

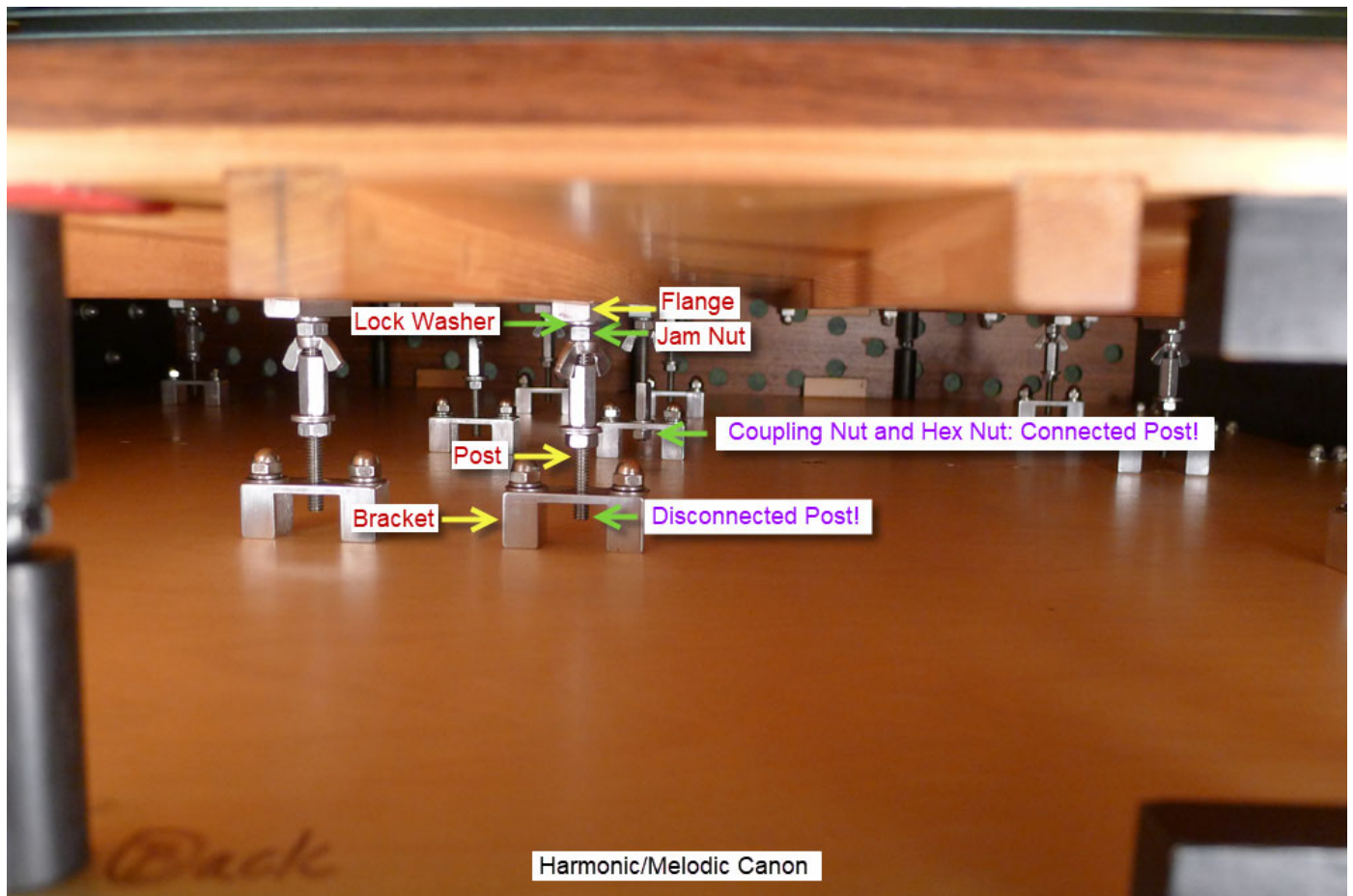
Canons Soundboard Support Posts Manual

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Harmonic/Melodic Canon

The Harmonic/Melodic Canon and Bass Canon soundboard support assemblies consist of three basic components: a $\frac{1}{4}$ -20 threaded stainless steel post, an aluminum flange that attaches the post to the soundboard rib, and an aluminum bracket that attaches the post to the canon bottom. The fasteners include: below the flange, (1) a wing nut bonded to the post with Loctite #217; between the wing nut and flange, (2) a lock washer and (3) a jam nut; above the bracket hole, (4) a coupling nut and washer; and below the bracket hole, (5) a hex nut and washer. All fasteners are stainless steel. The wing nut serves as a handle for hand tightening the post into the flange. Between the wing nut and flange, the lock washer and jam nut fasten the post to the flange. This prevents the post from turning while adjusting the height of the soundboard. At the bracket, I use the coupling nut and hex nut to raise and lower the soundboard in very small increments. When the soundboard is flat, I jam these two nuts together. This locks and stabilizes the horizontal surface area of the soundboard. Consequently, the height of the strings above the soundboard is constant at all locations of the soundboard.

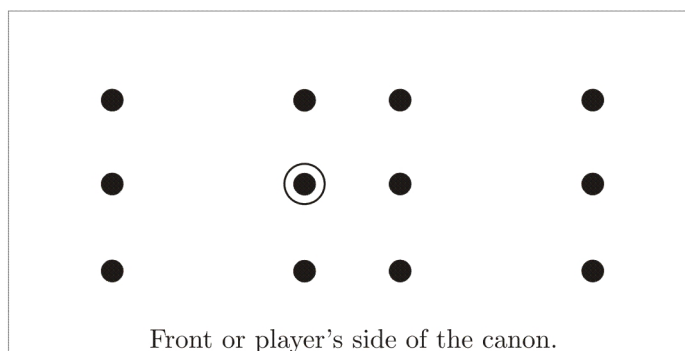
I took the photo below from the back end of the canon, opposite the front or player's side of the instrument.



I attached the following installation instructions inside the back end of the H/M Canon sound box.

Harmonic/Melodic Canon

For *Song of Myself*, I tuned the open strings of the Harmonic/Melodic Canon to C_3 at 130.0 cps. With a string length of 39.37 in. and a string diameter of 0.024 in., each string has a tension of 34.7 lbf. This constitutes a low-tension tuning suitable for playing the steel strings with the fingers. As indicated by the circled dot, such a tuning requires only one support post near the center of the soundboard. Additional posts would significantly dampen the vibrational motion of the soundboard.



However, given a high-tension tuning to G_3 at 196.0 cps, each string would have a tension of 79.0 lbf, which would more than double the total amount of force on the instrument. Under such conditions, to prevent the soundboard from buckling, connect all *twelve* posts to the brackets.

For the low-tension tuning, I connected eleven posts at the flanges, but they are disconnected at the brackets. The disconnected posts include a stainless steel hex nut, a coupling nut, and two washers required to connect the posts to the brackets.

For the dimensions of the Bass Canon and H/M Canon soundboard support posts, flanges, and brackets, please see the Canons (5) tools and parts box in:

