Maintenance alerts

A selection of defect reports from overseas operators.

Beech Baron E55 – Structural Corrosion Damage

During a scheduled inspection, technicians discovered severe corrosion on the right wing spar cap.

The corrosion progressed to the point of exfoliation and disintegration of the metal. The damage penetrated the entire thickness of the wing spar cap (P/N 95-110022-4). The affected area started at wing station 70 and continued outboard approximately 8 inches.

The corrosion compromised the spar cap to the point that it would hardly bear its own weight, and wing failure was imminent.

Older and high-time aircraft deserve your full attention to structural integrity during maintenance and inspections.

Aircraft total time: 4,137 hours.

Beech King Air B-100 – De-ice System Failure

The flight crew reported the empennage de-ice system boots would not inflate.

The technician discovered a collapsed flexible de-ice supply line displaying evidence of heat damage. The de-ice line was routed close to a heat supply duct located under the floor.

A seam in the heat duct split and caused heated air to be directed onto the de-ice line. The de-ice line collapsed when vacuum was supplied to the de-ice boots

Part total time: 6,417 hours.

Cessna Skyhawk 172G – Control Yoke Corrosion

After landing, the pilot secured the aircraft and applied the gust lock. That night, wind gusts up to approximately 75 miles per hour directly struck the aircraft's tail.

The next morning the pilot examined the aircraft and noticed that the elevator had dropped, in spite of the fact that the gust lock was still in place. The submitter first speculated that the control cables had stretched a bit.

When he removed the gust lock and pulled the yoke to the full-aft position, he could raise the elevator an additional couple of inches. This eliminated doubts about cable problems.

The problem was obviously elsewhere, even though the aircraft appeared to still have full movement of the controls. The next morning he noticed the elevator drooped even lower than the previous day, and he contacted a maintenance technician.

The technician noticed the elevator drooped to its full extent and no elevator movement occurred when he moved the control yoke in the cockpit.

An inspection revealed the control yoke had broken as a result of internal rust rendering the walls of the yoke paper thin. The rust caused the control yoke to break in a vertical portion of the control "U" between the pivot point and the elevator push-pull tube.

The submitter feels extremely lucky that he detected the problem while the aircraft was parked.

He stated that owners and operators of older aircraft should make notes of this problem and properly employ inspection techniques before an in-flight catastrophe occurs.

Part total time unknown.

Piper Cherokee PA28-140 – Broken Brake Line

During the ground run-up, in preparation for an annual inspection, the right brake line blew out at the master cylinder connection point.

Since the date code on the hose was December 1964, the hose was long overdue for replacement to avoid failure.

The submitter states owners will not regularly replace hoses unless there is a mandatory replacement time on all aircraft hoses, and he suggests that manufacturers set the guidelines.

Part total time: 3,398 hours.

Piper Tomahawk PA38-112 – Broken Aileron Rod-End

While in flight, the left aileron did not respond to the pilot's control input. The pilot made a safe, uneventful, landing.

The technician conducted an inspection and discovered the aft rod-end of the left aileron broken.

The locknut and bearing end froze as a result of metal oxidation.

The submitter speculates the method of locking the controls with the seatbelt puts the controls in a position that causes moisture to run down the rod to the rod-end. This moisture accelerated the oxidation process.

Part total time not reported.

CASA advises that seatbelts should not be used as control locks.

Hartzell propeller HC-B3MN-3 – Blade Cracks

This propeller was installed on a Cessna, model 208B aircraft.

While conducting an inspection in compliance with Hartzell Service Bulletin (SB) 169A, dated November 15, 1991, the technician discovered numerous cracks.

All three propeller blades (P/N M10083) had chordwise cracks which were beyond acceptable limits. All of the cracks led up to and possibly under the leading edge erosion shield. Due to this damage, the technician removed the propeller from service.

The submitter cautions all operators to comply with SB 169A and give close attention to the propeller blades during normal inspection.

Part total time: 5, 378 hours.

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