

DIY ELECTRIC GUITAR ASSEMBLY MANUAL



DESIGNED BY AKLOT FOR ALL SKILL LEVELS



UNFLASH YOUR DREAM

ASSEMBLE. EXPRESS. PLAY YOUR SOUND

VLR Series by AKLOT
Build & Play

DIY
GUITAR
ELECTRIC

LX ELECTRIC GUITAR
Your
First build
Your own voice

Contents

01

Pre-Work Preparation

..... 01

1.1 LP-Style Guitar Parts List

..... 01

1.2 Recommended Tools & Materials

..... 03

1.3 Before You Assemble

..... 04

02

Assembly Instructions

..... 06

2.1 Guitar Neck Installation

..... 06

2.2 Headstock Tuner Installation

..... 08

2.3 Strap Button Installation

..... 09

2.4 Volume Knobs & Tone Knobs and
Selector Switch Installation

..... 12

2.5 Pickup Installation

..... 14

2.6 Jack & Wiring & Backplate Installation

..... 16

2.7 Bridge & Tailpiece & String

Installation 19

03

Tuning & Setup

..... 22

3.1 Adjusting Neck Relief

..... 23

3.2 Adjusting string Action

..... 25

3.3 Adjusting Scale Length and Intonation

..... 26

3.4 Adjusting Pickup Height

..... 27

04

Environmental Responsibility

..... 28

05

Final Summary

..... 29

Safety Notice

ALWAYS FOLLOW SAFETY INSTRUCTIONS



DANGER!

- **Risk to Children**

- Keep plastic bags, packaging materials, etc. properly disposed of and away from babies and young children. Suffocation hazard!
- Ensure children do not remove any small parts from the product (e.g., knobs). Swallowing these parts may cause choking!



WARNING!

- **Finger Cut Hazard**

- Beware of sharp edges on tools, screws, and components during assembly.
- Wear gloves if necessary to avoid injury during handling.



WARNING!

- **Flammable Material Risk**

- Keep paints, glues, and solvents away from open flames or heat sources.
- Store all chemicals properly when not in use.

1.Pre-Work Preparation

1.1 LP-Style Guitar Parts List



ITEM NO.	ITEM NAME	QUANTITY	UNIT
③	Tuners	6	PCS
④	Tuner screws	6	PCS
⑤	Pickup covers	1	PCS
⑥	Pickup cover screws	3	PCS
⑦	Reinforcement plate	1	PCS
⑧	Reinforcement plate screws	4	PCS
⑨	Tailpiece	2	PCS
⑩	Tailpiece stud inserts	2	PCS
⑪	Tailpiece screws	2	PCS
⑫	Back cover plate	1	PCS
⑬	Backplate screws	3	PCS

1.Pre-Work Preparation



ITEM NO.	ITEM NAME	QUANTITY	UNIT
㉒	Strings	1	SET
㉖	Pickups	2	PCS
㉗	Pickup screws	8	PCS
㉘	1V1T-3Way Harness	1	PCS
㉙	Control circuit nuts & washers	2	PCS
㉚	Knobs (metal caps for volume/tone)	2	PCS
㉛	Bridge	2	PCS
㉜	Bridge posts	4	PCS
㉝	Output jack plate	1	PCS
㉞	Jack screws	2	PCS

1. Pre-Work Preparation

1.2 Recommended Tools & Materials



● To make your DIY guitar build easier and more enjoyable, we recommend having the following tools and supplies ready. Not all are strictly required, but they can help streamline the process and improve your overall experience.

- Phillips screwdriver
- Soldering iron
- Steel ruler
- Rubber Mallet
- Socket Wrench Set
- Pliers
- Needle File
- Nut Slotting Saw
- Workbench Mat
- Paint & Accessories
- Hard sanding block
- Neck Straightedge Ruler



If you plan to spray paint your guitar before assembly, always wear safety goggles and an N95 (or higher) mask to avoid inhaling hazardous fumes.

