Installation and Post Replacement Guide for the Phoenix I Post Holder System

Updated: Feb 2022

If you've ever tried to replace a broken fence post that has been set in concrete, you already know what a difficult task that is and you will immediately recognize the value of this nifty product. The *Phoenix I* fence post holder is a patented product that requires nearly the same effort to install as a regular fence post directly in concrete. However, when the time arrives when your fence post needs to be replaced because of decomposition, damage, warping or if you need to temporarily remove a post for access or for any other reason, this product will make that replacement many, many times simpler than conventional methods of replacing or repairing a post with no new concrete, no unsightly brackets or other foreign hardware!

Installation Instructions

For the installation of your fence post with the Phoenix I post-holder you will need the following after your post hole is dug:

- ***Phoenix I post holder*** (dimensions: 22" X 5.5" X 5.5" - available for purchase)
- ***Phoenix Alignment Frame Installation tool*** (available for purchase)
- ***Four 1 ½" X ¾" X 2.5" wood locking shims and four wood door shims*** per post (available for purchase)
- Regular garden shovel
- Hammer
- Small Hand saw
- Dry, fine-grain sand (10-11 cups per post – available at your local hardware store). A 50-lb bag of "play" sand costs around $4-&5 and is sufficient to install about 5 ½ posts.
- One 4" X 4" X 8' wooden fence post - Actual dimensions will be close to 3.5 inches X 3.5 inches X 8 feet
- Concrete (approximately one 80 lb bag per post – available at your local hardware store)
- Level (to set post in a vertical orientation)

STEP 1. Dig & prepare hole for post installation

If you are replacing an existing post, remove the post and the concrete stump from the ground. For a first-time installation of a standard 4 X 4 post, dig your post hole 8 inches in diameter and approximately 2 feet deep for a standard 6-ft fence (8-ft post length). Post hole augers can be rented from your local equipment rental store.

With a shovel, chamfer the top of the hole back about 2 inches and approximately 3 to 4 inches deep around the entire circumference at the top of the 8" diameter hole and remove the loose dirt from the hole as needed (See Figure 1a). This chamfer will facilitate pouring the concrete around the *Phoenix I* post holder later in Step 3. If you are first removing the old concrete, you will likely not need the chamfer if the hole diameter at the top of your hole is already larger than 8 inches.

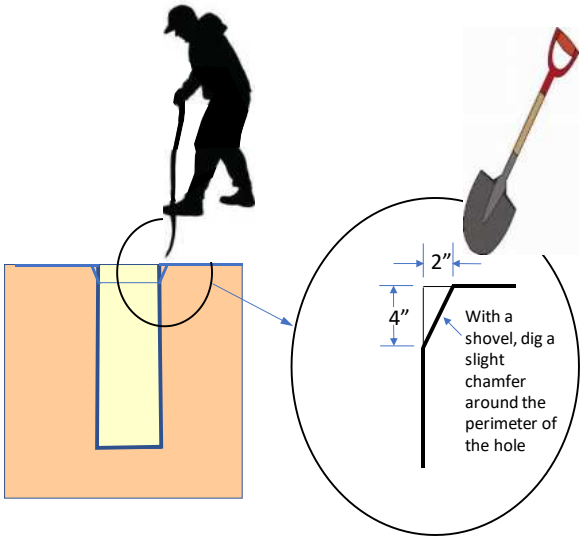

Figure 1a

STEP 2. Prepare post and *Phoenix I* post holder for installation in ground

Place the *Phoenix I* post holder into the center of the hole in the ground (Figure 2a). Insert one end of the post into the *Phoenix I* post holder. Most 4 X 4 wooden posts are actually smaller than 4" X 4". Typically, a post will measure 3.5" X 3.5" but can occasionally be as large as 3.75" X 3.75". If your post is 3.75" or smaller then continue here. If your post is larger than 3.75" and will not fit into the bottom of the *Phoenix I* post holder, but is less than 3.90" X 3.90", you will simply need to fill the bottom 1 inch of the box with sand before inserting the post into the post holder (Figure 2b). Alternatively, you could also sand the sides of the bottom of the post until it inserts into the post holder (Figure 2c). If your post is larger than 3.90" X 3.90" (this condition is extremely rare for a "4" X 4" post), you will need to sand the bottom of the post to allow it to fit properly into the *Phoenix I* post holder.

