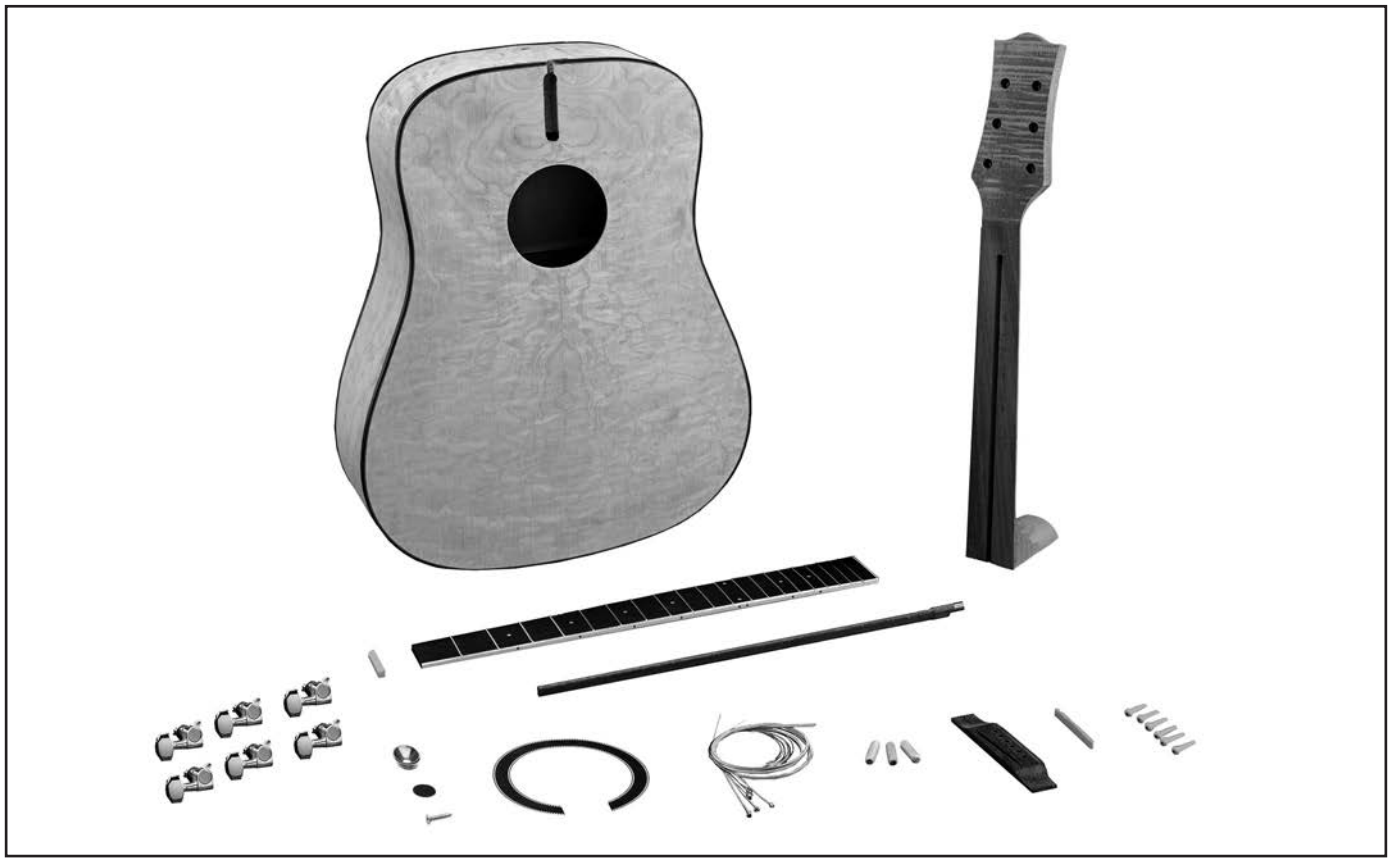
MODEL T33952/T33953/T33954
ACOUSTIC GUITAR KIT
OWNER'S MANUAL
(For models manufactured since 09/23)



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******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

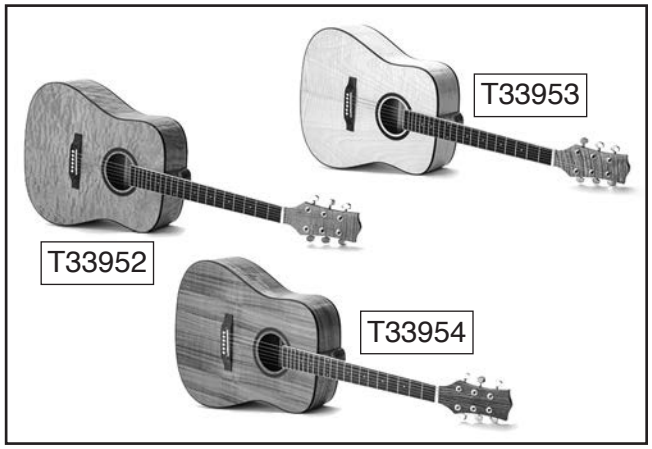
We want your feedback on this manual. What did you like about it? Where could it be improved? Please take a few minutes to give us feedback.

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

Description

The Grizzly acoustic guitar kits are available in three veneer options:

—T33952 Quilted Maple Veneer
—T33953 Fiddleback Maple Veneer
—T33954 Koa Variant



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.

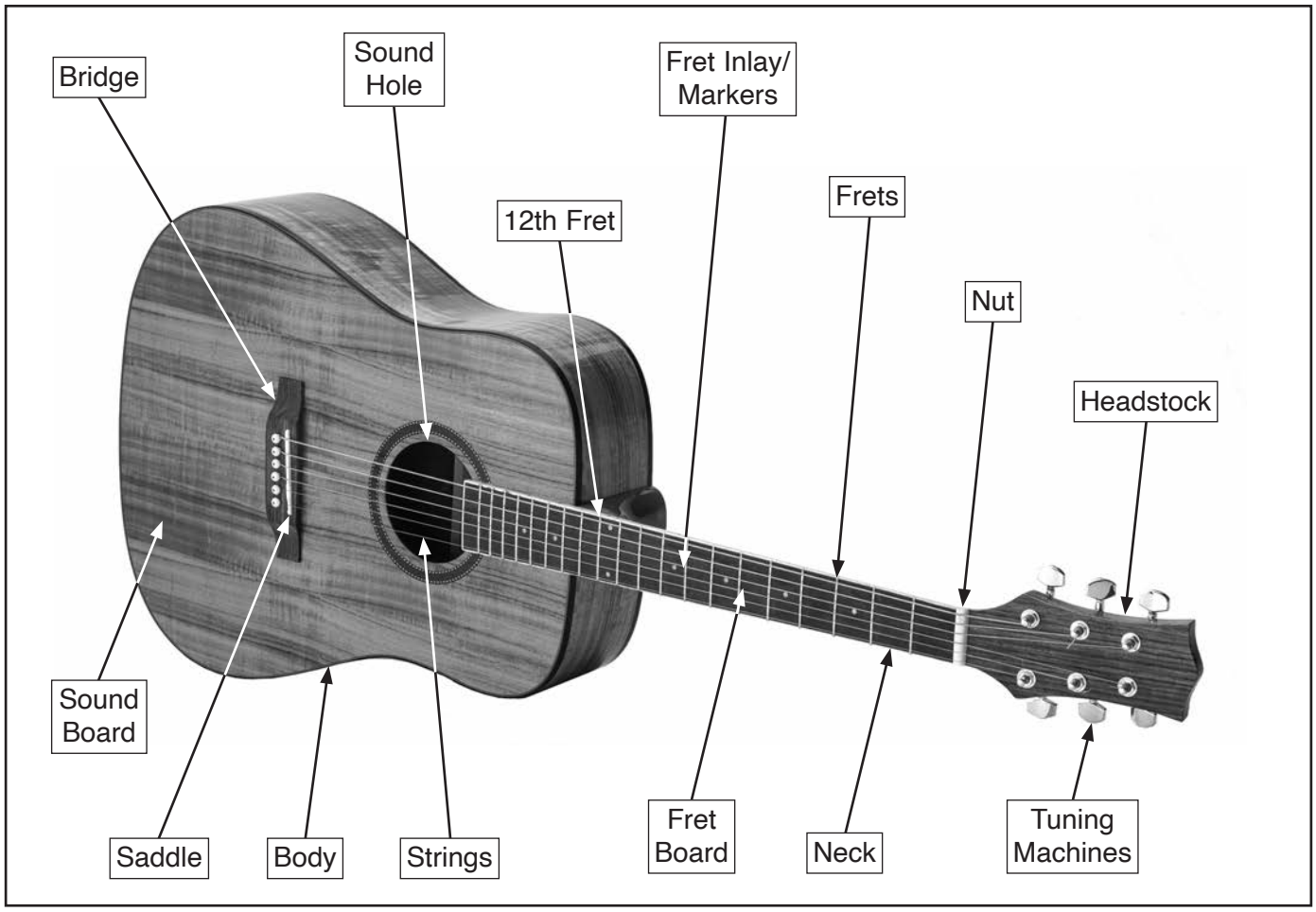
Alternatively, you can call our Technical Support for help. Before calling, gather all material and instructions that came with your instrument for easy reference. This will make providing you proper technical support much easier. It also will help us determine if updated documentation is available for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

Glossary Of Terms

The following is a list of common definitions, terms and phrases used throughout this manual as they relate to this guitar and music in general. Become familiar with these terms for assembling, adjusting, or operating this instrument.

