

# DIY Guitar Kits

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## JEM Style DIY Guitar Kit



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Please read these instructions carefully before beginning to build your guitar in order to have a complete overview of the project. There are five steps that you will need to follow to complete your Electric Guitar Kit.

# FINISHING THE BODY AND NECK

**Although the overall tone and playing characteristics of the instrument will not** be affected, a high-quality finish is a real source of pride to the builder.

Both the neck and body of your Electric Guitar Kit will have to be sanded with 180 / 240 and 320 grit sandpaper to prepare for finishing.

## FINISHING

First you will need to decide whether you would like a natural finish or a coloured finish on the body. For a natural finish or stain, go directly to "Clear Coat".

## NECK

Before application of finish, the fingerboard should be masked off to prevent finish from adhering to the fretted surface.

- Spray all exposed surfaces evenly. The neck of your Guitar has been sanded level so it should not be necessary to sand between coats unless runs, orange peel or drips appear. Use the same procedure that you followed on the body – again, two or three coats should do the job. The final cut and polish take place about one week later when the lacquer has cured.

## COLOR COAT

The **acrylic lacquer** made by the automotive industry is particularly well suited to your needs. In addition to providing a full range of colour choices, acrylic lacquer is extremely durable and resistant to cracking. Choose your colour from the many available shades (including metallic options) used for automobile touch up work. A spray can will make your job much easier and will produce great results.

Begin each spray stroke in the air on one side of the body and continue until you reach the air on the other side.

Overlap each stroke by one half, and every other stroke spray crosswise, then length wise. This technique will provide an even colour distribution. Although lacquer dries quickly, and successive coats may be sprayed in a short period of time, attempts to spray too much in one coat can result in runs or bubbles in the finish. Spraying should not be attempted on excessively humid or rainy days.

- One or two coats of colour should be enough. It should not be necessary to sand between coats unless there are drips or runs to be levelled.

All exposed surfaces should be dead level and have a nice satin gloss.

## CLEAR COAT

The clear lacquer topcoat is also available at most hardware stores. If you have applied a stain coat, it is advisable to select the same brand of clear lacquer to assure compatibility.

- The clear coat is applied to the body using the same technique as described for the colour coat. Two or three coats of clear should be adequate. For best

results the body finish should be allowed to harden for one week before the polish.

*To avoid runs and drips, hold the spray can 6-10 inches from surface. For best results follow directions on spray can.*

Caution: Remember that spray paint is extremely flammable. Do not spray near open flames, heat or sparks. The area where you spray must be well ventilated while spraying and until all vapour is gone. Do not smoke! Do not breathe the vapour and keep doors and windows open during application and drying.

## **FINAL RUBBING AND POLISHING**

After allowing the clear lacquered surfaces to dry and harden for at least one week, sand lightly with non-loading 400 grit sandpaper (commonly known as “wet and dry”). During sanding be sure to place a firm material behind the sandpaper. A large rubber eraser works fine. The eraser is flexible enough to sand the gradual curves but is stiff enough to prevent the sharper edges (of the headstock, for example) from being rounded off. Be sure to sand with the grain of the wood.

- All sanded surfaces should now be a bit dull, indicating that the finish is flat and level. Now repeat the sanding process with very fine 600 grit sandpaper using water and a small amount of dishwashing detergent as a lubricant. This will remove any sanding marks left by the previous step and leave all surfaces a dull gloss.

- The finish may now be rubbed out using a medium grade automotive rubbing compound (DuPont White Polishing Compound for example). The compound should be used sparingly with fairly good pressure at first — as a high gloss develops, pressure should be diminished. An extra fine grade of polishing compound may be used to get that final bit of gloss. If instructions have been followed you should now have a professional quality finish. You can protect your work with a light wax — Guitar Polish is a good choice.

## **ASSEMBLING THE BODY**

### **PICKGUARD & Tremolo Bridge Assembly**

Solder the red wire and black ground to the output jack as per drawing on last page of manual. The tan wire is to ground the bridge.

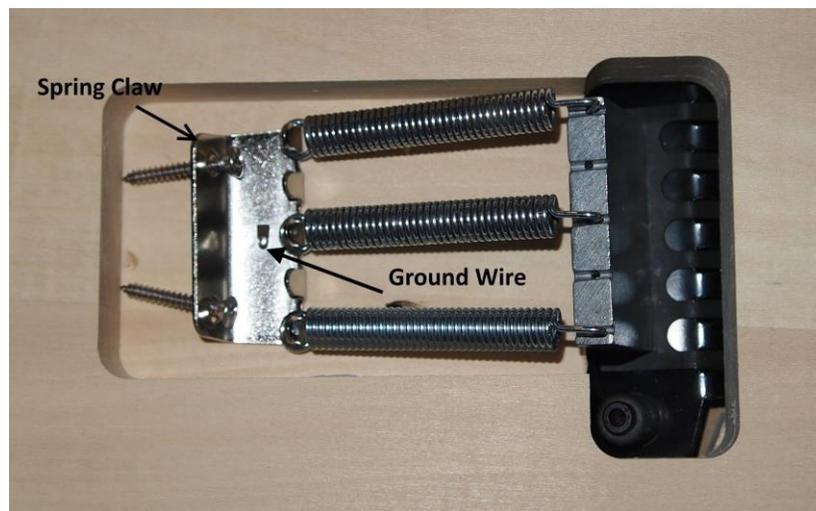
Feed the tan wire through the small hole in the center cavity to the back of the body. This is the ground that you solder to the *spring claw* at the back of the body.

