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# How to Build a Cigar Box Guitar

by Ben "C. B. Gitty" Baker



## YOU CAN BUILD YOUR OWN CIGAR BOX GUITAR!

Thousands of people around the world have already discovered that you don't need any special training to make your own awesome, playable guitar. Using just simple tools and materials you either already have or can easily find, you can be strumming in no time.

This guide will walk you through building a basic "stick on box" 3-string cigar box guitar meant for playing with a slide. Of course there are fancier ways to build one, but it's a good idea to start basic. Once you get this one under your belt, you'll be ready to plunge into something more advanced!

We'll start with listing the parts and tools you'll need (with some ideas on where you can find them), and then get into the how-to.

### PARTS YOU'LL NEED

1. **A Cigar Box**
2. **A 3-foot long 1x2" piece of hardwood lumber**
3. **Three (3) Guitar Tuners** (Machine Heads)
4. **A bolt, threaded rod or piece of wooden dowel for the nut**
5. **Another bolt, threaded rod or piece of wooden dowel for the bridge**
6. **Three (3) Guitar Strings**
7. **Six (6) screws**, round-head about 1/2" long

**Cigar Box** - Try to find the largest box you can, of the more flatter/rectangular style instead of the boxier/more cube-like ones. Check local cigar shops and junk shops. Many people prefer all wood (or at least plywood) boxes to the paper-covered kind, but both will work. C. B. Gitty also offers [guitar-sized cigar boxes](#).

**Neck** - This will serve as your guitar's neck. We **STRONGLY** recommend using hardwood (like Poplar, Oak, Maple, etc)



rather than softwood (Pine, fir) for this part. Often you can find 1x2 hardwood lumber at big box stores like Home Depot and Lowes. C. B. Gitty also sells [necks made specifically for cigar box guitars](#).



**Tuners** - You can take tuners off an old guitar, visit a local guitar shop and ask for spares, or buy some new ones. C. B. Gitty carries a wide range of tuner styles, including this set of [Shane Speal Signature tuners](#) created specifically for 3-string cigar box guitars.

**Nut** - The nut is the piece at the top of the neck that holds the strings up at the right height. You can use a short 1/4" bolt, a threaded rod, piece of metal pipe, wooden dowel or any other suitable piece. The length of the piece should be 1 1/2" to match the width of the neck. C. B. Gitty sells a [pack of 2 5/16" x 1 1/2" threaded rods](#) that are just perfect for this.



**Bridge** - The bridge is the part down over the body of the instrument (the cigar box) that holds the strings up at the right height. You can rest this right on the neck like the nut, or you can make a "flying bridge" out of wood that goes up and over the neck and rests directly on the cigar box. This is an advanced option that can produce more sound. More on this below. C. B. Gitty sells [laser-cut flying bridges](#) that make it easy.



**Strings** - We'll be tuning this guitar to Open G (Low G, Middle D, Middle G), so you can use the middle 3 strings (A, D and G) out of a standard 6-string guitar pack if you want. Or, you can buy a pack of [specially chosen cigar box guitar strings](#) direct from C. B. Gitty.



**Screws** - You'll use 3 of these screws to help keep the strings in place up on the head stock (the part at the top of the neck), and 3 to fasten the cigar box lid to the neck. 1/2" round-head screws can be found in the fasteners section of most hardware stores.

## TOOLS YOU'LL NEED

1. **A Drill (power or hand)**
2. **Drill Bits** (a set with an assortment of sizes is handy, but at least 1/16", 1/8" and 1/4")
3. **A small saw (power or hand)** - a small coping saw works well.
4. **A screwdriver** (Phillips or standard, to match the screws you found above)
5. **A ruler** (a 36" yardstick is recommended, but a tape measure will do)
6. **(Optional but Recommended) A round file about 1/4" in diameter**
7. **(Optional but Recommended) A flat/mill file or rasp**
8. **(Optional but Recommended) Some sandpaper** (both coarse and fine grit)
9. **(Optional but Recommended) A 1/2" (or larger) standard drill bit, Forstner or spade bit**

## GETTING READY TO BUILD

Gather all of your parts and tools, and find a (relatively) clean, flat surface on which to work. A workbench is best, but a table or counter top will do (consider putting down some paper or a sheet to protect the surface first). Read these instructions all the way through before getting started, to get the "big picture" view of where you're going and how you'll get there.