Acoustic: An instrument that makes sound with no amplification, utilizing its own construction and soundhole to project tone and volume.

Action: Setup of strings in relation to instrument body and neck. Most commonly this relates to height of strings above fretboard.

Back: Rear face of instrument.

Body: Instrument housing composed of three main parts—top, sides and back—and holds bridge on top, connecting to neck of instrument.

Bridge: Wooden piece glued on top of instrument body and holds saddle. There are four main types of bridges: slotted, tie bar, through body, and pin.

Fretboard: Area of neck over which strings run and into which frets are mounted. Fretboard is where your fretting hand holds notes by pressing down on strings between frets.

Finish: The manufacture or decoration of an instrument by giving it an attractive surface appearance.

Fret: Thin strips of metal set into neck of an instrument to allow changing notes.

Fret Markers: Dots inlaid in fretboard of instrument to help finger placement and locating notes.

Headstock: Flat piece of wood at top of neck that holds tuning pegs and usually displays instrument brand logo.

Inlay: Material inlaid into surface parts of instrument.

Intonation: Ability of an instrument to play and hold correct note at any point on neck. This usually refers to quality of an instrument's construction, and ability for each fret, when depressed, to sound correct note for its position.

Joint: Where neck meets body of instrument.

Neck: Wood that holds fretboard, and runs between body of instrument and headstock.

Nut: A strip of material located at top end of fretboard over which strings are held in slots prior to tuning pegs.

Tuning Machine: Tuning pegs that work using a gearing system to turn string post altering instrument tone.

Tuning Peg: Tuning device that is turned to tighten or loosen string.

Saddle: Section of instrument over which strings are secured.

Scale Length: Dimension of string length measured between nut and saddle. Length needs to be accurate in relation to placement of frets to ensure accuracy in notes being played. Top of 12th fret always denotes exact halfway point of string.

Sound Board: Flat piece of wood that holds bridge and sound hole.

Sound Hole: Hole in sound board of instrument that projects sound.

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

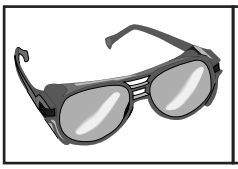
These instructions assume that you are intimately familiar with the safe operation and use of woodworking machinery and woodworking tools, and understand the techniques used to reproduce this project. If you do not qualify for both of these criteria, STOP building this project for your own safety. Read 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 manufacturers 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 is 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 guitar.

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 (1/8" to 5/8")	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
• Mini-Clamps (1" Minimum)	As Needed
• Straightedge (18" Minimum)	1
• Small File (Fine)	1
• Rubber Bands	As Needed
• 2" x 2" x 18" Wood Stock	1
• Thread or Thin String	As Needed
• Pencil	1
• Phillips Head Screwdriver #0	1
• Wire Cutters	1
• Precision Ruler	1
• 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	As Needed
• Sandpaper Wet/Dry #800, #1000, #1200	As Needed
• Masking or Painter's Tape	As Needed
• C-Clamps (3" Minimum)	As Needed
• Masking Paper	As Needed
• Silicone Sealant	As Needed
• Masking Tape 3/4"	As Needed
• Tuning Fork (Optional)	1
• Binding Tape (Optional)	As Needed
• Drill Bit 7/64"	1
• Palm Sander (Optional)	1

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

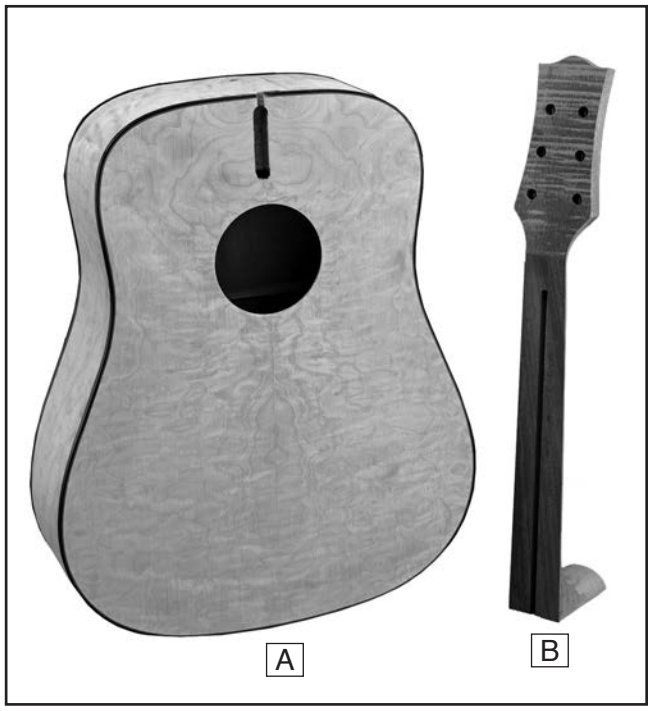


Figure 1. Body and neck.

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.

Guitar Components (Figure 2)	Qty
C. Fretboard	1
D. Truss Rod	1
E. Bridge	1
F. Nut	1
G. Saddle	1
H. Bridge Pins	6
I. Dowels	3
J. Strings	6
K. Tuning Machine Seats	6
L. Tuning Machine Washers	6
M. Tuning Machine Screws	6
N. Tuning Machines	6
O. Soundhole Decal	1
P. Bridge template (2 Pieces)	1
Q. Tap Screw M3 x 20	1
R. Felt Pad	1
S. Strap Button	1

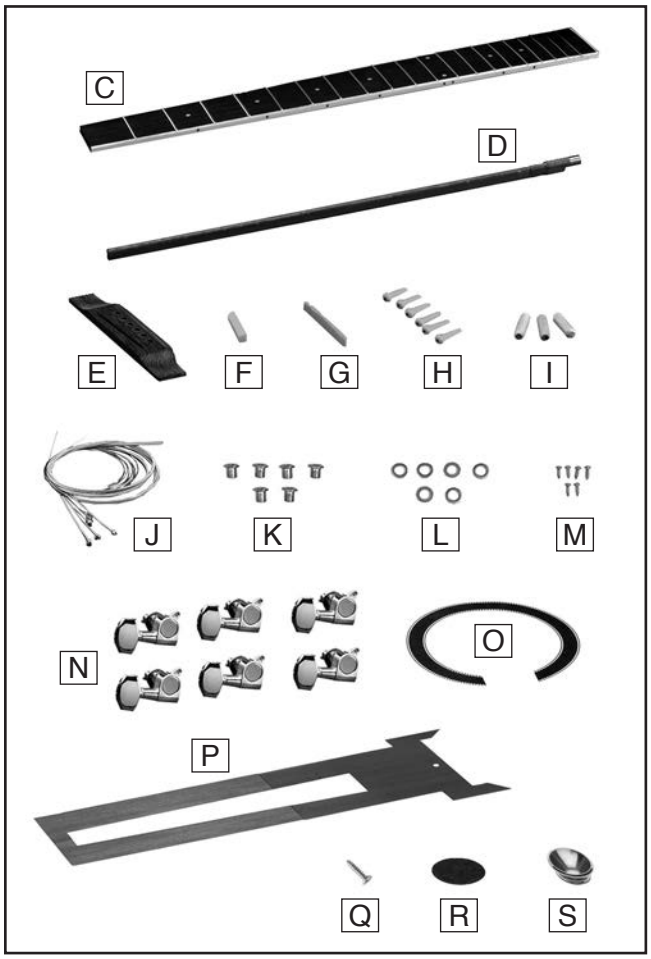


Figure 2. Guitar components.

SECTION 3: SANDING

Body

The guitar 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 the best appearance, be careful not to round the edges of the guitar 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.

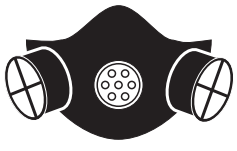
4. Wipe body with a damp, lint-free cloth. Wiping workpiece with a damp cloth before final sanding helps to "raise" wood grain; thus, allowing "raised" grain to be sanded smooth.

