



# Assembly Instructions Boat/SUV Storage 14x24x10

## ASSEMBLY INSTRUCTIONS BOAT STYLE 14Wx24Lx10H

### Congratulations!

Congratulations on your purchase of a Round Style Boat/Storage Shelter by MDM Products LLC. With proper installation, use, and maintenance, your new unit will provide many years of good and suitable service. Your new Rhino Shelter portable enclosure is a combination of excellent engineering and well thought out design. The unit is comprised of a rigid tubular frame, covered with a long life polyethylene cover and double door ends.

The multiple part frame is pre-drilled for easy insertion of hardware to assemble. The tubing is made from high-grade galvanized steel tubing, to resist moisture and oxidation over the life of the shelter. The covering membrane is made from ASTM-5 approved polyethylene materials. The cover is UV protected for continual exposure to the sunlight.

It is suggested that you read the assembly instructions completely before you begin. This will help attain the best results for your installation.

### **SAFETY WARNING**

**The installation of this unit must conform to the requirements of all authorities having jurisdiction in your specific local area. In the absence of such requirements, the installation must conform to the provided assembly and installation instructions. MDM Products LLC will not be responsible for failure to comply with any requirements in a given local area. Consequential damages or injuries caused by improper installation, alteration, or improper use are strictly that of the user. Unit MUST be cleared of All Snow Accumulation immediately to avoid overload. Unit is not to be used for occupancy for any length of time. No running internal combustion engines, open flames, or contact with heated surfaces are allowed.**

For installation assistance or Customer Service, please call 800-447-7079 or 203-877-7070, 8AM-5PM EST. Cartons should be inspected upon delivery from carrier, and any evident damages should be noted on the bill of lading before signing. If upon opening the cartons hidden damage is noted, contact carrier or its agent immediately. Claims for shipping damage MUST be made with the shipping company. An inspection of the

goods will most likely be required. Do not discard packing or any components before the freight company's inspection. All claims for freight damage must be made with 15 days of receipt of the goods in accordance with ICC regulations.

### ASSEMBLY PROCEDURE

The proper sequence and steps to install this unit will produce a proper and good installation. Failure to read and follow these guidelines may result in an improper installation and will void all warranty and protection the owner is entitled to with the product. The steps to be undertaken are:

1. Perform an inventory check before beginning to be certain all components are available for installation.
2. Prepare location and place both unit boxes near location sight.
3. Assemble seven (7) arches of unit
4. Assemble unit end arch, first interior arch, and Wind Braces with first top, base, and side rail sections.
5. Add additional arch assemblies with each section of base rails and side rails.
6. Place frame into desired position and **level** frame both end-to-end and side-to-side. Measure interior of frame feet across opposite corners and square
7. Anchor frame assembly to ground with provided anchors, u-bolts and drive rod provided.
8. Install two(2) doors on both ends of frame assembly.
9. Install Main Cover over frame assembly.

### TOOLS REQUIRED

The following hand tools will be needed for proper installation of your new Rhino Shelter unit:

- 9/16" Open End Wrench**
- 9/16" Socket or Box Wrench**
- Large Flat Tip Screwdriver**
- Maul or Sledgehammer**
- 2 foot Level**
- 8-Foot Step Ladder**

### INVENTORY CHECK

Start installation procedure by removing all components from packaging and ensure all components are present

