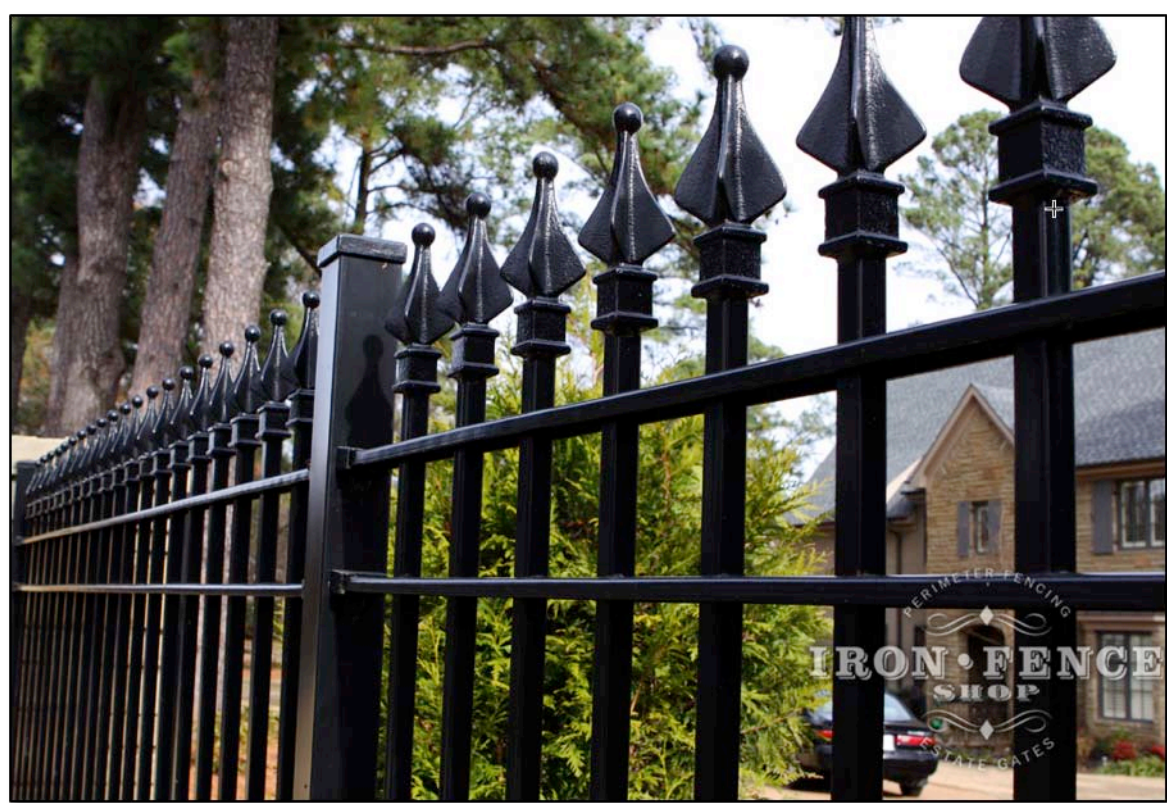




DISTINCT FROM FORCE TO FINISH.

STRONGHOLD IRON®

INSTALLATION GUIDE



Revised 01/16



PLEASE NOTE – All installations have a varying degree of ‘uniqueness’ to them. The following instructions are meant to be general guidelines. If you are installing your fence in a different manner or have any questions that this guide does not answer, please contact us via phone or email. You can also view helpful installation techniques in our Video Library and Blog within the Knowledge Center of our website (www.ironfenceshop.com)

Before You Start	3
<u>Mark Your Fence Layout</u>	3
<u>Obtain a Fence Permit (if Required)</u>	3
<u>Have Your Utilities Marked</u>	3
<u>Gather the Required Tools</u>	3
<u>Purchase Concrete and Miscellaneous Supplies</u>	4
Determining Post Hole Placement	5
<u>Run Your String Line</u>	5
<u>Determining Post Spacing for Panels and Gates</u>	6
Fence Panel Post Spacing.....	6
Walk and Driveway Gate Post Spacing.....	6
<u>Digging Your Post Holes.....</u>	9
<u>Setting Your Posts in Concrete (Standard Posts).....</u>	11
<u>Setting Your Posts on a Surface (Flange Posts)</u>	12
Installing the Fence Panels.....	14
<u>Trimming a Fence Panel.....</u>	16
<u>Installing Fence Panels in a Sloped Yard</u>	16
Installing The Post Caps	18
Installing Walk Gates and Driveway Gates	19
<u>Determine Your Gate Hardware.....</u>	19
<u>Install the Gate Hinges.....</u>	20
Safetech Self-Closing Hinges.....	20
J-Bolt Hinges (5.5” and 7”).....	20
<u>Install the Gate Latch</u>	22
Safetech Cobra Latches	22
Safetech Pool Latch	23
Locinox Latch	23
Gravity Latch.....	23
Drop Rod (Double Gates Only)	23
Project Completion and Maintenance on Your Fence and Gates	24



Before You Start

- Before you get started with your installation, ensure you have done the following items first:

Mark Your Fence Layout

- In preparation for installation and for permit approval purposes (if required), you will want to mark the outline of where the fence will be installed. This can be done with a string line, marking spray paint or flags. If you are installing over or on concrete, you can mark the outline with chalk.

