



DURALUM
HOME IMPROVEMENT PRODUCTS

Flat Pan Patio Cover With Trim Kit-Basic Installation Guidelines

Recommended Tools:

Safety Glasses	Stud Finder	1/8" Drill Bit	10" Miter Saw, Chop
Work Gloves	Hammer	5/16" Drill Bit	Saw, or Skill Saw (Miter
Wide Pencil	Caulking Gun	5/8" Hole Saw	Saw Recommended)
Min 30' Steel Tape measure	Ladders or Scaffolding	3/8" Masonry Bit	Hammer Drill (If required)
Carpenters Framing Square	Variable Speed Drill	Socket Wrench	Grounded Extension
Chalk Line	Hex Head Drivers	Crescent Wrench	Cord

Before You Begin:

1. Take the time to read and understand the basic guideline before opening or starting your patio cover kit.
2. Please read this guideline carefully and then check for any missing parts. Insure that when opening your materials that you use a tarp or some other protective material to prevent scratches and/or damage to your parts.
3. You are probably required to obtain a proper building permit prior to assembly. Please check with your local building and safety department for specific requirements.
4. Never attempt to install material without having at least one other adult present, or helping you, during the entire installation process. All involved must have the proper safety equipment and adhere to any procedures required per OSHA.

Please Note: This patio cover is not designed to carry additional loads such as hanging plants, trellis's, or any foreign objects.

This structure is **NOT APPROVED** for inclusion of any electrical installation including, but not limited to ceiling fans, light fixtures or misting system units.

5. Take your time—Do not rush.
6. We only supply the materials. We do not provide any installation services. If for any reason you find you are unable to install your patio cover, we recommend you contact a local licensed contractor who is experienced in installing this type of material. The extra cost of having a qualified contractor install your patio could save you on losses of material and aggravation if you run into difficulties. These basic guidelines are just that—basic. Every installation is different and therefore it is virtually impossible to provide exact guidelines for each individual installation project.

Many times the parts may not appear as they are depicted in this guideline. Substitutions may be utilized for any material and/or hardware that may be required.

Let's get started!

1. Install Ledger Board (IF REQUIRED)

(Not Included) (See not under step 2) A ledger board is normally not required in all cities. Check with your local building codes to see if it is required. NOTE: Use a 2" x 6" Douglas fir #2 or better for the ledger board. (Insure that it is straight and dry) and use lengths of 3/8" plywood as fill (Shim) next to board inside ledger cover. (Optional) and insert shim as required.

- A. Insert the 2" x 6" ledger cover over the wood ledger board. (Optional)
- B. Select mounting on wall. Snap a chalk line along the wall to locate the bottom of the ledger board. Remember, for proper drainage, the panels must be 33installed at a minimum 1/2" slop per foot of projection. (If required).
- C. Attach ledger board to the wall (or roof rafters-which ever is applicable) as marked by your chalk line. Fasten the ledger, with the wood inside, to the studs (or rafter tails) using **1/4" x3"or 4"** lag screws (Which ever were furnished). You may opt to use **6"** Lags that may be purchased at most home centers-your choice.

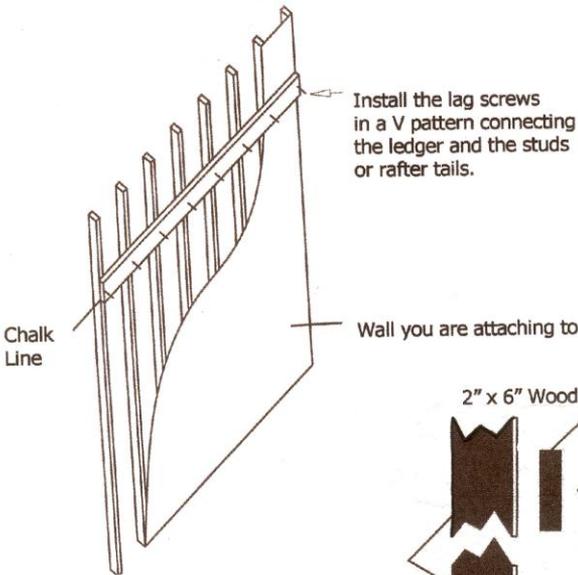
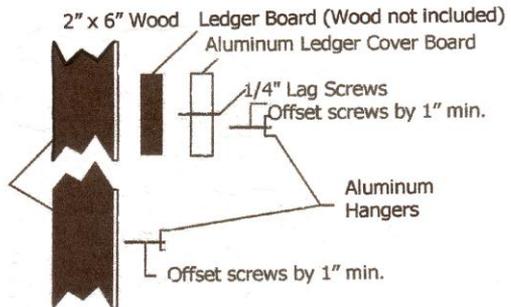


