



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

Aviation Maintenance Alerts

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**ALERT NO. 263
JUNE 2000**

**Improve Reliability-
Interchange Service
Experience**

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

AVIATION MAINTENANCE ALERTS

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

UNAPPROVED PARTS NOTIFICATION

NUMBER 99-273, MAY 18, 2000

SUBJECT: Unapproved Aircraft Control Cable

AFFECTED MATERIAL: (Bulk Wire Rope) manufactured between 1991 and 1998, which can be used for aircraft/engine/propeller control cables.

PURPOSE: The purpose of this Unapproved Parts Notification (UPN) is to advise all aircraft owners, operators, manufacturers, maintenance entities, and parts distributors regarding the production of nonconforming material to specification MIL-W-83420 (manufacturer's cage code: 4R506). Evidence exists that bulk wire rope may have been installed on civilian, type-certificated aircraft.

BACKGROUND: The Defense Criminal Investigative Service (DCIS) has initiated an investigation relating to information received that Strandflex Cable (Strandflex), a division of Maryland Specialty Wire, Oriskany, NY 13424, was not conducting quality conformance inspections in accordance with MIL-W-83420 (wire rope, flexible, for aircraft control). The DCIS investigation to date has disclosed that the referenced aircraft control cable may not

have been subjected to all the quality conformance inspections set forth in MIL-W-83420.

Information received revealed that Strandflex did not possess the equipment necessary to conduct certain quality conformance tests. In addition, the Federal Aviation Administration (FAA) has obtained test results conducted by DCIS indicating that material purchased by the DCIS, from Strandflex, has failed to meet certain quality requirements, including visual inspection and endurance testing as required by MIL-W-83420. For example, one endurance test result indicated a rope fracture at a peak load of 659 lbs. This load did not meet the minimum requirement of MIL-DTL-83420F of 1,056 lbs. One visual inspection report indicated that kinks were present in the wire rope sample. The MIL spec does not permit kinks in the wire rope.

RECOMMENDATION: Regulations require that type-certificated products conform to the type design. Aircraft owners, operators, manufacturers, maintenance entities, and aircraft parts distributors are encouraged to inspect their aircraft and/or aircraft parts inventory for materials manufactured by Strandflex. If found in existing aircraft parts inventory, it is recommended that the material be quarantined to prevent installation in aircraft until the material can be inspected for conformity to MIL-W-83420. Appropriate

action should be taken if any of this material has been installed on aircraft, aircraft engines, or propellers.

FURTHER INFORMATION: Further information may be obtained from the FAA Manufacturing Inspection Office (MIO) shown below. The FAA would appreciate any information relating to the above-referenced unapproved material from any source, the means used to identify the source, and the action taken to remove the material from service or stock.

It is requested that findings of nonconformity of this wire rope be forwarded to the Engine & Propeller Directorate, Manufacturing Inspection Office (MIO), 12 N.E. Executive Park, Burlington, MA 01803, telephone (781) 238-7183, FAX (781) 238-7898. Please include a description of the nonconformity, the inspection, and/or test used to make that determination. This notice was published through the FAA Suspected Unapproved Parts Program Office, AVR-20, telephone (703) 661-0581, FAX (703) 661-0113.

AIRPLANES

BEECH

Beech; Models 19, 23, and 24R Series; Wing Spar Corrosion; ATA 5711

The FAA Aircraft Certification Office (ACE-118W), located in Wichita, Kansas, submitted the following article.

During scheduled inspections, a technician found severe corrosion on Beech Model 23-series wing spar lower channels. The corrosion appeared outboard of the wing flap attachment for the bellcrank. The aircraft manufacturer issued "Class I Service Instruction number 0824-035,

revision II" which prescribes inspection criteria for these aircraft which are 5 or more years old.

Since the inspection criteria are critical to safe operation, technicians should comply with the inspection criteria as part of each annual inspection.

Part total time not applicable.

Beech; Model A36; Bonanza; Improper Rudder Cable Routing; ATA 2720

During the first annual inspection on a new aircraft, the inspector found a misrouted rudder cable.

Evidently, during assembly, the manufacturer routed the rudder cable (P/N R-106-524051-5) through the wrong bulkhead lightening hole in the area of the landing gear actuator. The submitter speculated lack of attention to detail during manufacturing caused this defect. He stated the cable did not yet display damage; however, he removed, inspected, and properly re-installed the cable.

Part total time-69 hours.

Beech; Model 58TC; Baron; Turbocharger Mount Crack; ATA 8120

During an annual inspection, the inspector found the right engine turbocharger mount bracket (P/N 640321) cracked under and near the end of the lower stiffener bend radius. He stated the crack traveled toward the lower lightening hole and was approximately 1 inch long.

The submitter could not determine the cause of this defect other than vibration.

Part total time-3,304 hours.

Beech; Model B60; Duke; Wing Flap Defect; ATA 2750

When the pilot experienced a "split-flap" condition during flight, he immediately retracted the flaps and made a safe landing.

While investigating this defect, the technician discovered the right wing flap would not extend when he applied simulated airload pressure. The left wing flap functioned normally causing the "split-flap" condition. Further inspection revealed a loose swaged fitting on the right flap cable (P/N 12957Y) drive end at the motor. The submitter suggested a "twist" test of the flex drive cable at 500-hour intervals to detect defects.

Part total time-794 hours.

Beech; Model 65; Queen Air; Defective Flight Control Fasteners; ATA 5540

During a scheduled inspection, the technician discovered loose rivets in the rudder torque tube.

All the rivets used to attach the torque tube (P/N 50-600016) to the fitting (P/N 50-600017) were sheared. The technician could not determine a cause for this defect; however, he suggested this area be given close attention during scheduled inspections.

Part total time not reported.

Beech; Model B99; Airliner; Loose Horizontal Stabilizer; ATA 5510

During a scheduled inspection, the inspector discovered the horizontal stabilizer was loose at the pivot supports.

The submitter stated it appeared to be normal wear of the pivot supports (P/N 115-620020); however, he speculated lack of lubrication may have been a contributing factor. He replaced the left pivot support brackets, right pivot support brackets, bearings, and hardware.

Part total time not reported.

Beech; Model 99; Airliner; Door Latch Worn; ATA 5230

The pilot reported he could not properly secure the nose baggage compartment door latch.

A maintenance technician removed and replaced the latch assembly (P/N H991-1) and discovered the latch pivot hole severely worn and elongated. The submitter speculated the wear was normal but possibly accelerated by lack of lubrication. Although he could not determine the exact time in service, it appeared the latch had been in service for a long time. The technician suggested checking the pivot area of the latches closely during scheduled inspections.

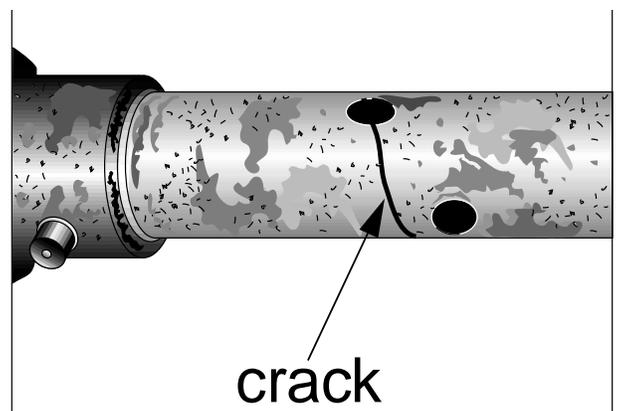
Part total time unknown.

Beech; Model 99; Airliner; Defective Elevator Control System; ATA 2730

During a scheduled inspection, the technician discovered a defect in the elevator control system.

The left elevator control torque tube (P/N 115-610010-325) displayed a severe crack. The crack progressed to the point of imminent failure. (Refer to the following illustration.) The FAA, Service Difficulty Reporting (SDR) program data base contains 18 additional reports concerning various failures on this particular part. We caution all to exercise close attention to the condition of the elevator torque tube assembly during inspections and maintenance.

Part total time not reported.

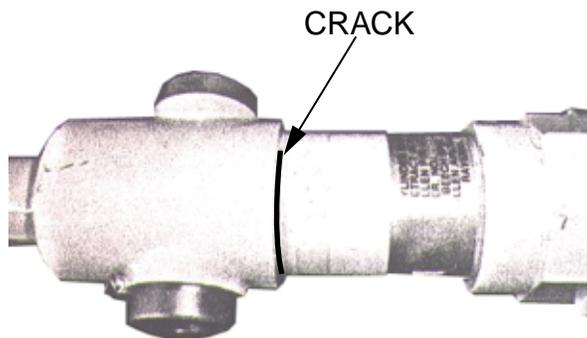


Beech; Model C99; Airliner; Defective Main Landing Gear Actuator; ATA 3233

During a postflight inspection, the technician discovered hydraulic fluid in the left main landing gear wheel well.

The technician placed the aircraft on jacks and conducted a landing gear operational test which disclosed a leak in the gear actuating cylinder (P/N 99-388008-1). After removing the actuator, he discovered the fluid leak originated from a 2-inch long crack in the cylinder housing. (Refer to the following illustration.) Given the relatively short time since the overhaul facility released this part, the technician questioned the overhaul facility's quality-control function.

Part time since overhaul-72 hours.

**Beech; Model 2000; Starship; Wheel Bearing Failure; ATA 3240**

While conducting a preflight inspection, the pilot noticed the right main landing gear wheel assembly appeared tilted and the hub cap bulged.

A technician investigated and found the inboard wheel bearing (P/N 13889) failed. The wheel and brake assembly (P/N 122-810078-7) received collateral damage. The submitter

speculated poor wheel assembly design caused the damage. He reported finding other like failures in this area.

Part total time not reported.

CESSNA**Cessna; Models 150 and 152; Rudder Control System Failure; ATA 2720**

The FAA Aircraft Certification Office (ACE-118W) located in Wichita, Kansas, submitted the following article which is printed as received.

Alert to owners/operators of Cessna Models 150 and 152 series airplanes manufactured after 1966:

Recently, a Cessna Model 152 was involved in a fatal stall/spin accident. A flight instructor and student pilot were performing a spin maneuver and were unable to recover. When the aircraft involved in the accident was inspected, investigators found the rudder to be jammed. During a 50-hour check the day before the accident, the right pedal rudder bar return spring and its lever arm were found to be broken. These broken pieces of the rudder control system were removed without replacement. On completion of the 50-hour checks, the airplane was returned to service with no reference to the outstanding defect, recorded in the logbook.

Accident investigators, after examining the accident aircraft and other 152's (swept-tail 150's have the same design of rudder control system), have determined that, under certain conditions, it is possible to jam the rudder past its normal travel limit. The jam occurs when the stop plate on the rudder horn is forced aft of the stop bolt head. The forward edge of the stop plate can then become lodged under the head of the stop bolt causing the rudder to jam in this over-travel position. The rudder control system includes right and left pedal

rudder bar return springs which maintain tension on the rudder cables. Accident investigators believe that the missing rudder pedal return spring, in addition to extreme rudder pedal inputs, contributed to the conditions that allowed the rudder to jam. Recovery from a spin may not be possible with the rudder jammed beyond the normal rudder travel stop limits.

To prevent reoccurrence of the rudder jamming in this way, the Cessna Aircraft company is currently in the process of investigating possible design changes to the rudder stops.

With or without these design changes, operators/maintenance personnel should be aware of the importance of maintaining integrity of the rudder control system, including the pedal return springs. A number of important items to keep in mind while inspecting the rudder control system are:

The condition of the rudder structure (no damage or distortion – especially in the area of rudder horn attachment).

The condition of the rudder horn (a number of in service rudder horns have been found bent or distorted, thus not allowing the stop plate to contact the stop bolt head squarely or allowing the stop plate to contact the side of the tailcone structure above or below the stop bolts).

The condition of the rudder pedals and rudder pedal torque tubes. Check for free movement of the rudder pedals, and verify there is no interference of the pedals, torque tube cable arms and the return spring arm with the surrounding structure or other control system components (the accident aircraft showed signs of rudder cable attachment bolt interference with the adjacent aileron cable pulley).

The condition of the rudder horn stop plate. The stop plate should contact the stop bolt head squarely. The lip at the forward edge of the stop plate should not

contact the stop bolt head prior to contact with the contact face of the plate. Ensure the integrity of the stop plate lip.

Correct rigging of the rudder control system, including:

Proper adjustment of the rudder travel stop bolts.

Correct adjustment of rudder cable length (to provide correct rudder pedal position and correct cable tension through return spring tension).

Proper nose gear steering tube (bungee) length.

As described above, even small deviations can contribute to tragedy.

Cessna; Model 152; Engine Failure; ATA 2800

The temperature had been below freezing for approximately 2 weeks with snow and sleet several days prior to this incident.

During takeoff, the engine failed, and the pilot executed an emergency landing. There were no personal injuries, and the aircraft suffered only minor damage.

Maintenance personnel recovered the aircraft and investigated the engine failure cause. A technician found water contamination in the left fuel tank and downstream to the carburetor. He surmised carburetor ice caused the engine failure. He believed the water entered into the fuel system via a worn fuel tank cap seal which he replaced.

This incident highlights the importance of a thorough preflight inspection including draining all fuel sumps and inspecting the samples taken for the presence of water and/or contamination. Sometimes, especially during inclement weather, preflight inspections are “abbreviated” which may lead to unpleasant surprises and a degradation of flight safety.

Aircraft total time-7,679 hours.

Cessna; Model 172M; Skyhawk; Chafing Fuel Line; ATA 2820

During the first annual inspection after a new owner purchased this aircraft, the maintenance technician discovered a fuel line chafing hard against the steering rod.

The technician stated the fuel line (P/N 0500118-74) location is between the fuel selector valve and the fuel strainer, and passes under the copilot's rudder pedals. Each time the rudder pedals moved, the steering rod rubbed against the fuel line at a bend radius. The fuel line had worn to the point of imminent failure. When the technician installed a new fuel line, he discovered it also made contact with the steering rod during rudder pedal movement. He corrected this problem by "hand forming" the fuel line to provide adequate clearance.

The submitter operates a fleet of four like aircraft and found one other aircraft with this defect.

Part total time-2,428 hours.

Cessna; Model 172R; Skyhawk; Defective Door Installation; ATA 5210

After a flight, the pilot reported a broken right cabin door hinge.

A maintenance technician discovered the right lower cabin door hinge pin failed. The technician found the outer door skin in the area of the lower hinge improperly trimmed and extended forward, binding under the fuselage skin forward of the door. The submitter speculated the binding skin caused stress concentration resulting in the hinge pin failure. After replacing the hinge pin and trimming the door skin, the door operated with proper clearance. This defect could result in in-flight door separation and loss of aircraft control.

Part total time-654 hours.

Cessna; Model R182; Skylane; Defective Nose Landing Gear Down-Lock Actuator; ATA 3230

A technician conducted an inspection in accordance with Cessna Service Bulletin (SEB) 95-20, and discovered defective down-lock pins.

He stated the location of the nose gear down-lock pins (P/N 1280209-1) is in the bearing end of the actuator. He found the left pin loose and rotating freely in the fitting and the right pin broken. The technician inspected the attaching components further and discovered the nose gear drag link (actuator) attachment bracket (P/N 2243009-4) cracked through the upper rivet hole used to attach the bracket to the airframe. During further inspection, the technician found several related cracks in the surrounding structure that the bracket hid from view. The grip length of the drag link attachment bolt displayed severe wear.

