

INSTALLATION



Vertical Rib Mechanically Seamed Metal Roof Panels

CBS 1.58 MS

CBS 2.12 MS

NORTH
CHARLESTON
SC



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GENERAL NOTES

- **All panel clips are to be space 2' to 4' on centers**
- **CBS 1.58 panels are to be fastened with a low profile fastener**
- **All flashing comes in 10' lengths**
- **Roof panels are cut to length for ease of installation. Job site roll forming is also available for panels exceeding truckable lengths**
- **CBS panels are designed for application over solid decking laid with 30lb felt or self adhering waterproof membrane**
- **CBS 1.58 and 2.12 panels are designed for application over solid decking or for spanning purlins**
- **Refer to brochure for dimensions of panels and rib spacings**

COVERING

General Notes

The best metal roof in the world is only as good as the covering and trim makes it appear, as a structure completed by a craftsman. The best covering and trim (regardless of type) can be ruined by faulty installation and craftsmanship. The extra time you spend properly installing the covering and trim will pay dividends for years.

- **Do NOT start covering a structural system that is not square, plumb, and properly tightened up**
- **Do NOT expect metal trim to correct errors in other materials such as crooked concrete or masonry walls**
- **Do NOT allow trim to be improperly stored or handled at the job site. It is tough much like the structural members, but still requires more care**
- **DO use the proper material in the proper place. Panels often are nearly the same length and trim pieces often look somewhat alike. Check the erection drawings and bill of material to be certain you are using the proper material in the proper place**
- **DO check the first run of panels for proper starting location and for squareness. If you start square you have a chance to finish square. If you start wrong, you will probably finish worse.**
- **DO check the spacing of panels either by marking the framework or pulling a tape measure periodically.**

RECEIVING, UNLOADING, AND STORING

RECEIVING MATERIALS

Shipments by common carrier

Builder should check the materials received against the shipping document during unloading and make not of any shortages or damage on the shipping document before signing it as receiver of the shipment. Claims for shortages or damages are made by the builder to the carrier.

Within 14 days of receipt of the shipment, a complete check of materials received, including pieces received in boxes and packages, should be made against the CBS Metals, Inc. Bill of Material(s) and any shortages filed with CBS.

Shipments by CBS Metals Trucks

Builder or his representative receiving shipment must check materials received against shipping list that accompanies shipment when materials are being unloaded. Shortages and damages must be noted on "sign copies" and returned to driver. Some items are received in bundles or boxes (such as trim and panels) and are signed for as such.

Items noted short or damaged on the "sign copies" are not automatically re-shipped. They must be reported at the same time as any shortages found when making a thorough and final check of material received (boxes and packages opened) against CBS Bill of Materials. A report must be filed within 14 days after shipment was received. If a shortage is reported later than 14 days after material is delivered, CBS reserves the right to refuse the claim. Items marked on shipping list as "shipped short" and/or "ship direct" need not be reported.

If materials are purchased locally, CBS will not pay for same unless we have given our prior written approval. The limit of our responsibility will be to furnish the required materials as ordered and we will not be liable for any other expenses involved due to shortages of materials.

