StewMac®

MINI-LP GUITAR KIT

Have a little fun.
Make a little noise.
Build a REAL guitar in a weekend.

- **Easy to build, finish, and setup**
- **Pre-wired electronics**
- **All hardware included**

Sheet #i-12259 Updated 06/20

Tools and supplies

These are the tools and supplies we recommend for assembling this kit. StewMac item numbers are included where applicable.

Tools

Electric hand drill
Foam sanding block (#3701 or #3699)
Phillips screwdrivers, size #1 & 2 (#3000)
Center punch or awl (#3000)
Drill bits:
- 1/16" (#1710)
- 5/64" (#1712)

10mm nut driver (#5890) or wrench (#3691)
Soldering iron (#0502)
6" StewMac Shop Rule (#4905)
12" Precision Straightedge (#3849)

Supplies

Sandpaper: 150, 220, 320, 400, 800, 1200 grits (#5562)
Light duty 3M Scotch-Brite pad (#7445) or 0000 steel wool
ColorTone Polishing Compound, Medium (#1845)
Naphtha solvent (#0766)
Glue Brush (#4167)
Rubber gloves

Finishing supplies

ColorTone Powdered Grain Filler, ebony (#0269-E)
Wipe-On Poly (#3622)
Vintage Amber Stain (#5030)
Black Fingerboard stain (#4237)

Parts List

1. Neck
2. Body
3. Knobs
4. Strings
5. Slotted string nut
6. Neck plate with screws (not pictured)
7. Tuners with bushings, washers, and screws (set of 6)
8. Pickup with mounting ring
9. Control cavity cover with mounting screws
10. Truss rod cover with mounting screws
11. Wiring Kit
12. Bridge with mounting studs
13. Tailpiece with mounting studs
14. Output jack with mounting screws
15. Strap buttons with screws and protective washers (2)
16. 4mm hex wrench for adjusting truss rod

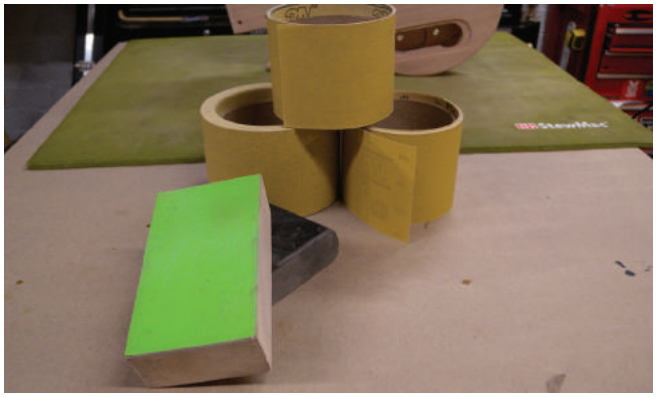
Getting started

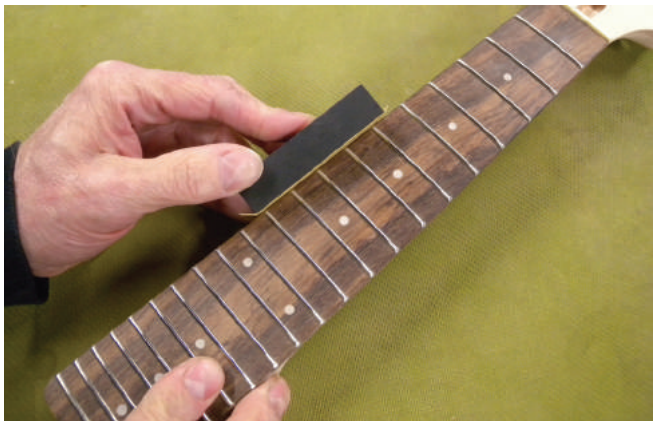
The neck of your guitar ships attached to the body. The first step is to remove the neck using a #2 screwdriver.

