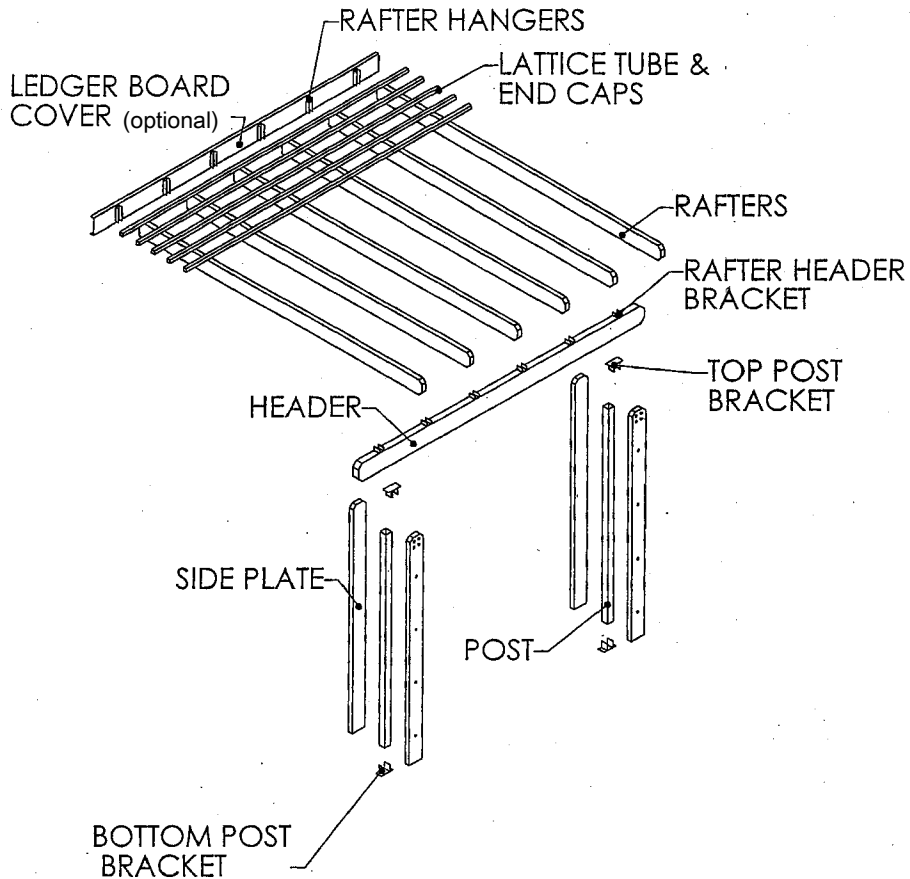


# Aluminum Shade Structures Installation Instructions



<b>Recommended Tools:</b>			
Safety Glasses	Ladder	Hammer	Level
Work Gloves	5/16" Drill Bit	Socket Wrench	Tape Measure
Stud Finder	1/8" Drill Bit	Hex Head Drivers	Pencil
Extension Cord	5/8" Hole Saw	Caulk Gun	Framing Square
Variable Speed Drill	3/8" Masonry Bit	Chalk Line*do not use red chalk	

### Before You Begin:

1. Please read all instructions carefully. Check the Bill of Materials for any missing parts, and gather necessary tools. To prevent scratching of painted materials, place on a tarp, paper, or protective material.
2. You may be required to obtain a building permit for an attached structure from your local building authority. This product can only be installed in 10, 20, or 30 psf (pounds per square foot) snow load and 90 mph wind speed zone. This

Contact your local building de-

partment for details and your area's snow and wind load.

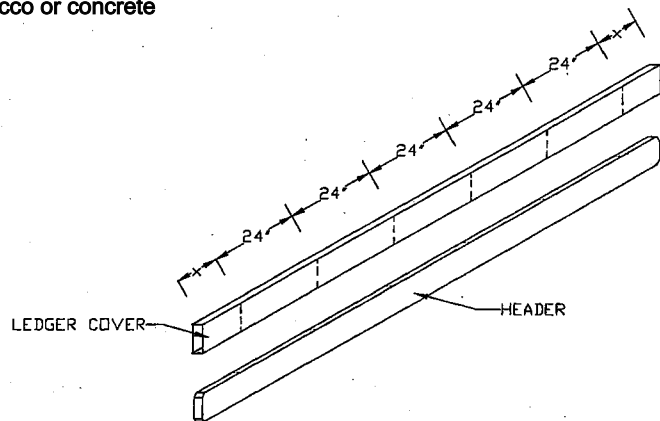
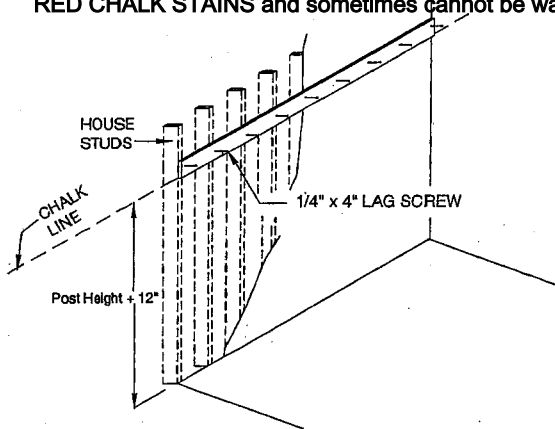
3. Note that this patio cover kit is not designed to carry additional loads such as hanging plants, swings, people, trellis's or other objects. This patio cover cannot be enclosed with mesh screening.