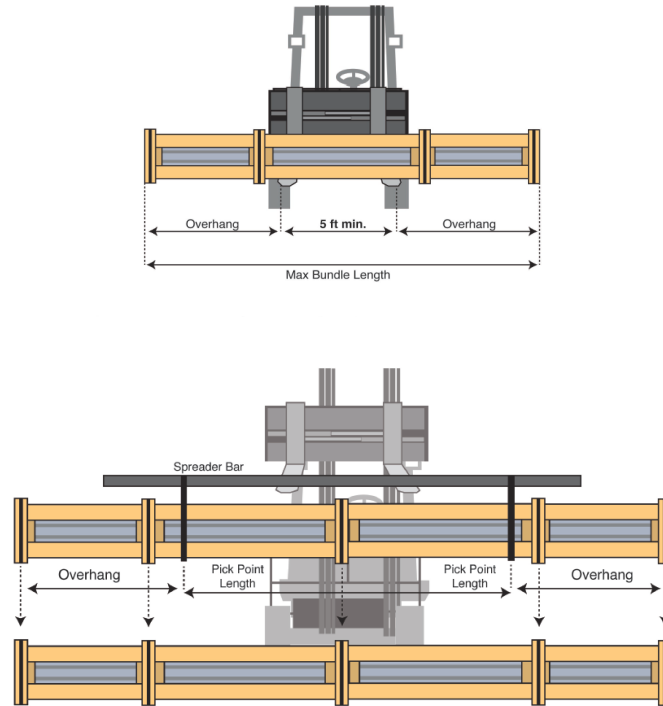
The receipt and acceptance of material by the builder from CBS Metals constitutes the transfer of ownership from CBS to the builder; thus, the responsibility for adequate handling, storage and safeguarding of materials is incumbent upon the builder. CBS Metals will not assume any responsibility for the loss of, damage to, or deterioration of materials as a result of inadequate handling, storage, and/or safeguarding of such materials. Builder or his representative must unpack, unstack, and dry any packaged or nested materials that become wet in transit.

INCORRECT QUANTITIES

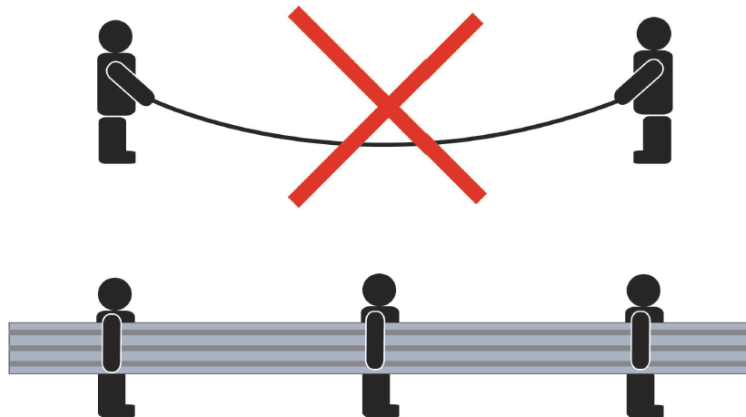
If the material quantities received are correct according to the quantities billed on the shipping document, but are less than the quantities ordered or that are necessary to complete the roofing project as ordered, claim should be made to CBS Metals, Inc.

HANDLING

For lifting panels, a mobile crane utilizing a spreader bar or beam with two point pickup is recommended. The maximum allowable overhang on each side is thirteen feet. Web Belt Slings are recommended to reduce the marring of panel surfaces. Do NOT transport open bundles.



For manual lifting of panels, lift vertically by the seam. Do NOT pick up by the ends. For panels over 10' long, two or more individuals are required



STORAGE

The best way to reduce the possibility of damage is to minimize the storage time. During storage, keeping materials under a roof is always preferable. When stored outdoors, keep panels in a level area away from construction activity. Raise bundles of panels several inches off of plastic ground cover. Store panels on an angle to promote drainage. Completely shelter the panel bundle with a loose fitting, waterproof tarp to protect from the elements while allowing air circulation.