Obtain a Fence Permit (if Required)

- Call your local Building/ Engineering Department and ask if a permit needs to be obtained. Obtaining a fence permit typically requires filling out a form, paying a small fee and having a local inspector take a look at where your fence is going to be installed based on your marked layout.

Have Your Utilities Marked

- Even if you are not required to obtain a fence permit, call to have your utilities marked. It is important to know what's buried below before you begin digging post holes. Simply dial '811' and they will get you in contact with your local utility provider to come out and mark any buried lines at no charge. They will typically come out within 24-48 hours and will mark any buried utilities with flags or spray paint. You can visit www.call811.com for more info on how the process works.

Gather the Required Tools

To install your Stronghold Iron® fence, you will typically need the following tools:

- String Line
- Shovel and Post Hole Digger (manual or powered) for Post Holes
- Tub, Wheelbarrow or Powered Mixer for Concrete
- Measuring Tape
- Level
- Rubber Mallet and Regular Hammer
- Hacksaw or Sawzall for trimming panels (if necessary)
- High Speed and Quality Drill or Power Driver
- Center Punch
- Socket and/or wrench set for installing supplied gate hardware
- Caulk Gun



Purchase Concrete and Miscellaneous Supplies

The following building materials will need to be purchased from your local hardware store unless they are noted as optional. **NOTE** – If you are using our specialized flange posts, you will not need to purchase concrete or gravel.

Concrete Mix

- Any standard concrete mix will work. You can utilize reinforced or fast setting concrete if you like, but it is not required.
- The number of concrete bags required will vary based on the size and length of post being buried. You can find concrete calculators online to help determine how many bags you will need. You will need to know the following to utilize the online calculators:
 - Size of your posts
 - Diameter of the hole (usually 3x the post size)
 - Depth of the hole
 - Number of posts

Large Size Gravel (optional)

- While this is optional, adding gravel to the bottom of your post hole will allow for drainage of moisture and less chance of post heaving/ sinking due to freezing ground or excessive water. It is also beneficial to use if you accidentally over dig the depth of a post hole.

High Visibility Spray Paint

- This will be used when marking where to dig your post holes as you determine their location in the layout.

Steel Rebar or Wood Stakes

- These will be tapped in ground and your string line wrapped around them when marking your layout for installation.



Determining Post Hole Placement

Run Your String Line

If you ran a string line when you marked the fence layout initially, you can skip this step. The purpose of the string line is to make sure all of your posts remain in a straight line as you bury the post in ground in concrete and install the fence.

- Purchase a string line that is bright and easily visible. This can commonly be found at any local hardware store, but any string that will be easily visible and able to be pulled taught will work.
- Using your marking spray paint, mark on your grass where the fence will go. This will act as your guide for laying the string line out.
- When tapping your rebar in ground and running your string line, keep in mind that the string line should be the outside edge of your post and **NOT** the center of the fence line. For corners and ends, have the rebar or stake be a foot or more outside the fence layout. This will ensure that the string is your guide and the rebar is not in your way when you dig the post hole.

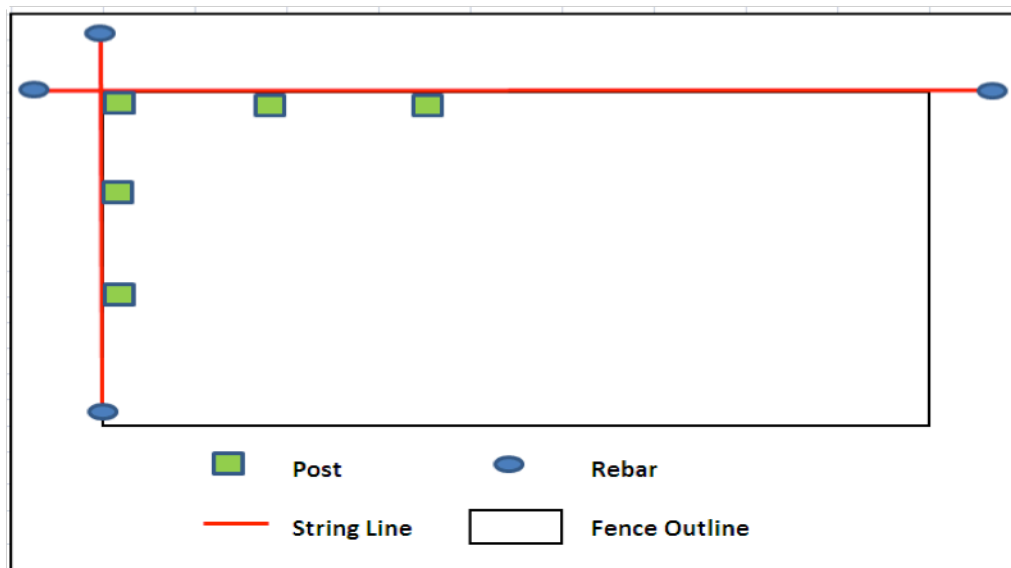


Figure 1 –Example of a String Line Layout



Determining Post Spacing for Panels and Gates

Now that you have your string line run for guidance, you need to determine how far apart your posts will be spaced so you can dig your holes. This will vary based on whether a full fence panel, trimmed fence panel or gate is going in-between two posts. **NOTE – If you are utilizing our specialized flange posts, you will use the ‘between posts’ measurement discussed on pages 12-13 and not the ‘on center’ measurement.**

