



EVOLUTION
STEEL DECK FRAMING

**Installation Instructions for Railing Post to
Frame Attachments**

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About Evolution Steel Deck Framing

Evolution Steel Framing is uniform and straight, so pieces are simple to square and won't twist, warp, rot, crack or burn like wood. The interlocking joist and ledger system lets you build sturdy, safe decks with less labor. Our powder-coating offers increased corrosion resistance and a more finished look. If you can build with wood, you can build with Evolution Steel Framing!



FAQ's

How do I start planning to build with Evolution Steel Deck Framing?

Evolution Steel Deck Framing contains all the parts you need to install a basic deck, including the fasteners. Similar to wood at a hardware store, the system also contains many beam and joist length choices. You design an Evolution Frame the exact same way you design a traditional wood framed deck. The span capabilities of the Evolution system are greater than wood, however, so you need to reference the Evolution span charts to determine your member spacing.

How do I cut Evolution Steel Framing?

Evolution Steel Framing cuts like wood, the only difference being that you'll need a saw capable of cutting steel as well as a steel cutting blade. Reference the Preparation and Planning section for more specific information.

Can the Evolution Steel Framing be used when angles and curves are involved?

Yes. There are parts to address many different instances when angles are involved. 45 degree brackets are available for joists, and there's a curved rim joist option for decks with a radius.

Are there different color options for Evolution Steel Deck Framing?

No. All the Evolution Framing parts come with a Black Sand powder coating finish. There is also a non-powder coated galvanized version (joist parts only) that is a lighter gauge material designed for ground-level applications.

What tools are needed to install Evolution Framing?

Reference the Tools needed in Tools section.

Can Evolution Framing be installed around salt water?

Evolution Steel Deck Framing cannot come into direct contact with salt water, nor be installed within 1 mile of a body of salt-water. Doing so will void the warranty.

Can Evolution Framing be installed around fresh water?

Evolution Steel Deck Framing products can not be installed under the surface of, within the flood zone of, or exposed to the constant spraying of any body of water. Doing so will void the warranty.

Are there any special Maintenance Requirements when using Evolution Framing?

When installed properly, Evolution Framing is very low maintenance. It's galvanized as well as powder coated which protects it extremely well from the outdoor elements. Reference the Maintenance Requirements of this manual.

If I run into problems or have questions is there somebody I can call?

Yes, if you purchased from a dealer you can always contact them. Or, you can contact Fortress Framing directly during normal business hours at 866-323-4766 or email sales@fortressbp.com.

Are there any special fasteners or brackets required?

Fortress Framing offers all the parts you'll need to build a basic deck with the Evolution Steel Framing System.

If the Evolution Framing System is scratched or scuffed, can I touch it up myself?

Yes, the Fortress Black Sand Touch-Up Paint can be used to spray cut ends and any scratches or scuffs on the framing. Reference the Maintenance Requirements section.

IMPORTANT INFORMATION

It is the responsibility of the installer to meet all code and safety requirements, and to obtain all required building permits. The framing, deck and railing installer should determine and implement appropriate installation techniques for each installation situation. Neither The Fortress Company nor its distributors shall not be held liable for improper or unsafe installations.

Personal Protection Equipment (PPE) must be worn anytime you're using power tools and working with Evolution Steel Deck Framing. Eye protection, hearing protection, closed-toe shoes, gloves, long sleeves, and pants must be worn to keep yourself safe.

As the steel framing parts are cut, all metal shavings and/or chips must be removed from inside the Evolution Framing parts. At the end of a work period, all steel shavings and/or chips must be cleaned off the jobsite. Not doing so could result in the staining of surrounding surfaces.

As the steel framing parts are cut, DO NOT allow metal shavings and/or chips to get dropped or blown into a pool, hot tub, or any other body of water. Staining could occur if this were to happen.

