MasterPro Guitar Setup™ Manual

Standards & Procedures *for experienced professional guitar technicians only*

Before You Begin

Purpose & Scope

The MasterPro Guitar Setup™ system is designed for experienced professional guitar technicians who already know how to perform a complete guitar setup.

This manual does not teach basic setup, repair, fretwork, nut replacement, electronics, or other entry-level procedures. It defines the additional measurements, sequence, tools, inspection methods, quality-control requirements, and documentation required for a setup to qualify as a **MasterPro Guitar Setup™**.

Professional judgment is still required. Instruments, players, tunings, string gauges, playing styles, and construction vary. MasterPro standardizes the **process of evaluating, performing, verifying, and documenting the work** while allowing the technician to make appropriate decisions for the individual instrument.

MasterPro Certification Standard

A MasterPro Guitar Setup is a measured, repeatable, documented procedure.

When a job is represented as a MasterPro Guitar Setup, the technician must:

- Follow the required MasterPro Service Checklist sequence.
- Record starting conditions before making adjustments.
- Use the MasterPro gauges and Electronic Probe where specified.
- Evaluate nut condition, neck geometry, action, pickups, frets, fret ends, hardware, and electronics.
- Correct or properly address loose, high, worn, or otherwise problematic frets before completing the setup.
- Clean areas that will become difficult to reach once the strings are installed.
- Install, tune, stretch, and intonate the final strings using MasterPro procedures.
- Leave the instrument strung and tuned overnight.
- Perform the required next-day quality-control inspection.
- Document the completed work.

Required MasterPro steps are not optional when the completed job is issued a MasterPro Guitar Setup Certificate.

Required Workflow

The **MasterPro Service Checklist** is the authoritative working sequence.

Perform the setup from the top of the checklist downward. The order is intentional. Starting measurements are taken before adjustments, relief is established before later geometry decisions, fret and cleaning work is completed while the strings are off, and final setup work is performed after the new strings are installed and stabilized.

The instrument must then remain strung and tuned overnight and pass the required next-day quality-control inspection before the MasterPro setup is considered complete.

The procedure that follows this introduction is arranged in the same working order as the Service Checklist.

MasterPro Custom Tools

The MasterPro tool kit includes four tools used during the setup process.

Tool	Primary Use
MasterPro Relief Gauge	Provides a repeatable method for checking neck relief using a wire go/no-go measurement.
MasterPro Nut Gauge	Provides a repeatable method for checking nut-slot clearance.
MasterPro Electronic Probe	Detects actual string-to-fret contact that may be too slight to identify reliably by sound or sight alone.
MasterPro Fret Renewal Tool (FRT)	Removes suitable light-to-moderate fret wear without requiring a complete conventional level-and-crown procedure.

Instructions for each tool are included at the point in the setup procedure where that tool is used.

Reading the MasterPro Wire Gauges

The Relief Gauge and Nut Gauge are used with the same basic hand position and interpretation. Hold the long portion of the wire perpendicular to the fretboard. The short end, bent 90 degrees, passes between the string and the fret.

Gauge response	Meaning
Very slight bend as the wire passes	Proper gap
Wire passes without touching	Gap is too wide
Sharp bend	Gap is too narrow
Wire will not pass	Gap is too narrow

Use only enough force to test the gap. Do not force the wire through a space that is too small. The goal is a repeatable indication, not simply getting the gauge through.

MasterPro Guitar Setup Procedure

Perform the procedure in the order shown. Record measurements, findings and completed work in the

MasterPro online job record as required.

Step 1 — Tune to Player's Preference & Record Starting Measurements

Tune the instrument to the player's normal tuning.

Before adjusting relief or saddle height, record the initial string height and relief.

Measure action from the top of the fret to the bottom of the string:

- **Bass, Strat-style and Tele-style instruments: 17th fret**
- **Most other instruments: 12th fret**

Do not fret or capo the string when measuring action.

Initial action and relief must be measured and recorded before either is adjusted.

Step 2 — Jack, Electrical & Hardware

Before beginning setup adjustments, inspect and test the instrument.

Jack & Electrical

Verify:

- **Not loose**
- **Reliable output**
- **Proper plug retention**
- **No intermittent signal when the plug is moved**
- **Pickup operation**
- **Volume and tone controls**
- **Selector switches**
- **Active electronics, where applicable**

A thin metal six-inch rule may be used to tap pickups ensuring you know which one you're hearing.

