MODEL H3125
UKULELE KIT
INSTRUCTION MANUAL
(For Models Manufactured Since 2/12)

#DS5460 PRINTED IN JAPAN

⚠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 reduces your exposure to these chemicals: Work in well ventilated area, and work with approved safety equipment, such as those dust masks that are specifically designed to filter out microscopic particles.

⚠WARNING

For Your Own Safety, Read Instruction Manual

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures.

⚠DANGER	**Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.**
⚠WARNING	**Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.**
⚠CAUTION	**Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury. It may also be used to alert against unsafe practices.**
NOTICE	**This symbol is used to alert the user to useful information about proper operation of the machine.**

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INTRODUCTION

Manual

We are proud to offer the Model H3125 Concert Ukulele Kit. This kit is part of a growing Grizzly family of fine woodworking products. When assembled according to the guidelines set forth in this manual, you can expect years of enjoyment from this ukulele.

We are pleased to provide this manual with the Model H3125. It was written to guide you through assembly, review safety considerations, and cover general information. It represents our effort to produce the best documentation possible.

If you have any comments regarding this manual, please write to us at the address below:

Grizzly Industrial, Inc.
C/O Technical Documentation
P.O. Box 2069
Bellingham, WA 98227-2069

⚠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.

Contact Info

Most importantly, we stand behind our products. If you have any questions or parts requests, please call or write us at the location listed below.

Grizzly Industrial, Inc.
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Muncy, PA 17756
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The specifications, drawings, and photographs illustrated in this manual represent the Model H3125 as supplied when the manual was prepared. However, owing to Grizzly's policy of continuous improvement, changes may be made at any time with no obligation on the part of Grizzly. For your convenience, we always keep current Grizzly manuals available on our website at www.grizzly.com.

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

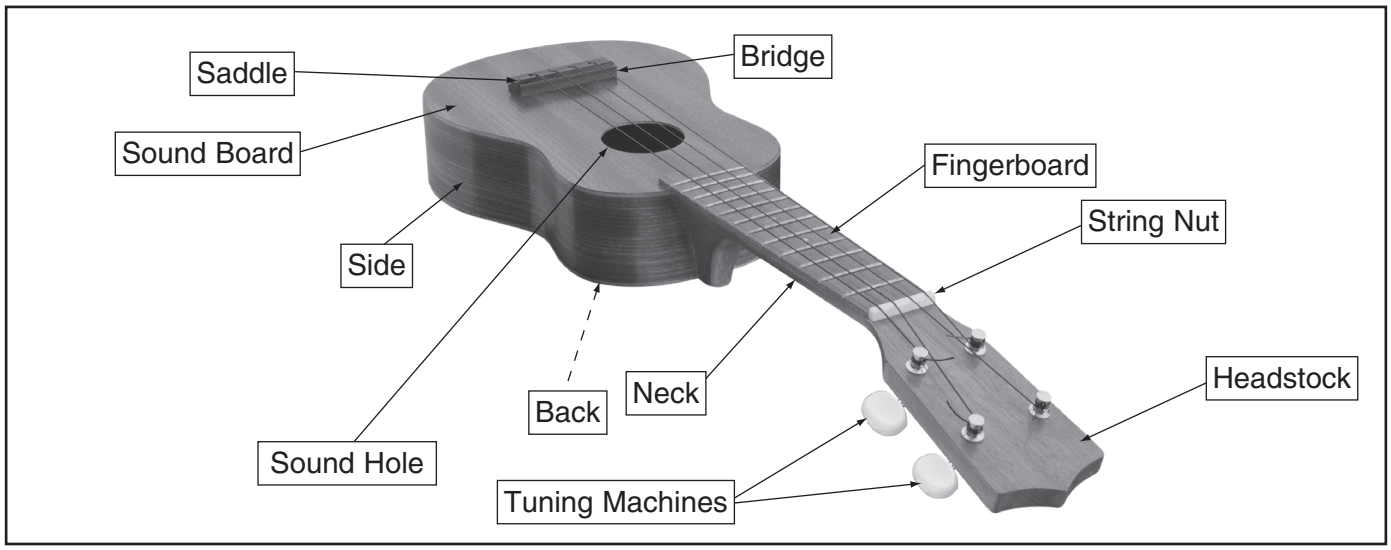


Figure 1. Ukulele identification.

