

# Cigar Box Ukulele Kit Assembly Instructions



Product Number 36-009-01

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*Maybe you'd like to play a little love song for the apple of your eye, or possibly plink your way over the island rainbow like the late, great IZ. Maybe you're looking to build your first instrument by hand. No matter what your motivation, you too can play soft, mellow tones on your very own hand-built cigar box ukulele in no time.*

This guide will walk you through the assembly of the C. B. Gitty Cigar Box Ukulele kit. Using just a few basic tools you will construct a fully playable, great-sounding and awesome-looking concert (also known as alto) cigar box ukulele, sure to be the envy of friends and neighbors alike. The ukulele is a very fun and easy-to-play instrument with a unique, happy sound, and your cigar box uke will provide many hours of musical enjoyment.

## Need Parts?

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## Kit Inventory



Refer to the labeled photo above to identify each of the parts in your kit. Verify that everything is present and that you are familiar with what's what.

- A. Plain Wooden Craft Box
- B. [Hardwood ukulele neck blank](#)
- C. [Rosewood ukulele fret board](#)
- D. [Set of nylon ukulele strings](#)
- E. [Rosewood ukulele bridge](#)

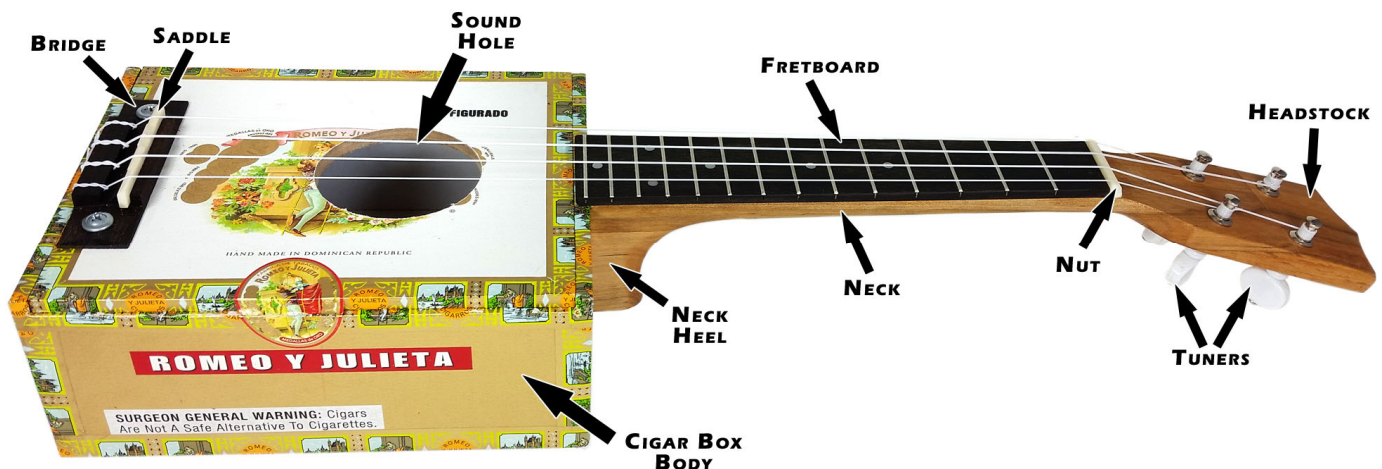
- F. [Bone ukulele saddle](#)
- G. [Bone ukulele nut](#)
- H. (4) washer-head screws
- I. (3) drywall screws (two longer, one shorter)
- J. Bridge/tail bracing block
- K. [\(4\) Ukulele tuners](#)

## Tools Needed

The following tools are what we recommend for completing this kit—they are the same ones we used when making this guide. You may be able to substitute other tools and methods, but please before using any tool (hand or power) make sure you follow all safety recommendations!

- Drill (hand drill or press)
- Wood File or Rasp
- Wood glue
- Clamps (at least 2 or 3)
- 1/8" drill bit
- A Phillips screwdriver
- A ruler or measuring tape
- A pencil
- Small wood saw (optional)
- Hole saw/Forstner bit/Spade bit for sound hole (optional)
- Sandpaper (recommended)
- Scratch awl (recommended)
- Blue painter's tape (recommended)
- A digital chromatic tuner

The diagram below shows a completed cigar box ukulele built from this kit, with all of the key components labeled. Refer to this diagram throughout the rest of these instructions, if you are not sure of where we're headed.




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## PART 1—ATTACHING THE NECK

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### Step 1—Install the Neck Brace

To start building your C. B. Gitty Ukulele Kit, take the neck bracing block and fit it against the inside of the box on which you'll be mounting the neck. The block should not extend above the rim of the box edge, but if it does, use a file or rasp to make it flush.

Usually the shorter ends of the cigar box are chosen for the ends of the instrument (as shown above), so that it will have a horizontal orientation and be more comfortable to hold.

## Step 1—Marking for the Neck

Now it's time to mark the box for the location of the neck. As an overview, you will want the neck to be mounted to the cigar box exactly in the center of the side you glued the neck brace to.

The top surface of the neck should end up flush with, or slightly above ( $1/16$ " or so) the top of the cigar box. Having the surface of the neck be just a bit higher than the top of the box can help keep the string action lower, which makes for a better-playing instrument.

It can be helpful at this point to put some blue painter's tape (removable masking tape) on the box end you're marking for the neck. This prevents you from having to make marks directly onto the box's surface.

The tape should be able to be carefully removed later, before mounting the neck, without damaging the box surface.

Find and mark the center point on the neck side of the box, as shown in **Figure 1**. Also mark the center of the neck that will be joined to your cigar box. Line these two marks up together (**Figure 2**).

With the top of the neck brought even to the top of the lid, trace the heel of the neck onto the box.

Be careful to hold the neck firmly in place without letting it move, while tracing the outline onto the box surface/masking tape. **Figures 3 and 4** show how we did this. If the neck heel extends below the bottom edge of the box, mark it for cutting/filing off later.