## 1. Install Ledger Board **\*\*OPTIONAL\*\***

*Notes: 1. Use a 2" x 6" (1 1/2" x 5 1/2" true size) Douglas Fir #2 or better for ledger board. Do not use pressed board, OSB, or particle board. Slide 2x6 in ledger cover with strip of 3/8" plywood to make a tight fit.*

- A. Select mounting area on the wall. Snap a level chalk along the wall to locate the bottom of the ledger board.
- B. Attach a ledger board to the side of the house or ends of the roof rafters as marked by your chalk line at the required height. Fasten the ledger board to the house studs using 1/4" x 4" lag screws. Refer to the Table A below to determine how many lag screws to be used per stud. Studs are assumed to be 16" on center.

Note: put chalk line at the top of ledger board so it won't be seen afterwards. Use white or blue chalk as RED CHALK STAINS and sometimes cannot be washed off stucco or concrete



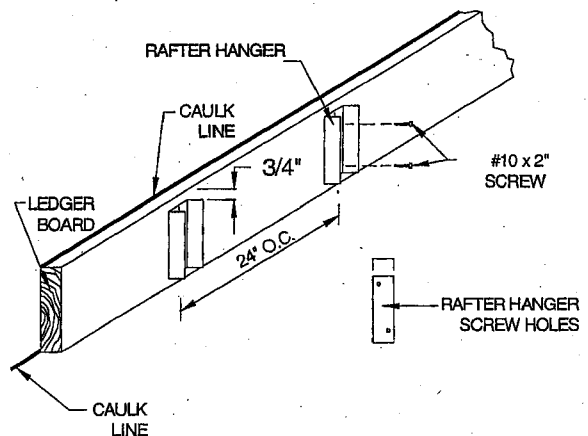
Note: Some installers prefer to "rip" the ledger wrap to 1-1/2" wide and install over the wood ledger after the wood ledger board is installed and lag bolts are countersunk. This method hides all of the lag bolts and looks "cleaner" but requires more skill in ripping the 4-sided ledger wrap. If you use caps on the ends the caps will also have to be cut to 1-1/2" wide.

## 2. Mark Header and Ledger Cover

- A. Using a straight edge, mark the Ledger Cover as shown, with 24" on center, the ends should be of equal length.
- B. Mark the Header, seam side up, in the same way.
- C. Place the 2" x 6" Ledger Cover over the wood ledger board.

## 3. Mount the Rafter Hangers

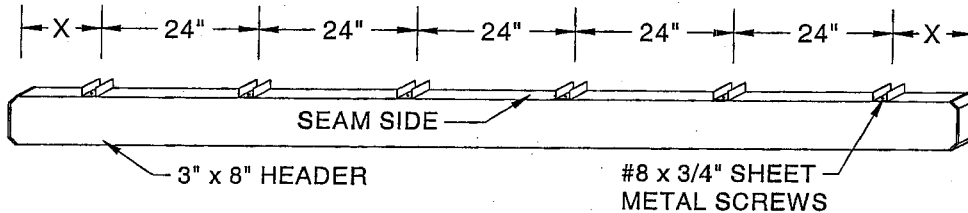
- A. Pre-drill the rafter hangers using a 1/8" bit. Align the rafter hanger on the center of the marks on the ledger board made in the previous step.
- B. Install the top screw of each bracket using a #10 x 1 1/2" screw. Do not tighten. Locate additional rafter hangers on 24" centers.
- C. Use a level or a framing square to straighten the bracket and install the bottom screw. Tighten the top screw.
- D. Apply a bead of caulk to the top and bottom of the ledger cover as shown.



\* If a Steel C-Beam and Post inserts are included, go to page 8 to continue the installation.\*