**Most importantly, RELAX! This is supposed to be fun!**

## PUTTING IT TOGETHER

Once you have all of your parts and tools gathered together, you're ready to start building your guitar. We will break this down into a few simple steps. **PLEASE BE CAREFUL AND OBSERVE ALL SAFETY RECOMMENDATIONS FOR THE TOOLS YOU WILL BE USING. Never use any power tool until you have educated yourself on how to use it safely.**

### STEP 1 - NOTCHING THE HEADSTOCK

Using your coping saw or other saw, cut a notch out of the top of your neck at one end, about 1/4" deep by 5 1/4" long.

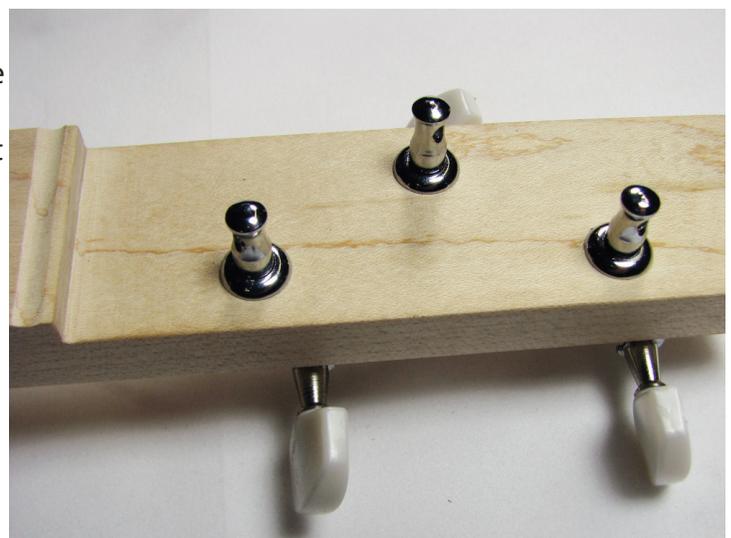
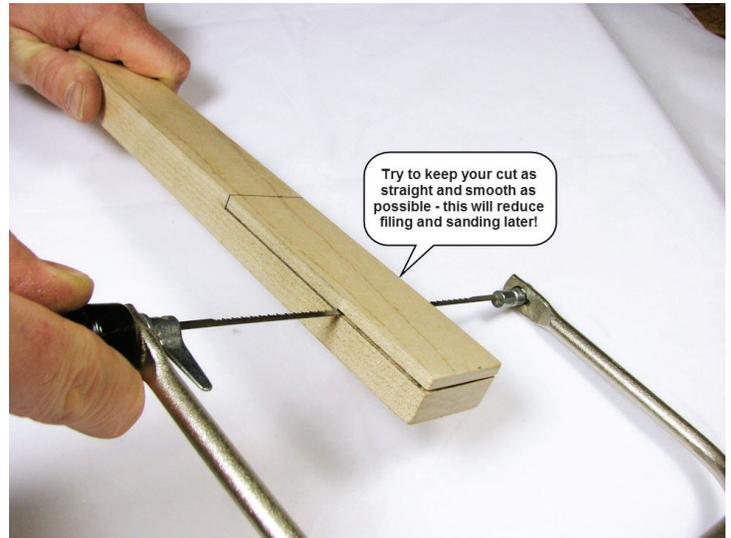
This notch will form the "headstock" portion of your guitar, where the tuners will be mounted. Try to keep the cuts as flat, smooth and even as possible.

Once the notch is cut, use a file or some sandpaper to smooth the cut surface as much as desired. You can also round off the top of the headstock if desired.

### STEP 2 - MOUNTING THE TUNERS & STRING RETAINER SCREWS

Tuner installation can vary depending on what kind of tuners you managed to find. We will show you how to install the Shane Speal Signature tuners we recommended above, and you should be able to apply these general steps to your own tuners. There are four possible tuner configurations you might have: 3 on the left, 3 on the right, 2 left and 1 right, or 2 right and one left.

The main thing when installing tuners is to allow enough space between them so they can be easily turned. You will want to drill 1/4" holes about 3/8" in from the edge of the neck, in the recessed area of the headstock. If your tuners came with press-in bushings, you may need to drill a slightly larger hole in the front side of the headstock to accept them.



