



# SERVICE No. 155B BULLETIN

Piper Aircraft Corporation

Lock Haven, Pennsylvania, U.S.A.

October 28, 1963

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(Supersedes Service Bulletin No. 155A)

SUBJECT: Empennage Casting Cracks

MODELS AFFECTED: PA-23 Apaches - Serials 23-1 to 23-934, 23-936 to 23-939, 23-941 to 23-973, 23-977, 23-980, 23-981, 23-983 to 23-986, 23-988 to 23-991, 23-994 to 23-996. All numbers are inclusive. Refer to note at the end of this Bulletin for additional aircraft affected.

Field service reports indicate that small incipient cracks have been appearing in the elevator torque tube end castings, part 17033-00 and 17033-01; rudder torque tube horn casting, part 17060-00; elevator torque tube horn casting, part 17066-00; front stabilizer attachment casting, part 17049-00; fin attachment casting, part 17072-00; rudder torque tube bracket, part 17062-00.

It is requested that the above-mentioned castings be visually inspected for cracks, without removal from the aircraft, within the next 25 hours of operation. If cracks are apparent the affected parts should be replaced immediately. A crack in part 17049-00 between the upper rivet hole and the top of the casting is not detrimental and need not be changed until parts are available but in any case not later than 60 days. Those castings which are attached to the parent assemblies by bolts (17033-00, 17033-01, 17060-00, 17066-00, 17062-00) shall be inspected by the fluorescent or dye penetrant method within the next 60 days of operation. However, because of the critical shortage of replacement castings it is requested that fluorescent or dye penetrant inspection be delayed until availability of castings is assured. This delay, however, shall not exceed 60 days and visual inspection must be accomplished every 25 hours of operation. Hairline cracks which can be seen only by fluorescent or dye penetrant methods are not detrimental to the safety of the aircraft.

The following instructions should be carried out when installing new parts or reinstalling the old parts:

1. Part 17033: The holes in the casting and the torque tube should be reamed so that the thru-bolt can be pushed in with the fingers. The two thru-bolts in both the right and left parts should be tightened only to the extent that the elastic stop nut touches the washer and that the washer can be turned under the nut. Coat the steel bolts with zinc chromate primer before assembling.

(over)

2. Part 17060: Instructions same as for part 17033.
3. Part 17066: Instructions same as for part 17033.
4. Part 17049: This part has been replaced by a newly designed casting, part 19253-00. If necessary to change part 17049-00 installation of part 19253-00 should be made using 3/16" bolts instead of rivets. Extreme care should be exercised to see that the bolt head or nut seat properly inside the stabilizer spar.
5. Part 17072: Duplicate original installation.
6. Part 17062: Instructions same as for part 17033.
7. When reassembling the elevator torque tube it will be necessary to check the alignment of both elevators by assembling the torque tube and the elevators into a single unit and holding the complete assembly in the attachment position to check the alignment of the five hinge holes. All hinge pins should be a slip fit. If pins are not a slip fit, add shims under the castings 17033 to obtain proper alignment.

Visual inspection of all tail castings should be made a part of your regular 100 hour inspection.

When the castings are replaced by the respective forgings indicated below, this special inspection is no longer required.

<u>Casting Part No.</u>	<u>Forging Part No.</u>
17033-00	19407-00
17033-01	19407-00
17049-00 and 19253-00	19409-02
17060-00	19405-00
17066-00	19404-00
17062-00	19408-00
17072-00	19406-00

#### NOTE

The aircraft indicated by the following serial numbers: 23-935, 23-940, 23-974 to 23-976 incl., 23-978, 23-979, 23-982, 23-987, 23-992, 23-993, 23-997 to 23-1267 inclusive, were equipped with castings and inspected in accordance with Paragraph 2 of this bulletin prior to delivery, therefore, the 100 hour inspection, as outlined in this bulletin should be complied with.