#### 4. Install Rafter Brackets to Header

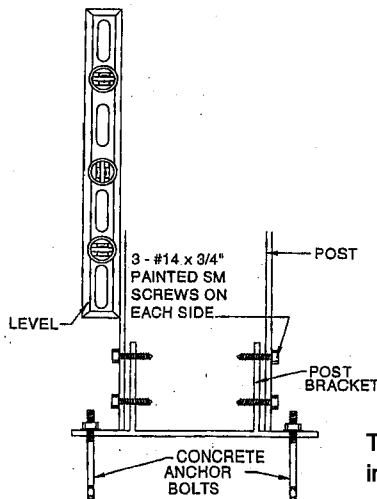
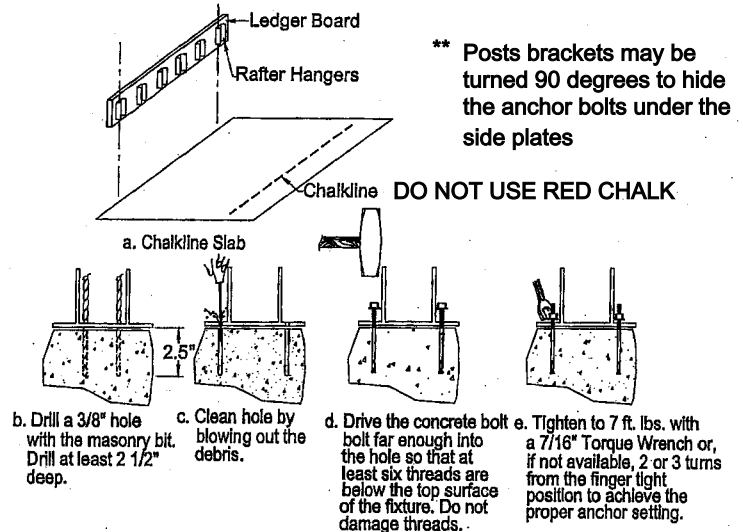
- A. Attach the Rafter Header Brackets to the seam side of the Header using two #14x3/4" sheet metal screws per bracket. These should be spaced equally from each end with 24" on-center spacing exactly the same as the Ledger Cover.



#### 5. Install Bottom Post Brackets

Note: These posts must be at least 4" from the edge of the concrete slab.

- A. Snap a chalk line on the slab parallel to the ledger board. This distance is generally 12" less than the length of the rafters. Then snap a chalk line perpendicular to the building along the center lines of the first and last Rafter Hangers.
- B. Drill 2 holes 2 1/2" deep into the concrete using a 3/8" masonry bit through the holes in the post bracket. Brush away concrete debris and blow the debris out of the hole.
- C. Make sure the brackets are square to the building wall and attach the post bracket to the concrete with the 3/8" concrete anchor. Tighten nut as shown.



#### 6. Install Posts

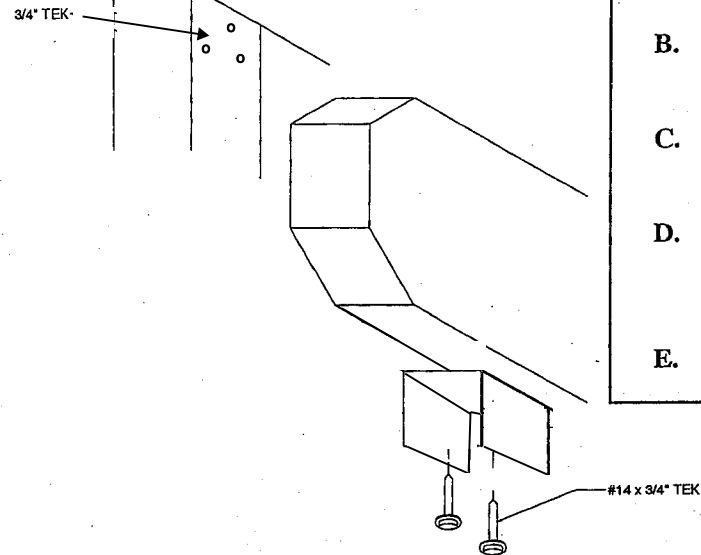
- A. Set a post over the top of a bracket and put one painted #14 x 3/4" sheet metal screw to stabilize the post.
- B. Using a level, make sure the post is plumb and install the rest of the screws. There will be three screws to each side. Install the other posts the same way.

These screws may be removed and reinstalled through the side plate in step 8, you will need to use the same procedure using the 5/8" plugs

## 7. Install Header

- Set the Header on top of the posts. Make sure the rafter brackets are on top of the header and line up with the rafter hangers on the ledger board.
- Using a level, check to make sure that the header is level. Mark the header where the post connector brackets will be placed.
- Using two #14 x 3/4" TEK screws, attach the post connector bracket to the header and repeat for every post.
- Set the header in place on top of the posts. Using three painted #14 x 3/4" TEK screws, attach the post connector bracket through the post in a triangle pattern. (pictured).
- Repeat this step with the remaining posts.

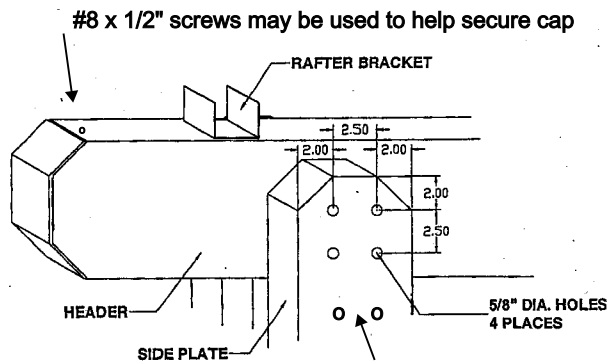
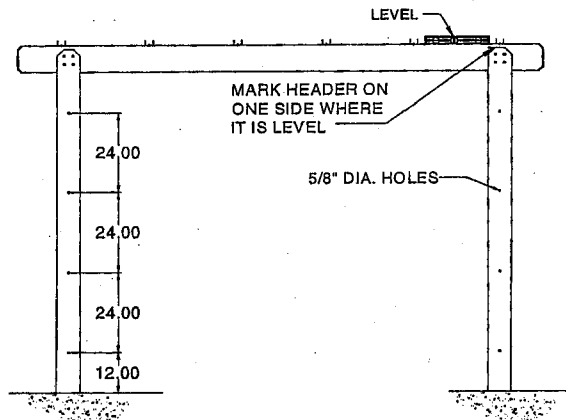
These screws may be removed and reinstalled through the side plate also  
Do one post, one side at a time



