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**Federal Aviation
Administration**

Aviation Maintenance Alerts

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**ALERT NO. 254
SEPTEMBER 1999**

**Improve Reliability-
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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.

SPECIAL SAFETY NOTICE, FUEL FILTERS

A situation arose which warrants the immediate attention of all those concerned with aviation safety. We are publishing this notice to make everyone aware of the possibility of aircraft fuel contamination and starvation.

Fuel filters used in fuel farms and fuel delivery vehicles caused this problem. The filter element may deteriorate and create fuel contamination which passes into the aircraft fuel system.

Velcon Filters, Inc., the manufacturer of the suspect filters, came forward in a very professional manner to provide information and help resolve this problem. Velcon Filters, Inc., released the following notice for publication.

REPLACEMENT OF VELCON FILTERS ACOXXXXXC CARTRIDGES WITH ACO-XXXXXK CARTRIDGES

BACKGROUND: In the early 1980's, cartridges were delivered by Velcon Filters which were not only filter elements,

removing dirt and other particulate matter, but which also absorbed free (undissolved) water from Jet Fuel and Avgas. The US Navy, Mil-spec (Mil-M-81380C) was revised to acknowledge the water absorbing technology. Some years later, the Institute Of Petroleum (IP) published the "Specifications and Qualification Procedures-Aviation Fuel Filter Monitors With Absorbent Type Elements." ATA-103 recognizes these IP monitor cartridges as an alternative to API-1581 qualified filter/separators on refueling equipment.

The water absorbing cartridges (e.g., Velcon's Aquacon® and CDF® series cartridges) are used primarily as the last series of elements in filter vessels, or converted filter/separator vessels, for aircraft refueling of Jet Fuel and Avgas. They are sometimes called monitors, fuses, or go-no-go cartridges. They are intended as "insurance" elements, to stop any dirt or water from going into the aircraft with the fuel. The dirt and water capacity is limited, since the primary dirt and water removal function in aviation fuel systems is supposed to occur upstream (tank settling and bottom draw-off, and upstream filter and filter/separator vessels.)

The water absorbing cartridges have standard filter media to remove particulate matter (dirt), and also contain the water

absorbing media (similar to the media in baby diapers, incontinence pads, etc.) which will absorb free (undissolved) water from the fuel. The free water is removed to levels normally down to 2 PPM or less. At standard flow rates, 50% or higher of the elements' rated flow, the differential pressure will rise across the cartridge as water is accumulated. The cartridges are changed at 15 psid differential pressure. A large amount of free water in the fuel (slug) will rapidly increase the differential pressure, shutting off the fuel flow as the water is absorbed. An undetermined number of cartridges have plugged in normal operation, preventing unexpected water slugs from getting into aircraft.

FIELD INCIDENTS: There was an incident in 1998 in San Diego, California where some helicopters were observed to have some gelatinous appearing media in the fuel controls. This was determined to be the same polymer material contained in the Velcon upstream ACO-XXXXXC water absorbing cartridges on the fuel truck. Velcon began testing at various flow rates and water quantities in the fuel in their Colorado Springs laboratory. It was found that at low flow rates (continually less than 50% of the element's rated flow) and at low water add rates (less than 50 PPM) the water absorbing media would continually absorb the water, but the observed differential pressure would not rise. With continued low levels of water at low flow rates, the media continued to absorb water until eventually the media was extruded through the media migration barrier in the element and flowed downstream.

Velcon tested all their series of water absorbing cartridges (ACO-XXXXXC, ACI-XXXXXC, and CDF-2XXK). It was found that the ACO-XXXXXC series cartridges were the only series that had the low flow, low water problem with media extrusion. Velcon revised the Operating Procedures to caution against operating at less than 50% rated flow. Following suggestions by airline companies and other operators that the flow restrictions would be too difficult to follow, Velcon accelerated testing of the ACO cartridges with a water absorbing media which was not adversely affected by the low flow, low water extrusion problem. (The ACO-6XX01C cartridges had been fully qualified to the original IP Monitor Specification, which reflected state-of-the-art filter technology.)

The ACO-XXXXXK cartridges were finally developed in May of 1999. Testing to the IP Monitor Specification, with additional low flow, low water tests, were performed in May 1999. This testing was witnessed by representatives from the IP. The IP Monitor Specification has recently been revised to include the low flow, low water tests based on the unanticipated operational procedures related to the 1998 incident.

An announcement was made to all customers and Velcon distributors on May 28, 1999, that Velcon would replace all ACO-XXXXXC cartridges in stock or in service with the ACO-XXXXXK cartridges, free of charge. Velcon sent out a notice to their distributors on June 14, 1999, enclosing a copy of the "Product Recall

Card” which had been sent to all distributors/customers that had received ACO-XXXXXC cartridges directly from Velcon. Information on this exchange of cartridges was also included in the June 1999 issue of the Velcon Clarifier, and was also added to the Velcon Internet information (www.velcon.com)

Velcon was informed of an incident at Vero Beach, Florida in mid-July 1999 where the gelatinous material was found during normal fuel draining in a Piper Archer. This was brought to the attention of the Orlando, Florida Flight Standards District Office (FSDO) by the aircraft pilot. Upon contact with Velcon, it was recommended that wider notice to the field of the possible extrusion problems and cartridge replacement be made.

The FAA recommends that fixed-base operators (FBO's), fuel farm operators, pilots, owners, operators, maintenance personnel, and anyone involved in aviation fueling operations check for the presence of the ACO-XXXXXC filter cartridge. Also, closely check fuel samples for the presence of contaminants. If you find gelatinous matter, thoroughly investigate the source. Document any filter cartridges found in stock or in service on the following “Product Recall” form.

If you require further assistance, contact Velcon Filters, Inc., at telephone number 1-800-531-0180 and ask to speak to “Aviation Technical Services.”

VELCON FILTERS, INC., PRODUCT RECALL

I understand the circumstances of the Velcon Filters, Inc., product recall of the ACO-XXXXXC cartridges. Listed below are the ACO-XXXXXC cartridges that my company currently has in stock. I hereby certify that these cartridges will be destroyed upon receipt of replacement ACO-XXXXXC cartridges.

Name of Company

Date

(Print) Name of Authorized Representative

Signature of Authorized Representative

Telephone Number

FAX Number

Purchased From: Name of Distributor

MODEL NUMBER	QUANTITY

MAIL TO:
VELCON FILTERS, INC.
MARKETING DEPARTMENT
4525 CENTENNIAL BLVD.
COLORADO SPRINGS, CO 80919-9951

AIRPLANES

BEECH

Beech; Model E18S; Tailwheel Failure; ATA 3220

During a landing, the aircraft tailwheel collapsed when it contacted the runway.

The technician took the aircraft to the hangar and jacked up the tail. When the weight of the aircraft was removed from the tailwheel, the tailwheel assembly lowered. An investigation revealed a broken bolt (P/N AN33DD) which is used to secure the tailwheel retraction cable.

The submitter suggested close attention be given to this area during inspections and maintenance.

Part total time not reported.

Beech; Models 24, C23, and 19 Series; Structural Corrosion; ATA 5320

The submitter of this report found similar structural corrosion defects in Models 24, C23, and 19 series aircraft.

Corrosion was found at the forward attachment point for the fuselage channel (P/N 169-42000-91) at Fuselage Station (FS) 132. At this location, a fresh air duct passes through the channel. In one case, the forward channel attachment point was completely consumed by corrosion. Severe corrosion was also found at other various points on the fuselage where fresh air duct boots came into contact with the fuselage structure.

The submitter speculated the corrosion defects were caused by water leakage from windows and condensation from the air ducts. In many cases, the insulation was wet which created an environment conducive to corrosion. He recommended that owners, operators, and maintenance entities be aware of the possibility of fuselage structural corrosion and conduct an inspection of the

suspect areas. This inspection is very important if water leakage from the windows is evident.

Part total time average-1,500 hours.

Beech; Model C35; Bonanza; Improper Ruddervator and Aileron Repairs; ATA 5540 and 5751

During a maintenance inspection, the technician noticed "scab patches" on one aileron and both ruddervators.

Further investigation disclosed the "scab patches" were loose, and there was a considerable amount of corrosion present. The blind fasteners, used to secure the aluminum patches to the ruddervator magnesium skin, worked loose. The aircraft maintenance records did not indicate when these repairs were made or whether any effort was made to balance the flight controls. Also, the ruddervator system had excessively loose bushings and worn rod-ends which produced very "sloppy" control. It was evident this aircraft was not in compliance with the numerous FAA Airworthiness Directives that addressed the ruddervator system.

The technician informed the aircraft owner that the flight control patches were not airworthy. The owner decided to ground the aircraft and asked the technician to perform a proper evaluation and repair.

The owner recently purchased this aircraft without the benefit of a maintenance inspection or an inspection of the maintenance records. However, the annual inspection was "signed off" when he purchased the aircraft.

The submitter stated, "Pay a reputable Airframe and Powerplant Mechanic for an airworthiness evaluation prior to purchasing an aircraft! The money you pay up front may save you many dollars after the sale and may save your skin!"

Aircraft total time-6,005 hours. Total time since annual inspection-25 hours.

Beech; Model V35A; Bonanza; Defective Oil Temperature Sending Unit; ATA 7720

The engine installed in this aircraft was a Teledyne Continental, Model IO-520B.

While investigating the cause of inaccurate engine oil temperature indications, technicians discovered a defective temperature sending unit. The maintenance records indicated this was the original sending unit installed when the aircraft was new.

The technician ordered and received a replacement sending unit. He conducted a receiving inspection, and discovered the replacement sending unit's wire stud was loose and could easily be rotated by "finger pressure." He rejected the replacement sending unit and contacted the vendor.

The vendor checked his stock and rejected four other sending units before finding a sending unit that did not have loose wire studs and threaded studs. He compared one of the new sending units to the original sending unit and discovered the stud on the original sending unit was tight and did not allow any movement. The vendor stated the crimping or staking process used to install the stud during manufacture may be deficient. A loose wire stud presents a problem when the wire is installed because there is no acceptable way to prevent the stud from rotating while the nut is tightened.

The submitter suggested that the manufacturer's engineering staff evaluate the new sending units for adherence to the original design specifications. He also stated the original sending unit (P/N 1512926) listed in the Beech Parts Manual has been superseded.

Part total time-4,000 hours.