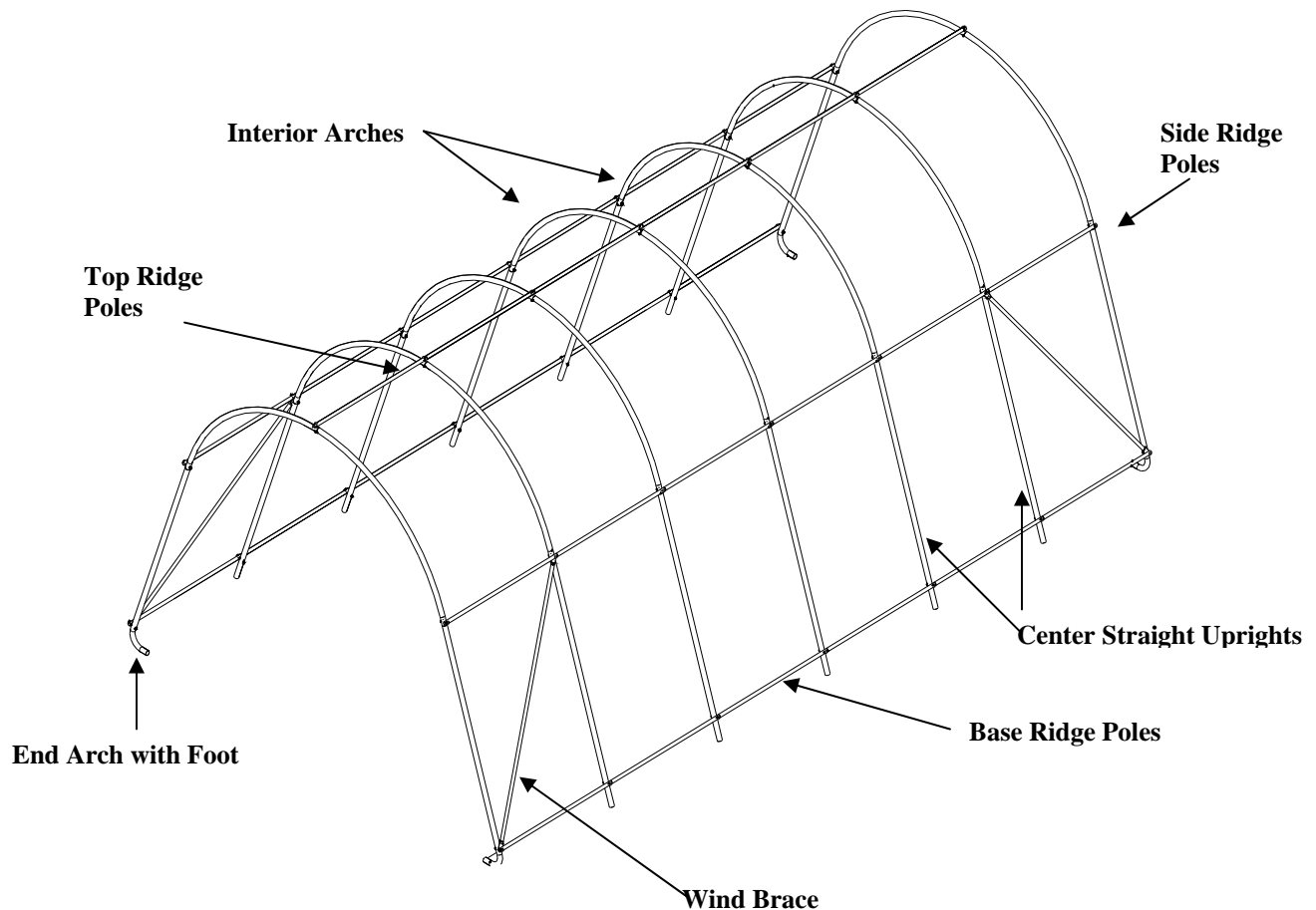
Qty	Part Number	Description
1	RUC-7000	Main Unit Cover – 14X24X10
2	DZD-7002	End Panel Door with Zippers
4	EUL-5021	End Upright w/Foot
7	RC-5020	Right Side Crest Tube
7	LC-5021	Left Side Crest Tube -swedged



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10	CSU-5020	Center Straight Uprights
2	CW-2800	Corner Wind Brace
25	SCR-5030	Swedged Side/Base Ridge Poles
5	ECR-5031	End Cross Poles – plain ends
8	TB-3004	Turnbuckles
35	CBN-3005-3	Carriage Bolts – 3 1/4"
35	CBN-3005-N	9/16" Nuts
35	CBN-3005-W	Washers – 9/16" Cupped
2	R-3003	3/16" Rope
8	BC-36	Bungee Cord Door Hold Ups
14	DBA-3000	Earth Cable Anchors
14	UB-3002	U Bolts with Nuts
1	DR-3001	36" Drive Rod for Anchors
4	EP-1000	1-5/8" Plastic End Plugs
10	EP-1001	1" Plastic End Plugs

Note: All Side and Base Ridge Poles MUST Be on Inside of Arch Frame Members. Top Ridge Poles MUST be on Outside of Arch Frame members, except at Ends. See Frame Assembly Step 5.



