figure 12-3.** Drill 13/64" hole through the bow and pocket towards the front on both sides. Insert 3/16" hair pin in drilled holes.

8) **Figure 12-4.** Pull cap tight when securing with Latch Plate or Roll Stop.

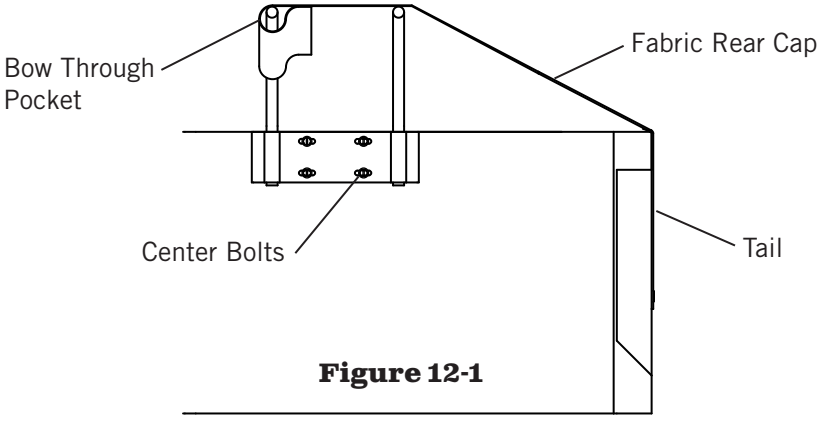


Figure 12-1

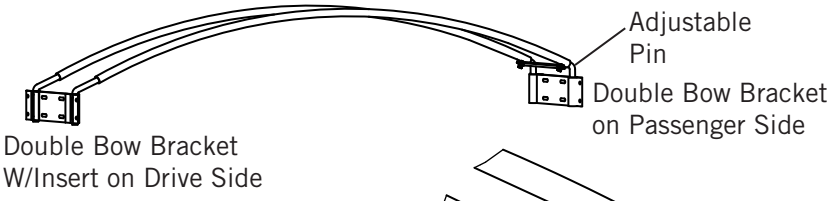
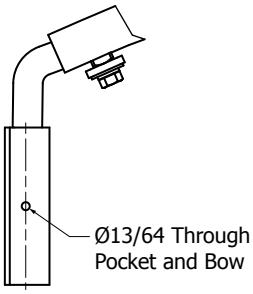


Figure 12-2



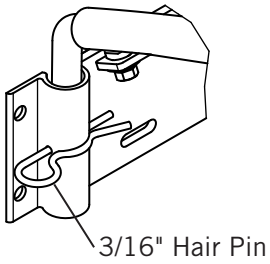


Figure 12-3

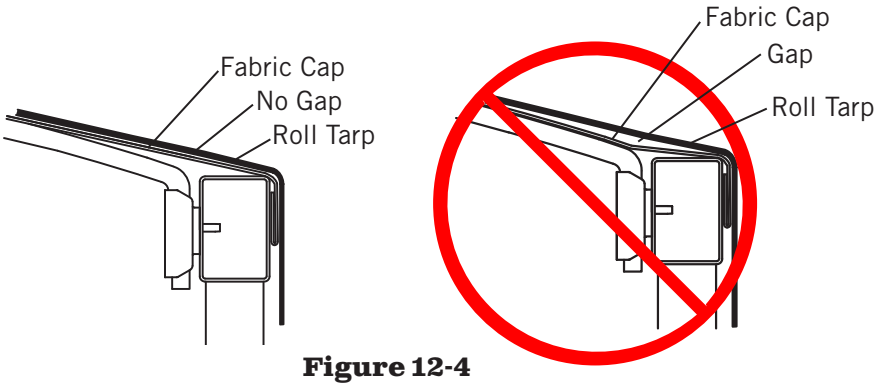


Figure 12-4

Step 2b

Fabric Rear Cap: Install Aluminum Trough

Index	Description	Qty
1	Fabric Cap	1
2	Angle Bracket Trough	2
3	Trough Extrusion Rolled	1
4	3/8 x 1 Type F HWH	4
5	Bolt Carr 3/8-16x1-1/4	4

Index	Description	Qty
6	Nut Hex 3/8-16	4
7	Washer Flat 3/8"	4
8	Aluminum Flat Bar 1/8" x 1"	12 Ft
9	Pin Hair 3/16x3.5"	2

1) **Figure 13-1.** Verify trailer width subtract 1" for trough width, see table, find length base on trailer width and rise, cut to size.

2) **Figures 13-2 & 13-3.** Position Angle Bracket Trough with the slotted holes against the trailer and clamp to trough.

3) **Figure 13-3.** Position trough 1/2" from outside edge of trailer on both sides and clamp in place.

Note: The trough width maybe wider than the trailer, push the trough so it is 1/2" from the outside of the trailer and clamp in place. Check the rise to verify it is correct and make any necessary adjustments.

4) **Figure 13-4.** Drill two 1/2" diameter holes through trough and bracket.

5) **Figure 13-4.** Attach with 3/8-16 x 1-1/4" carriage bolt, 3/8 flat washer, and 3/8-16 nylon hex nut.

6) **Figure 13-5.** Grind end of trough at 30⁰ angle, free from burrs, to reduce wear on tarp.

NOTE: Bracket can be welded to Aluminum Trailer.

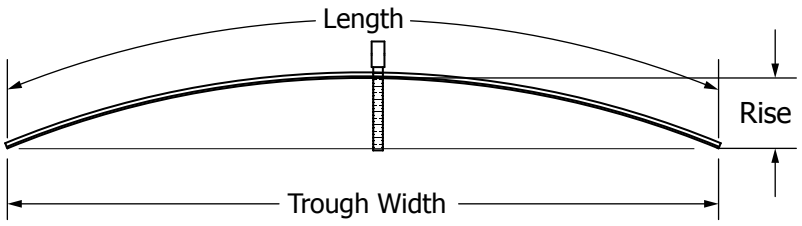


Figure 13-1

Trailer Width	Trough Width	Length	Rise
96"	95"	96"	6"
96"	95"	97-3/4"	10"
102"	101"	101-15/16"	6"
102"	101"	103-5/8"	10"

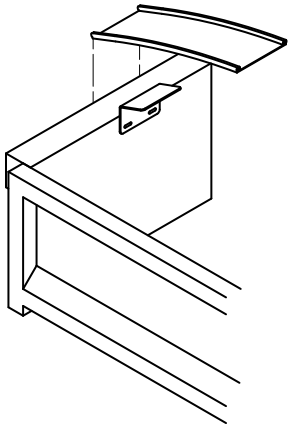


Figure 13-2

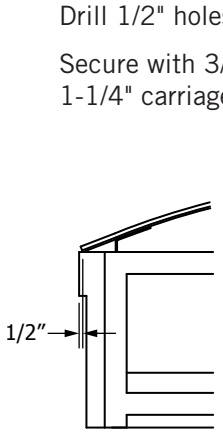


Figure 13-3

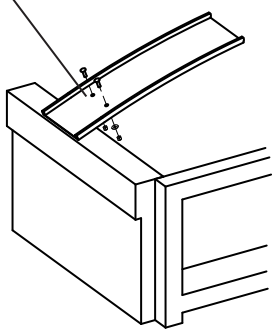


Figure 13-4

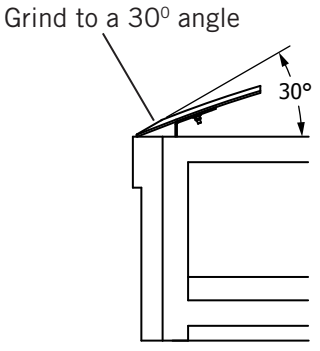


Figure 13-5

Step 2b (cont.)

7) Figure 14-1. Position the front of the aluminum trough at 30" from the outside of the tailgate.

8) Figure 14-1. Drill pilot holes for 3/8" x 1" type F and secure to trailer.

NOTE: Bracket can be welded to Aluminum Trailer.

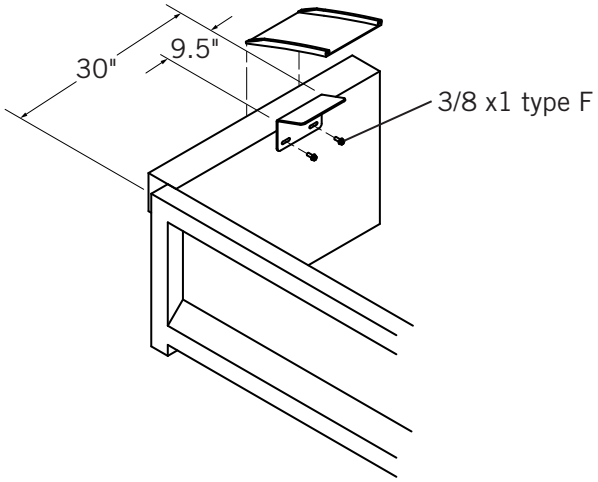


Figure 14-1

9) Figure 14-2. Feed fabric cap through back keder of aluminum trough.

10) Figure 14-3. Pull cap tight when securing with Latch Plate or Roll Stop.

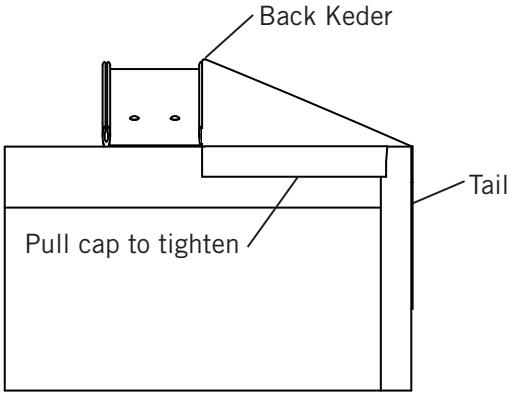


Figure 14-2

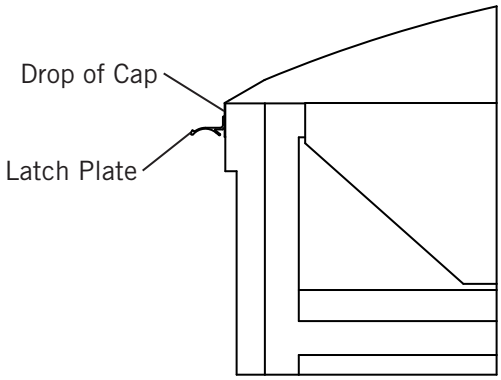


Figure 14-3

Step 2c

Aluminum Rear Cap: Install Mounted to Tailgate

Index	Description	Qty
1	Rear Cap Aluminum Tailgate	1
2	3/8 x 1 Type F HWH	4

1) **Figure 15-1.** Position aluminum rear cap centered on inside of tailgate with the bottom of the trough even with the side walls.
2) Drill pilot holes and secure with 3/8 x 1 Type F HWH bolts.

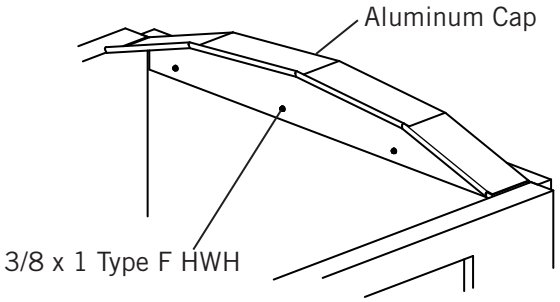


Figure 15-1

Step 2d

Aluminum Rear Cap: Install with Fabric Tail

Index	Description	Qty
1	Rear Cap Aluminum with Tail	1
2	Fabric Rear Tail for Aluminum Cap	1
3	3/8 x 1 Type F HWH	4

1) **Figure 15-2.** Position aluminum rear cap on top rail centered on width, locate the front edge of cap 20" from outside of tailgate.
2) Drill pilot holes and secure with 3/8 x 1 Type F HWH bolts.
3) **Figure 15-3.** Insert welt on tail into keder on back of cap and center on width. Use light oil to slide welt in keder.

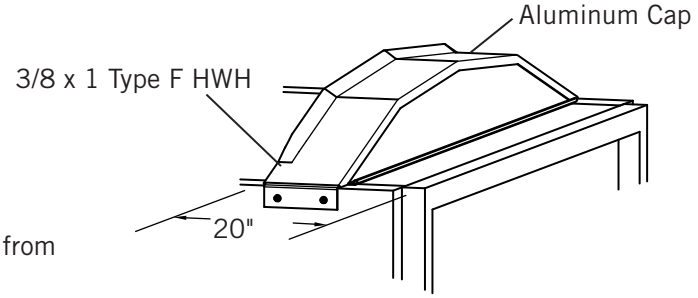


Figure 15-2

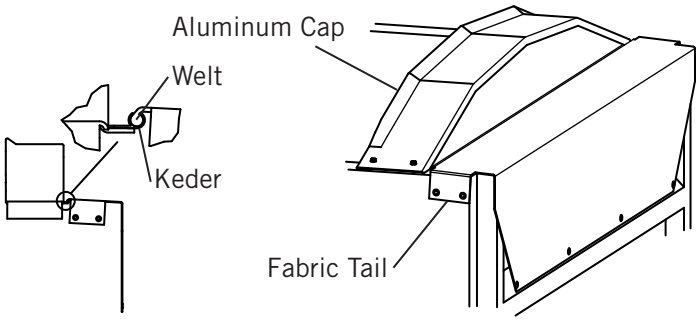


Figure 15-3

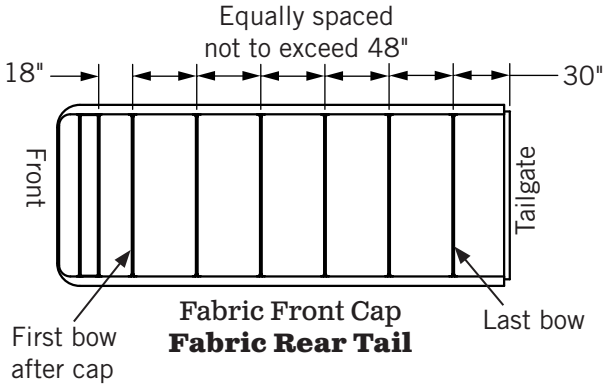
Step 3a

Marking Bow Location

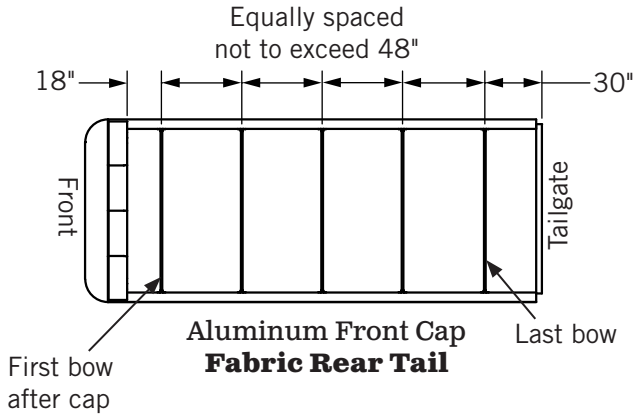
1) Mark top rail according to what caps are on the trailer.