Fence Panel Post Spacing

- All of our standard wrought iron panels are 96 inches (8 feet) wide from end-of-rail to end-of-rail. You will want to aim for a 96-inch wide space between posts for mounting fence panels. The brackets do not add any additional width.
- The easiest way to determine where your post will go in the ground is to determine the ‘on center’ measurement for your post. This measurement is the dead center of where the post will be installed in the post hole that you will dig.
- To calculate your ‘on center’ post measurement, add the width of your fence panel (96”) plus the width of **ONE** fence post. (If you are unsure of what size fence post you have, refer to your itemized invoice or measure one face of the post) For example:

96” Fence Panel + 2” Fence Post = 98” on center measurement

- This measurement holds true for full size and trimmed fence panels. If you had to trim a fence panel at the end of a run, you would simply substitute the 96” fence panel part of the equation with the width of your trimmed fence panel (ex: 57” Fence Panel + 2” Fence Post = 59” on center measurement)
- Once you have your ‘on center’ post measurement, you can begin marking your post holes in the grass with your marking spray paint. Start in a corner or at the end of a run. Mark the end or corner, measure out your ‘on center’ post measurement and mark again in the grass. Continue doing this until you have marked where all your post holes will need to be dug up in the layout.

Walk and Driveway Gate Post Spacing

Just as we did with our fence panels, we will want to determine the ‘on-center’ post measurement for our gates in a similar way. Post spacing for gate openings will vary based on gate width and the hinge/ latch hardware being installed. So before we can calculate our ‘on-center’ post measurement for the gate, you will need to note the following items down:

- The width of the gate
- The space needed for the hinges
- The space needed for the latch



- First, let's determine which style of hinge was supplied in your order. If you are unsure which hinge you have, you can refer to your itemized invoice or the photos in Figure 3 below. Once you know which hinge your gate is utilizing, note the single (one leaf) or double (two leaf) gate width measurement in Figure 2 below:

Hinge Name	Use	Adjustable	Single Gate Width	Double Gate Width
5.5" J-Bolt Hinge	Walk Gates	Yes	3"	6"
7" J-Bolt Hinge	Driveway Gates	Yes	3" to 4"	6" to 8"
Self-Closing Hinge*	Walk Gates	No	3/4"	1.5"

Figure 2 - Hinge Width Table

*NOTE – Covers all models of self-closing hinge



Figure 3 – 5.5" J-Bolt Hinge / 7" J-Bolt Hinge/ Self-Closing Hinge

- Next, let's determine which style of latch was supplied in your order. If you are unsure which latch you have, you can refer to your itemized invoice or look at the photos in Figure 5. Once you know which latch your gate is utilizing, note the width measurement in Figure 4:



Latch Name	Key Lockable?	Target Width Between Mounting Points
Gravity Latch	No	1"
Safetech Cobra Latch*	Yes	3/4"
Safetech Pool Latch	Yes	3/4"
Locinox w/ Ext Kit	Yes	1/2"

Figure 4 - Latch Width Table

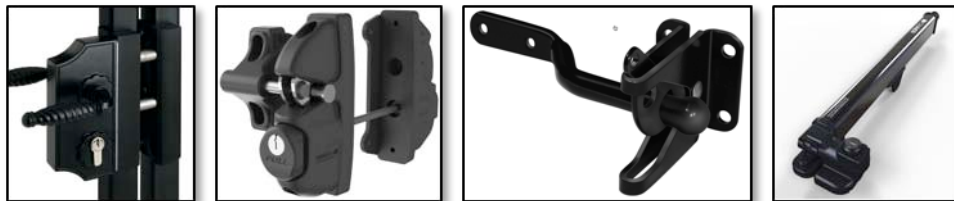


Figure 5 - Locinox / Safetech Cobra / Gravity Latch / Safetech Pool Latch

- Now that you have all of your width measurements (gate, hinges, latch), we are going to add all of those together plus the width of **ONE** post to get the 'on-center' post measurement:

$$\text{Gate Width} + \text{Hinge Width} + \text{Latch Width} + 1 \text{ Post Width} = \text{Gate On-Center}$$

- Using that equation, let's calculate the gate post 'on-center' measurement for the following situation:
 - 48" Wide Single Gate (one leaf)
 - 3" for 5.5" J-Bolt Hinge
 - 1" for Gravity Latch
 - 2" Posts Being Used

$$48'' \text{ Gate} + 3'' \text{ Hinge} + 1'' \text{ Latch} + 2'' \text{ Post} = 54'' \text{ On-Center for Gate Posts}$$

