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of Transportation
**Federal Aviation
Administration**

Aviation Maintenance Alerts

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**ALERT NO. 256
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**Improve Reliability-
Interchange Service
Experience**

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**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, DC 20590**

AVIATION MAINTENANCE ALERTS

The Aviation Maintenance Alerts provide a common communication channel through which the aviation community can economically interchange service experience and thereby cooperate in the improvement of aeronautical product durability, reliability, and safety. This publication is prepared from information submitted by those who operate and maintain civil aeronautical products. The contents include items that have been reported as significant, but which have not been evaluated fully by the time the material went to press. As additional facts such as cause and corrective action are identified, the data will be published in subsequent issues of the Alerts. This procedure gives Alerts' readers prompt notice of conditions reported via Malfunction or Defect Reports. Your comments and suggestions for improvement are always welcome. Send to: FAA; ATTN: Designee Standardization Branch (AFS-640); P.O. Box 25082; Oklahoma City, OK 73125-5029.

AIRPLANES

BEECH

Beech; Model A-36; Bonanza; Defective Pitch Trim; ATA 2216

During flight, the pilot experienced an abrupt pitch down and elevator trim "run-away" which resulted in a rapid descent. When he disengaged the autopilot, another abrupt pitch change occurred.

The technician discovered a defective pitch servo (Allied Signal, Model KS270C). The system ground tests were satisfactory. However, when the technician engaged the autopilot, the pitch trim "ran away." After the pitch servo replacement, the system functioned normally.

The submitter suggested that Allied Signal change the software in the autopilot computer to disallow the possibility of engaging the autopilot (or notifying the pilot) prior to engagement when a pitch failure occurs. It appears that this problem is related to the trim sensor in the pitch servo. This could

cause catastrophic results if the autopilot is used during instrument flight rules (IFR) operations.

Part total time-20 hours.

Beech; Model 56-TC; Baron; Flight Control Failure; ATA 2701

During flight, the pilot experienced severe turbulence, and the flight control column broke. The pilot maintained control of the aircraft by using the autopilot and made a safe landing.

An investigation disclosed that the weld broke where the shaft was attached to the flange of the control column (P/N 96-524011-3) adapter assembly (P/N 96-524029-15). Airworthiness Directive (AD) 71-24-10 addresses this subject, and this aircraft was in compliance with the AD.

The submitter recommends that the FAA consider revising the AD to include removing and inspecting the control column adapter and/or replacing the adapter. If defects are found, the adapter should be replaced with an improved part which is available from the manufacturer.

Part total time-1,981 hours.

Beech; Model 95C55; Baron; Autopilot Malfunction; ATA 2210

The pilot stated that while using the autopilot heading mode, the aircraft was placed in an uncommanded 30 degree right turn.

When the right turn began, the pilot attempted to disconnect the autopilot by using the button on the control yoke. The disconnect button had no effect, and it was necessary to remove electrical power from the autopilot to disconnect the system. The problem was solved when the technician removed and replaced the autopilot control head.

Part total time not reported.

Beech; Model 95B55B; Baron; Nose Landing Gear Failure; ATA 3230

During landing, the pilot heard a “pop” when the nose landing gear wheel touched the runway, and the nose gear collapsed.

After moving the aircraft to a hangar, maintenance technicians discovered the nose gear aft drag brace was broken. The failure occurred at the point where the nose gear retraction rod is attached to the drag brace. Both of the “tang” used to attach the retraction rod-end broke and allowed the nose gear to collapse.

The submitter recommended removing, cleaning, paint striping, and nondestructive testing of this area during each annual and/or 100-hour inspection. If cracks are found, Beech supplies a kit (P/N 35-4012-1S) which replaces the nose gear aft drag brace.

Part total time-3,500 hours.

Beech; Model 99; Airliner; Entrance Door Misalignment; ATA 5210

The flightcrew reported that the crew entrance door created excessive wind noise during flight.

The technician discovered that the door was slightly misaligned at the forward edge. Further investigation revealed the hinge (P/N 99-420024-57) on the upper forward side was bent. The submitter believes the design of the hinge causes this condition when the seal is not properly shimmed and/or the door is handled roughly.

Part total time not reported.

Beech; Model B100; King Air; Bleed-Air System Failure; ATA 7500

During flight, the dual bleed-air failure lights on the master caution panel illuminated. The pilot made a safe landing and summoned maintenance personnel.

A maintenance technician discovered two cracked bleed-air lines (P/N 610026) in the right wing. The area surrounding the leaking bleed-air lines was not damaged. The technician replaced the lines, and the system operated normally.

The submitter did not offer a cause for this defect.

Part total time-76 hours.

Beech; Model 200; King Air; Rudder Skin Damage; ATA 5542

During a scheduled inspection, the technician discovered damage to the left side of the rudder skin.

The damage was located adjacent to the trim actuator skin cutout on the leading edge of the rudder. A crack approximately .75-inch long appeared near the top of the trim actuator cutout. The submitter believes this damage was caused by “wind blast” while the aircraft was parked on the ramp. The submitter discussed the problem with the manufacturer and they decided that a doubler is needed to repair the damaged area. A Designated

Engineering Representative (DER) and the manufacturer agreed the doubler is necessary for both airflow and structural integrity.

Possibly the most important step taken by the technician is balancing the rudder after completion of the repairs!

Part total time-8,010 hours.

Beech; Model 200; King Air; Entry Door Structural Crack; ATA 5320

During a phase inspection, the technician found a crack on the entry door.

The crack was located on the aft end of the bottom of the door. The channel (P/N 50-430043-019), used to support the door hinge, was cracked approximately 4 inches in length, and the crack traveled past the aft set of rivets. The technician replaced the channel.

Part total time-7,601 hours.

Beech; Model 200; King Air; ITT Indicator Inoperative; ATA 7722

The flightcrew reported that the number one engine inlet turbine temperature (ITT) indicator dropped to zero during a landing approach.

During an investigation, the technician discovered the ITT indicator (P/N 41-402-1) failed; however, there were no other system problems. He removed and replaced the indicator, and all of the functional tests were satisfactory. The submitter did not offer a cause or cure for this discrepancy.

Part total time-411 hours.

Beech; Model 1900D; Airliner; Defective Rudder Operation; ATA 2215

The flightcrew reported that the aircraft yawed left and right without command. It did not make a difference whether the yaw

damper was "on" or "off." The crew selected the rudder boost to the "off" position and continued the flight.

During an investigation, a team of maintenance technicians discovered that the primary rudder servo (Collins, Model SVO-65/622-5734-002) was driving the rudder in the wrong direction. After the rudder servo was removed and replaced, the operational tests were satisfactory. The technician disassembled the failed rudder servo and discovered that it was improperly assembled during a previous repair.

Part total time-137 hours.

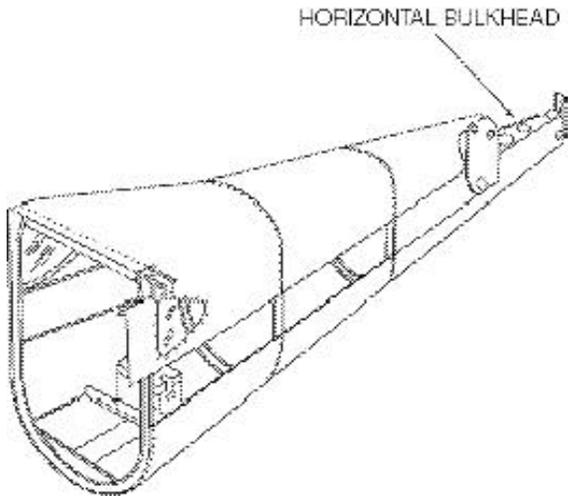
CESSNA

Cessna; Model 140; Empennage Structural Damage; ATA 5312

During an annual inspection, the technician found the elevator control cable tension low. Several attempts to adjust the cable tension failed to produce proper test results.

The technician inspected the elevator cable routing and discovered there was no pulley movement in conjunction with movement of the cable. Since there are no access panels in the tail section, it was necessary to remove the entire tail group structure for inspection. The technician found the aft horizontal bulkhead (P/N 0412112) cracked at several locations, and the elevator cables were "stretched." (Refer to the following illustration.)

Part total time-4,006 hours.



