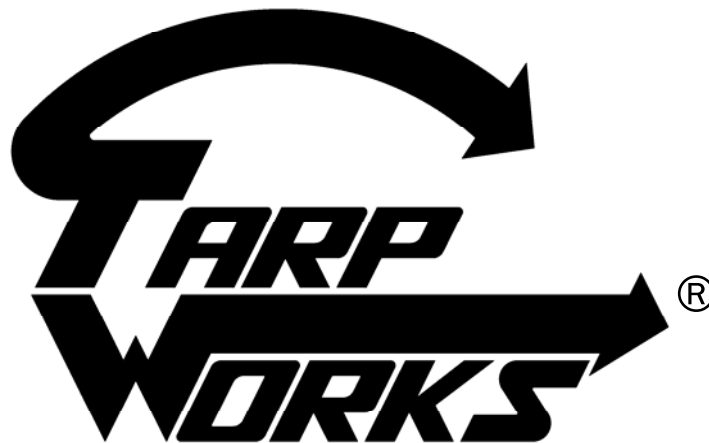


CRAMARO®

TARPAULIN SYSTEMS

LOC RITE SIDE ROLL INSTALLATION, MAINTENANCE, & SAFETY INSTRUCTIONS



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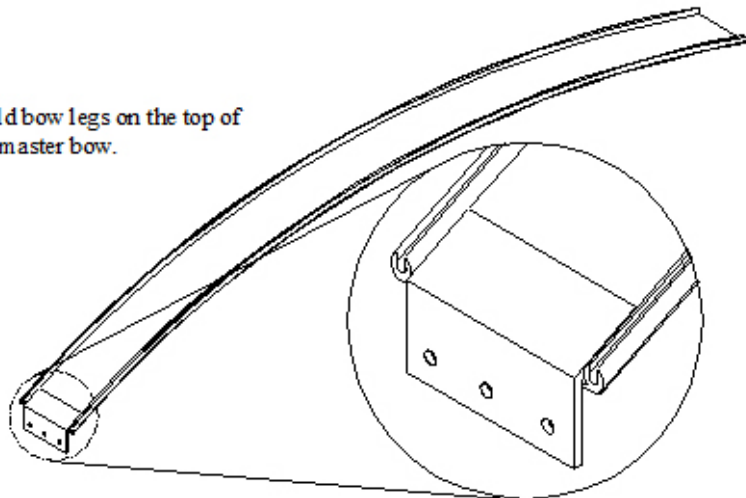
Plants In: Delaware, Florida, Massachusetts, Nevada, Ohio, and Canada

Installation of Master Bow Cap (Front/Rear Caps)

NOTE: On a two cap system, the length of the tarp should be one inch shorter than the distance between the front groove of the front cap and the rear groove of the back cap.

The FRONT CAP is used in place of a fitted front. The bonnet stays in place when tarp is rolled open. Assemble and weld one master bow leg (8" aluminum angle piece) to one end of the aluminum master bow (the master bow leg will be positioned on the outside of the trailer). Place the master bow at front of trailer, just behind where radius or chamfer ends. On a square front, place the master bow approximately 12" from the front of the trailer (must refer to your order form to see what distance was ordered). With the master bow resting on the top rails measure a distance of 9" from the middle of the bow down to an imaginary point level with the top rail (use a piece of string across from rail to rail if needed). You may need to push down on the middle of the bow to achieve the 9" distance. Mark the length of the master bow at the outside of the top rail less $\frac{1}{4}$ ". Cut the bow and weld on the other bow leg. Make sure to grind any burrs or sharp edges so the tarp will not be damaged. Drill $\frac{3}{8}$ " holes through the bow legs and bolt the master bow onto trailer using $\frac{3}{8}$ " x 5" bolts, flat washer, lock washer and nut. Again, make sure the master bow legs are mounted on the outside of the trailer.

Weld bow legs on the top of the master bow.

