

BUILDING PICASSO'S 1912 PAPERBOARD CUITAR

A STEP-BY-STEP CONSTRUCTION GUIDE GUY DIEHL & DONALD FARNSWORTH



Building Picasso's Paperboard Guitar has no affiliation or association with Picasso or the Picasso Administration. This instruction guide is for use in the United States of America. Not for download in other countries.

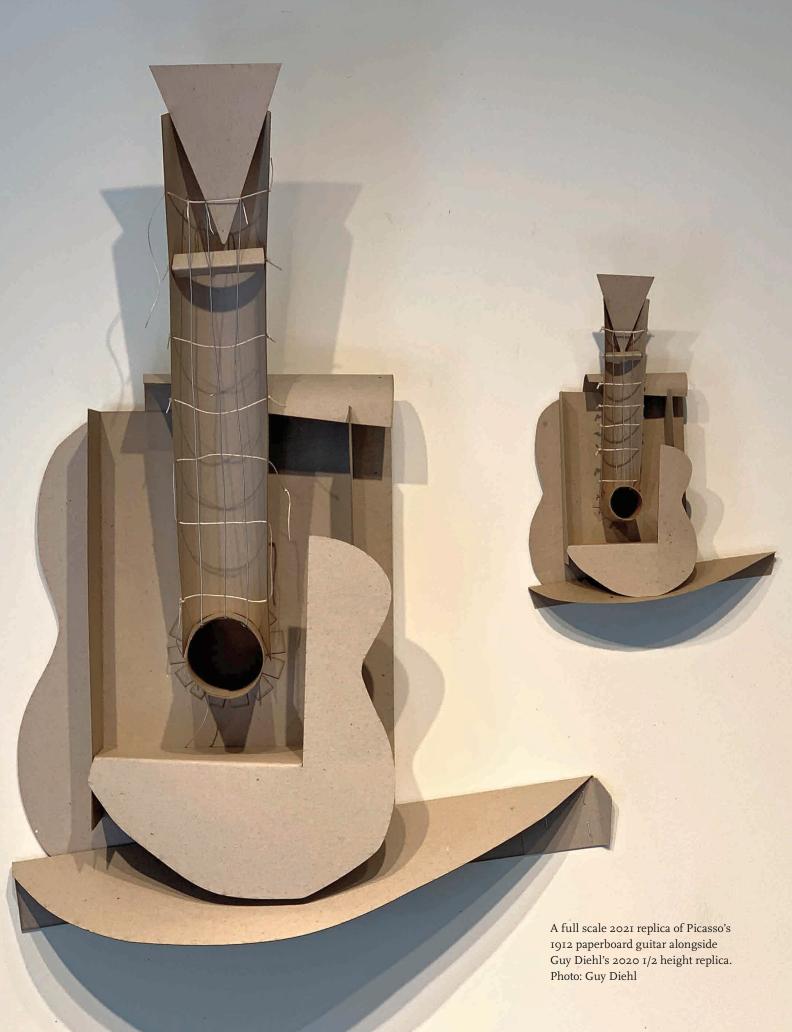


Guitare (Guitar), oil and charcoal on canvas, oval: 72.4 x 60 cm National Museum of Art, Architecture and Design, Oslo



CONTENTS

Introduction	7
1913 & 1923 Publications	12
Tools & Supplies	14
Getting Started	15
Picasso Guitar Components	16
Picasso Guitar Exploded View	17
Bending Guitar Back(1)	18
Steaming & Bending the Sound Hole(4)	20
Steaming & Bending the Neck(5)	22
Folding & Gluing the Sound Box(2)	25
Sound Board(3) to Sound Box(2)	26
Sound Box(2), Sound Board(3) to Guitar Back(1)	28
Sound Hole(4)	30
Lacing the Twine (frets)	32
Twine & Nut(6)	33
Headstock(7)	34
Attaching assembled Neck(5)	36
Stringing Guitar	38
String & Wire Hangers	40
Table Top	4 I
Material Variations	42
Templates	45
Credits & Acknowledgments	51



INTRODUCTION

In October of 2020, despite the COVID-19 Pandemic, Era and I donned our masks, followed social distancing guidelines, and drove to California's Marin County to visit Guy Diehl at his studio. For many years, Guy has been making weekly treks to our studio, Magnolia Editions in Oakland, to work on various projects— our reciprocal visit to his studio was long overdue.

Although the tour was expeditious, we explored every nook and cranny. We were impressed to see Guy's well-organized studio, tools, easel, props, brushes, and masterful artwork.

It was then that Era's sharp eyes landed on a scale model of a Pablo Picasso paperboard guitar hanging on a wall under a flight of stairs. She asked, "Where did you get that? "I built it," was Guy's response. It was no great surprise to find this non-representational, cubist abstraction on Guy's wall. He is a thoughtful and contemplative representational still-life painter and highly inquisitive. We also noticed portraiture works, minimal canvases, found objects and conceptual works on display during our tour of his creative space.



Pablo Picasso, 1916, *Still-life with Door, Guitar and Bottles*, oil on canvas, 152.4 \times 205.7 cm, Statens Museum for Kunst, Copenhagen

He explained that Picasso's cubist paperboard guitar had recently gone out of copyright in the USA, having been made before 1923 (and featured in 1913 and 1923 publications Les Soirées de Paris, N° 18, Revue littéraire et artistique and Les Contemporains, Jean Cocteau PICASSO, and Paris Librairie Stock.) He researched and constructed it for both challenge and enjoyment: "I have always wanted to try to make one."

I understand his sentiment; it is a pivotal collage work that expanded our collective mind. We inherit a focus on form, color, and the ability to re-experience, re-arrange and re-interpret our fast-

moving world from minds like Cezanne and Picasso. This collage was a turning point. It does not make music; instead it expanded our minds and changed art forever. Prior to this "three-dimensional cubism," there was no thought to sculpt a guitar unless a person played it within a narrative composition. Picasso breaks through, deconstructs the guitar, makes it a 'Thing'—

Deceptively simple yet extraordinarily profound.

Loving the piece's historical importance and seizing this moment of copyright freedom, I responded: "Let's produce a full-scale hand-made paper version at Magnolia. I would love to vectorize your templates for production of a guitar at any scale. We can laser cut the parts and focus on materials and fabrication. Do you still have the templates?" Indeed, Guy retained templates and sketches he had produced for this I/2 scale model. And here begins our quest to reproduce, describe, and "opensource" Picasso's full-scale paperboard guitar.



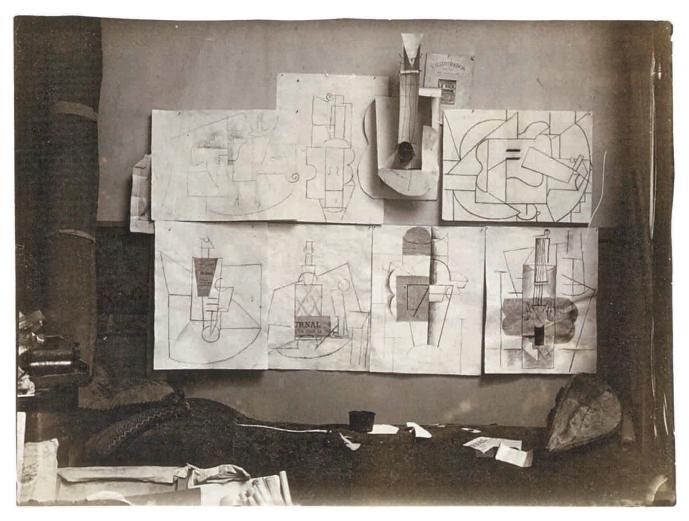
Pablo Picasso, 1916, Guitare, clarinette et bouteille sur une table (Guitar, Clarinet, and Bottle on a Pedestal Table), dimensions and whereabouts unknown.

The brilliant examples of cubism found in Picasso's paperboard guitar of 1912, as well as his metal guitar of 1914, and his guitar drawings from the same period are well documented and described; they are often featured on the New York MoMA website, where there is much to learn about this cubist reinterpretation of a guitar. The process of recreating Picasso's guitar provides us a fascinating glimpse into his approach. While deconstructing and deciphering his collage, we stand in awe of the brilliant artist's ingenuity. What seems manageable and straightforward is challenging, demanding both our attention and all our creative skills.

Picasso's eight shapes fit together in a seemingly simplistic manner, yet are involved in the making, and complex in both illustration and explanation. Where paperboard is concerned, the paper's grain must be parallel to the bends. Stray from this, and the neck, sound hole, and guitar back will not cooperate. Still, to some extent, one can hopefully channel what Picasso was up to—his pure, spontaneous creativity.



Pablo Picasso, 1912, Paperboard Guitar, The Museum of Modern Art, New York



Picasso: Guitars 1912-1914 | Paris studio

At Magnolia over the past eight months, Guy and I have made dozens of laser cut models, reworking the vectors, adding refinements at every iteration with endless modifications to the illustrations and text. Master printers Nicholas Price and Tallulah Terryll operate the large Trotec laser, making the cuts and scoring in the paperboard which allows Guy and me to focus on the model design, and alleviates most utility knife work.

In this utterly enjoyable yet painstaking exercise, we take license to make a transformation of his work; we swore no oath to Picasso (though we do aim to channel his spirit). As a maker ventures to build Picasso's guitar, there are options and judgments to make. Questions arise; do you create a rough-cut, beaten, creased, skewed, and aged rendition—or something clean, smooth, straight, and plumb? Picasso used a recycled paperboard box, paper tape and twine to hold his construction together. The choice is yours, the maker. In any case, like Picasso, we pursue delight, pleasure, and satisfaction.

Picasso constructed his sheet metal guitar two years after the paper version. In the metal guitar, most of the eight shapes coincide in scale and form to the paperboard version, indicating that he



A constructing sequence of Guy Diehl's 2020 1/2 height Picasso cubist guitar. Photo: Guy Diehl

himself likely used a set of templates for both works—the eight primary forms—ttemplates which are now discarded or lost.

Picasso's monochromatic construction stresses the importance of light and shade. Our attention is drawn to the movement, pattern, geometric and organic shapes that appear when light is cast on the guitar. This shape-shifting attracts our attention, begging to be deciphered, giving us an everchanging, and contemplative cubist exercise in re-experiencing our world.

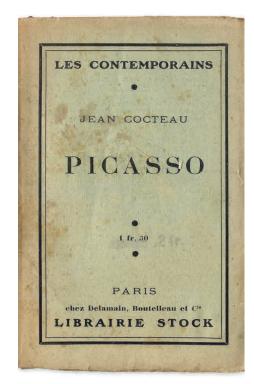
By using the guitar parts as templates, rather than bending, folding, and gluing them into a collage, it is possible to build a replica out of any flat material—book board, distressed paper, wood, painted flat surface, recycled paper or printed matter—adding yet another dimension to Picasso's original idea.