- If you were installing a double walk gate or double driveway gate (two leaves make up the total width) then you would need to use the double gate hinge measurement in the table since you will have two sets of hinges instead of one. Let's look at that same equation with a double gate:
 - 10ft (120") Arched Double Driveway Gate (two 5' leaves)
 - 8" for 7" J-Bolt Hinges (4" each side of the gate)
 - 1" for Gravity Latch
 - 4" Posts Being Used



120" Gate + 8" Hinges + 1" Latch + 4" Post = 11'1" (133") On-Center for Gate Posts

- If the hinges or latch you are utilizing can work at a range of multiple widths, you want to utilize the middle number of the adjustment range so that you have left/ right adjustment available to you.

Digging Your Post Holes

- Once you have determined the 'on-center' post spacing for your posts and marked all the locations around your layout, its time to start digging post holes. These instructions apply to either manually digging your post holes or using powered equipment.
- Begin with an end or corner post in your layout. The 'on-center' location you marked should be the center of your hole. Dig outwards from there. Your posthole should be situated so that when you place the post in the center, its outer edge is touching against the string line.



Figure 6 - Post Hole Should be Positioned so That The Centered Post Will Contact Your String Line

- Be sure to dig your post hole as straight down as possible. If you live in an area that freezes heavily in the winter, digging a post hole that is wider at the top than the bottom can allow for heaving of the post in deep freeze conditions.
- The rule of thumb is that a post hole should be roughly three times the diameter of the post you are setting. So if you were setting a 2x2 post, the hole should be at least 6" across ($2 \times 3 = 6$). A wider hole will not hurt anything, but it will require more concrete.



- The depth to dig your post hole varies by region. Rule of thumb is that in dry areas with no heavy winter freeze, you should set the post 18" to 24" in ground. In areas with heavy winter and persistent freeze, you should set them 24" to 36" in ground.
- Before digging your post hole, be sure to account for the height of the post that needs to remain above ground. To determine how much post you need above ground vs buried in ground, take the following into consideration:
 - The height of your fence panels
 - How much of a gap you want under each panel for grass trimming/ landscaping (ideally 2-3")
 - Where you want your post caps in relation to the top of the fence panels
 - **NOTE** - If you have a fence panel style with finial tips sticking through the top, we recommend installing the fence so that the tips of the fence panel line up with the top of the post WITHOUT the post cap on.
 - **NOTE** - If you have a flat top style fence panel, we recommend setting the top rail at least 1 ½ inches below the top of the post so you have room for your brackets and post cap.
- **EXAMPLE** - Let's say we have a 4' tall fence panel style with finial tips on top, 7' long posts and we want a 2" gap at the bottom of the fence. You would set your post so that 4'2" was sticking up above ground and your post hole was 2'10" deep (4'2" above ground + 2'10" buried = 7' post length).
- **EXAMPLE** - Let's say we have a 4' tall fence with a flat top style, 7' long posts and we want a 2" gap at the bottom. You would set your post so that 4'3.5" was sticking up above ground and your post hole was 2'9" deep (4'3.5" above ground + 2'8.5" buried = 7' post length). That way we can have the 2" gap at the bottom of the panel and the 1.5" gap from the top of the post.
- You can choose to have the posts stick up higher or inline with the fence tips matching the height with the post cap attached. Simply adjust the example calculations above to match up with your desired look.
- Once you have determined the depth of your post holes, it's time to start digging. Be sure to check your post hole depth and width as you go. Keep loose dirt away from the top of your hole. You can utilize a flat object at the top of your post hole and a tape measure to monitor the depth as you proceed.
- If you accidentally dig too deep, add gravel (not loose dirt) to the bottom of the hole. It can actually be beneficial to over dig your post hole by 2-3 inches and add gravel at the bottom, but it is not required. The gravel will allow for water to drain away and unlike loose dirt it will not compact over time. It also makes fine tuning your above ground post height much easier.



Figure 7 - Adding Gravel to the Bottom of the Hole is Not Required, but Can Be Beneficial

Setting Your Posts in Concrete (Standard Posts)

- Once all of your fence post holes are dug, you can begin placing the posts in concrete. Start by mixing your concrete. We recommend following the manufacturer's mixing guidelines and NOT using the 'dry bag' method of placing dry concrete mix in the ground and pouring water on top.
- You want to mix your concrete so it has a thick consistency. The concrete should roughly have the consistency of chunky peanut butter so that it will hold the post upright in the hole without additional support.
- Once mixed, start on a corner or end in your layout. Before you set your post into the hole, look on all 4 sides for a seam running up the post. It may be hard to see without angling the post in the light. When orienting your post in the hole, make sure that seam is pointing inward or outward on your property for all the posts. You do not want that seam to be on the side of the post where you are attaching the bracket.
- Set your post in the hole and fill it roughly 1/2 of the way up with concrete. Make sure the position of the post is such that it is touching your string line.
- Once you feel good about the post positioning, pour or shovel more concrete into the hole. Leave roughly to 2-3 inches from the top of the hole to the concrete. This will allow you to later cover the concrete footing with dirt and allow grass to grow around the post.