Table A

Projection (Ft.)	Live Load		
	10	20	30
8'	1	1	1
10'	1	1	1
12'	1	2	2
14'	1	2	2

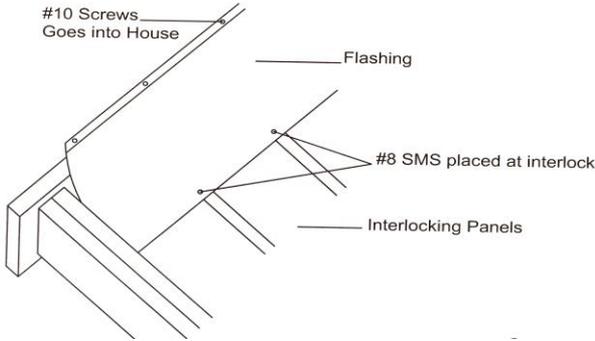


2. Awning Rail / Hanger

- 3. Snap a chalk line across the ledger board, or the wall, which ever is applicable and use it as a guide for installing the hanger.
- 4. Place the hanger against the ledger board, or wall, as applicable and along the chalk line, ensuring the hanger is level.
- 5. Place a #10 x 3" screw on every stud-16' OC for 10lb live load **or** every 8" for a 20lb – 30lb live load. Place the screws along the hanger and snugly tighten down – Do not over tighten.

3. Install Rain Flashing

- A. Fasten rain flashing to the house wall or the house fascia board directly using #10 screws every 6".
- B. Fasten flashing to patio roof using #8 x 1/2" sheet metal screws at the roof panels interlock.
- C. Overlap lengths of flashing at least 1" and fasten through to panel interlock.
- D. Caulk generously all along the attachment to the house.



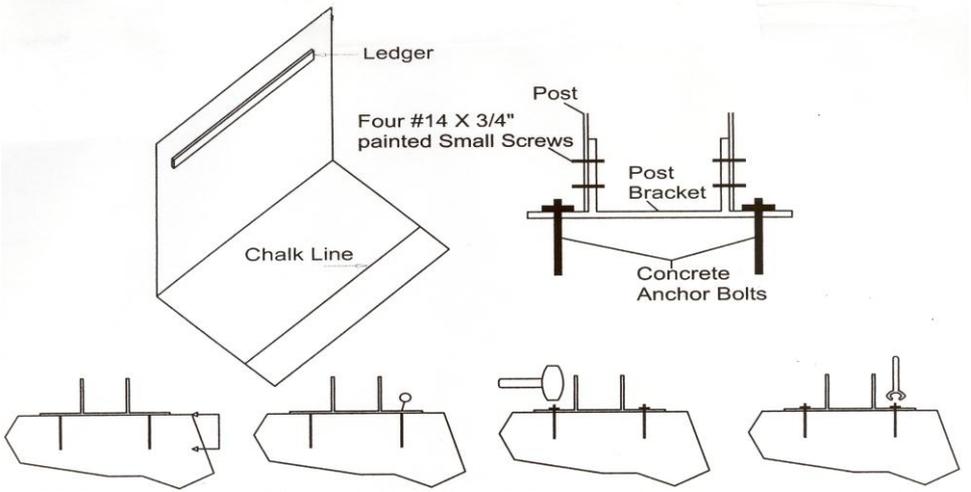
4. Post Bracket Installation and Post Attachment

- A. Post should be plumb and bottom cut off if necessary to adjust the pitch of the panels for proper drainage and, at the same time, to adjust the header so that it is level from end to end. (Recommended roof pitch is 1/2" for each foot of panel length.) **Note: When subtracting 1/2" per foot of projection, you must also subtract the 8" for the header beam. Example: 100' at 10' projection is 100' minus 8' = 92' minus 1/2" per foot of projection is 5" – So 92' minus 5' means your height will be 87". That means your post height will be 87"** Make sure you do not make any cuts until you are certain as to what the exact column height will be.
- B. With the posts cut to length, plumb them again and mark the slab for attachment. **The anchors should be at least 4" away from any edge of the slab and 3" away from any crack.** Two 3/8" holes should be drilled through the post brackets to the slab using the concrete anchors provided and hammering them onto the concrete making sure not to damage the threads.