The main purpose of SEB 95-20 is to install newly-designed downlock pins, furnished in Cessna Service Kit number SK210-115.

Part total time-3,935 hours.

Cessna; Model 210L; Centurion; Improper Seat Security; ATA 5346

While inspecting the aircraft, the technician found the pilot seat tracks improperly secured.

The technician discovered the seat tracks (P/N 1210520) were not fastened to the structure below the floor, and the wrong fasteners were used to secure the seat to the tracks. Cessna provided technical support and instructions for correcting this defect. The seat tracks are considered major structure and are critical to flight safety.

Part age-9 years.

Cessna; Model T210N; Centurion; Electrical System Failure; ATA 2400

The pilot reported that when he selected the landing gear "down" position the hydraulic pump began running and then stopped in midtravel. At the same time, the entire electrical system failed. The pilot lowered the landing gear using the emergency system and made a safe landing.

The technician examined the master switch solenoid (P/N S2475-2) and discovered an open electromagnetic coil wire. He found the wire broken and the terminal severely corroded.

It is interesting that failure of this one wire produces a total electrical system failure. It also points out that condition and proper routing are very important; therefore, this area deserves close attention at every opportunity.

Part total time-5,658 hours.

Cessna; Model 414A; Chancellor; Pilot Seat Failure; ATA 2510

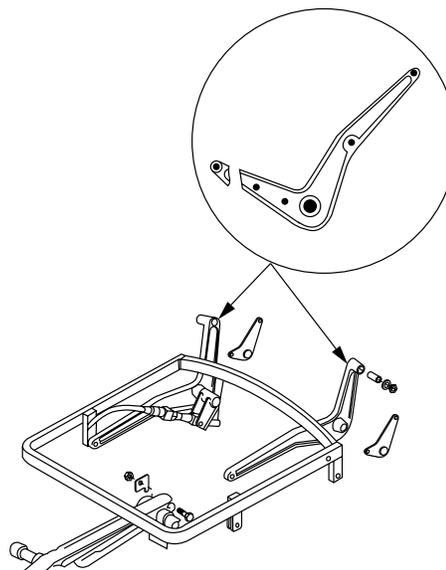
While parked at a fixed base operator (FBO) to pick up passengers, the pilot had both engines operating and the parking brake set. In preparation for departure, the pilot leaned back in his seat, the seat back failed, and the pilot ended up on his back still strapped to the seat. From this position, he could not reach any of the aircraft controls. After regaining his balance and composure, the pilot secured the aircraft.

A maintenance technician and the pilot investigated the cause of this incident. They found the outboard seat pivot arm (P/N 0812735-8) broken. (Refer to the following illustration.) It appeared the pivot arm casting failed due to a porosity flaw at the point of failure. The technician stated discoloration distinguished the porosity inside the casting which traveled to the surface of the casting.

The technician contacted a local parts distributor to acquire a new part and learned the distributor recently sold five other pivot arms to replace broken units. The FAA, Service Difficulty Reporting (SDR) program data base contains three additional reported failures. One of those reports stated the broken pivot arms (two) had been previously welded.

A failure such as this, occurring during flight, may have fatal consequences. Therefore, it is critically important that all maintenance personnel, owners, and operators be aware of the circumstances and details of this report and take appropriate action to prevent in-flight failures. This report along with supporting data has been sent to the responsible FAA office for appropriate action.

Part total time-5,500 hours.



Cessna; Model 550; Citation; Broken Antenna; ATA 2562

During a scheduled inspection, the technician found a broken emergency locator transmitter (ELT) antenna.

While researching for the correct replacement antenna, the technician discovered the broken antenna was not proper for this installation. The old antenna is designed for aircraft speeds under 250 miles per hour.

The submitter cautioned that when installing antennas, care must be taken to ensure the airspeed capabilities are correct. In this case, it was fortunate that the antenna was mounted aft of the engine intake!

Part total time-2,941 hours.

Cessna; Model 650; Citation; Pressure Vessel Penetration; ATA 5310

Mr. Bernard Borenstein an Aviation Safety Inspector (Airworthiness) with the FAA, Flight Standards District Office located in Los Angeles, California, furnished this article.

During a scheduled inspection, an FAA certified repair station discovered five unapproved pressure vessel penetration repairs.

Since this aircraft is certified to operate at high altitude (51,000 feet), a Designated Engineering Approval (DER) is required. The DER approval must include a damage-tolerance evaluation in accordance with Title 14 of the Code of Federal Regulations (14 CFR) part 25, section 25.571. The Aircraft Type Certificate, A9NM, Note 20, references the damage-tolerance evaluation.

The technician determined the structure repairs and modifications were not acceptable since they were not performed in accordance with approved data and did not meet the requirements of section 25.571. This discrepancy raises a very critical safety issue and may appear on many other aircraft makes

and models. Although this defect could affect any pressurized aircraft, it may be more prevalent on corporate-type aircraft.

During repairs or alterations, maintenance personnel should diligently search the appropriate technical documents and procedures applicable to the work at hand. Remember, the technician has not completed the job until he or she completes the paperwork! The technician should thoroughly document the entire procedure, including references, in the aircraft maintenance records.

During scheduled inspections, technicians should research and evaluate existing repairs and modifications to ensure the repair concurs with appropriate and current technical data.

Part total time not reported.

MOONEY**Mooney; Model M20M; Engine Exhaust System Defect; ATA 7800**

During several flights, the pilot noticed that the CO² indicator in the cockpit turned black.

While investigating, a technician discovered a crack approximately 1.75-inches long in the engine at the base of the number two cylinder exhaust pipe (P/N 40B21089). He also discovered the exhaust system flanges, which mate to the number one and number five cylinders, were warped approximately .020 inch, the number four cylinder exhaust flange was distorted, and the gasket was damaged and displaced. The FAA Service Difficulty Reporting (SDR) program data base contains two additional reports of similar failures.

Considering the low number of operating hours, the submitter speculated that preload stress was induced on the engine exhaust system members when they were initially installed. The stress culminated in the damage

found. The submitter believes the air vent system drew the escaping engine exhaust gases into the cockpit.

Part total time-45 hours.

PIPER

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

Following a landing accident involving landing gear collapse, an investigator found the links connecting the landing gear motor release arms to the motor release tube were bent.

Both the left and right release arms were bent outboard which resulted in restriction of the motor release tube travel. The bent arms made it impossible to re-engage the gear motor to the gear linkage mechanism. If the connection had been made, the restricted release tube travel would have prevented the release of the gear for emergency extension.

The technician could not determine the cause of the bent gear motor release arms due to conflicting reports concerning the accident events. However, a rigorous investigation suggests the pilot attempted to raise the gear with the motor disconnected which caused the release tube to drop into a position of interference with the gear mechanism. To prevent recurrence, the submitter suggested ensuring that all operators have a working knowledge of how the landing gear release system works. After the emergency gear release is used, qualified maintenance personnel are required to inspect and re-engage the system prior to further flight

Part total time-4,595 hours.

Piper; Model PA 28-181; Archer; Fuel Quantity Failure; ATA 2842

The owner delivered the aircraft to a maintenance facility for correction of a fuel quantity problem. The left fuel tank indicated "empty" even when the tank was full.

A maintenance technician conducted an investigation of the fuel quantity system. He found the "float block" detached from the fuel quantity sending unit float swing arm inside the tank. The float block was worn so severely that it slipped over the retaining washer on the swing arm.

The submitter speculated the float block material was "too soft," and there is not an insert to prevent float block wear.

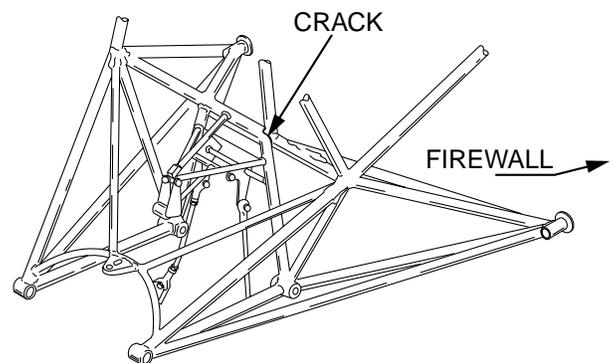
Part total time-4,122 hours.

Piper; Model PA 28R-180; Arrow; Defective Engine Mount; ATA 7120

During an annual inspection, the inspector noticed a discolored area on an engine mount (P/N 67009-49) tube.

Further investigation revealed a crack in the left section of the lower cross-tube. The crack extended almost all the way around the tube circumference and was very close to complete separation. (Refer to the following illustration.) The submitter found a similar defect on another like aircraft during a 100-hour inspection. All maintenance personnel should be aware of the possible existence of this defect.

Part total time-4,103 hours.



Piper; Model PA 28R-200; Arrow; Aileron Bracket Crack; ATA 2710

While conducting other maintenance, the technician discovered a crack in the left aileron bellcrank lower aileron support bracket (P/N 67550-01).

Approximately 1 year prior, the submitter found the same defect on the right aileron control system. The crack allowed the support bracket to flex enough to produce several inches of play at the aileron surface and could create a serious hazard to flight safety. (Refer to the following illustration.) In each case, a technician replaced the support bracket. The submitter speculated this type defect is a function of increasing operating time.

Part total time-5,191 hours.

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

The pilot reported the right main landing gear failed to retract after takeoff. All attempts to lower the gear failed, and he made a landing with an “unsafe” right main gear indication. After the landing rollout, the right main gear collapsed.

A technician moved the aircraft to a maintenance hangar and conducted an investigation. He found a broken right main gear actuator rod-end (P/N 762-554). Evidently, the rod-end failed just after

unlocking the gear, this prevented the gear from going back into the “down-and-locked” position. The submitter speculated the exceptionally high number of operating hours and cycles on the rod-end and other parts caused this failure.

Part total time-11,364 hours.

Piper; Model PA 32-260; Cherokee Six; Defective Cowling Latch; ATA 7110

A maintenance technician reported finding six engine upper cowling latch assemblies cracked within a few hours of operation.

The cracks develop at the bend radius of the “new style” (revision G) latch assembly (P/N 65202-800). The manufacturer designed the latches with a smaller bend radius than the “older style” latches. The submitter believes the smaller bend radius is more conducive to cracking. Failure of the latch could result in loss of the upper engine cowling during flight and possible loss of aircraft control. We urge all operators to check these latch assemblies carefully for bend radius cracks during preflight inspections.

Part total time not reported.

Piper; Model PA 34-200; Seneca; Nose Landing Gear Failure; ATA 3230

During a landing approach, the pilot noticed an unsafe nose landing gear indication when he selected the gear to the “down” position. All attempts to attain a safe nose gear indication failed, and the nose landing gear collapsed when it assumed the aircraft weight.

A maintenance technician investigated, finding the nose gear roller (P/N 95387-00) became dislodged from the track assembly. This caused the unsafe nose gear indication and the nose gear collapse. The submitter speculated the possible causes for this failure may be excessive play in the mounting hardware for the steering channel assembly, normal wear, and/or ground handling damage to the assembly.

Part total time-7,460 hours.

Piper; Model PA 34-200T; Seneca II; Flight Control Cable Damage; ATA 2740

During a scheduled inspection, the technician discovered a damaged stabilator trim tab control cable.

The left stabilator trim tab cable (P/N 62701-097) was chafed and frayed at fuselage station 187.84. At this point, the cable passed through a bulkhead hole and chafed against the side of the hole. When the technician installed a new cable, he had to make adjustments to the pitch trim system to provide proper clearance for the cable to pass through the bulkhead.

The submitter urges thorough inspections of the condition of the flight control cable and proper clearance at every opportunity.

Part total time-3,464 hours.

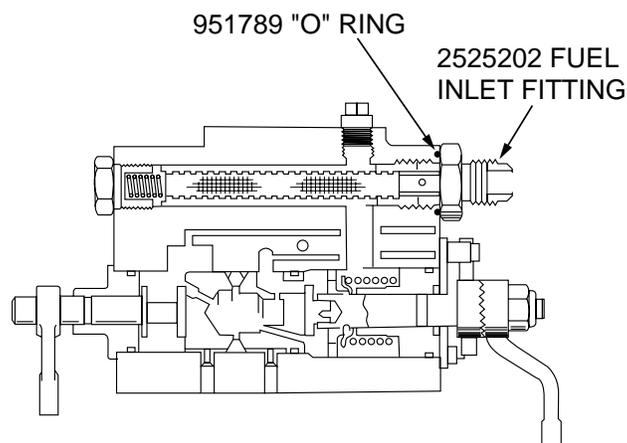
Piper; Model PA 34-220T; Seneca III; Fuel Servo Missing Seal; ATA 7322

After replacing the fuel servo (P/N 2576540-4-F) on the left engine, the technician conducted a pressure test. With pressure on the system, fuel leaked from the inlet port fitting.

The technician removed the inlet fitting and found the "O-ring" seal (P/N 951789) was missing. (Refer to the following illustration.) The fuel servo came (new) from the manufacturer with all of the fitting installed and torqued. It seems logical to assume that new aircraft parts received with fittings, hardware, and other attachments installed are ready for installation. However, as this instance illustrates, that assumption may not always be correct. Had the technician not

conducted a pressure test after installing this unit, a condition hazardous to safety would have occurred.

Part total time-0 hours.



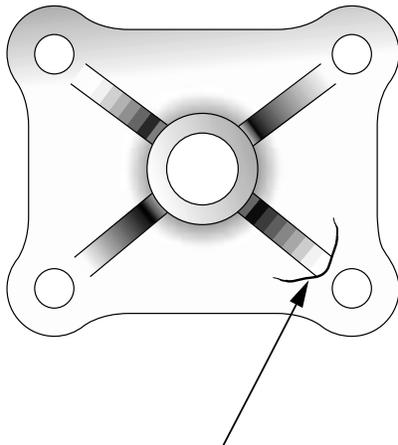
Piper; Model PA 42-1000; Cheyenne; Main Landing Gear Fitting Crack; ATA 3211

During a scheduled inspection, the technician found the aft main landing gear side brace trunnion fitting cracked.

The submitter included four occurrences of this defect, on the same type aircraft. All of the cracks appeared in or adjacent to the casting web of the fitting and were in the area of the inboard lower bolt hole. (Refer to the following illustration.) These cracks were not readily visible and were manifest by a small discontinuity in the paint covering. The side brace rear trunnion fitting (P/N 40294-06) is used on other Cheyenne-series aircraft, and it

is recommended that this area be closely checked during scheduled inspections.

Part total times-3,439, 3,938, 4,102, and 4,881 hours.



TYPICAL CRACK AREA

HELICOPTERS

BELL

Bell; Models All 412, 412EP, 412CF, and 212; Structural Defect; ATA 5500

The FAA, Rotorcraft Certification Office (ASW-170), located in Fort Worth, Texas, submitted the following article.

Several Bell Model 412 operators reported recent fractures of the fuselage cap angle, (P/N 212-030-191-001). The cap angle is located in the aft fuselage compartment in the upper left corner of the tailboom attachment area.

Cracks were discovered in cap angles of two different aircraft at locations near the forward edge of the upper left tailboom

attachment fitting. Laboratory reports for one of the cap angles concludes metal fatigue caused the fracture.

Bell Helicopter Textron released Alert Service Bulletin (ASB) 412-00-100, dated March 24, 2000, for Models 412 and 412EP helicopters and a temporary revision to the Maintenance Manual which both provide a more detailed inspection area and procedure using a 10-power magnifying glass.

