

SOLO®

SBK-10

Electric Guitar Kit

Assembly Manual

Version 2.0

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Welcome...

Hi, and congratulations on purchasing this Solo DIY Guitar Kit! As you know, a great deal of the 'difficult' work on this guitar has already been completed to a very high quality standard. All the cutting, shaping, drilling and fretwork (including fret dressing and fret levelling) has been completed by our technicians, to ensure you will end up with a functional instrument. It's now up to you to make this a beautiful and functional instrument! Please read through all the instructions before you start finishing and assembling your Solo DIY Guitar Kit!

Before You Start...

We do our very best to accurately and safely package the SOLO Guitar Kits, but just like anyone else, we aren't always perfect. Therefore, before you start any work on this kit, please unpack the body, neck and all the hardware and screws to double check you have received all the parts. Some kits have the pick-guard already fastened to the body....remove the pick-guard at this time, but save the screws! You can lay the rest of the pieces out on a table and compare them to the parts photo for accuracy. Also, carefully examine the body and neck for any issues like cracks or serious dents which may have to be addressed before you begin finishing and assembling.

There are several websites that address guitar building and finishing, as well as guitar set-up. Although we don't endorse any specific website, we suggest you take some time and look over some of these websites to familiarize yourself with the guitar building process, and to make yourself aware of handy tricks and details that will aid you in completing this kit successfully. We might also suggest enlisting the help of friends who may have experience in woodwork, wood finishing and/or electronics if not guitar building.

Safety Measures and Disclaimers...

Please be aware and use all safety precautions when working on this kit, for example safety glasses, dust masks, respirators and protective gloves. Always work in a well lit area with proper ventilation for dust and fumes. If you are a novice, please enlist the help of more experienced friends or professionals.

We all know there is a right way and a wrong way to do things, and since we can't be there to help you decide which way is which.....we have to add in this disclaimer!

'We will not be responsible for any injury or accident that arises, or is a result of the purchase, finishing, assembly and/or usage of this instrument. We suggest getting advise and/or assistance from professionals before attempting any woodwork, finishing or electronic work related to these kits. The purchase of this kit is also an acknowledgement and awareness of this disclaimer!'

Whew! Sorry! As much as we are certain you will make all the right decisions regarding the assembly and finishing of this instrument, we have no guarantee that you will....

What You Need...

It would always be advisable to have a complete basic set of tools available, but at the very least we suggest you have the following....

1. Sand Paper (180, 240, 320, 400 grits)
2. Flat and needle files for metal
3. Sanding block and pad
4. Masking Tape
5. Finishing Supplies
6. Screwdrivers
7. Soldering Iron and Solder

More specific tools and/or materials can be utilized to make the finishing and assembly of this kit easier and more professional. We suggest you do your research on the internet.

Finishing the Body and Neck...

Step 1 - Ok, we have our tools, we have inspected the neck and body and are satisfied that all is well. Take one more look at the neck to make sure that the frets are not sticking out along the fret-board edges (fret sprout). Even though the wood is kiln dried, it can still expand or shrink depending on humidity and the environment. In any case, take your masking tape and tape over the flat parts of the fret-board between the frets, making sure the tape is flat and trimmed evenly along the edge of the fret-board. The masking tape will remain until the finishing is complete. If there is some 'fret sprout', we will want to file the edges flat to conform with the edge of the fret-board (90 degrees to the top of the fret), and then use our needle files to remove the small burrs left by the flat file on either side of the fret ends. This is very much a 'feel' process, and unless you are filing the top of the fret, there is little you can do wrong. Proceed with a small amount of filing at a time and remember...less is more (the less filing you do between checking, the more likely you are to not make a mistake)! You may elect to use some 0000 steel wool and polish the surface of the frets at this time, or you can wait until the finishing is complete and you are ready to remove the masking tape. Just be sure to remove all the metal bits as they will discolour your finish.