### SITE PREPARATION

Select a level or as close to level as practical location for your Rhino Shelter unit. The unit should be placed on a base of materials suitable for the storage load to be protected. The unit should not be located under trees, which will shed hard fruit such as apples, walnuts, or

heavy pine cones. The cover of your unit will protect against normally leaves and light debris, however large branches or other falling items may cause puncture or tears in the cover material.

Take notice of drainage around your intended location. Water draining from the surrounding terrain should be



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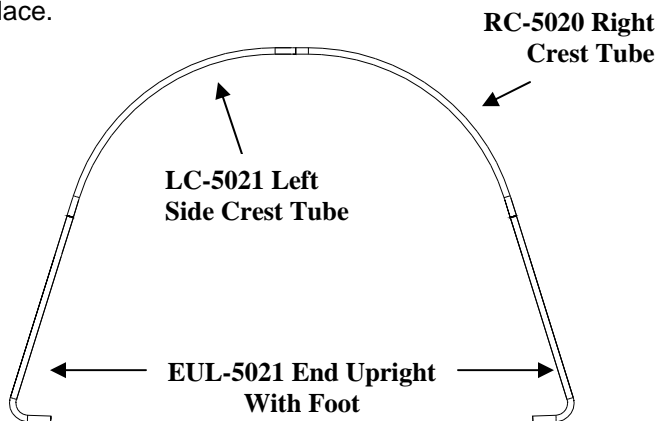
planned so that it does not run into the unit. As well, rain or melting snow that comes off the unit should be drained away rather than accumulate and pool around the unit.

Check to be certain that adequate clearance is allowed for entry and exit from ends of unit. As unit has doors on both ends, ideally boat or equipment can be inserted or removed from either end.

## **FRAME ASSEMBLY**

**Step 1.** Assemble the Front and Rear End Arch Assemblies using (1) Right Side Crest Tube #RC-5020, (1) Left Side Crest Tube #LC-5021 and (2) End Upright w/Foot #EUL-5021 for each one. Use (4) #CBN-3005-2 carriage bolts with nuts and washers through pre-drilled holes in frame members.

Be certain to insert carriage bolts from the outer edge into the interior of the unit, with the washers and nuts on the inside of the arches. This will avoid tearing the fabric on doors and main cover when installed. Do not tighten the nuts completely until the frame is completed and set in place.



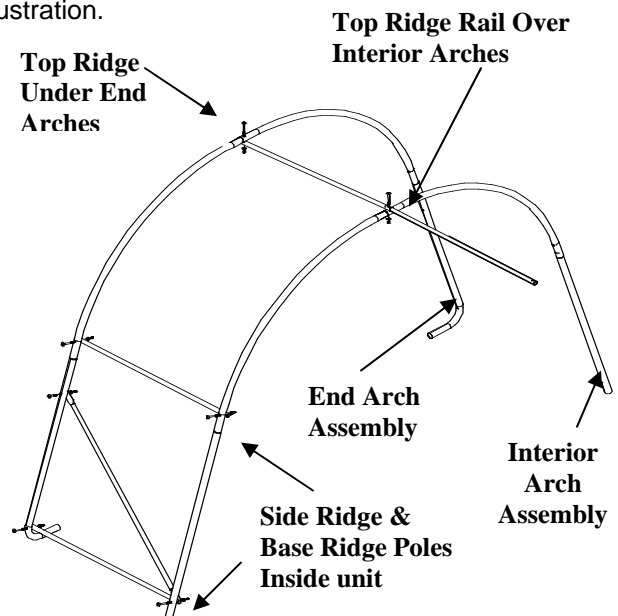
**Step 2.** Assemble the (2) Corner Wind Braces #CW-2800 to the End Upright w/Foot #EUL-5021 to the first of the End Arch assemblies. Use a #CBN-3005-3 Carriage Bolt with Washer and Nut to secure the braces loosely to the Upright. Do not tighten completely.