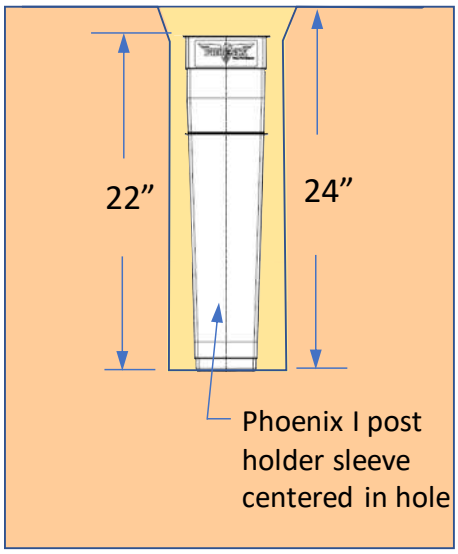

Figure 2a. *Post Holder in ground*

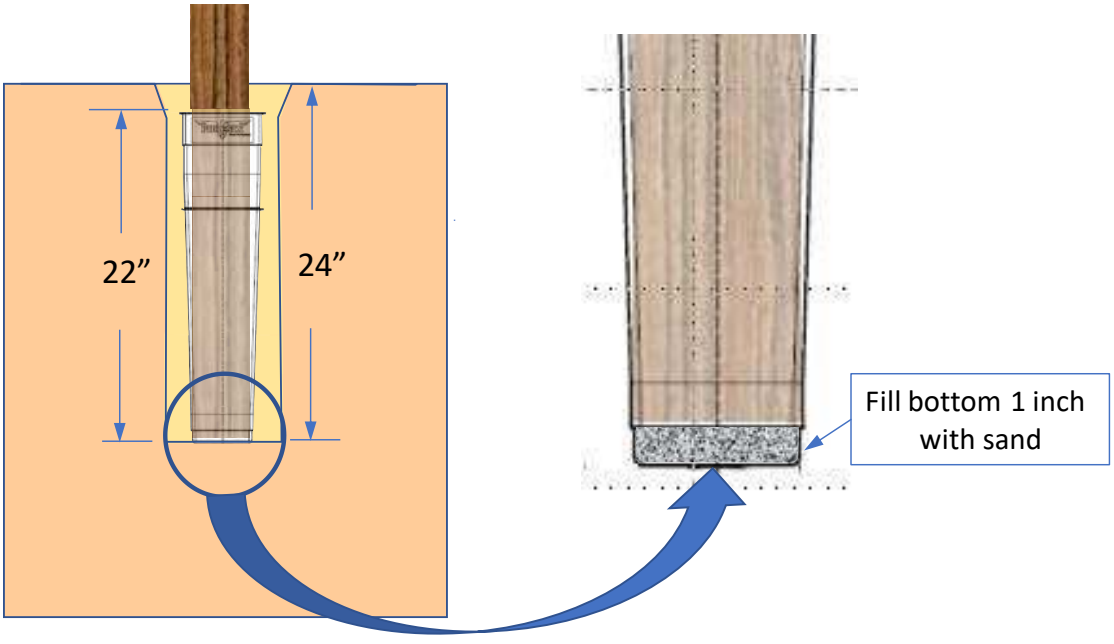

Figure 2b. Post holder *with sand in the bottom 1 inch and post on top*

Figure 2c. *Post with sanded sides to help fit into* post holder

Insert one end of the post into the *Phoenix I* post holder. Slide the *Alignment Frame* over the post and down into the top of the post holder until it is seated within the post holder (Figure 2d). The Alignment Frame will maintain the post approximately in the center of the post holder. The post may be slightly loose within the Alignment Frame. Insert common door shims on each of the 4 sides between the post and the alignment frame to make the fit snug and to get the post centered within the post holder. Cover the small gap between the post and the *Alignment Frame* with Duct Tape (or something similar to cover the small gaps) to preclude concrete from entering the post holder (see Figure 2e). Check for vertical with a level, and check the height of the post. If needed, dirt can be added or removed from the bottom of the hole (under the post holder) to adjust the holder and post height.