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 guitar body, most of the guitar 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 guitar 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 entire neck.

   Note: *DO NOT sand fret board mounting surface. This will affect playability of guitar 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 guitar 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.

Test fit the neck to the body using the provided dowels (see **Figure 3**).

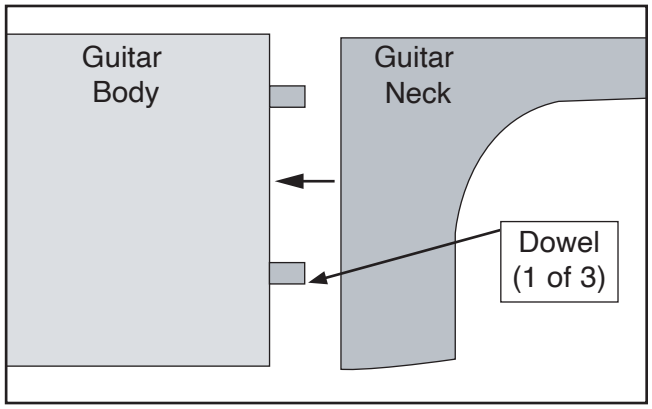


Figure 3. Test fitting neck to body.

— If neck *is* flush to body, no sanding is necessary. Proceed to **Assembly** on **Page 10**.

— If neck *is not* flush to body, neck will need to be shaped by sanding before it can be attached. Follow instructions below.

To sand neck:

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

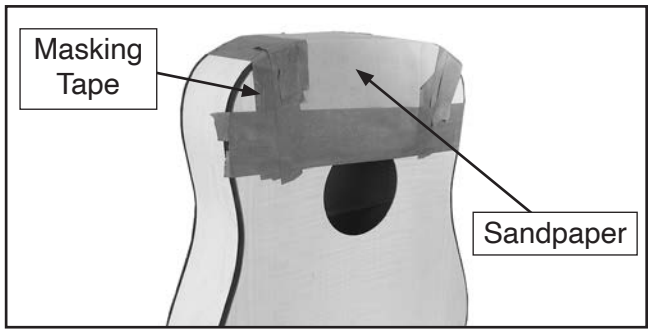


Figure 4. Body masked for neck sanding.

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

3. Start by gently sanding neck where it mates with body (see **Figure 5**).

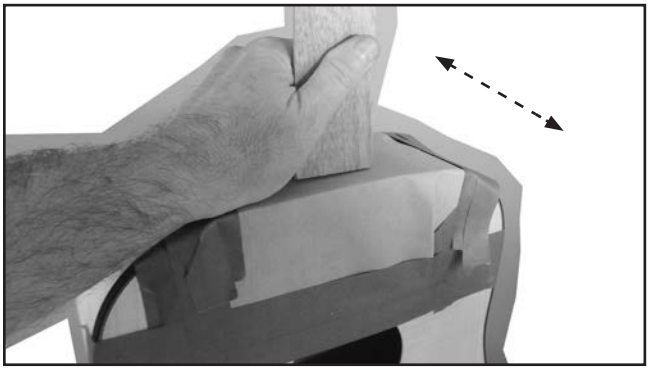


Figure 5. Sanding neck.

4. Sand until neck profile matches guitar body profile.

5. Wipe guitar body with a damp, lint-free cloth and let dry.

6. Wipe guitar body with a tack cloth to remove all remaining sanding dust (see **Figure 6**).

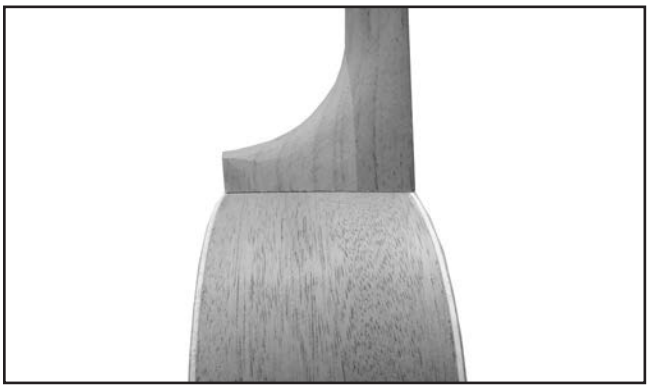


Figure 6. Neck and body flush.

7. Test fit neck to body.

— If neck *is* flush to body, sanding is complete. Proceed to **Assembly** on **Page 10**.

— If neck *is not* flush to body, repeat **Steps 4–7** until a flush mount is achieved.

SECTION 4: ASSEMBLY

Attaching Neck to Body

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

This guitar kit comes with dowels to make sure alignment and bonding are secure and easy.

NOTICE

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

To attach guitar neck to body:

1. Insert (3) wooden dowels into holes at top of body (see **Figure 7**).

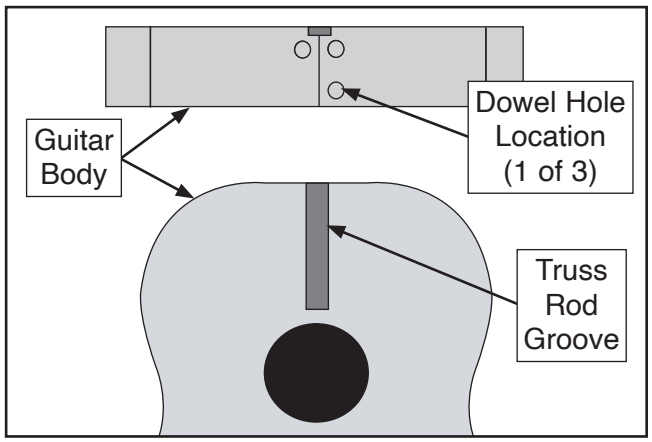


Figure 7. Dowel hole positions.

2. Fit dowels into dowel holes in guitar neck, and press neck into body, gently but firmly (see **Figure 8**).

3. Before neck can be glued to body, two critical points must be verified (see **Figure 7**):

— Truss rod grooves in neck and body must align perfectly.

— Neck surface and body surface must be perfectly flat.

Note: *Use a straightedge to verify this critical point. Once neck is glued to body, little can be done to correct alignment.*

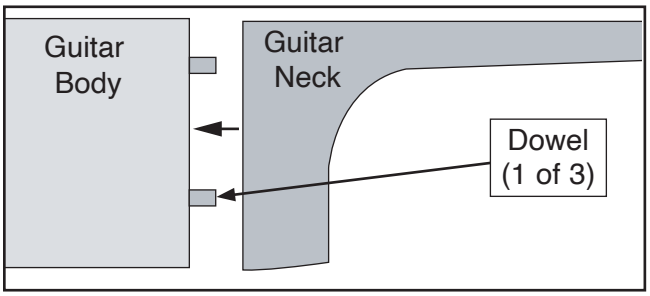


Figure 8. Dry fitting neck and body.

4. Using a straightedge, check to see if neck is flush with body of guitar (see **Figure 9**).

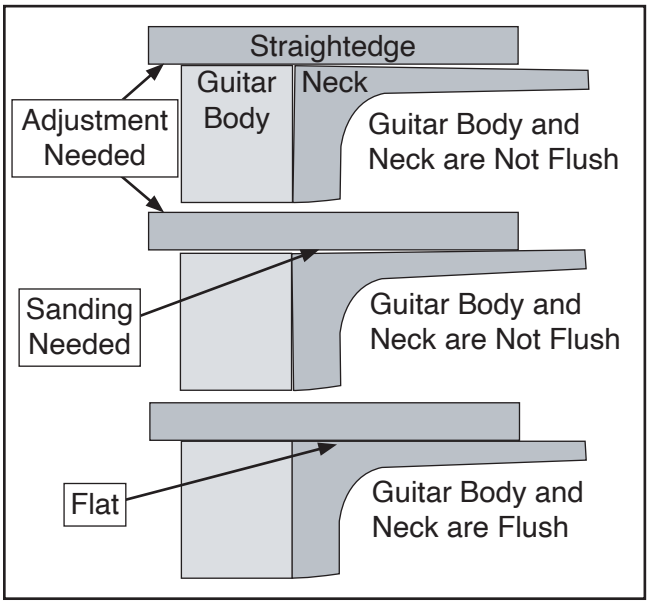


Figure 9. Aligning neck to body.

— If neck *is not* flush with body, use sanding block or file to flatten neck until it is flush with surface of body. Mask body to avoid damaging veneer.

— If neck *is* flush, proceed to **Step 5**.

