

Headless Guitar Kit Assembly Manual



Step-by-step instructions on how to build your own DIY Headless guitar. Get started by reading the following tutorial even if you're a first-time builder.



There's nothing more satisfying than playing a unique headless guitar you have put together yourself.

So let's get started!

Project Tools and Consumables

Before we get started check the list below and ensure you have the necessary tools and consumables required to complete the project

Tools

- Steel ruler (at least 40 cm)
- Hard sanding block
- Center punch (or similar tool for marking hole locations)
- Electric drill and assorted drill bits
- Large and small screwdrivers (phillips head and flat head)
- Pliers (needle nose preferably)
- Soldering iron

Consumables

- Disposable gloves
- Small paintbrush
- Wood grain filler (If open grain timber such as Mahogany or Oak)
- Sandpaper. Various grades, from 120 up to 1500 (*depends on finish)
- Finishing supplies. (This depends on your choice of finish)
- Painters masking tape
- Assortment of clean rags and paper towel
- Denatured alcohol (or cleaning product with degreasing ability)
- 0000 fine grade steel wool
- Solder (and sponge for cleaning tip of iron)
- Container for storing finishing supplies.

Next, check that all parts have been included.

Parts List

Below are the parts you will find included in your packaging to complete an HL-style guitar kit.

- Prepped HL body
- Completed neck
- Neck plate, neck plate cushion and screws
- 2 x Strap buttons
- HL Tremolo Bridge

- Whammy bar or Vibrato bar
- Electronics (1x Volume knob, 1x Tone knob, and a 5-Way Selector switch)
- 1 humbucker pickup with pickup ring
- 2 single coil pickups
- Input jack
- Hex wrench (for adjusting truss rod)
- Set of strings
- Assorted screws and washers

Safety Precautions

To complete your guitar kit safely, also ensure you have the following on hand, and a well ventilated work space to work in.

Protective eyewear

Use protective safety glasses or a genuine face shield, not regular prescription, reading, or sunglasses.

Disposable gloves

Use disposable gloves if applying stains or oil finishes directly to the guitar.

Masks

Use an N95 rated dust mask for sanding and an R95 rated particle mask for finishing. If using water based finishing products an N95 dust mask may suffice for both sanding and finishing, but be sure to check the finishing suppliers recommendations first. Paint fumes are dangerous.

A well ventilated work area

Ensure your work space is well ventilated, especially when finishing to prevent a build up of potentially toxic fumes.

Making your Guitar Kit play & Sound Great

There are four stages to building a great kit guitar, these are:

1. Preparation and finishing

The finished surface appearance of your guitar e.g. staining, painting, or applying a hand rubbed oil finish.

2. Hardware Installation

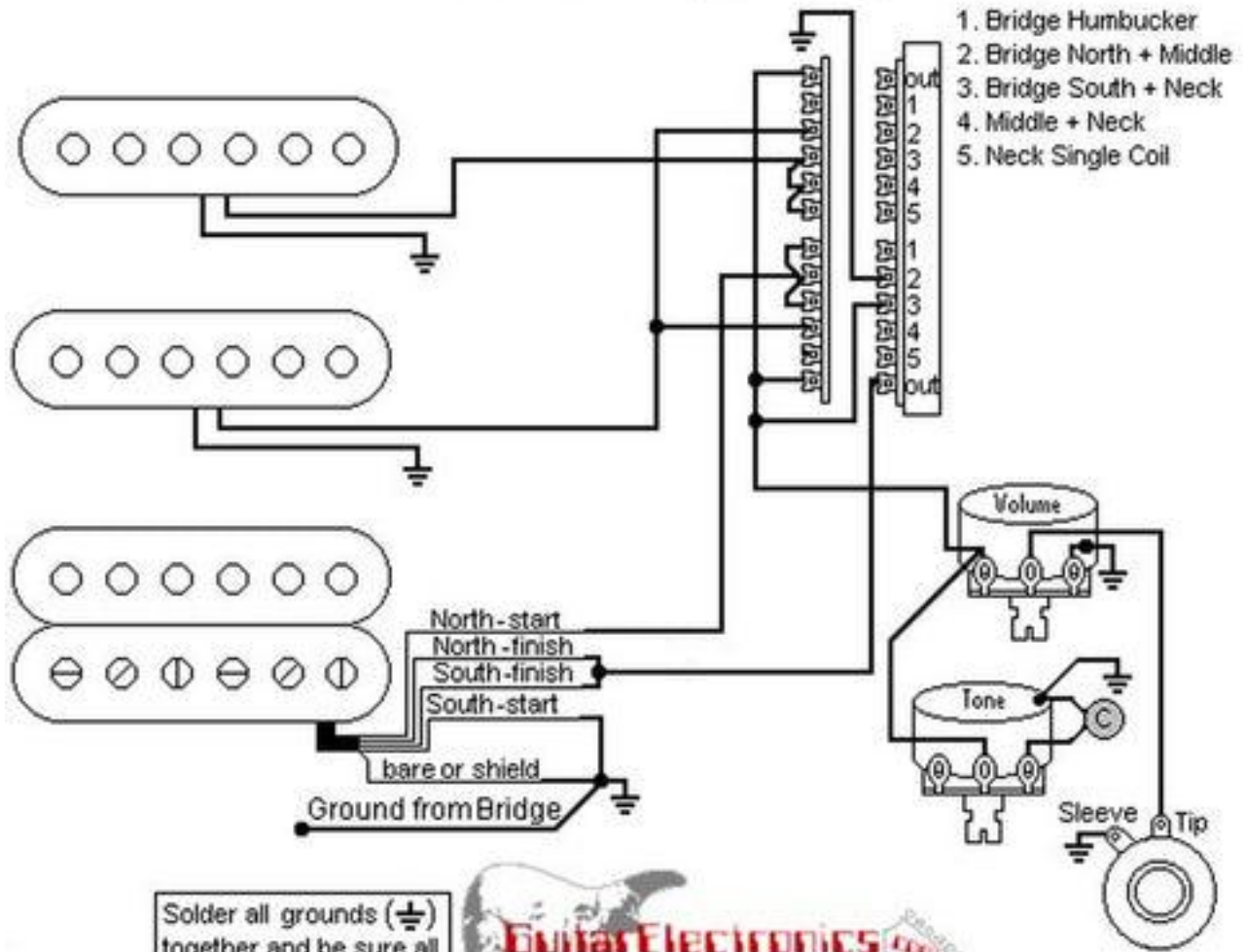
Fitting strap buttons, bridge, and pickups.