This area deserves close attention during inspection and maintenance. Technicians may gain visual access through the right hand aft fuselage door.

Aircraft total times-3,110 and 15,600 hours.

EUROCOPTER

Eurocopter; Model AS350B2; Ecureuil; Free-Wheel Coupling Damage; ATA 6310

During a postflight inspection, the technician found a loose bolt on the engine free-wheel unit aft flange.

The bolt lost torque and backed out of the threads in spite of being safetied. The loose flange bolt caused collateral damage to the free-wheel shaft, tail-rotor short shaft assembly, flanges, aft free-wheel bearing, tail-rotor long shaft splines, aft coupling bushing halves, and the aft coupling attachment bolt.

The technician replaced the damaged parts. Following the manufacturer's specifications, he balanced the tail rotor short shaft and the tail rotor assembly. He conducted an engine vibration test which was within the specified tolerance limit. The submitter could not determine the exact cause for this damage.

Helicopter total time-835 hours.

Eurocopter; Model AS350BA; Ecureuil; Main Rotor Antivibration Assembly Damage; ATA 6300

During a scheduled inspection, a technician found metal flakes in the spherical bearing inside the frequency adapter.

The technician determined the flakes were lead. After further inspection, he discovered a broken bolt inside the antivibration spring housing. The technician removed and disassembled the antivibration assembly and discovered the lead weights displayed severe galling. The submitter believes loss of torque and failure of the attachment bolt used to secure the lead weight to the inner shaft caused the galling. He also discovered the aluminum locating pin for the lead weight was broken.

The submitter recommended inspecting the lead weight's attachment bolt torque during 500-hour inspections. A technician can gain access to the bolt by removing the "lifting eye plug" from the top of the antivibration assembly.

Part total time-3,022 hours.

MCDONNELL DOUGLAS

McDonnell Douglas; Model 600N; Flight Control Interference; ATA 6720

While conducting a preflight inspection, the pilot noticed an abnormal "snapping" noise when he operated the pedals. The noise seemed to come from the midsection of the helicopter.

A maintenance technician inspected the flight control rods, the splitter assembly, and the control cables. He found the forward control cable (P/N 500n7201-37) twisted, bent, and the plastic sheathing chafed at the aft terminal hex-shaped end. The full-right pedal deflection sent the hex terminal end out of the hex-shaped cable guide. The full-left pedal deflection causes the hex portions to realign

causing the "snapping" noise as it reentered the cable guide. Both the terminal end and the cable guide required replacement.

Part total time-461 hours.

SIKORSKY

Sikorsky; Model S-64E; Skycrane; Tail Rotor Drive Shaft Bearing Damage; ATA 6510

After half an hour of ground operation and half an hour of flight, a technician found the tail rotor drive shaft bearing severely damaged.

The technician found a large quantity of discolored (purple), metal-contaminated grease extruding from the bearing (P/N SB1111-004). The grease came past the bearing seal. The entire bearing was very hot and was in danger of complete failure and separation. The submitter did not offer a cause for this defect.

Bearing total time-1 hour.

POWERPLANTS AND PROPELLERS

PISTON ENGINE CRANKCASE BREATHER ICE PROTECTION

After the FAA Aircraft Certification Office (ACE-116W) located in Wichita, Kansas, submitted the following article, we printed the article in the April 2000 edition of this publication. We are reprinting the article to correct and clarify information concerning the intended hole size.

Recently a small, single-engine type-certificated airplane experienced an engine failure due to a reported frozen crankcase breather line. The engine reportedly seized after all the oil was lost (presumably through the front crankcase seal). When this happens on a single-engine airplane, the lost oil usually

obstructs the windshield which further adds to the pilot's difficulty in making a safe, emergency landing.

The FAA has repeatedly issued Airworthiness Directives and Alerts on this subject, which can be adequately resolved simply by insuring that there is a number .250 (1/4 inch) hole in the breather line at least 6 inches (a maximum of 9 inches) from the end of the line where it exits the cowl. Therefore, maintenance personnel are encouraged to verify that all piston-powered aircraft are adequately protected with a method of crankcase breather ice protection. It should be noted that the ice actually forms from moisture inside of the breather line during operations at below freezing ambient temperatures. During crash investigation of aircraft that have experienced this condition, a cylinder of ice is usually found in the crankcase breather line that is a minimum of 2 inches in length. An ice cylinder up to a maximum length of 4 inches is sometimes detected. Obviously, environmental conditions suitable for airframe icing do not need to exist for crankcase breather icing to occur. Addition of the alternate ice hole will only provide for an alternate breather outlet when the exposed end of the line freezes over.

Installation of the .250-inch hole in the breather line will sometimes result in an oil streak on the interior of the engine nacelle or on the fuselage. However, this is considered to be a small price to pay for such significant protection of the engine installation.

ALLISON

Allison; Model 250-C20B; Combustion Case Crack; ATA 7240

A Bell, Model 206 helicopter used this engine. While hovering, the pilot noticed the turbine outlet temperature (TOT) registered higher

than normal. After landing, the pilot reported this problem to the maintenance shop.

A technician changed the bleed air valve and checked the anti-ice system for proper operation. He performed an operational test and discovered a substantial engine power loss. He removed the engine which revealed a crack on the back of the combustion case (P/N 6870992). The crack, located adjacent to the fuel nozzle, was approximately 3 inches long. The submitter gave no cause for this defect.

Part time since overhaul-199 hours.

TELEDYNE CONTINENTAL

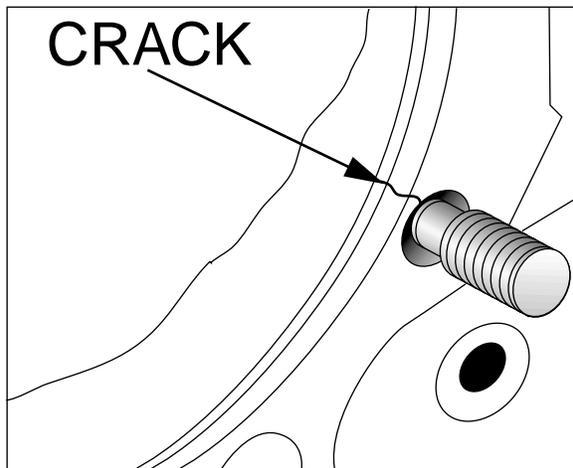
Teledyne Continental; Model IO-520C; Cylinder Crack; ATA 8530

A Beech, Model 58 Baron aircraft used this engine.

During a scheduled inspection, the technician removed the number one cylinder from the left engine and discovered a crack. The crack, located in the cylinder pad boss, traveled from the cylinder hold-down stud boss to the cylinder.

The technician found the same defect on the number four cylinder on the right engine. (Refer to the following illustration.) On the right engine, the crack relieved tension on the stud and allowed it to turn into the case and contact the connecting rod throw. The resulting force caused massive multiple fractures of the engine case.

Engine time since overhaul-1,333 hours.



AIR NOTES

INCONSPICUOUS HAZARDOUS MATERIAL

Eileen Van Lent, an FAA Aviation Safety Inspector with the Lincoln, Nebraska, Flight Standards District Office, researched and submitted the following article.

This information was taken from the National Aeronautics and Space Administration (NASA), Aviation Safety Reporting System. Even though these events occurred on air carrier aircraft, they could very easily occur on general aviation aircraft. Fortunately, no one was injured during the occurrences related below.

A group of people planned a fishing trip to Alaska and agreed that each person should pack certain items of common need. Each person was given a list of the items they were required to pack. The obvious hazardous materials, fuel and stove oil, were prearranged for delivery to the camp site. On one of the fishermen's list was matches, and he packed a box of "wooden matches" in his duffel bag.

While loading the aircraft, a baggage handler noticed that the duffel bag was very warm. He opened the duffel bag and found that the wooden matches had ignited from the chafing action of one match against another. The duffel bag also contained a fire starter product made of sawdust and paraffin shaped like a candle. After the matches ignited, they extinguished themselves, probably due to oxygen starvation.

Another incident occurred after a passenger placed a large number of matches in a suitcase along with a phone book. The matches rubbed together and caught fire as the suitcase was being loaded into the aircraft cargo bay. The suitcase did not display any signs of fire but felt warm as the baggage handler was loading it. The baggage handler could have dismissed the "warm" suitcase as "just another hot day on the ramp." However, he chose to investigate and discovered the beginning stages of a fire. Thanks to the consciences baggage handler, a possible disaster was averted.

An incident involving butane lighters occurred when a flight attendant noticed smoke in the cabin during the boarding process. The cabin crew discovered a smoldering passenger's bag in the overhead bin. The bag contained five animal-shaped butane lighters. Apparently, one "horse-shaped" lighter, which is activated by pressing on the horses tail, was hit by another bag causing it to produce a flame. Airport security personnel questioned the owner of the bag prior to boarding. However, the passenger did not converse well in English, and the security agent mistook the lighters for toys.

Finally, the aircraft cabin crew found that a bag stored in an overhead bin was the source of a small explosion. A passenger packed a battery-powered, drill-type piece of equipment in his luggage, and due to an internal short, the battery exploded.

These incidents are provided not to alarm you but to make you aware of the potential for problems which may occur when carrying even innocent appearing articles. Remember, any item which has a potential for degrading flight safety should be considered "Hazardous Material." If you are not sure of an item, consult the security office at your local airport for more information.

SERVICE DIFFICULTY PROGRAM DATA AVAILABLE ON THE INTERNET

The FAA, Service Difficulty Reporting (SDR) Program is managed by the Aviation Data Systems Branch, AFS-620, located in Oklahoma City, Oklahoma. The information supplied to the FAA in the form of Malfunction or Defect Reports, Service Difficulty Reports, or by other means, is entered into the SDR data base. This information has been available to the public through individual written request. This method has provided the aviation public with an invaluable source of data for research or finding specific problems and trends.

The Service Difficulty Reporting Program relies on the support of the aviation public to maintain the high quality of data. AFS-620 has included the SDR data on an Internet web site, which is now available to the public. Using the web site will expedite the availability of information. The Internet web site address is:

<http://av-info.faa.gov>

On this web site, select "Aircraft" along the top of the page, next select "Service Difficulty Reporting," and then select "Query SDR Data."

This web site is now active; however, it is still under development and improvements are being made. We ask for your patience, ideas, and suggestions. If you find the web site useful, let us know. Also, spread the word

about the availability of information on the web site. To offer comments or suggestions, you may contact the web master or call Tom Marcotte at (405) 954-4391.

Please remember that the information contained in the SDR data base is only as good as the input we receive from the aviation public. Also, the data used in production of this publication is derived from the SDR data base. In that regard, we solicit and encourage your participation and input of information.

This publication, as well as many other publications, was previously included on the "FedWorld" internet site. The FedWorld site was terminated on April 15, 2000. The data previously listed there is presently being transferred to the "av-info" web site.

ADDRESS CHANGES

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

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

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

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

SUBSCRIPTION FORM

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

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

IF YOU WANT TO CONTACT US

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

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

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

AVIATION SERVICE DIFFICULTY REPORTS

The following are abbreviated reports submitted between April 25, 2000, and May 23, 2000, which have been entered into the FAA Service Difficulty Reporting (SDR) System data base. This is not an all inclusive listing of Service Difficulty Reports. The full SDR reports can be found on the internet at: <<http://www.fedworld.gov/pub/faa-asi/faa-asi.htm>>. This internet address takes you to the FAA ASI Library and the SDR reports are listed by weekly entries. This data base is maintained by the FAA, Regulatory Support Division, Aviation Data Systems Branch, AFS-620 located in Oklahoma City, Oklahoma. The mailing address is:

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

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

FEDERAL AVIATION ADMINISTRATION
 Service Difficulty Report Data

Sorted by Aircraft Make and Model then Engine Make and Model. This Report Derives from Unverified Information Submitted By the Aviation Community without FAA review for Accuracy.

ACFTMAKE	ENGMMAKE	COMPMAKE	PARTNAME	PARTCONDITION	DIFF-DATE	TTIME
ACFTMODEL	ENGMMODEL	COMPMODEL	PARTNUMBER	PARTLOCATION	FAAREPORTNO.	TSO
REMARKS						
		HARTZL	EROSION	CRACKED	03/20/2000	
			D5133	PROPELLER	2000050900138	
CRACKED AND DEBONDED EROSION SHIELDS. PRELOAD LOOSE. DISASSEMBLED AND CLEANED PROPELLER. REPLACED EROSION SHIELDS BLADE NR 1 SN 1588. BLADE NR 2 SN 1590. SET PRELOADS. REASSEMBLED PROP, SET BLADE ANGLES. REV AT 14.5 INCHES, FEATHERAT 79.0 INCHES, L.P. AT 18.6 INCHES, STATIC BALANCED PROP IAW HARTZELL CMM.						
		HARTZL	EROSION	CRACKED	03/20/2000	
			D5133	PROPELLER	2000050900139	
CRACKED AND DEBONDED EROSION SHIELDS. PRELOAD LOOSE. DISASSEMBLED AND CLEANED PROPELLER. REPLACED EROSION SHIELDS BLADE NR 1 SN 1588. BLADE NR 2 SN 1590. SET PRELOADS. REASSEMBLED PROP, SET BLADE ANGLES. REV AT 14.5 INCHES, FEATHERAT 79.0 INCHES, L.P. AT 18.6 INCHES, STATIC BALANCED PROP IAW HARTZELL CMM.						
		HARTZL	EROSION	CRACKED	02/16/2000	
			D5133	PROPELLER	2000050900157	
EROSION SHIELD DEBONDED AND CRACKED BLADE NR 2. REMOVED AND REPLACED EROSION SHIELD WITH NEW, STATIC BALANCED PROPELLER IAW PROCEDURE 001 AND HARTZELL CMM. NR 2 BLADE SN 1497, BOOT SN 0255. HYSOL BATCH NR AS9163016 AND 9228-1 (X)						
		HARTZL	HUB	STRIPPED	04/07/2000	
			D653012	PROPELLER	2000050900159	
PROPELLER WAS RETURNED FOR LOOSE MOUNTING STUD. AFTER REMOVAL OF THE STUD, FOUND STUD ATTACHMENT THREADS IN THE HUB WERE STRIPPED. (X)						

