



How to Build a Depression Era Cigar Box Guitar

Some of the greatest blues and Americana music legends started out on simple cigar box guitars like the one described in these plans. In its most basic form, a cigar box guitar is just a stick through a box with a wire attached to it. A broomstick was often used for the neck and strings were sometimes crafted from old screen wire.

In these plans, we'll use a common 1x2x3 plank of poplar, easily found at a big box hardware store and the C. B. Gitty Cigar Box Guitar Parts Kit which includes guitar strings, tuners and the basic elements needed to craft an instrument that's easy to tune and play.

Like all great folk art, your cigar box guitar project has endless possibilities to modify and further develop the design. We suggest you stick close to the plans for your very first one. After that, you'll want to build many more and add details such as frets, electric pickups and artwork.

C. B. Gitty Crafter Supply was based around the art of the cigar box guitar, providing parts for all kinds of mods and designs. (Yes, C. B. Gitty is short for Cigar Box Guitar!) A search around our main site, www.CBGitty.com will open your eyes to all kinds of options. From specialty tuners to fretwire, pre-made necks and even loud, high powered pickups are offered. There's so much you can do with a cigar box guitar.

But first, get to know the original instrument. These plans will guide you through the entire process. Once you're done, search for all the free how-to-play lessons we've developed at www.CigarBoxGuitar.com. Also join the entire cigar box guitar community at www.CigarBoxNation.com to learn more tips on building and playing.

Basic 3- and 4-String Cigar Box Guitar Kit Assembly Instructions










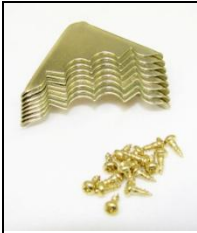
Version 1.30 - Revised
1/08/2016

Introduction

Welcome to the fun and addictive world of Cigar Box Guitar (CBG) building. Whether you are new to woodworking, or with years of experience, an accomplished musician or not musically inclined, CBGs are a great hobby that will provide many enjoyable hours in the workshop - whatever your workshop may be! This kit is a great starting point for building a CBG, containing everything you need except for the neck, which can easily be found at any hardware store that sells project wood, such as Home Depot and Lowes. Only the most basic tools are required to complete this kit, and the end result is a fully playable CBG. A word of caution first, however – many people find that they cannot build just one!



Kit Inventory

(1) Cigar Box (styles vary)		(1) Threaded-Rod Bridge	
(1) Set of Acoustic Medium CBG Strings (3 or 4-string, depending on kit version)		(1) Tailpiece Hinge with Screws	
Economy Tuners with Bushings and Screws (3 or 4, depending on kit version)		(4) Screened Brass Sound-Hole Inserts (grommets)	
(1) Threaded-Rod Nut		(8) Brass Box Corners with Screws	

Parts and Tools Needed

- A 34-inch long 1x2" hardwood board (poplar, maple or oak recommended)
- A small saw, such as a coping saw, hacksaw, keyhole saw, etc.
- A screwdriver
- A drill, hand or power.
- Various drill bits, from 1/16" to 1/2"
- Small Phillips screwdriver
- Glue (for sound hole inserts)
- Wood file and sandpaper

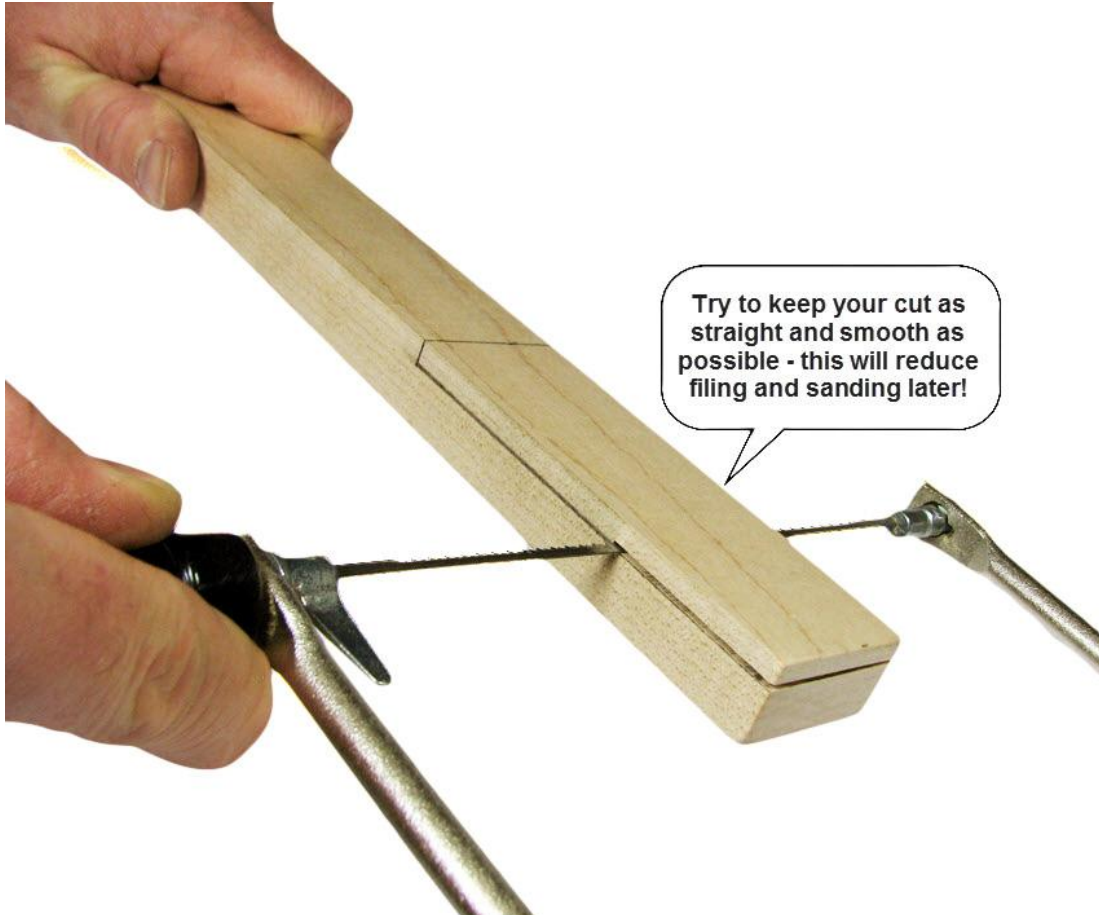


This photo shows the 3-string version of the kit; the 4-string version will have different strings and an extra tuner.

