



Assembly Instructions 14x36x15 Round RV/Boat

ASSEMBLY INSTRUCTIONS ROUND RV/BOAT 14Wx36Lx15H

Congratulations!

Congratulations on your purchase of a Round Style Portable Building 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 building 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 assembly 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 fabric components are made from ASTM-5 approved polyethylene materials. The cover is UV protected for 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 ten (10) 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. **Level** and adjust unit in both width and alignment. 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**
- 12 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-9000	Main Unit Cover
2	DZD-7002	End Panel Door with Zippers
8	EUL-5021	End Upright w/Foot
10	RC-5020	Right Side Crest Tube
10	LC-5021	Left Side Crest Tube –swedged
20	MC-9000	Middle Connect Tube

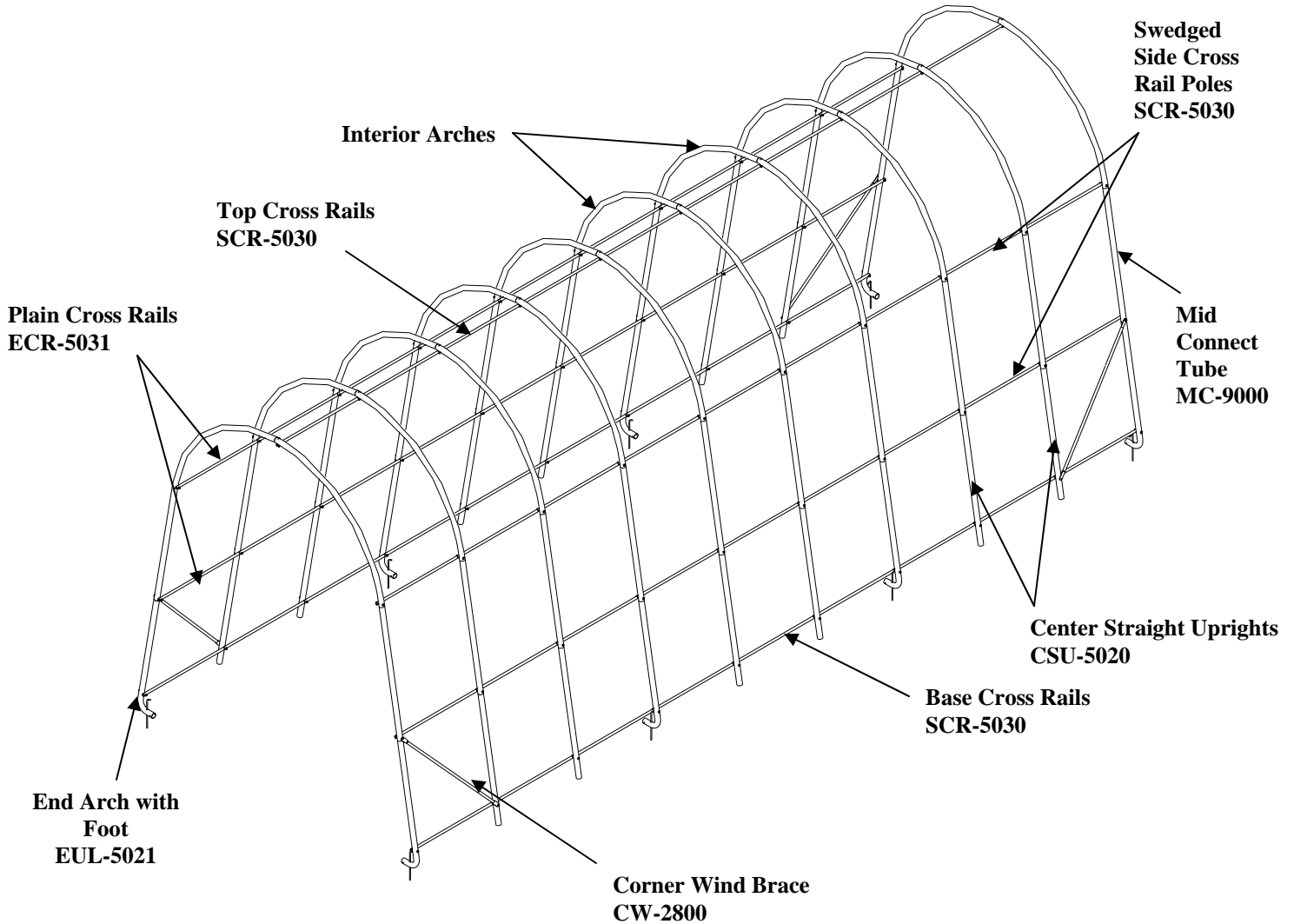


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16	CSU-5020	Center Straight Uprights
4	CW-2800	Corner Wind Brace
56	SCR-5030	Swedged Side/Base Cross Rails
7	ECR-5031	End Cross Poles – plain ends
8	TB-3004	Turnbuckles
70	CBN-3005-4	Carriage Bolts – 4 3/8"
70	CBN-3005-N	9/16" Nuts
62	CBN-3005-WC	Washers – 3/8" Cupped
8	CBN-3000-WF	Washers – 3/8" Flat
2	R-3003	3/16" Rope
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
14	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

Plain end of Tapered Cross Rail should fasten under the end Top Crest arch and the Tapered End above middle Top Crest arch





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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 near and around your intended location. Water draining from the surrounding terrain should be 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.

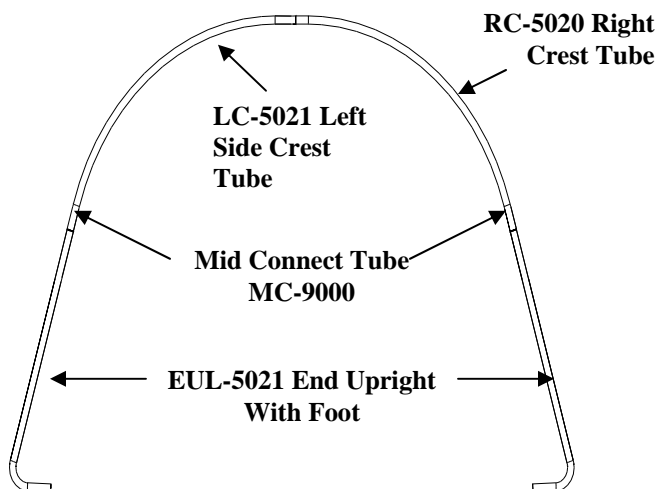