	GARRTT	DISK	DAMAGED	03/22/2000
	TFE731*	30723515	NR 1 LPT	2000050900233
NEW PART RECEIVED FROM HONEYWELL WITH DAMAGE IN POST FIR TREE AREA. (X)				
	GARRTT	DISK	DAMAGED	04/10/2000
	TFE731*	30720705	LP TURBINE	2000051100042
NEW PART RECEIVED FROM HONEYWELL WITH DAMAGE IN CURVIC AREA AND POST FIR TREE AREA. LOT NR: 00P081.				
	GARRTT	DISK	DAMAGED	04/12/2000
	TFE731*	30723163	HP TURBINE	2000051100438
NEW PART RECEIVED FROM HONEYWELL WITH 3 DENTS IN POST FIR TREE AREA AFT SIDE. LOT NR 00P054. (X)				
	GARRTT	DISK	DAMAGED	04/14/2000
	TFE731*	30723163	HP TURBINE	2000051100439
NEW PART RECEIVED FROM HONEYWELL WITH DAMAGE IN POST FIR TREE AREA. LOT NR 00P054. (X)				
	GE	SHAFT	DAMAGED	03/13/2000
	CF650*	1703A38G02	ENGINE SPOOL	2000051100137
AFTER SHOP MAINTENANCE AND RETURN TO SERVICE, ENGINE SUSTAINED TRANSPORT DAMAGE TO FAN SECTION. THE ENGINE WAS RETURNED TO THE SHOP FOR REPAIR AND TEST RUN. DURING TEST RUN, OIL LEAKAGE OCCURRED FORCING A DISASSEMBLY OF THE ENGINE. AFTER DISASSEMBLY, NOTED THE 11/14 SPOOL SHAFT HAD A CRACK IN THE THREADED AREA WHERE THE AIR DUCT CONNECTS. THIS PART IS UNDER INVESTIGATION BY GE AND KLM. PART LIFE				
	LYC	PRECISION FLOAT	DAMAGED	05/15/
2000				
	O360F1A6	HA630800	CARBURETOR	2000051700103
100CC FUEL LEAKED INTO THE CHAMBER CLOSEST TO THE FULCRUM OF THE FLOAT ASSEMBLY DUE TO THE COMPROMISED INTEGRITY OF THE PLASTIC WELDED SEAM. (X)				
	LYC	SPRING	BROKEN	04/25/2000 280
	O540*	LW14995	PUSH ROD	2000051700104
PUSH ROD RETAINER SPRING, PN LW-14995, BROKEN. PART INSTALLED FROM KIT MFG AFTER DATES LISTED IN LYC SB				
	PWA	IGNITOR	DAMAGED	03/30/2000
	JT15*	CPW3039828	ENGINE	2000050900134
DURING NORMAL MAINTENANCE, FOUND IGNITERS ON TWO SEPARATE AIRCRAFT (BOTH BATCH NR 1H99), CENTER ELECTRODES AND CERAMIC INSULATORS RECESSED APPROXIMATELY .75 INCH. UPON FURTHER INVESTIGATION, FOUND ELECTRODE ASSY WAS LOOSE AND FREE TO FLOAT WITHIN IGNITER. BOTH IGNITERS WERE INOPERABLE UPON				
	PWA	IGNITOR	DAMAGED	03/30/2000
	JT15*	CPW3039828	ENGINE	2000050900135
DURING NORMAL MAINTENANCE, FOUND IGNITERS ON TWO SEPARATE AIRCRAFT (BOTH BATCH NR 1H99), CENTER ELECTRODES AND CERAMIC INSULATORS RECESSED APPROXIMATELY .75 INCH. UPON FURTHER INVESTIGATION, FOUND ELECTRODE ASSY WAS LOOSE AND FREE TO FLOAT WITHIN IGNITER. BOTH IGNITERS WERE INOPERABLE UPON				
	PWA	BLADE	DAMAGED	04/04/2000
	PT6A67D	304418301	POWER TURBINE	2000051100436
PART WAS REMOVED FROM STOCK NEW. BLADE PLATFORM ON ONE BLADE WAS FOUND TO BE TAPERED AND VERY THIN. P&WC WAS NOTIFIED AND WERE ADVISED TO REMOVE BLADE FROM STOCK AND SHIP BAD BLADE BACK TO P&WC. PART WAS NEVER PUT INTO SERVICE. (X)				
	AGUSTA	SCISSORS	CRACKED	04/04/2000 4933
A109A2				
		1098110163	MAIN ROTOR	2000051100041
DURING INSPECTION OVERHAUL, THE END OF THE LEVER ASSY (ROTATING SCISSORS ASSY) WAS FOUND TO HAVE A CRACK AT THE BUSHING BOSS END APPROXIMATELY 1 INCH LONG. MATERIAL IS 2 INCHES THICK. (X)				

AIRTRC	PWA	PUSHROD	MISINSTALLED	02/14/2000
	AT301	R1340AN1	ENGINE	2000042800364
ENGINE VALVE PUSH RODS AND ROCKER ARMS WERE REVERSED DURING INSTALLATION ON THE NR 5 CYLINDER. SINCE THE INTAKE ROD IS LONGER AND ENGINE HAS SOLID TAPPETS, THE PUSH ROD ON THE EXHAUST SIDE BENT, AND THE ROCKER ARM BROKE RESULTING IN ENGINE FAILURE. ENGINE OPERATED NORMALLY FOR AT LEAST SEVERAL HOURS BEFORE FAILURE LEADING TO SPECULATION THAT IT DID NOT FAIL UNTIL THE ROCKER ARM BROKE PREVENTING THE EXHAUST VALVE FROM OPENING. (X)				
AMRGEN	LYC	FLOAT	DAMAGED	03/20/2000
AA5B	O360A4K	HA6	A105219	CARBURETOR
2000051700121 225 ENGINE WOULD NOT RUN UNLESS MIXTURE WAS LEANED ALMOST TO IDLE CUT OFF. IT WAS VERY RICH AND WOULD NOT RUN ABOVE 1,500RPM. FOUND PLASTIC FLOAT TO BE FILLED WITH AVGAS TWO OF THREE CHAMBERS. FLOAT, P/N 30-800, CARBURETOR ASSY DATE, 9-97. (X)				
AMTR		SENSOR	MISINSTALLED	04/02/2000
TITANTORNADO			FUEL CELL	2000051100050
SILICONE WAS USED TO INSTALL A FUEL SENSING UNIT INSIDE THE FUEL TANK. THE SILICONE DISSOLVED AND SUBSEQUENTLY CLOGGED THE FUEL FILTER CAUSING THE ENGINE TO FAIL. AN OFF AIRPORT LANDING WAS MADE CAUSING SUBSTANTIAL DAMAGE TO AIRCRAFT. ACFT S/N D96618SOKH0204. (X)				
BBAVIA	CONT	ROCKER	BROKEN	03/17/2000
	7AC	A658	639614	NR 4 CYLINDER
2000052000360 500 PILOT REPORTED A REDUCTION IN POWER. AFTER INVESTIGATING, THE ROCKER ARM HAD BROKEN AT THE CENTER. THIS IS THE OLD TYPE WHICH DOES NOT HAVE AS MUCH MATERIAL AS THE NEW TYPE. (X)				
BELL		SUPPORT	CORRODED	03/22/2000
	206B	206001330001	M/R CYCLIC	2000050900181
DURING THE ANNUAL INSPECTION, THE PIVOT SUPPORT ASSEMBLY WAS FOUND CORRODED. REPLACED SUPPORT ASSEMBLY WITH NEW PART. SUBMITTER RECOMMENDED SPRAYING A CORROSION PREVENTATIVE COMPOUND IN THE AREA OF THE SUPPORT ASSEMBLY. (X)				
BELL		PUMP	FAILED	03/22/2000
	206B	1C274	FUEL BOOST	2000050900182 253
AFT BOOST PUMP INOPERATIVE. INSPECTED AIRFRAME FUEL FILTER AND FOUND FILTER WAS COATED WITH A BLACK CARBON LIKE MATERIAL THAT WAS SUSPECTED TO BE RESIDUE FROM THE MAGNETS SURROUNDING THE BOOST PUMP CORE. (X)				
BELL		INDICATOR	MALFUNCTIONED	03/27/2000
	206B		FUEL QUANTITY	2000051100311
PILOT REPORTED FLUCTUATIONS IN THE FUEL QUANTITY INDICATOR. FLUCTUATED FROM ZERO TO KNOWN QUANTITY. SOLDERED WIRE CONNECTION AT ZERO ADJUST RESISTOR, WAS CORRODED AND LOOSE. RE-SOLDERED AND RECALIBRATED FUEL QUANTITY SYSTEM. SUBMITTER RECOMMENDED THAT HEAT SHRINK COVER OVER SOLDER CONNECTION IS INSTALLED. (X)				
BELL	ALLSN	ALLSN	BEARING	03/08/2000
	206B	250C20	6887772D	GEARBOX
2000042800228 METAL FLAKES DETECTED ON MAGNETIC PICK-UP IN LOWER GEARBOX AND OIL PUMP MAGNETIC PICK-UP. DISASSEMBLED GEARBOX FOR INSPECTION. BEARING INNER AND OUTER RACES BOTH HAD AREAS THAT HAD FLAKED				
BELL		GYRO	DAMAGED	02/15/2000
	206L4	206075606107	COCKPIT	2000051700126
SETTING KNOB SLIPS WHEN TRYING TO RESET COMPASS CARD. (X)				
BELL		BEARING	CORRODED	03/22/2000
	206L4	206011118001	MAIN ROTOR HUB	2000051700127
STAIN AND CORROSION PITS ON ROLLERS. (X)				
BELL		PANEL	CRACKED	02/01/2000
	206L4	206072406127	COCKPIT	2000051700128
PLASTIC PANEL CRACKED. NOTE: THESE PLASTIC PANELS BECOME VERY BRITTLE IN CANADIAN WINTER WEATHER.				

BELL		INDICATOR	STUCK	03/20/2000	
212		124043	COCKPIT	2000050300117	

GAUGE IS STICKING.

BELL		PULLEY	LOOSE	03/14/2000	2920
407		S3532EC1	T/R DRIVE	2000042800506	

DURING AIRCRAFT RUN-UP FOLLOWING UNRELATED MAINTENANCE, MECHANIC NOTED AIR CONDITIONING COMP STOPPED TURNING WHEN AIR CONDITIONER SYSTEM WAS ACTIVATED. ACFT WAS SHUT DOWN AND MECH FOUND AIR COND DRIVE PULLEY LOOSE ON OIL COOLER BLOWER SHAFT. POSSIBLE CAUSE FOR THIS CONDITION WAS LOSS OF TORQUE BETWEEN DRIVE PULLEY FWD OIL COOLER BLOWER BEARING. DRIVE RING LOCK WAS TIGHT AND SAFTIED. SUBMITTER RECOMMENDED A POSSIBLE INCREASE IN TORQUE VALUE AND/OR AT THE VERY LEAST, A TORQUE CHECK REQUIREMENT OF 1 TO 5 HOURS AFTER INSTALLATION. (X)

BELL	BELL	ADAPTER	CORRODED	02/01/2000	2468
407	407	406010107105	MAIN ROTOR	2000051100337	

DURING DISASSEMBLY FOR 2,500 HOUR OVERHAUL, FOUND ADAPTER CORRODED DUE TO PRIMER NOT COMPATIBLE.

BELL	BELL	PITCH HORN	CORRODED	02/01/2000	2468
407	407	407010103101	MAIN ROTOR	2000051100338	

DURING DISASSEMBLY FOR 2,500 HOUR OVERHAUL, FOUND PITCH HORN CORRODED DUE TO ADHESIVE NOT

BELL	ALLSN	GEAR	GALLED	02/05/2000	234
407		E6893673	GEARBOX	2000051100340	

UPON VISUAL INSPECTION, INSPECTED CHIP DETECTOR PLUGS AND FOUND METAL ON PLUGS. SPALLING AND GALLING ON TM GEAR TEETH,POSSIBLE DUE TO IMPROPER MESHING OF GEAR TEETH. (X)

BELL	ALLSN	ALLSN	GEAR DAMAGED	12/13/1999	1197
407	250C47B	6893674	GEARBOX	2000051100335	

DISASSEMBLED, CLEANED, AND INSPECTED. FOUND SPALLING AND GALLING ON GEAR TEETH. TM GEAR HAS EXCESSIVE SPALLING AND GALLING ON GEAR TEETH POSSIBLY DUE TO IMPROPER MESHING OF TM AND PINION GEARS. SECONDARY DAMAGE. PINION GEAR, PN 6893672,SN 77723, TT 1,196.5, SPALLING AND GALLING ON GEAR TEETH. (X)

	BOLKMS		CATCHER WORN	02/22/2000	
	BK117C1	1172428112	DOOR	2000042800110	

CATCHER WORN. REMOVED AND REPLACED. (X)

CESSNA			BELLCRANK BENT	03/26/2000	2294
152		04602171	TE FLAP	2000051100189	

FLAPS WERE LOWERED TO 30 DEGREES DURING LANDING. AS FLAPS WERE RAISED, A POP SOUND WAS HEARD AND FLAPS WOULD NOT EXTEND. INVESTIGATED AND FOUND BENT BELLCRANK. SUSPECT BELLCRANK FAILED DUE TO WEAR ON CAM PORTION AND WORN SPACERS. NEW PART ON ORDER AND FLAP RIGGING TO BE ACCOMPLISHED. (X)

CESSNA		HUB	CRACKED	03/02/2000	7042
152			PROPELLER	2000051100301	1359

FOUND CRACK IN HUB AROUND BOLT HOLE EXTENDING TO EDGE OF HUB WHILE INSPECTING FOR AD 97-06-16 PAR(A)(1)(II). LAST INSPECTION 209 HOURS AND TEN MONTHS AGO, SHOWED NO CRACKS. (X)

CESSNA		ALTERNATOR	FAILED	02/29/2000	
172M		DOFF10300J	ENGINE	2000042800022	

SMOKE IN COCKPIT. TROUBLESHOT SYSTEM, FOUND ALTERNATOR BEARING FROZE. REPLACED ALTERNATOR WITH OVERHAUL UNIT, PN DOFF10300J, SN A-100167. (X)

CESSNA	LYC	EXHAUST	DAMAGED	10/28/1999	537
172M	O320E2D	75068	KEEPER	2000051700114	

ENGINE HAD ERRATIC IDLE AND WAS GETTING WORSE. W.O.T. POWER NORMAL. STARTED ENGINE COLD AND FOUND NR 4 EXHAUST COLD.CHECKED LIFTER DROP CLEARANCE, FOUND IT WAS ZERO AND EXHAUST VALVE SUNK IN SEAT. REMOVED CYLINDER, FOUND BROKEN KEEPERS, WORN KEEPERS GROOVE AND RETAINERS. REMOVED REMAINING CYLINDERS AND FOUND WORN KEEPER GROOVES AND SUNK VALVES AND VALVE SEATING ON OUTER EDGE OF VALVE.