## Step 2—Drilling the Neck Mounting Holes in the Box

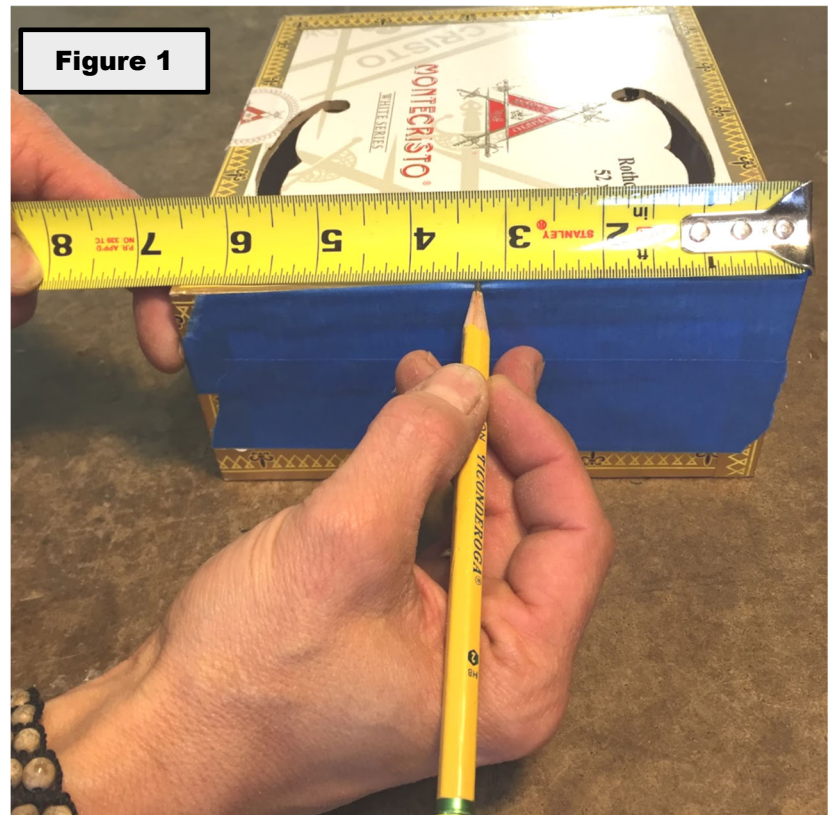
You can now set aside your neck. On the box, you should have an outline of where the neck will be mounted.

In this step, you will be marking out where the mounting screw holes will be placed, and then carefully drilling both the box and the ukulele neck. Be sure to use all appropriate safety precautions when drilling, being especially careful to never have your hand or fingers over the point where the drill bit will emerge.

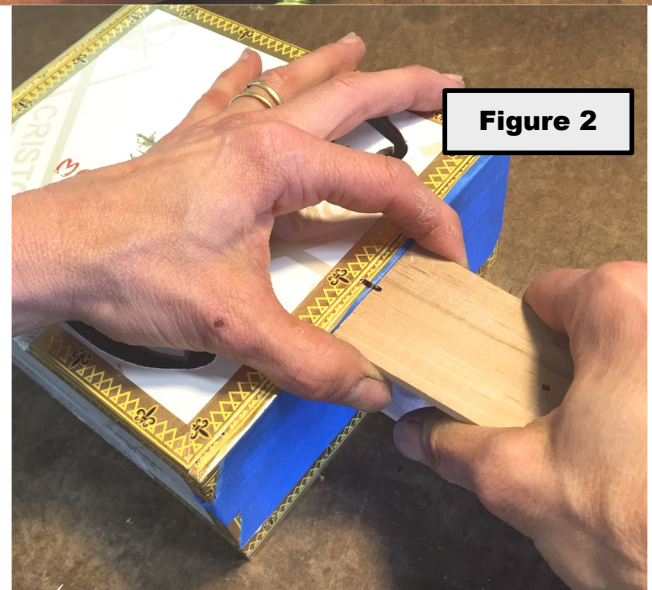
Using your awl, or a fine-tipped Phillips screwdriver, mark three points that can serve as starter holes for the mounting screws, as shown in **Figure 4**.

Position two holes towards the top by the wider part of the neck heel, and one towards the narrow bottom portion (see **Figure 9** below for a visual).

Now, as shown in **Figure 5**, use your  $1/8$ " (3mm) bit to drill the three holes you've marked. Be careful to not drill into your fingers, if you decide to hold it like the person in the photo above. Drill through the box.

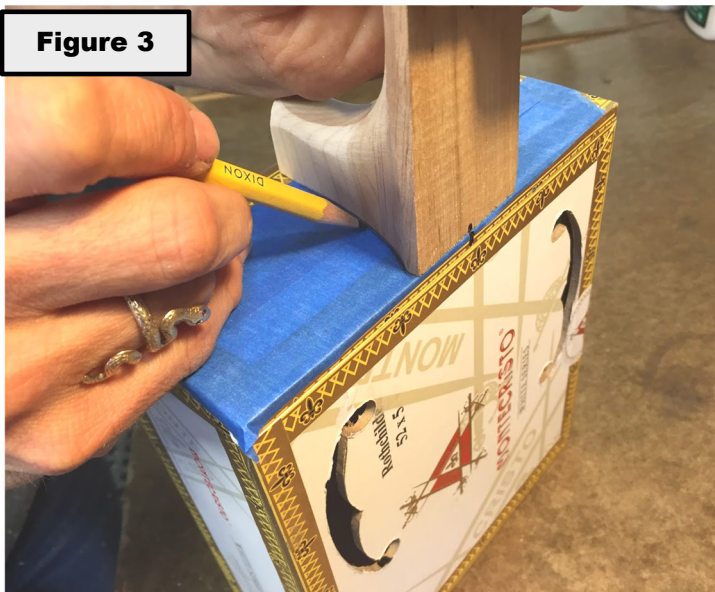
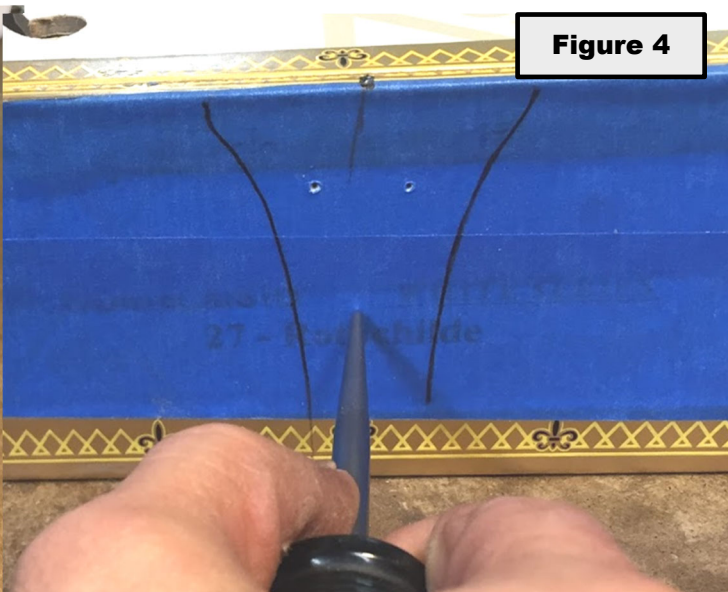


**Figure 1**



**Figure 2**



**Figure 3****Figure 4**

### Step 3—Drilling the Neck Mounting Holes in the Neck

Now, line the neck back up to the box, in position where it will be mounted, and make a mark through each the holes you just drilled onto the flat part of the neck heel. The scratch awl or a small nail is very handy for this. The result of the first mark is shown in **Figure 6**.