**Step 3.** Assemble the remaining four interior arches using (1) Right Crest Tube #RC-5020, (1) Left Crest Tube #LC-5021, and (2) Center Straight Upright #CSU-5020 for each. Use CBN-3000-2 carriage bolts with washers and nuts in the pre-drilled holes, aligned to form the arch.

**Step 4.** Support an End Arch with Wind Braces #CW-2800 temporarily in the vertical position. Connect (4) ECR-5031 Plain End Cross Rails to the End Arch with

(4) CBN-3000-5 carriage bolts, washers, and nuts through the pre-drilled holes in the arch members. The Cross Rails should be put into the bottom and side hole of the arch upright. Again, don't tighten the hardware until the next arch and cross rails are assembled. It is very important to make certain all nuts are on the inside of the unit to avoid damaging the cover when put on.

Stand an interior arch assembly up vertically into position, so the cross rails align with the holes in the interior arch. Using (4) Carriage Bolts #CBN-3000-3 with nuts and washers, connect the cross rails between the end arch and the first interior arch assemblies. Connect the (2) Wind Braces #CW-2800 diagonally across the end and interior arch as shown in the frame illustration.



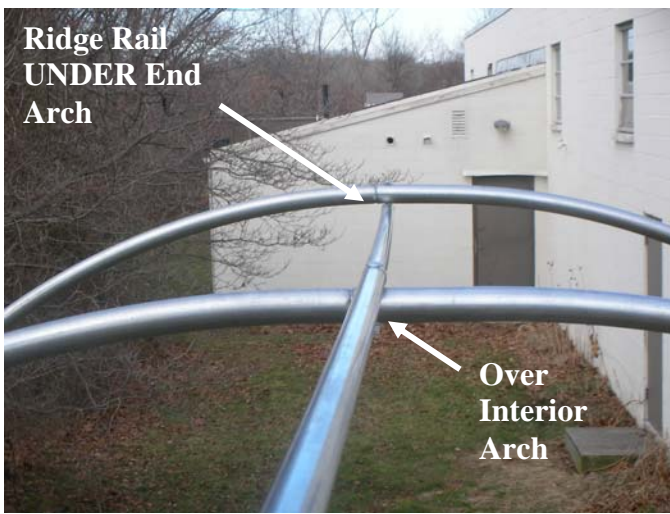
As each interior arch is added, add a #SCR-5020 Swedged End Cross Rails to each base and side ridge pole to make up rail assembly with each arch. Slip swedged end of cross rail into plain end of prior cross rail. It will be necessary to remove bolt to add cross rails with each arch assembly.



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**Step 5.** Begin the Top Ridge Rail by placing a Plain End Cross Rail underneath the End Arch Tube. Secure the Cross Rail loosely with a Carriage Bolt#CBN-3000-2 with washer and nut facing the interior of the unit. Refer to picture.



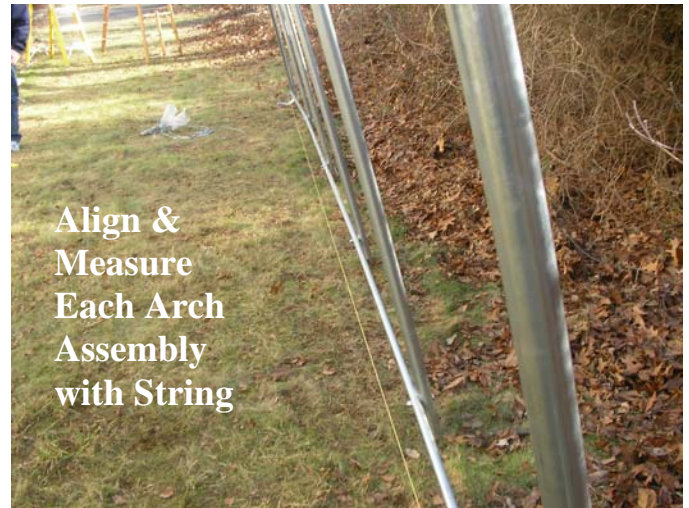
As each interior arch is added, add a #SCR-5030 swedged end cross rail to complete assembly. Make certain rail is underneath both end arch assemblies.

