MODEL T33949/T33950/T33951
CONCERT UKULELE KIT
OWNER'S MANUAL
(For models manufactured since 09/23)

#JM22870 PRINTED IN CHINA V1.12.23

******Keep for Future Reference******

⚠ WARNING!

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- **Lead from lead-based paints.**
- **Crystalline silica from bricks, cement and other masonry products.**
- **Arsenic and chromium from chemically-treated lumber.**

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

Table of Contents

INTRODUCTION

Contact Info

We stand behind our instruments! If you have questions or need help, contact us using the information below. Before contacting, make sure you gather all the information regarding your instrument. This will aid us in helping you faster.

Grizzly Technical Support
1815 W. Battlefield
Springfield, MO 65807
Phone: (570) 546-9663
Email: techsupport@grizzly.com

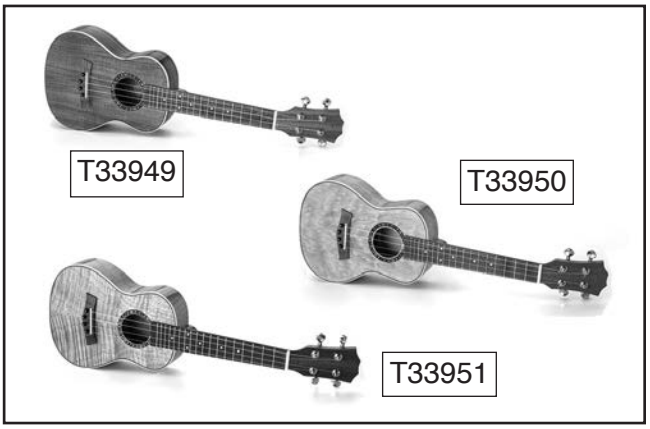
We want your feedback on this manual. What did you like about it? Where could it be improved? Please take a few minutes to give us feedback.

Grizzly Documentation Manager
P.O. Box 2069
Bellingham, WA 98227-2069
Email: manuals@grizzly.com

Description

Grizzly ukulele kits are available in (3) different veneer options:

—T33949 Hawaiian Koa
—T33950 Quilted Maple
—T33951 Fiddleback Maple



Manual Accuracy

We are proud to provide a high-quality owner's manual with your new instrument!

We make every effort to be exact with the instructions, specifications, drawings, and photographs in this manual. Sometime we make mistakes, and our policy of continuous improvement also means that **sometimes the instrument you receive is slightly different than shown in the manual**.

If you find this to be the case, and the difference between the manual and instrument leaves you in doubt, check our website (grizzly.com) for an updated version. We post current manuals and manual updates for free on our website.

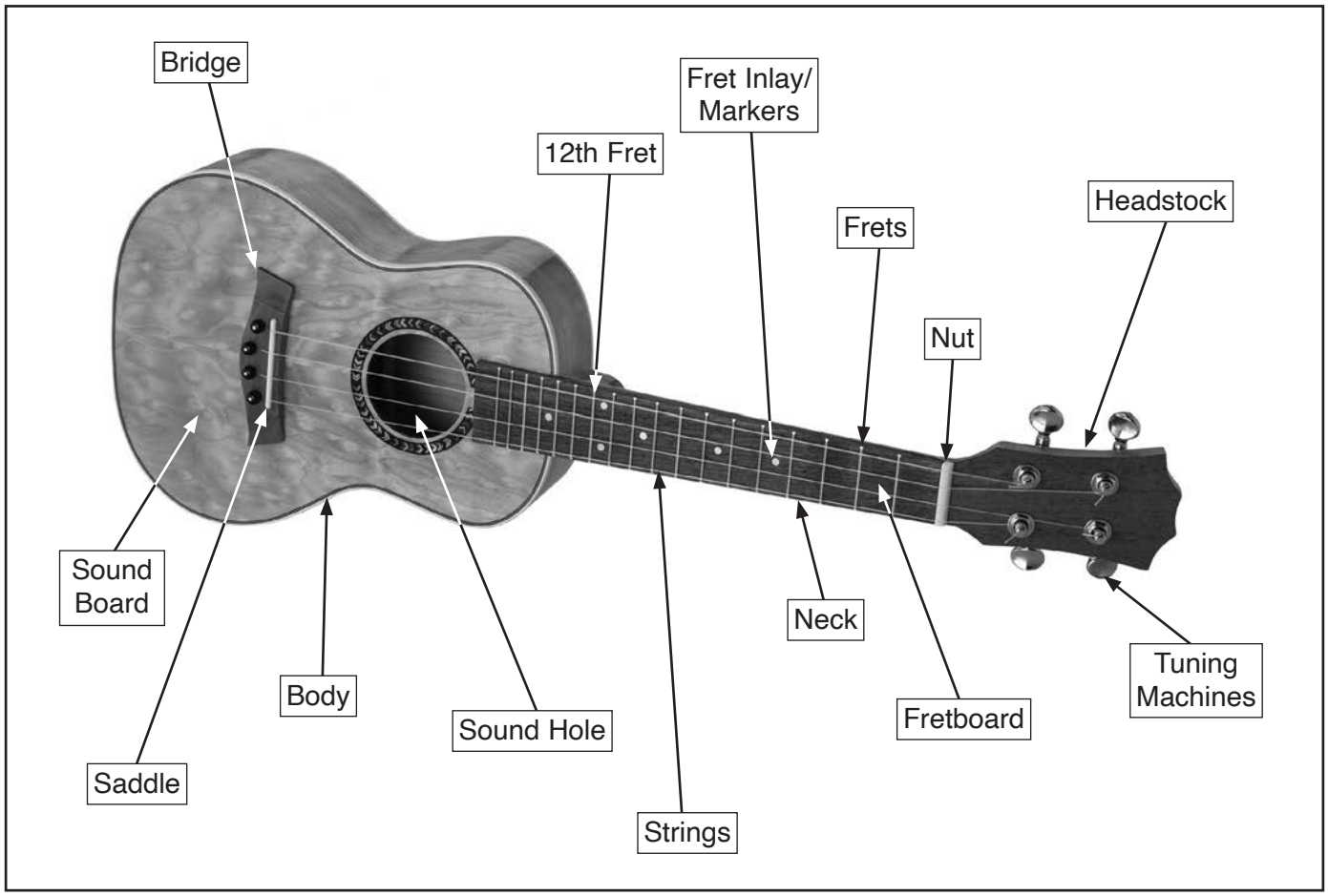
Alternatively, you can call our Technical Support for help. Before calling, gather all material and instructions that came with your instrument for easy reference. This will make providing you proper technical support much easier. It also will help us determine if updated documentation is available for your instrument.

NOTICE

WE STRONGLY RECOMMEND that you read books, review industry trade magazines, or get formal training before beginning any projects. Regardless of the content in this Manual, Grizzly Industrial will not be held liable for accidents caused by lack of training.

Identification

Become familiar with the names and locations of the features shown below to better understand the instructions in this manual.



⚠WARNING

There is potential danger when operating woodworking machinery. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use any machines with respect and caution to decrease the risk of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

⚠CAUTION

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use tools and any machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment, or poor work results.

SECTION 1: SAFETY

⚠WARNING

Always wear safety glasses or goggles when operating equipment. Everyday glasses or reading glasses are not safety glasses. Be certain the safety glasses you wear meet the appropriate standards of the American National Standards Institute (ANSI).

Because there are various ways to cut and join wood, you can make substitutions for the methods stated in this plan. We try to suggest the easiest methods possible. However, only you know your skills with each piece of machinery. Never compromise your safety by using a cutting method with which you are not comfortable. Instead, find an alternative approach that will yield the same result.

⚠WARNING

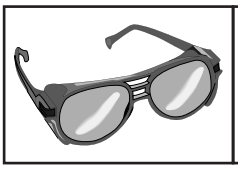
These instructions assume that you are intimately familiar with the safe operation and use of woodworking machinery and woodworking tools, and understand the techniques used to reproduce this project. If you do not qualify for both of these criteria, STOP building this project for your own safety. Read and understand the owner's manual for the machinery you intend to use, take a woodworking class or visit your local library for more information. Woodworking machinery and tools are inherently dangerous, because they use sharp edges that can and will cause serious personal injury including amputation and death. Do not underestimate the ability of these tools and machinery to cause injury. Never operate any tool without all guards in place and always wear approved safety glasses. For your own safety, please heed this warning.