INVENTORY

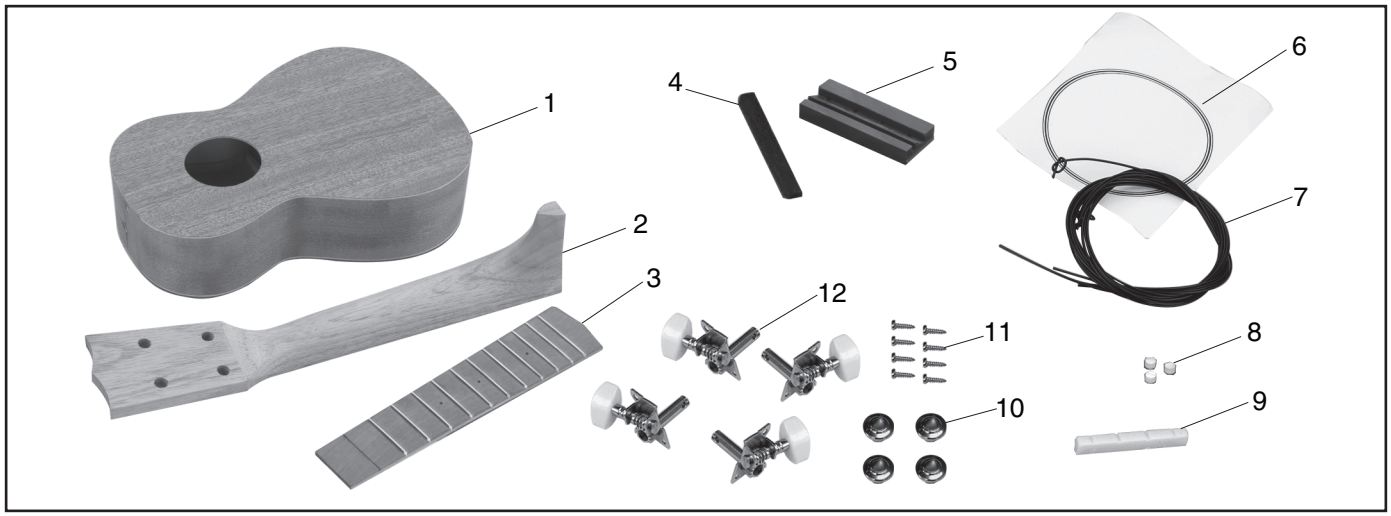


Figure 2. Model H3125 inventory.

Model H3125 Inventory	Qty
1. Body	1
2. Neck	1
3. Fingerboard	1
4. Saddle	1
5. Bridge	1
6. Soundhole Decal	1
7. Strings	4
8. Position Dots	3
9. String Nut	1
10. Tuning Machine Seats	4
11. Tuning Machine Screws	8
12. Tuning Machines	4

SANDING

Supplies/Tools

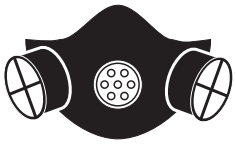
The majority of the wooden components in this kit are fully machined at the factory and are ready for assembly. A small amount of drilling, sanding and light machining will need to be performed to complete the ukulele.

Recommended Tools & Supplies:

- Wood Glue
- Finishing Supplies
- Wood Putty
- Rubber Bands or Ratchet Clamp
- Sandpaper #180, #240, #320, #600, and #800
- Sanding Block
- Masking Tape
- Razor Blade
- Coat Hanger
- C-Clamp
- Drill Bit Set
- Tack Cloth
- Coping, Jig, or Scroll Saw (Optional)

⚠WARNING

Damage to your eyes and lungs could result from dust created by sanding without proper protective gear. Always wear safety glasses and a NIOSH-approved respirator when sanding.



Ukulele Body

The ukulele body has been 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. Be careful to NOT round the edges of the ukulele body for the best appearance.

To sand the ukulele body:

1. **Wear a NIOSH-approved respirator and safety glasses when sanding wood.**

2. Using either an electric palm sander or a sanding block, sand the ukulele body with #180-grit aluminum-oxide sandpaper until there is a consistent scratch pattern on the entire surface.

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

3. Repeat **Step 2** with a #240 grit sandpaper.

4. Repeat **Step 2** with a #320 grit sandpaper.

5. Wipe the ukulele body with a damp cloth. Wiping the workpiece with a damp cloth before the final sanding helps to “raise” the wood grain; thus, allowing the “raised” grain to be sanded smooth.

6. Once the ukulele body is dry, repeat **Step 4**.

7. Wipe the ukulele body with a tack cloth to remove all remaining sanding dust.

Neck

Like the ukulele body, most of the ukulele neck has been machined at the factory; however, the neck headstock can be customized to reflect personal taste. Additional cutting, inlay, or design work can give an otherwise ordinary ukulele that custom look that sets it apart from others!

Note: *Take your time with this sub-section and consider testing ideas on scrap wood before performing the work on the actual headstock.*

To sand the ukulele neck:

1. **Wear a NIOSH-approved respirator and safety glasses when sanding wood!**

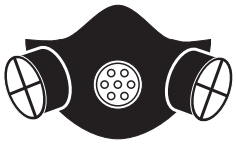
2. Perform any custom cutting, inlay, or design work to the neck headstock.

3. Using the sanding technique described in the previous sub-section, sand the entire ukulele neck, EXCEPT for the fingerboard mounting surface.

   Note: *Sanding the fingerboard mounting surface will affect the playability of the ukulele and could lead to irreparable damage.*

⚠WARNING

Damage to your eyes and lungs could result from dust created by sanding without proper protective gear. Always wear safety glasses and a NIOSH-approved respirator when sanding.



Fingerboard

The fingerboard has been prepared at the factory for attaching to the neck and body of the ukulele. The fingerboard requires no sanding.

Note: *Sanding the fingerboard will affect the playability of the ukulele and could lead to irreparable damage.*

Bridge

The bridge has been sanded and finished at the factory. The bridge requires no sanding or finishing.

Attaching Neck to Body

Attaching the neck to the ukulele body is the most crucial part of assembly. Failure to attach the neck correctly could result in difficult bridge and string adjustments, or even worse, it could lead to irreparable damage.

The ukulele neck comes shaped and ready to attach.

NOTICE

ALWAYS follow the manufacturer's instructions for any glues or adhesive products for your safety and best results.