Instructions

1. Verify the inventory of your kit, using the inventory list and images above. Please note that there will be slight differences between the 3 and 4-string version (a different string set and one extra tuner). Also if you bought add-on options, they will also be included in the kit.
2. Unless you bought one of our pre-made CBG necks, you will need to supply a 34-inch long 1 x 2" board of some type of hard wood for your CBG neck (note that the actual width and thickness of the board is 1 1/2" x 3/4"). Most Lowes and Home Depot stores sell "project wood" in handy sizes, and you can usually find maple, oak and poplar 1 x 2" boards there in 3-foot lengths. Or if you have a more equipped wood shop, you can of course cut your own neck from any hardwood you have available. It is very strongly recommended that you DO NOT use a soft wood such as pine for your neck, as soft woods easily bow under the tension of the strings.

3. Prepare your work area and gather the necessary tools.
4. Using a hand or power saw, cut your neck to length (34 inches is recommended, though a longer neck can work). If desired, sand off any rough edges.
5. Mark your head stock for the tuner cutout, as shown in the photos below. The cutout should be **4 ½" long** and **¼" deep**. Be sure you mark your lines straight and square.
6. Using a hand or power saw, cut the tuner recess cutout according to the lines you've drawn, as shown below. Try to make this cut as smooth and even as possible, to reduce the amount of filing and sanding you'll have to do later.



7. You can do the fine sanding of the tuner cutout surfaces now, or wait until just before you install the tuners, whichever you prefer.



8. Next you need to mark the box for the neck cutout. The style of CBG you are building is called a “neck-through” style, where the neck extends all of the way through the box. To allow this, two openings need to be cut into the box sides, into which the neck will snugly fit. The process for marking and cutting these openings involves several steps, as illustrated in the photos below. **Please note that the measurements shown in these photos are specific to the box type being used; your box may be slightly smaller or larger, so be sure to measure carefully and do the calculations yourself. If your box has rounded edges, special accommodations may need to be made.**

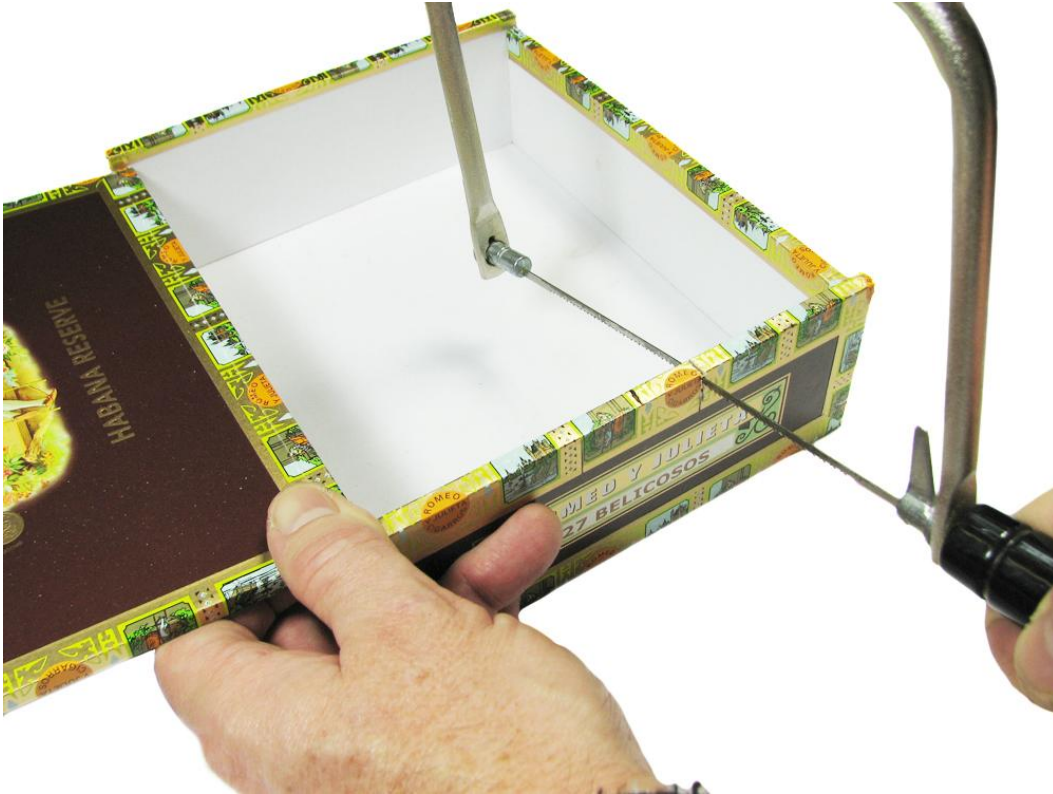


9. It is handy to use a scrap of 1 x 2" (such as the piece you may have cut off to get the neck length to 34") for marking the box, but you can use the tail end of the neck itself instead. If you use the neck itself, it is recommended that you use pencil instead of a marker, so that the marks can be removed later.



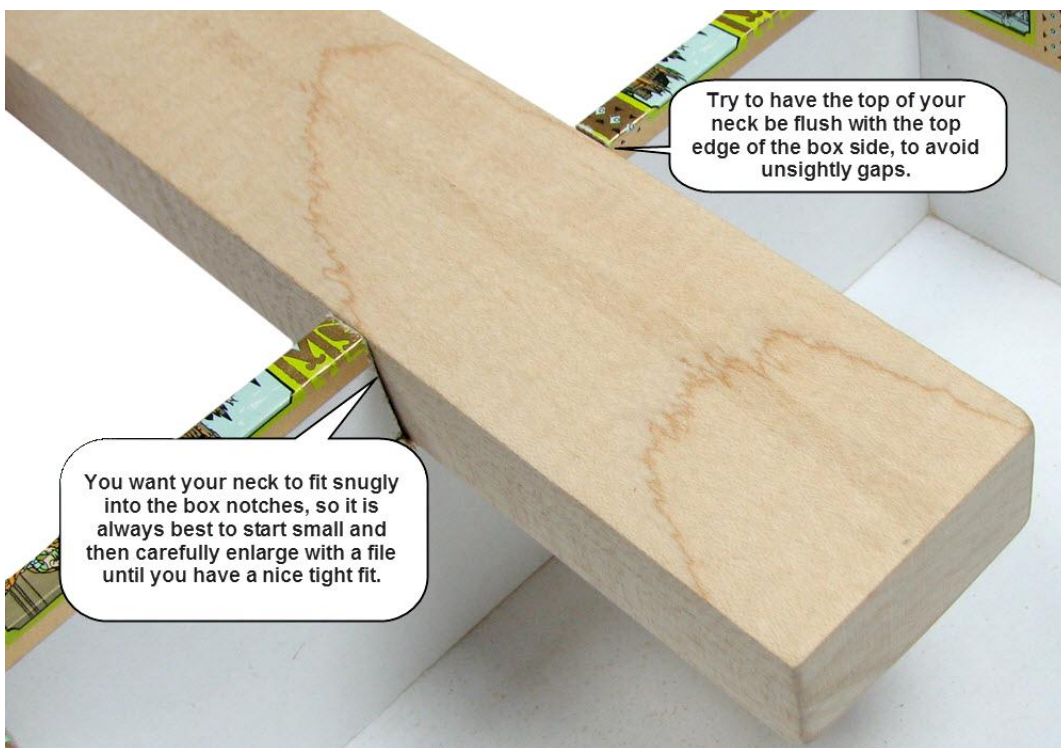
10. Once you have marked both sides of your box, it is time to cut the openings. It is recommended that you use a small saw, such as a coping saw, for this, but make do the

best you can with what you have. It is always better to keep the opening small on the first cut, as you can always enlarge it later with a file. You want your neck to fit as snugly as possible into the openings. The photos show how you first cut the straight side marks, and then use a two-cut method to cut the bottom.