SECTION 2: SETUP

Unpacking

This instrument was carefully packaged for safe transport. When unpacking, separate all enclosed items from packaging materials and inspect them for shipping damage. ***If items are damaged, please call us immediately at (570) 546-9663.***

IMPORTANT: Save all packaging materials until your are completely satisfied with the instrument and have resolved any issues between Grizzly or the shipping agent. *You MUST have the original packaging to file a freight claim. It is also extremely helpful if you need to return your instrument.*



⚠WARNING
Wear safety glasses during the entire setup process!

Planning & Preparation

Total time building this instrument will vary on many factors. Variables such as glue manufacturer's instructions and curing time, temperature and humidity at the time of building, and your schedule are just a few of the factors that can affect the length of time spent on this project.

Perhaps the biggest determinant of time spent completing this instrument will be the type of finish and the finishing process used. Finishing this instrument can be as simple as applying a single coat of stain or lacquer that can be done relatively quickly, up to a multi-coated finish that takes weeks to harden.

Careful planning and budgeting ample time will make this project easier and ensure you end up pleased with your results. Good luck building your instrument, and Grizzly hopes it turns out looking and sounding great.

Needed for Setup

The majority of the wooden components in this kit are fully machined from the factory and are ready for assembly. A small amount of sanding and finishing is required to complete your ukulele.

Description	Qty
• Safety Glasses (per person)	1
• NIOSH-Approved Respirator (per person)	1
• Ratchet or Frame Clamp	1
• Hobby Knife or Chisel	1
• T-Handle Reamer (⅛" to ⅝")	1
• Drill Press or Cordless Drill w/Depth Stop	1
• Forstner Bit 5/32"	1
• Sanding Block	1
• Band Clamp	1
• Fine Tooth Saw (Coping, Fret, or Curved)	1
• Bridge Clamp (4" Minimum)	1
• Straightedge (18" Minimum)	1
• Small File (Fine)	1
• 2" x 2" x 18" Wood Stock	1
• Pencil	1
• Phillips Head Screwdriver #0	1
• Wire Cutters	1
• Fine Ruler	1
• Thread or Thin String	As Needed
• Disposable Nitrile Gloves	As Needed
• Wood Glue	As Needed
• Super Glue	As Needed
• Finishing Supplies	As Needed
• Wood Filler/Putty	As Needed
• Tack Cloth	As Needed
• Lint-Free Rags	As Needed
• Sandpaper #180, #240, #320, #800, #1000	As Needed
• Masking or Painter's Tape	As Needed
• C-Clamps (3" Minimum)	As Needed
• Masking Paper	As Needed
• Rubber Bands	As Needed
• Tuning Fork (Optional)	1
• Palm Sander (Optional)	1
• Binding Tape (Optional)	As Needed

Inventory

The following is a list of items shipped with your instrument. Before beginning assembly, lay these items out and inventory them.

If any non-proprietary parts are missing (e.g. strings, or tuning machine screws), we will gladly replace them; or for the sake of expediency, replacements can be obtained at your local music shop.

Body and Neck (Figure 1)	Qty
A. Body	1
B. Neck	1

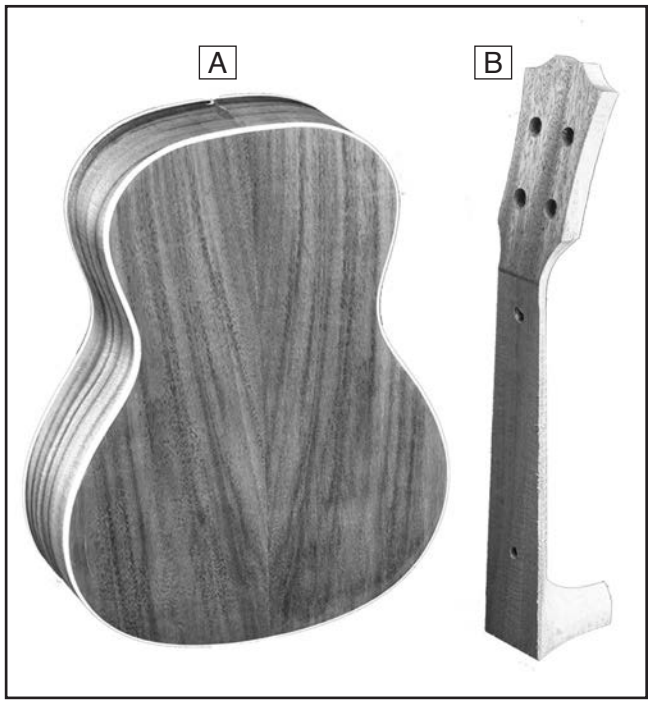


Figure 1. Body and neck.

NOTICE

If you cannot find an item on this list, carefully check around/inside the machine and packaging materials. Often, these items get lost in packaging materials while unpacking or they are pre-installed at the factory.

Ukulele Components (Figure 2)	Qty
C. Fretboard	1
D. Saddle Bridge	1
E. Nut	1
F. Tuning Machine Screws	4
G. Pins	4
H. Strings	4
I. Bridge	1
J. Tuning Machine Seats	4
K. Tuning Machines	4
L. Decal	1
M. Tuning Machine Washers	4

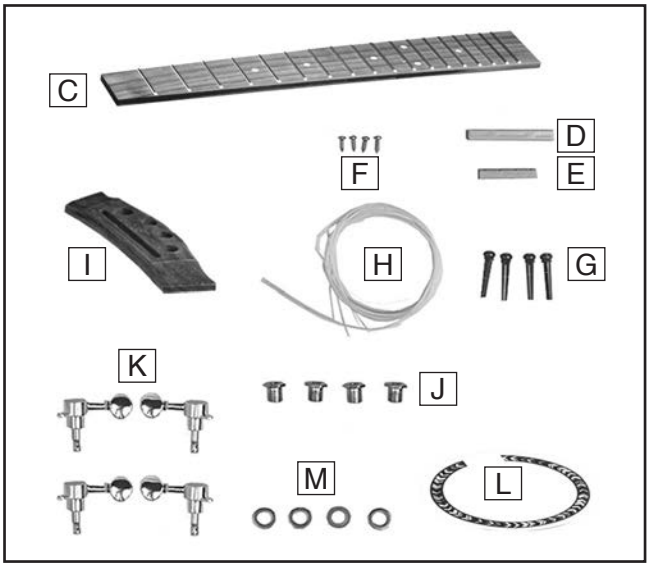


Figure 2. Ukulele components.

Bridge Template (Figure 3)	Qty
N. Bridge Template	1

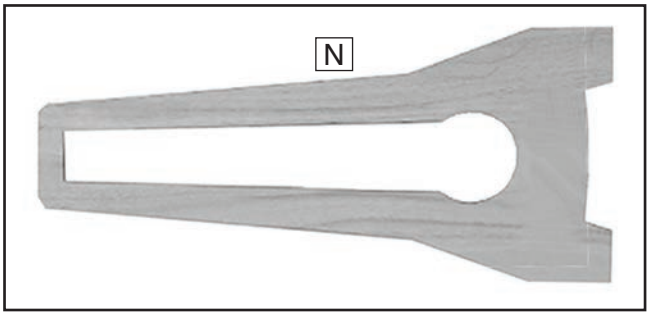


Figure 3. Bridge template.

SECTION 3: SANDING

Body

The ukulele body was assembled and rough sanded at the factory. However, no finish has been applied. The joint where the neck meets the body and the sound hole should NOT be sanded. For best appearance be careful not to round the edges of the ukulele body.

To sand body:

1. Sand body with #180-grit aluminum-oxide sandpaper until there is a consistent scratch pattern on entire surface.

   Note: *When hand sanding, always sand in same direction as wood grain.*

2. Repeat **Step 1** with #240-grit sandpaper.

3. Repeat **Step 1** with #320-grit sandpaper.

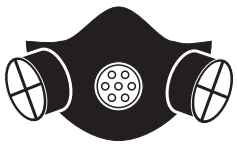
4. Wipe body with a damp, lint-free cloth. Wiping workpiece with a damp cloth before final sanding helps to "raise" wood grain; thus, allowing "raised" grain to be sanded smooth.

5. Once body is dry, repeat **Step 4**.

6. Wipe body with a tack cloth to remove all remaining sanding dust.

⚠WARNING

To reduce risk of eye injury from airborne particles or lung injury from breathing dust, always wear safety glasses and a respirator when sanding.



Neck

Like the ukulele body, most of the ukulele neck has been machined and rough sanded at the factory. However, the neck headstock can be customized to reflect personal taste. Additional cutting, inlay, or design work can give a ukulele that personalized custom look that makes it unique.