Try to leave at least 1 1/2" in between the tuners, so their buttons don't touch and any mounting plates they have don't get in the way of each other. The photo on the right shows a sample installation. Don't place the tuners too close to the edge of the recessed headstock area.

Be sure to carefully pre-drill pilot holes for the tuner mounting screws before trying to screw them into the hard wood neck, otherwise the heads might twist off.

**String retainer screws.** The string retainer screws should be placed near the bottom of the headstock recess (about 3/4" of an inch or so up from where the recess stops near the nut). They help keep the strings in place and at the right angle to keep them in place as they go over the nut. See the photo to the right for an idea of how we recommend they be mounted.



*Suggested placement of the string retainer screws on the headstock.*

### STEP 3 - MARKING IMPORTANT POSITIONS ON THE NECK

First, you need to mark out where your nut and bridge will be. For the nut, make a mark about 1/4" down the neck from where the headstock recess ends. This is the NUT position. Then from that point, measure 25 1/2" down the neck and make another mark. This is the BRIDGE position. Draw a straight line across the neck at both of these positions.

### STEP 3B - OPTIONAL - MARK OUT FRET POSITIONS

While technically optional, doing this next part will make your guitar a lot less frustrating to try to play. Basically what we will be doing here is drawing lines on the neck to approximate where frets would be on a standard guitar. We'll be using a rough sort of "close enough" method that you can do with a standard yard stick or tape measure marked in 1/8" increments.

Measuring from the nut, draw a straight line across the neck at the following positions. This should give you a fairly close approximation of a standard guitar neck/fretboard. We give you both the exact decimal measurement and the "closest spot on a yardstick" measurement as well. You can be as exact about this as your personality demands, just try to stay relaxed and not worry too much. Remember that you are making a guitar out of a cigar box, a stick and some strings. It doesn't have to be perfect.

*For the measurement savvy, or folks with finer-graduated yardsticks, "half a mark" is roughly 1/16". A "hair" is roughly 1/32". A smidge is about 1/64".*

Fret #	Exact Position	Yardstick
1	1.431"	Half a mark under 1 1/2"
2	2.782"	A hair over 2 3/4"
3	4.057"	Half a mark over 4"
4	5.261"	Just a smidge over 5 1/4"
5	6.397"	A smidge over 6 3/8"
6	7.469"	A hair under 7 1/2"
7	8.481"	A hair under 8 1/2"
8	9.436"	Half a mark under 9 1/2"

9	10.338"	A hair under 10 3/8"
10	11.189"	Half a mark over 11 1/8"
11	11.992"	Just about right on 12"
12	12.750"	Exactly on 12 3/4"
13	13.466"	A hair under 13 1/2"
14	14.141"	A hair over 14 1/8"
15	14.779"	A hair over 14 3/4"
16	15.380"	Just a smidge over 15 3/8"
17	15.948"	Half a mark under 16"

#### STEP 4 - RECESSING A PLACE FOR THE NUT

This step is made easier if you have the 1/4" round file recommended in the tools list, but you can instead use your saw to cut a triangular notch instead.

Basically the goal here is to make a slight recess for the nut to sit in at the top of the neck. If you are using a 1/4" or so round bolt/rod/dowel as your nut, you'll want to center this recess about 1/8" above the nut line you drew in the previous step.

The photo to the right shows a nut recess carefully made with a round file, and a sample threaded rod nut sitting next to it. This recess helps keep the nut in place once the guitar is strung up and played.



#### STEP 5 - ATTACHING THE BOX

***If you want to apply some sort of finish to your neck, such as linseed oil, it is best to do that now before you string the guitar. Make sure you do any sanding and smoothing before applying a finish.***

Place the neck on the top of the box where you want it to go. Usually the neck is centered on the box vertically, but you don't have to. You'll want the line you drew on the neck to indicate the bridge to be 3 or 4 inches from the bottom side of the box, so that you have 2 or 3 inches of neck extending past the box end.



See the photo at the very beginning of this guide for a visual of how we recommend the neck be placed.

Depending on the type of box you have, check inside to make sure the inside surface of the lid doesn't have anything weird on it that will keep you from being able to put screws through it.

Once you have the neck where you want it, you can either use some masking tape to anchor it temporarily in place, or try to hold it with your hands, while opening the box and drilling your pilot holes and putting in the mounting screws. Be careful with this step so you don't drill in too far (or all the way through), and that the neck really is where you want it on the box lid.