IMPORTANT: **DO NOT exceed 48" spacing for bow centers. This will void the warranty.**

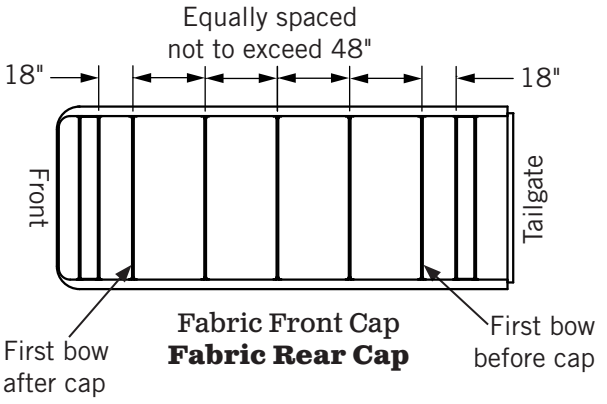
IMPORTANT: *This tarp system must have arched bows to support the tarp fabric when closed. As such, When not in use, the tarp should be fully opened to prevent moisture from collecting on the tarp surface. Failure to open tarp could cause damage to the tarp system and will not be covered by warranty.*



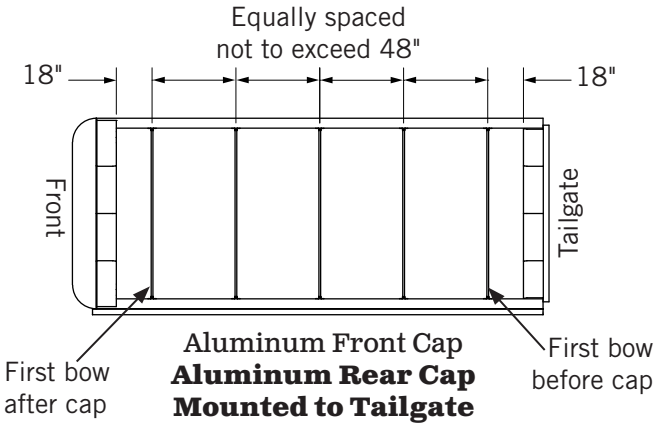
Fabric Front Cap
Fabric Rear Tail



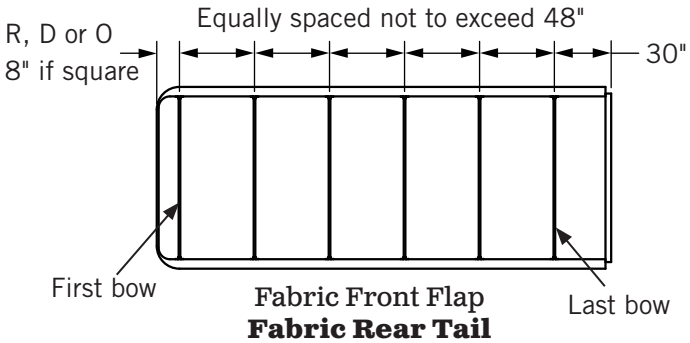
Aluminum Front Cap
Fabric Rear Tail



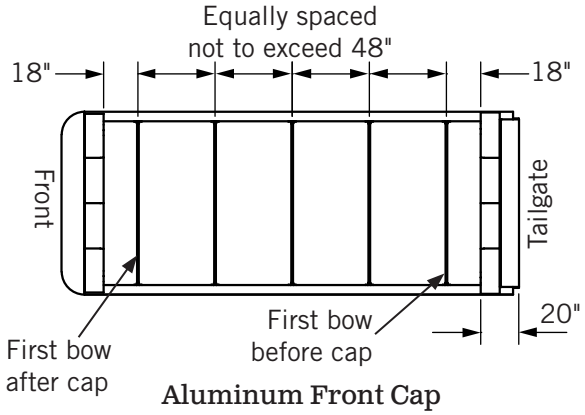
Fabric Front Cap
Fabric Rear Cap



Aluminum Front Cap
Aluminum Rear Cap
Mounted to Tailgate



Fabric Front Flap
Fabric Rear Tail



Aluminum Front Cap
Aluminum Rear Cap
with Tail

Step 3b

Installing Aluminum Bows

1) **Figure 17-1.** Align aluminum pocket with marked bow location and flush with top of rail.

WELD

2a) Weld down each side of pocket.

BOLT

2b) Drill a pilot hole and attach with 3/8 x 1 type F HWH bolts.

3) **Figure 17-2.** Insert bow into pockets.

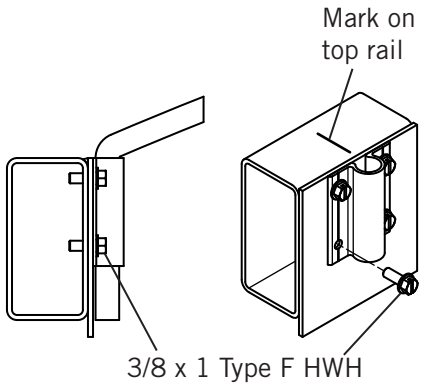


Figure 17-1

Figure 17-2

Step 3c

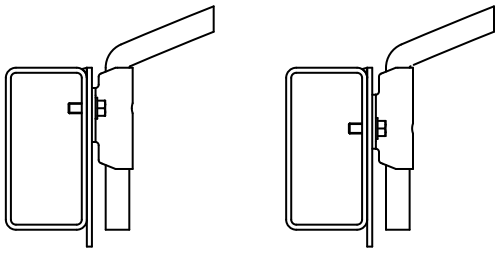
Installing Adjustable Steel Bows

1) **Figures 17-3 & 17-4.** Align steel pocket with marked bow location and adjust height so bend in bow is even with the top rail.

2a) **Figure 17-4.** Drill a pilot hole and attach with 3/8 x 1 type F HWH bolts.

2b) **Figure 17-5.** Drill a pilot hole and attach with 3/8 x 1 type F HWH bolts.

3) **Figure 17-6.** Loosen set screw on bow. Insert bow into one pocket. Adjust width and then insert into the other pocket. Tighten the set screw.



Bracket can be positioned high or low

Figure 17-3

Install Bow Bracket to Sideboards

Hardware to Mount to Sideboards

Index	Description	Qty
1	5/16 X 2-1/2 CARRIAGE BOLT	8
2	5/16 FLAT WASHER	8
3	5/16 LOCK WASHER	8
4	5/16 HEX NUT	8

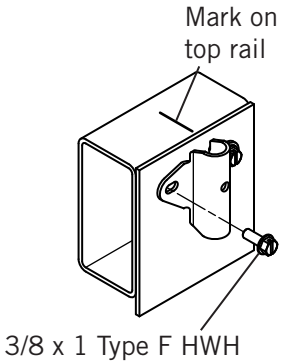


Figure 17-4

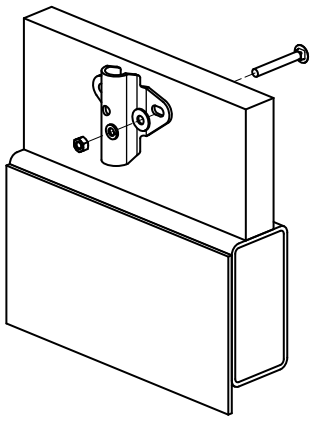


Figure 17-5

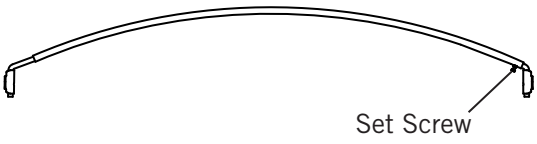


Figure 17-6

Step 3d

Installing Heavy Duty Bows

1) **Figures 18-1 & 18-2.** Align bracket with marked bow location and place on top of rail.
2) **Figure 18-2.** Drill a pilot hole and attach with 3/8 x 1 type F HWH bolts. Repeat for opposite side.
3) **Figure 18-2.** Attach swivel bracket assembly to base with headless pin and cotter pins.
4) On opposite side attach heavy duty bow assembly with headless pin and cotter pin.

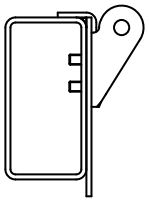


Figure 18-1

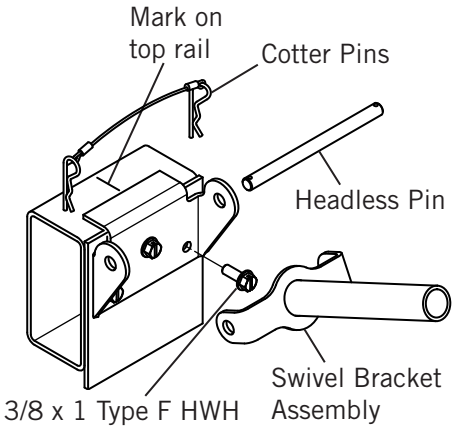


Figure 18-2

5) **Figure 18-3.** Mark heavy duty bow assembly, disassemble, and cut to length.
6) **Figure 18-4.** Reassemble with swivel bracket assembly inserted into the heavy duty bow assembly.

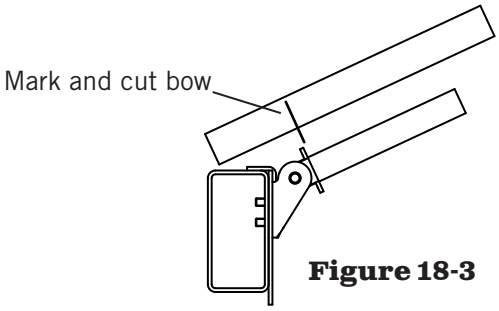


Figure 18-3

Figure 18-4

Step 3e

Installing Flex Bows & Double Flex Bows

BOLT

1a) Figure 19-1. Drill 4x bolt clearance holes in bow pocket flanges for 3/8 bolts. Holes should be 1/2" min. from flange edges. Align pocket with marked bow location and flush with top rail. Drill 4 pilot holes and attach with 3/8 x 1 type F HWH bolts.

WELD

1b) Figures 19-2 & 19-3. Align pocket with marked bow location and flush with top of rail. Weld all around pocket.

Bolt

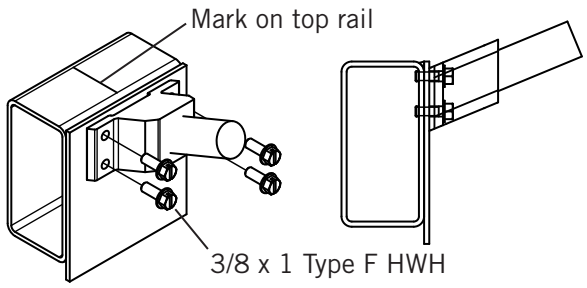


Figure 19-1

Weld

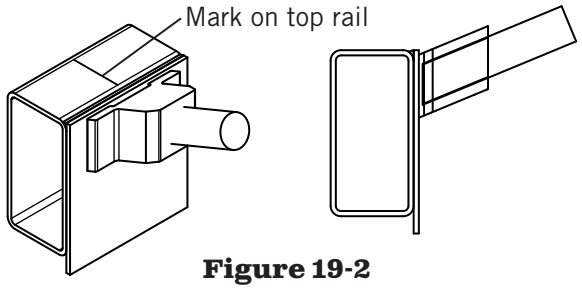


Figure 19-2

Figure 19-3. For sideboard installations weld or bolt the pocket to a plate.

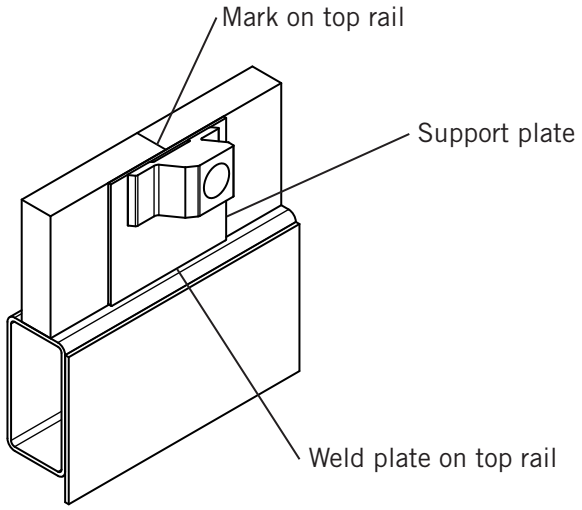


Figure 19-3

IMPORTANT: **The ends of the bow must be cut to the proper angle or the warranty is void. The flex bow has a pre-set arch or spline, make sure the arch is up when cutting the ends.**

3) Figure 19-4. Cut both ends of the flex bow at 25^0 - 30^0 angle and 2" longer than the inside width of the trailer.

4) Figure 19-5. Insert bow into pockets.

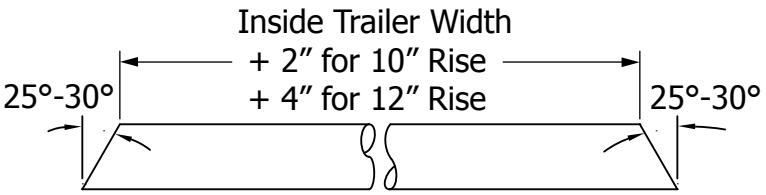


Figure 19-4

Figure 19-5

Step 4

Installing Roll Stops and Secure Anchor Pipe

1) **Figures 20-1 & 20-2.** Locate first roll stop bracket 5"-9" from the first bow and 1" down from top rail.

