# Tenor Ukulele Kit Assembly Instructions

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Welcome to ukulele building!

Getting started

The uke you’re about to build is an easy kit; we’ve designed it so that you can create a quality ukulele with a minimum of tools. You don’t need experience, either: the ukulele is a great way to get your start in instrument building. When you’re done, you’ll be happy to find that it sounds great, too!

1. Review these instructions before starting so you’re sure you have everything you need, and you’re familiar with the processes involved.

2. Some photos in these instructions use a Soprano ukulele as a model, though the technique is the same for either Soprano or Tenor uke.

3. If you’re new to building, here’s a tip that every instrument builder knows (or finds out the hard way!): Test the fit of any parts before you glue them. Dry-clamp to see that everything fits, then use glue.

4. Be safe when using tools, glues, and chemicals. Wear eye protection and gloves when needed, and always use proper ventilation.

Kit parts list

• Fretwire
• Neck
• Tailblock
• Neck block
• Fretboard
• Strings
• Fretboard side dot material
• Soundhole purfling
• Top plate
• Back plate
• Bridge
• Saddle
• Nut
• 1/4” dowel pegs
• Bridge plate
• Bent sides
• Linings
• Top bracing
• Back bracing
• Tuning machines
• Rubber bands
Recommended tools and supplies

The following tools and supplies are recommended to assemble your kit. Though all of these tools aren’t necessary to build your kit, they make many assembly steps easier. Where applicable, item numbers for ordering from Stewart-MacDonald are included.

Tools
• Clamps: cam, C, bar, clothespins and spring clamps
• Laminate trimmer with flush trim bit (or chisels, hand plane and sandpaper)
• Hand plane (or sharp utility knife and files)
• Mill file, wood rasp and/or Microplane
• Half-round bastard file (or sanding block)
• X-Acto hobby knife (sharp utility knife)
• .032” nut slotting file #0831 (or fine tooth hacksaw blade)
• Fret hammer #4895 (or light weight hammer with smooth head)
• Fret cutters #0619 (or wire cutters)
• Hand plane (or sharp utility knife and files)
• Drill and drill bits (1/16”, 1/4”)
• 18” steel rule (or 18” straightedge and tape measure)
• Square
• Ruler (very accurate)
• Phillips screwdriver
• 10mm nutdriver #5890 (or wrench, for installing tuners)

Supplies
• Titebond wood glue #0620
• Stewart-MacDonald #10-Thin Super Glue
• Plywood 8” x 48” x 3/4”
• 1/2” MDF (medium density fiberboard, or anything that is flat) 9” x 30”
• 1-1/2” finishing nails (24)
• 1-1/4” drywall screws (4)
• 2” angle brackets (2)
• 1/2” screws to fit angle brackets (4)
• Turnbuckle (1)
• Masking/binding tape #0677
• Pencil
• Wax paper
• Sandpaper #5562 (80, 150, 220, 400, 600, and 1000-grit)
• Scraps of wood for spacers, cauls and sanding blocks

Finishing supplies
• ColorTone Aerosol Guitar Lacquer #3881
• Naphtha solvent #0775

Stewart-MacDonald’s DVD recommendation
How To Build a Ukulele Kit Item #5196
Easy step-by-step DVD guide produced especially for our soprano and tenor ukulele kits. Gordon and Char Mayer of Mya-Moé Ukuleles demonstrate the complete assembly process. Excellent guidance and helpful tips from pro luthiers!
Assemble the body

Body assembly jig

This simple jig holds the ukulele for gluing, and ensures that the sides are properly squared up with the top and back.

From 3/4” plywood, cut pieces for your jig:

- body jig base: 11” x 13-7/16”
- neck end side wall: 11” x 2-3/8”
- tail end side wall: 11” x 2-1/2”

The size difference of the side walls is because this ukulele kit is designed with a tapered profile: the body’s tail end is slightly deeper than the neck end.

Draw a centerline down the length of the body jig base. Measure accurately, because you’ll use this line to guide you in building.

