

Tenayo TK-FV1

E-Guitar KIT „Flying-V“-like: Facts & Manual

Text and photos by Michael Koch



At all: Electric guitars were built to play loud and hard!!! And finally acoustic guitars were much too faint to get through really within bigger ensembles or even orchestras. The first acceptable representative electric guitars were built by Adolph Rickenbacker and George Beauchamp at the beginning of the 30s in the last century. But the very first serial model with a semi hollow body was constructed and distributed by the US American company GIBSON around 1936. The still very famous and by now deceased “Les Paul” followed them up around 1941 with his first Solidbody version of the electric guitar. It was an instrument with a massive body and neck through construction which was able to diminish possible feedbacks the semi hollow body guitars produced very often quite well. From this time on the triumphal procession of the electric guitar couldn't have been stopped anymore. Only a few decades later the position of modern Rock- and Jazz-Guitarist should have been compared with the same star violinist had until this time in orchestras. Great musicians like Hendrix helped pushing the electric guitar for their final breakthrough in the mid of the 1960s. He was followed up by more and more other unforgettable guitar heroes and virtuous players like Eric Clapton (Cream), Jimmy Page (Led Zeppelin), Angus Young (AC/DC), Eddie Van Halen (Van Halen), Robert Fripp (King Crimson), Alex Lifeson (Rush), Brian May (Queen), David Gilmour (Pink Floyd), Steve Howe (Yes), Ritchie Blackmore (Deep Purple), Steve Vai (Frank Zappa & Solo), Joe Satriani (Solo), Adrian Belew (David Bowie, Talking Heads, King Crimson), Vernon Reid (Living Colour) and much more... But we won't waste too much time with things like this because we'd like to assemble our own electric guitar. So spending only a little of our precious time for this I would carefully recommend...

We actually offer around **15 different electric-guitar and e-bass kits** by **Tenayo** including nearly all popular shapes and models. A few of them we provide as left hand models too. But all kits are very easy to handle. Even assembling is possible and not very difficult for nonprofessional instrument builders of all levels.

Our **TK-FV1** Kit is including the pre and well shaped massive body. All panels for the neck, pick-ups, pots, switch, bridge and the electric parts still exist. The neck with its Trussrod, fingerboard and even the frets are well pre shaped and handled. So all wooden parts including in the kit must be only fine sandpapered and finished. Furthermore the kit is including two Humbucker pick-ups for neck and bridge position, 3 pots (1 volume- & 2 tone-), 3 golden potenti-knobs, a black pick guard, a 3-way toggle switch + cover, cables for wiring, 2 capacitors, tin for soldering, the electric panel cover, 1 cover for the output jack, the jack itself, a „Tune O Matic“ bridge system with stop bar, 6 golden machine-heads with sleeves, hexagon head screws and small wood screws, 2 large golden wood screws for fixing the neck – with a golden cover plate and a black plastic washer, 6 standard guitar strings, 1 hex tip screwdriver, 2 strap holders with rubber washers and screws.

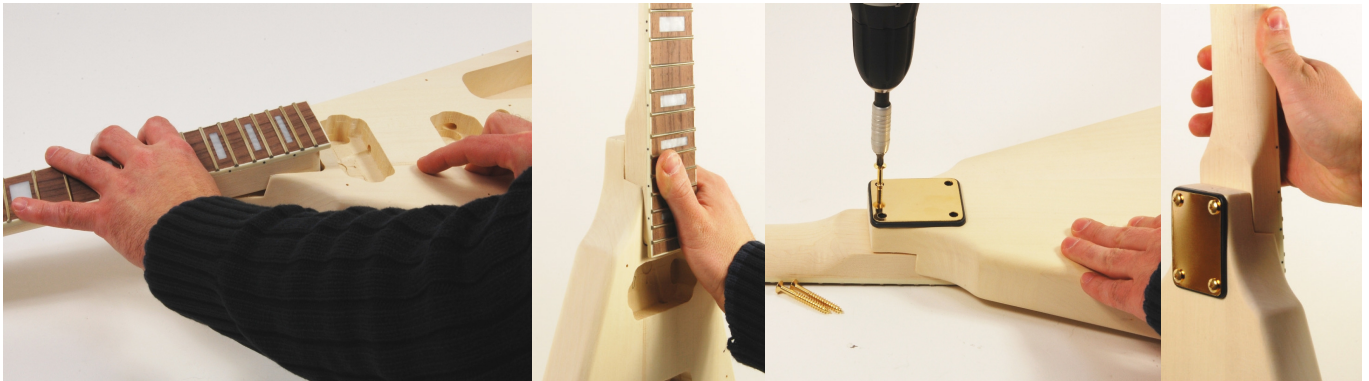


Tools and Materials which will be needed to assemble the **Tenayo** electric-guitar kit...

