

ShadeTree® Canopy Systems Assembly Instructions

Using **ShadeTree® Aluminum Overhead Tracks** supported
by a Bungalow aluminum support structure

The Bungalow



Dear Customer:

Thank you for purchasing our **ShadeTree® Canopy System**. We trust these assembly instructions will be satisfactory for your installation. If you have any questions, please feel free to call 1-800-894-3801.

And here's a special offer we'd like to make to you: Send us a photo of your new ShadeTree® installation and we will send you **\$50** if we use your photo in our advertising materials. Before and after pictures will receive an additional \$50. A deck or patio that is nicely furnished helps us communicate to prospective customers how nice a ShadeTree® patio can be.

We hope you enjoy your new ShadeTree® patio canopies.

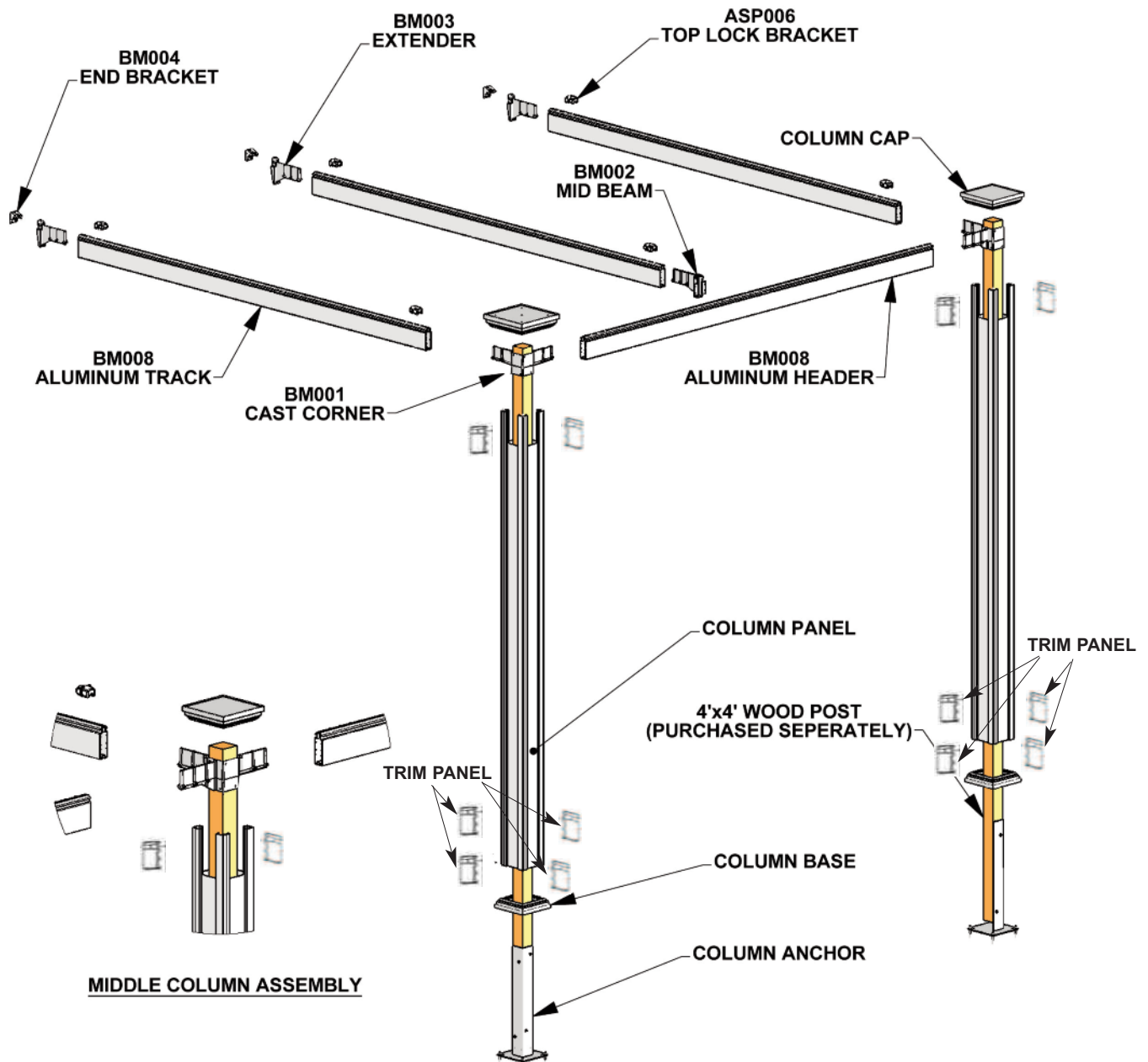
Sincerely,

Colin LeVeque, President
ShadeTree Systems, LLC.