Assemble the two side walls on the neck and tail end of the base so the interior walls will be 12” apart (pictured). Use a square to be sure the sides are perpendicular to the centerline. Glue and fasten each wall with two drywall screws (from the underside of the base), and let dry for 3 hours.

When the glue has dried, draw the centerline onto the ends of the jig, continuing it from the base onto the walls and tops of the side walls. Keep the lines square—you’ll use this centerline for aligning pieces during construction.

Included in these instructions is the body shape template and bracing pattern (center page of this book). Carefully remove this page and cut out the body shape. Save the body shape template; you will be using it again later. Trace the body shape onto the base, aligning it with your centerline. The ends of this body shape should touch the two side walls.

A line on the body shape template marks the ukulele’s waistline, 4-1/2” from the neck end. Transfer this line to your body assembly jig, keeping it perpendicular to the centerline. On this line, attach two angle brackets to support the sides and hold the waist in position. Use 1/2” screws to attach these brackets in position to just touch the waistline.

Small finishing nails around the base can be added now or later when gluing the top. During that step, rubber bands wrap around the nails and over the body in the jig, adding uniform clamping pressure while gluing.
Attach the neck block

Mark the centerlines: Place the ukulele sides into the body assembly jig. The split in the sides goes at the neck end, aligning with the centerline. Adjust the sides so they follow the pencil outline that you drew earlier.

When the sides are properly positioned, use the centerline on the mold to draw a centerline on the inside of the tail end of the sides. Take the sides out of the jig and extend the centerline to the outside of the sides.

Locate the neck block (it’s U-shaped). Measure to find the center, and mark it on the top and bottom of the block (pictured).

The side of the neck block that touches the ukulele’s sides is curved. A clamping caul with matching curvature should be made from scrap wood to use when gluing. Save this caul for when you glue the tailblock. It will fit both the neck block and tailblock areas.

Dry clamp the neck block: The side of the uke that is placed down on the bench will become the top of the instrument. Write “top” and “back” on the respective sides of the neck block, for reference in future steps.

Use a small piece of wax paper between the neck joint and your bench, wrapping it up the outside, so that it goes between the sides and the caul. The wax paper will protect your bench and caul from the glue.

Using clamps of your choice (bar clamps work best), dry clamp the neck block in place.

BUILDING TIP: Cauls

You’ll need scrap wood to make cauls that will be used throughout assembly. Cauls are used to apply uniform pressure while the glue dries, and to protect the instrument’s surface from the clamps.

BUILDING TIP: Dry clamping

It’s important to try fitting and clamping the kit pieces before you use glue. Practice a “dry run” to make sure you have all the clamps and cauls needed before glue is applied.

Attach the tailblock

Locate the tailblock, draw a centerline on each end, and notice that one end has a bevel on what will be the inside of the instrument. This beveled end will go against the top of the ukulele.

With the sides still sitting flat on your bench, dry-clamp the tailblock in place on the centerline of the sides. Reuse the radiused caul from the previous step. Use wax paper to protect your bench and caul. When the assembly is lined up and square, take off the clamps and glue it up, and reclamp. Clean up squeeze-out, and let the glue dry for 3 hours.

It’s now critical that the uke’s sides and neck block are flush to the bench. The centerline on the neck block should line up with the split in the uke’s sides (pictured).

The sides will extend above the neck block slightly, and will be trimmed down later.)
**Attach the linings**

The linings are the thin strips that follow the contour of the sides. They add greater gluing surface where the sides meet the back and the top.

**Back linings:** Place the side assembly into the body form, top down. Get the curves and waist as symmetrical as possible, using the angle brackets at the waistline to force the form. Clamps holding the neck and tail blocks at the centerline can be helpful.

Notice the neck block is not as tall as the tailblock. This uke is designed with a tapered profile: the body’s tail end is slightly deeper than the neck end. As a result, the back linings will run at an angle from the tailblock down to the neck block.