DISTINCT FROM FORCE TO FINISH.

- Using your level, ensure the post is still plumb on all sides and contacting your string line. The post should be able to stand on its own in the concrete if it was mixed to the correct consistency.
- As you move through your layout, be sure to measure between the posts to double-check your spacing. Unlike before with the 'on-center' measurement for posts, we now want the **BETWEEN** fence panel or gate spacing between the posts.
- Those measurements should be 96" for un-cut fence panel or the width of any trimmed fence panels or the width of your gate(s) including their hinge and latch hardware.
- If you find any posts have shifted or need adjustment for the space between posts, use a rubber mallet to tap them into place while the concrete is still wet.



Figure 8 - Keep Everything Level as You Proceed

- Allow the concrete to dry to the point you can no longer move the post in the hole. Once it has reached that point, you can shovel dirt over the concrete in the last 2-4".
- It's often a good idea to mound the dirt above the yard line to allow for the soil to settle without leaving a depression. Ideally, this will be done the day you set the posts so that if it rains or snows, water does not begin pooling and saturating the still curing concrete.

Setting Your Posts on a Surface (Flange Posts)

- If you are utilizing our specialized flange posts with the welded plate for installing the fence on top of a surface (such as a patio, pool deck or wall top) post installation will be slightly different than the standard posts. All of the fence panel and spacing notes mentioned prior to this will be the same with the exception of laying your posts out with the BETWEEN POSTS measurement in mind and NOT the on-center measurement covered earlier.
- The 'between posts' measurement is the distance between the faces of two posts. It is as follows:



Fence Panel Width = Fence Between Post Measurement

Gate Width + Hinge Width + Latch Width = Gate Between Post Measurement

- You will need to supply the hardware for attaching your flange posts to the surface. We do not supply that hardware. However, the options are all something you can find at your local home improvement store.
- To get the best recommendation from your local store, let them know what type of surface you are mounting the post to, how deep/ thick it is and how tall the fence is. They are likely going to recommend one of the following:
 - **Tapcon** – Good for wall tops or thinner surfaces
 - **Concrete Wedge Anchor** – Good for thicker concrete slabs (4in or thicker)
 - **Wood Lag** – Good for wood deck or patio surfaces
- The holes on the flange posts are a 1/2” diameter, but we recommend getting 3/8” sized hardware. This will allow for a little wiggle room and easier installation while still fitting properly.
- While at the store, you will need to make sure you get a good masonry drill bit that is a 3/8” size. While you can use these with a standard drill, we recommend purchasing or renting a drill with a hammer-drill action. The hammer action will make drilling go much faster and smoother.
- Set your posts around your layout at the proper spacing. For any ends near a wall, be sure to take into account the 1.25” the flange sticks out on each side.
- As you set your posts, be sure to check they are standing level. You may need to shim under the flange to get the post level if your surface is not level. Metal washers make for good shims.
- With your posts laid out, use something to mark the 4 holes on your surface that you will be drilling. It is best to proceed one post at a time.
- Move the post out of the way and drill your surface to the proper depth per the hardware you are utilizing. Be sure to vacuum the dust out the hole before you install the hardware.
- With the holes drilled, set your post back in place and tighten it down with your hardware. Be sure to check for level on both the inner and outer face of the post after you tighten it down. Adjust as necessary.
- Move to your next post and start the process again. Be sure to check the distance between each post as you move through the layout to ensure nothing has shifted. Remember that when spacing flange posts you want the BETWEEN POSTS measurement and NOT the on-center measurement.

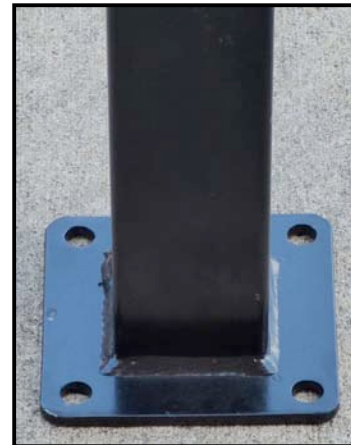


Figure 9 - Iron Flange Post



Installing the Fence Panels

- **IMPORTANT** – Due to the weight of iron fence panels, make sure you have followed your concrete’s manufacturer’s guidelines on curing time. This can vary greatly depending on the type of concrete used and the ambient outside temperature.
- There are only four components required when hanging your iron fence panels:
 - Fence Post and Post Cap
 - Fence Panel
 - Iron Brackets
 - Self-Tapping Screws