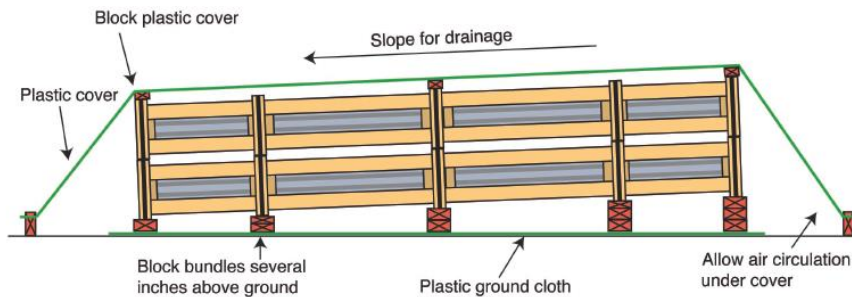
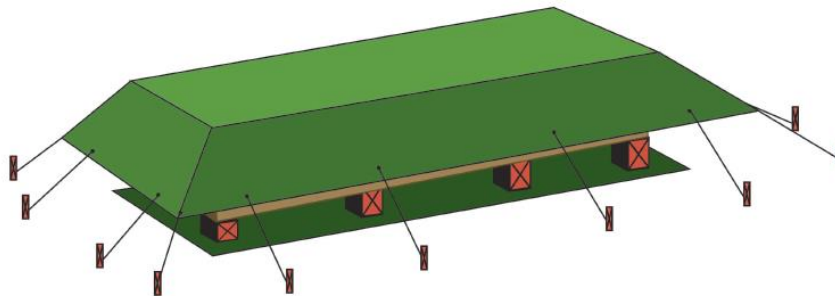


Illustration of Proper storage and tarp covering.



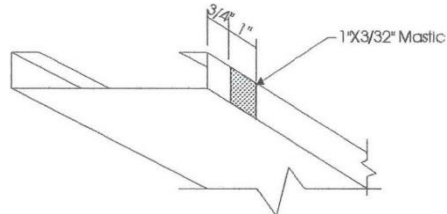
Preventing Damage during Installation

- 1) **Walk boards should be used to avoid panel damage. Place the boards between vertical ribs and across several purlin spaces. All roof traffic should move on the walk boards.**
- 2) **Foot placement method may be used, but is less desirable than walk boards. Do NOT step on the high rib of the panels.**