Working with the back of the side assembly, trim the linings so the ends fit against the neck and tailblocks, and dry clamp them with clothespins or 1” spring clamps. Adjust the linings to taper gradually from the tail to neck block, at the same angle on both sides. When you’re satisfied with their position, make some pencil marks along the sides to help you reposition the linings when gluing.

Glue the linings with Titebond and secure with lots of clothespins or clamps. Clean up glue squeeze-out, and let the glue dry for 3 hours.

**Top linings:** Remove the clothespins and clamps, and flip the side assembly over in the jig, top side up.

Now trim and dry-fit the remaining two pieces of lining to the front side of the body, flush with the top edge of the assembly. When satisfied, glue up, clean up any squeeze-out, and let the glue dry for 3 hours.

**Transfer the body template lines**

Transfer the lines from the body template (center page in this book) to the inside of the top and back of your ukulele (you can decide which side of the back is the inside). Include the bracing, bridge plate, centerline, and the outline of the body.

On the front side of the top, very lightly mark the centerline near the top of the soundhole.
Install the soundhole purfling

Hold the purfling strips in a stack, alternating white-black-white-black-white. With a sharp X-Acto knife, trim one end flush and square. Carefully set the strips into the channel, with the squared end at the centerline at the top of the soundhole.

When you complete the circle, carefully trim the purfling with the X-Acto knife. Take care to trim the ends as perfectly as possible. The fingerboard will not cover this butt-joint in the purfling (as when building a guitar). Better to cut the purfling a little too long, then recut, than to create a gap by trimming them too short.

Press the purfling into the rosette channel. Wick thin super glue around the inside and outside of the plastic purfling. You’ll see the glue soak into the mahogany, but it will blend in later during finishing.

Bracing the top and back

Referring to the body template and your transferred lines, dry-clamp the braces and bridge plate into position. Using a combination of clothespins, spring clamps or cam clamps.

Note, the two back braces have a slight arc from end to end. This curve will create a gentle arch to the back of your ukulele.

Add a label

You may want to put a label inside your uke with your name and the date you built it. There are lots of options, from a handwritten signature and date right on the wood, to something created on your computer and printed onto sticky-back label paper. The body shape template shows the location of the soundhole for positioning your label.

When you’re happy with your clamping setup, apply Titebond glue to the braces, clamp them in place, and clean up any glue squeeze-out. Allow 3 hours to dry.
Glue the top onto the sides

First, the sides and braces need to be trimmed so they will be flush when gluing.

Put the sides into the body assembly jig with the top facing up. Make sure the sides are centered, using a turnbuckle to hold it into place (pictured). Using aggressive sandpaper (80-grit), sand the sides and lining so that they’re flat and level. Insure even, flat sides by taping sandpaper to your bench.

With a chisel and sandpaper, trim and taper the ends of the braces that extend to the body edge.

With the sides still in the jig, dry-fit the top onto the sides. Be sure it will glue flush, and the braces don’t interfere with the sides.

Dry run: Clamp the top to the sides using a cam clamp at each end of the assembly. Carefully line up the centerline on the top with the centerline of the sides. Use the rubber bands to apply even clamping pressure to the top.

Caution

Before gluing, be sure you can get your fingers through the soundhole to release the turnbuckle, so you can get the assembled sides and top out of the body mold.

When you’re satisfied with the fit, unclamp. Clean off dust and shavings, and apply Titebond glue to the edges of the sides, spreading it evenly. Reclamp each end, lining up the centerlines, followed by the rubber bands. Allow 3 hours to dry.
**Trim the top**

Release the turnbuckle, and remove the side and top assembly from the mold.

Trim off the overhang with a sharp knife and a file, or get in close with those hand tools and flush-cut with a laminate trimmer and ball-bearing router bit.

*When using a laminate trimmer:* avoid wood tear-out by starting with four “climb-cuts,” so-called because the router is climbing, or being pulled along as the bit grabs the wood.

