

## ~ GUITAR ACTION & SETUPS ~

Measurements are all sensible *median* target numbers that could vary according to player's technique.

*Workshop humidity is best for repair & building on the drier side at 37-40% (not 45-50%)*

**1- Match radius of saddle(s) to fretboard.**

**2- Adjust Relief to target.**

**3- Adjust action to target.**

**4- Nut slots- Lower/Raise to target.**

### - ACOUSTIC ACTION at 12<sup>th</sup> Fret -

#### **Steel string guitar**

High E: - 4-5/64<sup>th</sup>

Low E: 5/64<sup>th</sup>

Relief: Straight to 0.008"

#### **Flamenco Guitar**

High E: 2.5mm, Low E: 3mm.

Relief: 0.010"- 0.015"

Strings above top at bridge: 8mm.

#### **Banjo (GDGBD)- 1/8"**

1/8" all strings.

#### **Classical guitar**

High E: 3mm, Low E: 4mm

Relief: E/B 0.003-5",

GDAE- 0.05"-0.010" taper.

Strings above top at bridge: 8-11mm

#### **Ukulele (GCEA)**

High E: 2.5mm

High: G- 2.5mm-3mm

Relief: 0.010"

#### **Mandolin (GDAE)**

Treble: 1mm-1.5mm

Bass: 1.5mm

Relief: Straight to 0.005"

### - NUT SLOTS DEPTH: ACOUSTIC & ELECTRIC -

These measurements are the distance between the top of first fret to bottom of string. Stewmac's Digital Nut Slot Gauge (Item code #12203) is excellent and worth having for the pro repairer.

1- E - 0.014"

2- B - 0.016"

3- G - 0.018"

4- D- 0.020"

5- A- 0.022"

6- E- 0.024"

#### **ELECTRIC**

1- E - 0.010"

2- B - 0.012"

3- G - 0.014"

4- D- 0.016"

5- A- 0.018"

6- E- 0.020"

### - MARTIN FACTORY SPECS -

- **Bridge thicknesses- LOW:** 5/16" (7.9mm), **STANDARD:** 11/32" (8.7mm), **TALL:** 3/8" (9.5mm).
- Target Saddle Protrusion above bridge- 1/8" - 3/16" (3mm-5mm).
- Nut inset- Distance from edge of fretboard to outside edge of string 3/32<sup>nd</sup>. I prefer 1/8 to center for outside strings.

### - ELECTRIC ACTION & PICKUP HEIGHT-

#### **Electric Guitar Action: 4/64<sup>th</sup>**

##### **Strat**

Neck/Bridge- 1/8" bass, 3/32<sup>nd</sup> treble

##### **Les Paul**

Neck- 3/32<sup>nd</sup>, Bridge- 1/16<sup>th</sup>

#### **Bass Action: Treble: 4/64<sup>th</sup>, Bass: 5/64<sup>th</sup>**

##### **Tele**

Neck/ Bridge- 3/32 bass, 5/64<sup>th</sup> treble

**Bass-** E(41Hz), A (55Hz), D (73Hz), G 98Hz)

Neck/Bridge- 3mm bass, 2mm treble

### - INTONATION -

Pitch of open string should match pitch of string fretted at 12<sup>th</sup> fret within **5 cents** (common hearing)

**Too SHARP** - Move break angle of string over saddle **BACKWARD**

**Too FLAT** - Move break angle of string over saddle **FORWARD**

**1 Cent pitch difference = 0.014" break angle movement for common scale lengths.**

#### **Classical & Ukulele Strings (Period correct stringing)**

**Gut & silk wound Gut prior to 1948 - Nylon after 1948 - Fluorocarbons after 1971**