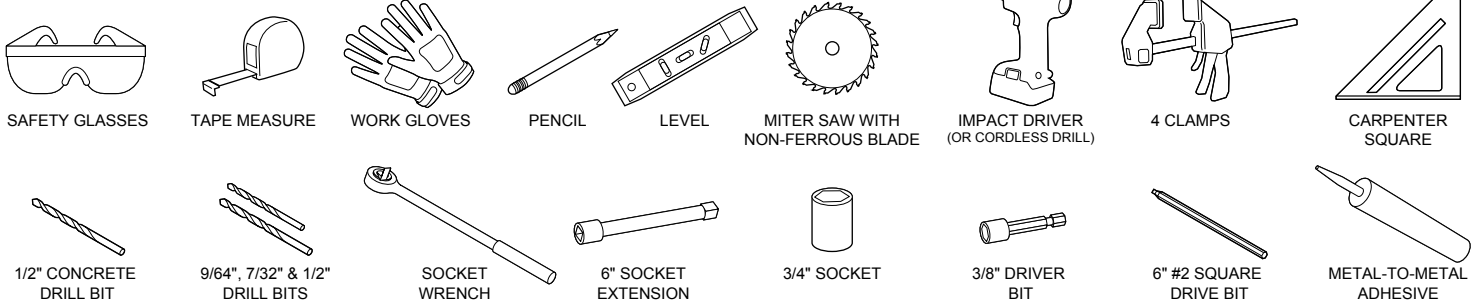


INSTALLATION INSTRUCTIONS

ALUMINUM FRAMING KITS

4' X 8' KITS – 5' X 11' KITS – 5' X 16' KITS

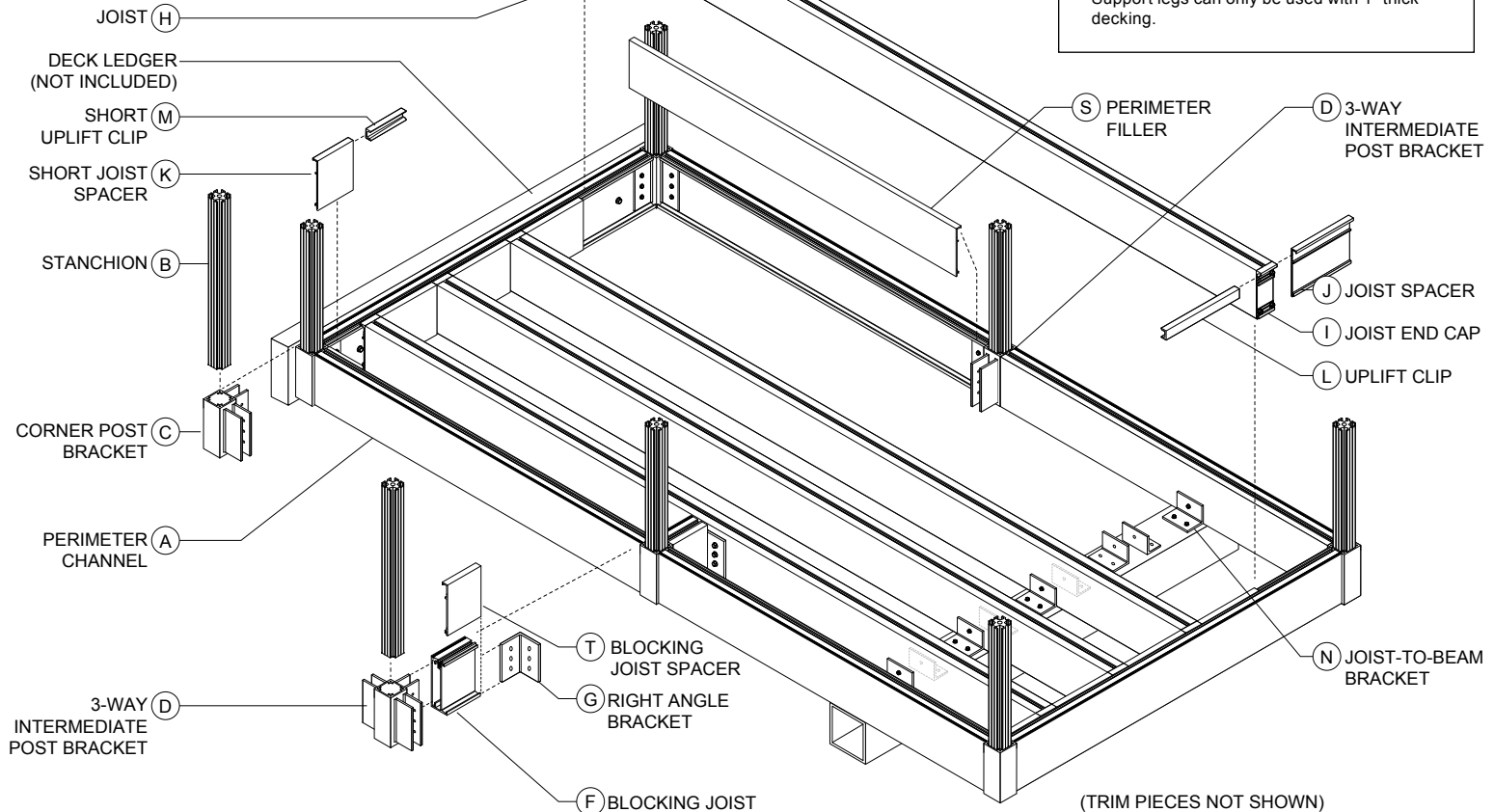
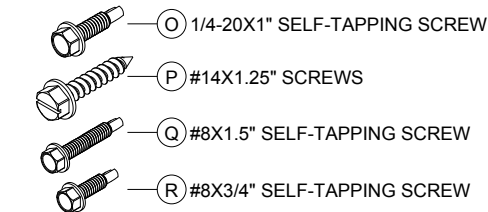
ITEMS REQUIRED FOR INSTALLATION



DECK ASSEMBLY OVERVIEW

(4' X 8' KIT SHOWN)