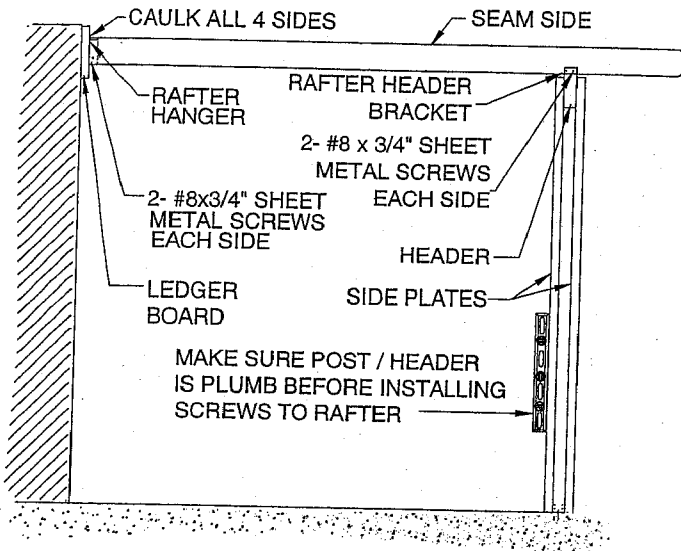
## 8. Install Side Plates on Posts

*Note: Side Plates are rafters that have been stuffed with foam.*

- 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.
- Place a #14 x 3/4" SM screw through the side plate into the post.
- Measure up 24" on center to locate the remaining holes to be drilled. Drill a 5/8" hole into the marks as done before, making sure not to puncture the other side.
- Use a level to check that the side plate is plumb and centered on the post.
- Place a #14 x 3/4" SM screw through the remaining holes as done before.
- Drill four holes into the side plates as done previously (as shown).
- Place a #14 x 3/4" SM screw into the four holes drilled.
- Place the 5/8" plugs into the holes.
- Repeat these steps on the opposite side of the post and to any other posts remaining.



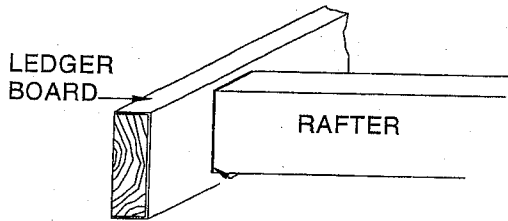
2 access holes for 3 or 4 screws if post/header bracket is turned this way



Note: The ends of the ledger board may be capped, if using 3-sided ledger board the cap will have to be cut. You may bend the ledger board over the ends or paint the end of the wood ledger

## 9. Install Rafters

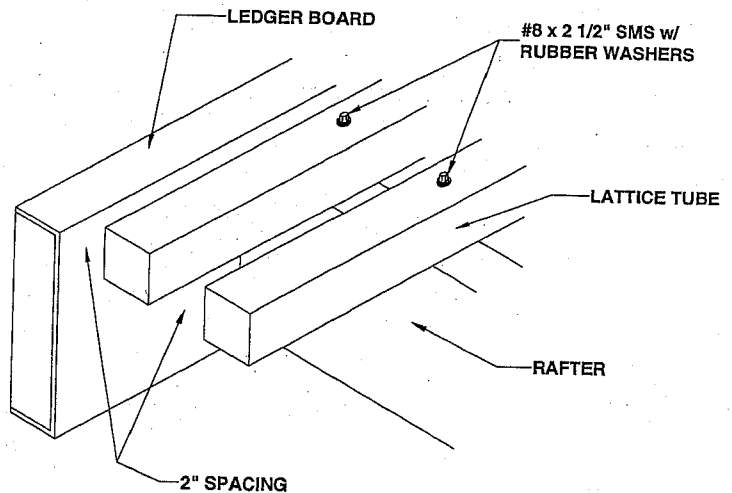
- A. Place a rafter with the seam side up on a rafter hanger and in a rafter bracket on one side of the unit.
- B. Secure the rafter to the rafter hanger at the ledger board using one #8 x 3/4" sheet metal screw.
- C. Secure the other end of the rafter at the header using one #8 x 3/4" sheet metal screw.
- D. Install 3 more #8 x 3/4" sheet metal screws into the rafter hanger and 3 more #8 x 3/4" sheet metal screws into the rafter bracket.
- E. Set the rafter in place at the other side of the unit. Install as above. Then install the remaining rafters as above.