- A rasp, different files and sandpapers with variably granulation for a fine “rose”
- Different metal files
- 1 block for sandpapering
- Fill-in for wood repair
- 1 rubber-mallet or a small hammer
- Rubber stripes, wooded wedges or a small scratchpad to prevent damage on screws while hammering
- A flat nose plier
- Different screwdrivers or a battery powered electric screwdriver
- 1 wood drill and a cutter
- A electric soldering iron and some tin for wiring the pots, PUs and the output jack
- Oil (in case the instrument shall be finished with that)
- Different lacquers and colors (if wished)
- Seersucker adhesive tape (to prevent stains while coloring)

First steps...

Initially the neck and body must be connected together. While doing this you got to keep care on the exact fit because the neck has to sit absolutely straight after fixing it. Please check the four photos below too. But the neck should fit into the pre shaped hole at the neck rudiment on the guitar body without getting any trouble.



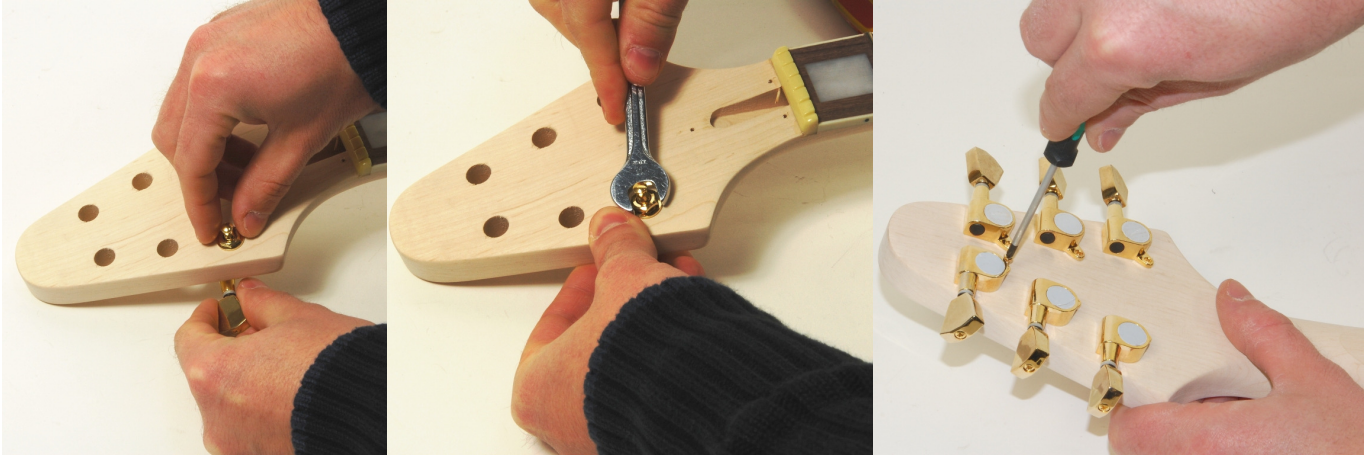
If not: take a file and a bit of sandpaper and remove softly some overcoming wooden parts. And please do not press the neck into its room with using force. This can result into damaging the parts. After all the neck can be fixed with the 4 big wood-screws, the golden plate and the plastic washer on the backside of the body - please check the 3rd photo above too. If any slits or spaces occur at the rudiment between neck and body you got to eliminate that with some fill-in. But if the neck fits correctly this should not happen.

Sandpapering and finishing your guitar...

