12. Blade Shake

A. Symptom:

NOTE: "Blade Shake" is listed in the "Propeller Troubleshooting" section of this manual for informational purposes only as it has been misinterpreted in the past as a possible problem by some operators. Despite it's appearance in this section, it should never be considered a cause for concern or propeller replacement.

(1) Blade shake is the tendency for the blades to wobble slightly when the tip is physically moved by hand from the leading edge to the trailing edge (Refer to Figure 101).
   (a) Total maximum allowable movement up to 0.125 inch (3.13 mm) at the blade tip is considered normal.

B. Cause:
(1) This tendency is the natural result of a tolerance buildup. A very small movement at the hub is magnified many times at the blade tip. It is NOT the source of vibration or any other problems. While the propeller is rotating, centrifugal force on the blades seats them rigidly and positively against the retention bearings in the hub.

C. Corrective Action:
(1) No corrective action is required.

13. Oil or Grease Leaks

A. The presence of oil or grease on propeller blades may or may not indicate a problem.
(1) Grease lubricated propellers may have grease deposits on the blade shank during the first 25 or 50 hours of operation after overhaul because the retaining bearings were packed with an excessive amount of grease.
(2) All propeller blades may show minor grease streaking when new or newly overhauled. Such streaking is normal and is the result of lubricant applied to the blade O-ring during assembly.
(3) Oil-filled propellers may show signs of oil deposited on the blade shank during operation after an overhaul or after a prolonged period of inactivity.

B. Checking and correcting a leaking propeller at the blade (C200 model series thru C1100 propeller model series only).

NOTE: This procedure will only correct blade shank leaks at the blade shank O-ring.

(1) Use a clean cloth dampened with mineral spirits to clean the blade of all traces of oil and dirt.

CAUTION: Never exceed the published engine operational limits.

(2) Run the engine and cycle the propeller at least five times.
   (a) Piston airplanes: cycle from low to high pitch.
   (b) Turbine airplanes: cycle from reverse to high pitch.
(3) Check the blade for signs of continued leakage.
   (a) If necessary, clean the blade again with a cloth dampened with mineral spirits to clean the blade of all traces of oil and dirt.
(4) Run the engine and cycle the propeller at least five times.
   (a) Piston airplanes: cycle from low to high pitch.
   (b) Turbine airplanes: cycle from reverse to high pitch.
(5) If the leak has stopped completely, no other action is required.
(6) If the rate of leak has decreased, it is permissible to continue operation of the propeller for up to 20 hours.
   (a) If there is leakage after 20 hours, the propeller must be removed from the aircraft and sent to an FAA approved Part 145 Propeller Repair Station or international equivalent for repair.
(7) If the rate of leakage increases, do not operate the propeller. Immediately send the propeller to a McCauley authorized propeller service facility.