

**MARK IV MEMO #260**

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To: Recorder Group

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Subject: Critical Screw Protrusion Check for Headstack Mounting

*Recommendation:*

Henceforth, critical mounting screw protrusion should be checked and brought into conformance with the following specification -- before mounting any headstack for the first time. This is part of a new recipe for headstack mounting, which will include controlled torquing of the mounting screws. The complete recipe should guarantee that alignment will not shift when interfaces are "correctly" plugged into, or unplugged from, the mounted headstack.

*Specification:* The lower screw [furthest from tape] should, when tightened, protrude less than 50 mils, and more than 30 mils from the mounting surface of the headstack.

*Justification:* The former guarantees no interference with Inchworm, the latter guarantees minimum 2.4 thread engagement for 0-80 screw to reduce risk of stripping threads in aluminum headblock.

*Check Tool:* Recommended for protrusion limit checks are, a piece of 30 mil [or 1/32"] stock with 0-80 threaded hole, and a piece of 20 mil [or 1/64"] stock with clearance hole.

*Check Procedure:*

1. Fasten headstack directly to the 30 mil piece, using one washer under the head of the standard [or shortened candidate] screw to be used in the 'critical' hole. If the screw doesn't protrude, it is too short. Use a longer one.
2. Unfasten, insert 20 mil piece between headstack and 30 mil piece, refasten. If screw protrudes, it is too long. In this case, either, shorten the screw, or add a second washer under the screw head, so that both tests are met with preferably one, at most two, washers.

*Note:* The intent of the reduced 75 mil mounting hole counterbore depth [in the new joint headstack specification update] is to make the norm 1 washer, instead of 2 with Metrum or even 3 with SP headstacks, when the current standard 5/16" length screw is used.