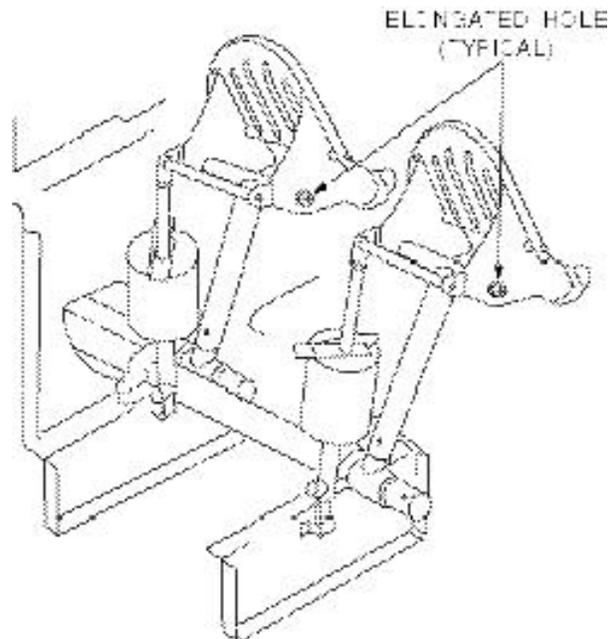
Cessna; Model 170A; Defective Rudder Pedals; ATA 2720

While removing the rudder pedals to facilitate other maintenance, the technician discovered severely elongated attachment holes.

The attachment holes on all four rudder pedals were elongated in the same wear pattern. (Refer to the following illustration.) The technician installed a doubler (.125 inch, 6061-T6 aluminum) on both sides of each attachment hole.

The submitter attributed this defect to “normal wear” following approximately 48 years of operation. He recommended that this area receive a close inspection, especially on older aircraft.

Part total time not reported.



Cessna; Model 152; Defective Elevator Spar; ATA 5520

The technician removed a damaged elevator spar assembly (P/N 0432001-21) and ordered a new assembly.

After receiving a new assembly (P/N 0432001-85), the technician conducted a receiving inspection. He discovered the new assembly came with the outboard hinge bracket already installed (unlike the original assembly). The hinge bracket was not installed properly. If the technician installed the new assembly, the outboard hinge bolt would be misaligned. He ordered a second assembly and rejected it due to the same defect. He ordered a third assembly, found it serviceable, and installed it.

This is yet another case where a thorough receiving inspection saved time, money, and prevented an unsafe condition!

Part total time-0 hours.

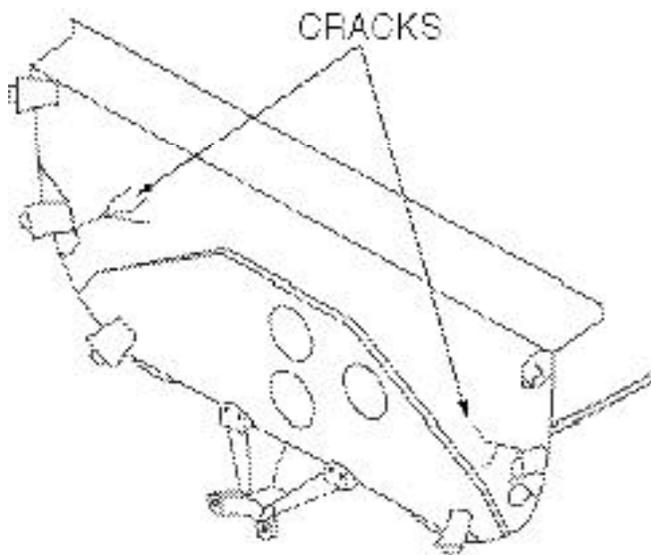
Cessna; Model 172R; Skyhawk; Firewall Cracks; ATA 5312

After removing the engine cowling for a 100-hour inspection, the technician discovered firewall cracks adjacent to the cowling shock mounts.

The technician found the firewall (P/N 0553031-1) cracked in the area of the left and right middle cowling mounts. (Refer to the following illustration.) Cessna Service Bulletin (SB) 98-53-02 deals with this subject.

Technicians complied with the inspection phase after 195 hours of operation with no defects found. There are three cowling shock mounts on each side of the firewall, the SB states that cracks may develop at any of these locations. Also, the SB gives a repair scheme for cracked firewalls. The submitter found cracked firewalls on three of four like aircraft. The SB applies to specific serial numbers of 172R and 172S model aircraft. Refer to the SB for specific aircraft applicability. The submitter urges all operators to comply with the SB as soon as possible. He also stated that this area deserves close attention during scheduled inspections.

Part total time-389 hours.

**Cessna; Model 182R II; Skylane; Defective Battery Box Support; ATA 5320**

During an annual inspection, the maintenance technician found the battery box support angles (P/N 0712059-1) were cracked.

The battery box is located in the empennage. If the battery box is uncontained, the weight of the battery could result in a serious out-of-balance condition. Even though the supports displayed some corrosion, the submitter attributed this failure to the inadequately-designed battery box support. He stated this is a very common condition and suggested the manufacturer construct a more structurally-substantial design to support the battery box.

Part total time-1,381 hours.

Cessna; Model 182S; Starter Failure; ATA 8011

During a takeoff roll, the pilot noticed all of the radio lights flickering and the voltmeter indicated 21 volts. He aborted the takeoff and conducted an operational test. The test did not duplicate the incident. When the pilot attempted another takeoff, he experienced the same problem.

When a maintenance technician attempted to start the engine, the starter (P/N PM2401) was completely inoperative. Troubleshooting revealed electrical power present at the starter, and the failure was internal. The submitter speculated that the starter solenoid stuck in the engaged position causing the starter to be driven by the engine. This submitter knows of six similar failures on like aircraft.

Part total time-87 hours.

Cessna; Model A185F; Skywagon; Landing Gear Failure; ATA 3213

During a landing rollout, the left main landing gear separated from the aircraft. The aircraft nosed over and came to rest on its back.

An investigation revealed that the gear leg (P/N 0741001-3) had sheared through the two upper bolt holes used to attach the axle. This aircraft was fitted with wheel skis in the winter and tires in the summer. Most of the flying was from "unimproved" (off-airport) landing strips. Due to these conditions, the submitter suspected metal fatigue caused this defect. He suggested that similarly-used aircraft receive an annual x-ray inspection of the critical landing gear parts.

Part time since overhaul-2,490 hours.

Cessna; Model U206G; Stationair; Aileron Hinge Assembly Damage; ATA 5751

During other maintenance, the technician discovered damage to a right wing aileron hinge bracket assembly.

Both the right wing inboard and outboard aileron hinge bracket assemblies (P/N's 1220053-12 and 1220052-12) displayed cracks on the lower side. The technician also found loose and sheared rivets at the point where the brackets attach to the rear wing spar. One cannot see this type of damage without removing the false spar. However, defects are evidenced by looseness and movement of the hinge brackets in an up-and-down direction.

The submitter has experienced this defect on other 206 and 207 model aircraft. He stated the two bottom rivets in the bracket, which go through the lower skin, loosen or shear first; and then the angle riveted to the spar flexes and cracks.

Part total time-8,120 hours.

Cessna; Model 560; Citation; Brake System Failure; ATA 3242

During landing, the flightcrew experienced complete failure of the primary brake system. The pilots used the emergency brake system and the thrust reversers to stop the aircraft.

When the aircraft taxied into the parking ramp, a maintenance technician noticed hydraulic fluid leaking from a drain hole in the nose landing gear area. He inspected the primary brake system and discovered a ruptured hydraulic system reservoir (P/N 651710022). The failure occurred at the forward inboard welded seam. A crack, adjacent to the welded seam, traveled approximately 4 inches upward from the lower forward corner of the reservoir. The technician did not find plumbing obstructions or other problems that caused this defect. He sent the reservoir to Cessna for evaluation.

Part total time-2,366 hours.

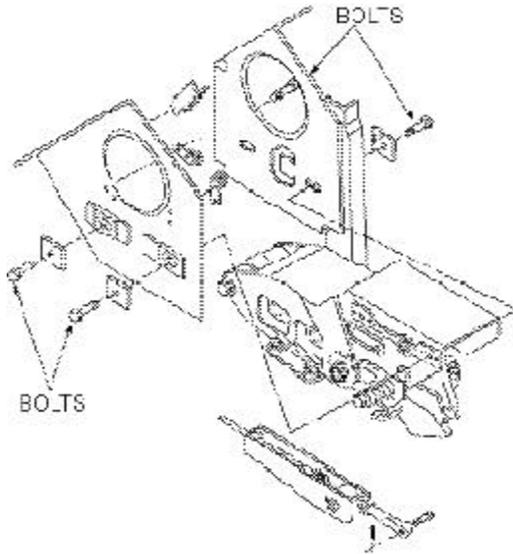
Cessna; Model 650; Citation; Defective Main Landing Gear Uplock Assembly; ATA 3230

During a scheduled inspection, the technician discovered a loose left main landing gear uplock assembly.

