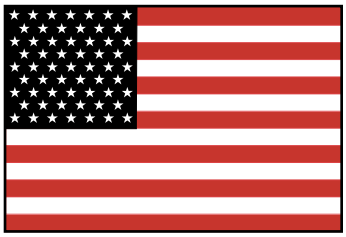
U.S. Department
of Transportation
**Federal Aviation
Administration**

AFS-600
Regulatory Support Division

ADVISORY CIRCULAR
43–16A

AVIATION MAINTENANCE ALERTS



**ALERT
NUMBER
286**

**May
2002**

CONTENTS

AIRPLANES

HELICOPTERS

AMATEUR, EXPERIMENTAL, AND SPORT AIRCRAFT

POWERPLANTS AND PROPELLERS

AIR NOTES

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

AERONCA

Aeronca; Model 7-AC; Champ; Wing Structure Damage; ATA 5711

After the right wingtip struck the ground, the owner asked maintenance personnel to inspect the aircraft for damage.

During the inspection, the technician discovered the outboard end of the right wing spar was cracked. The crack traveled longitudinally approximately 30 inches inboard. Due to the severity of this damage, he had to replace the spar.

The submitter did not provide any other details. However, all operators are cautioned to thoroughly inspect the aircraft after any wing strike event. Pilots are encouraged to report all wingtip strikes and/or hard landings and have them investigated by a qualified maintenance person.

Part total time not reported.

AMERICAN CHAMPION

American Champion; Model 7-ECA; Citabria; Wing Spar Defects; ATA 5711

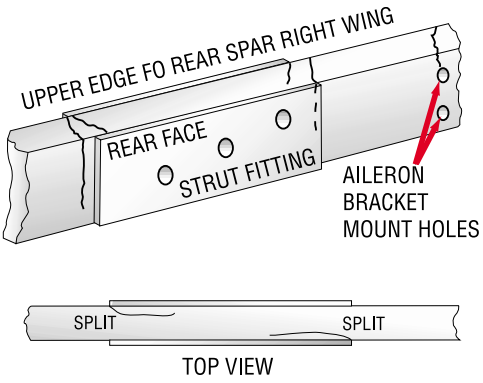
While restoring the aircraft, the owner found several severe defects on the right wing spars.

In accordance with Airworthiness Directive (AD) 2000-25-02 R1 and American Champion Service Letter (SL) 406, Revision A, the owner removed, cleaned and inspected the right rear wing spars. A maintenance record entry, dated January 16, 1993, recorded a "hard landing."

At first glance, the spars appeared to be in good condition. However, a high-intensity light revealed four compression cracks on the upper edge of the rear spar and one crack associated with an aileron bellcrank attachment hole. Two of the cracks extended down through the spar at the plywood plate through approximately 45 percent of the spar thickness. He found two splits that originated at the wing strut attachment reinforcing plywood plate and followed the edge grain of the wood for approximately 2.5 inches. (Refer to the illustration.)

The submitter stated he would not have found these defects using ordinary visual inspection techniques. None of the cracks were visible until the varnish, excess adhesive, and dirt were removed. He suggested chamfering the vertical edges of the plywood reinforcement plates by .75 inch might reduce the stress buildup at this location.

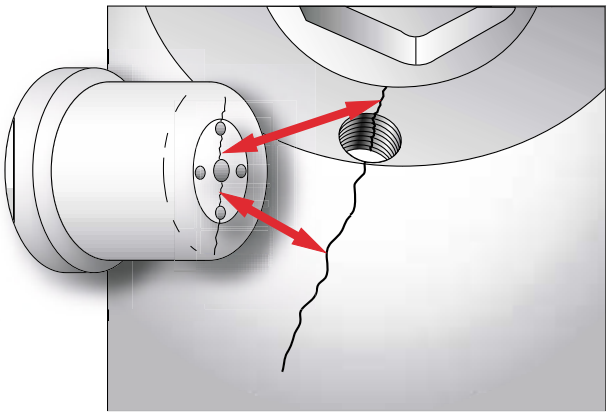
Part total time not reported.



American Champion; Model 8KCAB; Decathlon; Defective Propeller Assembly; ATA 6110

During a scheduled inspection, a technician discovered a crack in the propeller assembly.

The propeller pitch cylinder (hub) (P/N B-2428-2) was severely cracked on the forward end. The crack traveled outboard from both sides of the low pitch stop-nut. (Refer to the illustration.) Airworthiness Directive (AD) 2001-23-08 deals with this subject, and this aircraft was in compliance with the AD. Hartzell Service Bulletin (SB) HC-SB-61-227, Revision 2, dated May 8, 2000, is incorporated by reference in AD 2001-23-08.



The submitter stated this aircraft is used in a training environment for aerobatic instruction, and "hard" use may have contributed to the defect.

Part total time-283 hours.

BEECH

Beech; Model 58 Baron; Erroneous Oil Temperature Indication; ATA 7933

The pilot reported that after takeoff, he noticed a steady increase in oil temperature on the left engine. The oil temperature was at "red line" before the pilot could feather the propeller and begin a return to the departure airport.

Technicians investigated the problem and found the oil quantity was within limits. There was no indication that the engine oil temperature had been excessively high. Further troubleshooting revealed the oil temperature circuit was defective. A pin was pulled out of the oil temperature cannon plug (P/N MS3106A12S-38). After replacing the cannon plug, the indicating system functioned properly.

Part total time not reported.

Beech; Model 58; Baron; Landing Gear Failure; ATA 3230

After takeoff, the pilot discovered the landing gear would not retract. He placed the landing gear control back in the “down” position and landed the aircraft safely.

The weather conditions were wet and cold, and the technician discovered that ice prevented the landing gear “squat” switches from operating. The switches were frozen in position. After he thawed and dried the switches, the gear functioned properly during a test.

It would be wise to consider the environmental conditions during preflight inspections and give special attention to the landing gear components.

Part total time not reported.

Beech; Model 65B80; Queen Air; Poor Engine Performance; ATA 7414

During an engine “break-in” operational test, a technician noticed very poor left engine performance when operating on the right magneto.

An investigation revealed the magneto primary coil retainers were loose inside the case. It was apparent the retainers became caught in the timing gear and caused severe damage to the gear teeth.

The submitter speculated the retainers were not properly installed. It was fortunate the damage was located at the timing mark where it was easily seen. It was suggested that technicians exercise care and use appropriate technical data to prevent this type of defect.

Part total time-9 hours.

Beech; Model B99; Airliner; Defective Elevator Attachment; ATA 2730

During a scheduled inspection, a technician found a defective elevator attachment.

The collar (P/N 115-610015-3) installed at the inboard end of the left elevator was cracked. The collar is attached to the elevator torque tube (P/N 115-610010-325) via a taper pin fastener. The crack was located adjacent to the taper pin.

The submitter could not determine if the crack was caused by fastener overtorque or normal wear.

Part total time-35,566 hours.

Beech; Model 100; King Air; Defective Rudder Control Component; ATA 2720

While performing other maintenance, the technician removed the rudder assembly.

The technician discovered severe corrosion damage on the rudder bellcrank (P/N 100-600012). The corrosion was located beneath the lower rudder attachment fitting. The corrosion damage required replacement of the bellcrank.

The submitter suggested giving this area diligent attention during inspections and maintenance. He also suggested giving this area an application and reapplication of corrosion preventive measures.

Part total time-6,662 hours.

Beech; Model 200; King Air; Landing Gear Discrepancy; ATA 3211

This aircraft was delivered to a maintenance facility with a flightcrew report that the landing gear "unsafe" light stayed on when the gear selector was up.

Maintenance personnel jacked the aircraft, performed a gear retraction test, and duplicated the reported discrepancy. While investigating the cause, a technician discovered the left main landing gear actuator support bearings were "coming apart." The left main gear upper drag link assembly was hitting two bolts during the retraction cycle. The bolts used in the left lower cap assembly (P/N101-120025-11) were improperly installed. The improperly installed bolts led to the actuator support failure, as well as other minor damage, and caused malfunction of the gear indication switches.

The submitter suggested that proper use of the manufacturer's technical data would prevent this type of discrepancy.

Part total time not reported.

Beech; Model 200; King Air; Cabin Entry Door Defect; ATA 5210

During a scheduled inspection, a technician discovered excessive movement of the cabin entry door handrail.

The excessive movement was present in the hinge area of the forward and aft handrails. Investigating further, the technician discovered both "intercostal" (P/N's 50-430043-1291 and 101-430178-1) structures were cracked and broken at the rivet locations.

The submitter suggested giving this area diligent attention during inspections and maintenance.

Part total time-4,739 hours.

Beech; Model 300; King Air; High Engine Oil Temperature; ATA 7922

The flightcrew reported that during cruise flight, the oil temperature on the right engine rapidly increased to the "red line." When they reduced the engine power, the oil temperature decreased into the "green arc."

An investigation led maintenance personnel to believe the engine oil temperature regulator/pressure relief valve (P/N 723747), which is located on the oil cooler (P/N 101-389028-3), stuck closed. Since the valve was stuck, circulation of engine oil through the cooler was prevented.

The submitter stated the same discrepancy occurred on the left engine oil system 78 operating hours prior to this occurrence.

Part total time 189 hours.

Beech; Model 1900C; Airliner; Fire Extinguisher System Defect; ATA 2620

While performing an inspection, the technician discovered the fire-extinguisher system was defective.

The "squib" power switch (P/N 101-570021-6) was "dislocated" from the main engine fire-extinguisher annunciator/actuator assembly. The tabs on the annunciator body were not properly retaining the "squib" switch module. The technician checked other like aircraft for this condition and found two out of six units were also loose.

The submitter stated, “The new replacement assemblies are only marginally better for retention of the squib switch module, which is located on the aft end of the annunciator/actuator assembly.” He suggested the manufacturer change the design of this unit to provide a positive attachment of the “squib” power switch.

This condition would prevent the flightcrew from discharging the affected engine fire-extinguisher bottle. There is no way for the flightcrew to verify the system function and operation in accordance with proper preflight procedures.

Part total time not reported.

Beech; Model 1900D; Airliner; Defective Electrical System; ATA 2841

After returning from a flight, the pilot stated he smelled smoke in the cockpit and saw smoke coming from the left side of the instrument panel. The flightcrew was able to isolate the associated electrical systems, and they landed the aircraft safely.

While troubleshooting this problem, the technician discovered a shorted electrical panel wire. The wire (P/N X31F20) is used to supply electrical power from the bus bar terminal to the fuel quantity indicator panel. He found approximately 17 other wires, which are located in the same area, had suffered damage from excessive heat. He replaced all the damaged wiring.

The submitter did not give a cause for the electrical short.

Part total time-2,333 hours.

CESSNA

Cessna; Model 172M; Skyhawk; Flight Control Cable Failure; ATA 2700

The National Transportation Safety Board (NTSB) provided the following article. *(The article has been printed as it was received.)*

> Witnesses in the airport traffic pattern heard the pilot announce on the radio that he had lost all aileron control.
>
> While investigating the accident, an NTSB investigator discovered that two flight control cables were broken. He found that the left aileron control cable separated in the area of the top pulley located at the right doorpost. The cable was severely frayed for several inches on each side of the failure point and there was evidence of heavy corrosion on the cable and inside the pulley track. When the pulley was removed, it exhibited binding in the bearing, which prevented free rotation of the pulley.
>
> In addition, the right wing flap cable was separated approximately 27 inches from the bellcrank in the area of the right fuel tank. The wing flap cable exhibited the same corrosion and fraying as the aileron cable.
>
> All concerned persons should examine the flight control cables closely for signs of fraying and/or corrosion at every opportunity. This is especially necessary in the areas that are difficult to inspect such as removing the cockpit headliner. The extra time and effort spent could very well prevent an aircraft accident.

Part total time not reported.

Cessna; Model 172N; Skyhawk; Defective Alternator Installation; ATA 2421

While conducting other maintenance, a technician noticed the alternator appeared to be loose at the support bracket attachment point.

The technician removed the alternator and discovered a “spark plug” gasket had been used in place of a washer on the alternator attachment bolt. The alternator housing was cracked, the bushing was loose, and the bushing hole was severely elongated.

The submitter believes all of this damage was caused by the use of the “spark plug” gasket in place of the steel washer. He speculated the gasket crushed during operation allowing movement and further crushing of the gasket which led to the other damage mentioned.

Part total time not reported.

Cessna; Model 172R; Skyhawk; Wing Skin Cracks; ATA 5730

While conducting a scheduled inspection, the technician discovered numerous cracks in the left wing skin.

The cracks were located in the top trailing edge of the wing skin at the inboard end. The cracks were adjacent to four rivets (P/N AN426-AD4) just above the wing flap that join the trailing edge stiffener to the upper and lower wing skins. The cracks ranged from .5 to 1 inch in length, and only one crack penetrated a rivet hole.

One crack was approximately 1 inch long and was adjacent to a rivet that attaches the inboard wing rib to the upper skin. It appeared the extreme aft wing root fairing screw contacted the upper skin and caused this crack. The screw shank was longer than necessary. After the technician removed the wing to repair the damage, he discovered a doubler and a flush patch, approximately 9 inches by 4 inches, had been installed.

It seems rather odd to find such a repair member on a relatively new aircraft! The submitter suggested that close attention be given to the use of proper length hardware during installations.

Aircraft total time-590 hours.

Cessna; Model 172S; Skyhawk; Fuel Leak; ATA 2810

While conducting an engine operational test, the technician smelled fuel in the cockpit.

After shutting down the aircraft, the technician removed the floor panels and found a puddle of fuel. Investigating further, he noticed a fuel stain on the reservoir tank (P/N 0516009-18). He de-fueled the aircraft and removed the reservoir tank. After stripping the paint, he conducted a “dye-penetrant inspection that revealed a crack adjacent to the lower aft welded seam.

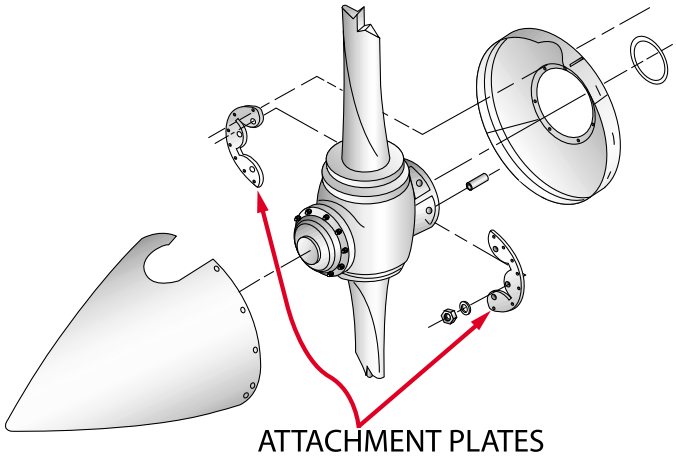
The submitter suspects the crack was caused by the misalignment of the upper mounting hole nut plate. Structural stress was imposed when the tank was installed and the mounting fasteners were tightened. He suggested that proper alignment of the tank and structure mounting holes, as well as the nut plate, should be checked prior to final installation of the reservoir tank.

Part total time-614 hours.

Cessna; Model R182; Skylane; Defective Propeller Spinner; ATA 6113

During a scheduled inspection, a technician noticed the propeller seemed exceptionally loose.