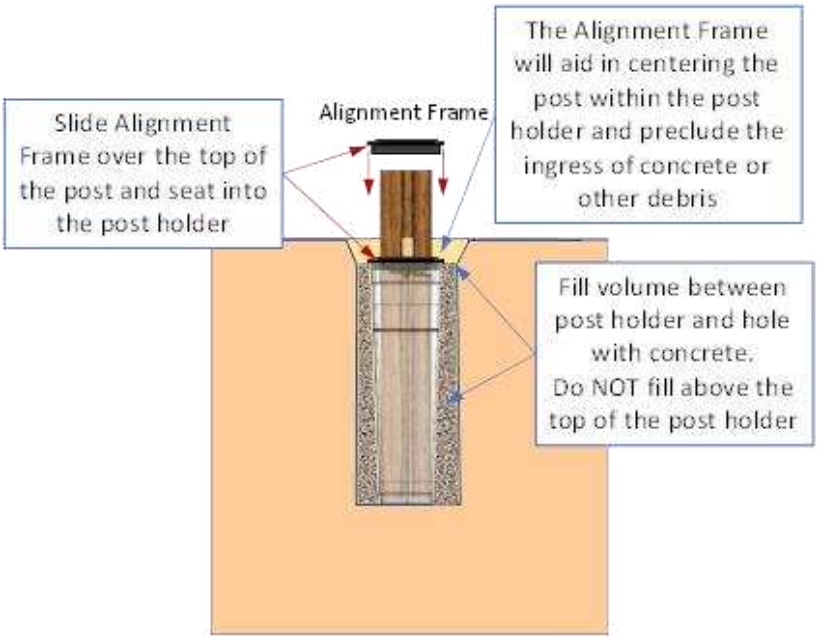

Figure 2d. *Using the Alignment Frame*

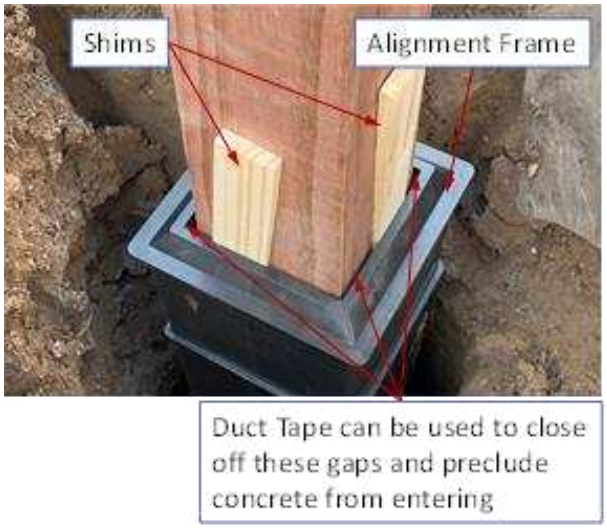

Figure 2e *Image of Alignment Frame*

Use of the Alignment Frame is recommended as it greatly facilitates the post installation, but if you do not have an Alignment Frame, an old towel or rag(s) can be stuffed around the edges to hold the post approximately centered within the post holder (Figure 2f). The Alignment Frame (or towel) will also help prevent concrete from entering the post-holder space when concrete is added later (Step 3).

Figure 2f *Centering the post in the post holder with an old towel*
(Using the Alignment Frame tool is recommended instead of towel)

STEP 3. Install the *Phoenix I* post holder in the ground with concrete

With the *Phoenix I* post holder aligned with your fence line and in place, shovel the wet concrete mix around the outside of the post holder until the space between post holder and surrounding ground is filled to near the top of the post holder. Using a level, ensure that the post is in a vertical orientation while adding the concrete. Do not allow concrete to enter the space between the post and the post holder (Figure 3a).