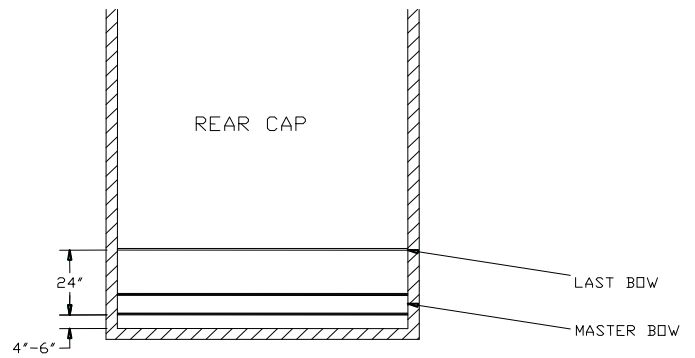
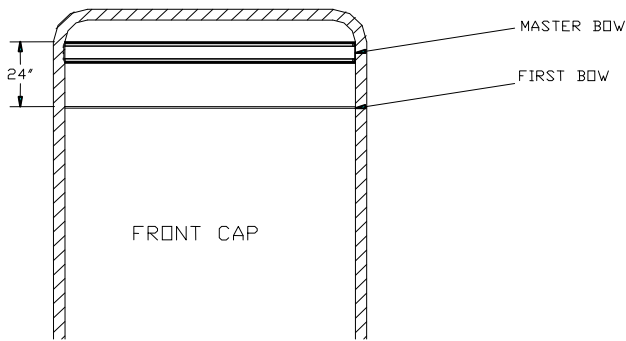


The REAR CAP is used in place of a attached rear flap. The flap stays strapped in place when loading/unloading. Assemble and weld one master bow leg (8" aluminum angle piece) to one outside end of the aluminum master bow. Place the master bow as far back as possible, making sure not to interfere with the operation of the tailgate (must refer to your order form to see what distance was ordered). With the master bow resting on the top rails measure a distance of 9" from the middle of the bow down to an imaginary point level with the top rail (use a piece of string across from rail to rail if needed). You may need to push down on the middle of the bow to achieve the 9" distance. Mark the length of the master bow at the outside of the top rail less $\frac{1}{4}$ ". Cut the bow and weld on the other bow leg. Make sure to grind any burrs or sharp edges so the tarp will not be damaged. Drill $\frac{3}{8}$ " holes through the bow legs and bolt the master bow onto trailer using $\frac{3}{8}$ " x 5" bolts, flat washer, lock washer and nut. Mount the master bow legs on the outside of the trailer.

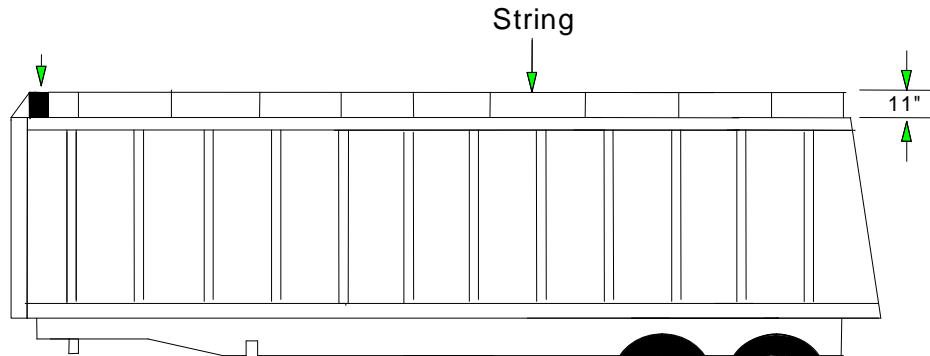
Installation of Aluminum Bows

To determine the height of the bows, hold the first bow up to the top rail/side board of the trailer. On a 10" arch system, the top of the first bow should be 10" above the top rail. Note – the top of the round aluminum bows will be flush with the top of the master bows. Another way to get the proper height is to attach a string from the first master bow to the last master bow, making sure the string is tight. Make certain the bottoms of the round aluminum bows are touching the string. On long trailers you may have to clamp a bow in the middle to keep the string from sagging.

The first bow will be mounted 24" behind the front of the master bow. Mount the bow pockets where needed to keep the bow 10" above the top rail. Pre-drill and mount pockets with $\frac{3}{8}$ " x 1" "F" point self tapping screws for metal bodies or the $\frac{3}{8}$ " x 1 $\frac{1}{2}$ " lag bolts for wood sideboards.



Place the last bow (at the same height) 24" forward from the back of the Rear Cap. Mount all bows as discussed previously. Space out the remainder of the bows evenly, but not more than 4' apart.