To attach the neck to the body:

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

2. Mark the centerline on the ukulele body and neck.

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

4. Align the centerlines (see **Figure 3**).

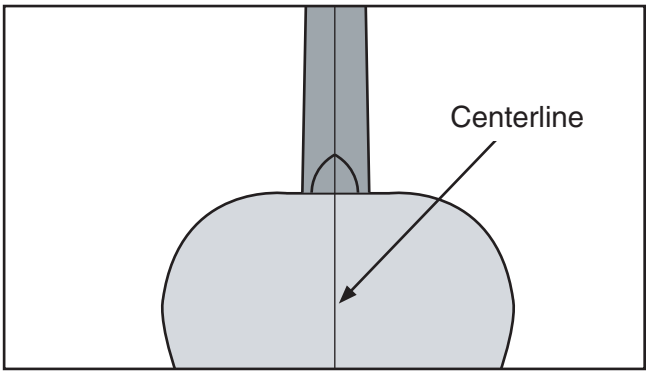


Figure 3. Marking the centerline of the ukulele body and neck.

5. Using rubber bands or a ratchet clamp, secure the ukulele body and neck together (see **Figure 4** for an example) and let the assembly dry for at least 6 hours.

Figure 4. Securing the ukulele neck to the body.

6. Use a small knife or saw to remove the portion of the neck that protrudes below the back of the ukulele (see **Figure 5**).

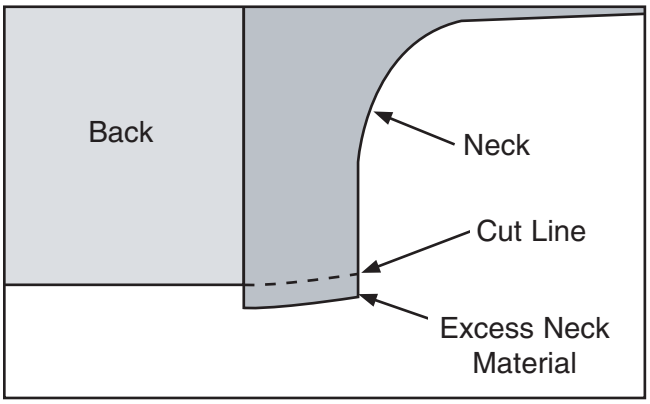


Figure 5. Excess neck material and cut line.

Installing Position Dots

The three pre-drilled holes in the fingerboard are merely reference points, marking where the position dots will be installed (see **Figures 6–7**). You must drill larger holes through the reference points to install the position dots, as explained below.

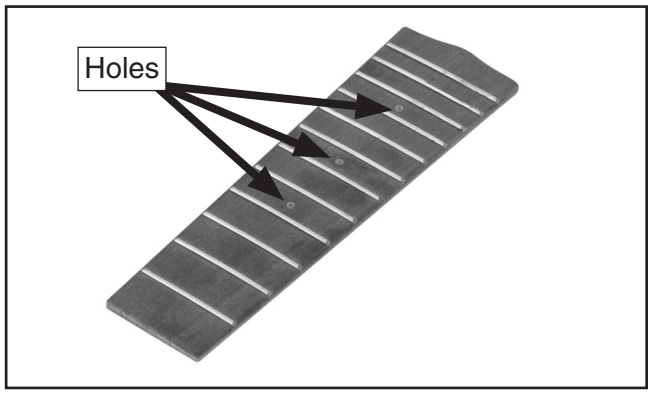


Figure 6. Pre-drilled holes in fingerboard.

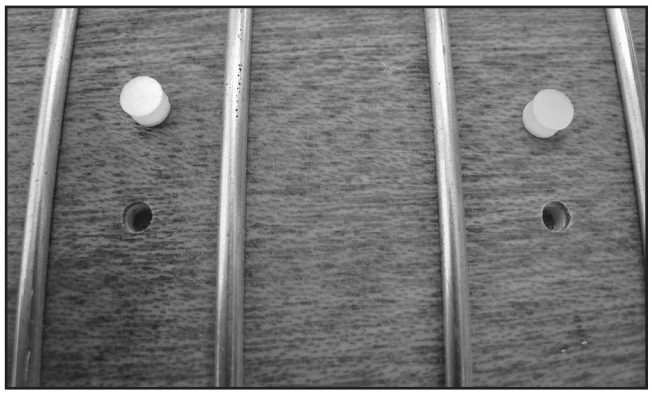


Figure 7. Position dots and holes before drilling.

To install the position dots:

1. Drill holes slightly larger than the position dots into the pre-drilled holes in the fingerboard, making sure the dots will fit into the holes snugly (see **Figure 8**).

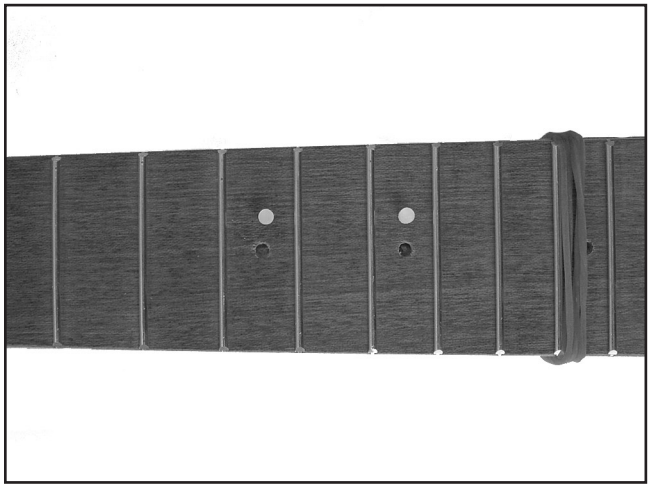


Figure 8. Holes drilled larger for position dots.

2. Place a small drop of glue in each position dot hole.

3. Using a hammer and a scrap piece of wood, lightly tap the position dots into each of the holes.

4. Apply masking tape over the frets near the dots to protect them while sanding.

5. Using sandpaper in grits from 320 to 800, progressively sand the position dots flush with the fingerboard.

Attaching Fingerboard

With sanding completed, the fingerboard is ready to be attached to the neck and sound board.