With all three holes marked on the neck heel, once again use the 1/8" drill bit to pre-drill the heel for the mounting screws. Be very careful at this point not to drill too deep - wrapping some painter's tape around the drill bit as a visual depth stop is a good idea.

Keep in mind that the two longer 2" neck mounting screws will go into the upper two holes, and the shorter 1 5/8" screw will go into the lower hole.

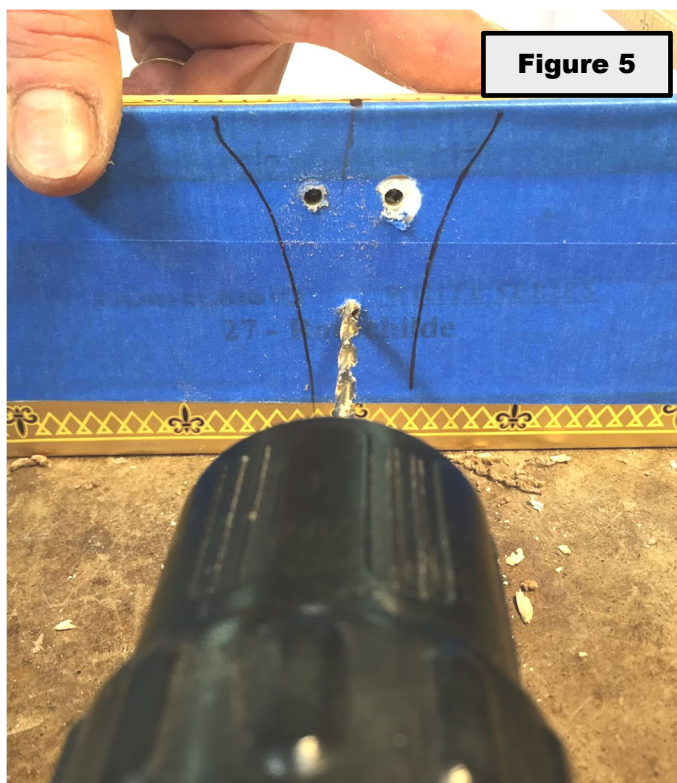
It can make things easier if you drill the first mounting hole into the neck, and then insert a single screw to hold the neck in place, and then mark the other two holes. This will keep the neck from moving/shifting, and it is very important that all of these holes line up properly—you don't want your neck to be crooked.

Now mark and drill the two remaining holes. When finished, your box and neck should be fully drilled with the three neck-mounting holes. Do a "dry fit" of the neck to make sure everything looks good.

This is a good time to remove the painter's tape (if you used any) from the box surface. **Figure 8** shows what the neck should look like when all 3 holes have been drilled.

You can now test-mount your neck to the box using the 3 neck mounting screws. Remember that the two longer ones go on top, the shorter one on bottom. Make sure everything is lined up and looking good. A "stubby" Phillips screwdriver is best for this.

Remember that you want the neck's flat upper surface to be as parallel as possible with the surface of the box.

**Figure 5**



**Figure 10** shows what the ukulele-to-be should look like once you have finished test-mounting the neck. If the neck heel extends below the bottom of the cigar box, you can file/sand the overhang away.

Once you're confirmed everything is good, you can go ahead and remove the neck, in preparation for attaching the fretboard.

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## PART 2—GLUING ON THE FRETBOARD

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In this section we will cover how to get the fretboard glued onto the neck. The first thing to do is decide whether you want the fretboard to extend out over the box. This is up to you, since having the fretboard extend out over the body makes the build a little more complicated... but it does make the instrument more versatile when played.

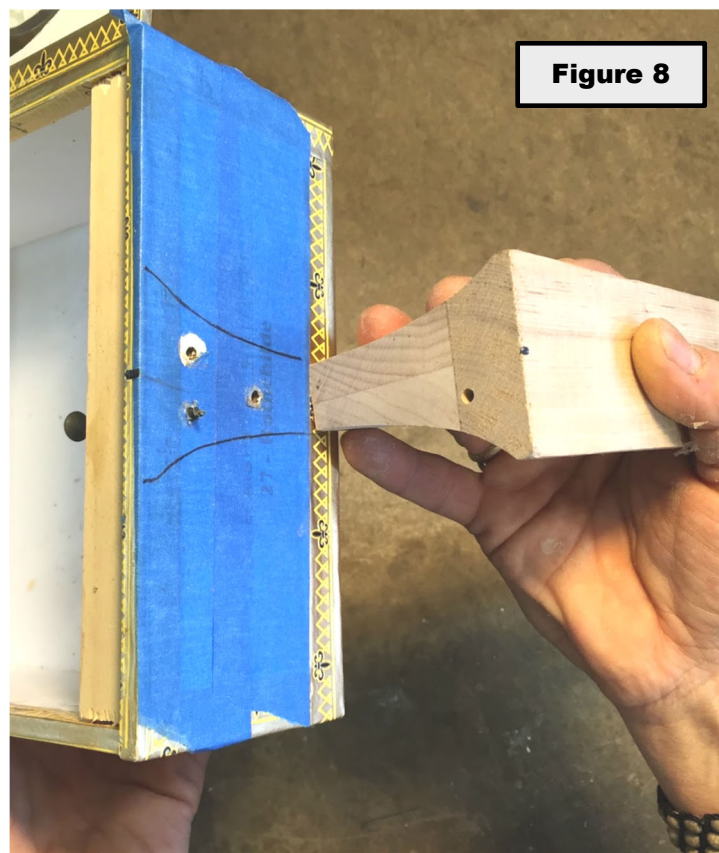
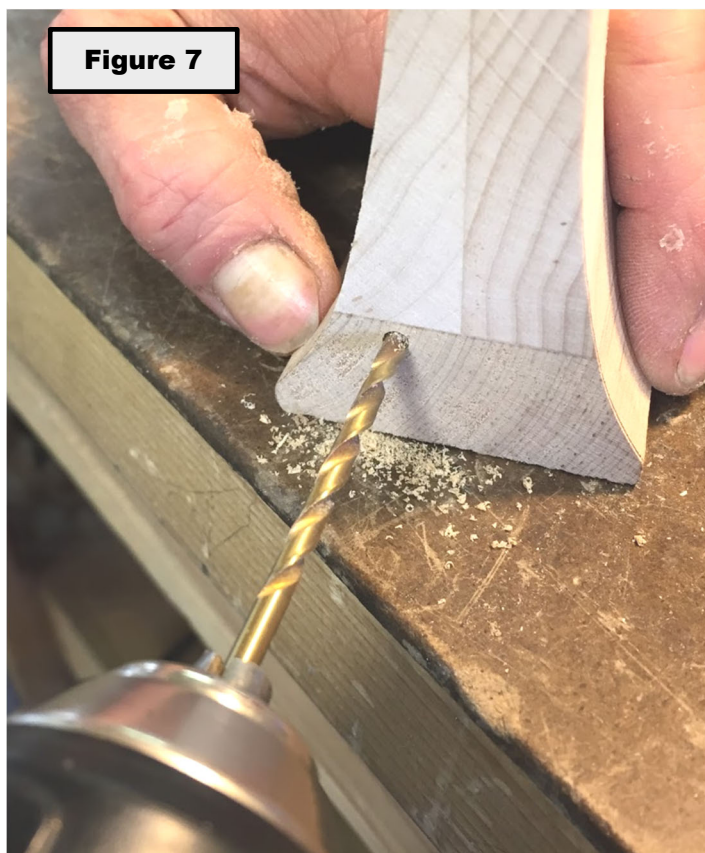
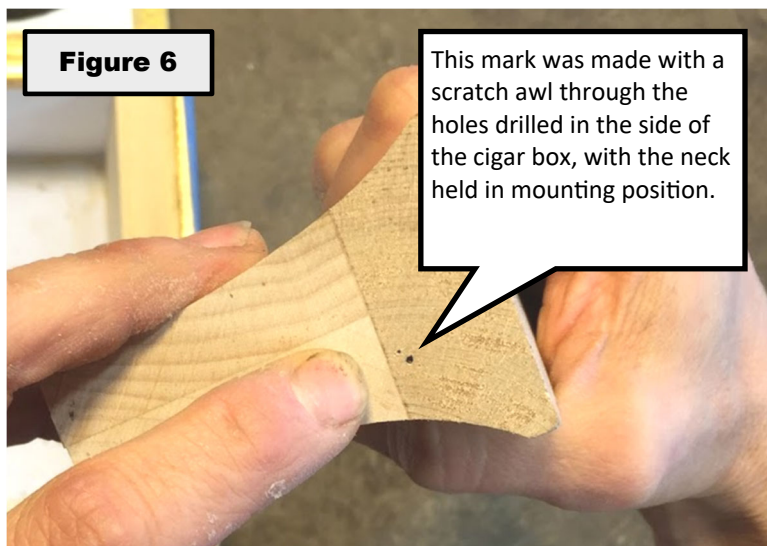
This guide shows the simpler method of cutting off the excess part of the fretboard so that it does not extend out over the box.