Begin at the centers of the top and lower bouts on both the treble and bass sides *(illustrated)*, with the router base moving in the direction of the rotating cutter (clockwise). Rout up to the areas indicated by the arrows. When all four climb-cuts have been made, you can move the router in the opposite direction (counterclockwise) cutting into the wood rather than climbing *(illustrated)*. Make one continuous pass around the instrument. When you reach the areas that were already climb-cut, the router will pass without tear-out.

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**Glue the back onto the sides**

Put the assembly back into the mold, top down and on center. Now, using your hand plane, plane the edges of the sides down to the linings. Make sure you plane “downhill” so that you don’t get tear-out. When you get close to the linings, use a piece of sandpaper taped to your bench to finish off the leveling of the sides.

As you did for the top, shape and trim the braces on the back so they don’t interfere with the sides.

Do a dry fit, clean off the edges, use a cam clamp at each end to ensure that the bottom is glued on-center, and then use the two rubber bands to get uniform clamping pressure.

When the glue is dry (3 hours), take the assembly out of the mold and trim the edges of the bottom flush to the sides.

Soprano kit shown.
Tenor ukulele body shape template and bracing pattern

Waist: 4 1/2” from neck end

Top brace: 1 7/8” from neck end

Top brace and Back brace: 5 5/16” from neck end

Bridge plate: 8 9/16” from neck end

Taper the brace ends with a sharp chisel.

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Body length: 12”

Waist: 4 1/2” from neck end
Tenor ukulele body shape template and bracing pattern

Waist: 4 1/2" from neck end

Top brace and Back brace: 5 5/16" from neck end

Top brace: 1 7/8" from neck end

Back brace: 8 15/16" from neck end

Body length: 12"

Bridge plate: 8 7/8" from neck end

Taper the brace ends with a sharp chisel.
Fret and neck installation

Install the side dots in the fretboard

Carefully drill holes about 1/8" deep with a 1/16" drill bit on the edge of the fretboard. Align the holes with the position dots that are already inlaid in the top of the fretboard. Using your side dot material and #10 thin super glue, glue a piece of material into each hole and trim it off with diagonal cutters. When all the side dots are glued in, sand the side of the fretboard flush.

Seating frets

For hammering the frets, you'll need a work surface that's flat and hard. A fret hammer is recommended, because it's gentler on the frets than a carpenter's hammer. If you use the latter, be careful and be sure it has a clean, smooth striking surface.

Work on one fret at a time. Seat the ends of the fret in the slots by tapping them down at each edge of the fretboard. This leaves the center curved up above the fret slot. Next, tap the fret from end to end, seating it into the slot.

As each fret is seated, nip the overhanging ends close to the sides of the fretboard (approximately 1/64”). Leaving a little overhang helps you avoid marring the wood. You can use wire cutters, but fret cutters are ideal for this job, and provide a clean, flush cut.

After all the frets are installed, place a flat hardwood block on top of the frets and hammer on the block to further seat the frets.

The fretboard will now have a slight backbow from the pressure of the metal fret tangs in the slots. Remove this bow by gently massaging the fretboard, curving it in the opposite direction. Place a shim beneath one end of the fretboard and press the board down against the table top. This seats the frets more securely as the fretboard flattens out. Press gently: too much force can crack the fretboard at one of the slots.

Stewart-MacDonald's free information online

How to Hammer Frets by Gene Imbody

A fret hammer is the most basic tool for installing frets, but there's a definite technique to using it. It's not like hammering a nail! Gene Imbody is a skilled guitar repairman, and his advice on hammering will get you off to a good start:

Search "how to hammer frets" at stewmac.com
Attach the fingerboard to the neck

In this step it is helpful to have the neck held firmly either by clamping the peghead to the edge of your workbench, or in a vise. Use a caul to protect the peghead from clamp marks. Position the fretboard on the neck, with the 14th fret at the heel edge. Put the nut in place, to be sure you have room for it to sit on the flat neck before it tapers off to the headstock. Don’t glue it in yet—you might find it necessary to thin your nut so it sits on the flat of the neck and still have the 14th fret line up with the heel edge.

