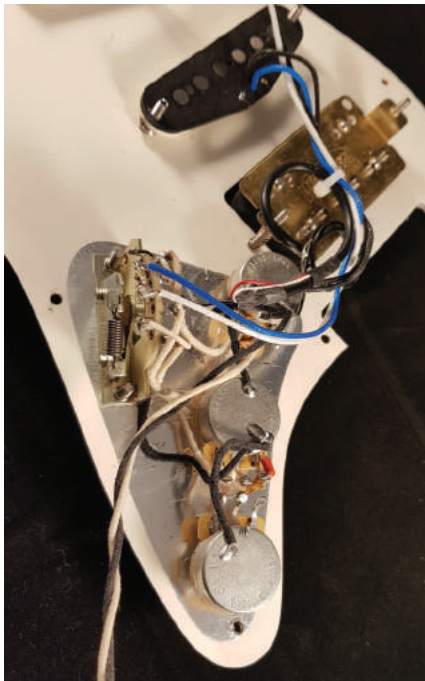




Assembly Instructions MST 22 MM / MR models

Welcome to the wonderful world of guitar building!



**This Kit Features Genuine Wilkinson Hardware,
Tuners and Pickups. CTS pots and CRL switches.**
**Whether you are a first time builder or Professional Luthier this kit will
give you a top quality "Custom Shop grade"
Great sounding Great playing instrument.**

These are the tools and supplies we recommend for assembling this kit.
(Stew Mac item numbers are included where applicable.)

Electric hand drill or Bench Drill press
Small Hammer # 4895
ESP Multi Spanner # 1344
Phillips screwdrivers, size #1 & #2 (#3000)
Understring radius gauges Item # 0353
Center punch or awl (#3000)
Clamp (#3721)
Soldering iron
Drill bits: 1/16" 5/64" 3/32" 7/64" 1/8" 11/64"

Nut-slotting files
0.010" width (#0821)
0.013" width (#0823)
0.020" width (#0828)
0.035" width (#0832)
0.042" width (#0833)
0.046" width (#5313)

Parts included in your KIT



Install the Strap Buttons

Your body has already been drilled for the correct locations of these buttons. Use the screws provided with the kit. A little Wilkinson "Slipstick" on the screws will make installing these a breeze.

Always countersink drilled holes slightly to stop any grain lift when installing screws.

Install the neck

Enlarge the 4 screw holes in the body with 11/64" drill bit. The body holes are drilled intentionally small to allow the neck holes to be perfectly aligned. Before installing the neck it is essential that these body holes have clearance for the neck bolt/screws to pass through the body un-hindered. This is essential in order to facilitate a truly tight neck to body joint for maximum transfer of string resonance from the neck to the body. I also find that countersinking these holes slightly (under the neck plate) also helps provide the tightest neck to body joint as the countersunk screw head can be deeper than the countersinks of the neck plate. Use a #2 Phillips screwdriver to install the neck mounting screws through the neck mounting plate. Lubricate the 4 neck mounting screws with "Slipstick" Dry Lube. Tighten the screws to hold the neck in place.

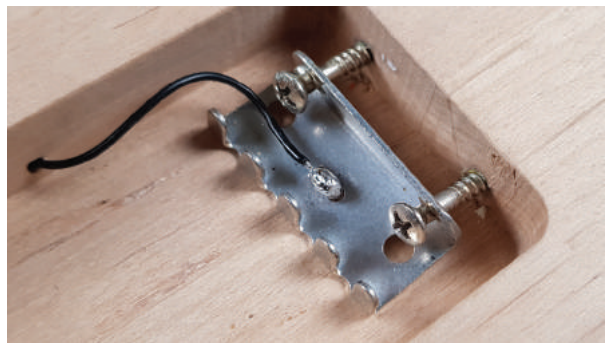
Solder the output jack

The two-strand hookup wire from the volume pot goes to the output jack. Thread the wire through the hole from pickup cavity into the jack cavity. Solder the white insulated wire to the jack's tip lug (the rounded lug). Solder the bare ground wire to the jack's sleeve lug (the square lug). For more information, see our Stew Mac Trade Secrets video #186 "How to get a good clean solder joint!" at stewmac.com



Soldering the string ground

The remaining black lead wire is for the string ground. Feed this wire through the hole from the pickup cavity to the spring cavity. Solder this ground wire to the spring claw. Now that you've wired the output and ground, install the pick-guard and the jack plate.