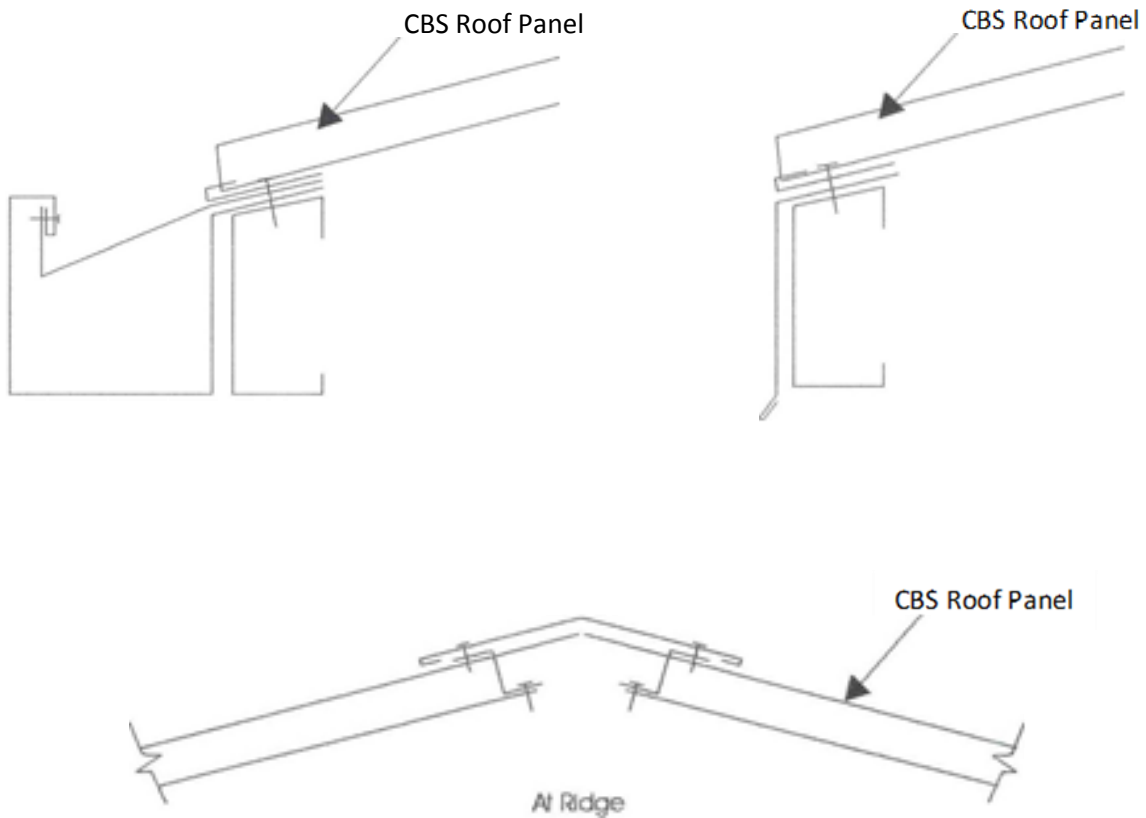
ERECTION OF CBS METALS PANEL ROW

Eave Panel

The erection of the roof begins at the eave. Select the appropriate panel and apply mastic to one side of the eave end of panel.

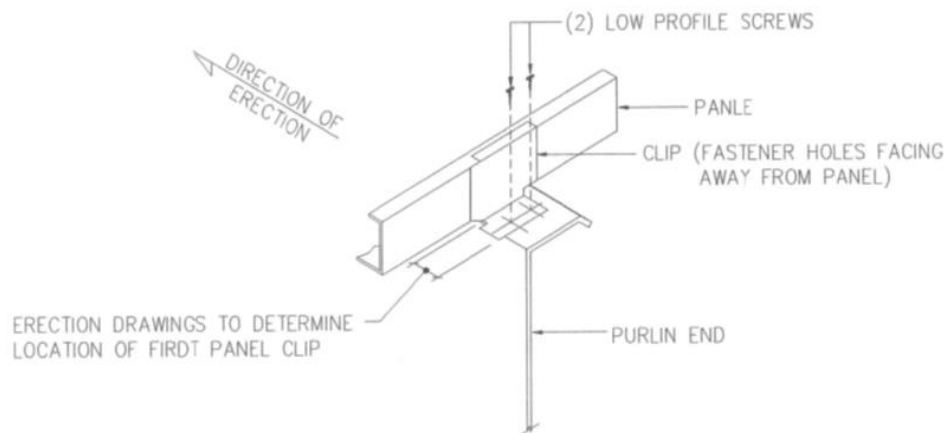


Position the panel on the roof so as to allow the proper alignment to the building endwall. Insure that the panel is square to the building and secure it with clips.



Eave Panel (continued)

Center the panel-to-purlin clips on the purlins and engage to the panel along the endwall with the clips' fastener holes facing away from the panel.



Temporarily secure the clips to the panel with the special "C" vise grips.

Fasten the panel-to-purlin clips to the purlin with low profile screws.

Engage second row of clips on the other side of the panel similar to the first row.

Note: Clips installed on remainder of panel rows are reverse of clips shown above.

Remember- Install the clips so that the fastener holes face away from the panel (opposite the way the holes are faced on the first row); secure with vise grips; fasten with low profile screws. All other clips from the second row continuing to the other endwall are to be installed in the same position.

INSTALLATION OF RIDGE CLOSURES

General

Ridge Closures are shaped to fit closely between the ribs of the CBS Roof Panel. The Closure is held in place by fasteners to the roof panel and the Ridge Cap. Complete installation instructions are as follows:

Apply tape sealant to the surface of the roof panel and over the top of the Cap Strip before placing the Closure directly into the tap sealant.

