

# *Guitar Construction & Specifications*

*Model: 'Silver' WJGS-SS*

*1<sup>th</sup> December 2018*



***WJ Guitars***

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WJ Guitars



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## SPECIFICATIONS - FINGERSTYLE GUITAR. VENETIAN (SOFT) CUTAWAY SHAPE BODY GUITAR

Model: 'Silver' / WJGS-SS / Serial No. 06 – 27 12 1997 / HANDCRAFTED BY WAYNE JOHNSON

21 Frets, standard medium gauge. Spacing for 645.16mm open string length. Width at nut 46mm. Width at 14<sup>th</sup> fret 58mm

Low Bout width 414mm. Upper Bout width 278mm. Waist width 245mm. Body length 507mm. Tail Height 116mm. Height at neck joint 92mm.

Sound hole diameter 99mm.

Rosette in 'Blackwood with B/W/B purflings.

'Silver Quandong' top

Queensland Blackwood Back and Sides. End Face Block 'Macassar Ebony' with new Guinea Rosewood purflings.

Calculated Top target thickness 2.62mm. Top radius 8.53m (28ft). Calculated Back target thickness 2.3mm. Back radius 4.88m (16ft)

Sides 2mm

One timber piece bolt on neck 'Queensland Maple' with 'Volute'. Ebony button strap at heel end.

Neck inlay Pearl (half and full 'W' shapes) and white side dots. Finger Board Radius 406mm (16inches). Frets Standard Medium size ('StewMac').

Two way neck truss rod with 'Macassar Ebony' truss rod cover plate. 0.5mm Neck Relief applied at the 6<sup>th</sup> fret.

Back head plate 'Queensland Blackwood and front head plate Queensland Blackwood' & 'Macassar Ebony' with 'W' shape at the top and 'J' pearl inlay

'Queensland Blackwood' neck heel cap.

Finger board 'Macassar Ebony' with 'W' shape at sound hole end

'Gotoh Black' 510 tuners

Bone 6.4mm wide compensated Nut with flaring for strings front / rear of nut. Bone 5mm wide compensated Saddle

Bone string pegs with acrylic tortoise shell inlay

Bridge 'Macassar Ebony' with 'W' Shape

Top Bracing 'Silver Quandong' and Back Bracing 'Adirondack Spruce'. Body neck block 'Queensland Maple' and tail block 'Plywood insert in 'Queensland Maple', Top and back linings Laminated in Tasmanian Oak. Bridge plate 'Indian Rosewood'.

Top 'X' Bracing format. Back live bracing format.

2 x side mass mounting blocks fitted without weights.  $T(1, 1)_1 = 94\text{Hz}$ ,  $T(1, 1)_2 = 163\text{Hz}$ ,  $T(1, 1)_3 = 215\text{Hz}$  achieved without using weights.

Action String height at 12th fret is 2.5mm, for 'E', 6<sup>th</sup> String and 2mm at the 'E', 1<sup>st</sup> string.

String Height at the front of bridge from the Sound board to Saddle is 14mm.

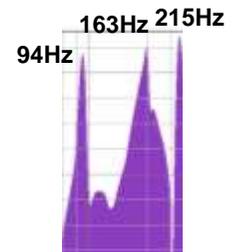
'Elixir' Acoustic Guitar Strings, Phosphor Bronze, NANOWEB, Light 12/53.

Macassar Ebony' Timber bindings. Top includes outer B/W/B/W/B purfling.

L R Baggs 'Lyric' Acoustic Microphone.