Check to be certain that adequate clearance is allowed for entry and exit from ends of unit. As unit has doors on both ends, ideally boat or equipment can be inserted or removed from either end.

FRAME ASSEMBLY

Step 1. Arch Assembly – Begin arch assembly by attaching four MC-9000 Mid Connect Tubes to two (2) End Upright with Foot (EUL-5021). Slip the swaged end of the upright leg into the plain end of the Mid Connect Tube. Use a 4 3/8" (CBN-3005-4) Carriage Bolt with Nut and curved washer to secure the parts together. Next assemble the remaining 16 Mid Connect Tubes (MC-9000) to each of the remaining 8 interior arches. Remember that there are 6 arches that use Center Straight Uprights (CSU-5020) and 2 that use End Arches with Foot (EUL-5021). Use a 4 3/8" (CBN-3005-4) Carriage Bolt, Nut and Cupped Washer for each. Do not tighten hardware.

Next assemble each of the Right Side Crest Tubes (RC-5020) to Left Side Crest Tubes (LC-5021). Slip the swaged end of the Right Crest Tube into the plain end of the Left Crest Tube together. Use 4 3/8" (CBN-3005-4) carriage bolts with nut and washer through pre-drilled holes in frame members. A total of 10 pairs will be assembled.

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.



Attach one end upright/mid tube connect sub assembly to each end of a pair to assembled crest tubes to construct each end arch (Qty - 2). Attach one Center Upright/Mid Connect Tube sub-assembly to each side of the remaining Crest Tube pairs to construct the interior arches (Qty - 10).

Step 2. Assemble each of four (4) Corner Wind Braces from section A & B with 4 3/8" (CBN-3005-4) Carriage bolts & nuts. Assemble two (2) Corner Wind Braces (CW-2800) to the first End Arch Assembly to the lower hole on Upright w/ Foot EUL-5021 (refer to frame illustration). Use a 4 3/8" (CBN-3005-4) Carriage Bolt with Washer and Nut to secure the braces loosely to the Upright. Do not tighten completely.