## Tremolo Bridge

Tap in the 2 black metal bridge posts into the holes at the front of the bridge cavity. Place the tremolo bridge into the tremolo cavity.

Turn the body over and attach the *spring claw*. Connect the ground wire by soldering it to the spring claw.

Note: Most players prefer to leave the two screws quite loose in order to have more relaxed spring tension-more about that later during set up. This can be adjusted later.



*Note: The pickguard has been covered with a clear plastic film to protect it from scratches during transit and assembly. It should be removed after the guitar has been assembled.*

## **OUTPUT JACK**

The cavity for the output jack is located on the lower right-hand side of the body. The black wire and the red wire from the pickguard must be fed through the hole that is between the pickguard cavity and the output jack cavity then they are to be connected to the output jack. The “hot wire” which is the red wire is to be soldered to the terminal that is for the TIP of the guitar lead. The “ground wire” is to be soldered to the terminal that connects the main shaft of the guitar lead. (See the drawing on the last page). After the soldering has been done, use the two screws that have been provided to screw the output jack plate to the body of the guitar.

## **BACKPLATE**

Attach the backplate to cover the spring cavity.

## **STRAP BUTTONS**

There are two black chrome strap buttons. One is screwed onto the butt of the guitar and the other onto the left horn of the body. Insert the screw into the Strap Button then through the hole of the black rubber Strap Button Pad and screw to the body of the guitar.

## **Neck Assembly**

### **TUNERS**

Push the six bushing into the washers then into the holes in the face of the headstock then attach the 6 tuners using the 6 screws provided. Attach the 3 locks to the nut with the black cap screws.

### **NECKBODY ATTACHMENT**

Now you can attach the neck to the body using the four large screws and black washers. Holding the neck firmly against the body watch that no gap appears between the body and the heel of the neck. Some fitting may be required.

Use the 4 large head Phillips screw to attach the neck. *(pre drill the holes first)*

## **SET UP**

### **STRINGS**

Put on the strings and tune to pitch.

### **TREMOLO ADJUSTMENT**

To adjust the tremolo use the screws that are on the posts you taped in.

### **TRUSS ROD ADJUSTMENT**

The adjustable truss rod in the neck of your Guitar has been shop adjusted and should not require any change. If the neck should develop a dip or hollow spot over time it can be removed by tightening the truss rod adjustment nut that protrudes from the base of the headstock just above the nut. A back bow or hog-back can be removed by loosening the nut. Great care should be taken with truss rod adjustments where as little as 1/4 of a turn can vastly alter the shape of a neck. A broken truss rod of course means a costly replacement.

### **STRING ACTION**

The string action refers to the height of the strings above the frets. If the action is too low, the strings will buzz on the frets. If it is too high the guitar will be difficult to play.

### **ACTION AT THE NUT**

This can be set by first loosening the two screws on the nut and adjusting the small Allen key screws. Setting the string action that is right for you starts at the string nut. The slots at

the string nut should already be close to perfection but you might want to make some adjustment. Here's how to do it!

Push the sixth string down between second and third fret. The space between the top of the first fret and the bottom of the string should be about .006" or just about the thickness of the paper that these instructions are written on. If the gap is wider than .006" you should deepen the slot by lowering the small screw until it is correct. Do the same at the first string.

### **STRING HEIGHT AT THE 12<sup>TH</sup> FRET**

First String Sixth String

Low Action 1/32 1/16

Medium Action 1/16 3/32

High Action 3/32 1/8

### **INTONATION**

The saddles on the tremolo bridge can be adjusted to compensate for the pitch modification that occurs when the string is stretched as it is fretted. This adjustment is made by tightening or loosening the set screws at the rear of the tremolo bridge.

Start by tuning your guitar and sounding a harmonic chime directly above the twelfth fret on the sixth string. Now fret the sixth string at the twelfth fret and compare that pitch to the harmonic. If the fretted note is higher than the

harmonic pitch, tighten the set screw to lengthen the string. If the fretted note is lower than the harmonic, loosen the set screw to shorten the string length. When the harmonic and the fretted note sound the same note, the saddle is at the correct position. Repeat this procedure for the other five strings.

### **PICKUP HEIGHT**

Each single coil pickup is adjustable on the bass and treble sides. Finding the best combination of tone and volume will require some experimentation. A good place to start is to adjust the pickup height so that the first string is about 1/8" over the pickup pole and the sixth string is about 3/16" over its pole.

Electric Guitar setup is an art in itself. For more detailed discussion we highly recommend that you go onto the internet and search on "electric guitar setups".