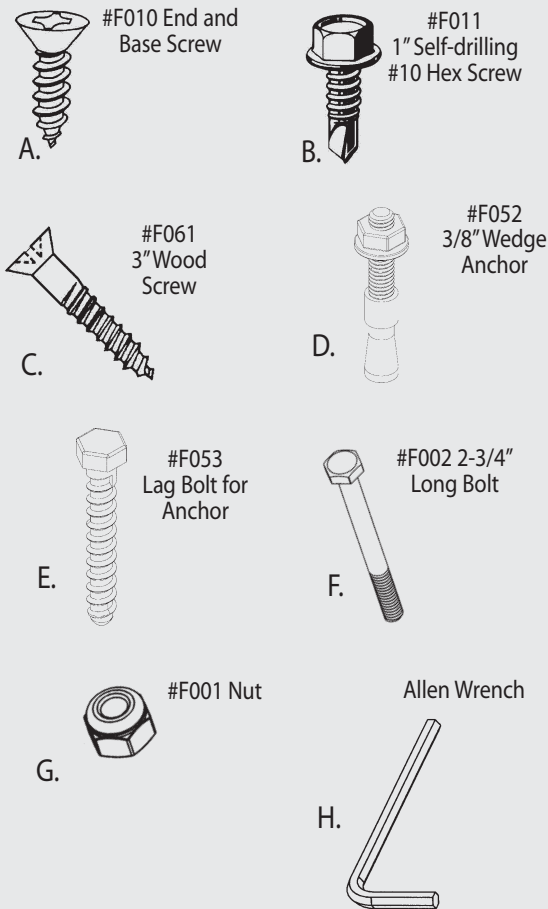
ShadeTree®
Retractable Patio & Deck Canopies



Complete Aluminum System (supported by an aluminum frame)



Fasteners & hardware provided:



Tools required:

- | | |
|-------------------------------------|-----------------------|
| 1. Phillips screwdriver | 5. bubble-type level |
| 2. Hand drill | 6. Carpenter's square |
| 3. 9/64\", 1/4\" & 3/4\" drill bits | 7. tape measure |
| 4. pencil | 8. hand saw |
| | 9. 8' ladder |

If driving screws with a drill or power screwdriver, set the torque to a low setting to avoid stripping screw heads.

Other Materials Required:

You will also need 4" x 4" wooden posts for added strength inside aluminum columns. Pre-selection of pressure-treated wood is very important. Any warped or oversized lumber will not fit inside the aluminum columns. If sinking posts into the ground, treated lumber is required.

If mounting on a deck, patio, the surface must be connected to solid anchor points. If not, the posts must be sunk into the ground. If you wish to cement the posts 3' into the ground, 12' posts are needed. The aluminum framework should be completely assembled before cement is poured into the holes.

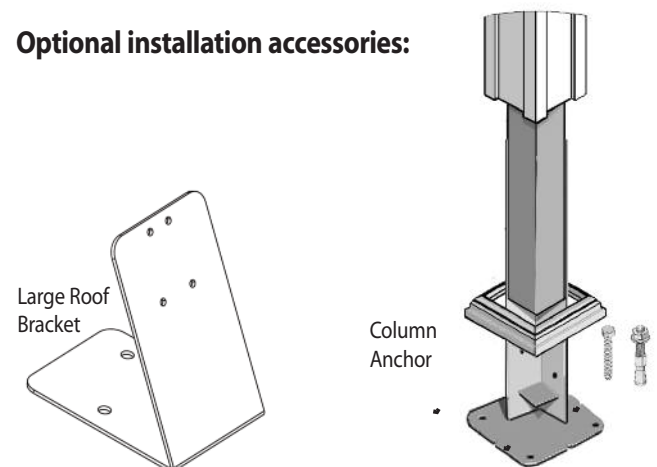
If you are sinking posts into the ground, the *Column Bases* are optional. If you prefer to use the *Column Bases*, they should be assembled onto the *wood posts* before erecting the system.

NOTE: You'll find a second pair of hands (to hold parts as the unit goes up) to be very helpful in erecting your system.

CAD –YOUR PROVIDED CUSTOM BLUEPRINT :

Each ShadeTree Pergola will ship with a custom-designed CAD drawing showing all of the dimensions necessary for installation. Please refer to this CAD for all steps in these instructions. If a CAD did not come with your ShadeTree system, please call customer service before proceeding with installation.

Optional installation accessories:

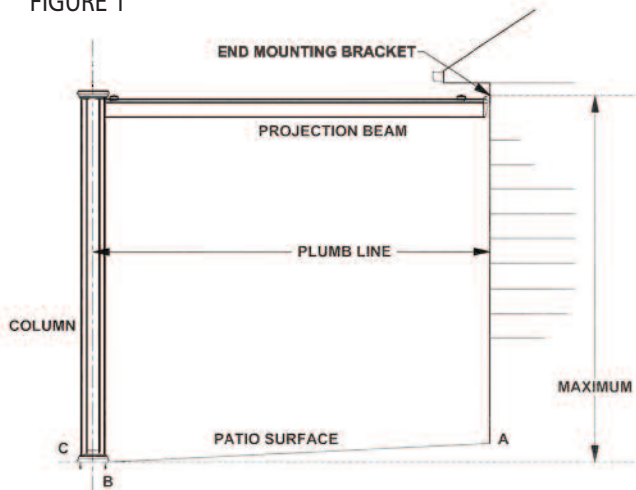


Step 1 Determine the height of your ShadeTree® Bungalow System

To determine the height at which to place the *End Mounting Brackets* (which hold the *Projection Beams*) on the house, it is important to know the maximum height of the mounting bracket relative to the maximum height of the aluminum columns.