Figure 10 - Main Fence Components: Fence Post, Bracket, Screw, and Fence Panel



- The number of iron brackets and self-tapping screws used per panel will be based on the number of horizontal rails on your fence panel. Each rail requires 2 brackets (one on each side). So if you had a fence panel with 3 horizontal rails, you would need 6 brackets and 6 self-tapping screws (2 per rail x 3 rails = 6 brackets and screws).
- Slide your brackets on the end of the rails and line your fence panel up between the posts. The tab with the screw hole should go up against the post and is typically installed pointing down. However, you can utilize the bracket with the tab pointing up if you choose to.
- When positioning your panel, be sure to leave your gap under the panel so that if you need to trim grass you can do so without taking the powder coat finish off the pickets. Standard bottom gap spacing is 1-3 inches off the ground. Use a piece of wood or something that is roughly the height you want the panel spaced off the ground to place under the panel when positioning and installing them.
- Make sure your fence panel is level top to bottom and located at the center of the post. Once you have the fence panel positioned, grab your self-tapping screws and a power screwdriver or drill.
- Position the fence panel and slide your brackets up against the post. Place the self-tapping screw through the hole of the bracket. Slowly begin running the drill until it gets a bite into the metal then speed up the drill to drive the screw in. Be careful to not over tighten the screw and strip out the threads in the hole.
- If you are having difficulty getting the self-tapping screw to drill into the post, a small center punch tool can help. Put it in the screw hole and give it a solid tap with a hammer. The indentation it leaves will help the self-tapping screw to bite into the post metal and begin drilling in. While usually not necessary, you can also drill a smaller pilot hole in the post and then insert the self-tapping screw to finish it.



Figure 11 – Example of an Installed Iron Fence Bracket with Self-Tapping Screw



Trimming a Fence Panel

- Its fairly typical that at least one fence panel will need to be trimmed for width in your layout. This could be due to gate placement or coming to the end of a run.
- Trimming fence panels for width is an easy process. We recommend using a simple hacksaw since it has the most control. You can also use power tools to cut the panel to width, but be sure to have another person hold both sides of your cut as violent shaking of the panel by power tools like reciprocating saws (sawzalls) could break a weld.
- Determine the panel width you need. Measure along the horizontal rails and mark where the cut needs to be made. If your measurement lands on a picket, you may need to trim from both sides of the panel to line everything up.
- An optimal cut will be one that you can make up against a picket. This preserves the 3.875" spacing between the last picket and the post. It also gives a cleaner look to the installation. If your cut needs to be tighter, make sure you at least have 1.5" of rail sticking out from a picket so you can get your bracket on.
- If you are trimming a Puppy Picket style panel with tighter spacing, you may need to adjust your post spacing wider so that you can still fit a bracket over the two lower rails. Leave yourself some wiggle room on post placement with the Puppy Picket panels.
- After marking the cut, use your selected tool and cut through the horizontal rail. Be sure to file or grind down any burrs and apply touch-up paint to the bare metal. Installation of the cut panel will be the same as a regular full size panel with the bracket and self-tapping screw. Be sure to touch up your cut with paint before installing the panel.

Installing Fence Panels in a Sloped Yard

- There is usually some slope to a yard that may need to be compensated for during installation. While there is no reason that the yard needs to be totally level underneath the fence, you may want to adjust the fence installation so that its aesthetically pleasing to you or tight enough at the bottom to keep animals in or out of your yard. There are two methods to addressing yard slopes that leave too large of a gap between the bottom of the fence and the ground:
 - Level the area or back fill with landscaping (See Figure 12)
 - Stair-step the fence panels to follow the grade (See Figure 13)
- The easiest is to level or back fill the area the fence is passing through so that the panels can be mounted level across. This works for slight dips and grades where the drainage is not an issue.



DISTINCT FROM FORCE TO FINISH.

- If the grade is too steep or leveling would create drainage issues, you will need to ‘step’ the fence panels. ‘Stepping’ panels is adjusting the panel height on the posts to compensate for grade. So one panel may be higher or lower from the prior one to maintain a uniform height off the ground.
- If the slope is too severe, you may need to cut your panels into smaller widths and do incremental steps with additional posts. Post hole depths and above ground measurements will also need to be adjusted so there is enough post sticking up to intercept the fence on the higher ground end of the panel.



Figure 12 - Backfilled with Stones



Figure 13 - Stair Stepped Fence Panels



Installing The Post Caps

- This step can be done before or after installing the fence panels. Part of your order in the install kit is a tube of exterior rated adhesive. You will need a caulk gun to apply the adhesive.

- Some of our cast iron post caps still have a small hole on them as shown in figure 14. We no longer utilize that method of installation for the post caps so that small hole will not be used. Screws were not provided in your order to secure the caps in that manner.



Figure 14 - This Hole in the Casting is not Used for Installation

- With the caulk gun, apply a bead of the adhesive on the underside inner lip of the cap on all 4 sides as shown in figure 15. You want the adhesive oriented so that when you press the cap on the post, the adhesive will smear and make contact with the post.

- You want enough adhesive on the surface to make sure it will contact the post, but not so much it spills out when you install the cap. If your cast iron cap has the screw hole in the base, be sure to not put adhesive over or near the hole so that it does not come out of that hole when you press the cap on.
- If your cast iron caps do have the hole, be sure you orient all your caps on the posts so that the hole is facing in the same direction.