Step 2 - Now we are ready to sand the body and neck. The kit is supplied with sealer applied and again, sanding is very much a 'feel' process. Make sure you sand 'with the grain' of the wood (that is in the same direction as the grain) as much as possible. Use a sanding block to sand the flat surfaces, and either your hand or a foam sanding pad for the edges and curves. Start with the 180 grit to 'break down' the sealer, and as it becomes smooth, switch to the finer grits (If the sealed surface is fairly smooth to start, you may be able to begin sanding with a finer grit). Wipe the guitar and neck often while sanding to remove excess dust and ensure you aren't sanding through the sealer. You can also use

a slightly damp cloth to wipe the dust away, just allow the surface to dry before you resume sanding, or you can also use a 'tack cloth' available at most paint stores. In the case of a raw wood body that has not been sealed at the factory, you would wipe with a damp (warm water) cloth before your final grit. This makes the grain fibres wet, and they lift as they dry allowing you to sand them off, giving you the very best surface for finishing after your final grit. When you are satisfied that every surface is even and equally smooth, you are ready to move on. Remember, the better the surface quality, the better your finish will be!

Step 3 - You will need to make a set of hangers for the body and neck so that these parts can hang to dry evenly. We suggest a steel pin that will not sag under the weight of the neck or body....this pin can be inserted through the tuner holes on the neck and through a neck/body screw hole in the neck pocket. However you create these hangers, just make sure you have adequate access to all surfaces for applying your finish, and that there is enough room around the neck or body so the wet surface does not come in contact with anything. Before you proceed, you will also want to tape the neck pocket, pick-up cavities, control cavities and truss rod pocket in order to ensure they don't get covered in finish. Make sure that the tape does not cover any of the surfaces you intend to finish. You have already taped off your fretboard in Step 1, so you are ready for finishing!

Step 4 - Refer to your friendly expert at this time, or your finishing website to continue with whatever form of finish you have selected. This step is where your patience becomes extremely important. You can rush a lot of things in guitar building, but you can't rush the finish. Remember, only finish your guitar in a well ventilated area, away from flame or spark, and while wearing the proper mask and eye protection! Just a quick tip...you may want to practise on a scrap piece of wood to get the feel for the finishing product you have selected.

Step 5 - The finish is now complete with all the colour and/or clear coats and interim sanding and drying...and, you are out of patience....time to move forward. Again, there are several websites which address buffing a finish, and the products required. It is up to you to decide how to proceed, but we suggest for a first guitar to do as much as possible by hand to save you some money, and heartache. It is hard to buff through a finish by hand, but very easy to destroy your hard work with a buffing wheel! Most supplies can be purchased at your local automotive supply or via the internet.

Alternative - If you have decided on a 'colour' for your guitar, you are pretty much going to be painting the body; however, if you are looking to have the natural grain show through, you can use clear lacquers, or you can use a combination of stains and finishing oils. Again, information on oil finishes is readily available on the internet. It may also be less expensive and result in an equally pleasing result. Oil finishes are also easier to apply and maintain.

Assembly SL SBK-10

Notes : The SBK-10 is a unique headless guitar design with a complex but functional bridge. As much as the assembly is fairly easy and straight forward, extra care must be taken in setting up this special instrument!

1. Prepare the 4 neck screws by inserting them through the supplied washers, and applying some bees wax on the threads. Insert the screws through the drilled body holes and begin threading them into the pre-drilled holes on the neck. Continue to tighten the screws, but before they are completely tight, take a couple straight edges (rulers) and make sure the neck aligns with the pickup cavities and bridge cavity. Tighten the screws all the way and double check the alignment.

2. Electronics : Install the three pickups into their appropriate cavities, making sure the pickup wires are directed through the appropriate holes to the control cavity. For the single coil pickups follow the wiring diagram for location, and start with the neck pickup. You will find 4 screws and springs to attach the 2 single coil pickups directly to the bottom of the pickup cavity. Obviously, the spring should be installed between the pickup and body, but you might want to mark and pre-drill pilot holes before you mount the pickups permanently. Move on to the middle pickup and then the humbucker at the bridge. Mount through the pickup surround on the top of the guitar with the supplied screws using a small pilot hole, but make sure you align the humbucker with the neck and bridge before completing this operation.

Install the volume and tone pots as well as the 5-way switch, to the body with the supplied washers and hex-nuts. Refer to the wiring diagram at the back of this manual, and proceed to solder all connections as per the diagram. make sure you are in a ventilated area with good lighting. If you are unsure of this process, contact an experienced friend or professional to assist you. Insert the bridge ground wire through the hole in the bridge cavity, and solder to the appropriate connection. Finally, direct the output wires through the output jack opening and solder to the jack as per the diagram. Install the jack to the side of the guitar body with the supplied plate and 4 screws. You may want to double check your soldering now before moving on, and ensure all connections, pots and switches are working.