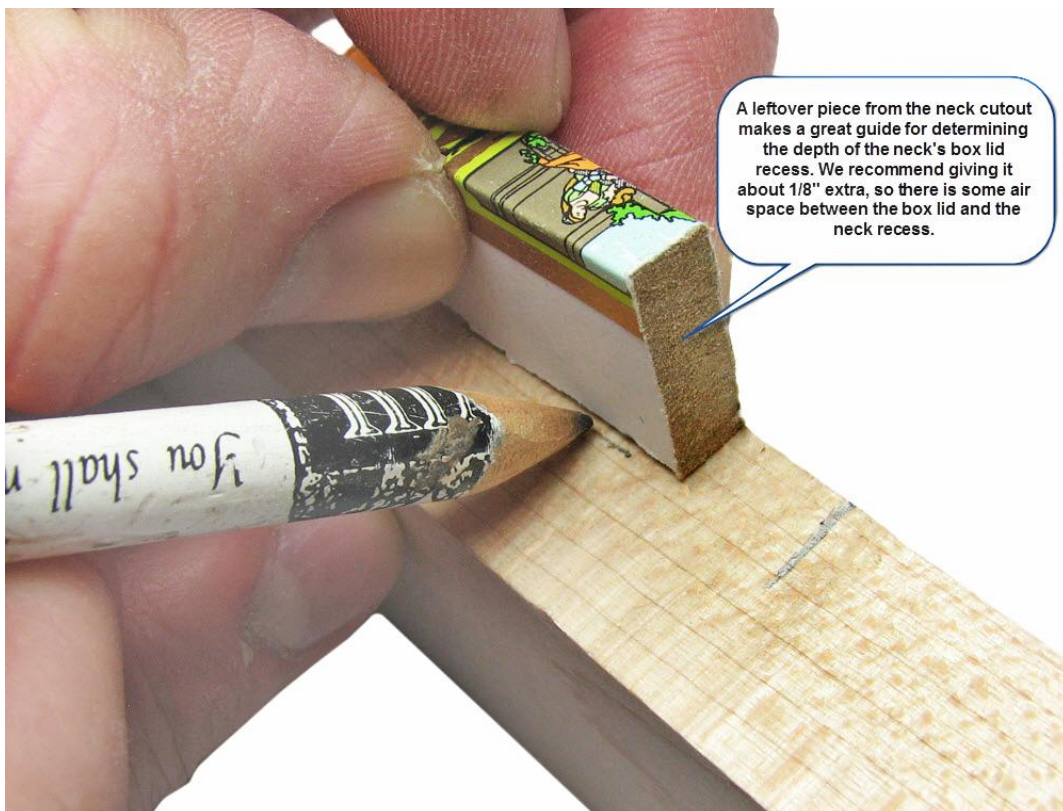
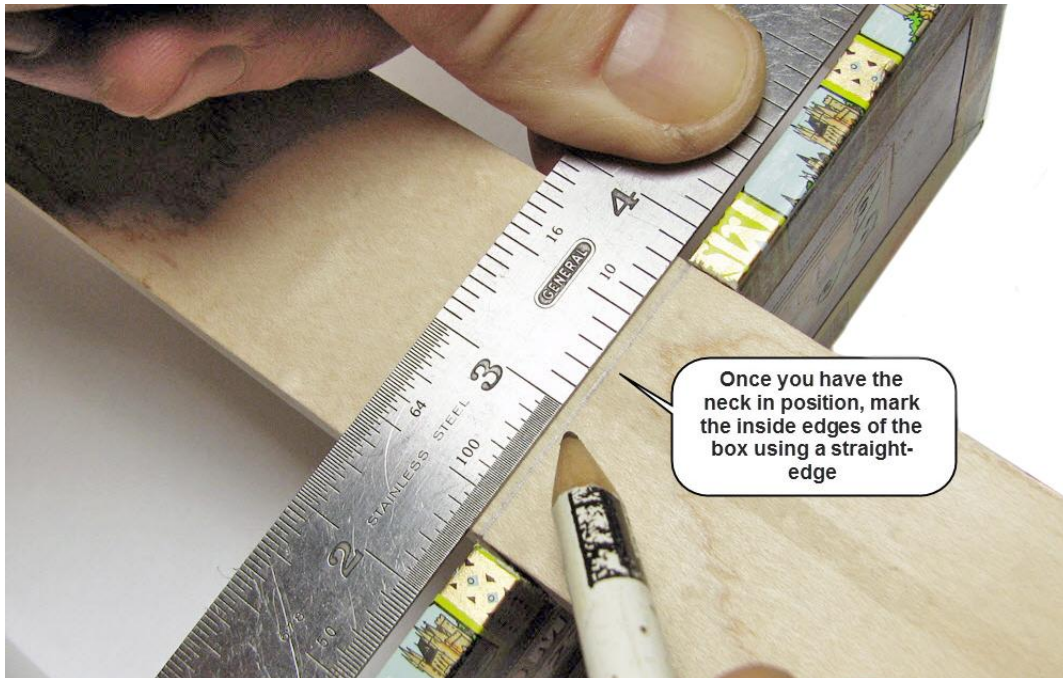


11. Once cut, test the fit of your neck , and if necessary use a wood file to carefully enlarge the cutouts. Ideally, you want the neck to fit very snugly and to be flush with the top of the cigar box



