



California requires the following notice:

# 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.





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 manual. 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.



These instructions assume that you are familiar with the safe operation and use of woodworking machinery and woodworking tools, and understand the techniques used to assemble 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.



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#### 1 Introduction

Thank you for purchasing a BYOGuitar.com guitar kit. This kit includes everything you need to build a complete custom guitar. In addition to the construction of your guitar, you will need to consider the finish – natural, solid color and possibly a design that will make your guitar unique. We suggest you do some research to determine your finish preferences. Procuring the required finishing materials,



TIP: Get some finishing ideas by visiting BYOGuitar.com and BYO Guitar on Facebook

especially if they have to be ordered, will allow expedite your guitar project.



We carry a full line of finishing products to give you the beautiful finish you are looking for, whether a clear natural finish or a bold, colorful finish. We also carry an instructional DVD made by Behlen that will give you step by step instructions to help you achieve the look you want for your custom guitar.

These instructions assume you are familiar with the anatomy of a guitar. Refer to Figure 1 for many of the terms used in the assembly of your guitar.

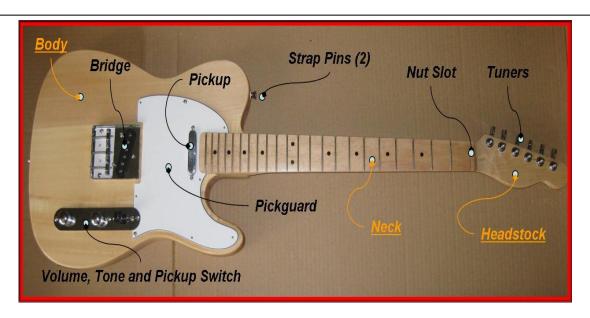


Fig 1 Major Components in Your Tele Guitar Kit



#### 1.1 Material Check List

In preparation for the building of your guitar, all required material should be checked both for type and quantity. Use the following check list to ensure all piece parts are included. If you customized your order (ex. different tuners), ensure that these parts are accounted for. Please contact BYOGuitar if there are any discrepancies.

Tele Material List			
Item	Component	Quantity	Description
1	COMPLETE SUITAR DAXXAGE	☐ 1 Tele Body ☐ 1 Tele Neck ☐ Miscellaneous materials (see below)	BYO Tele Guitar Kit
			TIP: use small interior inventory and organize
2		<b>□1</b>	Tele Pickguard with neck pickup installed
3		<b>□1</b>	Control Plate: Volume, Tone & Pickup Select
4		☐ 10 screws <sup>3/8*</sup> + spare	Mounting screws for Pickguard & Control Plate



5	<b>□1</b>	Tele Bridge (bottom View)
6	☐ 4 screws, ¾"	Bridge Mounting Screws
7	☐ 1 Plate ☐ 1 plastic base ☐ 4 screws, 1 <sup>3/4</sup> "	Neck Plate/mounting materials
8	☐ 6 Tuning Pegs ☐ 6 Washers ☐ 6 Nuts ☐ 6 screws, 3/8"	Tuning Peg materials
9	☐ Jack ☐ 4 screws, ½"	Output Jack
10	☐ 2 Holders ☐ 2 plastic washers ☐ 2 screws, 1"	Strap Pins



11	and the state of t	☐ 1 String  "Nut"/guide ☐ 2 Tees ☐ 2 sleeves ☐ 2 screws, ½" ☐ 1 pick	String Tees and Nut
12		☐ 6 strings	Strings
13		☐ Output Cable ☐ 2 Allen wrenches	Other

# 1.2 Additional tools/materials required:

Drill & drill bits	#1 & #2 Phillips screwdriver	Soldering iron/solder
Masking/painters tape	Finishing/painting material	Sand paper 220 & 320 grit
Guitar strap	Soap or candle	Feeler gauge
ruler		



The remainder of the assembly instructions is divided into four sections:

Section 2 – <u>Mockup & Fit check</u>: in this section, all components will be checked for proper alignment and ensure that all holes have been drilled.

Section 3 – <u>Finishing the Body and Neck</u>: after fit check, the components are removed from the neck & body to allow the selected finish to be applied. This will allow you to customize your guitars' color(s). As the finishing will likely require several coats with sanding between each coat, ensure that the finish is completely dry.