Fortress Framing does not cover all possible installation scenarios within these instructions. In some cases, it may be necessary for you to consult a professional engineer, building code official, or local dealer. In addition, it may become necessary to use brackets other than Fortress' when more complex installations take place.

In most cases, Evolution parts are manufactured with pre-drilled holes in the brackets. ALL of these holes must be filled with the Evolution #12 3/4" Black Self-Tapping Screw.

Preparation & Planning

WARNING!

Personal Protection Equipment (PPE) must be worn anytime you're using power tools and working with Evolution Steel Deck Framing. At a minimum, eye protection, hearing protection, gloves, closed-toe shoes, long sleeves, and pants must be worn for safety.

Personal Protective Equipment



Recommended Tools

Metal-Cutting Saw - Circular Saw (7 1/4 or larger)



Metal-Cutting Blade



Drill or Impact Driver



Speed Square



Pencil or Black Permanent Marker



Tape Measure



Preparation & Planning

5/16 MAGNETIC Nut Driver



Mallet or Hammer



9/16" Socket, Ratchet, and Extension



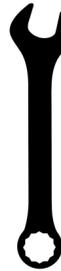
Step Bit



Fortress Black Sand Touch-Up Paint



9/16" Wrench



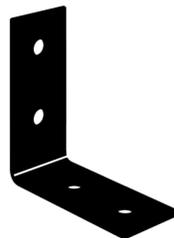
Quick Clamps



3/8" x 8" Long Galvanized Drill Bit for Metal Cutting



5-7/8 in. x 5-7/8 in. x 1-1/2 in. 12 Gauge Angle Bracket



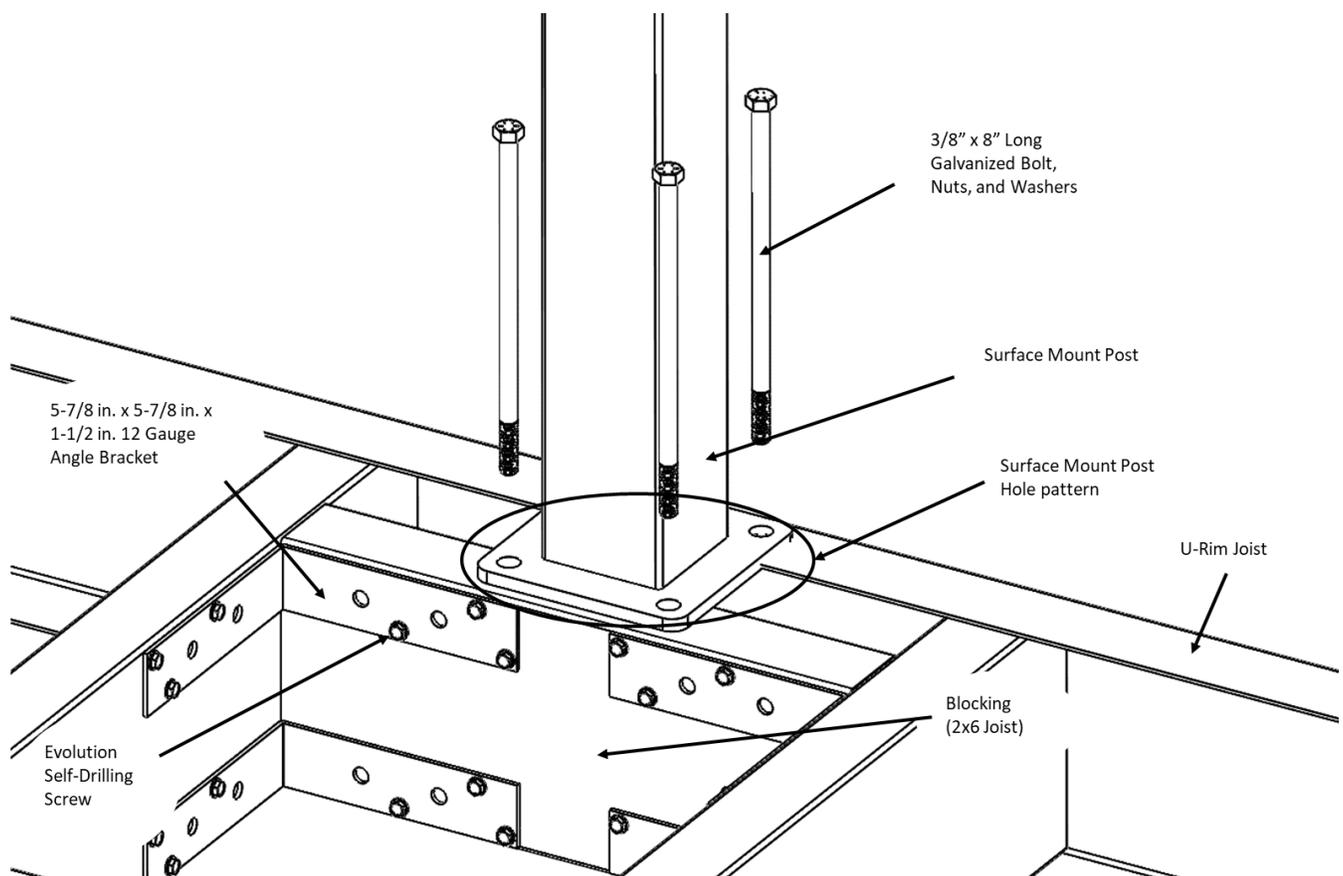
3/8" x 8" Long Galvanized Bolt, Nuts, and Washers