All four of the bolts (P/N AN4-7A) used to secure the uplock assembly (P/N 6214102-7) to the aircraft structure were loose. The bolts thread into self-locking nut plates (P/N MS21069L4) and have no other safety device. (Refer to the following illustration.) The technician applied "Loctite 271" to the bolt threads, and torqued the bolts to the proper setting. The right main gear uplock assembly was tight; however, the bolts were at less than the specified torque value. The submitter suggested that the manufacturer

use “drilled head” bolts (P/N AN4H-7A) at this location. The “drilled head” bolts can be safety wired.

Part total time-1,949 hours.



within the landing gear control valve which is a component of the Hydraulic Power Pack. As a result, the manufacturer (Fairchild) issued Service Letters (SL) 226-SL-012, 227-SL-037, and CC7-SL-029, with subsequent revisions, to establish overhaul criteria for the Hydraulic Power Pack and for system ground operating procedures.

The repetitive overhaul procedures required by the Service Letters will eliminate the latent failures that caused the uncommanded gear retractions. These failures are not necessarily detectable in the normal landing gear functional checks and could occur at anytime on high time Hydraulic Power Packs unless the preventive maintenance required by the Service Letter is performed. Although the reported malfunctions have thus far occurred with the affected aircraft in a ground static position, it is possible that such an uncommanded gear retraction could occur during an approach if electrical power to the Hydraulic Power Pack is interrupted.

Part total time not applicable.

FAIRCHILD

Fairchild; Models SA226 and SA227; Metro; Landing Gear Anomaly; ATA 3230

The FAA, Aircraft Certification Office, ASW-150, located in Fort Worth, Texas, submitted the following article. ***(The article is printed exactly as it was received from ASW-150.)***

Two Metros recently experienced uncommanded landing gear retractions during ground operations. Both aircraft were equipped with the same Hydraulic Power Pack (P/N 27-81009).

In both cases, the cause was determined to be an undetected or latent malfunction

GULFSTREAM

Gulfstream; Model G-1159; Electrical System Damage; ATA 2434

During an engine operational test on the ground, the left generator occasionally tripped off line.

An investigation revealed that the generator shunt ground pad (P/N 1159AV20467-13) was severely heat damaged. The maintenance records indicate the shunt ground pad was recently removed during a corrosion inspection. The submitter speculated that the bolt securing the ground pad was not properly torqued, or the ground pad was not mated flush with the shunt prior to tightening the attachment hardware. These parts are located in the tail section aft of the pressure bulkhead.

The submitter suggested that all operators inspect this area for similar damage at the earliest possible time.

Part total time-5,157 hours.

MOONEY

Mooney; Model M20J; Damaged Pitot Tubing; ATA 3411

This aircraft was involved in a landing accident which destroyed the aircraft. The defect reported here may have been a contributing factor to the accident.

During the accident investigation, the pitot system tubing was found crushed. The tubing was improperly routed between the fuselage frame and the skin on the left side. This resulted in restricted flow to the airspeed indicator and lower than actual airspeed indications.

Part total time-397 hours.

Mooney; Model M20K; Exhaust System Component Cracking; ATA 7800

We received two reports concerning exhaust system component cracking on two different Mooney M20K aircraft. Both aircraft incorporated Supplemental Type Certificate (STC) SA5691NM. The STC concerns installing a Continental TSIO-520-NB engine.

The first report cites a cracked left lower rear turbocharger mount bracket (P/N 505-03-504). Due to cracking at 179 hours, a technician previously replaced the right front turbocharger mount bracket. The submitter suggests inspecting this area each time a technician removes the engine cowling.

The second report cites cracking adjacent to welds and where the engine baffling rubbed against the tailpipes, headers, and transition pipes (P/N 305-01-507HS). The submitter found

engine exhaust stains throughout the engine compartment. He also noted that the unthreaded portion of the bolt shank on the engine lord mount was too long, allowing the engine to vibrate. The exhaust system is "hard mounted," and requires force to put into place.

Part total time of first aircraft-212 hours. Part total time of second aircraft-584 hours.

NAVION

Navion; All Models; Flight Control Cable Corrosion; ATA 2710

The submitter discovered severely corroded aileron cables on several different aircraft. He stated the damage usually appears just outboard of the wheel wells. To properly inspect this area, a technician has to disconnect the cables at the aileron bellcrank and pull them into the wheel well. On one aircraft, the submitter only found two unsevered cable strands.

Part total time not reported.

Navion; Model A; Landing Gear Uplock Failure; ATA 3230

When the pilot selected the landing gear to the "down" position for landing, the gear did not extend. The pilot executed a gear-up landing.

An investigation revealed a broken clevis pin (P/N AN 393-7). The clevis pin attaches the landing gear lock release to the hydraulic powerpack. The clevis pin broke at the cotter-key hole, migrated, and disconnected the landing gear lock release cable from the gear handle. The submitter suggested removing and inspecting the clevis pin during each annual inspection.

Part total time not reported.

PIPER

Piper; Model PA24-180; Comanche; Stabilator Corrosion; ATA 2740

The technician removed both stabilators to replace the bearings.

The technician found corrosion on the stabilator torque tube (P/N 22655-00). The technician could not see this area until he removed the stabilators. He discovered the torque tube did not have any paint or other corrosion protection present.

The submitter suggested removing the stabilators and inspecting and painting the torque tube every 1,000 hours of operation.

Part total time-3,763 hours.

Piper; Model PA24-250; Comanche; Defective Wing Attachment; ATA 5341

During an annual inspection, a technician discovered the right wing aft attachment fitting was missing rivets.

The wing attachment fitting is located under the aft baggage compartment floor. The plate (P/N 23662-00) and fitting (P/N 23663-00) were "misaligned." The technician discovered all of the fasteners in these two parts either broken or missing. This finding prompted an inspection of the left wing attachment assembly. The left side appeared aligned, and all of the rivets were in place. However, the technician could pull out many of the rivet bucktails using only finger pressure.

The submitter speculated that hard landings caused this damage.

Part total time-3,607 hours.

Piper; Model PA28-160; Cherokee; Loss of Engine Power; ATA 7600

During flight, the aircraft engine power suddenly reduced to approximately 1500 RPM. This loss of power resulted in an emergency landing in water. All of the aircraft occupants escaped without injury.

Accident investigators found that the rubber in an "Adel" clamp (Piper P/N 63916-02), used to secure the engine throttle cable, had deteriorated to the point of allowing the engine throttle cable housing to slide inside the clamp. This caused a reduction in throttle cable travel and allowed a maximum of 1500 RPM. In this case, a cheap part caused endangerment of the aircraft occupants and substantial damage to the aircraft!

Part total time-3,574 hours.

Piper; Model PA28-161; Warrior; Engine Vibration; ATA 7120

After returning from a flight, the pilot reported engine vibration during engine starting and shutdown procedures.

An inspection disclosed a loose right lower engine mount-to-firewall bolt (P/N AN 6-26A). Also, the bolt grip length was too long and allowed the nut to bottom out on the threads. The maintenance records revealed the bolt had not been replaced since the aircraft was new.

Part total time-837 hours.

Piper; Model PA28-181; Archer; Inaccurate Airspeed Indication; ATA 3411

The pilot reported that the airspeed indication was not accurate.

An investigation revealed two torn flexible hoses (P/N's 63913-122 and -123). The hoses connect ridged metal lines to the pitot mast in the left wing. The hose tears appeared at the point where they attach to the metal lines.

The submitter reported that avionics personnel recently performed maintenance in this area. He speculated this problem occurred when the avionics personnel removed and pulled down the pitot mast.

Part total time-406 hours.

Piper; Model PA31-350; Chieftain; Cockpit Fuel Leak; ATA 7332

During flight, the pilot detected a strong fuel odor. He observed fuel dripping from the instrument panel onto the copilot's rudder pedals. The pilot made an immediate and uneventful landing.

A technician investigated and found a fuel pressure hose (P/N 80048-04) leaking at the fuel pressure gauge. After removing the hose, the technician found a small split running lengthwise on the hose.