- You can also customize the shape of the guitar headstock using a suitable saw. Start by sketching your design on paper, cutting it out, and attaching it to a veneer sheet or directly onto the headstock. Use this template as your cutting guide.
- Be sure to leave at least 3mm of space around tuner screw holes and the outer edges to ensure proper installation of hardware. If you're new to woodworking, we recommend sticking with the default shape to avoid weakening the structure. After cutting, carefully sand all surfaces and edges to achieve a smooth, consistent finish.



1.Pre-Work Preparation

1.3 Before You Assemble



- All screw holes in this kit are pre-drilled and accurately positioned, so no additional drilling is needed during assembly. Do not force screws into place—if any hole feels too tight, lightly sand the edges instead of applying pressure.
- Once you open the package, inspect the guitar body carefully under good lighting. Look for the following:
 - Major dents that may require wood filler
 - Deep scratches that may need sanding
 - Any leftover adhesive or glue on the surface

1. Pre-Work Preparation



- **After identifying issues, begin sanding:**

- Use 180-240 grit sandpaper for initial leveling (critical for stain absorption)
- Optional: Refine with 400+ grit, but over-sanding may reduce stain penetration

- **Post-sanding, wipe the body with:**

- Damp cloth (may raise wood grain – lightly re-sand if needed)
- Denatured alcohol (recommended for faster evaporation)

- **Before final assembly, verify:**

- Neck pocket alignment
- Installation orientation
- Neck angle (use included gauge)
- String spacing consistency

Note:



This kit uses unfinished wood, so slight grain shifts or surface changes may occur during shipping. These are normal and can be corrected with light sanding before painting or staining.

2. Assembly Instructions

2.1 Guitar Neck Installation



● Neck Placement & Fitment

- Place the guitar body and neck on a padded work surface to prevent scratches.
- Gently insert the neck heel into the neck pocket, applying even pressure to avoid damaging the pocket's thin edges.

● Scale Length Verification

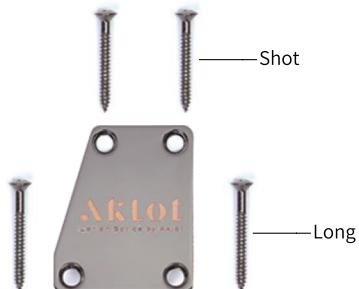
- Temporarily install the bridge. Measure from the nut edge (closest to the fretboard) to the 12th fret midpoint, then double this value. The standard LP scale length is 24.75" (628mm).
- If the scale appears slightly short, the bridge position is pre-adjusted for bass string tension. Fine-tune with bridge saddle screws.

Note:



- Insert neck at 45° until tenon base contacts endpoint, rotate to vertical orientation and press to full seating.
- During precision testing procedures, apply forward pressure on neck heel to achieve 3-5mm separation, withdraw at consistent forward angle while providing immediate support upon tenon disengagement.

2. Assembly Instructions



● Reinforcement Plate & Screw Installation

- Flip the guitar. Align the reinforcement plate with the 4 backplate holes and loosely insert all screws.
- Tighten diagonally: first top-left screw, then bottom-right, followed by the remaining two.
- Final check: Ensure neck alignment is straight before full tightening.



Key Tips

- Use a ruler to verify neck angle before final assembly.
- Overtightening screws may strip wood threads – hand-tighten only.

2. Assembly Instructions

2.2 Headstock Tuner Installation



- **Organize Tuners**

- The LP kit includes 6 tuners (3 per side). Separate them into left/right sets before installation.

- **Install Tuners**

- Insert each tuner shaft through the headstock front, sliding it toward the body until seated.

- Assemble: Thread the washer and bushing onto the shaft, then hand-tighten. To prevent tuning machine misalignment during installation, we have factory-pre-drilled the mounting screw holes. This eliminates user positioning efforts—simply tighten the screws sequentially to ensure optimal performance.

- **Remove Protective Film**

- Press masking tape firmly over each tuner back, then peel tape to remove film cleanly.



Important:

Over-tightening bushings may crack headstock veneer.