Note: *If you do choose to customize the neck area, take your time with this sub-section and consider testing ideas on scrap wood before performing the work on the actual headstock.*

To sand neck:

1. Perform any custom cutting, inlay, or design work to neck headstock.

2. Using sanding technique described in **Body** section, sand ukulele neck.

   Note: *DO NOT sand fretboard mounting surface. This will affect playability of ukulele and could lead to irreparable damage.*

Bridge

The bridge has been sanded and finished at the factory. Sanding and finishing the bridge is not necessary.

Fitting Neck to Body

Attaching the neck to the ukulele body is the most crucial part of the assembly process. Attaching the neck incorrectly could result in difficult bridge and string adjustments. Additionally, it can exert stress on the instrument that could lead to irreparable damage.

The neck will need to be shaped by sanding before it is ready to attach.

To sand neck:

1. Attach sandpaper with masking or painter's tape at location shown in **Figure 4** below.

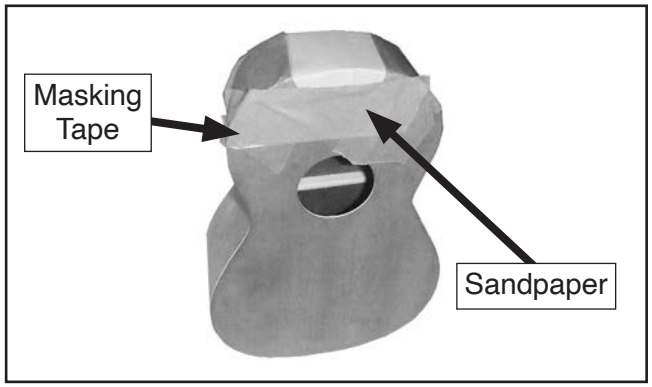


Figure 4. Body masked for neck sanding.

2. Lay body face down on flat, level surface.

3. Gently sand neck where it will mate with body (see **Figure 5**).

   Note: *Keep neck aligned straight to body when sanding.*

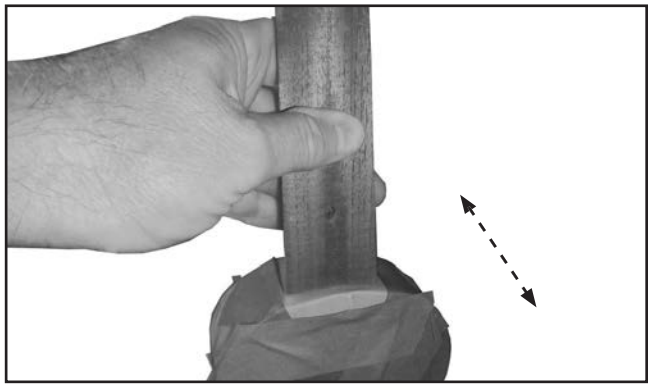


Figure 5. Sanding neck.

4. Sand until neck profile matches ukulele body profile (see **Figure 6**).

   Note: *DO NOT sand fretboard mounting surface. Sanding fretboard mounting surface will affect playability of ukulele and could lead to irreparable damage.*

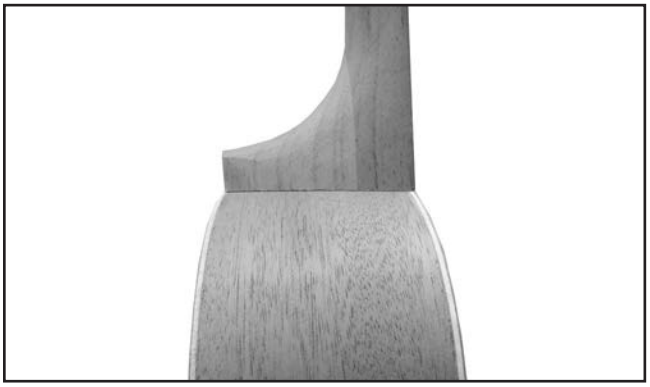


Figure 6. Neck and body flush.

5. Wipe ukulele neck with a damp, lint-free cloth and let dry.

6. Wipe ukulele neck with a tack cloth to remove all sanding dust.

7. Test fit neck to body.

   — If neck *is* flush to body, sanding is complete. Proceed to **Assembly** on **Page 9**.

   — If neck *is not* flush to body, repeat **Steps 3–7** until a flush mount is achieved.

SECTION 4: ASSEMBLY

Attaching Neck to Body

As noted earlier, attaching the neck to the ukulele body is the most crucial part of the assembly process.

Make sure you have shaped the mounting surface of the ukulele neck as explained in **Fitting Neck to Body** on **Page 8** before attempting to attach it to the ukulele body.

NOTICE

ALWAYS follow adhesive manufacturer's instructions for your safety and best results.

To attach ukulele neck to body:

1. Place ukulele body and neck face down on workbench.

2. Place layer of masking or painter's tape lengthwise down center of back of ukulele (see **Figure 7**), and trim flush at endpoints.

3. Repeat **Step 2** for back of neck (see **Figure 7**).

4. Using a ruler, measure to determine center line of both ukulele back and neck (see **Figure 7**).

5. Use a pencil to lightly draw center line over masking tape on ukulele neck and back (see **Figure 7**).

6. Apply a thin, even layer of wood glue to mating surfaces of ukulele body and neck.

7. Align center lines (see **Figure 7**).

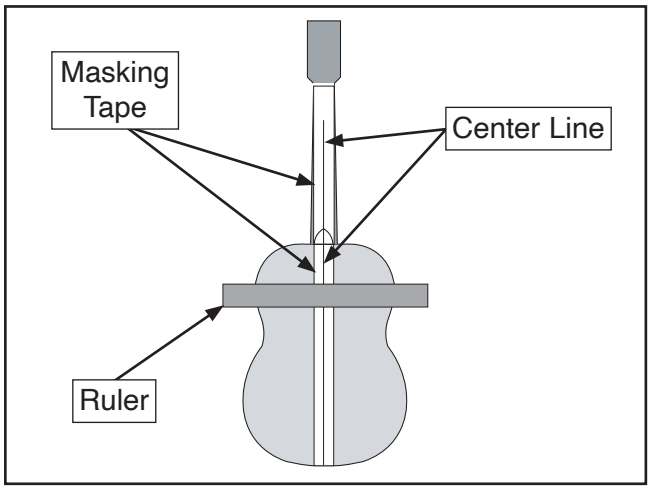


Figure 7. Marking center line of ukulele body and neck.

8. Use a ratcheting band clamp, or binding tape, to secure ukulele body and neck together (see **Figure 8**) and let assembly dry for at least 24 hours.

   Note: *If possible, clamp both ukulele and neck in position on work surface, and wipe away any excess glue immediately. Failure to do so can mar finish in this area.*

Figure 8. Neck and body secured with band clamp.

9. Use a fine tooth saw or hobby knife to remove excess neck material that protrudes below body of ukulele (see **Figure 9**).

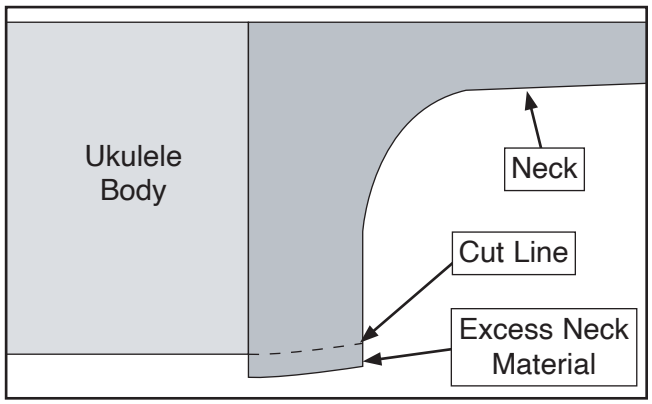


Figure 9. Excess neck material and cut line.

10. Using #320-grit sandpaper, sand bottom of neck until smooth with bottom of ukulele.

11. Wipe bottom of ukulele neck with a damp, lint-free cloth and let dry.

12. Wipe ukulele bottom and cut line with tack cloth to remove all remaining sanding dust.

Installing Fretboard

With the major components sanded, the fretboard is ready to be installed on the neck and body.

To install fretboard:

1. Lay a sheet of #120-grit sandpaper on flat surface and gently sand back of fretboard.

2. Lightly sand top face of neck with #120-grit sandpaper.

Note: *Try to avoid sanding body while sanding top face of neck.*

3. Remove sanding dust from both pieces with tack cloth.

4. Apply a thin layer of wood glue to back of fretboard and position it on neck.

5. Make sure fretboard is centered across width of neck, and 14th fret is positioned over neck-to-body joint (see **Figure 10**).