The submitter stated this hose may be original equipment and attributed "old age" as the cause of the defective hoses.

Part total time-9,278 hours.

Piper; Model PA31T-500; Cheyenne I; Air-Conditioning System Inoperative; ATA 2100

During a scheduled inspection, the technician filled the air-conditioning system due to "low output."

After servicing the system, the technician discovered a Freon leak on the low pressure side in the right wing's leading edge. The leak originated from a "B" nut fitting on a line (P/N 50489-00). The technician could not stop

the leak by tightening the "B" nut. (Most of us are guilty of trying to tighten a line or fitting to stop a leak with pressure on the system; however, it is not a safe practice!) The technician evacuated the system and removed the line for closer inspection. He discovered severe corrosion on the flare at the leaking end of the line. The corrosion penetrated through the flare wall thickness.

Since the location of the hose is at the lowest point in the system, the submitter speculated that moisture accumulation caused the severe corrosion.

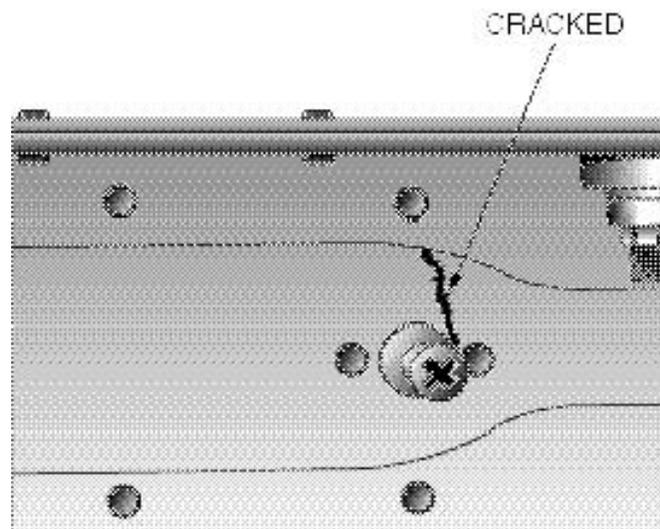
Part total time-5,189 hours.

Piper; Model PA31T-620; Cheyenne; Horizontal Stabilizer Crack; ATA 5511

During a scheduled inspection, the technician discovered a crack on the horizontal stabilizer.

The crack appeared on the left horizontal stabilizer (P/N 46538-024) rear spar web. (Refer to the following illustration.) The crack traveled from an upper rivet, used to attach the spar web, to a bonding strap hole. The submitter did not offer a cause for this defect.

Part total time-4,595 hours.

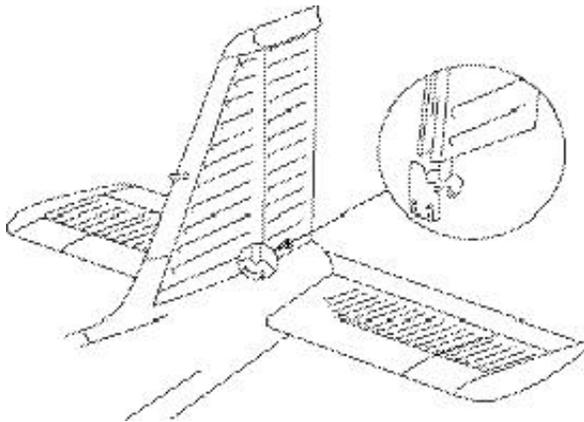


**Piper; Model PA32R-301T; Turbo Saratoga;
Defective Vertical Stabilizer Attachment;
ATA 5530**

During an annual inspection, the technician noticed movement when he exerted hand pressure against the top of the vertical stabilizer. At the same time, he heard a noise which seemed to come from the lower attachment point.

The technician removed the four rear spar attachment bolts (P/N AN-4-6A). He discovered wear marks made by movement of the attachment point surfaces. (Refer to the following illustration.) The torque on the attachment bolts was less than the required 100-inch pounds. The submitter stated this was the third similar defect he has found on like aircraft within the past year. He recommended that the manufacturer replace the stabilizer attachment bolts with, ream-to-fit, AN-174-series close tolerance bolts.

Part total time-2,278 hours.



**Piper; Model PA34-200; Seneca; Rudder
Control Failure; ATA 5540**

During ground operation, the rudder went to full left deflection and could not be returned to the neutral position.

An investigation revealed that the rudder arm assembly (P/N 95386-00) failed at the point where it is welded to the cross-bar assembly. This aircraft is used for flight instruction and used to demonstrate single-engine operation. Single-engine operation requires full rudder travel to maintain control of the aircraft. The submitter suggested that all operators of like or similarly-constructed aircraft immediately inspect for cracks and damage in this area.

Part total time-5,200 hours.

HELICOPTERS

BELL

**Bell; Models 214-B, 214-B1, and 214ST;
Improperly-Manufactured Main Rotor Strap
Pins; ATA 6200**

The FAA, Rotorcraft Certification office, ASW-170, located in Fort Worth, Texas, submitted the following article. ***(The article is printed exactly as it was received from ASW-170.)***

Bell Helicopter has identified a number of main rotor strap pins (P/N 214-010-117-001) which may not have been manufactured correctly.

Bell issued Alert Service Bulletins (ASB's) 214-99-61 and 214ST-99-81, both dated July 5, 1999, which deal with this subject. The text of these ASB's contains instructions for removal of certain pin serial numbers from stock and service at the next scheduled tension-torsion

strap/pin change or within a specified time interval. Refer to the applicable ASB for specific instructions.

Part total time-not applicable.

Bell; Model 407; Bearing Failure; ATA 6510

While flying straight and level at 3,700 feet, the pilot experienced two sharp vibrations. The vibrations lasted approximately 2 seconds and were 1 second apart. The pilot made an immediate and successful precautionary landing.

An investigation revealed that some of the bearing balls were missing from the forward end of number 2 tailrotor drive shaft bearing assembly. The technician determined that an uncontained failure of the forward bearing (P/N 407-040-303-105) caused the vibrations.

The submitter did not offer a cause or means of preventing this type of defect.

Part total time-302 hours. Part time since overhaul-79 hours.

Bell; Model 407; Main Rotor Trunnion Bearing Failure; ATA 6700

During a scheduled inspection, the technician discovered premature failure of a main rotor trunnion bearing.

The main rotor trunnion bearing (P/N 406-310-405-101) life limit is 5,000 hours. Previously, the technician found three bearing failures, and each of these bearings has less than 1,000 hours in service. He rejected these bearings because of axial play beyond .005 inch. Since this part is critical to flight safety, the submitter notified the manufacturer of the problem. Bell acknowledged this defect and is presently working on a solution.

Part total time-238 hours.

EUROCOPTER

Eurocopter; Model BK117B1; Chip Plug Installation; ATA 7261

Following a 25-hour inspection, the technician started the engine and discovered a large engine oil leak.

An inspection revealed the leak came from the chip plug. The chip plug dislodged from the socket and allowed a copious quantity of engine oil to escape. Apparently, the valve in the chip plug housing was not seated properly and did not fully engage the locking device.

The submitter recommended exerting a firm "pull down" on the chip plug after turning the chip plug to the locked position to ensure it is fully locked. This advice applies to any other aircraft using this type of engine chip detector plug.

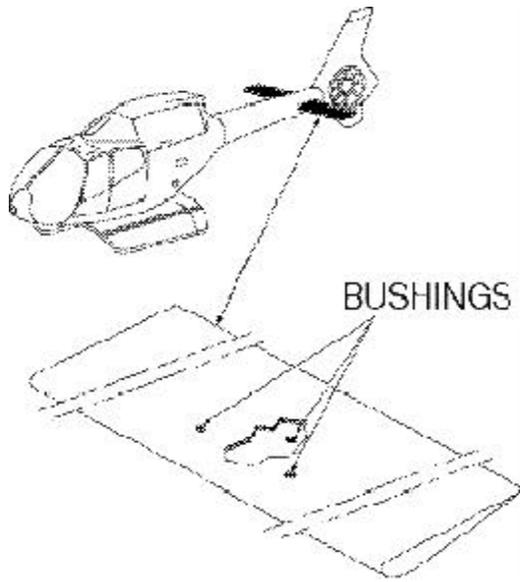
Part total time not reported.

