

Yamaha Acoustic Guitar Craftsmanship part 2

From Japan to the World

Part 2 and 3, we focus on the woodworking processes and showcase the fusion of skilled craftsmanship and modern techniques. We explain critical tasks that influence the sound characteristics of the guitar, such as the shaping and attachment of braces. Additionally, we delve into the design and manufacturing intricacies of our flagship model, the "FG/FS9 series," highlighting precision bracing work utilizing CNC technology and design elements inspired by traditional Japanese aesthetics.



Woodworking Process Chapter 1

Sound Hole Inlay

Craftsmen meticulously inlay each piece around the circular groove surrounding the sound hole on the soundboard, ensuring a flawless fit.



Shaping and Attaching the Bracing

Braces are crucial components that **maintain the body's strength** while significantly affecting its **resonance**. During the attachment process, we use a type of tension rod to enhance clamping strength. This ensures a strong bond between the braces and the top/back board, minimizing vibration loss across the entire guitar.



Bracing Shaping Process of FG9 (CNC Machining)



Bracing Shaping Process of L36

The bracing pattern not only **prevents the soundboard from deforming under string tension**, but also **helps transmit the vibrations** captured by the bridge throughout the body, converting them into resonance. **The bracing placement is optimized for each model**, reflecting the design philosophy behind it.



Attaching Process

Bending and Attaching the Body Sides

The sides are first soaked in hot water and then bent using heated presses. After removing them from the press, they are placed into specialized molds for cooling and drying. Over-soaking can lead to deformation, while insufficient soaking may result in cracking. Thus, this delicate process requires careful balance.



Design and Manufacturing Excellence of FG/FS9

The FG/FS9 series is a flagship model, co-designed by the headquarters in Hamamatsu and the Yamaha Custom Shop in Los Angeles. The prototypes were refined and evaluated by artists in the United States, ensuring that the design intent was faithfully realized. To achieve the signature FG/FS9 sound—**powerful projection, clarity, and exceptional responsiveness**—modern manufacturing techniques are combined with master craftsmanship throughout the production process.

One of the standout features is the use of **CNC (Computer Numerical Control)** machining for shaping most of the bracing. Traditionally, this process required highly skilled artisans using chisels, but due to the nature of handcrafting, it was prone to slight variations between individual guitars. By incorporating precisely programmed CNC machining, the FG/FS9 series **maintains the integrity of its design philosophy** while minimizing inconsistencies.

Additionally, in the **FG9 R and FG9 M models**, **the bracing design has been intentionally adjusted to shape their distinct tonal characteristics**. This level of precision is only possible through the advanced accuracy of CNC technology.



A Design Born from Tradition and Craftsmanship

The sound hole inlays and purfling of FG/FS9 showcase traditional rope patterns found in Japanese shrines and sumo wrestling rings. Through the expertise of skilled artisans, the FG/FS9 series embodies **Japanese aesthetic sensibilities** in every detail.