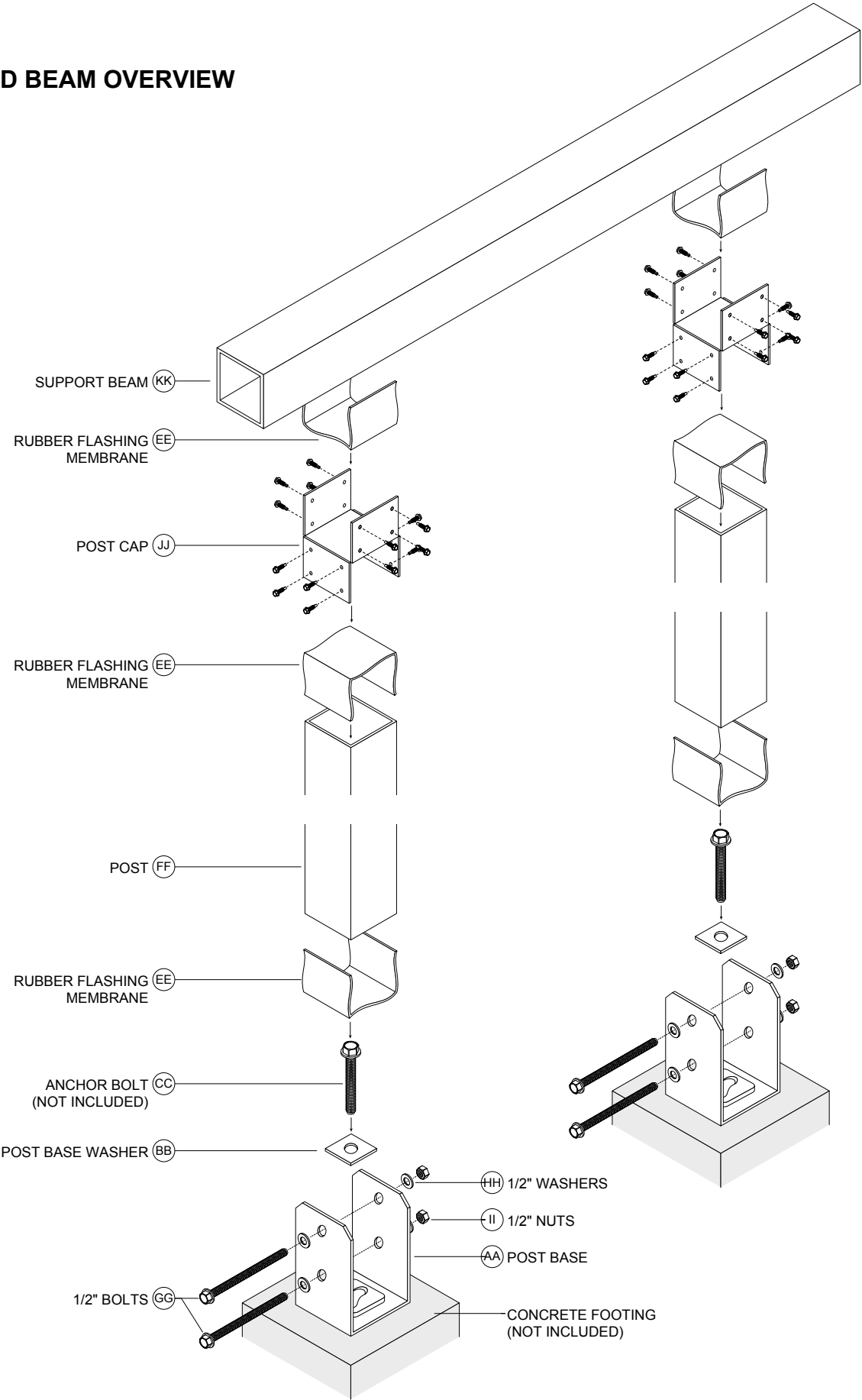
DECKING BOARDS
(SOLD SEPARATELY)



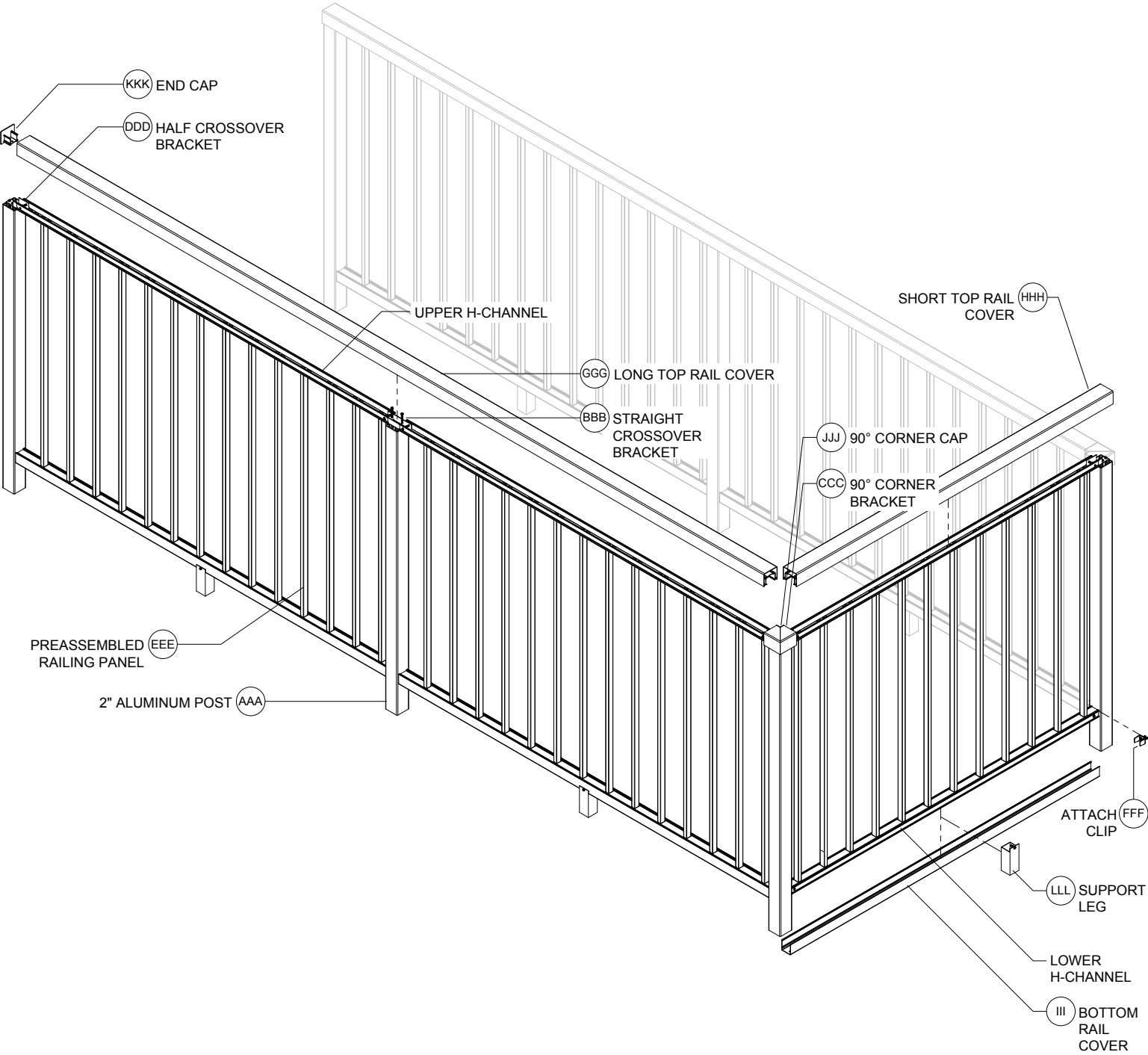
IMPORTANT NOTES:

- These Instructions cover installation of Aluminum Framing Kits. Please visit Manufacturer's website for other instructions and products.
- These instructions cover installation of the 4' x 8' kits, 5' x 11' kits and 5' x 16' kits. Most illustrations are based on the 4' x 8' kits. Add extension kits for larger configurations.
- If the deck is 5' or less in height, use 4" x 4" posts and beams. If it is higher than 5', use 6" x 6" posts and beams. Plan ahead to choose the correct beam length for the deck size.
- It is the responsibility of the installer to meet all local code requirements and obtain all required building permits. The installer should determine and implement appropriate installation techniques for each installation situation. The manufacturer or its reseller shall not be held responsible for improper or unsafe installation.
- Support legs can only be used with 1" thick decking.

POST AND BEAM OVERVIEW



RAILING OVERVIEW



A SECURE PERIMETER CHANNEL TO DECK LEDGER

1. Hold Perimeter Channel against Deck Ledger and align according to plan drawings. TIP: Use two installers for this step or somehow support Perimeter Channel to hold it in place. (Dia. 1)
2. Measure and mark perimeter channel for locations of mounting hardware. **IMPORTANT:** Consult local building codes for correct hardware and placement of fasteners. Use only CODE APPROVED fasteners (lag bolts, screws, etc.). Check for proper flashing on ledger. **NOTE:** Make sure head of ledger fasteners are at least 1.375" below the top of the perimeter channel to provide clearance for Uplift Clips.
3. Remove Perimeter Channel and pre-drill holes. Realign Perimeter Channel and attach to Deck Ledger. (Dia. 1)

Important Note: Ledger needs to be completely straight, place shims behind ledger if building being attached to is not completely straight.