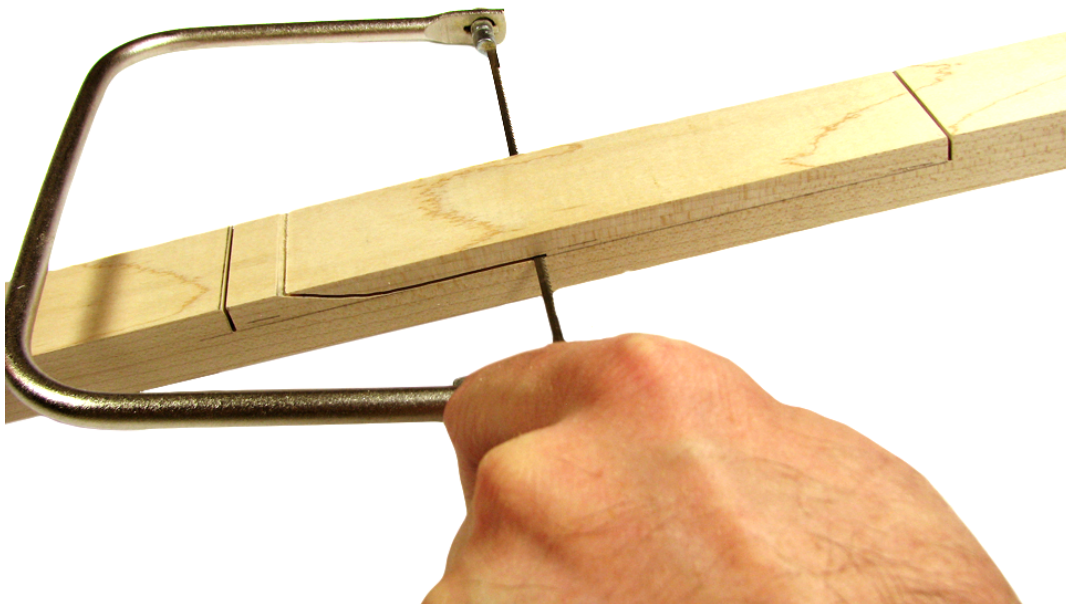


12. With your neck notches cut, the next step is to figure out the exact neck placement within the box. This involves a little bit of figuring, but nothing too heavy. You will want a couple of inches of neck sticking out the bottom of the box to form a tailpiece, and you will want your bridge to be about two or three inches from the edge of the box, for the best sound. Place the neck in the notches such that about 2 1/8" sticks out the bottom, as shown in the picture above, and you should be fine. Make sure that the long part of the neck extends out of the correct side, so that the artwork on the front of the cigar box will be right-side-up when you are holding the instrument in playing position.
13. Next, use a straight-edge to mark the neck on the inside edges of the box. These marks will be used in cutting out the box lid recess, as shown in the series of pictures below. The explanatory bubbles in the photos will walk you through the steps.

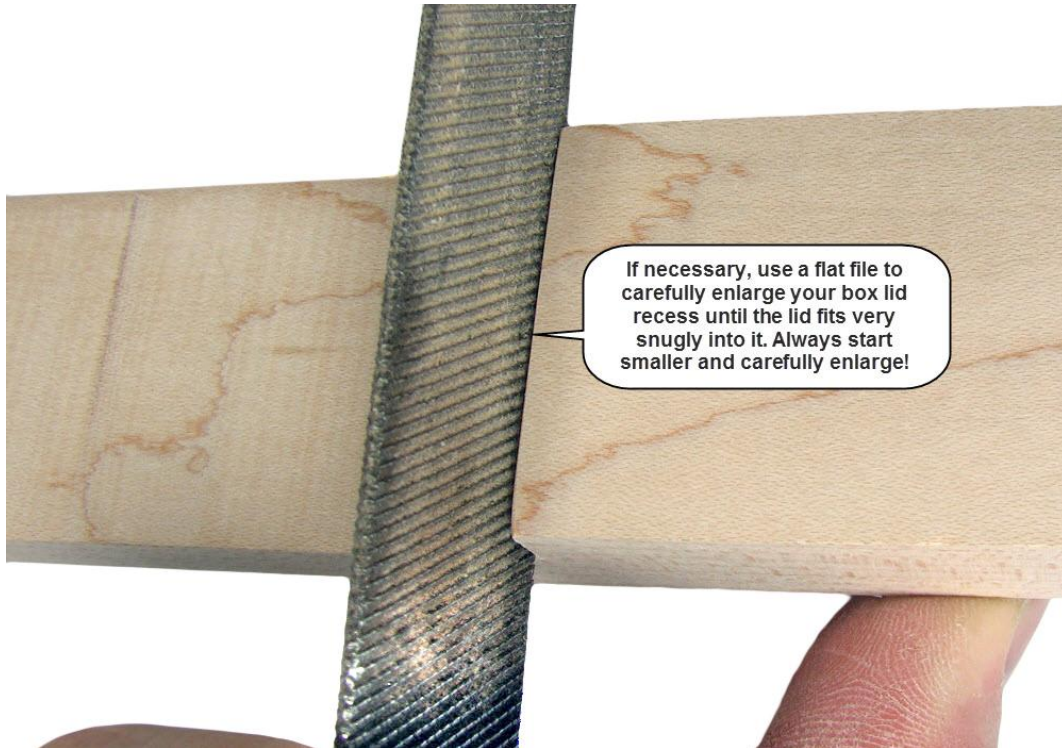


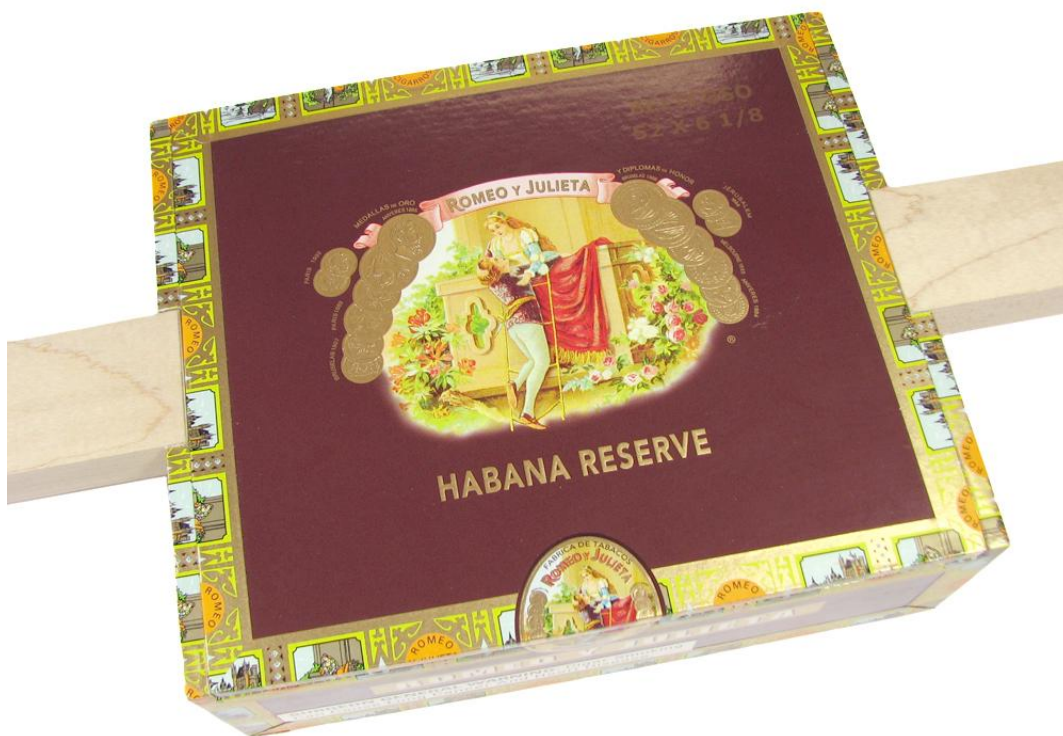


14. Be sure that the neck recess markings are straight and square, then use your saw to cut it out. Cut the end notches first, then ease into the cut at one end with a curve. Once that cut is complete, cut out the remaining piece at the other end.