Special Note:

How to Plumb and Square your lines

1. Plumb down from the hanger and make a mark in your slab.
 2. Measure from the house Example – If you have 10' pans you might want your line to be at 9' (where you want your post brackets to be).
 3. Using a framing square, hold a string line from the plumb line to the projection line.
 4. Move the framing square until the corners make a right angle.
- C. Next, fit each post onto its own bracket and fasten with four #14 x 3/4" sheet metal or shelf drilling screws.



b. Drill 3/8" holes with the masonry bit at least 3" deep.

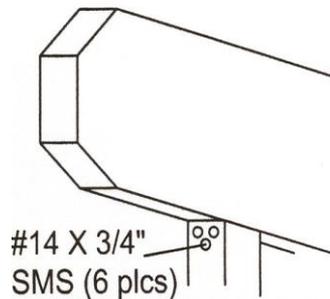
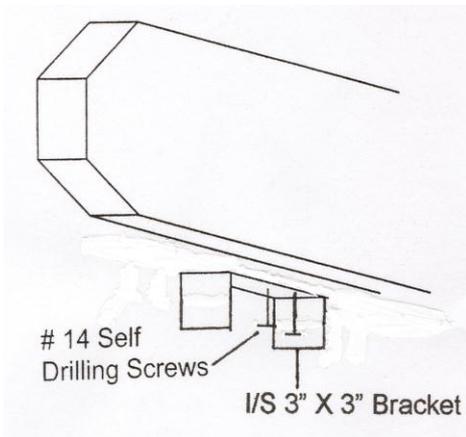
c. Clean holes by blowing out the debris.

d. Drive the concrete anchor bolt far enough into the hole so that at least 6 threads are below the surface.

e. Tighten to 7 foot lbs. with a torque wrench or 2 to 3 turns from the finger tight position to achieve the proper anchor setting.

5. Install Header

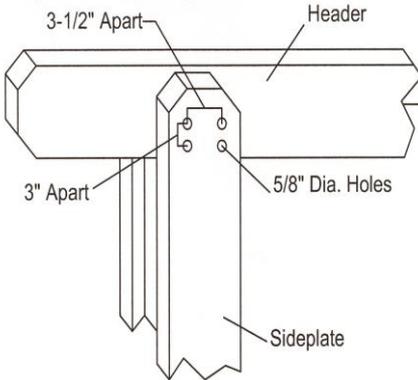
- A. Set the header on top of the posts. Make sure the seam is up and lined up with the wall hanger on the ledger board.
- B. Level the header
- C. Install 3" x 3" I/S post bracket using #10 x 3/4"-1" Tek screw.
- D. End shapes may differ from drawing.



6. Install Side Plates on Posts

NOTE: Side plates should be filled with foam

- A. Place the side plate so that it is centered on the post. Measure 12" from the bottom of the side plate and drill a 5/8" hole through one side and the foam, making sure not to puncture the other side.
- B. Place a #14 x 3/4" sm screw through the side plate into the post.
- C. Measure and mark up 24" on center, drill another 5/8" hole.
- D. Use a level to make sure the side plate is centered on the post and plumb.
- E. Place a #14 x 3/4" sm screw through the remaining holes.
- F. Drill four holes into the side plate done previously but for the header/ side plate attachment. (As shown)
- G. Place a #14 x 3/4" sm screw into the four holes.
- H. Place a 5/8" plug into each hole.
- I. Repeat these steps on the opposite post and for all other remaining posts.

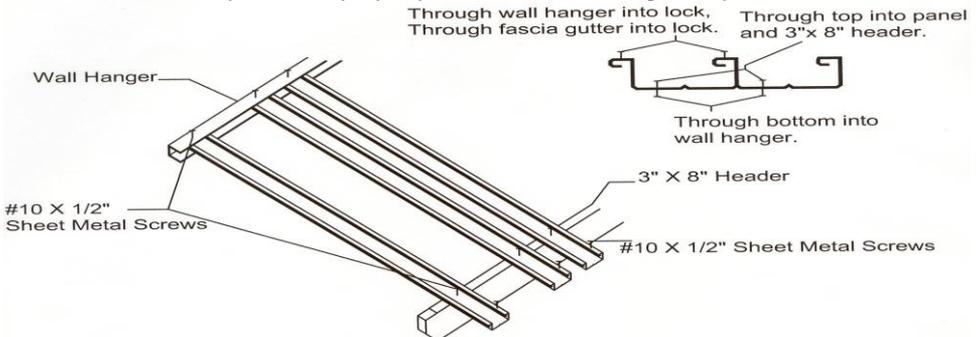


In some cases, as required by local engineering criteria or for maximum post spacing, you may be furnished with an optional 3" x 8" steel beam insert for inside your 3" x 8" header beam. If this is the case, make sure this beam is placed inside the header before the upper post brackets are secured.