Eurocopter; Model EC 120B; Horizontal Stabilizer Bushing Loose; ATA 5510

During a daily inspection, the technician discovered that the left horizontal stabilizer support bushing was pulled out of the stabilizer. The bushings bond into the composite stabilizer structure. (Refer to the following illustration.) No other damage appeared on the stabilizer mount brackets or the tail boom. As a precaution, the submitter conducted a balance inspection on the "Fenestron" at 100 percent flat pitch on the ground. The inspection revealed an out-of-balance condition.

The submitter speculated that inadequate adhesion between the bushing inserts and the composite material caused this problem.

Part total time-40 hours.



SIKORSKY

Sikorsky; Model S76C; Rotor Blade Vibration; ATA 6210

The flightcrew heard a loud bang and felt a heavy vibration. The pilot made an immediate and successful landing.

The submitter discovered that approximately one-third of the tip cap (P/N 76150-09043-050) on a rotor blade was missing. He did not find any indication of a blade strike or other damage that may have caused this separation. The maintenance records indicate a technician installed the tip cap 1.5 hours before this failure. The records also indicate a technician removed this particular tip cap on three other occasions because of paint and filler problems.

Part total time not reported.

AMATEUR, EXPERIMENTAL, AND SPORT AIRCRAFT

AVID

Avid; Model Catalina; Engine Exhaust System Failure; ATA 7810

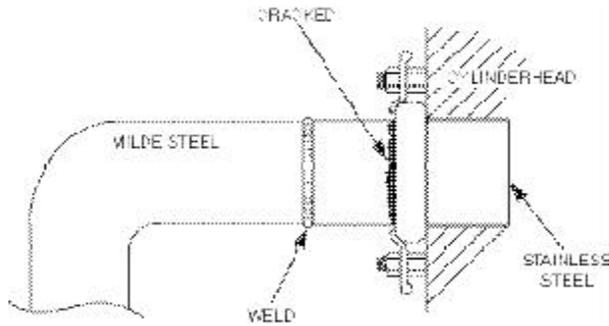
This aircraft is amphibious and uses a Rotax Model 912 engine with a “pusher” propeller.

After making several water landings, the pilot climbed to 1,000 feet for a flight to another lake. During cruise flight, he heard a loud bang, felt a severe vibration, and the engine stopped. The pilot made an emergency landing. The two occupants did not receive any injuries; however, the aircraft sustained substantial damage.

An inspection of the wreckage revealed that two of the three propeller blades broke approximately 10 inches from the center of the hub. The pilot/owner/builder discovered a broken and missing front left engine exhaust pipe. As the broken pipe departed the aircraft, it also broke the propeller blades.

The pilot/owner/builder modified the aircraft’s engine exhaust system by removing the mufflers. The stainless steel insert which fits into the cylinder head was welded to a 6-inch long section of mild steel. The stainless steel insert cracked and separated at the location adjacent to the cylinder hold-down clamp. (Refer to the following illustration.)

Part total time not reported.



KITFOX

Kitfox; Model II; Engine Failure; ATA 8530

This aircraft had a Subaru Model EA-81 engine installed.

During flight, the pilot experienced a loss of engine power and could not restore the power. He made a successful off-airport emergency landing.

The submitter discovered a broken snapping. The snapping secures the number 1 cylinder exhaust rocker arm. When the snapping broke, the rocker arm separated from the rocker shaft. The submitter did not give a cause for the snapping failure.

Part total time not reported.

SPACEWALKER

Spacewalker; Model II; Structural Failure; ATA 5700

The FAA Flight Standards District Office (FSDO) in Houston, Texas, submitted the following article. ***(This article is printed exactly as it was received from the FSDO.)***

This accident investigation has not yet been completed, and the information given in this article may or may not be compatible and factual when the final report is released.

Ground observers reported that this aircraft was flying straight and level at approximately 1,200 feet when it, slightly and erratically, rolled from left to right and a loud snap or popping noise was heard. The aircraft's left wing separated, and the aircraft struck the ground in an almost vertical attitude. This resulted in two fatalities and destruction of the aircraft.

The aircraft designer stated that the left wing rear spar broke initially which imposed a torsional twisting load on the remainder of the wing structure. The abnormal torsional load bent the wing main spar attachment point to fuselage carry through structure. This resulted in sudden and catastrophic wing failure. The wood used for the front and rear wing spars appeared to fracture almost vertically with no ripping or tearing of the wood grain or structure.

The history of this aircraft brought to light some interesting information. The aircraft was originally certificated in 1991 and was built from a kit by an individual who was a professional cabinet maker. The aircraft had been sold four times after it was originally built. The builders records indicated that the builder substituted basswood for the rear wing spar during construction. The aircraft designer calls for the use of "spruce" for construction of the wing spars. Also, the kit manufacturer discovered several anomalies that may have occurred during the original construction. The welded tubing area, where the rear spar carries through the fuselage structure, is designed oversized vertically. This allows the builder to set the angle of incidence for the wings. Once the angle of incidence is determined and set, the oversized area is intended to be filled with wedges of wood glued to the spar so that no space remains. It did not appear that this procedure had been accomplished on this aircraft.

The area of the left wing initial failure is the "wing-walk" area used for entry and exit of the cockpit. It is speculated by the

designer that repetitive stress, along with substitution of wood used for the rear wing spar as well as other factors may have contributed to the short life span of the wing.

If you contemplate building or buying an already constructed amateur built aircraft, strict adherence to the original manufacturer's design, instructions, and construction techniques is recommended very strongly. If you decide to deviate, do so using data and materials that are adequate and approved as substitutes. Advisory Circular (AC) 43.13-1B, Acceptable Methods, Techniques and Practices Aircraft Inspection and Repair, is an excellent reference. The Experimental Aircraft Association (EAA) has a highly qualified staff of "Technical Councilors" who are available almost anywhere and can provide expert advice on all phases of construction. If you are considering the purchase of an "already built" aircraft it would be wise to seek the advice and opinion of qualified technical people who are experienced with the particular aircraft under consideration. A professional inspection, although it may cost a few dollars, may save you many dollars, and possible personal injury, later.

POWERPLANTS AND PROPELLERS

ALLIED SIGNAL

Allied Signal; Model TFE731-3; Turbine Rub; ATA 7250

While disassembling the powerplant for a major inspection, the technician discovered a "rub" on the low pressure turbine (LPT).

The location of the rubbed area is on the forward face of the LPT rotor (P/N 3074096-2) adjacent to the root surface. The third stage LPT seal caused the interference. Allied Signal issued Service Bulletin (SB) TFE731-72-3654 which details the rework procedure to correct this defect.

According to the maintenance records, a technician completed a hot-section inspection 710 operating hours prior to this finding.

Powerplant total time-5,930 hours

TELEDYNE CONTINENTAL

Teledyne Continental; Model GTSIO-520-H; Sudden Loss of Engine Power; ATA 8520

During flight, the pilot experienced a sudden loss of engine power. After his attempts to restart the engine failed, he made a "dead stick" landing.

Maintenance technicians discovered that the idler gear-support pin (P/N 534278) was loose and had backed out of the crankcase. The idler gear moved out of position and disconnected the magneto drive train. Also, there was extensive damage to the teeth of the crankshaft gear, starter drive adapter gear, and the camshaft gear. The submitter speculated the damage occurred prior to landing during the 3 minutes of engine "windmilling." The submitter suspected the nuts (1/4-28) on the idler gear support pin mounting studs were loose causing this damage.

The submitter recommended checking the torque on the idler gear support pin's retaining nuts during each scheduled inspection.

Part time since overhaul-838 hours.

ACCESSORIES

VERSICON REFUELING HOSE

Applicable to All Aircraft; Refueling Hose Breakdown (Portable Refueling Systems); ATA 1210

The National Transportation Safety Board (NTSB) office located in Seattle, Washington, requested dissemination of the following information. ***(The article is printed exactly as it was received from the NTSB.)***

An aviation accident investigation revealed that the refueling truck hose internally decomposed leaching a gum-like resin into the fuel within the hose. The fuel, when pumped into the aircraft's fuel tank, was then fed to the carburetor where the resin laden fuel was atomized, clogging the carburetor jets and resulting in power degradation during takeoff.

The private pilot owner/operator and two passengers were departing a small clearing in a Bell 47G-3B-1 helicopter, when the manifold pressure and RPM began to decrease. A rapid descent followed and while attempting a pedal turn to reach a clear area, the rotorcraft struck trees and impacted the ground. The pilot and passengers exited without injuries and a post crash fire consumed the rotorcraft within approximately 5 minutes after the accident.

