SUPPLEMENT ASSEMBLY INSTRUCTIONS
FOR VERSATUBE VERTICALLY SHEETED 2”x3” CONTINUOUS SLOPE LEAN-TO

Our unique assembly process quickly transforms the individual pieces into a finished structure that will give you years of service. Great care has been taken to ensure complete satisfaction with your purchase. In the unlikely event that there are any missing or damaged parts or if you simply need technical assistance, please call our Toll Free Hot-line at 1-800-900-7222 and your questions will be addressed promptly. Thank you for choosing the VersaTube Building System.

ZINST-CLT
SAFETY, HAZARD, AND MAINTENANCE INSTRUCTIONS

CAUTION:
Read the following safety warnings and all instructions in their entirety prior to installation. If you have questions or are missing any parts, contact Mid-South Metal Products, Inc. (DBA, VersaTube Building systems) customer service at 1-800-900-7222 before proceeding.

CAUTION:
VersaTube Building Systems designs and manufactures framing products to meet minimum load requirements in most areas. It is the buyer’s sole responsibility to determine the specific building code requirements applicable in the city and/or county of the state in which this product is being erected, and to ensure the product is installed with sufficient materials and in such a manner as to comply with the codes.

WARNING:
Metal parts may get hot when exposed to high heat or direct sunlight. Avoid contact with skin and wear protective gloves and clothing to prevent the possibility of burns.

WARNING:
Standing or walking on the structure could cause damage to the sheet metal panels. If you must walk on the roof, step within 1’ of a major frame member. The structure must be properly braced to support human weight. Collapse of the structure may cause serious injury due to weight of components.

WARNING:
Avoid installation on windy days as wind may create hazards during the installation process. Wind may blow material or cause partially installed components to collapse prior to being secured or fully installed. The weight of the components or structure may cause serious injury if it should collapse.

WARNING:
Metal conducts electricity and electrical shock hazards exist since the structure is made of metal. During installation or storage, keep the structure and all components away from electrical sources. Make sure that your selected location is away from power lines, underground cables, and any other source of electrical power. Serious injury or even death may occur if contact is made with electrical current.

WARNING:
In the event that your structure is fully enclosed, be sure to provide proper and adequate ventilation and egress and ingress. Hazardous, poisonous or noxious substances should not be stored in the structures absent proper ventilation. Follow all warnings and instructions of the manufacturer of any substance stored in your building. Also, proper ingress and egress should be provided to prevent persons or children from becoming trapped inside the structure.

WARNING:
If metal panels are selected to cover all or a portion of your structure, be careful of the sharp edges which may cause cuts or lacerations. Wear protective work gloves and suitable clothing for protection and always take care when handling metal parts.

NOTE:
The VersaTube Building System is an all domestically produced galvanized tubular steel framing system. Maintenance is required twice annually on particular areas of the framing system i.e. “weld seams” and “cut or raw ends”. This maintenance is performed by applying any “Zinc coated” silver spray paint found at local mass merchant or paint store to these areas twice annually or every six (6) months.

NOTE:
All sheet metal cladding applied to the VersaTube frame are attached with self drilling screws with a rubber washer. These screws produce small shavings when drilling through the cladding. If the shavings are allowed to sit on the sheet metal for an extended period, rust spots will form and promote deterioration. Metal shavings must be brushed after installation of the sheet metal. Claims reported against rust spots will not be honored by VersaTube Building Systems.
ATTENTION:

IT IS IMPORTANT THAT YOU READ THE FOLLOWING NOTE BEFORE STARTING THE ASSEMBLY OF YOUR CARPORT

NOTE:
If during the installation process you have difficulty fitting frame components together, use an adjustable wrench to open the end of the receiving tube as shown below. Close wrench down around bent portion of tube and bend wall outward. It may also be helpful to hit the center of the swage at the end of the tube to create more of a lead.

