

# SENSENICH PROPELLER MANUFACTURING COMPANY, INC.

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## SERVICE BULLETIN NO. R-17

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**TO:** ALL AIRCRAFT OWNERS, AIRFRAME MANUFACTURERS, FAA APPROVED PROPELLER REPAIR STATIONS, AND SENSENICH DISTRIBUTORS.

**SUBJECT:** INCREASE OF TBO (TIME BETWEEN OVERHAUL/ RECONDITIONING CYCLE) FROM, 1000 HOURS TO 2000 HOURS.

**PROPELLER MODEL(S):** ALL SENSENICH FIXED-PITCH ALUMINUM PROPELLER MODELS

**AIRCRAFT MODEL(S) AFFECTED:** ALL AIRCRAFT

### DISCUSSION:

On August 20, 1997 the New York Aircraft Certification Office approved Sensenich's request to increase its fixed-pitch aluminum propeller TBO time from 1000 hours to 2000 hours.

The chart below provides the recommended TBO times for Sensenich fixed-pitch aluminum propellers. These times depend greatly on the operating environment to which the propeller is exposed. Flight school operations, unpaved runways, or poorly maintained runways may expose the propeller to increased foreign object damage that will require a shorter interval between overhauls in order to remove damage that could potentially cause a blade failure.

Aircraft Operation (Category)	Total Flight Hours
Normal and Utility Operation	2000 *
Aerobatic	1000 *
* Provided it has not received damage requiring immediate attention or superseded by Airframe Manufacturer	

The approval of the TBO increase was a result of the extensive study that Sensenich completed and submitted to the FAA NYACO on propeller service histories, finish systems, and propeller failure histories. During this study, we found that Sensenich propellers (since their development in 1948) have had an extremely low percentage (.09%) of blade failures compared to the number produced. The highest percentage of these failures are directly attributed to conditions that have been addressed by Sensenich Airworthiness Directives, of which Sensenich only has four (4). Since the last Sensenich Airworthiness Directive 69-09-03, published in 1969, 90% of

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the failures that have occurred are directly attributed to one of the following:

**Modification Below T.C. Limits -**

These modifications include diameter reductions, straightening of higher than allowable blade bends, blade shape and or airfoil changes, and twisting of blade angle to higher than approved pitches.

**Improper Repairs -**

Improper repairs include any repairs not completed to the most current Sensenich repair manual. These improper repairs may be any of the following

- (a) Reduction of chord or thickness below published minimum repair values,
- (b) Poor overhauls that do not remove all damage or do not remove damage correctly,
- (c) Straightening of higher than allowable blade bends,
- (d) Not completing a reconditioning after blade straightening, or
- (e) Twisting of blade angle too higher than approved pitches.

**Poor Maintenance -**

Poor maintenance refers to the lack of maintenance by owner/operator. Damage such as leading edge nicks and cuts, face nicks and cuts or corrosion that are left unrepaired and or painted over without proper removal and re-application of a corrosion coating are considered poor maintenance.

**REQUIRED ACTION:**

This is **NO SPECIFIC ACTION REQUIRED** to increase the propeller TBO from 1000 hours to 2000 hours. To help achieve the recommended Sensenich TBO times listed in the chart on the previous page we recommend the following:

**Inspections & Repairs:**

**Preflight Inspections -** Inspect the blades of your propeller before each flight for nicks, cuts, and stone bruises. Have minor repairs promptly performed by an A. & P. mechanic. If a crack is discovered, THE PROPELLER MUST BE IMMEDIATELY REMOVED FROM SERVICE.

**Minor/Field Repairs -** Insure that minor or field repairs that are completed on the propeller are properly treated. Use Alodine or a Zinc Chromate spray to recoat the repair to avoid corrosion, follow up with epoxy paint. **DO NOT** paint over corroded or

damaged blades. This hides the defect and may deter needed repair and can cause blade failure. **DO NOT** permit repair of blade damage by peening or welding. These practices will lead to early blade failure.

**Major Repairs** - Major repairs must be performed by a FAA Certificated Propeller Repair Station or by the factory.

**Blade Straightening** - Do Not have your propeller straightened except by a FAA Certificated Propeller Repair Station or the factory. Even partial straightening of blades for convenience of shipping to a repair station may cause hidden damage which, if not detected, could result in the return to service of a non-airworthy propeller. Report anything of this nature before repair is initiated.

### Installation & Operation:

**Installation** - Do not permit installation of a propeller unless it is the model approved under the Aircraft Type Certificate or STC and has been obtained from a reliable source.

**Unknown Service History** - Beware of a propeller of unknown service history. Any propeller with an unknown service history must be carefully inspected for evidence of prior damage, and a complete reconditioning must be accomplished prior to installation onto an aircraft.

**RPM Limitations** - Conform to applicable RPM limitations and periodically have your tachometer checked for accuracy.

**Push/Pulling on Blades** - Do not push or pull on the propeller when moving an aircraft by hand. This can change the track of the blades and cause vibration problems.

**Running Propeller** - Be careful when running your engine/propeller over loose stones or gravel. Keep the propeller RPM as low as possible to avoid foreign object damage.

**Blade Impact / Ground Strike** - Do not fly your aircraft under any circumstance before a thorough inspection by qualified personnel if the propeller has been subjected to impact.

### Maintenance:

**Wiping Blades** - Frequently wipe the propeller blades clean with an oily rag. This oily wipe will remove corrosive substances, and the oily residue will repel water and corrosives. A standard car paste wax can also be used in place of the oily rag.