The technician found both propeller spinner attachment plates (McCauley P/N C5046) were severely cracked. The cracks traveled through four of the six attachment fastener holes on each attachment plate. It appeared the cracks originated from the corner of each fastener head and went to the outer edge of the plates. (Refer to the illustration.) There were three cracks on one of the attachment plates and one long crack on the other.



The technician removed the bolts from the plates and noticed that no washers had been installed as required by the manufacturer's technical data. Evidently, the washers were omitted when the propeller was installed. He inspected two other like aircraft and found the same 12 washers had been omitted. He discovered the washers were omitted from the propeller attachment bolts on all three aircraft.

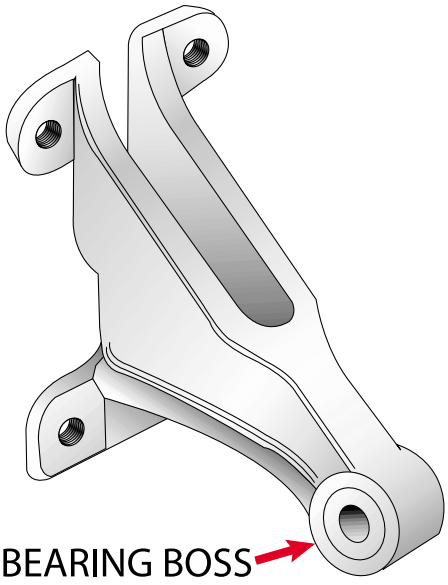
The submitter suggested that proper adherence to the manufacturer's approved technical data would prevent recurrence of this type defect.

Part total time-750 hours.

Cessna; Model 190; Flight Control Structural Defect; ATA 5751

During a scheduled inspection, a technician discovered both aileron hinge brackets were severely damaged.

The left and right inboard aileron hinge brackets (P/N's 0322709 and 0322709-1) were in a state of imminent failure. The technician discovered both hinge brackets were cracked completely across the bearing boss. There was severe corrosion on the aileron hinge brackets, and one of the bracket mounting legs was broken. (Refer to the illustration.)



The submitter believes corrosion caused the metal to become "brittle" and propagated this damage. The aileron hinge brackets are made of magnesium, which is highly susceptible to corrosion. The same type of aileron hinge bracket is used on 195A and 195B model aircraft.

Since this is a critical component, the submitter suggested giving the brackets a close inspection at every opportunity.

Part total time not reported.

Cessna; Model 208B; Caravan; Engine Failure; ATA 7314

After an off-airport landing incident, the pilot stated the engine failed and could not be restarted.

During an investigation, a technician discovered there was no fuel supply to the engine fuel control. The engine-driven fuel pump (P/N 025323-150), located on the engine accessory gearbox, had a sheared drive shaft.

The submitter suggested a mandatory life limit for replacement of the fuel pump drive assembly.

Part total time since overhaul-3,972 hours.

Cessna; Model 210D; Centurion; Defective Antenna Installation; ATA 2300

While completing a scheduled inspection, the technician discovered the emergency locator transmitter (ELT) antenna was loose.

The technician removed the ELT antenna assembly (P/N 450017) and found the shield-locking nut, used to secure the metal antenna rod to the base assembly, was the source of the looseness. He removed the antenna rod and discovered the female barrel connector solder joint was broken. The antenna rod is secured by means of an insulated plastic housing, located at the base of the antenna, inserted into a compression nut.

The submitter believes this installation is not structurally sound enough to bear the operational loads imposed on the antenna assembly.

Part total time-157 hours.

Cessna; Model 320E; Skyknight; Landing Gear Failure; ATA 3230

After a landing incident, the pilot stated the nose landing gear did not fully extend. All attempts to extend the nose gear to the “down-and-locked” position failed, and it collapsed when it contacted the runway.

During the incident investigation, a technician discovered the nose gear retraction tube assembly (P/N 0842120-1) was broken. The aircraft manufacturer’s technical data (IPB) lists another new retraction tube (P/N 0842121-1) that is supposed to be a stronger part. Research in the FAA, Service Difficulty Program data base revealed there were six reported failures of the original part (P/N 0842120-1) and seven reported failures of the new part (P/N 0842121-1).

The submitter speculated lowering the landing gear at excessive airspeeds might cause this type of failure. He cautioned pilots to adhere to published guidance for landing gear operation.

Part total time-3,600 hours.

Cessna; Model 402C; Businessliner; Nose Landing Gear Defect; ATA 3230

While conducting a scheduled inspection, a technician discovered a serious defect on the nose landing gear.

The nose gear drag brace (P/N 5142002-5) was severely cracked. The crack was located adjacent to the lug for attachment of the actuator and was in danger of complete failure. Failure of the actuator attachment lug would prevent proper operation of the nose gear.

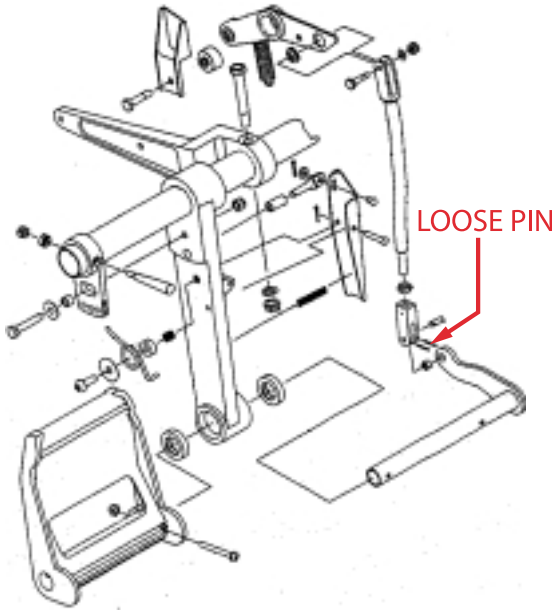
The submitter recommended that all personnel be alert for damage in the area of the drag brace attachment lug and make use of dye-penetrant inspection techniques during scheduled inspections.

Part total time-2,244 hours.

Cessna; Model 750; Citation; Rudder/Brake Pedal Linkage Defect; ATA 3242

During a scheduled inspection, the technician discovered the pilot's right brake pedal linkage was defective.

The pin (P/N MS35675-4), used to secure the clevis-connecting pin (P/N 6261081-14), was exceptionally loose and working out of the clevis. (Refer to the illustration.) The pin, designed for a "press fit," could be removed by hand. It appeared the clevis material was worn sufficiently to allow the pin to become loose. If the two pins had come out, the pilot's right brake function would have been inoperative.



The submitter recommended the manufacturer consider replacing the clevis attachment pin with a device having a positive lock, such as a bolt and castle nut or a roll pin with safety wire.

Part total time-667 hours.

DIAMOND

Diamond; Model DA 20-A1; Structural Damage; ATA 5531

During a scheduled inspection, a technician discovered the empennage to the vertical stabilizer attachment was faulty. This aircraft is used mainly for flight training.

The vertical stabilizer spar was "disbonded" from the empennage attachment area, and the tail skid area was cracked. The submitter believes this damage was the result of landing with excessive airspeed and a nose-high attitude causing the tail section to contact the runway.

The submitter suggested the manufacturer modify the tail skid area to include a metal spring-type tail skid to alert the pilot of the ground proximity. This is the second occurrence of tail strike damage he has seen.

Part total time-1,822 hours.

MAULE

Maule; Model M6-235; Super Rocket; Defective Aileron Control System; ATA 2701

During other maintenance, a technician discovered the left aileron sprocket (P/N D-31) stop pin was broken.

The broken stop pin allowed the aileron surfaces to overtravel in both directions, and the balance weights hit the upper wing skin. The stop pin is located in the flight control yoke and limits the travel of the sprocket.

The submitter suspects this damage occurred when the aircraft was parked outside during high and gusty wind conditions without having the flight control gust locks installed.

Part total time-873 hours.

PIPER

Piper; Model PA 24-250; Comanche; Landing Gear Failure; ATA 3230

After a takeoff, the landing gear did not retract when the pilot selected the “up” position. He smelled an electrical burning odor and noticed the amp gauge indicated “discharge.” He used the emergency system to extend the landing gear and made a safe landing.

The technician discovered the landing gear motor (P/N 21286-00) was shorted internally and producing the burning odor. There was evidence the motor assembly had produced excessive heat prior to the failure. After he replaced the landing gear motor assembly, it functioned properly during a test.

The submitter recommended performing an “electrical load test” on suspect landing gear motors to prevent in-flight failures.

Part total time-1,163 hours.

Piper; Model PA 24-250; Comanche; Landing Gear Failure; ATA 3230

During a landing approach, the landing gear extended only partially when the pilot selected the “down” position. All subsequent attempts to fully extend the landing gear failed. He landed the aircraft with the gear in an intermediate position.

The technician discovered that the 5-amp circuit breaker (P/N 464-656), which supplies electrical power to the gear solenoid, was faulty. The circuit breaker failed internally without giving an indication of the failure. Evidently, the circuit breaker failed while the landing gear was in transit, leaving the gear only partially extended.

Part total time-2,652 hours.

Piper; Model PA 28-140; Cherokee; Defective Engine Exhaust System; ATA 7820

During an annual inspection, a technician removed the engine muffler to facilitate the inspection.

While checking the structural integrity between the muffler (P/N 99482-00) and the heater shroud, the technician found numerous holes in the outer skin. Due to the damage, he replaced the muffler assembly.

The submitter cautioned technicians to give this area extra attention during scheduled inspections and maintenance.

Part total time-2,800 hours.

Piper; Model PA 28-151; Warrior; Poor Engine Performance; ATA 7322

During an annual inspection, a technician performed an engine-operational test and found the engine performance was poor.

The technician shut down the engine and opened the engine cowling to investigate the problem. He discovered all the carburetor (Marvel-Schebler MA-4SPA) bowl attachment bolts were loose and allowing excessive air to be drawn into the carburetor. The carburetor bowl bolt-locking tabs were in place and properly bent up.

The technician was not able to verify the bolts were within the proper torque range of 35 to 45 inch-pounds. It is possible that the bolts were loose due to shrinkage of the carburetor bowl gasket.

Part total time not reported.

Piper; Model PA 28-181; Archer; Flight Control Cable Damage; ATA 2700

While conducting a scheduled inspection, the technician discovered several flight control cables were damaged.

The forward right and left stabilator cables were severely worn and frayed. Also, the left and right aileron balance cables were similarly damaged. The damaged sections of the cables were located adjacent to pulleys, fairleads, and other places where the cables contacted the aircraft structure.

The submitter found very similar damage on another like aircraft. After reviewing the evidence, he speculated the cable damage was caused by the use of “substandard cable stock” and improper cable routing and alignment during manufacture.

Part total time-2,536 hours.

Piper; Model PA 31-350; Chieftain; Landing Gear Failure; ATA 3230

The pilot stated that after takeoff, the nose landing gear failed to retract. He immediately placed the gear control in the “down” position without result. He attempted to lower the gear using the emergency-extension system without success, and the flight culminated with a “gear-up” landing.

A technician discovered a flexible hose assembly (P/N 17766-04) used on the nose gear actuator was ruptured. It was evident the ruptured hose allowed depletion of the hydraulic fluid and prevented extension of the landing gear. The hydraulic hose failed at a point just below an identification tag (TSO Tag) affixed to the hose.

The submitter recommended that technicians be very diligent in their inspections of the landing gear actuator hoses during inspections and maintenance. This diligence is especially important in the area of identification tape, tags, or spiral wrap.

Part total time-6,363 hours.

Piper; Model PA 31-350; Chieftain; Engine Fuel Pressure Anomaly; ATA 2140

After a flight, the flightcrew related observing an intermittent drop of the fuel pressure on the right engine.

While interviewing the flightcrew, the technician learned the cabin heater (Janitrol) was operating when the fuel pressure fluctuations occurred. Since the cabin heater fuel supply comes from the right engine fuel supply, he tested the heater for fuel leaks. During the test, he found fuel leaking profusely from the heater fuel pressure regulator and shutoff valve (P/N A23D04-7-5).

The leaking part was new and had been installed to replace another new valve in accordance with Airworthiness Directive (AD) 2001-17-13. The FAA Service Difficulty Program data base contains 33 additional entries concerning this subject. Almost all the data base reports occurred with a very low number of operating hours. Considering these additional reports leads one to suspect there might be a systemic problem with the fuel valve.

Part total time-4 hours.

Piper; Model PA 31-350; Chieftain; Fuel Pump Failure; ATA 7314

During an engine-operational test at the beginning of a scheduled inspection, the technician noticed the right engine fuel pressure was low.

After increasing the engine-driven fuel pump (P/N RG8090J4A/M) pressure with the adjustment, another operational test revealed no change in the pressure reading. After another attempt, the technician found the proper pressure range was not obtainable by adjusting the pump.

The technician stated, “It appears the (pump internal) relief valve is hung up.” The submitter related this was the eighth such pump failure he has seen. The FAA Service Difficulty Program data base contains three reports, including this one, showing a problem with this fuel pump. This would indicate that all the failures were not reported!

Part total time-450 hours.

Piper; Model PA 32R-300; Cherokee Lance; Defective Magneto; ATA 7414

The owner delivered the aircraft to a repair station and reported an excessive RPM drop on the left magneto.

The unit used on this aircraft was “dual magneto” (TCM P/N BL-682560-13). The technician opened the magneto and discovered the left magneto plastic gears were missing six teeth and one tooth on the right side. He removed and replaced the entire unit.

The submitter gave no reason for this defect.

Part total time-400 hours.

Piper; Model PA 601; Aerostar; Landing Gear Defects; ATA 3200

After jacking the aircraft to install a new set of tires, the technician discovered a structural defect on the nose gear.

The technician noticed excessive movement associated with the nose gear. Investigating further, he discovered the actuator support structure was severely cracked at numerous locations. Several original members of the actuator support structure were cracked completely through, including a previously installed repair.

The submitter recommended technicians give this area closer attention during inspections and maintenance. The extra attention is especially necessary on “high time” aircraft.

Part total time-14,000+ hours.

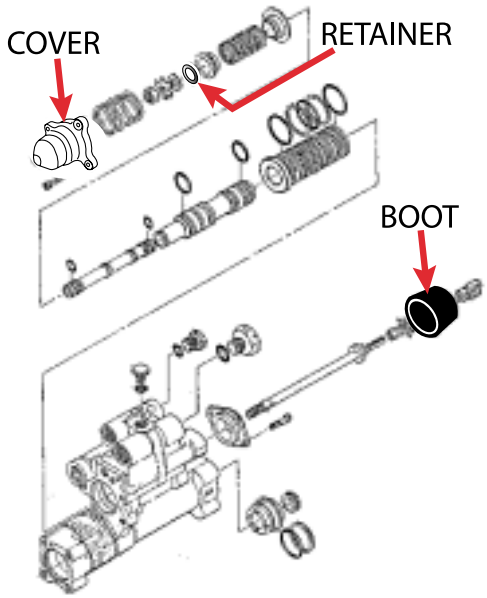
HELICOPTERS

BELL

Bell; Model 407; Abnormal Noise During Flight; ATA 6730

After returning from a flight, the pilot related hearing a loud “howling” noise that seemed to come from the servo unit.