3. Installing the Bridge : The locking trem bridge supplied with this kit is in two pieces, and has to be taken apart for installation. Loosen the large single thumb screw at the end of the bridge, pull back on the upper section and pull up. This should pop the support stem out of the spring channel and allow you to install the lower unit. Before screwing the lower unit in place, scrape some of the black paint away from the bottom where the ground wire has been installed on the body....this will ensure proper contact. Install the lower unit using the 4 supplied screws. Pull the spring up towards the front of the bridge and insert the upper section support stem back in place. Pull the upper unit back and ensure that the upper unit is resting properly on the two support posts (there are bladed rings that fit into the channelled posts). At the back of the lower unit, there is a trigger

mechanism that either locks or unlocks the trem mechanism...make sure this trigger assembly works correctly and easily.

4. If you are satisfied with your electronics, you may install the control cavity cover with the supplied screws. You may install the strap pins as well in the prescribed holes with the supplied screws, and finally, install the pot knobs and switch knob.

5. Installing the Strings : By turning the 6 small thumb screws at the back of the bridge in a counter-clockwise fashion, you will see a small receiver extend from below the surface of the bridge. Continue to turn the screw until there is enough of the receiver showing that you can insert the ball end of the string. Loosen all 6 of the thumb-screws and insert all 6 strings (ball ends) and then turn the thumb-screws in a clockwise fashion until the ball ends are safely under the top of the bridge. At the end of the headstock, loosen the 3 locking nut hold-downs and insert the plain ends of each pair of strings under the hold-downs and through the prescribed holes in the headstock hardware. You may want to hold the strings tight with pliers or vice-grips while you tighten the hold-down with the supplied allen key. Do this for each pair of strings. You may now go back to the bridge and turn each of the 6 small thumb-screws in a clockwise fashion in order to bring the strings up to pitch. When setting up the locking trem bridge, lock the bridge first. Set the string heights of all strings by using the supplied allen key in each of the saddles. When you are satisfied, adjust the intonation by pushing each saddle forwards or backwards....there are no threaded adjustments, so be careful, and make very small adjustments. Finally, set the tension of the trem using the large thumb-wheel adjustment knob at the back of the bridge. Loosening this screw will allow the trem to float more easily, and tightening this screw will make the trem more difficult to use, but will also be more stable as far as tuning. Install the trem arm in either the upper or lower push-lock opening and you are ready to rock! Refer to the regular section on 'Guitar Set-Up' for a more in-depth description of guitar set-up. This brief description applies only to the locking trem bridge.

Setting Up the Guitar...

The art of 'setting up a guitar' is one that can take years before you become truly skilled. The really good tech's make a guitar setup look easy...a little tweak here or there and the guitar plays and sounds so much better than it did before. Basic guitar setup however, is something that can be relatively easy to learn, and to put in practise. It is a balance of several different physical properties that can either work together or can completely ruin the playability or sound of a guitar. We have broken down the process into 4 sections to simplify things....

Adjusting the Neck Relief..

Neck relief is the amount of bend in the neck to allow for proper string vibration. The physical properties involved here are the strings pulling the headstock forward (toward the front of the guitar), the thickness of the strings (heavier gauges obviously have more tension and will pull the headstock forward more forcibly), and string height (a

combination of how the nut is cut and how high the bridge and or saddles are adjusted). Because of the relationship between string height and neck relief, you may have to go back and forth between adjusting the neck relief and adjusting the string height a couple times.

Your Solo Guitar neck has a built in truss rod which counter-acts the forward pull of the strings...in other words, when you tighten your truss rod, you straighten the neck, or pull the headstock toward the back of the guitar. You will have to make truss rod adjustments usually when setting up the guitar for the first time, and then in spring and fall when there are major humidity changes in the weather (remember, humidity affects the wood of the guitar neck, either swelling or shrinking it).

String up the guitar as normal with your chosen gauge of strings....make sure the strings sit properly in the nut slots at the headstock of the neck, and that the strings are brought to tension (tune the guitar). The strings should sit easily in the nut slots, not be loose, and especially not sit on top of the slot (if either the slots are too loose or too small, you will want to consult an expert to either fill or file out the slots). Now, take a couple minutes and refer to 'Adjusting String Height' to ensure the bridge and/or saddles are correctly adjusted. Place a capo at the first fret and press down on the 16th fret....now place a straight edge (which is at least 12"/30cm long) on top of the frets between the capo and the 16th fret and measure the gap between the ruler and the 8th fret. Use the 6th (heaviest) string to measure. Optimally, you will look for a gap of .001" - .002" (0.25 - 0.5 mm) but slightly more could still be acceptable. By turning the truss rod screw with the supplied allen key clockwise, you will reduce the gap, and by turning counter-clockwise you will increase the gap. Never turn the truss rod screw more than 1/4 turn at a time! Now return to the 'Adjusting String Height' section and re-adjust your string height so you have nice low action on the strings without buzzing on the frets! If you do have 'string or fret buzz', you will either have to increase the neck relief slightly, or increase your string height.