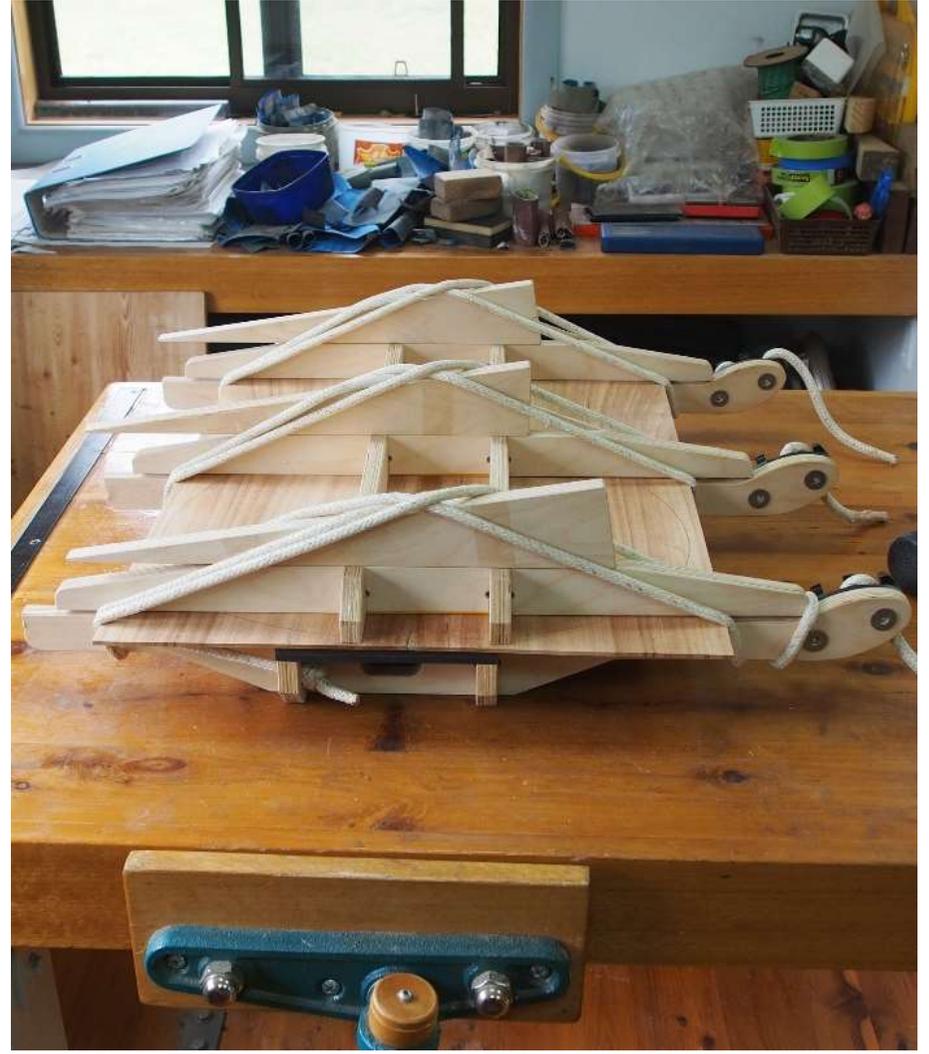
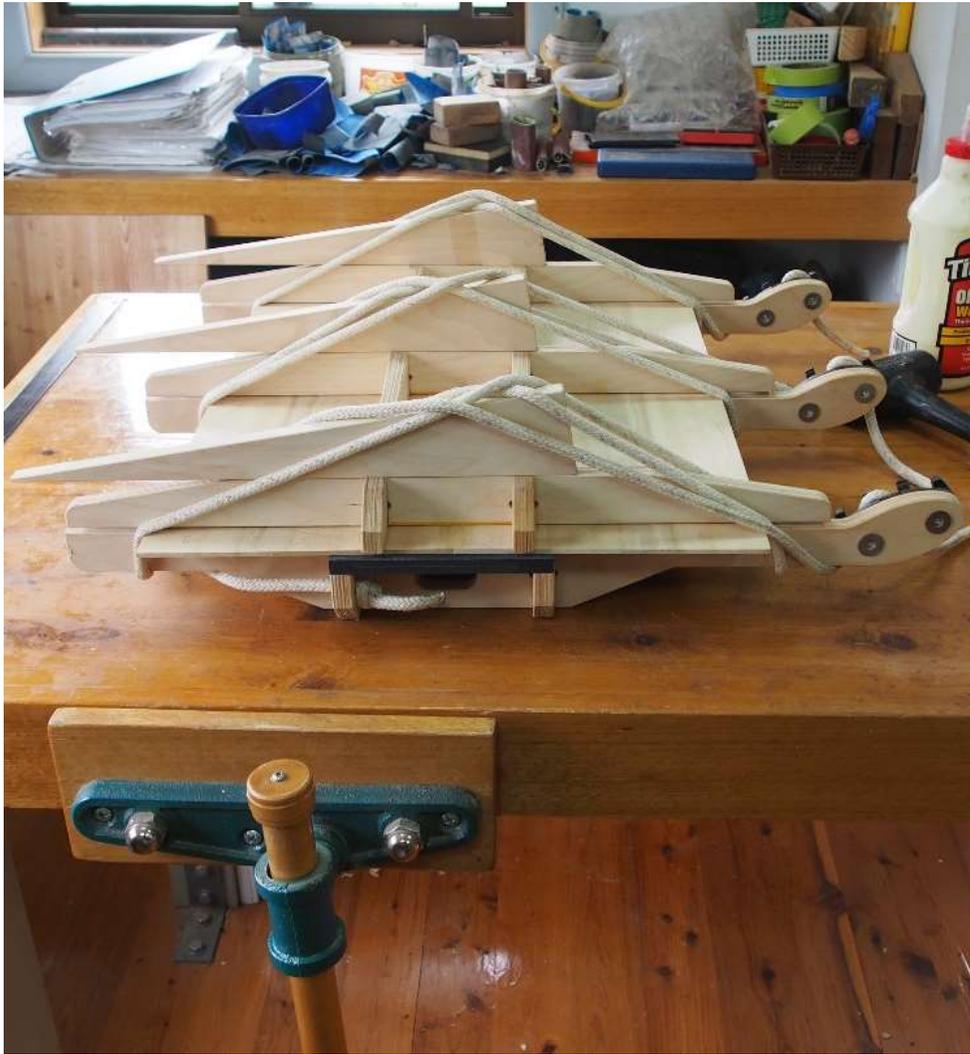
'Macassar' timber veneer on 'Oregon' 'Streamlined' arm rest bevel from the lower bout to the waist adjoining the 'Macassar Ebony' bindings.