**Step 6.** Add remaining 4 middle arches and rear end arches in the same fashion. Note that the Top Cross Rail should fasten under the End Top Crest Arch and over the interior Top Ridge arches.

**NOTE:** Do not completely tighten bolts that connect the Cross Rails to the End Arches. They must be removed for proper for End Panel Zippered Door installation

**Step 7.** Move the frame assembly into its final installation location. This should be done with at least one person lifting each arch to avoid bending or stressing any frame members. An important step in setting up your Rhino Shelter unit is to make certain the frame is square before anchoring and putting on the fabric components. Frame must be squared up in its final position. Begin by stretching a string from end to end inside frame. Align each arch base to create a straight side. Measure from side to side on each arch at the base. Outside dimension of each arch should be 14'. Measure carefully to make certain the frame width is proper

When both sides are measured and straight, measure diagonally from inside corner to inside corner of frame. Both diagonal measurements should match. Adjust frame and support as necessary to bring frame into square. A frame that spreads out will put undue stress on the zippers of the doors, possibly causing failures. **Failure to square frame of unit will result in poor cover fit and reduced strength and rigidity.**



Once the unit frame is square, the anchors will be put in before putting on the fabric parts. By putting the anchors in on the inside of the unit frame, they will prevent the frame from spreading out over time.

**Step 8.** Once frame is square and properly supported, tighten carriage bolts on all frame members, except for End Arch members to Cross Rails along base, side, and top. Support End Arch feet with patio blocks or bricks as needed if ground is soft and will not support weight well. After hardware is tightened, insert plastic end plugs #EP-1000 & EP-1001 into all open ends of frame members.



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## ANCHORING FRAME TO GROUND

Once frame is square and properly supported, tighten carriage bolts on all frame members, except for End Arch members to Cross Rails along base, side, and top. Do not over tighten or oval tubing. After hardware is tightened, insert plastic end plugs #14 (2 3/8") & #15 (1 1/8") into all open ends of frame members.

**NOTE: Frame must be anchored before installing any doors or cover.**

Each Rhino Shelter 14x24x10 building comes with 8 EARTH CABLE ANCHORS with U-bolts and nuts. These versatile anchors allow the frame to be secured to almost any surface. In addition you have also been provided with a 36" Drive Rod used to drive the anchor heads into the earth.

If the location where you are placing the building has very hard ground or any rock in it, pre-drill the holes before inserting anchors. Hammer drills can be rented at most home improvement or rent-all centers. Hitting the anchors into rock will cause the drive rod end to mushroom inside the anchor head, and prevent the drive rod from coming out of the hole.

Anchor placement should be made inside the frame at the interior corners of the unit, and midway along the sides of the frames. Anchors secure the building to the ground, as well as prevent spread of the frame over time.



**Drive Rod inserts into Anchor Head**

### **ANCHOR STEP 1**

**Step 1.** Place the drive rod provided into the cup of the anchor. Using a heavy hammer drive the anchor into the soil until 6-8 inches of cable remains above the earth. Remove drive rod.

### **ANCHOR STEP 2**

Place the Drive Rod through the loop in the anchor lanyard. Pull upward to set anchor head into the ground.



*Pre-Drill Holes if there is Any Rock In Ground*





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### ANCHOR STEP 3

Slip one side of the U-bolt through the eyelet at the end of the anchor cable. Attach the cable to the Arch leg upright with the U-bolt and tighten. Do not attach to base cross rails. Ensure there is no slack in the cable. Slack can be removed by wrapping the cable around the tie-down rail.