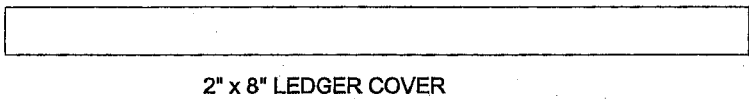
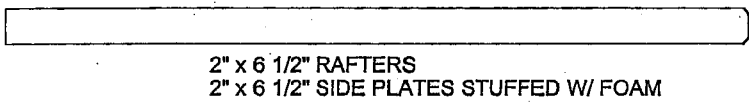
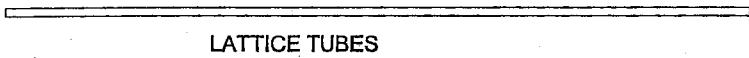
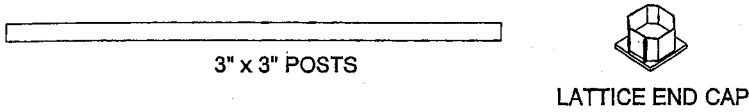
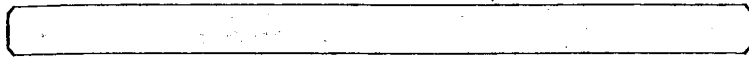
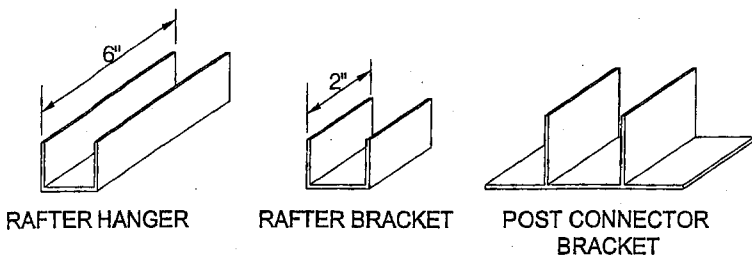


## 10. Installing Lattice Tubes

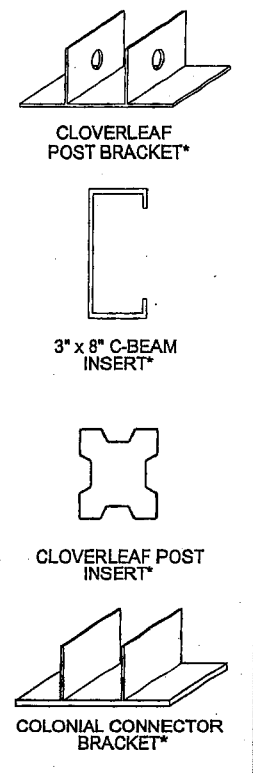
Note: Uniform placement of the lattice will overhang equally on each side. The maximum overhang is 16"

- A. Install the end caps into both ends of the Lattice tubes.
- B. Starting 2" away from the ledger board, set the first lattice tube in place with the seam side up.
- C. Secure the lattice tube to the rafters using the #8 x 2 1/2" sheet metal screws with rubber washers. Be careful to not over tighten.
- D. Install the remaining lattice tubes with a 2" space between the each tube. Check periodically to maintain uniform overhang.

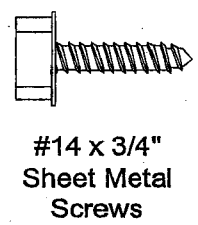
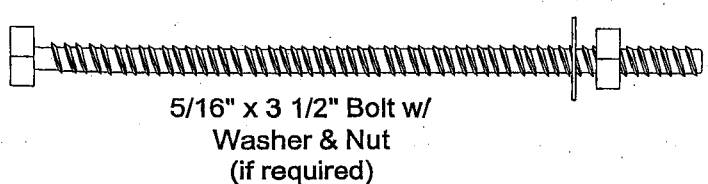
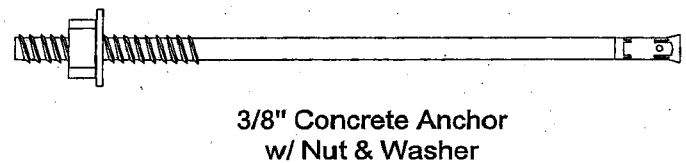
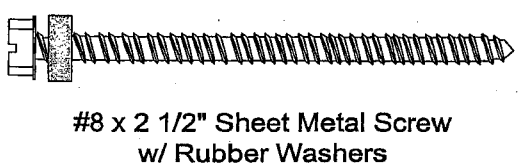
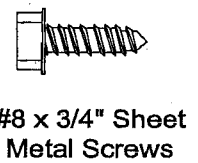
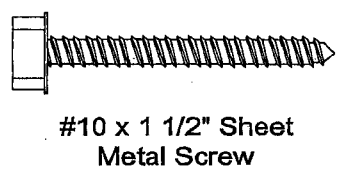
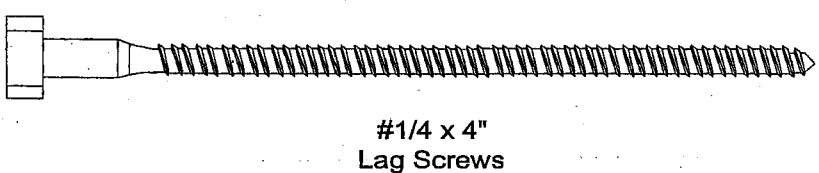