### Step 1—Dry Fit the Fretboard and Cut off Excess Length

Line up your fretboard on top of the neck, leaving about  $\frac{1}{8}$ " (3mm) of room for the nut to be glued in place below where the neck angles into the headstock, as shown in **Figure 11**.

Mark a line where the top edge of the fret board will be on the neck.

There are two options as to how the fret board can be mounted onto the neck. You can either have the fret-



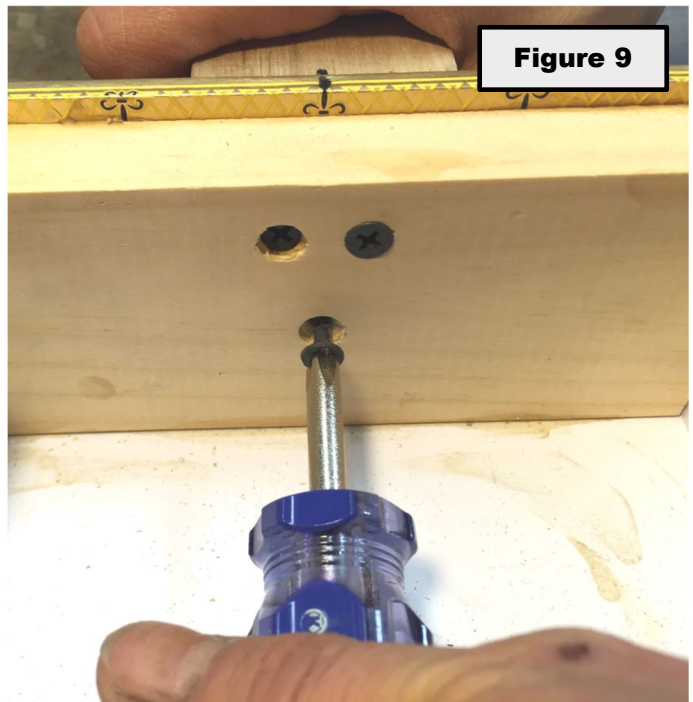
board extend out over the box (which makes the instrument more versatile when being played), or you can cut off the bottom part off the fretboard so that it ends at the box edge.

One benefit of the latter is that it lets you gain access to the box interior after the ukulele has been built - this can be handy if you want to install a pickup, or at least want to leave yourself the option of doing so later.

For the purposes of this guide, we're going to cut off the "excess" fretboard, so it's time to mark the fretboard to be cut.

*If you have decided to not cut the fretboard shorter, skip this next step.* With the fretboard held in position on the neck, turn the neck over and make a pencil mark on the back of the fretboard (**Figure 12**). Make sure you have allowed the 1/8" for the nut up at the top!

Once cut, your fretboard should line up evenly with the end of the neck, as shown in **Figure 13**. Sand and smooth the cut edge to remove any sharp points.



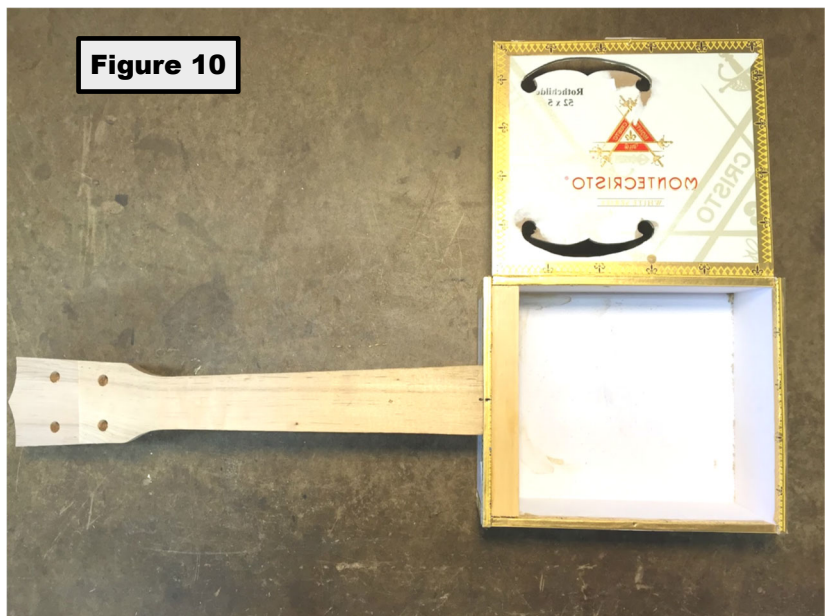
**Figure 9**

## Step 2—Gluing on the Fretboard

*Please note: if you have decided to leave your fretboard at full length, you should not glue it onto the neck until the neck has been mounted onto the box.*

*Once the fretboard is glued on, you won't be able to open the box any more, so it is best to wait to do this until towards the end of the assembly process. The rest of these instructions assume that the fretboard has been cut shorter.*

Once you have your fretboard cut to length, it is time to get it glued onto the neck. Apply wood glue to both the back of the fret board and the top of the neck, as shown in **Figure 14**. Make sure to spread the glue around over the entire surface—you want to make sure this is a good, strong joint.