15. Insert the neck into the box and try to close the lid. You want a nice snug fit between the lid edge and the sides of the recess cut-out. Use a straight wood file to square up and enlarge the opening as necessary, until the lid fits very snugly into it, as shown in the photo below. Note that with this style of CBG, the neck is held in place purely by friction, you don't need to glue or fasten it into place.





16. Now it is time to drill the string holes in the tailpiece hinge, and install it on the end of the neck. Use a 1/16" or 3/32" drill bit to drill the string holes, as shown in the photo below. Make sure that the drill bit you use isn't so big that the brass nuts on the end of the strings will slip through! If you are building a 4-string CBG, then you will need 4 string holes. Note that the existing hinge holes can also be used if desired, reducing the amount of drilling necessary.



17. Mount the tailpiece hinge on the end of the neck as shown in the photos below. The screws go into the under-side of the neck. Be sure to pre-drill the screw holes!

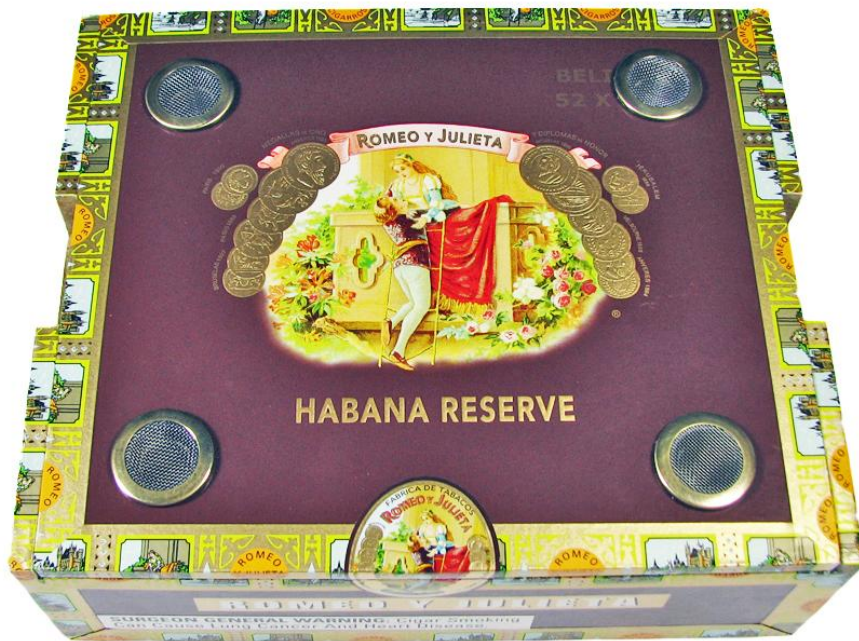


18. Now it is time to drill the sound holes in the box lid, and mount the grommets (if desired – you can leave the holes bare if you want!). Use a $\frac{1}{2}$ " or $\frac{5}{8}$ " drill bit to drill the holes. If you use a $\frac{1}{2}$ " bit, you'll need to jiggle the bit around a bit while drilling to enlarge the holes a little more, to get the grommets to fit correctly. You can also use a round wood

file to enlarge the holes slightly. Note that you don't have to drill the sound holes in the locations we show, and you don't have to have 4 sound holes! There are a lot of different theories out there about what the "best" sound hole set up is for a Cigar Box Guitar. There is no reason to get too worried about it though – in general, from one to four ½" sound holes will be fine for a CBG of this size.



19. Once your holes are drilled, test the fit of the grommets, and enlarge the holes if necessary. If desired, use a wire wheel or buff wheel to buff and polish the screened brass grommets. Once ready to install, use a multipurpose glue or a hot glue gun to set the grommets into the holes. Be careful to not get glue on the surface of your box! The photo below shows the mounted grommets.



20. Now it is time to finish and smooth the headstock tuner cutout, if you haven't already. Use a fine wood file to smooth out and remove the deeper saw marks, and then use progressively finer grades of sandpaper to make it baby smooth. You can of course leave it rough if that is your preference!



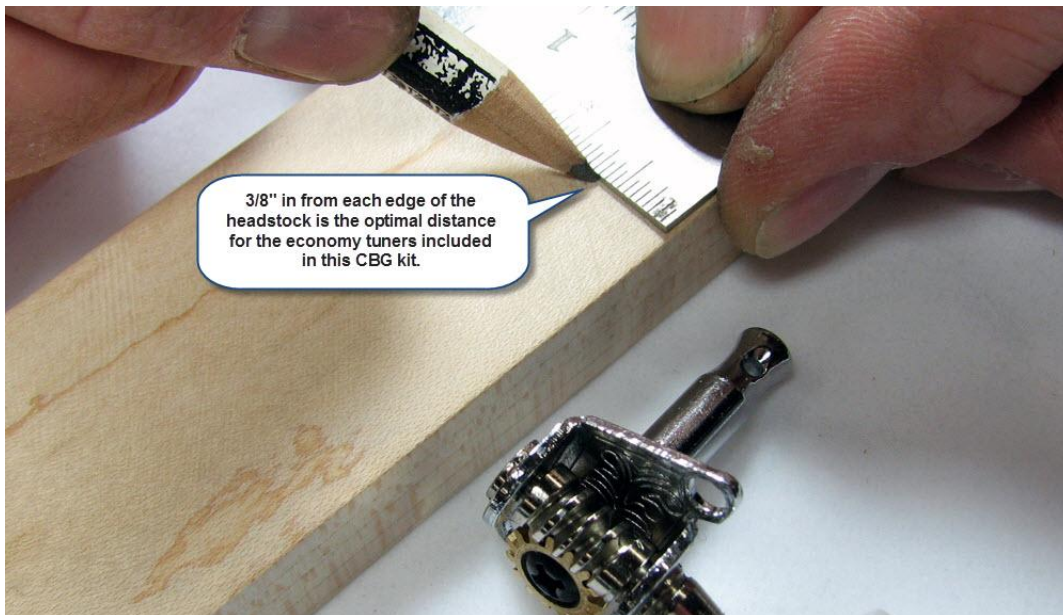
21. The photo below shows the finished headstock, ready for installation of the tuners. This would be a good time to round off the headstock, or cut a design into it, if desired – though you might want to wait until you’ve marked your tuner holes, to be certain everything will fit before you go shaping the headstock. For the purposes of this guide, we leave the headstock plain and square.