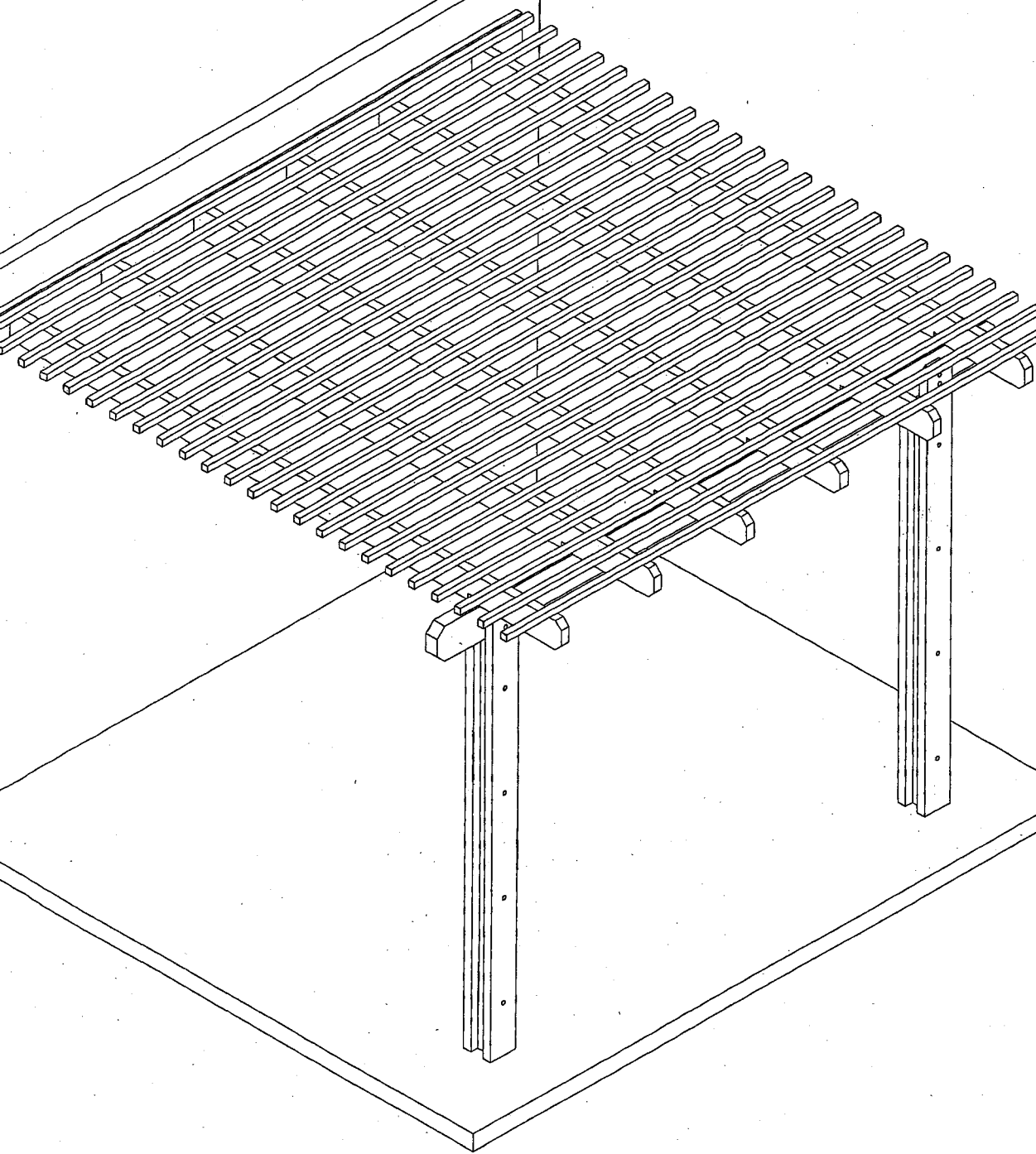


Bill of Material:
3" x 8" Header
3" x 3" Post
2" x 6 1/2" Rafters
2" x 6 1/2" Side Plates
Lattice Tubes
2" x 8" Ledger Board Cover
Rafter Hanger
Rafter Bracket
Post Connector Bracket
Lattice End Caps
Steel Header Insert*
Steel Post Insert*
Cloverleaf Post Bracket*
Colonial Connector Bracket*
1/4" x 4" Lag Screws
#8 - 3/4" SM Screws
#10 - 1 1/2" SM Screws
#8 - 2" SMS w/ Rubber Washers
#14 - 3/4" TEK
#14 - 3/4" SM Screw
5/16" x 3 1/2" Bolt, Nut, & Washer*
3/8" Wedge Anchor
Caulk
Touch-Up paint



\* If required, see the additional page for installation instructions.