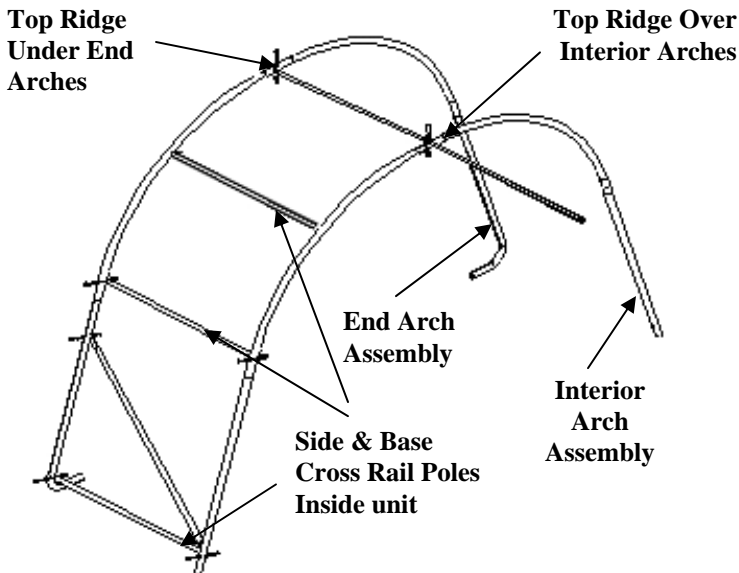
Step 3. Prepare the first End Arch Assembly by attaching the first of the side and cross rails. Begin the bottom and side rails with (4) (ECR-5031) Plain End Cross Rails to the End Arch with 4 3/8" (CBN-3000-4) carriage bolts, washers, and nuts through the pre-drilled holes in the arch members. The Cross Rails must be on the interior of the arch assemblies. The Base Cross Rails should be put into the bottom hole of the arch upright. The Side Cross Rails should be placed in the top hole of the Mid Connect Tube where it meets the top crest tube. 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.



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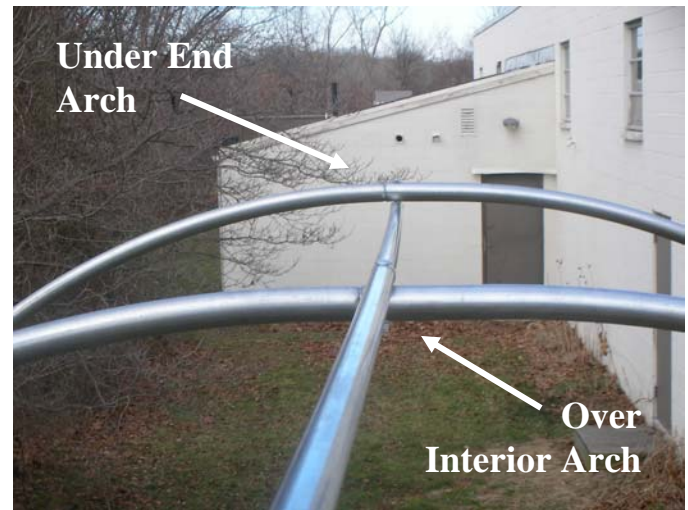
With the assistance of a second person, support the End Arch Assembly vertically. Next stand an interior arch assembly up vertically into position, approximately 60" apart. Connect the Base and Side Cross Rails from the End Arch to the Interior Arch. Align the holes near the end of the cross rails with the holes in the interior arch. Using (4) 4 3/8" Carriage Bolts (CBN-3005-4) 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. The addition of the wind braces on both sides will allow the assembly to be self-supporting.



Step 4. Begin the Top Ridge Rail by placing a Plain End Cross Rail (ECR-5031) underneath the End Arch Tube. Secure the Cross Rail loosely with a 3/4" Carriage Bolt

(CBN-3005-3) with washer and nut facing the interior of the unit. Place the other end of the ridge pole over the first interior arch, and secure loosely with a 3/4" carriage bolt and nut.

Step 6. Add remaining 7 middle arches and rear end arch in the same fashion. Note that the Plain end of 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

For each arch that is added, add a side cross rail and the top ridge rail by inserting a swedged end cross rail (SCR-5030) into the prior pole end. By adding cross rails at base, side, and top ridge, the arches will integrate into a strong frame assembly. For the other End Arch Assembly, be certain to install the remaining two (2) Wind Braces (CW-2800) for stability.

