



ATTENTION

DEALER / INSTALLER: THIS INSTRUCTION MANUAL MUST BE DELIVERED WITH THE VANGO SYSTEM.

Document #: **VSI-100**
Revised: 03/14/24 WLH



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PLEASE FOLLOW THE INSTALLATION STEPS IN THE ORDER LISTED ABOVE



Operation, Care, Maintenance and Limited Warranty

Thank you for choosing Vango Rolling Tarp Solutions' Vango System! Your unit has been custom built with great care by American craftsmen using prime aluminum billet and superior tarp material.

Operation: Opening Vango from the Rear

1. Unlock hinge lock angle on both sides at rear of unit.
2. Remove crank from inside the trailer.
3. Insert crank into tail bar and roll up the tail.
4. Loosen the winches on each side of trailer.
5. Reach the flat hook (attached to both winch straps) and remove it from the rear tension arm.
6. Remove rear tension arms (both sides) from lower arm pocket and allow the rear tension arms to hang straight toward the ground.
7. Slide Vango to front of trailer.

Operation: Opening Vango from the Front

1. Perform steps 1- 6 above
2. Lift up the front handle cover on both sides of bulkhead.
3. Release front bow draw latches.
4. Slide system to rear of trailer.

Operation: Alternative opening Vango from the Front

1. Loosen the winches on each side of trailer.
2. DO NOT REMOVE THE FLAT HOOK FROM THE REAR TENSION ARM.
3. Place a quarter on the track behind the last Vango wheel.
4. Walk to front of trailer and release front bow draw latches.
5. Slide Vango to rear of trailer.

Operation: Closing the Vango System

1. Slide front bow to the bulkhead and lock both front bow draw latches.
2. Slide remaining system to the rear.
3. Insert rear tension arm into lower arm pocket on each side of trailer.
4. Winch back each side until system is very tight. (You may have to repeat passenger side after driver's side is tight and vice-a-versa).
5. Roll down the tail and place crank inside the trailer in rub rail.
7. Lock each hinge lock angle on both sides.



Operation, Care, Maintenance and Limited Warranty



WARNING – Do not release front bow draw latch before taking tension off the rear winches.

WARNING – Never move trailer or transport without system fully tightened. Doing so could result in failure of this product, injury or death.

WARNING – All loads on a trailer equipped with a Vango System must be secured per DOT 393.100 to 393.142. Vango sliding systems cannot be used as part of 393.100–142.

Care and Maintenance

1. Do not use any grease, oil or WD 40 on Vango track, wheels or roller bearings. Keep track clean by brushing or using air nozzle to clean any debris.
2. Do not use acid on bulkhead or aluminum components.
3. Do not allow any Toluene, paint thinner, acetone or MEK to contact tarp.
4. Clean Vango like you would wash a truck. Mild soap and water is recommended.

VANGO LIMITED WARRANTY

Merlot Tarpaulin Mfg. Co., Inc. warrants the Vango Rolling Tarp Systems against defects in materials and workmanship for a period of 12 months from the date of installation of its authorized dealers and/or installers. This warranty covers the tarpaulin material on a pro-rated 7 year basis for black vinyl, and on a pro-rated 5 year basis for all other colors against ultraviolet fabric deterioration. This warranty further covers printing on the tarpaulin material on a prorated basis for 5 years. The wheels/rollers are warranted for as long as the original purchaser owns it.

Merlot Tarpaulin Mfg. Co., Inc. must be notified immediately of any defect noticed so we can take the necessary corrective actions required to avoid further damage. This warranty does not cover misuse of the system, unauthorized modifications of any kind or damage caused from neglect.

Merlot Tarpaulin Mfg. Co., Inc.'s liability is limited to the repair of or replacement in kind of, at the sole option of Merlot Tarpaulin Mfg. Co., Inc., any items proved defective, provided the allegedly defective items are returned. All warranty claims must be submitted in writing and include a listing of the allegedly defective items properly identified by system bulkhead number, individual part number, defective quantity, original order/ship date, etc. and must be approved in advance. The warranties expressed above are in lieu of and exclusive of all other warranties.