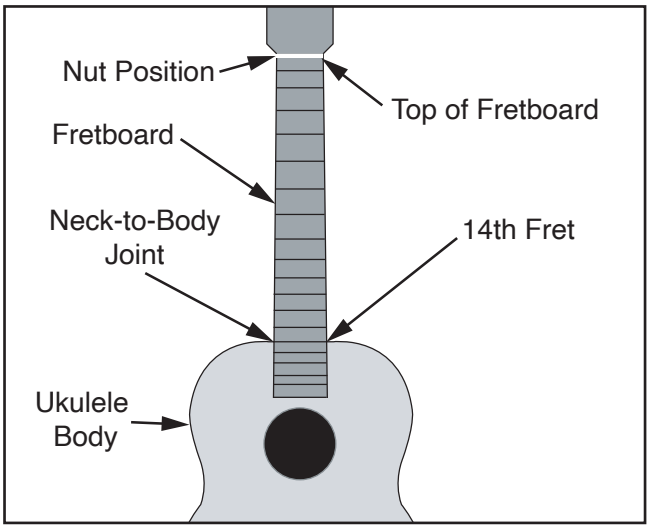


Figure 10. 14th fret position.

6. Secure fretboard in place with C-clamps or rubber bands and wood stock, as shown in **Figure 11**. Use wedges if necessary to ensure a tight fit. Wipe off any glue overspill with a damp, lint-free cloth.

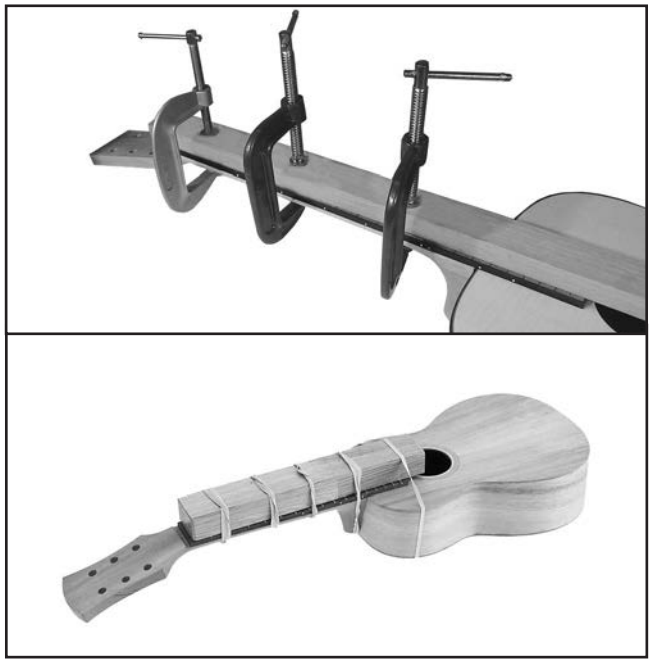


Figure 11. Fretboard secured to neck.

7. Let glue dry a minimum of 24 hours, then proceed to **Step 8**.

8. Use #320-grit sandpaper or a fine file to sand edge of neck flush with edge of fretboard. Do this gently and slowly to avoid sanding fretboard.

Determining Bridge Location

The bridge is glued directly to the top of the body at a distance that is consistent with the scale length of the instrument. This instrument's scale length is calculated by measuring the distance from the bottom edge of the nut, where it butts against the end of the fretboard, to the center of the 12th fret, and then doubling that number.

It is important to leave an area of the sound board unfinished that is slightly smaller than the footprint of the bridge. This will increase the strength of the glue joint that attaches the bridge to the sound board. The reduced size of this area allows the finish of the ukulele to be consistent around the bridge.

A template has been provided for placement of the bridge. In the event the template is misplaced or damaged, contact Grizzly for a replacement. However, it is possible to correctly place the bridge without the template. Instructions for attaching the bridge with or without the template are included.

Locating Bridge With Template

1. Place template at top of fretboard (see **Figure 12** on **Page 12**), making sure fretboard and sound hole are clearly visible and properly aligned.

2. Remove template and place a layer of masking or painter's tape on instrument where bridge will be located.

   Note: *Make sure taped area is larger than bridge footprint.*

3. Place template (see **Figure 12** on **Page 12**) back in position and use a pencil to lightly trace top and side lines for bridge.

4. Remove template (see **Figure 12** on **Page 12**) and place bridge according to marks made on tape.

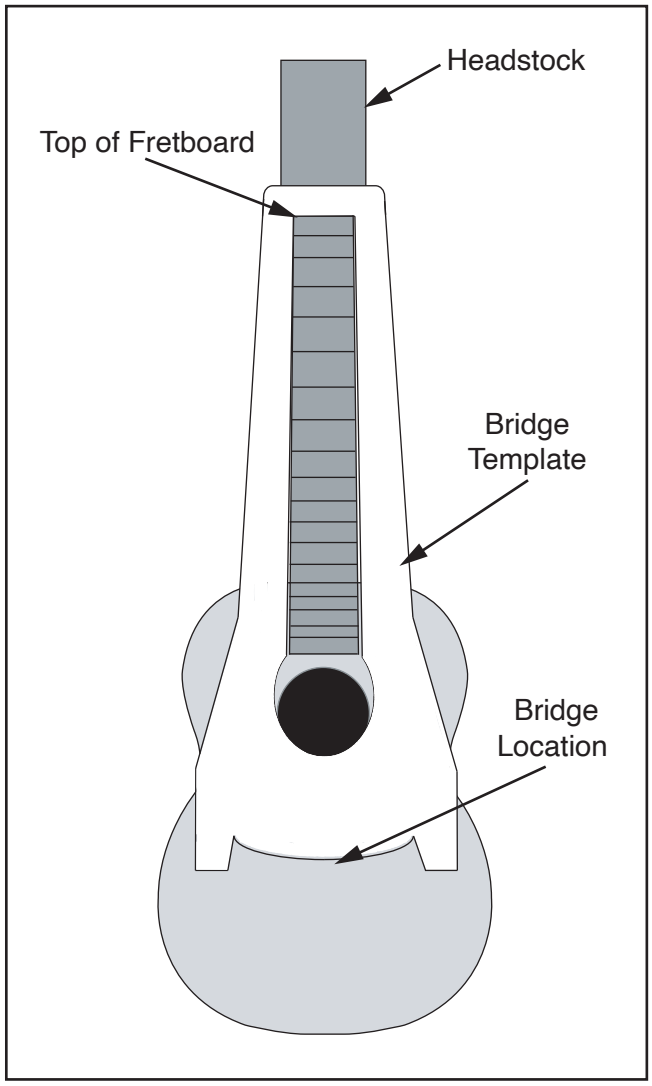


Figure 12. Using template for bridge placement.

5. Use a pencil to lightly mark bottom of bridge on masking tape.

6. Use a hobby knife to gently cut tape at marked location for bridge, then remove excess tape.

Tip: *Angle knife inward as you cut.*

Locating Bridge Without Template

1. Measure from top of fretboard to center of 12th fret. Measurement should be 190mm (7.50") (see **Figure 13**).

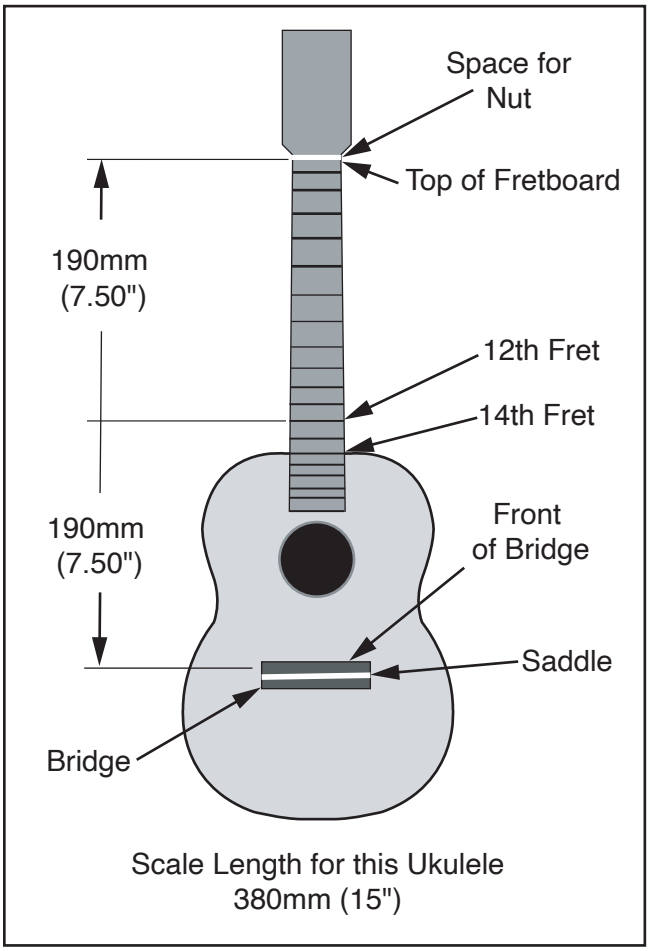


Figure 13. Example of determining scale length and bridge positioning.