Beech; Model B90; King Air; Faulty Electrical Wiring; ATA 2450

After operating the air-conditioning system during a phase inspection, the technician smelled and saw smoke in the cockpit.

The technician investigated and discovered a wire (P/N P83A2) smoldering under the center cockpit pedestal at the isolation limiter bus. There are two wires (P/N's P83A2 and P83B2) at this location. The wires are aluminum and run from the right wing starter relay bus to the isolation limiters in the cockpit. Except for the emergency bus, these wires provide electrical power to the entire aircraft without circuit protection. While removing the wires for replacement, one wire (P/N P83B2) broke at the starter relay. The wire was severely corroded and the insulation displayed evidence of excessive heat damage. The aluminum wires were installed in Models 65-90 and 90-Series King Air aircraft through serial number LJ 440.

The submitter stated, "The old wires are dangerous and must be replaced."

Part total time-10,007 hours.

Beech; Model B99; Airliner; Entrance Door Cracks; ATA 5210

The flightcrew reported that the pilot's crew door was very difficult to close.

A technician lubricated and inspected the door latch mechanism. While inspecting the door hinges, he discovered a cracked upper forward hinge (P/N 99-420024-7). The 1-inch long crack ran along the hinge line.

The submitter speculated that the hinge crack was caused by flexing the door structure due to excessive seal thickness.

Part total time not reported.

Beech; Model BE99; Airliner; Defective Main Landing Gear Torque Knee; ATA 3213

During a scheduled inspection, the technician discovered a crack in the left main landing gear torque knee.

Both the upper and lower torque knee (P/N 50-810323-7) halves were cracked near the center pivot bolt which connects the upper and lower halves. The cracks had progressed to the point where pivot bolt loss was imminent.

The submitter stated that hard landings, landing gear sideloads, and other factors may have contributed to this failure.

Part total time not reported.

Beech; Model B100; King Air; Defective Engine Starting Electrical Circuit; ATA 3260

The pilot reported that the left engine starter would not engage.

Maintenance technicians discovered a defective left main landing gear "squat" switch (P/N 444EN49-6). The "squat" switch contacts interrupted the engine start control circuit by not supplying electrical power to the start relay control box. The location of the landing gear "squat" switch makes it vulnerable to contamination, corrosion, and failure.

The submitter recommended that the "squat" switch receive frequent inspections.

Part total time-6,618 hours.

Beech; Model BE200; King Air; Interior Light Fixture Failure; ATA 3320

During flight, smoke filled the aircraft cabin. The pilot evacuated the smoke and made a safe landing.

Maintenance personnel discovered the source of the smoke was a cabin light assembly (P/N 00741626) ballast. The ballast shorted, generated smoke, produced extreme heat, and distorted a nearby plastic window molding.

The submitter stated, "The heat intensity could easily have caused a fire and may have ended in a catastrophic accident."

Part total time not reported.

Beech; Model 400A; Beechjet; Landing Gear System Failure; ATA 3230

The pilot reported that the 2-amp landing gear circuit breaker opened when the landing gear was selected to the "up" position. He placed the landing gear selector to the "down" position, and made a safe landing.

The technician discovered that two wires on the gear selector control switch were crushed and shorted together in the area of the cockpit center pedestal structure. The wires were repaired and rerouted to provide adequate clearance.

The submitter suggested closely inspecting this area at every opportunity.

Part total time-1,277 hours.

CESSNA**Cessna; Model 172N (C172); Skyhawk; Carburetor Problem; ATA 7322**

On the first flight of the day, the student pilot reported the engine would not idle cutoff. When he shut off the engine using the magneto switch, the propeller ran backwards.

The instructor stated the aircraft did not idle properly the previous evening; however, he assumed hot weather caused the problem.

A technician examined the engine and discovered the carburetor's (P/N 10-5009) upper and lower body halves had separated approximately 0.125 inch. Evidently, the carburetor overhaul facility technician did not torque the bolts properly before he set each bolt's lock-washer tab.

The submitter stated this is the third occurrence of the same problem involving three separate overhaul facilities.

Part time since overhaul-25 hours.

Cessna; Model 172RG (C72R); Cutlass RG; Faulty Resistor; ATA 2460

During an annual inspection, the technician noticed smoke emanating from the radio rack. An investigation disclosed the resistor (P/N S2041-50-16) for the cigarette lighter was damaged and smoking. He found burn marks on both sides of the glovebox side wall where the resistor is affixed. The nylon portion of the affixing locknut was completely melted. The ceramic insulator at the base of the cigarette lighter (P/N 0513052-20) was broken. He noted the 7-amp fuse and the 10-amp circuit breaker were not activated.

The submitter stated that the replacement parts contain a new-type lighter assembly (P/N 0513039-7) and an additional circuit breaker (P/N 60232-1). He recommended issuing an Airworthiness Directive (AD) requiring the installation of a second circuit breaker.

Part total time-3,315 hours.

Cessna; Model 172 (C172); Skyhawk; Airbox Part Missing; ATA 7160

During the first Phase I inspection, the technician discovered a part missing from the airbox assembly (P/N 0550364-7). There was a gap around the alternate air door where the part belonged.

Also, apparently due to the door hinge's misalignment, filler material was used to fix a gap in the air inlet door assembly. Most of the filler material broke away leaving a ½-inch gap in the assembly. The remaining filler material displayed cracks.

The submitter replaced the airbox.

Part total time-50 hours.

Cessna; Model 172S (C172); Cutlass; Misaligned Rudder Pedals; ATA 2720

This new aircraft had less than 100 hours of total operating time. During the first Phase II inspection, the technician noticed the rudder pedals on both pilot stations were not matching in their alignment.

The technician discovered the left station's pedals had its mounting arm (P/N 0411307-0), on the right pedal, drilled incorrectly at the point where it attached to the crossover shaft. At the point where the right station's pedals attached to the crossover shaft, the left pedal was also drilled incorrectly.

The technician notified the manufacturer of this misalignment problem. The manufacturer sent parts that were properly drilled.

Part total time-97 hours.

Cessna; Model 172S (C172); Cutlass; Pilot Seat Support Problem; ATA 2510

When the pilot's seat back was selected in the full-upright position, it was approximately 3 inches back and toward the reclined position.

The submitter discovered the seat back support fitting (P/N 0514215-8) was bent. He noted that this was the second fitting replaced on the same seat. The first fitting was replaced after only 23.6 hours of use. This is the fourth failure of the same part within his fleet of new Cessna aircraft.

The submitter stated past accident statistics show that a seat part failure, especially during a takeoff roll, may have grave consequences. It is important for new owner/operators to be aware of the problem prior to a disaster.

Part total time-51 hours.

Cessna; Model 172S (C172); Cutlass; Skin Crack on Flap; ATA 5753

While performing a Phase I inspection, the technician noticed a crack at the trailing edge of the left flap assembly. The crack was located

on the lower surface. It started at the fourth rivet from the inboard edge of the flap and migrated outboard for approximately 2 feet.

After the submitter notified the manufacturer of this defect, he received a new assembly.

Part total time-149 hours.

Cessna; Model 172S (C172); Skyhawk; Fuel Leak; ATA 7322

During the first Phase I inspection, the technician noticed the presence of fuel in the vicinity of the air inlet.

An investigation revealed that the specific point of fuel leakage occurred at the air inlet elbow (P/N 0550362-3) leading to the fuel control unit. A more extensive search disclosed that the overboard drain adapter, which is riveted to the air inlet elbow, was not properly sealed. The improper seal was not readily visible.

Part total time-50 hours.

Cessna; Model 310 (C310); Cessna 310; Worn Fuel Selector; ATA 2823

During an extensive aircraft inspection, the technician discovered that both fuel selector torque tube assemblies (P/N 0820000-5 and 0812000-13) were severely worn.

Tube (P/N 0820000-5) was worn at the fuselage grommet area, and tube (P/N 0812000-13) was worn at the bulkhead at Fuselage Station (FS) 557.5. The tube damage was only detectable because the tubes were removed. Under normal inspection procedures, this defect may have gone undetected. The extent of the damage was approximately 65 percent to the perimeter of the tube and approximately 50 percent through the tube wall thickness.

The submitter stated owners with similar make and model aircraft, should remove the four shielded bearing blocks and inspect this area as soon as possible.

Part total time not reported.

Cessna; Model 402B (C402); Businessliner; Fuel Blockage; ATA 2822

The pilot reported that he was unable to prime the right engine.

A technician discovered the right boost pump was producing inadequate pressure. He opened the fuel tank to remove and replace the boost pump and discovered a 2-½ inch square data tag (P/N 1C6-10) was unglued and resting directly below the pump's fuel pickup tube. When the pump was activated in the priming process, the data plate was sucked up against the tube inlet, and the fuel flow was reduced to less than 10 pounds per square inch.

The submitter recommends that pumps with this type of data tag be replaced with the type of tag that is more permanently affixed.

Part total time-193 hours.

Cessna; Model 421C; Golden Eagle III; Hydraulic Leak; ATA 2916

The maintenance department received a work order that indicated hydraulic fluid was visible in the nose compartment.

The technician discovered a hydraulic leak emanating from the reservoir. The fluid leak occurred at both ends of the sight tube (P/N 5117007-12) at the attach points. The technician discovered the same problem on a similar aircraft.

Due to the low failure time, the submitter stated this problem indicates a production flaw. The submitter cautions all owners and operators of similar aircraft to inspect for this problem. A complete failure of this tube would result in loss of the entire hydraulic supply.

Part total time-50 hours.

DIAMOND**Diamond; Model DA20-C1; Propeller Attachment Bolt Failure; ATA 6111**

The pilot reported that during an after-takeoff climb, a severe vibration occurred. He made a safe landing and summoned maintenance technicians.

The technician discovered the propeller spinner was cracked. After removing the propeller spinner, he discovered five of the six propeller mount bolts broken. It appeared the bolts failed due to shear stress. He sent the bolts to the manufacturer for inspection and evaluation.

The submitter stated the bolt attachment holes in the propeller flange were elongated which indicates the bolts were not torqued to the specified value.

Part total time-40 hours.

GRUMMAN AMERICAN**Grumman American; Model AA5B; Tiger; Defective Aileron Skin; ATA 5751**

During an annual inspection and compliance with Airworthiness Directive (AD) 79-22-04, the technician discovered the left aileron skin was delaminated.

The upper aileron skin (P/N 5202035-516) delamination varied from 1 to 4 inches where the leading edge skin was bonded to the rib. It was necessary to remove and replace the aileron.