To attach the fingerboard:

1. Apply a thin layer of glue to the back of the fingerboard and position it on the neck.

2. Secure the fingerboard in place with rubber bands, as shown in **Figure 9**. Use wedges if necessary to ensure a tight fit. Let the glue dry for at least 24 hours.

   Note: *Make sure the fingerboard is centered across the width of the neck and that the 12th fret is positioned over the neck-to-body joint.*

Figure 9. Attaching fingerboard to the neck.

3. Sand or file the edge of the neck flush with the edge of the fingerboard. Do this slowly to avoid sanding the fingerboard.

Determining Bridge Location

The bridge is glued directly to the sound board at the location of the bridge plate. Leaving an area of the sound board slightly smaller than the footprint of the bridge unfinished increases 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.

To determine the correct bridge/nut location:

1. Insert the saddle into the bridge and position the front edge of the saddle $6\frac{13}{16}$" away from the center of the 12th fret (**Figure 10**).

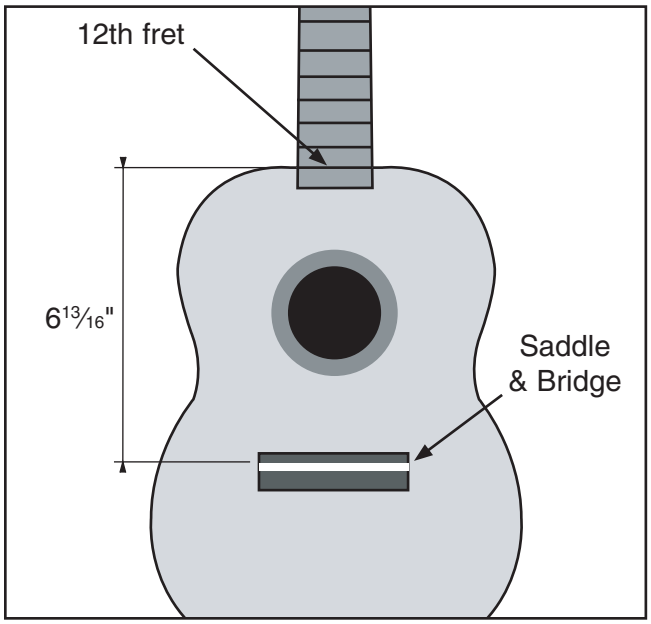


Figure 10. Bridge positioning.

2. Using a pencil, lightly mark the footprint of the bridge.

3. Cut a piece of tape slightly smaller than the footprint. Attach it to the sound board inside the footprint of the bridge.

4. Remove pencil marks.

Preparing to Finish

In preparation for the applying the finish, protect the following parts of the ukulele. We recommend using masking tape for this process.

- Mask the bridge mounting location, (see **Figure 11**).
- Mask the fingerboard and nut location, (see **Figure 12**).
- Fill the sound hole with newspaper, (see **Figure 12**).

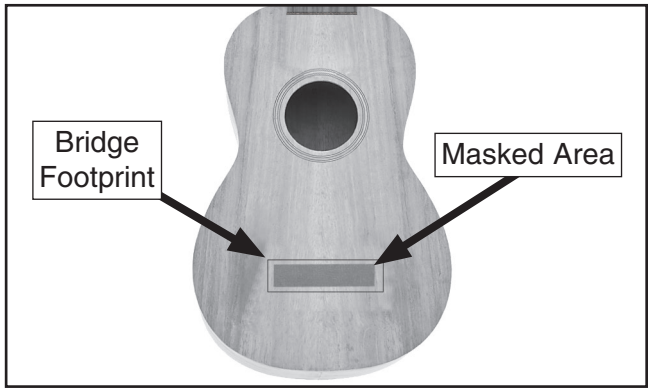


Figure 11. Masked off area for bridge.

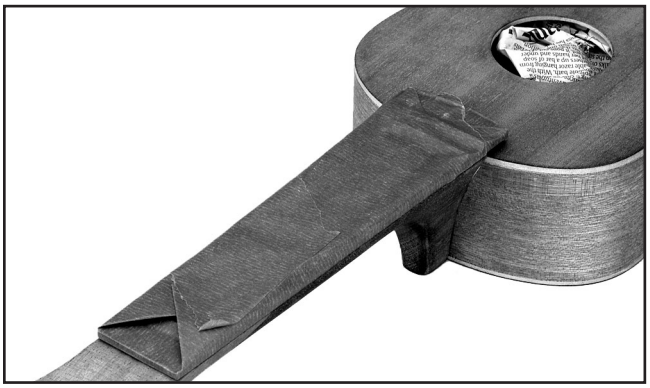


Figure 12. Example of a masked fingerboard and stuffed sound hole.

Carefully press all the masking tape edges securely to the ukulele pieces. The finish coat can seep under these edges, especially near corners, uneven edges, and where the frets meet the fingerboard.

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

Painting/Finishing

Finishing supplies are not supplied with the ukulele kit.

Tip: *The ukulele body is made from mahogany. Clear finishes such as lacquer look exceptionally stunning and glossy on this wood.*

Painting/Finishing Tips:

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

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

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

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

  3. Avoid making unnecessary movements upon entering the finish room.

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

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

Attaching Bridge

Remove the tape from the masked areas in preparation for attaching the bridge. Refer to **Page 8** for the necessary measurements to locate the bridge.