Our beta guitar makers are already taking the collage in innovative directions and their valuable insights have made this a better publication. It continues to be a great pleasure working with Guy Diehl to channel Picasso's creative spirit.

— Donald Farnsworth

1913 & 1923 PUBLICATIONS

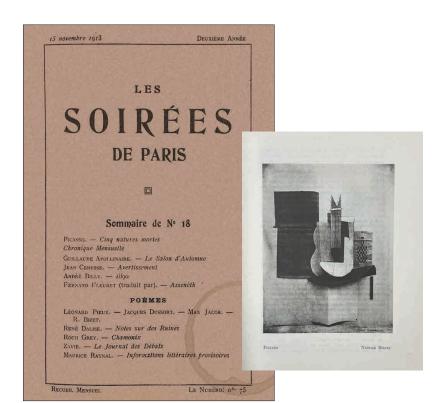
Featuring Picasso's paperboard guitar construction





LA GUITARE (CONSTRUCTION)

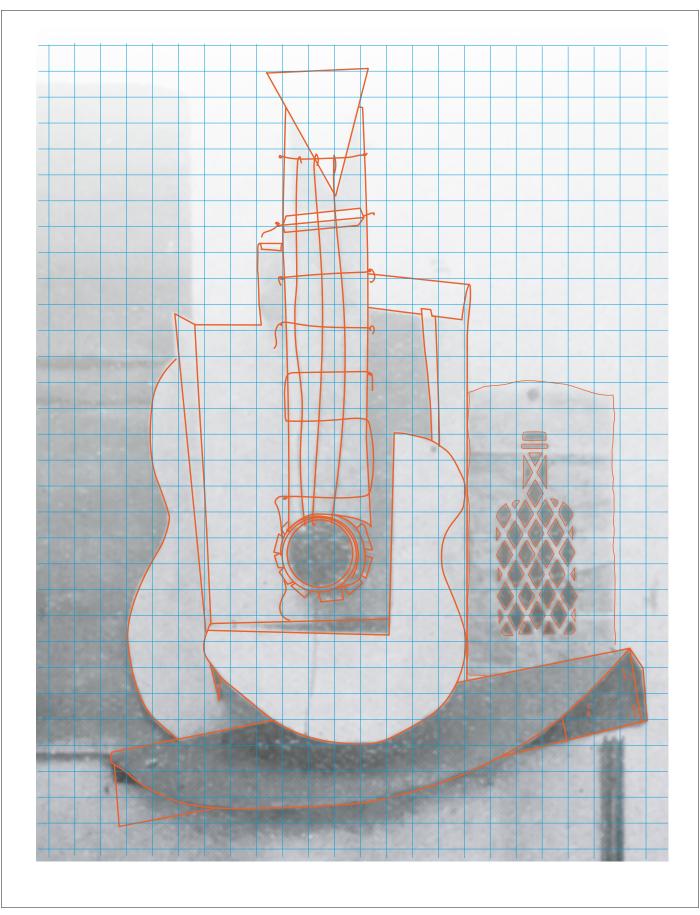
Front cover and page 49 of La Guitare (construction) from the 1923 publication Les Contemporains, Paris.



Picasso Portrait by Man Ray, from the 1923 publication *Les Contemporains, Paris*, (p. 33).

Picasso's paperboard guitar construction first appears in the 1913 publication Les Soirées de Paris, $N \circ 18$, Revue littéraire et artistique (p. 29).

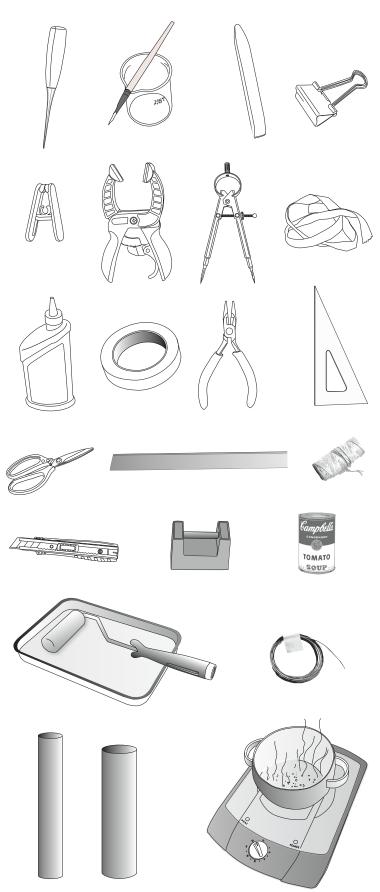
Regarding copyright in the USA: Artworks appearing in authorized publications before 1923 are in the public domain. *Images this page*: From the library of Donald & Era Farnsworth



Vector tracing with 1-inch grid over a photo of Picasso Paperboard Guitar found in 1913 and 1923 publications: Les Soirées de Paris, Nº 18, Revue littéraire et artistique and Les Contemporains, Jean Cocteau PICASSO, Paris Librairie Stoct

TOOLS AND SUPPLIES

Awl Beaker, small dish Blotter paper or window screen Brushes; glue and watercolor brush Bone folder Binder clip, clothespins, clamps Calipers Cloth tape Glue; PVA or wood glue Hot glue gun Hot plate or burner & pot Masking tape or paper tape Paint (glue) foam roller Pliers Right triangle Scissors Straight edge, ruler Twine Utility knife Wire (19 gauge) Weights PVC pipe or paper tube: 2-in. dia. x 20-in. 3 or 4-in. dia x 12-in.



CETTING STARTED

The list of tools and supplies on the opposite page might seem daunting; however, substitutes, commonly found around the studio (home), will likely suffice. Soup cans or a steam iron can be used as weights, ribbon in place of cloth tape, a rolling pin substitutes nicely for PVC pipe, etc.

We start by steaming and bending to make assembly smooth; however, jumping around the instruction set is possible. We have a John Cleese quote hanging on display at Magnolia Editions:

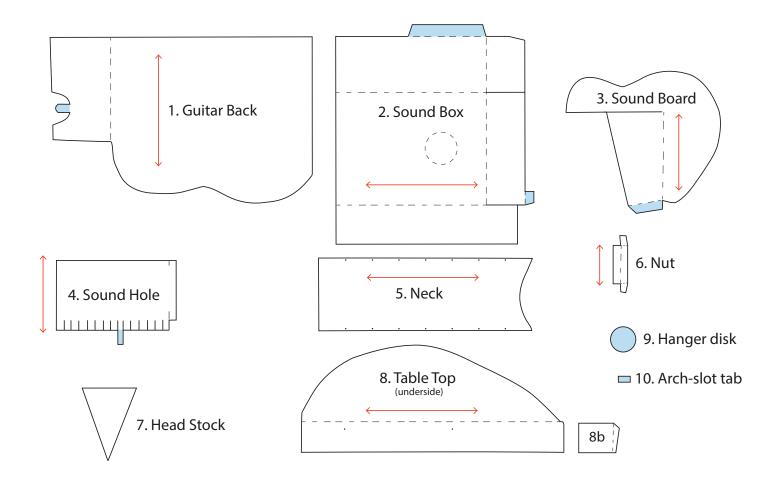
"Nothing will stop you from being creative so effectively as the fear of making a mistake."

For decades Guy and I have lived by this motto and have found that we discover new processes and ideas within our "mistakes." I have one caveat—safety is mandatory; celebrate mistakes but stay safe.

Picasso's paperboard guitar might be judged by some to be a *mistake*. It's not playable; it can follow no melody; the strings are not straight, the neck has no fingerboard, the frets don't work, it's crimped and torn, has sloppy construction—and yet it is beautiful, fascinating, novel, revolutionary and priceless. Picasso's colossal *mistake* teaches us something new every time we experience his cubist paperboard guitar collage 120 years since its construction.

Note: The adhesive of choice for professional bookbinder John DeMerritt is a modified PVA: four or five parts PVA to one part methyl cellulose, applied with a foam paint roller. For instruction on mixing methyl cellulose please visit www.magnoliapaper.com.

PICASSO GUITAR COMPONENTS



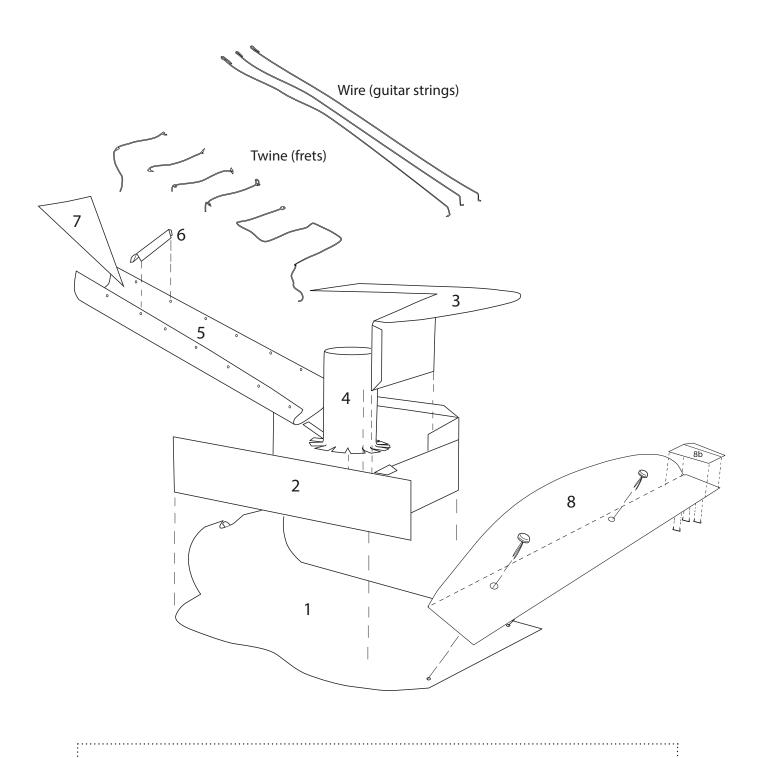
Components: Above are the eight key shapes that make up Picasso's Paperboard Guitar.

Paperboard: Picasso's material of choice for this collage is a laminated, heavyweight paper designed to make boxes (i.e., dress boxes, hat boxes, shoe boxes, etc.), book covers, picture frame mats, and is used as a support structure for many products. Paperboard is also known as, or similar to, bookboard, mat board, chipboard, bookbinding cover board, but NOT fluted board (like cardboard)—it's simply heavyweight laminated paper. 400 to 600 GSM seems about right.

Grain direction:
The grain of the paperboard should run parallel to curves and folds whenever possible. For more on paper's grain see: http://printwiki.org/Grain

Added structural tabs: _____ In the above diagram of components, we have added structural tabs to Picasso's original design. These tabs/gluing locations add structure to provide long term stability to the assembled guitar collage.