The submitter stated that this area deserves extra attention during inspections and maintenance.

Part total time-1,675 hours.

LAKE**Lake; Model LA4-200; Buccaneer; Loss of Engine Power; ATA 7160**

This aircraft incorporated a Textron Lycoming, Model IO-360-A1B, engine which was modified by Supplemental Type Certificate (STC) SA2990WE. This STC allowed the installation of an engine turbocharger.

The pilot reported that with the throttle full open and the waste gate closed, the engine had excessively low boost.

The technician conducted an investigation and several contributing discrepancies were given credit for the engine power loss. The boost air inlet fitting weld, located at the bottom of the induction airbox, was cracked all the way around the circumference. This allowed some boost air to escape overboard. The welded attachment fittings between the airbox and the fuel injection control were cracked. He found numerous cracks in the airbox extending from various points of the circumferential weld. The airbox flapper valve hinge pins and hinge pin mounts were excessively worn and on the verge of complete failure. The rubber elbow that attaches the boost duct to the airbox assembly had a large rip and allowed the loss of more boost air. Some areas of the elbow were wrapped with "electrical tape" to cover worn places.

The submitter speculated that these defects combined to degrade engine performance. The weld cracking was credited to normal vibration and previously accomplished "unairworthy" weld repairs. Thorough and timely inspections, as well as proper repair techniques, should prevent these types of defects.

Part total time not reported.

PIPER

Piper; Model PA28-151 (P28A); Cherokee; You Say Your Head Was Where?; ATA 7322

After a landing, a fire started in the engine cowling.

The technician discovered the carburetor air-intake hose (P/N 99849-03) from the air filter was connected to the muffler. It should have been connected to the carburetor airbox. (I bet that robbed a bit of horsepower!) The cabin heat duct was connected to the carburetor airbox.

These erroneous connections may have led to a backfire which ignited a leaking primer fuel flex line.

We'd hate to think of what would happen if this plane had a toilet to flush. People, lets stay tuned-in and pay attention out there.

Part total time unknown.

Piper; Model PA28-161 (P28A); Warrior II; Broken Landing Gear Trunnion; ATA 3211

While on a training flight, after a touch-and-go landing, the instructor felt a severe vibration. He landed the aircraft without personal injuries; however, the aircraft sustained damage to the right wing, the flap assembly, and the stabilator.

Observers on the ground reported that something was hanging from the right wing. An inspection revealed the right main landing gear trunnion (P/N 65319-004) broke at the upper torque link attach ears. With the trunnion broken, only the brake hose held the lower strut and wheel assembly to the aircraft.

The submitter stated that he reviewed the maintenance records for this 1982 aircraft and found no entries of landing gear trunnion replacement. Apparently, this part was original on an aircraft used exclusively in flight school operations.

Part total time-9,478 hours.

Piper; Model PA28-180; Archer; Spar Cap Damage; ATA 5711

During an annual inspection, the technician found evidence of fretting at the left and right main landing gear legs (P/N's 35644-04 and 35644-05) where they attach to the wing's lower spar cap.

The technician also discovered the lower attach bolts (AN4-11A) were not properly torqued, and the attach point bolt holes were elongated on both the gear legs and the spar caps. This allowed a wearing motion between the gear legs and the spar caps.

The submitter states that the spar damage was caused by the improperly torqued bolts which caused the wearing motion between the parts. He recommends checking bolts for proper torque during 100-hour inspections and annual inspections.

Part total time-4,040 hours.

Piper; Model PA28R-200 (PA28R); Arrow 200; Alignment Cam; ATA 3211

After takeoff, the pilot could not retract the nose gear. He made a safe landing even though he experienced steering difficulty throughout the landing roll and taxi.

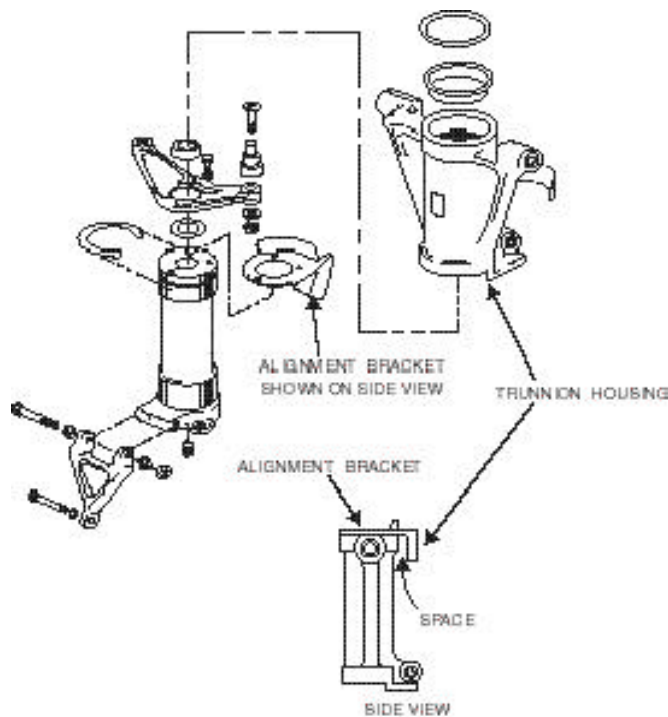
The technician discovered that the steering alignment cam was outside and to the left of its guide bracket (P/N 67107-00). This caused the cam to hit the bracket's ear, thus, not allowing the landing gear to fully extend. Also, because the tire was not aligned it would not fully retract into the cowling. (Refer to the following illustration.)

The submitter stated that because of normally high torque throughout the takeoff roll, the pilot's excessive right rudder application may cause the alignment cam to strike the ear on the alignment bracket during gear retraction. The resulting bracket flex caused it to strike the trunnion housing, and the cam assembly came out of its track.

The submitter states the manufacturer has already welded a stiffener across the ear

assembly. However, he recommends that the manufacturer make the base plate thicker to avoid the excessive flexing caused by right rudder application throughout the gear retraction.

Part total time not reported.



Piper; Model PA28R-210T (P28B); Turbo Dakota; Inoperative Landing Gear; ATA 2400

A small fire erupted in the right side of the engine compartment, and smoke entered the cockpit area. The electrical power to the gear down switch was interrupted which rendered it inoperative.

The technician noticed that the fire probably started at a point approximately 1 inch below a small bundle of wires leading to the nose gear switch. The insulation on the wires was brittle and cracked possibly due to the fire. However, it is more likely that the insulation on the wires was brittle and cracked before

the fire. Due to the defective insulation, the wires contacted each other, caused a short, and started the fire.

Piper; Model PA28R-210T (P28B); Turbo Dakota; Missing Bypass Valve; ATA 8120

In the past, an unknown technician installed a turbo heat blanket on this aircraft. At that time, the technician failed to reinstall the exhaust bypass valve pipe (P/N STC SA 4731 NM).

The submitter stated the bypass valve is designed to direct hot exhaust gases to the proper area. Without the bypass valve, hot exhaust gas blew directly onto the electrical wiring bundle attached to the landing gear switches.

Part total time-4,442 hours.

Piper; Model PA31-350 (PA31); Chieftain; Gear Door Actuator Problem; ATA 3232

After takeoff, the pilot routinely selected the gear handle to the "up" position; however, the red "gear unsafe" light remained illuminated. He hand pumped the gear down and made a safe landing.

The technician inspected the landing gear system and discovered that the right main inner gear door actuator (P/N 2114-1) up line fitting (P/N 458-910 and AN837-4D) had snapped in half.

The submitter stated that during gear inspections, extra vigilance should be paid to ensure that tire and brake parts do not entangle hydraulic lines.

Part total time unknown.

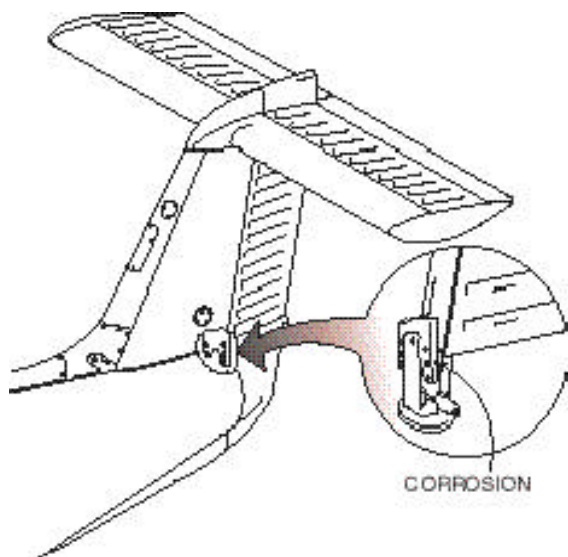
Piper; Model PA32RT-300T (P32T); Turbo Lance II; Corrosion; ATA 5540

While complying with Airworthiness Directive (AD) 79-26-04 and Piper Aircraft Service Letter 882A, the technician removed the rudder. He noticed the attach bolts to the

lower rudder fitting (P/N 38394-02) were approximately 40 percent corroded. Water standing in the rudder's lower attach tube may have caused the corrosion. (Refer to the following illustration.)

The submitter stated that if the tube had adequate drain holes, water would not stand in the rudder's lower attach tube.

Part total time-2,605 hours.



Piper; Model PA34-200 (PA34); Seneca; Nose Gear Failure; ATA 3230

The submitter stated the nose gear on this aircraft failed due to excessive play in the "overcenter linkage." The excess play was caused by a bent clevis bolt (P/N 400692) which was installed through the downlock link assembly (P/N 95329-00) and the "overcenter linkage." He suspected that the clevis bolt was bent during a hard landing.

The submitter stated that this make and model aircraft is prone to nose gear failure. He stated the manufacturer should re-engineer the nose gear or, at least, install a larger clevis bolt.

Part total time-67 hours.

Piper; Model PA44 (PA44); Seminole; Propeller Stop Problem; ATA 6114

The plastic stop plate assembly (P/N 78213-00) was broken at the bottom of each side, directly beneath the propeller control levers.

The technician discovered the parts were only held in place by the assembly spring. These plates normally pivot up and out when the propeller levers are placed in the feathered position. The left plate had worked its way to a point under the right throttle lever which could have restricted the throttle's travel to the most-aft position.

The submitter recommends that the manufacturer either construct the plates from a more substantial material or design a hinge or pivot where fatigue is most likely to occur.

Part total time-482 hours.

