

# RAS KITS

## INTRODUCTION

Congratulations on your purchase of your RAS Kit. While it can be a great challenge for an inexperienced builder, with care and attention to details, it can produce an excellent instrument that can last a lifetime.

## TOOLS

You will need some tools. Mostly, they're tools you probably have around the house, anyway.

- **Very good straightedge.** I use a long aluminum yardstick, available at most home repair stores
- **An electric drill.** A 3/8 standard drill works just fine. However, I use a drill/screwdriver with torque control, which will keep you from stripping most screws.
- **Drill bits.** You will need a 1/16 inch bit for screw pilot holes. You will also need a 3/16 inch bit for drilling the holes for the bridge pins.
- **Screwdriver.** Get good quality; it will save you a lot of grief.
- **Finishing supplies.** That includes sealers, stains, polyurethane or lacquer, sandpaper, brushes, etc. I can give you some pointers, but a complete instruction on finishing is beyond the scope of these instructions.
- **Masking tape.** Get the good stuff. At a minimum, use the blue tape that is good for 7 days. Anything less than that will bleed through, leave residue, and otherwise disappoint you. Get a wide roll and a narrow roll.
- **Clamps.** You will need clamps of various sizes for gluing the neck and bridge.

## DRY FITTING

Before you are ready to put a final finish on the guitar, you need to be sure everything is going to fit properly. In addition to that, on this guitar you will need to glue in the neck. Take each piece and check its' fit on the body and neck. Some fine sanding may be required during this build.

## GLUING IN THE NECK

On this guitar, the design is a set-neck or glued-in neck. The most commonly used glue for this purpose is Titebond Original. You can buy it at any hardware store. It can be

cleaned up easily while it's still wet with just a wet rag. And once it dries, it's stronger than the wood itself.

Before gluing, be sure the neck and body fit flush against one another. The dowels will help hold the neck but it is essential that the neck and body have a good flat contact surface. Make any adjustments (sanding to neck heel, etc.) during this dry fit process.

Prior to the finishing process, be sure to mask off both areas that will be in contact (neck heel and body) that will be in the joint, since glue sticks best to raw wood. This can be easily done on the body by simply placing the neck on the body and marking with a pencil the area of the body covered by the neck. Then apply your finish to the neck.



Apply plenty of glue in the neck joint and to the neck, where it will be in the joint. Then, place the neck in the joint and clamp it tightly. If glue doesn't squeeze out all around the joint, you haven't applied enough glue. Once you have the clamp(s) set, use a soft cloth wet with warm water to remove any excess glue. The glue sets up fairly quickly, but you have a few moments to check the neck to be sure it's where you want it to be.

**Then, LEAVE IT ALONE FOR 24-72 HOURS!!! Yes, it will feel dry and solid long before that. But it's not, and it can be broken apart for quite a while.**

## **BRIDGE PLACEMENT**

Getting the bridge properly set is the most important part of this build. It will ensure that you have a playable guitar. With a little time and patience, it will be no problem.

### **SCALE LENGTH**

The scale length of this guitar is 25.5". Scale length is simply the distance between the nut on the guitar neck and the bridge on the guitar body. Simply measure 25.5" from the

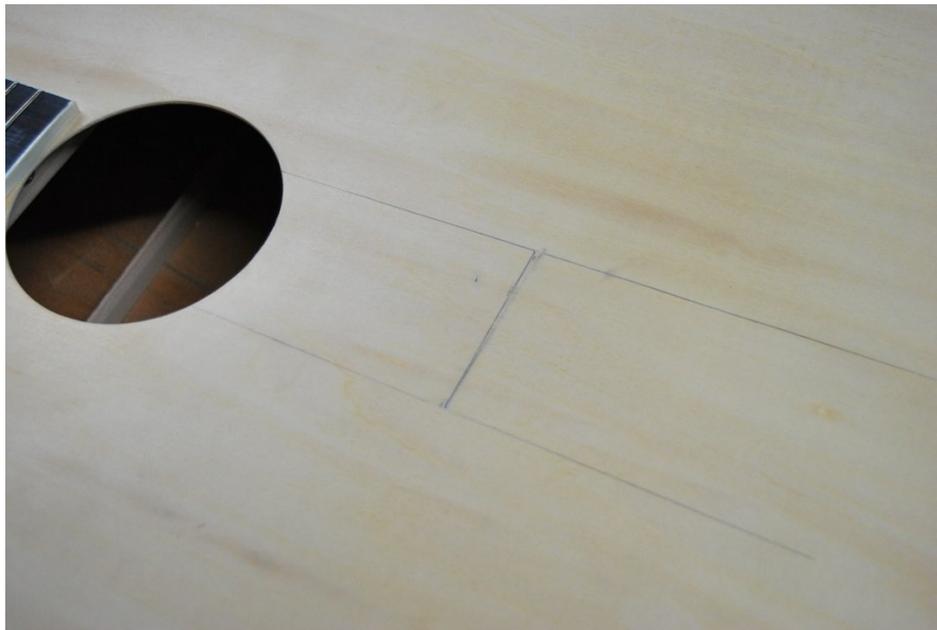
center of the nut onto the body and mark with a pencil. This will be the position of the bridge.