There are no other warranties express or implied, except as stated herein. There are no implied warranties of merchantability or fitness for particular purpose, which are specifically disclaimed. Merlot Tarpaulin Mfg. Co., Inc.'s liability for breach of warranty as herein stated is the exclusive remedy, and in no event shall Merlot Tarpaulin Mfg. Co., Inc. be liable or responsible for incidental or consequential damages, even in the consequential damage has been made known to Vango Rolling Tarp Solutions. Damage caused by wind, tornado, hurricane and floods including acts beyond control such as acts of God are not covered by said warranty.



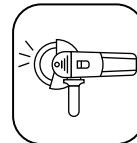
Required Tools



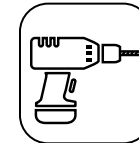
Safety Glasses and Gloves



Cutting Torch or Plasma Cutter
(for steel trailer)



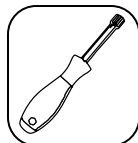
Grinder with aluminum or steel
grinding wheel, depending on
trailer



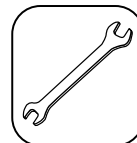
Power Drill



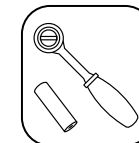
Drill bits: 1/2", 3/8", 1/4", 3/16"



Nut Driver: 3/8" & 5/16"



Wrenches: 3/4" & 9/16"



Ratchet & Socket: 9/16"



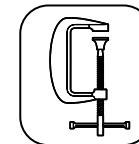
Circular Saw with aluminum
blade (for aluminum trailer)



Ball Peen Hammer



Rubber Mallet



C Clamps (2): 8 1/4" Opening
& 5" Throat



C Grips (6): 11"



Aluminum Welder



CAUTION: TO AVOID INJURY WHILE INSTALLING YOUR VANGO OR REPLACING PARTS, IT IS VERY IMPORTANT TO WORK FROM A LADDER OR PLATFORM THAT IS SAFE AND ON STABLE GROUND. DO NOT WORK FROM A TRUCK TIE RAILS, ETC.



SYSTEM INSTALLATION



Front Corner Bracing

Step 1: Remove all stake pockets, clearance lights and any other protrusions from front crossmember other than the glad hands, and 7-way receptacle. ABS lights may have to be relocated after installation is completed.

Step 2: Adjust trailer so that coupler is at tractor fifth wheel height and trailer is on level ground.

Step 3: If front corners of flatbed are tapered or notched at a 45-degree angle, they will need to be squared so that the front sill and the side rail's channel are 90 degrees square (Fig. 1, 2 & 3).





Front Corner Bracing (Continued)

Step 4: Position front corner bracing posts so that they are square with the trailer's side rail as well as the front crossmember so that the corner bracing posts are square with the trailer. The result is that the front bulkhead will be square with the trailer so that the leading tarp frame will interface with the bulkhead square and there will not be gaps between the bulkhead and the tarp frame (Fig. 4).

Step 5: Position front corner brace 1" up from the bottom of the front side rail which will enable a surface to get a weld on the bottom of the brace to the side rail. Since most side rails are 6" deep, the corner bracing post will be approximately 5" below the top of the side rail (Fig. 5 & 6).





Front Corner Bracing (Continued)

Step 6: Position reinforcement plate flush and square with inside of corner brace. Stitch weld together on outside of reinforcement plate (Fig. 7).

Step 7: If aluminum trailer, weld out the front corner braces solid to the side rail and front sill. If the side rail is steel, drill (4) holes through the corner brace inner wall and the channel side rail and bolt them together. Then get a piece of angle iron to place on the side of the corner brace and weld it to the side rail and then bolt through it to the corner braces wall. When done, you should have (6) bolts connecting the corner brace to the side rail. Place Mylar tape between steel and aluminum surfaces. (Not Supplied)





Bulkhead

Step 1: Lift bulkhead up to front corners and position so that bulkhead is square with trailer (front to back and side to side). In addition to ensuring the squareness with the trailer, if the corner braces were installed square, the bulkhead should be flush with the corner braces with no gaps. Bottom plate on front bulkhead should be lying flush on the trailer's front crossmember (Fig. 8).