The technician removed and disassembled the servo unit (P/N 206-076-062-107) and discovered the cover (P/N 41002521) was severely corroded. The cover is used to secure the servo mechanism. Also, he found the retainer (P/N RS-62), used to secure the bypass valve spring, was severed from the effects of corrosion. (Refer to the illustration.)



The submitter stated the available evidence indicated the corrosion caused this damage. Evidently, the “boot,” shown in the illustration, allowed water and contaminates to enter the unit and initiated the corrosion process. He suggested the manufacturer modify the cover by adding a water drain and/or improving the boot to exclude water from the unit.

Part total time-1,453 hours.

EUROCOPTER

Eurocopter; Model BK-117; MBB; Main Rotor Blade Damage; ATA 6210

A repair station received a main rotor blade (P/N 117-150041) for inspection and evaluation of a crack in an abrasion strip.

The abrasion strip crack was located at blade station 230.5. The technician removed a portion of the abrasion strip for inspection. The blade skin under the abrasion strip was cracked and delaminated.

While reviewing the blade maintenance records, the technician discovered the manufacturer accomplished a repair/modification approximately 2.5 years prior to this defect. The blade repair installed pins for the retention of the number 1 and number 2 weights in accordance with the manufacturer's data (RV 117-100000.00.20).

It appeared the abrasion strip and blade skin cracks originated from a "drill mark" on the inside surface of the abrasion strip at the point where the weight pinholes were drilled. The weight retention pins are installed from the upper surface, and it was obvious the holes were drilled too deep allowing the drill bit to mark the lower inside surface of the abrasion strip.

The submitter reported finding cracks on the abrasion strips of other main rotor blades that had the manufacturer-installed weight pin modification. He recommended all operators with weight pin modified main rotor blades inspect for abrasion strip and/or skin damage as soon as possible.

Part total time-6,970 hours.

Eurocopter; BK-117; MBB; Searchlight Security; ATA 3340

During a flight, the pilot reported the searchlight was not controllable.

The technician noticed the searchlight assembly was loose on one side. A closer look revealed that one arm of the "gimbals" (P/N 019059) was broken. The searchlight assembly was retained by one arm of the gimbals and the retaining cable.

The submitter gave no reason for failure of the gimbal arm. He recommended giving the gimbals a close inspection for security and condition at every opportunity.

Part total time not reported.

Eurocopter; Model AS350BA; Ecureuil; Hydraulic System Failure; ATA 2910

After landing safely, the pilot stated he lost hydraulic system pressure during a tour flight.

A technician investigated and discovered the hydraulic system drivebelt (P/N 704A33-690-004) was separated. It appeared the drivebelt failed at the "bonded seam."

The submitter stated better quality control by the drivebelt manufacturer might alleviate this type of defect. He recommended giving the condition of the drivebelt close attention at every opportunity.

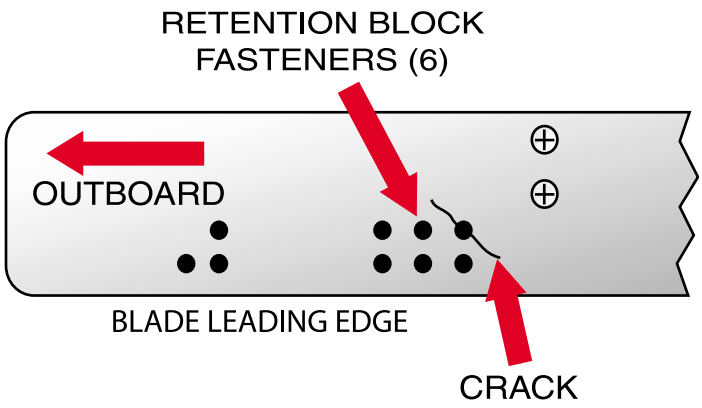
Part total time-395 hours.

SIKORSKY

Sikorsky (Erickson); Model SK-64-F; Main Rotor Blade Structural Crack; ATA 6210

While conducting a postflight inspection, a technician discovered a crack on a main rotor blade.

The rotor blade (P/N 6415-20504-102) crack was located on the top surface of the blade spar. The crack extended approximately 2 inches in total length traveling from a rivet installation 1.5 inch aft and .5 inch forward. (Refer to the illustration.)



The submitter did not determine a cause for this defect. He suggested giving the main rotor blades close scrutiny during inspections and maintenance.

Part total time-4,372 hours.

AMATEUR, EXPERIMENTAL, AND SPORT AIRCRAFT

NORTH AMERICAN

North American; Model SNJ-4; Defective Replacement Hardware; ATA 5740

During a scheduled inspection, a technician ordered hardware to replace the existing wing attachment hardware.

When the hardware was received, the technician inspected the hardware and found the wing attachment nuts were not correct. The vendor had substituted “brass” nuts for the steel nuts (P/N AN 365-428) required for installation of the wings. Except for the material they were made of, the brass nuts were identical in all respects to the steel nuts. He could not trace the source of the brass nuts. He obtained the proper hardware prior to installing the wings.

The submitter suggested that all operators of like aircraft inspect newly acquired hardware closely to ensure it is correct for the intended installation.

Part total time not applicable.

STODDARD-HAMILTON

Stoddard Hamilton; Model Glasair II SFT; Poor Engine Performance; ATA 2820

During a flight, the pilot noticed the engine performance was very poor, especially at higher power settings. The engine performance degraded and resulted in engine failure and an off-airport landing.

While investigating the cause, the owner/pilot discovered the fuel flow to the engine was restricted. He found the inline fuel filter, installed between the fuel selector valve and the boost pump, was "clogged." The inline filter installation was an "add on" by the aircraft builder. When the filter was disassembled, he discovered a "rusty-looking" material was restricting the filter element.

The owner recalled refueling the aircraft from a metal barrel that had been stored for some time. Checking the filter contamination and the residue remaining in the refueling barrel, he found they were the same.

The idea of an extra inline fuel filter is good; however, we must ensure the fuel pumped into the tank is free of contamination!

Part total time-2,500 hours.

POWERPLANTS AND PROPELLERS

TELEDYNE CONTINENTAL

Teledyne Continental; Model LTSIO 360EB; Push Rod Damage; ATA 8530

These engines were installed on a Piper, Model PA 34-200T aircraft. During an annual inspection, a technician discovered three push rods on the left engine were damaged.

Each of the three push rods (P/N 630393) was cracked along their entire length. The technician could not determine the cause of this damage, but changed all 12 push rods on each engine. The high number of operating hours may have been a contributing factor in this failure.

The submitter recommended technicians inspect the push rods more frequently using a higher level of scrutiny.

Part total time-3,198 hours.

AIR NOTES

SUBSCRIPTIONS

The Government Printing Office (GPO) distributes this publication. If you have any questions regarding a subscription to this publication, please direct your questions to GPO.

You may contact GPO at: Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954, telephone (202) 512-1800, fax (202) 512-2250.

When you contact GPO, be specific concerning the publication you are interested in (e.g., Advisory Circular 43-16A). GPO accepts payment in the form of checks and credit cards. Please make your checks payable to the *Superintendent of Documents*.

In the past, we furnished the GPO subscription form in this publication. The older issues which contain the subscription form, may not have current pricing information. Since GPO controls price increases, contact GPO for current subscription information.

ELECTRONIC VERSION OF MALFUNCTION OR DEFECT REPORT

One of the recent improvements to the AFS-600 Internet web site is the inclusion of FAA Form 8010-4, Malfunction or Defect Report. This web site is still under construction and further changes will be made; however, the site is now active, usable, and contains a great deal of information.

Various electronic versions of this form have been used in the past; however, this new electronic version is more user friendly and replaces all other versions. You can complete the form online and submit the information electronically. The form is used for all aircraft except certificated air carriers who are provided a different electronic form. The Internet address is:

http://av-info.faa.gov/isdr/

When the page opens, select "M or D Submission Form" and, when complete, use the "Add Service Difficulty Report" button at the top left to send the form. Many of you have inquired about this service. It is now available, and we encourage everyone to use this format when submitting aviation, service-related information.

SERVICE DIFFICULTY REPORTING PROGRAM

The objective of the Service Difficulty Reporting (SDR) Program is to achieve prompt and appropriate correction of conditions adversely affecting continued airworthiness of aeronautical products fleet wide. The SDR program is an exchange of information and a method of communication between the FAA and the aviation community concerning inservice problems.

A report is filed whenever a system, component, or part of an aircraft, powerplant, propeller, or appliance fails to function in a normal or usual manner. In addition, if a system, component, or part of an aircraft, powerplant, propeller, or appliance has a flaw or imperfection which impairs, or which may impair its future function, it is considered defective and should be reported under the program.

These reports are known by a variety of names: Service Difficulty Reports (SDR), Malfunction and Defect Reports (M and D) and Maintenance Difficulty Reports (MDR).

The consolidation, collation and analysis of the data, and the rapid dissemination of trends, problems and alert information to the appropriate segments of the aviation community and FAA effectively and economically provides a method to ensure future aviation safety.

The FAA analyzes SDR data for safety implications and reviews the data to identify possible trends that may not be apparent regionally or to individual operators. As a result of this review, the FAA may

disseminate safety information to a particular section of the aviation community. The FAA also may adopt new regulations or issue airworthiness directives (AD's) to address a specific problem.

The primary source of SDR's are certificate holders operating under Parts 121, 125, 135, 145 of the Federal Aviation Regulations, and the general aviation community which voluntarily submit records. FAA Aviation Safety Inspectors may also report service difficulty information when they conduct routine aircraft and maintenance surveillance as well as accident and incident investigations.

The SDR database contains records dating back to 1974. Reports may be submitted on the Internet through an active data entry form or on hard copy. The electronic data entry form is in the AFS-600 Aviation Information web site under the heading SDR Main Menu. The URL is: <http://av-info.faa.gov>

A public search/query tool is also available on this same web site. This tool has provisions for printing reports or downloading data.

At the current time we are receiving approximately 45,000 records per year.

Point of contact is:
Tom Marcotte
Service Difficulty Program Manager
Aviation Data Systems Branch, AFS-620
P.O. Box 25082
Oklahoma City, OK 73125

Telephone: (405) 954-6500
9-AMC-SDR-ProgMgr@mmacmail.jccbi.gov

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.

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.

Editor: Phil Lomax (405) 954-6487
FAX: (405) 954-4570 or (405) 954-4748

Mailing address: FAA, ATTN: AFS-640 ALERTS, P.O. Box 25082,
Oklahoma City, OK 73125-5029

E-Mail address: Phil_W_Lomax@mmacmail.jccbi.gov

You can access current and back issues of this publication from the internet at: http://afs600.faa.gov

When the page opens, select "AFS-640" and then "Alerts" from the drop-down menu. The monthly issues of the Alerts are available back to July 1996, with the most recent edition appearing first.

AVIATION SERVICE DIFFICULTY REPORTS

The following are abbreviated reports submitted between March 23, 2002, and April 23, 2002, 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. For more information, contact 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	ENG MAKE	COMP MAKE	PART NAME	PART CONDITION	DIFF-DATE	T TIME
ACFT MODEL	ENG MODEL	COMP MODEL	PART NUMBER	PART LOCATION	OPER CTRL NO.	TSO
REMARKS						
		MCAULY	O-RING	FAILED	03/04/2002	
		2A34C203BC	A1633109	PROPELLER	CA020307007	
AIRTRC			WIRE	CHAFED	03/06/2002	
AT802				FEEDER WIRE	CA020311003	
(CAN) DURING ANNUAL INSPECTION THE MAIN BUSS FEEDER CABLE BETWEEN THE MAIN 120 AMP CIRCUIT BREAKER AND THE COCKPIT BUSSBAR WAS TIE STRAPPED TO THE R/H UPPER ENGINE MOUNT TUBE AND WAS CHAFING ON THE 2 BOLT HEADS THAT SECURE THE R/H FORWARDFOAM TANK SUPPORT CLAMP. THE WIRE WAS INSPECTED AND FOUND SERVICEABLE. A STANDOFF GROMMET WAS INSTALLED TO ENSURE ADEQUATE CLEARANCE BETWEEN THE ENGINE MOUNT TUBE AND THE CABLE. WIRE #-118						
AMD	GE		SELECTOR	FAILED	03/23/2002	
FALCON20	CF7002D2			MLG	CA020402001	
(CAN) ON MAR 23,2002 DURING LDG PHASE IN WILMINGTON, OHIO (KILN) PILOT INITIATED DEPLOYMENT OF LDG GEAR. COCKPIT INDICATOR SHOWED 3 RED LIGHTS IDENTIFYING FWD GEAR DOOR LATCH UNLOCKED & NO GREEN LIGHTS TO CONFIRM THAT GEAR DOORS WERE FULLYOPENED & GEAR DOWN & LOCKED. 2 MORE ATTEMPTS WERE UNSUCCESSFUL IN OBTAINING PROPER INDICATION. SUBSEQUENTLY, PILOT CONTACTED WILMINGTON CENTRE & COMPLIED WITH THEIR INSTRUCTIONS. PILOT THEN PROCEEDED WITH EMERGENCY CHECKLIST & MANUALLY UNLOCKING OF GEAR, FOLLOWED BY EMERGENCY GEAR EXTENSION FROM A/C HYDRAULIC SYS NR 2. PROPER GEAR						
AMTR			ROD END	FAILED	03/28/2002	150
VIPERJET			MM6	MLG	2002FA0000461	
ROD END FAILED DUE TO SIDE LOADS AFTER LANDING (OR DURING).						