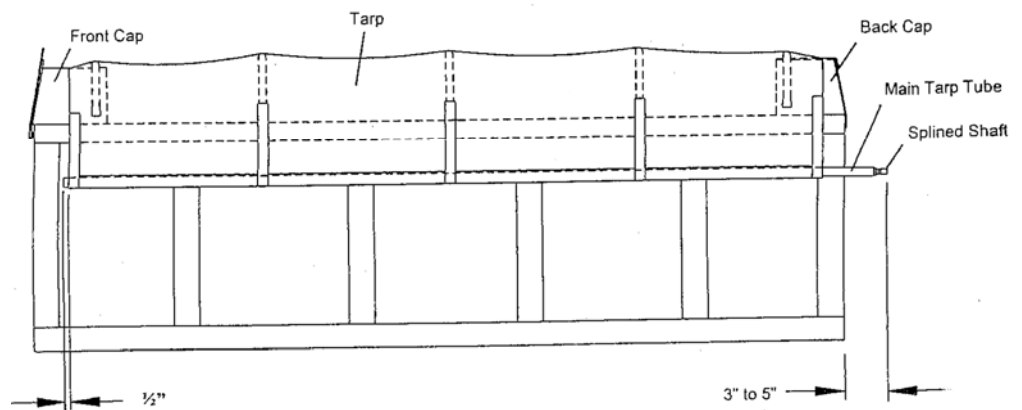


Permanent Pipe

Assemble all lengths of the 3/4" galvanized permanent pipe together using the threaded collars attached. Insert the permanent pipe into the 3" pocket on the permanent side of the tarp. You will cut to length in a later

Permanent Pipe Main Tarp Tube (Roll Tube) 2" Diameter

To determine the correct length of the main tarp tube, two dimensions need to be accounted for. The 1st is at the back of the box: the splined shaft must protrude 3-5" past the tailgate. The 2nd dimension is the main tarp tube: it must stick out 1/2" from the tarp at the front of the box. Make sure the tarp is pulled taught when measuring.

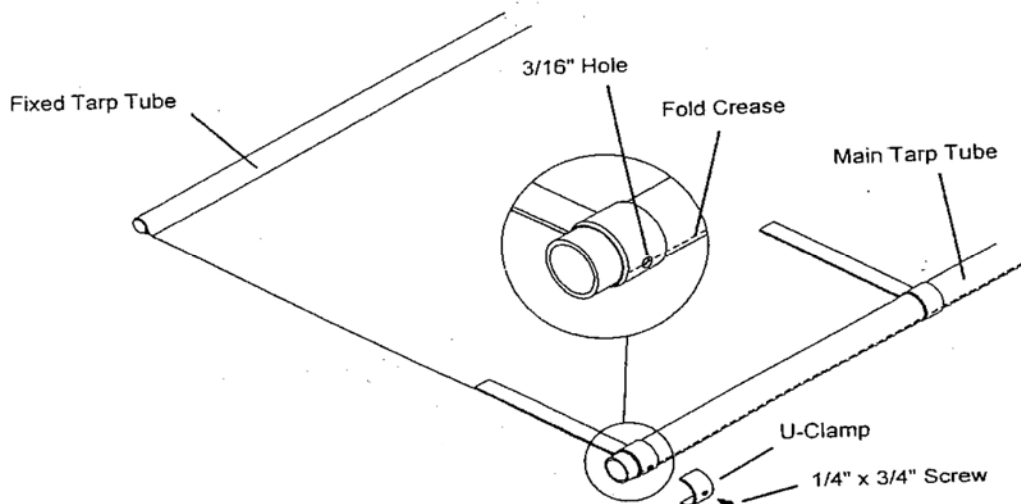


Now, with the length of the main tarp tube figured out, cut the tube & grind off any rough edges. When utilizing two or more tubes (for trailers over 24' in length) cut the tube making sure that you end up with an end that is swaged on one piece. Connect the pieces of tube by inserting the swaged end of one pipe into the normal end of the other (if using more than 2 full lengths of tube you may need a 6" connector). Once the tubes are all connected you need to weld the pieces together where they meet, weld all around the tube and file or grind smooth the splices.

With the tarp lying on the ground, slide the main tarp tube into the 5" pocket of the tarp.