Section 4 – <u>Construction</u>: the final assembly is the next step - once the finish has been applied and completely dried. In this section, all of the components are installed, internal wiring connected and strings attached – your guitar will ready to go!

Section 5 – <u>Setup</u>: in this section, adjustments are made to your guitar such as the height of the pickups.

Again, we thank you for your purchase of a BYO Guitar and we look forward to seeing pictures of your unique guitar! We also look forward to providing you with the guitar for your next project from our Custom Shop where you can select the wood for the body and neck as well as customizing all of the other components.

Let us know if your music, school, church or scouting organization would like to undertake a group

project – BYO Guitar can supply multiple kits or custom guitars.



Some Ideas for Finishing Your Guitar and Examples of Our Custom Shop Products



#### **Mockup and Fit Check**

The following steps will ensure that the base, neck, tuners, pickups, etc. are properly aligned and that all screw holes have been drilled.



TIP...use the large cover of the shipping box as a work area that can be easily stored when you're done working

#### 2.1 Check Guitar Body & Neck mounting holes

- 1. Check Neck cavity on the Body for pre-drilled (4) mounting holes (Figure 2.1);
- 2. Skip to 2.2 if the holes are pre-drilled.

#### 2.1.1 Drilling the Mounting Holes in the Guitar Body

- 1. Use the neck plate as a template (#7 on material list) to locate the mounting holes in the neck pocket. The simplest way is to place the neck plate into the pocket and properly position it so it is centered in the pocket.
- 2. Mark the holes, center punch your marks.
- 3. Drill the holes using a 3/16" drill bit.

#### 2.2 Checking the Mounting Holes in the Neck

- 1. Check neck for pre-drilled (4) mounting holes.
- 2. Skip to 2.3 if the holes are pre-drilled.

#### 2.2.1 Drilling Mounting Holes in the Neck

- 1. Place the neck in the pocket (...you should be able to fit the neck in the neck pocket by hand).
  - a. Make sure the neck is aligned properly with the pickup cavities and bridge.
  - b. Carefully clamp the neck in place frets damage easily.
  - c. Using the same drill bit you drilled the holes in the body, place the bit in the hole through the body and tap it a few times to make a mark on the neck.

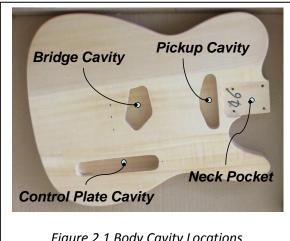


Figure 2.1 Body Cavity Locations



- 2. Remove the neck from the body.
- 3. Determine the neck mounting hole depth.
  - a. Place one of the neck mounting screws through the neck plate and body into the neck pocket.
  - b. Measure the amount of the mounting screw that extends up into the neck pocket, and mark your drill bit.



TIP...a piece of masking tape around the drill bit works great as a depth indicator.

- c. **Double check the depth** by holding the marked drill bit to the side of the neck and be certain the drill won't go through the fingerboard.
- 4. Drill the holes in the neck with a 1/8" drill bit. Make sure you don't drill through the fingerboard!

# 2.3 Fit check & Alignment of the Pick Guard and Control Plate (items 2 & 3 on materials list)

- 1. Place the Control Plate in the Body Control Plate Cavity (reference Figure 2.1), ensuring the wiring is in the cavity
- 2. Place the Pick Guard in the Body Pick Guard Cavity (reference Figure 2.1), ensuring the wiring is in the cavity
- 3. Carefully move the Control Plate and the Pick Guard so that the Pick Guard is aligned with the Neck Pocket. Using 3/8" screws (item 4 on Material list), attach Control Plate (1 screw) and Pick Guard (2 screws). If holes are not pre-drilled, mark the holes and drill starter holes with 1/16 drill bit. Ensure all holes are pre-drilled.

# 2.4 Check the Neck to the Body Fit



TIP...rubbing the threads of the screw on a bar of soap or candle will help prevent the wood from splitting

Temporarily attach the neck so you can locate the bridge. Use caution, the last thing you want to do is snap the screw off in the hole!

1. Insert the neck into the neck pocket and place the neck plate (with counter sunk holes facing out) & plastic base on the body.