BAG GARRTT WIRE BROKEN 04/02/2002
JETSTM3101 TPE33110UG 622800200 MLG CA020404002
(CAN) ON APPROACH THE PILOT NOTICED THAT THE NOSE GEAR WAS NOT INDICATING DOWN AND LOCKED. AFTER CYCLING THE GEAR WITHNO CHANGE IN THE INDICATION, A FLY PAST WAS CARRIED OUT TO DETERMINE THE GEAR STATUS. AFTER DECIDING THAT THE GEAR WASLIKELY DOWN AND LOCKED A LANDING WAS ATTEMPTED WITH ERS ON STANDBY. THE LANDING WAS SUCCESSFUL.ON INVESTIGATION A WIREWAS FOUND TO BE BROKEN ABOUT 12 BBAVIA CONT SPAR
CRACKED 06/25/2001 1905
7ECA O200* RT WING 2002FA0000347
TROUBLE AREA IN THE REGION OF LIFT STRUT ATTACHMENT POINT, REMOVED VARNISH AND SMALL AMOUNT OF WOOD, COULD IDENTIFY SMALL CRACK IN THE GLUE JOINT ON REAR FACE OF RT REAR WING SPAR. ALSO DETECTED ON UPPER EDGE OF RT REAR SPAR A TOTAL OF 5COMPRESSION TYPE CRACKS. TWO ACTUAL SPLITS WERE REVEALED STARTING AT THE REINFORCING PLYWOOD PLATE. FOLLOWED EDGE GRAIN OF WOOD FRO ABOUT 2 AND 3 INCHES. TWO OF THESE CRACKS EXTENDED DOWN THROUGH SPAR, AT PLYWOOD PLATE EDGE, A DISTANCEOF ABOUT 40-50 PER CENT OF THE WING SPAR. SUGGEST: ALL PLYWOOD REINFORCING PLATES HAVE THEIR VERTICAL EDGES CHAMFERED(TAPERED) AT LEAST .7500 INCH, HELP IN REDUCING STRESS RISER CRATED AT VERTICAL EDGE OF
BBAVIA CONT SPAR DAMAGED 03/18/2002
7ECA O200* RT WING 2002FA0000356
WHILE RECOVERING WINGS FOUND NUMEROUS LOOSE RIBS THAT HAD RUBBED GROVES IN THE SPARS. SOME SMALL CRACKS ORIGINATING FROM THE NAIL HOLES. AIRPLANE HAD BEEN USED IN AEROBATICS. REPLACED ALL FOUR WING SPARS.
BEECH PWA TIRE UNBONDED 03/26/2002
1900C PT6A65B 114800115 NLG CA020403002
(CAN) AIRCRAFT DEPARTED PRINCE GEORGE,PILOTS FELT VIBRATION THRU AIRFRAME. AS IT DID NOT DIMINISH THEY ELECTED TO RETURN. MAINTENANCE INSPECTED AIRCRAFT AND WITH NO VISIBLE DEFECTS THE AIRCRAFT WAS TEST FLOWN. NO NOTICEABLE VIBRATION WAS FELT AND AIRCRAFT RETURNED TO SERVICE. NEXT DAY ON ROLL OUT PILOTS FELT VIBRATION AND ABORTED TAKEOFF. AIRCRAFT WAS AGAININSPECTED AND TEST FLOWN.ONLY IF AIRCRAFT WAS ON LONG HIGH SPEED ROLLCUT DID DEFECT REOCCUR. THE NOSE WHEEL WAS DISASSEMBLED AND THE BALANCE WEIGHT ON THE INNER PORTION OF THE TIRE WAS FOUND UNBONDED. THE TIRE WAS REPLACED AND A SATISFACTORY TEST FLIGHT COMPLETED.
BEECH PWA LINE CHAFED 03/27/2002
1900D PT6A67D 11892000029 FUEL TRANSFER CA020405003
(CAN) THE L/H FUEL CROSS TRANSFER TUBE WAS FOUND CHAFED THROUGH AND SEEPING FUEL. THE WEAR MARK ON THE TUBE MEASURED APPROXIMATELY 5/16 INCH IN LENGTH X 1/8 INCH IN WIDTH. REF: IPC 28-20-00. WEAR OCCURRED FROM THE WIRE BUNDLE COVERING OF THE GEAR UPLOCK MICROSWITCH. THE BUNDLE WAS SECURED CLEAR AFTER FUEL TUBE REPLACEMENT. SUGGEST OPARATORS CHECK THIS AREA.THE FUEL TUBE WAS REPLACED AND AIRCRAFT RETURNED TO SERVICE.
BEECH PWA LATCH FAILED 03/20/2002
200BEECH PT6A41 1014300291 AIRSTAIR DOOR CA020403006
(CAN) AFTER TAKEOFF CALGARY (CYYC), CLIMBING THROUGH 14,000 FEET, THE CREW AND PASSENGERS HEARD A LOUD BANG, THEN THE CABIN AIRSTAIR DOOR DROPPED OPEN. THE CREW DECLARED AN EMERGENCY TO ATC, INSTITUTED AN EMERGENCY DESCENT AND TURNED BACK FOR CALGARY WHERE THEY LANDED WITHOUT FURTHER INCIDENT. THE CAUSE OF THIS DOOR FAILURE IS NOT FULLY KNOWN AT THIS TIME, BUT IT DOES APPEAR THAT THE FORWARD UPPER LATCH HOOK ASSEMBLY FAILED. REPORTS ON THE EXACT CAUSE WILL FOLLOW AFTER
BEECH PWA COMPRESSOR FAILED 02/23/2002 17593
200BEECH PT6A41 RT ENGINE CA020306001
(CAN) THE AIRCRAFT WAS IN CRUISE FLIGHT AT FL20000. THERE WAS A LOUD BANG THAT SHUCK THE AIRCRAFT AND FLAMES APPEAREDCOMING OUT OF THE EXHAUST STACKS. THE ENGINE WAS SHUT DOWN AND FEATHERED. FLAMES EXTINGUISHED RIGHT AWAY IN THE STAKES.THERE WAS A SMALL AMOUNT OF FLAME NOTICED IN THE LOUVERS OF THE BLEED AIR VALVE OUTLETS, THAT EXTINGUISHED AFTER A BRIEF PERIOD. THE AIRCRAFT CONTINUED AND LANDED WITHOUT ANY FURTHER DIFFICULTIES.
BEECH PWA PWA SHAFT SHEARED 03/18/2002
200BEECH PT6A42 PT6A42 1155550259 TURBINE ENGINE A AUS20020262
(AUS) RH ENGINE AIRCONDITIONING COMPRESSOR PULLEY DRIVE QUILL SHAFT SHEARED. LOSS OF ENGINE OIL.
BEECH STRUT CRACKED 02/14/2002
35B33 358152607 RT MLG CA020215013
(CAN) ON INSPECTION PISTON LOWER SHOCK TUBE WAS FOUND WITH CHROME BLISTERED. NDT SHOWED A CRACK IN TUBE.CHROME WAS REMOVED TO EXPOSE THE CRACK WHICH WAS 8 1/4 INCH DOWN FROM THE TOP OF THE TUBE. THE CRACK RAN HORIZONTAL FOR 1 1/2 INCH THROUGH THE TUBE.
BEECH CONT GAUGE MISMANUFACTURE 03/11/2002
58 IO550* 0023810025 FUEL SIGHT GAUGE 2002FA0000385
WHILE REPLACING LEFT WING FUEL SIGHT GAUGE IT WAS FOUND THE NEW PART HAD FLOAT ARM INDEXED 180 DEGREE FROM ORIGINAL GAUGE. THIS DIFFERENCE CAUSED FLOAT ARM TO CONTACT LEADING EDGE CURVE AND GAUGE WOULD NOT READ BELOW 45 GALLONS. WHEN ADDITIONAL PART WAS ORDERED, ANOTHER GAUGE WAS ALSO INDEXED WRONG. PARTS RETURNED TO FACTORY.
BEECH CONT ADAPTER FAILED 04/08/2002 493
58P TSIO520WB 642087A10 STARTER 2002FA0000456
PILOT REPORTED ENGINE WOULD NOT START. FOUND THAT PROP WOULD NOT TURN BACKWARDS. REPLACED STARTER ADAPTER WITH A REBUILT AND OPS CHECKED OK. THIS IS THE SECOND ADAPTER REPLACED ON THIS ENGINE. THE FIRST ONE FAILED ON A FACTORY REBUILT/ZERO TIME ENGINE WITH 402 HOURS ON IT. THE SECOND ONE,WHICH WAS A FACTORY REBUILT ADAPTER,FAILED WITH 493 HOURS ON IT.
BEECH LYC BRUSHES WORN 03/02/2002
76 O360A1G6D HYC5005 HYD MOTOR CA020313003
(CAN) LANDING GEAR HYDRAULIC POWER PACK MOTOR DID NOT RUN. AIRCRAFT PUT ON JACKS & GEAR SELECTED UP, WITH A LIGHT TAP ON MOTOR GEAR RETRACTED NORMALLY WITHIN ALLOWABLE TIME LIMITS. SAME PROBLEM OCCURRED WHEN GEAR SELECTED BACK DOWN. INVESTIGATION REVEALED BRUSHES WERE BADLY WORN AND COMMUTATOR DAMAGED. BRUSHES ARE INSPECTED PERIODICALLY BUT IT IS NOT A REQUIREMENT TO INSPECT I.A.W. BEECH 76 MAINTENANCE SCHEDULED. WE SUGGEST THAT FIELD WIRES ARE BREAKING DOWN IN MOTOR CAUSINGUNUSUALLY SHORT LIFE OF BRUSHES, MOTOR AND POWER PACK ASSEMBLY REPLACED. AIRCRAFT TESTED SERVICEABLE. BRUSHES SHOULD BEINSPECTED NO LESS THAN 500 HOURS.
BEECH PWA ACTUATOR FAILED 03/07/2002
A100 PT6A28 508202085 MLG CA020322007
(CAN) AFTER TAKEOFF GEAR WAS SELECTED UP, BUT SHOWED A RED LIGHT IN GEAR HANDLE. GEAR WAS CYCLED WITH SAME RESULTS. GEAR WAS THEN SELECTED DOWN AND AIRCRAFT CONTINUED TO DESTINATION. CREW THEN NOTICED THAT THE NOSE GEAR DOWN LIGHT WAS NOT LIT. AIRCRAFT DID 2 FLYOVERS TO CONFIRM GEAR WAS DOWN. AIRCRAFT LANDED SAFELY. MAINTENANCE FOUND FAULTY UP POSITION SWITCH. NOSE GEAR IN DOWN POSITION WAS NOT FULLY DOWN. NOSE GEAR ACTUATOREND PLAY FOUND TO BE OUT OF LIMITS. REPLACED UP POSITION SWITCH AND NOSE GEAR ACTUATOR, RIGGED GEAR, AND RETURNED AIRCRAFT TO SERVICE.

BEECH HINGE CORRODED 04/05/2002 12787
A200 10164001419 RUDDER 2002FA0000450
THE CENTER RUDDER HINGE ASSEMBLY WAS REMOVED FROM THE AIRCRAFT FOR REPLACEMENT DUE TO VISIBLE CORROSION NEAR THE EDGE OF THE LOWER RIGHT HAND BOLT HOLE ON THE TEE. WHEN THE TEE WAS DERIVETED FROM THE HINGE SUBSTANTIAL EXFOLIATION WAS FOUNDON THE TEE SURFACE WHICH BUTTS UP AGAINST THE HINGE. SUBSTANTIAL PITTING WAS FOUND ON THE ADJOINING SURFACE OF THE HINGE. THE EXFOLIATED AND PITTED AREAS ARE NOT VISIBLE WHEN THE HINGE IS IN THE ASSEMBLED POSITION. EXFOLIATION AND PITTING COULD HAVE PROPAGATED UNDETECTED TO THE POINT OF HINGE FAILURE. THE HINGE/TEE INTERFACE SHOULD BE SEALED UPON ASSEMBLY TO PREVENT CORROSION.

BEECH LYC MOUNT CORRODED 02/22/2002
A2324 IO360A1B FUSELAGE, STABIL AUS20020259
(AUS) STABILATOR MOUNTING BLOCK RIVETS SHEARED. INVESTIGATION FOUND THE UNDERSIDE OF THE ATTACHMENT BLOCK BADLY CORRODED AND THE RIVETS CORRODED.

BEECH CONT SHAFT FAILED 04/10/2002
A36 TSIO550B 649866 STARTER ADAPTER 2002FA0000463
AIRCRAFT ENGINE EXPERIENCED A LOSS OF OIL PRESSURE AND SUBSEQUENT LOSS OF POWER. ENGINE TEARDOWN INSPECTION REVEALED A FAILURE OF THE STARTER ADAPTER SHAFT (PN 649866).

BEECH CONT FITTING MALFUNCTIONED 03/02/2002
B35 E185* 354051303 STAB ATTACH 2002FA0000377
LOOKED AT RUDDERVATORS MOVEMENT, THIS FITTING WAS MOVING, CALLED MANUFACTURER FOR INFORMATION ON THIS FITTING.

BEECH CONT SLICK BRUSHES WORN 04/02/2002 504
F33A IO520BB DISTRIBUTOR 2002FA0000476
MAGNETO REMOVED FROM ENGINE FOR 500 HOUR INSPECTION IAW MM. REMOVED THE REAR COVER AND THE DISTRIBUTOR BLOCK FROM MAGNETO AND FOUND THE CARBON BRUSH WORN. CARBON DUST WAS FOUND ON THE FLAT PART OF THE CAP. THE WEARER ON THIS BRUSH IS ABOVE NORMAL FOR 500 HOURS. (PN M3004 BRUSH)

BEECH CONT PUMP INACCURATE 03/11/2002 1
F33A IO520BB 64621216A2 FUEL SYSTEM 2002FA0000389
UNABLE TO ADJUST FUEL PUMP PRESSURE. PRESSURE IS TO HIGH AT LOW RPM AND THE ADJUSTMENT SCREW BACK ALL THE WAY OUT. PUMP REMOVED AND SENT IN FOR WARRANTY.

BEECH PWA CYLINDER CORRODED 03/14/2002 7201
F90 PT6A60A 998201005 MLG 2002FA0000430
WHILE PERFORMING 6 YEAR LANDING GEAR INSPECTION IAW MFG SPECIAL INSPECTION, FOUND CYLINDER ASSEMBLY IN NOSE GEAR HAD SEVERE CORROSION ON INTERNAL BORE.

BEECH BEECH TURNBUCKLE SEPARATED 03/26/2002 5050
S35 AILERON CABLE 2002FA0000420
WHILE IN LEVEL FLIGHT AT 5500FT MSL, ATTEMPTING TO TURN THE AIRCRAFT LEFT WITH THE AILERON A SMALL BUMP/BANG WAS FELT. THE CONTROL WHEEL WENT FULL LEFT,AND THE AIRCRAFT COMMENCED ROLLING TO THE RIGHT. APPLICATION OF HARD RIGHT RUDDER STOPPED THE ROLL AT ABOUT 70 DEGREES RIGHT WING DOWN. AIRCRAFT WAS RECOVERED AFTER LOSING 2200FT. FLEW TO RSW BY KEEPING 20 TO 25 DEGREES LEFT YAW, WITH THE RUDDER, AND 12 TO 15 DEGREES RT WING DOWN. LANDING WAS ACCOMPLISHED USING THE SAME TECHNIQUE. ON GROUND, RIGHT AILERON WAS HELD FULL UP AND LEFT AILERON FULL DOWN BY SPRING TENSION.

BELL RIB CRACKED 03/21/2002 10170
206B 206020123048S HORIZONTAL STAB JJWA078248
REMOVED BOTH HORIZONTAL STABILIZERS THAT HAD BEEN LAST INSTALLED OVER 5 YEARS AGO. FOUND EXCESSIVE CORROSION IN SPAR CLAMP AREA ON RIB CLOSEST TO TAILBOOM. REQUIRES TOTAL RIBE REPLACEMENT OF $1966 RIB. INSPECTED OTHER RIB ALSO HAD CORROSION & PIECE MISSING SO REPLACED 206-020-123-047S RIB ON THAT SIDE ALSO. THIS IS SECOND REPORT IN LESS THAN YEAR ON SAME PARTS. SUGGEST BELL HELICOPTER INSERT A 3 YEAR INSPECTION IN MAINTENANCE MANUAL, ESPECIALLY WHEN AIRCRAFT IN CORROSIVE ENVIRONMENT LIKE THE STATE

BELL ALLSN VENT LINE PLUGGED 03/19/2002
206B 250C20J FUEL CELL CA020322009
(CAN) DURING SCHED 100/ANNUAL & 12 MONTH INSP OF ABOVE DESCRIBED HELICOPTER WE PROCEEDED TO CHECK OP OF LOW FUEL WARNING SYS. FOLLOWING STEPS WERE CARRIED OUT: 1. WE REMVD FUEL LINE GOING TO AIRFRAME FUEL FILTER & ATTACHED LONG FUEL LINE SO WE COULD DRAIN FUEL CELL VIA A/C FUEL BOOST PUMPS.2. WE PUT A/C POWER ON & NOTED A/C HAD 80 GALLONS OF FULE. 3. WE THEN APPLIED POWER TO A/C FUEL BOOST PUMPS & STARTED TO DRAIN T HE FUEL SYS. 4. WE NOTED THAT FUEL IND HAD NOT MOVED OFF ITS INDICATED 80 GALLONS, EVEN THOUGH LARGE AMOUNT OF FUEL HAD BEEN REMVD FROMM A/C. 5. NEXT WE REMVD FUEL CAP & TOOK FLASHLIGHT & FOUND THAT RUBBER FUEL CELL HAD COLLAPSED, PREVENTING FUEL S

BELL ALLSN STIFFENER CRACKED 03/21/2002 16300
206L 250C20R 206033110189 FUSELAGE CA020403008
(CAN) CRACKED VERTICAL STIFFENER. CUTOUT IN HORIZONTAL STIFFENER WAS TOO SMALL WHICH PUT PRESSURE ON VERTICAL STIFFENERCAUSING IT TO CRACK.

