

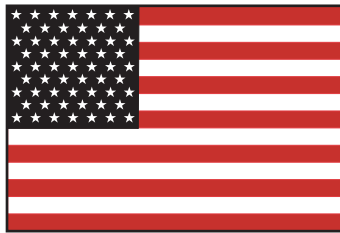


U.S. Department
of Transportation
**Federal Aviation
Administration**

AFS-600
Regulatory Support Division

ADVISORY CIRCULAR 43-16A

AVIATION MAINTENANCE ALERTS



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265



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2000

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

AVIATION MAINTENANCE ALERTS

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

AIRPLANES

AERO COMMANDER

Aero Commander; Model 112; Flex Hose Failure; ATA 7310

During an annual inspection, the inspector checked all the flexible hoses in the engine compartment. Most of the hoses were less than 5 years old; however, two of the hoses (P/N's LW13181-6-12 and LW13175-4-343) were 25 years old and were probably installed as original equipment.

These two hoses were attached to the Bendix fuel injector pump, and their failure may result in complete engine failure. The submitter stated it is important to obtain replacement hoses from the same source as the originally-installed hoses (engine or airframe manufacturer).

Part total time-2,500 hours.

BEECH

Beech; Model BE-18-C45H; Landing Gear Failure; ATA 3230

After takeoff, the pilot discovered the landing gear would not fully retract, and the landing gear motor circuit breaker opened. The pilot

reset the circuit breaker, extended the gear, and made a safe landing.

While investigating, a maintenance technician discovered the left main gear doors (P/N's 713-2 and 714-2) closed before the gear was fully up. The doors obstructed the retraction cycle, stopped the landing gear, and caused the circuit breaker to open. Evidently, improper rigging caused the gear doors to close prematurely. After replacing various bent, broken, damaged, and missing parts, the technician rigged and lubricated the landing gear system and conducted an operational test which was satisfactory.

Part total time-24,914 hours.

Beech; Model V35B; Bonanza; Defective Engine Exhaust System Muffler; ATA 7800

While inspecting the engine, the technician discovered several bulges on the left muffler.

The technician removed the muffler (P/N 701-20) and heat shield and found several large holes in the muffler. The holes were not visible until the heat shield was removed. The submitter could not determine a cause for this defect; however, he suggested maintenance personnel remove the muffler heat shield during each scheduled inspection to check for bulges and/or holes in the muffler.

Part total time not reported.

Beech; Model A-36; Bonanza; Defective Navigation Light System; ATA 3340

The pilot reported the navigation lights inoperative and requested maintenance action.

After finding the navigation light system circuit breaker open, the technician investigated further. He found the wiring in the left wing was not properly secured and was chafed through the insulation where it passed through a wing rib. This caused the circuit breaker to open the circuit and disable the navigation lights. Since there was no sign of wire clamps ever being used, the submitter believes this condition originated when the aircraft was assembled.

Part total time-2,980 hours.

Beech; Model 58; Baron; Defective Wing Attachment; ATA 5740

During an annual inspection, the technician discovered a previous repair that was not airworthy.

The repair was accomplished after a gear-up landing in 1980, and the aircraft had gone through 19 annual inspections since that time. The repair was located in the area of the left wing upper spar just outboard of the wing attachment fitting. Many of the rivets used in the repair had no "shop head," and the rivet heads were not seated against the structure. The submitter suggested all maintenance personnel conduct a thorough investigation of previous repairs during scheduled inspections.

The aircraft owner chose not to have the necessary repairs made and flew the aircraft to his home base on a "ferry permit." The technician properly initiated a maintenance record entry for the annual inspection and his findings that the aircraft was not airworthy. Also, he presented the owner with a detailed list of the items that were not airworthy.

It does seem amazing that the defective repair could have slipped past 19 previous annual inspections.

Part total time not reported.

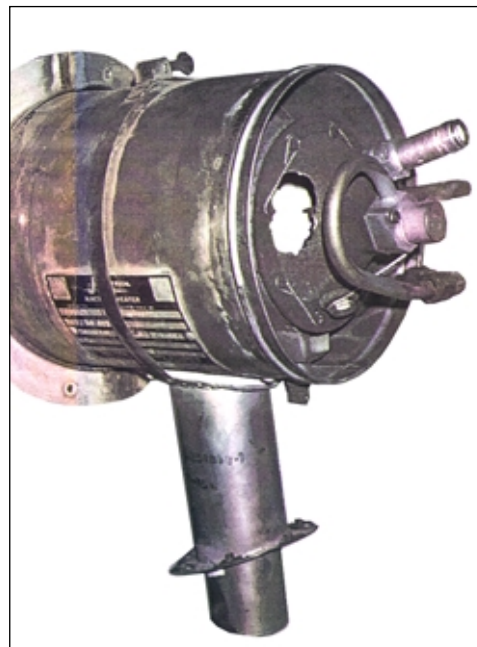
Beech; Model B95; Travel Air; Defective Cabin Heater; ATA 2140

During an annual inspection, the inspector discovered a defective cabin heater.