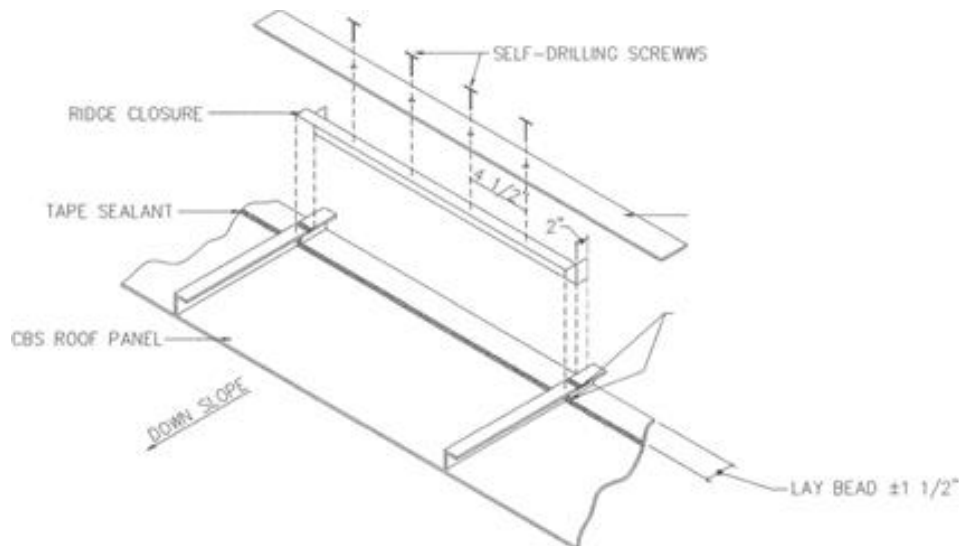
Fit the Closure between the ribs of the CBS Roof Panel and directly onto the tape mastic so that the up slope side is 2" from the end of the panel.

Fasten the bottom leg of the Closure to the roof panel with self-drilling screws @ 4 1/2" o.c.

Apply one (1) row of 1" X 3/32" tape sealant to top of the Closure. Also, seal areas around edges of Closure to roof panel with tape sealant.

When this process has been completed, you are ready to attach the Ridge Cap.

Note: To prevent CBS panel warping, DO NOT stand on panel while erecting Ridge Closure



ROOF PANEL INSIDE BEND

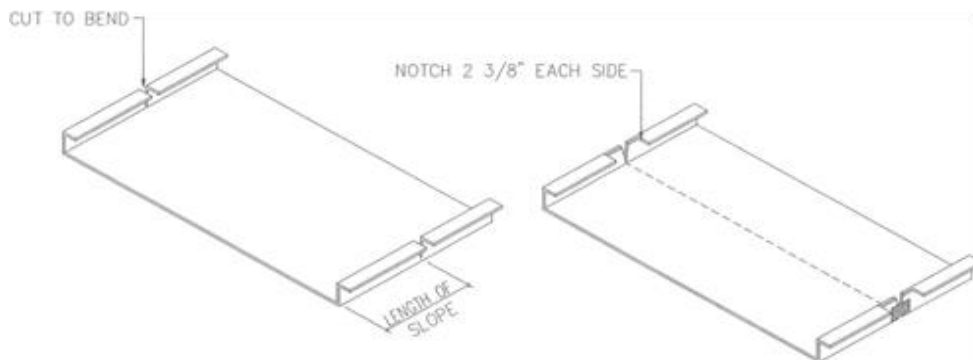
Measure roof panel to bend point of roof slope change, mark each high rib using a carpenter's square.

Cut the upper flange and vertical leg of high rib to start of radius corner using metal snips.

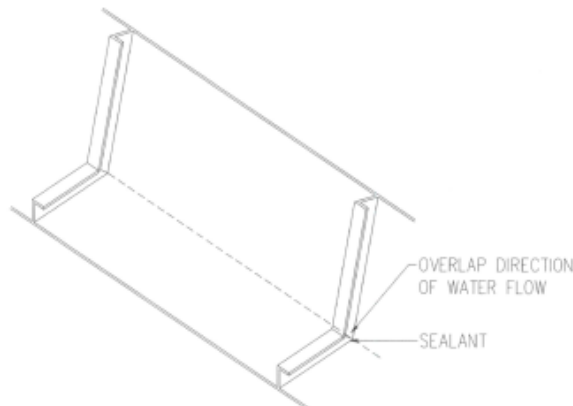
Notch flanges $2\frac{3}{8}$ " each side of vertical cut to allow clearance when panel is bent.