See following illustration and dimensions to determine maximum height of End Mounting Bracket on the house.

FIGURE 1



For a standard 10' column, the maximum height to top edge of End Mounting Bracket is 9' 2-3/4" from surface on which columns will be anchored. (See vertical arrow at far right side of diagram above.)

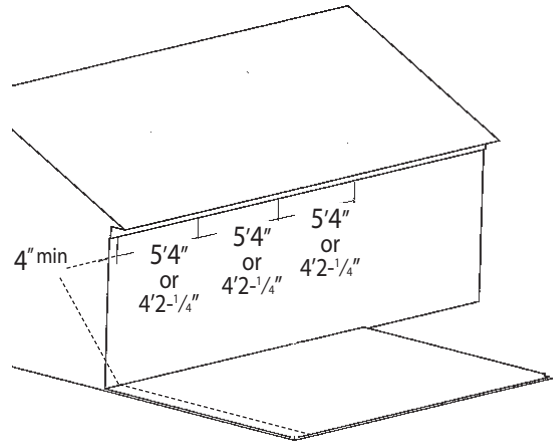
If there is no "fall" in your deck or patio surface (in most cases, there is some fall so rain will drain away from the house), you can place the *End Mounting Bracket* as high as 9' 2-3/4" from the patio surface at the house (A). However, if there is fall from your house (A) to the place where the columns are to be placed (C), it is necessary to adjust the height of the *End Mounting Brackets* to accommodate for this difference in surface levels.

See the CAD drawing that came with the system to determine distance from house to center of Column (B). To determine the "fall" from your house to the surface on which the columns will be anchored (C), extend a string level from base of house (A) to the to center line of Column (B) and measure the distance (fall) from level line at (B) to mounting surface (C).

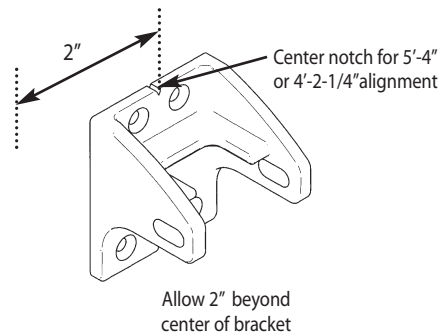
Subtract the "fall" dimension from 9' 2-3/4" to determine the maximum height (based on 10' columns, if you are using 12' or higher columns, add 2' respectively) at which the top of the mounting bracket can be installed. Mark this position temporarily on the house.

Step 2 Attach End Mounting Brackets

Mark the center location for each *End Mounting Bracket* on the house 5'-4" or 4'-2" apart (refer to the supplied CAD of your system). One *End Mounting Bracket* is needed for every projection beam. Be sure to allow approximately 4" on the outside of outermost brackets for inserting bolts into brackets.



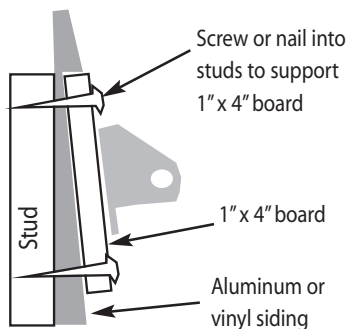
Mount the *End Mounting Brackets* on each center mark, using the center notch as a guide. The brackets should be mounted so that the the slanting edge of the bracket is to the top (as in illustration). Be sure to mount the brackets level with each other. Use a 9/64" drill bit to drill pilot holes. Wood screws are included (1-1/4" screw c)... any other type of screws (such as masonry screws for brick or stone) can be purchased from your hardware store. The Bracket can be used as its own template for marking pilot holes.



When mounting to house, brackets must be attached to well-secured wood, brick or stone.

- If mounting to a house with wood siding, or to wood trim, use the 1-1/4" #10 wood screws with the painted heads.
- If mounting to a masonry wall (brick or stone) concrete fastening screws must be used. Consult your hardware store for the best fastener for your situation.