Step 2: Weld front bulkhead to front corner braces on roadside and curbside. Stitch vertical weld on interior seam of front corner brace and bulkhead corner post (Fig. 9, 10 & 11).





Bulkhead (Continued)

Step 3: Locate angle welded to bulkhead and use existing holes as guide to drill through the front crossmember and then bolt (2) the angle to the front crossmember. When the front crossmember is aluminum, these are welded out solid as well.

Step 4: WThe center vertical brace tubes in the bulkhead, drill two holes in them at the bottom. Use those holes as a guide and drill through the front crossmember of the trailer and bolt them together. When the front crossmember is aluminum these center brace tubes are welded out solid to the front crossmember. When it is a steel front crossmember, if the installer deems it beneficial to have additional bracing, it is permissible to install an additional angle on the opposite side of the center brace tube with bolting or welding depending upon the material used for the angle (Fig. 12, 13 & 14).

Step5: Install two J hooks underneath front of the front sill to secure the bungee and the flap closed when unit is in transit (Fig. 15).





Rear Tension System (Winches with Arms - Flatbed Rear Tension System)

Step 1: Install pocket at 68" from where the Vango rail is going to stop to where the point of the tension arm is going to sit. Cut the rub rail and pockets out as needed then cut the rub rail and pockets out from 45" to 55" so there is a clear span for the strap to tension the arm down (Fig. 16, 17, 18 & 19).

Step 2: Install the tension angle bracket to the rear bow assembly so the angle is facing into the deck of the trailer and the pivot point facing towards the front of the trailer and hold it up 2" off the top of the carriage. Drill through the tubing and install the 3 bolts and tighten up. Install the upper tension arm with the plate for the strap towards the front of the trailer and facing the deck do not over tighten the bolts or the arms will not pivot. Install the lower arm with the threaded rod in it.





Rear Tension System (Ratchets & Posts - Drop deck or Optional Flatbed)

Step 1: Install pocket 9" from the rear of trailer to the inside rear wall of the pocket. Measure 9" from the rear of trailer to the rear of pocket where the post goes in and DO NOT measure from the back of the angle top flange around the pocket. Weld or bolt the assembly into place making sure it's square with the trailer (Fig. 20, 21 & 22).





Side Rail Track

Step 1: Install vinyl seal in cavity of side rail track while on the floor before installing onto trailer. Do this piece by piece (refer to photo on front corner bracing after corner braces are installed you'll see the seal lying on the floor for the next piece of rail to be slid onto it (Fig. 23). IF YOU ATTEMPT TO INSERT THE SEAL AFTER THE RAIL IS INSTALLED, YOU WILL BE FIGHTING WITH IT AS IT IS VERY DIFFICULT TO INSERT WHEN ON THE TRAILER.

Step 2: Track is to start 1/2" to 1" rear of back crossmember surface and only let it be longer to the point that the edge of the track is not vulnerable to catching on something. If there are no dock bumpers or light protectors, you may want to go flush with rear (Fig. 24).

Step 3: Locate track on the rub rail of the trailer and position the track so that it is flush at the back of the trailer just past post pocket, 1/4" below the top surface of the side rail. This is to remain constant down the entire length of the trailer until you are 4' from the front of the trailer then make it flush with the floor. Clamp rail into place so that it does not move. Drill a hole through the track and into the first stake pocket from the rear in the center of the pocket. Secure with countersink bolt and nuts provided. Do this on every other stake pocket which should be 48" centers (Fig. 25 & 26).





Side Rail Track (Continued)

Step 4: Where side rail ends and another piece begins, splice them on a stake pocket with a fastener at each end (Fig. 27).



Step 5: The track ends 1 1/2" past post. Typically, the corner brace requires to have a shim installed the thickness of the rub rail to make the track run straight. Simply insert the shim plate between the track and the corner brace and drill through the track, shim plate and outer wall of the corner brace post.