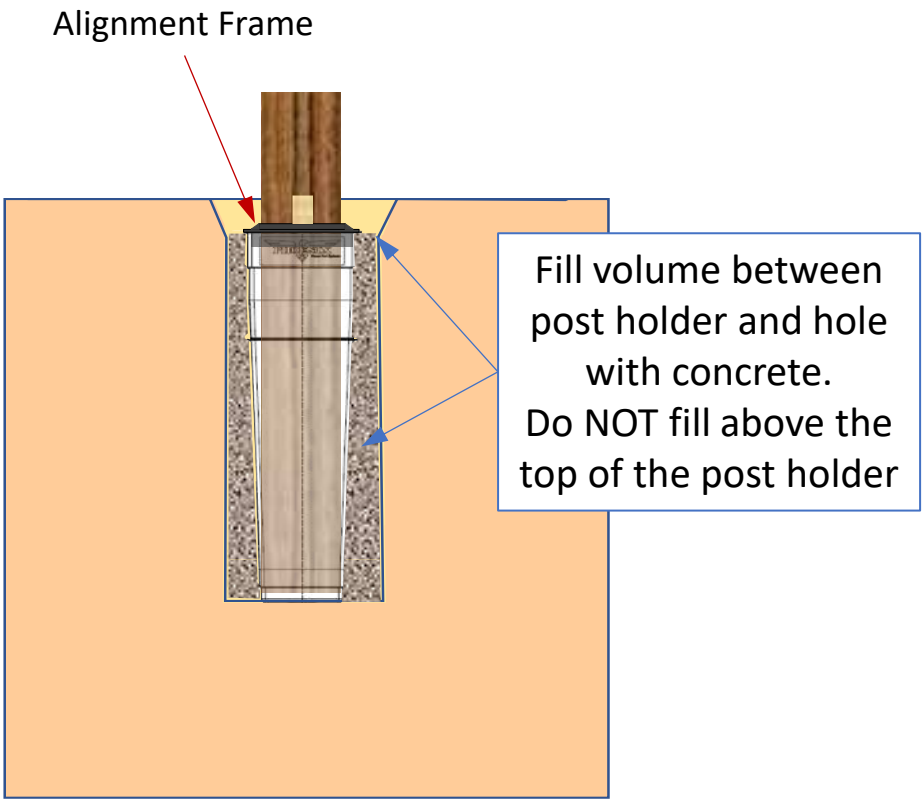

Figure 3a.

Allow concrete to cure for 48 hours.

STEP 4. Install post in the *Phoenix I* post holder

Remove the *Alignment Frame* holding the post in place and covering the top of the post holder. Also remove the post from the post holder and check to ensure there is no water or debris in the bottom of the post holder. Clean and dry the inside of the post holder as needed. Insert the post back into the post holder and check for vertical using a level. While holding the post in a vertical position, gradually add dry, fine-grain sand into the space between the post holder and the post. Typical "play sand" from your local hardware store will work. **IMPORTANT**: The sand must be dry and not able to clump! **DO NOT USE WET OR DAMP SAND!** If your sand is damp and does not freely slide through your fingers do not use until the sand has been dried. Also, do **NOT** use common fill dirt or other materials that will not freely flow and fill all voids. Do not use materials that will harden, solidify or compress. Do **NOT** use dry concrete or mortar. Continue to fill the space between the post and post holder with the dry sand until the sand is approximately 1½ inch from the top of the post holder (Figure 4a).