Note: Tarp & end of anchor pipe should be 1" from center of same bow.

2) **Figures 20-1 & 20-2.** Drill a pilot hole and attach with 3/8 x 1 type F HWH bolts.

3) Locate last roll stop bracket 5"-9" from end of anchor pipe or as close as possible and 1" down from top rail.

4) Evenly space roll stop brackets along top rail with maximum of 96" apart.

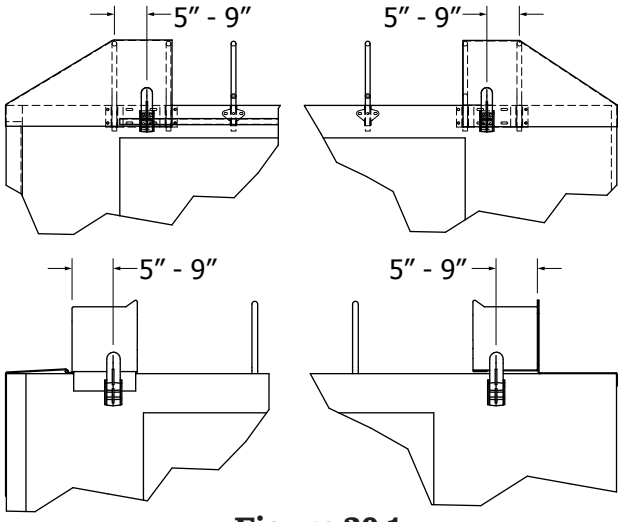


Figure 20-1

Sideboards (Optional)

Note: Anchor pipe can be mounted in the roll stop or to the top rail. Mounting the anchor pipe to the top rail allows the tarp to cover the gap at the bottom of the sideboard, install tarp and secure anchor pipe before installing roll stops.

1) **Figure 20-4.** OPTIONAL Attach tarp and anchor pipe to top rail with clamps #14 screws.

2) **Figures 20-1 & 20-2.** Locate roll stops the same distance from the bows as in **Step 4.1** and 1" from top of sideboard.

3) **Figures 20-3 & 20-4.** For sideboards. Drill a pilot hole and attach with 3/8 x 2-1/2 carriage bolts.

4) **Figure 20-4.** Attach aluminum flat at top of sideboard for the full length of the tarp.

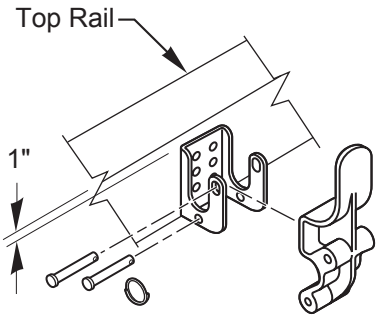


Figure 20-2

Install Anchor Pipe & Roll Stops to Sideboards

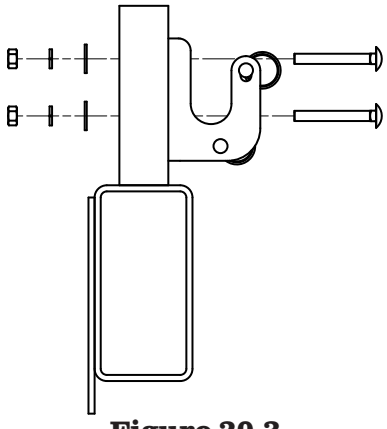


Figure 20-3

Hardware to Mount to Sideboards

Index	Description
1	5/16 X 2-1/2 CARRIAGE BOLT
2	5/16 FLAT WASHER
3	5/16 LOCK WASHER
4	5/16 HEX NUT
5	1/8" x 1" x 12' FLAT ALUMINUM
6	SCREW #14 X 1 HWH AB ZINC
7	CLAMP, ANCHOR PIPE
8	3/8 X 1 TYPE F HWH BOLT

Install Anchor Pipe to Top Rail & Roll Stops to Sideboards

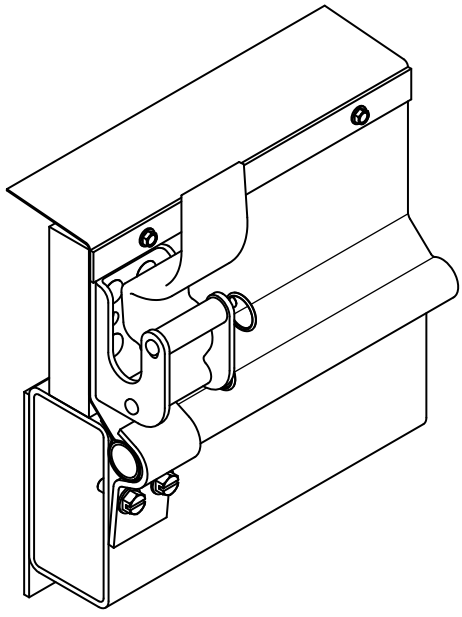


Figure 20-4

Step 5

Install Latch Plate

Note: Check to ensure the roll tube will have a clear path past the tailgate. Shim latch plate if needed.

Note: Latch plate can be mounted to the top rail or to the sideboards. Mounting the latch plate to the top rail with sideboards allows the tarp to cover the gap at the bottom of the sideboard.

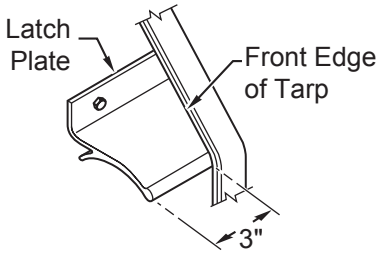


Figure 21-1

1) Figures 21-1 & 21-2. Locate the latch plate 3" forward of the front edge of the tarp and 1"-5" below the top rail or as high as possible.

Note: Front edge of latch plate can be cut at a 45^0 angle when beyond the flat of the side wall.

2) Figure 21-3. Drill a pilot hole 2"-4" in from each end and every 24" in each section.

Note: First hole may need to be farther back where the flat side wall starts.

3a) Figure 21-2. Attach with 3/8 x 1 type F HWH bolts.

3b) Figure 21-4. Optional mounting to sideboards: Attach with 3/8 x 2-1/2 carriage bolts.

Note: Rear edge of latch plate may need to be cut at a 45^0 angle as to not interfere with the swing gate.

4) Cut the last section so it goes back at least 3" past the end of the tarp.

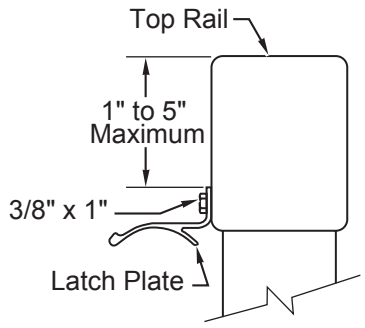


Figure 21-2

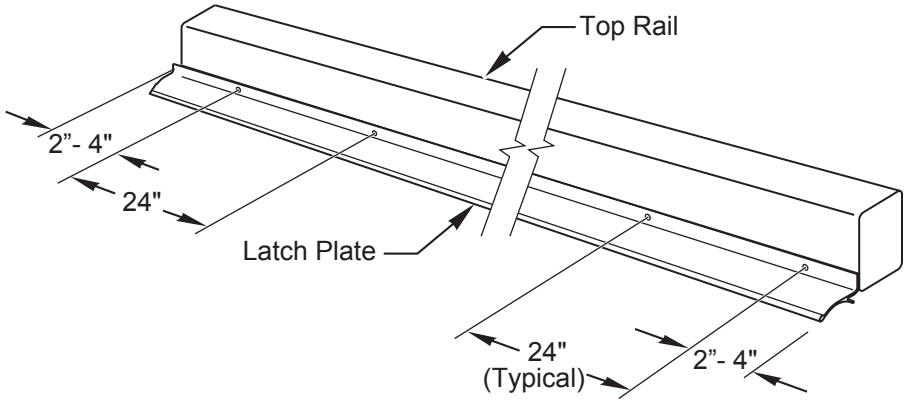


Figure 21-3

Install Latch Plate to Sideboards

Hardware to Mount to Sideboards

Index	Description	Qty
1	5/16 X 2-1/2 CARRIAGE BOLT	8
2	5/16 FLAT WASHER	8
3	5/16 LOCK WASHER	8
4	5/16 HEX NUT	8

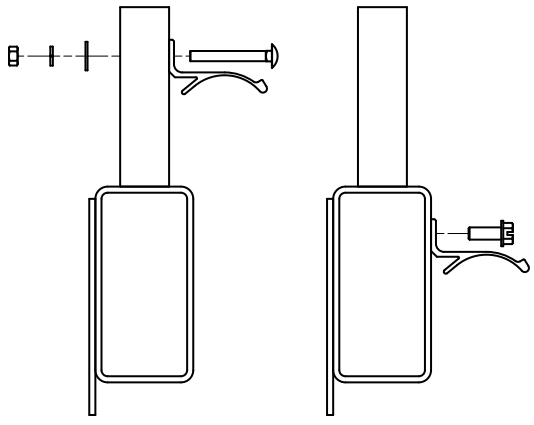


Figure 21-4

Step 6a

2" Aluminum Roll Pipe

1) **Figure 22-1.** Drill (4) 5/16 holes through both pipes. The two holes farthest apart are to be drilled 90 degrees with regards to the closest holes. Assemble each splice section using supplied hardware shown in **Figure 22-1**.
2) **Figure 22-2.** At one end, drill (2) 3/8 holes through the 2" pipe. The two holes will be 4" apart with one hole 1" from the end of the pipe. The two holes will be 90 degrees from each other.
3) **Figure 22-3.** Assemble the roll pipe and adapter using supplied hardware shown in **Figure 22-3**.

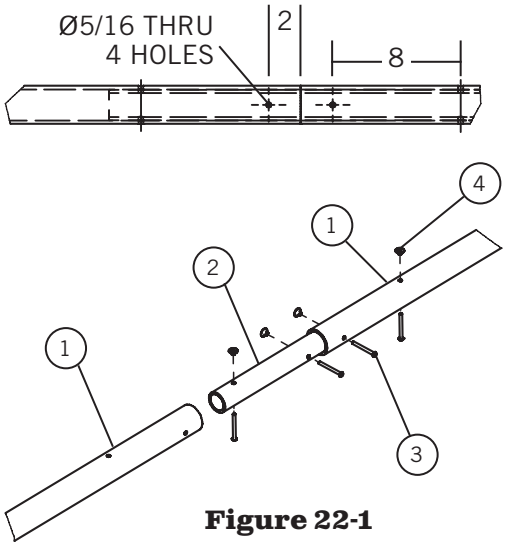


Figure 22-1

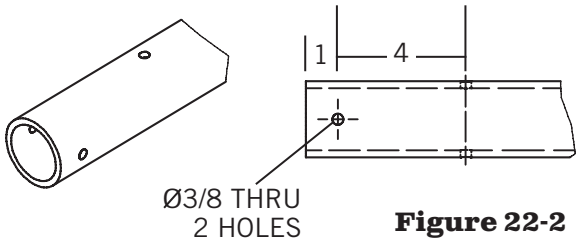


Figure 22-2

Index	Description	Qty
1	ALUM 2" SCH80 PIPE	2
2	SPLICE SEGMENT, ROLL PIPE	1
3	BOLT BHSCS 1/4-20 X 2 1/2	4
4	WELD NUT 1/4-20 TAB BASE	4
5	SHAFT, ADAPTER FOR 2" ALUM. ROLL PIPE	1
6	5/16-18 UNC X 3 - BOLT HHCS	2
7	5/16 - USS FLAT WASHER	2
8	5/16-18 NYLON LOCK NUT	2

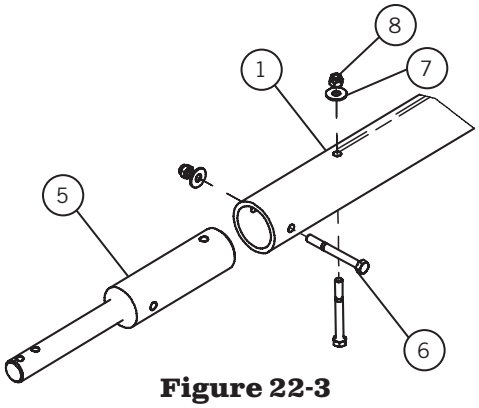


Figure 22-3

Step 6b

Steel Roll Pipe

1) **Figure 23-1.** Slide each pipe together.
   This also includes the pipe with adapter already welded on it.
2) **Figure 23-2.** Weld each spliced section.

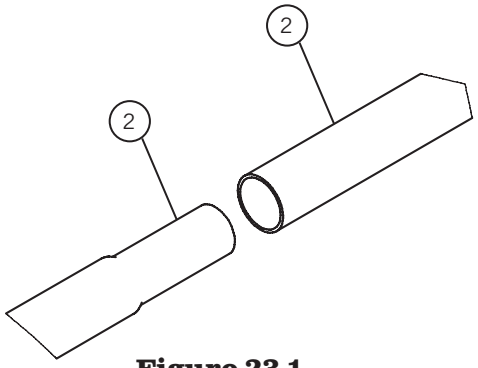


Figure 23-1

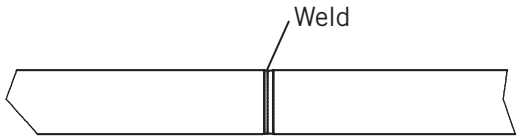
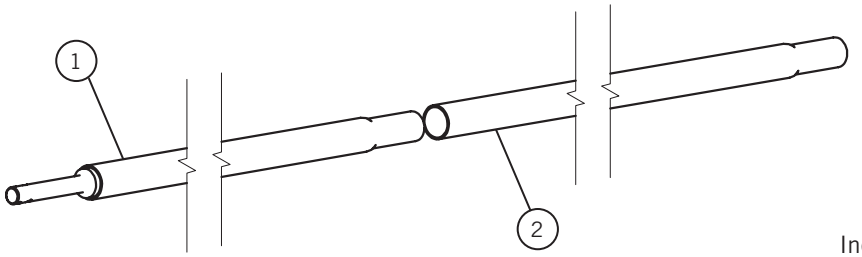


Figure 23-2



Index	Description
1	5' PIPE, ADAPTER ASSY
2	STEEL ROLL PIPE

Step 6c

3" Aluminum Roll Tape

1) **Figure 24-1.** Using the center lines in the valleys of the roll pipe, drill three 1/4" holes 2" back from the end at 120 degrees from each other and make sure they line up with the holes in the drive adapter assembly.