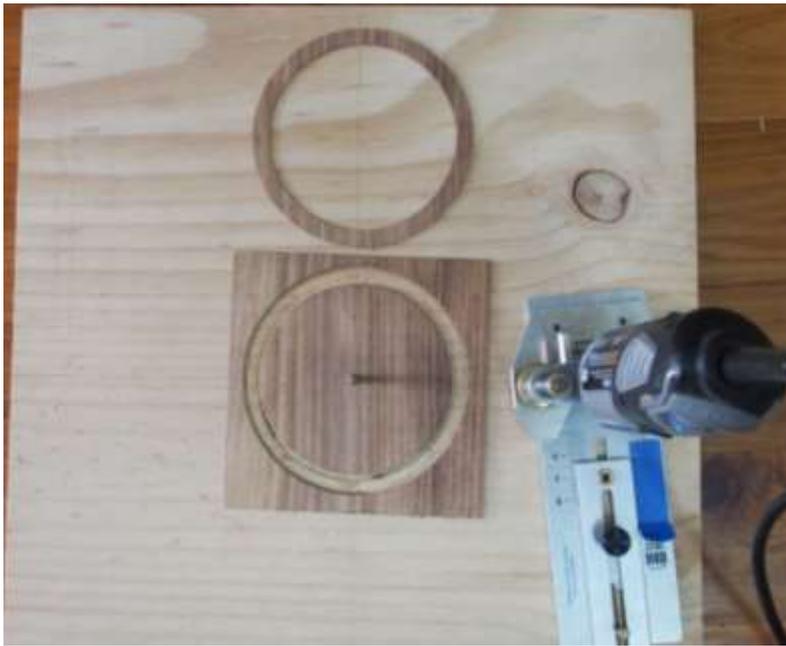
Spray finish with Vinyl sealer coat and 6 coats of 'Behlem' Nitro Lacquer. 3 weeks curing period then guitar is cut, buffed and polished.



Main Low Frequency Resonance (Hz)