HELICOPTERS

BELL

Bell; Model UH-1; Huey; Fuel Solenoid Failure; ATA 7321

Information for the following article was taken from a report submitted by the Royal Australian Air Force.

During a flight test, fuel leakage was discovered in the engine compartment. A fuel solenoid valve (P/N 79247) was recently replaced, and it was the source of the leak. The fuel solenoid valve is a part of the fuel pressure regulator which is installed on the engine turbine accessory section.

The fuel leak originated at the fuel solenoid valve end cap which had become displaced. Also, seals inside the solenoid valve were severely deteriorated. A bit of research through the military part records indicated this pressure regulator was at

least 30 years old before being installed. (This is a good reason for seal deterioration.) This part came through a military supply system which is not entirely different from the commercial supply system. Since shelf life is so important, manufacturers, distributors, and dealers should keep accurate records concerning part history. Also, maintenance technicians need to be aware of this problem and use all means possible to determine the age and condition of aviation parts prior to installation.

Thanks to our "mates down-under" for their support of the FAA's Service Difficulty Program.

Part time since overhaul-209 hours.

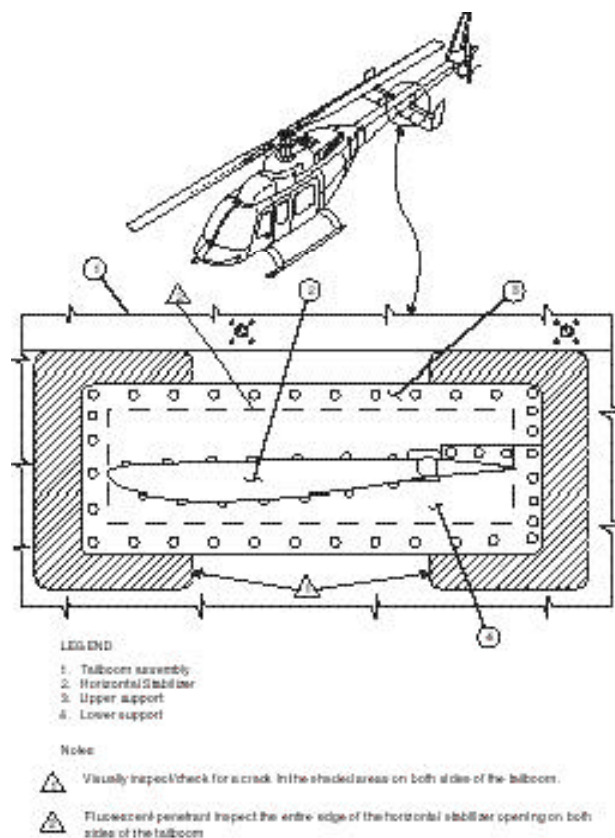
Bell; Model 206L-1, -3, and -4; Long Ranger; ATA 5500

The FAA continues to receive reports of cracks developing in the tail boom structure. The similarity of the reported defects led to the issuance of FAA Airworthiness Directive (AD) 99-02-01, dated January 6, 1999. AD 99-02-01 is referenced in Bell Alert Service Bulletin 206L-98-114, dated November 25, 1998.

Several articles have been written in this publication and other aviation publications concerning this subject. Compliance with AD 99-02-01 is critical to flight safety. If cracks are discovered, the tail boom must be replaced. Refer to AD 99-02-01 for specific serial number applicability, requirements, and instructions for compliance. (The following illustration shows the area where cracks are typically found.)

All owners, operators, or maintenance entities are strongly urged to comply with AD 99-02-01 as soon as possible.

Part total time is not applicable.



Bell; Model 222; Wiring Damage; ATA 3400

The pilot reported the autopilot altitude functions were inoperative.

An investigation disclosed that the insulation on several "Kapton" wires was dissolved. The area of damage occurred where the wires pass under the fuel pump and vent area. The technician determined the wire insulation damage was caused by fuel leakage. If not detected and corrected, this condition may cause a fire. The submitter recommended inspecting this area for damaged wire insulation.

Part total time not reported.

ENSTROM

Enstrom; Model 280C; Shark; Improper Alternator Installation; ATA 2421

During the first flight following the installation of a new alternator (P/N ALX 8421), the pilot reported the alternator failed and there was a severe engine oil leak.

The technician could not determine the circumstances surrounding the alternator installation. He discovered that this unit was installed without removing the cooling fan assembly as directed by the manufacturer's maintenance manual. Evidently, the cooling fan was damaged when the new alternator was installed. Consequently, the alternator cooling fan "threw" a blade which punctured the oil cooler.

The submitter stated this problem may affect all Enstrom piston engine helicopters. He suggested that the manufacturer issue a service bulletin detailing an inspection procedure for cooling fan damage and improper alternator installations. Proper use of technical data should prevent this type of defect and enhance flight safety.

Part total time not reported.

EUROCOPTER

Eurocopter; Model AS350-B2; Ecureuil; Electrical System Failure; ATA 2400

During a tour flight with passengers aboard, the aircraft lost electrical power. The pilot made a safe, emergency landing at a nearby heliport.

The pilot told the technician that only the "fuel pump" light illuminated on the "caution panel." The technician applied external electrical power and discovered that all the lights, radios, gauges, and the air-conditioning system operated normally. When he depressed the start switch, the starter did not rotate. He also discovered the starter/generator

(P/N 150SG122Q) had failed. After he installed a new starter/generator, the operational test was satisfactory. He disassembled and inspected the failed starter/generator. The inspection revealed that two of the four brushes were so badly worn that the spring could not keep them in contact with the commutator. The commutator and six other brushes were also burned.

The submitter reported that it had been 68 operating hours since the starter/generator brushes were inspected. The maintenance records indicated the starter/generator brushes were serviceable at that time.

Part total time-437 hours.

MBB

MBB; Model BK-117B1; Tail Cone Crack; ATA 5500

During a scheduled inspection, the technician found a crack on the left forward tail cone splice.

The crack originated from a relief hole at the intersection of the lower tail cone splice (P/N 117-22132-01) bend radius, traveled up, and terminated at the next bend radius. The submitter speculated that the lower bend radius relief hole was not "deburred" during manufacture which caused concentrated stress points and resulted in this defect. The splice plate is constructed of 7075-T6 aluminum which makes it susceptible to stress cracking.

The submitter believes that dressing the bend radius edges and relief holes may eliminate this type of defect.

Part total time not reported.

ROBINSON**Robinson; Model R-22; Beta; Improper Magneto Assembly; ATA 7414**

A technician installed a factory-rebuilt engine and during the initial operational test, there was no RPM indication.

The technician traced the problem to the right magneto which he removed. Inside the magneto (Bendix/TCM P/N S4LN-204), he found that the tachometer points (P/N ES10-361631) had been improperly installed. The exact circumstances, assembly, and condition of the magneto points was not described by the submitter. The maintenance records indicated that the magneto had been overhauled and assembled by a repair station without performing a bench test of the unit. It is wise to conduct a thorough receiving inspection on new parts, used parts, and/or overhauled parts prior to installation.

Part total time-0 hours.

SIKORSKY**Sikorsky; Model S76A; Structural Corrosion; ATA 5313**

This report stated that four like helicopters had similar structural corrosion defects at the same locations.

During an inspection, the technician found severe corrosion between the left and right upper engine longerons and the outer skin panels. The damage was located at fuselage stations (FS) 250 to FS 300. This area is almost inaccessible and diligence is required to conduct a proper inspection. Severe corrosion was also found in the tail boom at FS 300 to FS 336 and in the area where the vertical fin attaches to the tail boom. All of the corrosion areas displayed exfoliation and an advanced state of metal penetration.

The submitter urged all operators of like helicopters to conduct a rigorous inspection of these areas as soon as possible.

Part total time not reported.

AGRICULTURAL AIRCRAFT**AYRES****Ayres; Model S-2R; Bull Thrush; Engine Power Loss; ATA 8120**

While conducting spraying operations, the engine lost power requiring an emergency off-airport landing.

The engine used in this aircraft was a PZL, Model PZL-35. During an investigation, the technician determined the engine operated but would not develop normal manifold pressure. After further investigation, he discovered the turbocharger seal was "blown."

The submitter did not mention the age of the seal; however, he indicated it was severely worn.

Part total time-1,775 hours.

AMATEUR, EXPERIMENTAL, AND SPORT AIRCRAFT**EXTRA****Extra; Model EA-200; Fuel Leak; ATA 2810**

During flight, the pilot smelled and saw fuel in the cockpit. He made an immediate and uneventful landing.

An investigation disclosed the fuel hose (P/N PC-01786) connecting the filler neck to the main fuselage tank was not attached. The hose separated from the top of the tank flange

and allowed fuel to enter the cockpit. The hose was not long enough to allow for the airframe flexing during operational conditions.

The submitter suggested that all operators and builders check the factory-supplied fuel hose for adequate length.

Part total time not reported.

POWERPLANTS AND PROPELLERS

ALLIED SIGNAL (TEXTRON LYCOMING)

Allied Signal; Model LTS 101-650-B1; Idler Gear Failure; ATA 7200

This engine was used in an MBB, BK-117 helicopter. While disassembling the engine, the technician found metal particles in the bottom of the gear box assembly.

Further inspection revealed the idler gear (P/N 4-081-350-08) was missing one of the attachment bolts. Three other nuts were damaged and/or missing pieces. The technician checked the torque value on the remaining bolts and discovered they were all loose.

The submitter recommended checking the torque value of the idler gear bolts at 1,200 operating hour intervals. He also suggested replacing loose nuts (P/N MS21043-5) and bolts (P/N 4-081-119-04).

Engine total time-2,944 hours.

TELEDYNE CONTINENTAL

Textron Lycoming; Model O-320-E2A; Improper Parts; ATA 8530

While conducting an engine compression check during an annual inspection the number 3 cylinder indicated “0” compression.

The cylinder (P/N 05K21237-A) was leaking past the exhaust valve. When the technician removed the exhaust system he found the exhaust valve guide split. He removed the cylinder and sent it to a repair station for overhaul. After receiving the cylinder, a repair station representative called the submitter to verify that this cylinder was new when it was installed. The maintenance records indicated all four cylinders were purchased new through a Textron Lycoming vendor. The four cylinders were installed as a set and received no further maintenance since the engine was assembled. The repair station discovered the piston (P/N 75413-P-10) in the faulty cylinder was .001 inch oversized. The three remaining cylinders were also oversized, and all of the cylinders were worn beyond the maximum limit. A manufacturer’s representative indicated it was impossible to install .001 inch oversized pistons into a standard cylinder. Here is another case where “Murphy’s Law” prevailed. The submitter did state that it was “a very snug fit.”