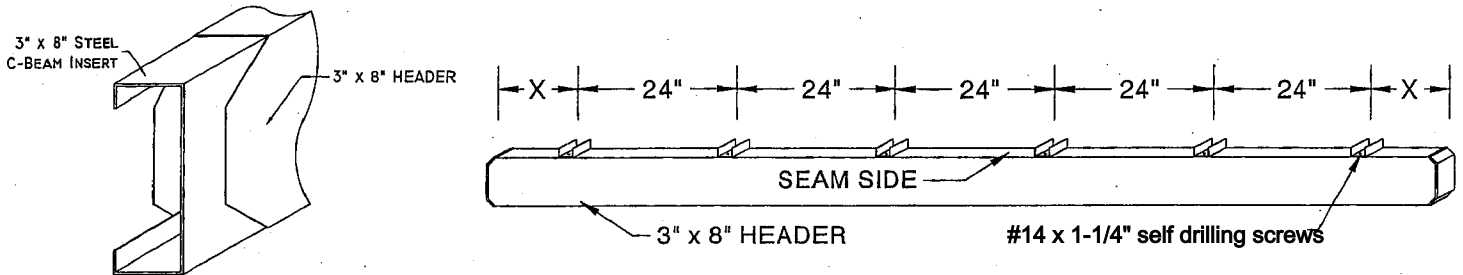




\* If a Steel C-Beam and Post inserts are included, refer to these pages for installation.\*

#### 4. Install Steel C-Beam & Rafter Brackets to Header

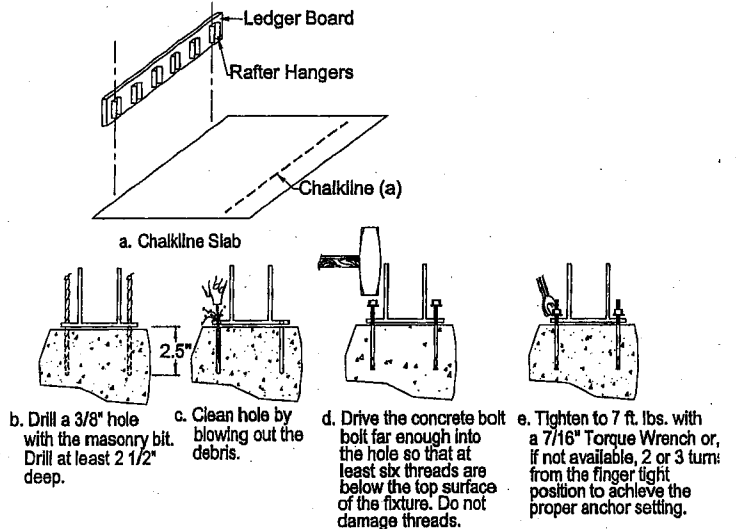
- A. Take off one end cap of the Header, then slide the C-Beam insert into the entire length of the Header. Replace the Header end cap. This step may take two people to complete.
- B. Attach the Rafter Header Brackets to the seam side of the Header. Using a 1/8" bit, pre-drill two holes through the bracket, header, and insert. Then use two #14 x 1-1/4" self drilling screws per bracket. These should be spaced equally from each end with 24" on-center spacing exactly the same as the Ledger Cover.



#### 5. Install Bottom Post Brackets

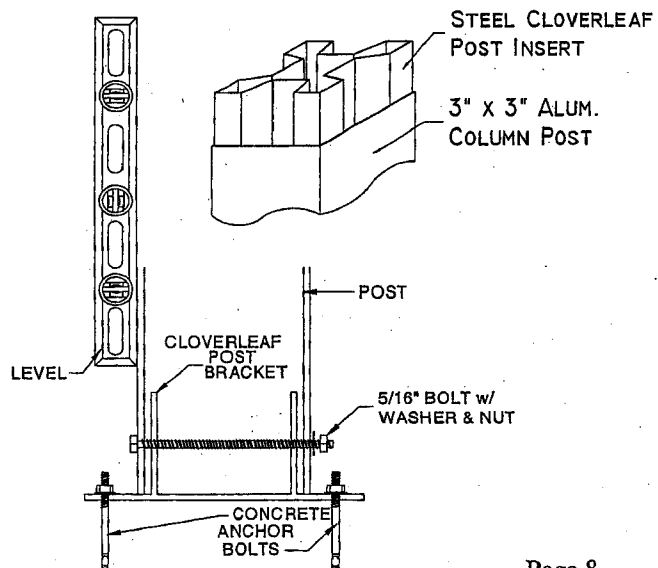
*Note: A concrete footer is required for each post.*

- A. Snap a chalk line on the slab or footer parallel to the ledger board. This distance is generally 12" less than the length of the rafters. Then snap a chalk line perpendicular to the building along the center lines of the first and last Rafter Hangers.
- B. Drill 2 holes 2 1/2" deep into the concrete using a 3/8" masonry bit through the holes in the post bracket. Brush away concrete debris and blow the debris out of the hole.
- C. Make sure the brackets are square to the building wall and attach the cloverleaf post bracket to the concrete with the 3/8" x 3 1/2" concrete anchor. Tighten nut as shown.