EDGES ARE FLUSHED THEN





DD TI

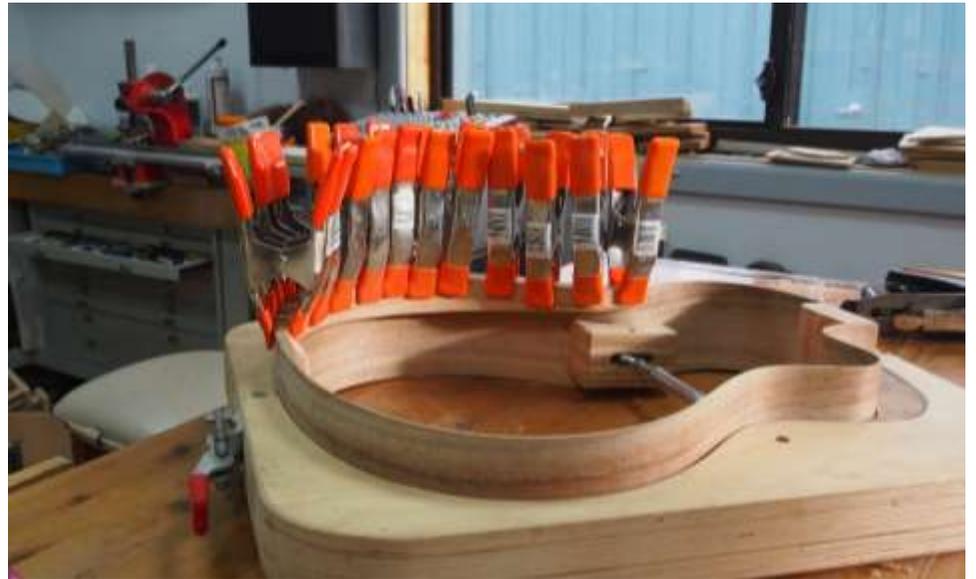




THE 'SIDES' ON



MAKING THE LINING FOR THE STREAMLINE ARM BEVEL REST



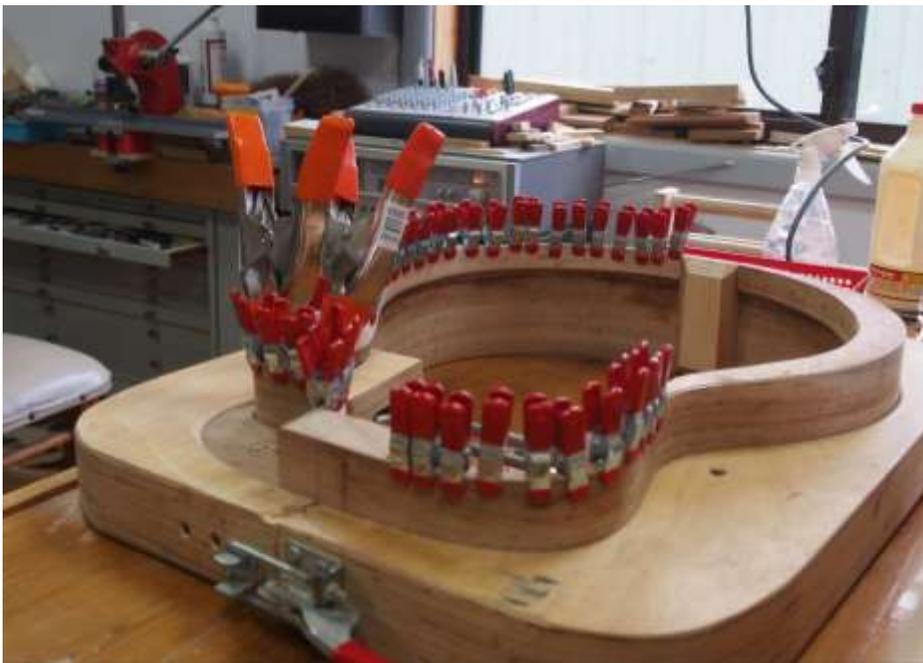
GLUEING THE ARM BEVEL LINING TO THE SIDE



BENDING THE SIDE LININGS FOR LAMINATION  
PAGE 16

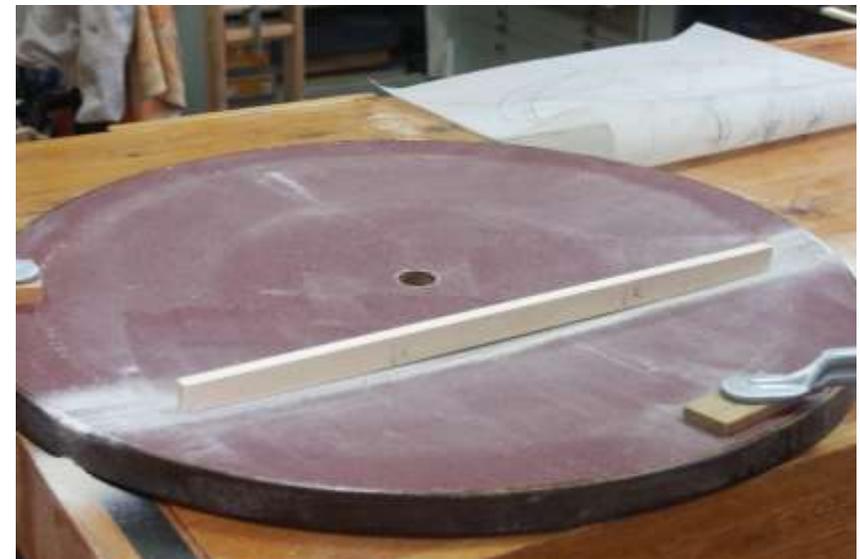
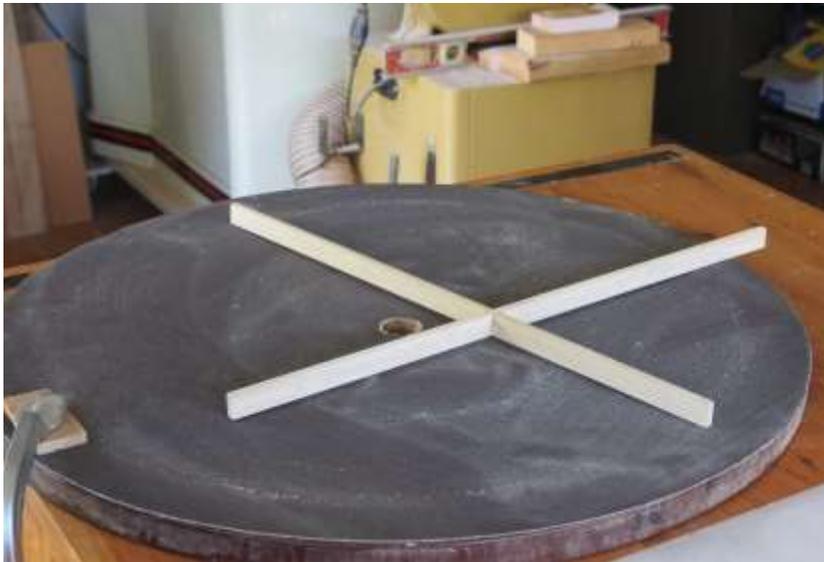