Step 6: If installing on a drop deck, position the track so that the rail extends past each other to overlap one another by at least an inch. Typically, they are positioned the full length to the drop on the upper deck and to the front of the side rail on the lower deck.

Step 7: To allow for drainage of any moisture, drill a 1/2" hole in the top track every 6'-0".



Support Bows

Step 1: Lay the round galvanized tubing parts out on a flat surface. There are two vertical tubes for every cross-piece. All cross-pieces are identical. The vertical tubes are all the same height except for two shorter tubes. All vertical tubes are to be slid onto the cross piece's and put one peen at the swedge to keep the legs from sliding off (Fig. 28, 29 & 30).

The bottom of the vertical tubes has a nylon insert to be installed with a hole in it tap it into the legs so the hole is horizontal to the ground. Position the pieces so that the vertical tubes are completely inserted into top pieces. Repeat this procedure for all up-lift bows shipped (Fig. 31 & 32).

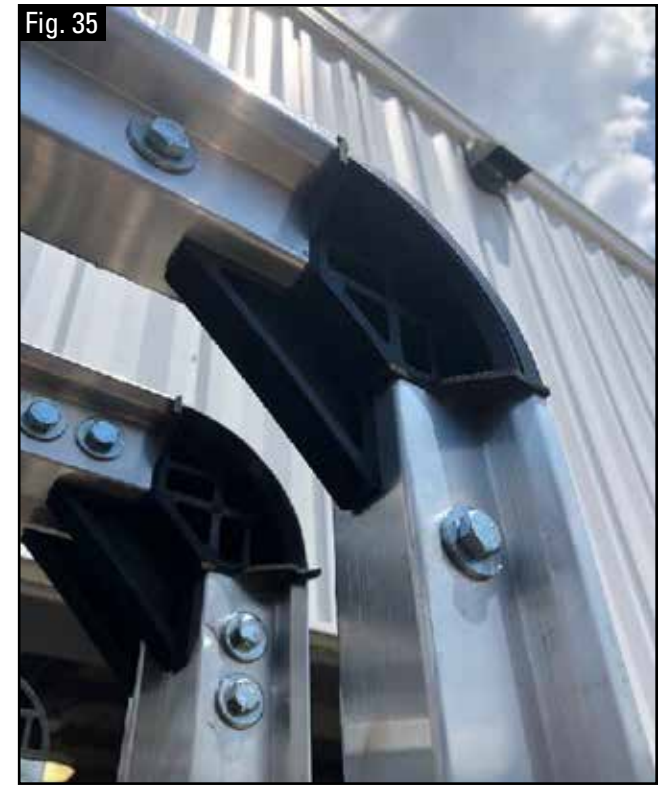




Main Bows

Step 1: Bolt the intermediate bows together. Lay the main bow cross-pieces and the vertical main bows so that they are flush and flat. Slide the rubber gaskets on the corners and slide the vertical bow onto the corner and tap the bolt through and tighten up the bolt (Fig. 33, 34 & 35).

(DO NOT REAM HOLES OUT TO GET BOLT IN IT MUST BE TIGHT TO KEEP PRESSURE ON THE GASKET).





Main Bows (Continued)

Step 2: Bolting the front and back bows together. There are two main frames on the trailer. It is critical to ensure you have the proper parts in locations. The rear frames have velcro that will face rearward on the trailer and have a pocket at the bottom in the frame that will receive the rear roll-up tail. Lay the main frame cross-pieces and the vertical main frames so that they are flush and flat. Slide the rubber gasket on the corners and slide the vertical legs on and tap the bolt through the corners and tighten. (DO NOT REAM HOLES OUT TO GET BOLT IN IT MUST BE TIGHT TO KEEP PRESURE ON THE GASKET).

Step 3: Load bows onto trailer. Install Front bow onto the trailer first then all the intermediate bows. Install the rear bow with the velcro facing rearward (Fig. 36 & 37).





Main Bows (Continued)

Step 4: Install the up-lift bows. Pull the main bows apart from the rest, dealing with one at a time. Position an up-lift bow on each side of the main bows (Fig. 38).