U Clamps

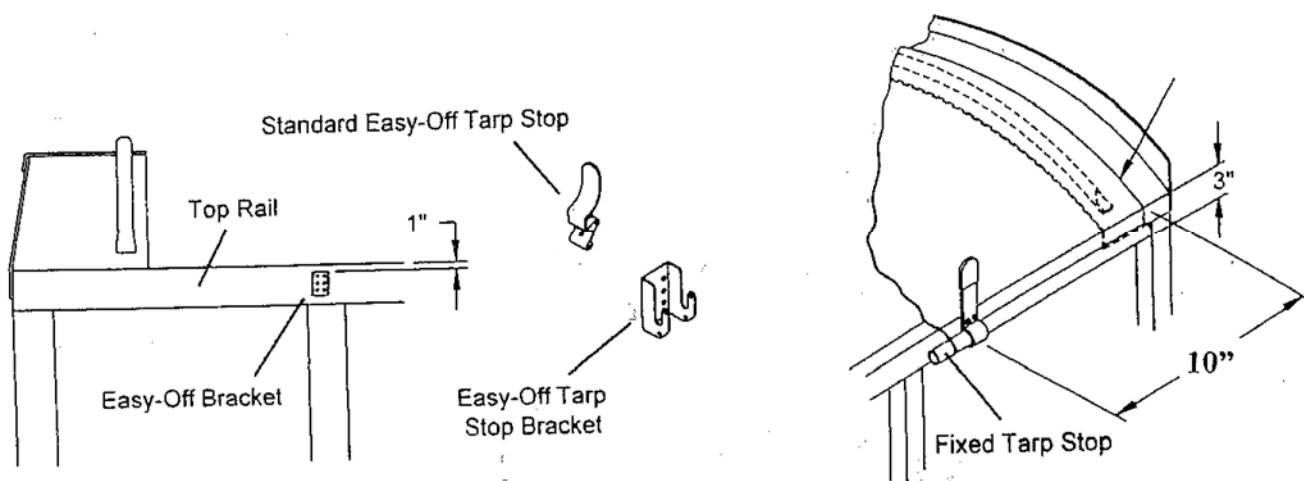
With the tarp lying on the ground, you should notice that on the 5" pocket there should be a crease from the tarp being folded. This crease will act as a guide for installing the u-clamps. Place a u-clamp on the front strap & align the crease with the hole in the u-clamp, making sure that the main tarp tube is sticking $\frac{1}{2}$ " out of the pocket. Drill a $\frac{3}{16}$ " hole through the strap, tarp, & into the roll tube.



Insert the $\frac{1}{4}$ " x $\frac{3}{4}$ " screw & tighten as tight as possible. Stretch the tarp when installing the rear u-clamp so that it equals the tarp length on the fixed tube side. After installing the rear u-clamp, install the remaining u-clamps, one for each strap.

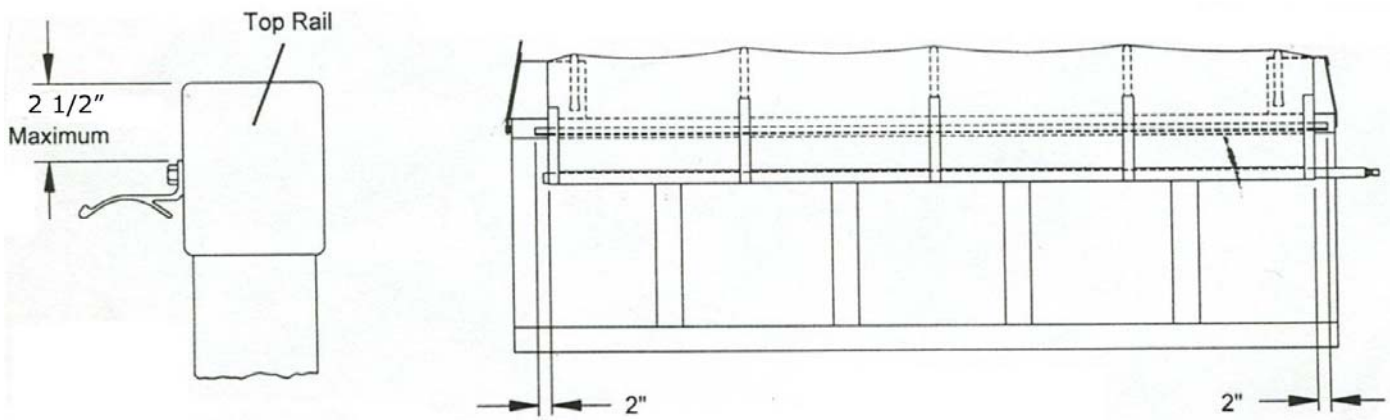
Tarp Stops

Note: Before installing your tarp stops, keep in mind that your system is designed to open from the driver's side to the passenger side. This means that the tarp stops will be mounted on the passenger side of the truck. If you decide to have your system open from the passenger side to the driver side, you will need to mount your stops on the driver's side of the truck.