B POST BASE INSTALL

1. Use plan drawings and building structure to locate center of post in poured footing (or other post footing).
2. Drill a 1/2" hole, then screw in a 1/2" concrete anchor
3. Place a Post Base on concrete anchor, followed by a 1/2" galvanized washer and nut (Dia. 2) For 4" posts, use a Simpson Strong Tie ABU44RZ; for 6" posts, use ABU66RZ.
4. Tighten nut by hand, then center and square up the Post Base according to plan drawings and building structure
5. Tighten nut using a 3/4" socket wrench
6. Repeat process for second post base

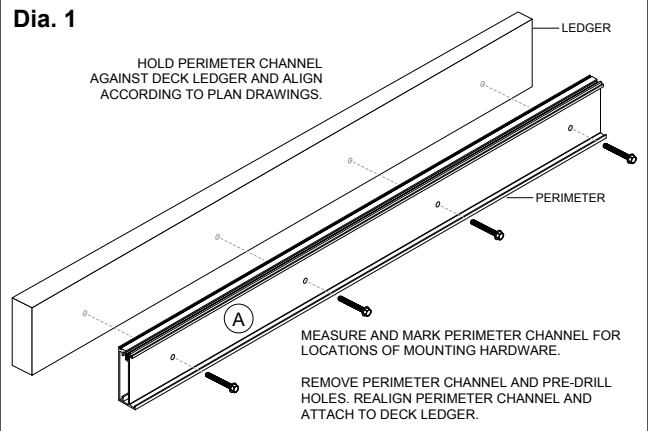
Important Note: confirm location of all posts according to plan drawings and structure

C INSTALL POSTS

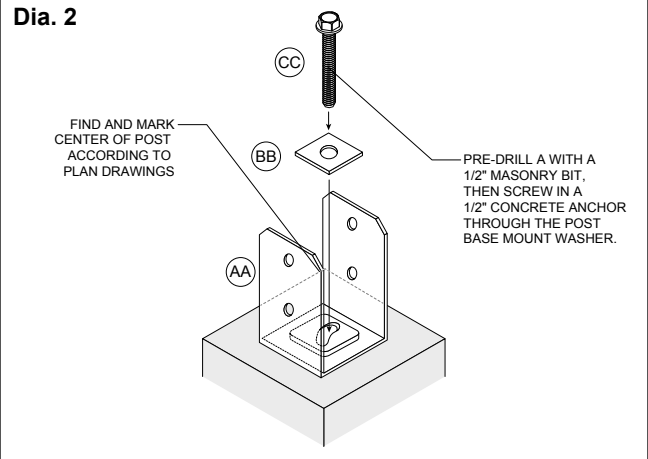
1. Cut post to correct height according to structure and plan drawings. Make sure to accommodate the added height of the Post Base Mount.
2. Remove wax paper from Rubber Flashing Membrane to expose adhesive. Then stick onto the top of the post base (Dia. 3).
3. Insert post into post base.
4. Pre-drill into post through one post base hole using a 1/2" drill bit. **Caution:** Always wear safety glasses when drilling into aluminum structure.
5. Insert one 1/2" bolt and washer through pre-drilled hole. For 4" posts, use 1/2"-13 X 5.5" bolts; for 6" posts, use 1/2"-13 X 7.5" bolts. Add a washer and nut on the bolt and snug gently with a 3/4" wrench or socket.
6. Use a level to plum post
7. Pre-drill second hole and insert second bolt and washer, followed by another washer and nut. (Dia. 3).
8. Tighten both nuts.

Important Note: confirm height of all posts by leveling with first post and structure.

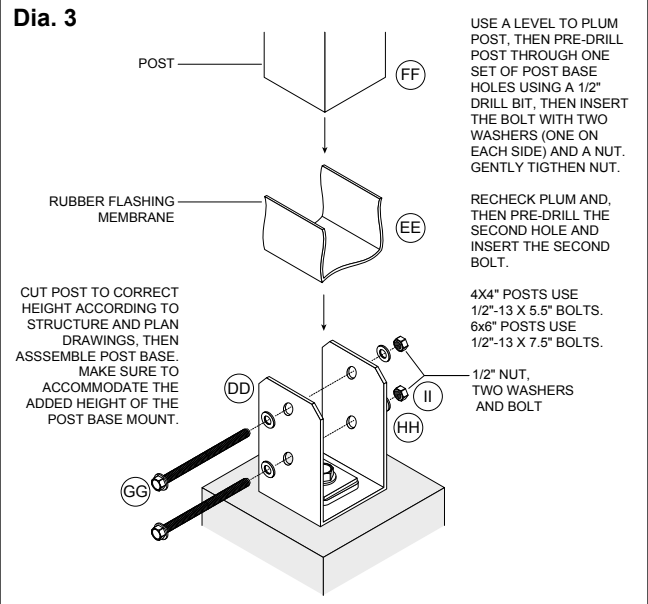
Dia. 1



Dia. 2



Dia. 3



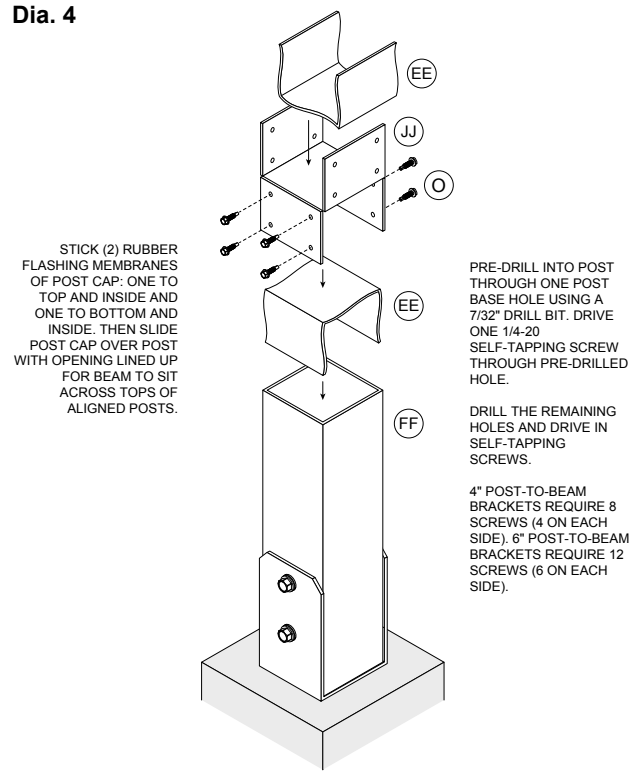
D INSTALL POST CAPS

1. Stick (2) Rubber Flashing Membranes of post cap: one to top and inside and one to bottom and inside. Then Slide Post Cap over post with opening lined up for beam to sit across tops of aligned posts. (Dia. 4)
2. Slide Post Cap over post with opening lined up for beam to sit across tops of aligned posts.
3. Pre-drill into post through one post base hole using a 7/32" drill bit.
4. Drive one 1/4-20 Self-Tapping Screw through pre-drilled hole.
5. Drill the remaining 7 holes and drive in Self-Tapping Screws.
6. Repeat process for second post.