5. Disassemble neck, body, and wood dowels, then re-assemble with wood glue.

6. Verify that truss rod grooves are aligned and neck is flush with body.

7. Once desired neck position is achieved, use band clamp or binding tape to secure neck to body (see **Figure 10**).

Figure 10. Neck secured to guitar body with band clamp.

8. Use damp cloth to wipe away excess glue from neck/body joint.

9. Let glue dry for at least 24 hours.

Installing Truss Rod

To guard against neck warping or breakage, this guitar kit comes with a truss rod to stabilize and strengthen the neck against the tremendous force that can be generated by the tension on the strings.

IMPORTANT: To prevent corrosion, the truss rod comes shrink wrapped. This wrapping should NOT be removed.

To install truss rod:

1. With flat side of truss rod facing up, press rod into groove in neck and body (see **Figure 11**). Face of truss rod must be flush with face of neck and body along entire length of groove.

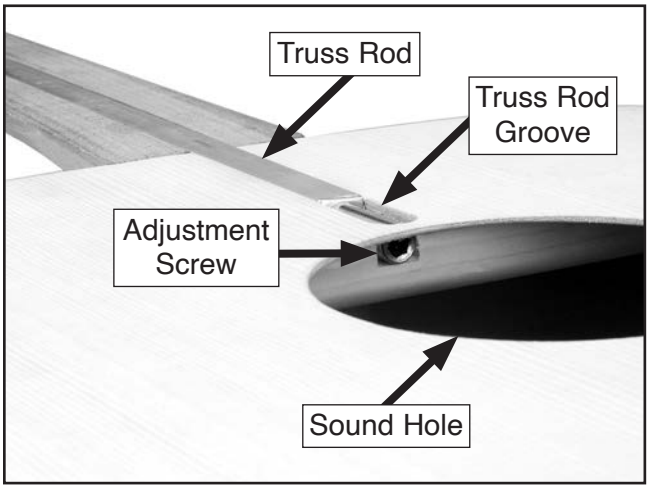


Figure 11. Truss rod pressed into groove.

— If truss rod *is* flush along entire length of groove, proceed to **Step 2**.

— If truss rod *is not* flush along entire length of groove, use sanding block or file to flatten groove until truss rod sits flush with face of neck and body. Mask body to avoid damaging veneer.

2. Remove truss rod from groove and vacuum up any dust or chips remaining from **Step 1**.

3. Apply a couple of dabs of silicone sealant at each end of truss rod groove, and a couple of dabs along bottom of groove, then press truss rod into place, ensuring adjustment screw at end of truss rod faces sound hole in guitar body (see **Figure 11**).

Note: *Use silicone sealant sparingly. Purpose of sealant is to prevent truss rod from vibrating when instrument is played, not to cement truss rod in position.*

4. Use damp, lint-free rag to wipe away any excess silicone sealant from neck and body.

5. Allow silicone sealant time to set up according to manufacturer's instructions.

Proceed to **Attaching Fretboard** on **Page 12.**

Attaching Fretboard

With the major components sanded and the neck and truss rod installed, it is time to attach the fretboard to the neck and body.

To attach fretboard:

1. Cover face of truss rod along its entire length with ¾" masking tape. This will prevent glue from seeping into truss rod groove and hampering functionality.

2. Apply a thin layer of glue to face of neck, then carefully remove masking tape.

3. Position fretboard on neck, making sure it is centered across width of neck, and that 14th fret is positioned over neck-to-body joint (see **Figure 12**).

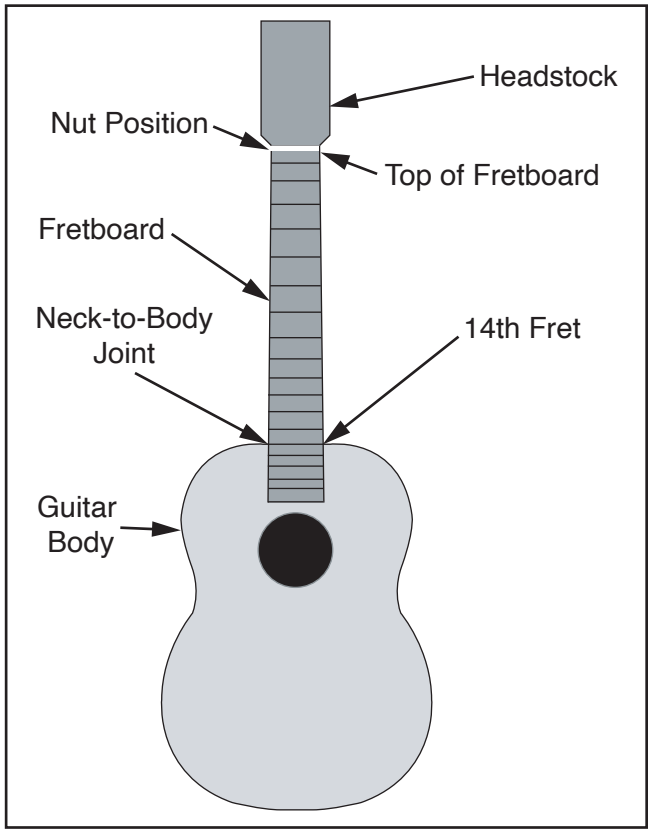


Figure 12. Fretboard correctly centered on neck.

4. Secure fretboard position with C-clamps or rubber bands and wood stock, as shown in **Figure 13**. Use wedges if necessary to ensure a tight fit. Wipe off any excess glue with a damp, lint-free rag.

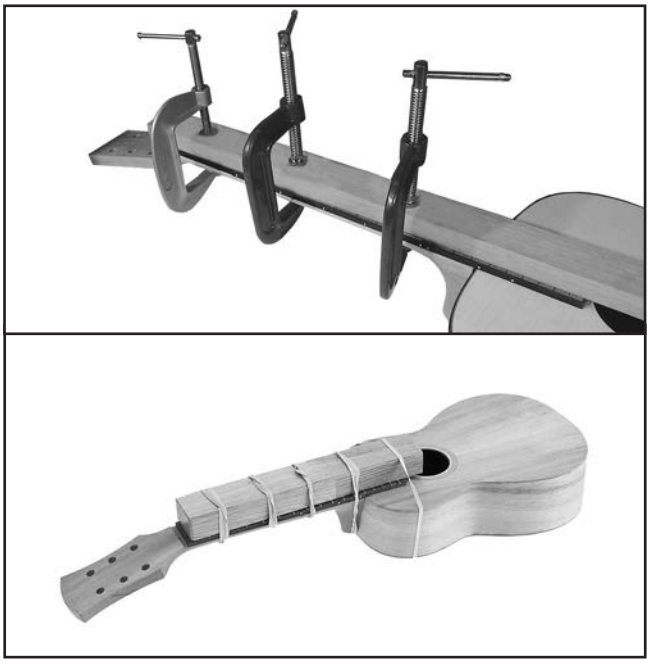


Figure 13. Fretboard secured to neck.

5. Let glue dry a minimum of 24 hours, then proceed to **Step 6**.

6. 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 guitar 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 14**), 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 14**) back in position and use a pencil to lightly trace top and sides lines for bridge.

4. Remove template (see **Figure 14**) and place bridge in relation to marks made on tape.

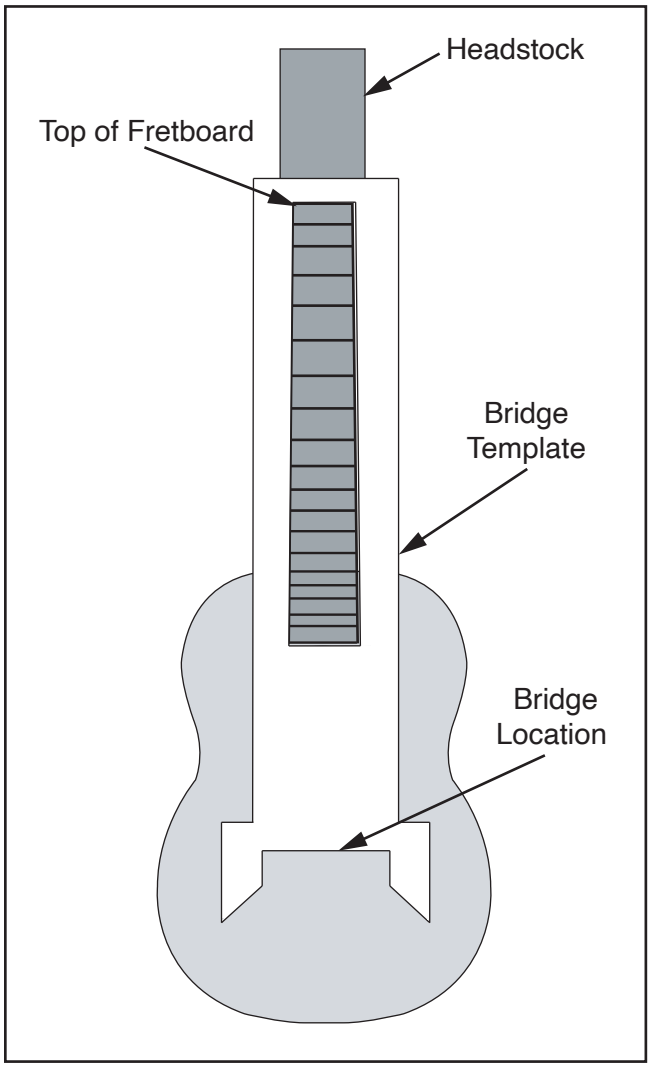


Figure 14. Using template for bridge placement.