- 2. Align the mounting holes in the neck and body
- 3. Fasten the 4 #7 x 1 3/8" screws, but do not finial tighten them.

#### 2.5 Check the Bridge Alignment

- 1. Insert the Bridge (material list item #5) in the Body (reference Figure 2.1), ensuring the wiring is inside the cavity.
- 2. Align the Bridge with the cutout in the Pick Guard and mount using two ¾" screws (item #6 on material list). If holes are not pre-drilled, mark the holes and drill starter holes with 1/16 drill bit. Ensure all holes are pre-drilled.
- 3. Remove the Bridge and check for a tunnel/hole between the Bridge mounting screw holes and the Bridge Cavity (Reference Figure 2.5). If the hole is pre-drilled, skip to 2.6.



Figure 2.5 Drilling Bridge Grounding Wire Hole

- a. Using a 1/16 drill bit, drill a pilot hole <u>from</u> the 3<sup>rd</sup> Bridge mounting hole <u>to</u> the Bridge Cavity at an angle of 45 degrees (as shown in Figure 2.5). Caution: ensure not to drill through the Body only into the Cavity!
- b. Using the pilot hole as a guide, re-drill with a  $\frac{1}{4}$ " drill bit, exercising caution as not to drill through the Body.

#### 2.6 Check Output Jack

- 1. Check for pre-drilled holes (4) for the Output Jack (item 9 on the material list), reference Figure 2.6.
- 2. If the holes are pre-drilled, skip to 2.7
  - a. Insert Output Jack.
  - b. Mark the holes and drill starter holes with 1/16 drill bit. Ensure all holes are predrilled.

# 2.7 Check Strap Pins

- 1. Check for pre-drilled holes for the Strap Pins (item 10 on the material list), reference Figure 2.6.
- 2. If the holes are pre-drilled, skip to 2.8



Figure 2.6 Output Jack & Strap Pins



- a. Mark the rear Strap Pin hole so that it is centered on the Neck/Bridge and the forward Pin on the most forward point on the top of the Body (see Figure 2.6).
- b. Drill starter holes with a 1/16 drill bit.

#### 2.8 Check Tuner Alignment

Each tuner consists of the tuner, washer, and a threaded bushing. The tuners are attached to the headstock with a small wood screw that attaches between the tuners.

1. Insert tuners, 6 each (item #8 on Material List) into the Neck Headstock (Figure 2.8). Ensure that the Tuner shafts are perpendicular to the Headstock (Fig.2.8).

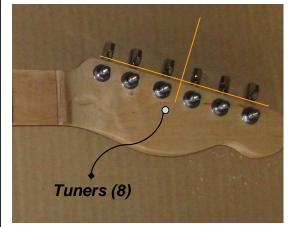


Figure 2.8 Tuner Alignment

by 6 guitar build your own

TIP... the holes may need to be widened with a peghead reamer or a round file. DO NOT widen the holes too much—the tuners should fit snug

- 2. Check alignment of set screw holes and tuner base.
- 3. If alignment is incorrect or holes are not drilled, mark hole locations and drill starter holes with 1/16 drill bit.

#### 2.9 String Tee Position

The two (2) holes required for the installation of String Tees (2), Figure 2.8, will be during the guitar final assembly.

# 2.10 Mockup and Fit Check complete!

Carefully disassemble the Mockup and move on to the next step: applying the finish to your guitar!

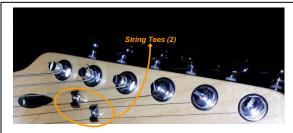


Figure 2.8 String Tees



#### 3 Finish

Before starting the finish make sure all holes are drilled for any remaining hardware (pickguard, jack plate, strap pins etc).

#### 3.1 The Body

Sand the body and neck with #220 dry sandpaper, followed by #320. If you are applying a finish, other than natural, you should consider using a grain filler on the body. This will fill in the valleys in the grain and result in a nice flat surface allowing you to get a nice high gloss finish. An oil based grain filler is recommended. For most finishes, use a natural colored filler. The dyes used in darker fillers may, over time, find their way through the color coat. We carry a full line of Behlen Por-o-pac grain fillers that work perfectly for smoothing out your guitar body.