Figure. 15 - Apply Under the Cap

- We do our best to estimate how many tubes of adhesive will be needed for your project. If you find yourself needing more, any exterior rated adhesive that will bond with metal will work. These can be found easily at any hardware or home improvement store. Just make sure they are exterior rated.
- Curing time for the adhesive will vary depending on the temperature when it was applied. It could dry in a couple hours or may take a couple days. Be sure to wipe any excess adhesive off your post and cap before it dries.



Installing Walk Gates and Driveway Gates

- **IMPORTANT** – Gates can exert a lot of leverage force on concrete post footings. Make sure your post have fully dried and cured before hanging your gates. Consult the concrete manufacturer for drying/ curing time required before use.
- **NOTE** - The following steps cover installing a walk or driveway gate utilizing our gate hardware and installing the gate on our steel posts. If you are utilizing other gate hardware or mounting the gate to a surface other than a steel post (such as a wood post or masonry pillar), please consult your Iron Fence Shop® salesperson for assistance on installation.

Determine Your Gate Hardware

- We offer several options in hinges and latches for our walk and driveway gates. Consult figures 16 and 17 below to determine which hinges and latches you are utilizing:

Gate Hinges



Figure 16 – 5.5" J-Bolt Hinge



7" J-Bolt Hinge



Safetech Self-Close Hinge

Gate Latches



Figure 17 - Locinox



Safetech Cobra



Gravity Latch



Safetech Pool Latch



Install the Gate Hinges

- There is no standard spacing for where the hinges need to be mounted vertically on the gate frame and post. You generally want to install them a third of the way from the top and bottom of the gate frame so that they are not too far inward or outward.
- When determining hinge placement on the gate frame and post, be sure to account for the gap at the bottom of the gate. There is no standard bottom gap height, but you want to ensure the gate can freely swing all the way open and shut without contacting the ground.
- So long as the area around the gate is flat, most installations will match the bottom gate gap with the bottom gap of the fence panels. If you live in an area that receives heavier snow fall, be sure to account for snow pack and ice when planning the gap under your gate.
- Make sure that your chosen hinge mounting location will not interfere or come in contact with any horizontal rails or decorative features of the gate.

Safetech Self-Closing Hinges

- If you are utilizing Safetech self-closing hinges, consult the installation instructions included in their package.

J-Bolt Hinges (5.5" and 7")

- Installation of the j-bolt hinges is the same whether you are using the 5.5" for a walk gate or the larger 7" version for a driveway gate.
- The flat plate part mounts against the post and the threaded J-portion with the two adjusting nuts will be mounted through a hole you drill in the gate frame (see Figure 18)

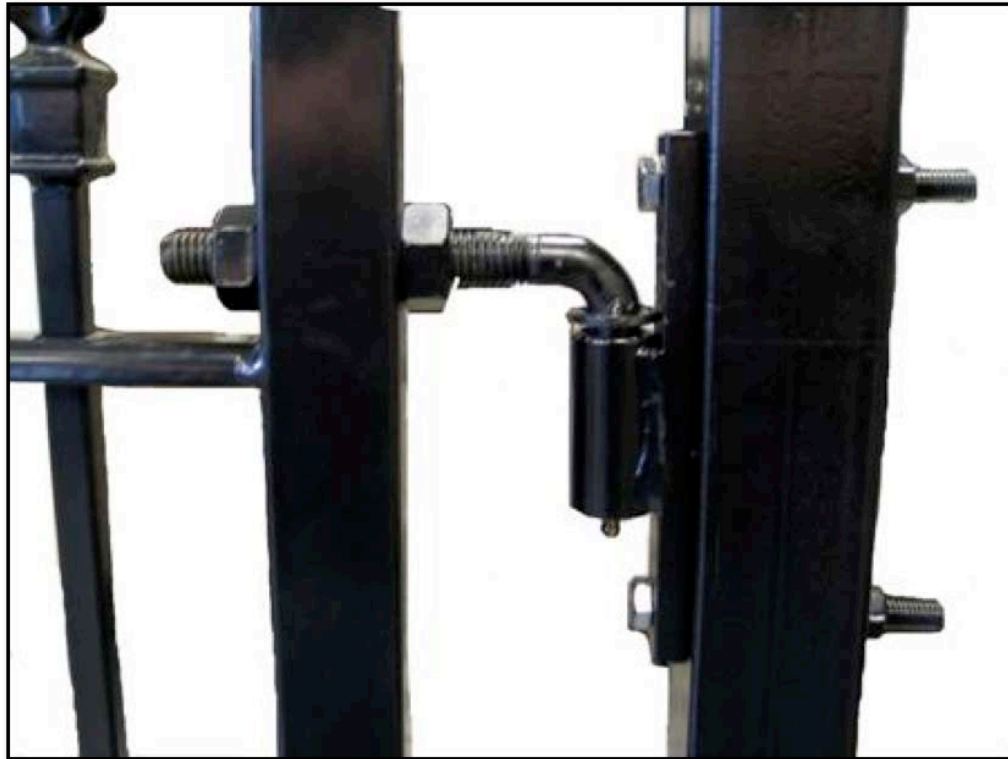


Figure 18 – An Installed J-Bolt Hinge. The Gate is on the Left and the Post is on the Right Side