**Figure 10**

Line the top edge of the fretboard up with the mark you've made at the top of the neck. Firmly clamp the fretboard to the neck, wiping off any excess glue that may squeeze out from between the two surfaces. Use as many clamps as necessary to get a nice tight glue joint.

You may find it beneficial to use a scrap block of wood between the clamps and the fret board, as shown in **Figure 15**. The wood block will help to protect the fret board and will evenly apply pressure across the entire surface while the glue dries.

Be sure to let the glue set up for as long as is recommended on the glue bottle. In the C. B. Gitty shop we use Titebond II or III wood glue, which creates a very strong glue bond (often stronger than the wood itself), but you can use any standard-purpose wood or carpenter's glue with good results.

Once the glue has dried, remove the clamps and examine your handiwork. This is a good time to do any final sanding of the neck and fretboard, smoothing of fret ends and other finishing work on the neck.



## PART 3—INSTALLING THE BRIDGE & SADDLE

In this section we'll cover how to install the bridge and saddle, as well as the bridge bracing block that goes inside the box.

### Step 1—Install the Bridge Bracing Block

Now take the smaller block of wood included with your kit that will serve as a mounting brace for the ukulele bridge and glue that wood block under the spot where the bridge will be on top of the lid. If there is a layer of paper on the inside of the box lid here, you can use a file to remove it for a better glue joint, if desired.

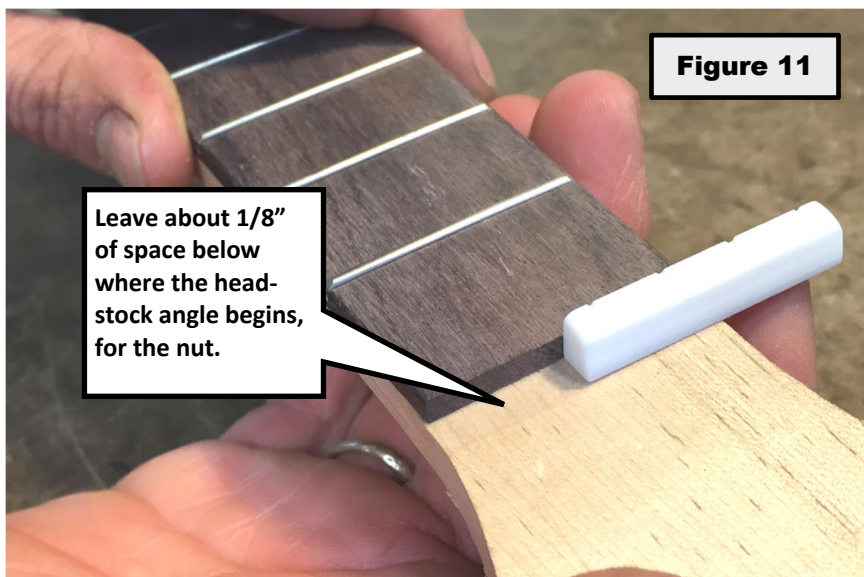
Your bridge, at the point where the bone saddle will be seated, will need to be exactly 15" (381mm) away from where the nut meets the top of the fret board. Place this bracing block so that it will be as close to the edge of the box as possible, but make sure the box lid will still close once it is in place (**Figure 16**).

### Step 2—Position and Drill the Bridge

Now, center the bridge on the top of the box (remember that the slot where the saddle will rest should be towards the front, and that the front edge of this slot should be exactly 15 inches from where the back side of the nut will be—see **Figure 17**). **Placing the bridge/saddle correctly (15 inches from the nut) is VERY important to ending up with a playable ukulele!**

Drill two holes in the center of the tabs on both sides of the bridge. On top of the box

**Pro tip:** A water-dampened cloth will help to wipe away most wood glues before they dry. Check the directions of the product you are using to be certain. Once the glue dries it can be very hard to remove excess, so do your best to clean it up before it sets.