Apply the filler by wiping across the grain. You can use a course cloth or your fingers to wipe the grain in. After it has dried about ten to twenty minutes the excess can be removed with a cloth dampened with mineral spirits. After about an hour repeat the process and let dry overnight. If you have removed most of the excess with mineral spirits the remaining filler on the field of the wood can be sanded off (use #220 again) in a few minutes. The body is now ready for a sand and sealer coating.



TIP... reopen any of the screw holes in the body. Use a toothpick or small drill held between your fingers to clean out any filler in the holes.

Vinyl sealer is used to give the final coat a level base. It is also helpful in filling scratches which are too deep to sand out. We recommend Behlen's Vinyl Sealer, available on our website.

#### 3.2 Solid Color Finish

The last step before applying the color coats is to apply a white primer coat. We recommend Ohio Valley Nitro's White Primer, available on our website. This is a white pigmented shellac in an aerosol can that will cover the grain and prevent any previous finishes from bleeding through. The white background will also let you apply an opaque color coat with less paint. Spray on two coats. When dry you may notice that the surface feels rough. Sand off the roughness with #320 dry and re-spray. Sand again. If the surface now appears smooth and all grain is opaqued you are ready for the color coat.

#### 3.3 The Neck

On a maple fingerboard you can apply a clear finish to the entire neck and fingerboard. Apply several coats and remove buildup on the frets between coats. An easy way to remove the finish buildup on the frets is to take a nail and file a half round slot in the head about the same size as the frets. You can then use this to easily scrape any finish build up.



If the neck has a Rosewood or Ebony fingerboard be sure to tape off the fingerboard before applying the finish. Behlen's Fingerboard Oil is a great product for your fingerboard.

#### 4 Assembly

After your finish has been applied and thoroughly dried, we can now assemble your guitar. In this section we will permanently install all of the components and solder the wiring for the bridge and pickguard pickup.



TIP... use a blanket or large towel on your work area to protect your guitars' finish

#### 4.1 Installing Component Wiring & Installation

Refer to Figure 4.1 during this section. Noted wiring colors are typical and may vary.

#### 4.1.1 Pickguard Wiring & installation

1. Insert the pickguard/pickup wires through the tunnel from the Pickguard cavity to the bridge cavity, then into the control cavity (reference Figure 2.1).



TIP... tape and label wires for easy identification

2. Install the Pickguard/pickup with supplied 3/8" screws.



TIP... remove the clear protective film from the Pickguard & pickups

#### 4.1.2 Bridge Wiring (reference Figure 4.1.2 for wiring detail)

Insert the Bridge pickup wires through the tunnel between the bridge cavity and control cavity.

#### 4.1.3 Bridge frame grounding wire & installation

- 1. Insert the bridge grounding wire on the Control Panel (typically white) through the tunnel between the control and bridge cavities.
- 2. Continue to run the ground wire through the diagonal hole to the Bridge mounting screw holes, located on the top of the Body(refer to Figure 2.5). Strip approximately ½" of insulation from the wire.

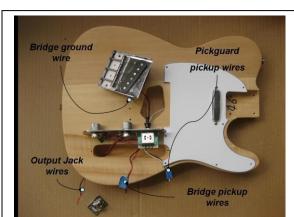


Figure 4.1.2 Body Wiring



3. Install the Bridge with ¾" screws (4) ensuring that the bridge grounding wire is wrapped around a Bridge mounting screw.

#### 4.1.4 Output Jack wiring & installation

Insert the Output Jack wiring through the tunnel between the Control cavity and the jack hole.

- 1. Solder the signal and ground wires to the jack (see Figure 4.1.2)
- 2. Attach jack mounting plate to the body with the supplied mounting screws (4).

#### 4.1.5 Installing the Control Plate Wiring & Installation

- 1. Before the control plate can be installed it is necessary to complete the wiring. See wiring diagram Figure 4.2.
- 2. Solder the Bridge and Pickguard pickup ground wires (black) to the case of the Volume Control.
- 3. Solder the Bridge Signal wire (typically red) to the selector switch, pins 1 & 2 (pins 1 & 2 are closest to the neck) as shown in Figure 4.1.5.
- 4. Solder the Pickguard/pickup Signal wire (typically white) to the selector switch, pins 6 & 7, also shown in Figure 4.1.5
- 5. Install the Control Panel with supplied 3/8" screws.