Install a black nylon strap onto both vertical legs of the bow and slide them up and around so that they are on the cross-piece for the roof and buckle facing away from the roof (Fig. 39).

Bolt the bottom of the up-lift bows to the bottom studs on the main bows. Do not over-torque the nuts. The nuts should be as tight as possible while still allowing the up-lift bows to pivot in both directions. As you complete each main bow, move them up against the frame and start on the next bow in line. The rear frame will get the shorter up-lift bow.





Main Bows (Continued)

Step 5: Install front frame guides. Roll the front frame into the front bulkhead in order to see where the guide plates need to be installed. Drop it down about 4" from the top of the bulkhead post or center it in the middle of the bracing on the side main frame. Weld the guide plate to the bulkhead post. If needed, install shim plates to improve frame guidance into the front bulkhead.

Step 6: Install rubber gasket seal on face of front frame's vertical and horizontal members. Position so that it is approximately 1/4" inset from exterior (Fig. 40, 41 & 42).

Step 7: Install pads on front frame for paddles to interface. Position front main frame in position against interior of front bulkhead. Rotate the tensioning paddles around from the front of the bulkhead and mark the top and bottom of the paddle on the aluminum main frame. Use self-tapping screws to install the black plastic wear pad onto the aluminum frame. Repeat on all four paddles (Fig. 43).





Vango Vinyl Panels

Step 1: Gather bows together and separate the front frame and the first main bow. The Vango vinyl panels are in individually numbered boxes with 1 being for the first panel and then sequentially moving toward the rear (ALWAYS FEED FROM DRIVERS SIDE OF THE TRAILER). Spray silicone lubricant into the bow cavities to ease sliding the panels (Fig. 44).

Feed vinyl panels through top first, then down each side. With the two bows clamped in position about 48" to 60" apart, and a man up on a ladder adjacent to each bow, at the same time, feed the panel tube into the top bow cavity and then pull it across the width of the bow align the reference marks up on the panel with the end of the top bow on both sides and it will hang evenly down both sides. Then pull the vinyl panels down through the cavities on each side bow vertically downward (Fig. 45, 46, 47, 48, 49 & 50).





Vango Vinyl Panels (Continued)

Step 2: With the panel installed into place, and evenly positioned centered on the bow pull the vertical tubing in the tarp downward and drill a 3/16" hole in the bottom lower corner of the vinyl panel through the aluminum carriage. Secure with the rivet and rubber washer. The hole should be near the bottom of the aluminum carriage bracket and it should be extremely difficult to get the holes to line up again unless you place the rivet in the tarp and with the gun loaded on the rivet, get the shaft started in the hole and then pull down on the tool using the rivet as leverage and then push it into the hole and install the rivet. Do not do this with vinyl panels stretched and system tensioned (Fig. 51).

Step 3: After all vinyl panels are secured at the bottom of the carriage, Position the bottom cap covers and install them with the rivets (Fig. 52).

Step 4: Install the top corner cap covers with machine screws (Fig. 53)

Step 5: Install the front corner and rear corner caps. Cut front cap flush with bow (Fig. 54).

Step 6: Tension the Tarp system back.





Up-Lift Bows

Step 1: Uplift bows were installed after the main bows and they were bolted to the bottom carriage (Fig. 55). Prior to bolting the up-lift bows to the main carriage, the black nylon straps were to be installed onto the top cross bar of the up-lift bow and located approximately 24" inward from the outside of the bow.

Step 2: With the straps secured to the main bows now, use the buckle adjustment on the loop on the up-lift bow to take up or let out slack in the straps. After all straps are secured to the main bows, tension the vinyl panels closed.

Step 3: With slack in the nylon straps now, bring the uplift bow up toward the panel roof so that it pushes with pressure into the roof surface of the vinyl panel. Tighten the buckle to remove the slack and as a result the bow is held in place. If the slack is not taken out of the strap to hold the up-lift bow tight against the panel roof, the strap will walk its way off to the side and down the up-lift bow and the up-lift bow will not be properly lifting the vinyl panel when it is opened.

