

# DIY Guitar Kits

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## TC Style 12 String DIY Guitar Kit



**DIY Guitar Kits**  
**20 Staffern Dr., Unit 3**  
**Concord, Ontario L4K 2Z7**  
**Canada**  
**[sales@diyguitarkits.com](mailto:sales@diyguitarkits.com)**

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.

## ***TC 12 String Style DIY GUITAR KIT Assembly Instructions***

# **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, runs or bug feet (!) 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.

**Note: Any banding on the guitar must be taped off to prevent overspray from the finish.** 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.

## **SHAPING THE HEADSTOCK**

The headstock has been left extra long and here is a chance to express your individuality and to make a guitar that is truly your own.

First, decide on the shape of the headstock that you would like to use and draw the outline on the top of the headstock.

Using a bandsaw or simple coping saw, cut out the shape of your headstock. A half round file should be used to level the top edge of the headstock. Finally, the edge should be sanded smooth with fine 400 grit sandpaper.

## **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**

### **RHYTHM PICKUP**

The cavity for the rhythm pickup is located on the upper part of the body closest to the neck pocket. As you look into the cavity you will notice that a 1/4” hole has been drilled that connects the cavity for the rhythm pickup to the cavity below that will house the lead pickup.

Run the yellow wire attached to the rhythm pickup into the 1/4" hole from the rhythm pickup cavity to the main pickup cavity. Use two 3/4" screws with the small springs to attach the rhythm pickup to the body. Only drive them down half way. Use the pickguard as a guide.

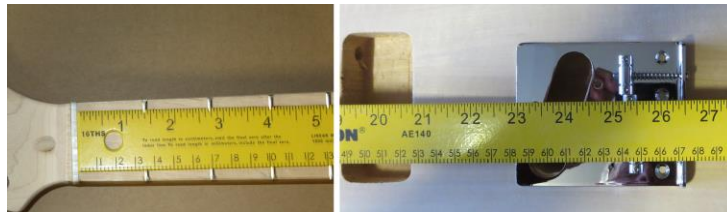
## PICKGUARD

Attach the pickguard to the body using the eight 1/2" screws provided. Some fitting may be required.

## BRIDGE ASSEMBLY

Run the red wire attached to the lead pickup assembly along with the yellow wire through the 1/4 hole into the control plate cavity. Attach the lead pickup to the bridge with the 3 screws putting the 3 springs over the screws between the bridge and the pickup. Only drive them half way down.

Place the bridge so that the pickup is centered. Attach the bridge assembly to the body using four 1" screws.



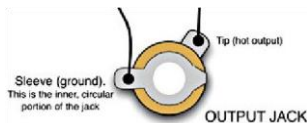
## Control Plate

Solder the small single wire to the metal tab on the 3-way switch. This is the ground. Now solder the white end leading from the yellow pickup wire to the bottom 2 terminals on the 3-way switch. Solder the ground braided end to the ground terminal.

Now solder the white end leading from the red pickup wire to the top 2 terminals on the 3-way switch. Solder the ground braided end to the ground terminal.

Un bolt the output jack from the out put plate. Solder the black output wire to the output jack following the connections on the wiring diagram. Pass the connected output jack through the 7/8" hole that has been drilled between the cavity and the edge of the body.

Attach the output jack plate to the output jack using the washer and nut provided. Screw the output jack plate to the body with two 1/2" screws. Carefully stuff all of the wiring into the control plate cavity and attach the control plate to the body with two 1/2' screws.



## ASSEMBLING THE NECK TUNERS

Push the 12 tuners into the back of the headstock and then using the 6 very small screws provided, screw them to the back of the headstock. Then place the tuner washers onto the bushings and place the six bushings onto the tuner pegs that are now sticking through the headstock. Using a 10mm spanner slightly tighten the bushings to the main tuner pegs.

## NECKBODY ATTACHMENT

Now you can attach the neck to the body using the four large screws. The neck plate acts as a large washer and covers the locator hole on the back of the body. It is a personal preference if you use the neck plate pad (the black plastic piece that sits behind the chrome neck plate – it serves no actual purpose)

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*)

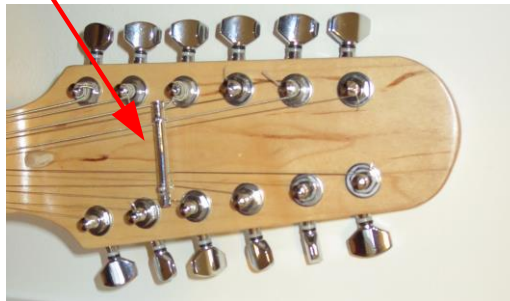
## SET UP

Put on the strings and tune to pitch.

## STRING TREE

*This step can be done after the guitar strings are on your guitar and you have an exact position to put them in. Make sure to loosen the strings a bit when doing this step!*

Now attach the string tree to the peg head. Pre drill a small hole in the face of the peg head



about 3 inches above the string nut.

## 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.

## 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**

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 with a small needle file until it is correct. **DO NOT FILE TOO DEEP!** If the slot is too deep you can fill the slots with a mixture of white plastic sanding dust and super glue and then re-shape the slot.

Repeat this same procedure for the other 5 strings. The action at the nut is either right or wrong; it is not a matter of personal preference.

Now let's adjust the height of the strings over the 12th fret. Minor adjustments in the string action can be made by raising or lowering the individual saddles on the tremolo bridge with the small hex key that has been provided with your FLEMING Guitar Kit. Following is a chart to assist you. This action adjustment is a matter of personal preference. There should be a gradual increase in height from the first to the sixth string.

## **STRING HEIGHT AT THE 12TH 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 tightens 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 3/6 over its pole.  
Electric Guitar setup is an art in itself. For more detailed discussion we highly recommend doing an internet search on "Electric Guitar Setups". There is a huge amount of free information available for free on the internet today.