Hardware

Inspect applicable hardware for looseness, damage or improper operation, including:

- **Tuners and tuner nuts**
- **Neck fasteners**
- **Strap buttons**
- **Bridge and tailpiece hardware**
- **Pickguard and control hardware**

CUSTOMER AUTHORIZATION

If inspection reveals work outside the authorized service, obtain approval before proceeding with the additional work.

Step 3 — Relief

Set relief with the old strings installed and the instrument tuned to the player's preferred tuning.

MasterPro Relief Gauge

1. **Fret or capo the low string at the first fret.**
2. **Fret it again at the highest fret at the body.**
3. **Check near the center of the neck bow — normally the 8th fret on electrics and often the 7th fret on acoustics.**
4. **Hold the gauge perpendicular to the fretboard and pass the short 90-degree end between the string and fret.**

Interpret the gauge (typically 0.011"):

- **Very slight bend: proper gap**
- **Passes without contact: too much relief**
- **Sharp bend: too little relief**
- **Will not pass: too little relief**

Typical MasterPro working target: approximately .009".

Check the treble side when neck twist or unequal relief is suspected. If it has no relief, increase relief until treble has a very slight gap, retune and recheck.

Do not force a damaged, seized or bottomed-out truss rod.

Step 4 — Nut

Evaluate every nut slot before altering any of them.

Check:

- Slot height (target: .020″ bass-side strings; .016″ treble-side strings)
- **Front contact point (sharp edge)**
- **Slot angle (toward tuners)**
- **Rear exit (rounded edges)**
- **Break angle (> 6°)**
- **Binding or tuning problems**

MasterPro Nut Gauge

With the old strings installed and tuned:

1. **Fret the string at the highest fret.**
2. **Check clearance between the string and first fret.**
3. **Hold the gauge perpendicular to the fretboard and pass the short end through the gap.**

Use approximately:

- .022″ wire for bass-side strings — target clearance approximately .020″
- .017″ wire for treble-side strings — target clearance approximately .016″

Interpretation:

- **Very slight bend: proper gap**
- **Passes without contact: slot is high**
- **Sharp bend: slot is low**
- **Will not pass: slot is low**

Slot Geometry

The string should be supported evenly through the nut slot and follow a smooth path toward the tuner.

The slot should:

- **Match the string's path toward the tuner or string guide.**
- **Support the string consistently throughout the slot.**
- **Maintain adequate break angle.**
- **Allow the string to move freely without binding.**
- **Avoid abrupt edges or geometry that can catch the string.**

A minimum break angle of approximately 6 degrees is a useful working reference.

Slightly round the rear exit edge where appropriate to allow smooth string movement. On 3x3 headstocks, the center strings may also require slight sideward rounding toward the tuning posts.

Electronic Probe — Nut Test

Use the Electronic Probe when first-fret contact is uncertain. (Does not work with coated strings like Elixir)

1. **Connect the ground to a string behind the nut or another conductive point connected to it.**
2. **Touch the probe tip to the first fret.**
3. **Play the string.**

Flickering light = the vibrating string is contacting the first fret indicating a low slot.

(Note: the probe can be used to locate fret contact anywhere along the fretboard by using a capo.)

Step 5 — Neck Angle

Evaluate both horizontal and vertical neck alignment before setting final saddle height.

Horizontal Alignment

The outer strings should remain approximately equal distances from the fretboard edges, with roughly 1/8" (3

mm) clearance where practical.

Correct the bolt-on neck alignment when required.

Vertical Angle

Evaluate whether the bridge or saddles have sufficient usable adjustment range.

Watch for:

- **Saddles near the top or bottom of their practical range**
- **Insufficient acoustic saddle height**
- **Poor upper-fret clearance despite otherwise proper relief, nut height and action**

The fretboard does not effectively “hinge” at the saddle. So incorrect neck angle can produce inadequate clearance over the upper frets (and buzz) even when conventional setup measurements appear correct.

Correct bolt-on neck angle with an appropriate shim when required. Other instruments may require structural work such as a neck reset.

Obtain authorization before performing work outside the approved setup.