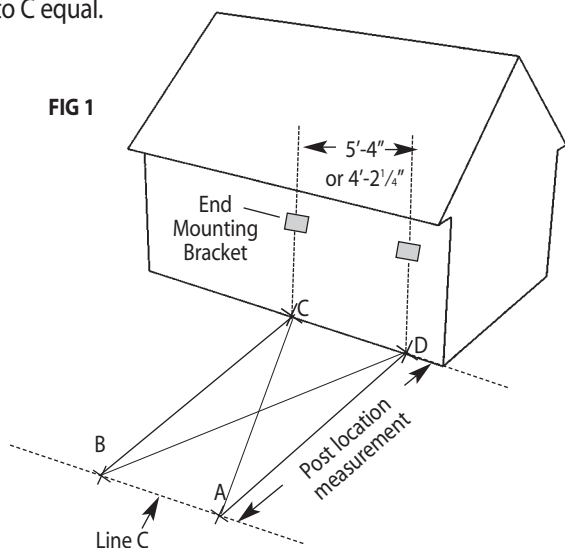
- If attaching to stucco, aluminum, or vinyl siding, the screws must make contact with wood. On two story houses, this can usually be done in the area of the second floor joists. When no wood can be found to carry the canopy load, it is recommended to attach a 1" x 4" board to the home (see illustration below) . . . horizontally at the height desired for the canopy. The board can then be secured by screws into each stud. On aluminum or vinyl siding, tighten the bottom screws only enough to hold board snugly. Over-tightening can compress the siding. The board can be painted or stained to match the siding.



Step 3 Determine location of Aluminum Columns

Using the CAD for your system, measure out from the house to the location of your first *Aluminum Column*(A). Measure out from the house a second time to the location of your second *Aluminum Column*(B). Be sure that points A & B are on a line (C) that is parallel with the wall to which the End Mounting Brackets are attached.

To ensure that your system will be square, measure the distance from point B to point D. Then measure the distance from point A to point C. Move points A and B right or left to get B to D and A to C equal.



Step 4 – Preparing the surface

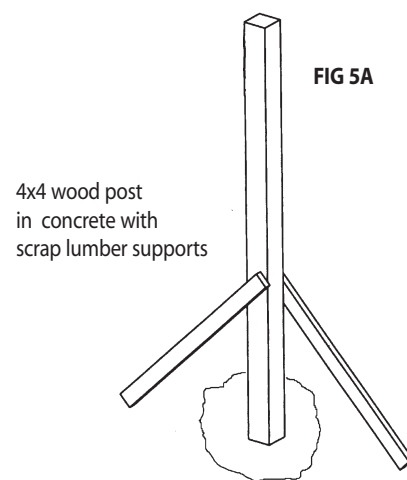
If you do not have a level surface (most patios have a slight slope to shed water), you may need to cut the columns that are to be placed on the high side of the mounting surface. You should first establish the difference in elevation (you can use a level and tape measure if necessary). Next measure up, from the bottom of the column, the difference in elevation, and place a mark on the column. **(You should only cut the column from the bottom).** It is important that your ShadeTree structure be built so the beams and headers are level. A deck or patio is an ideal surface. Another option is to set 4x4s into 3' deep hole and encase in concrete.

Step 5 - Internal Post assembly
(set or surface-mounting)

Step 5 - Option A: Wood posts set in concrete:

Dig holes and secure posts

You will need 12' or longer 4x4 posts when setting posts into concrete. We recommend that you use pressure treated lumber for this application. Once you have determined the post locations, you can begin digging the holes. You should dig the holes to a depth of 3 feet. Put posts in holes; check that wood posts are plumb and square using a bubble level, and extend above ground level at least 1' higher than your ultimate system height. Stabilize the posts temporarily by attaching scrap lumber into the posts as illustrated in Figure 5A. Mix concrete according to manufacturer's instructions and pour into holes & resume assembly once cement is dry.

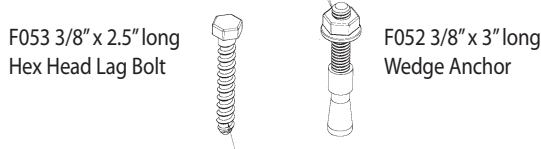


Step 5 Option B – Surface-Mounting using Column Anchors

With any of the *Column Anchor* options listed below, it's best to insert the nuts but leave them loose to make attaching the tracks and headers easier. Once all of the tracks and headers are in place, lift the column panels enough to slip a wrench under to permanently tighten the anchors.

If anchoring Column Assemblies, before drilling holes into the surface, be sure that the *Column Anchors* are aligned with the centers of the other anchors and placed according to the measurements on the CAD.

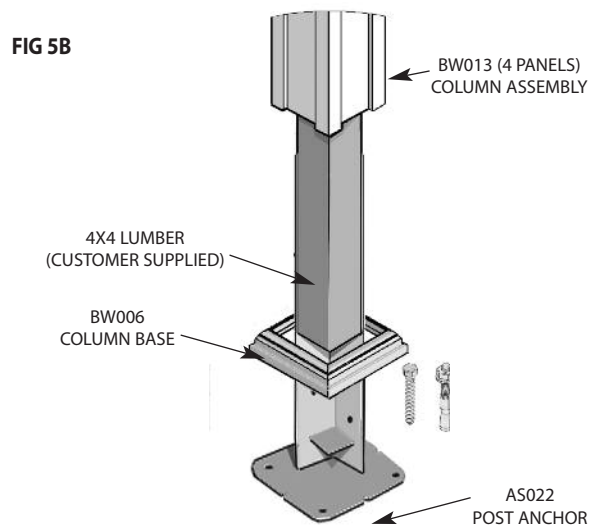
If attaching to a wood surface Use the *Column Anchor* as a template and pre-drill - using the inner holes, not the outer - for the 3/8" x 2 1/2" lag bolts that will secure the *Column Anchor* to your surface (using a 1/4" drill bit).