### **FINDING THE CENTER LINE OF THE NECK**

This is where you use that long straightedge. You want to ensure that the bridge is aligned with the centerline of the neck. This is the best way to find the correct position for the bridge and align the strings properly.

- Placing the straightedge along one side of the neck, mark the inside edge along the body of the guitar. Then do the same along the other side of the neck.
- Measure 25.5" from the nut down each neck line and mark with a pencil. Draw a line from one mark to the other. This will serve as the indicator to align the top of the bridge.



## **GLUING BRIDGE INTO PLACE**

The bridge is glued into place prior to any finishing. As mentioned in the neck section, glue joints best to raw, untreated wood. For this reason, the bridge will be set prior to finishing. You want to lightly scuff the bottom of the bridge and top of the guitar body where the bridge will sit to ensure the glue will create a good fit. Glue the bridge in a similar fashion to the neck ensuring there is plenty of glue and that any excess glue squeezed out during compression is quickly cleaned up with a damp rag.

There are a couple ways to secure the bridge to the body while the glue dries. You can use clamps through the sound hole extending to the bridge. Another good trick for securing the bridge during drying is to use your straight edge and clamps on each side of the guitar body. Don't be afraid to improvise the best solution for the tools you have.



## **TUNING MACHINES**

Install the tuners from the back of the headstock. If the pilot holes for the screws are not already drilled, drill them now. Be sure not to drill all the way through the headstock!

## **STRAP BUTTONS**

Mark the locations for the strap buttons, drill a pilot hole, and test fit the buttons. The usual locations are on the bottom of the neck heel and the center of the tail of the body. Note the small rubber cushion between the strap button and the body.

## **ROSETTE**

The rosette is applied after finishing (Paint, stain, lacquer, etc.) and before clear coat is applied. Carefully peel the rosette off the support paper. Lay it around the sound hole with the open end facing the bottom of the fretboard on the neck. Ensure that there are no wrinkles by using a lightly dampened cloth or paper towel.

## **FINISH**

This would probably be a good time to put your finish on the guitar. Remove all the hardware that is on the guitar, such as tuners, strapbuttons, etc. Some fine sanding may be required both before and during finishing.

**Masking the neck& bridge** - Cover the fingerboard, being sure to get the masking tape all the way down next to the frets, and cutting the masking tape at the edge of the fretboard. Then go around the fingerboard with tape, covering down to the edge of the binding. That way you can pull off the second wrap when I am ready to put a finish coat on. Cover the bridge in the same fashion ensuring the bridge is completely covered without covering any of the guitar body.

Detailed finish instructions are way beyond the scope of these instructions, and there are many web sites and books that can give you very good pointers. Just in passing, although the gold standard in guitar finishes is nitrocellulose lacquer, it can be a very fussy and time-consuming finish. For an easy finish, stick to polyurethane.

**Example-** Stain the neck & glue it in place. Then apply 2 coats of sanding sealer over the entire guitar before beginning to install the hardware. Once the hardware is in place, remove it all and sand the body with 220 grit sandpaper. Apply 2 coats of preferred finish. Then sand with 400 grit and apply 2 more coats of finish. Then sand with 600 grit and apply 2 more coats of finish. After that, if you want a true stunner, you can wet sand it with 2000 grit and then polish.

## ASSEMBLY

### TUNERS

Install the tuners in the headstock. Press the ferrules into the headstock holes with the rounded side up. Push the tuning machine through the back of the headstock and secure the screws on the back of the headstock.



## GLUE NUT TO HEADSTOCK

Glue nut into place on headstock above fretboard.



## STRAP BUTTONS

Install the strap buttons in the holes you drilled and tested earlier. Remember to use a long screw (included in the kit), and the little round cushion between the button and the guitar body.

## ROSETTE

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## BRIDGE PINS & STRINGS

Lay the guitar on a flat surface, preferable with a soft cloth under it to protect the finish. Use a 3/16" drill bit to drill out the bridge pin holes on the bridge. Carefully center the bit into the depression in the bridge pin hole. Drill out as smoothly and vertically as possible.



Once the bridge pin holes have been drilled out, place the saddle into the thin slot above the bridge pin holes with the notched end to the right (thinnest string).



Now you are ready to begin stringing the guitar. Start with the high E (thinnest) string by placing the ball of the string into the bridge pin hole. After placing the ball end of the string into the bridge pin hole, slide the bridge pin on top of it. Give the string slight tug to ensure that the ball end is set in the bridge pin. Thread the string over the nut and through the tuning machine. Repeat with remaining strings starting from high E (thinnest string) to low E (thickest string).



## **TESTING**

Once you have finished stringing your guitar, give it a whirl. Adjustments can always be made to give you the action that best fits your playing style.

## **CONTACT**

If you have questions or your kit is missing any parts, please contact us at [customerservice@rasdistrutors.com](mailto:customerservice@rasdistrutors.com).