Please check if there are no spaces or damages on the wood which has to be repaired potentially. If all these things have been done all wooden parts of the instrument should be handled with different sandpapers (down to the finest granulation) until you're satisfied or the guitar “feels like a child's bum”. If there are any frets which feel sharp at their edges, last improvements can now be done with a flat and fine metal-file. Now all wooden parts can be oiled or colored with different lacquers. Oiling can be done with a standard vegetable or olive oil. You only need a primitive cotton flap. But oiling should be repeated a few times within days to get a good effect. Possibly you have to use fine sandpapers again between these processes. If lacquering is wanted you should check for professional help (like literature or so) in front of doing that. But please take care on all parts which shall not be lacquered at all. To prevent stains on the fretboard or other parts you can use seersucker adhesive tape for bonding them in front of doing the coloring or so. You can finish the guitar part by part too.

Assembling the tuner machine heads...

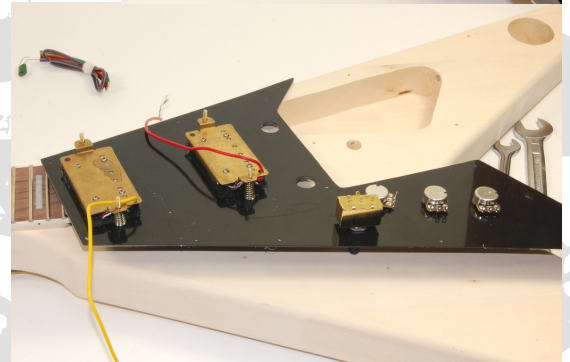
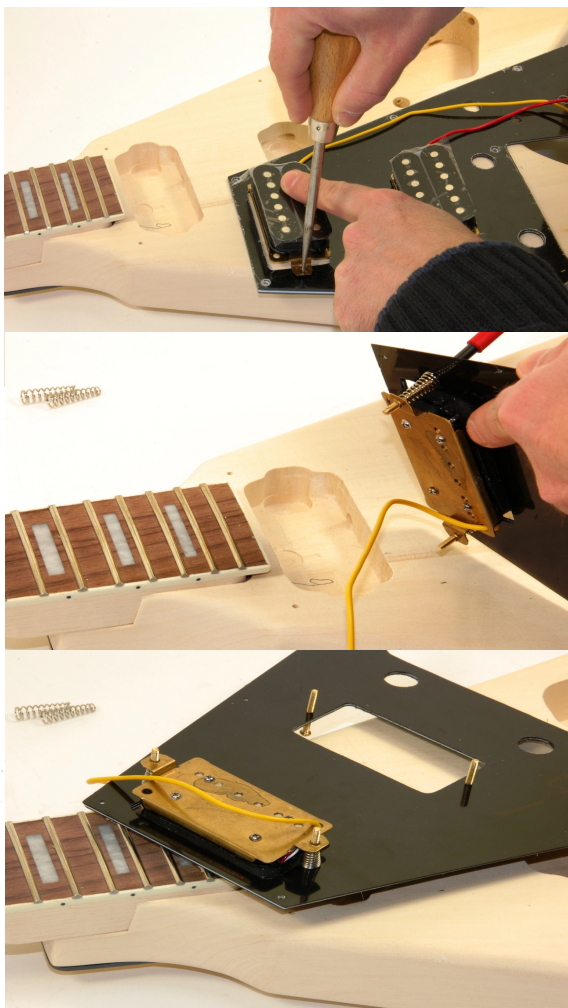
Now the 6 tuner vertebras can be fit onto their right position at the headstock. This step is very easy. How to do that is showed surely very well on the three following photos below. All tuner vertebras shall be fixed with their little wood screws at the back of the headstock which are included in this kit. **Attention!!!** The loops of all tuners must show 45° to the middle. This you can see perfectly on photo 3. But in fact of that all holes for the screws has been pre drilled this should not cause into making any problem. Possibly you got to spread them a little more with your wood drill if getting in the screws is very hard.



Now the rather difficult part of our venture is following...

Assembling and wiring the Humbuckers with the potis, switch and the output jack...