If things don't come out quite like you wanted, don't panic. Usually you can take out one or two of the screws, and leave one in, reposition the neck, and redrill/screw. If it's a little crooked, it's no big deal.

## STEP 6 - DRILLING THE TAIL STRING HOLES

You'll need to use a small drill bit (like 1/16") to drill three holes in the end part of the neck, where it extends over the end of the box. The strings will be fed up through these holes and then up the neck to the tuners. Keeping these holes small will keep the "ball" end of the strings from pulling through. People also use various metal inserts (such as [these brass eyelets from C. B. Gitty](#)) to help "fancy up" these string holes.



There are various other ways to attach the strings at the base of the guitar, including metal tailpieces and other methods, but we are trying to keep this simple so a simple drilled hole will do. Feel free to get more creative if you want to.

## STEP 7 - STRINGING IT UP & INSTALLING THE NUT & BRIDGE

If you are using a threaded rod, bolt or dowel for your bridge, you may want to file/cut a recess/notch for it on the neck (remember to place it where you drew your line earlier, exactly 25 1/2" from the line you drew for the nut). If you are using a flying bridge, you can just place it over the bridge line.

If you are using dowels or other things that don't have threads or notches in them, you will need to file or cut in shallow notches for the strings, to help keep them in place. For a 3-string cigar box guitar, one string should be exactly centered on the nut and bridge, and the other two should be 3/8" to 1/2" on either side of it.

Now it is time to attach the strings. Basically, you will insert the skiny end of each string (the end without the ball on it) into the string holes you drilled in the tail end of the guitar, pull the ball tight against the back side of the neck, then run the string up the neck to where the tuner posts protrude from the headstock.

If you are looking at the FRONT of the guitar/neck, holding it vertically in front of you, the thickest string goes on the left and the thinnest string on the right. See the photo to the right. Note that this string order is reversed if you want to string it "lefty" for left-handed playing.

Wrap each string around the tuner post a couple of times then thread it through the hole. Give the tuner 3 or 4 turns to snug it up, but don't really tighten it yet - we still have to get the nut and bridge into position.

Once all 3 strings are on, grab the nut, work it under the strings, then slide



it up into its groove. Place each string into its proper position (middle string right in the middle, other two about 3/8" - 1/2" on either side of it. Next, do the same thing with your bridge down over the body of the instrument.

Your guitar should now be pretty much complete. Just a few more steps and you'll be ready to tune it up and start playing!

## STEP 8 - FINISHING STEPS

**Sealing the cigar box.** You will probably want to figure out a way to keep your cigar box closed, if it doesn't have a latch of some sort. Various methods will work for this - glue, small nails/brads, small screws, latches or other hardware, and even tape. One popular method for "sealing" a cigar box is to install decorative metal box corners on all of the box's 8 corners. C. B. Gitty has a [very popular set of decorative brass corners](#) that are perfect for this.



**Trimming off the string ends.** There will be a few inches of excess string sticking off of the tuner posts looking messy. You can either use wire cutters to lop these off, or you can coil them up neatly into a loop.

**Tuning the guitar.** One at a time, tighten each string until they are holding the bridge and nut firmly into place in their respective spots bearing in mind the side of the brass screw that each string is supposed to be on.

With a little help from your digital tuner (or using an online tuner), tune that thick string to the lowest note, "G". The second string gets tuned to "D" and the third, or thinnest string gets tuned to high "G" - you can tell the note is much higher than the low "G" (one octave higher, in fact). Tuning is made a LOT easier with a clip on digital chromatic tuner, such as [this one sold by C. B. Gitty](#).

For more info on how to tune your guitar to Open G, [check out this video post](#) in the knowledgebase over at [www.CigarBoxGuitar.com](http://www.CigarBoxGuitar.com).



## It's TIME TO PLAY!

Now that your guitar is finished, it's time to get busy playing it. Check out these [how-to-play videos](#) over at [CigarBoxGuitar.com](http://CigarBoxGuitar.com) to get started. There are also some great resources linked from the [How-to-Play page](#) on [CigarBoxNation.com](http://CigarBoxNation.com). Both of these sites contain a great deal of information on cigar box guitars, including how to build and play them. Spend some time browsing around, read some articles and watch some vids... and start planning your next build!

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