There are several ways to clamp the fretboard to the neck: use the rubber bands included in the kit, use some screw clamps and a caul, or you can use our #3109 Fingerboard Band Clamps with or without a caul.

To clamp with the rubber band: wrap the rubber band around the full length, starting at the nut line (pictured). Make sure the first wrap goes over the end to keep it from unraveling.

After the dry run, unwind the band and apply Titebond glue. Spread the glue evenly on the neck, and position the fretboard. It is important to have the 14th fret right at the edge of the heel of the neck.

Reclamp, clean up squeeze-out at the nut area, and let dry for at least 3 hours.

Final sand the neck: Remove the clamps from the previous step. Secure the peghead to the workbench or in a vise. Using a combination of micro file or finish rasp and sandpaper, file the neck and fretboard sides flush. Clean up the dried glue, but avoid touching the frets. Finish with 220-grit sandpaper.

Level and polish the frets

Level frets are important. Use a long straightedge to see how level they are. Mark the tops of each fret with a marker pen.

Lightly smooth the frets with a smooth mill file, a carborundum stone, or a hard block with 400-grit sandpaper. A few gentle strokes should be all it takes. When the marks are removed from each fret, they are all level. Check with a straightedge to see that the frets are level, and use a hardwood block with 600-grit sandpaper to remove any filing marks.

If the frets have become flattened, round them again with a fret crowning file. Finally, smooth the frets with 1000-grit sandpaper wrapped around two fingers. The action of your fingers over the frets will round them a little while it burnishes and polishes the tops. Roll over the fret ends to polish them and remove any burrs.
Dress the fret ends

With a smooth mill file or 150-grit sandpaper taped to a flat surface, remove the sharp overhanging fret ends. They should be smooth and flush to the fretboard.

Next, add a uniform bevel to the edges of the frets. Hold the file at an angle and put a beveled shape onto the fret ends. An angle of 30-degrees is about right, but the steepness of this bevel is a matter of personal preference.

You can then shape each fret end, rounding and buffing so they will be comfortable to the ukulele player!

Preparations for attaching the neck to the body

Final sand the body
Clamp the peghead to the workbench. Using a micro file or finish rasp, file the neck flush to the fretboard sides. Finish with 220-grit sandpaper. Sand the body down to 220-grit sandpaper.

Clean up the neck heel
Check for glue squeeze out between the fretboard and the neck heel. If necessary, remove it with a chisel. Now hold the neck assembly up against the body and check its fit against the body. If necessary, sand the body slightly (or sand/chisel the neck heel) so the neck fits flush against the body.

Optional heel cap decoration
With the neck against the body, mark the bottom of the heel about 1/8" below the sides. Saw and sand off the excess heel and, holding the neck against the body in final position, check to make sure it is square to the body. Glue on a small piece of 1/16" thick wood as a decorative touch on the neck heel. When the super glue has dried, file and sand off the excess.

Insert dowel pins
Take the two 1/4" dowel pins and cut them down to 1" long. Using a 1/4" bit, drill two 1/2" deep holes into the body along the seam where the sides align (the centerline). Drill one of them approximately 1/2" from the top edge, and the other 1-1/4" from the top edge.

Stewart-MacDonald’s tool recommendation

**Essential Fretting Tool Kit** Item #3125

Our fretting experts compiled this kit of tools you’ll need for the fundamentals of fret work: installation, removal and dressing. We’ve included our photo-illustrated book, *Fretwork Step By Step*, the most complete work ever published on the subject!
Attach the neck to the body

**Final assembly jig:** This one is simple—take your 9” x 30” MDF and draw a centerline all the way down the.

You’ll need to make two spacers. Each of them is approximately 1” x 6” and they need to be exactly 1/4” thick. These are used to hold the body off the MDF at exactly the same height as the fretted fretboard.

Place the fretboard and paper body template on the MDF. The 14th fret should line up with the neck end of the body, and both should be fully on the MDF. When they are correctly aligned, draw their outline onto the MDF (pictured).