To attach the bridge to the ukulele:

1. Using a pencil, lightly mark the ukulele body where the front edge of the bridge is located.

2. Set the string nut along the end of the fingerboard, near the headstock.

3. Attach pieces of sewing thread to the 1st and the 4th nut slots, and tape the opposite ends over the corresponding locations on the bridge.

4. Position the bridge on the body at the location marked in the **Determining Bridge/Nut Location** section on **Page 8**.

5. Adjust the bridge side-to-side so there is an equal amount of space between the fingerboard edges and the threads (see **Figure 13**).

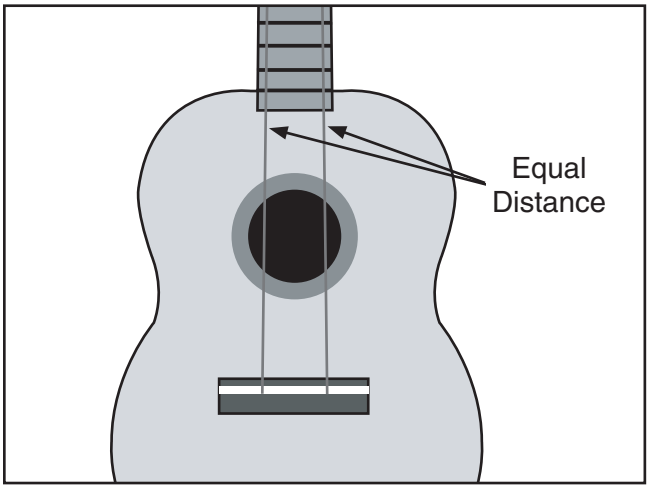


Figure 13. Positioning the bridge across the width of the ukulele.

6. Using a pencil, lightly mark the ukulele body where the side edges of the bridge are located.

7. Remove the saddle from the bridge, and apply a thin coat of glue to the back of the bridge and the unfinished area of the sound board.

Note: *Do not use too much glue or the excess may require clean up that can adversely affect the finish of the ukulele.*

8. Let the glue set until it is still tacky but clear.

9. Place and firmly hold the bridge in position for two minutes by hand. This will secure it temporarily before clamping it.

10. Clamp the bridge in place overnight, as shown in **Figure 14**.

Figure 14. Gluing the bridge to the body.

11. Remove the clamp setup. Install the saddle on the bridge. The saddle and bridge are now ready for string installation (see **Figure 15**).

Figure 15. Bridge and saddle installed on the sound board.

Attaching Sound Hole Decal

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

To attach the sound hole decal:

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

2. Remove the decal sheet (with decal) from the water, letting the excess water run off.

3. Gently slide the decal off the decal sheet into position around the sound hole, as shown **Figure 16**.

Figure 16. Sliding decal onto body.

4. Lightly press down on the decal with dampened fingers and slowly slide the decal sheet from underneath the decal with the other hand, as shown in **Figure 17**.

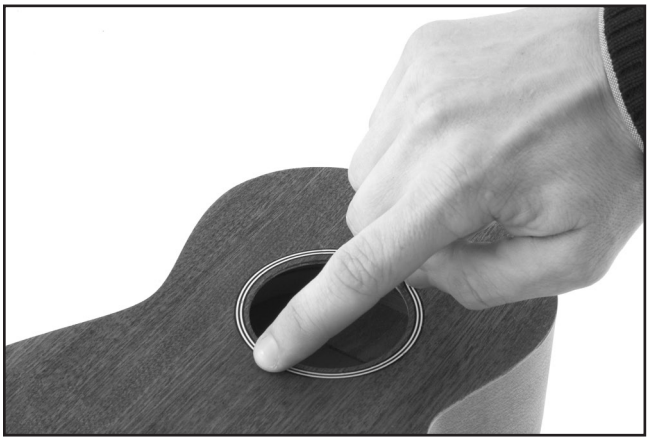


Figure 17. Pressing decal flat to the body.

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

6. Let the decal dry for at least 8 hours.

Installing Tuning Machine

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 18**.

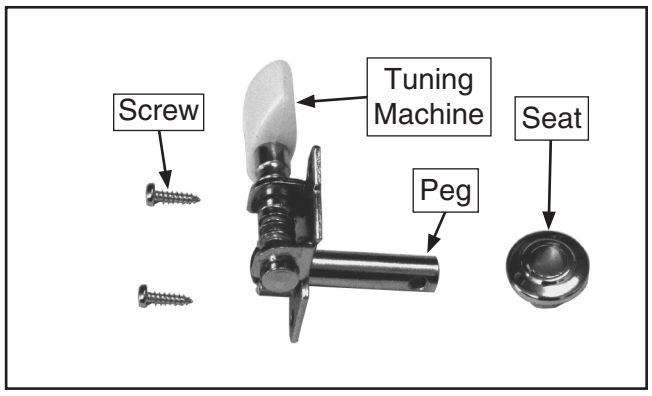


Figure 18. Tuning machine components.

To install tuning machines:

1. Using a non-marring mallet, tap each of the four machine seats into the pre-drilled holes on the front of the headstock.

2. From the back of the headstock, slide the peg through the headstock and seat (see **Figure 19**).

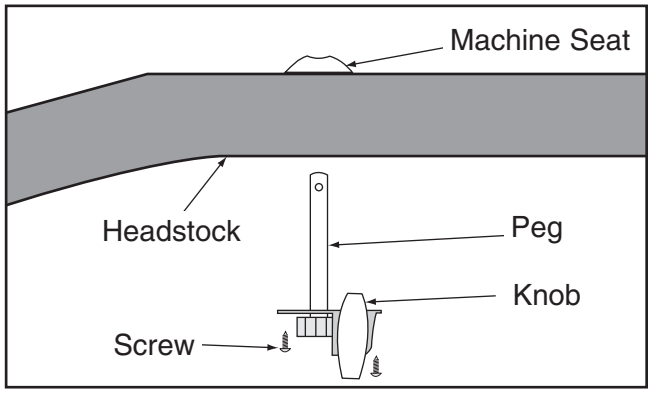


Figure 19. Tuning machine installation.