BELL ALLSN METER MISREPAIRED 04/10/2002
206L1 250C28 2060751865 FUEL PRESSURE YTRR078431
FUEL PRESSURE / LOADMETER WAS OVERHAULED. THE FUEL PRESSURE SIDE FAILED AFTER 1.0 HRS IN SERVICE. THE UNIT WAS RETURNEDFOR WARRANTY REPAIR.

BELL BUSHING WORN 03/15/2002 438
212 204011404125 SWASHPLATE YTRR077999
SWASHPLATE SUPPORT BUSHINGS AT GIMBAL RING MOUNT HAD ELONGATED BOLT HOLE. COMPONENT HAD BEEN IN SERVICE FOR APPROXIMATELY HALF OF ITS LIFE.

BELL PWA BELL BEARING FAILED 12/22/2001
212 PT6T3 212040001059 212040143103 BEARING CA020402004
(CAN) TRANSMISSION REPLACED DUE METAL CONTAMINATION. BEARING SERIAL NO.ZV10371 SUBJECT OF BELL HTI MALFUNCTION REPORT REFERENCE CONTROL NO. 630697 SUBMITTED BY HELIPRO COMPONENTS.

BELL TRANSCEIVER MALFUNCTIONED 03/22/2002
407 064105430 COCKPIT HEEA078380
CANNOT CHANGE CHANNELS. PERFORMED PRELIMINARY INSPECTION. COULD NOT DUPLICATE PROBLEM. FOUND CORRODED FOILS ON DISPLAY BOARD BENEATH HEADER. REPLACED DISPLAY BOARD. REPAIRED. ADJUSTED C/N SQUELCH, FREQUENCY AND SIDETONE. BENCH CHECK GOOD.

BELL WINDOW CRACKED 03/22/2002
407 407706301106 PAX CABIN HEEA078411
RT PASSENGER WINDOW IS CRACKED NEAR UPPER MOUNTING SCREW HOLE. SCRAPPED AND REPLACED WITH SERVICEABLE PART.

BELL PWA LINE BLOCKED 03/07/2002
412 PT6T3B P3 AIR AUS20020163 372
(AUS) NR 2 ENGINE RPM REDUCED TO IDLE DURING FLIGHT. EXTENSIVE INVESTIGATION COULD FIND NO FAULT AND THE AIRCRAFT WAS RETURNED TO SERVICE. SUSPECT PROBLEM CAUSED BY TEMPORARY BLOCKAGE OF P3 AIR SUPPLY

BELL	PWA		PRESSURE	FAILED	02/23/2002	
412	PT6T3B		7G1075	FUEL PRESSURE IN	AUS20020157	

(AUS) FUEL PRESSURE SWITCH INTERNAL FAILURE. FUEL LEAKING FROM BODY.

BELL	ALLSN		OIL TANK	CRACKED	03/15/2002	1570
430	250C*		222065505161	ENGINE OIL	2002FA0000396	

OIL LEAKING AROUND NR 1 INPUT DRIVE ON MAIN TRANSMISSION. DISCOVERED CRACK IN THE BOTTOM OF NR 1 ENGINE OIL TANK APPROXIMATELY 1.5000 INCHES LONG AT THE BOTTOM OUTLET.

BELL	ALLSN		NOZZLE	FAILED	03/22/2002	
TH57A	250C18A		23007189	TURBINE SECTION	HEEA078253	

TURBINE REMOVED FOR OVERHAUL. LOW AREA FLOW 10.17 CAUSE LOW POWER ON TEST CELL. POWER WENT FROM -5.3 TO -7.0. OVERHAULED NOZZLE, INSTALLED AND POWER WENT TO -3.

BOLKMS	ALLSN		BELLOWS	FROZEN	03/15/2002	
BO105S	250C20B		V51313842CR764	DUST BOOT	CA020327007	

(CAN) WATER HAD FROZEN IN DUST BOOT AND RESTRICTED MOVEMENT OF LONGITUDINAL CONTROL ROD. BELOW HYDRAULIC PACK, ICE REMOVED, THAWED, DRIED OUT AND LIGHTLY SPRAYED WITH METHYL ALCOHOL TO REMOVE ANY FURTHER MOISTURE.

CESSNA	CONT		MAGNETO	FAILED	01/15/2002	
150F	O200*		441	ENGINE	2002FA0000411	

INSTALLED NEW CONDENSER DURING MAGNETO INSPECTION. RUN-UP WAS NORMAL. FULL POWER DURING TAKE-OFF SHOWED ROUGH RUNNINGENGINE. FURTHER INSPECTION OF MAGNETO REVEALED THAT NEW M3064 CONDENSER HAD FAILED.

CESSNA	CONT		CASTING	CORRODED	03/04/2002	
150L	O200A		627307A	RT MAG OPENING	CA020307010	

(CAN) WHILE REMOVING COMPONENTS OFF OF THE ACCESORIE CASE, (UN RELATED REPAIR) DISCOVERED VER DEEP PITTING AND CORROSSION AROUND THE RIGHT MAGNETO OPENING.CASTING WAS REPLACED.

CESSNA	CONT		GEAR	BROKEN	03/04/2002	
150L	O200A		22355	OIL PUMP	CA020307015	

(CAN) PILOT RETURNED TO BLOCKS AND SHUT ENGINE DOWN AFTER NOTICING THAT THE RPM GAUGE WAS UNSERVICABLE. UPON FURTHER INSPECTION FOUND THAT THE UPPER OIL PUMP GEAR, WHICH IS ALSO THE TACHOMETER DRIVE SHAFT. HAD SPLIT. THE PIECE WAS RECOVERED. AND THE GEAR / SHAFT WAS REPLACED WITH NEW. THE RESULTING DEFECT MAY HAVE ALSO CAUSED SOME WEAR TO THE BUSHING AND OIL PUMP HOUSING.

CESSNA	CONT		BUSHING	FAILED	04/12/2002	14
150M	O200A		SA24122	ROCKER ARMS	2002FA0000495	

EIGHT BUSHINGS FAILED WITHIN 15 HOURS OF OPERATION. THE PROBLEM WAS INDICATED BY BRASS METALIC DUST IN THE OIL FILTER. THIS LOOKED SIMILAR TO METALIC PAINT FLAKE SUSPENDED IN THE OIL. THE ROCKER ARMS WERE REMOVED AND BUSHING CLEARANCE WAS MEASURED. THE WEAR WAS BETWEEN .006 AND .009. MANUFACTURERS NEW LIMIT IS .0025 AND SERVICE LIMIT IS .004. PROBABLECAUSE MAY BE DEFECTIVE MATERIAL.

CESSNA	LYC		TORQUE TUBE	BROKEN	04/05/2002	5941
152	O235*		04115261	LT RUDDER PED	2002FA0000472	

PILOT LEFT RUDDER PEDAL TORQUE TUBE BROKE AT WELD FOR PEDAL ARM. RESULTING IN PILOT HAVING REDUCED OR NO LEFT RUDDER OR NOSE STEERING. POSSIBLY CAUSED BY A DEFECTIVE WELD.

CESSNA	LYC		CRANKCASE	DAMAGED	03/05/2002	
152	O235L2C		LW13282	ENGINE	CA020312008	

(CAN) DEFECT OBSERVED DURING ROUTINE MAINTENANCE. OIL LEAKING FROM CRANKCASE LT HALF NEAR CENTRE BOLTS THAT SECURE CASES TOGETHER. FURTHER INSPECTION REVEALED A PIN HOLE THAT APPEARS TO ORIGINATE FROM WITHIN/INTERNAL TO THE CRANKCASE. ENGINE REMOVED SENT TO APPROVED OVERHAUL STATION FOR INSPECTION AND POSSIBLE REPAIR.

CESSNA	LYC		BEARING	MISSING	02/04/2002	
172M	O320E2D	PM1201		STARTER	CA020325003	

(CAN) PILOT OF AIRCRAFT FOUND “A PART” BENEATH THE COWLING. COWLINGS WERE REMOVED & ENGINE INSPECTED FOR “MISSING PARTS”. REAR SUPPORT BEARING (ROLLER TYPE) FOUND MISSING ON LAMAIR STARTER. PILOT REPORTED FURTHER THAT STARTER WAS STILL ENGAGED TO FLYWHEEL AT THIS TIME. LOSS OF REAR BEARING CAUSED STARTER SHAFT TO DROP OUT OF ALIGNMENT WITH CRANKSHAFT AND LOCKED BENDIX GEAR ONTO FLYWHEEL. SARTER REPLACED WITH SERVICEABLE UNIT. OLD UNIT B.E.R. SCRAP.

CESSNA	LYC		SPRING	BROKEN	02/13/2002	
172M	O320E2D		03101965	RUDDER CONTROL	CA020213007	

(CAN) RUDDER WAS ANGLED TO ONE SIDE UPON FURTHER INSPECTION FOUND THAT IT WOULD NOT RETURN TO NEUTRAL.RUDDER SPRING WASFOUND HANGING IN POSITION DETACHED FROM ONE SIDE, THE END HAD BROKEN OFF. PART WAS REPALCED AND AIRCRAFT WAS RETURNED TO SERVICE.

CESSNA	LYC		HOSE	SATURATED	04/03/2002	61
172N	O320H2AD		LW18101	INDUCTION SYS	2002FA0000505	

THE RUBBER INDUCTION COUPLING HOSES ON THE ENGINE WERE FOUND TO BE SATURATED WITH FUEL. IT APPEARS THE FUEL WAS PERMEATING RIGHT THROUGH THE HOSE. FOUND THEY WERE REPLACED AT 62 FLIGHT HOURS AND 9 MONTHS EARLIER. INSTALLED LW18101 HOSESAT THIS TIME.

CESSNA	LYC	BENDIX	COIL	WRONG PART	02/24/2002	
172N	O320H2AD	1068255514	10382588	MAGNETO	CA020308006	

(CAN) NEW OVERHAUL ENGINE. ENGINE 25 HOURS. ENGINE VERY ROUGH BACKFIRE, NO POWER. POINTS DEEPLY PITTED, BRUSH ASSEMBLY WORN AT 25 HOURS. CANADIAN AIRCRAFT COMPONENT CORD STRIP REPORT W/O 2244.4) WRONG PART NUMBER COIL FOR THIS MAGNETO 10-382588 18 FOR 8 CYLINDERS ENGINE. 5) PARTS REQUIRED:COIL10-382790 QTY 2 BRUSH 10-160844 QTY 2 CONTACT ASSY10-382585 QTY 2

CESSNA	LYC		SKIN	CRACKED	04/01/2002	590
172R	IO360A1A			LT WING	2002FA0000507	

CRACKS DEVELOPED IN TOP T/E LT WING SKIN AT EXTREME IB END OF WING AROUND 4 OF AN426AD4 RIVETS WHICH JOIN T/E STIFFENERTO UPPER AND LOWER WING SKINS JUST ABOVE FLAP. CRACKS RANGED FROM .500 INCH TO 1 INCH AND ONLY 1 PENETRATED A RIVET HOLE. ONE OF RIVETS, JOINING EXTREME IB RIB TO UPPER SKIN HAD CRACK NEXT TO IT 1 INCH LONG. CAUSED BY THE EXTREME AFT WING ROOT FAIRING SCREW CONTACTING THE UPPER SKIN (SCREW INSTALLED WAS TOO LONG). FLUSH PATCH APPROX 9 INCH X 4 INCH, WITH DOUBLER, WAS INSTALLED AFTER REMOVING THE WING TO GAIN ACCESS TO AREA. WING REMOVAL NECESSARY DUE TO FILLET ASSY OF THE FUSELAGE WHICH OVERLAPS WING AND COVER THE RIVET LINE OF EXTREME IB RIB.

CESSNA	LYC		MANIFOLD	DETACHED	03/26/2002	2921
172R	IO360L2A		1H525	VACUUM SYSTEM	2002FA0000399	

THIS AIRCRAFT USES DUAL VACUUM PUMPS. THESE PUMPS ARE CONNECTED TO THE VACUUM SYSTEM VIA A MANIFOLD ASSEMBLY. THIS MANIFOLD PERFORMS TWO IMPORTANT FUNCTIONS, ONE TO ALLOW FOR A COMBINED SOURCE OF VACUUM FROM THESE TWO PUMPS, AS WELL AS PROVIDE AN ISOLATION FUNCTION SHOULD ONE PUMP FAIL. THIS MANIFOLD VALVE, IS ASSEMBLED USING SMALL ALUMINUM RIVETS. THEY HAVE BEEN FAILING ALLOWING THE MANIFOLD VALVE TO SEPARATE WHILE MOUNTED ON THE FIREWALL. THIS RENDERS THE ENTIRE VACUUM SYSTEM INNOPERATIVE, AND COMPLETELY DISCONNECTS THE TWO PUMPS FROM THE SYSTEM.

CESSNA PIVOT UNAPPROVED 03/18/2002
172RG MLG CA020325004
(CAN) INSTALLATION OF UNAPPROVED PARTS AS DEFINED BY APPENDIX D - REPORTING UNAPPROVED PARTS USING THE SDR SYSTEM. PARAGRAPH (2)(C). LANDING GEAR PIVOTS DISCOVERED WHICH HAD MATERIAL REMOVED IN ORDER TO ADDRESS THE ISSUES RAISED BY AD 2000-06-06 C IN CONTRAVENTION OF CESSNA APPROVED PRACTICES.

CESSNA LYC FUEL TANK CRACKED 04/02/2001 613
172S IO360A1A 051600918 FUSELAGE 2002FA0000345
DURING GROUND RUN, DETECTED FUEL SMELL IN COCKPIT. REMOVED FORWARD FLOOR PANS AND OBSERVED FUEL PUDDLE AND STAIN. INSPECTION REVEALED STAINING ON RESERVOIR TANK. DEFUELED AIRCRAFT AND REMOVED RESERVOIR TANK. STRIPPED PAINT FROM SUSPECTED CRACK AREA. DYE PEN INSPECTION REVEALED 1 INCH CRACK ON LOWER AFT WELD BEAD. REPLACED WITH NEW PART, SUSPECTED CAUSE: STRESS DUE TO UPPER MOUNT HOLE NOT ALIGNED WITH NUT PLATE.

CESSNA LYC CESSNA BULKHEAD CRACKED 03/01/2002
172S IO360L2A 055032111 055032111 SPINNER CA020301004
(CAN) SPINNER WAS NOTICED DEFORMED DURING GROUND HANDLING.SPINNER BULKHEAD FOUND CRACKED AND FLANGE SEPERATED CAUSING SPINNER DEFORMATION.