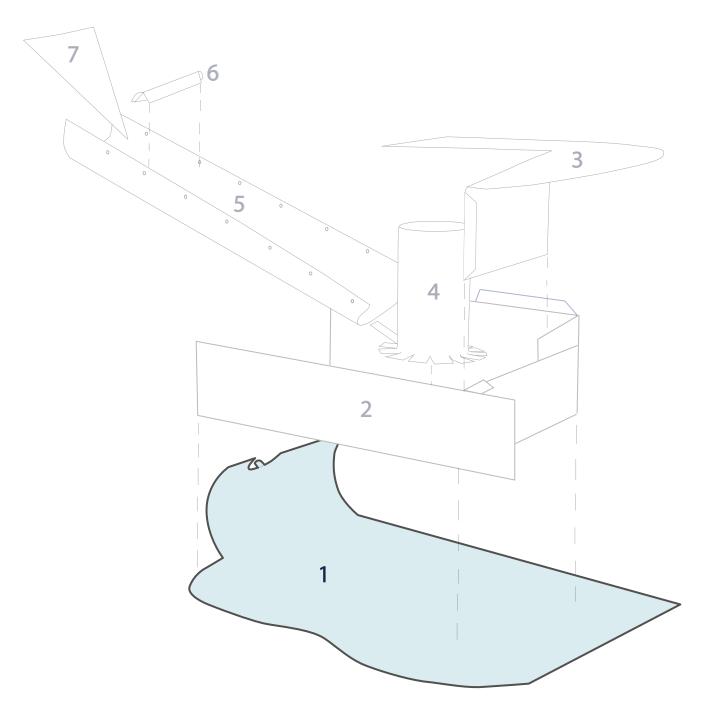
EXPLODED VIEW



Sound Box to Guitar Back placement guide

In the *Template* section you will find a *sound-box-to-guitar-back-placement-guide*. This backward "L" shaped cutout is aligned on the right and bottom edge of the *guitar back*, to assist in the placement of the *sound box*.

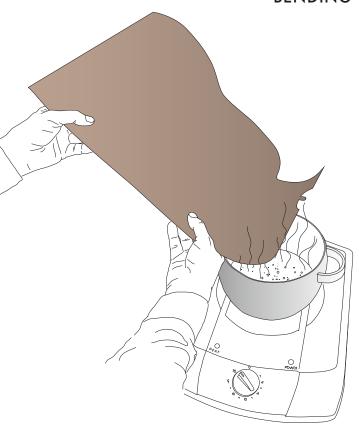
BENDING GUITAR BACK(1)

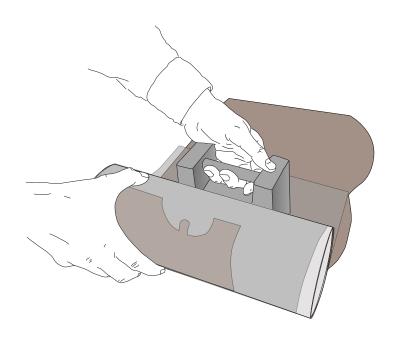


Overview: Steaming and bending the upper section of the *guitar back*(I) requires a source of steam and a 3 to 4-inch diameter tube about I2 inches long. Use a pot of boiling water, kettle, or garment steamer to provide steam.

Steam both sides, with a bit more time on the outer, convex side. The bookboard will soften and should wrap around the tube with little resistance. Over-steaming could delaminate the bookboard and create a dripping wet sound hole; but once wrapped in a rolled position and secured, it will dry out and (likely) work splendidly.

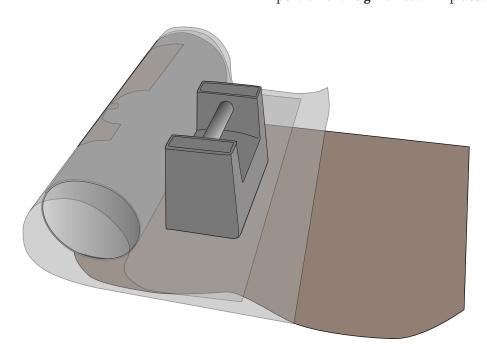
BENDING GUITAR BACK(1)





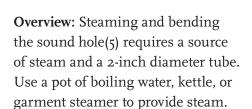
I. Steam top section of *guitar back* until bendable (about 3 to 6 min)

2. Wrap the arched section of the guitar *back* around a 3-in. or 4-in. PVC pipe or paper tube. Hold the *guitar back* in place with an outer wrapping of window screen or blotter paper. Position a weight to hold the curved portion of the *guitar back* in place.

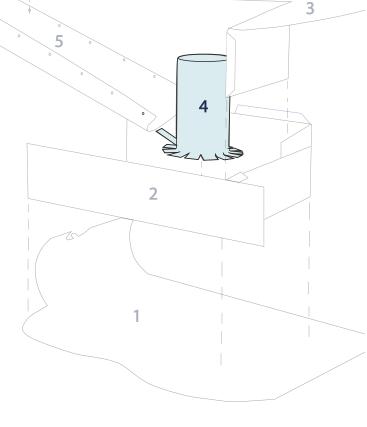


3. Allow the arc of the Back to dry.

STEAMING & BENDING THE SOUND HOLE(4)

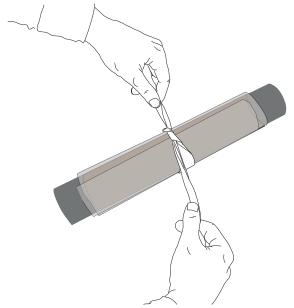


As per above, steam both sides, with a bit more time on the outer, convex side. The bookboard will soften and should wrap around the tube with little resistance.



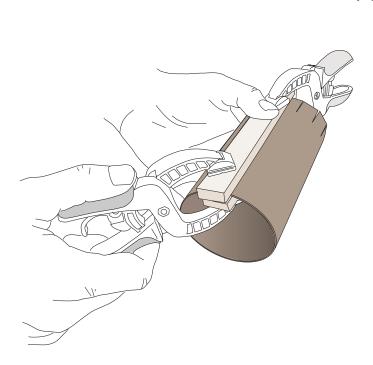


I. Steam *sound hole* until bendable(3 to 6 minutes)

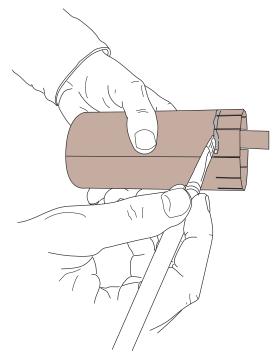


2. Wrap the moistened *sound hole* around a 2" PVC pipe or paper tube. Wrap blotter paper or window screen to hold the *neck* in place. Tie it off and let dry.

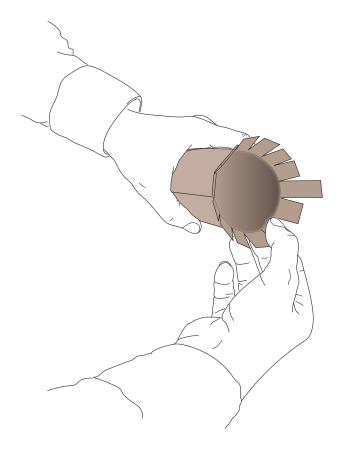
GLUING THE SOUND HOLE(4) & MOISTENING TAB FOLDS



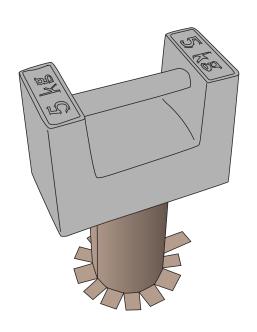
3. Apply glue to the overlapping seam and align; then hold in place with wooden strips and clamps until dry.



4. Using a small brush, moisten both sides of each tab at their bending point.

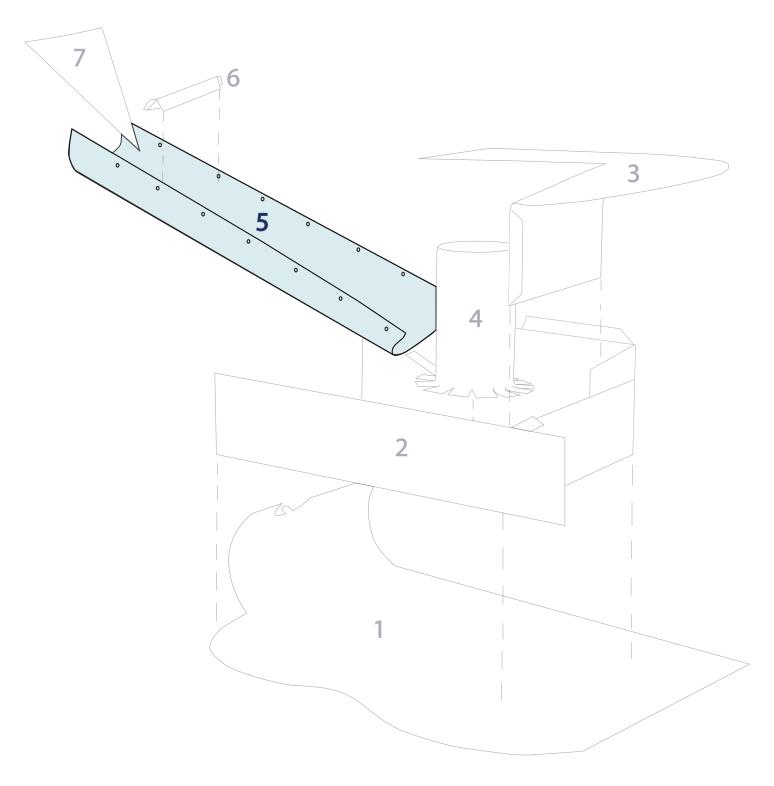


5. Bend the tabs outward (gently)



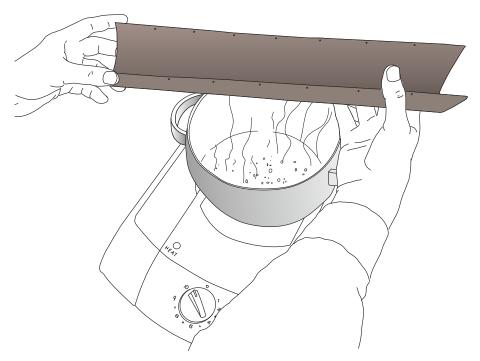
6. Carefully press tabs on a flat surface to spread and bend at a right angle. Apply moderate weight until dry.