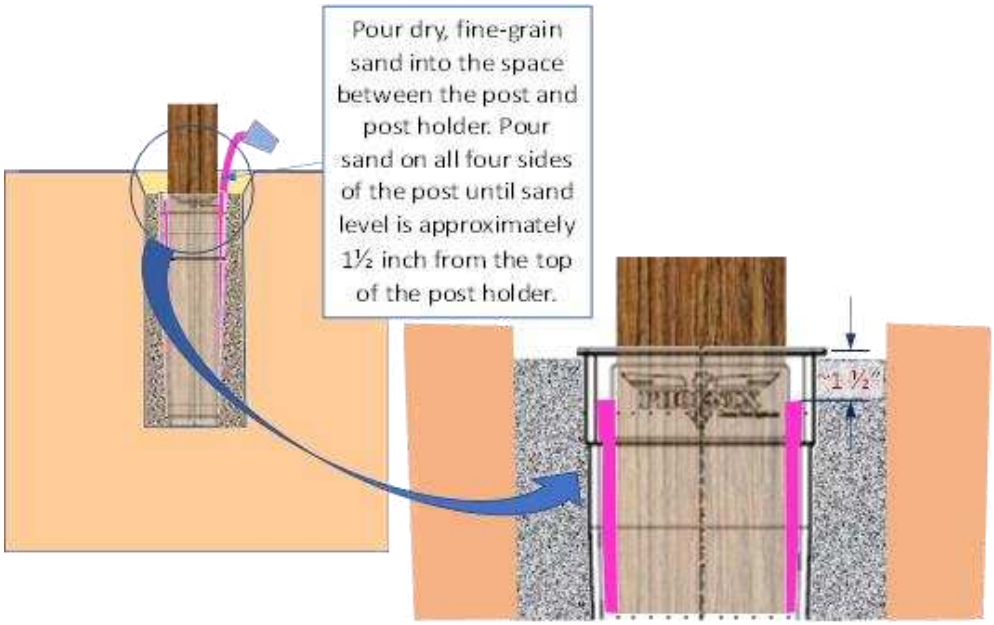

Figure 4a. *Installing the post in the post holder*

You will only need approximately 10-11 cups of sand for the post installation. Note that once the sand level is approximately 1/3 the height of the post holder, vertical adjustment of the post will be difficult, if not impossible. If the post is not vertical, the post and sand can easily be removed from the post holder and re-installed with the post in a vertical position. When the sand level is near the top of the post holder the post will be very solid and secure against any horizontal forces (like wind).

STEP 5. Install locking shims at top of *Phoenix I* post holder

The locking shims provide added stability to the installation. The locking shims consist of a 1 ½" X ¾" block of wood (~2.5"to 3" long) and a common door shim (Figure 5a). A locking shim is installed at each of the four sides of the top of the post holder between the post and post holder as shown in Figure 5b.