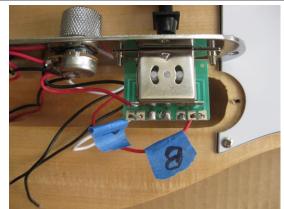
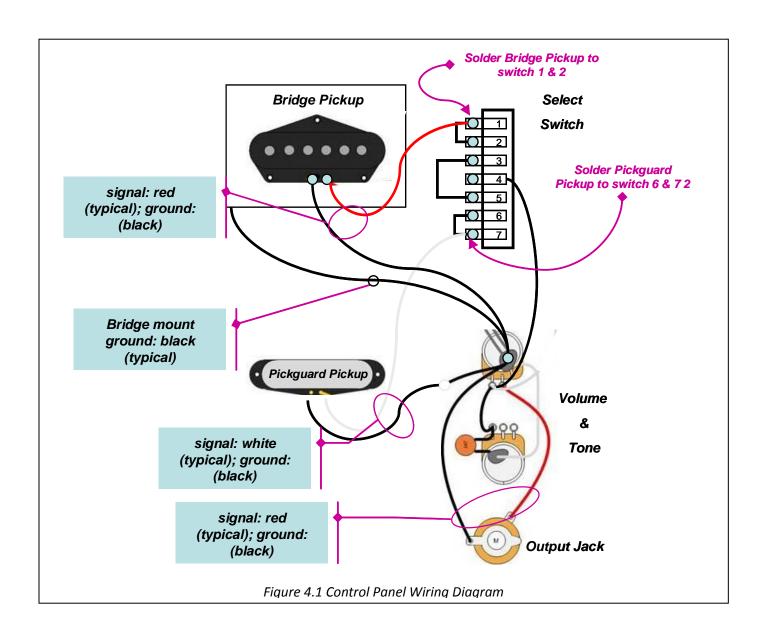


Figure 4.1.5 Selector Switch wiring (unsoldered)







#### 4.2 Attach the Neck to the Body



reminder TIP...rubbing the threads of the screw on a bar of soap or candle will help prevent the wood from splitting

- 1. Insert the Neck in the neck pocket.
- 2. Mount the Neck plate and plastic base with 1 ¾" screws (4), ensuring that the plate has the counter-sunk holes facing out.
- 3. Carefully tighten the screws over tightening can damage the neck.

#### 4.3 Installing the Nut

The nut holds the strings at the peghead the correct distance above the frets. It is not necessary to cut the string notches in the nut that comes with this kit.

- 1. Use a chisel or razor blade to scrape any finish out of the nut slot. DO NOT remove any wood from the nut slot.
- 2. Spread a thin layer of wood glue in the nut slot and center the nut in the nut slot.



TIP... wipe away the excess glue before it sets up - allow the glue to thoroughly dry

#### 4.4 Installing the tuners

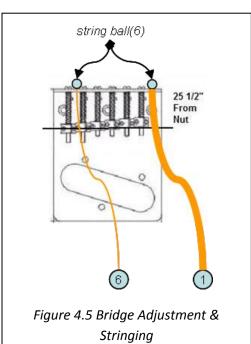
Each tuner consists of the tuner, washer, and a threaded bushing. The tuners are attached to the headstock with  $^{3/8''}$  wood screws (refer to Section 2.8).

- 1. Place the six tuners into the holes on the back of the headstock.
- 2. Slide a washer over the tuner shaft and secure the threaded bushing onto the tuner.
- 3. Secure the machine heads to the guitar headstock with the supplied screws. Remove the protective film if necessary.

#### 4.5 Bridge Adjustment

- 1. Measure from the nut to the high E saddle on the bridge. (Figure 4.5).
- 2. Adjust the saddle so it is 25 ½" from the nut.

# 4.6 Install the Strings





Like most projects, there often several tricks that will make the assembly easier and your guitar better. Properly stringing your guitar is just one of those tricks. Please review the following video:

#### http://www.youtube.com/watch?v=tIfP3v-bxwE

Although the video addresses restringing a guitar, the principles and techniques will help you string your guitar – as well as provide a visual for the stringing of your guitar.