If attaching the posts to concrete. Use the *Column Anchor* as a template and pre-drill - using the inner holes, not the outer - for the wedge anchors with a 3/8" masonry bit, and use the provided 3/8" x 3 long wedge anchors. After pre-drilling the holes, put the washer and nut on the threads of the wedge anchors and then use a hammer to drive in the wedge anchors.

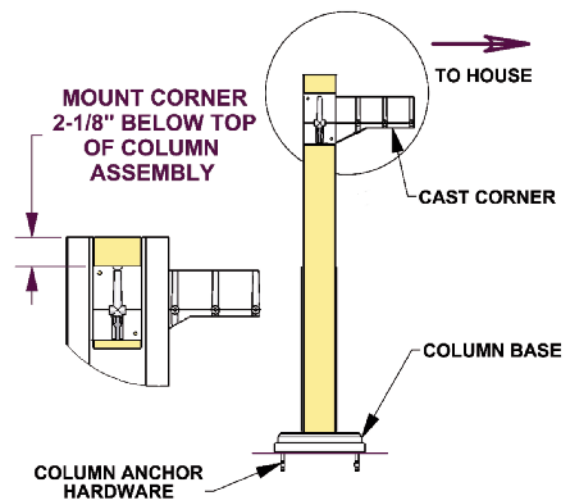
Attach wood post to Column Anchor

With Anchor in vertical position on the ground, attach each wood 4x4x10' post onto the *Column Anchor*. Install the 4 screws through the steel support into the 4x4 wood posts.



Step 6 Attach Corner Brackets

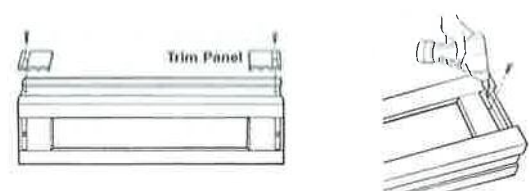
Slide the *Cast Corner Bracket* into the top of the *Column Assembly*. Position the Bracket so that it is 2 1/8" below the top of the *Column Assembly* and then screw the *Bracket* into the wood post. Ensure that the vertical *Column Assembly* is square with the mounting surface and with the house. Place a bubble level on top of the *Header Beam* to confirm that it is level. If it is not, reposition the *Corner Brackets* and lower or raise the *Corner Brackets* on the Wood Post as necessary. Once level, fasten each corner with eight #10 x 3" wood screws F061.



Step 8 Attach Trim Panels

Locate the Top and Bottom *Trim Panels* in recessed area of column quarter staves with grooves nearest ends of column quarter staves. Position *Trim Panels* so grooved edge is flush with outer end of quarter stave.

Using the hole in the trim panel groove as a template, drill a 1/8" hole through *Column Assembly* and attach *Trim Panel* to the column with a 8" x 3/4" large Phillips flat head stainless sheet metal screw (furnished). Follow the same procedure on all four staves. Each *Column Assembly* will have two *Trim Panels* at the top and four at the bottom.



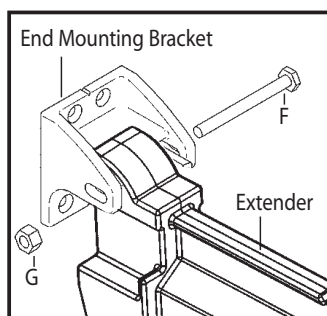
Step 7 Assemble the Columns

Each Bungalow *Aluminum Column* consists of 4 panels that simply snap together. Lay down a panel on a clean smooth surface with the channel and ridge side facing up. Position a second panel that has a notch so that the channel of the second is over the ridge of the first panel. Using a rubber mallet, gently hammer the edge of the second panel so the ridge of the first locks into the channel of the second. Slide the bottom of the two assembled panels into position in the column base.

Repeat the process above with a third and fourth panel (one with and one without a notch). Then stand upright the second set of assembled panels and put around the post but do not insert into base yet. Slide the bottom of the second set of assembled panels into position in the column base. Starting from the bottom of the column, snap together the first and second sets of assembled panels; stop when you get half way up the column. Get on a ladder above the *Column Assembly* and use a rubber mallet to tap the top of the second set until it slides into place and the top of the *Column Assembly* panels are aligned.

Step 9 Temporarily Attach Extenders

Attach an *Extender* to each the two OUTSIDE *End Mounting Brackets* on the house using the 2-3/4" bolts (F) and nuts (G) provided. Be sure the top of the *Extender* is up (as shown.) Loosely hand-tighten the nuts.