**Figure 11**



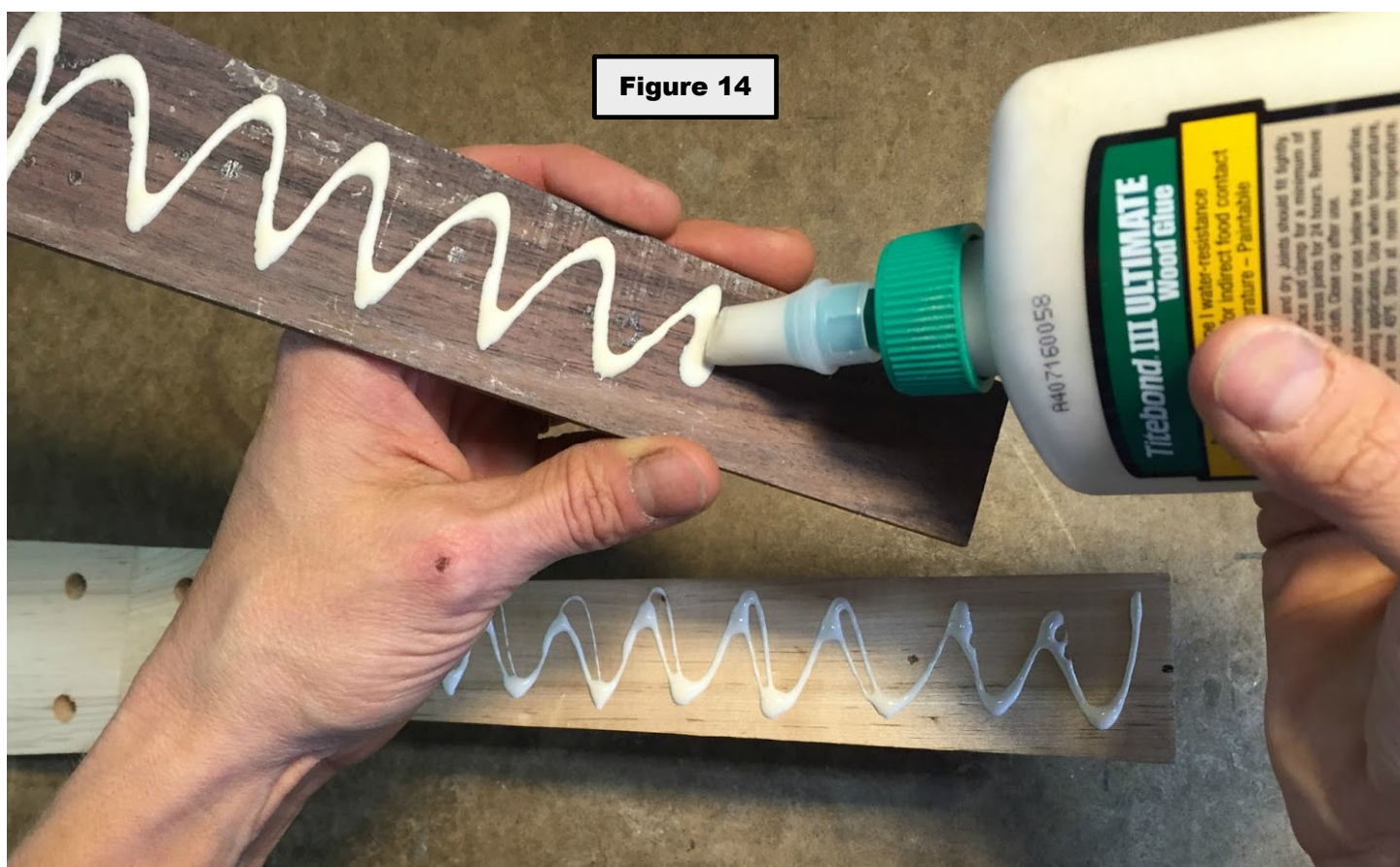
**Figure 12**



**Figure 13**



lid, center the bridge at the appropriate distance from the top of the fret board. Making certain that it is cen-



**Figure 14**

tered will properly align the bridge and saddle with the fret board.

Through the holes you've drilled, mark the box lid. Use a  $\frac{1}{8}$ " bit to drill holes through the lid and into the brace at the points you've marked, as shown in **Figure 20**.

If you are going to treat the bridge with any finishes, doing so now before it gets fastened to the box is a good idea. Smoothing off the sharper edges and points is also a good idea at this point—you don't want anything that will dig into your strumming arm when playing.

### Step 3—Prepare and Install the Saddle

This is also a good time to smooth and round the ends of the bone saddle, especially the end that will be towards the top of the instrument when it is held for playing, for the same reason as above—a sharp edge on the bone saddle can dig into your strumming arm, and no musician likes that!

Carefully insert the bone saddle into the bridge. Do not force it in. If need be, remove a tiny amount of material from the slot for the saddle with a razor knife or file. You want the saddle to fit snugly



**Figure 15**



(Figure 21).

A few light taps with a small mallet or wood scrap may be required to seat it securely, but don't overdo it or the bone or wood may break. You should not need to glue the saddle in place, since the strings will hold it down.

When installed, the bevels on the top edge of the saddle will be have the look of an ascending set of steps.

Take a close look at Figure 22 to see how the angled/beveled parts of the saddle should be placed. This will help ensure good intonation once the instrument is strung up.

## Step 4—Mount the Bridge

If you substitute the box, and the top is paper-covered, it can be a good idea to lightly mark the bridge's outline on the top and use a file to rough up or remove the paper a little, to help the glue get a better hold.

Now, using two of the provided washer-head screws (the heads are a little bigger in diameter than the screws shown in the picture to the right), carefully position, glue and screw the bridge to the box, as shown in **Figure 22**.

If using a power driver, be mindful of how much pressure you apply. Driving too hard and too fast may split the tabs. Overtightening may also split the thin wood of the bridge.

## Step 5—Install the Bracing Screws

Using the two remaining washer-head screws, pre-drill holes about  $\frac{1}{2}$ " down from the box lid and mount them into the box, as shown in **Figure 23**.

The goal here is to hit the center of the bridge bracing block inside the box. This will help the box lid stand up to the tension of the strings once they are tuned up.



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## PART 4—FINAL ASSEMBLY AND STRINGING

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In this section we'll walk you through finalizing the neck portion of the instrument, from installing the nut and tuners to getting your ukulele strung up.

## Step 1—Install the Nut and Tuners



After removing the clamps from gluing the fretboard to the neck, apply a small amount of wood glue to the nut. Clamp it in place, as shown in **Figure 24**, with the flat edges butted up against the top edge of the fret board and the neck, as shown in the photo. Be sure to wipe off any excess glue with a cloth.

Once dried and the clamp removed, any final sanding and treatment of the neck can be done (if desired).

Now it is time to install the tuners into the headstock of the instrument. **Figure 25** shows a tuner laid out (with its parts in the order of assembly, as well as an assembled tuner).

Install your tuners as shown in **Figure 26 and 27** with the beveled and locking washers on the back of the headstock and the plastic washer and bushing on the front. The tuning shaft will join all the components with the tuner button screwed into the end.

At this point, make certain to tighten the screws attaching each white plastic button to the corresponding tuner shaft. Tight screws will help to prevent the pegs from unwinding under the tension of being strung up.

## Step 2—Cut Sound holes (Optional)

If you haven't cut or drilled any sound holes into the lid, now would be a good time to do so before you get too much further. Sound holes are largely a matter of personal preference as to where, what, and how big. Just be mindful of what you may visually expose inside the box.