2. Assembly Instructions

2.3 Strap Button Installation



● Positioning for Optimal Balance

- Strap buttons not only secure your guitar while standing, but their placement critically affects instrument balance.
- On LP-style guitars:

Rear button: "Centered on the lower bout (backside) , as shown in diagram.
Front button: "Installed at the upper bout (treble horn), as shown in diagram.

● Installation Steps

- Place the metal washer against the body first, followed by the strap button.
- Hand-start all screws into pre-drilled holes before tightening.
- Use a screwdriver with controlled torque to avoid wood splitting.

● Final Check

- Gently tug the buttons to confirm stability without over-compression marks on the wood.

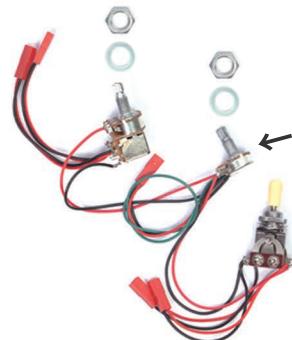
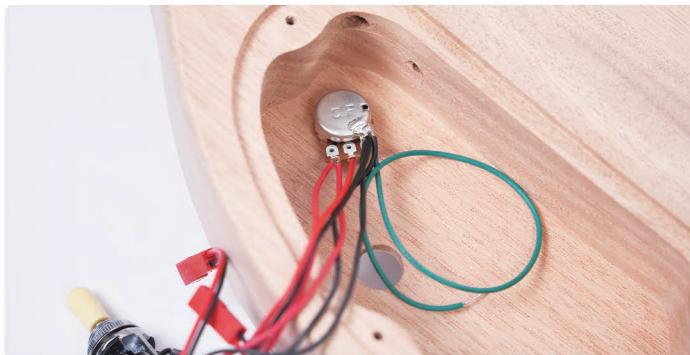
Key Warnings

- Overtightening is the #1 cause of body cracks – stop when resistance increases sharply.
- For heavy guitars, consider adding a nylon washer between button and body.



2. Assembly Instructions

2.4.1 Volume Knobs Installation



● Volume Knobs Installation

- Insert the volume potentiometer (with green ground wire) into the top pre-drilled hole.
- Flip the guitar, slide on the washer and nut, then tighten securely with pliers.



Note:

Ensure the ground wire doesn't contact other components to avoid hum.

2. Assembly Instructions

2.4.2 Tone Knobs Installation

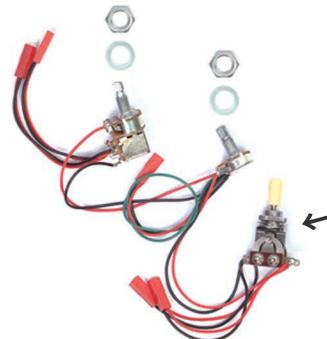
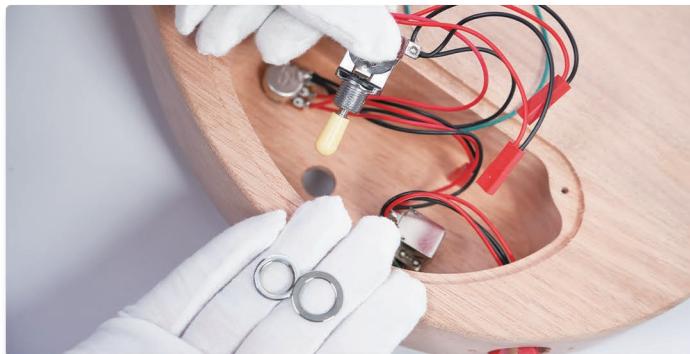


● Tone Knobs Installation

- Insert the tone potentiometer into the bottom pre-drilled hole.
- Flip the guitar, slide on the washer and nut, then tighten securely with a wrench.
- Check that the potentiometer sits flush and does not wobble before wiring.