Place a rigid piece of steel ("I" angle or flat) with protective paper or plastic film between it and the panel (to reduce marling of panel) on both sides of panel with one leg in line with rib cuts.

Clamp in position using large "CEE" clamps, bend panel to desired angle over lapping ribs in direction of water flow. Apply a 3" strip of $1" \times \frac{3}{32}$ " tape sealant at base of each cut on the underside of each panel. Before placing panel in position, structural members per erection drawings using fasteners through panel of clip.



With panel in position, the up slope section of the panel should have rib overlapping the lower section. A 45° "V" is cut in each turned down leg to radius corner using metal snips. Seal overlap of rib with clear or color match sealant.



OUTSIDE BEND

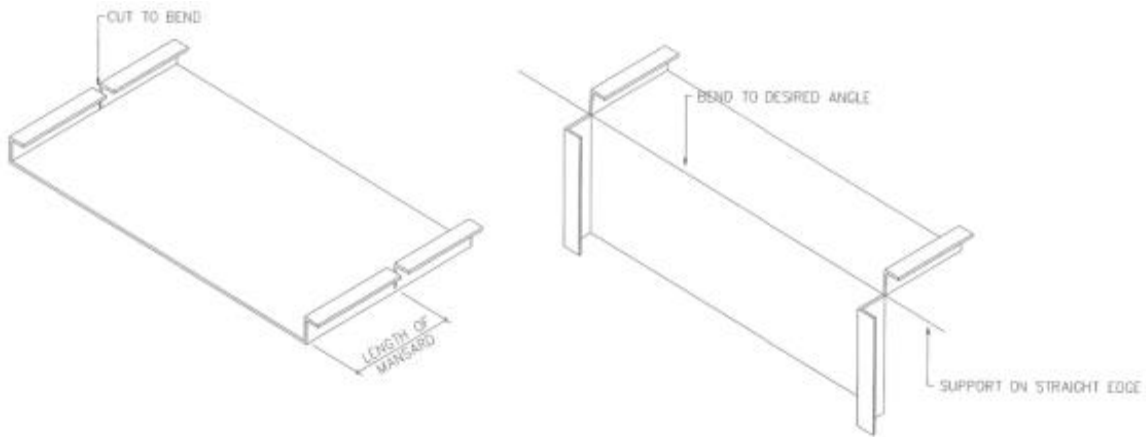
Measure roof panel to bend point of roof slope change, mark each high rib using a carpenter's square.

Cut the upper flange and vertical leg of high rib to start of radius corner using metal snips.

Notch flanges $2\ 3/8$ " each side of vertical cut to allow clearance when panel is bent.

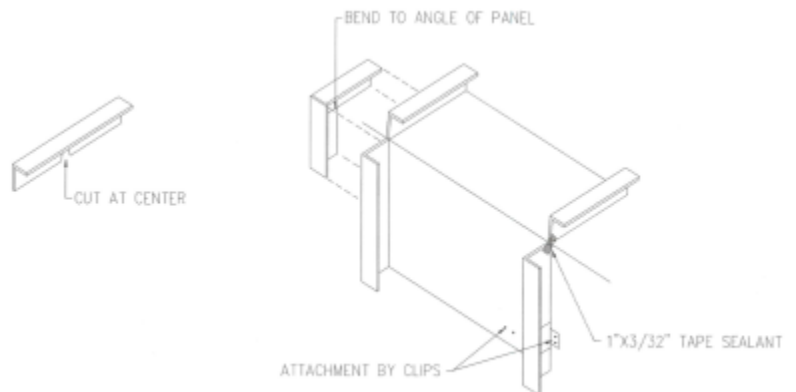
Place panel on firm working area, allow panel section to be bent to extend over a rigid straight edge.