2. Double measurement to 380mm (15") to determine scale length and placement of bridge and saddle.

Note: *Your measurement might vary depending on final placement of your fretboard.*

3. Position bridge so front of saddle will be 380mm away from top of fretboard.

4. Position bridge so front will be 190mm (7.50") from center of 12th fret (see **Figure 13**).

5. To correctly center bridge, attach (2) pieces of thread to 1st and 4th nut slots, then tape opposite ends to corresponding holes in bridge (see **Figure 14**).

6. Center bridge so there is an equal amount of space between fretboard edges and threads (see **Figure 14**).

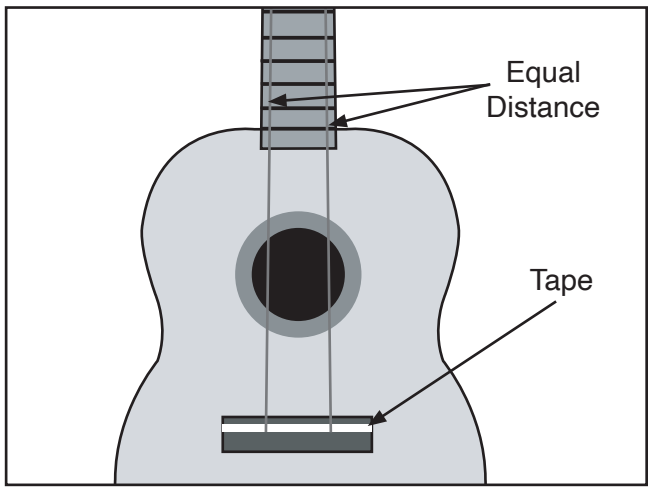


Figure 14. Centering bridge.

7. Place a layer of masking tape or painter's tape on top of ukulele body where bridge will be mounted.

8. Place bridge back in original position and use a pencil to lightly mark footprint of bridge on masking tape.

9. Use a hobby knife to gently cut tape at marked location for bridge, then remove excess tape.

   Tip: *Angle knife inward as you cut.*

Installing Nut

The nut is located at the top of the fretboard and holds the strings in place. The nut can be held in place with string tension, or it can be spot glued in place for more security.

If you prefer to glue, we recommend using wood glue so that future adjustments can be made. For a more permanent bond, super glue can be used, but future adjustments will be more difficult.

NOTICE

ALWAYS follow the adhesive manufacturer's instructions for your safety and best results.

To install nut:

1. Test fit nut on top of fretboard.

   Note: *Curved part of nut should face headstock.*

2. Apply a spot of glue to top of fretboard and neck, then press nut in place and secure (see **Figure 15**).

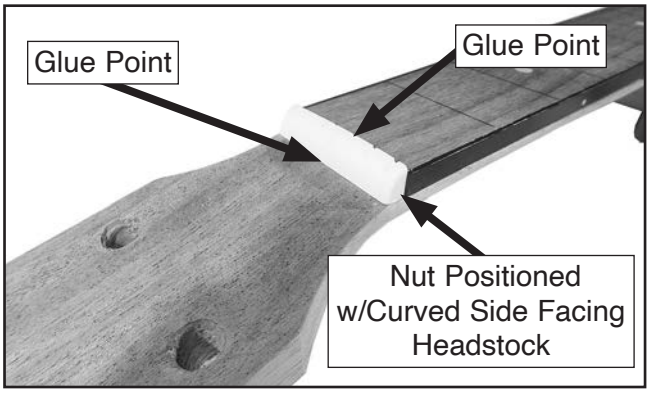


Figure 15. Fretboard installed.

3. Let glue dry a minimum of 24 hours, then proceed to **Preparing to Finish** on **Page 14**.

Preparing to Finish

To prepare for applying the finish, cover the fretboard, nut, and bridge footprint with masking paper and secure it with masking tape, then fill the sound hole with paper (see **Figure 16**).

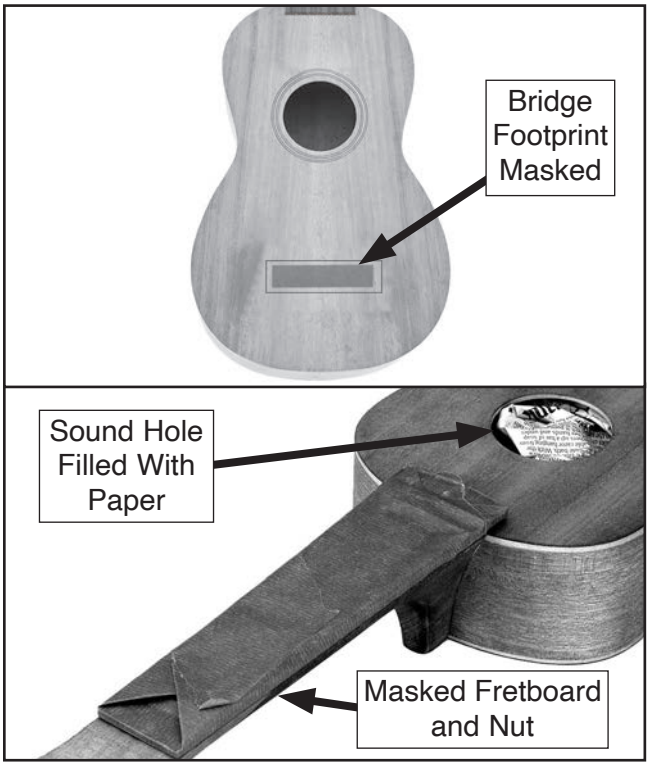


Figure 16. Masked fretboard and nut, filled sound hole, and masked bridge position.

Carefully press all masking tape edges securely to ukulele pieces. Finish can seep under these edges, especially near corners, uneven edges, and where frets meet fretboard.

Note: *Failure to properly mask these areas could result in irreparable damage to ukulele.*

Painting/Finishing

Finishing supplies are not supplied with the ukulele kit.

There are many resources (books, videos, websites) that discuss ukulele finishing. Grizzly recommends consulting these sources before finishing your instrument.

Listed below are a few general tips that can be helpful in finishing your instrument.

Painting/Finishing Tips:

- Always work in a well ventilated area when using finishing materials.
- Wear an ANSI-approved respirator mask and safety glasses when using finishing materials!
- Fabricate hooks from metal hangers to suspend ukulele components during finishing process.
- Several thinner coats usually produce a nicer finish than one heavy coat.

  Note: *Always follow finish manufacturer's instructions.*
- Dust particles suspended in air will settle on wet finishes, resulting in less than satisfactory results. To avoid this problem:

  1. Have ukulele components positioned for finish application upon entering room.

  2. Leave room where finishing will take place completely undisturbed for 24 hours prior to applying finish.

  3. Avoid making unnecessary movements upon entering finish room.

  4. Apply finish to desired ukulele parts and immediately leave finish room.

  5. DO NOT return to room until specified drying time has elapsed.

Installing Bridge

Remove the tape from the masked areas in preparation for installing the bridge. Refer to **Page 11** for the necessary measurements to locate the bridge.

We recommend using wood glue so that future adjustments can be made. For a more permanent bond, super glue can be used, but future adjustments will be more difficult.

Installing Bridge with Clamp

1. Remove masking tape from bridge location.

2. Apply a thin, even layer of wood glue or super glue to bottom of bridge.

3. Position bridge on pre-determined bridge position and gently press bridge down making sure that bridge pin holes line up.

4. Clamp bridge down with a bridge clamp or large depth C-clamp (see **Figure 17**).

   Note: *DO NOT overtighten clamp*.

Figure 17. Bridge clamped in position.

5. Check to make sure bridge is still in correct position and adjust if necessary.

6. Let dry for a minimum of six hours.

7. Remove clamps and place saddle in position.

   Note: *Saddle does not need to be glued in. String tension will keep saddle in place.*

Installing Bridge with Wood Blocks

If a bridge clamp is not available, it is possible to install the bridge using wood blocks and large rubber bands.