3. Position the knob of the tuning machine to the outside of the headstock.

4. Secure the tuning machine to the headstock with two screws, as shown in **Figure 20**.

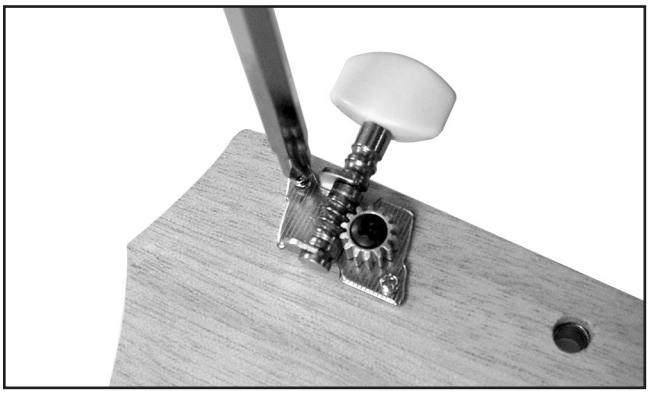


Figure 20. Securing tuning machine with screws.

5. Repeat **Steps 2–4** for the other tuning machines. The completed headstock/tuning machine assembly should resemble **Figure 21**.

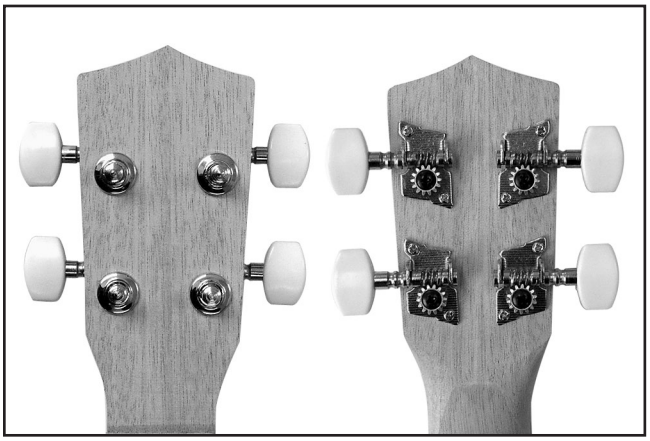


Figure 21. Front and back view of completed headstock

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 22**.

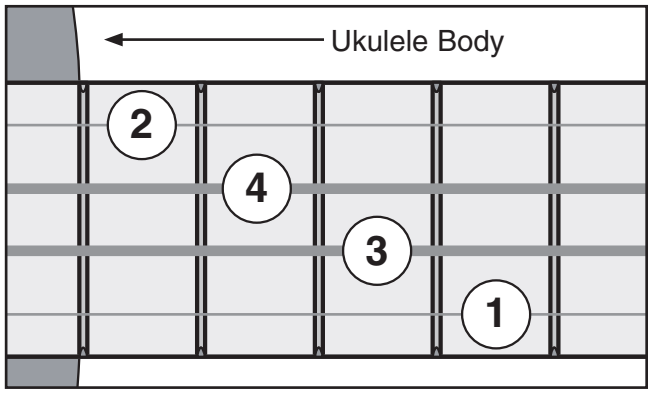


Figure 22. Proper string arrangement.

To install the ukulele strings:

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

2. In the order shown in **Figure 22**, pull the strings through the bridge slots, over the saddle, and over the string nut slots.

3. Route the strings to the inside of the tuning pegs and through the peg holes.

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

Setting String Height

The string height is the distance between the top of the fret and the bottom of the string (**Figure 23**). Correct string height is crucial for maximizing the playability of the ukulele. Measurements are taken at the 1st and 12th fret.

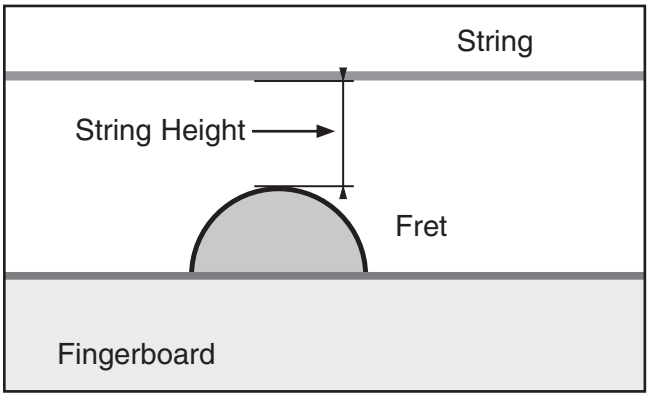


Figure 23. String height measurement (side view).

The string nut and saddle 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.