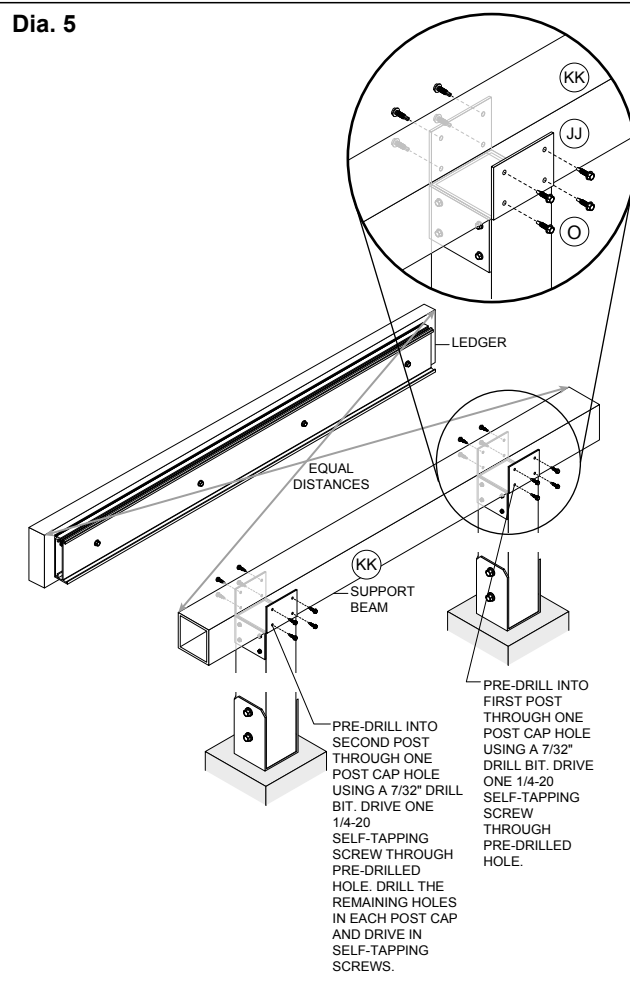
E SUPPORT BEAM INSTALL

1. Set Support Beam into the top of the post caps.
2. Square up the Support Beam to the Ledger by measuring diagonal distances from outside corner to outside corner and adjusting side-to-side location of Support Beam until diagonals are equal. (Dia. 5)
TIP: gentle taps on the end of the beam help to move it into place.
3. Hold Support Beam in place and pre-drill into first post through one post cap hole using a 7/32" drill bit. Drive one 1/4-20 Self-Tapping Screw through pre-drilled hole (Dia. 5)
4. Pre-drill into second post through one post cap hole using a 7/32" drill bit. Drive one 1/4-20 Self-Tapping Screw through pre-drilled hole.
5. Drill the remaining 7 holes in each post cap and drive in Self-Tapping Screws.

Dia. 4



Dia. 5

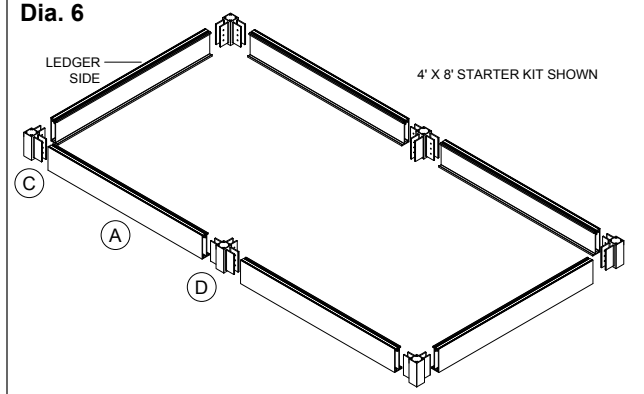


F ASSEMBLE DECK PERIMETER

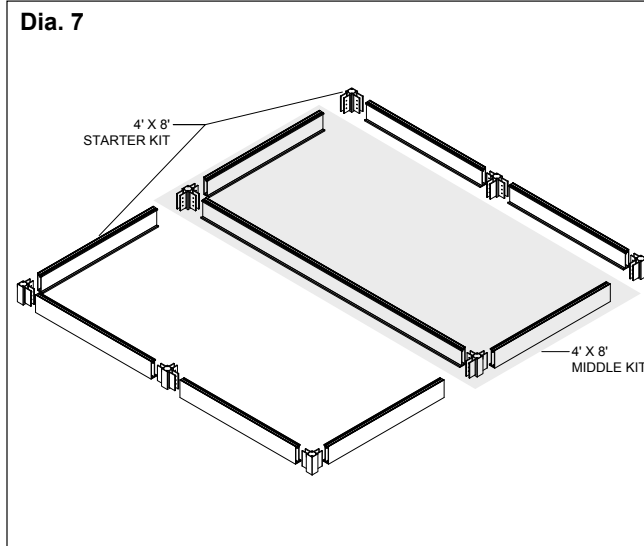
One side of the perimeter should be secured to the deck ledger before these steps. Plan out the deck perimeter. **TIP:** lay out the entire perimeter on the ground to see how everything fits together.

1. If only using one of the starter kits, the plan is fairly straightforward: simply reference part names and place post brackets and perimeter channels in the rectangular shape. (Dia. 6)
2. If adding one or more middle kits to a starter kit, then use the one 94" perimeter, both 46" perimeters and both three-way post brackets from each of the middle kits. The two 46" perimeters, two corner brackets, and one three-way bracket from the starter kit will be moved to the end of the last middle kit. (Dia. 7)
3. Slide stanchion down into a corner post bracket until it is flush with the bottom of the bracket (Dia. 8). Hold in place while pre-drilling through one bracket hole and into stanchion using a 7/32" drill bit. Add screw wax to one #14 x 1.25" Self-Tapping Screw and drive through pre-drilled hole using an impact driver. Use short bursts to avoid shearing screw head. Repeat for an adjacent bracket hole so there are two (2) screws per stanchion. If applicable, determine location of stairs (not included). If stairs are located in of the openings next to the structure, a stanchion is not needed in the post bracket next to the structure.
4. Repeat process for all corner and intermediate post brackets which will receive a hand rail post. All corner and intermediate post brackets require two screws for each stanchion.
5. Slide end and side perimeter channels over the appropriate post brackets (Dia. 9). **TIP:** Try to get the corner and 3-way post brackets as tight to the perimeter as possible. Drive one 1/4-20 Self-Tapping Screw through pre-drilled hole. Repeat for all remaining bracket holes. All post brackets must be secured to perimeter with six screws.