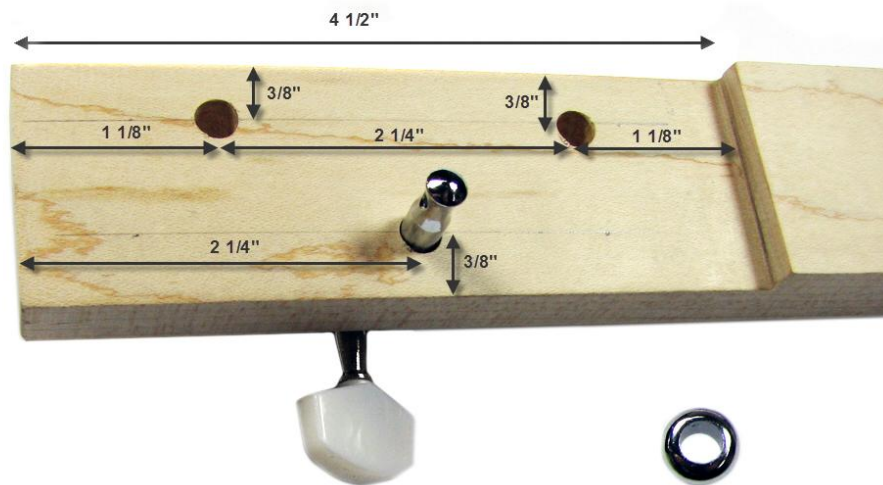
22. If you want to apply some sort of finish to your CBG neck, this would be a good time to do it. Whether a simple rub-on finish like linseed or Danish oil, or something fancier

involving varnish or poly-urethane, the finish is entirely up to you. For the build in the photos, we chose to just leave the wood natural and unfinished. It is recommended that if you are going to apply a finish, you do so before installing the tuners.

23. Installation of the tuners is not difficult, but it does need to be done right so follow the instructions in the photos below carefully and you shouldn't have any trouble. Note that the brass gear on the backs of the tuners should always be towards the BODY of the instrument when mounted, not towards the top of the neck. The 3-string version of this kit includes two tuners that go on one side of the headstock, and one tuner that goes on the other – whether there are two on the left or two on the right will vary from kit to kit; but as long as you make sure the gears are on the body side when they are mounted, you'll know you have them right. The 4-string version of the kit includes four tuners, two for the right side and two for the left. The mounting process for the 4 tuners is the same, just be careful to make sure there is enough space between them so they can be comfortably turned.
24. **FOR THE 3-STRING VERSION OF THE KIT, BE SURE TO FIGURE OUT WHETHER YOU HAVE TWO LEFT OR TWO RIGHT TUNERS BEFORE DRILLING YOUR HOLES!** The photos show a 3-string kit with two right-side tuners and one left-side tuner (right and left when viewed from the front of the instrument, they will be reversed when viewed from the back).



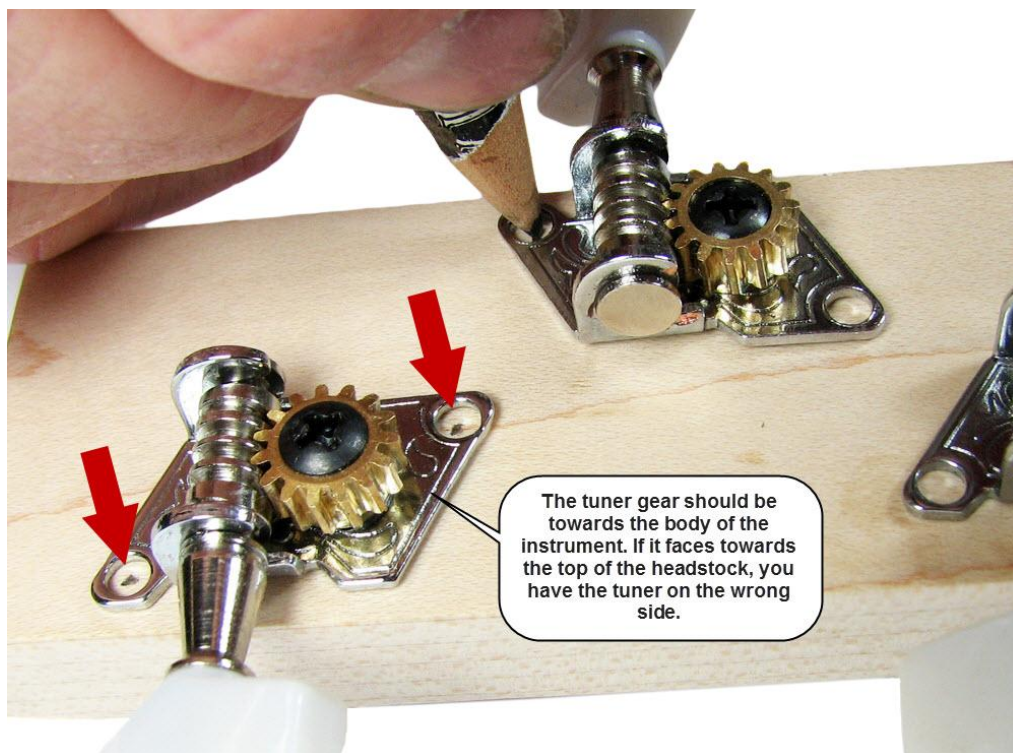
25. **Always re-check your measurements before drilling!**
26. Use a $\frac{1}{4}$ " drill bit to drill the tuner holes. Make sure that the headstock is perfectly perpendicular to the drill bit (in other words, not on an angle) so that the holes are at a true 90-degree angle to the surface.