STEAMING & BENDING THE NECK(5)

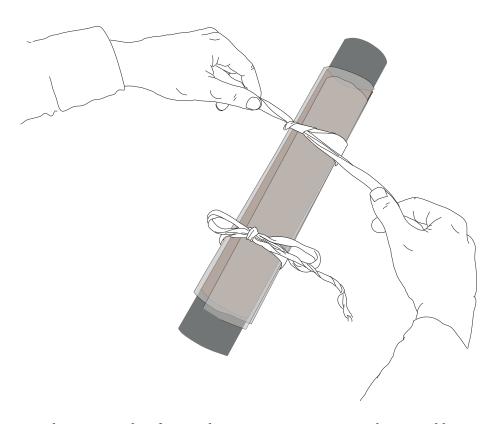


Overview: Steaming and bending the guitar *neck*(5) requires a source of steam and a 2-inch diameter tube about 20 inches long. Use a pot of boiling water, kettle, or garment steamer to provide steam. As per above, steam both sides, with a bit more time on the outer, convex side. The bookboard will soften and should wrap around the tube with little resistance.

STEAMING & BENDING THE NECK(5)

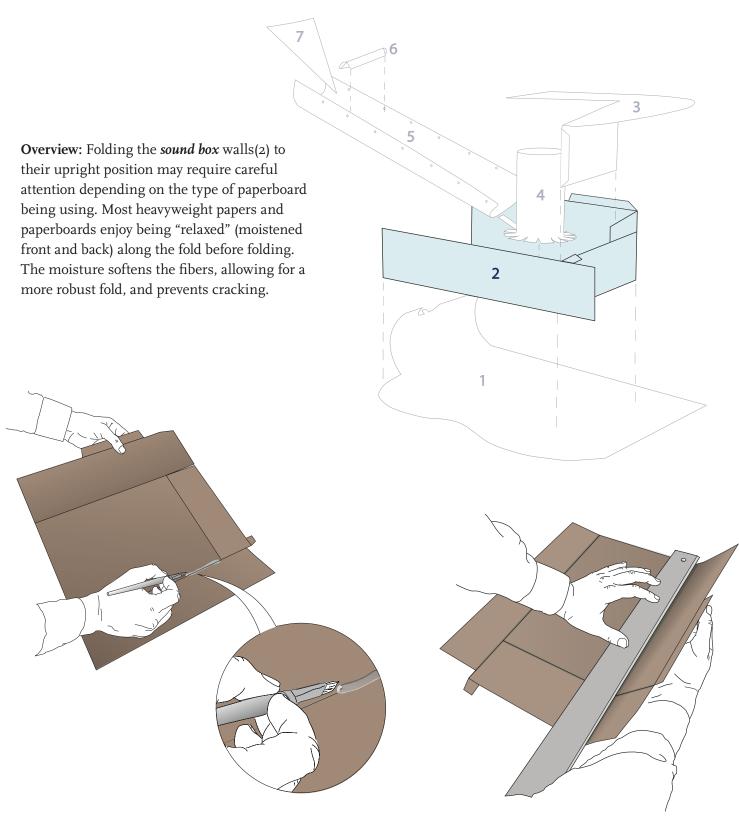


I. Steam the guitar *neck* on both sides until bendable (about 3 to 6 minutes)



2. Wrap the moistened *neck* around a 2" PVC pipe or paper tube. Wrap blotter paper, paper towel or preferably window screen to hold the *neck* in place. Tie it off and let dry.

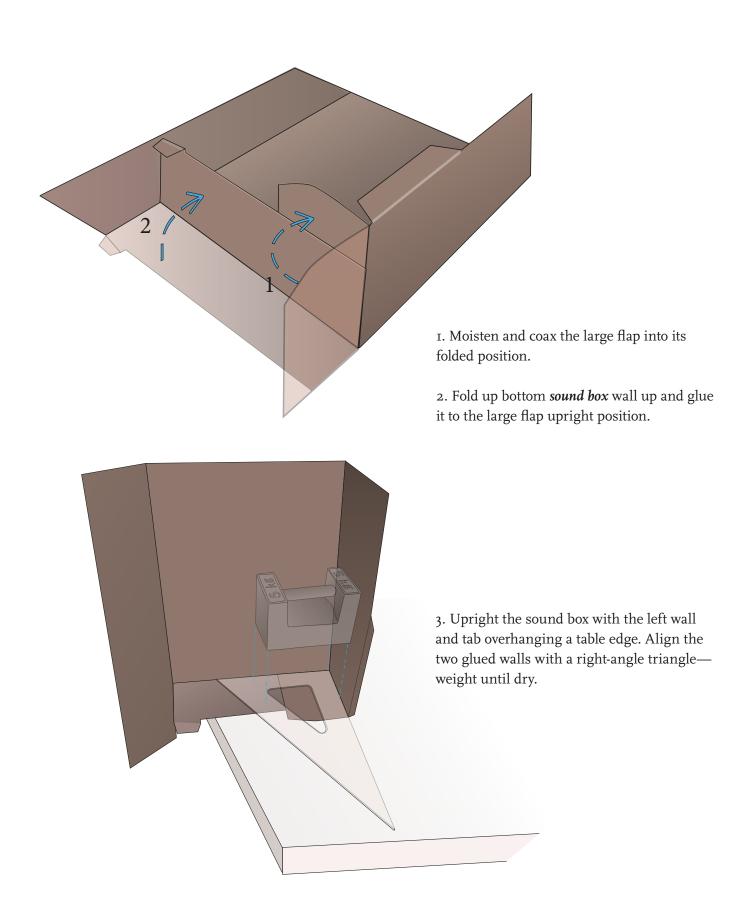
MOISTENING & FOLDING SOUND BOX(2)



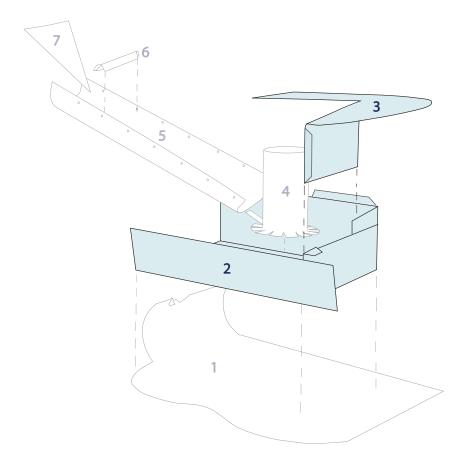
I. Before folding the *sound box* walls to their upright position: use a small brush and moisten along the folding lines – moisten both sides of the bookboard.

2. While the fold is moist, coax the walls of the *sound box* into their upright (90°) positions using a straight edge.

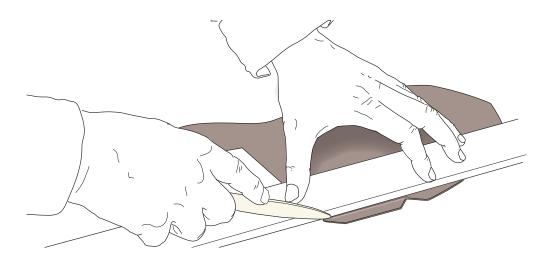
FOLDING & GLUING THE SOUND BOX(2)



SOUND BOARD(3) TO SOUND BOX(2)

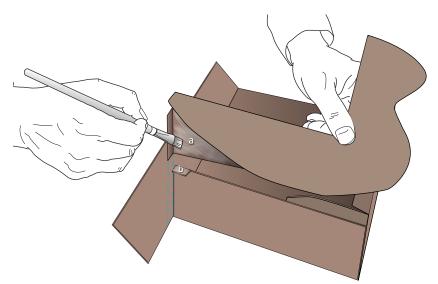


Overview: At this point, the *sound box*(2) left-hand wall should be folded but not glued. The right-hand and bottom *sound box* walls should be glued and dry (per instruction above). The *sound board's* tabs will secure the left-hand wall of the *sound box* to its upright position. Have your brush, glue, clamps, and weights handy.



I. Moisten tab fold lines. To ensure a sharp fold, use a bone folder and score the extended tab on the *sound board* (after moistening). Draw the bone folder's tip along the edge of a ruler to make a dent in the paperboard—repeat on the flip side. Take care not to press too hard and crack the surface of the paperboard laminate.

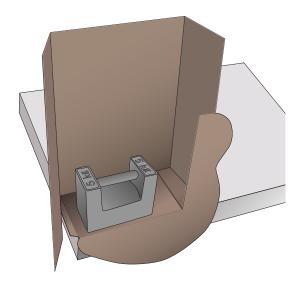
SOUND BOARD(3) TO SOUND BOX(2)



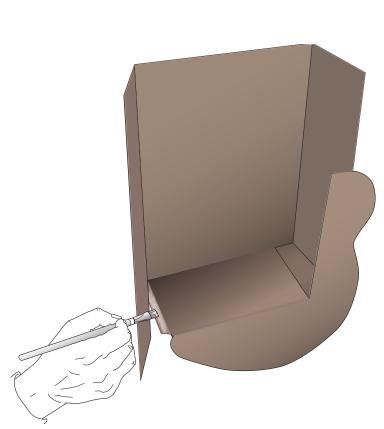
2. Apply glue to:

- (a.) The underside of the *sound board* large flap.
- (b.) The small tab on the left side of the *sound box*.

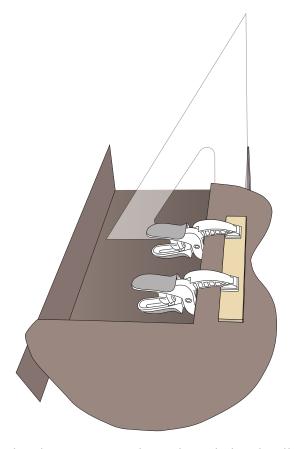
With these areas glued, lower the *sound board* into place.



3. Place the *sound box* and *sound board* on a table edge and apply weight until dry.

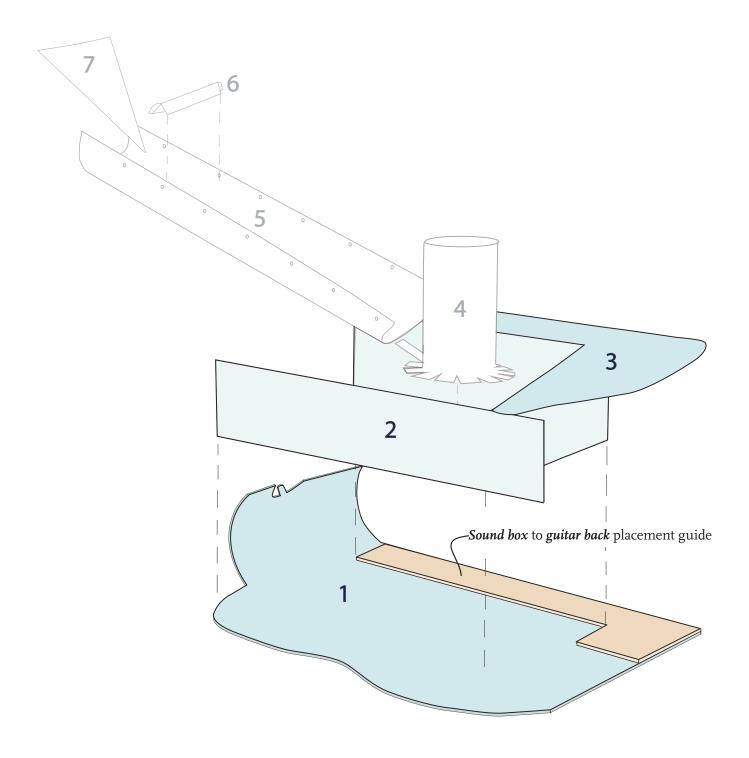


4. Apply glue to the *sound board* tab, then fold in the left *sound box* wall and securely clamp until dry.



4. Glue the remaining tab (on the right hand wall) to the underside of the *sound board*. Check and adjust to ensure the wall is vertical while the glue is moist, then clamp until dry.