Set the tarp up on the trailer or box & let the permanent pipe ($1\frac{1}{8}$ " diameter) side of the tarp hang over the edge about 3". Position the tarp so that it is centered on the front & back caps, making sure that the fixed tube is flush with the front edge of the tarp. Bolt a tarp stop approximately 10" from the front edge of the tarp using the $\frac{3}{8}$ " x 1" self-threading bolts. Mount the bracket approximately 1" from the top edge of the top rail or side header. Bolt another tarp stop approximately 10" from the back edge of the tarp using the $\frac{3}{8}$ " x 1" self-threading bolts. Mount the remaining tarp stops evenly spaced, but not to exceed 8'. Approximately 1" from the end of the permanent pipe, bolt through the pipe into the trailer at the front and rear using a $\frac{3}{8}$ " x $2\frac{1}{2}$ " self threading bolt.

Lock Rail

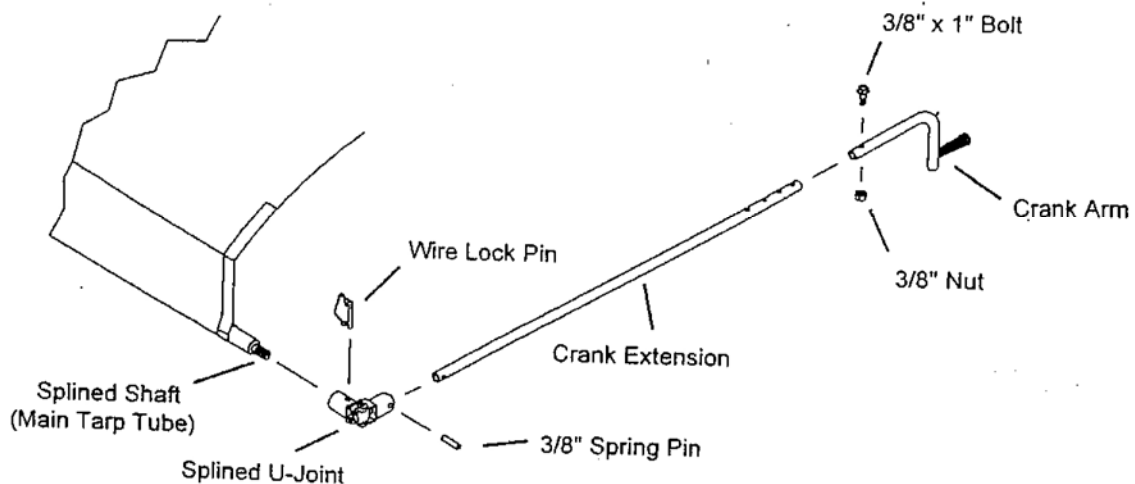


Allow the tarp to hang over the edge of the truck. The lock rail must extend beyond the tarp at each end approx. 2".

Note: If your box has a rear swinging tailgate which folds back to where the lock rail will be mounted, and any interference occurs, the lock rail will have to be moved upward.

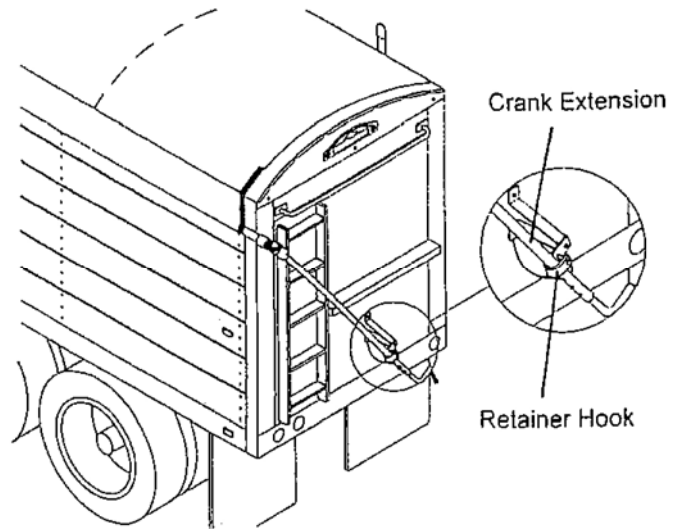
The lock rail will be installed from the rear, proceeding to the front. Bolt in place approximately every 24" using the 3/8" x 1" self tapping bolts, starting no more than 6" in from each end of all lock rail sections.

