

ALERT BULLETIN

AB 2010:2/11-2
1/29/09
852381

TO: FAA (AFS-800)

INFO: FAA (MKC-AEG, AFS-300, AFS-230, AFS-200, ASA-100), AMFA, AOPA, GAMA, IAM, NTSB, PAMA, TWU

FROM: Linda J. Connell, Director
NASA Aviation Safety Reporting System

SUBJ: Piper PA-28 Parts Manual and Maintenance Anomaly

We recently received an ASRS report describing a safety concern which may involve your area of operational responsibility. We do not have sufficient details to assess either the factual accuracy or possible gravity of the report. It is our policy to relay the reported information to the appropriate authority for evaluation and any necessary follow-up. We feel you should be aware of the following:

ASRS received a report from a maintenance technician who indicated the parts manual and maintenance procedures for the PA-28 were lacking information regarding wing and false spar installation. The reporter stated that after completing a repair replacement of the right wing false spar, the owner called reporting a crack on the upper right wing skin. The technician indicated that he knew immediately what caused the crack, either the structural attach angle had failed or had not been installed, as was discovered in this case. The reporter alleged that he had seen similar cracks before on this type aircraft, suggesting the Piper maintenance and parts manuals need more pictorial and reference information.

(Keywords: Maintenance Procedure)

To properly assess the usefulness of our alert message service, we would appreciate it if you would take the time to give us your feedback on the value of the information that we have provided. Please contact Gary Brauch at (408) 541-2800 or email at gary.j.brauch@nasa.gov.



Aviation Safety Reporting System
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Time

Date: 200909

Local Time Of Day: 1201-1800

Place

Locale Reference.Airport: ZZZ.Airport

State Reference: US

Altitude.AGL.Single Value: 0

Environment

Aircraft 1

Make Model Name: PA-28R Cherokee Arrow All Series

Component 1

Aircraft Component: Wing Spar

Component 2

Aircraft Component: Wing Rib/Stringer

Person 1

ASRS Report Number: 852381

Events

Anomaly.Aircraft Equipment Problem: Critical

Detector.Person: Flight Crew

Result.General: Maintenance Action

Narrative 1

Structural angle not installed after repair, causing failure of aft false spar.

Callback 1

Reporter stated they had recently completed a repair replacement of the right wing false spar upper and lower caps. The false spar intersects one of the wing ribs and uses a structural angle at the forward and aft side of the false spar, to attach the spar to the wing rib. Reporter stated the owner of the Piper PA-28R sold the aircraft after the spar repair. The new owner called him a few days later, wanting to know why there was a visible crack on the upper right wing skin that he could see from the cockpit. After the new owner described the crack and location, Reporter stated that he knew immediately what caused the crack, because he had seen similar cracks on other Piper PA-28 aircraft and always at the same right wing location. Either the forward structural attach angle had cracked or failed, or the angle was not installed. Reporter stated, that in the new owner's situation, the crack was caused by his shop failing to install that very same false spar forward structural attach angle. Immediate repairs were made. But the situation raised his concerns about the continuing lack of any reference or pictures, identifying the forward structural angle in the Piper Illustrated Parts Catalog Manual (IPC) or the Maintenance Manual for the wing and false spar installation. Reporter stated he eventually had to go directly to Piper, to get their factory drawings that detailed the forward angle. The cracks seem to appear on mid-70's Piper right wings. The Parts Manual needs improvement, because much of the maintenance work is accomplished using the Parts Manual, as the only reference for detailed repair and installations.

Synopsis

After a repair shop failed to install a forward structural angle that attaches the false spar to the right wing rib, an upper wing crack was found on a Piper PA-28R Cherokee. A Mechanic with Inspection Authority (IA) describes the lack of any reference to the attach angle in the Piper Parts Manual. Mechanic had to go to Piper to get factory wing drawings to see attach angle that was not referenced in the Parts Manual.