**Step 10 Attach a Projection Beam/Column Assembly to the Wall Bracket**

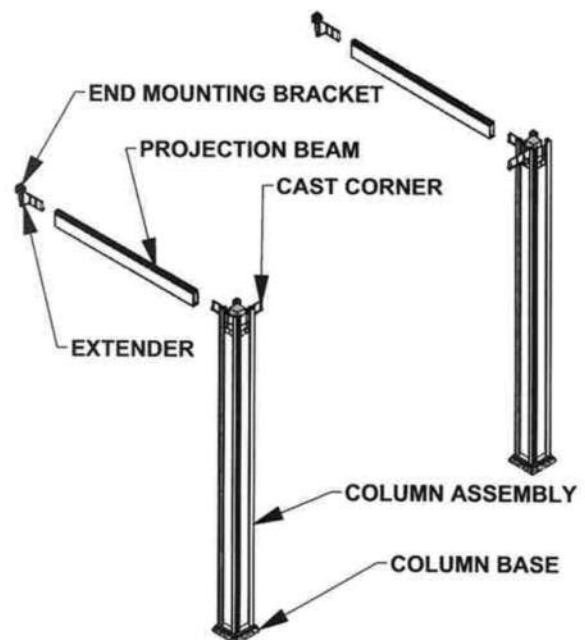
Attach one *Projection Beam/Column Assembly* to one of the outside *End Mounting Brackets* on the house using the 2-3/4" bolts (F) and nuts (G) provided. Be sure the top of the *Extender* is up (as shown.) Loosely hand-tighten the nuts.

Step 11 Connect outside Projection Beams

Bungalow systems that are attached to a house or building will have a notch on the *Extenders* that allow for the insertion of the canopy rollers. On free-standing systems, *Projection Beams* have notches cut in the tracks that allow for the insertion of the canopy rollers. The outside *Projection Beams* are notched on one side only; the side of the beam that is not notched faces outside of the structure and the side that is notched faces inside. The *Projection Beams* that are notched on both sides go on the inside of the structure.

Remove the *Extender* from the *End Mounting Bracket* on the wall. Assemble the outside *Projection Beam* by inserting the arm of the *Corner Bracket* and the arm of the *Extender* into the *Projection Beam*.

To help secure the *Projection Beam* during the assembly process, insert two 7/8" tapping screws (A) into the *Projection Beam* through both the *Extender* and the *Corner Bracket*.

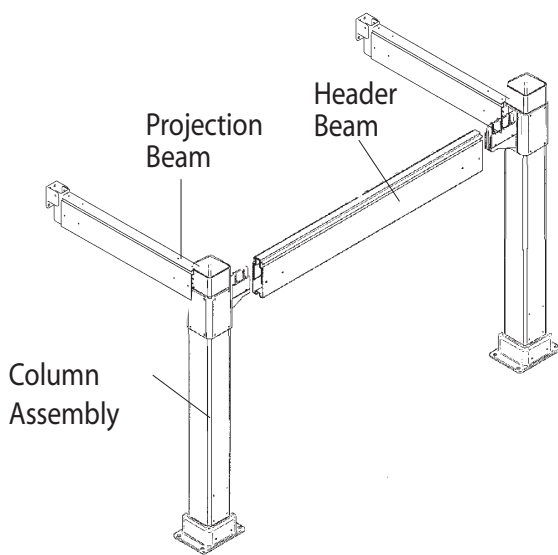


Step 12 Connect Column Assemblies

Insert the arm on the *Corner Bracket* of the attached *Projection Beam/Column Assembly* into the end of the *Header Beam*.

Attach the other *Projection Beam/Column Assembly* to the *End Mounting Bracket* on the wall.

To secure the *Header Beam*, screw two 7/8" Tapping Screws (A) through the pre-drilled holes on the top of the *Header Beam* into the *Corner Brackets* at both corners.

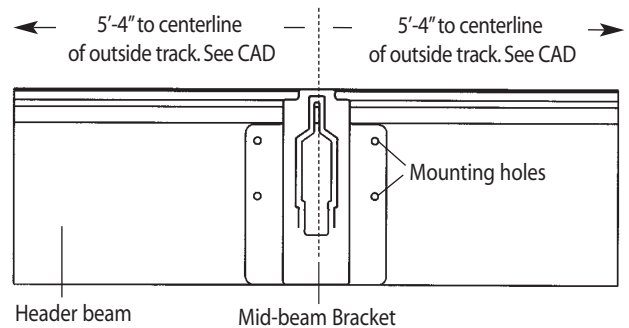


Step 13 Check to make sure the Assembled Outer Frame is SQUARE

Measure the distance from one *Projection Beam/Column Assembly* to the opposite outside *End Mounting Bracket* on the house. Then measure the distance from other *Projection Beam/Column Assembly* to the opposite outside *End Mounting Bracket* on the house. Both measurements must be the same for the system to be considered square. You must make any necessary adjustments to ensure that it is square before permanently anchoring the *Columns*.