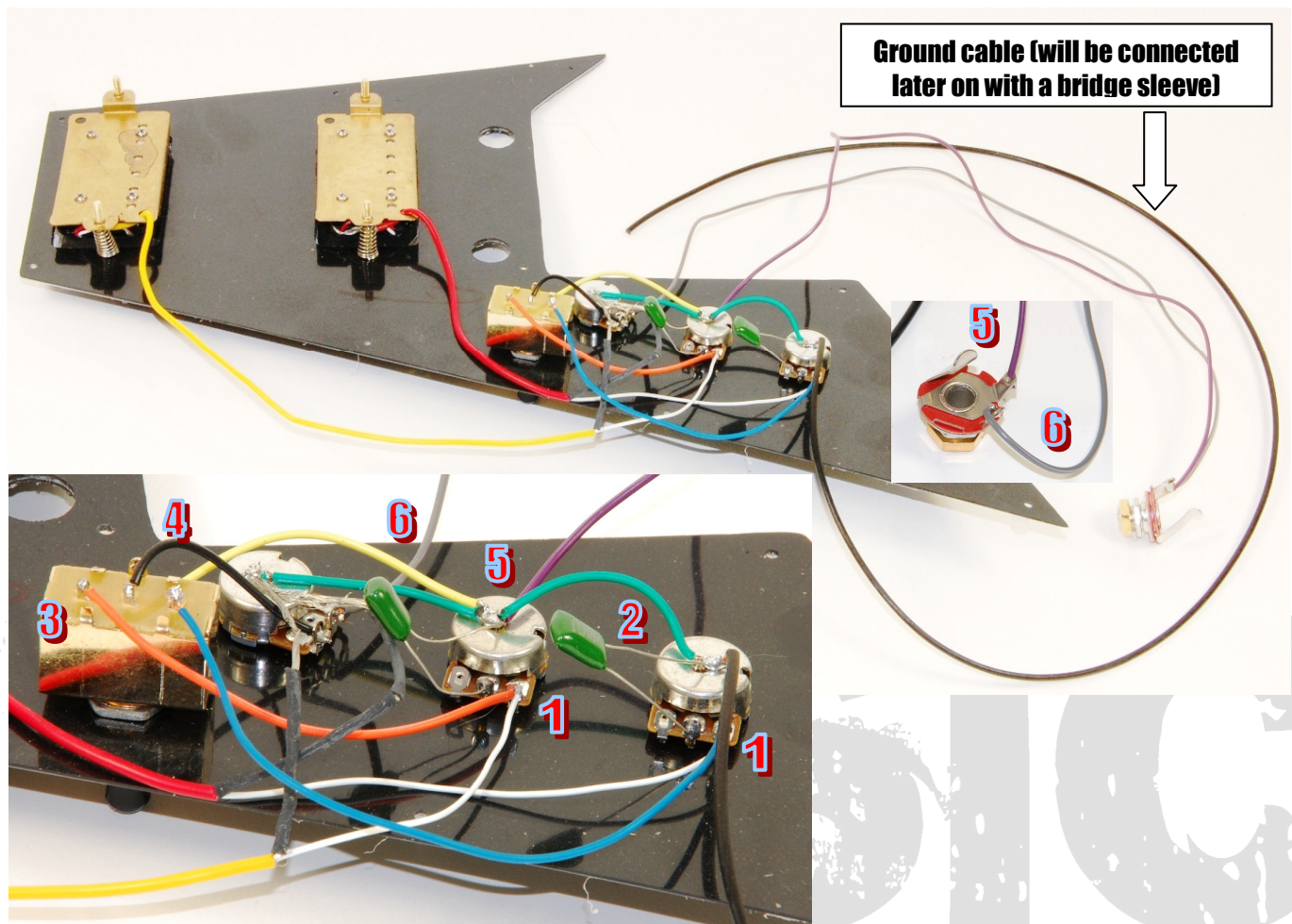
Before we start with the wiring it is not stupid to assemble the 2 PUs, the three potis and the 3-way switch onto the black pick guard. For the PU screws holes have to be drilled. The Humbuckers itself are fine for using them as some kind of a template – marking the point for the holes on the guard. Please check photo 1 and 2 on the left. Afterwards both PUs (inclusive the springs) can be bolt together with the pick guard - which you can see at photo 3 on the left underneath. Yet all three potis (please take care on the right order before fixing and wiring them) and the switch can be assembled. After doing this: the back of the pick guard should look like shown on the 2nd photo on the left.



In the **CONTROL CENTRE** everything is meeting which is required to bring the electric guitar to life later on...