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

6. Gently use a hobby knife to 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 325mm (12.79") (see **Figure 15**).

2. Double measurement to 650mm (25.59") 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 will be 317.6mm (12.5") from center of 12th fret (see **Figure 15**).

   Note: *This shorter measurement will compensate for front of bridge in relation to saddle position, and give you proper scale length.*

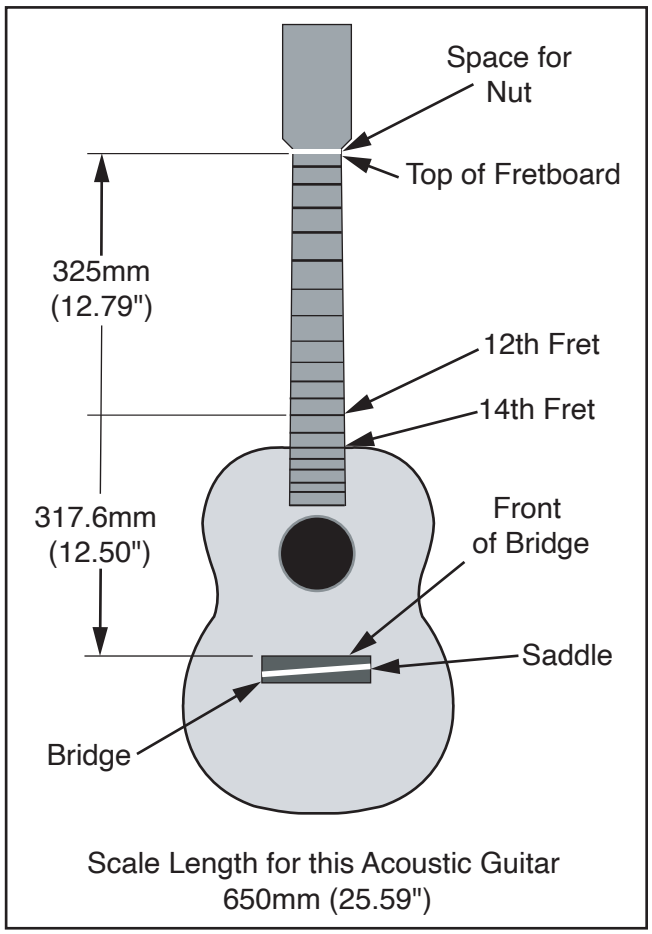


Figure 15. Example of determining scale length and bridge positioning.

4. To correctly center bridge, attach (2) pieces of thread to 1st and 6th nut slots, then tape opposite ends to corresponding holes in bridge (see **Figure 16**).

5. Center bridge so there is an equal amount of space between fretboard edges and threads (see **Figure 16**).

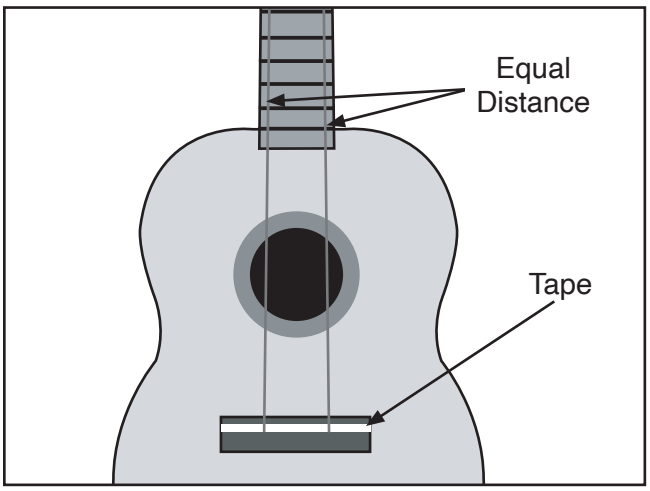


Figure 16. Centering bridge.

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

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

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

   Tip: *Angle knife inward as you cut.*

Attaching 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 attach nut:

1. Test fit nut on top of fretboard.

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

2. Apply a small amount of glue to top of fretboard and neck. Press nut into position and to secure (see **Figure 17**).

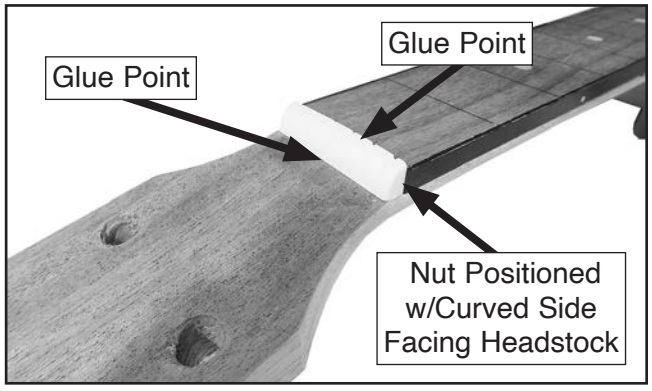


Figure 17. Attaching fretboard to neck.

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

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 **Figures 18–19**).

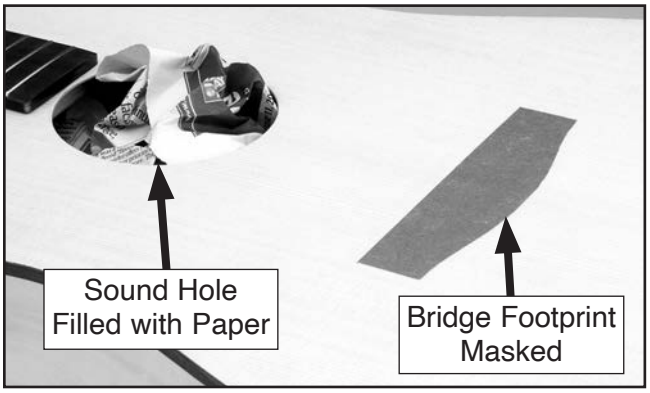


Figure 18. Sound hole filled with paper and bridge footprint masked.

Figure 19. Example of fretboard and nut covered with masking paper.

Carefully press all masking tape edges securely to guitar 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 guitar.*

Painting/Finishing

Finishing supplies are not supplied with the guitar kit.

There are many resources (books, videos, websites) that discuss guitar 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 guitar 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 guitar 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 guitar parts and immediately leave finish room.

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

Attaching Bridge

Remove the tape from the masked areas in preparation for attaching the bridge. Refer to **Pages 13–14** for details on determining bridge location.

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.

Attaching 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.

4. Clamp bridge down with a bridge clamp or large depth C-clamp (see **Figure 20**).

Note: *DO NOT overtighten clamp.*

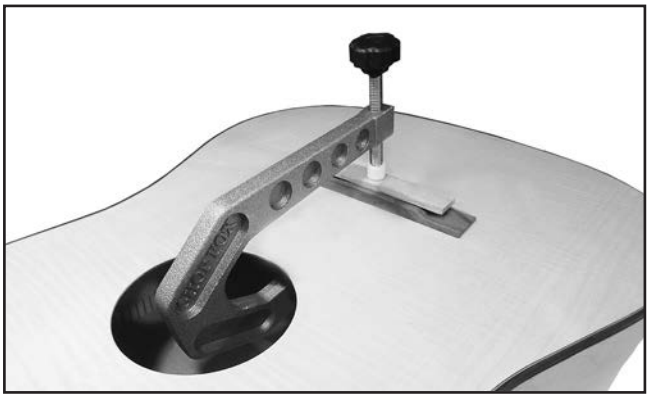


Figure 20. Bridge clamped in position.

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 clamp and place saddle in position.

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

Attaching Bridge With Wood Blocks

If a bridge clamp is not available, it is possible to successfully mount the bridge with rubber bands and wood blocks.

1. Follow **Steps 1–3** in **Attaching Bridge with Clamp** on **Page 16**.

2. Carefully position wood blocks over bridge and under back of guitar, then secure with rubber bands (see **Figure 21**).

Figure 21. Bridge secured with wood blocks.