Standard Crank Assembly



Slide the crank arm into the crank extension & finger tighten the 3/8" x 1-3/4" bolt & nut (crank arm can be adjusted after the tarp is opened and closed once). Next, place the crank extension into the spline u-joint & tap the 3/8" spring pin into place. Then place the splined u-joint on the splined shaft & insert the 3/8" snap pin.

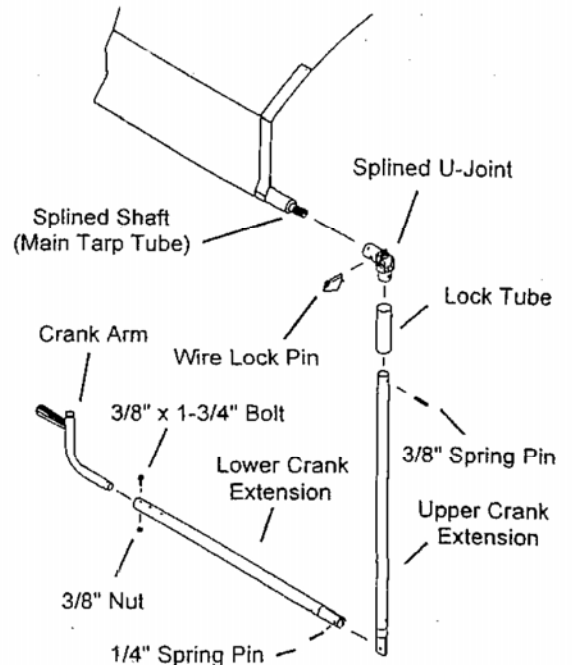
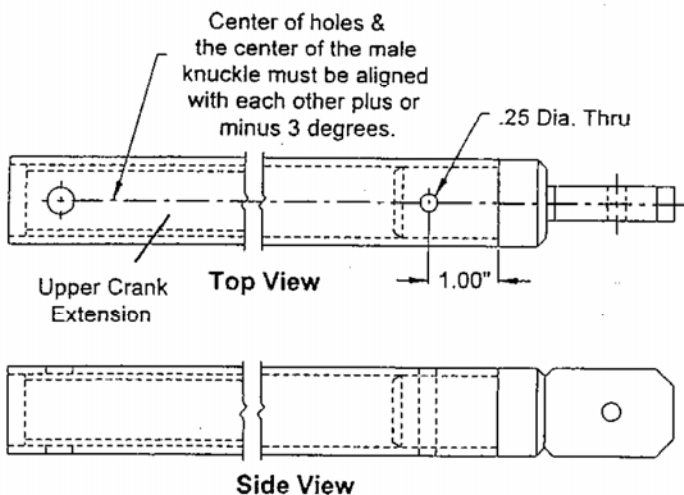
Now that the crank assembly has been assembled, roll the tarp under the lock rail & find the location you want to mount the crank retainer. You want the crank retainer hook to be up on the crank extension portion of the crank assembly. The crank arm might have to be adjusted at this time. Once the location of the crank retainer has been determined, bolt the retainer in place. Now that everything is in place, make sure that the bolt for the crank arm is tightened.