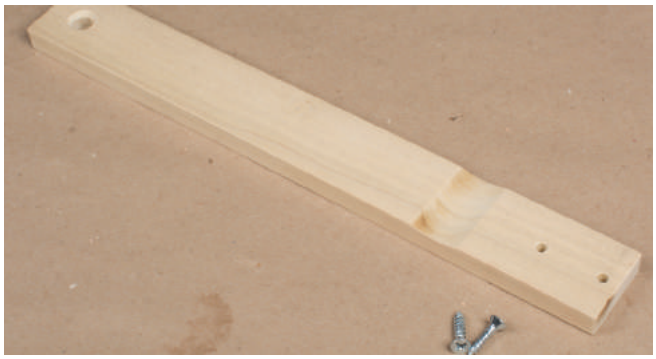
Install the bridge and tailpiece bushings

Note that there is a ground wire access hole connecting the treble side tailpiece post hole to the control cavity; this is for the string ground. The 4" ground wire needs to be installed before the bushing. Strip 1/2" off of both ends and run the wire through the hole into the cavity leaving the stripped end to come in contact with the bushing once installed. Install the tailpiece bushings. Pressing them in with a drill press is the preferred method but they can also be installed with gentle hammer taps using a block. Install bridge bushings in the same fashion but without a ground wire.

Next, you will be preparing the neck and body for finish. Preparing the neck and body for finish is just as important, if not more important, than the finish application. The key to a great looking finish is patience and lots of it. Be thorough with your sanding and follow the finishing schedule on page 6 for best results.







TIP! Make holding handles for the neck and body. These can be clamped in a vise or to a bench for filling and finishing, a hanging hole can be added for drying. Nothing fancy, scrap wood will do.

Inspect the body and neck for any dents, chips, or other imperfections and repair them. Small dents can be steamed out by placing a damp cloth over the dent and applying heat with a soldering iron. Chips, tear out, and knotholes will need to be filled.

Sand the body and neck

Using 150-grit sandpaper on a flat sanding block, sand the entire body working only in the direction of the grain.

After a complete sanding, wipe the body with a damp cloth to raise the grain and reveal fibers that need more sanding. Let the dampness dry, then sand the raised grain with 220-grit sandpaper. After sanding, raise the grain again and sand a third time, using 320-grit sandpaper. Follow the same procedure with the neck, using care not to sand on the fretboard face or frets.

Note that the peghead face is covered with a very thin mahogany veneer. Very lightly sand with 320 using care not to sand through.

Run your fingers along the edge of the fretboard and feel for sharp fret ends. If the frets feel sharp where they meet the edge of the neck, gently sand them back with long strokes down the length of the neck. Use care not to change the bevel of the frets in the process.

While sanding with 320-grit slightly break any sharp edges on the fretboard body, fingerboard, and peghead. Softening hard edges promotes even finish coverage. Later, when you're finish sanding, these edges are less likely to sand through to bare wood.

Degrease with naphtha

When you've finished sanding, wipe the body and neck with a naphtha-dampened lint-free rag to remove any oils or grease. From this point on, wear clean gloves when handling so you won't contaminate the wood.

Tape off the bridge and tailpiece bushings in the body, and the string nut and fretboard face; they do not get filled or finished.

Fill the grain

The body and neck of your guitar kit are made of mahogany, which is an open grained wood. The grain will need to be filled before finishing in order to achieve a flat surface.

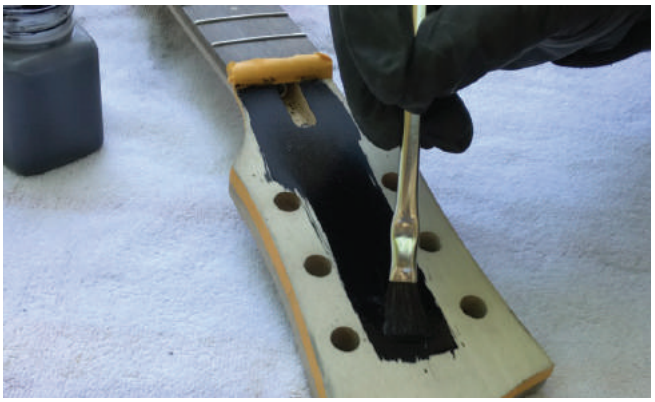
We suggest using our ebony ColorTone Powdered Grain Filler following the instructions on the label. 2-3 applications are recommended to get a nice flat surface to build finish coats over.

For more info on grain filling, see our article #i-0269 "Using ColorTone Grain Filler" at stewmac.com.

stewmac.com search: i-0269

Applying finish

Tape off the edges around the peghead face—the nut should still be taped off from filling. Use fingerboard stain to color the peghead face black. A little goes a long way! Start in the center and work your way out to the edges, as this helps reduce bleed around the edges. Let dry for 1 hour. Peel the tape and check for any signs of bleeding on the sides and top of the peghead. Any stain that has bled onto the sides can be removed with a scraper or sandpaper.