7. Install Roof Panels

NOTE: Install one panel between the hanger and the header on each side of the patio cover using #10 x 1/2" sm screws at each end of the panel. Check for squareness of the structure, shifting the header until square. Also, when you square the patio cover make sure you level your post both from the front to the back and side to side – Then fasten your panels. Additional panels will be installed from this end.

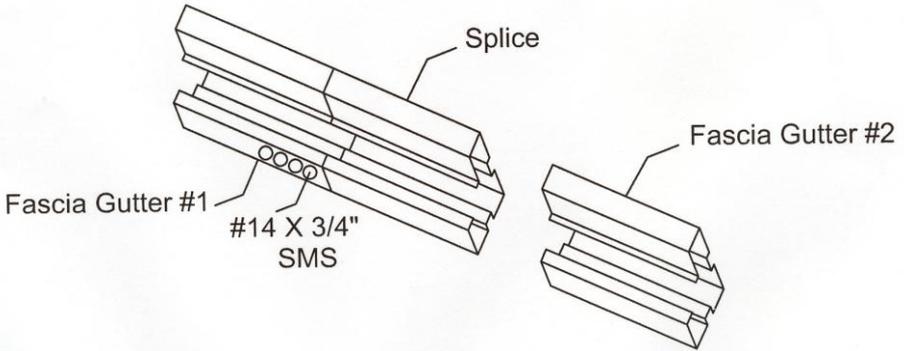
- A. Place one screw from above into the flat of the panel into the wall hanger. In addition, place one screw through the top of the hanger and into the mated interlock.
- B. Remove the last panel and properly install it onto the adjacent panel.



8. Fascia Gutter Assembly

NOTE: This section is only required if the gutter fascia is provided in two or more sections.

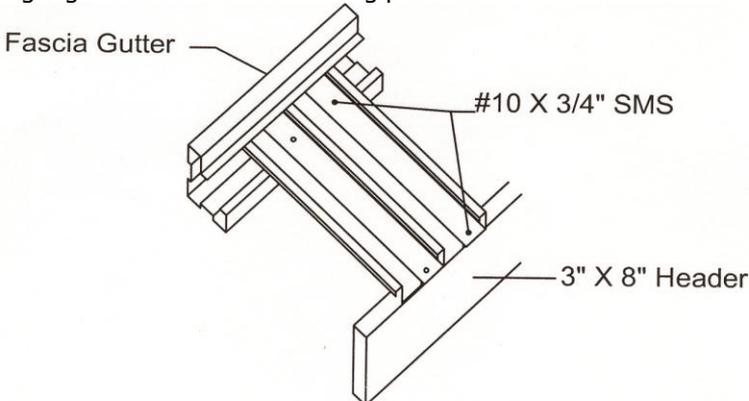
- A. Apply a generous amount of caulk to the inside ends of the gutters to be spliced.
 - B. Place the splice so that it is evenly centered between the header and ledger.
 - C. Fasten the splice using four #14 x 3/4" sheet metal screws.
- Place the second header over the splice and butt it squarely with the other section. Again, fasten the four other screws.



9. Mounting the Gutter

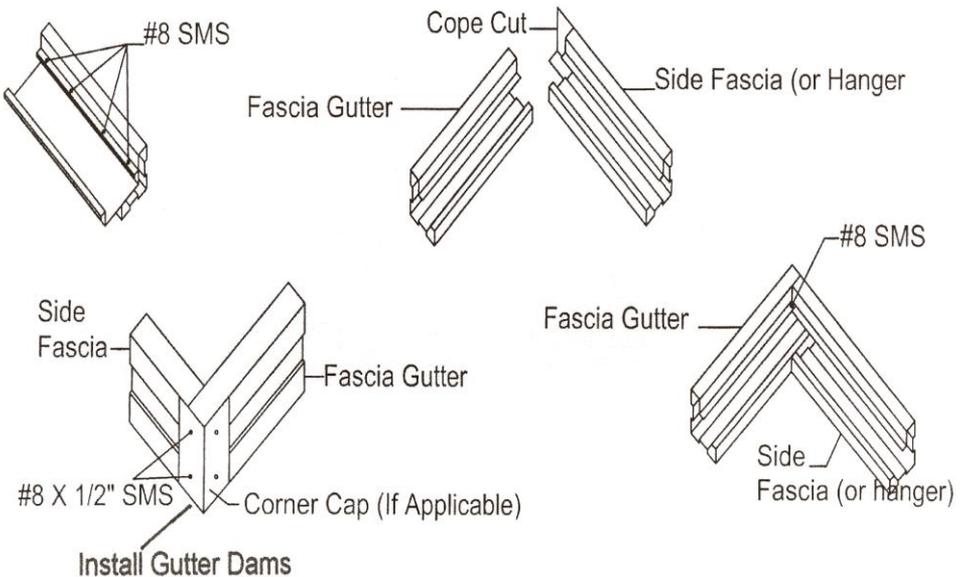
NOTE: You may need assistance holding the fascia gutter in place until properly secured.