Post to Frame Connections

Surface Mount Post—Deck Rim

TOP VIEW



Cut blocking using the Evolution 2x6 Joist. Position and install blocking according to the required hole spacing of the surface mount post. Install with 5-7/8 in. x 5-7/8 in. x 1-1/2 in. 12 Gauge Angle Bracket using the Evolution Self-Drilling Screw.

INSTALLATION ALERT: Install deck boards **BEFORE** positioning surface mount post and marking holes.

Position the surface mount post and mark the hole location

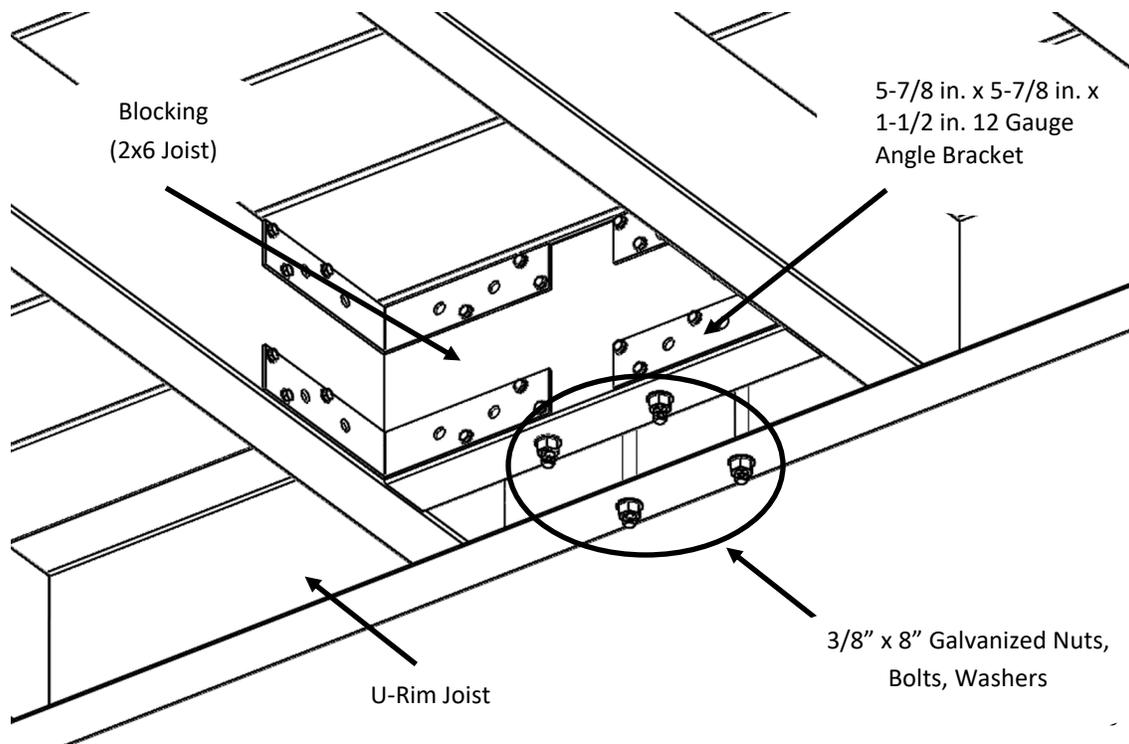
Drill out the holes using a drill and a 3/8" x 8" long drill bit.