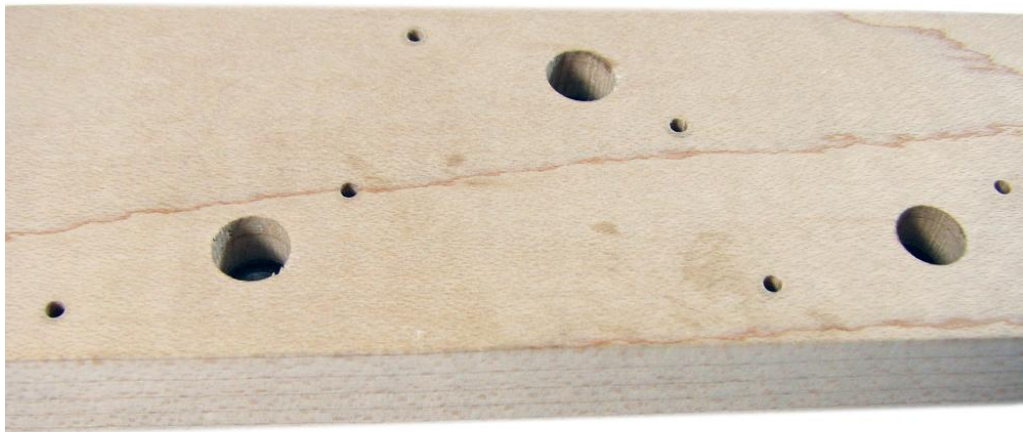


27. Note that you don't have to place your tuners like this, but however you place them, make sure that they are very close to $\frac{3}{8}$ " from the edge of the headstock, and that you don't place them so close together that you can't easily turn them. For 4-string setups, it is customary (but not required) to have the two sets of tuners directly across from each other.
28. Once you have the $\frac{1}{4}$ " holes drilled for the tuner shafts, you will need to drill the top half of the holes slightly wider for the tuner bushings. A $\frac{5}{16}$ " drill bit is necessary to drill the bushing holes. It is highly recommended that you use a piece of tape on the drill bit as a depth gauge – you don't want these wider holes to go all the way through the headstock! Drill them just deep enough to accept the tuner bushings, as shown in the photo below.

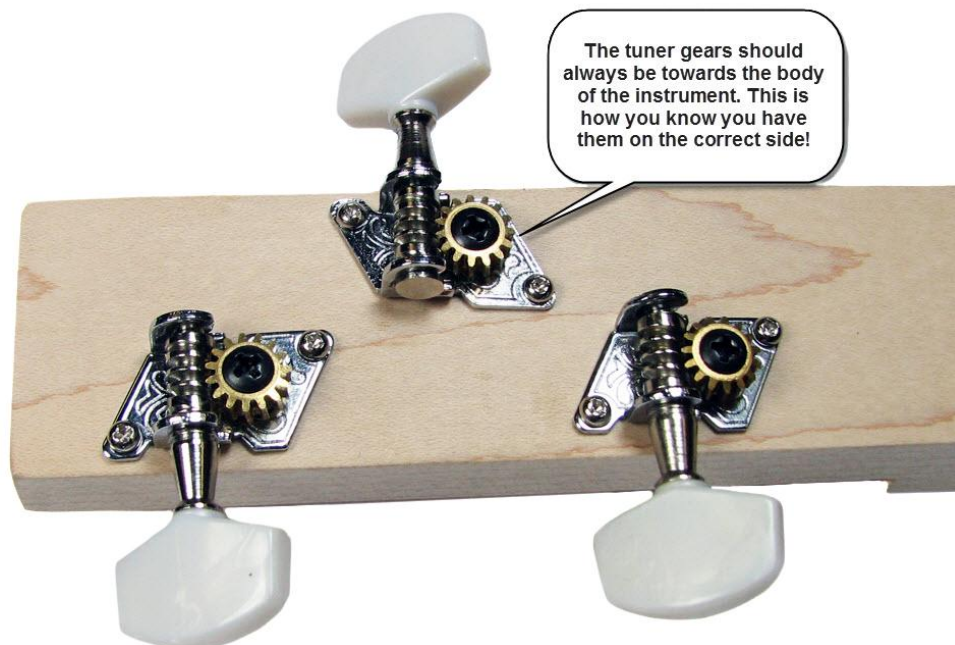


29. Now it is time to insert the tuners (gear towards the body!) and mark the holes. You absolutely must pre-drill the screw holes using a 1/16" bit. If you just try to force the delicate screws into the hardwood without pre-drilling, they are almost guaranteed to sheer off. Make sure that the tuner edges are parallel to the headstock edges, and then mark the center of each hole location with a sharp pencil or fine-point marker.





30. Once you've marked the screw locations, remove the tuners and pre-drill the holes with a 1/16" bit, then mount the tuners using the included screws. The finished tuners should appear as in the photo below. Note that your kit may have included two tuners for the right side of the headstock (when looking from the back), instead of the two on the left as shown in the photo, or if it's a 4-string kit there will be 4 total tuners.





31. Now it is time to file a groove for the nut to rest in. Mark a pair of parallel lines about $\frac{1}{4}$ " from the edge of the headstock tuner cutout, and then use a round file to file a rounded groove into the neck, as shown in the photos below. This groove will help keep the nut in place once the guitar is strung up. You can lower the action of the instrument by deepening this groove as desired.





32. If desired, you can now mount the brass box corners included in the kit. These corners not only look good, but they also help keep the cigar box lid closed. Be sure to start the hole using an awl, or pre-drill the screw holes using a 1/16" bit. Note that if you ordered an all-wood cigar box, it may have rounded edges, so it may not be possible to effectively use the box corners.

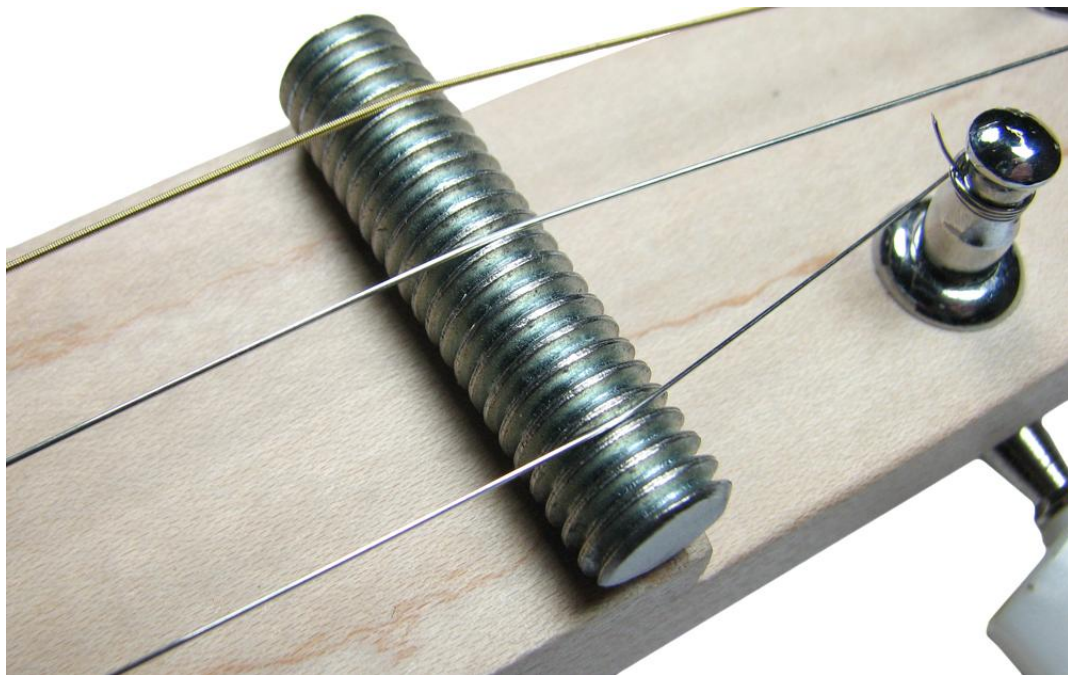


33. You are now ready to string up your guitar! Remember that the largest string goes on the left, if you are looking at the instrument from the front. When holding the guitar in playing position, the thickest one should be on the top. The photos below show the strings at all key locations: strung through the tailpiece hinge, crossing over the bridge, crossing over the nut, and wrapped around the tuner posts. Note that if you bought a 4-string kit, there will be 4 total strings.