3. Connecting the electronics

Connecting the pickups to the input jack, and incorporating a pickup selector and volume and tone potentiometers. Your guitar kit has a configuration of 1 Humbucker/2 Single Coils/5-Way Switch/1 Volume/1 Tone. A clear illustration is on the next page.

1 Humbucker + 2 Single Coils

With Custom Pickup Switching



Solder all grounds (⊕) together and be sure all Parts are grounded.

Diagram designed and owned by GuitarElectronics.com.
 Reproduction or Distribution is prohibited

4. Final Setup

Adjusting the neck relief, action, intonation and pickup height.

The last stage of our project is setting up the guitar. This is an important step that makes all the difference with regard to playability and tone. Our final setup will consist of four key areas:

- Neck relief
- String action
- Intonation
- Pickup Height

I'll provide a basic overview of each below. Also, keep in mind the guitar should be tuned to concert pitch and checked regularly during the process to ensure the correct amount of tension is on the neck as adjustments are made.

You may also want to revisit aspects of your setup once you have had time to play the guitar and have identified problems e.g. fret buzz or intonation issues.

Adjusting neck relief

The ideal guitar neck is one that has a small amount of inward bow or relief to provide clearance for the strings when vibrating. A neck that is too straight will very likely run into problems with fret buzz.

You can measure the straightness of the neck using a steel ruler. I prefer to hold down the first and last fret and then tap the 12th fret lightly of the low E string. If the string is already sitting hard against the fret more relief is required. If sitting well above the fret, the amount of relief can be reduced.

To adjust the amount of relief, adjust the truss rod using the hex key included in your packaging. Turn counter clockwise to loosen the truss rod which will introduce more relief. Turn clockwise to flatten the neck further.

Remember to only make incremental changes of $\frac{1}{8}$ th to a $\frac{1}{4}$ turn each time and make sure the guitar is tuned to concert pitch so the correct amount of tension from the strings is placed on the neck. Be sure to continue to check your tuning through the entire setup process.

Adjusting the action

Action refers to the height of the strings from the fretboard of the guitar. This is usually measured from the top of the 12th fret to the underside of the low E string.



A good starting point if unsure is 2.4mm on the low E side and 1.6mm on the high E side, taking into account the different string gauges. Make sure the guitar is in tune before checking and making adjustments.

Action is adjusted at the bridge. Taking the small alum key in your packaging, turn the individual saddle posts counter clockwise to lower the individual saddle posts or clockwise to raise the action. You'll need to match the height for both to keep the saddle balanced on the bridge.

Intonating the DIY guitar

Intonation, in essence means, is the guitar in tune with itself. You can check this by tuning to standard tuning and then checking the strings at the 12th fret (an octave up from the open string). If the pitch is sharp you will need to lengthen the string length. If flat you will need to shorten it.

As mentioned earlier. Your scale length is not a precise measurement as there is some compensation required for the additional mass of the heavier bass strings. This is also why most bridges on electric guitar are angled away from the body of the guitar toward the bass strings.

To lengthen the string, turn the intonation adjustment screws at the back of the saddle counter clockwise. To shorten turn them clockwise. Make sure the guitar is in tune before checking and adjusting.

Adjusting pickup height

Lastly, we'll check and adjust the pickup height. Much like string action, the height of your pickups is mostly subjective and will depend on what you are hearing.



But, if unsure a good starting point is 2.4mm from the top of the magnetic pole piece to the underside of the string. However, this should be measured when pressing down the last fret

of the guitar. To adjust the height of the pickups, adjust the mounting screws on the outside of the pickup surround.

Congratulations on finishing the build!