Using a cam clamp, clamp the neck/fretboard assembly onto the MDF assembly fixture where you drew its outline. Put the two spacers on the body outline; put two 1/4” dowel centering pins into the holes you drilled; and carefully put the body onto the MDF fixture and slide it up against the clamped neck in order to mark the centers of the two holes.

**Alignment is critical!** Remove the neck and drill 1/2” deep × 1/4” holes at the markings. Put the dowel pins into the body and check the fit with the neck. Adjust as necessary.

Now dry clamp everything into place. First, clamp the neck down with a cam clamp. Then slide the body on the two spacers (with dowels) into place. Cam clamp both ends of the body lightly onto the fixture and use a 12” single-hand bar clamp to squeeze the neck into the body (the clamp will span from the heel of the neck to the tailblock. When you’re satisfied, apply glue and re-clamp. Carefully clean up the squeeze-out. Let dry overnight.
Finishing your ukulele

Locate and mask the bridge

The bridge should be glued to bare, unfinished top wood for strong adhesion. In this step, you will locate the bridge position and mask that area off with tape to keep the wood bare during finishing. The bridge will be glued on later, after the finish has been applied to the instrument.

Place the bridge on the top of the body in approximately the correct place: 17-3/32" from the nut-end of the fretboard to the center of the saddle on the bridge. Now place a piece of 1-1/2" wide masking tape on the top of the body under the bridge.

Location of the bridge is very important for accurate tuning. Repeat these steps using an accurate ruler, until you get the position right:

1. Bridge on the tape, saddle is toward the fretboard.
2. Center of the saddle is exactly 17-3/32" from the nut-end of the fretboard.
3. Bridge is perfectly centered relative to the centerline of the fretboard.
4. Bridge isn’t tilted at all.

When you’ve achieved this, carefully (and lightly—you want to see it on the tape but be careful not to dent the mahogany) draw a pencil line around the bridge onto the tape.

Remove the bridge and use an X-Acto knife to cut the outline of the bridge approximately 1/16” inside the pencil line. Remove the excess tape.

Final sanding and masking

Sand all the wood surfaces with 320-grit, gently rounding any sharp edges (including the lip of the soundhole and the sharp edges of the peghead).

Damp-sand all surfaces to raise the grain. Do this by dipping a rag in warm water, then squeeze out the excess. Wipe the wood with the damp rag to raise the wood fibers. Let the wood dry for an hour or so, then sand away the raised fibers with 320-grit. Repeat this damp-sanding process a second time. Damp-sanding prevents the grain from rising later during finishing, which would result in a rough surface when finished.

Apply masking tape to the areas that won’t be stained or finished. This includes the bridge, fretboard playing surface and the sides (pictured).

Stuff newspaper into the body. Be sure to tuck it completely into the soundhole.
Apply a clear finish

For a simple and durable finish for your uke, we recommend ColorTone Aerosol Guitar Lacquer. It’s an economical way for the beginner to apply a nitrocellulose finish without elaborate setup or equipment. Only a few cans are needed to completely finish your ukulele.

ColorTone is a nitrocellulose lacquer that can be applied on smooth bare wood. It can also be applied over sanded basecoats of paste wood fillers, ColorTone Sanding Sealer, and over ColorTone Wood Stains.

1. Be sure your surface is sanded smooth and dust free. Use a tack cloth and vacuum to remove every speck.

2. Shake the can for at least one minute after agitator balls rattle. Spray the surface from 8-10 inches away. Apply thin coats in steady uniform strokes to achieve the desired finish.

**Tip:** Pro shops spray heated lacquer because cold lacquer spatters, requiring extra sanding. You should warm up your aerosol lacquer too, simply soak them in a sink of warm tap water.

3. Allow at least four hours between coats, and wait 24 hours before level-sanding.

Let the finish cure for 10-14 days before final sanding and buffing.

So maybe you’re ready to try the full instrument finishing process? This flow chart (below) covers the traditional nitrocellulose finishing steps, in a nutshell. It’s a process that can take over a week and requires a fair amount of equipment and experience. If you are ready to experiment with this complete schedule, we recommend getting more info in our book, *Guitar Finishing Step-By-Step*. 