2. Assembly Instructions

2.4.3 Selector Switch Installation



● Selector Switch Installation

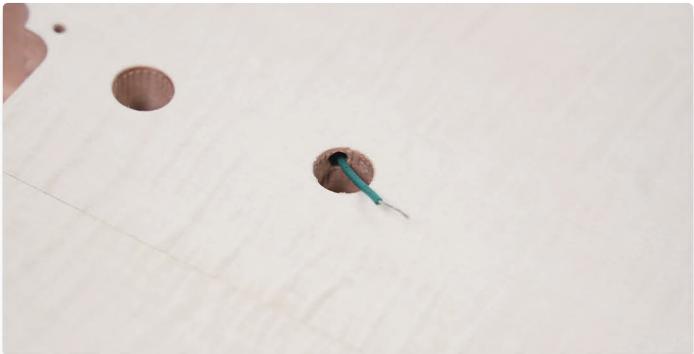
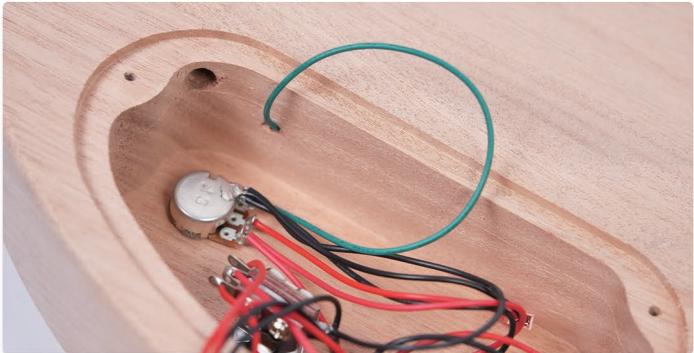
- Remove the switch's factory washer and nut before insertion.
- Insert the switch into the center hole, then reattach the washer and nut from inside the control cavity.
- Tighten with pliers while testing switch movement – it should click firmly between positions without wobbling.



Critical Checks:

- Verify all nuts are flush against the body to prevent grounding issues.
- If the selector feels loose, add a second nylon washer for stability.

2. Assembly Instructions



● Ground Wire Routing

- Thread the green ground wire through the pre-drilled hole near the bridge.
- It should exit on the right side of the bridge cavity (see diagram).

2. Assembly Instructions

2.5 Pickup Installation



● Neck Pickup (Red Wire) Installation

- Place the pickup with the red wire into the neck (upper) position.
- Route the red wire through the central channel between pickup cavities, then out through the bridge pickup hole.

● Bridge Pickup (Black Wire) Installation

- Install the pickup with the black wire into the bridge (lower) position.
- routing its wire through the designated pre-drilled hole (see diagram).

2. Assembly Instructions



● Secure Pickups

- Align both pickups with their screw holes, ensuring wires aren't pinched.
- Fasten screws evenly – alternate tightening to avoid tilting.



Key Notes

- Leave slight pickup height adjustment room (1-2mm gap) for final setup.
- Avoid over-tightening – pickup bobbins may crack under pressure.

2. Assembly Instructions

2.6.1 Jack Installation



● Install the Output Jack

- Insert the output jack into its pre-cut cavity, threading the connected cable through the designated hole.
- Secure the jack with provided screws from the backplate side.

Note:

· Carefully identify wire colors to ensure correct wiring connections.