The aircraft owner now has four scrap cylinders and metal contamination throughout the engine. The submitter speculated the installing technician did not check part number applicability or measure the pistons prior to installation. The cylinder assemblies were original equipment manufacturer (OEM) produced and were delivered in May 1992. Is it possible that the cylinder packaging was “mis-marked?”

The submitter suggested that anyone who acquired new cylinder assemblies through a vendor or the OEM consider checking part number applicability. This engine was installed in a Piper, Model PA 28-140 aircraft and was in operation 7 years before this occurrence.

Part total time-801 hours.

Teledyne Continental; Model TSIO-520; Improper Cylinder Installation; ATA 8530

The FAA's Atlanta Aircraft Certification Office, ACE-117A, submitted the following article for publication.

The FAA has recently become aware of field overhaul shops that are knowingly installing the wrong Continental cylinders on some TSIO-520 engines. At issue are overhaulers who are using cylinders equipped with venturi intake valve seats as interchangeable with those that do not contain venturi seats. While this particular issue is not considered a significant safety concern, the FAA is concerned that field overhaulers would take this type of action contrary to the published information provided by the original equipment manufacturer.

In addition, the FAA wishes to caution owners, operators, and overhaulers regarding the importance of using appropriate replacement parts and maintenance practices. Installation of unapproved cylinders can lead to the installation of different valve train component parts and could affect such things as oil consumption, compression, engine cooling, and performance.

Textron Lycoming; Model TIO-540-J2BD; Oil Bypass Valve Gasket Failure; ATA 7922

This engine was installed in a Piper, Model PA-31-350 aircraft.

While complying with Textron Lycoming Service Bulletin (SB) 518C, the submitter stated the gasket did not fit properly.

SB 518C contains instructions for inspection of the engine oil system thermostatic bypass valve. When he placed a new gasket (P/N 76510) on the bypass valve, it did not

seem to fit properly. When he torqued the bypass valve fasteners, engine oil leaked past the gasket.

The submitter believes the gasket is not manufactured correctly. He stated, "If the inside diameter of the gasket was chamfered on both sides, the gasket would fit properly."

In the past, the thermostatic bypass valve was the source of much consternation and was the subject of many articles published in aviation periodicals. However, this is the first reported problem with the gasket.

Part total time-0 hours.

AIR NOTES

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

If you want to contact the staff of this publication we welcome your comments, suggestions, and questions. Also, you may use

any of the following means of communication to submit reports concerning aviation-related occurrences.

Editors: Phil Lomax (405) 954-6487
and/or

Ed Galasso (405) 954-6471

FAX: (405) 954-4570 or (405) 954-4748

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ATTN: AFS-640 ALERTS

P.O. Box 25082

Oklahoma City, OK 73125-5029

We hope this change does not cause problems and apologize in advance for any inconvenience.

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 at:

<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, point 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.

****ALERTS E-MAIL ADDRESS UPDATE**

Due to a technological change, the E-Mail address for Phil Lomax (the editor of this publication) will change. We do not know when the new E-Mail address will begin; therefore, we listed the old and the new E-Mail addresses. If the old E-Mail address

fails, use the new E-Mail address. If all else fails, you may call Phil Lomax at (405) 954-6487.

OLD E-Mail address:

<ga-alerts@mmacmail.jccbi.gov>

NEW E-Mail address:

<9-amc-ga-alerts@mmacmail.jccbi.gov>

AIRWORTHINESS DIRECTIVES (AD's) ISSUED IN JULY 1999

99-14-06; MT-Propeller Entwicklung;
Propeller: MTV-9-B-C and MTV-3-B-C

99-15-03; Stemme; Sailplane: S10-VT

99-15-04; Piper; The New; PA-46-310P and
PA-46-350P

97-21-01; R1; COR; MT-Propeller
Entwicklung; Propeller: MTV-3-B-C/L250-21

99-13-09; MD Helicopters (figures);
Rotorcraft: 369D and E

99-15-07; DeHavilland; DHC-2 Mk. I, DHC-2
Mk. II, and DHC-2 Mk. III

99-15-11; British Aerospace; HP137 Mk1,
Jetstream Series 200, Jetstream 3101, and
Jetstream 3201

99-15-13; Alexander Schleicher; Sailplane:
ASH 26E

99-15-14; Sikorsky; Rotorcraft: CH-54B

AVIATION SERVICE DIFFICULTY REPORTS

The following are abbreviated reports submitted between July 21, 1999, and August 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.

FEDERAL AVIATION ADMINISTRATION

Service Difficulty Report Data

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
250C30P	ALLSN	23053349	BEARING 230595681	CORRODED GEARBOX	07/28/1999 1999082000448	
RECEIVING INSPECTION REVEALED PART NOT PRESERVED AT TIME OF MANUFACTURE AND EXHIBITS RUST.						
250C30P	ALLSN	23035128	WHEEL 23066744	MISMANUFACTURE TURBINE SECTION	08/13/1999 1999082000484	
NEW NR 4 WHEEL BALANCE INSPECTION FOUND RIM TO HAVE EXCESSIVE RUNOUT. ROTOR COULD NOT BE BALANCED. INSTALLED A NEW NR4 WHEEL.						
	GARRTT		CARBON SEAL 30756332	FAILED COMPRESSOR	07/30/1999 1999082000054	926 547
ENGINE LOST OIL PRESSURE IN-FLIGHT. DISASSEMBLY FOUND NR 5 CARBON SEAL BROKEN. CONTAMINATED OIL SYSTEM. PART S/N 960811401752. ENG TSN: 7,666.3 HOURS. ENG CSN: 5,701 HOURS. PART CSN: 547.						
	PWA		BOLT 772568QQ	MISMANUFACTURE COMPRESSOR	07/28/1999 1999081400385	
PMA BOLT P/N 772568 QQ, REPLACEMENT FOR OEM BOLT P/N 772568, FAILED AFTER 7 HOURS AND 6 CYCLES IN SERVICE BOLT FRACTURED CAUSING HEAD TO BE INGESTED INTO THE N-2 COMPRESSOR DRIVE TURBINE WHERE EXTENSIVE DAMAGE WAS INFLICTED. LABORATORY ANALYSIS HAVE REVEALED THE LACK OF NICKLE HAD CAUSED CADMIUM INBRITTLEMENT. SUBMITTER RECOMMENDED REMOVING AND REPLACING ALL PMA BOLTS P/N 772568QQ FROM BATCH NR'S 30246 AND 30248 FROM SERVICE WITH LESS THAN 300 HOURS/CYCLES AT OPERATOR'S EARLIEST						
	PWA		BLOCKER DOOR 74M200049	DETACHED NR 2 ENGINE	07/21/1999 1999082000270	14442
(CAN) DURING DAILY INSPECTION, NR 2 ENGINE BLOCKER DOOR WAS FOUND TO BE HANGING DOWN IN THE FAN BYPASS DUCT. INVESTIGATION REVEALED A STRUCTURAL FAILURE OF UNKNOWN ORIGIN. BLOCKER DOOR SENT TO MANUFACTURER FOR ANALYSIS.						
BEECH 1900D			CENTERING	MISALIGNED NLG	07/26/1999 1999082000055	
IIT WAS DISCOVERED UPON OPS CHECK OF NEWLY INSTALLED NOSE GEAR JUST OUT OF OVERHAUL, THAT THE NOSE WHEEL WAS NOT CENTERING PROPERLY. AFTER FURTHER EXAMINATION, IT WAS DETERMINED THE CYLINDER ASSY (P/N 114-820022-17) CENTERING ARM ATTACHMENT HOLES (6) WERE ROTATIONALLY MISALIGNED BY APPROXIMATELY 4 DEGREES DURING MANUFACTURE.						
BEECH 58	CONT IO520CB		SPRING 631521	BROKEN INTAKE VALVE	07/22/1999 1999081400507	1570
NR 4 CYLINDER INTAKE SPRING FOUND BROKEN AT ANNUAL INSPECTION.						
BEECH B200		505212233	PISTON 052119510	CRACKED FLAP ACTUATOR	07/22/1999 1999081400349	6243
INSPECTION OF FLAP SYSTEM REVEALED DEFECTIVE LEFT OUTBOARD FLAP ACTUATOR DRIVE PISTON. DRIVE PISTON						

FOUND CRACKED AT FLAP ROD END EXTENDING 1.5 INCHES LONGITUDINALLY, FORWARD WITH RESPECT TO AIRCRAFT INSTALLATION.