Color coats (optional)
ColorTone Liquid Stains mixed into Wipe On Poly make an easy to apply and nice looking translucent finish for the body and neck. It's nonflammable, simple to use, very forgiving, and can be applied indoors.

Mix 1/4oz of Vintage Amber (or the color of your choice) ColorTone Liquid Stain into 4oz of the Wipe On Poly finish and mix well. Conduct a test on some scrap wood to ensure the color looks the way you'd like it to. If it's too dark, add a little more finish to weaken the color. If it's too light, add an additional drop or two of stain. Remember, a small amount of stain goes a long way!

As you apply the color watch for streaks and uneven areas. Keep working the pad in a circular motion over these areas, followed by long strokes running the length of the instrument until you have uniform tinting over the entire surface of the body.

Apply the color to the neck in the same fashion as the body. Any residual finish that ends up on the fretboard face will be scraped back once it dries.

Allow the color coats to dry 2-3 hours.

Final top coats
Do not sand on your color coats. Apply 4-8 additional coats of clear over the top of the color or until you've reached your desired thickness. Allow to dry for 24 hours.

In most cases final sanding and buffing of the ColorTone Wipe-On Poly finish is not necessary but there are times where it may be needed to level out uneven surfaces and imperfections in the finish. If finish sanding is needed, we suggest going over the instrument with 800-grit, followed by 1200-grit sandpaper. Use care not to sand through the topcoats into the color. Then follow up with ColorTone Meduim Polishing Compound on a soft cloth or buffing pad.

Assemble your guitar

During assembly, use a padded surface to protect the finish from scratches and dents.

TIP! Drag the threads of all mounting screws over a bar of soap or wax to help them thread in easier and help prevent damaging the screw head.

Install the neck

The mounting screw holes in the neck and body come pre-drilled for easy installation. Run the neck mounting screws through the neck mounting plate and tighten down with a #2 Phillips head screwdriver.

Install the tuners

Working from the bottom up, use a ruler to make sure the tuners are square to one another. Mark out your mounting holes with a scribe or center punch.

Tuner mounting screws are very delicate and will break off if forced into wood without drilling. Use a 5/64" bit to drill 3/8" deep pilot holes for the screws; if these holes are any smaller you risk shearing off the screw heads. Lubricating the screws by dragging them across a bar of soap or a candle will help the screws go in smoothly.

With the tuners in place, install the screws in the pilot holes with a #1 Phillips screwdriver. On the tuner string post, add a washer then the threaded bushing. Tighten with a 10mm nut driver or wrench.

Install the strap buttons

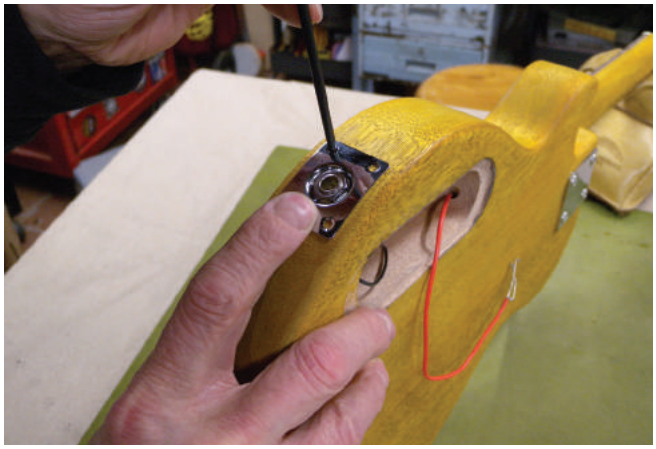
Mark the locations of your strap buttons. At the tail of the guitar, position the button in line with the center of the neck and bridge. The other button is typically located on the tip of the upper horn.

Drill 1/2" deep holes with a 3/32" bit and install the strap buttons with their protective washers using a #2 Phillips screwdriver.