Step 6 — Saddles / Action

Set final action after relief, nut condition and neck angle have been established.

Measure at the same location used for the starting measurement:

- **Bass, Strat and Tele: 17th fret**
- **Most others: 12th fret**

Action Specifications

Instrument	Bass - Treble
Electric guitar	.070–.060"
Acoustic	.090–.070"
Bass	.100–.080" (Plenty of latitude here)
Classical	Approx. .130 - .110"

These are working references, not mandatory final specifications. However, we’ve found that these specs satisfy 97% of customers. We adjust standard instruments to these settings and ask customers to try the guitar out when they come to pick it up. We make any needed adjustments immediately and have them test again.

Final action must suit the player, instrument, string gauge, fret condition and playing style.

On individual Fender-style saddles, keep both height Allen screws carrying load. Do not deliberately tilt saddles in an attempt to duplicate fretboard radius.

Step 7 — Pickups

Check pickup pole heights with old strings. Verify that height can be adjusted. Often underlying foam gets stiff and needs replacement. Best to discover it now than after you've installed new strings!

Verify that pickups:

- **Adjust normally**
- **Are not restricted by hardened foam or damaged mounting hardware**
- **Provide appropriate output balance**
- **Have adequate string clearance (⅛" is a good starting point)**

Use manufacturer specifications and professional judgment where appropriate.

Document unusual intentional settings.

Step 8 — Frets: Loose, High & Worn

Fret inspection is mandatory.

Remove or loosen the old strings as required and systematically inspect the entire fretboard with a reliable fret rocker.

Rock with light pressure.

Distinguish Loose from High

When a fret rocks:

1. **Identify the suspected fret area.**
2. **Apply downward pressure to see if that stops rocking, indicating a loose fret.**

Re-seat loose frets before continuing or correcting high frets.

Do not level surrounding frets to compensate for a fret that simply needs to be secured.

Evaluate Wear

Inspect for:

- **Grooves**
- **Flattened crowns**
- **Corrosion**
- **Roughness**
- **Localized damage**

Choose the appropriate correction:

- **Clean and polish**
- **Fret Renewal Tool (removes light wear and grooves)**
- **Conventional level and crown (moderate wear and grooves)**
- **Partial or complete fret replacement**

Required conventional fretwork must be completed before the setup can be certified as MasterPro.

Step 9 — Fret Ends

Inspect both fretboard edges for:

- **Protruding fret ends**
- **Sharp ends**
- **Burrs**
- **Uncomfortable roughness**

Correct as required before final fret polishing.

A stiff sanding foam in approximately the 220–300 grit range, used around a 45-degree angle, is a fast, effective method where appropriate. But only use a few swipes because wood from the fretboard is removed faster than metal.

Protect binding, finished fretboards and delicate finishes.

Step 10 — Fret Renewal Tool & Fret Polish

Use the MasterPro Fret Renewal Tool to remove roughness before polishing or when wear can be corrected without a conventional level-and-crown procedure.

FRT Procedure

1. **Place a thin sanding sponge between the FRT and abrasive paper.**
2. **Normally begin around 600 grit and work up to 2000 grit.**
3. **Use 400 grit only when additional material removal is necessary.**
4. **Stretch the sandpaper strip tightly over the sponge and tool**
5. **Work frets evenly with firm downward pressure and inspect frequently.**
6. **Progress through finer abrasives as necessary.**
7. **Finish by polishing the frets with a Dremel or equivalent rotary tool and compound.**

Use the least aggressive abrasive that will accomplish the work.

After all fret and fret-end work, polish the frets to a smooth finished surface and remove all abrasive and polishing residue.

Step 11 — Fretboard

With the strings off:

- **Clean the fretboard**
- **Clean beside the frets**
- **Remove abrasive and polishing residue**
- **Condition unfinished wood when appropriate**
- **Polish finished fretboards**

Use products suitable for the fretboard material and finish.

Step 12 — Clean & Polish Inaccessible Areas

Before installing new strings, clean and polish areas that will become difficult to reach afterward.

Include as applicable:

- **Beneath the strings**
- **Around and between pickups**
- **Bridge and tailpiece areas**
- **Fretboard edges**
- **Headstock areas beneath string paths**
- **Other normally obstructed surfaces**

Use products appropriate to the finish.