CESSNA LYC FUEL LINE LEAKING 04/03/2000 5430
 172N O320E2D S14956 WING ROOT 2000050900236
 DURING REPLACEMENT OF CABIN INTERIOR, FOUND ONE EACH HOSE LEAKING. REPLACED ALL 6 HOSES IN FUEL
 VENT SYSTEM. CONDITION OF THESE HOSES THE SAME. AGE OF HOSES, 19 YEARS. (X)

CESSNA HOSE DETERIORATED 08/31/1998 2364
 172P B906 VACUUM SYSTEM 2 000051100247
 OWNER/OPERATOR COMPLAINED OF ERRATIC VACUUM PRESSURE AFTER INSTALLATION OF NEW
 VACUUM PUMP AT ANOTHER FACILITY. UPON INSP OF VACUUM SYSTEM, FOUND ALL IMPERIAL EASTMAN HYTRON
 REDI-SEAL P/N B906 AND B903 HOSES INSTALLED IN THE VACUUM SYS HAD DETERIORATED INTERNALLY. THIS
 CONDITION WAS UNDETECTABLE FROM THE OUTWARD APPEARANCE OF THE HOSES. OF THE FIVE HOSE THAT WERE
 REPLACED, ONLY ONE SHOWED ANY SIGNS OF DRY-ROT OR DETERIORATION. SUSPECT HOSES WERE ORIGINAL
 INSTALL BY MFG. SUGGEST ALL ACFT HAVING IMPERIAL EASTMAN HYTRON REDI-SEAL HOSES INSTALLED, HAVE
 HOSES INSPECTED FOR INTERNAL DETERIORATION OR REPLACE HOSES WITH ANOTHER TYPE HOSE. AEROQUIP
 306 AND 303 TYPE HOSES

CESSNA HOSE DETERIORATED 08/31/1998 2364
 172P B903 VACUUM SYSTEM 2000051100248
 OWNER/OPERATOR COMPLAINED OF ERRATIC VACUUM PRESSURE AFTER INSTALLATION OF NEW
 VACUUM PUMP AT ANOTHER FACILITY. UPON INSP OF VACUUM SYSTEM, FOUND ALL IMPERIAL EASTMAN HYTRON
 REDI-SEAL P/N B906 AND B903 HOSES INSTALLED IN THE VACUUM SYS HAD DETERIORATED INTERNALLY. THIS
 CONDITION WAS UNDETECTABLE FROM THE OUTWARD APPEARANCE OF THE HOSES. OF THE FIVE HOSE THAT WERE
 REPLACED, ONLY ONE SHOWED ANY SIGNS OF DRY-ROT OR DETERIORATION. SUSPECT HOSES WERE ORIGINAL
 INSTALL BY MFG. SUGGEST ALL ACFT HAVING IMPERIAL EASTMAN HYTRON REDI-SEAL HOSES INSTALLED, HAVE
 HOSES INSPECTED FOR INTERNAL DETERIORATION OR REPLACE HOSES WITH ANOTHER TYPE HOSE. AEROQUIP
 306 AND 303 TYPE HOSES

CESSNA ROD END SHEARED 03/02/2000 1013
 172R S18233 STEERING COLLAR 2000042800268
 BEARING ROD END THAT ATTACHES STEERING BUNGEE TO STEERING COLLAR SHEARED AT
 PREVIOUS CRACK AT THE FIRST THREAD. SUBMITTER STATED MAY HAVE HAPPENED AS A RESULT OF
 ACCIDENT RATHER THAN CAUSE. (X)

CESSNA ELT FAILED 03/30/2000
 172R 300011 CABIN 2000051100014
 DURING 100-HOUR INSPECTION, ELT SYSTEM WAS TESTED FOR OPERATION. UPON ACTIVATING PANEL MOUNTED
 REMOTE CABIN SWITCH, PN2019-10, ELT WOULD NOT TRANSMIT. AFTER REPEATED ATTEMPTS, ELT WOULD
 SOMETIMES TRANSMIT. ELT WAS REPLACED WITH A SERVICEABLE UNIT, PN 3000-11, S/N 326702, AND REMOTE
 SWITCH WAS REPLACED WITH NEW SWITCH. (X)

CESSNA SWITCH FAILED 02/25/2000
 172R S337711 AVIONICS MASTER 2000051100369
 ONE-HALF OF SPLIT AVIONICS MASTER BUS SWITCH FAILED. DEFECTIVE HALF OF SWITCH
 WILL NOT TURN OFF LEAVING SOME AVIONICS SYSTEMS POWER CONTROLLED BY A/C MASTER SWITCH. SWITCH
 FAILED UNDER NORMAL OPERATING PARAMETERS. POSSIBLE CAUSE OF FAILURE IS DUE TO POOR SWITCH DESIGN
 AND SUBMITTER STATED NEEDS TO BE RE-DESIGNED. (X)

CESSNA SERVO LOOSE 02/29/2000 160
 172S KS271C06500179 FUEL SYSTEM
 2000052000173
 FOUND LOOSE FREE SPINNING NUT WHILE C/W HONEYWELL SB SK 271-C5, ALERT KS 271C
 PRIMARY SERVO. RETURNED UNIT TO MANUFACTURER FOR REPAIR. (X)

CESSNA PUMP FAILED 03/08/2000
 177 154729606 FUEL SYSTEM 2000050900133
 NEW FUEL PUMP DOES NOT ATTAIN RATED FUEL PRESSURE/FUEL FLOW. THE HIGHEST PRESSURE
 ATTAINED WAS LESS THAN 2 PSIG AT IDLE AND DROPPED TO NEAR ZERO AS RPM INCREASED. AFTER EXTENSIVE
 TROUBLESHOOTING OF AIRCRAFT FUEL SYSTEMS, CAME TO THE CONCLUSION THE PUMP MUST BE FAULTY.
 INSTALLED ANOTHER NEW PUMP AND OPERATIONAL CHECK WAS SATISFACTORY. SUBMITTER SUGGESTED THAT ALL
 LYCOMING/AC PUMPS OF THIS BATCH (DATE CODE 9606) SHOULD BE CHECKED FOR PROPER OPERATION. (X)

CESSNA	LOCK	MISSING	04/07/2000	
182N	0851559	ENGINE MOUNT	2000051100017	
WHILE PERFORMING THE APRIL, 2000 ANNUAL, FOUND THE MOUNT SAFETY LOCKS, PN 0851559, WERE MISSING ON ALL FOUR ENGINE MOUNTS, PN J6545-1. INSTEAD, THERE WAS AN EXTRA WASHER TO TAKE UP THE BOLT LENGTH. THE MOUNTS WERE INSTALLED 5-19-98. (X)				
CESSNA	ROLL SERVO	INOPERATIVE	03/27/2000	143
182S	065001790100	AUTOPILOT	2000042800354	
FOUND AUTOPILOT ROLL SERVO IDLER GEAR ATTACH NUT BACKED OFF SCREW AND OUTPUT GEAR BEARINGS DEFECTIVE DURING COMPLIANCE WITH SB KS271C-5 ALERT DATED FEB 1, 2000. SUBMITTER STATED FAILURE COULD CAUSE SERVO TO REMAIN ENGAGED EVEN WHEN AUTOPILOT IS DISENGAGED. (X)				
CESSNA	CABLE	OUT OF RIG	04/15/2000	105
182S		ELEVATOR TRIM	2000051100113	
WHILE CHECKING FOR ELEVATOR TRIM OPERATOR AFTER C/W SB 00-22-01A ON KAP-104 AUTOPILOT SERVO, NOTED THE ELEVATOR TRIM WOULD NOT GO FULL TRAVEL. AFTER INVESTIGATING, NOTED THE SERVO TRIM CABLE SWEDGED BALL WAS OUTSIDE THE SERVO DRUM, THE AUTOPILOT CABLE WAS NOT PROPERLY CENTERED IN REFERENCE TO ELEV TRIM NEUTRAL. RIGGED SYSTEM TO CESSNA MM WITH NO RIGGING PROBLEMS. SUBMITTER STATED IT WAS OBVIOUS TRIM WAS NOT RIGGED PROPERLY AT FACTORY. POSSIBILITY OF OTHERS HAVING SIMILARPROBLEM. PROBLEM WOULD NOT BE OBVIOUS UNTIL ELEVATOR TRIM IS RUN TO ITS LIMIT ALLOWING THE				
CESSNA	CONT	FUEL LINE	FAILED	03/04/2000
185F	IO550D	ENGINE	2000042800139	2300
RDM/RNO - EN ROUTE 55 MILES NORTH OF LMT, PILOT SENSED A STRONG FUEL ODOR. BRIEF TROUBLESHOOTING CONFIRMED A FUEL LINEFAILURE WITH SYMPTOMS. FUEL FLOW INDICATING ZERO. HIGHER THAN NORMAL EGT'S AND CHT'S (ACFT EQUIPPED WITH A 12-POINT ENG ANALYZER. STRONG AND DANGEROUS FUEL ODOR. PILOT CORRECTLY ASSESSED THE SITUATION AND LEFT POWER SETTING UNTOUCHED ANDMIXTURE RICH. PILOT SET UP ON A HIGH APPROACH TO SOUTH RUNWAY AT LMT. ENGINE FAILED WHEN THROTTLE RETARDED. POST-FLIGHT INSPECTION REVEALED FUEL PRESSURE LINE FROM AFT OF ENGINE BAFFLE TO FIREWALL FAILED. LINE SEVERED ONE INCH AFT OF				
CESSNA		INVERTER	FAILED	02/24/2000
208B	2C25001ECM120	ELECTRICAL	2000042800269	
WHILE ON A DATA GATHERING NIGHT FLIGHT. THE EQUIPMENT POWERED BY THE INVERTER LOST POWER. WHILE REACHING FOR THE POWER DISCONNECT SWITCH, A FLASH WAS NOTICED IN THE AREA IN WHICH THE INVERTER WAS INSTALLED. POWER TO THE INVERTER WAS CUTOFF AND THE AIRCRAFT LANDED WITHOUT FURTHER INCIDENT. (X)				
CESSNA		PROPELLER	MISOVERHAULED	03/16/2000
210B		BLADE BORE	2000042800305	2192
PROPELLER WAS ASSEMBLED USING U 8833 N-4 BLADES THAT ARE NOT ELIGIBLE FOR INSTALLATION ON HCA2XF-1 HUB. STEEL HUB TUBES CAUSED EXTREME WEAR ON THE INTERNAL BLADE BORE BECAUSE THE INSTALLING AGENCY REMOVED THE BLADE BOXINGS AND BEARINGS TOFACILITATE INSTALLATION OF BLADES ON HUB (X)				
CESSNA		TORQUE LINK	CRACKED	06/01/1999
210L	12434262	NLG	2000051100051	8504
DURING A ROUTINE INSPECTION, FOUND NOSE GEAR UPPER TORQUE LINK PN 1243426-2 CRACKED. PREVIOUS NOSE WHEEL SHIMMY WAS REPORTED AND STEERING COLLAR SHIMS AND SHIMMY DAMPENER WERE RE-SEALED. (X)				

CESSNA CONT CONDUIT FAILED 03/24/2000
 310C IO470D 0850250189 ENGINE NACELLE 2000051100193
 MIXTURE CONTROL CONDUIT IN ENGINE NACELLE BETWEEN MIXTURE CONTROL AND WING ROOT. CONDUIT THAT
 HOUSES CABLE FATIGUED AND BROKE CAUSING HOUSING TO MOVE AND MIXTURE TO REMAIN IN IDLE CUT-OFF
 WHICH CAUSED AIRCRAFT TO MAKE AN OFF-AIRPORT LANDING. THE ENGINE WAS NOT ABLE TO RE-START. (X)

CESSNA SKIN CORRODED 03/21/2000
 337G FUSELAGE 2000042800200
 DURING A 100-HOUR INSPECTION, A SECTION OF MATERIAL USED FOR DAMPING ``OIL
 CANNING`` WAS REMOVED FROM THE INTERIOR FUSELAGE SKIN BELOW THE AFT SIDE WINDOW. HEAVY CORROSION
 WAS FOUND ACROSS THE ENTIRE AREA COVERED BY THE MATERIAL. THIS MATERIAL IS USED EXTENSIVELY
 THROUGHOUT THE AIRFRAME AT

CESSNA CIRCUIT FAILED 03/28/2000 5306
 337H 51232530 MLG PUMP 2000051100172
 THE CIRCUIT BREAKER FAILED TO THE OPEN POSITION PREVENTING A NORMAL EXTENSION OF
 THE AIRCRAFT LANDING GEAR. (X)

CESSNA CLAMP BROKEN 05/04/2000
 340A MS21919WCF6 PROP DEICE SYS 2000051100174
 PILOT COMPLAINED OF ``POP`` WHEN LANDING GEAR WAS EXTENDED. LANDING MADE WITHOUT
 INCIDENT. UPON INVESTIGATION COULD FIND NO PROBLEMS WITH GEAR RETRACTION SYSTEM. FURTHER
 INVESTIGATION REVEALED LEFT PROPELLER NR 3 BLADE DEICE WIRE HARNESS CLAMP HAD BROKEN OFF AND HIT
 THE LEFT SIDE OF FUSELAGE CAUSING THE ``POP`` THE PILOT HEARD. REPLACED BROKEN CLAMP ANDREPAIRED
 HARNESS. (X)

CESSNA BRACKET SHEARED 04/14/2000
 340A 50210025 RT AILERON 2000051700188
 FOUND 2 OF 6 RIVETS THAT HOLD THE OUTBOARD AILERON HINGE TO THE WING SPAR SHEARED
 OFF. (X)

CESSNA CONT BEAM CORRODED 04/07/2000 3679
 340A TSIO520NB 085112132 ENGINE 2000051700115
 ENGINE BEAM FOUND EXFOLIATED/CRACKED ON THE TOP OUTBOARD ANGLE, JUST FORWARD AND
 INBOARD OF THE TAILPIPE. AD 2000-01-16 PAR(D) HAD BEEN C/W 64 HOURS AND 10 WEEKS PREVIOUSLY.
 (X)

CESSNA TRUNNION FAILED 04/06/2000 5957
 340CESSNA 5042000224 NLG 2000051100171
 NOSE GEAR TRUNNION FAILED. (X)

CESSNA CONT CRANKSHAFT FAILED 03/09/2000 485
 340CESSNA TSIO520NB 520 ENGINE 2000052000369
 ENGINE IN-FLIGHT FAILURE DUE TO BROKEN CRANKSHAFT. THIS CRANKSHAFT INSTALLED AS NEW ON MAY 4,
 1999 TO REPLACE PREVIOUSNEW CRANKSHAFT AFFECTED BY AD 99-19-01. THIS S/N CRANCKSHAFT, SN
 B129901N, IS NOT IN AD. CRNAKSHAFT S/N``S IN AD GO THROUGH 12-1998. (X)

CESSNA MCAULY FLYWEIGHT CRACKED 03/22/2000
 402B C20908 PROP GOVERNOR 2000050900118
 RELEVANT INDICATION ON FLAT BETWEEN TOWERS. EXTENDS AROUND CORNER. (X)

CESSNA CESSNA BRACKET BROKEN 02/25/2000 170
 414A 08127821 UPPER EAR 2000042800524
 PILOT SEAT - RIGHT HAND BRACKET BROKE. PILOT BARELY LEANED BACK IN SEAT AND THIS BRACKET BROKE.
 THIS IS THE SECOND BRACKET THAT BROKE IN THE SAME EXACT PLACE AND UNDER THE SAME CIRCUMSTANCES.
 SUBMITTER SUSPECTED IT WAS POSSIBLE THAT IT IS A CASTING FLAW. TIME SINCE NEW ON PART: 170.0
 HOURS - TSN.