BELL	BLADE	CORRODED	08/10/1999	840
206B3	206010200133	TAIL ROTOR	1999082000659	
SEVERAL AREAS OF CORROSION ON TRAILING EDGE OF BLADES.				
BELL	FLOAT	LEAKING	07/29/1999	
206L1	206050248111	MLG	1999082000564	
FLOAT BAG LEAKING AT INTERNAL BAFFLE DURING 6 MONTH INSPECTION.				
BELL	CHANNEL	MISMANUFACTURE	08/03/1999	
206L1	206031314083S	FUSELAGE	1999082000578	
CHANNEL MISMANUFACTURED. NO EDGE DISTANCE FOR .1562 INCH RIVET AT TOP FORWARD JOGGLED AREA OF				
BELL	LONGERON	MISMANUFACTURE	08/03/1999	
206L1	206031314037S	FUSELAGE	1999082000579	
LONGERON MISMANUFACTURED. DEFECTS ON UPPER FLANGE. FLANGE IS WARPED AND HAS GOUGES ON AFT END. THE PART IS BOWED.				
BELL	CHANNEL	MISMANUFACTURE	08/03/1999	
206L1	209031314125S	FUSELAGE	1999082000580	
CHANNEL MISMANUFACTURED. NO EDGE DISTANCE ON EXISTING RIVET HOLES - LONGERON TOO SHORT.				
BELL	HOUSING	MISMANUFACTURE	08/03/1999	
206L1	206040052105	M/R GEARBOX	1999082000583	
HOUSING MISMANUFACTURED. SMALL HOLE IN HOUSING.				
BELL	STARTER	MISOVERHAULED	08/09/1999	15164
206L1	23081018	STARTER/GEN	1999082000650	
STARTER/GENERATOR INSPECTED BY ACCESSORY OVERHAUL SHOP AND FOUND THE WRONG TYPE BRUSHES WERE INSTALLED BY THE VENDOR ATOVERHAUL. THESE HAVE THE HARD INSERTS AND GROOVED THE COMMUTATOR.				
BELL	CASE ASSY	CORRODED	08/10/1999	
206L1	206040004111	M/R GEARBOX	1999082000660	
FOUND CORROSION BEHIND INPUT LINER ON MAIN CASE ASSY. (OIL FILTER CORROSION) REPLACED WITH				
BELL	CYLINDER	LEAKING	08/10/1999	20449
206L1	206076062003	CYCLIC	1999082000661	
BLED ALL AIR FROM SERVO WITH AUXILIARY GROUND HYDRAULIC UNIT AND SHUT OFF HYDRAULIC POWER. FOUND SERVO STATIC LEAKINGWITH NO PRESSURE AT FORWARD PISTON. ALSO FOUND BOOT DETERIORATED.				
BELL	ALLSN	FUEL PUMP	08/06/1999	11247
206L1	250C28B	3881005	ENGINE	1999082000597
FUEL PUMP HAD EXCESSIVE STEP WEAR ON SPLINE.				
BELL	ALLSN	FUEL PUMP	08/09/1999	16442
206L1	250C28B	3881005	ENGINE	1999082000652
FOUND EXCESSIVE STEP WEAR AND PITTING ON INNER SPLINES AND DRIVE SHAFT ON FUEL PUMP.				
BELL	HUB	OVERSERVICED	07/29/1999	4670
206L3	206011100105	MAIN ROTOR	1999082000555	
MAIN ROTOR HUB SLINGING GREASE.				
BELL	TRUNNION	MISMANUFACTURE	08/02/1999	
206L3	206011105001	MAIN ROTOR	1999082000571	
BEARING MISMANUFACTURED. INCORRECT POSITION OF GREASE INLET RELATIVE TO BOLT CUT-OUTS ON BARREL (GREASE INLET ON BOTTOM OF BARREL WHEN INSTALLED). UNABLE TO INJECT GREASE INTO BARREL WHEN				
BELL	STACK	CRACKED	08/06/1999	
206L3	206064300005	EXHAUST SYSTEM	1999082000596	
CRACK NEXT TO VOID ON AFT LOWER RIGHT SIDE OF EXHAUST ASSEMBLY.				
BELL	SLIDE	LEAKING	08/10/1999	
206L3	C4264215	M/R CONTROL	1999082000665	
LEAKING AFTER BLEEDING AIR FROM SERVO VALVE PRIMARY SPOOL WITH NO PRESSURE. TIME SINCE REPAIR 0:00				
BELL	FITTING	CORRODED	08/03/1999	
212	204030403001S	FUSELAGE	1999082000577	
CORROSION ON BOTTOM SIDE OF FITTING.				
BELL	WEB	MISMANUFACTURE	08/03/1999	
212	212030121015S	FUSELAGE	1999082000582	
WEB MISMANUFACTURED. WEB HAS A .005 INCH DEEP MACHINE MARK RUNNING ON THE FORWARD, RT SIDE OF PART, DOWN APPROXIMATELY6 INCHES FROM TOP END OF WEB. THIS MARK IS APPROXIMATELY .3750 INCH TO .50 INCH IN FROM EDGE OF PART. THIS WOULD PUT RIGHT IN LINE WITH THE RIVET ROW FOR THE RT CAP ANGLE. THE WEB ALSO HAS A BOWED AREA ON THE TOP END WHICH PREVENTS THE CAP ANGLE FROM HAVING A FLAT SURFACE TO				
BELL	SUPPORT	MISMANUFACTURE	08/11/1999	
212	204030959002A	FUSELAGE	1999082000705	
SUPPORT MISMANUFACTURED. RIGHT AFT VOR ANTENNA MOUNTS RECEIVED WITH PILOT HOLES. SEVERAL OF THESE PILOT HOLES DO NOTHAVE SUFFICIENT EDGE DISTANCE FOR INSTALLATION OF .1250 INCH OR .1562 INCH RIVETS, WHICH ARE REQUIRED FOR INSTALLATION OF THE FITTING.				
BELL	CASE ASSY	CORRODED	08/12/1999	
212	212040054105	M/R GEARBOX	1999082000731	
CASE ASSEMBLY HAD CORROSION AROUND STUD HOLE, LOWER MAST LINER WORN, MOUNTING FACE CORROSION.				
BELL	ACTUATOR	FAILED	08/02/1999	
214ST	214001970111	MAIN ROTOR	1999082000573	
BRAKE WILL NOT RELEASE. SUBMITTER STATED THIS IS A RECURRING PROBLEM WITH THIS UNIT.				

BELL 214ST	214011801117	BEARING 214011819101	WORN TAIL ROTOR	08/03/1999 1999082000581	432
BEARING WORN BEYOND LIMITS. SCRAPPED BEARINGS.					
BELL 214ST		SOLENOID V80500113	MALFUNCTIONED VACUUM SYSTEM	08/09/1999 1999082000634	
SOLENOID VALVE ACTIVATED AND PREMATURELY INFLATED FLOATS.					
BELL 214ST	21401180111	YOKE 214011802111	BENT TAIL ROTOR	08/10/1999 1999082000669	2229
FLAPPING STOP EAR BENT. SCRAPPED YOKE AND REPLACED WITH SERVICEABLE PART.					
BELL 214ST	214015300107	BLADE	DEBONDED MAIN ROTOR	8/10/1999 1999082000670	8187
TOP METAL EROSION SHIELD IS DEBONDING.					
BELL 214ST	214040011119	SHAFT 214040404101	CORRODED T/R GEARBOX	08/10/1999 1999082000671	93869
GEARBOX REMOVED DUE TO CORROSION AND WEAR ON SPLINES. FOUND 1 EACH SPLINE BROKEN. REPLACED WITH SERVICEABLE OUTPUT SHAFT.					
BELL 214ST	214040011119	SHAFT 214040404101	FAILED T/R GEARBOX	08/10/1999 1999082000672	1248
FAILURE IN THREAD AREA OF OUTPUT SHAFT. REPLACED WITH SERVICEABLE OUTPUT SHAFT.					
BELL 214ST	214040011119	GEAR 214040408101	SCORED T/R GEARBOX	08/10/1999 1999082000673	
BEARING SEAT SCORED. REPLACED WITH SERVICEABLE GEAR ASSY.					
BELL 214ST	214040013109	RETAINER ASSY 214040844109	PITTED M/R DRIVE	08/10/1999 1999082000674	2498
RETAINER ASSY HAD EXCESSIVE PITTING. REPLACED WITH SERVICEABLE PART.					
BELL 214ST	214060056103	CLUTCH 36B510954G2	SLIPPAGE STARTER/GEN	08/10/1999 1999082000676	
CLUTCH FAILED SLIPPAGE TORQUE TEST. IT EXCEEDED MAXIMUM LIMITS. REPLACED CLUTCH AND RETURNED STARTER TO SERVICE.					
BELL 407		CARBON SEAL 406340102101	LEAKING M/R DRIVE	07/21/1999 1999073000137	
CARBON SEAL LEAKING.					
BELL 407		PITCH HORN 407010103101	CORRODED MAIN ROTOR	07/23/1999 1999073000140	2496
PITCH HORN HAS CORROSION DUE TO NO PREVENTIVE MAINTENANCE.					
BELL 407		BEARING 407010107103	PEELING MAIN ROTOR	07/23/1999 1999073000142	1255
BEARING HAS BLUE EPOXY PEELING.					
BELL 407		START/GENERA 206062200113	DAMAGED ENGINE	07/23/1999 1999073000144	
PROTECTIVE SCREEN CAME LOOSE AND SHREDDED THROUGH STARTER/GENERATOR.					
BELL 407		LINK ASSEMBLY 406010426101	WORN MAIN ROTOR	07/23/1999 1999073000150	1156
LINK ASSEMBLY HAS WORN BUSHING. SERIAL NUMBERS REMOVED ARE AFS-1223 AND AFS-1219. REFERENCE: DMR NR 686246. REPLACEMENT PART SERIAL NUMBERS ARE AFS-2131 AND AFS-2134.					
BELL 407		LEVER 406010425107	WORN MAIN ROTOR	07/23/1999 1999073000152	1156
LEVER ASSY HAS WORN BUSHING. SERIAL NUMBERS REMOVED ARE A-2083 AND A-2074. DMR NR 686195. REPLACEMENT PART SERIAL NUMBERS ARE A-2523 AND A-2525.					
BELL 407		GEARBOX 406040400115	MAKING METAL TAIL ROTOR	07/23/1999 1999073000155	
TAIL ROTOR GEARBOX MAKING METAL. REFERENCE: DMR NR 686197.					
BELL 407		FRAHM ASSY 407010150103	UNBONDED MAIN ROTOR	07/23/1999 1999073000158	
RUBBER UNBONDED ON FRAM ASSEMBLY. REFERENCE: DMR NR 686200.					
BELL 407		DISC PACK 407340340101	CRACKED T/R DRIVE	07/28/1999 1999082000509	
DISC PACK CRACKED.					
BELL 407		UNIVERSAL 406310405101	WORN M/R DRIVE	07/28/1999 1999082000510	
UNIVERSAL HAD WORN BEARINGS.					
BELL 407		UNIVERSAL 406310405101	WORN M/R DRIVE	07/28/1999 1999082000511	
UNIVERSAL WORN (UNSTAKED).					
BELL 407		TRANSMISSION 407040006107	MAKING METAL MAIN ROTOR	07/28/1999 1999082000513	1645
TRANSMISSION ASSY MAKING METAL.					
BELL 407		LINK ASSY 406012129101	WORN PITCH CONTROL	07/28/1999 1999082000515	
LINK ASSY HAD WORN BEARINGS.					
BELL		PIN	WORN	07/28/1999	