To check the string heights at the 1st and 12th frets:

1. Using a dime as a gauge**,** measure the string heights at the 1st fret (see **Figure 24**).

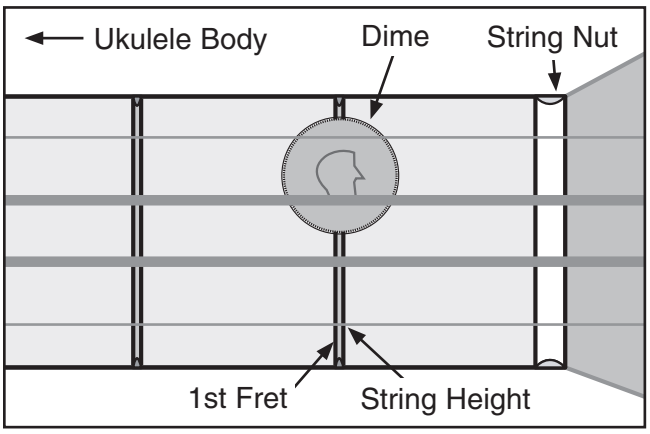


Figure 24. Correct 1st fret string heights.

— If the string heights are at least the thickness of a dime, then proceed to **Step 2**.

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

2. Using a stack of three pennies, measure the string heights at the 12th fret (see **Figure 25**).

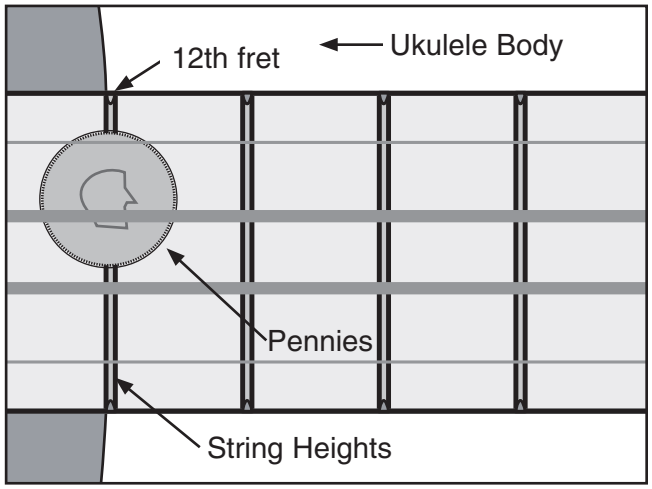


Figure 25. Correct 12th fret string heights.

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

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

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

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

5. Glue the string nut into place.

Note: *The nut and saddle may need to be removed and re-sized if the neck of the ukulele warps due to moisture. Use only enough glue to keep the string nut in place. The saddle should not be glued.*

6. Congratulations! The construction of the ukulele is now complete. Proceed to the **Tuning** section to tune the 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 26**.

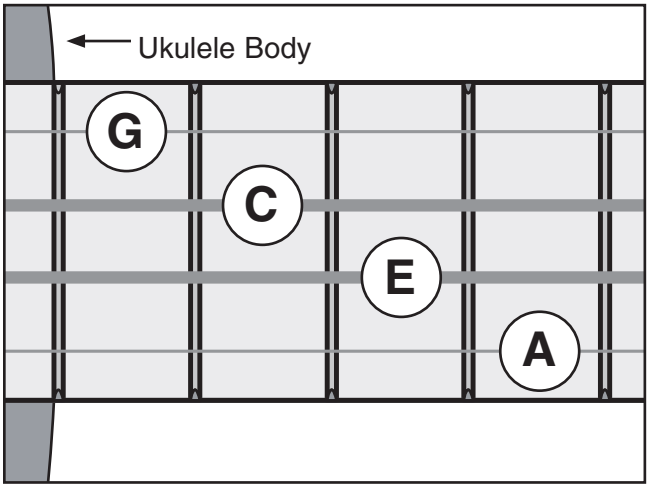


Figure 26. Standard tuning notes.

- The easiest way to tune a ukulele is using an electronic tuner such as the Grizzly T23099 Chromatic Tuner shown on **Page 16**.

AFTERMARKET ACCESSORIES

NOTICE

Refer to the newest copy of the Grizzly Catalog for other available accessories.

Call 1-800-523-4777 To Order

Model T23099—Chromatic Tuner/Metronome
This metronome/tuner is suitable for all electric and acoustic stringed instruments. It has an easy to read LCD display and is able to tune notes: A, A#, B, C, C#, D, D#, E, F, F#, G, and G#. Seven beat settings and 5 rhythms make this versatile device a must for the novice or experienced musician.

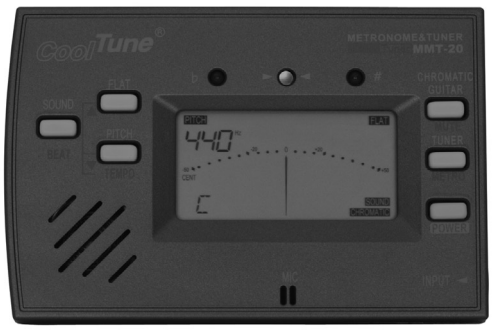


Figure 27. T23099 Chromatic Tuner.

Model H5902—Jumpin' Jim's Camp Ukulele
Model H5903—Jumpin' Jim's '60s Uke-In
Jumpin' Jim's books provide a collection of songs for the ukulele with easy to play along arrangements. Great for any ukulele musician.

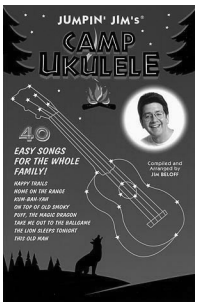


Figure 28. Jumpin' Jim's Camp Ukulele and '60s Uke-In.

Model H2532—12" Stainless Steel Ruler
This 12" Stainless Steel Ruler with increments as fine as 0.5mm and 1/64".