The owner/operator routinely refueled this helicopter from a 150 gallon tank mounted on a truck for portability. The fuel nozzle was attached to the tank/filters via a 30-foot length of terra-cotta colored hose labeled "VERSICON" which the owner had acquired as a replacement hose from a local supplier in August 1997. The owner reported that the supplier of the Versicon hose had advised him that the hose was acceptable for use with aviation fuels. Specifications for the hose advertised that: "Its fuel line quality will convey oil, fuel oil, and other petroleum derived products."

However, a note stated "not recommended for the variety of unleaded gas existing presently."

The owner reported previously noticing a clear gum-like substance weeping from the cut ends of the hose where it attached to the filters and nozzle, and that the substance was clear and sticky. He also noted that the fuel held within the 30 foot length of hose had changed to a green-yellow color.

Examination and testing of the green-yellow fuel sample and gum and by the Aerospace Fuels Laboratory, Department of the Air Force, revealed that the fuel contained a Benzenedicarboxylic compound, and that this was the primary component making up the fuel soluble gum. Additionally, a section of hose was immersed in uncontaminated aviation fuel for several days duration. At the conclusion of this test the fuel sample had changed color from blue to green-yellow, and testing once again revealed the presence of Benzenedicarboxylic compound. Refer to NTSB accident report SEA98LA064 (04/19/98, Sedro Wooley, WA, N80SD) available at website:
<http://www.nts.gov/aviation/months.htm>

The American Petroleum Institute (API) has established standards for the identification of aircraft fueling hose as set forth in the American Petroleum Institute (API) Standard 1529, fifth edition, dated May 1998. This standard states, in part:

IDENTIFICATION

Each hose shall have durable identification labels at intervals not exceeding 2.0 meters (6.5 feet). Each label shall include the following information:

- The designation "Aircraft Fueling Hose-API 1529/(Edition date it meets; e.g., 1529/1998)."
- Manufacturer's name or trademark or both.

- Hose type, grade, and serial or reference number.
- Quarter and year of manufacture; e.g., 3Q/1996.
- Maximum working pressure in kilopascals (pounds per square inch).

For cold temperature (CT) hose, in addition to "Type C-CT," add the words "Cold Temperature." For CT hose, add a 0.50-inch wide green stripe continuously along hose for quick identification of the hose. The stripe shall be resistant to damage from handling, bending, water, oil, fuel, and environmental effects.

It is important to remember that any operator acquiring hose for the purpose of transporting aviation fuels should check for the above identifying requirements and ensure that the hose intended for use is approved and marked in accordance with API standards as noted above. Failure to do so may result in contaminants entering the aircraft's fuel system and degrading engine performance.

Part total time-approximately 249 days.

PARACHUTES

SKY-DIVING ACCIDENT

A recent sky-diving fatality occurred when the reserve parachute failed.

When the jumper exited the aircraft, the main parachute did not deploy properly. The jumper followed emergency procedures and deployed the reserve parachute (Precision Aerodynamics, Inc. Model Raven 1). The reserve parachute deployed properly;

however, the opening shock broke two suspension lines at the connector link on the right front riser.

The submitter estimated the jumper's weight at approximately 285 pounds. The placard of the Raven 1 reserve parachute provides for a maximum exit weight of 185 pounds. At terminal velocity, the jumper's weight exceeded the maximum weight by approximately 100 pounds. The submitter of this report could offer no other facts concerning the cause of this tragic event.

Part total time not applicable.

AIR NOTES

ADDRESS CHANGES

In the past, the Designee Standardization Branch (AFS-640) maintained the mailing list for this publication. Now, the Government Printing Office (GPO) sells this publication and maintains the mailing list; therefore, please send your address change to:

U.S. Government Printing Office
ATTN: SSOM, ALERT-2G
 710 N. Capital Street N. W.
 Washington, DC 20402

You may also send your address change to GPO via FAX at: (202) 512-2168. If you FAX your address change, please address it to the attention of: **SSOM, ALERT-2G**.

Whether you mail or FAX your address change, please include a copy of your old address label, and write your new address clearly.

SUBSCRIPTION FORM

Many of our readers voiced their concern when, due to a budget reduction, it was necessary to stop printing and distributing paper copies free of charge.

The Government Printing Office (GPO) agreed to print and distribute the Alerts. However, there will be a 1-year subscription charge for this service. The charge will be \$25 per year for domestic mailings and \$31.25 per year for foreign mailings.

The mailing list for the Alerts is current, and we sent a subscription form to all past recipients. However, if you did not receive a subscription form, we have included one in this publication.

IF YOU WANT TO CONTACT US

We welcome your comments, suggestions, and questions. You may use any of the following means of communication to submit reports concerning aviation-related occurrences.

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You can access current and back issues of this publication from the internet at:

<http://www.mmac.jccbi.gov/alerts>

This web site also has view, search, E-Mail, and M or D submit functions.

The "Fedworld" web site is:

<http://www.fedworld.gov/pub/faa-asi/faa-asi.htm>

The "Fedworld" web site has approximately 5 years of back issues listed. The files are titled using eight characters. The first three characters are ALT. The second three characters indicate the month (Jan, Feb, etc.). The last two characters indicate the year (98, 99, etc.). The more recent files are in Adobe Acrobat (PDF) format and can be viewed and downloaded. To download individual monthly files, place the mouse pointer at the desired file, and click the right mouse button. This will produce a drop-down menu. Select "save target as" from the drop-down menu, and click the left mouse button. Select a location for the downloaded files to reside. You can print the downloaded file(s). **NOTE:** The Service Difficulty Report (SDR) files are at the end of the ALT files.

AIRWORTHINESS DIRECTIVES (AD's) ISSUED IN SEPTEMBER 1999

99-17-17; Robinson; Rotorcraft: R44

99-19-01; Teledyne Continental;
Engine: O-470, IO-470, TSIO-470, IO-520,
TSIO-520, LTSIO-520, IO-550, TSIO-550,
TSIOL-550, and GTSIO-520 Series

99-19-30; Sikorsky; Rotorcraft: S-76A, B,
and C

99-19-32; Pilatus; PC-12 and PC-12/45

99-19-33; LET Aeronautical Works;
Sailplane: L-13 "Blanik"

99-20-13; Eurocopter Canada; Rotorcraft:
BO 105 LS A-3

AVIATION SERVICE DIFFICULTY REPORTS

The following are abbreviated reports submitted between September 21, 1999, and October 20, 1999, which have been entered into the FAA Service Difficulty Reporting (SDR) System data base. This is not an all inclusive listing of Service Difficulty Reports. The full SDR reports can be found on the internet at: <<http://www.fedworld.gov/pub/faa-asi/faa-asi.htm>>. This internet address takes you to the FAA ASI Library and the SDR reports are listed by weekly entries. This data base is maintained by the FAA, Regulatory Support Division, Aviation Data Systems Branch, AFS-620 located in Oklahoma City, Oklahoma. The mailing address is:

FAA

Aviation Data Systems Branch, AFS-620
PO Box 25082
Oklahoma City, OK 73125

These reports contain raw data that has not been edited. If you require further detail please contact AFS-620 at the address above.

Service Difficulty Report Data

This report is sorted by aircraft make and model then engine make and model.

This report derives from unverified information submitted by the aviation community without FAA review for accuracy.