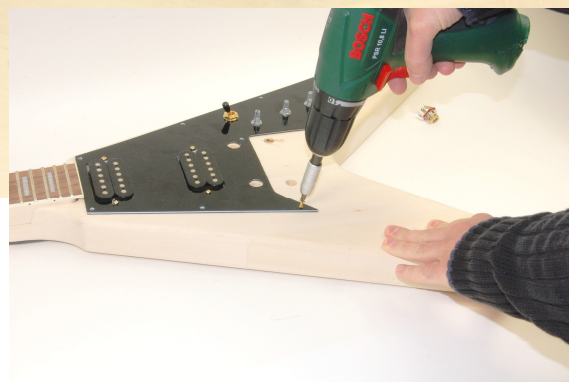
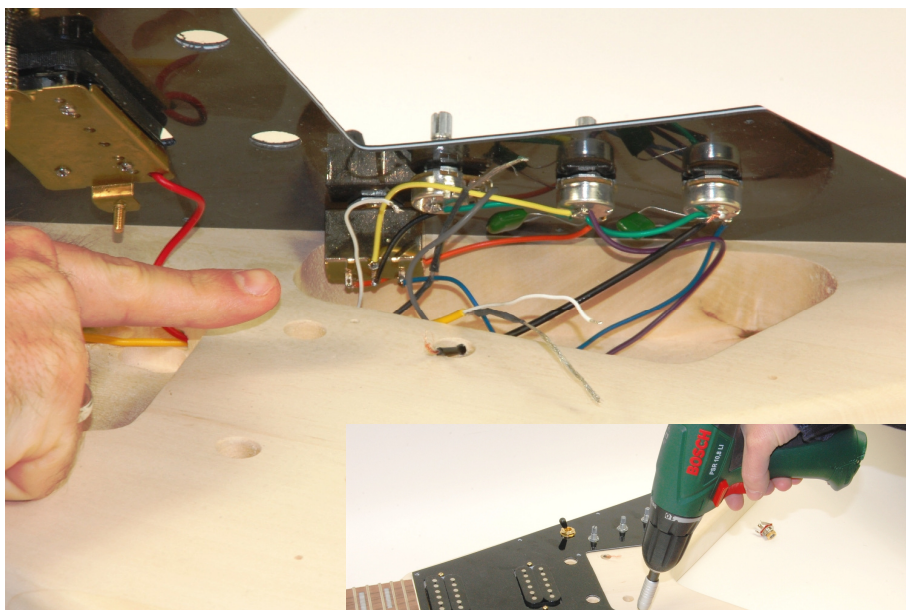
On the following three photos it can be seen quite well which cable has to be soldered on which place. To prevent droning afterwards, each poti has to be grounded even the switch and the jack too (please check the turquoise cables in between all three potis on the photo beneath). All colors of the cables are for better alignment. So this has nothing to do with their function. According to each kit they can differ. Attention: The cables for the humbuckers and both strands for the output jack have to be lead through their channels to their complying points. This will be shown on the next page too!!! The thicker cables of the PUs (on the picture: **yellow** = neck PU and **red** = bridge PU) do include basically 2 single cables with a much smaller diameter. Each time one of these has to be soldered onto the top of the volume poti (the blank one) – while the other one (the white cable) has to be brazed with the complying contact of each of the both tone potis (picture underneath, check No **1**). Volume and tone potis can be distinguished very easy: the volume poti is signed with a **B** and the tone poti with an **A**. The capacitors have to be brazed with one wire onto the top of the tone potis and with the other end onto the medial contact (check No **2**). Both hot contacts (check No **1**) of the tone potis have to be soldered with each outer pole of the 3-way switch (No **3**). The middle pole of the switch has to be soldered with the hot contact of the volume poti (No **4**). The tone poti in the middle has to be connected (soldered) with a ground cable to the inner ring of the output jack (No **5**). The hot wire (on the picture underneath the grey cable) is leading from the middle contact of the volume poti to the outer ring of the output jack (No **6**). Before getting the whole construct back onto the guitars body it is recommended to test all functions. You only go to connect it to an amp by using the guitar cable, submitting the PUs to a kind of “knocking check”. All potis have to be tried out. If anything is droning a bit too much – this can be the result of a wrong connection or the hint to a dry soldered joint.

By getting a strong electric shock you should call first the paramedics and afterwards a certified electrician... In this case we would deny every responsibility for possibly wrong statements we've made before!! (=-: But this only as some kind of a marginal joke...



Getting on the pick guard...