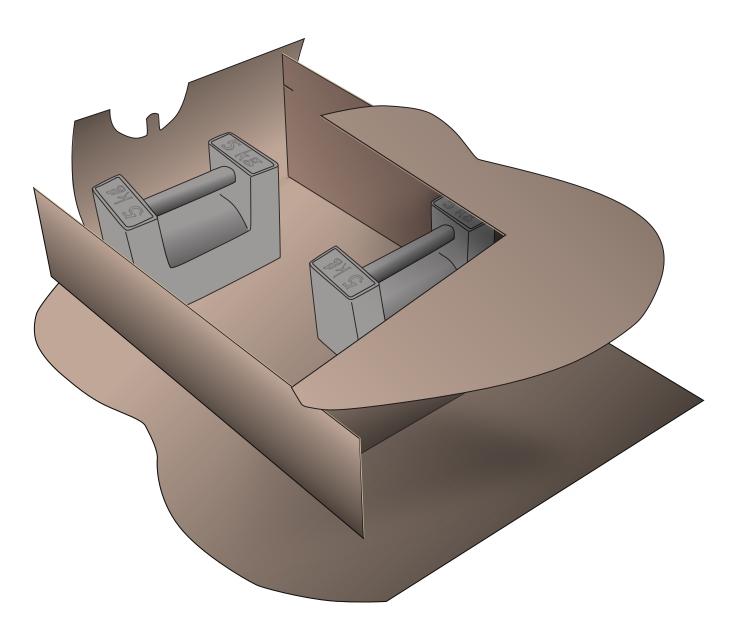
SOUND BOX(2) & SOUND BOARD(3) TO GUITAR BACK(1)



Overview: In attaching the sound box(2) to the *guitar back*(I), we recommend only applying the glue to one surface – the sound box's underside.

Note: The *sound box's* upper-left edge (2) does, indeed, extend beyond the left top edge of the *guitar back*(I). Do not glue *sound-box-to-guitar-back-placement-guide* placement guide—for reference only.

SOUND BOX(2) & SOUND BOARD(3) TO GUITAR BACK(1)

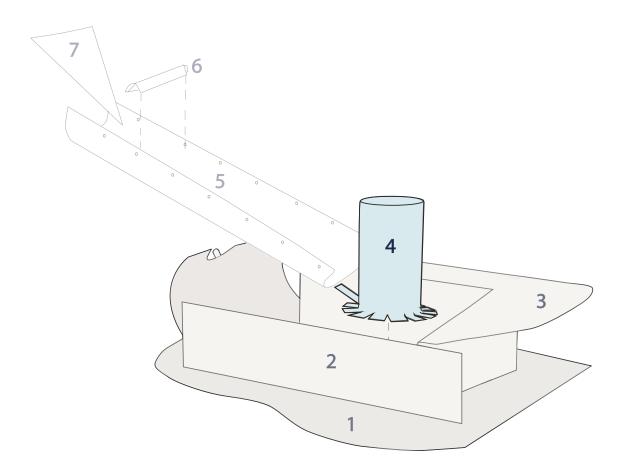


Gluing the *sound box,sound board* set (2 & 3) to the *guitar back*(1) using the *sound-box-to-guitar-back-placement-guide* as a registration device:

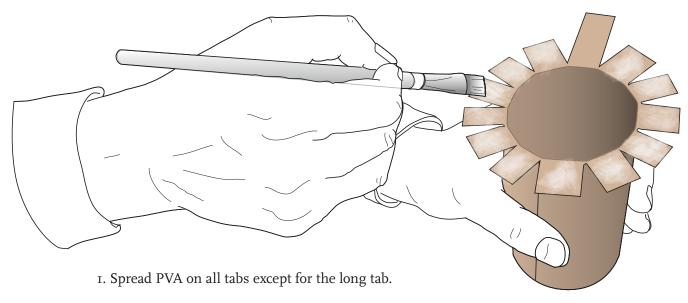
- I. Apply a bead of glue around the perimeter of the *sound box's* underside ½-in from the edge.
- 2. Continue in an inward spiral to the center of the *sound box*.
- 3. Brush evenly toward the center to level the glue (or use foam roller).
- 4 Position the *sound-box-to-guitar-back-placement-guide*, aligning it to the right and bottom edge of the *guitar back*, and place the *sound box*.
- 5. Position weights inside the *sound box* to ensure a secure bond.

Gluing larger surfaces: Excessive amounts of water-based PVA glue can cause larger areas of the paperboard guitar to warp. Therefore, apply glue sparingly.

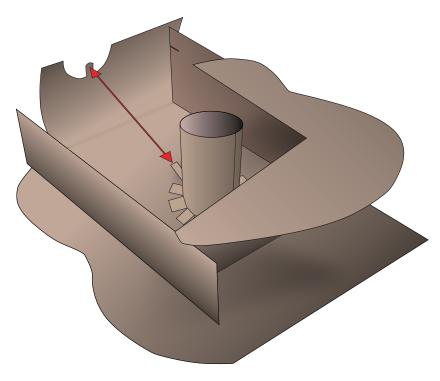
SOUND HOLE(4) TO SOUND BOX(2), SOUND BOARD(3) & GUITAR BACK(1)



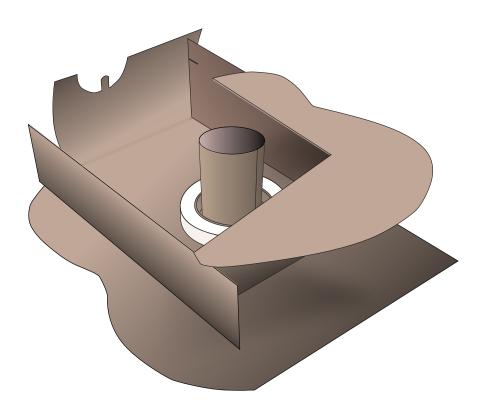
Overview: The *sound hole*(4) should be steamed and glued into a cylinder with the tabs bent back (as per instruction on p. 18-19). Now we are ready to glue, position, and attached the *sound hole*(4) to the *sound box*(2). Have your brush, glue, a roll of masking tape (with an inner diameter of 3-inches), and weights at the ready.



SOUND HOLE(4) TO SOUND BOX (2), SOUND BOARD (3) & GUITAR BACK (1)

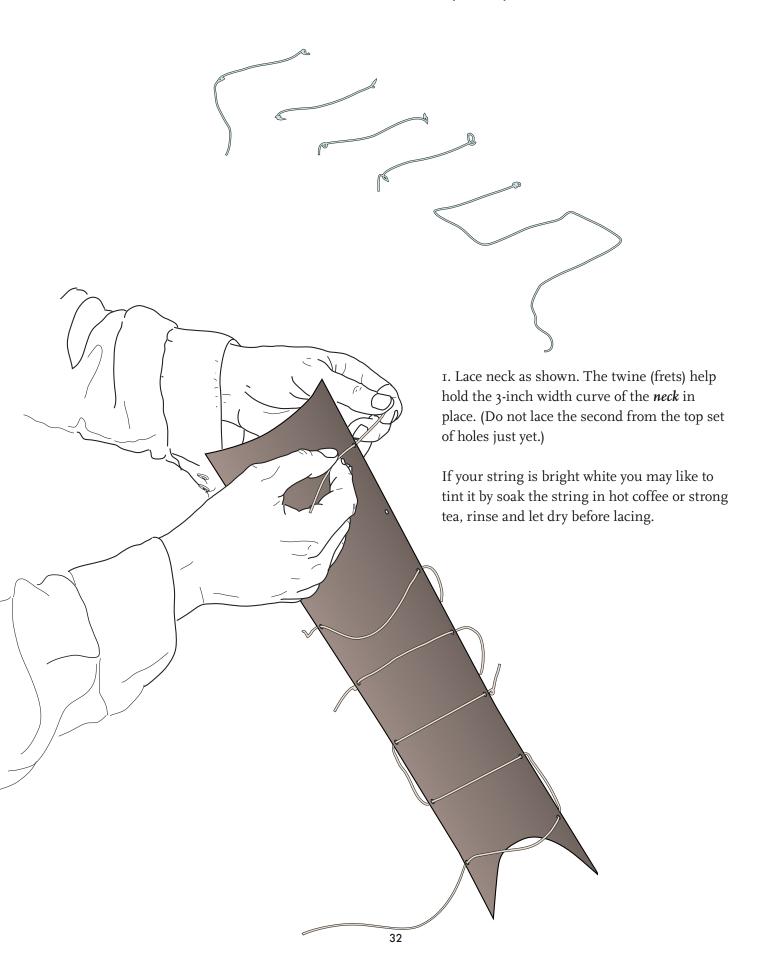


2. Place *sound hole* on the engraved circle with the long tab pointing at the tab found in the cutout of the arched *guitar back* (as illustrated).