CESSNA	CONT	FUEL LINE	CORRODED	04/03/2000	
421B	GTSIO520*	AN816620	RT FUEL CELL	2000052000268	
DURING ANNUAL INSP, RT WING AUXILIARY TRANSFER PUMP PRESS SWITCH THAT OPERATES RT AUX PUMP ANNUNCIATOR LIGHT, WAS FOUND TO HAVE LIGHT FUEL STAINING AROUND BASE OF MICROSWITCH. AFTER REMOVING PRESS SWITCH ASSY (DUE TO CONDITION OF LEFT ONE), FOUND PIPE THREAD PORTION OF AN 816-6-20 VISIBLE, EXPOSING SEVERE CORROSION TO THE POINT OF ALMOST HALF DIAMETER BEING ERODED AWAY.					
CESSNA		SPAR	CRACKED	03/17/2000	6547
421C			LT WING	2000051100077	
A CRACK INDICATION WAS NOTED IN THE LT FORWARD UPPER WING SPAR. THE CRACK INDICATION IS ABOVE THE OUTBOARD HI-LOK AND RUNS SPANWISE. THE INDICATION IS .765 INCH PLUS/MINUS LONG AND IS .3401 PLUS/MINUS ABOVE THE HI-LOK. INSPECTION WAS PERFORMED PER AD 91-25-08R1. (X)					
CESSNA	BFGOODRICH	STATOR	CRACKED	03/15/2000	
500CESSNA		1338932	BRAKE	2000051100078	393
WHILE PERFORMING CESSNA SB 500-32-47 AND GOODRICH BULLETIN 2-1530-32-2, FOUND 2 EACH STATORS ON LEFT BRAKE ASSEMBLY CRACKED IN MULTIPLE PLACES. CRACKS RANGED IN LENGTH FROM .1850 INCH TO .50 INCH WITH TOTAL FAILURE LENGTH OF .6250 INCH. ACCORDING TO GOODRICH, IMPROPER MACHINING CAUSED THIS PROBLEM.					
CESSNA	CESSNA	SEAL	WRONG PART	03/02/2000	
500CESSNA		S34832326H5	MLG ACTUATOR	2000051100246	
CESSNA KITS RECEIVED WITH WRONG PART NUMBER SEAL RING (T-SEAL). MANUAL 32-32-11 (TEIJIN SEIKI) CALLS FOR S34692-326H1. KITS HAVE S34832-326H5 ENG ASSY MLG ACTUATOR, CESSNA P/N 9912053-17. TEIJIN SEIKI, P/N 1523100-1. RE: CESSNA 500 SERIES. (X)					
CESSNA	PWA	NUT	LOOSE	02/01/2000	
500CESSNA	JFTD12A4A	3026983	FCU	2000050900217	
UPON BORESCOPE OF FUEL CONTROL SHUT OFF MECHANISM, NOTED CLEVIS LANYARD THROUGH-BOLT HAD BACKED OFF FROM CLEVIS ON END OF BOLT. (THROUGH-BOLT LOOSE). NUT HAD BACKED OFF. (X)					
CESSNA	PWA	BOLT	LOOSE	02/01/2000	
500CESSNA	JT15D1	311707802	NR 4 BEARING	2000050900218	
UPON BORESCOPE OF FUEL CONTROL SHUT OFF MECHANISM, NOTED CLEVIS LANYARD THROUGH-BOLT HAD BACKED OFF FROM CLEVIS ON END OF BOLT. (THROUGH-BOLT LOOSE). NUT HAD BACKED OFF. (X)					
CESSNA		DISK	DAMAGED	03/29/2000	
550		5003541	RT BRAKE	2000051100249	157
DURING MAINTENANCE ON RT MLG WHEEL, MECH NOTICED 2 OF 3 BRAKE STATIONARY DISCS DID NOT MOVE WHEN THE WHEEL ASSY WAS REMOVED. INVEST REVEALED 2 STATIONARY DISCS FURTHEST FROM THE PISTON AND PRESSURE PLATE ASSY OF THE BRAKE WERE WARPED AND DISTORTED. THE DISTORTION WAS TO THE POINT THE 2 DISCS WERE MAKING CONTACT WITH INNER WHEEL HALF SS HEATSHIELD, PN 5003843. THE DISTORTION, WITH DISCS 'GROWING' IN RADIAL DIRECTION, HAS POTENTIAL TO 'LOCK-UP' THE WHEEL AND CAUSE LOSS OF CONTROL OF ACFT DURING GROUND OPERATIONS. A 'BRAKE WEAR CHECK' WAS PERFORMED. CLEARANCE LESS THAN 0.54 INCH 'REMOVE FOR OVERHAUL' WEAR DIMENSION. BRAKES TSO: 157.1 HRS, 148 LANDINGS. (X)					
CESSNA		FLAP TRACK	SEPARATED	04/23/2000	5325
R182			RT TE FLAP	2000051700123	
FOUND RT INBD FLAP TRACK SEPARATED FROM FWD MOUNT POINT DUE TO SHEARED RIVET. RIVET MAY HAVE BECOME WORK HARDENED. LTINBD FLAP TRACK ALSO FOUND LOOSE AT SAME LOCATION. THIS COULD POSSIBLY APPLY TO ALL CESSNA 182'S. THERE WERE NO OCCURRENCES OF FLAP OVERSPEEDING THAT ARE KNOWN. THIS COULD BE THE RESULT OF NORMAL WEAR AND TEAR UNDER NORMAL OPERATIONS. SUBMITTER SUGGESTED ADDING A CHECK FOR FLAP TRACK SECURITY ON PRE-FLIGHT FOR CESSNA 182'S. (X)					
CESSNA		LINK	CRACKED	03/13/2000	7716
T210L		12434262	NOSE GEAR	2000042800534	
DURING ROUTINE INSPECTION, FOUND UPPER TORQUE LINK CRACKED. SUBMITTER STATED THIS PART NUMBER LINK WAS FOUND CRACKED ON ANOTHER T210L IN THE SAME FLEET. (X)					
CESSNA		HUB	CRACKED	03/21/2000	3112
T310Q		D32517	PROPELLER	2000051100080	919
RAM A/C ENGINE AND PROPELLER MODIFICATIONS PER STC NR SA 4011SW. (X)					

CESSNA	BOLT	BROKEN	03/31/2000	
T337G	26066712	MLG WHEEL	2000051100191	
TIE BOLT FAILURE, 3 EACH. UNDETERMINED WHEEL SENT TO MFG FOR ANALYSIS. BOLT HARD TIME IMPLEMENTED, AND TIE NUT CYCLE PLAN INPLEMENTED. (X)				
CESSNA	ALTERNATOR	FAILED	03/10/2000	
TU206G	E3FF10300AAPX	ENGINE	2000042800538	29
ALTERNATOR FAILED DURING FLIGHT. TROUBLESHOOTING WITH ALTERNATOR TEST BOX SHOWED NO OUTPUT. CHECKING FIELD WINDING RESISTANCE PER CESSNA MM SHOWED EXCESSIVELY HIGH RESISTANCE. ALTERNATOR				
CNDAIR	SHUTOFF VALVE	FAILED	02/20/2000	3899
CL6002B19	2421143	LT FUEL TANK	2000051100185	
TRANSFER SHUTOFF VALVE IS BYPASSING FUEL THROUGH ELECTRICAL CONDUIT. TOP OF SOV BYPASSES FUEL THROUGH 'POTTING' AND IS FOUND DOWNSTREAM OF ELECTRICAL CONDUIT WITNESS HOLES. SUBMITTER STATED THIS IS THE THIRD LEFT FUEL TRANSFER SOV TO BE REPLACED. FIRST, NOV 1994, SECOND, APR 1995). (X)				
CNDAIR	SEAL	LEAKING	03/29/2000	1282
CL6002B19	7010FS9545708	BRAKE ASSY	2000051100186	
BRAKE ASSY, PN 50105201, FAILED PREMATURELY. TWO EACH, PISTONS LEAKING FROM INSULATOR AREA. PISTONS INTERNALLY FILLEDWITH FLUID. SUBMITTER STATED THIS IS A CONTINUAL DISCREPANCY. NOTE: OEM PARTS INSTALLED IN BRAKE ASSY. (X)				
CNDAIR	SEAL	LEAKING	03/30/2000	805
CL6002B19	7010FS9545708	BRAKE ASSY	2000051100187	
BRAKE ASSY, PN 5010520-1, FAILED PREMATURELY. ONE EACH PISTON LEAKING FROM INSULATOR AREA. PISTON INTERNALLY FILLED WITH FLUID. SUBMITTER STATED THIS IS A CONTINUAL DISCREPANCY. FACTORY NEW BRAKE ASSY. NOTE: OEM PARTS INSTALLED IN BRAKE ASSY. (X)				
DHAV	AC	SUPPORT	CRACKED	02/22/2000
DHC2*	219672	WING	2000042800061	
BRAND NEW TANK SUPPORTS HAVE BEEN FOUND TO BE CRACKED ALONG THE BEND RADIUS WHERE THE ALUMINUM HAS BEEN COLD-FORMED, CLOSE TO THE TANK STRAP CLEVIS PEN HOLES. THIS PROBLEM HAS ALSO BEEN FOUND ON PARTS WITH TIME IN SERVICE, AND THE CRACKS PROGRESS WITH USE. (X)				
DIAMON	AXLE	CORRODED	03/16/2000	3112
DA20A1	2032100701	RT MLG	2000052000267	
DURING TIRE CHANGE, FOUND RT WHEEL AXEL FLANGE EXFOLIATING. SUBMITTER SUSPECTED EXFOLIATION CAUSED BY STRESS CORROSION. RECOMMEND REPLACING ANODIZED ALUMINUM ALLOY PART WITH PART MADE OF STEEL.				
DORNER	WARNING	ACTIVATED	07/19/1998	
DO328100		COCKPIT	2000050300197	
FLT 359 - DEN-ASE - CREW BEGAN TAKEOFF ROLL AT 85 KNOTS, RECEIVED A FLIGHT GUIDANCE COMPUTER FAIL CAUTION CHIME AND ASSOCIATED EICAS MESSAGE. CREW ABORTED TAKEOFF AS A PRECAUTIONARY MEASURE. CREW CLEARED RUNWAY AND RESET THE FLIGHT GUIDANCE COMPUTER. FAIL CAUTION AND EICAS MESSAGE CLEARED. CREW TAXIED BACK TO THE RUNWAY AND MADE AN UNEVENTFUL TAKEOFF. (M)				
DOUG	CONNECTOR	CONTAMINATED	04/11/2000	500
600N	600N4004503	FUEL INDICATOR	2000052000461	
PILOT RECEIVED ERRONEOUS FUEL QUANTITY INDICATIONS. UPON REMOVING ELECTRICAL CONNECTOR AT AFT FUEL BLADDER COVER, NOTED THAT FUEL WAS LEAKING INTO PIN AREA. THIS WAS THE SECOND INSTANCE. FIRST WAS AT BORDER PATROL AIR OPERATIONS IN LAREDO, TX. THESE HARNESES APPARENTLY HAD A SEALING				
DOUG	BEAM	DELAMINATED	02/13/2000	
MD900	900R1103001113	FUSELAGE	2000052000270	
DELAMINATION ALONG TRAILING EDGE IN Y-AREA. REPLACED WITH NEW UNIT, CORRECTED PROBLEM. (X)				
DOUG	BEAM	DELAMINATED	02/13/2000	884
MD900	900R1103001113	FUSELAGE	2000052000271	
DELAMINATION ALONG TRAILING EDGE IN Y-AREA. REPLACED WITH NEW UNIT, CORRECTED PROBLEM. (X)				

GULSTM	GERDES	SWITCH	FAILED	02/04/2000	
112		1SE13	NLG	2000042800009	
PILOT REPORTED NLG DOWN LIGHT INTERMITTENT. INVEST SHOWED HYD ACTUATED NLG DOWN SWITCH ROLLER PN 1JE5 HANGING UP AT BOTTOM OF HOLE AT DNLK ASSY. RE-RIGGED SWITCH. WHILE TESTING NLG ACT PN 48805-1 LEAKED. RESEALED ACT. WHILE TESTING HYD POWER PACK PN 795000-1 FAILED. AFTER O/H OF POWER PACK NLG DOWN LIGHT STILL WOULD NOT ILLUMINATE. FND NLG HYD DOWN SWITCH PN 1SE1-3 WITH HIGH RESISTANCE ON CONTACT THAT OPERATES HYD POWER PACK TO SHUT DOWN WITH ACT APROX .1250 INCH FROM COMPLETE EXTENSION OF NLG. REPLACED SWITCH. SYS OPERATED NORMALLY EXCEPT AT EMERG EXT, NLG LIGHT FAILED. SHORTED ACT ROD END 1/2 TURN. SYS OPERATES NORMALLY. (X)					
GULSTM		HOSE	DETERIORATED	03/13/2000	700
112		1114	MLG ACTUATOR	2000051100245	
STRATOFLEX HOSE NR 111-4, CURE DATE 3Q92, FULLY DETERIORATED WHILE INSTALLED ON BELGIAN REGISTERED AIRCRAFT. NO OTHER CASES FOUND WITH INSTALLED HOSES. THIS PART WAS BOUGHT THROUGH GILL AVIATION, VIA AVIALL. HOSE INSTALLED ON A ROCKWELL112, WITH LYC IO-360-C1D6. TT EST. 700 HOURS. RECOMMEND THAT OPERATERS WITH LIKE HOSE INSPECT FOR CURE DATE AND NOTE CONDITION OF HOSE ASSY. (X)					
GULSTM		BEARING	DESTROYED	04/20/2000	
690		230650001	STARTER/GEN	2000051700102	
UNIT RECEIVED FROM DTA FOR EVALUATION. INSP DETERMINED UNIT DESTROYED FROM FAILURE OF DRIVE END BEARING. BEARINGS WERE OF LUCAS P/N. SHAFT SHEARED, ARMATURE DESTROYED FROM DRAGGING ON FIELD POLE SHOES. FIELD DRUG OUT, DRIVE END BELL DESTROYED. UNIT HAD OVERHAUL TAG FROM AMR-COMBS. NO TT OF TIME SOH DETERMINED. BEARING MFG THOUGHT TO BE 1997. IMPOSSIBLE TO DETERMINE BALANCE CONDITION OF ARMATURE. RECOMMEND WORK ORDER INFO BE SOUGHT ON BALANCE RECORD OF ARMATURE AT O/H. SUBMITTER STATED BEARINGS DO NOT FAIL UNLESS OUT OF BALANCE CAUSES EXCESSIVE RADIAL LOAD TO BE IMPOSED.					
GULSTM		CHANNEL	CRACKED	04/21/2000	4616
690B		2250000364	AILERON	2000051700270	
AFTER REMOVAL OF BOTH RT AND LT AILERON INBOARD HINGE ASSEMBLIES, FOUND BOTH AILERON ``U`` CHANNELS HAD CRACKS IN THE WEB AROUND THE LOWER HINGE ATTACH BOLTS. SUBMITTER RECOMMENDED INSTALLING A REINFORCING PLATE ON AFT SIDE OF WEB IAW AC 43.131B PAR 4-58, 4-59. (X)					
GULSTM		CHANNEL	CRACKED	04/21/2000	4616
690B		250000373	AILERON	2000051700271	
AFTER REMOVAL OF BOTH RT AND LT AILERON INBOARD HINGE ASSEMBLIES, FOUND BOTH AILERON ``U`` CHANNELS HAD CRACKS IN THE WEB AROUND THE LOWER HINGE ATTACH BOLTS. SUBMITTER RECOMMENDED INSTALLING A REINFORCING PLATE ON AFT SIDE OF WEB IAW AC 43.131B PAR 4-58, 4-59. (X)					
GULSTM	RROYCE	REGULATOR	FAULTY	02/11/2000	
GIV	TAY6118	CASE504	RT ENGINE	2000042800027	3445
ON DESCENT FROM HIGH ALTITUDE WITH AUTO-THROTTLES DISCONNECTED, THE RT ENGINE WOULD NOT DECREASE TO AN IDLE SETTING WITH THE THROTTLES PHYSICALLY IN THE HARD IDLE POSITION. ENGINE FINALLY RETARDED TO IDLE WHEN DESCENDING BELOW 10,000 FEET, SLOWING BELOW 260 KNOTS AND TURNING ON ENGINE AND WING ANTI-ICE. AIRCRAFT WAS BEING FLOWN ON A MAINTENANCE TEST FLIGHT DUE TO A DOUBLE ENGINE CHANGE.					
HUGHES		CONTROL ROD	LOOSE	04/06/2000	1688
369E		369A70099	COLLECTIVE	2000052000465	
DURING INSPECTION, THE ROD END ON TOP OF THE COLLECTIVE MIXER CONTROL ROD WAS FOUND MOVING. THE JAM NUT ON THE ROD END WAS TIGHT. FURTHER INSPECTION REVEALED THE THREADED INSERT THE ROD END SCREWS INTO WAS LOOSE IN THE CONTROL ROD ITSELF. AFTER REMOVAL OF THE CONTROL ROD FROM THE AIRCRAFT FOR REPLACEMENT, IT WAS FOUND TO CONTAIN WATER THAT HAD APPARENTLY CENTERED THE TUBE AROUND THE LOOSE INSERT. THIS IS THE SECOND INCIDENCE OF FINDING A LOOSE INSERT IN A COLLECTIVE MIXER CONTROL ROD.					
LEAR	GARRTT	VALVE	FAILED	03/09/2000	
35A	TFE73122B	66001983	FLOW CONTROL	2000051100177	
LOST PRESSURIZATION AFTER TAKEOFF OUT OF DENVER. FOUND FLOW CONTROL VALVE STUCK CLOSED. REMOVED AND REPLACED FLOW CONTROL VALVE. OPS CHECKED GOOD. (X)					

