



Customer Services

Piper Aircraft Corporation

SERVICE LETTER

No. 603

Lock Haven, Pennsylvania, U.S.A.

February 8, 1972

Subject: Hartzell Service Letter No. 70, dated October 6, 1971

Models Affected: PA-31P Navajo, with Propeller Models HC-C3YN-2L/
JC9684-4R, -3R or -2R installed.

Serial Numbers Affected: 31P-1 and up.

Compliance Time: Not applicable; the attached Hartzell Service Letter No. 70 is being submitted for the purpose of field service information, and precedes a forthcoming temporary revision to the Piper PA-31P Service Manual.

Purpose: To provide distribution of Hartzell Service Letter No. 70, dated October 6, 1971; the topic is specified in the Subject and Discussion sections of Hartzell Service Letter No. 70.

Instructions: Refer to the attached copy of Hartzell Service Letter No. 70, Corrective Action section. **IMPORTANT:** Your special attention is directed to the detailed torque specifications contained in the NOTE section following paragraph number five (on page three) under Corrective Action, Hartzell Service Letter No. 70.

Material Required: Refer to attached copy of Hartzell Service Letter No. 70 dated October 6, 1971, Corrective Action section, Item No. 2 on Page 2.

Availability of Parts: Refer to attached copy of Hartzell Service Letter No. 70, dated October 6, 1971, Corrective Action section, Item No. 2 on Page 2.

Hartzell PROPELLER, INC.



Manufacturers of Airplane Propellers
350 WASHINGTON AVE.

PIQUA, OHIO 45356

October 6, 1971

SERVICE LETTER NO. 70

Subject: Repairing Damaged Threads in the Mounting Flanges of "Compact" Propeller Hubs into Which Studs are Installed

Discussion: The threads in the flanges of HC-()()YF or YN propellers are sometimes damaged or stripped by removing or overtorquing the studs.

Corrective Action: Return hub to the factory for installation of steel thread inserts, or this may be accomplished by a Hartzell approved propeller repair station if proper equipment is available, as follows.

- 1) Mount the hub on a drill press table and accurately align the drill with the hole in the hub having the damaged threads. Drill, ream, and tap according to the following chart:

| | "F" Flange (1/2" Studs) | "N" Flange (9/16" Studs) |
|----------------------|----------------------------|-----------------------------|
| Drill | 1/2 | 39/64 |
| Ream | .531 +.004 -.001 | .625 +.004 -.001 |
| Tap | 9/16-24 UNEF | 11/16-12 N |
| Drill Depth | .750 | .750 |
| Full Thread Depth | .700 +.030 -.000 | .700 +.030 -.000 |

NOTE: Since the location of the studs is very critical, drill jig should be used to insure the required accuracy.

**Corrective
Action
(Cont'd):**

- 2) Use the following Slimserts, which can be obtained from Hartzell:

| | |
|------------|------------|
| "F" Flange | "N" Flange |
| SR 500 | SR 568 |

- 3) Cut off knurled portion of Slimsert to .700 length and clean Slimsert and hub threads with an oil and grease cutting cleaner. Mix Hysol Epoxy No. 0151 or equivalent as directed and apply to both Slimsert and hub threads. Turn Slimsert into hub just below the hub surface with drive wrench. Let dry for 1 to 2 hours at 77° F. or above.
- 4) Apply epoxy to both stud and Slimsert threads. Turn the stud into the hub to the length shown on the chart.

| Engine | Stud | Minimum Length to Last Full Thread |
|--------------------------|----------|--|
| Cont. IO-360 | A-2429-3 | 1.050 $\begin{matrix} +.060 \\ -.000 \end{matrix}$ |
| All Other "F" Flanges | A-2429-4 | 1.125 $\begin{matrix} +.060 \\ -.000 \end{matrix}$ |
| All "N" Flanges | A-3254 | 1.250 $\begin{matrix} +.060 \\ -.000 \end{matrix}$ |

- 5) Test stud after 24 hours at 77° F. or above to 25 ft. lb. to insure a good bond. If a stud fails the test, remove and clean stud and Slimsert with an epoxy dissolver. Repeat Steps 3, 4, and 5.

Corrective
Action
(Cont'd):

Reference: Hartzell Service Letter No. 65.

NOTE: It is important that the proper torque is used when installing the propeller on the engine. In the case of the Continental IO-360, the torque should be 60-70 ft. lb. In all other "F" flange classifications, it is necessary to check the aircraft instructions because there are two torque values, one 60-70 ft. lb. and another 80-90 ft. lb. All "N" flanges should have a torque of 90 ft. lb. These torques apply to dry threads only.