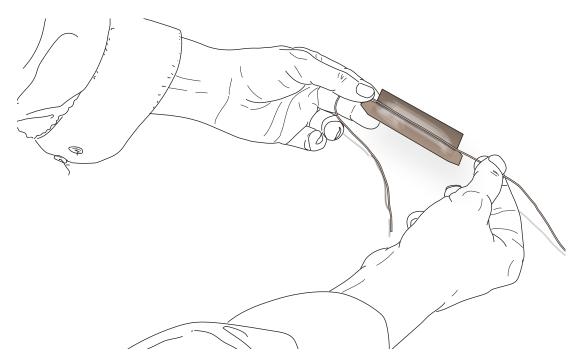


3. Weight the freshly placed $\it sound hole$ tabs with a roll of masking tape. Place weights on the tape.

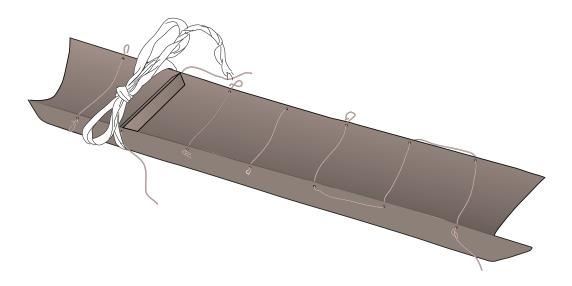
LACING THE TWINE (FRETS)



TWINE & NUT(6)



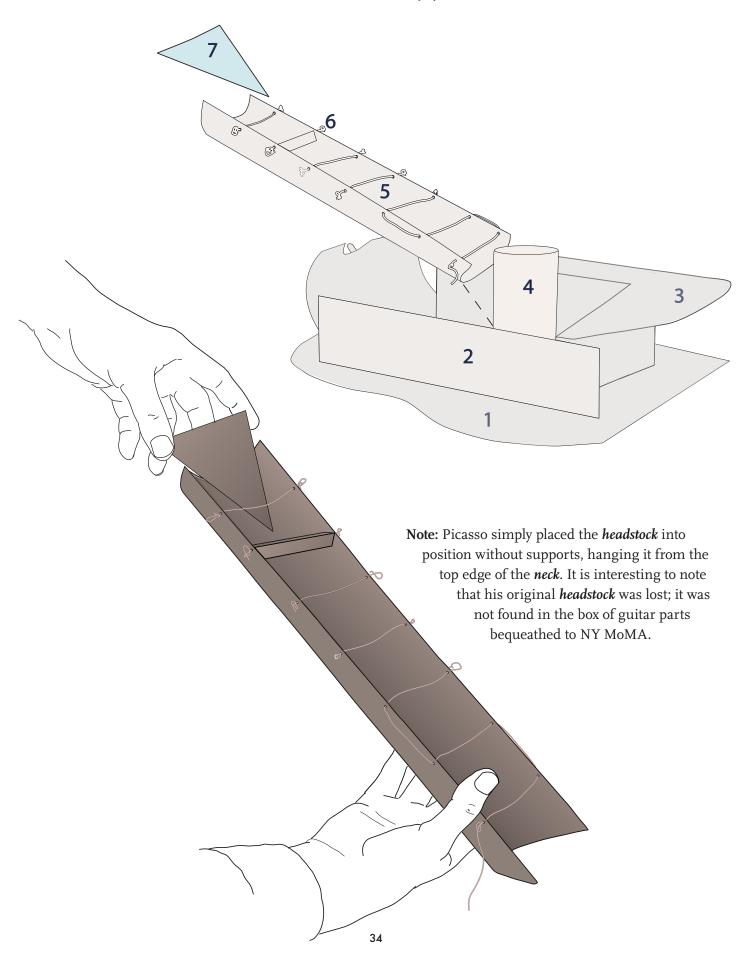
2. Optional: place and glue a length of string along the inside the crease of the folded *nut*.



3. Once dry, lace the *nut's* twine through the second-from-top set of holes on the upper *neck*. Dab glue on the two small end tabs. Place and secure *nut* in position. Use cloth ribbon to cinch *neck* sides tight against *nut* until the glue has dried. When dry, tie twine fret knots to further secure *nut*.

The *neck* with *nut* is now ready to install into the body of the guitar, with or without the *headstock*. If you want to simply place the *headstock* and let gravity hold it in its display position, as per Picasso, skip the next step. If you would like to glue the *headstock* in place, proceed to the next step.

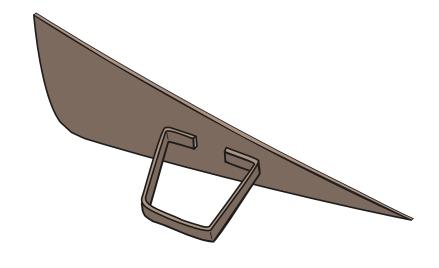
HEADSTOCK(7)



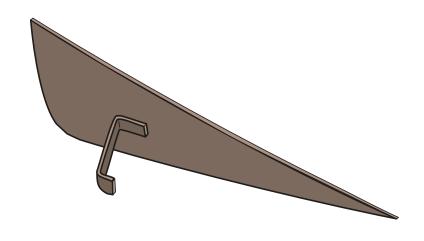
HEADSTOCK(7) (OPTIONAL)



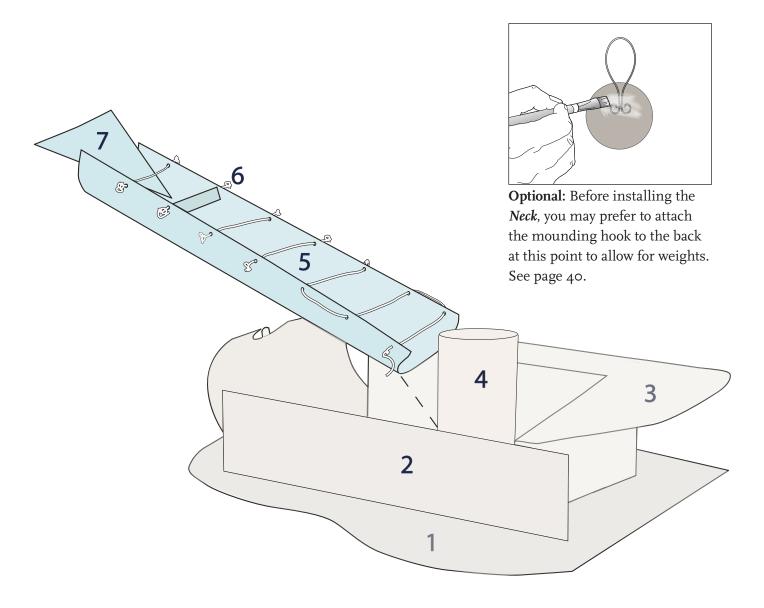
Optional: I. Permanent headstock support: Using a 4 I/2-in x I/2-in strip of scrap material, construct a "U-shaped" headstock Support to a height of I-3/8 inches. Glue tabs to the back of the headstock as illustrated. Apply glue to the bottom of the "U" and attach the headstock to its final resting place under the first fret twine (above the nut).



Optional: 2. *Headstock hook*: using a 2 I/2-in x I/2-in strip of scrap material, construct a "C-shaped" *headstock hook* to a height of I-3/8 inches. Glue tab to the back of the *headstock* as illustrated, testing positioning before the glue sets.



ATTACHING ASSEMBLED NECK(5)

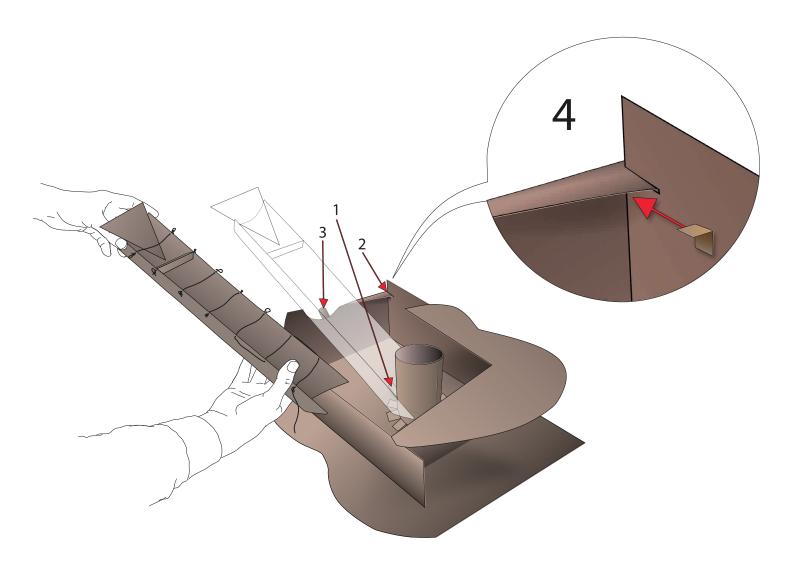


Overview: Placing and attaching the guitar *neck* involves three variables: two tabs and one alignment slot (joining the sound-box-wall and guitar-back-shoulder).

Tabs: first, the extended tab on the sound hole, and second the tab on the guitar-back-neck-cradle.

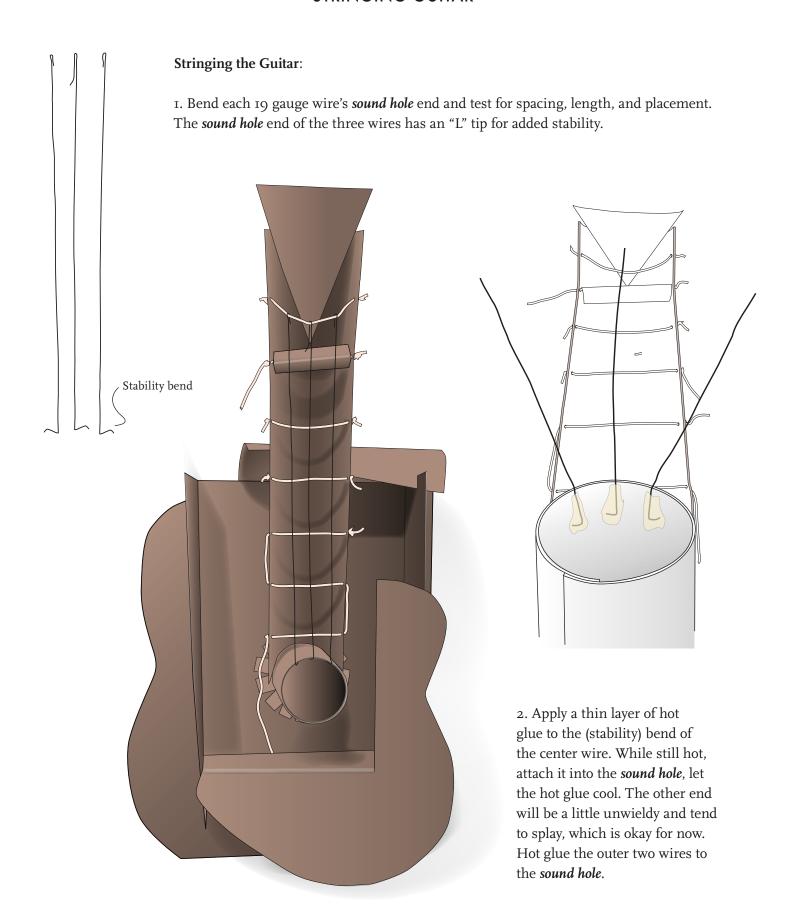
Additionally and critically, there is a slot in the sound-box-wall that must be connected to the upper edge of the guitar-back's-shoulder; where you make this union will determine the vertical alignment of the guitar neck.