What you’ll need

- Cordless (14 or 18 volt) Or Electric Screw Gun With 5/16” Socket Drive
- Safety Goggles Or glasses
- Work Gloves
- Pencil/Marker And Felt Marker
- Tape Measure
- Hammer
- Tin Snips
- Chalk Line and Mason Line or Nylon String
- Level
- 2 Step Ladders
- Shovel or Post Hole Digger
- One must be able to comfortably reach the peak of the building 10’ to 16’ high depending on building width and height. An extension ladder can also be helpful when installing sheet metal.
- Adjustable wrench
- Masonry Drill Bit 1/2” x 8”
- Drill depth
- Wrench, 3/4” & 1/2”
- Vise grip or other quick clamp
- Motor Cycle or Ratchet Straps
- (May be required to pull frame plumb.)

STRIKE WITH HAMMER
BASIC LEAN-TO PARTS LIST

*THIS INSTRUCTION MANUAL IS WRITTEN FOR A 3:12 PITCH CONTINUOUS SLOPE LEAN-TO, ROOF ONLY SHEET METAL.

BASE RAILS FOR 4' ON CENTER FRAMES
8' STARTER BASE RAIL: 2"x3" x 98 1/2" rail with 3 welded vertical pins. Part # 2x3-SBR-8-4 / 71-4783

8' BASE EXTENSION RAIL: 2"x3" x 100 3/4" rail with 2 welded vertical pins, swaged one end. Part # 2x3-EBR-8-4 / 71-4782

4' BASE EXTENSION RAIL: 2"x3" x 52 3/4" rail with 1 welded vertical pin, swaged one end. Part # 2x3-EBR-4-4 / 71-7020

BASE RAILS FOR 5' ON CENTER FRAMES
10' STARTER BASE RAIL: 2"x3" x 122 1/2" rail with 3 welded vertical pins, part # 2x3-SBR-10-5 / 71-4713

10' BASE EXTENSION RAIL: 2"x3" x 124 3/4" rail with 2 welded vertical pins, swaged one end. Part # 2x3-EBR-10-5 / 71-4712

5' BASE EXTENSION RAIL: 2"x3" x 64 3/4" rail with 1 welded vertical pin, swaged one end. Part # 2x3-EBR-5-5 / 71-7010

BASE RAILS FOR 6' ON CENTER FRAMES
6 STARTER BASE RAIL: 2"x3" X 74 1/2" rail with 2 welded vertical pins. Part # 2x3-SBR-6-6 / 71-4602

6' BASE EXTENSION RAIL: 2"x3" x 77" rail with 1 welded vertical pins, swaged one end. Part # 2x3-EBR-6-6 / 71-7040

SIDE POST: 2"x3" tube with a bend at one end. Part # listed in Care Package.

RAFTERS: 2"x3" tube swaged one end. Part # listed in Care Package.

6', 8', 10' or 12' HAT CHANNEL: Used for roof purlins, lengths are noted in Care Package.

BK-CLT or BK-55: Continuous Lean-to Bracket that attaches the lean-to Rafter to the main building

FRAME SCREWS: # 12 x 3/4" hex head, Self-Drilling screws. Come in 70 pack #71-9999.

SCREWS FOR ROOF METAL: #12 X 7/8" painted screws with rubber washers.

VERSATUBE ANCHOR OPTIONS: REBAR ANCHOR, used with concrete in post hole. #4 x 30" rebar with welded top plate. Part # ANC-24 Use 1 per post. –OR– EXPANSION ANCHOR, used for post hole or slabs, 1/2" x 7" anchors, ANC-7. One per post.

SHEET METAL PANELS: Lengths vary depending on the on-center spacing, please see Care Package for panel lengths.

GABLE TRIM: Overlap with main building’s gable trim.
ASSEMBLING AND POSITIONING THE LEAN-TO BASE RAILS:

Layout the base rails on your slab or footing or prepared ground. The outside to outside distance from the Lean-To base rail to the main structure base rail will vary depending on the specific width of the Lean-To. The length from the front to the back of the base rail assembly will be 1/2” longer than the frame length.

Join all the base rail components as shown. Check the overall length of the assembly, keep the swage joints even in length and fasten the swage joints with (2) #12 x 3/4” hex head, self drilling screws per joint on top of the base rail. Place the base rail assemblies the correct Lean-To width distance away from the main building and take a measurement across the diagonals of the frame to check it for square. Adjust the frame until the measurements are equal.