Step 4: When finished, the up-lift bows provide for a tight vinyl panel as seen on the inside. Note that the uplift bows at the rear frame require a shorter up-lift bow which secures about a third of the way up from the deck and mounts on the stud provided on the frame (Fig. 56 & 57).

Step 5: When retracted or open, the uplift bows are held in place by the straps (Fig. 58).





Quad Up-Lift Bows (Optional)

Step 1: Typically, the Quad Uplift bows are the last items installed but a prior step is required to allow this installation. Once the nylon straps for the long uplift bows are secured you can set the cross piece to the quad uplift bow in place by setting them on top of the nylon straps that hold the long support bows. When the vinyl panels have been installed and before you begin to set the long up-lift bows, you will need to first place the quad-uplift bow cross piece in the velcro pocket in the ceiling (Fig. 59).

Step 2: After the system is tensioned and all of the long uplift bows have been installed, proceed with the installation quad-uplift bows by inserting the crosspiece into the bottom receivers that should be bolted to the mounting brackets.

Note: Be sure the quad mounting bracket has the short bow receivers on the top side because the bolt will fasten through the bottom side and you will need to access it.





Quad Up-Lift Bows (Optional - Continued)

Step 3: Lift the bracket up and onto the main bow to press the quad-uplift bow slightly into the vinyl panel roof. Use caution so as not to apply excessive pressure to the panel roof (apply the same pressure as used when installing the long uplift bow). This step is much like it was when pushing the long uplift bows up to adjust the tension on the buckles but in this case, the bow is in the velcro pocket and the pressure is applied upward at the mounting bracket and then locked into place to secure it. To secure it in place, you can tack weld the aluminum mounting bracket to the main bow vertical beam. When setting these mounting brackets, the remaining brackets should be installed at the exact same dimension from the top of the bow downward.

Step 4: Once the mounting bracket has been secured with a clamp or tack welded, drill through (lengthwise with the trailer) the bracket and the main bow's main section and install the 3/8" x 3-1/2" (or 4") bolt and nut. If desired, this mounting bracket can be welded to the main bow's vertical member, however extreme caution should be exercised so that the tarps are not burned (Fig. 60 & 61).





Rear Tail Vinyl Panel

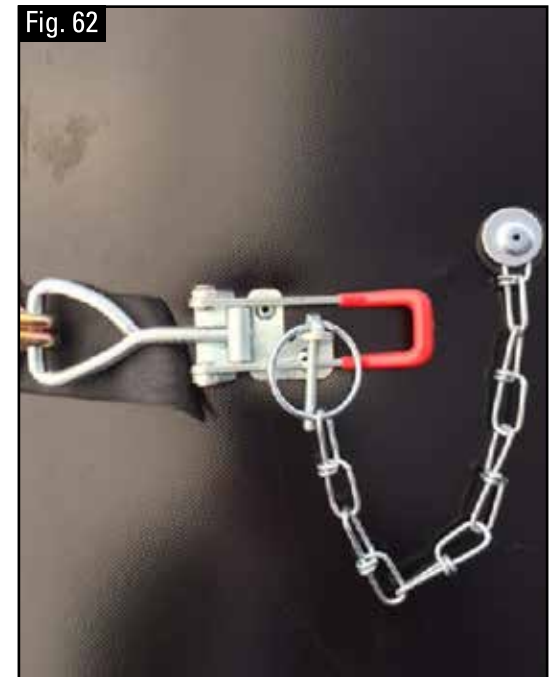
Step 1: Insert the bead on the top of the rear tail vinyl panel into the cavity at the top of the rear frame. Pull the panel through the cavity and center the panel on the frame so that the tail perimeter aligns with the velcro on the frame uprights. NOTE: The velcro faces the rear frame. The top corner caps are to be installed as the last step in the tail installation.

Step 2: With the tail inserted and hung centered on the rear frame, close the corner hinges and install the bolt or rivet and washer in the upper corner. The purpose of this screw is to prevent the tail panel from moving in and out of the cavity from side to side and only one fastener is required, however if you feel that two are necessary, feel free to install another screw and washer.