CESSNA JACOBP CYLINDER SEPARATED 03/11/2002
195 R755A2 4300C ENGINE AUS20020283 271
(AUS) ENGINE CYLINDERS (2OFF) LEAKING PAST EXHAUST VALVE. DURING CYLINDER REMOVAL THE CYLINDER HOLD DOWN NUTS WERE FOUND TO BE LOOSE. RED SILICONE SEALANT WAS ALSO FOUNDS AROUND THE BASE OF THE CYLINDERS AND STUCK TO THE CYLINDER BASE O-RINGS.

CESSNA CONT LINK FAILED 02/07/2002
210D IO520* NLG 2002FA0000437
NOSE GEAR FAILED TO EXTEND FOR LANDING, DAMAGING ENGINE, PROPELLER, GEAR DOORS AND NOSE TIRE. AFTER JACKING AIRCRAFT IT WAS DISCOVERED THAT ROLLER ON MECHANICAL LINKAGE FOR NOSE GEAR DOORS HAD MOVED ON MECHANICAL LINKAGE FOR NOSE GEAR DOORS HAD MOVED FORWARD AND LOCKED ITSELF UNDER NOSE GEAR FORK. THIS LINKAGE IS ALSO SPRING LOADED. IT WAS ALSO FOUND THAT THIS LINKAGE HAD ANOTHER LINK ADDED TO IT WHICH LOWER ROLLER AND ALLOWED ROLLER TO CONTACT NOSE GEAR FORK EARLY. EXTRA LINK WAS ATTACHED WITH ONLY ONE BOLT AND THIS ALLOWED LINK AND ROLLER TO MOVE FORWARD, GETTING LOCKED UNDER NOSE GEAR FORK WHEN GEAR WAS RETRACTED.

CESSNA CONT RIB CRACKED 02/26/2002 8825
310P IO470* 082217569 LT WING 2002FA0000346
NR 8 RIB, LT WING SIDE BRACE LOCATION HAD CRACK THAT PROPAGATED THE FULL UPPER AREA OF THE SIDE BRACE. THE FORWARD ATTACH BOLT WAS MISSING AND EVIDENCE OF SPINNING ON THE SURFACE OF THE RIB. AFT BOLT WAS HELD BY 2 THREADS. INSPECTED AREA AT ANNUAL.

CESSNA CONT BOOT DESTROYED 03/12/2002 479
310R IO520* 6592SW LT PROP BOOT 2002FA0000446
DURING FLIGHT, ONE PROP BOOT DEPARTED AIRCRAFT. UPON INSPECTION IT WAS DETERMINED THAT THE PAINT DID NOT ADHERE TO THEBLADE PROPERLY AND THE BOOT CAME LOOSE.

CESSNA CONT CYLINDER FAILED 03/22/2002
340A TSIO520E SA52000A1 LT ENGINE 2002FA0000452
IN FLIGHT, PILOT NOTICED REDUCTION IN MANIFOLD PRESSURE. PILOT DESCENDED WHEN COMPLETE FAILURE AND SEPARATION OF THE NR 4 CYLINDER ON THE LEFT ENGINE OCCURRED. CYLINDER HEAD SEPARATED FROM BARREL. ENGINE WAS SECURED AND SHUT DOWN. PROPWAS FEATHERED. THE AIR CRAFT LANDED SAFELY.

CESSNA CONT FUSEABLE PLUG OPEN 03/17/2002
414A TSIO520NB EMER BLOWDOWN CA020325006
(CAN) NORTHWEST OF CALGARY (CYYC)APPROX. 15 MINS AFTER TAKEOFF, A/C SUFFERED TOTAL ELECT. FAILURE: EMERG DESCENT INITIATED. ATC INFORMED. EMERG DECLARED, & PILOT ALTERED COURSE FOR RED DEER, ALBERTS (CYQF). LDG GEAR COULD NOT BE LOWERED INNORMAL MANNER BECAUSE ELECT. POWER IS REQD TO OPERATE UP/DOWN SELECTOR VALVE. EMERG GEAR EXTENSION NOT SUCCESSFUL OWINGTO CIRCUMSTANCES STILL UNDER INVEST.. DECISION MADE TO CARRY ON TO EDMONTON INTERNATIONAL (CYEG) BECAUSE OF SUPERIOR EMERG SRVCS. PILOT MADE CONTACT WITH MAINT PERSONNEL & AFTER DISCUSSION A/C COMMITTED TO LDG - WHEELS UP - ALONGSIDE RWY 20, WHICH COMPLETED W/O SERIOUS DAMAGE TO A/C.

CESSNA HYDRAULIC CONTAMINATED 03/21/2002
421C MLG N421DG030102
EXTENDED THE MLG ON APPROACH AND ONLY THE LT LOCKED INTO PLACE. NOTIFIED TOWER OF THIS CONDITION AND MANEUVERED WHILE WORKING ON THE PROBLEM. INITIATED THE APPROACH AGAIN AND EXECUTED EMERGENCY PROCEDURES, ONLY LT MAIN WAS LOCKED, THE LANDING WAS INITIATED AND THE A/C TOUCHED DOWN WITH LT DOWN AND LOCKED, THE RT WAS PARTIALLY EXTENDED BUT NOT LOCKED, THE NOSE GEAR WAS EXTENDED BUT IT WAS NOT LOCKED. NLG STAYED EXTENDED ON ROLL OUT AND THE RT WING, AILERON, FLAP, AND PROP SUSTAINED DAMAGE. HYD MLG SYS WAS INSPECTED. FLUID WAS EXAMINED, AND A SMALL AMOUNT OF WATER WAS FOUND. IN SHOP AT 60 DEG F THE MLG FUNCTIONED NORMALLY. IT APPEARS THAT MOISTURE IN THE HYD SYS

CESSNA TUBE MELTED 03/07/2002
425 CM36914 PNEUMATIC TUBE 2002FA0000406
RIGHT INSTRUMENT AIR PRESSURE WAS AT ZERO ON THE GROUND AND WOULD INCREASE AS CABIN PRESSURE INCREASED IN FLIGHT. FOUND PNEUMATIC SUPPLY LINE FROM COMMON TEE TO FORWARD PRESSURE BULKHEAD MELTED. REPLACED TUBING.

CESSNA PWA HOSE FAILED 04/18/2002 365
425 PT6A112 AE7013002K024 ENGINE OIL 2002FA0000503
HOSE WAS INSTALLED ON 10-15-99 1869.1TT. CURRENT AIRCRAFT TIME 2234.8 HRS. THIS HOSE LASTED 365.7 HRS. THIS HAS BEEN ANON GOING PROBLEM WITH THIS AIRCRAFT. CESSNA SUPERSEEDED THE ORIGNAL HOSE P/N AS705976-1 TO THE AE7013002K024 WHICH IS SLIGHTLY LONGER,IN HOPES TO CORRECT THE PROBLEM,BUT THE PROBLEM STILL EXIST. THESE HOSES ARE BLOWING OUT AT THE BEND RADIOUS. THE HOSES NEED TO BE LONGER OR A DIFFERENT STYLE. THIS IS THE SECOND M&D REPORT ON THIS AIRCRAFT.

CESSNA PWA WINDOW CRACKED 02/28/2002
425 PT6A60 5116052 FUSELAGE 2002FA0000364
WINDOW, LOCATED IN UPPER CABIN DOOR, WAS FOUND TO HAVE 4 CONSECUTIVE MOUNTING HOLES BROKEN ALONG LOWER EDGE. A RETAINING RING, CALLED OUT IN PARTS BOOK, WAS NOT INSTALLED ON THIS WINDOW. THE INSTALLATION APPEARS TO HAVE BEEN DONE AT THEFACTORY, DUE TO DATE ON WINDOW. NOTE: OTHER WINDOWS ON THIS AIRCRAFT USE RETAINING RINGS.

CESSNA WIRE CHAFED 03/01/2002 8332
441 57181061 BOOST PUMP 2002FA0000398
FOUND RT WING AUXILLARY BOOST PUMP WIRING, CHAFING ON BOOST PUMP HOUSING CAUSING AN ELECTRICAL ARCING INSIDE OF FUEL BAY.

CESSNA WIRE CHAFED 03/20/2002 6735
441 BOOST PUMP 441M032002
WIRING FOR FUEL BOOST PUMPS IN EACH WING WERE CHAFED THROUGH TO CONDUCTOR. WIRING HARNESS HAS TWO CONNECTOR PLUGS, ONE TO EACH BOOST PUMP. CONNECTOR PLUGS ARE WIRED TO A THIRD, LARGER PLUG THAT CONNECTS TO BULKHEAD PLUG THAT FEEDS THROUGHINBOARD MOST RIB IN WET WING AREA. BOOST PUMPS ARE MOUNTED TO PLATE AND SURROUNDED BY METAL BOX SHAPED CAN WHICH WHEN INSTALLED, GETS INSERTED THROUGH HORIZONTAL PANEL WITH NEOPRENE SEALS, TO CREATE THE FUEL HOPPER. BOX LIKE ENCLOSURE FORBOOST PUMPS IS VERY CLOSE TO WHERE THE WIRES EXIT LARGER OF THREE CONNECTOR PLUGS, SO WIRES ARE PUSHING FIRMLY AGAINST THE BOOST PUMP BOX LIKE COVER AND ARE CHAFING ON IT. FOUND AT LEAST ONE WIRE IN EACH WING THAT WAS CHAFED THROUGH.

CESSNA GARRTT WIRE HARNESS CHAFED 03/15/2002 4209
441 TPE331* BOOST PUMP DEBA2624D
FUEL BOOST PUMP WIRING IN THE WET WING AREA OF EACH WING, WAS CHAFED THROUGH THE INSULATION TO THE CENTER CONDUCTOR. THE WIRING, WHERE IT EXITS THE FEED THROUGH CONNETOR PLUG, INTO THE WET WING, AT THE INBOARD MOST RIB, IS CHAFING ON THE BOX THAT SURROUNDS THE BOOST PUMPS.

CESSNA GARRTT PUSHROD CRACKED 03/12/2002
441 TPE3318 57152801 AILERON TAB AUS20020263
(AUS) LT AILERON TRIM TAB PUSH ROD AFT ROD END CRACKED ACROSS BEARING RETAINER. RODEND BEARING CORRODED. CRACK FOUND WHEN PUSHROD WAS REMOVED FOR REPLACEMENT DUE TO WEAR.

CESSNA COUPLING LOOSE 03/27/2002
560CESSNA MCB69738150 ACM 2002FA0000451
DURING CRUISE FLIGHT, AFTER PHASE INSPECTIONS WERE COMPLETED, FLIGHT CREW REPORTED A “BUMP” AT AN ALTITUDE OF 31,000 FT, CABIN ALT STARTED TO CLIMB UNCONTROLLABLY, WARNING ANNUNCIATOR SHOWING “CABIN ALT. 10,000 FT.”. CREW PERFORMED AN EMERGENCY DESCENT TO 15,000 FT. AND CONTINUED FLIGHT TO DESTINATION AIRPORT. AFTER LANDING, MECHANIC FOUND A COUPLING LOOSEON THE REFRIGERATION PACK (ACM) WHICH SHOWED EVIDENCE OF LEAKING. ALSO, THE MECHANIC FOUND TWO AN737TW58 CLAMPS LOOSE ON THE ACM.

CESSNA INDICATOR MISREPAIRED 04/03/2002
R182 UMA33112 FUEL PRESSURE 2002FA0000506
A FUEL PRESSURE GAUGE WAS RETURNED TO MFG. FOR REPAIR. THEY SENT A REPLACEMENT GAUGE IN ITS PLACE. THE NEW GAUGE CAMEWITH AN AN816-2D NIPPLE THREADED IN THE PRESSURE INLET PORT. THE PROBLEM IS THE TEFLON THREAD TAPE WAS IMPROPERLY APPLIED. NOT ONLY DID IT COVER ALL THE THREADS, IT COVERED ABOUT 75 PERCENT OF THE HOLE IN THE END OF THE FITTING. THERE WERE ALSO SMALL TORN PIECES THAT WOULD HAVE BROKEN OFF AND ENTERED THE GAUGE.

CESSNA PRESSURE FAILED 04/10/2002
S550 PO67L015 DEICE SYSTEM 2002FA0000464
TKS DEICE SYSTEM PRESSURE SWITCHES ARE FAILING IN THE OPEN POSTION. WHEN THE SWITCHES FAIL OPEN THEY CAN NOT ILLUMINATETHE DEICE PRESSURE FAIL LIGHTS ON THE ANNUCIATOR. THE LIGHTS ILLUMINATE TO INDICATE LOW PRESSURE. THERE IS NO WAY TO TELL LOW PRESSURE IN THE SYSTEM WITH THESE SWITCHES FAILED OPEN. WE HAVE REPLACED THREE SWITCHES IN THE ENGINE DEICE SYSTEM, ALL FAILED IN THE OPEN POSITION ON

CESSNA AIR FILTER MISINSTALLED 04/08/2002
T210K ASSY # BA2405 AIR INLET 2002FA0000457
FOUND (BRACKETT) AIR FILTER ASSEMBLY (NR-BA-2405) INSTALLED BACKWARDS. THE MESH SAFTEY SCREEN WAS AT THE FRONT OF THE FOAM FILTER, AND THE INLET GRID WAS INSTALLED AT THE BACK OF THE ASSEMBLY. INSPECTED ONE OTHER FILTER ASSEMBLY ON LIKEAIRCRAFT AND FOUND IT WAS ALSO MISINSTALLED.

CESSNA CONT FITTING SHEARED 03/12/2002
TU206C TSIO520C 07326012 HORIZONTAL STAB CA020322004
(CAN) RIVETS THAT ATTACH FITTING TO FORWARD SPAR WERE SHEARED. MOST RIVETS, 10 IN ALL, SHOWED SIGNS OF RINGS AROUND SHANKS AT FITTING/SKIN SEAM. ONE RIVETS WAS SHEARED IN HALF. THERE WERE NO EXTERNAL SIGNS OF ANY PROBLEMS. THE STABILIZER IN QUESTION CAME IN FOR SKINS TO BE REPLACED. HAVING RECOLLECTED A PREVIOUS SDR ON THIS MATTER, WE DECIDED TO CHANGE ALL THE RIVETS ‘JUST CAUSE’ IN CASE THERE WAS A PROBLEM. THE RINGS AROUND THE SHANKS OF THE NON-SHEARED RIVETS MAY BE FROM WHEN THE RIVETS WERE ORIGINALLY INSTALLED. THEY MAY HAVE SOME STRESSES IMPOSED ON THEM. I CAN’T TELL JUST BY LOOKING AT

CESSNA SEAL FAILED 02/06/2002
TU206F MS28775329 NOSE/TAIL LANDIN AUS20020172
(AUS) NOSE LANDING GEAR OLEO LEG MAIN SEAL PNO MS28775-329 ROLLED AND SPLIT IN THREE PLACES.