Insert 3/8" x 8" bolt and washer thru the drilled hole

Post to Frame Connections

Surface Mount Post—Deck Rim Continued

BOTTOM VIEW



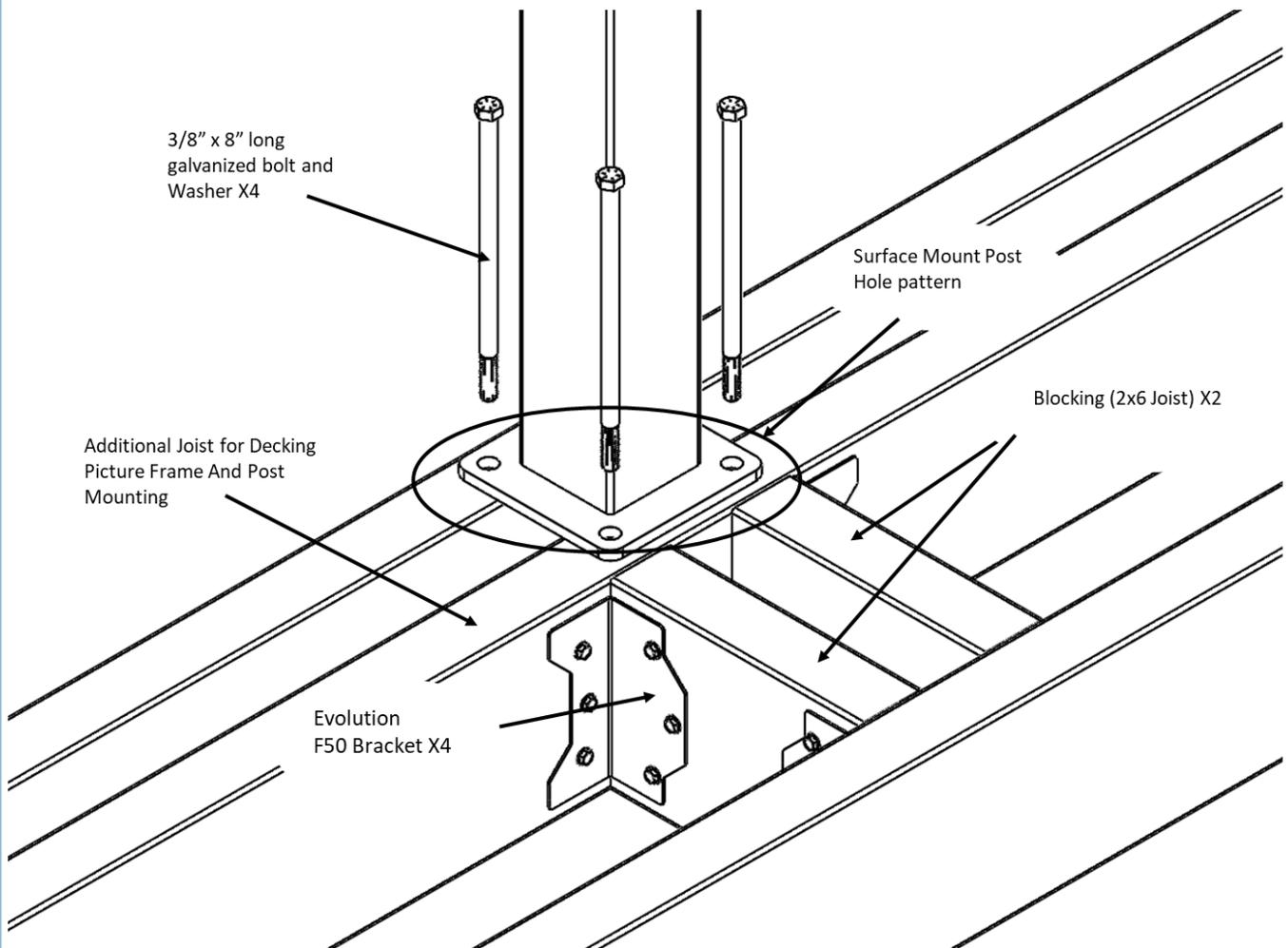
Finish installing bolts on the bottom side with 3/8" galvanized washers and nuts.

