

Read Me First!

Installation of this product is a simple procedure, but we recommend this job only if you are an experienced repair technician.

Requirements

The Full Circle is available in either 1/4-20 or 6mm thread format. Before you install the pickup, confirm that the threads in the bridge will match those on the Full Circle.

Installation



Observe the following precautions!

- Before you install the Full Circle, confirm that the wheels you are about to replace are lined up well in the legs. The wheels must be parallel and the posts perpendicular to the cuts in the legs or the Full Circle may become mechanically unstable on the instrument (figure 1).

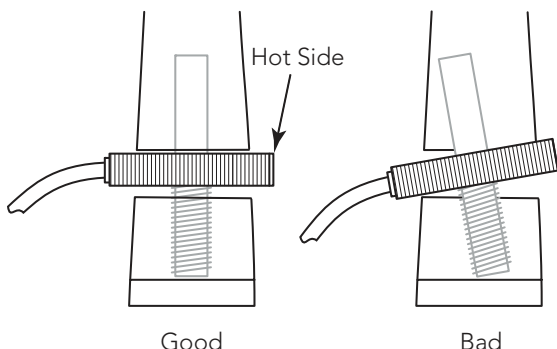


Figure 1

- Fishman Transducers will not be responsible for damages to the pickup or the instrument due to improperly installed wheels!

Retro-fit the Full Circle to a bridge with installed wheels

The pickup is "hot" on the flat face of the wheel: on the side with the non-threaded post. For good performance it is crucial that the hot side of the pickup lies absolutely flat with no gaps or voids where it contacts the bridge. If necessary, sand the wood flat where it contacts the wheel before you install bridge on the bass (figure 1).

When you install the pickup, remove the RCA plug from the back side of the output jack. Replace the plug after the pickup is in place.

Setup

Once the wheels are mounted and the bass is tuned up, thread the white wire through one of the wing holes in the bridge and hold it in place with one of the neoprene plugs from the kit (figure 2).

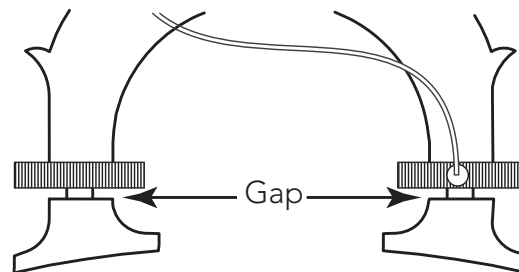


Figure 2

Fasten the output jack behind the bridge and between two adjacent pairs of strings. Then fasten the RCA plug into the back of the output jack.

Mind the gap!

For good pickup performance, leave a slight gap between the threaded side of the wheel and the wood. If you close the gap, the amplified sound will become choked and muted (figure 2).

Height adjustment

Remove the RCA plug from the back of the output jack so the white wire does not wrap around the leg as you turn the wheel. Turn both wheels equal amounts for good contact with the pickup. To prolong the life of the pickup, do not pinch the white wire where it joins the wheel.

Tonal adjustments (figure 3)

Turn the wheel so the wire is perpendicular to the leg and the pickup will have an open, resonant response.

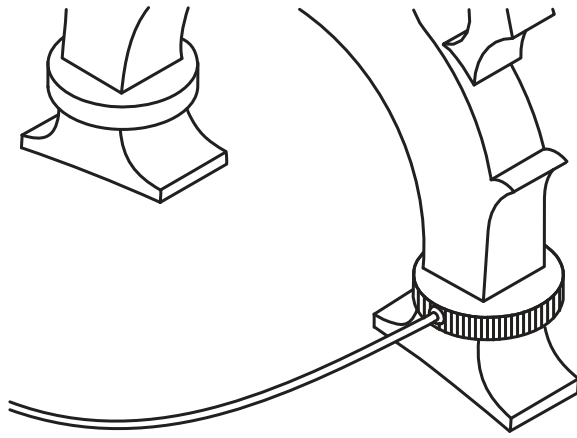
Turn the wheel 45 degrees so the wire faces one of the corners and the tone will be somewhat drier and more focused, with less output.