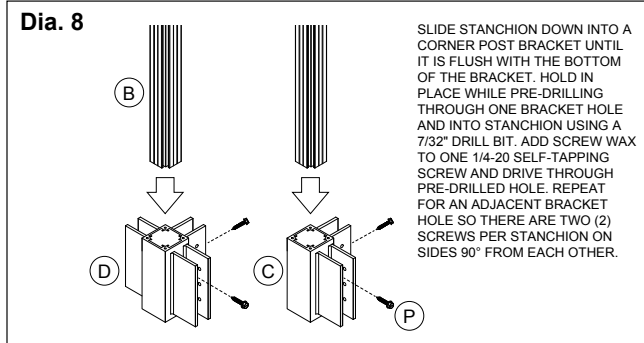
Dia. 6



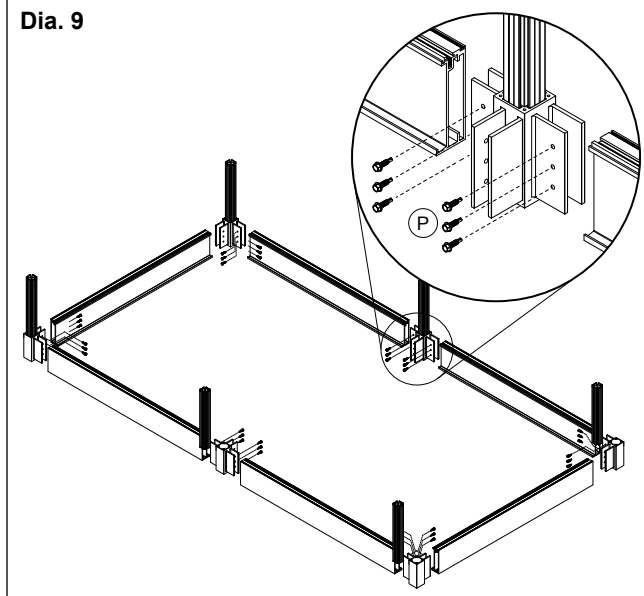
Dia. 7



Dia. 8



Dia. 9

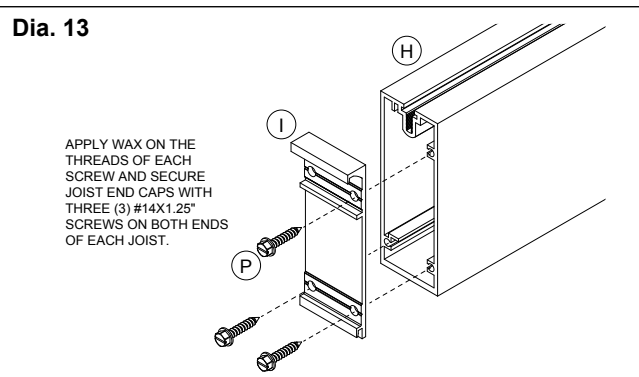
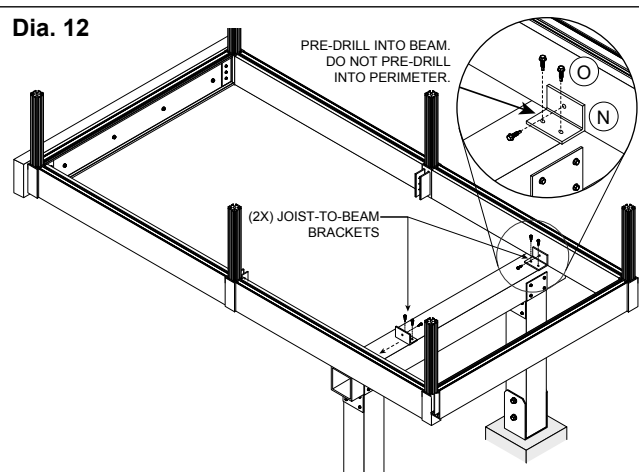
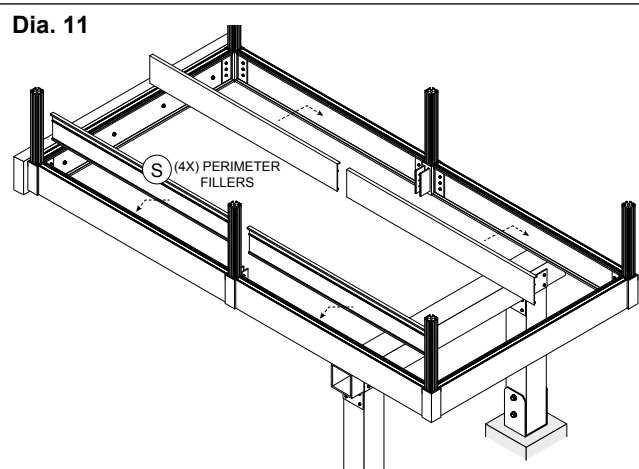
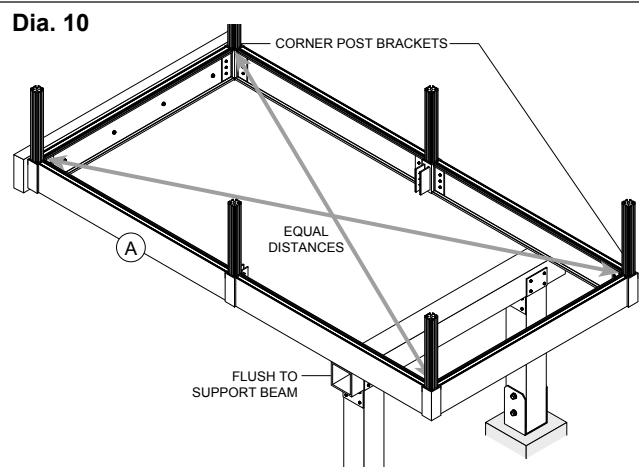


G SECURE PERIMETER TO BEAM

1. Square up the assembled Perimeter by measuring diagonal distances from outside corner to outside corner and adjusting side-to-side location of the outside perimeter until diagonals are equal (Dia. 10). If adding one or more middle kits to a starter kit, refer to Dia. 7 before assembly.
2. Slide four Perimeter Fillers down onto both long Perimeters (two on each side) (Dia. 11).
3. Place two Joist-to-Beam Brackets on top of the beam and inside the Perimeter (one on each side) (Dia. 12).
4. Pre-drill into beam through one Joist-to-Beam hole using a 7/32" drill bit and drive one 1/4-20 Self-Tapping Screw through pre-drilled hole. (Dia. 12)
5. Pre-drill into beam through second Joist-to-Beam hole using a 7/32" drill bit and drive one 1/4-20 Self-Tapping Screw through pre-drilled hole.
6. Drive a third 1/4-20 Self-Tapping Screw through pre-drilled hole into the Perimeter. The Perimeter material is thinner and does not require pre-drilling.
7. Repeat this process on the other perimeter that rests on the beam (one bracket per perimeter).

H ASSEMBLE JOISTS

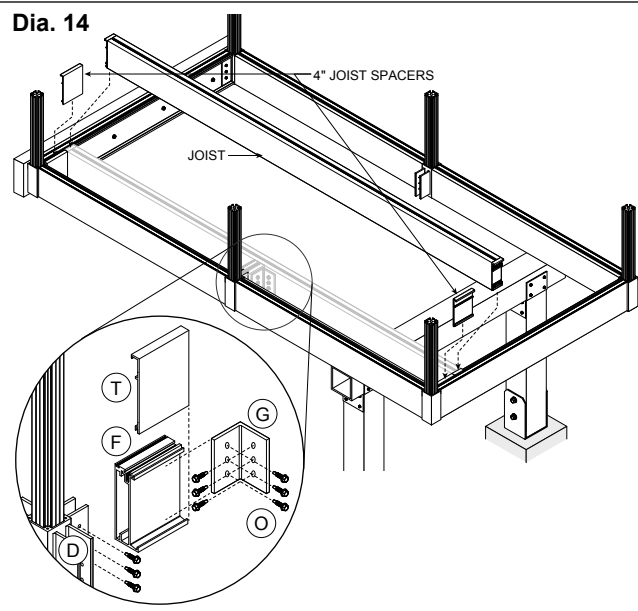
Position Joist End Caps on both ends of each Joist and secure with three (3) #14x1.25" screws. Note: before using, apply wax on the threads of each screw (included in kits). (Dia. 13) Use an impact driver, being careful not to overtighten screws. Make sure top and sides of end cap are flush with side and top of joist.