CESSNA CONT IMPULSE DEFECTIVE 02/21/2002 483
U206F IO520* M3050 MAGNETOR 2002FA0000413
THE WOODRUFF KEY (M2536) THAT LOCKS THE IMPULSE COUPLING ON THE SHAFT WAS FOUND LODGED UNDERNEATH THE IMPULSE COUPLING PAWL, RENDERING ONE OF THE TWO PAWLS IMMOBILE. THE PIN ATTACHING THE PAWL WAS BENT AND THE GAP BETWEEN THE PAWL BOSS AND PLATE WAS NEAR LIMITS. A POSSIBLE CAUSE WAS THAT WOODRUFF KEY WAS NOT PROPERLY SEATED, AND INSTALLATION OF IMPULSE COUPLING DISLODGED THE WOODRUFF KEY. EVENTUALLY THE WOODRUFF KEY LODGE ITSELF UNDER THE PAWL.

CESSNA CONT CESSNA ROLL PIN SHEARED 02/20/2002
U206F IO520F 12161061 NAS561P36 YOKE CA020226008
(CAN) FUEL SELECTOR WOULD NOT ROTATE VALVE. DISASSEMBLED AND FOUND PIN SECTION MISSING ALLOWING HOUSING YOKE TO ROTATE ON SHAFT. PIN REPLACED.

CIRRUS BOLT SHEARED 04/18/2002
SR22 AN37A RUDDER PEDLE R377W
PILOT NOTICED RUDDER PEDALS STIFF DURING TAXI. PILOT FELT RUDDER PEDALS GIVE WAY. DURING INSPECTION, FOUND CO-PILOT’SRUDDER PEDAL TORQUE TUBE INBOARD AFT MOUNTING BRACKET BOLT PN AN3-7A SHEARED. FOUND CO-PILOT’S INBOARD MOUNTING BRACKET BENT PN 11478-001 AND BUSHING PN 11504-001 DAMAGED. BOLT APPEARS TO HAVE BEEN OVERTORQUED WHICH WEAKENED ITS SHEAR STRENGTH. REPLACED BRACKET, BUSHING AND ALL HARDWARE. SENT DAMAGE PARTS TO CIRRUS FOR ANALYSIS.

DHAV PWA FITTING CRACKED 03/12/2002
DHC2MK1 R985AN14B 4930 901230602 STRUT CA020312001
(CAN) RIGHT FLOAT WAS REMOVED FROM AIRCRAFT FOR REPAIRS TO BOTTOM SKIN. UPON REMOVAL, THE FRONT STRUT ATTACH FITTING WAS FOUND CRACKED AT HOLE FOR TAPER PIN. PART IS BEING REPLACED WITH NEW.

DHAV PWA CYLINDER CRACKED 03/18/2002
DHC3 S3H1G 399359 ENGINE CA020326005
(CAN) ENGINE CYLINDER CRACKED ON TOP OF HEAD.

DHAV PWA STRUT CRACKED 02/11/2002 18089
DHC3 S3H1G C3UF1085 FLOAT CA020211016
(CAN) FLOAT STRUTS REMOVED TO PERFORM ANNUAL INSPECTION AS PER DEHAVILLAND SERVICE BULLETIN 3/30. SIX INCH LONG CRACK FOUND VISUALLY THROUGHOUT CENTER OF THE BASE OF THE STRUT CASTING.

DHAV FORK MISMANUFACTURE 02/25/2002
DHC6 C3FF3143 SEAT BELT CA020304003
(CAN) PART NOT MANUFACTURED AS PER DEHAVILLAND/BOMBARDIER SPEC. FOUR FORKS FROM INVENTORY FOUND NOT FILLET RADIUS TO O.031 INCH. SEVEN OF EIGHT ON AIRCRAFT SEATS NOT FILLET RADIUS TO O.031 INCH. THIS MAY PUT UNDUE STRESS ON HEAD OF BOLT LEADING TO SEAT BELT RETENTION FAILURE. THESE FORK ARE USED ON ALL POST MOD 6/1601 OR S.O.O.6104 SEATS
DIAMON ROTAX LINE LEAKING 03/06/2002
DA20A1 ROTAX912 2072000002 ENG COOLING CA020312004
(CAN) SMELL OF ANTI-FREEZE IN COCKPIT. INVESTIGTION REVEALED THAT COOLANT PIPE HAD MOVED AND RUBBED ON HEAT SHROUD, CAUSING SMALL HOLE ALLOWING ANTI-FREEZE TO LEAK OUT.
DOUG STABILIZER CRACKED 04/04/2002 2348
600N 600N38001 2002FA0000447
DURING A ROUTINE INSPECTION WE FOUND THE UPPER AND LOWER VERTICAL STABILIZERS TO HAVE CRACKS IN THE MOUNTING BORE EMANATING FROM THE BOLT HOLES THAT ATTACH THE STABILIZER TO THE TORQUE TUBE.THE BORE HAS A CASTED LOOKING FITTING FOR EACH OFTHE TWO MOUNTING BOLTS AND APPEARS TO BE A PLASTIC OR COMPOSITE TYPE MATERIAL. IT IS THIS CASTING THAT IS CRACKED, AND BOTH UPPER AND LOWER CASTINGS IN SOME CASES.WE HAVE ORDERED 4 EACH REPLACEMENT STABILIZERS AND NOTIFIED MDHI.
DOUG STABILIZER CRACKED 04/04/2002 2193
600N 600N38001 TAIL 2002FA0000449
DURING A ROUTINE INSPECTION WE FOUND THE UPPER AND LOWER VERTICAL STABILIZERS TO HAVE CRACKS IN THE MOUNTING BORE EMANATING FROM THE BOLT HOLES THAT ATTACH THE STABILIZERS TO THE TORQUE TUBE.THE BORE HAS A CASTED LOOKING FITTING FOR EACH OF THE TWO MOUNTING BOLTS AND APPEARS TO BE A PLASTIC OR COMPOSITE TYPE MATERIAL. IT IS THIS CASTING THAT IS CRACKED, BOTH UPPER AND LOWER IN SOME CASES. WE HAVE NOTIFIED MDHI AND HAVE ORDERED REPLACEMENT STABS.
GROB LYC SERVO STICKING 04/01/2002 59
G102ASTIR AEIO540D4A5 G1204105 AILERON TRIM 2002FA0000480
TRIM SERVO STICKING IN OPERATION AND FAILS TO MOVE THE AILERON TRIM TAB. REMOVED AND INSTALLED NEW TRIM SERVO ASSEMBLY. PART SENT IN FOR WARRANTY.
GROB LYC ACTUATOR FAILED 04/02/2002 59
G102ASTIR AEIO540D4A5 1145 MLG 2002FA0000481
NOSE LANDING GEAR HYDRAULIC ACTUATOR BOTTOM SEAL AROUND SHAFT BLOW OUT AND LEAKING FLUID FROM CYLINDER. ACTUATOR REMOVED AND A NEW ACTUATOR INSTALLED. ACTUATOR SENT IN FOR WARRANTY.
GULSTM LYC TORQUE TUBE WORN 03/15/2002 6247
560 GO480* 5420014157 RUDDER 2002FA0000400
DURING AN ANNUAL INSPECTION, WHILE MEASURING RUDDER TRAVELS IT WAS FOUND THAT IF A LITTLE EXTRA PRESSURE WAS APPLIED TOTHE RUDDER TRAILING EDGE, ONCE IT HAD REACHED ITS STOP, THE RUDDER TRAVELED AN EXTRA INCH PAST THE SPECIFIED TRAVELS. WHILE THE STOP REMAINED STATIONARY UPON INSPECTION, IT WAS FOUND THAT ALL THE RIVETS ON THE TOP AND BOTTOM OF THE RUDDERTORQUE TUBE WERE LOOSE AND WORN. THE CAUSE IS MORE THAN LIKELY FROM WIND DAMAGE. RECOMMENDATIONS: MAKE SURE THAT THERUDDER GUST LOCK IS INSTALLED AFTER A FLIGHT.
HUGHES ALLSN COMPRESSOR FAILED 03/20/2002 12288
369D 250C20B 6890550 ENGINE CA020319003
(CAN) ON THE 3RD START OF THE DAY THE PILOT COULD NOT MOTOR THE ENGINE TO START THE AIRCRAFT. PULLED THE STARTER AND TRIED TO TURN N1 GEARTRAIN AND WAS UNABLE TO TURN. TRIED TO TURN THE COMPRESSOR THRU THE BYPASS DOOR BY HAND AND WAS UNABLE TO TURN. REMOVED THE ENGINE FROM THE AIRFRAME. TOOK THE COMPRESSOR OF THE GEARBOX AND WAS STILL UNABLE TO TURN THE COMPRESSOR. NO DAMAGE TO THE FIRST STAGES WAS FOUND ON THE COMPRESSOR. SUSPECTED THAT THE IMPELLAR CLEARANCES ARE TO TIGHT AND HAVE CONTACTED. COMPRESSOR OUT FOR EVALUATION.
HUGHES ALLSN ENGINE FOD 02/12/2002
369D 250C20B NAS697A3 ENGINE BAY CA020321001
(CAN) UNUSUAL SOUND HEARD FROM THE A/C ON COOL DOWN COMING FROM THE ENGINE INLET AREA. UPON FURTHER INVESTIGATION THE COMPRESSOR HAD FOD. A NUTPLATE ON THE FORWARD SIDE OF THE PARTICLE SEPERATOR, THAT FASTEN THE FOWARD INLET COWLS ON, HAD SPLIT AND HALF OF THE NUT PLATE WENT THRU THE PARTICLE SEPERATOR AND WAS INGESTED BY THE ENGINE. THE NUT PLATE MADE IT THRU THRU THE ENTIRE LEAR GARRTT CONNECTOR
DAMAGED 01/30/2001
35LEAR TFE73122B ANTI-SKID SYSTEM CA020227008
(CAN) ON A BASE INSPECTION IT WAS NOTED THAT THE NR 1 AND NR 2 TIRES HAD FLAT SPOTS FROM SKIDDING. THERE WAS NO REPORTED ANTI-SKID FAILURE LIGHT ILLUMINATION. INVESTIGATION REVEALED THAT THE LT ANTI-SKID CONTROL VALVE WAS NOT RELEASING THE PRESSURE TO THE SKIDDING WHEEL. CONNECTOR PIN “G” ON THE CONTROL VALVE WAS FOUND TO HAVE CORRODED TO THE POINT THAT ITBROKEN OFF INSIDE THE CONNECTOR PLUG. THIS CIRCUIT CONTROLS THE RETURN SHUT-OFF SOLENOID IN THE VALVE. THE FAILURE LOGIC IN THE ANTI-SKID CONTROL BOX CHECKS THE OPERATION OF THE WHEEL TRANSDUCERS BUT DOES NOT INDICATE A FAILURE OF THE VALVE. THE CONTROL VALVE IS LOCATED IN THE WHEEL WELL WHERE IT IS SUBJECT TO WATER
LEAR THRUST MISINSTALLED 02/21/2002 7052
55LEAR 4510000501 ENGINE 2002FA0000439
DOOR POSITION INDICATOR WIRING HARNESS WAS CUT AT RECEPTACLE. DOOR POSITION INDICATOR RECEPTACLE INSTALLED UPSIDE DOWN, CAUSING DAMAGE TO MALE PINS IN RECEPTACLE. DOOR POSITION INDICATOR WIRING HARNESS RETAINING CLAMP RIVET REPLACED WITHSCREW AND NUT. DISCREPANCIES DISCOVERED DURING 1400 HOUR
MOONEY CONT COTTER PIN BROKEN 03/13/2002 207
M20K TSIO360LB 639292 CONNECTING ROD 2002FA0000393
DURING ANNUAL INSPECTION FOUND COTTER PIN IN THE OIL SUCTION SCREEN. THE COTTER PIN WAS BROKEN INTO THREE PIECES. FURTHER INSPECTION OF THE ENGINE FOUND THE COTTER PIN MISSING FROM CYLINDER NUMBER FOURS LOWER CONNECTING ROD BOLT. I BELIEVE THE COTTER PIN WAS IMPROPERLY INSTALLED DURING A PROPELLER STRIKE INSPECTION WHICH ALLOWED THE COTTER PIN TO MOVE WEARING THE PIN TO THE POINT OF
PIPER LYC ACTUATOR BROKEN 03/11/2002 1572
PA23160 O320* 3503002 NLG 2002FA0000402
PILOT WAS TAXIING OFF OF RUNWAY ON AN UNIMPROVED AREA. THE NOSE GEAR DOWN LOCK WAS RELEASED DUE TO ROUGH TERRAIN AND THE NOSE GEAR ACTUATOR ROD WAS BENT APPROXIMATELY 60 DEGREES.
PIPER HOUSING BROKEN 06/26/2000 11437
PA28161 65313004 MLG STRUT 2002FA0000425
ATTACH EAR BROKE OFF AT WHERE THE UPPER END OF THE TORQUE LINK ATTACHES TO THE STRUT HOUSING. NOT ORIGINALLY REMORTED, AS IT WAS THOUGHT TO BE A FLUKE, CAUSED BY A STUDENT CROSS LOADING THE GEAR ON LANDING, THUS CAUSING IT TO BREAK.
PIPER HOUSING CRACKED 06/29/2000 7841
PA28161 65319004 STRUT 2002FA0000427
FOUND CRACKED DURING NORMAL MAINTENANCE. NOTED WHILE DYE CHECKING THE AREA INVOLVED, HAVING FOUND 2 PRIOR STRUTS CRACKED.

PIPER	LYC	HOUSING	CRACKED	06/29/2000	7414
PA28161	O320*	65313004	MLG STRUT	2002FA0000426	

CRACKS IN RADIUS OF SCISSORS EARS. POSSIBLE CAUSE FATIGUE ON HIGH TIME AIRCRAFT.

PIPER	LYC	HOUSING	CRACKED	06/26/2000	11761
PA28161	O320*	65319004	RT MLG	2002FA0000428	

CRACK WAS FOUND DURING NORMAL 100 HOUR MAINTENANCE, SINCE WE HAD ENCOUNTERED ONE BREAKING OFF EARLIER, WE WERE MORE MINDFUL OF CHECKING THEM CLOSER. DYE CHECK SHOWED THE CRACK IN THE EAR RADIUS AREA. ALL THE STRUTS ARE THOUGHT TO BE ORIGINAL EQUIPMENT.

PIPER		SPAR	CORRODED	03/28/2002	5277
PA28180		6205400, 62054	WING	2002FA0000409	

REAR SPAR SEVERELY CORRODED UNDER STEEL ATTACH PLATES, P/N 66762-00. DAMAGE WAS FOUND WITH A FLASHLIGHT AND MIRROR, LOOKING AT THE FORWARD SIDE OF THE SPAR THROUGH THE INBOARD RIB LIGHTENING HOLES AND WAS SO FAR PROGRESSED THAT THE EXFOLITATION PROCESS HAD BULDGED AND SPLIT THE SPAR MAKING IT VISIBLE FROM INSIDE THE WING. NO EXTERNAL CORROSION WAS NOTED DUETO A SIX YEAR OLD PAINT JOB. STEEL PLATES ON FUSELAGE CARRY-THROUGH STRUCTURE ALSO REMOVED TO REVEAL SIMILAR CORROSION WHICH WAS LESS

PIPER	LYC	VOLT	MISSING	02/23/2002	
PA28180	O360*		ELECTRICAL	2002FA0000412	

OWNER COMPLAINED OF OVERVOLTAGE. FOUND REGULATOR HAD BEEN REMOVED FROM SYSTEM. ALTERNATOR RECENTLY REPLACED. OLD ALTERNATOR MAY HAVE BEEN AUTOMOTIVE WITH INTERNAL REGULATOR. PREVIOUS OWNER PERFORMED MUCH OF THE MAINTENANCE. SUGGEST VERIFYING AIRCRAFT, COMPLETE CHARGING SYSTEM WHEN REPLACING COMPONENTS.