The tightening rope slot should be located inside the unit, with the frame members passing through the pre-cut slots in the end panel/door. Replace the carriage bolts after putting the end panels into position.

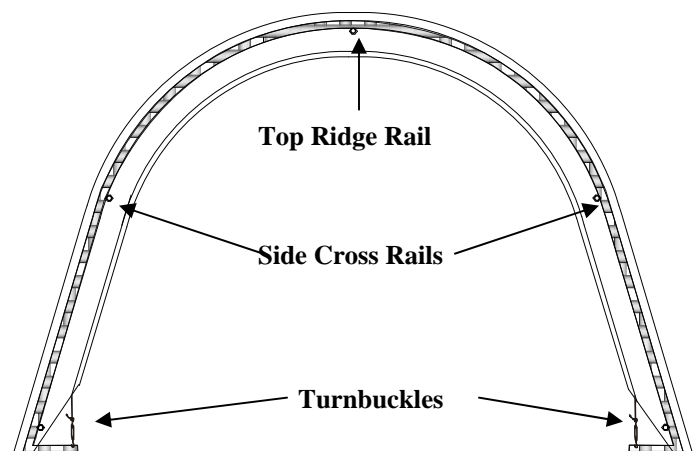
**Step 3.** Tie off one end of the rope coming out of the end panel to a turnbuckle (turn-buckle should be loosened all the way) and attach the turnbuckle to the hole in the foot of the end arch. Hold the end of the unsecured rope and apply downward pressure with a foot to remove excess slack. Re-adjust gathered material evenly along inside edge of door rope slot. This step is key to getting a good door fit. Tie off the end of the rope to a second turnbuckle (fully opened) attached to a hole in the foot of the end arch on the opposite side. The end panel can then be tightened further by adjusting each turnbuckle.

### END PANEL INSTALLATION

**Note:** End panels **MUST** be installed before installing Main Cover onto frame.

**Step 1.** Remove Carriage bolts from the Top Crest Rail and the two Upper Cross Rails at the End Arch Assembly. Install End Panel Door w/Zippers #DZD-7002 one at a time to the frame assembly. Carefully align the door material evenly over the arch to make an even fit side to side.

**Step 2.** Place the end panel over the first arch and wrap the material over the End Arch bringing the slits in the end panel to the inside of the frame. Place the top ridge rail pole and the side cross rail poles through the material slits and replace the carriage bolts and tighten. Each door end will also require removal of the wind brace bolts and placement of the wind braces through slits in the ends panel. Reconnect wind braces with carriage bolts once end panel is put into place.





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**Note:** Adjust the end door panel by turning the turnbuckles or repeating step 3 on a regular basis



End Door Panels have pre-cut slots that allow frame members to pass through so rope pocket is inside unit.

When putting on the doors, adjust the length to make certain the doors do not drape onto the ground. If pulling them up puts too much stress on the slit where it goes over the wind brace, use a sharp knife to cut slit another inch or two to relieve it.



### MAIN COVER INSTALLATION

**Step 1.** To elongate the life of Main Cover, put a small square of duct tape (field supplied) over each bolt head on frame that comes in contact with cover. The cushion of the tape will avoid rubbing damage to the cover over years.

Assembly Instructions V2.2



Unpack the Main Cover #RUC-7000 from the protective plastic packaging. The line of grommets on the inside (white) of the cover on the tie Down Flap run parallel to the sides of the frame assembly for positioning. Once cover is oriented properly to the Frame Assembly, pull Main Cover over top of frame assembly from the side, being careful not to snag the cover on any member, bolt, or other obstruction. Center the Main Cover over the Frame Assembly with the Main Cover colored side showing from the outside of the unit.