407	406010429101	MAIN ROTOR	1999082000517	
PIN WORN, PLAY IN DRIVE LINK.				
BELL	LINK	WORN	07/28/1999	
407	406312103101	TAIL ROTOR	1999082000519	
LINK HAD WORN BEARINGS.				
BELL	UNIVERSAL	WORN	07/28/1999	
407	406310405101	M/R DRIVE	1999082000521	
UNIVERSAL HAD WORN BEARINGS.				
BELL	HOSE ASSY	KINKED	07/28/1999	
407	70079H000Y150	HYDRAULIC	1999082000522	
HOSE KINKED.				
BELL	LINK ASSY	BINDING	07/28/1999	
407	406012129101	PITCH CONTROL	1999082000525	
LINK ASSY BEARINGS BINDING.				
BELL	FLYWHEEL	WORN	07/28/1999	
407	407040316101	TAIL ROTOR	1999082000526	
SPLINES WORN BEYOND LIMITS ON FLYWHEEL.				
BELL	DISC PACK	CRACKED	07/28/1999	
407	407340340101	T/R DRIVE	1999082000530	
DISC PACK CRACKED AND BROKEN.				
BELL	TRUNNION	WORN	07/28/1999	
407	206011728001	TAIL ROTOR	1999082000532	
WORN TRUNNION GEAR.				
BELL	CYLINDER	MALFUNCTIONED	07/28/1999	
407	206076047101	ROTOR BRAKE	1999082000533	
PRESSURE BINDING ON UP AND DOWN STROKE ON CYLINDER ASSY.				
BELL	SEAL	LEAKING	07/28/1999	
407	406040453101	T/R GEARBOX	1999082000534	
SEAL LEAKING.				
BELL	FRAHM ASSY	MAKING METAL	08/02/1999	
407	407010150103	MAIN ROTOR	1999082000576	
FRAM ASSY MAKING METAL.				
BELL	STARTER	MISOVERHAULE	08/10/1999	15177
407	23081018	STARTER/GEN	1999082000679	
STARTER/GENERATOR INSPECTED BY ACCESSORY OVERHAUL SHOP AND FOUND THE WRONG TYPE BRUSHES WERE INSTALLED BY THE VENDOR ATOVERHAUL. THESE HAVE THE HARD INSERTS AND GROOVED THE COMMUTATOR.				
BELL	LEVER	BROKEN	08/10/1999	
407	20898411	PAX DOOR	1999082000680	
LEVER BROKE ON LEFT FORWARD DOOR WHICH PREVENTED THE OUTSIDE DOOR HANDLE FROM OPENING THE DOOR.				
BELL	BOLT	WORN	08/10/1999	
407	407040006103	M/R GEARBOX	1999082000681	
BOLT WORN .011 INCH. REPLACED WITH SERVICEABLE BOLT.				
BELL	STACK	CRACKED	08/11/1999	
407	407063001101	EXHAUST	1999082000703	
EXHAUST STACK CRACKED.				
BELL	VALVE	FAILED	07/29/1999	
412	L88010501	NR 2 ENGINE	1999082000570	
NR 2 ENGINE IN ASH LIGHT WILL NOT COME ON AFTER ENGINE IS SHUT POWER.				
BELL	STARTER	VIBRATING	08/09/1999	12754
412	23046020	STARTER/GEN	1999082000615	
HIGH FREQUENCY VIBRATION FELT IN AIRFRAME WITH GENERATOR TURNED ON.				
BELL	VALVE	FAILED	08/09/1999	
412	L88010501	FUEL SYSTEM	1999082000629	
VALVE WILL NOT CLOSE.				
BELL	BLADE	DAMAGED	08/10/1999	3690
412	212010750105	TAIL ROTOR	1999082000688	
F.O.D. HOLE IN LEADING EDGE OF BLADE.				
BELL	STARTER	MALFUNCTIONED	08/10/1999	16208
412	23046020	STARTER/GEN	1999082000689	
STARTER/GENERATOR DRAGGING DURING START.				
BELL	LEVER	MISMANUFACTURE	08/10/1999	
412	41001687	MAIN ROTOR	1999082000690	
FLANGED BUSHING OF LEVER ASSY TOO LARGE FOR YOKE ASSY. TIME SINCE REPAIR 0:00 HOURS.				
BELL	BLADE	CRACKED	08/10/1999	13212
412	412015300109	MAIN ROTOR	1999082000691	
BLADE HAD SEVERAL PIN HOLES IN THE OUTBOARD LEADING EDGE STRIP. THE INBOARD TRIM TAB WAS CRACKED.				
BELL	BLADE	DAMAGED	08/10/1999	10805
412	412015300109	MAIN ROTOR	999082000692	
SEVERAL PIN HOLES IN THE OUTBOARD LEADING EDGE STRIP. THE INBOARD TAB AND CENTER TAB HAD SOME				
BELL	BLADE	DEBONDED	08/10/1999	5053
412	412015300109	MAIN ROTOR	1999082000693	

SKIN AT SPLICE JOINT AREA UNBONDED.					
BELL		BLADE	CRACKED	08/10/1999	5951
412		412015300109	MAIN ROTOR	1999082000694	
INBOARD ABRASION STRIP CRACKED NEAR THE SPLICE COVER ON THE UPPER SURFACE. FIBERGLASS CRACKED AROUND THE INBOARD AND MID-SPAN TAB.					
BELL		BEARING	WORN	08/13/1999	
412	21201170100	205012710001	T/R BLADE	1999082000774	
TAIL ROTOR BEARINGS WORN, TWO EACH RACES AND BEARINGS BRINELLED.					
BELL		BEARING	WORN	08/13/1999	1956
412	412010405107	412010424103	MAIN ROTOR	1999082000775	
BEARINGS WORN.					
BELL	PWA	FCU	MALFUNCTIONED	08/09/1999	
412	PT6T3B	324473513	ENGINE	1999082000472	
AUTOFUEL CONTROL CAUSING TORQUE SURGES.					
BOLKMS		REGULATOR	FAILED	08/09/1999	
BK117A4		51530001EI	DC SYSTEM	1999082000824	
VOLTAGE REGULATOR WOULD NOT SHARE LOAD.					
BOLKMS		BLADE	DAMAGED	08/10/1999	3909
BK117A4		10515150	MAIN ROTOR	1999082000843	
ROTOR BLADE HAD SEPARATION ON THE INBOARD ABRASION STRIP ON THE OUTER END. THE ABRASION STRIP AT THE TIP HAD EROSION HOLES.					
BOLKMS		BLADE	DAMAGED	08/10/1999	3909
BO105CBS		10515150	MAIN ROTOR	1999082000844	
INBOARD ABRASION STRIP HAD SEPARATION ON THE OUTBOARD END OF THE STRIP.					
BOLKMS		HOUSING	CRACKED	07/29/1999	1261
BO105S	619003003	4619211901	T/R GEARBOX	1999082000809	
HOUSING CRACKED AT MOUNTING EAR. REPLACED WITH SERVICEABLE PART.					
BOLKMS		BLADE	DAMAGED	07/29/1999	1163
BO105S		10531980	TAIL ROTOR	1999082000815	
RUBBER COATING ON TAIL ROTOR BLADE CHIPPED OFF AT BLADE TIPS.					
BOLKMS		HYD PACK	FAILED	08/09/1999	5569
BO105S		10545028	FLIGHT CONTROL	1999082000836	
DURING CRUISE FLIGHT, NOSE TUCKED 15 DEGREES- COULD NOT RECOVER WITH CYCLIC UNTIL RECOVERED BY ITSELF.					
RPM AND HYD BLOCK LIGHTS FLASHED.					
BOLKMS		BLADE	DAMAGED	08/10/1999	9263
BO105S		10515141	MAIN ROTOR	1999082000841	
THE NR 1 INBOARD ABRASION STRIP HAS SEPARATION ON THE OUTBOARD END OF THE STRIP.					
BOLKMS		BLADE	DAMAGED	08/10/1999	3256
BO105S		10515141	MAIN ROTOR	1999082000842	
EROSION HOLE THROUGH THE OUTBOARD ABRASION STRIP ON MAIN ROTOR BLADE.					
BOLKMS		BEARING	DAMAGED	08/10/1999	
BO105S		116488P	MAIN ROTOR	1999082000845	
BEARING UNSTAKED. REPLACED WITH SERVICEABLE PART.					
CESSNA	CONT	GEAR	SPALLED	07/29/1999	3310
150J	O200A	36066	MAGNETO	1999082000288	
(CAN) MAGNETO GEARS WHICH ARE SUSPECTED TO BE UNAPPROVED PARTS. ONT. SAIB NR CE-98-21R1 WAS RELEASED TO CORRECTLY IDENTIFY THE GEARS IN THE FIELD.					
CESSNA		FIREWALL	CRACKED	07/21/1999	395
172R		05530313	FUSELAGE	1999081400380	
DURING 100-HOUR INSPECTION, FOUND FIREWALL CRACKED AT LEFT LOWER COWLING SHOCK MOUNT BRACKET ADJACENT TO BATTERY BOX. CRACKS EXTENDED VERTICALLY FROM BRACKET ATTACH RIVET HOLES AND TOTALLED APPROXIMATELY 2.3750 INCHES IN LENGTH. DOUBLER PATCH WAS INSTALLED ON INSIDE OF FIREWALL.					
CESSNA		CONNECTOR	LOOSE	07/21/1999	294
172S		S32791	COCKPIT	1999081400378	
NEW C-172S ON CROSS-COUNTRY FLIGHT, OIL PRESSURE STARTED FLUCTUATING. OIL TEMP NORMAL AND NO LOW OIL PRESSURE LIGHT ILLUMINATION. OIL PRESSURE GAUGE STARTED FLUCTUATING OFF SCALE LOW. PRECAUTIONARY LANDING MADE. MAINTENANCE FOUND OIL PRESSURE GAUGE CONNECTOR PLUGGED INTO GAUGE, BUT NOT LOCKED OVER LOCKING TAB. RE-CONNECTED AND OPERATIONAL CHECKED SATISFACTORY.					
CESSNA		SHIELD	DAMAGED	07/21/1999	95
172S		051502620	PASSENGER DOOR	1999081400504	
THE RIGHT FORWARD CABIN DOOR POST SHIELD WAS FOUND BUCKLED. UPON REMOVAL, FOUND THE FRESH AIR HOSE RUNNING DOWN THE DOOR POST WAS NOT ALLOWING THE SHIELD TO SEAT FULLY IN ITS CORRECT POSITION. THE AIR VENT HOSE WAS FLATENED TO PROVIDE SUFFICIENT CLEARANCE FOR THE SHIELD TO FIT PROPERLY.					
CESSNA	BRACKETT	GASKET	DETERIORATED	07/23/1999	2741
182H	BA8110		ENGINE COWL	1999081400379	
REMOVED FILTER ASSY, P/N BA 8110, TO CHECK GASKET, 8 INCHES OF GASKET WAS MISSING. SCREEN MESH COMING LOOSE FROM FILTER FRAME.					
CESSNA	MODINE	OIL COOLER	LEAKING	07/29/1999	
206CESSNA		1E1884	ENGINE OIL	1999081400393	
PART BEGAN LEAKING DURING NORMAL SERVICE DUE TO EPOXY REPAIR FAILURE. EPOXY REPAIRS COMMONLY FAIL. SUBMITTER RECOMMENDED ELIMINATING USE OF EPOXY IN OIL COOLERS.					