Assemble your guitar

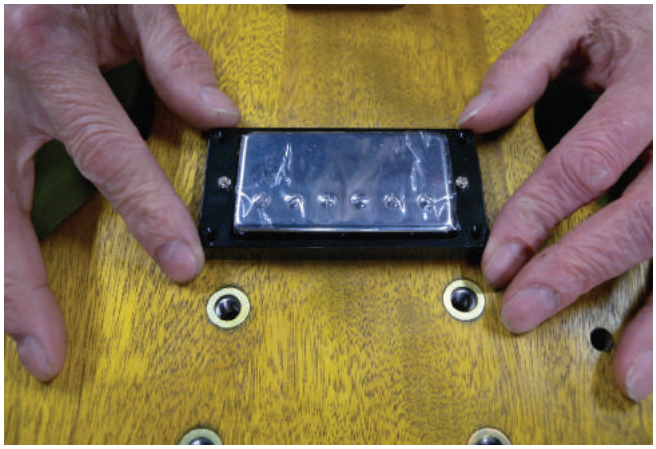
Drill for the jack plate

Mark out the 4 mounting screws with a scribe or punch using care to keep the edge of the jack plate square to the body. Drill the holes using a 1/16" bit, drilling 3/16" deep. Do not install the jack yet.



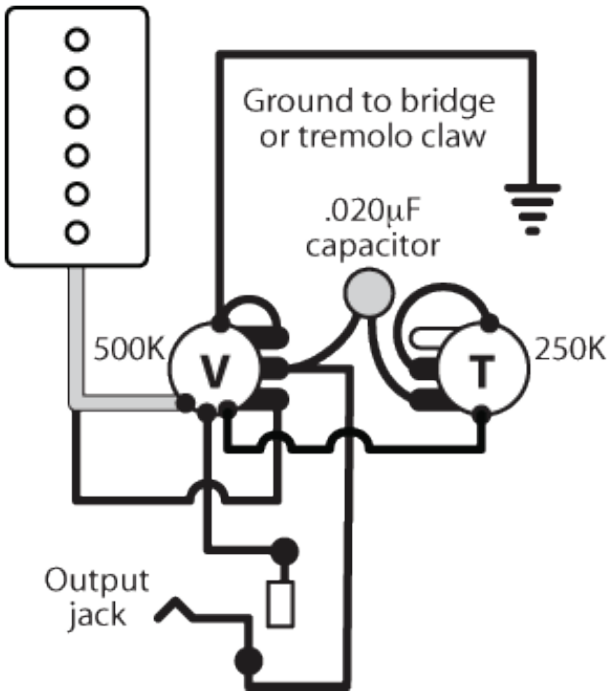
Install the pickup

Line up the pickup and mark out the mounting screw locations. Drill 3/16" deep holes using a 1/16" bit. Install mounting screws with a #1 screwdriver.

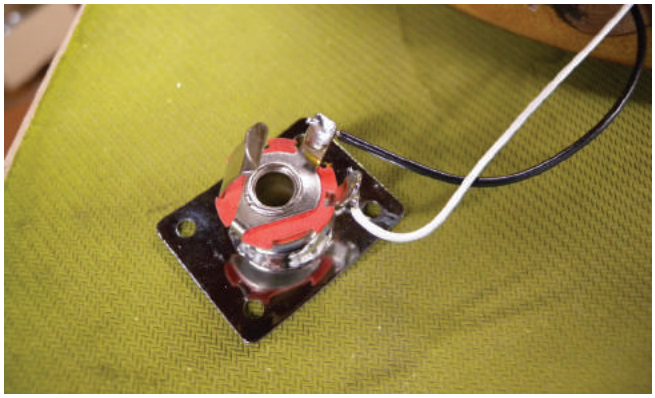


Install the wiring harness

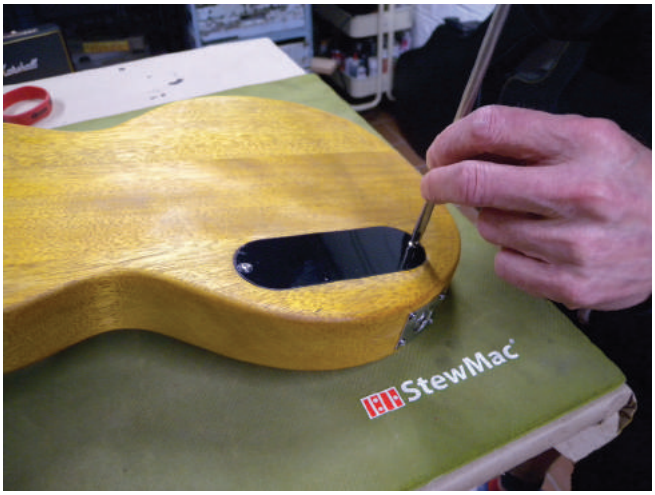
Wire the pickup to the harness as shown in the diagram. Then run the hot and ground wires through the output jack hole on the body.