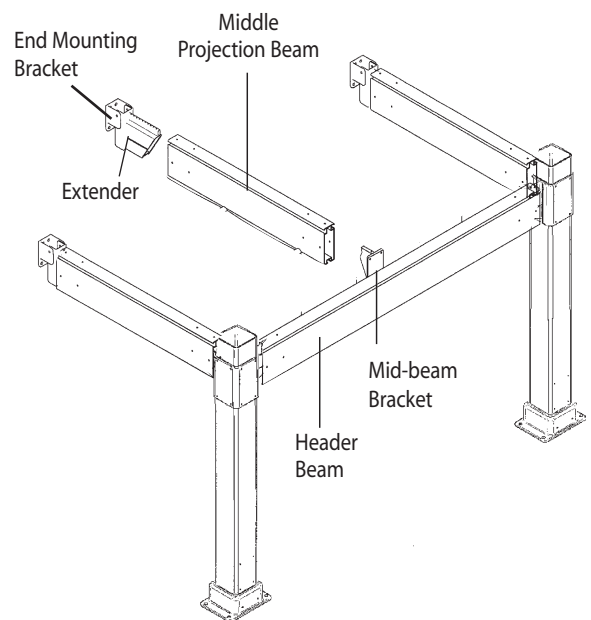
Step 14 Assemble Mid-beam Bracket

Measure inward from the centerline of the outside track 5'-4". Place the *Mid-beam Bracket* on the cross beam at this distance. This location should be directly across from the *End Mounting Bracket* on the house (step 1.) Secure the *Mid-beam Bracket* in place with four 7/8" Tapping Screws (A).



Step 15 Connect Middle Projection Beam

Insert the arm of the *Extender* and the arm of the *Mid-beam Bracket* into the *Middle Projection Beam*. Secure the beam by inserting two 7/8" Tapping Screws (A) into the beam at each end.

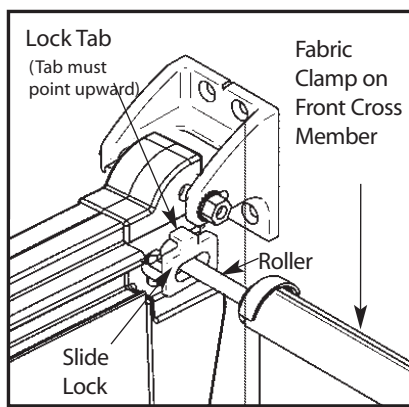


Step 16 Connect Column Base Plates

Lift the *Column Base* and use something to prop it up while you position the *Base Plate(s)*. Once in position pre-drill the holes and then secure the *Base Plate(s)* with the screws. Then put the *Column Base* back into its place at the bottom of the column.

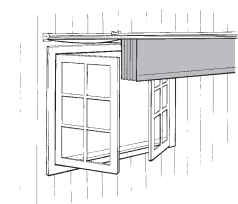
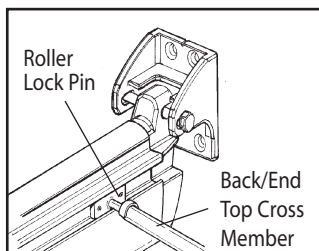
Step 17 Installing the Canopies

You can now insert the *Canopies*, starting at the end of the beams closest to the house. Insert the *Rollers* at the ends of each *Cross Member*; insert the front *Cross Member* first. The front *Cross Member* is the one that has a *Slide Lock* on each end. When inserting, ensure that the *Lock Tab* is pointing up as shown here. Be sure that the canopy is oriented so that the *Fabric Clamp* is facing up as shown, while the aluminum *Cross Member* is oriented down. Continue inserting the remaining rollers until the entire *Canopy* is up. Install remaining *Canopies* using the same procedure.



Step 18 Locking the end of the canopy

A *Roller Lock Pin* is provided to hold the *Cross Member* nearest the house in a fixed position. It will arrive already inserted in the canopies in the last cross member. Once in place, it can be secured with set screws. The locking pin will hold the last *Cross Member* firmly in place. Repeat on each track. (On masonry houses, it is necessary to leave a few inches between the canopy and the house to prevent scuffing of the canvas during windy weather).



If existing obstacles (casement windows, doors, etc.) keep canopies from retracting against the house, **extra canopy roller lock pins** can be put into the next rollers on the canopies. As a result, canopies will retract only to the desired position, clearing the obstacle. It will be necessary to insert a grommet hole in the locked out panel to allow the rain to drain.

Step 19 Installing the Top Lock Brackets

Pull each canopy section out to the position where you want it to end. Place a *Top Lock Bracket* on the top of the track in the orientation shown in Fig. 2A. Tighten set screw 1 on both sides of the *Top Lock Brackets* with the Allen wrench provided (I) . . . making sure that the *Top Lock Brackets* are completely pushed down on the track before tightening.

Test the snap-in *Top Lock Bracket* and tighten or loosen the adjusting screws as required for the desired tension. The recommended tension setting procedure is to turn the adjust screw clockwise until it stops, and then back the adjust screw out six full revolutions. Repeat this step on each lock mechanism.