Step 3: The bottom of the rear frame has a cavity for the lower locking bar that will be installed in the lower interior pocket on the tail panel. At the bottom of the tail panel, there is a loose flap that is intended to serve as a seal on the floor surface.

Step 4: Insert square steel tubing lower locking bar into cavity near the bottom interior of the tail panel. Insert the locking bar in the pockets on each side of the rear frame. Clamp the tail panel to the bar with finger clamps or vice grips (place protective layer on tarp before clamping so that panels are not scarred). Pull the locking bar out of the pockets being careful not to jar the clamps. Flip the tail panel up so that you see the interior of the panel and then drill and install a screw and washer through the pocket and into the locking bar. Install (3) screws on each side located at the center and 7" or 8" in from the end of the bar. This keeps the bar from spinning in the pocket when it is cranked up with the crank handle. Next install the strap with plastic buckle to secure the crank pole when tail panel is open. The hole is approximately 2" up and 1" rearward of the top rear hole in the handle. Again, there will be an aluminum plate that you will drill and rivet to. Hold the strap and buckle up leaving a loop and secure the other end of the strap with a rivet and washer.

Step 5: Install the latches and keepers. With tail panel rolled down and side hinges folded over the rear tail panel, bring the lower side straps with hook around the hinge to the side. Place the hook from the strap into the ring in the over center lock and in the closed position hold it up against the panel. You should feel the hard aluminum plate surface under the panel. Ensure that the over-center lock and the strap with hook are level. Mark the holes in the over-center lock. Remove the over-center lock and drill the holes as marked. Install the over center lock with rivets in the holes drilled. Position the sash chain with a rivet and washer approximately 5-1/2" behind the hinge point on the over center lock. This will leave approximately a 5" sag in the chain when the locking pin is placed in the over-center lock. Again, there should be a hard aluminum plate for the hole you will drill to secure the chain with a rivet, the plate, and the fasteners (Fig. 62).





Rear Tail Vinyl Panel (Continued)

Step 6: Next install the strap with plastic buckle to secure the crank pole when tail panel is open. The hole is approximately 2" up and 1" rearward of the top rear hole in the handle. Again, there will be an aluminum plate that you will drill and rivet to. Hold the strap and buckle up leaving a loop and secure the other end of the strap with a rivet and washer.

Step 7: Time to operate the roll-up tail panel. Unlock the corner hinges and fold them open. Pull the lower locking bar out of the lower pocket (either end). Take the crank handle and insert the square spigot into the end of the square tubing lower locking bar. Move to the end of the handle and crank the handle to roll the tail panel up. Start at a 45-degree angle from the unit and as it rolls up, you will move closer to the corner of the unit. When near the top, stop about 9"-12" from the top and then in one motion while cranking, lift up on the bar and it can be flung up onto the top of the rear frame. When finished cranking, let the crank handle lie straight down and secure it with the lower strap and buckle. Be sure the lower crank handle will not snag on the trailer as it is rolled forward.



Seal and Stops

Step 1: Secure bottom seal at front with self-tapping screws to bottom of front corner post (Fig. 63).

Step 2: Install the stop bolt in the rear of the track and include the lower seal underneath to secure the rear end of the seal (Fig. 64).

Step 3: Drill drain holes in the top cavity of the side rail on 4' centers (curbside and roadside).

Step 4: Install spring handles at all four corners of the system. Attach to front and rear bow assemblies on each side by drilling through the tarp and aluminum frame and then riveting the handle to the frame. Position the handle so that the top hole closest to the end frame is 10 1/2" up from the bottom of the vinyl panel and 6 1/2" to center of the vinyl panel. Square handle to the adjacent frame before drilling and securing other holes. Secure with rivets (Fig. 65).

Step 5: Photographs show the exterior handle at the roadside front and the curbside front interior showing where the fasteners secure to the aluminum frame plate. This is typical at the rear (Fig. 66). If you require further assistance, please contact a customer service representative toll free at 1-800-443-TARP (8277).