1. Follow **Steps 1–3** in **Installing Bridge with Clamp** on this page.

2. Carefully position wood blocks over bridge and under back of ukulele, then secure with rubber bands (see **Figure 18**).

Figure 18. Bridge secured with wood blocks.

3. Let dry for a minimum of six hours.

4. Remove rubber bands, and wood blocks.

Fitting Bridge Pins

Now that the bridge is securely attached, it is time to prepare the bridge for bridge pin fitting.

To protect the finish on your instrument you should mask off the top of the ukulele around the bridge before proceeding with these instructions.

Unless otherwise indicated, we strongly recommend using a drill press for the majority of drilling to obtain the most precise results. However, an electric/cordless drill fitted with a depth stop or a drill stand can be used if you do not have a drill press.

To fit bridge pins:

1. Carefully drill (4) holes in bridge using 5⁄32" Forstner bit at bridge pin hole locations (see **Figure 19**).

Note: *Be careful to keep drill straight, and drill only until you break through to sound chamber. Do not drill through back of ukulele.*

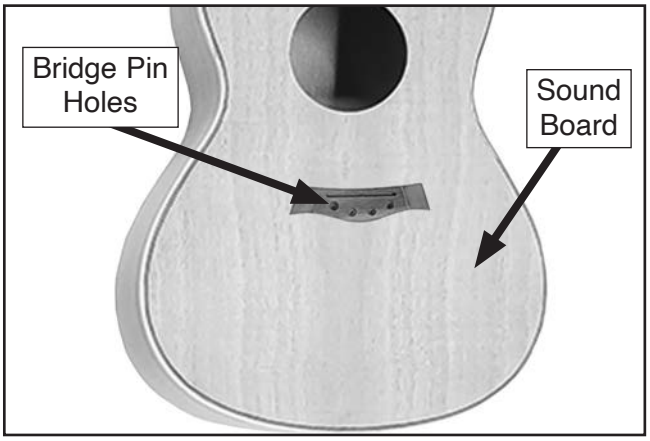


Figure 19. Bridge pin locations.

2. Remove debris and sawdust from top and make sure holes are free of debris.

3. Test fit bridge pin.

Note: *Bridge pin should not fit in hole at this time.*

4. Place T-handle reamer in (1) bridge pin hole and gently twist reamer clockwise, making one complete revolution (see **Figure 20**).

Note: *It is important to not take too much material out of hole. Bridge pins should be snug fitting.*

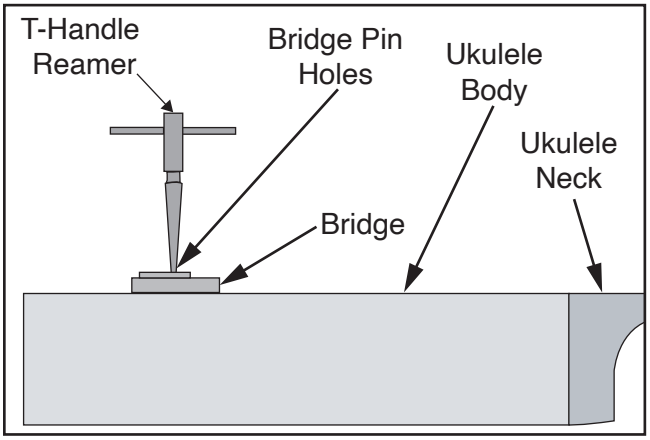


Figure 20. Reaming bridge pin holes.

5. Test fit bridge pin in reamed hole.

— If bridge pin *does* go into hole and fits snugly, fitting is complete. Proceed to next hole.

— If bridge pin *does not* go into hole, repeat **Step 4**.

Note: *As you get closer to fitting bridge pin, it may be advisable to only rotate reamer ½ turn. This will avoid removing too much material and bridge pins fitting too loosely.*

6. Repeat **Steps 3–5** for remaining bridge pin holes.

Installing Sound Hole Decal

The sound hole decal decorates the ukulele and is easy to install.

To install sound hole decal:

1. Submerge decal sheet in water until decal slides around easily with finger pressure. This usually only takes a few minutes.

2. Remove decal from water, letting excess water run off.

3. Gently slide decal off decal sheet into position around sound hole, as shown in **Figure 21**.

Figure 21. Sliding decal onto body.

4. Lightly press down on decal with dampened fingers and slowly slide decal sheet from underneath decal (see **Figure 22**).

Figure 22. Pressing decal flat to body.

5. When decal sheet is completely removed, lightly press on decal with a dry cloth to remove excess water trapped underneath.

6. Let decal dry for at least eight hours.

Installing Tuning Machines

The supplied tuning machines are mirrored pairs: two for the left side of the headstock, two for the right. Each tuning machine consists of the parts shown in **Figure 23**.

Note: *Unless otherwise indicated, we strongly recommend using a drill press for drilling in this manual to obtain the most precise results. However, an electric/cordless drill fitted with a depth stop or a drill stand can be used if you do not have a drill press.*

To install tuning machines:

1. Using a non-marring mallet, tap each of (4) machine seats with washers into pre-drilled holes on front of headstock.

2. From back of headstock, slide tuning machine through headstock and seat (see **Figure 23**).

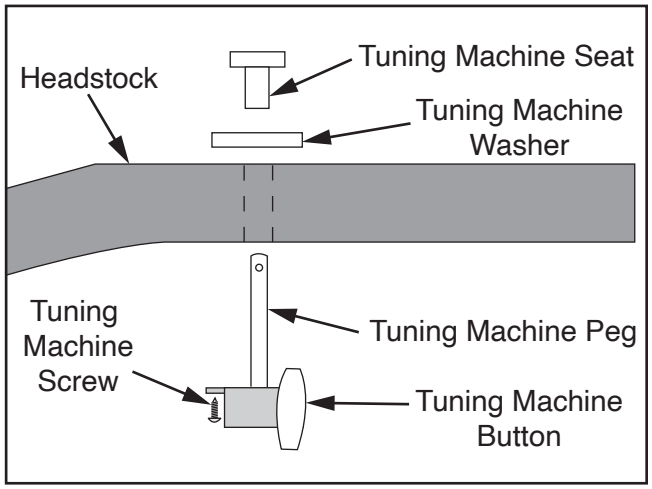


Figure 23. Tuning machine components.

3. Position tuning machine buttons to outside of headstock.

4. Set a straightedge across top of each pair of machine tuners to ensure they are parallel with each other from side to side, as shown in **Figure 24**.

5. Secure each tuning machine to headstock with (1) tuning machine screw, as shown in **Figure 24**.

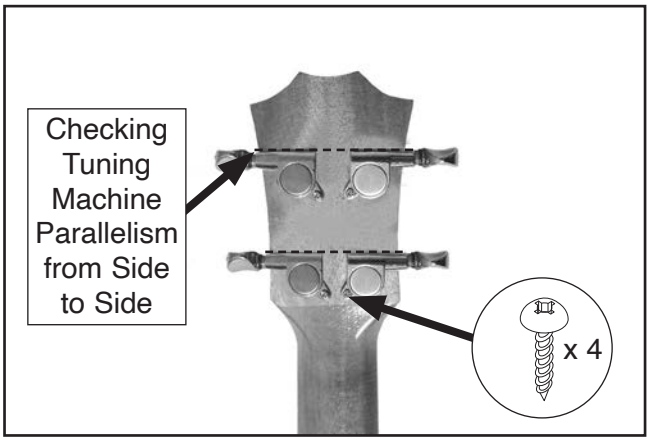


Figure 24. Front and rear view of completed headstock.

Installing Strings

Each string of the ukulele is a different diameter. Number the strings 1, 2, 3, and 4—from the smallest diameter to the largest diameter. Their arrangement on the ukulele is shown in **Figure 25**.

To install ukulele strings:

1. Install saddle on bridge.

   Note: *Saddle does not need to be glued in. String tension will keep saddle in place.*

2. Use a piece of tape and pen to designate each string number and tie a knot at one end of each string.

3. In order shown in **Figure 25**, pull strings through bridge slots, over saddle, and over string nut slots.

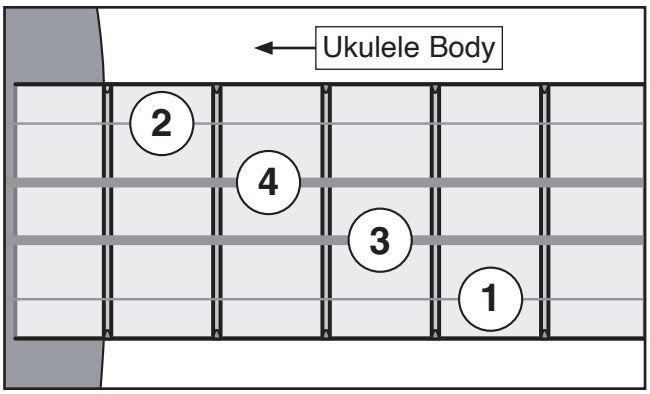


Figure 25. Proper string arrangement.