MASTERPRO STANDARD

Cleaning occurs twice:

1. **Inaccessible areas while the strings are off.**
2. **Final cleaning and polishing after next-day QC.**

Step 13 — Strings

Install the authorized string set.

Confirm before installation:

- **Gauge**
- **Type**
- **Brand, if specified**
- **Customer-requested changes**

A change in string gauge or type can affect relief, action, bridge balance and intonation.

Install strings using normal professional procedure for the tuner and bridge design.

Maintain proper bridge balance on tremolo-equipped instruments.

Step 14 — Tune & Stretch

Tune the instrument to the player's recorded preference.

Check for proper string seating and smooth movement through the nut.

MasterPro Stretching Standard

Stretch each new string along its length, working generally from the bridge toward the nut, and retune between cycles. Do not use more force than a player would apply during a strong string bend.

Retune after each cycle. Stop when the string remains stable. Approximately four cycles are usually sufficient.

Step 15 — Intonation & Final Playability Check

Intonate only after:

- **Relief is set**
- **Nut condition is correct**
- **Action is established**
- **Required fretwork is complete**
- **Final strings are installed**
- **Strings are stabilized**

Use normal professional procedure for the bridge type.

The standard reference is the accurately tuned open string compared with the fretted 12th-fret note.

Retune as required during adjustment.

After intonation, play the instrument across its usable fretboard and check for:

- **Buzzes**
- **Dead notes**
- **Choking bends**
- **Unwanted fret contact**
- **Tuning or playability problems**

Electronic Probe — Fret Contact Test

Use the probe when actual string-to-fret contact is uncertain.

1. **Place a capo one fret behind the fret being tested.**
2. **Connect the ground to the uncoated string or another conductive point connected to it.**
3. **Touch the probe tip to the fret being tested.**
4. **Play the string.**

Flickering light = the vibrating string contacted that fret.

Test systematically until the source is identified.

Step 16 — Complete Day-One Notes

Before leaving the instrument overnight, complete the applicable job record in your MasterPro online job tracking area.

Document:

- **Work performed**
- **Problems found**
- **Repairs or corrections made**
- **Customer-requested or unusual settings**
- **Relevant observations**

The record must reflect the work actually performed.

The MasterPro setup is not complete at this point.

Step 17 — Mandatory Overnight Quality Control

Every MasterPro Guitar Setup must remain strung and tuned overnight.

Overnight QC is mandatory.

Next-Day Inspection

Retune and recheck:

- **Neck relief**
- **Action**
- **Nut clearance when appropriate**
- **Tuning stability**
- **Intonation**
- **Overall playability**
- **Fret buzz or unwanted contact**
- **Dead notes and choking bends**
- **Pickup clearance if geometry changed**
- **Hardware or electrical operation if affected by final adjustments**

Correct anything that has moved outside the intended result.

Repeat related measurements and checks after any significant adjustment.

Preferably, the next-day playability check should be performed by a technician other than the technician who completed the setup, where practical. This is a recommendation, not a certification requirement.

MASTERPRO CERTIFICATION GATE

A setup cannot receive a MasterPro Guitar Setup Certificate until it has remained strung and tuned overnight and has passed next-day QC.

The final measurements are the measurements that matter.

Step 18 — Final Cleaning, Documentation & Certificate

After the instrument passes next-day QC:

Final Cleaning

Clean and polish the instrument before delivery.

Remove:

- **Fingerprints**
- **Bench dirt**
- **Dust**
- **Polishing residue**
- **Service marks**

The instrument should look professionally serviced when returned to the customer.

Final Documentation

Complete the online job record with the final:

- **Measurements**
- **Work performed**
- **Notes**
- **Completion status**
- **Technician/shop information**
- **Certificate selection**

Certificate

Certificate	Use
Standard Setup Certificate	**Professional setup work that did not include every required MasterPro step.**
MasterPro Guitar Setup Certificate	**Only when all MasterPro requirements, including mandatory overnight QC, were completed.**

A Standard Setup Certificate represents a different scope of service, not a failed MasterPro setup.

PROTECT THE MASTERPRO NAME

A MasterPro Guitar Setup Certificate must represent the same required standard regardless of which certified technician or shop performs the work.

If the job does not meet the standard, do not certify it as MasterPro.