- A. Place the fascia gutter over the end of the panels. Place one #10 x 1/2" screw through every valley of the panel through the fascia gutter.
- B. Place one #10 x 1/2" sheet metal screw through the lip of the fascia gutter and through the interlock of the two panels. Some fascia gutters do not have a lip but use small aluminum clips to attach the fascia gutter and then screw into the interlock.
- C. Repeat B along the entire length of the fascia gutter as shown.
- D. Install the gutter dams on each end on the inside of the gutter and seal using a generous amount of calking provided.



10. Install Side Fascia / Gutter (or hanging channel)

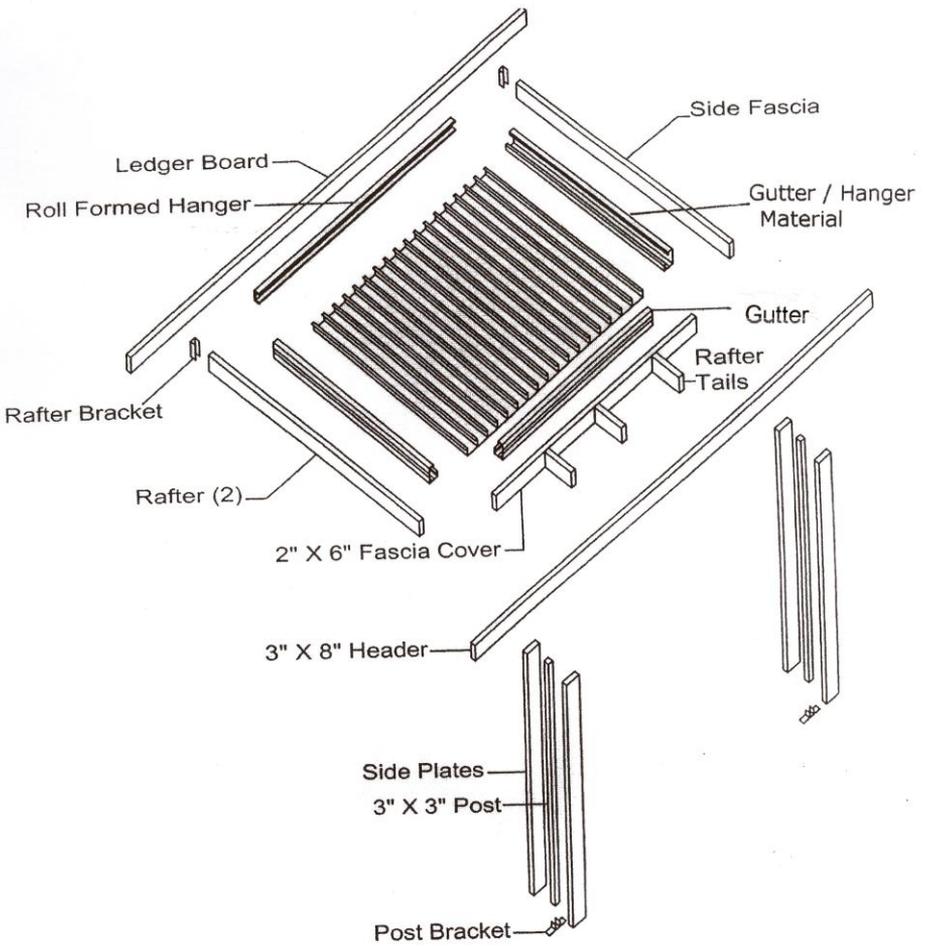
7. Place the side fascia in position as indicated. The opening of the side fascia should overlap the hanger at the house both above to meet the fascia / gutter.
8. At the opposite end, the side fascia should overlap the fascia / gutter.
9. Attach the side fascia with #8 x 1/2" sheet metal screws through the side fascia and gutter where they overlap. One on top and two on the bottom. Place screws every 12" on center along the length of the top of the side fascia into the panel.
10. Install side fascia to the opposite end of the patio in the same way.
11. Install corner caps **NOTE:** Some kits may not include these corner caps. If this is the case the front gutter and/or the 2" x 6" trim pieces will be longer to allow you to "butt" the trim pieces up to the gutter to make a clean corner miter using four # 8 x 1/2" sheet metal screws. Place two through the side of the fascia gutter and two through the side fascia.