4. Set string knots in bridge pin slot and seat bridge pins in bridge pin holes.

   Note: *String knots should slide into groove on bridge pins. Bridge pins should be snug and not easily removed.*

5. Route strings to inside of tuning pegs and through peg holes. Refer to **Figure 26** for proper string placement in tuning pegs.

   Note: *Provide enough string slack to allow 2–3 complete winds around tuning peg.*

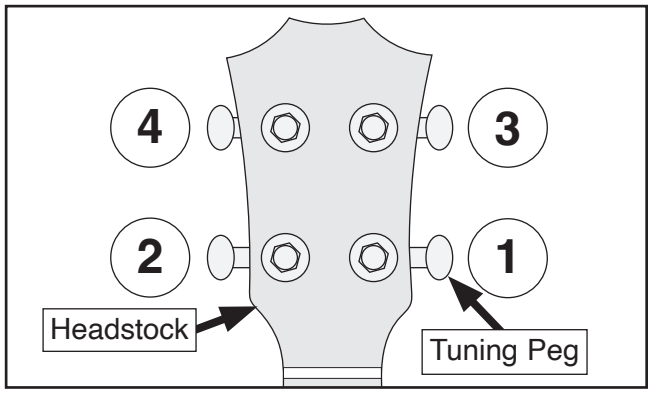


Figure 26. String installation into tuning pegs.

6. Turn tuning pegs counterclockwise to tighten strings.

   Note: *DO NOT over-tighten strings at this time. Final string tuning will be discussed later in manual.*

7. Use wire cutters to cut off excess string.

Setting String Height

The string height is the distance between the top of the fret and the bottom of the string (see **Figure 27**). Correct string height is crucial for maximizing the playability of the ukulele. Measurements are taken at the 1st and 12th frets.

You can use a variety of tools to check string heights on ukuleles, including feeler gauges, a fine ruler (1⁄64" resolution), or string height gauges, which are available at your local shop or online.

However, to set string height on a ukulele, all you need is some pocket change.

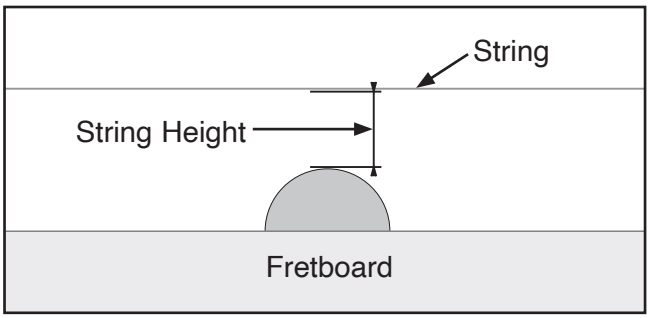


Figure 27. String height measurement (side view).

The string nut and saddle may come oversized from the factory. Sizing them requires measuring, sanding, and re-measuring. Fix both the nut and saddle until correct string heights are reached. Hand-sanding prevents removing too much material.

Items Needed	**Qty**
Pennies	3
Dime	1
Sandpaper #240-Grit or Fine File	1

To set string height:

1. Using a dime as a gauge**,** measure string height at each string along 1st fret (see **Figure 28**).

— If string heights are approximately thickness of a dime, then continue to **Step 2**.

— If string heights are more than height of a dime at 1st fret, this is an indication that height of nut needs to be reduced. Proceed to **Step 3**.

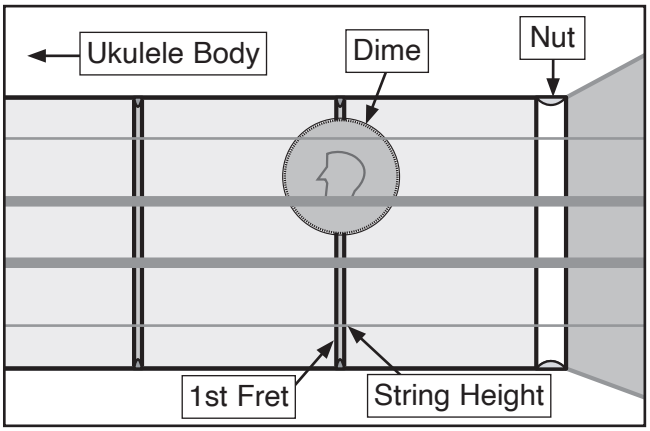


Figure 28. Correct 1st fret string heights.

2. Using a stack of three pennies, measure string heights at 12th fret (see **Figure 29**).

— If string heights are approximately thickness of three pennies, then continue to **Step 5**.

— If string heights are more than height of three pennies at 12th fret, this is an indication that height of saddle needs to be reduced. Proceed to **Step 3**.

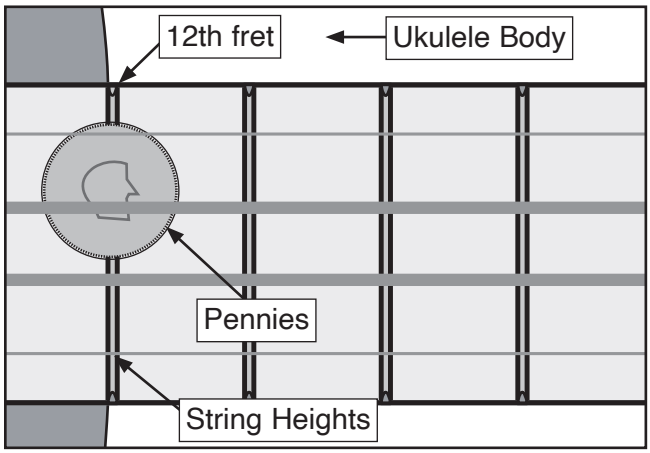


Figure 29. Correct 12th fret string heights.

3. Hand-sand base of string nut/saddle. *DO NOT* remove too much material.

4. Test string nut/saddle by repeating **Steps 1–2**.

5. Congratulations! Construction of ukulele is now complete. Proceed to **Tuning** section to tune instrument.

Tuning

Tuning is the most important concept of playing a ukulele. If the ukulele is not in tune with itself, or the other instruments in an ensemble, the resulting music will not sound pleasing to the ear. Having a good understanding of tuning is essential to maximizing the full potential of any ukulele.

Important issues to consider when tuning a ukulele:

- Get into the habit of tuning the ukulele every time it is picked up to be played.
- Always tune the strings "up." The final tuned tension of each string should be reached while tightening the string, not loosening it. If the string is tensioned too far, loosen the tension and tune "up" again.
- The goal when tuning is to make the strings in tune with one another. Standard tuning is shown in **Figure 30**.

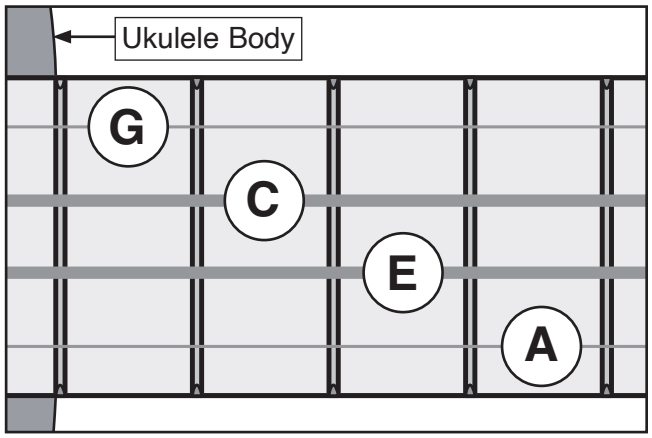


Figure 30. Standard tuning notes.

- The easiest way to tune a ukulele is using an electronic tuner. There are a wide variety of these available in music stores, or online with a wide variety of prices as well. However, with practice, you can learn how to tune a ukulele by ear–a skill used by many accomplished ukulele players.

Ukulele Setup

Congratulations – construction of your ukulele kit is now complete!

At this point you may want to consider setting up the ukulele to your own personal specifications.

"Setting up" your ukulele can be as simple as swapping out the strings provided to the brand that is your personal favorite.