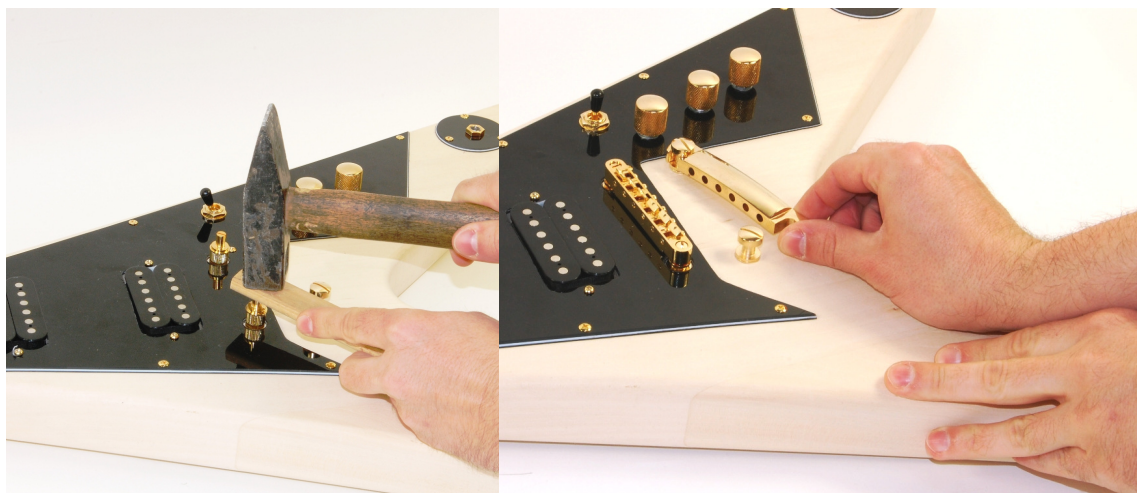
OK – we all have digested the nice joke with the ambulance – so now we can get straight down to the nitty-gritty fixing some parts of the hardware together with the pick guard onto the guitars body. On the right photo it is clearly visible at which point the PU cables and the ground to the bridge shall get out. Yet the PU strands (as shown on the page before) have to be soldered at the right place. This is some kind of fiddling. But therefore we are passionate tinkerer – or not? In hindsight the pick guard can be fixed on the body with the small golden wood screws (2nd photo on the right). All holes



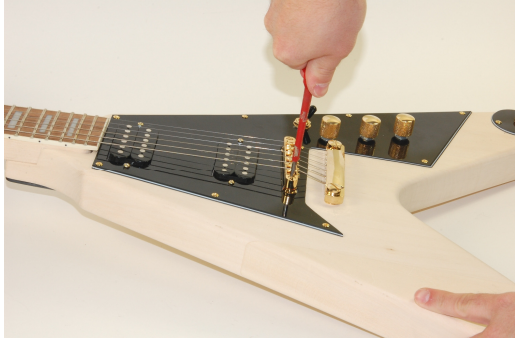
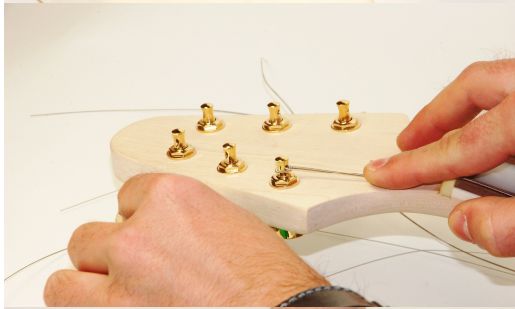
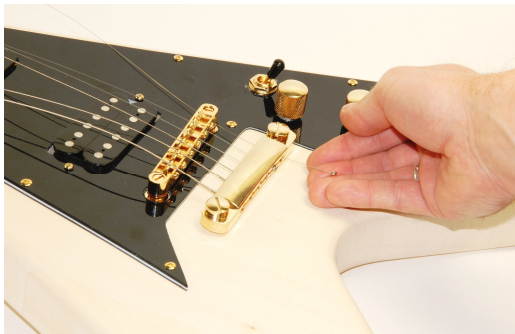
for that have been predrilled – so it shouldn't be a further problem doing this. Finally the output jack (as shown on the page before) has to be soldered and fixed by using the cover in between the hexagon head screw and the jack. The whole construction has to be bolt on with the three small wood screws. Please check out the tiny photo on the left.

Mounting the "Tune O Matic" bridge and the stop bar...