LEAR	BEARING	CRACKED	03/17/2000	11866
36A	VTB0816	MLG TRUNNION	2000042800525	
DURING REMOVAL OF BOTH LEFT AND RIGHT LANDING GEAR FORWARD TRUNNION BEARINGS, FOUND THE OUTER HOUSING WAS CRACKED COMPLETELY THROUGH. OLD BEARINGS WERE BEING REMOVED BECAUSE OF LOOSE BALLS. INSTALLED NEW BEARINGS. LANDINGS: 6,201. (X)				
MOONEY	BAR	CRACKED	12/31/1999	2613
M20B	560011000	GEAR HANDLE	2000052000172	
AFTER LANDING AND TAXIING ABOUT ONE-HALF MILE, NOSE GEAR COLLAPSED AFTER GOING OVER DIP IN TAXI STRIP. UPON INSPECTION OF GEAR SYSTEM, FOUND JOHNSON WITH SEVERAL CRACKS, ONE AT BASE OF HANDLE, 2 EACH AT NOSE ROD ATTACH ARM. CAUSE, UNKNOWN. (X)				
PILATS	COOLER	CRACKED	03/31/2000	
PC1245	5711012394	OIL SYSTEM	2000052000365	
FOUND OIL COOLER VANE CRACKED WITH 3 POPPED RIVETS. REMOVED AND REPLACED OIL COOLER VANE IAW MANUFACTURER'S SB 71-001. NO RECOMMENDATIONS TO PREVENT RECURRENCE SINCE SB 71-001 HAD BEEN PREVIOUSLY C/W. (X)				
PIPER	HUB	DAMAGED	03/23/2000	
PA23250		PROPELLER	2000050900178	
DURING INSPECTION, NOTICED THE PRELOAD SHELF WAS ROLLED. EVIDENCE SHOWS HUB ENDURED EXCESSIVE FORCES. HUB WAS RETIRED FROM SERVICE. (X)				
PIPER	HUB	DAMAGED	03/23/2000	
PA23250		PROPELLER	2000050900179	
DURING INSPECTION, NOTICED THE PRELOAD SHELF WAS ROLLED. EVIDENCE SHOWS HUB ENDURED EXCESSIVE FORCES. HUB WAS RETIRED FROM SERVICE. (X)				
PIPER	BLADE	CRACKED	03/23/2000	
PA23250	B67536	PITCH KNOB	2000050900180	
UPON INSPECTION OF THE PROPELLER BLADE DURING OVERHAUL, THE PITCH KNOB ON THE BUTT OF THE BLADE WAS FOUND CRACKED. BLADE WAS RETIRED FROM SERVICE. (X)				
PIPER	ROD	CRACKED	03/04/2000	
PA23250	3503002	LT MLG	2000051100079	
DURING ANNUAL INSPECTION, FUNCTIONAL TEST OF THE MAIN LANDING GEAR REVEALED THE LT MLG WAS NOT GOING ALL THE WAY UP INTO THE WELL LEAVING A 1.50 INCH CRACK BETWEEN THE MLG DOORS. DURING TROUBLESHOOTING, THE SUBJECT PART ACTUATING ROD WAS FOUND TO HAVE A PIECE CRACKED OUT OF THE THREADED END OF THE ROD. THE END CAP WAS ALSO FOUND TO BE BADLY DAMAGED FROM A PREVIOUS MAINTENANCE ACTION. CYLINDER WAS REPLACED, ADJUSTED IAW MM AND A SUCCESSFUL FUNCTIONAL CHECK OF THE GEAR PERFORMED. POSSIBLE CAUSE IS IMPROPER ADJUSTMENT OF THE CYLINDER FOLLOWING REPACK. (X)				
PIPER	CIRCUIT	FAILED	02/21/2000	2652
PA24250	464656	COCKPIT	2000042800008	
CIRCUIT BREAKER P/N 464-656 5 AMP TO LANDING GEAR SOLENOID FAILED INTERNALLY WHILE GEAR WAS IN TRANSIT STOPPING GEAR PARTIALLY EXTENDED. (X)				
PIPER	LYC	HORN	BROKEN	03/10/2000 5644
PA28140	O320E3D	63300008	NLG STEERING	2000051700035
WHILE LANDING, EXPERIENCED EXTREME SHIMMY IN NOSE GEAR. NOSE GEAR STEERING HORN, PN 63300-008, FOUND BROKEN AT WELD. PART TT: 5,633.43 HRS. (X)				
PIPER	PIPER	CLEVIS	FAILED	04/05/2000
PA28151		6531904	MLG STRUT	2000051100115
THE UPPER TORQUE LINK ATTACH CASTING CLEVIS BROKE WHILE DOING TOUCH AND GO'S. THE STRUT PISTON AND WHEEL ASSY SEPARATED FROM AIRCRAFT HELD ONLY BY BRAKE LINE. FAILURE CAUSED BY CRACK IN TORQUE LINK ATTACH CLEVIS ON STRUT. (X)				
PIPER	LYC	FUEL BOWL	LOOSE	03/21/2000
PA28151	O320E3D	A44PA	CARBURETOR	2000042800346
WHEN ENGINE WAS UNCOOLED, FOUND CARBURETOR BOWL LOOSE. THE BOLTS HAD LOCK WASHERS WITH THE TABS BENT UP. THE BOWL GASKET WAS IN PLACE. THE PRECISION MANUAL CALLS FOR A TORQUE OF 35-45 INCH/POUNDS ON THESE BOLTS. SUBMITTER STATED UNABLE TO VERIFY THIS. (X)				

PIPER		SKIN	CORRODED	03/31/2000	
PA28160		6356000	STABILATOR	2000050900113	
SEVERE CORROSION FOUND ON FORWARD INBOARD STABILATOR SPAR AND INBOARD RIB JUNCTION. FOUND AFTER REMOVING TOP SKIN TO REPLACE. (X)					
PIPER	LYC	PUMP	UNSERVICEABLE	03/16/2000	93
PA28161	O320D3G	LW15472	FUEL SYSTEM	2000042800277	
NOTED THE FUEL PRESSURE WOULD DROP OFF AS ALTITUDE INCREASE, FROM 5 PSI AT GROUND LEVEL, TO ABOUT 1-1/2 PSI AT 10,000 FEET. TURNING ON BOOST PUMP WOULD RESTORE 5 PSI. INSTALLED ANOTHER NEW PUMP AND IT CURED THE PROBLEM. FAILED PUMP, SN 154723199. GOOD PUMP, SN 154720200. (X)					
PIPER	NARCO	SENSOR	LEAKING	03/09/2000	1177
PA28181			ALTIMETER SYS	2000051100052	
STATIC SYSTEM LEAK GREATER THAN 100 FEET/MINUTE TRACED TO THIS UNIT. AR850 ONLY TWO YEARS IN SERVICE SINCE AIRCRAFT WAS NEW. AR850'S ARE NOT KNOWN TO BE FAULTY IN THIS MANNER. SUBMITTER STATED POSSIBLE NARCO FACTORY DEFECT IN ASSEMBLY OF SENSOR. (X)					
PIPER	LYC	ELECTROSYS	ARMATURE	03/31/2000	839
PA28181	O360A4M	MHB2399S	STARTER	2000051100053	
SUBMITTER STATED THEY HAVE FOUND 6 ARMATURES TO HAVE SEEMINGLY SOFT METAL ON THE DRIVE END SPLINES.THEY HAVE BEEN FOUND WITH THE SPLINES COMPLETELY GROUND OR STRIPPED AWAY LEAVING SHARDS OF STEEL IN THE GEAR CASING THAT CONTAMINATE THE ROLLER BEARINGS. THE BENDIX DRIVE GEAR IS NOT DAMAGED AND THE SHEAR PIN DOES NOT SHEAR. THE ARMATURE DRIVE END MAY NOT BE PROPERLY HEAT TREATED OR MAYBE					
PIPER		CABLE	WORN	04/17/2000	
PA28R200			TE FLAP	2000042800199	
DURING 100-HR INSPECTION, FLAP CABLE WAS FOUND LODGED IN THE TRIM PULLEYS AND WORN 3/4 THROUGH THE RIGHT PULLEY AND NUMEROUS STRANDS OF THE CABLE BROKEN. THIS CONDITION WAS DUPLICATED ON SIMULATING A STICKING FLAP WHEN THE HANDLE IS RELEASED AND THE FLAP RETRACTS RAPIDLY, THE LOOSE CABLE JUMPS AND HOOKS INTO THE TRIM PULLEYS. INSTALLED A 90 DEGREE ALUM ANGLE ON THE TOP CLOSE OUT PLATE NEXT TO THE TRIM PULLEYS TO BLOCK THE CABLE FROM HITTING THE PULLEYS AND CHECKING FLAP HINGE BEARINGS. FOR FREEDOM OF MOVEMENT AND LUBRICATION, CABLE AND ONE PULLEY REPLACED. (X)					
PIPER		TRUNNION	CRACKED	03/21/2000	9165
PA28R201		6792616	LEFT MLG	2000051100370	
DURING SCHEDULED INSPECTION, HYDRAULIC FLUID WAS DISCOVERED ON AFT WEB OF THE LT MAIN LANDING GEAR TRUNNION. UPON FURTHER INSPECTION, FOUND IT TO BE CRACKED WHERE THE WEB JOINS THE TRUNNION TUBE ALLOWING FLUID TO LEAK. SUBMITTER STATED POSSIBLE CAUSE COULD BE HIGH TIME IN USE IN A TRAINING					
PIPER		CONT	DRIVE GEAR BROKEN	04/03/2000	1618
PA28R201T	TSIO360FB	629588	CAMSHAFT	2000050900238	
PILOT WAS IN-FLIGHT WHEN ENGINE FAILED. PILOT PERFORMED EMERGENCY PROCEDURES AND RETURNED TO AIRPORT. INSPECTION REVEALED THE GOVERNOR DRIVE GEAR HAD FAILED. GOVERNOR DRIVE GEAR ALSO DRIVES THE ENGINE DRIVEN FUEL PUMP WHICH, WHEN GEAR FAILED, TOOK THE ENGINE DRIVEN FUEL PUMP OFF-LINE. GOVERNOR DRIVE GEAR APPEARS TO HAVE BEEN CRACKED BEFORE FAILURE. (X)					
PIPER		POWERPACK	FAILED	03/14/2000	
PA31350		WTC21351	LT MLG	2000051100176	
DTW - AIRCRAFT DID NOT HAVE LEFT GEAR DOWN AND LOCK INDICATION. FLEW AIRCRAFT BACK TO CMH. MAINTENANCE REMOVED AND REPLACED HYDRAULIC POWER PACK. OPS CHECKED GOOD. (X)					
PIPER		SHUTOFF VALVE	LEAKING	01/10/2000	50
PA31350		A23D0475(24561	FUEL SYSTEM		
2000051100188 REPLACED HEATER FUEL SHUTOFF/REGULATOR VALVE DUE TO LEAK AT SEAL. REPLACEMENT PART (HEAD) FAILED AT 50 HOURS TT. SAMEPROBLEM LEAKING FUEL AT SEAL/DIAPHRAGM. (X)					
PIPER		REGULATOR	LEAKING	03/18/2000	560
PA31350		A23D0475	HEATER	2000052000174	
DURING ROUTINE INSPECTION, REGULATOR WAS FOUND LEAKING AT PARTING SURFACES. (X)					

2000 PIPER LYC PRESTOLITE LEAD SEPARATED 03/29/
 1071
 PA31350 LTIO540J2BD MHB4014 STARTER

2000051100138

RIGHT ENGINE FAILED TO START. INVESTIGATION REVEALED BOTH FIELD BRUSH LEADS WERE SEPARATED FROM THEIR RESPECTIVE BRUSHES. ONE BRUSH SHOWED NO INDICATION OF ARCING IN THE LEAD ATTACH HOLE IN THE BRUSH, WHILE THE OTHER DID. IT APPEARED ONE BRUSH LEAD SEPARATED AND PLACED THE ENTIRE START LOAD ON THE OTHER BRUSH CAUSING IT TO FAIL AT THE LEAD ATTACH POINT. THE STARTER'S OVERALL CONDITION WAS EXCELLENT. THE INSIDE WAS CLEAN AND BRIGHT. FAILURE APPARENTLY WAS DUE TO A POORLY CONSTRUCTED BRUSH/LEAD ASSY THAT LEAD TO PREMATURE FAILURE. WHEN THE OLD BRUSHES WERE COMPARED TO NEW

2000 PIPER LYC BENDIX CAPACITOR FAILED 03/28/
 PA31350 TIO540J2BD 10382681 MAGNETO 2000051100134

NUMEROUS MAGNETO PROBLEMS. UNUSUAL DROP OFF, COMPLETELY DEAD MAG, AND NO HARD STARTING WERE ATTRIBUTED TO CAPACITORS IN THE DUAL MAG SYSTEM. AFTER THE FACT, TCM NOTIFIED AND STATED CAPACITORS CODED PRIOR TO 9946 WERE TO BE PULLED OUT OF SERVICE. REF TCM CSB NR 662A NEWER CODED CAPACITORS WERE INSTALLED AND MAG OPERATION HAS BEEN SATISFACTORY. (X)

2000 PIPER HARTZL FLYWEIGHT CRACKED 03/24/2000 1585
 PA31P350 B41832 PROP GOVERNOR 2000042800105

CRACK INDICATION AT DRIVE END OF BASE. (X)

2000 PIPER ELT DAMAGED 04/26/2000 475
 PA32301T ELT1104 TAIL 2000051700125

REMOVED ELT UNIT FOR FAR 91-207 CHECK. ACTIVATED. WOULD NOT TURN OFF. REMOVED BATTERY, VERY WET. CHECKED TRANSMITTER, WET. SENT TO FACTORY FOR OVERHAUL. (X)

2000 PIPER LYC LYC GASKET FAILED 02/29/
 4377

PA32R300 IO540K1G5D LW13094 ENGINE OIL 2000042800535 653
 ENGINE LOST OIL ON START-UP DUE TO EXCESSIVE OIL PRESSURE WHICH BENT PLATE ON OIL FILLER KIT CAUSING GASKET TO BLOW OUT. (X)