Step 7. Move the frame assembly into its final installation location. This should be done with at least one person lifting each arch upright and corner to avoid bending or stressing any frame members. Frame **must** then be squared up in position. Use a straight line string to align all frame members on the first side into position. Then measure and adjust each arch end to the proper base width of 14' to align the other side. Finally, measure diagonally from inside corner to inside corner of frame. Both diagonal measurements should match. Measure at each end across base of arches. Do not expand arch width beyond 14' wide. This will severely reduce strength of arch assembly and cause fabric misfit. Adjust frame and support as necessary to bring frame into square. **Failure to square frame of unit will**



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result in poor main cover fit and reduced strength and rigidity.



Align each Arch with string to make edge of Frame STRAIGHT before securing

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 1-5/8" EP-1000 & 1" EP-1001 into all open ends of frame members.

When the unit frame is square, put all the anchors in before putting on the fabric parts. By putting the anchors in on the inside of the unit frame, the anchors will prevent the frame from spreading out over time. A frame that spreads out will put undue stress on the zippers of the doors, possibly causing failures.

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 14x36x12 building comes with 14 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.



Pre-Drill Holes if there is Any Rock In Ground



Drive Rod inserts into Anchor Head



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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.



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.



END PANEL INSTALLATION

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

Step1. Remove Carriage bolts from the Top Ridge Rail and the two Upper Side Cross Rails. Install End Panel Door w/Zipper (DZD-7002) one at a time to the frame assembly. Carefully align the door material evenly over the arch to make an even fit.

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. End Door Panels have pre-cut slots that allow frame members to pass through so rope pocket is inside unit. Remove the cross rail and top ridge bolts one at a time to put the door panel over the end arch members. Place the top ridge



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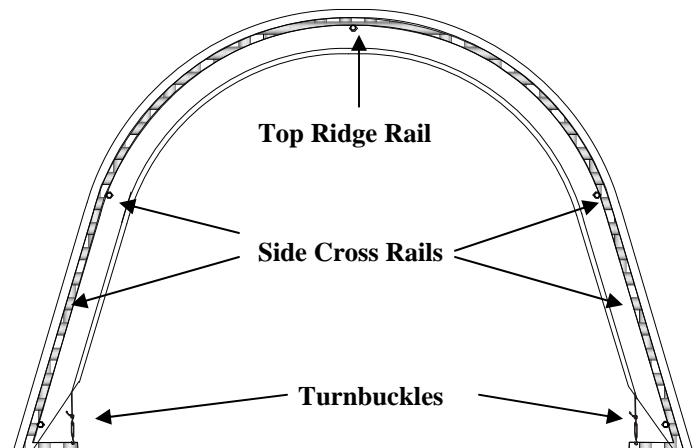
rail pole and the side cross rail poles through the material slits and replace the carriage bolts and tighten. Each door end will also require removal of the wind brace bolts and placement of the wind braces through slits in the ends panel. Reconnect wind braces with carriage bolts once end panel is put into place.



The 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.

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. The PE fabric is rip-stop weave, and can easily be cut to relieve stress at the frame members.

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 off the rope to a second turnbuckle (fully expanded) 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.



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



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 tape acts as a cushion to avoid rubbing damage to the cover over years. As an alternative, foam rubber pipe insulation makes a good cushion between the bolt heads and the main cover as well.



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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 must run parallel to the sides of the frame assembly (lengthwise) 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 centered fit)

Step 3. When the cover is completely aligned secure each side of the cover to the bottom cross rail 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 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 fabric 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.**



A Roll Up Door Kit is supplied as standard for one end door on the Utility Building. Refer to the instructions for proper assembly. This assembly will make it easy to open and close the tall door for entry and exit.

MAINTENANCE AND 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.



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Snow Accumulation – All snow accumulation on the main cover should be removed as soon as possible. Tap the main cover from the inside with a broom or soft brush to clear cover. Unit is not designed for any amount of accumulated snow or ice. Warrantee does NOT cover damage due to snow accumulation.

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 portable building. 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.

Door Operation – **Every time** doors are put down the zipper must be pulled down completely, and the snap buckles **MUST** be put together and adjusted. Failure to do so will cause door zipper to fail prematurely. Door area is so large that wind can pull zipper apart if the snap buckles are not adjusted to take the stress of wind.

CUSTOMER SERVICE AND ASSISTANCE

Please call MDM Products at 800-447-7079 or 203-877-7070 for questions about the proper 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.

Thanks again for choosing this quality product. With proper operation and care we are confident it will meet your expectations in functionality, appearance and longevity.