Index	Description	Qty
1	3" ROLL PIPE	2
2	DRIVE ADAPTER ASSEMBLY	1
3	3" ROLL PIPE SPLICE	1
4	SCREW 1/4 X 3/4 PHPH S/T	1

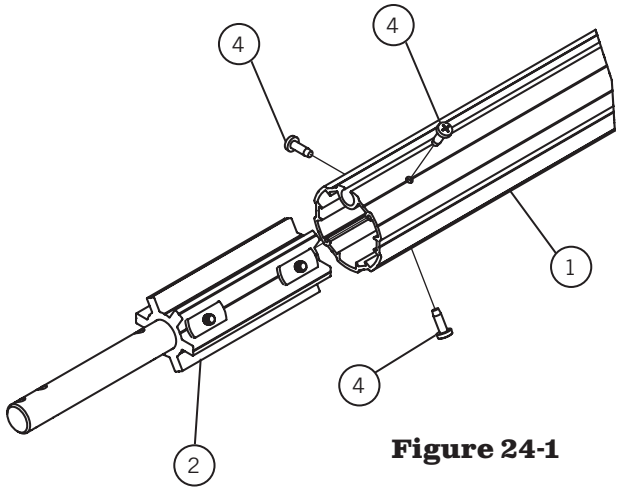


Figure 24-1

Note: If you are using the Internal Tensioner, the rear section of the roll pipe needs to be at least 17' long to allow the Internal Tensioner to fit inside of the roll pipe.

Note: If you are splicing two sections together, the front section needs to be at least 4' long.

2) **Figure 24-2.** If you are using just one roll pipe then jump to the next step. Using the center lines in the valleys of the roll pipe, drill three 1/4" holes 2" back from the end at 120 degrees from each other and make sure they line up with the holes in the roll pipe splice. You will need to repeat the step for both roll pipes and for each splice you are doing.

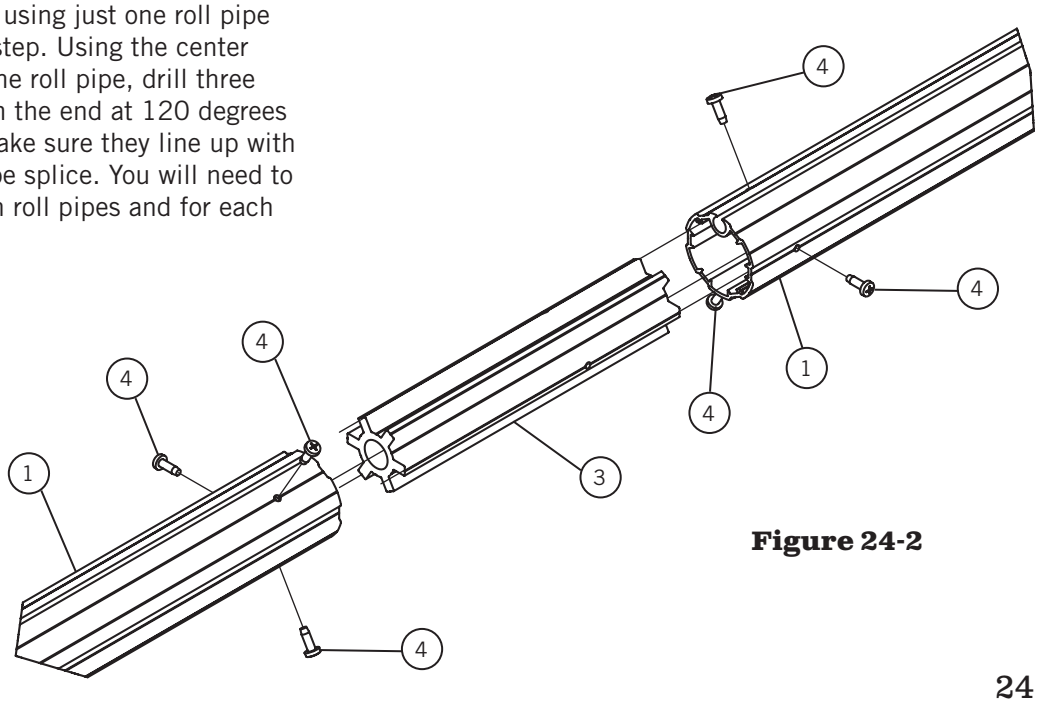


Figure 24-2

Step 6d

Assemble Anchor Pipe

1) **Figures 25-1 & 25-2.** Insert swaged end of the tube adapter assembly into the front end of the roll pipe and weld in place.
2) **Figure 25-3.** Cut the anchor pipe flush with the ends of the pocket on the tarp.
3) Place rubber cups on ends of anchor pipe.
4) **Figure 25-3.** Slide the anchor pipe into the tarp pocket and secure with #14 x 1 PPH self drilling screw at each end.
5) **Figure 25-3.** Slide the roll pipe into the other pocket and leave sticking out at both ends of the tarp.

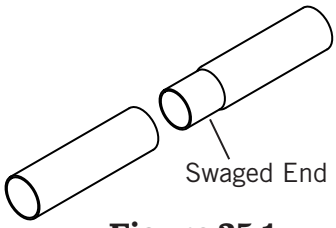


Figure 25-1

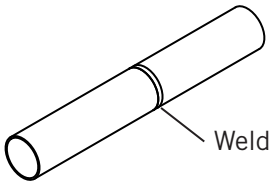


Figure 25-2

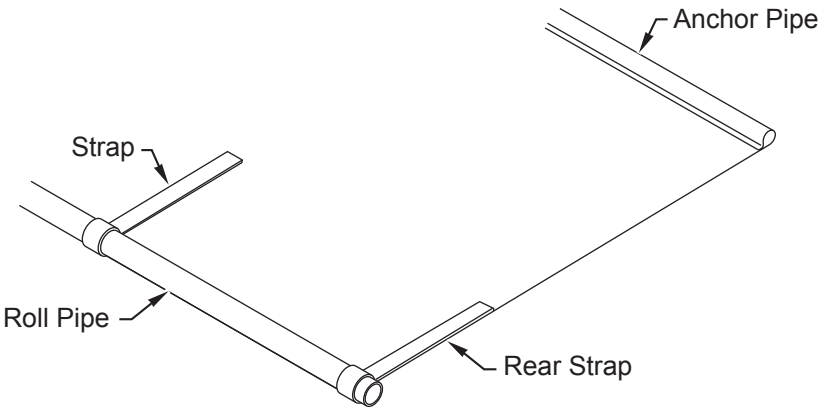


Figure 25-3

Step 6e

Assemble Anchor Pipe

1) **Figures 26-1 & 26-2.** Insert swaged end of the tube adapter assembly into the front end of the roll pipe and weld in place.
2) **Figure 26-3.** Cut the anchor pipe flush with the ends of the pocket on the tarp.
3) Place rubber cups on ends of anchor pipe.
4) **Figure 26-3.** Slide the anchor pipe into the tarp pocket and secure with #14 x 1 PPH self drilling screw at each end.
5) **Figure 26-4.** Slide the tarp into the large groove in the roll pipe.

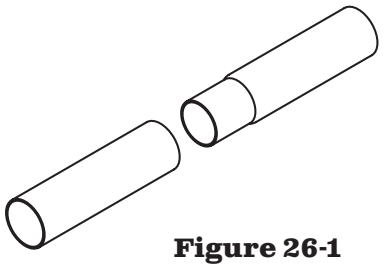


Figure 26-1

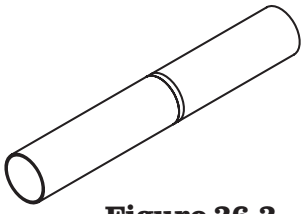


Figure 26-2

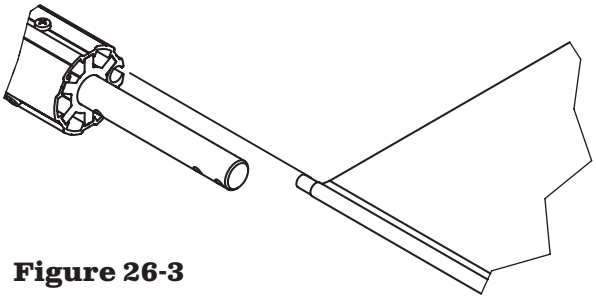


Figure 26-3

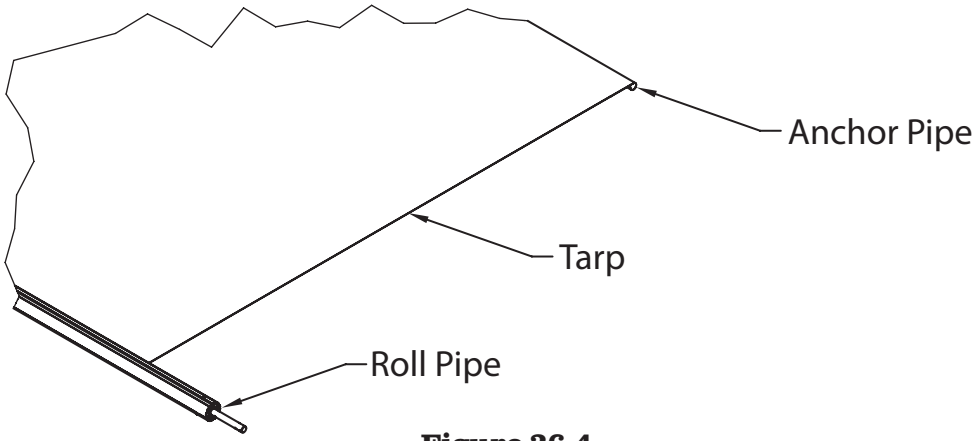


Figure 26-4

Step 7a

Mounting Arm Mounts (Front Standard Roll)

Note: Figure 27-1. Center of the pivot needs to be in the center of the trailer.

1) **Figure 27-2.** Drill four 3/8" holes using the mounting bracket as a template for the hole locations.
2) **Figure 27-3.** Use supplied hardware to mount the mounting bracket to the trailer.

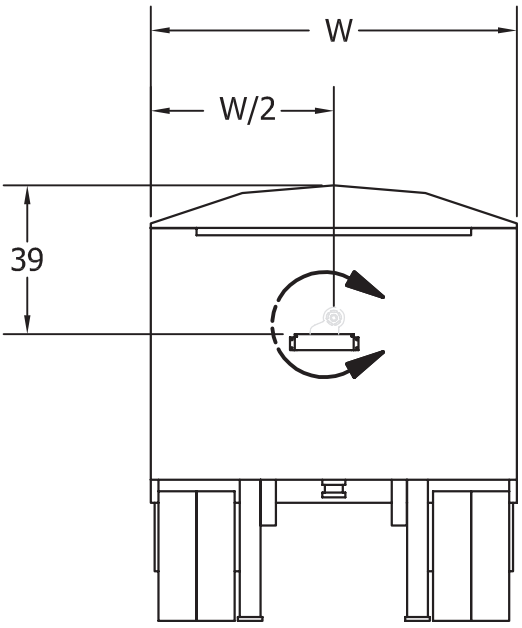


Figure 27-1

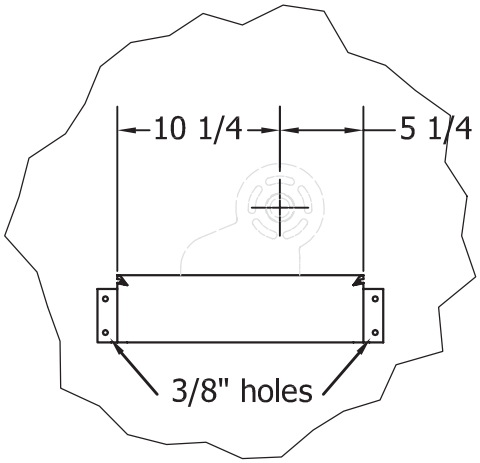
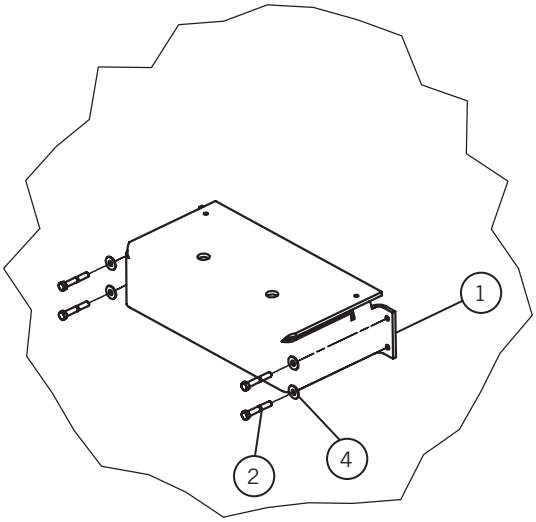
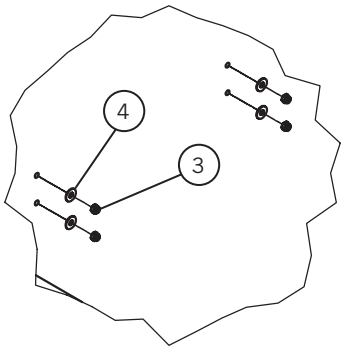


Figure 27-2



Outside the trailer.



Inside the trailer.

Figure 27-3

Note: Mounting Brackets are supplied with standard pivot mounting hole locations at 3/8" dia. through. Standard pivot mounting holes must be drilled out to 7/8" dia. for proper fastener fit. If alternate hole locations are required, holes must be marked and drilled through at 7/8" dia.

