



SERVICE BULLETIN

No. 343

Piper Aircraft Corporation

Lock Haven, Pennsylvania, U.S.A.

"FAA DOA EA-1 Approved"

September 9, 1971

(Supersedes Service Bulletin No. 318a and Service Letter No. 570.)

Subject: Hartzell Service Bulletin No. 96, amended August 18, 1971 and Supplement No. 1 amended August 18, 1971

Models Affected: PA-30 Twin Comanche (normally aspirated and turbocharged) with Propeller Model HC-E2YL-2A, B, C or D installed.

Serial Numbers Affected: PA-30 Twin Comanche Serial Nos. 30-1 to 30-2000 incl. (reference attached Hartzell Service Bulletin No. 96, amended August 18, 1971 for propeller blade serial number "Effectivity").

NOTE

Propeller blade serial numbers are located on the face of the blade near the hub.

Compliance Time: Reference attached Hartzell Service Bulletin No. 96, amended August 18, 1971. "Required Action," paragraphs A, B and C.

Purpose: To provide distribution of Hartzell Service Bulletin No. 96, amended August 18, 1971 (attached), and Supplement No. 1, amended August 18, 1971 (attached).

Instructions: Reference attached Hartzell Service Bulletin No. 96, amended August 18, 1971, "Required Action."

Material Required: Propeller blade(s) as required per Hartzell Service Bulletin No. 96, amended August 18, 1971; refer to PA-30 Twin Comanche Parts Catalog for propeller blade part numbers and aircraft model and serial number application.

Availability of Parts: Reference attached Hartzell Service Bulletin No. 96 Supplement No. 1, amended August 18, 1971.

Effectivity Date: This Service Bulletin is effective September 13, 1971.

Summary: An explanation of the material replacement provisions of the attached Hartzell Service Bulletin No. 96 is contained on attached Supplement No. 1, amended August 18, 1971 to Hartzell Service Bulletin No. 96.

(over)

Summary: (Continued)

Please contact your nearest Hartzell facility to make arrangements for compliance according to the compliance time provisions contained in Hartzell Service Bulletin No 96, amended August 18, 1971, "Required Action." A list of domestic and international Hartzell Distributors is attached.

HARTZELL PROPELLER, INC.
PIQUA, OHIO

Amended August 18, 1971
Amended July 27, 1971
Amended July 21, 1970
June 1, 1970

Bulletin No. 96

DOA-FAA Approved

Subject: Inspection of Blade Design 7663-4 Used Primarily on Piper PA-30 Aircraft, But Not Limited to This Aircraft. These Blades are Installed in Propeller Models HC-EZYL-2() and HC-CZYL-1B, -2B.

Effectivity: Blades of design 7663-4, built prior to April 18, 1968, including all serial numbers prefixed with the letter "A", and "B" serial numbers up to B35571.

Discussion: During the past two years there have been blade fatigue failures caused by corrosion, which occurred near the bottom of the balance holes inside the shank end of the blades. Fatigue cracks originated from tiny corrosion pits, which then progressed outward from the balance hole to the front surface of the blade.

This problem does not exist for blades with serial numbers greater than B35571, as the hole no longer extends into this portion of the blade.

Required
Action:

- A) All 7663-4 blades affected, as noted above, which have accumulated 600 hours or more, are to be inspected within the next 100 hours per Paragraph E unless previously inspected, or at the next annual airplane inspection if the 600 hours have not been exceeded.
- B) NOTE: Option I of the original bulletin is now deleted. Those propellers which were previously inspected by the X-ray method are to be inspected by the visual method per Paragraph E within the next 50 hours in service.

Required
Action
(Cont'd):

- C) For propellers previously inspected by any repair station or person not a Hartzell Distributor, reinspect per Paragraph E within the next 50 hours.
- D) Inspection must be made by Hartzell Propeller, Inc., a Hartzell Distributor, or a Hartzell approved repair station.
- E) Inspect the inside of the balance hole by visual means. This necessitates the removal of the propeller from the aircraft and disassembly of the propeller, per instructions listed in Manual 117().
 - 1) Remove the needle bearing, located in the root of the blade, per Manual 117().
 - 2) If lead is in the 3/4 diameter balance hole, determine the amount by measuring down from the hole entrance to the surface of the lead. Record this so that the same amount of lead can be reinstalled after the inspection is made.
 - 3) Remove the lead using a 23/32 inch diameter drill which has been ground to a spherical end. Use care not to drill into the aluminum blade at the bottom of the hole.
 - 4) Inspect for corrosion the bottom one inch of the hole using a strong source of light. Corrosion may occur in various degrees, from a light gray discoloration to a dark surface which is etched in a pattern corresponding to the lead wool which contacts the surface of the hole. Any degree of corrosion may be detrimental in the area noted, so it is essential that such blades be retired from service. The presence of corrosion in the remaining portion of the hole is not considered detrimental. Questionable blades should be referred to the manufacturer for disposition.

Required
Action
(Cont'd):

- E) 4) (Since corrosion pits may be difficult to see at the bottom of the balance hole, and since the detrimental effect of such is difficult to judge in this case, it is the ultraconservative policy of Hartzell Propeller, Inc. and all Hartzell Distributors to replace the blades at time of inspection if new blades are available. This can be delayed for 200 hours if there is no apparent corrosion present.)
- 5) Coat the hole with zinc chromate primer or equivalent corrosion preventative.
- 6) Replace the exact amount of lead wool that was removed. Tamp it in tight with a 5/8 diameter ram. Be sure that no moisture is present in the hole or in the lead wool.
- 7) Replace blade plug A-2414 and Torrington M20201 in the base of the blade.
- 8) Reassemble propeller per Manual 117(). Install on aircraft per Manual 115.
- 9) Record the inspection in the log book. No further inspection is required.
- 10) The special prorated cost program, as outlined in Supplement No. 1, is being extended to January 1, 1972.

HARTZELL PROPELLER, INC.
PIQUA, OHIO

Amended August 18, 1971
December 29, 1970

Bulletin No. 96
Supplement No. 1

SUBJECT: Implementation of Bulletin No. 96

- 1) Since the issuance of this bulletin on June 1, 1970, many propellers have been inspected at the Hartzell Factory and also by propeller stations elsewhere. The rejection rate of blades inspected at the factory appears to be substantially higher than the rejection rate of blades inspected by outside propeller stations. This seems to indicate that the Hartzell inspectors are finding corrosion where some outside inspectors are not. It is essential that the inspection required by this bulletin be rigorously complied with.
- 2) In order to reduce the cost of implementing this bulletin with the greatest conservatism, the following new schedule of prices is offered for blades or propellers ordered from the factory, net, effective January 2, 1971 to January 1, 1972. (There are no additional discounts applicable.)
 - (a) New blades, 7663-4 \$170.00
 - (b) HC-E2YL-2BS/7663-4 propeller with \$600.00
new blades and updated over-
hauled hub, including spring
- 3) Credit for customer's rejected blades is computed on the basis of 2000 hours useful life, as follows:
$$\text{Credit each blade} = \$145 \times \left[1 - \frac{\text{hours flown}}{2000} \right]$$
- 4) Credit for customer's used hub is \$140.
- 5) Example: If customer wishes to trade his propeller, which has 1500 hours time, for one with new blades and overhauled hub, net cost is \$387.50.
- 6) In order to obtain credit for rejected blades, it is necessary to send them to the Hartzell Factory (prepaid) and include a statement as to the hours flown. (Exception: It is not necessary to return blades which are outside of the North American continent. Send in the serial numbers only.)