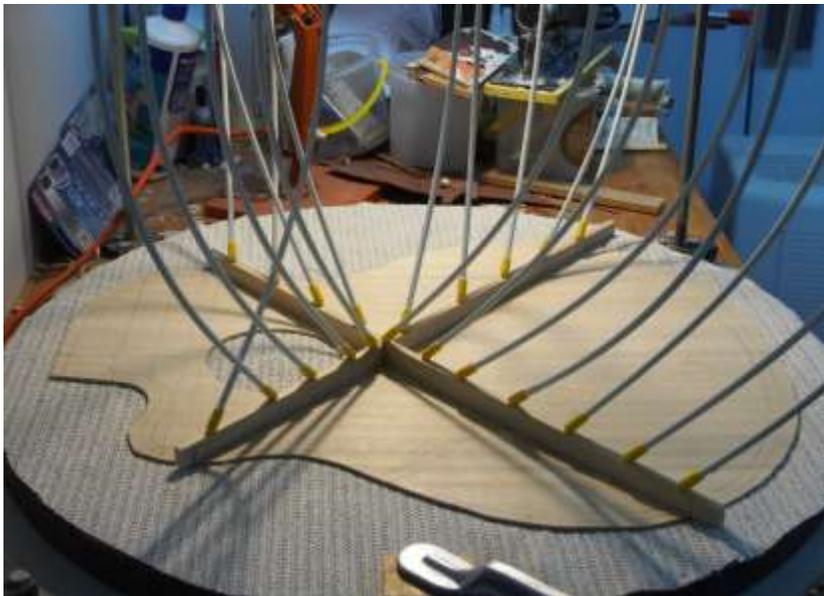
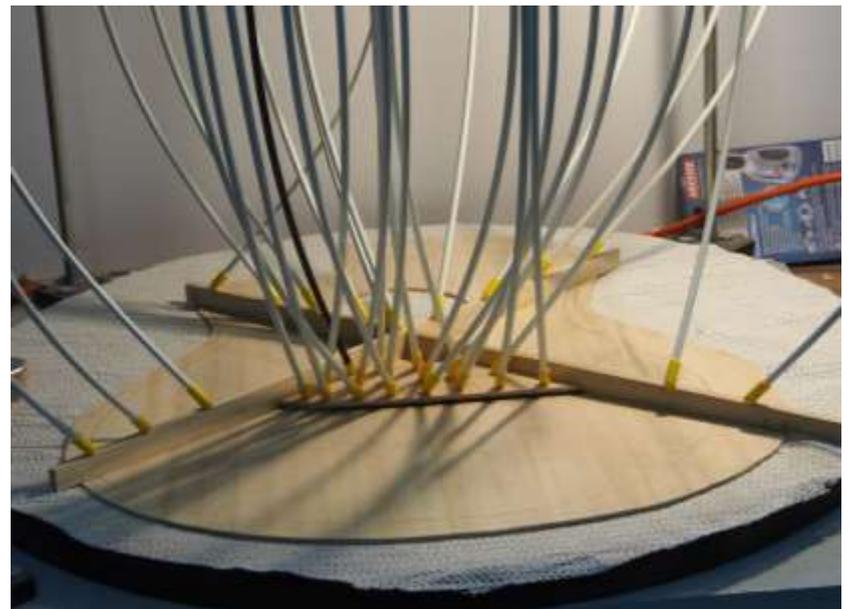
GLUEING THE SIDE LININGS AS LAMINATIONS





MAKING THE GUITAR BODY BRACING AND THEN RADIUS SANDING THE BRACES TO FIT THE 'TOP' & 'BACK'