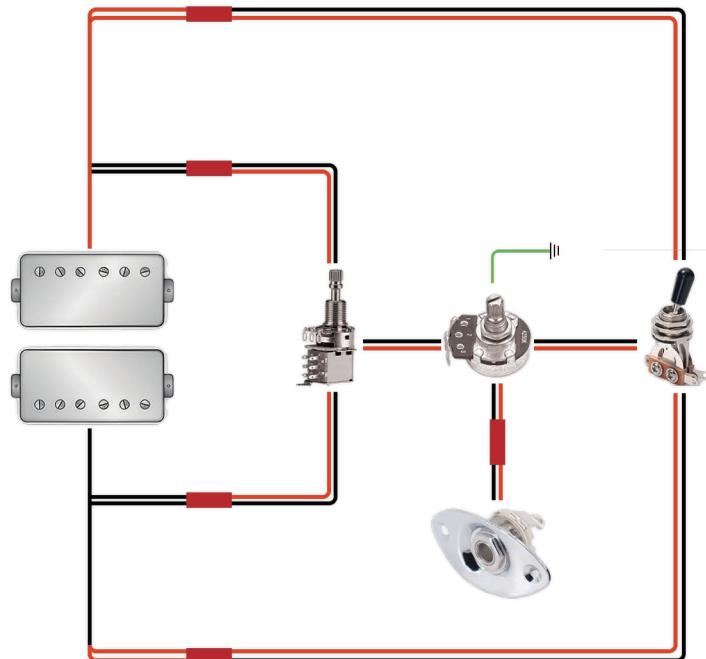


· The neck pickup connects to the left terminal of the selector switch, and the bridge pickup to the right terminal.

· Handle wires with care during installation; avoid pulling to prevent damage to soldering joints.

2. Assembly Instructions

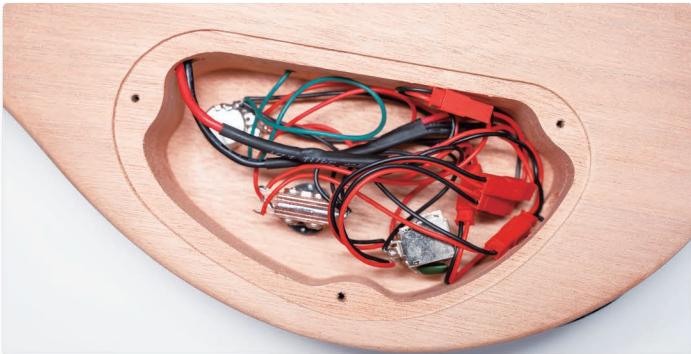
2.6.2 Wiring Installation



- Pre-installed push-on connectors are provided. Connect the pickup circuit according to the wiring diagram:
 - Connect the volume potentiometer to the output jack.
 - Connect the black wire from the pickup to the tone potentiometer.
 - Connect the red wire from the pickup to the pickup selector switch.

2. Assembly Instructions

2.6.3 Backplate Installation



- Neatly tuck all wires into the control cavity to prevent interference.
- Align the backplate over the cavity and fasten with screws (diagonal pattern recommended).

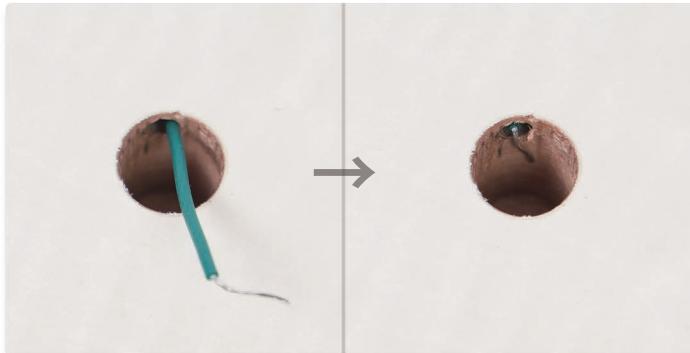
Critical Checks:



- Test all pickups/switch positions before closing – loose connections cause crackling.
- Ensure no wires touch the backplate's inner surface to prevent grounding shorts.

2. Assembly Instructions

2.7.1 Bridge, Tailpiece Installation



● Ground Wire Setup

- A green ground wire has been pre-routed through the guitar body.
- Bend the exposed copper end of this wire and insert it into the bridge post hole.
- When installing the bridge post, the ground wire will be permanently secured through compression.



Key Tips

Ground wire contact is critical—test with a multimeter if unsure.



● Installing Bridge & Tailpiece Posts

- Prior to installing the bridge post by tapping, detach the post's top cap and place protective padding beneath the guitar body for impact absorption.

2. Assembly Instructions



- Slide the bridge and tailpiece onto their posts



Key Tips

If no rubber mallet is available, place cotton cloth padding over the bridge post before tapping to protect both the component and guitar body finish.