2000 PIPER STRUT CRACKED 03/02/2000 3351
 PA32R301 6703706 MLG 2000042800010

DURING AN ANNUAL INSPECTION, CRACKS WERE FOUND IN BOTH MLG STRUT ASSEMBLIES NEAR THE AXLE BOLT HOLES (BOTH TOP) NEAR BOLT HEADS. THE CRACKS ARE IN THE OUTSIDE WALLS WHERE THE METAL IS THE THINNEST. THIS AIRCRAFT HAS NO ACCIDENT HISTORY OR ANY HARD LANDINGS. PAINT REMOVED AND A 10X MAGNIFYING GLASS WERE REQUIRED. (X)

2000 PIPER PIPER TRUNNION CRACKED 03/24/2000 1845
 PA32R301 6792617 RT & LT MLG 2000051100135

ON PRE-FLIGHT, PILOT NOTICED FLUID FROM MIDDLE OF STRUT. AFTER CLEANING, FLUID RE-APPEARED. AFTER INSP, FOUND STRUT HOUSING CRACKED BELOW AFT WEB ON STRUT HOUSING (CASTING). REMOVED AND REPLACED STRUT HOUSING ASSY WITH NEW. INSPECTED OTHER GEAR HOUSING AND DISCOVERED CRACKED, BUT NOT LEAKING AT THIS TIME. REPLACED LT SIDE HOUSING. NEW PARTS FROM PIPER HAVE NEW DESIGN WHERE WEB IS SUPPORTED THE ENTIRE LENGTH OF CASTING AND HAS NEW P/N. SUBMITTER STATED THESE HOUSINGS ARE NOT COVERED IN ANY

2000 PIPER CABLE BROKEN 03/08/2000 700
 PA34200T ELEVATOR TRIM 2000051700122

CABLE BROKE UPON REMOVAL OF ELEVATOR FOR REPAIR. (X)

PIPER		SPAR	CRACKED	02/18/2000	3376
PA39			RT WING	2000051700124	
PILOT REPORTED VIBRATION FELT IN THE ACFT AND RT WING TIP TANK TRAILING END COULD BE SEEN 'FLUTTERING' APPROX 1 INCH IN-FLIGHT. INSP FOUND A CRACK EXTENDING THROUGH THE LOWER SPAR CAP AND UP APPROX 1 INCH INTO FACE OF THE AFT WING SPAR AT STA 132. SEVERAL SOLID RIVETS ATTACHING UPPER WING SKIN TO THE AFT SPAR AND SOLID RIVETS ATTACHING THE UPPER WING SKIN TO AFT SPAR AND RIB AROUND STA 132 HAD BEEN REPLACED BY 'CHERRY TYPE' RIVETS AT ONE TIME INDICATING THERE MAY HAVE BEEN PROBLEMS IN THAT AREA BEFORE. ALSO, RT MAIN GEAR REPLACED AND AFT TAIL BULKHEAD REPAIRED DUE TO A HARD LANDING 10-98. REPAIRS TO DAMAGED WING SPAR WERE MADE USING DER APPROVED DATA.					
PIPER		SWITCH	BROKEN	04/05/2000	6562
PA44180		487925	THROTTLE	2000051700120	
THE LOW POWER GEAR UP WARNING SWITCH ON THE THROTTLE QUADRANT WAS FOUND BROKEN INTERNALLY. WHEN THE THROTTLES WERE ADVANCED THE SWITCH WOULD OPEN AND SHORT TO GROUND CAUSING THE LANDING GEAR CONTROL CIRCUIT BREAKER TO OPEN. WHEN THE THROTTLES WERE PULLED BACK TO THE STOP, THE SWITCH WOULD CLOSE AND THE LANDING GEAR SYSTEM WOULD FUNCTION NORMALLY. SUBMITTER STATED THE AGE OF THE SWITCH, NUMBER OF CYCLES, IS POSSIBLY THE CAUSE OF FAILURE. (X)					
PIPER	LYC	BEARING	MAKING METAL	02/09/2000	337
PA46350P	TIO540AE2A	NR 5	ENGINE	2000042800356	
DURING AN ANNUAL INSPECTION, FOUND METAL IN OIL SCREEN. REMOVED ENGINE AND SENT TO LYCOMING FOR					
RAYTHN		GYRO	FAILED	03/10/2000	10225
1900D		6226136002	COCKPIT DG	2000050900235	
PILOT REPORTED THAT 'GYRO FREEZES UP'. NR 1 DIRECTIONAL GYRO REMOVED AND SENT TO TEST FACILITY.					
RAYTHN		SUPPORT	CRACKED	04/04/2000	
2000		1225700025	ENGINE NACELLE	2000051100190	
THE SUPPORT ASSY (MOUNTING BRACKET) FOR BOTH THE LEFT AND RIGHT ENGINE FIRE EXTINGUISHER BOTTLES WAS FOUND CRACKED. THIS MOUNTING BRACKET HAS BEEN FOUND CRACKED ON SEVERAL OTHER MODEL 2000 AIRCRAFT. SUBMITTER STATED THEIR EXPERIENCE HAS BEEN THAT A REPLACEMENT BRACKET OF THE SAME PART NUMBER WILL ALSO CRACK AFTER A VERY SHORT TIME IN SERVICE. PRESENTLY, SUBMITTER STATED THEIR CORRECTIVE ACTION HAS BEEN TO MANUFACTURE A REPLACEMENT BRACKET USING A D.E.R. DRAWING. THIS MANUFACTURED BRACKET AS OF YET HAS NO SIGNS OF CRACKING. RAYTHEON AIRCRAFT HAS BEEN ADVISED OF THE PROBLEM AND SUBMITTER'S CORRECTIVE ACTION. (X)					
RAYTHN		RELAY	INOPERATIVE	04/28/2000	
200BEECH		MC815AS1	MLG	2000051700317	2082
PILOT SELECTED GEAR DOWN, NO RESPONSE. PERFORMED MANUAL GEAR EXTENSION AND LANDED AIRCRAFT. TROUBLESHOT GEAR DOWN CIRCUIT, FOUND ATTACHING SCREENS FOR GEAR DOWN RELAY IN LANDING. GEAR CONTROL BOX HAD COME LOOSE. RE-SECURED RELAY AND PERFORMED GEAR RETRACTION, CHECK OK. GEAR MOTOR CONTROL BOX WAS REPLACED 12-7-93, ACFT TT: 6,446.4 HRS WITH OVERHAULED UNIT. (X)					
RAYTHN	RAYTHN	ROD END	BROKEN	05/15/2000	7694
35C33A		HMXL6FG	AUTO RETRACT	2000051700119	
FROM THE PILOT IN COMMAND. UPON RETURNING TO AKR FOR LANDING, WHEN THE LANDING GEAR WAS EXTENDED, HEARD A LOUD BANG AND FELT A SENSATION IN THE FLOORBOARDS. SUBSEQUENTLY, THERE WAS NO NOSE GEAR EXTENDED INDICATION. AIRCRAFT RECEIVED MINOR DAMAGE UPON LANDING WHEN THE NOSE GEAR COLLAPSED. MAINTENANCE FOUND THE ROD END OF THE NOSE GEAR RETRACT ROD AT THE ACTUATOR ARM BROKEN IN THE THREADED AREA OF THE TORN RUT. (X)					
RAYTHN		BEARING	CRACKED	03/29/2000	1700
58		2202	PROPELLER	2000051100243	
RELEVANT INDICATION OF CRACKS ON BOTH SIDES OF BEARING. (X)					
RAYTHN		FORK	CRACKED	03/29/2000	1700
58		3252	PROPELLER	2000051100244	
CRACK IN BLOCK RETENTION AREA. (X)					

RAYTHN VALVE FAILED 04/04/2000
 76 353800657 PARKING BRAKE 2000051100371
 DURING ENGINE-OUT TRAINING, IF PILOT'S RT RUDDER IS FULLY DEPRESSED AND THE PILOT'S FOOT IS HIGH AND RIGHT ON THE RUDDER PEDAL, THE PILOT'S RT FOOT CAN INADVERTENTLY PULL BACK ON THE PARKING BRAKE VALVE ACTUATOR ARM AND SET THE BRAKES. IF NOT CAUGHT PRIOR TO LANDING, BLOWN TIRES WILL RESULT WITH POSSIBLE LOSS OF DIRECTIONAL CONTROL. RAYTHEON HAS BEEN NOTIFIED. (X)

RAYTHN CONT PUSHROD BENT 04/05/2000 5115
 95A55 IO520CB 538304P030 NR 6 CYLINDER 2000051100434 190
 NR 6 EXHAUST PUSHROD BENT, BROKEN AND WORN HALFWAY THRU FROM RUBBING ON INSIDE OF THE PUSHROD HOUSING. NR 6 INTAKE PUSHROD BROKEN IN TWO. CYL HAS 190 HRS SINCE NEW AND BOTH VALVES MOVED FREELY IN GUIDES. NR 6 CONNECTING ROD FOUND VISIBLY BENT. INTAKE MANIFOLD DRAINS DID NOT DRAIN WHEN TESTED. POSSIBLE CAUSE, HYD LOCK, TCM SB96-11. NR 6 CYL ON THIS INSTALL (RT ENG OF BEECH BARON) IS FRONT INBD CYL. CANT OF ENG WOULD MAKE THIS A LOW SPOT IN INTAKE WHERE FUEL WOULD ACCUMULATE. WITH FUEL DRAIN INOP, IT WOULD NOT DRAIN OUT. RECOMMENDATION IS TO INCLUDE A TEST OF MANIFOLD DRAINS AT 100-HR

RAYTHN HUB CRACKED 04/03/2000
 95B55 D4883C55 PROPELLER 2000050900237
 CRACK IN HUB WAS FOUND WITH EDDY CURRENT INSPECTION. (X)

RAYTHN SKIN CRACKED 03/09/2000
 99 99130000605 ALIERON 2000042800306
 PRE-FLIGHT INSPECTION REVEALED A SMALL PORTION OF THE AILERON SKIN CRACKED AT THE INBOARD SECTION, TOP SKIN, TRAILING EDGE ADJACENT TO THE MOVABLE TRIM. FURTHER INSPECTION REVEALED EXTENSIVE CORROSION RELATED CRACKING MOSTLY ALONG THE TRAILING EDGE. REMOVED STATIC WICKS AND FOUND FURTHER UNSERVICEABLE CONDITIONS. WHEN INSPECTING OLDER CONTROL SURFACES, AND/OR CONTROL SURFACES HAVING CRACKS IN THE PAINT, FURTHER INSPECTION WOULD BE MANDATED TO CHECK FOR CRACKS. (X)

RAYTHN SCISSORS CRACKED 03/09/2000
 99A 508103237 LANDING GEAR 2000042800307
 DURING DETAILED LANDING GEAR INSPECTION, THE SCISSORS ON THE RT MAIN GEAR WERE FOUND CRACKED. THE CRACKS ARE LOCATED NEAR THE MACHINED RADIUS WHERE THE TWO SCISSORS CONNECT. IT WAS DETERMINED THE CRACKS WERE, OR COULD HAVE BEEN CAUSED BY THE TORQUE KNEE BOLT/HARDWARE BEING LOOSE. THE LT GEAR ASSY SCISSORS WERE FOUND TO BE SLOPPY AND THE SUBSEQUENT INSPECTION REVEALED WORN BUSHINGS. (X)

RAYTHN FORD ROTOR COIL FAILED 03/10/2000
 C24R ALTERNATOR 2000052000176 52
 ALTERNATOR FAILED WHILE ACFT WAS IMC, VFR CONDITIONS ENCOUNTERED. AIRCRAFT LANDED WITHOUT INCIDENT. INVESTIGATION REVEALED ROTATING FIELD WAS ELECTRICALLY OPEN DOWN. STREAM OF SUD RINGS. PART TSO WAS ONLY 52 HOURS SINCE OVERHAULED. (X)

RAYTHN CLEVIS PIN FAILED 03/22/1999 7192
 C90 1313232C15 PAX DOOR 2000050900116
 DURING FLIGHT INTO AOW, PASSENGERS AND CREW HEARD A LOUG BANG AND THE PRESSURIZATION BEGAN TO DESCEND QUICKLY. LANDING WAS MADE WITHOUT INCIDENT. INSPECTION REVEALED THE CLEVIS PIN THAT IS THE PIVOT FOR THE UPPER CABIN DOOR LATCH HOOK HAD BROKEN. RAYTHEON HAS ADDED INSPECTION OF THESE PINS IN THE PHASE 3 AND COMPLETE INSPECTION GUIDES. THIS AIRCRAFT IS DUE A PHASE 3 BY AUGUST OF 2000. (X)

RAYTHN TORQUE LINK MISMARKEDED 05/04/2000
 C90 MLG 2000051100112
 REF: RAYTHEON SB 32-3116. SOME TORQUE KNEES IDENTIFIED AS MLG P/N'S 50-810032-12 AND 50-810295-25 WERE MACHINED TO BE NOSE GEAR COMPONENTS. IF INSTALLED, THESE TORQUE KNEES WILL ALLOW MAIN GEAR TO OVER EXTEND AND DAMAGE FORWARD PORTION OF WHEELWELL UPON RETRACTION. (X)

RAYTHN EXHAUST PIPE CRACKED 02/22/2000 21
 C90A 1099500001 ENGINE 2000042800023
 CRACKED EXHAUST STACK. SUBMITTER STATED THIS IS THE 6TH OCCURRENCE OF SAME PROBLEM ON SAME AIRCRAFT. 1.5 INCH CRACK WAS FOUND AROUND CIRCUMFERENCE AT WELD ATTACH POINT OF NACELLE INLET DE-ICE TUBE. A RAYTHEON REP HAS BEEN CONTACTED AND AFUTURE SERVICE BULLETIN IS PENDING RELEASE. (X)

SKRSKY	CLEVELANDPNU	BEARING	FAILED	03/28/2000	
S76A	1944	1944E9A	NLG	2000051100336	
DURING RETRACTION TEST OF LANDING GEAR, NOSE STRUT PISTON WOULD NOT EXTEND COMPLETELY WITH AIRCRAFT ON JACKS. WHEEL WOULD CENTER 180 DEGREES FROM NORMAL CENTER. (WHEEL AND FORK ASSY WOULD CENTER BACKWARDS). LOWER BEARING, PN 1944E9A, MOUNTING FLANGE BOLT HOLES DRILLED 180 DEGREES OUT OF INDEX WITH BEARING CENTERING CAM LOBE. (X)					
SKRSKY	SKRSKY	BLADE	DEBONDED	03/02/2000	18628
S76A		7615009000046	MAIN ROTOR	2000051100403	440
DURING 500-HOUR INSPECTION, FOUND TIP PLATE COMPLETELY DEBONDED. (X)					
SNIAS		BEARING	WORN	12/17/1999	537
AS350B2		704A33633116	TAIL ROTOR	2000042800227	
ELASTOMERICS WORN BEYOND SERVICEABLE LIMITS. REPLACED WITH NEW UNIT, CORRECTED PROBLEM. (X)					
SNIAS		BEARING	WORN	12/17/1999	537
AS350B2		117775P	STARFLEX	2000052000269	
TEFLON LINERS WORN BEYOND SERVICEABLE LIMITS. REPLACED WITH NEW UNIT, CORRECTED PROBLEM. (X)					

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

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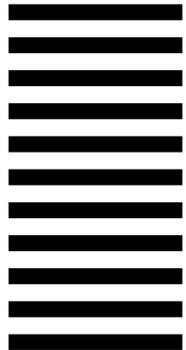
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