ACFT MAKE ACFT MODEL REMARKS	ENG MAKE ENG MODEL	COMP MAKE COMP MODEL	PART NAME PART NUMBER	PART CONDITION PART LOCATION	DIFF-DATE FAA REPORT NO.	T TIME TSO
ALLSN 250C20B SEAL ASSEMBLY INSPECTION REVEALED PITTED MATING SURFACE.	SEAL 23035128	CORRODED 6898764	09/23/1999 TURBINE SECTION	1999100100280		
GARRTT TFE7314R DURING POST-FLIGHT INSPECTION, DISCOVERED THIRD STAGE LPT HAD ONE EACH BLADE SHROUD BROKEN AND SEVERAL BLADES DENTED. FIRST AND SECOND STAGE LPT'S HAVE DAMAGED BLADES ALSO. ENG TSN: 1,578 HOURS.		BLADE 30754372	DENTED LP TURBINE	09/28/1999 1999100800432	1578 1274	
BELL 206B3 ENGINE REMOVED DUE TO MAKING METAL. UPON INSPECTION OF GEARBOX NOTED THE FOLLOWING: SPALLING BEYOND SERVICEABLE LIMITS ON F/C O/P GEAR TEETH. INSTALLED NEW PART.	ALLSN 250C20B	GEARSHAFT 6894171	SPALLED 6896437	09/23/1999 GEARBOX	313 1999100100279	
BELL 206L1 ENGINE REMOVED DUE TO NR 1 BEARING OIL LEAK. UPON INSPECTION OF COMPRESSOR PARTS NOTED THE FOLLOWING: GROOVED SLOTS AND TANGS BEYOND SERVICEABLE LIMITS ON CARBON SEAL ASSY. NEW PART	ALLSN 250C28B	23033191	CARBON SEAL 23004513	LEAKING ENGINE	09/27/1999 1999100800133	667
BELL 206L3 ENGINE REMOVED DUE TO SMOKE AT 100 PERCENT TO IDLE. UPON INSPECTION OF COMPRESSOR PARTS NOTED THE FOLLOWING: GROOVED SLOTS AND TANGS BEYOND SERVICEABLE LIMITS ON CARBON SEAL ASSY. NEW PART	ALLSN 250C30P	23033193	CARBON SEAL 23004513	DAMAGED ENGINE	09/27/1999 1999100800134	102
BELL 407 LEVER P/N 3226-201 BROKE ON LT FORWARD DOOR. THE LEVER WAS NON-PROCURABLE FROM BELL. LATCH ASSY P/N 20898-411 WAS ORDERED AND THE LEVER WAS SCRAPPED LOCALLY.	LATCH	BROKE	09/24/1999 20898411	MAIN DOOR	1999100100314	
BELL 407 MAIN ROTOR BLADE CRACKED IN TRIM TAB AREA. SERIAL NUMBERS REMOVED ARE A-625, A-643, A-635, A-653. REPLACED WITH SERIAL NUMBERS A-848, A-1597, A-390, A-649. REFERENCE: DMR NR 686521.			BLADE 407015001117	CRACKED MAIN ROTOR	09/29/1999 1999100800139	3133
BELL 407 BLADE CRACKED IN TRIM TAB AREA. SERIAL NUMBERS REMOVED ARE A-869 AND A-879. REPLACED WITH SERIAL NUMBERS A-664 AND A-606. REFERENCE: DMR NR 686522.			BLADE 407015001117	CRACKED MAIN ROTOR	09/29/1999 1999100800140	2728

BELL TRANSMITTER MALFUNCTIONED 09/29/1999
 407 222375077119 ENGINE TORQUE 1999100800142
 DURING START, TRANSMITTER CAUSED GAUGE TO READ FROM ZERO TO MAX INDICATION, THEN FLUCTUATES AS LONG AS 5 MINUTES. REFERENCE: DMR NR 686463.

BELL EXHAUST CRACKED 09/30/1999
 407 407063001101 ENGINE 1999100800148
 EXHAUST STACK HAD CRACK ON AFT SIDE. REFERENCE: DMR NR 686222.

BELL BLADE CRACKED 10/01/1999 3673
 407 407015001107 MAIN ROTOR 1999100800162
 MAIN ROTOR BLADE CRACKED IN TRIM TAB AREA. SERIAL NUMBERS REMOVED ARE A-145, A-442, A-330 AND A-437. REFERENCE: DMRNR 686520. REPLACED WITH SERIAL NUMBERS A-1513, A-1519, A-645, AND A-858.

BOLKMS ALLSN CARBON SEAL DAMAGED 09/22/1999 790
 BO105S 250C20B 6890550 23004513 COMPRESSOR 1999100100272
 ENGINE REMOVED DUE TO METAL IN OIL. UPON INSPECTION OF COMPRESSOR PARTS NOTED THE FOLLOWING: GROOVED BEYOND SERVICEABLE LIMITS ON CARBON SEAL ASSY TANGS AND SLOTS.

BOLKMS ALLSN SPLINE WORN 09/22/1999 791
 BO105S 250C20B 6890550 23039791 COMPRESSOR 1999100100273
 ENGINE REMOVED DUE TO METAL IN OIL. UPON INSPECTION OF COMPRESSOR PARTS NOTED THE FOLLOWING: FRETTING AND WORN BEYONDOVERHAUL MANUAL LIMITS ON SPLINE ADAPTER OUTSIDE DIAMETER AND RETAINING RING GROOVE. INSTALLED NEW PART.

BOLKMS ALLSN NOZZLE SHIELD CRACKED 09/22/1999 825
 BO105S 250C20B 6898735 23062750 NR 1 1999100100274
 ENGINE REMOVED DUE TO TURBINE RUBBING ON SHUTDOWN. UPON INSPECTION OF TURBINE PARTS NOTED THE FOLLOWING: CRACKED AND SEPARATED FROM INNER BAND BEYOND OVERHAUL MANUAL LIMITS ON NR 1 NOZZLE SHIELD DOME. INSTALLED NEW PART.

BOLKMS ALLSN TIE BOLT MISMANUFACTURE 09/23/1999
 BO105S 250C20B 6898735 23008020 TURBINE SECTION 1999100100277
 TIE BOLT INSPECTION REVEALED FREE LENGTH OVER MAX LIMITS AT 6.888 INCHES.

BOLKMS ALLSN NOZZLE CRACKED 09/23/1999 825
 BO105S 250C20B 6898735 23062753 NR 1 1999100100281
 ENGINE REMOVED DUE TO TURBINE RUBBING ON SHUTDOWN. UPON INSPECTION OF TURBINE PARTS NOTED THE FOLLOWING: CRACKED BEYOND SERVICEABLE LIMITS ON NR 1 NOZZLE VANES.

BOLKMS ALLSN NOZZLE SHIELD CRACKED 09/23/1999 1196
 BO105S 250C20B 6898735 23062750 NR 1 1999100100282
 TURBINE REPAIR DUE TO HIGH CYCLES. UPON INSPECTION OF TURBINE PARTS NOTED THE FOLLOWING: CRACKED BEYOND REPAIRABLE LIMITS ON NR 1 NOZZLE SHIELD DOME. REPLACED WITH SERVICEABLE PARTS.

BOLKMS ALLSN BEARING SCORED 09/27/1999 224
 BO105S 250C20B 6898735 23007202 TURBINE 1999100800132
 ENGINE REMOVED DUE TO TURBINE RUBBING. UPON INSPECTION OF PARTS NOTED: SCORING BEYOND O/H MANUAL LIMITS ON NR 6 AND NR 7 BEARING ROLLERS. SERIAL NUMBERS REMOVED ARE MP42920 AND MP42909. NEW PARTS

CESSNA CONT GASKET MISMANUFACTURE 09/22/1999
 150M O200A 5A627429 EXHAUST 1999100800422
 DURING MAJOR OVERHAUL WHILE INSTALLING MUFFLERS WITH NEW SUPERIOR 'BLO PROOF' EXHAUST GASKETS, FOUND GASKET TO TOUCH INTAKE ON ADJACENT CYLINDERS 1 AND 3 AND WOULD NOT FIT FLUSH AT CYLINDERS 2 AND 4. THIS COULD LEAD TO EXHAUST BEING DIRECTLY PORTED ON INTAKE GASKETS AND BURING THEM OUT CAUSING A LEAN CYLINDER CONDITION. PROFILE GASKET EDGE.

CESSNA TUBE MELTED 09/22/1999 1890
 172R 072110512 PITOT 1999100800416
 PILOTS WRITTEN DISCREPANCY (AIR SPEED INDICATOR NOT WORKING). FOUND AIR SPEED NOT WORKING AFTER CHECKING AIR SPEED AT PITOT. INSPECTED TUBING FROM AIR SPEED OUT TO THE PITOT MAST. FOUND WIRING FROM HEATED PITOT MAST HAD BURNED THROUGH TUBE. CUT DAMAGE PART OFF AND RE-CONNECTED LINE. SEPARATED WIRE FROM TUBING AND INSTALLED SPYRO IN PITOT TUBING.