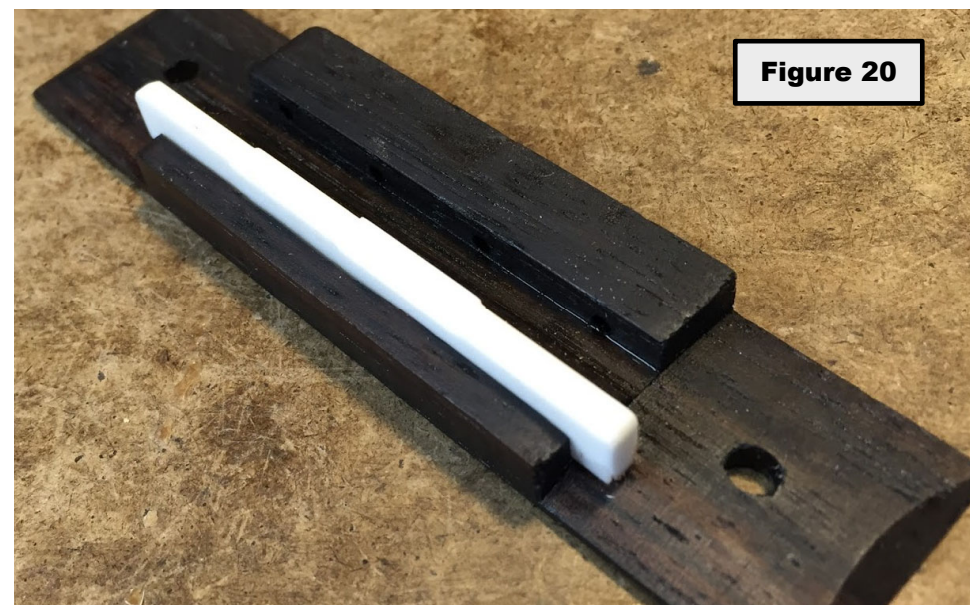
You can always search sites like [CigarBoxNation.com](http://CigarBoxNation.com) for any ideas and examples. The box we used in this guide had "F-hole"-style sound holes cut into it before we started, but a single round hole in the center of the box, sized between 3/4 and 1 1/2 inches, also



**Figure 18**



**Figure 19**



**Figure 20**



gives a very nice look. Several smaller holes in a pattern can also work nicely.

### Step 3—Re-attach the Neck

Now re-attach the neck using the three neck-mounting screws, as shown in Part I above. Make sure everything lines up correctly and make any adjustments as necessary. Once the neck is attached, you can hold the ukulele in playing position and see if there are any sharp or rough parts on the body or neck that need to be sanded and smoothed.

*Please note: If you chose to leave your fretboard at full length, then it is at this stage, after re-attaching the neck, that you should glue it on. Note that once the fretboard is glued on, you won't be able to re-open the box, so make sure everything is right and ready to go before you do this step!*

### Step 4—String the Ukulele

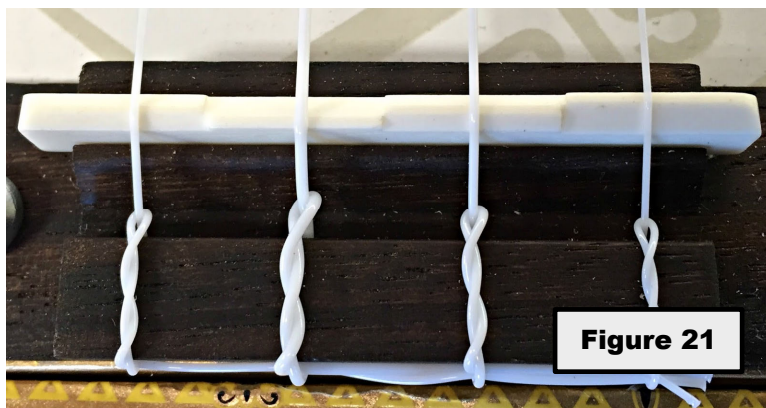
Stringing your ukulele is a fairly straightforward process. Basically, you will be tying the strings onto the bridge, then running them up the neck and wrapping them around the tuner post, ending by threading the string end through the hole on the post.

Take a look at **Figures 28 - 31** for a visual guide of how to get your ukulele strung up. The packaging for the strings will help you to determine which strings go where.

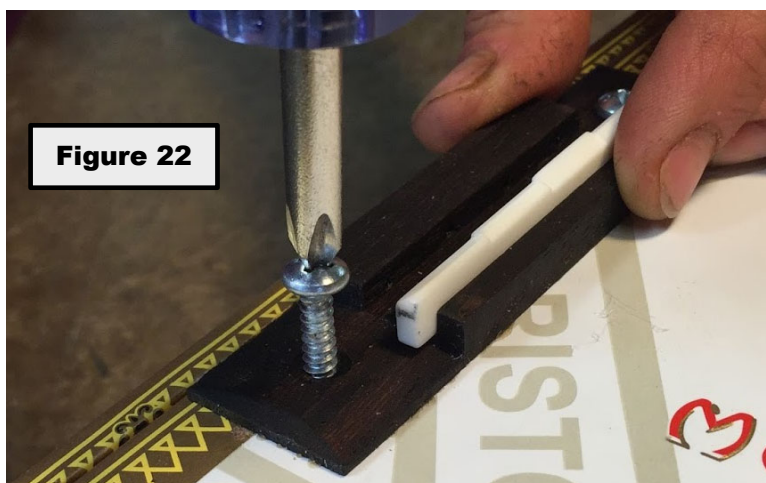
The 4th and 1st strings are the same gauge (thickness). The 4th string is placed above the thickest string, closest to the top of the box when in the playing position. The 3rd string is the thickest of the four. The second string goes below the 3rd and above the 1st, with the 1st as the bottom most string when in the playing position.

Insert the strings, one at a time, through the holes in the end of the saddle and over the bridge. Stretch the length of the string out and leave a good few inches to wrap the end securely onto the saddle. Knot them as shown in **Figure 30**. Once knotted onto the saddle, wind the string around the appropriate tuning shaft a few times. Insert it through the hole in the top end of the shaft and pull it tight. Wind the string up to apply a little tension and move on to installing the rest of the strings.

If the string action height (the distance between the string and the fretboard) seems too high, you can try filing down the saddle a little bit, or filing deeper string grooves into the nut. A small-diameter round “rat tail” file can be good for this.



**Figure 21**



**Figure 22**



**Figure 23**



**Figure 24**



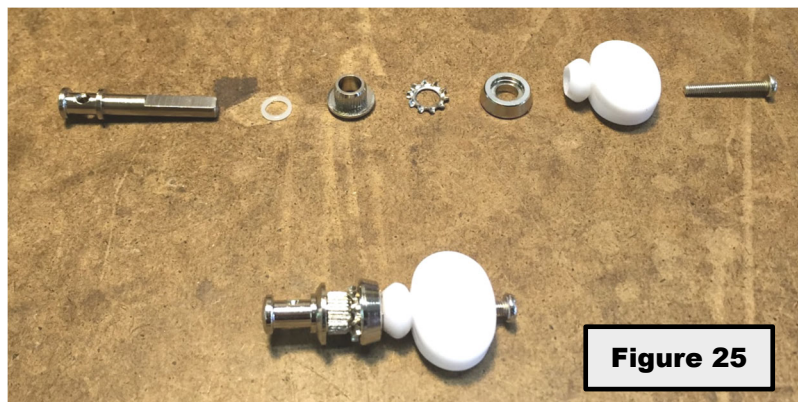
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## PART 5—TUNING AND PLAY- ING

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Once your strings are installed, the construction part of this kit is complete. **Congratulations, you have finished your ukulele!** Now all that's left is to get it strung up and get busy playing!