Align cut of high ribs and bend panel to required angle, over-bend and bring back to set crease. A jig set up with clamps will help procedure



Apply a 3" strip of $1 \times 3/32$ " tape sealant at base of each cut on the underside of each panel. Before placing panel in position, structural members per erection drawings using fasteners through panel of clip.

Filler Plate should be cut at the center of vertical leg to start of radius corner using metal snips, then bend to angle of panels.



FINAL CAP STRIP SEAMING

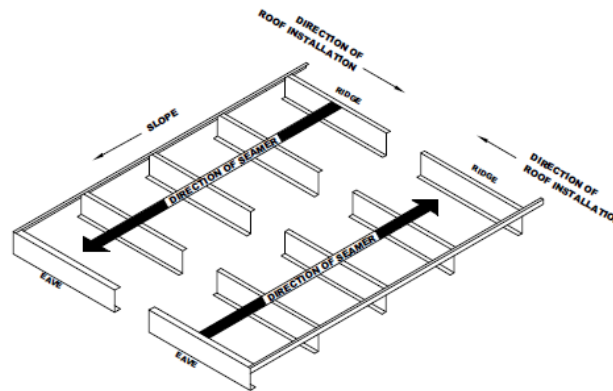
The Final Cap seaming with the electric closure machine is begun after all CBS panels, closeout channels, cap strips, ridge closures and ridge caps have been erected.

Preparations and Operation

Remove closure machine from shipping box.

To operate, use an approved electrical cord and plug into a 115 volt A.C. source.

Determine direction of operation and starting location roof panel assembly.



Open seaming dies by moving lock lever to "unlock" position. At the same time, raise handle of closing mechanism opening seaming dies to fully open position, approximately 30° to each side of closure machine.

Lift closure machine and place in position where cap strip has been hand seamed. Insure front and rear guide blocks aligned with panel ribs, properly seated and cam followers are along sides of cap strips.

Close seaming dies by moving lock lever into "lock" position.

Turn electric switch on, closure machine will begin seaming cap strip.

Operator should maintain alignment to panel ribs at same time applying slight forward pressure to assist movement along roof panel ribs.

Upon reaching end of panel ribs, shut electric switch off.

Caution: Never install or remove closure machine while running.

Open seaming dies by moving lock lever to "unlock" position, releasing lock on left side of base platform, at same time raise handle of closing mechanism.

Position closure machine on next area of panel ribs to be seamed.

Note: If closure machine is not to be used immediately, position closure machine on roof panels on top of cardboard or wood so as not to mar surface finish.



Tips on seaming with the electric closure machine

Make sure forming dies and platform on the bottom of the machine are clean. Clean with acetone solvent to remove mastic sealant.

Note: Do not use carbon tetrachloride or acids.

Make sure cap strips are properly seated on panel flanges and crimped with hand tool at cap strip end laps to seaming.

Even if the roof slope is so slight that the direction of seaming (up slope or down slope) makes little difference, it is suggested that the closure machine be placed approximately three feet from the ridge and faced toward it and a slightly firmer push may be required.

The closure machine is not self-propelled but requires some pushing. Forward motion of the machine is sometimes stopped when reaching a clip location and a slightly firmer push may be required.

Precautions should be taken to prevent the closure machine from falling to the ground when the roof edge is reached. Also, precautions should be taken to prevent the closure machine from marring the roof finish.

Inspect each seam after completion. Closure machine may be rerun over seam if required.

Caution

- **Use only "UL" rated electrical cords. Damage to chord could cause electrical shock to personnel or damage to motor. Recommended wire sizes for 115 volts - 50 feet to 100 feet minimum 16 gage; 100 feet to 200 feet minimum 14 gage.**
- **Keep fingers or other objects clear of dies while in operation. Always disconnect electrical cord during inspection or cleaning of closure machine.**
- **Should closure machine become jammed and motor overloaded, shut off switch, disconnect electrical cord and investigate problem.**