Pull each canopy back to the fully retracted position. Place another *Top Lock Bracket* on each track at this point, in the orientation shown in Fig. 2A. Tighten the set screws.

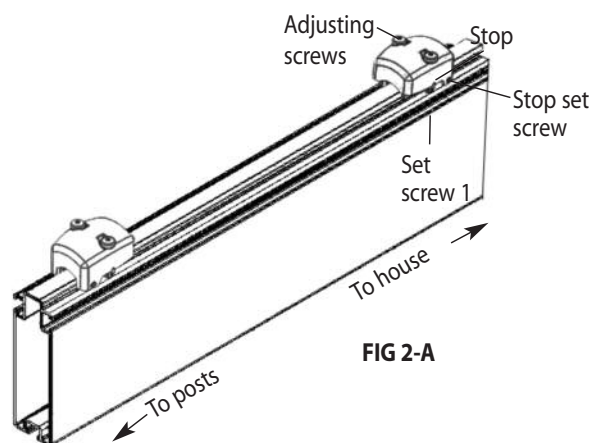


FIG 2-A

NOTE: The locking system is designed to release the canopies in high winds to protect the canopies. The adjusting screws can be used to adjust the tension. Do not over-tighten, as this could increase the chance for canopy damage in high winds.

Step 20 Adjusting the handle height (optional)

Each canopy has the handle overhang approximately 18" from the tracks. This drop handle is for opening and closing the canopies. However, if you must have less than an 18" overhang, follow the instructions below for shortening the handle.

1. Remove all screws in the handle and open the handle the entire width.
2. Cut the fabric to the desired length.
3. Carefully close the handle and re-insert the screws provided - do not overtighten.
4. Reinstall the top caps in the end of the handle.

Care and cleaning of your ShadeTree® Canopies

1. **ShadeTree® tracks** should be cleaned regularly to keep debris and dirt from accumulating and interfering with the rollers. Simply use a mild detergent with a small soft brush, such as a toothbrush, and gently wipe or brush along the inside of the tracks. To maintain a smoothly operating system, apply a paste car wax such as Kit™ or Turtlewax™ to the roller tracks. Allow the wax to dry then wipe off with a clean, soft cloth. **Note: Do NOT use oil or any wet lubricant, such as WD-40, on the tracks as it would attract more dirt.** For ultimate performance, use **ShadeTree® EasyRider Track Lubricant**.
2. **Fabric** should be cleaned regularly before substances such as dirt, roof particles, etc., are allowed to accumulate on and become embedded in the fabric. The fabric can be cleaned without being removed from the cross members. Simply brush off any loose dirt, roof particles, etc.; hose down and clean with a mild natural soap in lukewarm water (no more than 100° F.) Rinse thoroughly to remove soap. **DO NOT USE DETERGENTS!** For ultimate performance, use **ShadeTree® Canopy Cleaner Mold & Mildew Stain Remover**.
3. For stubborn stains soak the fabric for approximately 20 minutes in a solution of no more than 1/4 cup (2 oz.) natural soap per gallon of water at approximately 100° F. Rinse thoroughly in cold water to remove all of the soap. Note: Excessive soaking in bleach can deteriorate sewing threads. This method of cleaning may remove part of the water repellency and the fabric should receive an application of an air-curing water-repellent treatment, such as APCO, UNISEAL, SUNSEAL or similar products, if water repellency is a factor. For ultimate performance, use **ShadeTree® Canopy Cleaner Mold & Mildew Stain Remover** and **ShadeTree® Water Repellent**.
4. When washing or cleaning, **DO NOT SUBJECT TO EXCESSIVE HEAT** as the fabric will shrink. **DO NOT STEAM PRESS OR DRY IN ELECTRIC OR GAS DRYERS**, but allow to air dry.
5. In cases where canopies are taken down & stored, they should be cleaned and allowed to air dry, before being stored in a dry, well ventilated area.

How to **remove** ShadeTree® Canopies for **end-of season storage**:

1. Remove the **Top Lock Brackets** at the “retracted” end of each track (see step 16.)



- 2 Remove the **Roller Lock Pin** which holds the last Cross Member in a fixed position (see step 15.)



3. Then simply roll the **Cross Members** out of the “retracted” end of the track. The tracks can remain up year-round.

4. **If a canopy is dirty** and requires washing before storage, simply spread the canopy on a driveway or other flat surface. Wash, using a broom and bucket of warm water and a mild soap, such as Ivory Snow.

Be sure to rinse well by hosing with a clear water. Allow to air-dry completely in the sun before rolling canopies up for storage. **(Do not store wet canopies!)**

Here's a chance to earn **\$50!**

We regularly use pictures in our advertising materials. If you send us reproducible pictures of your new ShadeTree® canopy installation, and we use them in any of our advertising, we will send you \$50. Interesting before-and-after pictures will receive an additional \$50. Of course, attractive landscaping and patio furniture will be a factor in selecting pictures to be used. Architects, builders and installers will receive credit mentions in the advertising.