ATTACHING ASSEMBLED NECK(5)



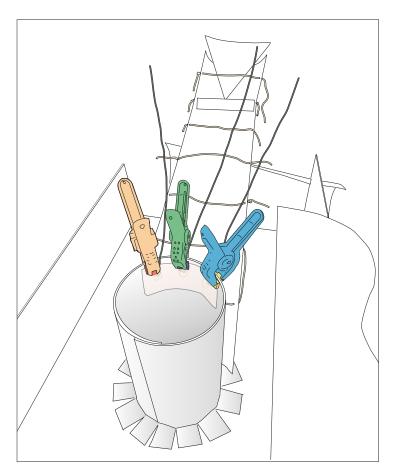
- I. Apply PVA/glue on the top side of the extended tab on the *sound hole*. Place the *neck* such that its arced base wraps and fits snugly around the *sound hole* base, then adhere the tab.
- 2. Insert the *guitar back* arched shoulder into the slot on the right-hand *sound box* wall. It may be necessary to enlarge the incision with a utility knife or scissors. Determining the location of this union will affect the overall alignment of the guitar *neck*. Once located and well-positioned, make a 3/8-inch cut in the top edge of the *guitar back* arch shoulder to secure the union. Join with a drop of glue or a mini "L" shaped tab hidden under the arch.
- 3. Gently lift the upper *neck*, and apply glue to the top surface the *guitar back* neck-cutout tab then adhere the tab to the back of the upper *neck*.
- 4. (Optional) Using a small ¼ x ½-in sprip of paperboard (template 10), fold it in half, apply glue, and use it to secure the *guitar back* arch. Position just under the insert slot as per the illustration above.

STRINGING GUITAR

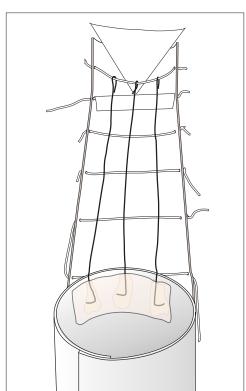


STRINGING GUITAR



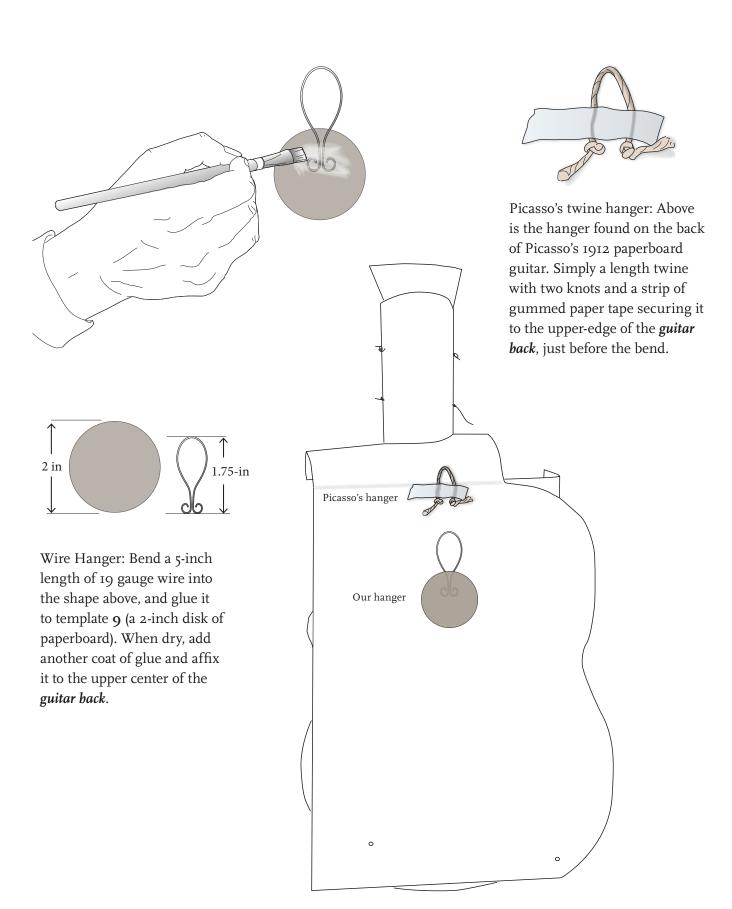


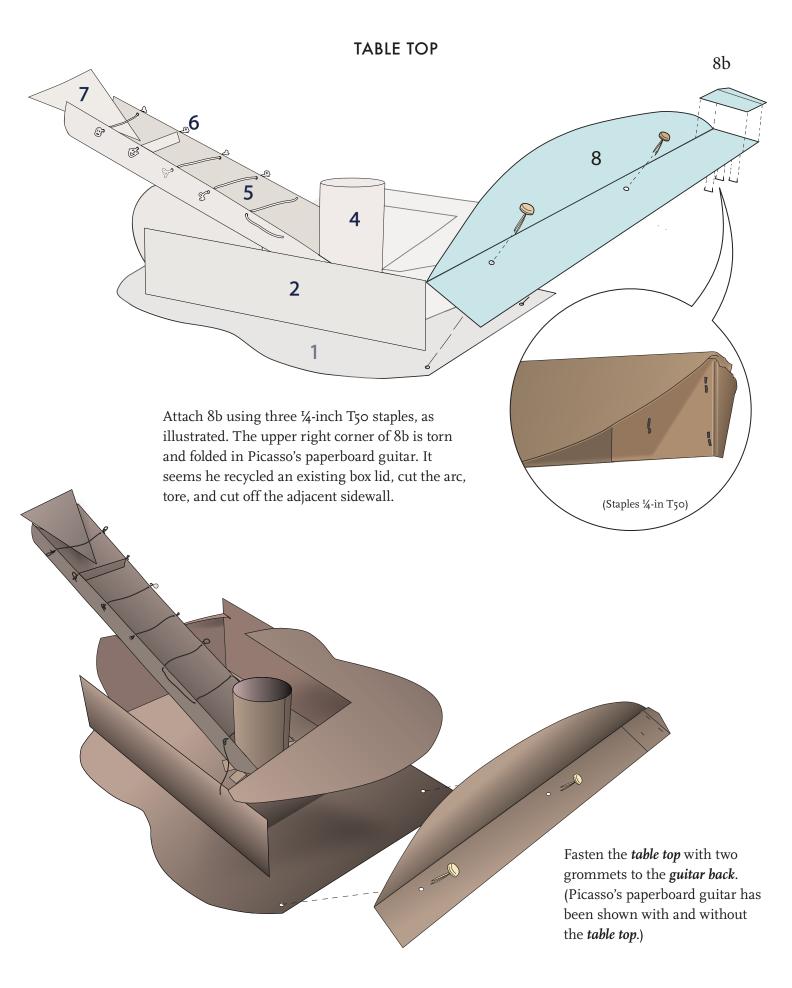
4. Glue the peeled bookboard rectangle over the three hot-glued wires, clamp until dry.