3. Make sure to check bridge and verify that it is still in correct position and adjust if necessary.

4. Let dry for a minimum of six hours.

5. Remove rubber bands, blocks, and clamps, and place saddle in position.

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

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 the instrument, you should mask off the top of the guitar 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 (6) holes in bridge using 5⁄32" Forstner bit at marked locations (see **Figure 22**).

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

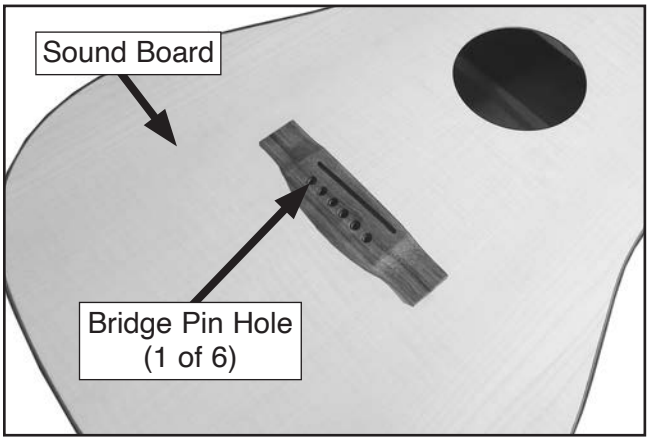


Figure 22. Bridge pin locations.

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 23**).

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

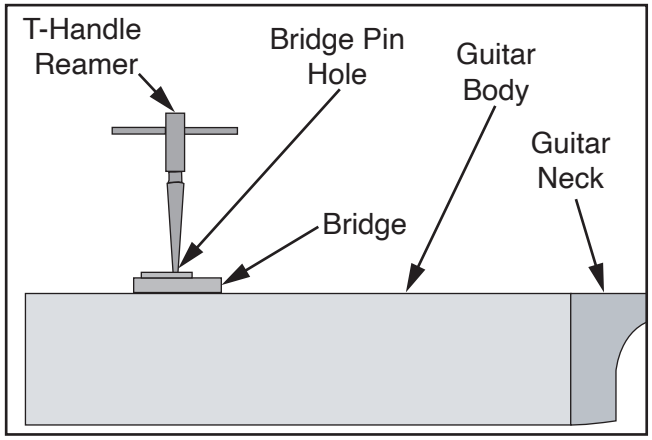


Figure 23. Reaming bridge pin hole.

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 and fit snugly, repeat **Step 3**.

   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 having bridge pins that fit too loosely.*

Attaching Sound Hole Decal

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

To attach 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 sheet (with decal) from water, letting excess water run off.

3. Gently slide decal off decal sheet into position around sound hole, as shown in **Figure 24**.

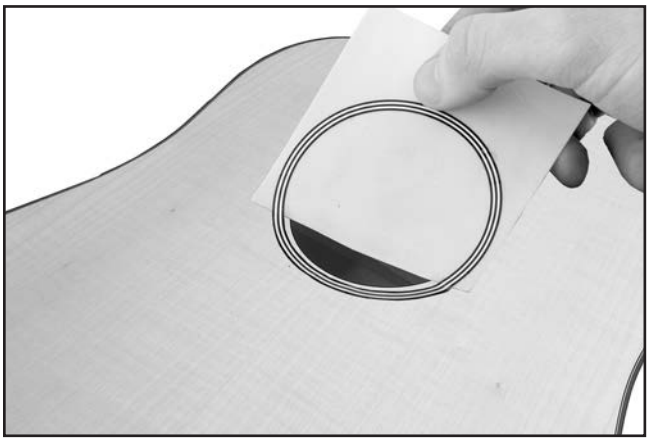


Figure 24. Sliding decal onto body.

4. Lightly press down on decal with dampened fingers and slowly slide decal sheet from underneath decal (see **Figure 25**).

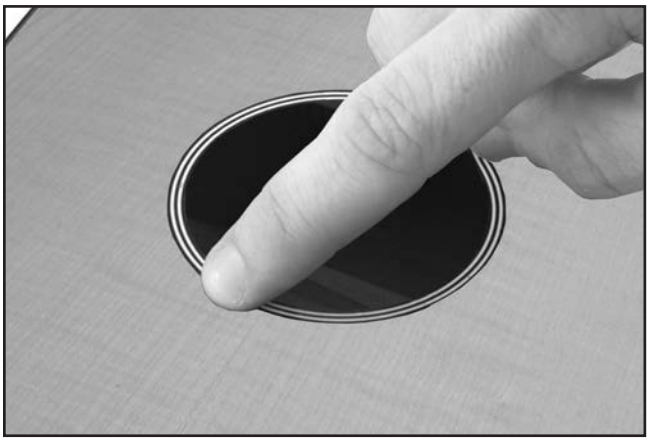


Figure 25. Pressing decal flat to body.

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 Strap Button

The strap button is mounted at the bottom of the guitar body and acts as an anchor point for a strap. This installation should be performed after the finish has been applied to the guitar body.

To install strap button:

1. Locate centerpoint at bottom of instrument and mark with pencil.

2. Drill a hole 3/8" deep at marked location.

3. Install strap button with M3 x 20 tap screw and felt pad, as shown in **Figure 26**.

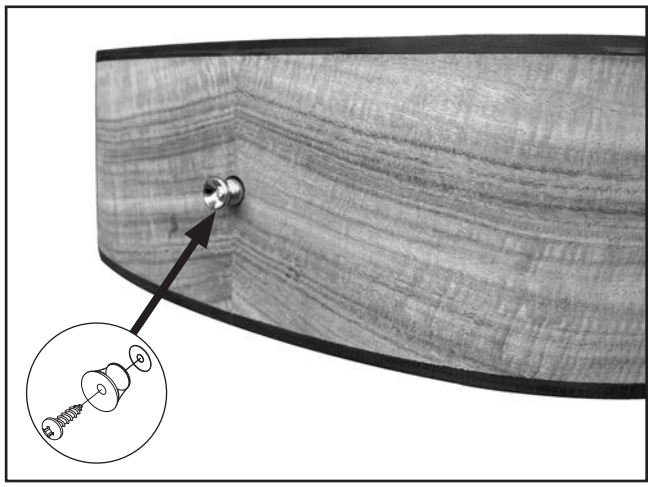


Figure 26. Strap button installed.

Installing Tuning Machines

The supplied tuning machines are mirrored pairs: three for the left side of the headstock, three for the right. Each tuning machine consists of the parts shown in **Figure 27**.

Note: *Unless otherwise indicated, we 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 (6) machine seats with washers into pre-drilled holes on front of headstock.

   Note: *Install tuners in pairs, from side to side. Place a straight edge across tops of tuning machines to ensure they are parallel (see **Figure 27**).*

2. From back of headstock, slide tuning machine posts through headstock and seat (see **Figure 27**).

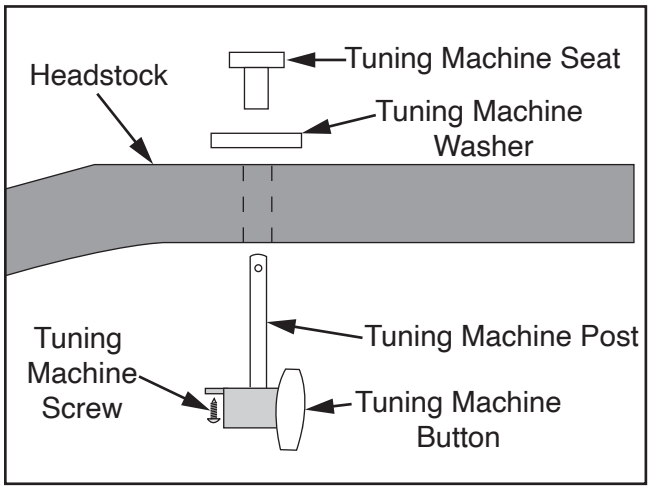


Figure 27. Installing tuning machines.

3. Position tuning machine buttons to outside of headstock.

4. Set a straightedge across the top of each pair of machine tuners to ensure they are parallel with each other from side to side (see **Figure 28**).