- Determine the mounting location of your J-bolt hinge in relation to both the post and gate frame. Mark your post and gate frame for drilling. Be sure to measure and line up your drilling points as both the gate frame and post will be drilled on two sides of the post and the holes need to be level.
- Use the supplied drill bit (or a quality cobalt tip) to drill your holes in the post first. Clean any burrs in the hole and apply a small amount of touch-up paint to the hole before installing any hardware.
- Mount the flat portion of the j-bolt against the post using the supplied hinge hardware kit bolts. These will be the silver bolts of varying length in the clear bag. **NOTE** – You will not use all of the bolts in the bag. There are enough bolts for a set [two] of the j-bolt hinges and in every length to accommodate post sizes from 2” up to 6”.
- When installing the j-bolt hardware, put a small smear of grease on the underside of the bolt and washer that will make contact with the post. The grease will lubricate the contact points on the hardware and post so that the post finish is not marred or stripped when the hardware is tightened down.



- With the j-bolt hinge mounted on the post, lift your gate up to ensure your marked location on the gate frame still lines up with the bottom gap and top of gate as you planned. If everything looks good, drill the gate frame. Clean up any burrs and put some of touch-up paint in the hole.
- Take the outer (at the end of the threads) adjusting nut off the threaded portion of the j-bolt. Feed the thread through the hole you just drilled in the gate frame and then re-thread the nut on the outside to secure the threaded portion to the gate frame. Use the two adjusting nuts to move the gate frame left/ right if adjustments are necessary.
- **NOTE** – If you are installing a larger gate, the threaded portion of the j-bolt and the backing plate will separate so that you can install them separately. You would then lift the gate up and insert the male portion of the j-bolt hinge back into the female portion. Just be careful not to lose the ball bearing that is down in the grease of the mounting point.



Figure 19 - The J-Bolts Will Separate at the Swivel Point

Install the Gate Latch

- There is no specific place you need to mount the latch on your gate. Most latches are normally mounted in the 40-42" height range.

Safetech Cobra Latches

- See the installation instructions included with the latch



Safetech Pool Latch

- See the installation instructions included with the latch

Locinox Latch

- See the installation instructions included with the latch

Gravity Latch

- The clasp portion will go on the post (in a double gate setup it will go on the adjoining gate half in the center) with the larger padlock hole facing the bottom. Use the smaller supplied self-tapping screws to mount the clasp portion to the post.
- The latch will install as shown in Figure 20. The arm will go on your gate frame while the clasp or catch goes on your post.
- Line it up to intercept the clasp and affix to the gate frame using the smaller self-tapping screws provided. The arm will be close to the edge on the Traditional grade 1.5" gate frames, but they will fit. If you are concerned about fitment, you can pre-drill a smaller pilot hole to locate the self-tapping screw when attach the arm.



Figure 20 - Latch on Post (left) Arm on Gate (right)

Drop Rod (Double Gates Only)

- If you have a double gate to be manually opened, you will need to install a drop rod on one or both leaves to keep it the gate stationary in the center. Do not rely on a latch alone to hold a double gate shut.
- Mount the drop rod brackets on the inside (property side) of the gate frame using the supplied hardware. Install the brackets so that the curved part of the drop rod can rest on the top bracket with the rod also in full contact with the ground.
- If you are mounting over grass drive a small piece of pipe one size larger than the drop rod into the ground as a more solid catch point for the rod. If you are mounting over concrete, drill out the concrete and use a small portion of pipe for that as well to avoid chipping of the concrete around the drop rod.



Project Completion and Maintenance on Your Fence and Gates

- Be sure to fill out your warranty sheet and email or mail it in to us.
- Take a rag or brush and make sure to remove any metal filings from the self-tapping screws off your fence and gate surfaces. If left on the surface, they will leave rust marks on top of your finish that you will have to wipe away.
- After installation, go back and touch up any scuffs or scratches that occurred in shipping or installation using the supplied touch-up paint. If you only need to make minor touch-ups and are concerned about over spray from the can, you can simply spray some of the paint into the cap of the can (or similar plastic container) and use a small brush or Q-tip for more precise touch-ups.
- Keep an eye on the fence for the first couple weeks for any missed scuffs or scratches to bare metal and touch them up. It's not uncommon for some small rust spots to show on items such as the brackets and caps since they can get roughed up during shipping and installation. Simply touch the spots up once and you should have no further issues.
- Inspect your fence yearly for any damage that went to bare metal and may have caused rust to start. If surface rust has formed due to damage, there is no need to be concerned. The thickness of the steel and iron would require many years of being left unattended to structurally weaken the piece. Simply use a wire brush to take the rust off, clean the area of dust/ dirt and then use satin black paint with a rust-inhibitor to touch the area up.
- If you have gates, grease or oil the hinges as needed. Key lockable latches may require a shot of graphite every couple of years to ensure continued smooth operation.