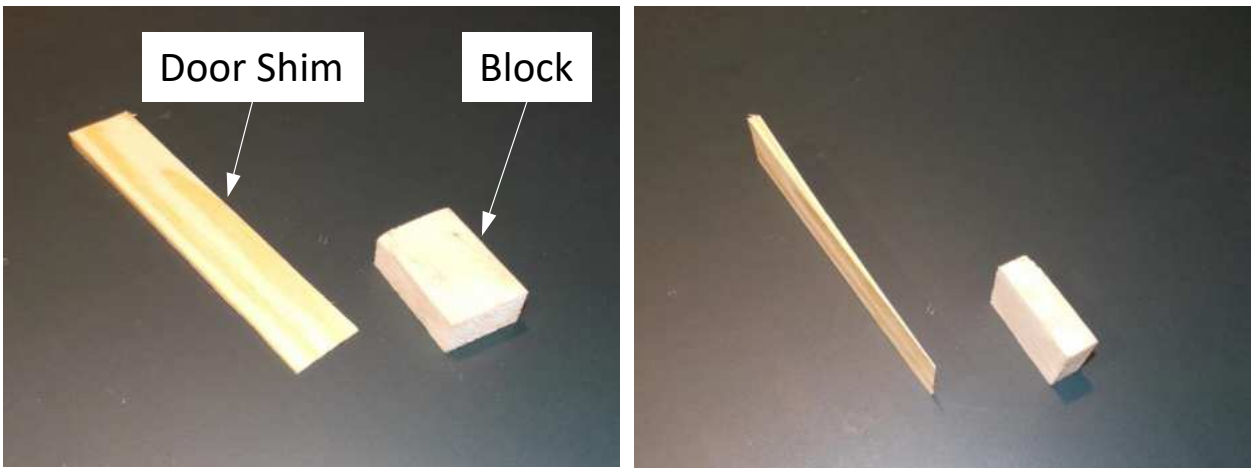

Figure 5a. Locking shim consists of a wood block and a common door shim

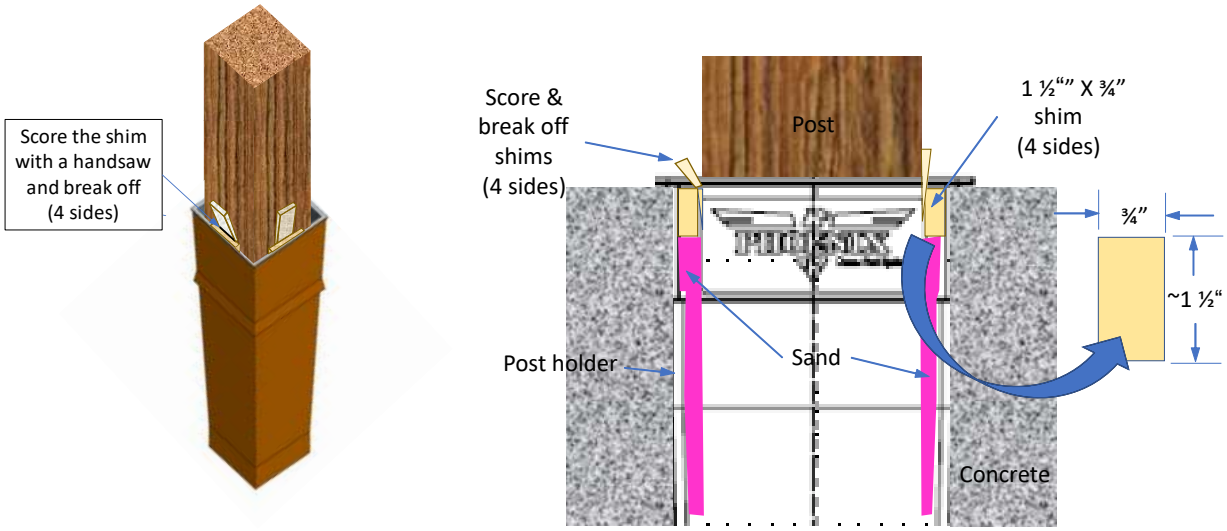

Figure 5b. Post and post holder with locking shims and door shim

a. Place the 1" X ¾" X 2 ½" block between the post and the edge of the *Phoenix I* post holder.

Figure 5c. Placing locking shim blocks

b. Insert the shims between the block and the post with light pressure.
c. Using a hammer, tap shims into place on each side of the post. All four sides should be tapped in simultaneously until a snug fit is achieved (Figure 5d). It is not necessary to pound the shims in with great force. A snug fit is sufficient.

Figure 5d. Installing door shims

d. With a hand saw, score each door shim at a location flush with the 1" X ¾" X 2 ½" block taking care to avoid scoring the post. Break off the shims and fill the remaining voids with sand up to approximately ¼ inch from the top of the post holder (Figure 5e).

Figure 5e. Scoring and breaking off the door shims

e. Optional: If locking shims are not used, fill the sand to within ¾ inch of the top of the post holder.

STEP 6. Finish with silicone caulking

Apply a generous layer of silicone caulking over the top of the locking shims and the post holder, filling all remaining gaps and spaces around the locking shims (Figure 6a). This will aid in preventing moisture from entering the sand inside of the post holder. A typical installation will use approximately ½ of a standard, 10 oz. tube of caulking. If you choose not to use the locking shims, you will use nearly a full 10 oz. tube of caulking. Your *Phoenix I* post holder is 22 inches deep so cover the top of the caulking with approximately 2 inches of dirt or other materials as desired (Figure 6b) and your post installation is complete!