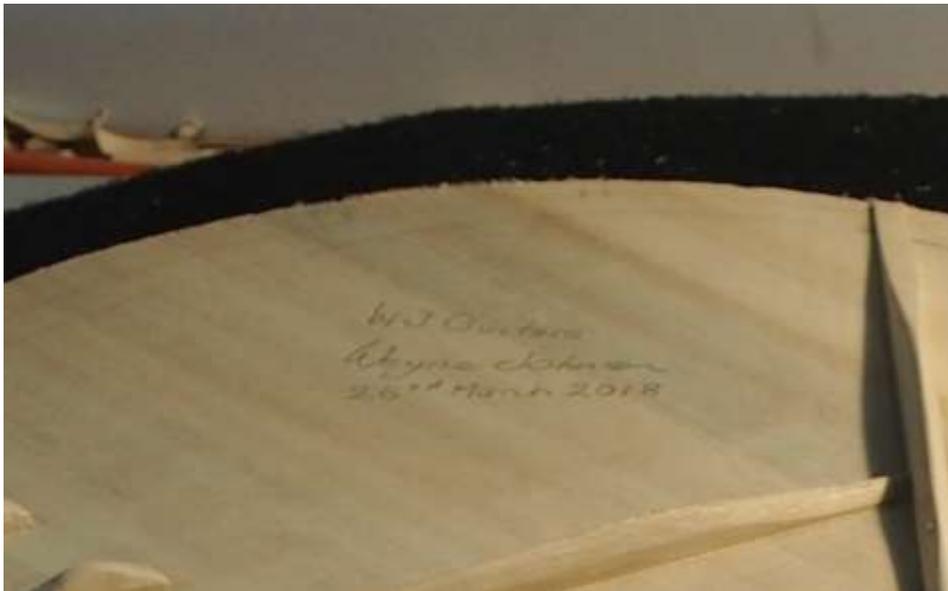




GLUEING THE 'TOP' BRACES WITH THE 28 FT RADIUS DISH IN THE 'GO BAR' CLAMPING JIG



BRACES ARE VOICED FOR THE 'TOP' & 'BACK'





## BENDING THE BINDINGS





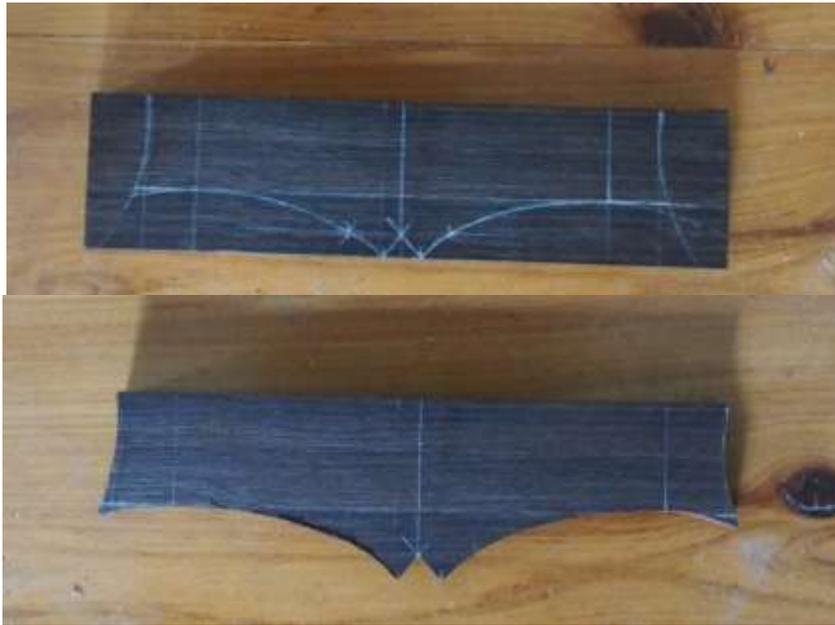
GLUEING THE BACK'S MACASSAR EBONY BINDINGS