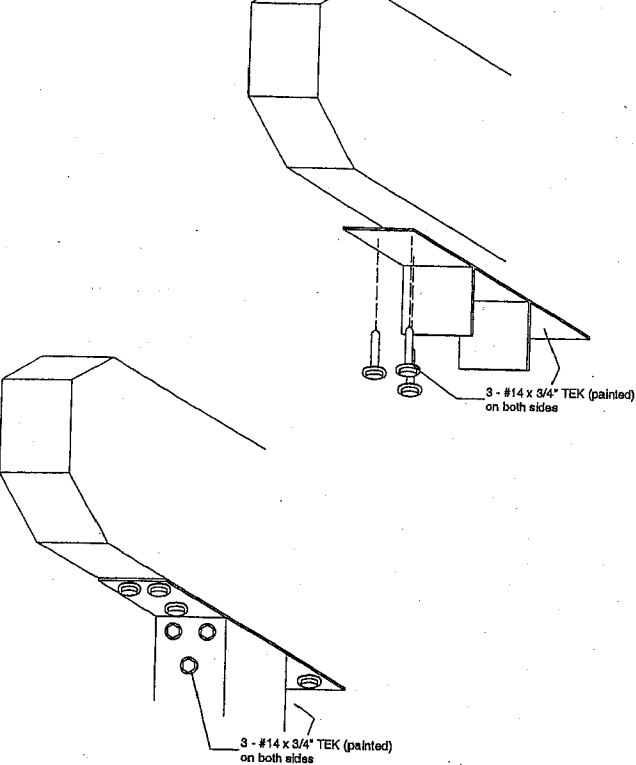


#### 6. Install Posts

- A. Slide the Steel Cloverleaf Post insert through the entire length of the Post.
- B. Set a post over the top of a cloverleaf column bracket. Using a 5/16" bit pre-drill through the post and insert to match the hole in the bracket.
- C. Using a level, make sure the post is plumb and install the 5/16" bolt with the washer and nut. Make sure the bolt is fastened tightly. Install the other posts the same way.







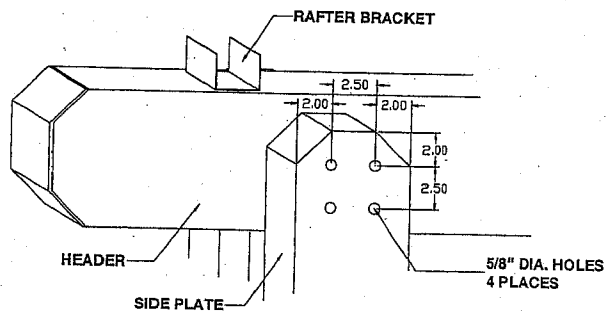
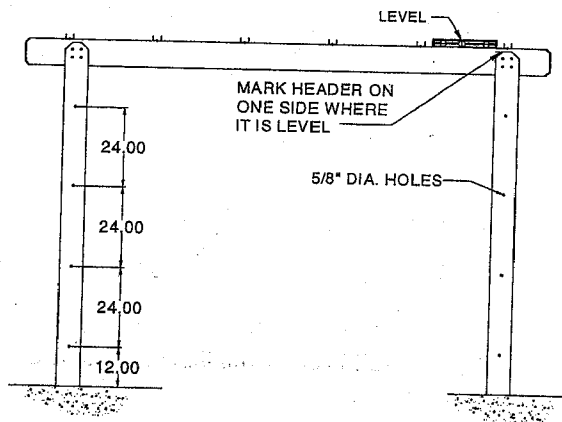
## 7. Install Header

- Set the header on top of the posts. Make sure the rafter brackets are on top of the header and line up with the rafter hangers on the ledger board.
- Using a level, check to make sure that the header is level. Mark the header where the colonial post brackets will be placed.
- Using three painted #14 x 3/4" TEK screws, on both sides, attach the colonial connector bracket to the header in a triangle pattern. Repeat for every post.
- Set the header in place on top of the posts. Using three painted #14 x 3/4" TEK screws, on each side, attach the colonial connector bracket through the post in a triangle pattern. (pictured).
- Repeat this step with the remaining posts.

## 8. Install Side Plates

*Note: Side Plates are rafters that have been stuffed with foam.*

- 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.
- Pre-drill with a 1/8" bit, then place a #14 x 3/4" SM screw through the side plate into the post.
- Measure up 24" on center to locate the remaining holes to be drilled. Drill a 5/8" hole into the marks as done before, making sure not to puncture the other side.
- Use a level to check that the side plate is plumb and centered on the post.
- Pre-drill with a 1/8" bit, then place a #14 x 3/4" SM screw through the remaining holes as done before.
- Drill four holes into the side plates as done previously (as shown).
- Pre-drill with a 1/8" bit, then place a #14 x 3/4" SM screw into the 4 holes drilled.
- Place the 5/8" plugs into the holes.
- Repeat these steps on the opposite side of the post and to any other posts remaining.



**\* To continue the installation, please return to page 5 for the final steps.\***

