



Solo MF Style DIY Mandolin Kit

Assembly Manual
MFK-1

V 2.0

Show Off Your Custom Built Guitar!

When you have your guitar finished, please take a few pictures and send them to us for potential posting into the picture gallery on our website.



Post your photos to our Facebook page
<http://Facebook.com/SoloMusicGear>

Remember, you can always find us online at SoloMusicGear.com to upgrade your parts, try a new kit, or ask us a question. Alternatively you can call us at 1-800-632-SOLO (7656) for any questions that you might have.

Hi! Welcome to Solo DIY Instrument kits, and congratulations on either starting or continuing a terrific new hobby! Thank you for purchasing a Solo DIY mandolin kit. This unfinished mandolin kit has everything for building an F style mandolin – you will need only some basic tools and finishing supplies. All challenging wood cutting, drilling and shaping is already professionally done, as well as fret leveling and dressing.

We hope that you will find everything either equal to or exceeding your expectations with this Solo DIY Instrument kit. We are however human, so if there is something in this kit that you have a question about, please feel free to contact us at www.solomusicgear.com, we will be happy to answer all your questions. Remember, all the major manufacturing has been professionally completed on this instrument. All the cutting, rounding, routing, binding and sealing has been completed by our factory. Only some basic skills and patience are required in order to complete the work and end up with a beautiful and playable instrument! Let's get started!

Tools and Materials : Before you start working on your DIY mandolin project, please check all the parts received in this kit. You may or may not require the following tools and materials to complete this instrument kit :

1. Sandpaper with varying grits
2. Selection of files both flat and rounded
3. Chisels and sharp razor knife
4. Fine toothed handsaw (although extremely unlikely)
5. Selection of screwdrivers both large and small
6. Selection of allen keys
7. Selection of flat open ended wrenches
8. Drill (either hand or powered) and selection of drill bits
9. Small hammer and/or dead-blow hammer
10. Soldering iron and flux core solder for electrical components
11. Measuring instruments will include two straight edges at least 12" long
12. Masking or painters tape
13. Glues including wood glue, epoxy and cyano-acrylate (super glue)
14. Various clamping devices (plus you may need to create clamping cauls)
15. Wood veneer for shimming (different thicknesses)

16. Certain kits will require some specialized tools not listed here.

Safety : There will always be some woodworking and wiring that is required, whether it be sanding drilling cutting or soldering. We expect that you will use common sense in making sure you are working safely; in a ventilated area, and that you use the proper safety equipment including eye and ear protection. Whether you are doing the wood portion, the electrical or the finishing, always enlist the help of people who are familiar with these skills in order to be safe. It's always better to be safe than to be sorry!

Checklist : Now that you have received your new Solo DIY kit, we suggest that you read through all the instructions at least once, so you are familiar with the process of assembling this instrument, and so that you can recognize the parts described. Once you have read through, take a few minutes and check all the parts you have received. Because you are familiar with the manual, you should be able to ensure you have everything required to complete this kit.

Before you begin to assemble any of the Solo kits, setting out a schedule of how you want to go about each instrument is vital. Not all our kits follow the same path when it comes to finishing and assembly. First examine all the parts, especially the bodies and necks. Are there imperfections? Are there dings and bumps you may have to sand out or fill? Are the frets all seated properly and are there any sharp ends that extend past the edge of the neck that may need to be filed smooth. Making sure all of the parts are as close to perfect as you can make them, will aid in a successful assembly. If you have decided to apply a finish or paint to the body and neck of this instrument, you may want to go through the whole assembly to make sure everything fits and all the holes are drilled before you embark on the finish (or paint).

Then, when your finish (or paint) has been applied and cured, you can assemble the instrument with the confidence that comes from knowing everything will fit. Even the electronics can be pre-assembled to some degree (if they aren't already) so that you can check wire length and pickup function. * in the case of bridges and tailpieces that have posts to be pressure inserted into the body, you may not want to insert these until the finish (paint) has been applied, or you may elect to insert them but cover the opening on the post with tape to protect the threads.

Also on the headstocks, many tuners have grommets that may need to be inserted....these too should wait until after the finish (paint) is applied.