Setting up your ukulele can also be a bit more complicated and technical. You can modify or adjust the ukulele to match your preference for not only strings, but string height, or action, through nut and saddle adjustments, and raising or lowering the bridge, to name just a few.

There are plenty of resources including books and websites that will guide you through that process. It is also possible to have your ukulele taken to a music shop or licensed luthier and have them set up the ukulele for you.

Again, congratulations and enjoy your new ukulele!

SECTION 5: ACCESSORIES

NOTICE

Refer to our website or latest catalog for additional recommended accessories.

H5332—Titebond Original Wood Glue
The industry standard for general woodworking applications. Provides strong initial tack and fast setting speed to reduce clamp time. Develops a bond stronger than the wood itself.

Figure 31. H5332 Titebond Original Wood Glue.

H0927—Insta-Cure+ 2 oz.
Insta-Cure+ is a powerful CA or Cyanoacrylate adhesive in a two ounce bottle. Apply to one surface and then hold parts tightly together for about 5 to 15 seconds for a fast permanent bond.

Figure 32. H0927 Insta-Cure+ 2 oz.

H5890—Repairman's Taper Reamer.
This Repairman's Taper Reamer reams holes from 1/8" to 5/8" and features a removable handle for compact storage and 7 flutes for smooth bores. Reamer measures 5" long. Handle measures 3½" long.

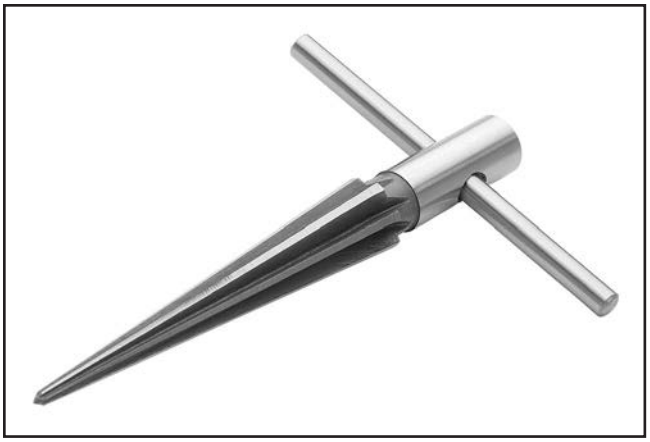


Figure 33. H5890 Repairman's Taper Reamer.

T30674—Pony 15' Band Clamp.
This clamp is ideal for round, irregular or awkwardly-shaped projects. It features 15' of 1" width high-strength nylon webbing and has a self-locking cam with quick release.

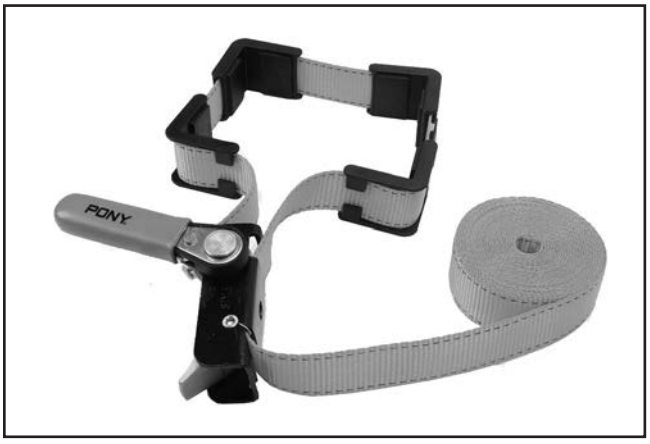
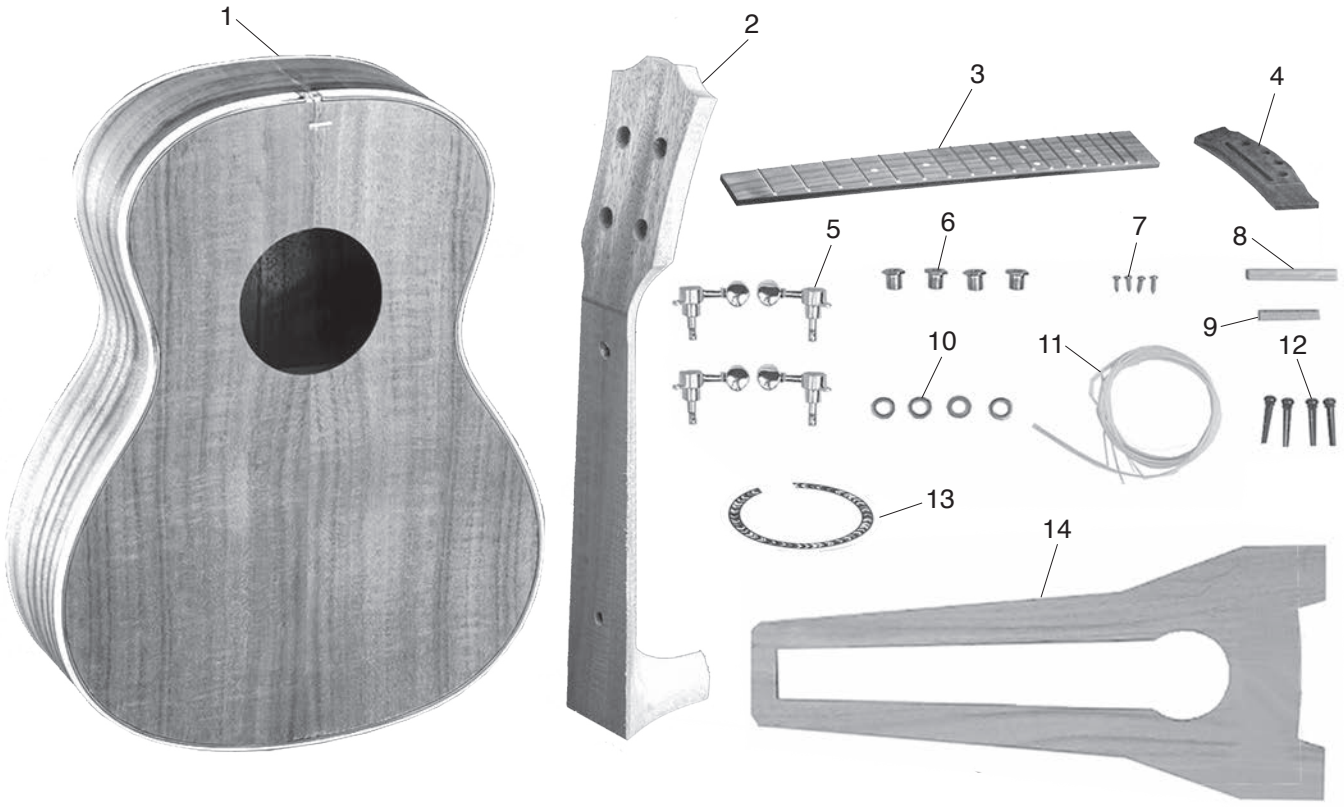


Figure 34. T30674 Pony 15' Band Clamp.

SECTION 6: PARTS

We do our best to stock replacement parts when possible, but we cannot guarantee that all parts shown are available for purchase. Call **(800) 523-4777** or visit **www.grizzly.com/parts** to check for availability.

Main



REF	PART #	DESCRIPTION
1	PT33949001	UKULELE BODY KOA
1	PT33950001	UKULELE BODY QUILTED MAPLE
1	PT33951001	UKULELE BODY FIDDLEBACK MAPLE
2	PT33949002	NECK
3	PT33949003	FRETBOARD
4	PT33949004	BRIDGE
5	PT33949005	TUNING MACHINE
6	PT33949006	TUNING MACHINE SEAT

REF	PART #	DESCRIPTION
7	PT33949007	TUNING MACHINE SCREW M2-.4 X 9
8	PT33949008	SADDLE
9	PT33949009	NUT
10	PT33949010	TUNING MACHINE WASHERS 2MM
11	PT33949011	STRING SET
12	PT33949012	BRIDGE PIN
13	PT33949013	SOUNDHOLE DECAL
14	PT33949014	BRIDGE TEMPLATE

WARRANTY & RETURNS

Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly's sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special, or consequential damages arising from the use of our products.

The manufacturers reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

In the event you need to use this warranty, contact us by mail or phone and give us all the details. We will then issue you a "Return Number," which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.

To take advantage of this warranty, you must register it at **https://www.grizzly.com/forms/warranty**, or you can scan the QR code below to be automatically directed to our warranty registration page. Enter all applicable information for the product.

WARRANTY

grizzly.com