ALL BINDINGS FLUSHED AND CLEANED TO THEIR ADJOINING EDGE FACES



LOCATING THE CUTOUT MACASSAR EBONY VENEER ON THE ARM REST BEVEL



MAKING THE MACASSAR EBONY BRIDGE TO FIT THE 28FT CURVED TOP



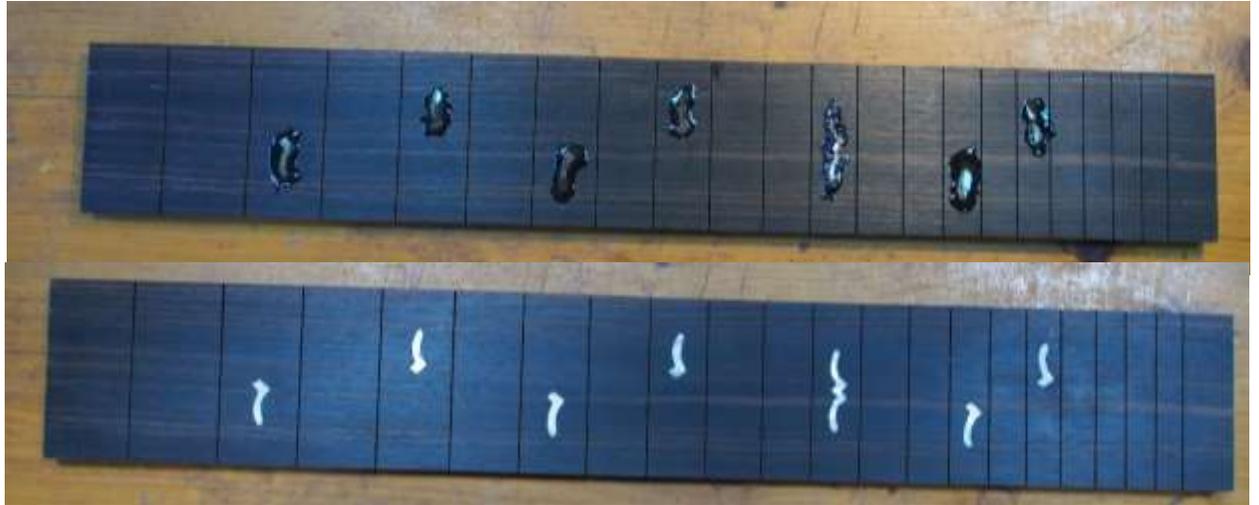
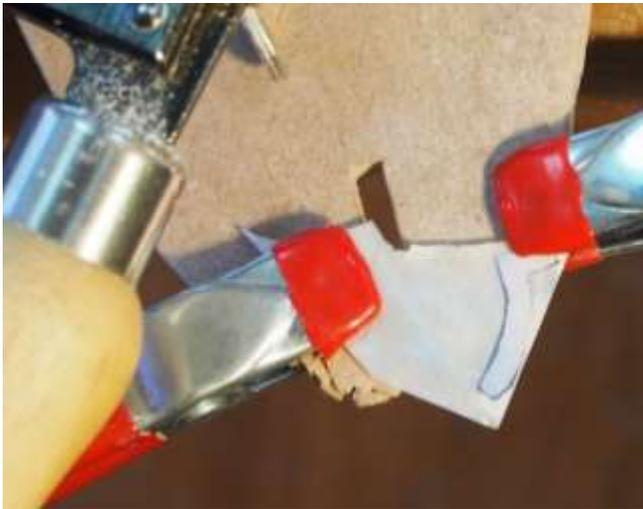
PREPARING THE NECK FOR THE BOLT ON FITTINGS