Disclaimer : We make sure the materials we include in our kits are safe to use and do not present any significant health risk. However, we cannot take responsibility for any existing health conditions that may affect the person building these kits, nor any responsibility arising from the assembly or work required in order to complete the kit. The kits can be assembled without any finish or coating being applied, so we leave the entire subject of applying a finish or coating to the bodies and necks up to the individual. There are ample websites and videos on the internet that can assist you in putting a

beautiful and lasting finish on this instrument, plus there are often classes available in night school and local businesses that will be an aid to this process. We therefore do not take any responsibility in any issues that may arise from or because of the finish application to this instrument. Likewise, we are not here to instruct in the art of soldering or woodworking, so the responsibility lies with the person assembling this kit to obtain the proper instruction or help on any part of the assembly process, and to complete the assembly process in a safe manner. If we could be there with you to help you along, we would.....but we can't.

Assembling the Solo DIY Mandolin

Ok, so you have read through the instructions at least once, you have taken account of all your parts and you have examined the mandolin to make sure there are as few imperfections as possible. You have been very careful with your sanding since the outside of the body is made from veneer and is rather easy to sand through if you are not careful. There are very few holes that you are required to drill in the assembly process, so now is the time to take the mandolin and apply whatever finish you have selected and then wait until the finish is cured to continue.



Installing the Tuners :

You're back! We trust the finish looks spectacular on your mandolin. You will have to take some care now in the final assembly, in order to not damage the finish. You will find that the two strips of tuners have slightly different ends and that they will fit the row of holes on the headstock in either direction. If you look carefully however, the slightly longer end should point toward the body....the different lengths of the tuning shafts will fit the contour to the headstock better, and no part of the strip will extend past the edge of the headstock. Go ahead and carefully insert the bushings to the face of the headstock. They should require a bit of pressure to insert, so you can either lay the headstock on a flat surface (preferably covered with cloth so you don't scratch your finish) and lightly tap the bushings into place with a small hammer, or you can protect the back of the headstock with a piece of wood, and use a set

of extendible pliers to squeeze the bushings into place. Be careful with the second method however, as you must make sure you are squeezing at a 90 degree angle to the face of the headstock or you may distort the hole. It is also important to note that the bushings are plastic and can break easily. Once you have the bushings installed, go ahead and insert the strip tuners and mark the five holes in each strip with an awl. You will want to pre-drill these holes with a 1/16" drill bit to a depth of 1/8-3/16 of an inch. Install the tuners and screws. (Use the 10 gold screws which look alike)

Installing the Nut :

Dry fit the nut in it's place at the end of the neck. It will likely be slightly larger than the neck, so you will want to carefully sand the ends of the nut so that they align with the neck itself. Be sure to remove material from both sides so the strings will be centered on the finger board. When you are satisfied with the fit, place a couple drops of super glue on the bottom of the nut, and a couple drops on the flat face that sits against the finger board. You need very little glue here, just enough to hold it in place. Install the nut and quickly align it with the edges. (If you prefer, you can use wood glue for this operation as well. It allows you more time to wiggle the nut into place, but you will have to leave the mandolin alone for at least 3 hours for the glue to set.)

Truss Rod Cover :

On the face of the headstock, there is a slot which houses the end of the truss rod. Take the small triangular truss rod cover, and place it over the slot, making sure you are nicely centered, and sitting firmly against the back of the nut. Again mark the holes with an awl, and pre-drill with the 1/16" bit to a depth of 3/16". Do not install the plate yet since you will have to string up the instrument first and determine whether the truss rod needs adjustment first. (There are 3 black screws for the truss rod cover, keep these in a safe place until you are ready to install the cover).

Pick Guard :

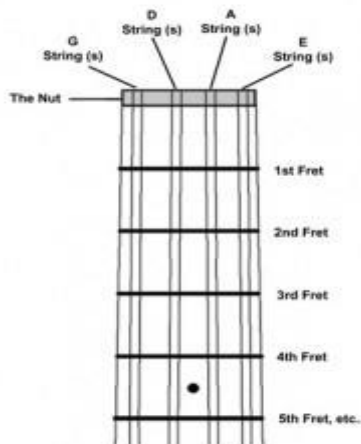
You may elect to install the pick guard or not...it is up to you. If you decide not to install the pick guard at this time, keep it in a safe place for future use. If you would like to install the pick guard now, find the small machine screw and nut, and attach the slotted bracket to the larger end of the pick guard by inserting the screw through the hole on the face of the pick guard, and placing the slotted side of the bracket over the screw (with the angle portion facing away from the face) and installing the gold nut until it is finger tight. This should allow you to still move the bracket around fairly easily. Now place the pick guard below the neck so the body of the pick guard will sit below where the strings will be. Take the small curved wooden block (with the black edge) and place it against the neck (with the black side away from the neck) and hold the pointy end of the pick guard on top with the flat side of the pick guard against the neck. Adjust the pick guard forward and backward until the contour looks pleasing in

