

THE PRINCIPLE OF OPERATION & ENGINEERING DESIGN OF THE "TENSIONATOR" BANJO TAILPIECE

The TENSIONATOR design is not new - it was first used in the mid-twenties and has always been associated with the old Bacon banjos - occasionally found on Vega banjos - and frequently adapted to many different banjos.

There is a general misconception as to the real purpose and proper use of this tailpiece. The misunderstanding comes about by virtue of the built-in vernier, or fine tuning feature provided by the separate string pressure arms and screws on the Tensionator.

The TENSIONATOR is NOT intended as a string-pitch fine tuning mechanism! Reduction geared pegs in the peghead of your banjo serve this purpose.

The only purpose of the TENSIONATOR is to control and equalize the string PRESSURE on the TOP OF THE BRIDGE - thus balancing the bridge to the head permitting full tone transfer and full head vibration for maximum tone in all registers.

Visualize if you will - the mechanical problem of fitting a good bridge to the vibrating surface of your banjo head. With more than four times the bridge pressure being exerted by the higher pitched "A" or "D" on your tenor or plectrum-5 string banjo - as against the lower pressure from the bass strings - you then end up with a lopsided or unbalanced bridge. Such an arrangement can only transmit partial tone-range to the head - the higher pitched treble will always predominate.

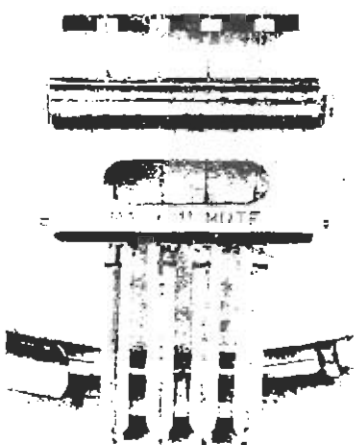
INSTALLATION AND ADJUSTMENT

Make sure that the mounting bolt is tight and firm - with the two little protruding pedestals on the under back side of the Tensionator are resting snug on the top of your banjo flesh hoop. If tightening hook brackets are too close together preventing the Tensionator from being flush with flesh hoop - center the Tensionator to rest against the hook brackets as the pedestals are long enough to still give firm foundation on top of the flesh hoop.

Adjust the arms so that the bass arm is approximately 1/8" above surface of the head - then adjust each succeeding arm approximately 1/16" higher. Thus, you end up with a staggered set of arms ranging from 1/8" to about 5/16" above the head surface. Most pressure on bass end - least on treble.

There is no specific dimensional adjustment - each banjo will vary some with type of bridge, tightness of head, etc - but when you do find the correct 'degree of stagger' you'll immediately know it. Your banjo will take on a new, full-tone, response - with bass tones you've not noticed before and finally, your banjo will ring like a "Silver Bell".

Once you have the tone you want - leave it alone. No need for further adjustment unless you change the head and/or bridge. The TENSIONATOR will work with any banjo (except VEGAVOX - impossible to mount) but we strongly recommend the use of our professional MYHLAR heads; and our AKOOSTIK engineered bridge. They team up to provide what we think is the absolute best in banjo tone.





The "TENSIONATOR" Banjo Tailpiece – Principal of Operation

First of all – it is not intended as a fine tuner. Your regular string pegs serve this purpose adequately.

The Tensionator is a BRIDGE PRESSURE, EQUALIZING control.

With it, you can balance each strings bridge pressure, for a more even transfer of tone from bridge to head - thus, obtaining a fuller frequency response from your banjo in all registers.

Visualize, if you will – the mechanical problem of fitting a bridge to the vibrating surface of your banjo head. With more than four times as much pressure being exerted by your high strings (A or D) as against the lower tension bass strings (D, C or G) – you end up with a lopsided pressure situation with your ridge. Such an arrangement, as is the norm with a conventional tailpiece, will always favor the treble side in response at the expense of the bass side. With a Tensionator, this condition is greatly alleviated, your banjo will take on a new dimension in a more even frequency range of tone response.

Installation & Adjustment

Make certain your Tensionator is firmly installed. The little mounting boss on the underside should rest tightly on top of your tension hoop.

Each string pressure arm is individually adjusted with the respective thumb bolt. First adjust the bass or low-tension string, pressure arm to about 1/8" from the surface of the head. Adjust each succeeding arm about 1/16" higher. You end up with a staggered set of arms. The bass string at 1/8" above the head and your top treble string approximately 5/16" to 3/8" above the head. There are variables that may affect this range, such as style of the bridge, tension of the head or the gauge of strings. This general range of adjustment will usually produce an improvement. Your ear will detect the difference as you provide a more solid path for the bass tones to reach the head.

Once you have set the Tensionator to the above adjustments, you just leave it alone. The adjustments are not critical as you realize the principal of keeping more bridge pressure on each succeeding lower tone string or conversely, least pressure on the high or treble strings.

Please note

We think the ideal banjo combination includes our Tensionator tailpiece, as described above, plus a Mastermute & Tone Clarifier, an Akoostik custom Bridge, a Pick-a-hoy and a set of Rich-Tone strings. All Richelieu built banjos incorporate these features, which team up to provide the very maximum in tone, volume and ease of playability.