CESSNA 210B		SEAT	BENT COCKPIT	07/23/1999 1999082000063	
THIS AIRCRAFT WAS INVOLVED IN AN ACCIDENT WHICH RESULTED IN THE PILOT'S SEAT COMING DISCONNECTED FROM THE SEAT TRACK. THE LEFT SIDE SEAT BRACING WAS BENT. THE PILOT RECEIVED SERIOUS HEAD INJURIES. A SUPPORT BETWEEN THE LEFT AND RIGHT SEAT VERTICAL BRACING MAY HAVE PREVENTED THIS.					
CESSNA 404CESSNA	CONT GTSIO520M	CRANKCASE	CRACKED ENGINE	07/21/1999 1999082000279	899
(CAN) CRACK FOUND AT NR 5 CYLINDER CRANKCASE THREAD BORE, .750 INCH, RADIATING TO OUTER CASE.					
CESSNA 404CESSNA	CONT GTSIO520M	CRANKSHAFT	DAMAGED ENGINE	07/22/1999 1999082000292	444
(CAN) AN INSPECTION REQUIRED BY CSB99-6 ON GTSIO-520-M ENGINES WAS PERFORMED AND THIS INSPECTION REVEALED A STRESS RISER CONDITION CAUSED BY A DISCREPANCY IN THE COUNTERWEIGHT BUSHING INSTALLATION PROCESS. THE ENGINE WAS REMOVED FOR FURTHER INSPECTION AND REPAIR. REVISION TO AD 99-09-17 WILL BE MADE TO INCORPORATE THE ADDITIONAL MODEL TYPE GTSIO-520-M ENG.					
CESSNA T210M		HOSE 528884082A	SEPARATED NLG DOOR	07/24/1999 1999081400391	1055
HOSE CLOSE TO GEAR DOOR DOUBLE-ACTING HYDRAULIC ACTUATOR SEPARATED AT SOCKET DURING LANDING GEAR LOWERING CYCLE. HOSE WAS FIVE YEARS OLD.					
EMB EMB120	BFGOODRICH 21585	STATOR 1331096	FAILED NR 1 BRAKE	08/02/1999 1999082000053	365
BRAKE ASSY, P/N 2-1585, FAILED PREMATURELY. NR 1 STATOR BROKEN AND STATOR TANGS BINDING IN TORQUE TUBE KEY SLOTS. THIS IS A CONTINUAL DISCREPANCY. BRAKE ASSY SHOULD LAST 2,500 CYCLES.					
MOONEY M20J		TRUSS 54001503	WORN NLG	07/21/1999 1999081400364	3164
CURING NLG INSPECTION, FOUND STEERING TRUSS BOLT HOLES ELONGATED WHERE OVERCENTER LINK BOLTS ONTO TRUSS; MFG SPECS FOR ALLOWABLE WEAR AT THIS LOCATION IS .375 INCH - .379 INCH. MEASURED WEAR WAS .392 INCH. REPLACED TRUSS WITH SERVICEABLE UNIT. SUSPECT WEAR WAS FROM THE BOLT BEING LOOSE.					
MOONEY M20J		TUBE	MISINSTALLED PITOT SYSTEM	08/07/1999 1999081400508	397
THE PITOT TUBING IN THE CABIN WAS IMPROPERLY ROUTED CAUSING THE TUBING TO BE CRUSHED BETWEEN THE CABIN STEEL FRAME AND THE LEFT SIDE SKIN. THIS CAUSED A RESTRICTION OF PRESSURE TO THE AIRSPEED INDICATOR RESULTING IN INCORRECT INDICATIONS TO THE PILOT. THIS AIRCRAFT WAS INVOLVED IN A LANDING ACCIDENT WHICH DAMAGED THE AIRCRAFT TO A TOTAL LOSS. THE PITOT TUBING CONDITION MAY HAVE HIGHER					
PIPER PA32R301T		ACTUATOR 455987	LEAKING NLG	07/22/1999 1999081400370	143
MALFUNCTION OCCURRED IN-FLIGHT. PILOT REPORTED HYDRAULIC PUMP IN-FLIGHT. TROUBLESHOT PROBLEM IN SHOP. DETERMINED NOSE GEAR ACTUATOR WAS LEAKING INTERNALLY AND SUCKING IN AIR, AND LT MAIN GEAR ACTUATOR WAS LEAKING WHICH CAUSED PUMP TO CONTINUALLY CYCLE AND FAIL CAUSING GEAR TO FREE FALL					
PIPER PA34200		ROD END 452606	FAILED THROTTLE	07/23/1999 1999081400392	
PILOT REPORTED LEFT ENGINE NOT RESPONDING WITH THROTTLE LEVER. FOUND BROKEN THROTTLE CONTROL ROD END. REMOVED AND REPLACED WITH NEW STYLE ROD END. OLD STYLE ROD END PART NUMBER NOT AVAILABLE. KEPT OLD PARTS, CHANGED ALL PARTS ON BOTH ENGINES INCLUDING MIXTURE, PROPELLER, AND					
SKRSKY S76A		CALIPER 400047610R	LEAKING ROTOR BRAKE	07/29/1999 1999082000449	
ROTOR BRAKE CALIPER BEGAN LEAKING AROUND AFT PISTON SEAL. REPLACED WITH SERVICEABLE PART.					
SKRSKY S76A		OIL COOLER 7636209203102	LEAKING ENGINE OIL	07/29/1999 1999082000451	
OIL COOLER LEAKING.					
SKRSKY S76A		PUMP 7665009808101	LEAKING HYDRAULIC	07/29/1999 1999082000452	
HYDRAULIC PUMP LEAKING EXTERNALLY. TIME SINCE REPAIR 0:00 HOURS.					
SKRSKY S76A		BLADE 7610105101041	DAMAGED TAIL ROTOR	08/10/1999 1999082000474	7806
TAIL ROTOR PADDLE HAS A HOLE AT THE TIP END.					
SKRSKY S76A		TIP CAP 7615009043054	SPLIT MAIN ROTOR	08/10/1999 1999082000475	
TRAILING EDGE SPLIT OPEN NEAR THE TIP LEADING EDGE. ABRASION STRIP CRACKED TOP AND BOTTOM.					
SKRSKY S76A	ALLSN 250C30P	DIFFUSER 23051643 23064593	LEAKING NR 2 BEARING	07/23/1999 1999073000134	
ENGINE REMOVED DUE TO METAL IN OIL. FOUND REAR SUPPORT MAJOR SEAL LIFTING AND CHROME FITTING FLAKING IN NR 2 BEARING BORE. REPLACED WITH SERVICEABLE REAR DIFFUSER.					
SKRSKY S76A	ALLSN 250C30S	PINION GEAR 6893672	WORN GEARBOX	07/23/1999 1999073000135	
ENGINE REMOVED DUE TO METAL IN OIL. FOUND CAUSE: PICKOUT IN GEAR TEETH. REPLACED WITH SERVICEABLE GEAR. SCRAPPED GEAR.					
SKRSKY S76A	ALLSN 250C30S	FUEL PUMP 3944001	WORN ENGINE	08/10/1999 1999082000473	685
FUEL PUMP HAD WORN AND PITTED SPLINES.					
SKRSKY S76A	ALLSN 250C30S	NOZZLE 23008064	CRACKED 1ST STAGE	08/13/1999 1999082000483	685

ENGINE REMOVED DUE TO CYCLED TURBINE WHEELS. UPON INSPECTION OF TURBINE PARTS NOTED CRACKS BEYOND SERVICEABLE LIMITS ON 1ST STAGE NOZZLE LEADING AND TRAILING EDGE VANES.

SKRSKY	ALLSN		NOZZLE	CRACKED	08/13/1999	637
S76A	250C30S	23035128	23008064	1ST STAGE	1999082000486	

ENGINE REMOVED DUE TO TURBINE OVERHAUL. UPON INSPECTION OF TURBINE PARTS NOTED VANE CRACKS BEYOND SERVICEABLE LIMITS ON 1ST STAGE NOZZLE.

SNIAS			SPHERICAL	SEPARATED	07/22/1999	
AS350B2			704A33633208	MAIN ROTOR HEA	1999073000166	

SPHERICAL STOP SEPARATED. SERIAL NUMBERS REMOVED ARE LK2082, LK2147, AND LK2192.

SNIAS			SCREW	CORRODED	07/29/1999	
AS350B2			350A31187320	M/R HEAD	1999082000792	

CORROSION ON RED BLADE UPPER PC LINK ATTACH BOLT. REPLACED WITH SERVICEABLE PART.

SNIAS			BEARING	WORN	07/29/1999	
AS350B2			704A33633151	MAIN ROTOR	199082000800	

MAIN ROTOR BEARING WORN BEYOND LIMITS. REPLACED WITH SERVICEABLE PARTS.

SNIAS			MEMBER	WORN	07/29/1999	
AS350B2			704A33633153	MAIN ROTOR	1999082000801	

STOP LAMINATES WORN BEYOND LIMITS.

SNIAS			FASTENER	BROKEN	07/29/1999	
AS350B2			TL100AXE10LL5	ENGINE MOUNT	1999082000806	

RIGHT FORWARD LATCH BROKEN. REPLACED WITH SERVICEABLE PART.

SNIAS	TMECA		IGNITER	WORN	07/29/1999	
AS350B2	ARRIEL1D	9550168770		ENGINE	1999082000803	

TIP OF IGNITER WORN. REPLACED WITH SERVICEABLE PART.

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3. POWERPLANT					
4. PROPELLER					
5. SPECIFIC PART (of component) CAUSING TROUBLE					
Part Name	MFG. Model or Part No.	Serial No.	Part Defect Location		
6. APPLIANCE COMPONENT (Name of first installed part)					
Comp/Model Name	Manufacturer	Model or Part No.	Serial Number		
Part ID	Part ID	Part Condition	T. Date Sub.	Optional Information: Check a box below, if this report is related to an aircraft: ☐ Accident; Date _____ ☐ Incident; Date _____	

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