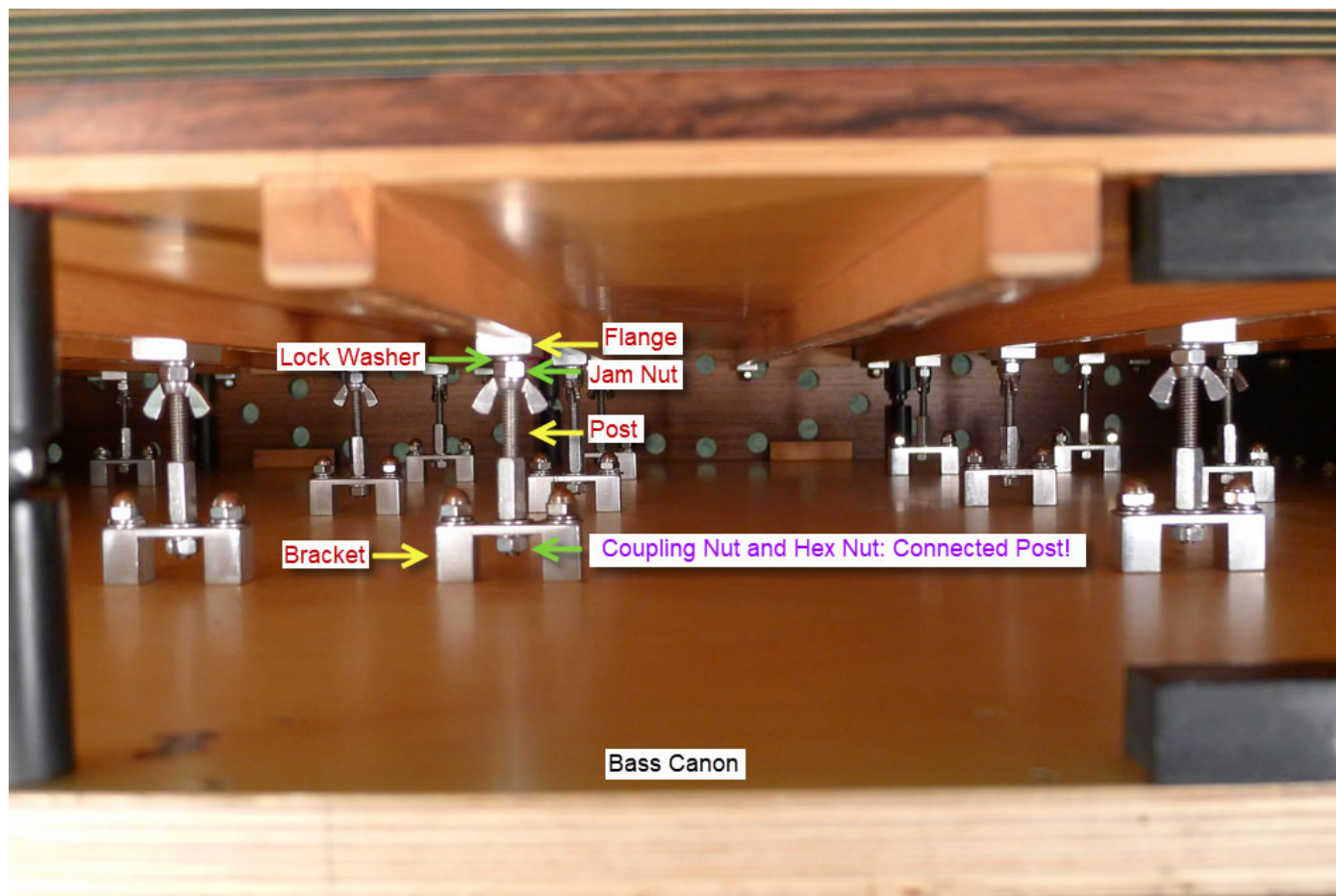
[Canons_ToolsParts.pdf](#)

Three extra H/M Canon soundboard support posts, brackets, and fasteners are also located in the Canons (5) tools and parts box. However, there are no extra H/M Canon flanges in the box.

Bass Canon

The Bass Canon soundboard support assemblies consist of the same parts as the H/M Canon. However, the Bass Canon has slightly shorter posts and slightly narrower brackets. For parts dimension, see the Canons (5) tools and parts box.

I took the photo below from the back end of the canon, opposite the front or player's side of the instrument.



I attached the following installation instructions inside the back end of the Bass Canon sound box.

Bass Canon

Due to a long soundboard and a large number of wound strings, this instrument requires all eighteen soundboard support posts. Because these wound strings have a long ring-time, the posts do not significantly dampen the vibrational motion of the soundboard.

One extra Bass Canon soundboard support assembly (post, bracket, flange, and fasteners), plus three extra flanges, are also located in the Canons (5) tools and parts box.