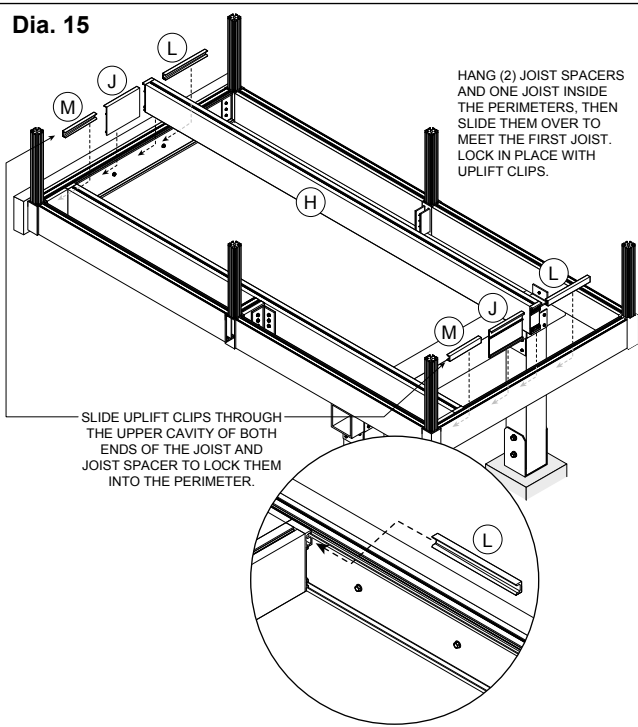
I INSTALL JOISTS

1. Position Blocking Joist on Three-Way Post Bracket so the completely flat side of the Blocking Joist is flush with the square portion of the Three-Way Post Bracket. Make sure the top of the Blocking Joist is flush with the top of the Three-Way Post Bracket. Using (3) 1/4-20 Self-Tapping Screws, secure the Three-Way Post Bracket to the Blocking Joist. (Dia. 14)
2. Hang a 4" Joist Spacer on the Perimeter Channel against the structure, and the Rim Joist Perimeter Channel opposite of the structure, ensuring both the top and bottom flanges of the Joist Spacer are locked into the perimeter channel. Slide these Joist Spacers all the way to the side that you just attached the Blocking Joist on. (Dia. 14)
3. Hang one joist next to the 4" joist spacers. Using the inside of the blocking joist as a guide, mark a line on the joist. Remove the joist, and attach the Right Angle Bracket onto the Joist at the marked line using (3) 1/4-20 Self-Tapping Screws. TIP: Make sure the angle bracket is in the correct orientation, and also low enough from the top of the joist to not interfere with the blocking joist. Rehang the joist on the Perimeter Channels and slide it over to the joist spacers while guiding the angle bracket around the Blocking Joist. Once the Joist is touching the joist spacers, and the Blocking Joist is touching the joist, ensure the top and bottom of the Blocking Joist is flush with the top and bottom of your Joist. Attached the angle bracket to the Blocking Joist using (3) 1/4-20 Self-Tapping Screws. (Dia. 14)
4. Slide 4" Uplift Clips (M) into cavity of Joist and Joist Spacer to lock them onto the Perimeter Channel. The C shape of the Uplift Clip should be facing towards the Joist so that the Uplift Clip avoids hitting the End Cap screw heads. The Uplift Clips are slightly shorter than the combined width of the Joist and Joist Spacer and should slide just past the outside edge of the Joist. (Dia. 15)
5. If you only have one AFS Residential kit, repeat steps 1-4 on the other outside perimeter channel. Then continue installing Joist Spacers, Joists, then Uplift Clips until all Joist Spacers and Joists are installed. (Dia. 15 and Dia. 16A) If you are adding additional kits onto the starter kit, put in your Joist Spacers next to the installed joist, followed by another joist, then another Uplift Clip. (Dia. 16B) Repeat until you have 2 Joist Spacer spots and one Joist remaining. Install a Joist Spacer in the LAST Joist Spacer, then install your last joist next to that. (Dia. 17) Install your last Uplift clips to secure the Joist and Joist Spacers, and install your last Joist Spacer. Note: Your last Joist Spacers will not be held down by Uplift Clips (Dia. 16A), but will be held down once deck boards are installed. Repeat this process on the next AFS kit. Your last AFS kit will have a handrail post on the outside edge. Repeat Step 3 on this kit starting on side with handrail, then finish installing remaining Joist Spacers, Joists, and Uplift Clips.

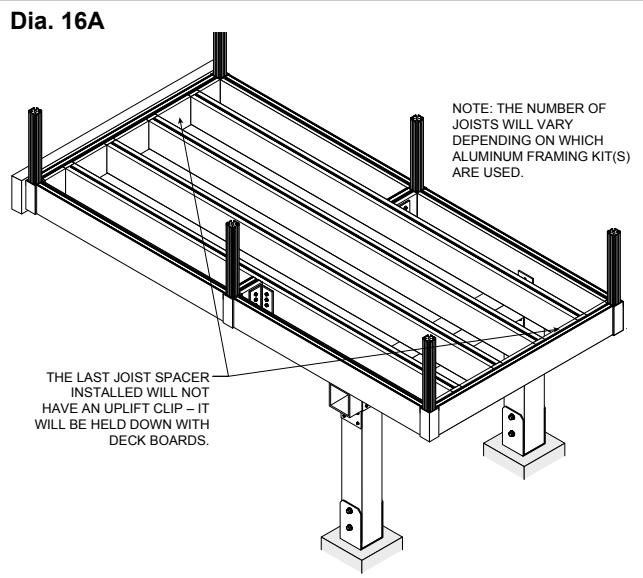
Dia. 14



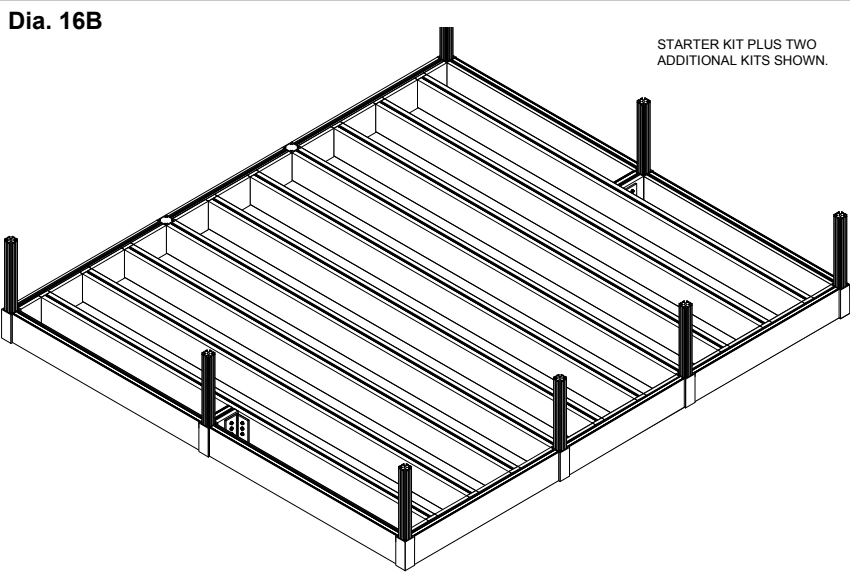
Dia. 15



Dia. 16A



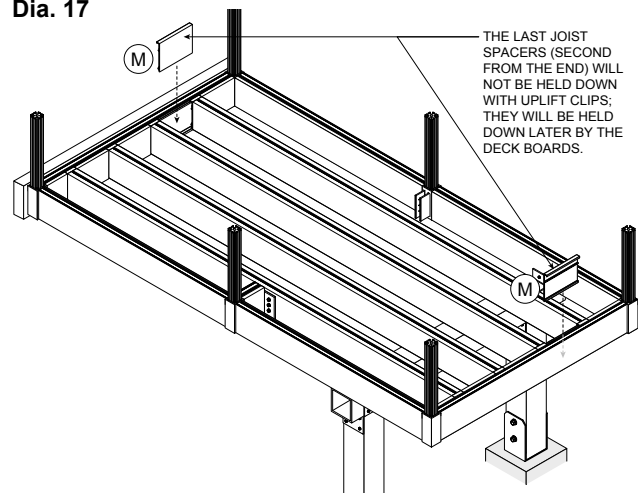
Dia. 16B



J SECURE JOISTS TO BEAM

1. After all Joists are installed, place one Joist-to-Beam Bracket on top of the beam and next to the first Joist. The bracket side with two pre-drilled holes will face down to the Beam, the side with one hole will butt up to the Joist. (Dia. 18)
2. Pre-drill into beam through one Joist-to-Beam hole using a 7/32" drill bit and drive one 1/4-20 Self-Tapping Screw through pre-drilled hole.
3. Pre-drill into beam through second Joist-to-Beam hole using a 7/32" drill bit and drive one 1/4-20 Self-Tapping Screw through pre-drilled hole.
4. Drive a third 1/4-20 Self-Tapping Screw through pre-drilled hole into the Joist. The Joist material is thinner and does not require pre-drilling.
5. Continue this process to secure all Joists to the Beam on both sides (two brackets per Joist), where possible.