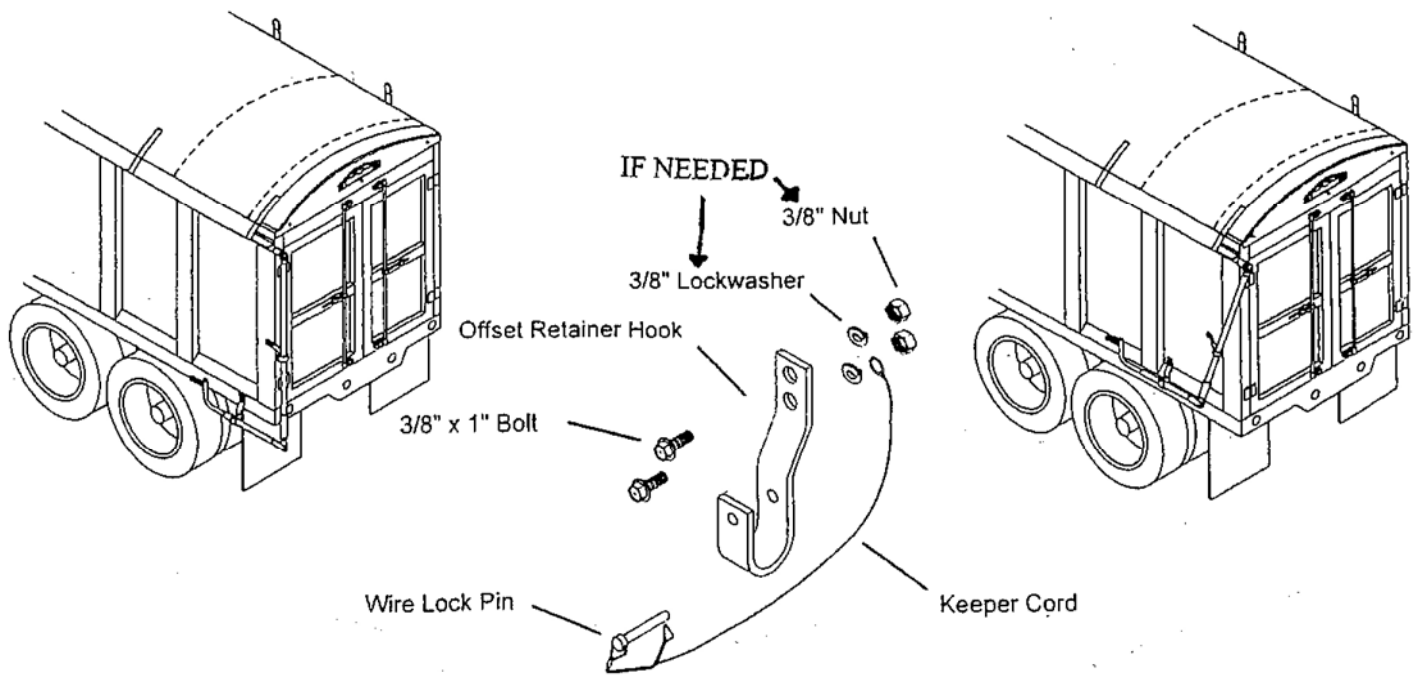
Breakaway Crank Assembly

Assemble the upper crank extension to the splined u-joint using the 3/8" spring pin. Next, bolt the crank arm to the lower extension using the 3/8" x 1 3/4" bolt & lock nut. Now attach the upper crank extension to the splined shaft on the main tarp tube with the snap pin. Next, attach the lower extension to the upper extension using the 1/4" spring pin, making sure the lock tube will slide onto the upper crank extension.

Note: Your breaking crank assembly may have come without the knuckles assembled. This was done so that the upper extension can be cut to suit your sidewall height. The details in the following figure must be followed when reassembling the upper crank extension.