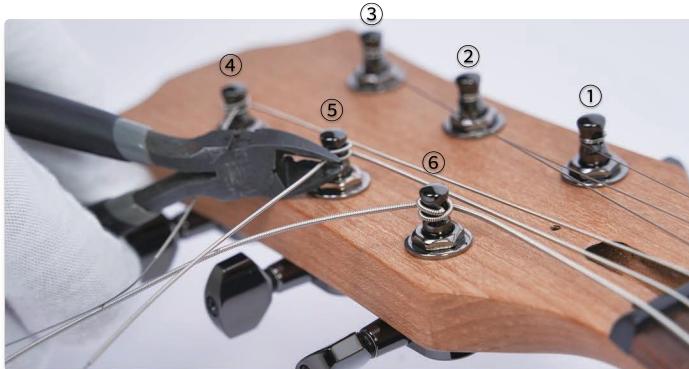


- **Knob Installation:**

- Insert the volume and tone knobs onto their potentiometer shafts.
- Pressdown firmly until fully seated.
- Test rotation to confirm smooth operation.

2. Assembly Instructions

2.7.2 String Installation



- Adjust neck relief (see tuning section) before installing strings. Mount strings from center outward for even tension.

- **String Installation Procedure**

- Wind the string around the tuning post 2-3 times before securing, leaving only enough slack to maintain tension.
- Trim excess string with pliers.

3. Tuning & Setup

The final setup stage is essential for achieving ideal playability and tone. It involves four key adjustments:

- **Neck Relief**

- Prevents fret buzz by accommodating string vibration arc.
- Enables lower action without compromising playability.
- Ensures consistent feel across all fret positions.

- **String Action**

- Balances playing comfort against clear note articulation.
- Prevents premature note decay (choking) in bends.
- Reduces hand fatigue during extended play.

- **Intonation**

- Guarantees accurate pitch at every fret position.
- Eliminates harmonic dissonance in chords.
- Makes the guitar usable in professional recording contexts.

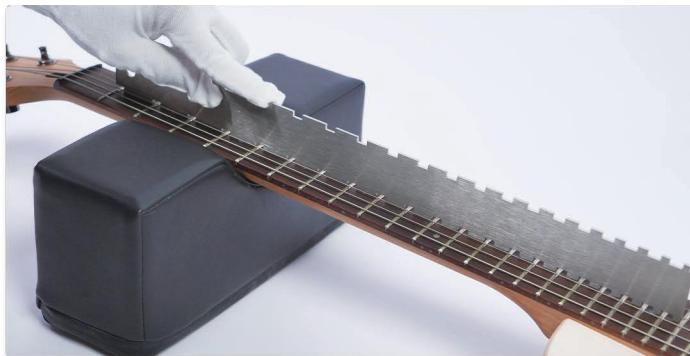
- **Pickup Height**

- Maximizes output while preventing magnetic string damping.
- Balances volume across all strings.
- Shapes tonal character and dynamic responsiveness.

The following content will provide a basic overview of each adjustment. Please remember to keep the guitar tuned to concert pitch (A440) throughout the process, and check regularly to ensure the neck maintains proper tension during adjustments.

3. Tuning & Setup

3.1 Adjusting Neck Relief



- **Why Adjust Neck Relief?**

- The ideal guitar neck has a slight forward bow, also known as neck relief. This creates clearance for vibrating strings and helps prevent fret buzz during play.
- If the neck is too straight or back-bowed, the strings may make contact with the frets, resulting in unwanted buzzing.

- **How to Check Relief:**

- Use a straightedge ruler along the frets to observe whether the neck has a subtle bow.
- Alternatively, press the low E string down at both the 1st fret and the last fret (e.g., 21st or 22nd). Tap the string around the 12th fret—it should have a small gap above the fret.
- If there's no gap, the neck is too flat; if the gap is excessive, the relief is too great.