Hand tighten the bolts and nuts until snug. Some deformation of the framing member is normal to get a solid connection but DO NOT over-tighten.

Post to Frame Connections

Surface Mount Post—Side of Deck

TOP VIEW



Cut (2) pieces of blocking using the Evolution 2x6 Joist. Position and install using (4) F50 brackets according to the required hole spacing of the surface mount post. Install with Evolution F50 Brackets using the Evolution Self-Drilling Screw.

INSTALLATION ALERT: Install deck boards **BEFORE** positioning surface mount post and marking holes.

Position the surface mount post and mark the hole location

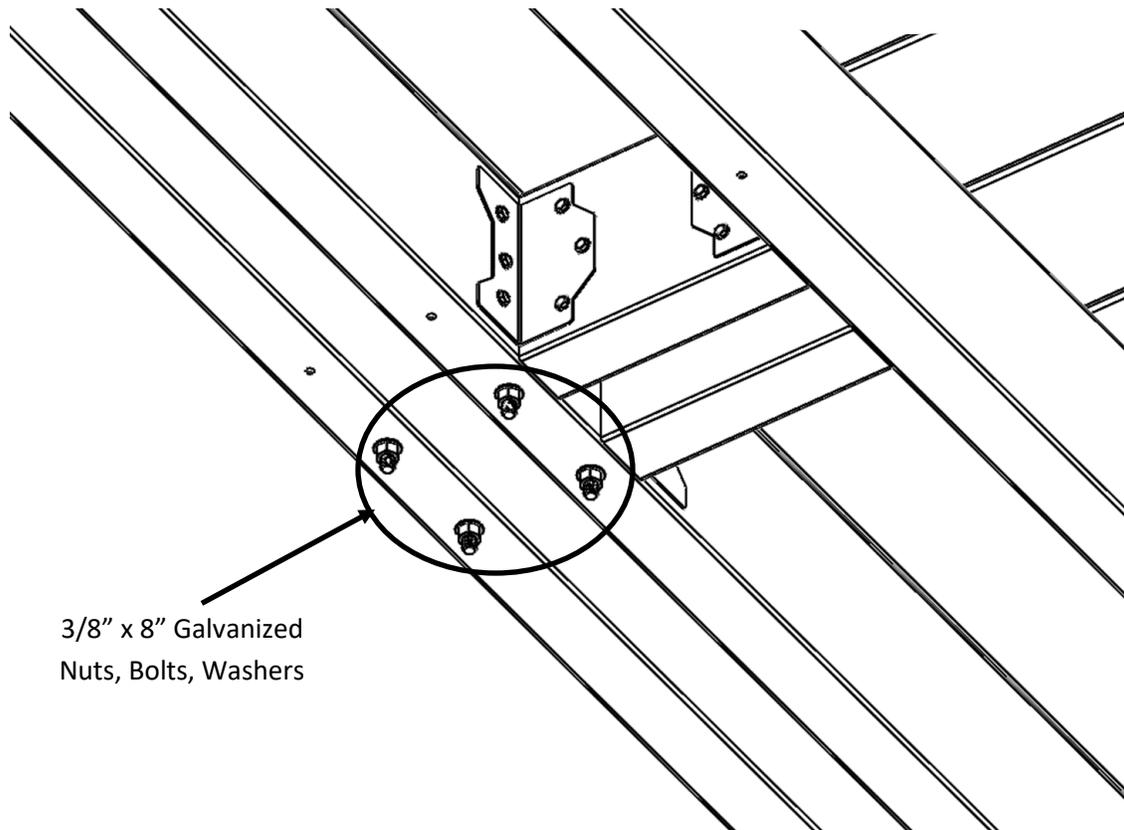
Drill out the holes using a drill and a 3/8" x 8" long drill bit.