5. Position each wire, then bend and hook them onto the top fret twine.

STRING & WIRE HANGERS BACK SIDE





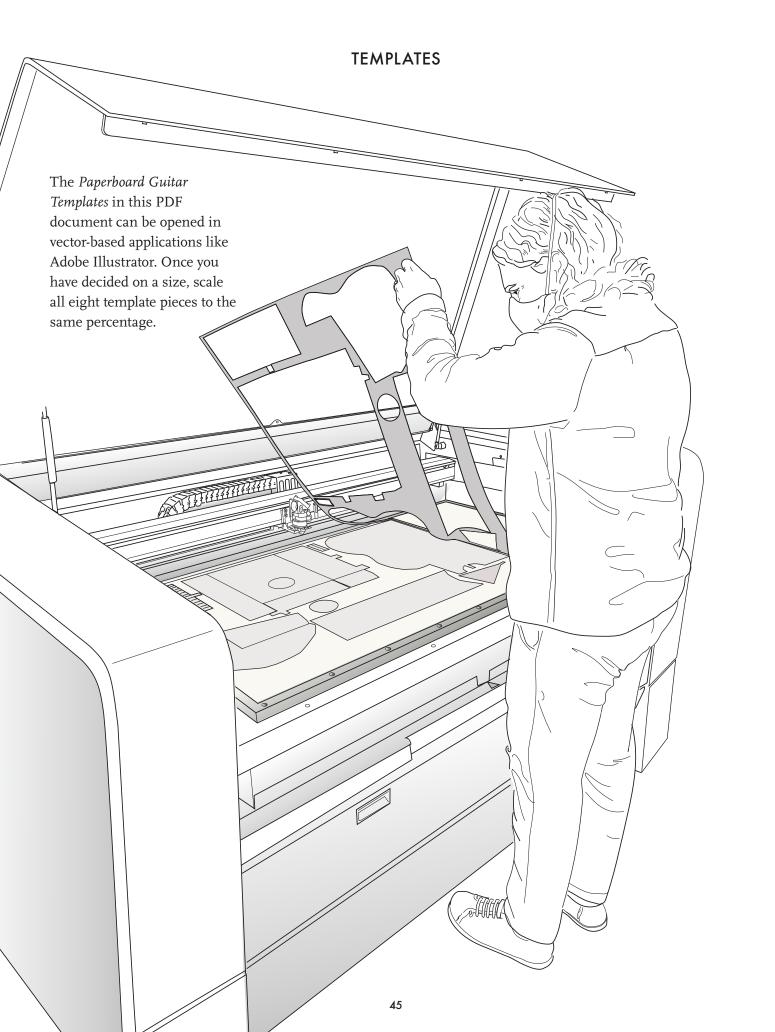
MATERIAL VARIATIONS



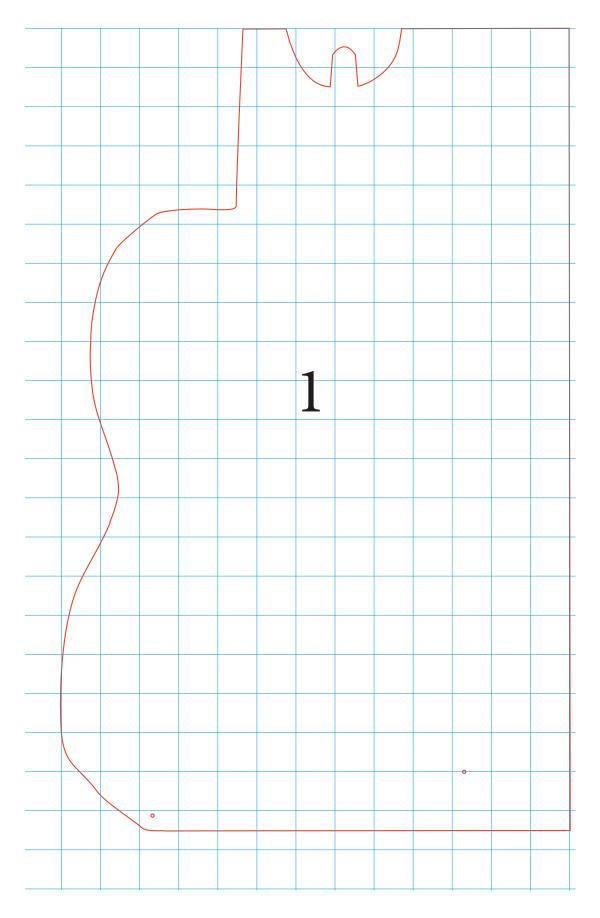
MATERIAL VARIATIONS





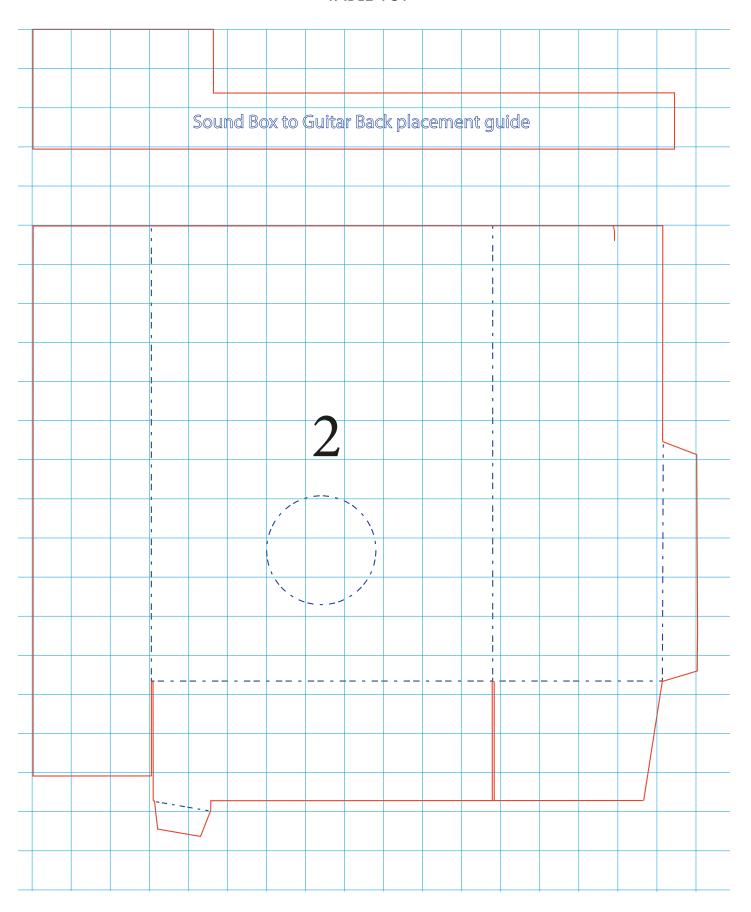


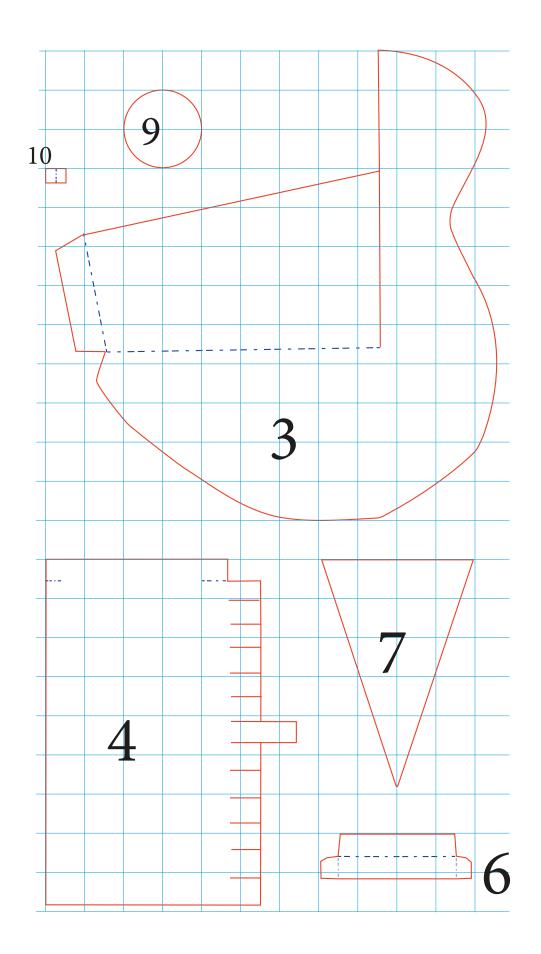
PICASSO PAPERBOARD GUITAR TEMPLATES

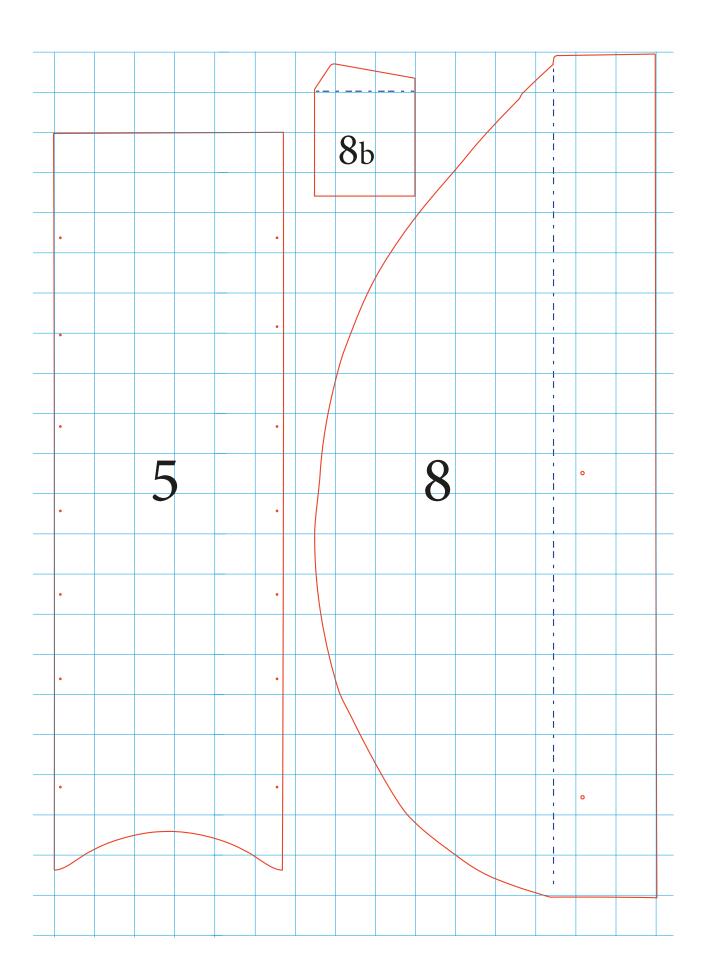


scale: 1-inch grid

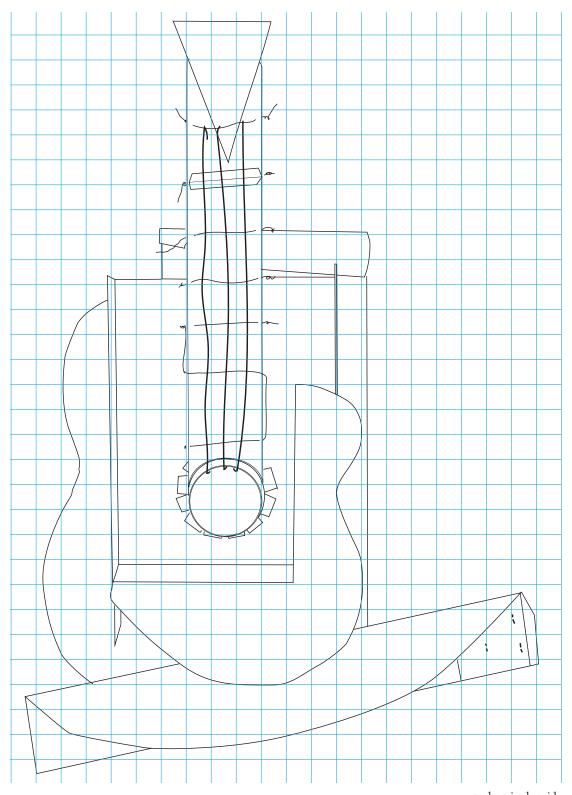
TABLE TOP







ELEVATION WITH 1-IN. GRID (FROM 1913 STUDIO PHOTO, PARIS)



CREDITS

Guitar Deconstruction, Construction, Text & Template Design

Guy Diehl & Donald Farnsworth

Illustrations

Donald Farnsworth

Book Design

Donald Farnsworth & Michael Rylander Cover design by Michael Rylander

ACKNOWLEDGMENTS

Magnolia Editions Staff

Without whose support and patience, this project would not have come to fruition.

Master printers: Tallulah Terryll & Nicholas Price Staff: Era & Donald Farnsworth, Alyssa Minadeo, David Wild, Nick Stone & Max Thill

Beta Testers

Providing valuable insight and feedback:
John DeMerritt, Michael Brunsfeld,
Bob Rigel, Michael Rylander
& Chris Stinehour

Material Variations

(Cubist Guitars depicted on pages 42 – 44) Guy Diehl, Donald & Era Farnsworth, Bob Rigel

Legal Expertise

Rachael Lamkin Lamkin IP Defense (Shining light on copyright issues beyond logic and comprehension)

INTRODUCED IN 1912 & 1914:



127mm format Kodak film, 1912



Landers Frary & Clark, electric toaster 1912



Oreo cookies, 1912



Life Savers, 1912



Brillo, 1914, the year Picasso constructed his metal guitar collage. Appropriated by Andy Warhol in 1964 (50 years later)

1912

- World population: 1.77 billion.
- Titanic sinks on maiden voyage after colliding with an iceberg; over 1,500 drown.
- New Mexico and Arizona are admitted as states No. 47 and 48.
- · Woodrow Wilson is elected president.
- · Girl Scouts of America founded.
- Alfred Wegener proposes the idea of continental drift.
- Duchamp's Nude Descending a Staircase combines elements of both the Cubist and Futurist movements.
 It scandalized the American public at Armory Show (1913).
 A prize was offered to anyone who could find the nude.

1914

- World War I begins: Austria declares war on Serbia; Germany on Russia and France; Britain on Germany.
- Austrian Archduke Francis Ferdinand and wife Sophie assassinated in Sarajevo.
- · Panama Canal is officially opened.
- Charlie Chaplin plays the Little Tramp.
- George Washington Carver begins experimenting with peanuts.