Adjusting String Height...

The string height is ruled by 3 physical adjustments. First, the nut at the headstock of the guitar must be properly slotted for height and string gauge. The nut supplied with this kit has been slotted for medium gauge strings and should be acceptable as far as the height of the string over the 1st fret. Second is the height of the bridge and/or saddles (depending on what style of bridge is supplied with the kit). Since the fret-board has a radius on top, you must be sure to reflect that radius in the string height...in other words, when the string height is adjusted, the strings should have the same radius as the neck. The third adjustment is the 'Neck Relief' and you will be referring back to the section 'Adjusting Neck Relief' during this part of the set-up. Using the supplied allen key for the saddle screws, you can raise or lower the strings at the bridge....remember, the lower the action the easier the guitar will play, but the more prone to the strings buzzing on the frets! The higher the strings, the harder the guitar is to play, but you eliminate the fret buzz.

For the 1st string (the thinnest one) adjust the height using the saddle for that string, so there is a 0.063" - 0.078" gap (1.6 - 2 mm) between the string and the 12th fret. This should create a gap of about 0.01" - 0.016" (0.25 - 0.4 mm) between the string and the 1st fret (this is a very small gap so you may want to use feeler gauges for this measurement). For the 6th string (the thick one), adjust the gap between the string and the 12th fret to 0.078" - .01" (2 - 2.5 mm) and you should find yourself 0.016" - 0.024" (0.4 - 0.6 mm) between the string and the 1st fret. Adjust the height of the remaining 4 strings so they create the same radius as the fret-board (you may want to make a cardboard radius template to assist in these adjustments....resting the template on the two outside strings will allow you to adjust the inner 4 to the face of the template).

You may have to go back and forth between String Height and Neck Relief until you come to the perfect union the first time you set up the guitar!

Intonation....

There are several factors that come into play when setting the intonation on your guitar. For this kit, we will adjust to the basics and leave you to research the rest for yourself. Essentially, each string played open, should have exactly the same pitch as that string fretted on the 12th fret (the 12th fret is the halfway point between the nut and the saddle). You will want to use your guitar tuner for this adjustment.....play each string open and adjust them to their prescribed notes (E,A,D,G,B,E thickest to thinnest or 6th - 1st). Now play each string while you fret at the 12th fret and adjust each saddle toward the 12th fret or away until the fretted note matches the open note. If the fretted note is sharp, you must move the saddle away from the neck.....if the fretted note is flat, you must move the saddle closer. Intonating your guitar properly will help to ensure that it plays in tune up and down the neck, and that chords sound correct.

Setting the Pickup Height...

The final step in your guitar set-up is setting the pickup height. Pickups work on a magnetic field that is affected by the vibration of each string. You can be too close to the strings and you can also be too far away from the strings with the pickup....too close will create 'ghost tones' that will make tuning your guitar difficult and will also affect the sound of your guitar in a negative way. Adjusting the pickups too far away reduces the effect of the magnetic field and therefore reduces the output of the pickup....so the guitar will sound quieter and have less dynamics.

You will find one or both of two types of pickups in your kit....either single coil or humbucker. Because humbuckers use opposing magnets, they can be adjusted much closer to the strings than single coils can... Set your volume on full for each pickup and

the tone control at halfway...plug your guitar into an amplifier and start adjusting the pickup height closer and away from the body while you play each string or strum.....you should notice an obvious difference in volume and tone by doing so. Adjust each pickup to where it sounds best. There is no universal rule for pickup height because it relies on string height, string gauge, pickup type, magnet type etc etc...so by experimenting, you will find an adjustment that provides the best sound.

Useful Ideas To Improve Your Guitar...

There is an endless list of improvement techniques available on the internet....from lubricating nuts and saddles to how much string you wind on the tuner posts.... We encourage you to take some time to look these tips up, and find out which ones work for you!

SBK-10 Wiring Diagram