NOTE: The base rail will measure (from outside of the first pin to outside of the last pin) 2” LONGER than the specified length. Example: A 20' Long lean-to will be 20'-2” Long.
ANCHORING CARPORT BASE RAILS:

These instructions offer two anchoring methods: (1) To a concrete slab or concrete footings with concrete wedge anchor bolts. (2) To the ground with VersaTube Rebar Anchors and concrete in post holes.

ANCHORING TO CONCRETE SLAB OR FOOTING WITH 1/2" X 7" WEDGE (EXPANSION) ANCHORS

After you have completed all measurements and have the base rails in place and squared, screw the joints together with 2 screws per joint on the top surface of the base rail. This will assure that the rails remain straight and do not vibrate apart when you drill the anchor holes in the concrete.

To drill the anchor holes, you will need a hammer drill and a 1/2" x 8" or 12" concrete drill bit. Hold the base rail in place with your foot, insert the drill bit through the anchor hole in the base rail and drill a hole 5” into the concrete. The base rail is 2” thick, so the total depth from the top of the base rail will be 7”. Remove debris from hole. Place a flat washer onto the anchor and screw on a hex nut until about 2 threads are exposed above the nut. Now, place the anchor in the hole and tap it down with a hammer until the nut and washer touch the top of the base rail. Use a 3/4” wrench to tighten the nut. Tighten the nut until it is snug. Do not crush the base rail tube.

NOTE: If you have a 2” x 4” frame, the anchors will be 5/8” x 7”.

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ANCHORING TO GROUND WITH CONCRETE PIERS

DIGGING HOLES FOR CONCRETE
Mark the locations of the rails and the anchor holes on the ground. Move the base rails to one side and dig holes at each anchor point for concrete. You may want to rent a gas-powered post hole digger with an 8” or 12” diameter auger for this job.

HOLE SIZE:
Counties with 70 or 80 mph Exposure C wind: Use a 12” diameter hole 14” deep or a 8” diameter hole 18” deep.

Counties with 90 mph Exposure C wind: Use a 12” diameter hole 18” deep or an 8” diameter hole 24” deep for 12’ to 20’ wide carports. For 24’ and 30’ wide carports, use a 12” diameter hole 21” deep or a 8” diameter hole 30” deep.

For 2” x 4” frames, use 12” diameter holes x 36” deep.

ANCHORING
Move the base rails back into position over the holes. Re-measure to make sure the rails are in the proper location (see layout on page 6).

Now drop or drive a VersaTube 30” rebar ground anchor or a 1/2” x 36” threaded rod with a flat washer and nut at the top into each anchor hole. A 24” threaded rod could also be used (not supplied). Threaded rods are normally 3’ long from your building center.

Mix up concrete and pour into holes up to ground level. You may want to rent a mixer for this job. Before the concrete sets, re-check all your dimensions to make sure the frame is square and has the proper width.

Let the concrete cure overnight before installing the Roof/Wall assemblies.

NOTE: If it is necessary to assemble and anchor the carport all in one work session, you can anchor the carport after it is complete. If you assemble the frame and install sheet metal before anchoring the base rails, it is important to have the site prepared and level. This will allow you to get the frame square and the sheet metal properly aligned with the frame.

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ROOF/WALL FRAME ASSEMBLY

On the ground, assemble (1) side post, (1) rafter and (1) lean-to bracket with welded post.

Before you fasten the joints with screws take a measurement across the assembly as shown. Try to keep the joint spacing on both sides of the assembly equal. It is very helpful to drive a stake into the ground at the width of the building and use it to set the dimension across the assembly.

Now, fasten the joints with #12 X 3/4” self-drilling screws. 4 screws in the bracket to rafter and side post to rafter joints. See details below.

NOTE: You can use the first assembly as a template to assemble the remaining Roof/Wall Frames.
INSTALLING LEAN-TO FRAMES TO BASE RAILS

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This assembly will require at least two people. Start at one end of the lean-to and place a frame on the first base rail vertical pins. Fasten joints with two screws each. Repeat this assembly until all frame assemblies are installed.