### Step 1—Get your Ukulele in Tune



**Figure 25**



**Figure 26**



**Figure 27**

This ukulele is tuned to G C E A, with G being the top string (when held in playing position) and A being the bottom string.

If you have a digital chromatic tuner, you can easily use that to tune your ukulele, especially if it has a Ukulele mode. For a good visual and audio reference, we recommend [www.ukutuner.com](http://www.ukutuner.com), which gives you the pitch of each string, as well as a nice representation of the headstock.

To help you get started playing your ukulele, above are some of the more common chords that you'll want to learn. In the diagrams, the vertical lines represent the four strings of the ukulele (the leftmost being the top string when you are playing, the rightmost being the bottom string), and the circles tell you where to put your fingers. The open circles at the top of the diagram indicates an open (unfretted) string.

Using just these chords, you can play a large number of both traditional and popular songs, from folk to country to rock and pop. You should be able to follow along with any printed or online sheet music or tablature that shows the guitar chords. There are many sites online that present tablature and chords for popular songs, such as [www.ultimate-guitar.com](http://www.ultimate-guitar.com) and others.

### Step 3—More How-to-Play Resources

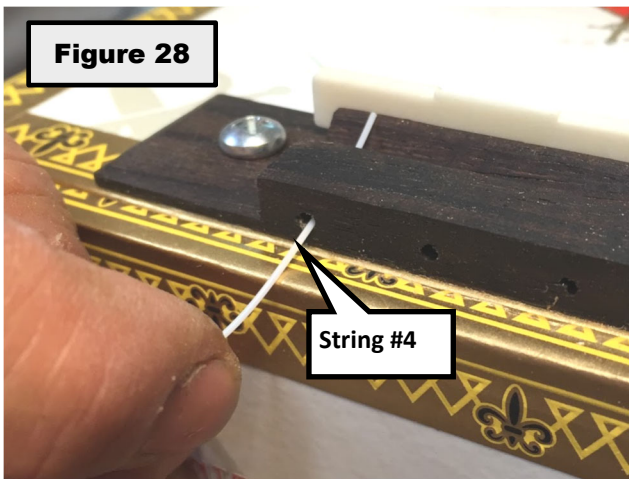
There are many online resources for how to play the ukulele, including a growing library of video how-to lessons over at [www.CigarBoxGuitar.com](http://www.CigarBoxGuitar.com). C. B. Gitty also sells a How to Play the Ukulele book that includes an audio CD. Find it at <http://www.cbgitty.com/books>. You can also search on YouTube for "ukulele lessons" and find a wealth of free how-to info.

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## CLOSING

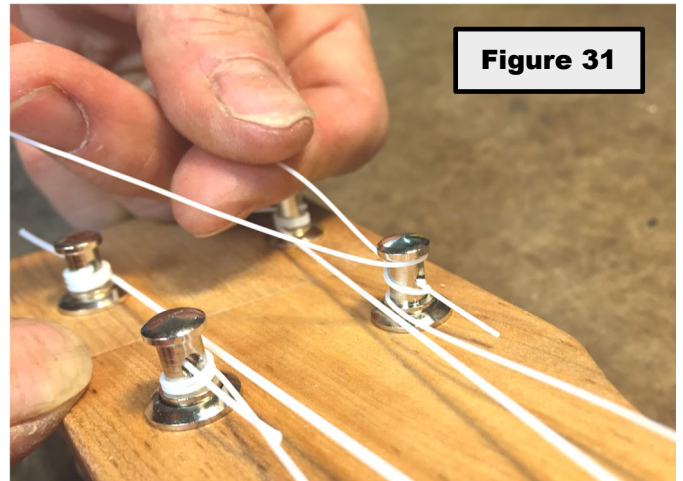
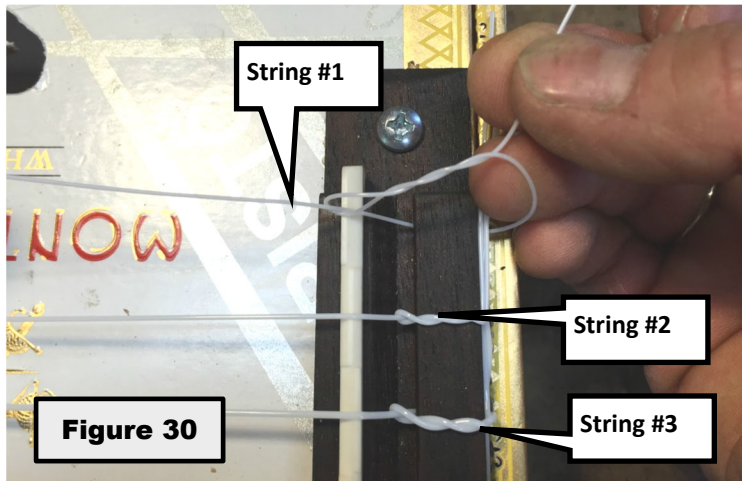
*We hope that you have enjoyed this process of building your ukulele from this kit, and that you will*

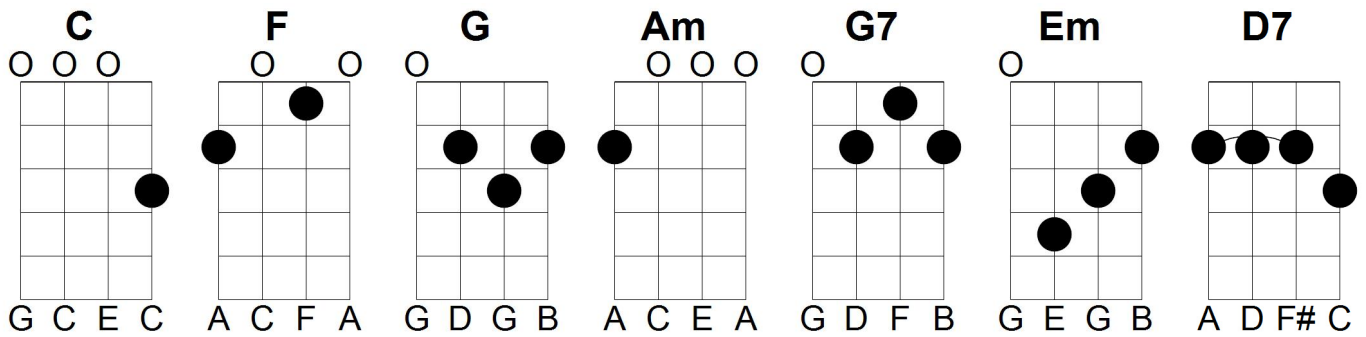




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