Insert 3/8" x 8" bolt and washer thru the drilled hole

Post to Frame Connections

Surface Mount Post—Side of Deck Continued

BOTTOM VIEW



3/8" x 8" Galvanized
Nuts, Bolts, Washers

Finish installing bolts on the bottom side with 3/8" galvanized washers and nuts.

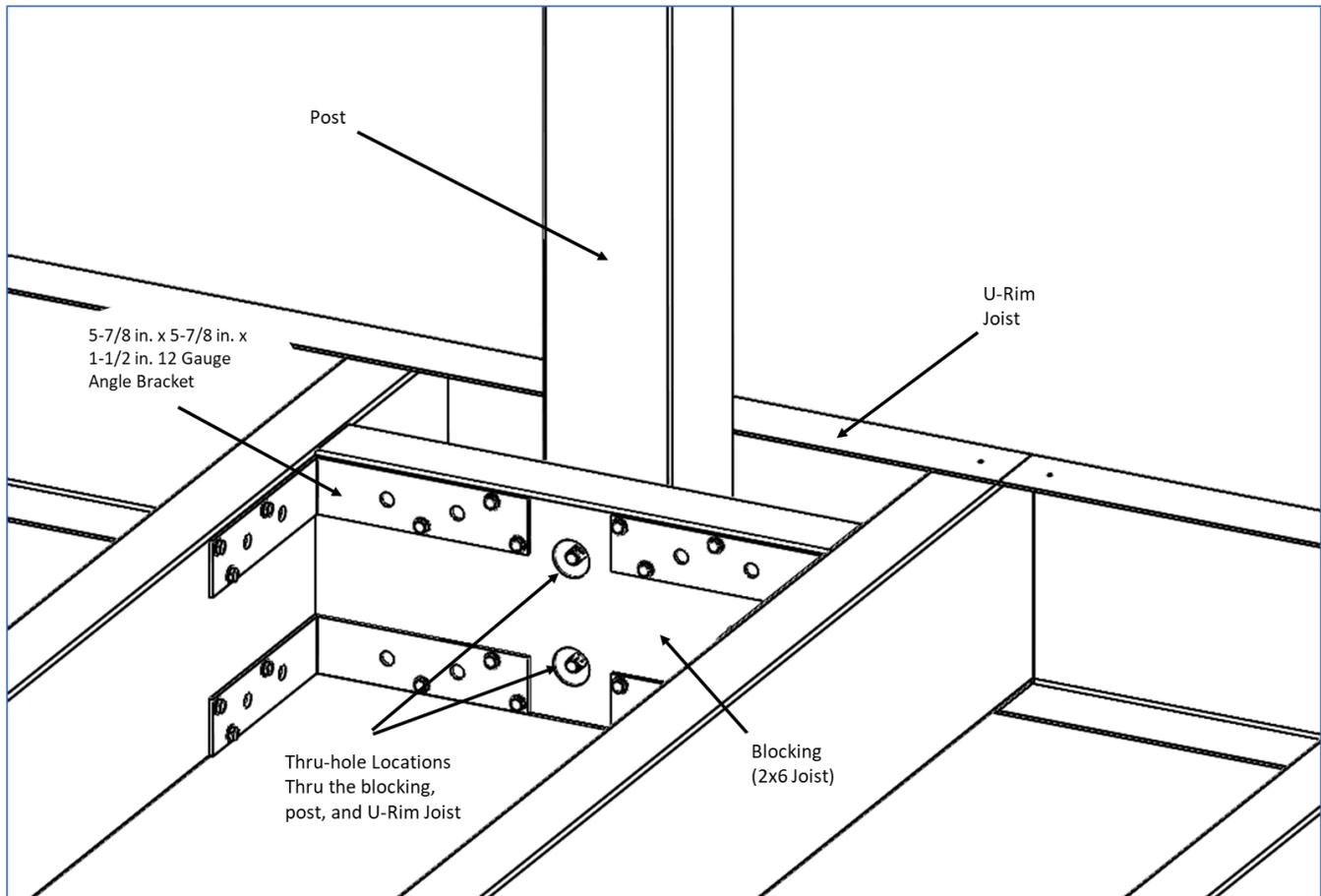
Hand tighten the bolts and nuts until snug. Some deformation of the framing member is normal to get a solid connection but **DO NOT** over-tighten.