Therefore you don't need force but at the very least a small hammer to get the sleeves into the pre drilled holes at the body. Check out the 1st photo on the left beneath. The two smaller pins have to be put in near beside the bridge PU – the two with the bigger screw heads behind them. All four pins have to be hammered in till their lower rim. To prevent damage on the material it is recommended putting a wooden wedge or similar in between while hammering (2nd photo on the right underneath). The stop bar and the rather bridge part (that's the one with the 6 adjustable string riders) have to be attached on as shown on the 2nd photo on the right.



Getting on the strings...



As well shown on the two photos on the left - the 6 strings have to put in on the back of the stop bar and got to be lead to the headstock respectively to the tuner machine heads. Each string has to be wind up from the middle to the outside. The three tuners on the upside have to be rotated away from your body – the three on the downside into the opposite direction. The guitar has to be tuned upwards from the thickest string (that's No 6) in E, A, D, G, b, e. If you cannot trust your ears you should confide to a usual in trade tuner... If some strings touch the frets after tuning – the height of the bridge with its string riders can be adjusted a bit. Please check out the 3rd photo on the left side beneath.

Adjusting of the truss rod and clearing the fret intonation...

Snatched barely ahead the 12th the tuner has to display exactly the same tone (note) as by strumming the open string. If this tone is a bit too high the complying string saddle has to be moved a bit into direction of the stop bar -in the opposite case into direction of the fingerboard. This preset has to be made for each single string. Please check out the photo on the right side above.



Calibrate the trussrod...

After the guitar has been tuned again it occurs relatively often that the neck is slightly too skew or much too concave. In because of this the Trussrod has to be calibrated with the Allen wrench at this point. The access you can find at rudiment of the headstock upside the nut. Please check the photo on the right underneath. In advance doing this the strings got to be loosening again a bit. In the bay there's a hexagon socket screw. This screw has to be rotated into direction of your body (clockwise) till you feel clearly a resistance - and the neck is getting visually straight. But please keep the neck slightly concave. If the string action is now too low – you can change that with the help of the bridge mechanic again. How to do this has been described a few steps before. Afterwards the guitar has to be tuned again.

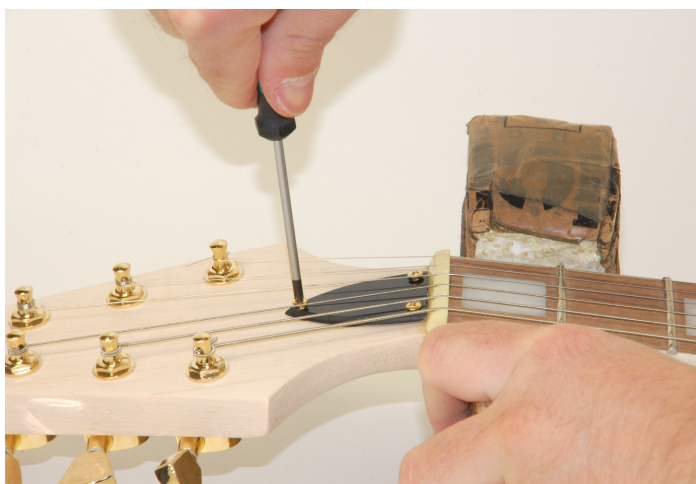


Fixing the strap holders...

Playing the Flying-V while seating is badly possible, so the next step makes quite sense. To fix the strap holders just turn around the guitar onto its stomach. The pin for the shoulder part of the strap has to be put on above and for about 2 cm on the right of the neck plate. Please check out the 1st photo on the left underneath. The other one got to be fixed on the inside of the upper dovetail of the guitars body. Check out the 2nd photo on the right below.



Fixing the cover of the Trussrod...



“Too many words don’t make sense at all... “

Honestly: Get the three left small wood screws (this shall be at least the case), take the triangular cover and fix it with an appropriate cross recess screw driver above the Trussrod access – to express this in a functional correct form. Dot and end of message. ((-:

So get a move on – and have a lot of fun while playing your first home-made electric guitar by TENAYO!!!

PS.: The original and full colored version of this fine manual can be requested via info@mm-wo.de ...



Attention!!! „All Electric equipment can usually not be disposed with your household refuse!! This guitar kit is including parts which do not belong into domestic waste too!!! All these parts have to be brought to your local collecting point or recycling depot. Our WEEE-Registration-Number is **DE 57445331**.

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