**Step 2.** Loosen the 4 remaining turnbuckles completely. Place the turnbuckles into hole in the foot of the end arches on the outside of the end panel. Tie off the rope coming out of the Main Cover rope slot on either side to the turnbuckles. After tying off one end of the rope in the Main Cover, pull the excess slack out of the rope and cover. Hold the end of the rope and push directly down with a foot onto the excess rope. Temporarily tie the other end of the rope to the turnbuckle. Go over the entire edge of the cover and adjust the excess folds of material around the end so it is evenly distributed around rope slot. Once the rope is pulled tight and the cover is adjusted evenly over frame, tie off the rope end to the turnbuckle. All slack should be out of the rope at this time. Tighten the turnbuckle to further tighten the cover if necessary. Ensure the cover is centered. (this step may need to be repeated to ensure a snug and centered fit)

**Step 3.** When the cover is completely aligned, lace each side of the cover to the bottom cross rail inside the unit using the ropes provided. Start at one end and tie off the rope to the cross rail. Lace the rope through the grommets in the cover and back under the tie-down

Please Do **NOT** Return Assembly to Dealer or Store. For All Assembly Questions or Shortages Please Call MDM Products Directly  
Customer Service 800-447-7079 or 203-877-7070



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cross rail. Repeat this on the opposite side. Cover edge flap should be on the outside of unit to repel rain or snow.

Pay close attention to how tight the cover is put onto the frame. It should be tight enough so it does not flap around in the wind, but not so tight that it tears the material cover. The fabric backed PE material of Rhino Shelter units does not stretch. If you pull it so tight that the fabric is stretched, a small amount of additional stress from wind or contact can cause premature tears and failure. Only tighten cover enough to remove valleys between arch assemblies. Do Not over tighten.

**Step 4.** Retighten or readjust the turnbuckles on both the cover and end panels as needed. Retighten the rope holding the main cover to the bottom cross rail. **Both the cover and the end panels should be checked and tightened on a monthly basis.**



### MAINTANENCE & CARE

Annually or more often, the unit should be completely inspected internally and externally to make certain the unit remains properly installed and secured. Particular attention should be paid to:

Hardware – check all carriage bolts and hardware connectors to be certain they are in place and tightened.

Anchors – during normal weather trends, the unit will strain against the anchors under windy conditions. Anchor hardware connection to frame members should be maintained tight and depth of anchors should be checked to be certain they remain deeply and firmly set.

Snow Accumulation – all snow accumulation on the main cover should be removed as soon as practical. The

days following a snowfall when the snow melts are when the most damage can occur. Unit is not designed for any amount of accumulated snow or ice. Tap the main cover from the inside with a broom end to knock off any accumulated snow.

Main Cover Lacing – the poly rope that secures the main cover to the bottom rail of the frame assembly should be checked, and adjusted as needed. The tension on the main cover should be uniform from end to end and side to side. Rope ends must be tied off onto the frame members at the ends on each side.

Turnbuckle Adjustment – during normal wind conditions and load, the doors and main cover adjustment points at the turnbuckle should be checked and tightened as necessary. The turnbuckles should be neither completely extended nor taken up, so that turnbuckle should be tight when in the mid range of overall adjustment. If necessary, readjust rope tie off on turnbuckle as needed to tighten or loosen as needed.

Cleaning – cover and doors can be cleaned with a mixture of light detergent and water. A soft bristle brush with the mixture can be used to loosen any hard dirt, mold, or buildup on the cover. After cleansing, the cover should be rinsed thoroughly to avoid any chemical reaction from residual detergent. Allowing dirt and debris to sit on cover over an extended time will damage cover irreparably.

Severe Weather – in preparation for inclement weather, completely secure the doors on both ends of your Rhino Shelter garage. Allowing wind to enter either end lifts the building and puts undue stress on the anchoring system. This also shortens the life of the doors, zippers, and main cover.

### CUSTOMER SERVICE & ASSISTANCE

Please call MDM Products at 800-447-7079 or 203-877-7070 for questions about the installation of the unit in any way. Care and attention to a proper installation will add many years of life and function to your Rhino Shelter unit.

Please retain purchase documentation for your Rhino Shelter unit. All warranty claims must include purchase documentation for verification. All parts on your Rhino Shelter unit are available for replacement as needed. Protect your purchase by completing warranty registration card and mail/fax as soon as practical after installing your unit.