34. The threaded rods used for the nut and the bridge help you guide the strings into proper locations with the right spacing between them. The bridge should be placed about 2 $\frac{3}{4}$ " from the bottom edge of the box. A 4-string instrument's strings will be proportionately closer together.





35. Your cigar box guitar is now complete! Tune it up to your desired tuning - the supplied set of strings (whether for a 3 or 4-string CBG) are intended to be tuned to an open G tuning: on a 3-string CBG the largest string will be "G", the middle string being "B" and the highest string being "D". On a 4-string instrument, the largest string will be D, followed by G, B and D – basically the same as the 3-string setup but with an extra low D string. If you are familiar with standard 6-string guitar tunings, our string packs match up to the 3 or 4 highest-pitched (smallest) strings on a standard 6-string acoustic. We just tune the highest-pitch (smallest) string down to D to make an Open G chord.
36. It is highly recommended that you utilize a digital chromatic tuner when tuning your CBG. You can find inexpensive digital chromatic tuners at www.CBGitty.com if you don't already own one. ***If you have trouble getting the G string up to pitch, try sliding your bridge forward an inch or so. This shortens the vibrating string length and raises the pitch.***
37. Since this is a fretless guitar, it is meant to be played with a slide. Many things can be used as slides, from wine bottle necks to glass medicine vials to lengths of metal pipe to the edge of an old pocketknife. It can be helpful to mark some key locations on the neck to make playing easier. The key positions are where the 5th, 7th and 12th frets would be on a fretted neck. Finding these positions can be a bit tricky, but if you have a digital chromatic tuner, and your thinnest string is properly tuned to "D", then move your slide up the string until the tuner registers a "G". That is the 5th fret location, and you can mark this right on the neck. Now continue moving the slide up until it registers an "A". this is the 7th fret location, which you should mark. Now continue moving the slide up until it registers "D" again. This is the 12th fret location, which marks a full octave from the note of the open string.

38. With these locations marked, you can play some simple 3-chord, 12-bar blues songs by strumming as follows. Each “/” represents one strum, or beat, and each “|” is a separator between 4-beat measures. At the end, simply repeat as many times as you want. Many famous blues songs follow this progression. You can find much more information on how to play a CBG at www.CigarBoxNation.com.

Open	Fifth	Open	Fifth	
/ / / /	/ / / /	/ / / /	/ / / /	
Open	Seventh	Fifth	Open	Seventh
/ / / /	/ / / /	/ / / /	/ / / /	/ / / /

Troubleshooting

Even with a kit this simple, there are plenty of things that can go wrong. Here are some fixes, workarounds and ideas for hiding potential problems.

- **Buzzing Strings**
 - If your strings have a sitar-like buzz when you pluck them, try rotating your nut and bridge a bit. Sometimes a very slight change in how the strings cross the nut and bridge can make the buzzing go away.
 - Strings are also more likely to buzz if they are too loosely tensioned. If you are deviating from the recommended tuning (GBD), then these may not be the right strings for you.
- **Broken Strings**
 - Strings break if you try to crank them tighter than they were designed to go, and it is common for the beginning builder (and even experienced builders) to frequently break strings. The calculations to try to correctly determine what size strings you should use are pretty complicated, so it is frequently a matter of trial and error.
 - The strings included with this kit should work with your CBG to achieve the desired tunings, but a lot depends on what scale length (the distance from nut to bridge) you end up with. As mentioned above, if it feels like the G string is getting too tight and close to breaking, moving your bridge forward an inch or two can help get it up to the right pitch.
 - You can always buy a replacement string set, or entirely different strings, at www.CBGitty.com.
- **Over Cuts, Mis-drilled Holes and Other Problems**
 - Some mistakes are so bad that they are simply unfixable, but usually you can get creative and work around them. Here are some ideas for different key problem areas that you can use to save a build from the wood pile.
 - **Neck slots too big** – if you overcut your neck slots, consider making a wooden collar to fit over the neck, which will hide the slot. You can screw this collar right to the box and it will look like you meant for it to be there all along, especially if you use a nice decorative hard wood.

- **Drilled a tuner hole in the wrong place** – this is a tricky one, but you can always cut a plug to fill the hole, or mount something decorative over top of it, depending on where it is.
- **Cut the box lid recess too big** – If your box lid recess extends out beyond the box, it can be unsightly. But you can get creative and cover it with something decorative – a thin piece of wood cut to shape, a metal embellishment of some sort, etc.

Closing

We hope that this kit has worked well for you, and that your first attempt at building a CBG has been a successful one! Please remember that you can always find more how-to info about CBGs over at www.CBGitty.com, as well as at the sites linked below. Welcome again to the world of Cigar Box Guitars!

For more information about Cigar Box Guitar building and other how-to articles, please visit www.CBGitty.com, and click on the “Cigar Box Guitar How-To” link. You can also visit www.CigarBoxNation.com and www.CigarBoxGuitar.com for lots of great information about all things related to cigar box guitars and other homemade instruments.



PURE & SIMPLE GUITAR
THE EASIEST CIGAR BOX GUITAR KIT TO BUILD - BAR NONE!



**CIGAR BOX GUITAR
& UKULELE KITS**
ALL PARTS INCLUDED...EVEN THE CIGAR BOX!



SUGGESTED PARTS TO BUILD YOUR OWN
Hot Rod
CIGAR BOX GUITAR

**OUR OVER-THE-TOP LIST
FOR THE ADVENTUROUS!**





CUSTOM CIGAR BOX GUITAR NECKS

YOUR CHOICE OF WOOD
HEADSTOCK & FRETS

Handmade in our New Hampshire workshop

THE C. B. GITY CIGAR BOX AMP KIT

2.5 WATTS OF BATTERY OPERATED POWER. JUST \$49.99 EACH





DELTA



BUCKER


CIGAR BOX GUITAR PICKUPS

Juke-joint tone ...without the hum.
Available in maple or rosewood. Pre-wired.

SHOP NOW



CIGAR BOX GUITAR PICKUPS - NO SOLDERING!
Prewired 4-String Pickup w/Vol & Tone - just \$15.99 each

PEEL & STICK FRETBOARDS
5 FOR \$4.99



CIGAR BOX GUITAR T-SHIRTS!

Buy Now