Fit the Full Circle to a bridge without wheels

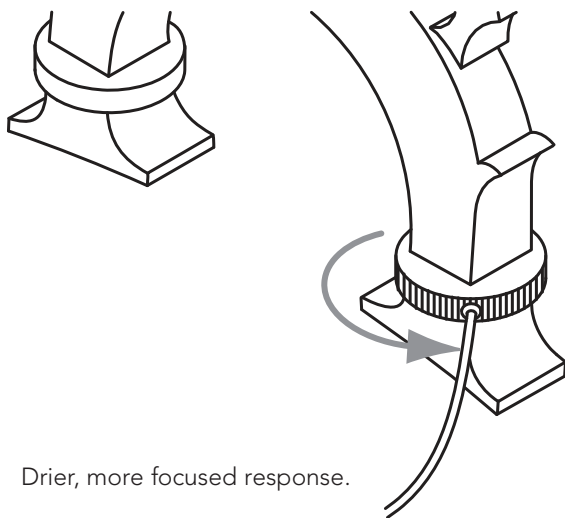
For maximum reliability and performance, the wheels should be centered precisely within the taper of the bridge.

Fit the bridge to the bass before you install the wheels. Note that the wheel with the white wire belongs under the E string.

There is a subtle tonal difference between "threads up" and "threads down" position for the pickup.



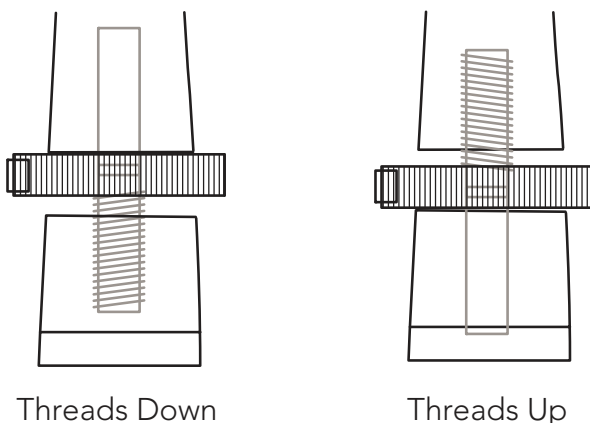
Open, resonant response.



Drier, more focused response.

Figure 3

When you mount the Full Circle “threads down,” the hot side of the pickup faces the strings. This translates to more defined articulation and attack, with a slight emphasis on the “string” sound (figure 4).



Threads Down

Threads Up

Figure 4

When you mount the Full Circle “threads up,” the hot side of the pickup faces the body of the bass. You’ll get a bit more woody acoustic tone this way, with a rounded attack and less “edge” (figure 4).

Lay out the bridge (figure 5)

The pickup will work best when the wheel is precisely centered in the leg. To do this, carefully lay out the appropriate lines ahead of time. You will be drawing lines on the side of the bridge that faces the fingerboard.

1. Use the line implied by the outside of each leg to make parallel vertical lines down to each foot (line A).

Option 1: threads down into the feet:

Make a mark on each leg no less than $1\frac{1}{4}$ " (31.75mm) from the bottom of line A.

Line up a straight edge on the marks and pencil in a horizontal line on each leg (line B).

To accommodate the thickness of the wheel, make a parallel set of lines (line C) $\frac{3}{8}$ " (9.5mm) below line B.

Option 2: threads up into the legs

Make a mark on each leg no less than $2\frac{1}{32}$ " (16.66mm) from the bottom of line A. Use a straight edge on the marks and pencil in a horizontal line on each leg (line B).

To accommodate the thickness of the wheel, make a parallel set of lines (line C) $\frac{3}{8}$ " (9.5mm) above line B.

2. Find the center of line B on the face of each leg. From these points make perpendicular lines down to the foot (D). Continue across the bottom of the foot (E).

3. Turn the bridge sideways and make a vertical line, centered through the taper of the bridge (line F). Go back to line B and continue it across the thickness of the bridge, perpendicular to line F (both legs).

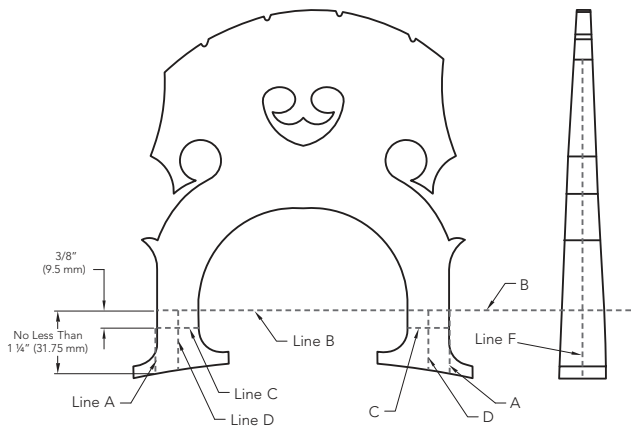
4. Finally, center a line (G) across the bottom length of each foot.