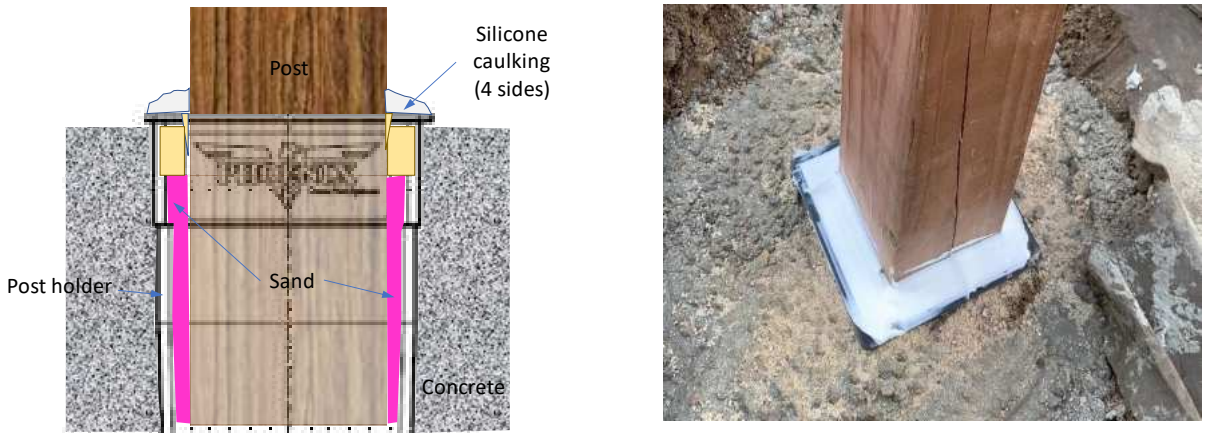

Figure 6a

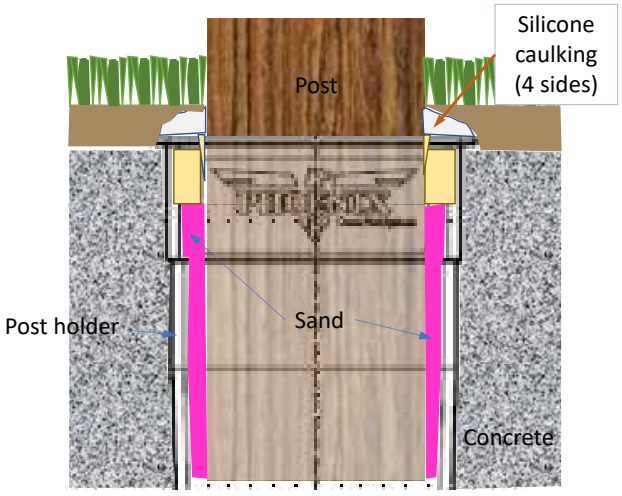

Figure 6b

If for any reason your post needs to be removed or replaced, simply remove the caulking, shims, sand and post and reinstall the post following the instructions in steps 4 through 6.

When it comes time to replace your wooden fence post, the value of the *Phoenix I* post holder will be abundantly clear. There's no need to go through the difficult task of removing the concrete stump from the ground! There is no need to dig new post holes! No mixing and pouring of new concrete or waiting for the concrete to cure! The *Phoenix I* makes the post replacement task so much easier than breaking and digging out that concrete!

Post removal Instructions

STEP 1. Remove caulking and locking shims

Remove the caulking and locking shims at the top of the *Phoenix I* post holder.

STEP 2. Extract post remnant from the *Phoenix I* post holder in ground

If there is any portion of the wooden post protruding from the ground, go ahead and grasp the post remnant and pull vertically to extract (See Figure R2a). If the post is broken at ground level and no post remnant remains above the ground, first try removing the sand from around the post by brushing away sufficient sand to be able to grasp the portion of the post that remains in the post holder (Figure R2b). If a good grasp, sufficient to pull the post up out of the post holder is not achieved, then pound a large nail/spike into the top of the remaining piece of post still in the sand and post holder. Pound in the nail until the resistance indicates that the nail is solidly in the wood but leaving several inches of the nail sticking out (Figure R2c). Grasp the nail and vertically extract the wood from the Phoenix post holder.

If the post remnant is still difficult to extract with the large nail, use a long, slim metal bar (like a "slim Jim") to loosen the sand around each of the four sides of the post. Such bars can be purchased at your local hardware store.

If the sand was installed properly and remains mostly dry, the post will readily be extracted.

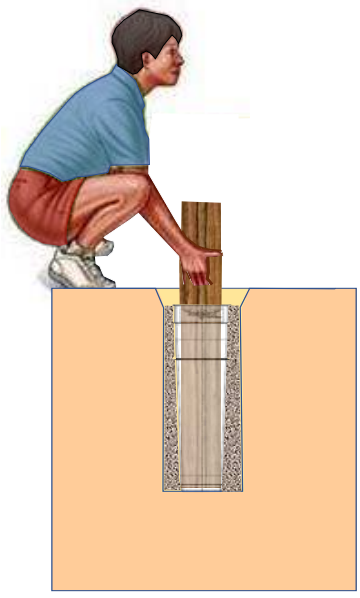

Figure R2a

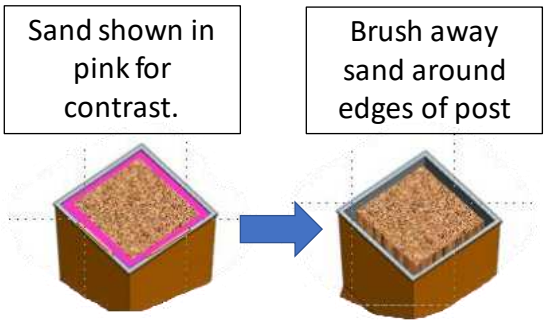

Figure R2b. *Shows post and* post holder *with some sand removed around the post*

Figure R2c. *Shows post with nail or spike protruding from post end to grasp and pull out of ground*

STEP 3. Remove sand and reinstall new post

Remove the sand by scooping it out of the post holder. A shop vac could be used. Once the sand is removed, you can now reinstall a new post by following the *Installation instructions*. Unless the old sand is dry and free of common dirt, use new, dry sand for the installation of your replacement post. It is IMPORTANT to use dry sand when re-installing a post.