relation to the side of the mandolin. Make sure the wooden block is not sticking out from the edge of the pick guard and mark where the hole will be drilled in the block. Use a 3/32" drill bit and drill through the block so that the 1/2" black screw will just slide through the hole. Now place the pick guard back into position in the mandolin, with the block in its correct location and with a 1/16" drill bit, mark where the screw will be installed into the mandolin. Go ahead and install the pick guard, block and screw. Now adjust the bracket so that it will sit flat on the side of the mandolin, and raise it until the pick guard is sitting flat on the block and more or less parallel to the top of the mandolin. Mark where the screw will be installed, pre-drill with a 1/16" bit and install the 3/4" gold screw.

Tail Piece :

This is a very important operation. Take your time and measure carefully so that the strings will line up properly with the neck of the mandolin. You will notice that the fancy scrolled plate on top of the tail piece slides off toward the triangular plate. Remove the top piece now and put it in a safe place. Now you will want to put a piece of painters tape along the edge of the mandolin where the tail piece will be installed. Take a straight edge, and lay it on top of the body so that it runs along the neck and is long enough to mark your painters tape. Go ahead and mark both sides of the neck at the end of the mandolin. Now, measure the mid-point between your two marks. This would be the middle of the neck if it was extended to the end of the body. With a square, extend that mark down the edge of the mandolin far enough that you can see this mark through the small hole on the plate of the tail piece. Now hold the tail piece in place, so the bend of the tail piece sits right on the edge of the mandolin.....mark the small middle hole and pre-drill with a 1/16" drill bit. Go ahead and install that screw (there are 3 gold screws each 1/2" long for the tail piece. Double check that the fold is sitting flat along the edge of the mandolin and mark the other two small holes and pre-drill. Do not install these screws yet. Take the adjustable bridge and place it centered between the inside points of the 'f' holes and look at the angle of the tail piece. The front edge of the tail piece should be pointed at the top of the bridge. If it is aimed too high or too low, remove the screw and adjust. When you are satisfied with the angle, go ahead and install all three screws and then find the strap pin and the 1" gold screw that goes with it. Place the strap pin in the large hole and mark the hole that goes through the strap pin. Pre-drill again with the 1/16" drill bit and install the screw through the strap pin.

Getting Started Playing Mandolin



Stringing Your Mandolin : Congratulations, you are now ready to complete the final steps in assembling your Solo DIY Mandolin Kit. You will find a coil of 8 strings in your kit. Separate these into pairs of the same thickness or diameter. The loop ends will go over the small hooks on the tail piece and the plain ends will obviously be threaded through the tuners. The basic process is hooking the loop over the corresponding hook on the tail piece, pulling the string over the unattached bridge and threading it onto the tuning peg as you would a guitar string. You may find it easier to install one thick string (G) and one of the thin strings (E) in order to hold the bridge in place. The bridge should be placed so that the ends correspond to the inside points of the 'f' holes. Continue to install the 8 strings tightening the tuners enough to keep the bridge in place. Adjust the height of the bridge so that the strings will play clearly without buzzing on the frets. This can be done by adjusting the thumbwheels clockwise to lower the bridge and counter-clockwise to raise it. (A good tip is to slide a piece of felt under the strings at the end of the tailpiece so they do not rattle). When you are happy with the height of the strings, do a quick check to see if the strings are intonated. Pluck the low G string open and then pluck it again when fretting at the 12th fret. Using a tuner, adjust the bridge forward and back slightly so that both notes are the same or very close. Repeat this process with the E string until you are satisfied with the placement of the bridge. Now you can bring the strings up to pitch and take a quick look down the neck to make sure it has remained fairly flat, or with a touch of forward bend (relief). If the neck pulls forward too much, you may have to tighten the truss rod with the included allen key, or vice versa, if the neck is bent backward, you may have to loosen it. (There are several videos and instruction pages on the internet to assist you as we could write an entire book on setting up your mandolin.) Now you can go ahead and install the three screws for the truss rod cover, slide the fancy scrolled top back on the tail piece, and start playing your Solo DIY Mandolin!