Drill the legs and cut off the feet

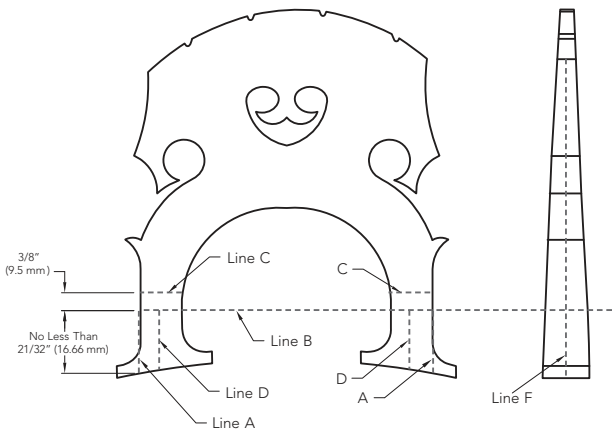
Precision is crucial here. Use a drill press and a band saw or table saw for these procedures.

Make a jig that will allow you to clamp the bridge and align your layout marks for the drill. Two pieces of $\frac{3}{4}$ " Plywood or MDF fastened at 90° will do the job. You will use a countersink, a #9 (5mm) drill bit and the appropriate tap for this procedure ($\frac{1}{4}$ -20 or 6mm). To simplify the job, we recommend that you use a so-called “extension” tap with a long reduced diameter shank.

Your drill jig should hold the bridge firmly. Line up the bridge (and shim if necessary) so that lines D and F are centered with and parallel to the drill bit. Double sided carpet tape makes an excellent temporary clamp for the bridge while you drill.



Threads into Feet



Threads into Legs

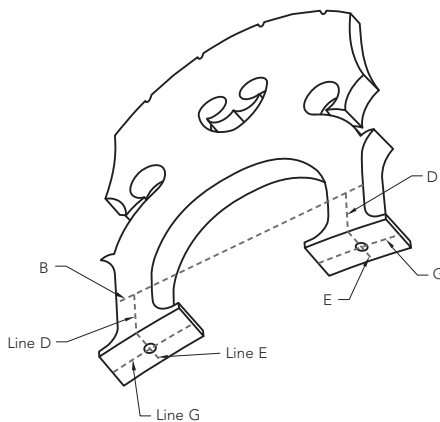


Figure 5

Option 1: threads down (into feet)

Start each hole with a single flute countersink. Drill the holes for the posts with a #9 (5mm) tap drill. Drill to a depth of no less than 1 3/4" (44.45mm).

If you have an "extension tap," use it now to tap the threads to a depth of 1" (25.4mm) into the feet. If you don't have an extension tap, wait until you cut off the feet to tap out the threads. In these cases, start the tap from the top of the foot.

Before you cut off the feet, line up the "B" lines on the legs so they are parallel to the saw blade. Place the side of the bridge that faces the tailpiece down towards the table. Line F must be perpendicular to the blade or the wheels will not align properly. If necessary, shim up the bridge to make line B parallel and line F perpendicular to the saw blade. Double sided carpet tape makes an excellent temporary clamp while you cut.

After you cut off the feet, enlarge the holes in the legs to 1/4" (6.4mm) diameter.

Option 2: threads up (into legs)

Start a hole in one foot with a single flute countersink. Then use a #9 (5mm) tap drill to plunge the hole in one leg to a depth of at least 2" (50.8mm).

With the bridge still held in position from the first hole, enlarge it to 1/4" (6.4mm) diameter, to a depth of 1" (25.4mm). Repeat this entire procedure for the other leg.

Tap the appropriate threads into the legs. If you have an "extension tap," you will be able to thread all the way into the bottom of the hole. If you don't have an "extension tap," the threads won't reach completely into the legs. This is not a problem; you can go back and finish tapping the threads after you cut off the feet. But try to at least get the tap started into the upper part of the legs. This will ensure good thread alignment when you finish tapping after the feet are cut off.

Before you cut off the feet, line up the "B" lines on the legs so they are parallel to the saw blade. Place the side of the bridge that faces the tailpiece down towards the table. Line F must be perpendicular to the blade or the wheels will not align properly. If necessary, shim up the bridge. Double sided carpet tape makes an excellent temporary clamp while you cut.

Fit the wheels

Once you have cut off the feet, fit the wheels with the bridge off of the bass. The hot side of the pickup should lay absolutely flat against the bridge, with no gaps or voids. If necessary, sand the wood flat at the contact point and/or increase the depth/diameter of hole before installing the bridge on the bass (figure 1).

Setup

Once the wheels are mounted and the bass is tuned up, thread the white wire through one of the wing holes in the bridge and hold it in place with one of the neoprene plugs from the kit (figure 2).

Fasten the output jack behind the bridge and between two adjacent pairs of strings. Then fasten the RCA plug into the back of the output jack.