Index	Part Number	Description	Qty
1	1001-840440	BRACKET, ARM MOUNTING	1
2	0810-650102	5/16-18 UNC - 2 - BOLT HHCS	4
3	0815-660550	5/16-18 NYLON LOCK NUT	4
4	0820-680510	5/16 - USS FLAT WASHER	8

Step 7b

Mounting Arm Mounts (Front Reverse Roll)

Note: Figure 28-1. Center of the pivot needs to be in the center of the trailer.

1) **Figure 28-2.** Drill eight 3/8" holes using the mounting bracket as a template for the hole locations.
2) **Figure 28-3.** Use supplied hardware to mount the mounting bracket to the trailer.

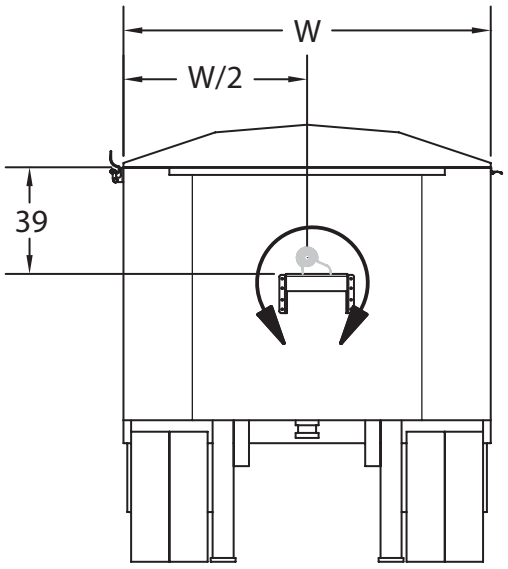
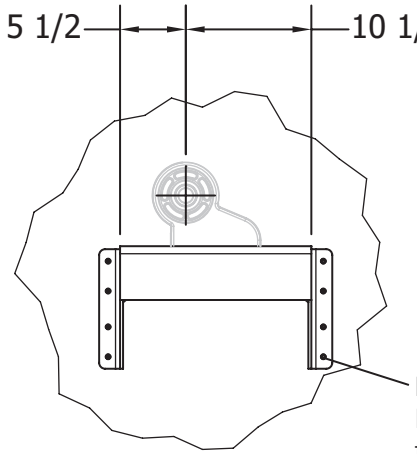


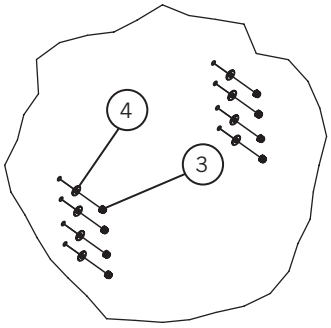
Figure 28-1



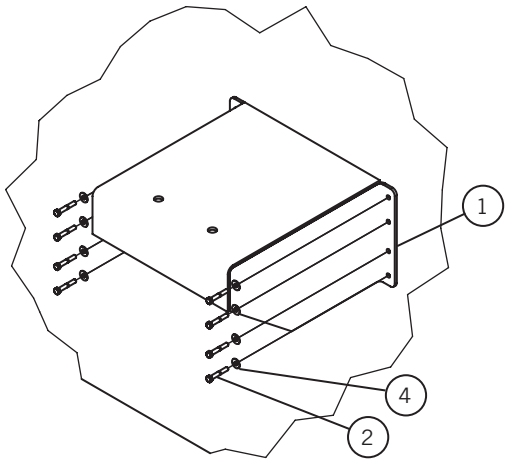
Drill eight 3/8" holes using the Mounting Bracket as a template for the hole locations.

Figure 28-2

Note: Mounting Brackets are supplied with standard pivot mounting hole locations at 3/8" dia. through. Standard pivot mounting holes must be drilled out to 7/8" dia. for proper fastener fit. If alternate hole locations are required, holes must be marked and drilled through at 7/8" dia.



Inside the trailer.



Outside the trailer.

Figure 28-3

Index	Part Number	Description	Qty
1	1061-940031	BRACKET, PIVOT MOUNTING RR	1
2	0810-650102	5/16-18 UNC - 2 - BOLT HHCS	8
3	0815-660550	5/16-18 NYLON LOCK NUT	8
4	0820-680510	5/16 - USS FLAT WASHER	16

Step 8a

Mounting Arm Mounts (Rear)

Note: Figure 29-1. Center of the pivot needs to be in the center of the trailer.

1) **Figure 29-2.** Drill four 3/8" holes using the mounting bracket as a template for the hole locations.
2) **Figure 29-3.** Use supplied hardware to mount the mounting bracket to the trailer.

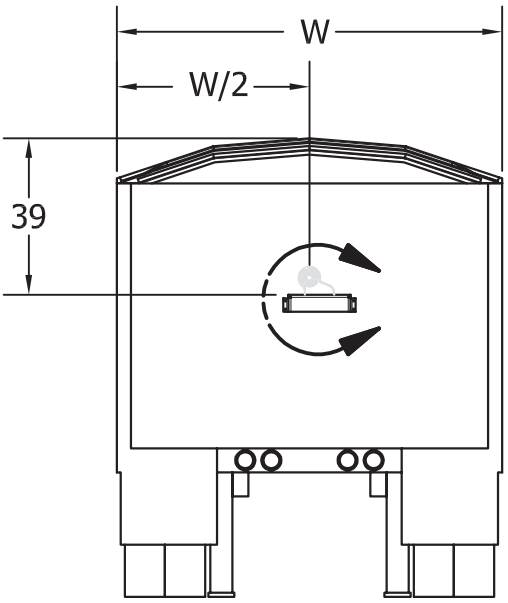


Figure 29-1

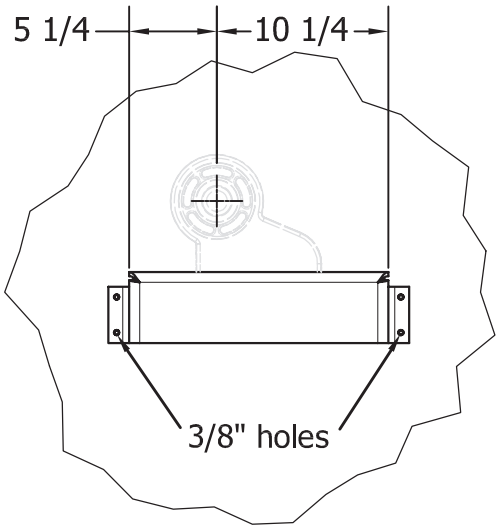
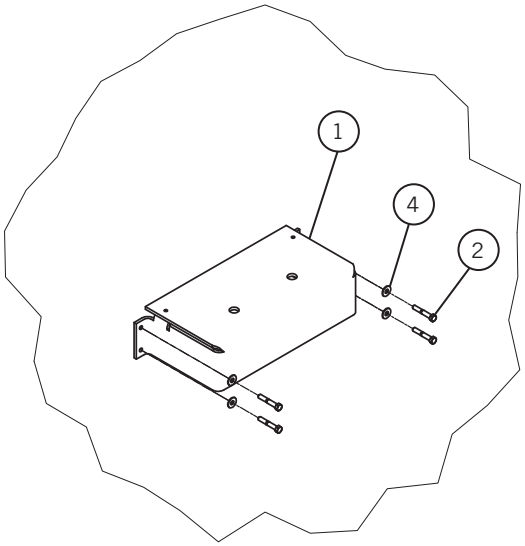
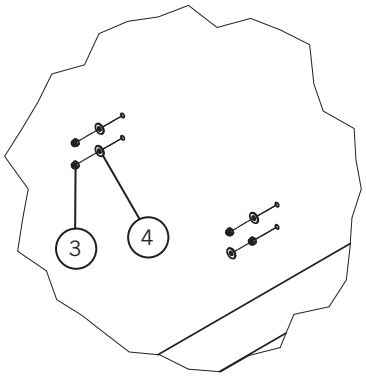


Figure 29-2

Note: Mounting Brackets are supplied with standard pivot mounting hole locations at 3/8" dia. through. Standard pivot mounting holes must be drilled out to 7/8" dia. for proper fastener fit. If alternate hole locations are required, holes must be marked and drilled through at 7/8" dia.



Outside the trailer.



Inside the trailer.

Figure 29-3

Index	Part Number	Description	Qty
1	1001-840440	BRACKET, ARM MOUNTING	1
2	0810-650102	5/16-18 UNC - 2 - BOLT HHCS	4
3	0815-660550	5/16-18 NYLON LOCK NUT	4
4	0820-680510	5/16 - USS FLAT WASHER	8

Step 8b

Mounting Arm Mounts (ForceLink with Coal Door)

1) **Figure 30-1.** Assemble the rear arm mounting bracket per the assembly drawing.

Index	Description	Qty
1	HOUSING MOUNTING BRACKET	2
2	1/2 - USS FLAT WASHER	8
3	1/2-13 NYLON LOCK NUT	4
4	PLATE, REAR COAL DOOR	1
5	1/2-13 UNC - 1.5 - BOLT HHCS	4

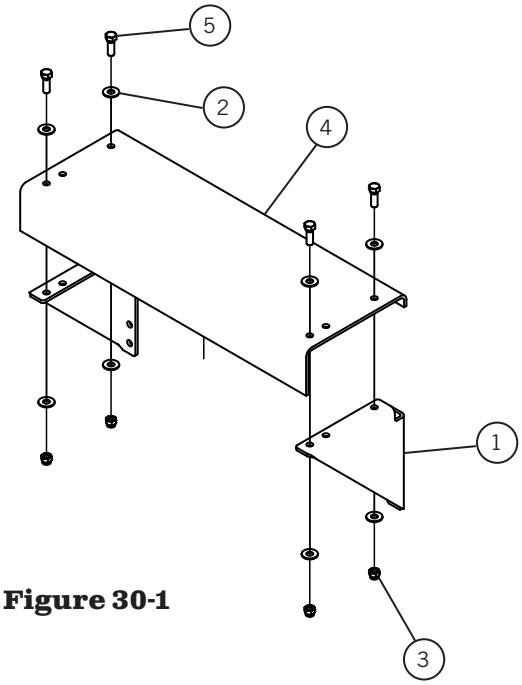


Figure 30-1

Note: Mounting Brackets are supplied with standard pivot mounting hole locations at 3/8" dia. through. Standard pivot mounting holes must be drilled out to 7/8" dia. for proper fastener fit. If alternate hole locations are required, holes must be marked and drilled through at 7/8" dia.

2) **Figure 30-2.** Center the bracket in the center of the rear door, making sure the bracket is 39" down from the top of the bow rise.

3) Using the top and bottom holes on the mounting bracket as a guide, drill 4 clearance holes for a 1/2" bolt.

4) Mount the bracket to the rear door using the supplied (4) 1/2-18 x 4" bolts, (8) 1/2" washers and (4) 1/2-18 locking nuts.

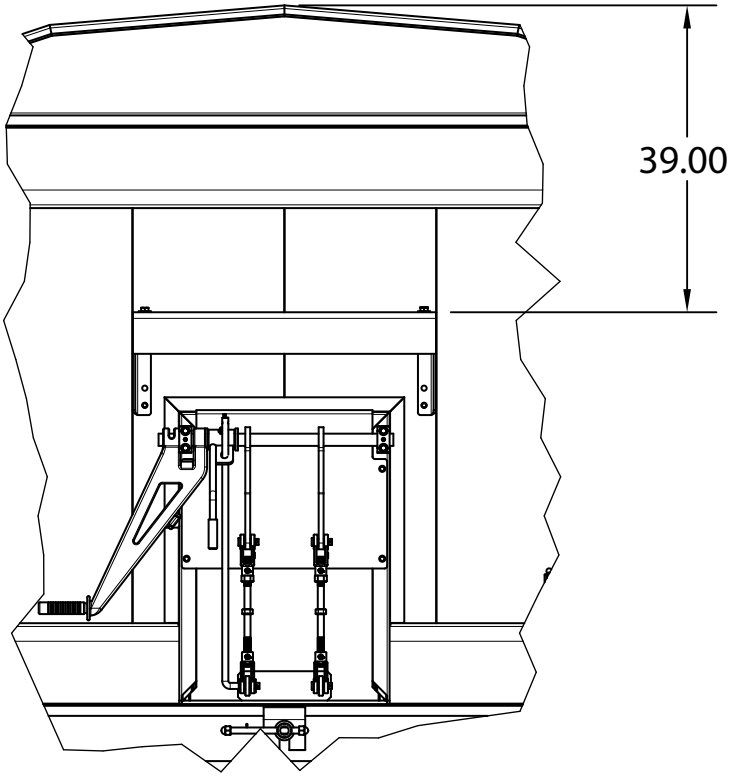


Figure 30-2

Step 9a

Mounting Front Arm Standard Roll

1) **Figure 31-1.** Using the supplied hardware, mount the front arm assembly to the mounting bracket located on the front of the trailer.

Index	Description	Qty
1	FRONT ARM ASSY W/MOTOR	1
2	3/4-10 UNC - 1.5 - BOLT HHCS	2
3	3/4 - SPLIT LOCK WASHER	2
4	3/4 - USS FLAT WASHER	2

Note: Mounting Brackets are supplied with standard pivot mounting hole locations at 3/8" dia. through. Standard pivot mounting holes must be drilled out to 7/8" dia. for proper fastener fit. If alternate hole locations are required, holes must be marked and drilled through at 7/8" dia.

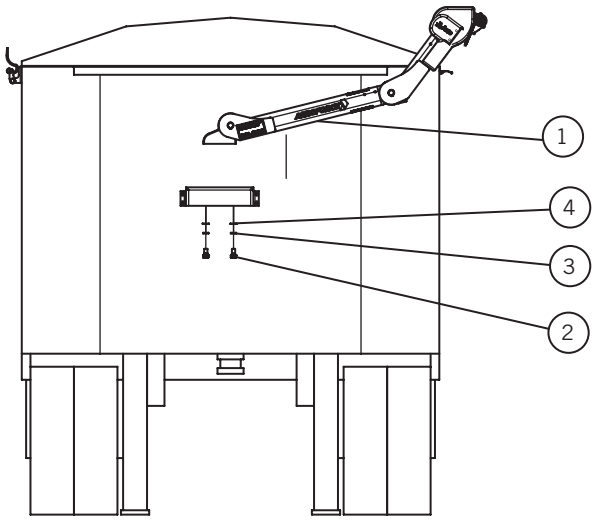


Figure 31-1

Step 9b

Mounting Front Arm Reverse Roll

1) **Figure 31-2.** Using the supplied hardware, mount the front arm assembly to the mounting bracket located on the rear of the trailer.