Dia. 17

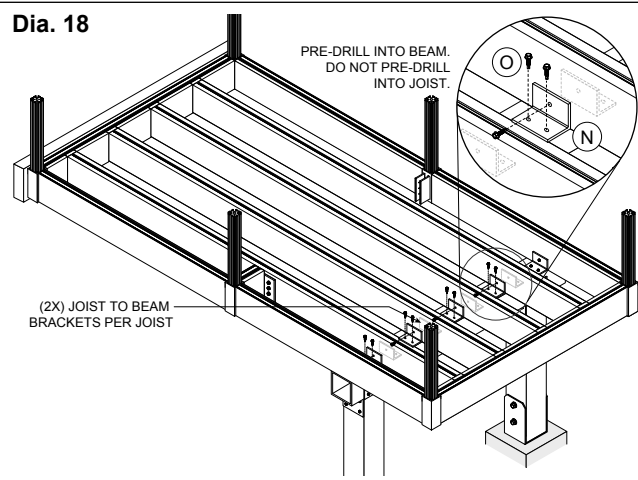


K INSTALL DECK BOARDS

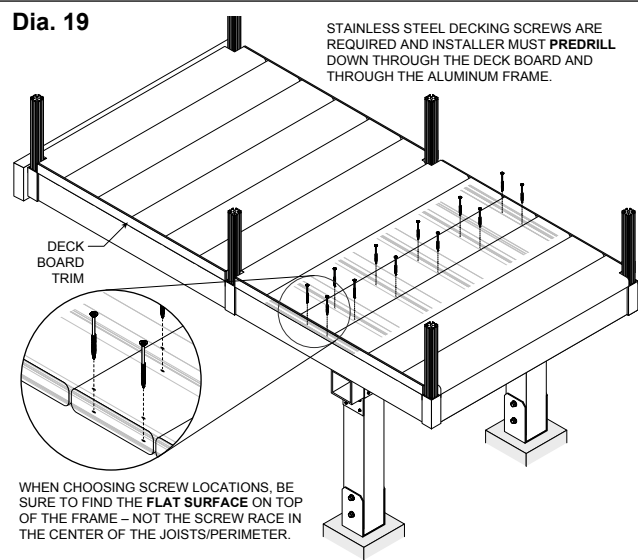
Deck boards are NOT included in Aluminum Framing kits and must be purchased separately. Virtually any decking may be used (composite, PVC, or traditional wood).

1. Install deck board trim into the groove located on the top outside edge of perimeter channels. Flat trim on sides to cover cut end of deck boards. Starter trim on outside rim just opposite of the structure. First grooved deck board fits into starter trim leg. Note: First grooved deck board groove may need to be modified to fit starter trim. (Dia. 19)
2. Install Deck Boards evenly spaced. All deck boards should be screwed from the top down and according to manufacturer's specifications. Stainless steel decking screws are required and installer must pre-drill down through the deck board AND through the aluminum frame with a 9/64" drill bit. NOTE: Drill bit size may vary depending on fastener manufacturer. When choosing screw locations, be sure to find the FLAT SURFACE on top of the frame – NOT the screw race in the center of the joists/perimeter. (Dia. 19)
3. Last deck board may need to be ripped to fit at structure side. Be sure to flash deck according to local building codes.

Dia. 18



Dia. 19



L INSTALL 2" POSTS

Slide 2" posts over post stanchions, making sure the screw chases are in-line with where railing panels will be placed. (Dia. 20) Corner Posts can face either direction. Posts do not require fasteners at this time – they will be secured to stanchions later in the process.

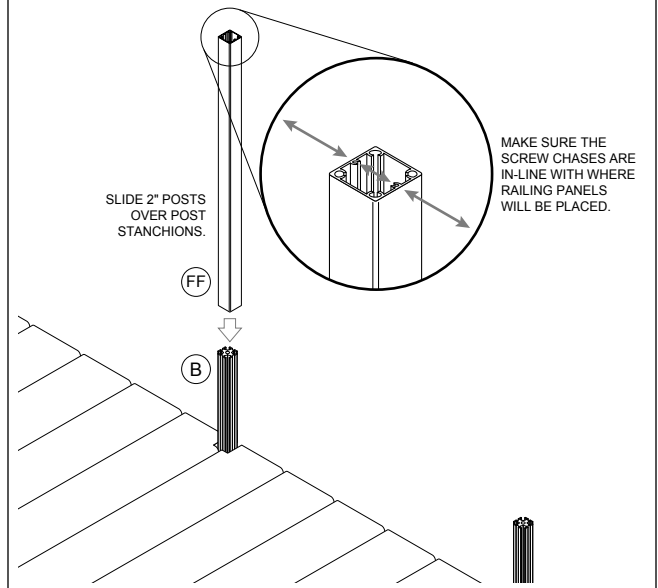
M INSTALL CROSSOVER BRACKETS ON POSTS

1. With #2 square drive bit, fasten straight crossover brackets and half crossover brackets (included) onto posts with (2) - #8x1.5" Self-Tapping Screws. (Dia. 21A) Half crossover brackets are used at the end of Top Rails and end caps will be added later.
2. Install corner brackets onto corner posts with (2) - #8x1.5" self-tapping screws. (Dia. 22)
3. NOTE: In all crossover, half crossover and corner brackets, self-tapping screws must be installed in screw chases in-line with panels.

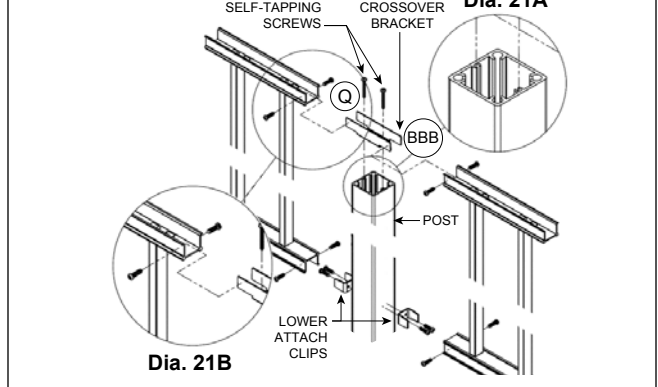
N CUT DECK PANELS

1. Starting at one end of railing system, clamp or hold panel against post, adjust for equal end spacing. (Dia. 23)
2. Mark the top and bottom rails.
3. Cut panel 1/16" less than opening size.
4. Clean cut areas and apply touch-up paint on exposed ends.