5. Secure each tuning machine to headstock with (1) tuning machine screw, as shown in **Figure 28**.

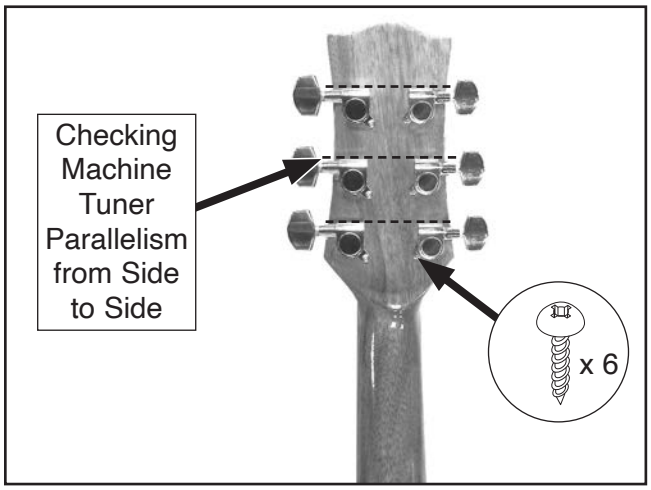


Figure 28. Tuning machine components

Installing Strings

The correct position of the guitar strings is shown in **Figure 29**. The thin High E string is called the "1st" string and the thick Low E string is called the "6th" string.

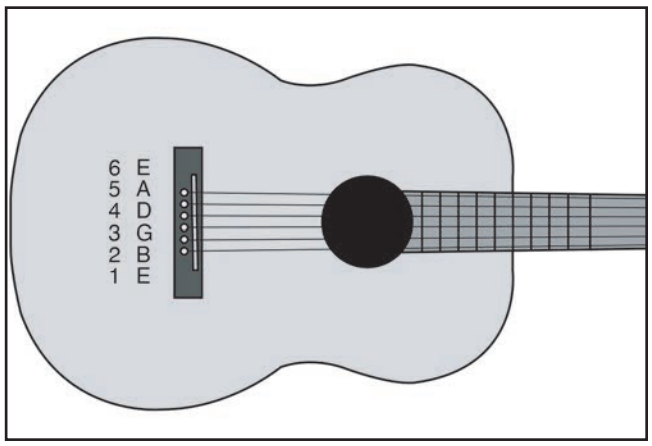


Figure 29. Correct guitar string position.

To install guitar strings:

1. Insert ball end of string into corresponding bridge hole.

2. Slide a bridge pin over string.

3. Slide bridge pin down string and into bridge hole (see **Figure 30**).

   Note: *Press bridge pin securely so it will not come loose under string tuning tension.*

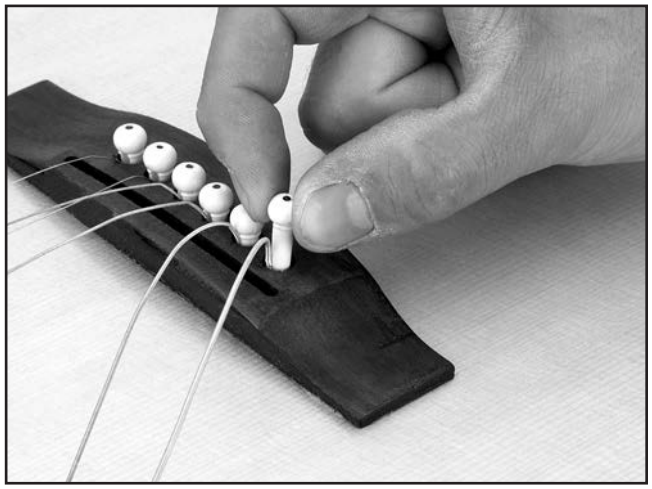


Figure 30. Installing strings.

4. Route string to inside of corresponding tuning peg and through peg hole.

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

5. Turn tuning button counterclockwise to tighten string.

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

6. Use wire cutters to cut off excess string.

7. Repeat above process for remaining strings.

Setting String Height

The string height is the distance between the top of the fret and the bottom of the string (see **Figure 31**). Correct string height is crucial for maximizing the playability of the guitar. Measurements are taken at the 1st and 12th frets.

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

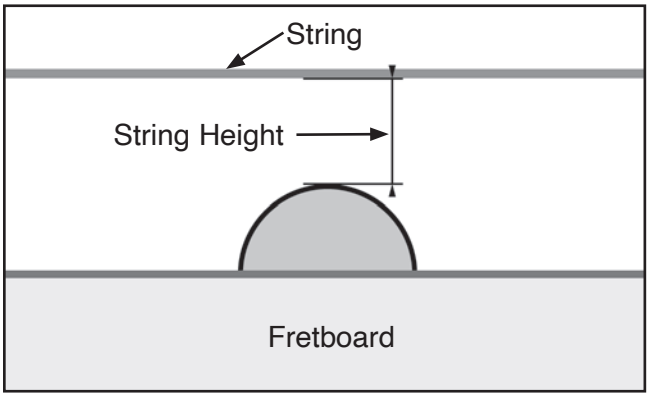


Figure 31. String height measurement (side view).

To set string height:

1. Check string heights of 1st and 6th strings at 1st fret. Measurements should be 1/64" at 1st string and 1/32" at 6th string (see **Figure 32**).

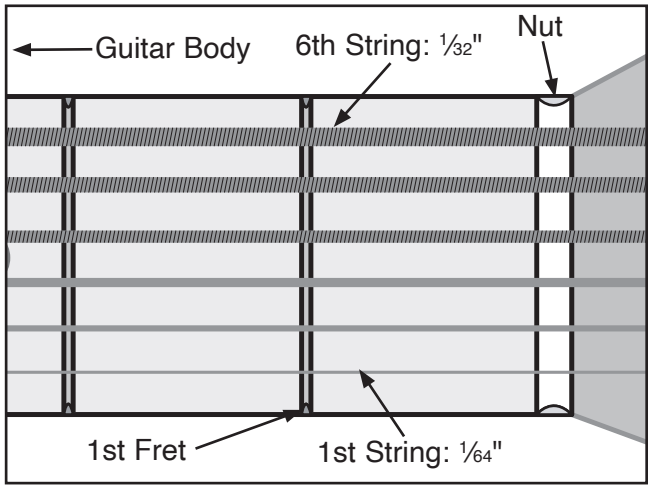


Figure 32. Correct 1st fret string heights.

— If string heights *are* correct, then proceed to **Step 2**.

— If string heights *are not* correct at 1st fret, this is an indication that grooves in string nut need to be adjusted. We recommend having a qualified guitar technician raise or lower nut before continuing with string height adjustment at 12th fret in next step.

2. Check string heights of 1st and 6th strings at 12th fret. Measurements should be 3/64" at 1st string and 5/64" at 6th string (see **Figure 33**).

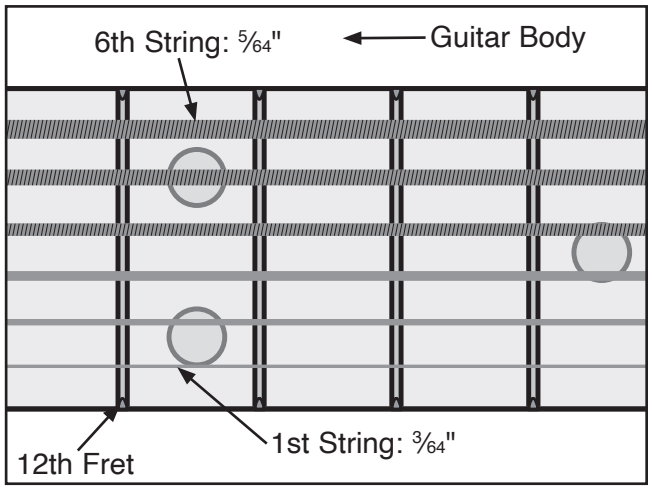


Figure 33. Correct 12th fret string heights.

— If string heights *are* correct, then move to continue to **Tuning** on this page**.**

— If string heights *are not* correct at 12th fret, this is an indication that grooves in saddle need to be adjusted. We recommend having a qualified guitar technician raise or lower nut before continuing with string height adjustment at saddle.

Tuning

Tuning is the most important concept of playing a guitar. If the guitar 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 guitar.

Important issues to consider when tuning a guitar:

- Get into the habit of tuning the guitar 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 34**.

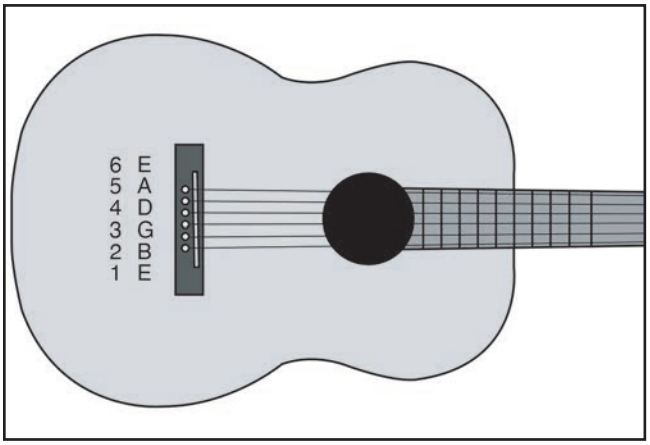


Figure 34. String tuning notes.