Note: The front assembly is rotated 180 degrees around. The motor assembly will be on the inside between the arm assembly and the front of the trailer. Make sure there are no obstacles within the path of the front arm assembly.

Index	Description	Qty
1	FRONT ARM ASSY W/MOTOR	1
2	3/4-10 UNC - 1.5 - BOLT HHCS	2
3	3/4 - SPLIT LOCK WASHER	2
4	3/4 - USS FLAT WASHER	2

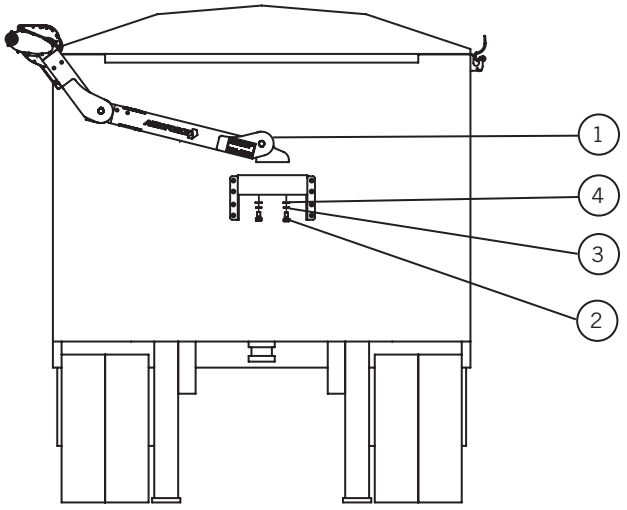


Figure 31-2

Step 10a

Mounting Rear Arm Standard Roll

1) **Figure 32-1.** Using the supplied hardware, mount the rear arm assembly to the mounting bracket located on the rear of the trailer.

Index	Description	Qty
1	REAR ARM ASSY W/CHAIN	1
2	3/4-10 UNC - 1.5 - BOLT HHCS	2
3	3/4 - SPLIT LOCK WASHER	2
4	3/4 - USS FLAT WASHER	2

Note: Mounting Brackets are supplied with standard pivot mounting hole locations at 3/8" dia. through. Standard pivot mounting holes must be drilled out to 7/8" dia. for proper fastener fit. If alternate hole locations are required, holes must be marked and drilled through at 7/8" dia.

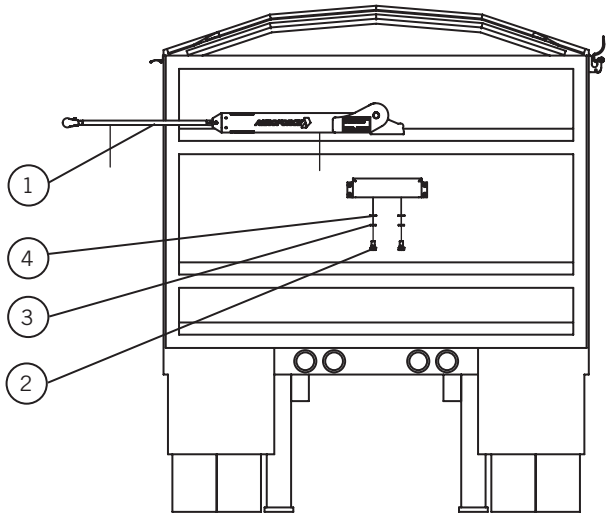


Figure 32-1

Step 10b

Mounting Rear Arm Reverse Roll

1) **Figure 32-2.** Using the supplied hardware, mount the rear arm assembly to the mounting bracket located on the rear of the trailer.

Note: The rear assembly is rotated 180 degrees around.

Index	Description	Qty
1	REAR ARM ASSY W/CHAIN	1
2	3/4-10 UNC - 1.5 - BOLT HHCS	2
3	3/4 - SPLIT LOCK WASHER	2
4	3/4 - USS FLAT WASHER	2

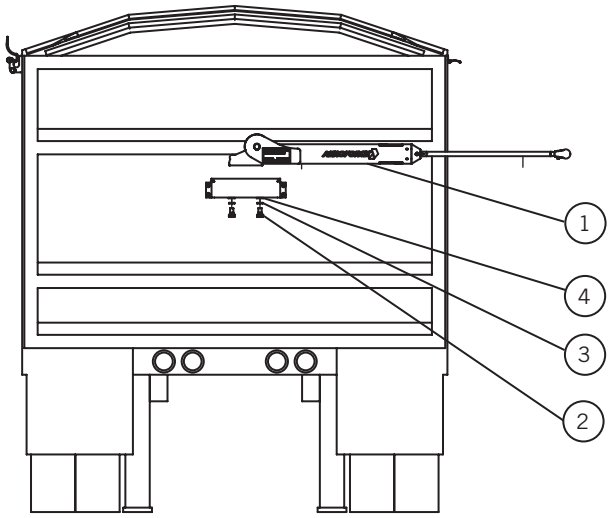


Figure 32-2

Step 10c

Mounting Arms (ForceLink with Coal Door)

1) **Figure 33-1.** Drill two 25/32" holes for 3/4" bolts in the top of the bracket so that the pivot pin on the ForceLink is in the center of the trailer. The distance between the holes needs to be 6-3/8".

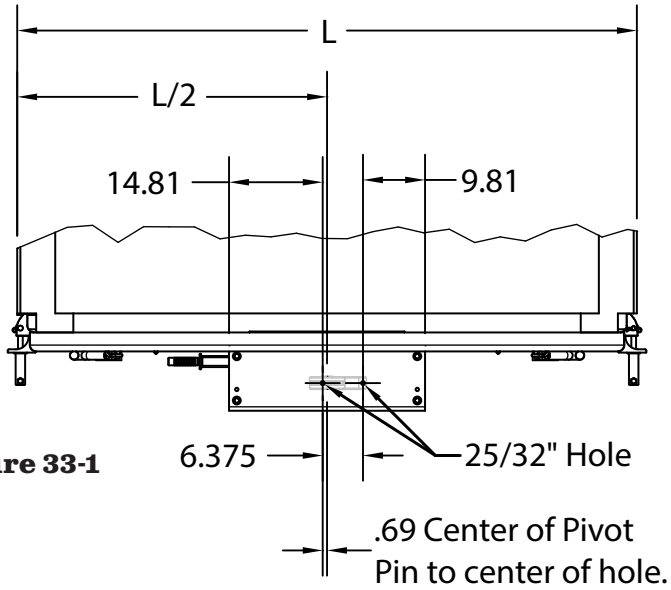


Figure 33-1

2) **Figure 33-2.** Using the supplied 3/4" bolts, washers and nuts, install ForceLink onto the mounting bracket.

Index	Description	Qty
1	3/4-10 UNC - 1.5 - BOLT HHCS	2
2	3/4 - SPLIT LOCK WASHER	2
3	3/4 - USS FLAT WASHER	2

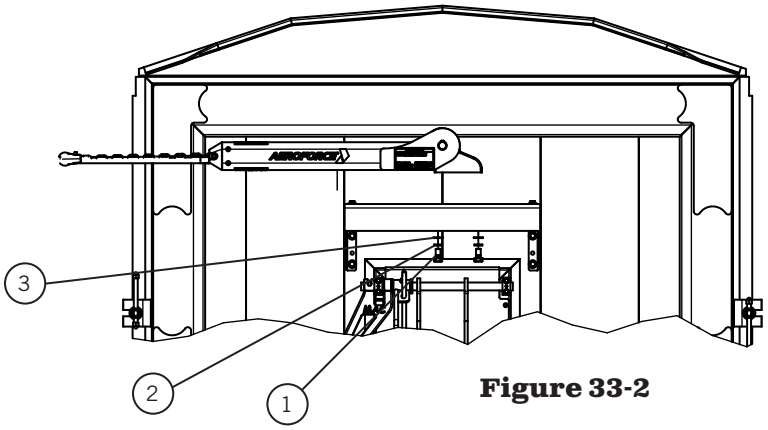


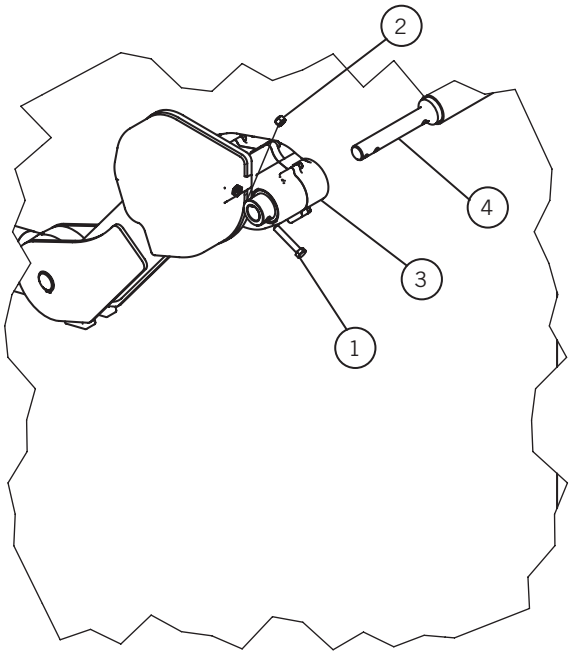
Figure 33-2

Step 11a

Roll Pipe Hookup Standard Roll (Front - Torque Amplifier)

1) **Figure 34-1.** Insert roll pipe into the gearbox.
2) Use the supplied 3/8-16 UNC X 2.25" bolt and nut to connect the roll pipe to the output of the gearbox.

Index	Description	Qty
1	3/8-16 UNC - 2.25 - BOLT HHCS	1
2	3/8-16 NYLON LOCK NUT	1
3	MOTOR GEARBOX KIT	1
4	ROLL PIPE	1



Standard Roll View

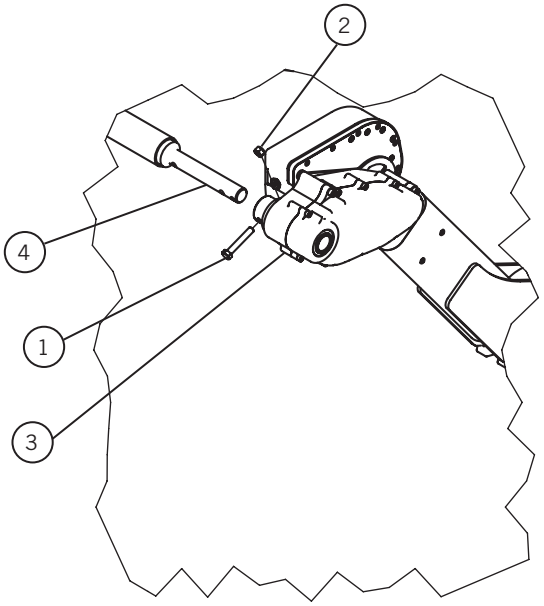
Figure 34-1

Step 11b

Roll Pipe Hookup Reverse Roll (Front - Torque Amplifier)

1) **Figure 34-2.** Insert roll pipe into the gearbox.
2) Use the supplied 3/8-16 UNC X 2.25" bolt and nut to connect the roll pipe to the output of the gearbox.

Index	Description	Qty
1	3/8-16 UNC - 2.25 - BOLT HHCS	1
2	3/8-16 NYLON LOCK NUT	1
3	MOTOR GEARBOX KIT	1
4	ROLL PIPE	1



Reverse Roll View

Figure 34-2

Step 12a

2" Roll Pipe Rear Hookup

1) **Figures 35-1 & 35-2.** Cut roll pipe down so the chain on the 90 degree casting is inline with the arm.
2) **Figure 35-3.** Slide roll pipe over the rear arm pipe bushing.
3) **Figure 35-3.** Use the supplied Tek screw to connect the roll pipe to the bushing.

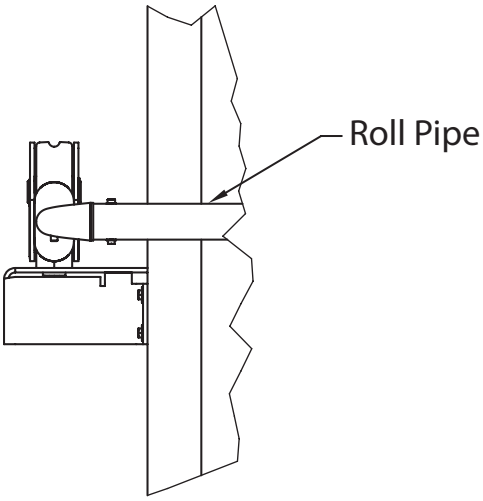


Figure 35-1

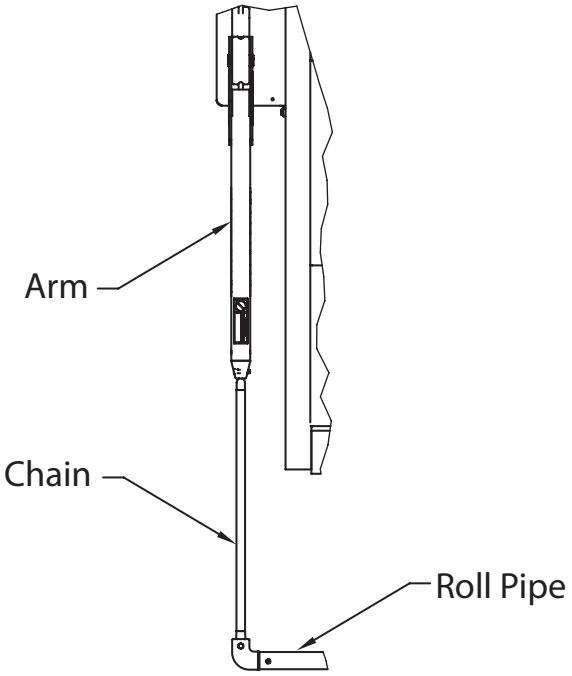


Figure 35-2

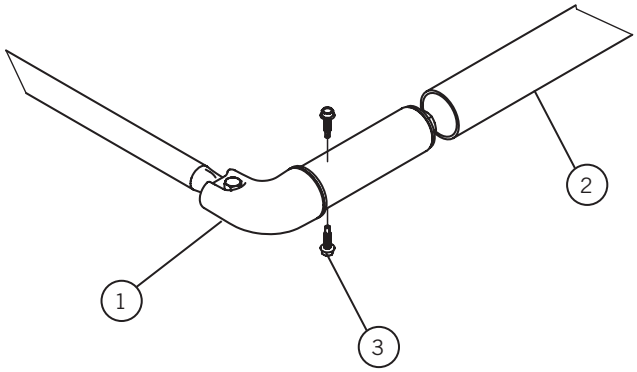


Figure 35-3

Index	Description	Qty
1	ARM, CHAIN ASSY	1
2	ROLL PIPE	1
3	TEK SCREWS	2

Step 12b

3" Roll Pipe Rear Hookup

1) **Figures 36-1 & 36-2.** Cut down the roll pipe so that when the rear arm adapter is installed the chain is inline with the rear arm.
2) **Figure 36-3.** Using the center lines in the valleys of the roll pipe, drill three 1/4" holes 2" back from the end at 120 degrees from each other and make sure they line up with the holes in the drive adapter assembly.
3) **Figure 36-3.** Install the three self-tapping screws to secure the roll pipe to the rear arm.