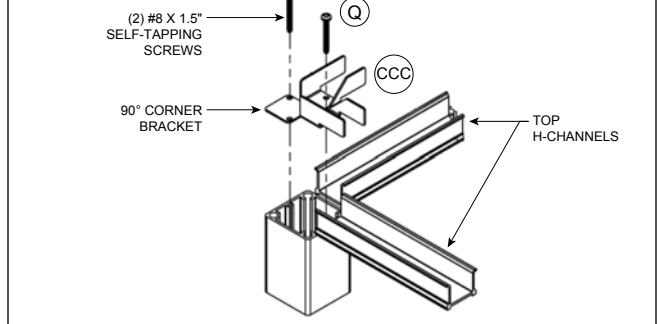
Dia. 20



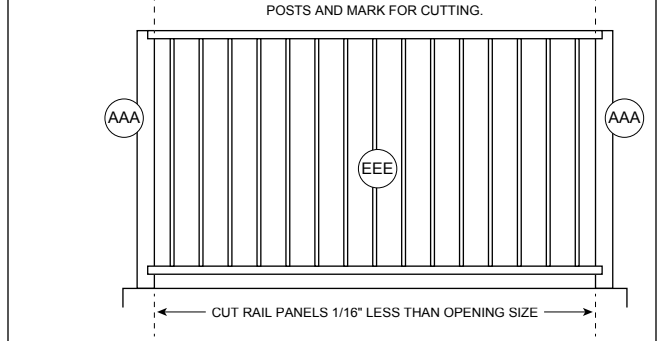
Dia. 21



Dia. 22

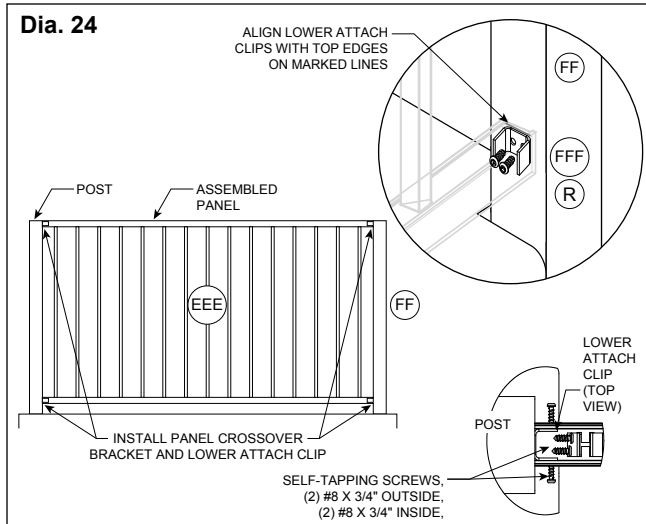


Dia. 23



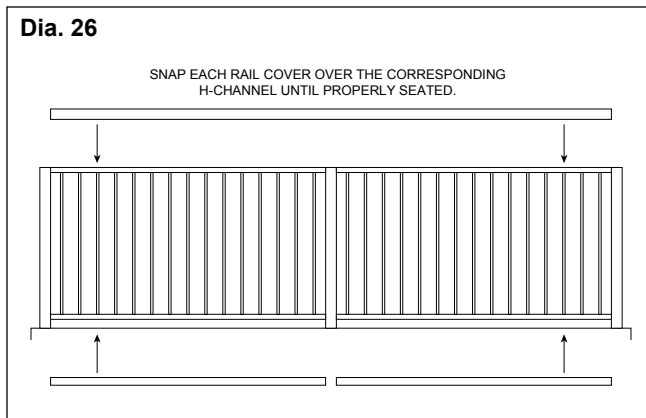
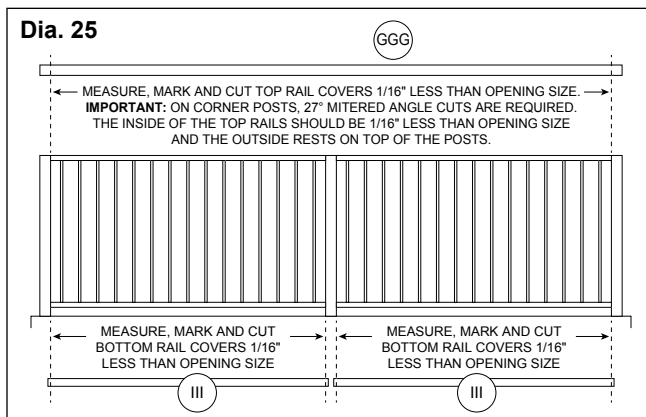
O SECURE DECK PANELS TO POSTS

1. Slide the panel in between the posts and up until the inside of the H-channel hits the bottom of the crossover bracket.
2. Use clamps to hold the panel in place near the lower H-channel. Then mark a line on the post on the inside tops of the lower H-channel.
3. Remove the panel and align tops of the lower attach clips on the marked lines. Center clips on posts, mark and pre-drill holes with a 1/8" bit. TIP: Drill at a slight angle towards the outside of the post to hit thin walls of stanchion. Apply screw wax to (4) - #8x3/4" self-tapping screws and secure the lower attach clips to the posts (two screws in each clip).
4. Loosen #8x1.5" screws in crossover brackets and lift crossover brackets up to allow for panel to be installed while sliding panel onto two lower attach clips. Lower crossover brackets into upper H-channels and tighten crossover bracket screws (Dia. 21 and 21B)
5. Using (8) - #8x3/4" self-tapping screws, secure the upper H-channel to the crossover brackets and lower H-channel to the lower attach clips. (Dia. 21 and 24)



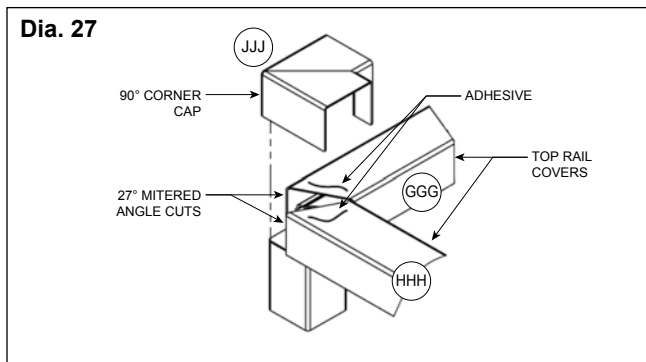
P CUT AND INSTALL TOP AND BOTTOM RAIL COVERS

1. For Top Rail Covers, measure opening from corner post to corner post. Top rails terminating at a 90° corner post should be mitered at 27°, and should be cut to length to not interfere with bracket screw head. (Dia. 27) TIP: test fit with corner cap before cutting to ensure cut is hidden under corner cap. At top rail locations which meet an end post (half crossover bracket), top rail covers should be cut 1/16" back from the OUTSIDE of the end post (the Top Rail Cover crosses over all but the last 1/16" of end posts).
2. Measure between posts at the bottom. (Dia. 25)
3. Cut bottom rail covers 1/16" less than opening.
4. Clean cut areas and apply touch-up paint on all exposed metal.
5. Snap each rail cover over the corresponding H-channel until properly seated. (Dia. 26) TIP: If top rail cover will not seat, try installing support legs. Then apply pressure to cover starting from one end.



Q INSTALL RAILING CORNER CAPS AND END CAPS

1. Before applying adhesive, test corner caps to ensure proper fit.
2. Apply metal-to-metal adhesive to top rail ends. Press firmly down on corner caps for as long as recommended by adhesive manufacturer. (Dia. 27)
3. Insert Top Rail End Caps into end of Top Rails. Gentle bumping with the palm of a hand will push the end caps into the top rail. Metal-to-metal adhesive may be used as well.



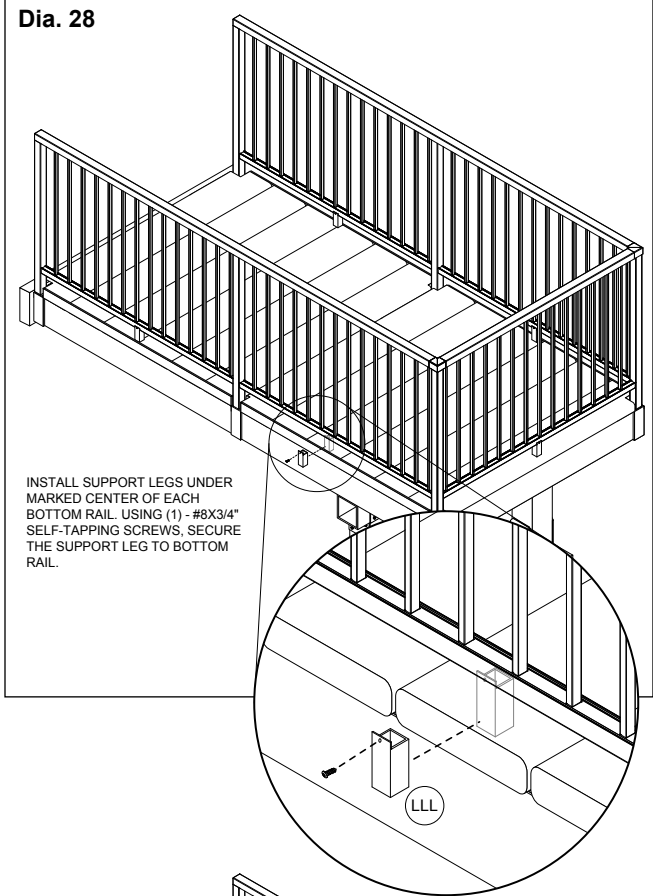


INSTALL SUPPORT LEGS

1. Install support legs under center of each bottom rail mark location (Dia. 28) **NOTE:** Support legs can only be used with 1" thick decking.
2. Using (1) - #8x3/4" Self-tapping screws, secure the support leg to bottom rail. (Dia. 28)

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Dia. 28



STARTER KIT PLUS TWO ADDITIONAL KITS SHOWN.