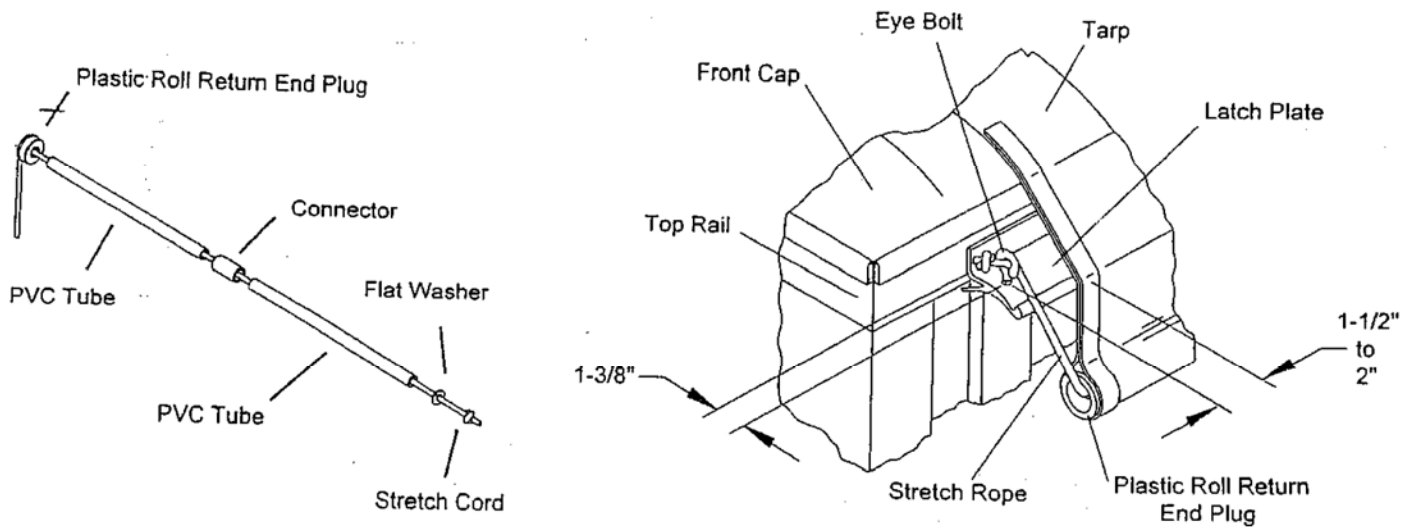


With the breakaway assembled, find the location for the offset retainer hooks. Make sure you allow enough room for the lock tube to slide up allowing the knuckles to bend. Once you have found a suitable location, mount the retainers in place.



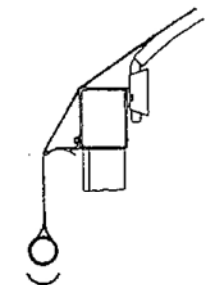
Return Assembly

Slide the return rope through the PVC pipe so that it extends out of each end. Put a flat washer on the end of the rope opposite the plastic end plug & tie a knot. Place the roll return into the main roll tube & press the roll return end plug into the tube. Approximately 1 1/2" past the end of the tarp, drill an 11/32" hole into the latch plate. Place the eyebolt in the hole from the top side and secure. Let the tarp hang over the edge of the box, pull until the main roll tube just starts to lift up, and tie a knot. Cut the excess rope & melt any frayed ends.

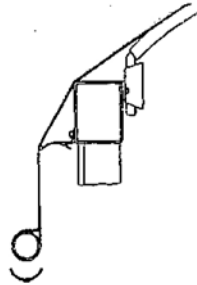


Final Adjustments

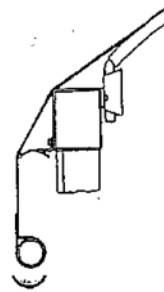
Tighten the tarp by holding the crank firmly with both hands and roll the main tarp tube up under the lock rail. Next, bring the crank handle down perpendicular to the ground. Continue tightening by lifting it up into the crank retainer. Then place the snapper pin into place. Repeat this procedure while adjusting the splined shaft and u-joint one tooth at a time to achieve the 40 to 60 pounds of tension at the handle end of the crank. Another method to measure tension is to adjust the tension until you see a slight deflection or a gradual bend in the crank extension of approximately $1/8"$. After the proper tension has been set on the crank, make sure that the tarp is in the locked position. Check to see that the tarp has equal tension on the front and back end caps and also the bows. If for any reason the tarp tension is not the same along the length of the tarp (i.e. tarp twist, u-clamps not aligned, box width varies from front to back), the u-clamps and the tarp may be readjusted in the loose area of the tarp.



Normal



Twist pocket outward & reinstall the u-clamp to decrease tarp tension in that area.



Twist pocket inward & reinstall the u-clamp to increase tarp tension in that area.

Safety Considerations

1. Do not dump with load covered.
2. Be sure to disconnect battery terminals when welding to the body.
3. Use OSHA approved ladders or scaffolding when working above ground level.
4. Keep clothing and body parts clear of any moving parts while operation system.
5. System is recommended to be in covered position at all times when traveling.

Maintenance

1. Monitor tarp tension to avoid premature tarp wear
2. Immediately fix or replace any parts showing wear.
3. Be sure to tighten any loose bolts.
4. Periodically check welds.

If you require further information or assistance please, contact us at (800) 272-6276.