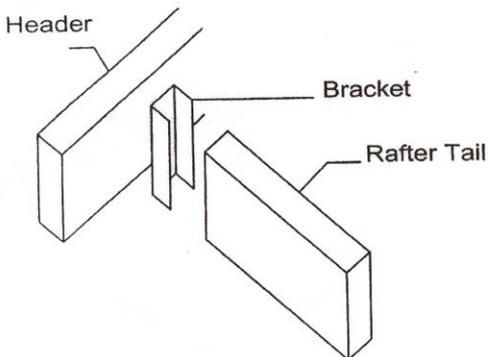
11. Install Aluminum Woodgrain Trim

NOTE: This step is not structural and may be modified.

- A. Drill several 5/8" holes into one of the 2" x 6-1/2" rafters and attach to the side fascia as shown. This rafter should be extended past the side fascia to the desired projection. Repeat for the other side.
- B. Cut off the 2" x 6-1/2" rafters so it fits snugly between the two side rafters. Attach to the fascia gutter.
- C. Attach rafter brackets at 24" OC to the front of the front rafter. Use two #10 SMS.
- D. Attach rafter tails to the rafter brackets. Use four #10 SMS.

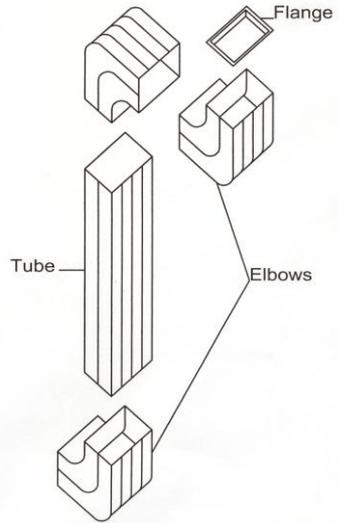


Attaching the Rafter Tails



12. Install Downspout

- A. Drill one (1) 1 1/2" hole in the bottom of the gutter. This should be close to an end post so you can attach the downspout to the post(s).
- B. Place the downspout flange over the hole and Fasten with #8 x 1/2" sheet metal screws.
- C. Insert downspout elbow into one of the end of The downspout tube and fasten from the sides with #8 x 1/2" sheet metal screws.
- D. Hold the downspout assembly in place to check for proper length and cut as required.
- E. Slip the upper end of the downspout flange and fasten from the two sides with #8 x 1/2" SMS.
- F. Place the 2" x 6" O/S bracket (downspout bracket-painted) and fasten it to the bracket using #8 x 1/2" SMS.
- G. Insert the downspout into the downspout bracket and fasten it to the bracket using #8 x 1/2" SMS. **CAUTION: Use very little pressure to avoid denting the downspout.**



ADDENDUM: SEALING THE HANGER AND FLASHING BEFORE INSTALLING THE PANS

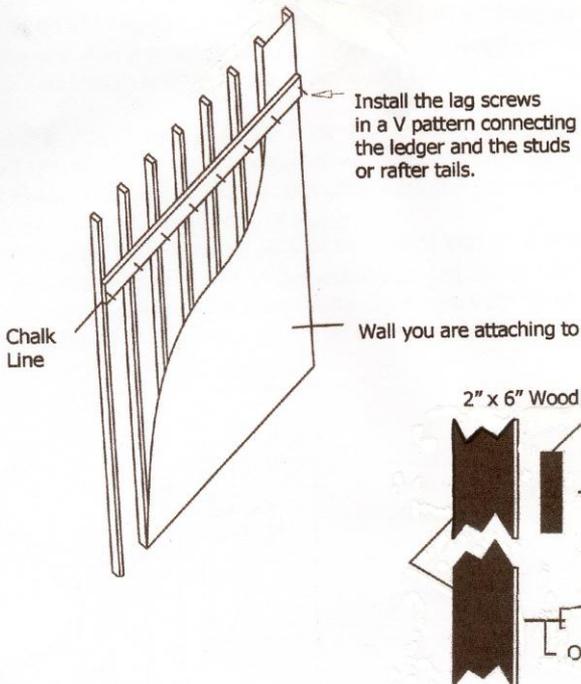


Table A

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ADDENDUM

- A. When you attach the hanger to the wall, fascia or to a ledge board insure that you seal the area behind the hanger with the caulking provided
- B. You need to attach the "flashing material" just above the hanger and seal the top of the flashing with caulking. This must be done before you install the pans.
- C. Slide the pans under the flashing and lock the pans into each other, raising the flashing as you place the pans – one at a time. **NOTE:** Insure you complete the panning process before the caulking hardens to prevent cracks and possible leaks. DO NOT spray water to test the caulking until at least 5 days.