Fitting the Pick-guard and Jack socket plate

Lay out the pick-guard and jack plate using the neck and bridge for reference. Once positioned, mark out the mounting screw holes with a scribe or punch. Drill pilot holes for the screws using a 1/16" drill bit. Do not install the pick-guard yet. Mark the mounting holes for your jack plate, then drill pilot holes for the screws using a 1/16" drill bit. Drill the jack plate mounting holes. Always countersink drilled holes slightly to stop any grain lift when installing screws.

Do not install the jack plate yet.

Now you can fit the pickguard and Jack plate. Use the screws provided and don't forget a little Wilkinson "Slipstick" on the threads to make the install even simpler.

Install the Bridge and Spring Claw.

The spring claw must be attached to the body before the bridge can be installed. Center the claw in the spring cavity so it sits 1/16" below the surface of the body. The holes for the fixing screws are already drilled. Attach the claw using the 2 long screws provided, lubricate with Wilkinson "Slipstick" and screw the claw in place. Install one spring in the centre of the spring block with enough tension on the claw to hold the bridge in place. This will hold the bridge in place whilst you line up the neck in the body



The bridge post mounting holes are drilled ready for the pivot screw bushings. Press in the brass bushings using The chuck in a drill press or If you dont have a drill press then you can hammer the bushings in taking care not to damage the brass inserts or their threads. Using a dowel will help with this and it will protect the surface of the body when driving them home flush with the surface.



**VS50IIK bridge floating
parallel to body top**



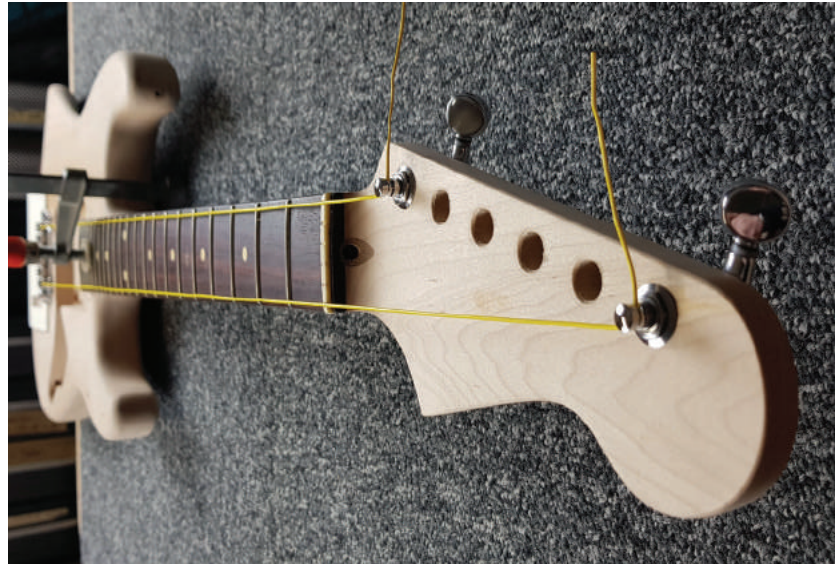
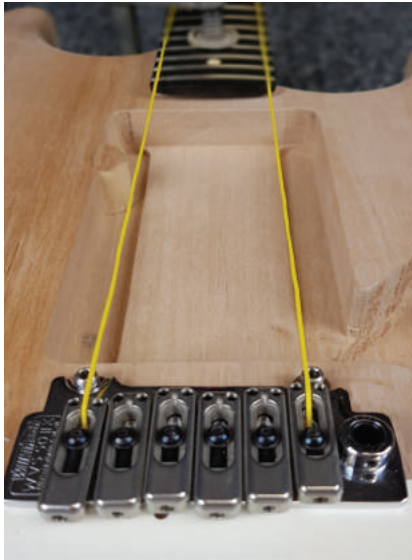
Setting up the vibrato.