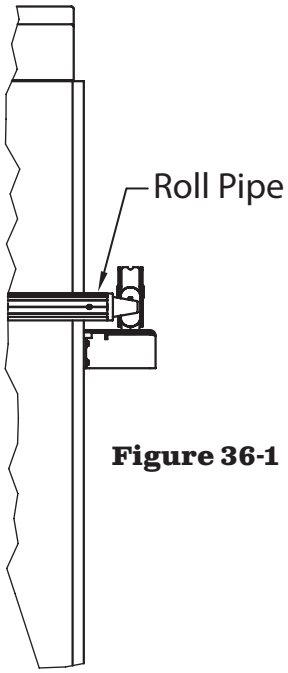


Figure 36-1

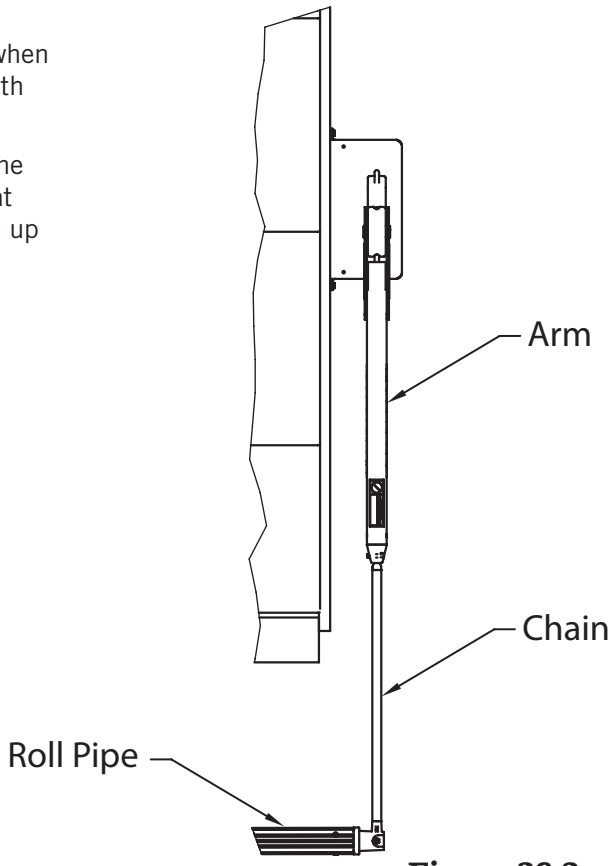


Figure 36-2

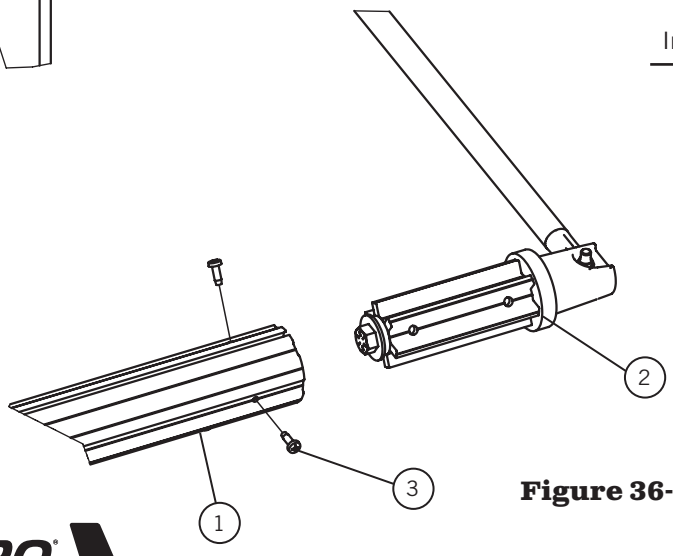


Figure 36-3

Index	Description	Qty
1	ROLL PIPE	1
2	FORCELINK (REAR ARM)	1
3	1/4-28 SELF-TAPPING SCREWS	3

Step 12c

Rear Tensioner

Insert Rear Tensioner assembly fully into roll tube, should be an interference fit.

1) Pre-drill two holes, 90 degrees opposed, and insert self tapping screws.

2) Holes/screws are 1" from tensioner/roll pipe interface.

3) Attach eyebolt inline with tensioner rope/s-hook if possible to limit wear.

4) Eyebolt should be approximately 12" below tensioner rope with sufficient tension on hook/rope (10#).

5) When rear cap on gate is present, attach eyebolt to gate.

6) No rear cap, eyebolt can be attached to rear post or gate (tension rule applies).

7) Insert tensioner s-hook into eyebolt before testing roll-up.

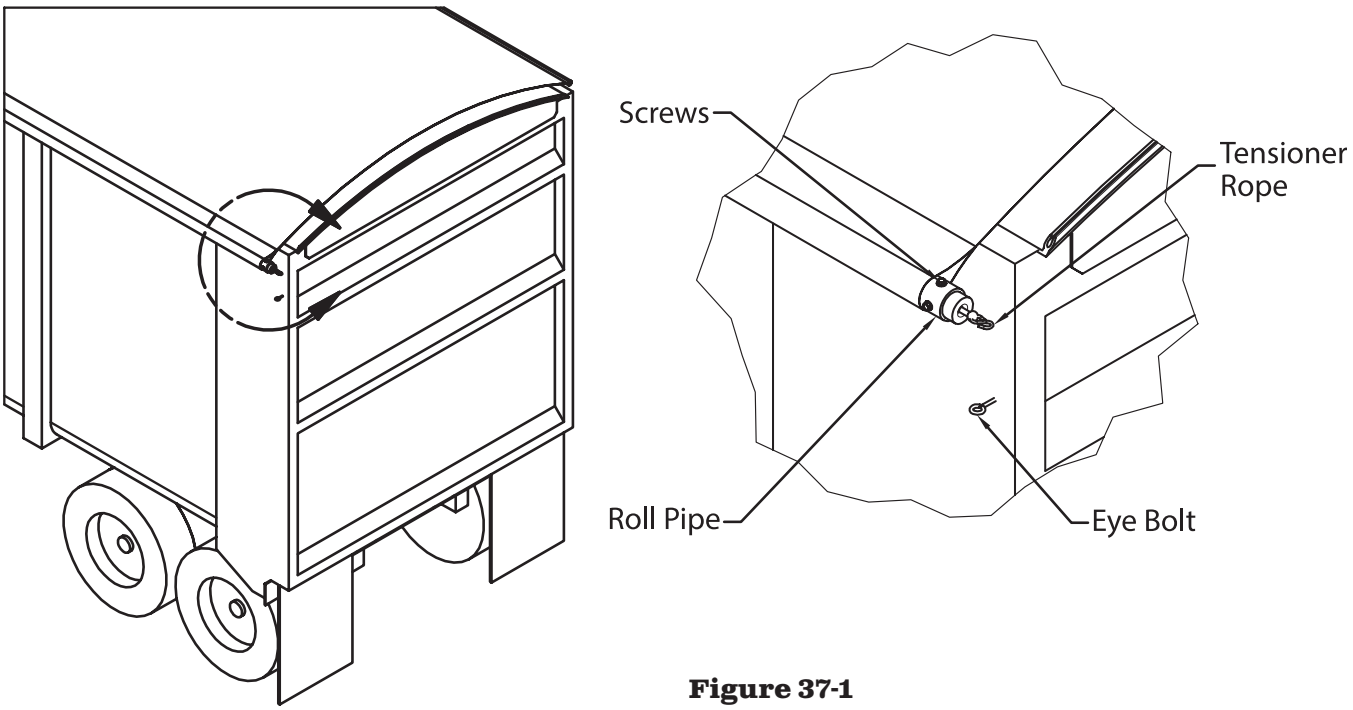


Figure 37-1

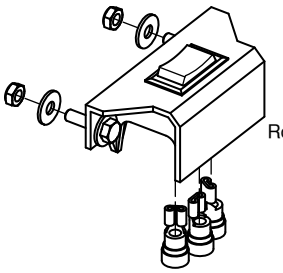
Step 13a

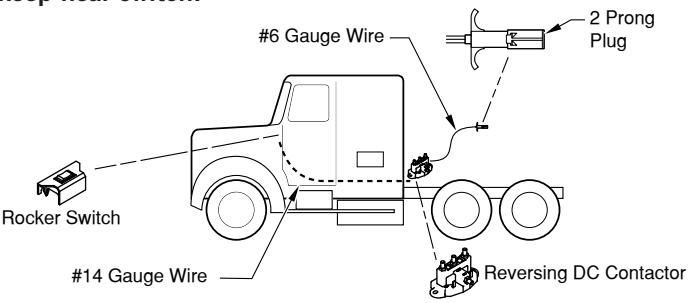
Semi-trailer Truck Wiring

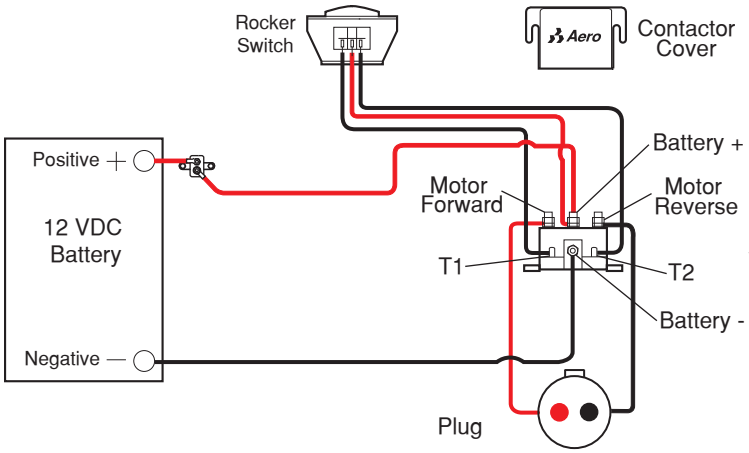
IMPORTANT: Locate Operation/Maintenance Sheet and keep near switch.

IMPORTANT: Switch is not rated for outdoor use.

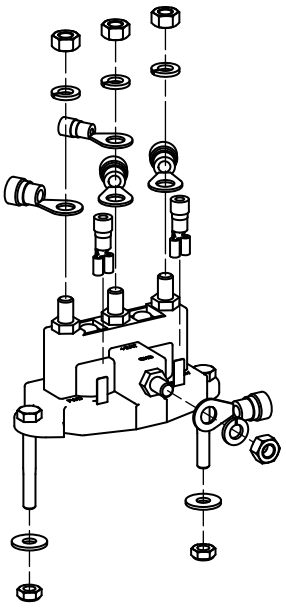
1) Find a convenient place on the driver's side under the dashboard to mount the rocker switch with 1/4-20 x 1" hex bolts





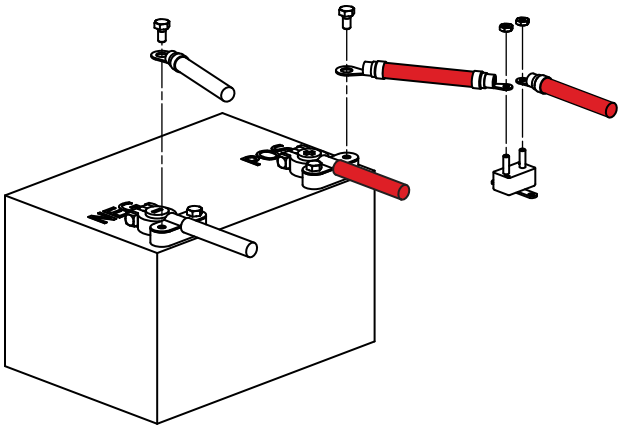


2) Mount reversing contactor outside near back of cab with 1/4-20 x 2" hex bolts.

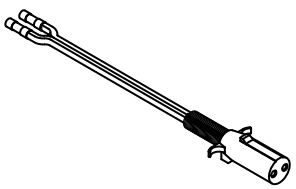


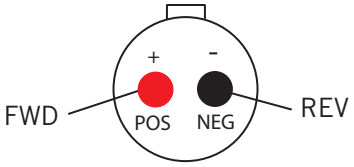
3) Run wire from switch to reversing contactor. Run wire from battery to reversing contactor. Secure all wire with clamps.

4) Connect breaker to battery and secure with zip ties.

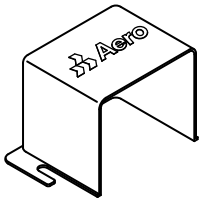


5) Run wires from reversing contactor to plug, making sure there is enough wire to reach the receptacle.





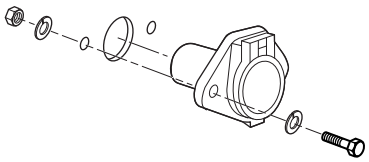
6) Place cover on reversing contactor.