Assemble your guitar



Wire the jack
The black ground wire gets soldered to the square (sleeve) lug, solder the white hot wire to the round (tip). Once soldered, install the jack plate with a #1 screwdriver and the control cavity cover with a #2 screwdriver.



Install the bridge and tailpiece
Tighten the tailpiece studs all the way down; the bridge height will be set during final set up. String up the guitar.

Mark out the truss rod cover
Drill the holes using a 1/16" bit, drilling 3/16" deep.

Final setup

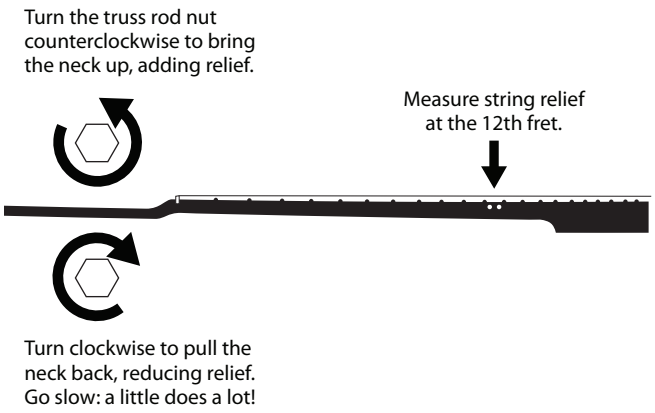
Straight neck, or a little relief?

Neck relief refers to adjusting a neck so that it has a very slight upbow, rather than being perfectly straight. This relief allows a little more room for string vibration, reducing the chance of hitting the lower frets and causing fret buzz.

Depending on your playing style, and how perfectly level your fret tops are, a neck should be anywhere from perfectly straight to having 0.012" of relief. This measurement refers additional string height over the 12th fret, compared to a perfectly straight neck.

A straight neck tends to play and sound better, but very few guitars end up with no relief at all, and several thousandths of an inch or more is perfectly normal.

When the neck is adjusted to your satisfaction install the truss rod cover using a #1 screwdriver.



Set the action at the nut

The string nut is pre-slotted for medium action, which is comfortable for most players. If lower action is desired, you can lower the slots using gauged nut files or needle files.

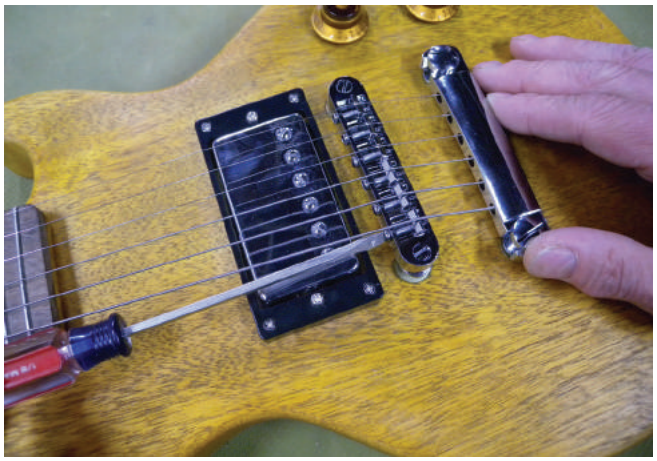
Set the action at the bridge

Adjust the action at the bridge by raising or lowering the string saddles. Measure string height over the 12th fret, between the bottom of the string and the top of the fret.

A good starting point is:

High (unwound) E string: 1/16" at the 12th fret. Low (wound) E string: 5/64" at the 12th fret.

You can always go lower or higher depending on your playing style.



Set the intonation

Intonate the guitar by adjusting the string lengths at the bridge saddles so the guitar plays in tune all the way up the neck.

Using a strobe or other accurate tuner, first tune the strings to pitch. Then, press the high E string lightly at the 12th fret using just enough pressure to sound the note. Check it with your tuner.

If the note reads flat, the saddle needs to be adjusted forward towards the nut, shortening the length of the string.

If the note reads sharp, the saddle needs to be adjusted back away from the nut, increasing the string length.

Final setup

Adjust the pickup height
Holding down the low E and high E strings at the 22nd fret, adjust the bass side of the pickup to 1/8" from the top of the pickup pole to the bottom of the low E string. Adjust the treble side to 1/8".

You're done!
Congratulations! Your guitar is ready to play. We hope this is the first of many that you have fun assembling and customizing.

StewMac®

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