The VS50 II K vibrato is designed to float above the body allowing subtle movement of the bridge to create true vibrato shimmer. It will also "Dive Bomb" if required, making it one of the most usable bridges available. The bridge has excellent tuning stability and when set up it is comparable to many double locking systems.

The saddles were designed to sit as close to the bridge plate as possible helping keep the string angle over the intonation point shallow to stop the usual string "hang-up" most other bridges have, but still having enough string pressure to transfer all the string energy and resonance through to the body of the guitar. The saddles bolt directly to the plate thereby eliminating all movement under the string adding even more sustain and tuning stability. It is essential to remember to loosen the lock down screws before making any saddle height or intonation adjustments. When you are happy with your action/string height etc.. tune and stretch in your strings then Lock the saddles in place with the hold down screws.

Lining up the neck and bridge

Use a clamp to lightly hold the neck in place. Place a scrap of wood or soft faced clamp over the frets so they don't suffer any damage to their surface. Beware over tightening the clamp as this could crush the frets and change/flatten the fret radius at this point of contact.



To align the neck and body I like to use a length of string/twine or thin hook up wire threaded through the E string holes in the block and then run the wire/ string up the neck through the nut to the E tuners to check alignment and make side-to-side adjustments to the neck as needed to make sure the strings ride even along both edges of the fretboard. When you are happy with the alignment of the neck use the holes in the body to mark the hole locations in the heel of the neck. A scribe, nail or transfer punch will make clean marks in the neck to show you where to drill. A 1/8" brad-point drill bit turned by hand works perfectly for making these marks.



Drill the neck mounting holes

It's important that these holes are drilled square to the neck, so a drill press works best for this job. Use a 1/8" bit and drill the holes 11/16" deep. If you don't have access to a drill press, use a drill guide to keep your hand drill squared up.

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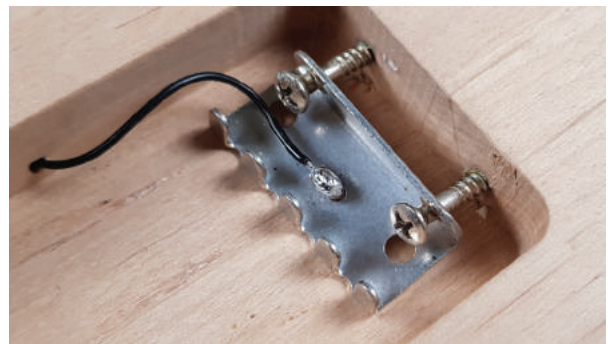
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Install the strings and the remaining Vibrato springs.

Using the correct amount of springs in relation to the feel and string tension is one of the most mis-understood aspects of vibratos. Quite simply, no matter how many springs you install in relation to string gauge the least springs you can use will give you the smoothest feeling and best “return to zero” possible. This will result in superior tuning stability.

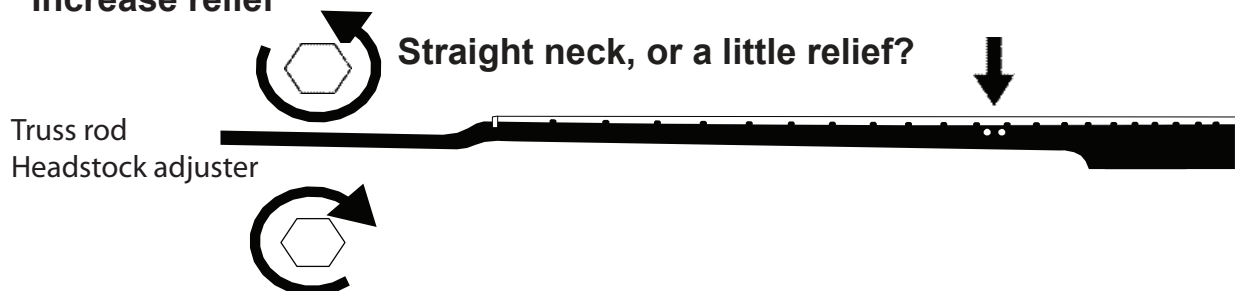
Install at least 2 springs (.009 to .042) or 3 springs (.010 to .046 or bigger). For a fully floating vibrato unless you are using much heavier strings like (013 to .060), 3 springs should suffice. Using the vibrato cavity backing plate as a spacer under the back of the bridge can help you set up the vibrato very quickly.