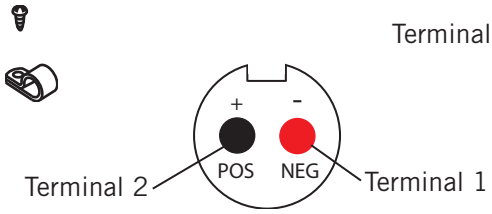
Step 13b

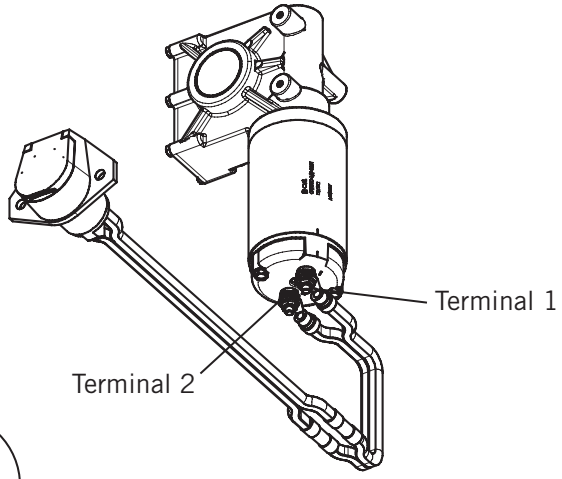
Semi-trailer Wiring

1) Mount receptacle in convenient location.



2) Run wire from receptacle to AeroMax. Secure all wire with clamps.





Step 13c

Optional Remote Wiring

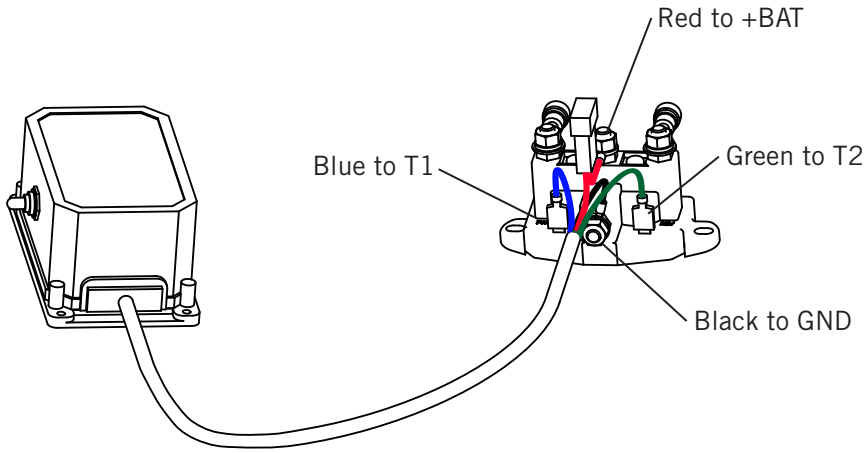
IMPORTANT: Locate Operation/Maintenance Sheet and keep in a convenient location.

IMPORTANT: Remote receiver must be mounted with the wires at the bottom.

The optional remote kit replaces the use of the rocker switch. Follow **Step 13a** and replace the rocker switch with the remote receiver.

1) Mount the remote receiver to the back of the cab with the provided screws.

2) Connect remote receiver to reversing DC Contactor. Secure all wire with clamps.

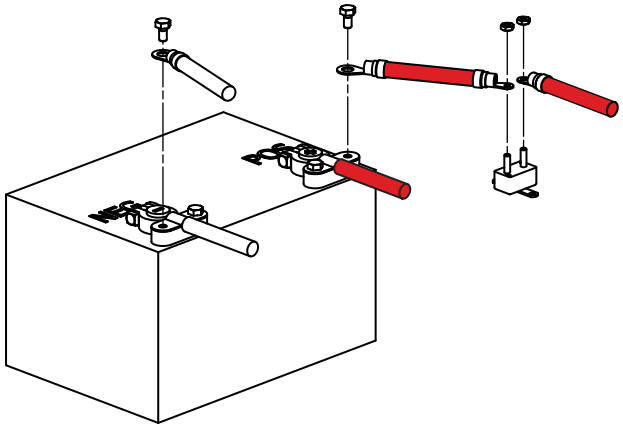


Step 13d

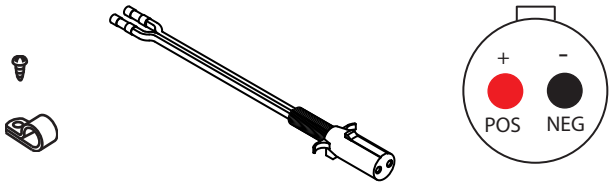
Alternate Remote Wiring

IMPORTANT: Locate Operation/Maintenance Sheet and keep in a convenient location.

Semi-trailer Truck Wiring



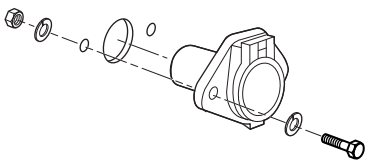
1) Connect breaker to battery and secure with zip ties.



2) Run wire from battery to receptacle. Secure all wire with clamps.

Semi-trailer Wiring

3) Mount receptacle in convenient location on trailer.



Step 13d (cont.)

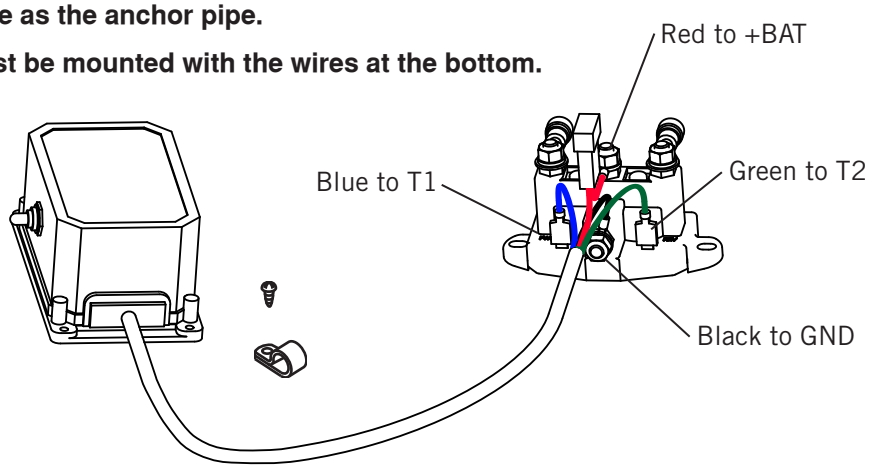
4) Mount reversing contactor under the nose of the trail with 1/4-20 x 2" hex bolts.

⚠ **WARNING: DO NOT place remote receiver in the path of the swing arm, or injury could occur. Mount it on the face of the trailer on the same side as the anchor pipe.**

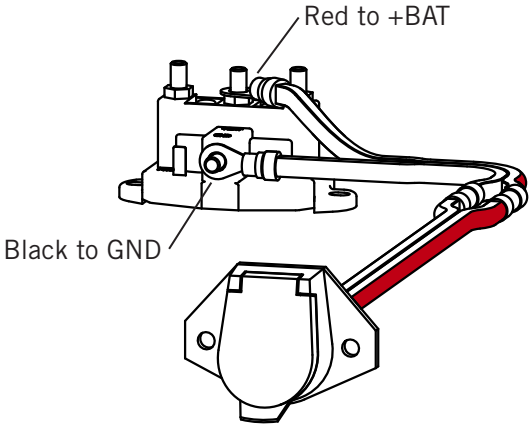
ℹ **IMPORTANT: Remote receiver must be mounted with the wires at the bottom.**

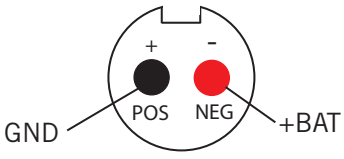
5) Mount the remote receiver to the back of the cab with the provided screws.

6) Connect remote box to reversing DC Contactor. Secure all wire with clamps.

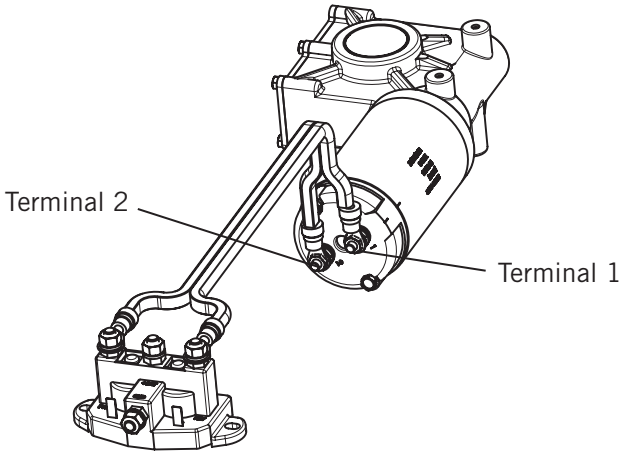


7) Connect receptacle to reversing DC contactor. Secure all wire with clamps.





8) Connect reversing DC Contactor to AeroMax. Secure all wire with clamps.



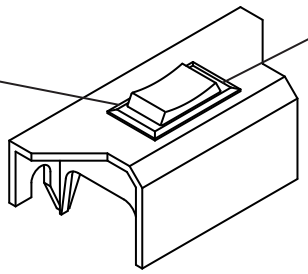
ℹ **IMPORTANT: The reversing DC contactor should be mount under the nose of the trailer NOT near the AeroMax.**

How to Operate AeroForce S2S

NOTICE: NOT releasing the switch when the covered or uncovered position is reached may cause the AeroMax to burn out.

Switch

Push to cover unit and release when fully covered.



Push to uncover unit and release when fully uncovered.

Remote Operation

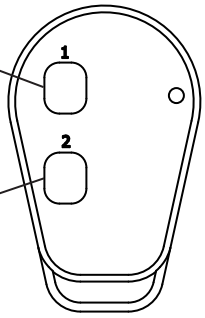
To operate the remote, disable the safety lock out by pushing both buttons for 2 seconds.

NOTE: After 1 minute of not pushing a button on the remote the safety lock out is activated.

Key FOB

Push to cover unit and release when fully uncovered.

Push to uncover unit and release when fully covered.



Receiver

Uncover

Manual Switch

Cover

Explanation of Signal Words

⚠ **WARNING:** Indicates a hazardous situation which, if not avoided could result in death or serious injury.

⚠ **CAUTION:** Indicates a hazardous situation which, if not avoided could result in minor or moderate injury.

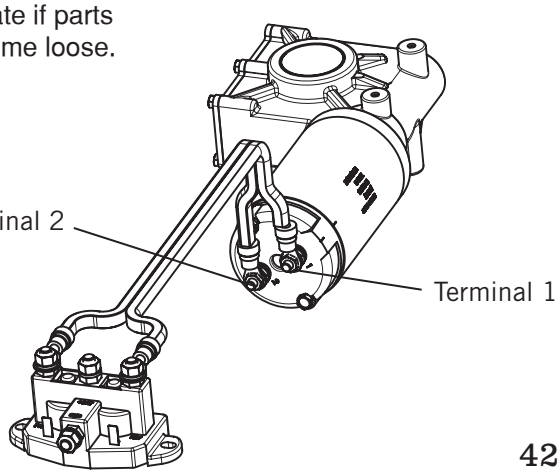
Safety Messages Related to the Operation of AeroForce S2S

Maintenance recommendations, safety messages, and repair instructions can be found at www.s2soperation.com or call 800-535-9545.

⚠ **CAUTION**: Routinely inspect tarp and swing arms, DO NOT operate if parts are worn or damaged. Worn or damaged parts may come loose. Replace all worn or broken parts IMMEDIATELY.

⚠ **CAUTION**: If the arms are damaged or fail to rotate freely under normal operation, DO NOT operate. Secure any damaged parts until repairs can be made.

⚠ **WARNING**: The swing arms rotate under extreme spring tension during operation. Make sure no one is in the path of or on the arms.



How to Maintain AeroForce S2S

IMPORTANT: **Replace all worn or broken parts immediately. Repairs must ONLY be made after proper instruction.**

Minimal maintenance is required for the AeroForce S2S. Individual usage and operating conditions will determine when to check the AeroForce S2S. Aero Industries recommends a weekly inspection of the following items:

- Inspect Tarp for wear and tears.
- Inspect arms for damage (cracked, dented or bent).
- **Bearings:** Pull the shafts from side to side and in and out. If there is excessive play, replace the bearings. Lubricate as often as necessary with penetrating oil. DO NOT use an excessive amount of lubricant.
- **Springs:** Examine springs for breakage or distortion. Apply a light coat of penetrating oil to tension springs as needed.
- **Fasteners:** Make sure that all mounting bolts and screws are in place and tight and that no parts are worn or damaged.
- **Chain:** Check the chain tension, that links move smoothly, and make sure the master link is on. Lubricate the chain regularly with penetrating oil.
- **Electrical Connections:** Check all electrical connections and tighten any that have become loose.
- **Safety Labels:** Clean labels with soap and water. Replace if damaged and/or difficult to read.

Replacement Parts and instructions may be obtained from your Aero dealer or by contacting Aero Industries.

Explanation of Signal Words

WARNING: Indicates a hazardous situation which, if not avoided could result in death or serious injury.

CAUTION: Indicates a hazardous situation which, if not avoided could result in minor or moderate injury.

Safety Messages Related to the Maintenance of AeroForce S2S

Maintenance recommendations, safety messages, and repair instructions can be found at www.s2soperation.com or call 800-535-9545.

CAUTION: Routinely inspect tarp and swing arms, DO NOT operate if parts are worn or damaged. Worn or damaged parts may come loose. Replace all worn or broken parts IMMEDIATELY.

WARNING: The swing arms rotate under extreme spring tension and damaged arms could come loose unexpectedly allowing the arm to rotate to with tremendous force. Before any repairs see repair instructions on website for "Properly Releasing Spring Tension" and properly release spring tension.

WARNING: DO NOT unlock the roll stops holding the anchor pipe before releasing the spring tension on the AeroForce S2S. Unlocking the roll stops can cause a rapid release of spring tension.

AeroForce S2S

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www.aeroindustries.com

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