- 1. Carefully uncoil each of the strings (6), ensuring that the stings do not have a kink.
- 2. Run the largest diameter string through the upper hole in the base plate (Figure 4.5), carefully seating the string ball against the base plate.
- 3. Adjust the hole in the first tuner to be perpendicular to the neck.
- 4. Run the string upward through the hole in the tuner till snug on the neck; gently pull the string backward for a length of about 2 frets (check the video).
- 5. Run the string forward (toward the end of the headstock) wrapping the around the tuner and under the sting; bend over the string (toward the end of the headstock).
- 6. Tighten the string down the tuner; when the string is snug against the 1<sup>st</sup> slot in the nut, trim the excess string.
- 3. Repeat steps 2-6 using the next smaller diameter string & the tuner.

#### 4.7 Installing the Strap Pins

Secure each strap pins (2) in the pre-drilled holes with the supplied screws (2ea, 1").

#### 4.8 Installing the String Retainer

The String Retainers are used to ensure a steep angle of the strings (relative to the nut) and are placed to the left and right of the 2<sup>nd</sup> tuner (refer to Figure 4.9).



Figure 4.9 String Retainer positioning

set it up!!

- Snug up strings 3 through 6. Using a Spring Tee, mark the headstock just on the left side of tuner #2 and between strings 3 &4. Mark the headstock just to the right of tuner #2 and between strings 5 & 6.

  Assembly of your Guitar is now complete let's
- 2. Carefully drill 1/16" starter holes.
- 3. Insert screw through the retainer and large spacer fasten to headstock, left of the 2<sup>nd</sup> tuner.



4. Insert screw through the retainer and small spacer - fasten to headstock, right of the 2<sup>nd</sup> tuner.

#### 5 Setup

In this section, we will address the initial setup for:

- Adjusting the Neck (Truss Rod);
- 2. Adjusting the String Action (string height);
- 3. Adjusting the Pickup heights;
- 4. Adjusting the Intonation.

These adjustments will provide preliminary settings from which you can fine tune the sounds to your individual playing style. As with previous sections, YouThe references are included for additional clarification of specific adjustments.



reference...check out the following



references that can be helpful in tuning your

guitar:

- ✓ tone generator for tuning: <a href="http://www.get-tuned.com/online">http://www.get-tuned.com/online</a> guitar tuner.php & <a href="http://www.guitarforbeginners.com/onlinetuner.html">http://www.guitarforbeginners.com/onlinetuner.html</a>
- ✓ downloadable "musical instrument tuner" from PerfectPitch (<a href="http://www.nch.com.au/tuner/">http://www.nch.com.au/tuner/</a>) that will allow visualization of string adjustments

String up the guitar with your desired gauge of strings – check the tuning.

#### 5.1 Adjust the Guitar Neck: Truss Rod

The first major procedure in the setup is adjusting the neck relief. Neck relief simply refers to how much the neck bows. The degree of bowing in the neck is a matter of personal preference and is correlated to your playing style.

To adjust the neck relief, locate the truss rod at the neck/headstock junction. The truss rod is adjusted with the supplied 1/8" allen wrench.

Tightening the truss rod adjustment bolt will cause the neck to warp backward (too much and the strings will buzz on the frets), and loosening it will cause it to bow forward (giving



reference: ...check out the following



references for adjusting the Truss rod:

- ✓ <a href="http://www.youtube.com/watch?v=PHHepmTX3So">http://www.youtube.com/watch?v=PHHepmTX3So</a>
- √ <a href="http://www.youtube.com/watch?v=4j3QryKIXrc">http://www.youtube.com/watch?v=4j3QryKIXrc</a>



more relief.)

First, check your tuning. Put a capo at the first fret and press the sixth string at the last fret. With a feeler gauge, check the gap between the bottom of the string and the top of the 8th fret—you should have about  $4/64^{\circ}$ .

Sight down the edge of the fingerboard from behind the headstock, looking toward the body of the guitar. If the neck is too concave (action too high), turn the truss rod nut clockwise to remove excess relief (only adjust ¼ turn at a time) If the neck is too convex (strings too close to the fingerboard), turn the truss rod nut

of intermediate steps and re-tune your guitar before each step – different tension on the strings changes the adjustment of the neck

counter-clockwise to allow the string tension to pull more relief into the neck. Check your tuning, then re-check the gap with the feeler gauge and re-adjust as needed.