Now screw the spring claw screws in to give more tension to the springs and tune your guitar to pitch. If the backing plate becomes dislodged from under the bridge plate tighten the spring claw screws even further until the backing plate is held firmly in place by the springs. Once you have achieved your desired tuning, start to back off the spring claw screws until the backing plate falls out from under the bridge plate. You will find now that the guitar is still tuned to pitch and the bridge will be floating close to the ideal angle to give you both upward and downward pitch changes. tightening or loosening the springs with the spring claw and re-tuning to pitch will float the bridge in the ideal position for the full range of vibrato movement



Adjusting the Truss rod

Increase relief



Decrease relief

Neck relief refers to adjusting a neck so that it has a very slight upbow, rather than being perfectly straight. This relief allows a little more room for string vibration, reducing the chance of hitting the lower frets and causing fret buzz. Depending on your playing style, and how perfectly level your fret tops are, a neck should be anywhere from perfectly straight to having 0.012" of relief. This measurement refers to additional string height over the 12th fret, compared to a perfectly straight neck. A straight neck tends to play and sound better but very few guitars end up with no relief at all, and several thousandths of an inch or more is perfectly normal.

Set the action at the nut.

Lower your string nut slots for better playability using gauged nut files. Measure string height over the 1st fret, between the bottom of the string and the top of the fret. A comfortable medium action is: Unwound strings (G, B, E): 0.012" at the 1st fret, Wound strings (E,A,D): 0.020" at the 1st fret. Use feeler gauges to measure the gap, or use guitar strings whose gauges match the measurement you're after. Stop when the string sits on your feeler gauge. Go slow and check your work frequently it's easy to go too far in this step and ruin the nut.



Set the action height and setting the intonation

The next step is intonating the guitar by adjusting the string lengths at the bridge saddles so the guitar plays in tune all the way up the neck. ALWAYS remember to loosen the larger hold down screw on the top of the saddle before attempting to adjust the intonation or saddle height of the saddles.

Using a strobe or other accurate tuner, first tune the strings to pitch. Then press the high E string lightly at the 12th fret using just enough pressure to sound the note. Check it with your tuner.

If the note reads flat, the saddle needs to be adjusted forward towards the nut, shortening the length of the string. If the note reads sharp, the saddle needs to be adjusted back away from the nut, increasing the string length to set the intonation.



Your MST kit contains the Wilkinson VS50 II K vibrato bridge. This features saddles which lock to the top plate thereby eliminating any saddle movement greatly enhancing the tuning stability when using the vibrato. ALWAYS remember to loosen the larger hold down screw on the top of the saddle before attempting to adjust the intonation or saddle height of the saddles. The design of these saddles allow you to keep the saddles low to the top plate (a big benefit for tuning stability).

The ultimate action can then be realised by using the pivot posts to adjust the height of the bridge assembly. Measure string height over the 12th fret between the bottom of the string and the top of the fret. A good starting point is: High (unwound) E string: 1/16" at the 12th fret Low (wound) E string: 5/64" at the 12th fret. You can always go lower or higher depending on your playing style.

After setting the two E strings, dial in the remaining strings to match the curve of the fretboard

Adjust the pickup height

Holding down the low E and high E strings at the 22nd fret, adjust the bass side of the pickups to 5/64" from the top of the pickup pole to the bottom of the low E string. Adjust the treble side to 1/16".

Now Re-tune your guitar and check the action. Sight down the neck and check for any Over bow (bending backwards causing string buzz on an open string or Under bow on the neck causing a higher than necessary action in the middle of the neck when playing. Adjust the optimum action with the truss rod.



Your guitar is now be ready to play and ENJOY !!