PIPER	LYC	BALANCE	CORRODED	03/21/2002	
PA28180	O360A4A		LT & RT AILERON	CA020327005	

(CAN) AILERON LEFT AND RIGHT BALANCE WEIGHT ASSY FOUND BADLY CORRODED. PART REMOVED SANDBLASTED STEEL PART INSPECTED FOUND SERVICEABLE.ADEQUATE TREATMENT PRFORMED BEFORE REASSEMBLED.THIS IS CONSIDERED VERY IMPORTANT IF NO ACTION TAKEN WILLCAUSE LOST OF CONTROLS FLUTTERING AILERON.SUGGEST THAT PIPER OWNER'S OF PA28 SERIES BE ADVISED AS SOON AS POSSIBLE DUE TO THE FACT OF OLD AGE OF THE AIRCRAFT.AWD WILL SUPPORT THIS SITUATION.

PIPER	LYC	CABLE	WORN	02/27/2002	2592
PA28181	O360*	62701114	FWD STABILATOR	2002FA0000373	

DURING A ROUTINE INSPECTION THE RIGHT AND LEFT FORWARD STABILATOR CABLES WERE FOUND WORN. THE LEFT AILERON BALANCE CABLE WAS ALSO FOUND IN A SIMILAR CONDITION. THE WORN PARTS OF THE CABLE WERE FOUND AT PULLEYS, FAIRLEADS. PROBABLE CAUSE: SUBSTANDARD CABLE AND IMPROPER ALIGNMENT BY

PIPER	LYC	FRAME	CRACKED	02/22/2002	
PA28R200	IO360C1C	ASABOVE	SEAT	CA020227011	

(CAN) BOTH LT AND RT UPPER FORWARD WELD JOINTS FAILED ON SEAT FRAME ASSEMBLY. THE SEAT ASSEMBLY IS VERY DIFFICULT TO INSPECT IN THIS AREA AS IT IS COVERED WITH UPHOLSTERY.

PIPER	LYC	HINGE	BENT	03/26/2002	98
PA28R201	IO360A1A		INDUCTION	2002FA0000453	

DURING 100 HOUR INSPECTION NOTED ALTERNATE AIR DOOR AND HINGE BENT AND ALLOWING UNFILTERED AIR TO ENTER THE INTAKE SYSTEM.

PIPER	LYC	ADAPTER	BENT	03/26/2002	513
PA28R201	IO360A1A	99047000	ALT AIR DOOR	2002FA0000431	

INSPECTED AND FOUND AIR DOOR AND HINGE BENT AND ALLOWING UNFILTERED AIR TO ENTER THE INTAKE

PIPER	LYC	DRIVE UNIT	BROKEN	04/01/2002	
PA31	TIO540A2B		PROP GOVERNOR	CA020403005	

(CAN) A/C DEPARTED AT APPROX 02:00 ZULU ON APR 2 ON IFR FLT TO VANCOUVER. DURING INITIAL STAGE OF CLIMB, RT ENGINE RPM BEGAN TO FLUCTUATE & OVERSPEED. PILOTS TRIED TO CONTROL IT WITH THROTTLE & PROPELLER CONTROLS BUT WHERE UNSUCCESSFUL & CHOOSE TO FEATHER ENGINE & RETURN TO PENTICTON. UPON INSPECTION MAINT CREW DISCOVERED THAT DRIVE ON PROP GOVERNOR BROKEN.GOVERNOR HAS APPROX 800 HRS SINCE OVERHAUL. GOVERNOR REMOVED FROM ENGINE & OVERHAULED GOVERNOR INSTALLED. A/C GROUND RUN & FOUND ACCEPTABLE FOR RETURN TO SERVICE.

PIPER	LYC	PIPER	SPAR	CRACKED	02/21/2002
PA31	TIO540A2C	SPAR	4007514	ELEVATOR, SPAR/R	AUS20020148

(AUS) LH AND RH ELEVATOR SPARS CRACKED AT OUTBOARD ENDS. LH ELEVATORSPAR PNO 40075-14. RH ELEVATOR SPAR PNO 40075-16.

PIPER	LYC	CAMSHAFT	WORN	03/05/2002	
PA31350	LTIO540J2BD	LW12201	ENGINE	CA020313005	

(CAN) DURING ENGINE ROCKER VALVES INSPECTION, NR 4 CYLINDER INTAKE VALVE LIFT WAS FOUND VERY LOW. THE CYLINDER WAS REMOVED AND CAMSHAFT INTAKE VALVE LOBE WAS FOUND WORN. THE ENGINE WAS REMOVED FROM THE AIRCRAFT AND SENT FOR REPAIR.

PIPER	LYC	FITTING	CRACKED	02/27/2002	16370
PA31350	TIO540J2BD	4029400	WING	CA020304001	16370

(CAN) INSPECTION REVEALED A SMALL CRACK IN THE WEB WHERE IT JOINS THE LOWER RIGHT BOLT HOLE.THE CRACK RUNS PERPENDICULAR TO THE WEB.PART TIME IS UNKNOWN, TIME GIVEN IS AIRFRAME TIME.

PIPER	LYC	CONNECTING	FAILED	03/01/2002	
PA31350	TIO540J2BD		LT ENGINE	CA020304005	

(CAN) DURING A SHORT FLIGHT APPROXIMATLY 5 MINUTES. AFTER T/O, PILOTS NOTICED A FAINT CLICKING NOISE FOLLOWED IMMEDIATLY BY A SLIGHT VIBRATION THEN SMOKE FROM THE LT ENGINE. THE ENGINE WAS SHUT DOWN AND FEATHERED IMMEDIATLY. AFTER LANDINGVISUAL INSPECTION CONFIRMED THE NR 6 CONNECTING ROD HAD PENETRATED THE CRANKCASE ABOUT 2-3 INCHES OUTBOARD OF THE CASE SPINE.

PIPER	PWA	SHAFT	STRIPPED	03/11/2002	
PA31T2	PT6A135		FUEL PUMP	CA020313006	

(CAN) FCU AND FUEL PUMP WAS REMOVED FROM ENGINE. FUEL PUMP TO ENGINE SHAFT WAS FOUND STRIPPED, RESULTING IN FUEL STARVATION.

PIPER	LYC	STUD	CRACKED	03/26/2002	
PA32R300	IO540K1G5	95299	LANDING GEAR	AUS20020285	

(AUS) MAIN LANDING GEAR SIDE BRACE STUDS (2OFF) CRACKED IN RADIUS.FOUND DURING MPI INSPECTION IAW

PIPER	CONT	PUMP	LEAKING	03/20/2002	
PA34220T	TSIO360KB	84251003	HEATER	CA020403004	

(CAN) WHILE CARRYING AT AD 2001-17-13 (JANAERO SOLENOID/SHUTOFF VALVE LEAK CHECK) THE HEATER FUEL PUMP WAS FOUND TO BE LEAKING OUT OF THE POWER WIRE GROMMET. THIS PUMP IS UNDER THE CENTRE FLOOR BOARD IN THE CABIN AND ALTHOUGH THERE IS A DRAIN UNDER THE PUMP FUEL WAS RUNNING ALONG THE BELLY

PIPER	CONT		FITTING	CRACKED	02/03/2002	
PA36285	6285C			FUSELAGE, WING A	AUS20020278	

(AUS) LH WING ATTACHMENT LUG BROKEN. SUSPECT DAMAGED DURING A PREVIOUSCRASH.

PIPER			PLATE	SHEARED	04/01/2002	990
PA46350P			83515002	RT ELEVATOR	5124	

ELEVATOR CONTROL PLATE ASSEMBLY HAD 4 OUT OF 7 AN4 RIVETS SHEARED. NO PREVIOUS DAMAGE HISTORY WAS NOTED IN THE LOGBOOK.

ROBSIN			BELT	STRETCHED	04/09/2002	3
R22			A1902	ENG TO ROTOR	IVSA078430	

BELTS WERE REPLACED DURING 100HR INSPECTION AFTER 693.3 HOURS TSI. FAN WHEEL WAS BALANCED AND RUNUP WAS NORMAL. FIRST FLIGHT OF APPROXIMATELY 2 HOURS WAS UNEVENTFUL. DURING SECOND FLIGHT PILOT REPORTED CLUTCH LIGHT FLICKERED ON AND OFFSEVERAL TIMES. ON INSPECTION AFTER PRECAUTIONARY LANDING, BELTS WERE FOUND STRETCHED TO THE POINT THAT OVER LIMIT SWITCH DEACTIVATED THE SYSTEM. SYSTEM INSPECTED WITH NO FAULTS FOUND OTHER THAN BELT STRETCH BEYOND LIMITS. NEW BELTS WERE INSTALLED AND ADJUSTED. FAN WHEEL BALANCE CHECKED.

ROBSIN	LYC		WHEEL	CRACKED	02/01/2002	3646
R22BETA	O320B2C		B1741	ENGINE FAN	2002FA0000355	

DURING REMOVAL OF FAN ASSEMBLY WHICH IS MOUNTED ON A TAPERED SHAFT, THE FAN MOUNTING WAS FOUND TO BE CRACKED THROUGH. ALSO THE REINFORCEMENT PLATE WHICH IS USED TO STRENGTHEN THE FAN ASSEMBLY WAS FOUND TO BE SEVERELY CRACKED. THIS SIDE OF THE FAN ASSEMBLY MOUNTS TO THE FAN NUT WAS OVER TORQUED CAUSING UNDUE STRESS ON THE TAPERED SHAFT CAUSING THE FAILURE. THIS AREA IS HARD TO INSPECT WITHOUT FAN REMOVAL, THEREFORE IT WENT UNDETECTED WHICH EVENTUALLY LEAD TO THE REINFORCEMENT PLATE CRACKING. SUGGEST USING APPROPRIATE TORQUE ON RETENTION NUT.

ROBSIN	LYC	ACTUATOR	UNSERVICEABLE	03/08/2002	
R22BETA	O360J2A	405H	ENGINE/TRANSMISS	AUS20020276	6

(AUS) CLUTCH ACTUATOR UNSERVICEABLE. ACTUATOR UP LIMIT SWITCH STUCK INOPEN CIRCUIT POSITION PREVENTING RETENSIONING OF DRIVE BELTS.

SCWZER	LYC	PRECISION	CHECK VALVE	BACKED OUT	03/29/2002	927
269D	HIO360C1A	HA6	36596	CARBURETOR	2002FA0000419	

AIRCRAFT EXPERIENCED A PARTIAL POWER FAILURE ALONG WITH A SUDDEN VIBRATION. DURING THE SUBSEQUENT INSPECTION, THE ACCELERATOR PUMP DISCHARGE CHECK VALVE IN THE CARBURETOR WAS FOUND TO HAVE BACKED OUT OF ITS CHAMBER. RECOMMEND REDESIGNINGALL THE CHECK-VALVES AND JETS IN THE CARBURETOR TO INCORPORATE A PERMANENT NYLON THREAD LOCK IN THE THREADS.

SKRSKY		SKRSKY	HOUSING	CRACKED	03/26/2002	23186
S61A		S613520600	S613520670042	M/R GEARBOX	CA020326008	

(CAN) 6 CRACKS WERE NOTED ON AFT END OF OUTER FLANGE UNDERNEATH STUD HOLES. 2 OF CRACKS ARE UNDER STUD HOLES, WHICH WERE NOT INST WITH STUDS (PRE-TAPPED FOR HEAVY RING GEAR; CURRENTLY PLUGGED). CRACKS ARE ABOUT 0.18-0.27 INCHES LONG MEASURED FROM CRACK CENTER.IT APPEARED THAT CRACKS RESULTED FROM OVER TAPPING OF STUD HOLES. EXAMINATION OF OF STUD HOLES SHOWED THAT THREADS ARE TAPPED BEYOND DRXXL DEPTH, WITH 4 FLUTE MARKS (WHICH APPEARS TO BE FROM TAPPING TOOL) SHOWN AT BOTTOM OF STUD HOLES. ALL 6 HOLES WITH CRACKS HAVE SAME FLUTE MARKS.THE DEPTH OF TAPPED HOLES HAVE AVERAGE READING OF 1.33 IN. ACCORDING TO SIKORSKY B/P, STUD HOLE IS TAPPED 0.375-16 UNC-3B X 1.18 DEEP PER

SOCATA	PWA	INSERT	LOOSE	02/13/2002	
TBM700	PT6A6A	T700A575000001	TE FLAPS	CA020220011	

(CAN) DURING 100 HOUR INSPECTION NOTICED THAT FLAP CARRIAGE INBOARD IS MOVING AT ATTACHMENT. REMOVED FLAP AND CARRIAGE AND FOUND POTTED INSERTS THAT SECURE THE CARRIAGE TO FLAP WERE LOOSE CAUSING DAMAGE TO COMPOSITE RIB, HONEYCOMB (INTERNALLY). ONE OF THE INSERTS WAS FREE TO SPIN. BOND ON INSERT WAS NOT RETAINING. FLAP REMOVED FOR REPAIR.

WTHRLY	PWA	BULKHEAD	CRACKED	03/25/2002	1015
620B	R985*	50351101	FUSELAGE	2002FA0000421	

DURING ANNUAL INSPECTION FOUND FUSELAGE BELLY PAN BULKHEAD (PN 50351-101) CRACKED UPPER LEFT AND RIGHT CORNER. THIS AREA IS HARD TO SEE WITHOUT FLASHLIGHT AND MIRROR. ALSO FOUND TAIL CONE BULKHEADS (PN 50351-105) AND (PN 50351-133) CRACKED AND TABS WHERE BULKHEAD IS RIVETED TO THE BELLY SKIN BROKEN. SUGGEST A THROUGH INSPECTION OF THIS AREA USING A FLASHLIGHT AND MIRROR.

OMB No. 2120-0003

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

MALFUNCTION OR DEFECT REPORT

OPER. Control No.	
ATA Code	
1. **A/C Reg. No.**	**N-**

Enter pertinent data	**MANUFACTURER**	**MODEL/SERIES**	**SERIAL NUMBER**
2. **AIRCRAFT**			
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 *(Assembly that includes part)*

Comp/Appl Name	Manufacturer	Model or Part No.	Serial Number

Part TT	Part TSO	Part Condition	7. Date Sub.

8. Comments *(Describe the malfunction or defect and the circumstances under which it occurred. State probable cause and recommendations to prevent recurrence.)*

Optional Information:

Check a box below, if this report is related to an aircraft

☐ Accident; Date _____ ☐ Incident; Date _____

DISTRICT OFFICE | OPERATOR DESIGNATOR

OTHER | COMMUTER | FAA | MFG. | AIR TAXI | MECH. | OPER. | REP. STA.

SUBMITTED BY:

TELEPHONE NUMBER: ( ) –

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

AFS-640

Official Business
Penalty for PrIvate Use $300

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 12438 WASHINGTON, D.C.

Federal Aviation Administration
AFS-640 (Alerts)
P.O. Box 25082
Oklahoma City, OK 73125-5029