ROUTING THE BODY AND NECK JOINT





CUTTING & FITTING THE PEARL INLAY



FITTING THE GOTOH 510 TUNERS

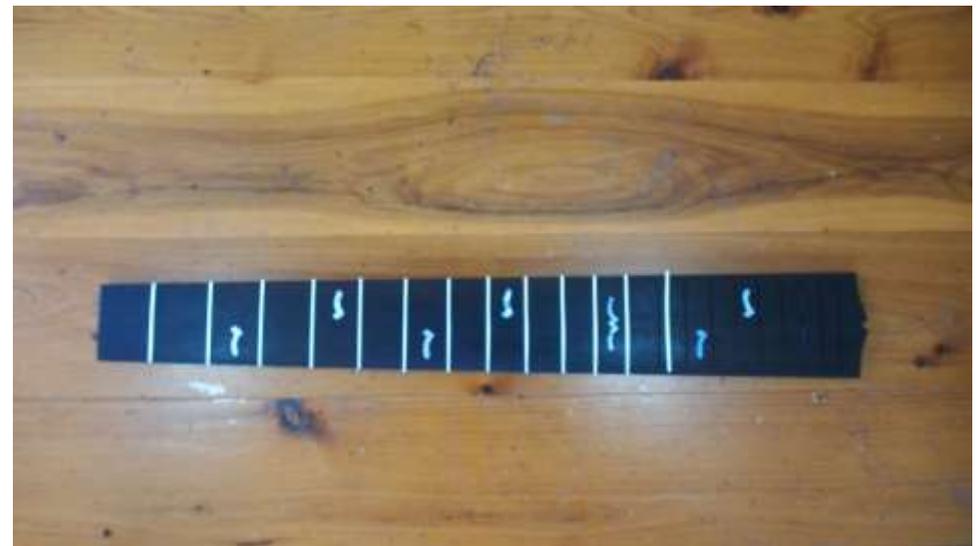




PRESSING THE FRETS TO THE FINGERBOARD



GLUEING THE FINGERBOARD BINDINGS





MASKING THE NECK & BODY READING FOR SPRAYING



SPRAYING THE SEALER COAT



GLUEING THE BRIDGE TO THE GUITAR TOP





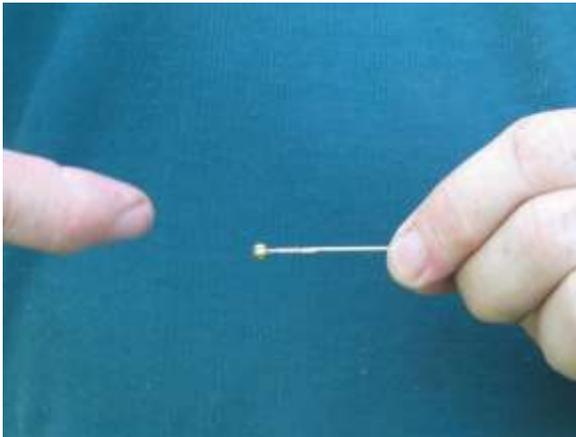
COMPLETED GUITAR

## GUITAR MAINTENANCE

### Installing Strings Correctly

Spending quality time installing strings is important, do not rush this process. Only replace one string at a time. Do not remove all the strings together. Unwind the 6<sup>th</sup> string loose and take the string peg out carefully using side cutters. Then remove the string ready for replacement with a new string.

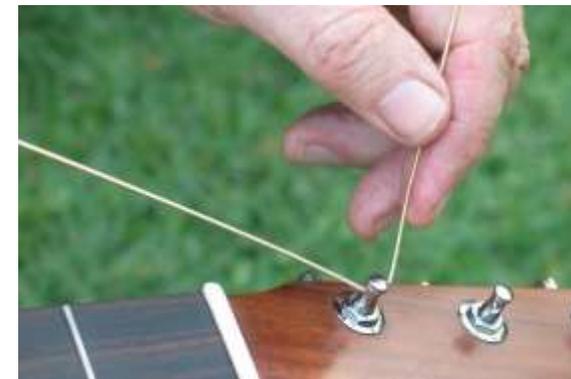
To set the correct string length and install the guitar strings, refer to photos and instructions.



**1. Locate right hand at the 5<sup>th</sup> fret. This is the reference point used to determine the length to wind all the strings.**



**2. Make a right angle bend at the position determined by the left hand.**



**3. Thread string through the tuners post hole.**



**4. Wind at least one string turn around the tuner post hole. Then hold string in tension as shown and use the tuner's winder to wind on a minimum of 3 turns.**



**5. Use side cutter and cut string as shown at the top of the post.**



**6. Use a small screw drive to fold the cut string.**

**This will minimise getting your hand or fingers pricked. It looks neat and is a safety feature.**

## Guitar Care

- After playing the guitar wipe clean the strings with a soft buffing cloth. Keep buffing cloth in the guitar case.
- To protect guitar timber lacquer finish, wipe off finger marks and sweat. Use only a guitar cleaning polishing product to reduce build-up of grime. Do not use polish on the fingerboard or bridge only wipe with a cloth. Always have clean hands when playing the guitar. This will extend the life of strings. Avoid dropping the guitar or, hitting the guitar against solid objects.
- To minimise / avoid potential cracks and splits in the timber, store the guitar in a room with a stable temperature and humidity conditions between 40% to 50% if possible. Silicone Gel Sacks kept in the guitar case near the guitar helps to minimise humidity issues. (Note: The Silicone Gel Sacks will lose their effectiveness after about 6 to 12 months. Placing them in a warm oven for 5 to 10 minutes to dry out will reactivate them). It is also recommended not to expose the guitar to extreme heat or cold conditions. (Leaving the guitar in a car for extended periods is not recommended). *This is important for your guitar that has a solid timber top, back and sides.*
- To extend the life of frets when small size grooves are evident in the frets due to wear, the frets should be re-crowned. Grooves in frets affects the intonation of the guitar and can cause fret buzz problems. Subject to weather conditions the Neck Truss Rod may also occasionally require adjustment. Contact **WJ Guitars** for these services.
- Replace 'Lyric' Microphone battery after 150 hours of use or, every 3 to 6 months as a backup to avoid low volt battery issues.
- Replace guitar strings every 2 to 3 months helps to maintain tone, pitch and timbre. If the guitar is not regularly played the strings may last up to 6 months or longer. Always use 12-gauge light strings (.012 - .053). Changing the string gauge will cause intonation tuning issues. *This guitar has been setup specifically for 12-gauge light string (.012 - .053).* Select this gauge size when purchasing your favourite string brand.

**WJ Guitars** recommends using 'Elixir' Acoustic Guitar Strings:

'Elixir' 80/20 Bronze, NANOWEB, 12 gauge light strings .012 - .053  
(Great for rhythm style guitar playing).

'Elixir' Phosphor Bronze, NANOWEB, 12 gauge light strings .012 - .053  
(Great for finger style guitar playing).