- The easiest way to tune a guitar 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 guitar by ear—a skill used by many accomplished guitar players.

To tune guitar:

1. Play a known Low E pitch. A piano, a tuning fork, or an electronic computer file will work.

2. Play an open (non-fretted) 6th string. Goal is to match open 6th string to known Low E pitch.

3. Adjust tuning peg until pitch of open 6th string sounds exactly like known Low E source.

— If string is tuned too high, back tension off and return string back up to match Low E pitch. Now other strings can be tuned to 6th string.

4. Next, 5th string needs to be tuned. Tone of 5th string must be matched to tone of 6th string by playing same note on each string, one after another. This is done by playing 6th string while it is being pressed (fretted) at 5th fret, and immediately after, playing open 5th string.

5. Listen to two tones. As two notes are still resonating, adjust tuning peg of 5th string until two notes have matching tones. Remember to tune "up."

6. Perform same tuning steps on 4th and 3rd strings.

7. When tuning 2nd string, 3rd string should be fretted at 4th fret instead of 5th fret.

8. Tune 1st string in same manner as 6th, 5th, 4th, and 3rd strings.

Guitar Setup

Congratulations—construction of your guitar kit is now complete!

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

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

Setting up your guitar can also be a bit more complicated and technical. You can modify or adjust the guitar to match your preference for not only strings, but string height, or action, through nut and saddle adjustments, dialing in truss rod 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 guitar taken to a guitar shop or licensed luthier and have them set up the guitar for you.

Again, congratulations and enjoy your new guitar!

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 35. 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 36. 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.

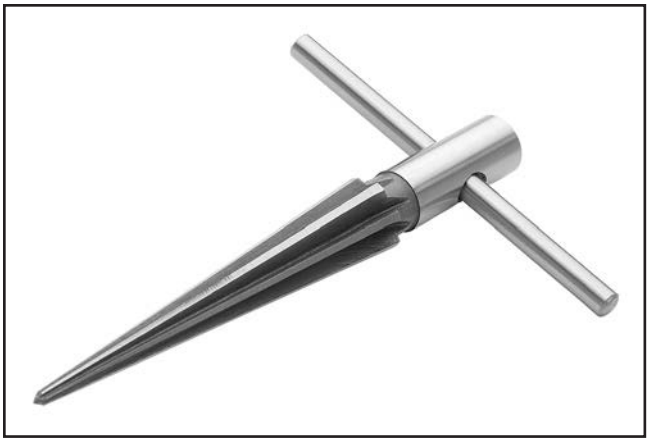


Figure 37. H5890 Repairman's Taper Reamer.

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.

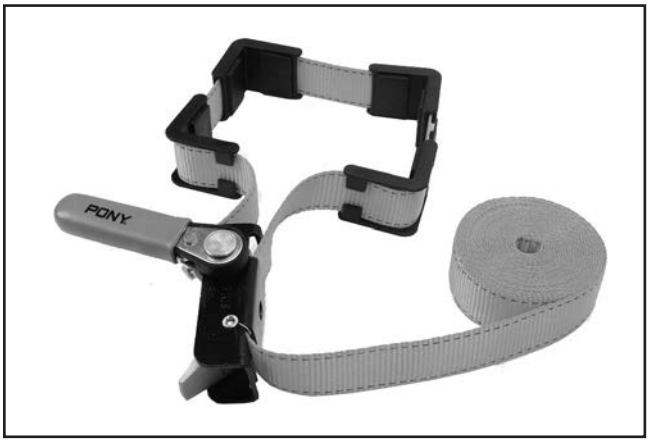
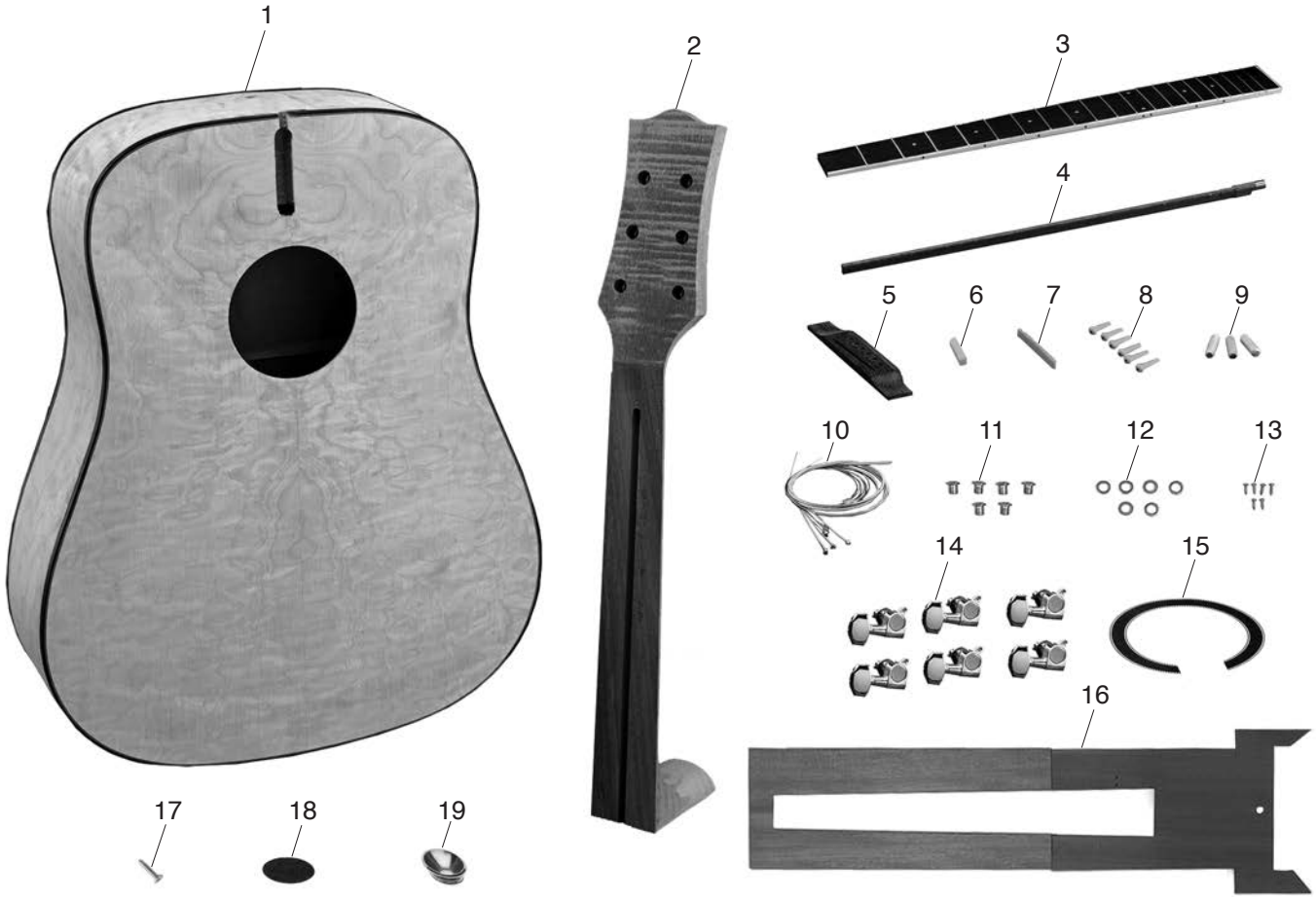


Figure 38. T30674 Pony 15' Band Clamp.

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	PT33952001	BODY QUILTED MAPLE
1	PT33953001	BODY FIDDLEBACK MAPLE
1	PT33954001	BODY KOA
2	PT33952002	NECK
3	PT33952003	FRETBOARD
4	PT33952004	TRUSS ROD
5	PT33952005	BRIDGE
6	PT33952006	STRING NUT
7	PT33952007	SADDLE
8	PT33952008	BRIDGE PIN
9	PT33952009	DOWEL PIN 5 X 19

REF	PART #	DESCRIPTION
10	PT33952010	STRING SET 12-GAUGE
11	PT33952011	TUNING MACHINE SEAT
12	PT33952012	TUNING MACHINE WASHER 2MM
13	PT33952013	WOOD SCREW M2 X 9
14	PT33952014	TUNING MACHINE
15	PT33952015	SOUND HOLE DECAL
16	PT33952016	BRIDGE TEMPLATE
17	PT33952017	TAP SCREW M3 X 20
18	PT33952018	FELT PAD
19	PT33952019	STRAP BUTTON

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.

For further information about the warranty, visit **https://www.grizzly.com/forms/warranty** or scan the QR code below to be automatically directed to our warranty page.