SPECIAL NOTES

FREESTANDING PATIO COVERS

Free standing patio covers are installed basically like the attached covers, except that they require the following (see the engineering data for exact footing requirements):

- A. They require that **steel posts** are to be imbedded into a concrete footing. This means that if you have an existing slab already installed, you must cut out the concrete. They may not be placed on top of a slab or wood deck. You must read the engineering prints and determine your "**tributary width**" by utilizing the table that is appropriate for your size cover. Make sure you allow for any amount of overhang by using the **correct table**.

A wood textured aluminum sleeve for the steel post is included with each package, when requested. In order for the sleeve to fit over the steel post you must first "split" the seam in the sleeve and wrap it around the posts by spreading where you have cut the seam.

After doing this, the unsightly seam may be pointed toward one of the side plates which, upon attaching that side plate, will cover your seam from view.

COMBINATION PATIO COVERS (FLAT PANS AND LATTICE)

There are no installation guidelines for these types of installations as they may vary on size and configuration.

If you desire to have both lattice and the solid flat pans at the same level on the outside projection, you will need to install a 2" x 2" or 3" x 3" (depends on side) tube on **top** of the 3" x 8" **front header beam** of the **solid side** of the combo in order to raise that cover for the rafter tails on the solid cover to meet the rafters extending from the lattice cover, then they will match.

We suggest you place the tube on top and see that you have the correct size before you screw it down.

INSTALLING A 3" X 8" STEEL "C" BEAM INSERTS INSIDE THE 3" X 8" HEADER BEAM

Sometimes in order to create maximum post spacing it may require the insertion of a steel "C" beam inside the header beam. Make sure you do this before you place any pans or rafters on the header beam.

These beams only come in certain lengths. You may have to cut the beam(s) to fit your particular size.

Insure that you utilize the proper blade that is equipped to cut through this solid steel beam without causing an unsafe situation and the blade will allow for a clean cut.

When it doubt about what blade to use with your power saw, consult with your local home center tool department and they may be of assistance. Take no chances-**check first before cutting anything.**

TRIMMING THE RAFTER TAILS ON YOUR HOME TO GAIN MAXIMUM HEIGHT

You may be able to trim the rafter tails protruding from your house by doing the following, but first be absolutely sure you **do not interfere with the structural integrity of the roof and/or roofing of your home.**

By removing a fascia board and trimming back the rafter tails of your roof may gain extra attaching height. Always insure that when doing this do not damage any part of your roofing. **When in doubt—don't do it.**

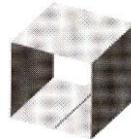
Parts List:



2" x 6-1/2" RAFTER



3" X 8" HEADER OR RAFTER



3" X 3" POST



2" X 6-1/2" SIDEPLATE WITH FOAM INSERT



2" X 6-1/2" RAFTER TAIL (1' LONG) KIT



2 X 6-1/2" RAFTER TAIL (1' LONG) KIT



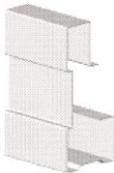
RAFTER / HEADER CORBEL END CUT



FLAT PAN PANEL EMBOSSED STRUCTURAL FLAT PANEL



ROLLFORMED HEADER / FASCIA RC EMBOSSED



ROLLFORMED HEADER SPLICE USE WITH ROLLFORM HEADER



ROLLFORMED CORNER CAP OPTIONAL (USUALLY MITERED)



ROLLFORMED HANGER (USE WITH 2-1/2" RISE PANEL ALSO USED IN PLACE OF SIDE FASCIA / GUTTER)



3" COVERLEAF POST STEEL



3" X 8" END CAP MITERED



3" X 8" END CAP FLAT (BEVELED)



3" X 8" END CAP CORBEL



2" X 6"-1/2" END CAP MITERED



2" X 6-1/2" END CAP FLAT (BEVELED)



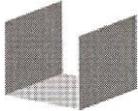
AEROSOL PAINT



TOUCH UP PAINT
.6 OZ BOTTLE



3" 1/2" BOTTOM POST
BRACKET



3" X 3" 1/2" RAFTER
HEADER BRACKET (MILLFORMED)



ROLLFORMED FLASHING



ROLLFORMED DOWNSPOUT
2" X 2-1/4"



