

SENSENICH CORPORATION

ADJACENT TO THE LANCASTER MUNICIPAL AIRPORT

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SERVICE MEMO #86-1
SUPPLEMENT TO REPAIR MANUAL SCRM478
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LIMITS FOR RE-PITCH OF FIXED-PITCH METAL PROPELLERS

Recent inquiries indicate much concern about allowable limits for pitch-change of SENSENICH aluminum propellers. Re-pitch of a fixed-pitch propeller may be beneficial only if the propeller will be installed on an airplane significantly faster or slower than the one for which it was originally purchased, or when the airplane's principal base of operation is changed (for example, to a much higher elevation - requiring compromise for take-off & climb at the expense of cruise). If re-pitch is necessary then the rules given here should be followed.

1) Because a verifiable record of a propeller's history is usually not available, study the stamping in the hub for evidence of previous re-pitching (possibly shown by over stamping). Previous re-pitching may also be indicated by a wavy appearance of the trailing edge between the 30% and 45% blade radius stations.

2) Propeller pitch must remain within the pitch range shown in SCRM 478 for the propeller series. Also, re-pitching of an aluminum propeller shall not exceed 8 inches, minus the difference between its initial pitch and the median pitch. For example, a SENSENICH 76EM8-0-63 (median pitch 60) may be set to 66 inches pitch, however it will then be permissible to reduce pitch no further than to 64. The same propeller (originally a 76EM8-0-63) may be twisted to 58 pitch if it had not been previously been set to a higher pitch.

3) No twisting shall be accomplished at a blade section which is greater than 1.100 inches thick.

4) Twists to change pitch should not be made at the same radius location more than one time. Large twists in a blade should be made in several steps at locations between 30% and 45% blade radius.

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