#### **5.2 String Lubrication**

Lubricate the contact points of a string's travel to ensure tuning stability and reduce string breakage. Lubricate:

- 1. string/saddle contact points with a light machine oil (...such as 3-in-1 oil because it contains anti-rust and anti-corrosive properties) every time you change strings.
- 2. string trees should also be lubricated; a small amount of lip balm applied with a toothpick works well.

#### 5.3 Adjusting the Action

The Nut

Setting the string action that is right for you starts at the nut. The slots should already be close, but you might want to make some adjustments.

Push the sixth string down between the second and third fret. The space between the first fret

reference...check out the following references for adjusting the "Nut Action":

✓ http://www.youtube.com/watch?v=zz9UKX2lcxw

You Tube

and the bottom of the string should be about .006 or just about the thickness of two sheets of paper. If the gap is wider than .006" you should deepen the slot with a small needle file. **DO NOT FILE TOO DEEP!** 

Make sure when you file, the file is angled down toward the headstock. This will ensure the string sits on the edge of the nut closest to the fretboard.

You Tube

TIP...check out the following

references for adjusting the "Bridge Action Height":

√ <a href="http://www.youtube.com/watch?v=oWpnW8ICn-U">http://www.youtube.com/watch?v=oWpnW8ICn-U</a>



Repeat the procedure for the remaining 5 strings.

#### 5.4 Bridge Saddle Adjustment

This will adjust the height of the strings over the 12<sup>th</sup> fret. Minor adjustments are made by raising or lowering the bridge. This adjustment is a matter of personal preference. There should be a gradual increase in height from the first string to the sixth string.

#### 5.5 Pickup Height

Each pickup is adjustable on the bass and treble sides. Finding the best combination of tone and volume will require some experimentation.

- 1 Bridge pickup:
- 1.1 Press the 1<sup>st</sup> string onto the last fret and hold;
- 1.2 Using a machinist ruler, measure the distance from the top of the pole to the bottom of the 1<sup>st</sup> wire note bass measurement;

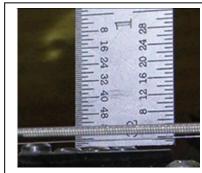


Fig 5.3.2 Pickup Height

Measurement

- 1.3 Repeat #1 & #2 on the 6<sup>th</sup> wire note the treble measurement;
- 2 <u>Neck Pickup</u>: repeat steps 1.1 through 1.3 (above) on the neck pickup, noting measured heights.

Pickup Height Guide		
Pickup	1 <sup>st</sup> String	6 <sup>th</sup> String
Bridge	2/64"	3/63"
Neck	3/64"	4/64"

Table 5.3 Bridge and Neck Pickup Heights

Using table 5.3 as a reference, adjust the height of the pickups by turning the screws for the bridge & neck pickups. Additionally, adjust the center mounted screw on the bridge pickup so that the top of the pole is parallel to the string – recheck string heights after each adjustment.

#### 5.6 Intonation

Adjustments should be made after all of the above have been accomplished.

1. Set the pickup selector switch in the middle position;





- 2. Turn the volume & tone controls to maximum;
- 3. Check tuning. Check each string at the 12th fret, harmonic to fretted note (make sure you are depressing the string evenly to the fret, not the fingerboard);
- 4. If sharp, lengthen the string by adjusting the saddle back. If flat, shorten the string by moving the saddle forward.

#### 5.7 ...Other Hints

There are a few other things that you can do to optimize your tuning stability:

- 1. Each time you play your guitar, before you do your final tuning, play for a few minutes to allow the strings to warm up. Metal expands when warm and contracts when cool. After you've played a few riffs, you can then do your final tuning;
- 2. Wipe the strings, neck and bridge with a lint-free cloth after playing;
- 3. When transporting or storing your guitar, even for short periods, avoid leaving it anyplace you wouldn't feel comfortable yourself.

Remember, guitars are tempered instruments! Re-tune, play and make further adjustments as needed.

We hope you have enjoyed building your guitar! If you have any questions along the way please email us at <a href="mailto:sales@BYOGuitar.com">sales@BYOGuitar.com</a>.