3. Tuning & Setup



• How to Adjust Relief:

- To adjust the relief, use the hex wrench provided in your kit to turn the truss rod.
- Turning counterclockwise loosens the truss rod, increasing neck relief.
- Turning clockwise tightens the truss rod, flattening the neck.
- Always turn in 1/4-turn increments, then allow the neck to settle under string tension before proceeding.

TIPS:



- Tune the guitar to concert pitch before and during truss rod adjustments.
- Give the neck 5–10 minutes to settle after each turn before re-checking relief.
- The ideal string-to-fret gap at the 7th to 12th fret (while testing) is typically about 0.25 mm (~0.010").

CAUTION:



- Never force the truss rod. If you feel resistance or hear cracking, stop immediately.
- Over-tightening may damage the truss rod channel or warp the neck.
- If unsure, seek help from a qualified guitar technician.

3. Tuning & Setup

3.2 Adjusting String Action



- **Definition & Measurement**

- String action refers to the height of strings above the fretboard, typically measured from the top of the 12th fret to the bottom of each string.

- **Recommended Starting Points**

- Low E side: 2.4mm
- High E side: 1.6mm
- Adjust according to string gauge and playing style.

- **Adjustment Method**

- Turn saddle screws counterclockwise to raise action.
- Turn clockwise to lower action.
- Always check tuning after adjustments.



Critical Notes

Adjust while supporting the bridge to prevent tilting.

3. Tuning & Setup

3.3 Adjusting Scale Length and Intonation

Open String Pitch



12th Fret Pitch



- **Understanding Intonation**

Proper intonation ensures your guitar plays in tune with itself across all frets. To check, tune to standard pitch (A440) and compare the 12th fret note to its harmonic—they should match exactly.

- **Adjustment Steps**

If the 12th fret note is sharp (too high): "Lengthen the string by turning the bridge saddle screw counterclockwise (move saddle away from neck).
If the 12th fret note is flat (too low): "Shorten the string by turning the screw clockwise (move saddle toward neck)."

- **Why Compensation Matters**

The scale length isn't perfectly linear due to bass string tension. This is why bridges are angled—to compensate for thicker strings.



Key Reminders:

Always adjust intonation with fresh strings and at concert pitch. Worn strings or incorrect tuning skew results.

3. Tuning & Setup

3.4 Adjusting Pickup Height



- **Optimal Pickup Height**

- Pickup height significantly affects output and tone.
- While subjective, a good starting point is: 2.4mm between pole pieces and string bottom (when fretted at last fret). Bass side (low E) slightly higher (2.6mm) for balance.
- Adjust via the pickup's mounting screws on its sides.



Critical Notes

Adjust while supporting the bridge to prevent tilting.



- **Tuning Machine Cover Installation**

- After completing all setup procedures, allow the guitar to settle for several hours until stable.
- Then install the tuning machine cover.

4. Environmental Responsibility



Packaging Materials Disposal:

All packaging materials are recyclable. Please dispose of plastic bags, cushioning foam, and cardboard properly through local recycling channels—do not mix with household waste.



Electronic Equipment Disposal:

This product falls under the EU WEEE Directive. Never discard with regular trash. Use authorized e-waste facilities or municipal collection points. Consult local regulations for proper disposal.

5.Final Summary

- **Congratulations!**

You now have a fully assembled, playable guitar.

As you grow more familiar with it, you may wish to revisit certain setup aspects—particularly the final action and intonation.

- **Electronics Check**

Test all pickup positions, volume/tone knobs, and listen for unwanted noise (indicating grounding issues).

If interference occurs, inspect the control cavity's wiring.

- **Playability Verification**

Fret each note across all strings to detect buzzing or dead spots.

Most issues can be resolved by adjusting string action or neck relief.

- Enjoy your custom-built guitar! Regular maintenance will ensure peak performance.

- For any issues encountered during installation, usage, or disassembly.

Please feel free to contact our customer service team via email cs@aklot.com.

We're committed to providing professional technical support and solutions.

- **Thank you for choosing AKLOT!**

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