ROLLFORMED ELBOW



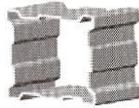
PLASTIC DROP OUTLET



3" COVERLEAF POST ALUMINUM



3" COVERLEAF POST STEEL



EXTRUDED COLONIAL POST



ROLLFORMED SCROLL COLUMN



18" STEEL SAFETY STAKE
9" X 16" BASE



2" X 6" O/S BRACKET /
DOWNSPOUT BRACKET
(PAINTED)



FOAM GUTTER DAM

Screws:



9 x 2-1/2" HWH SMS
W/ NEOPRENE WASHER



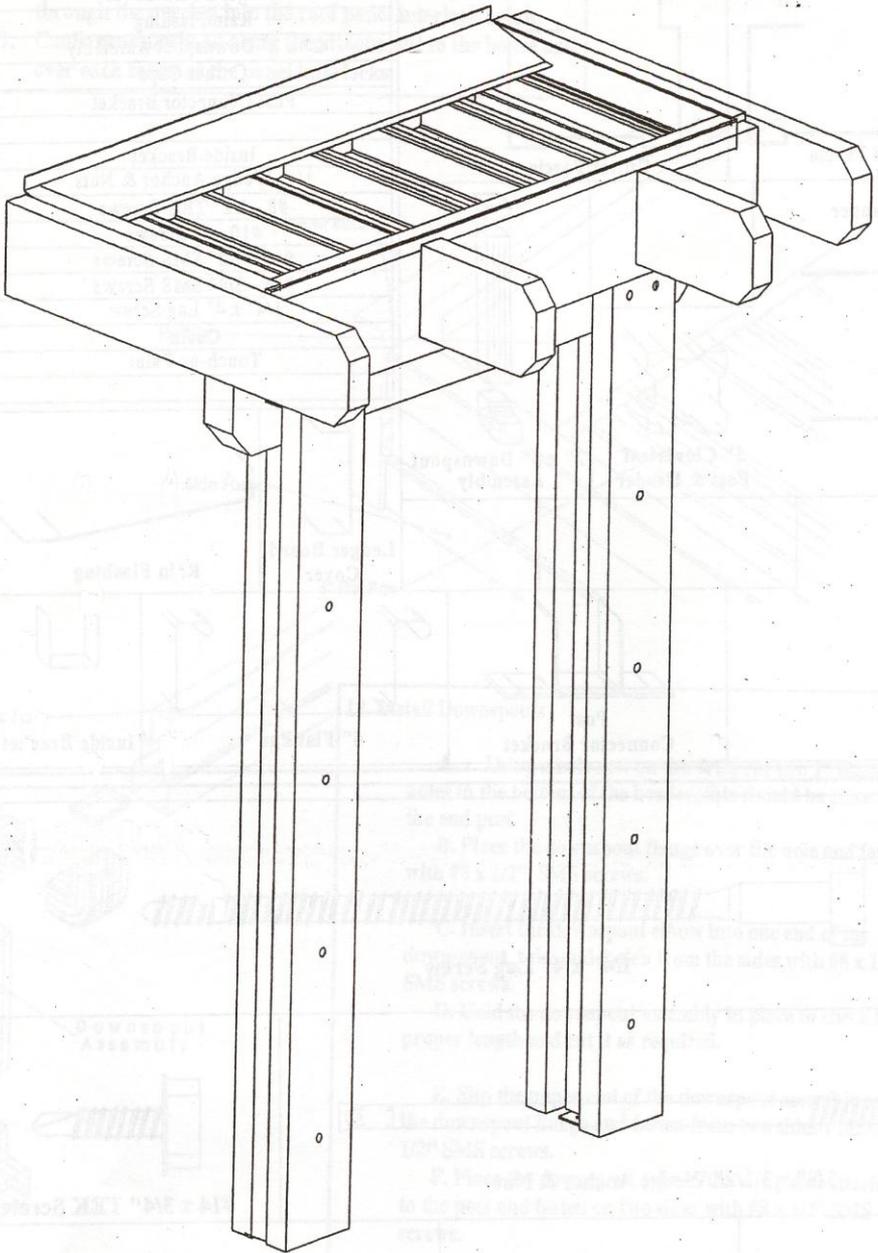
SHEET METAL SCREWS
#10 X 3/8" #10 X 1/2"
#10 X 2" #10 X 3" #14 X 3/4"



TEK SCREW
#10 X 3/4" #14 X 3/4"
(W/ NEOPRENE WASHER)



TEK SCREW #10 X 5/8"
#8 X 1/2" #12 X 3/4"



**YOUR FINISHED PATIO COVER SHOULD LOOK
SOMETHING LIKE THIS!**

