

Yamaha Acoustic Guitar Craftsmanship part 3

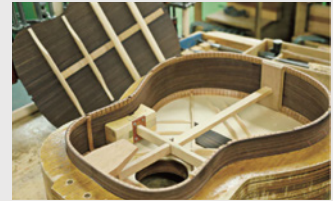
From Japan to the World



Woodworking Process Chapter 2

Attaching the Soundboard and Body

The top and back boards are precisely glued simultaneously to the sideboard. By aligning the timing of the top and back attachment, we can minimize unwanted deformation of the sideboard. This technique is made possible due to the high skill and precision.



The Wooden Binding

The binding that lines the edges of a guitar is **crafted from wood**. This material is not only **aesthetically pleasing** but also **highly durable, resisting shrinkage over time**.

Attaching wooden binding is a meticulous process. Instead of applying the glue all at once, it is carefully added in small increments, and the binding is secured by hand, wrapped tightly with ropes to hold the binding in place. This method ensures a precise fit and lasting quality.



The Neck Joint

In guitar craftsmanship, the connection between the neck and body is a crucial process that significantly influences both tone and playability. The made-in-Japan Yamaha guitars utilize two primary neck joint methods: **the dovetail joint, which enhances sustain and is used in the L series**, and **the bolt-on joint, which provides a strong attack and is used in the FG/FS9 series**.



Attaching the fingerboard to the body

■ The Traditional Craft of the Dovetail Joint

The **dovetail joint** technique requires masterful craftsmanship. To achieve a seamless fit between the neck and body, skilled artisans meticulously carve and adjust the joint using hand planes and chisels. This joint offers a large contact area and high adhesive strength, allowing string vibrations to transfer efficiently throughout the body. As a result, guitars with a dovetail joint produce a **rich tone and excellent sustain**. Once the neck is perfectly set, it is further refined to ensure a comfortable grip that enhances the player's experience.



Final adjustments are made by hand, sanding to ensure a perfect fit.



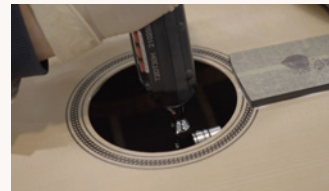
The process of repeating fine adjustments with a hand plane, then securing the neck in the correct position

■ The Precision of the Bolt-On Joint

In the **bolt-on joint method**, a CNC router capable of precise machining is used to shape both the body and neck. Since the body and neck are painted separately, the quality of the paint finish is a key aspect of this method. During the neck attachment process, a specialized torque wrench with a digital meter is used to manage the fastening force of the two bolts, ensuring they are tightened to the specified values. Due to the moderately separated structure of the body and neck in a bolt-on joint, the vibrational energy from picking is less likely to transfer to the neck and is primarily absorbed by the body. As a result, this design emphasizes the body's resonance, producing a **powerful sound with an articulate attack**. Additionally, the **ease of neck removal and adjustment** facilitates maintenance, making it a significant advantage for long-term use.



Bolt-on and glued construction of FG/FS9



The process of using a specialized torque wrench with a digital meter to manage the fastening force of bolts.

Each of these neck joint techniques has distinct characteristics that shape the instrument's overall sound and feel.

Yamaha carefully selects the most suitable method based on the tonal qualities and playing style intended for each model, ensuring high-quality craftsmanship in every guitar.