CESSNA LYC ENGINE MALFUNCTIONED 09/22/1999
 172R IO360L2A NOSE 1999100800035
 THE AIRCRAFT WAS ON A TRAINING FLIGHT IN A HOLDING PATTERN. THE ENGINE LOST ABOUT 400 RPM'S FOR ABOUT THREE SECONDS. THE INSTRUCTOR TOOK OVER CONTROL AND APPLIED POWER. IT WAS THEN THAT THE POWER RETURNED. SUBMITTER STATED THERE HAVE BEEN NUMEROUS UNEXPLAINED POWER LOSSES IN THIS FLEET OF 53

CESSNA SEAT CRACKED 09/24/1999 7550
 310R 08127761 COCKPIT 1999100100641
 DURING ANNUAL INSPECTION, FOUND PILOT AND COPILOT SEAT BACK PIVOT SUPPORTS CRACKED. CAUSED BY PUSHING ON TOP OF SEAT BACK WHILE ENTERING/EXITING AIRCRAFT.

CESSNA MOUNT CRACKED 09/24/1999 7550
 310R 081308947 NLG 1999100100642
 DURING ANNUAL INSPECTION, FOUND LEFT NOSE CAM TRUNNION MOUNT DOUBLER CRACKED AT FORWARD TOP RIVET HOLE EXTENDING AFT ABOUT 1 INCH. SUBMITTER HAS FOUND THIS SAME BRACKET CRACKED IN SAME LOCATION ON SEVERAL 310R MODEL AIRCRAFT. ALSO, THE RIGHT DOUBLER, PN 0813089-47, HAS BEEN FOUND

DHAV BFGOODRICH CARRIER FAILED 09/23/1999
 DHC8* 21565 2445902 NR 2 1999100800419
 BRAKE ASSY, PN 2-1565, FAILED PREMATURELY. NR 2 CARRIER AND LINING ASSY BROKEN INTO 3 PIECES. THIS IS A CONTINUED DISCREPANCY. NOTE: OEM PARTS INSTALLED IN BRAKE ASSY AND THE MOST RECENT BRAKE CONFIGURATION, PN 2-1565.

DHAV		BFGOODRICH	CARRIER	FAILED	09/23/1999	
DHC8*		21565	2445902	NR 1 & NR 2	1999100800420	

BRAKE ASSEMBLY, PN 2-1565, FAILED PREMATURELY. NR 1 CARRIER LINING ASSEMBLY BROKEN INTO TWO PIECES. NR 2 CARRIER AND LINING ASSEMBLY BROKEN INTO 3 PIECES. THIS IS A CONTINUED DISCREPANCY. NOTE: OEM PARTS INSTALLED IN BRAKE ASSY AND THE MOST RECENT BRAKE CONFIGURATION, PN 2-1565.

EMB		BFGOODRICH	STATOR	DEFECTIVE	09/21/1999	2882
EMB120		21585	1331096	NR 1	1999100800047	

BRAKE ASSY, PN 2-1585, FAILED PREMATURELY. NR 1 STATOR BROKEN THROUGH AND BINDING IN TORQUE TUBE KEY SLOTS. SUBMITTER STATED THIS IS A CONTINUAL DISCREPANCY. NOTE: OEM PARTS INSTALLED IN BRAKE ASSY AND THE MOST RECENT BRAKE CONFIGURATION, PN 2-1585. NOTE: OEM PARTS INSTALLED IN BRAKE ASSY AND THE MOST RECENT BRAKE CONFIGURATION, PN 2-1585.

LKHEED	WRIGHT		ENGINE	CONTAMINATED	09/23/1999	
SP2H	R3350*			FORWARD	1999100800418	

FLIGHT CREW WAS INFORMED BY LOCAL FUEL DISTRIBUTORS THAT ALL AIRCRAFT (100 CL) NEEDED TO BE TESTED IN AIRCRAFT FOR POSSIBLE FUEL CONTAMINATION WITH JET FUEL. AIRCRAFT WAS SUMPED AND JET FUEL WAS FOUND IN THE FUEL SYSTEM. REPLACED BOTH RECIPS AND INSPECTED TURBINES.

MTSBSI			LOCK	WORN	09/24/1999	
MU2B35			B83037	HUB	1999101500184	500

PROPELLER HAS NEW STYLE BLADE LOCKS. COTTERPIN THAT HOLDS SPRING AND LOCK IN ASSEMBLY IS FAILING OR WEARING OUT THE HOLES IN HOUSING.

PIPER			CABLE	WORN	09/28/1999	2042
PA44180			62701143	AILERON	1999100800450	

DURING A ROUTINE INSPECTION, THE MECHANIC FOUND A SUSPICIOUS AREA ON THE AILERON BALANCE CABLE AT THE OUTBOARD PULLEY, PN 62713-02. THERE ARE FOUR SIMILAR PULLIES WHERE THE CABLES EXIT THE FUSELAGE AND ENTER THE WING. THESE PULLIES WEAR ON THE CABLES AND CAUSE BROKEN STRANDS. THESE ARE OFTEN DIFFICULT TO SEE AT FIRST AND MUST BE INSPECTED WITH A BRIGHT LIGHT AND RUBBED WITH A CLOTH RAG. THE SAME CONDITION EXISTS WITH THE STABILATOR CABLE AND PULLEY, PN 481-612.

PIPER			CABLE	FRAYED	10/04/1999	2637
PA44180			62701143	AILERON	1999101500190	

ONE AIRCRAFT IN FLEET OF EIGHT WAS FOUND TO HAVE FRAYED AILERON CABLES. THE LOCATION OF THE DAMAGE IS AT PULLEYS, PN 62713-02 AND PN 62713-04. CABLES APPEAR TO BE IN GOOD CONDITION AT FIRST, BUT WHEN INSPECTED WITH A BRIGHT LIGHT AND WIPED WITH A CLOTH, SMALL STRANDS CAN BE SEEN AND FELT WHERE THEY ARE BROKEN. ONCE CABLE IS REMOVED, IT CAN BE BENT TO A SMALL RADIUS. THIS IS WHEN THE FULL EXTENT OF THE DAMAGE CAN BE SEEN. IN SOME CASES, CABLE WAS AS MUCH AS 40 PERCENT FAILED. FLEET OPER GROUNDED AND REPAIRED THE REMAINING AIRCRAFT. SUBMITTER STATED BECAUSE THE DAMAGE IS NOT APPARENT WITH THE CABLE IN THE INSTALLED CONFIGURATION, IT IS POSSIBLE THE CABLE COULD BE LEFT IN SERVICE TO A POINT WHERE IT FAILS.

SKRSKY	ALLSN		CARBON SEAL	DAMAGED	09/27/1999	722
S76A	250C30S	23051643	23004513	ENGINE	1999100800135	

ENGINE REMOVED DUE TO SMOKE ON SHUTDOWN. UPON INSPECTION OF COMPRESSOR PARTS NOTED THE FOLLOWING: GROOVED SLOTS AND TANGS BEYOND SERVICEABLE LIMITS ON CARBON SEAL ASSY. NEW PART

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION		OPER. Control No.		8. Comments (Describe the malfunction or defect and the circumstances under which it occurred. State probable cause and recommendations to prevent recurrence.)	DISTRICT OFFICE	OPERATOR DESIGNATOR
MALFUNCTION OR DEFECT REPORT		ATA Code				
		1. A/C Reg. No. N-				
Enter pertinent data	MANUFACTURER	MODEL/SERIES	SERIAL NUMBER			
2.	AIRCRAFT			Optional Information: Check a box below, if this report is related to an aircraft <input type="checkbox"/> Accident; Date _____ <input type="checkbox"/> Incident; Date _____	OTHER	SUBMITTED BY: _____ TELEPHONE NUMBER: () _____
3.	POWERPLANT				COMPUTER	
4.	PROPELLER				FAA	
5. SPECIFIC PART (of component) CAUSING TROUBLE					MFG.	
Part Name	MFG. Model or Part No.	Serial No.	Part/Defect Location.	AIR TAXI	MECH.	
6. APPLIANCE/COMPONENT (Assembly that includes part)					OPER.	
Comp/Appl Name	Manufacturer	Model or Part No.	Serial Number			
Part TT	Part TSO	Part Condition	7. Date Sub.			

FAA Form 8010-4 (10-92) SUPERSEDES PREVIOUS EDITIONS

Use this space for continuation of Block 8 (if required).

U.S. Department
of Transportation
**Federal Aviation
Administration**

Flight Standards Service
Designee Standardization Branch
P.O. Box 25082
Oklahoma City, OK 73125-5029

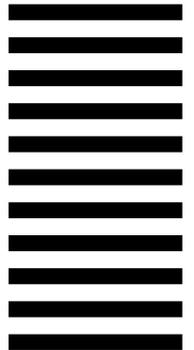
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