Post to Frame Connections

Thru-Mount Post

This is the installation for a wood or steel thru post.

TOP VIEW



Cut blocking using the Evolution 2x6 Joist. Position and install blocking so the post will fit snug between the U-Rim Joist and the cut 2x6 blocking piece. Install with 5-7/8 in. x 5-7/8 in. x 1-1/2 in. 12 Gauge Angle Bracket using the Evolution Self-Drilling Screw.

Using a drill and a 3/8" x 8" long drill bit, drill thru-holes that go thru the blocking, post, and the U-Rim Joist.

Using a Step Bit and Drill, cut out 2 holes large enough to fit a 9/16" socket and extension. These will be used as access points to attached the thru-bolt.

Insert 3/8" x 4" bolt and washer thru the drilled holes. Hand tighten the washer and 3/6" nut to the 3/8" bolt.

Using the 9/16" socket and ratchet, attach to the bolt thru the hole opened up with the step bit.

Attached a 9/16" wrench to the nut on the opposite end and tighten. Hand tighten until snug.

Maintenance Requirements

When installed properly, Evolution Framing is very low maintenance. It's galvanized as well as powder coated which protects it extremely well from the outdoor elements.

Touch Up Paint: Fortress Black Sand Touch-Up Paint can be used to spray cut ends and any scratches or scuffs on the framing. If that is unavailable, any other rust-inhibiting spray paint can also be used. Be sure to choose a color that closely matches the Fortress Black Sand powder coating.

During the installation process, it's important to visually inspect all the framing parts and cover any exposed steel with the before-mentioned touch up paint. Not doing so could result in corrosion and void the manufacturer's warranty.

During installation, all cut ends of the framing parts must be covered with Fortress approved touch-up paint.

All scratches, dings, dents, etc. that expose raw steel must be covered with Touch-Up Paint to prevent rust from occurring. Simply apply enough paint to cover the exposed steel.

It's a good practice to periodically inspect your Evolution Steel Deck Framing. Fortress recommends an inspection 2 years after installation and then every 3-5 years thereafter. If problems are noticed contact the original installers or contact Fortress Building Products directly at the address below.

customercare@fortressbp.com

or

Fortress Building Products
1-866-323-4766