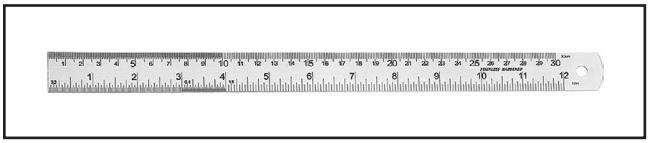


Figure 29. H2532 12" Stainless Steel Ruler.

Model—H6320 Dead Blow Handle–Brass End
This deadblow hammer with brass end provides a non-marring face for those delicate hammering jobs where a bit of punch is needed.

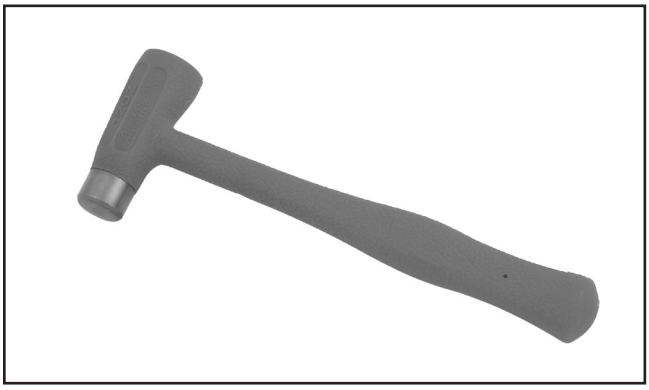


Figure 30. H6320 Dead Blow Handle–Brass End.

Model G9647—6 x 8 x 2" Surface Plate
Model G9648—9 x 12 x 2" Surface Plate
Model G9649—9 x 12 x 3" Surface Plate
These toolroom grade "B" Granite Plates have a bilateral accuracy of +/- 0.0001. Great for precision sharpening, measuring, and flattening in luthierie construction.

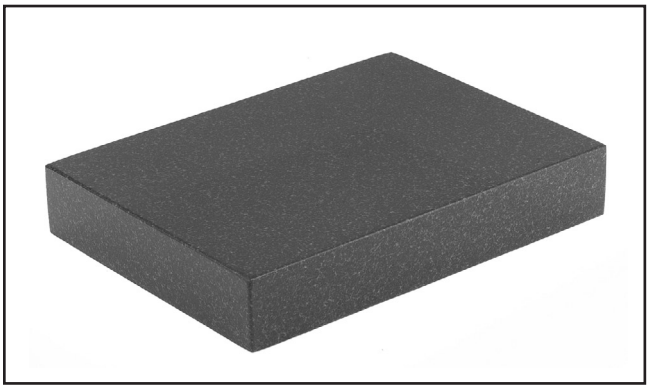


Figure 31. G9649 9 x 12 x 3" Surface Plate.

Model T24022—The Daily Ukulele
Strum a different song every day with easy arrangements of 365 of your favorite songs! The Daily Ukulele includes arrangements that feature melody, lyrics and ukulele chord grids and are in ukulele-friendly keys that are particularly suited for groups of one to one hundred. Includes folk songs, pop songs, kids' songs, Christmas carols and Broadway tunes, all with a spiral binding.

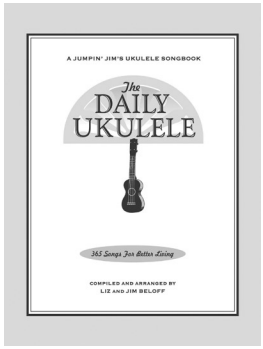


Figure 32. T24022 The Daily Ukulele.

Model T24020—Rogers & Hammerstein for Ukulele
Now you can play 20 classic show tunes from this beloved songwriting duo on your uke! Includes: Do-Re-Mi • Edelweiss • I'm Gonna Wash That Man Right Outa My Hair • My Favorite Things • The Surrey with the Fringe on Top • Younger Than Springtime • and more. 48 pages.

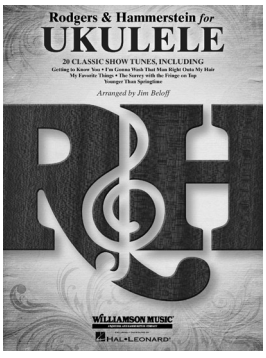


Figure 33. T24020 Rogers & Hammerstein for Ukulele.

Model T24021—Ukulele Play-along Vol. 6 Lennon & McCartney
Now you can play your favorite songs on your uke! Just follow the written music, listen to the CD to hear how the ukulele part should sound, and then play-along using the separate backing tracks.

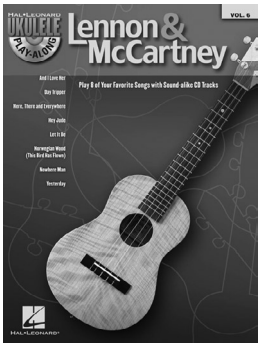


Figure 34. T24021 Ukulele Play-along Vol. 6 Lennon & McCartney.

Model T24024—Ukulele Play-along Vol. 1 Pop Hits
The Ukulele Play-Along series will help you play your favorite songs quickly and easily. Just follow the written music, listen to the CD and then play along with the separate backing tracks. Includes: American Pie • Copacabana • Crocodile Rock • Kokomo • Lean on Me • Stand by Me • Twist and Shout • What the World Needs Now Is Love.

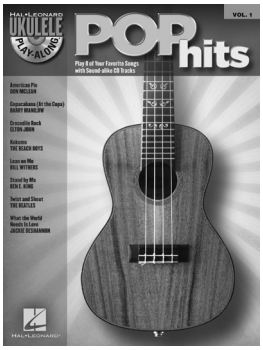


Figure 35. T24024 Ukulele Play-along Vol. 1 Pop Hits.

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