Place bottom of side posts on base rail pins at an angle. Raise frame section and drop it onto pins at the same time on both sides of the carport. Clamp the lean-to bracket flush against the outside face of the side post and flush with the outside face of the top of the side post. Screw lean-to bracket into place with 4 screws on both sides of the bracket. Tap lightly on the side post with a hammer if parts do not drop into place.

Before you install sheet metal panels, you may want to check the Roof/Wall assemblies to make sure they are square and that the height of each side post is equal. To do this, first check the front and back Roof/Wall sections to make sure that they are square with the frame. If adjustments must be made, you can drive a wooden or metal stake into the ground about 8’ from the building and use a Motor Cycle strap or Ratchet strap to pull the side post into plumb. Place a clamp on the side post as shown and attach the strap above the clamp.

When the front and back sections are plumb (side to side) tie two strings from the front side post to the back side post at the bottom and top of the bend radius as shown. These strings will let you see which sections are high, low or out of plumb. If the side posts are high or low, remove the joint screws and raise the low posts and hammer down the higher posts as much as possible. Reinstall the screws in a new location. Check the height of the side posts on both sides of the building. The straps should remain in place until the roof purlins are installed.

Note: this is not a critical step, but it may improve the appearance of your building. If side posts are out of plane with the other side posts more than 1/4" it may be visible.
INSTALLING LEAN-TO CORNER BRACKETS

Set the unfolded corner bracket flush against the outside face of the side post and flush with the outside face of the top of the side post and clamp into place, then attach to side post with 4 screws. Unclamp the bottom part, move the clamp to rafter area and attach with 4 more screws. Repeat on all side posts.

INSTALLING HAT CHANNEL ON ROOF

Before installing lean-to hat channel, install the last main building roof and side hat channel that was left off to install the lean-to bracket. The purlins on the roof are Hat Channel. Before you start the installation of hat channel purlins on the roof we recommend that you brace the one end wall of the building. Make sure that the end wall is plumb and attach angle braces from the end wall side posts to the lower portion of the next frame section side posts. You can use wood or metal for this job. Place a brace on both sides of the building. You can clamp the braces in place or use self-drilling screws. If you use screws you may want to mount the braces to the outside of the frame. Braces could also be attached to a wood stake driven into the ground 5’ or 6’ away from the back of the building. You can measure and locate each hat channel as you go or mark the locations of all the channels on the front and back frame sections and snap a chalk line the length of the building to mark the hat channel locations on all of the interior frame sections. Hat Channel should be spaced according to the Care Package hat channel notes.
***ADD THESE SHEET METAL INSTRUCTIONS AFTER P.34 IN SUMMIT INSTRUCTIONS OR P.28 IN FRONTIER INSTRUCTIONS.***

INSTALLING EAVE TRIM ON LEAN-TO SIDE

If you wish to install the eave trim provided on the lean-to side, the eave trim will need to be notched to fit around the lean-to connection point. Make a mark for your first lean-to connection, then measure 2 1/4” over making a second mark. From there, make the same marks every 4’, 5’, or 6’ depending on your on center spacing. Cut out notched areas with metal snips or a cutting wheel. Install in same fashion as described in your main instruction manual.

INSTALLING LEAN-TO SHEET METAL PANELS ON ROOF

*NOTE: Lean-to Roof Panels should be installed before main building roof panels to create an underlap.

INSTALLING THE FIRST PANEL

Before installing roof panels, install inside closure strips on top of main building eave trim.

Install lean-to sheet metal roof panels before installing main building roof panels. Place the first panel at the back of the roof. Position the overlap edge of the panel to the rear flush with the carport frame. The lower edge of the panel should be positioned 2” from the lower edge of the first hat channel or the edge of the corner bracket. (See the illustration below) Clamp the panel in place once you have it in position. Attach the panel to the hat channel with painted #12 x 1” self-drilling screws with rubber sealing washers. Using your drill driver, install one screw about 1” from each major panel rib. Along the eave of the carport install a screw on both sides of each major rib. (Do not over tighten the screws. See the guide below, right)

INSTALLING GABLE TRIM

Follow instructions from Frontier or Summit manual for Gable Trim installation.

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