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**Wood preparation**
Clean surface and sand to 220-grit

**Stain (optional)**
Liquid stain dissolved in water or alcohol

**Non-porous wood**
Maple, spruce, basswood, alder, poplar, ebony, etc.

**Porous wood**
Rosewood, mahogany, ash, koa, walnut, etc.

**Wash coat (optional)**
1-2 coats • 1-2 hours apart
Very thin coats of thinned finish lacquer, sanding sealer, or shellac

**Grain filler**
Natural for light woods, medium-brown for dark

**Sealer/primer (optional)**
Build level surface with lacquer, sanding sealer, or shellac • 3-4 coats • 2-3 coats per day • 1-2 hours apart

**Color coats (optional)**
Tinted clear lacquer, shaded lacquers or opaque colors • 1-3 coats • 2-3 coats per day • 1-2 hours apart

**Clear coats**
Lacquer: 4-10 coats (4-to-8 coats for thin “vintage” finish) • 2-3 coats per day • 1-2 hours apart

**Wet sand and buff**
Wet sand with 1200-grit and finer, buff to high-gloss
Final setup

Glue on the bridge

Remove the masking tape that marked the location of the bridge. Again, using the bridge and an accurate ruler, locate the bridge in the exact position: 17-3/32" from the nut, centered on the centerline of the fretboard, and not angled relative to the fretboard.

When you have it located, put small pieces of masking tape on the top, outlining the bridge. Now dry clamp it, with the saddle removed, to make sure that the clamps you have selected will work well.

Remove the bridge and spread a small layer of Titebond glue on its underside. Put the bridge in place and clamp it. Pull up the masking tape and clean up any glue squeeze-out. Allow to dry overnight. Glue in the piece of decorative laminate.

Install the tuning machines

One-by-one, put a tuning machine in the peghead and, on the top side, install a washer and 10mm nut. Hand tighten the nuts so that the tuners are not spinning freely, but you can still adjust their alignment.

Turn the instrument over. Using a small straightedge, align the tuning machines (pictured).

When they are correctly aligned, drill 1/16" pilot holes for the housing pins and screw them down. Tighten the nuts with a 10mm nut driver.

Install the nut

With the sloped edge of the nut towards the peghead, position the nut at the upper end of the fretboard. Be sure the neck slot is level and clean of debris or glue squeeze-out from the fingerboard assembly.

Lightly glue the nut in place with a couple of drops of super glue. Allow at least 3 minutes for the super glue to set.
Install the strings and tune

Press in the saddle; no glue is needed.

There are two options for attaching the strings to the bridge—one is a simple knot in one end of each string. Pull it tight and trim the excess.

The other option is to string the bridge like a classical guitar. Thread the end of the string through the holes on the saddle side, pull it through, and continue the knot as pictured.

Thread the other end of the string through the hole of a tuner and tighten the string. Leave three or four complete wraps around the tuning post.

The strings provided are for standard ukulele tuning: G C E A (from left to right when you are facing the instrument). Tighten with just enough tension to take the slack out as it settles into the nut slot.

Tighten the strings until they are in tune. (To remember the G C E A order: “Great Care Ensures Accuracy.” If you’ve ever heard someone tuning and singing a melody to “My Dog Has Fleas,” that’s ukulele tuning.) Expect to have to retune frequently until new strings have had some time to settle in.

Set the string action

The height of the strings over the frets is called the action. This height of the strings is controlled by the nut and saddle. The string action at the first fret should be .015” and the string action at the 12th fret should be .090”.

For example, the distance from the G string and the first fret should be .015”. If you don’t have nut-slotting saws, you can adjust this slot with a fine-tooth hacksaw blade. Check the height of the string at the 12th fret: this should be .090”. To adjust this height, sand material off the bottom of the saddle. Only the nut adjustment will be needed for the other strings.

That’s it! You’ve built a ukulele, and you’re ready to play!