The heater combustion head assembly (Janitrol P/N 51A45) had a hole approximately 1 inch in diameter in the end of the canister fitting. (Refer to the following illustration.) The area surrounding the hole, as well as the entire unit, was severely corroded. The submitter believes this unit had been in service since 1960 (the aircraft manufacture date).

The heater manufacturer's technical data contains required regular scheduled inspection and maintenance procedures for the Model 83A28 heater. The submitter stated maintenance technicians do not always follow these procedures and recommended the FAA issue an Airworthiness Directive with recurring inspection requirements to address this subject.

Part total time not reported.



Beech; Model 99A; Airliner; Fuel Leak; ATA 2810

After the flightcrew reported a fuel leak, a maintenance technician discovered the right nacelle fuel tank was the leak source.

An inspection revealed the bladder fuel cell (P/N 99-380000-7) was punctured on one side. It was evident that a tank hanger had become dislodged and wedged between the tank liner and the cell sidewall.

The submitter cautioned maintenance personnel to exercise extreme care to verify proper seating of the fuel cell hangers. The fuel cell markings indicated it was manufactured in 1979, and it still appeared to be in good condition.

Part total time-33,344 hours.

Beech; Model 99; Airliner; Aileron Skin Crack; ATA 2710

During a preflight inspection, the pilot noticed a crack in the left aileron skin.

The crack was located at the inboard, trailing edge of the top skin near the aileron (P/N 99-130000-605) trim tab. A technician discovered the crack area displayed extensive and severe corrosion concentrated along the aileron trailing edge.

The submitter suggested that technicians be especially vigilant for evidence of corrosion when inspecting "older" aircraft.

Part total time not reported.

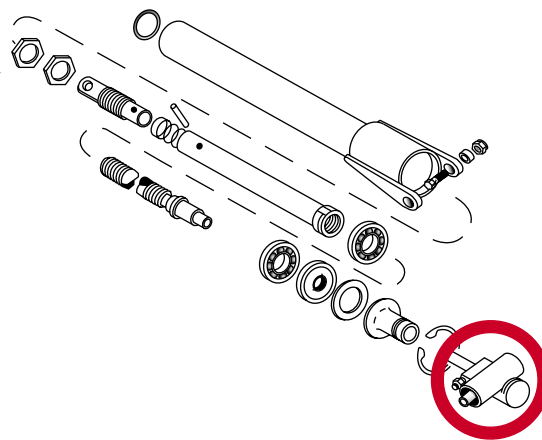
Beech; Model 99; Airliner; Defective Wing Flap Actuator; ATA 2750

After replacing the wing flap actuators, the technician conducted an operational test.

During the test, the left inboard wing flap bound up, and the drive motor failed. The technician removed the flap actuator drive (P/N 50-380153-1) and determined the drive assembly was attempting to move the flap opposite the selected direction. (Refer to the

following illustration.) This aircraft uses four different wing flap actuators, and the left inboard actuator (P/N 50-521222-3) was defective. The actuator was a newly-overhauled unit, and the drive unit, which has a 10,000-cycle life limit, was incorrectly manufactured. It might be wise to perform a bench test of these units to check for proper operation prior to installation.

Part total time since overhaul-0 hours.

**Beech; Model B100; King Air; Cabin Door Defect; ATA 5210**

When a crewmember opened the cabin door to gain access to the aircraft, the door structure failed.

An aluminum channel (P/N 50-430043-619), which forms the bottom of the doorframe at the point where the hinge is attached, broke. While examining this area, the technician discovered severe corrosion on the channel, as well as, inside the door structure. Evidently, the door is a sealed structure and no drain hole is provided to prevent the accumulation of condensation or leakage.

Part total time-11,278 hours.

Beech; Model 200; King Air; Landing Gear Failure; ATA 3230

During a landing approach, the pilot selected the landing gear to the "down" position with no response. He made a safe landing after he lowered the gear using the emergency system.

While troubleshooting the system, the technician discovered the screws, used to attach the "gear-down" relay in the landing gear control box, were loose. The loose screws prevented proper operation of the gear-down cycle. Other than improper installation, there was no reason given for the relay attachment screws becoming loose.

The technician properly secured the relay attachment screws, and a landing gear operational test proved satisfactory.

Part time since overhaul-2,082 hours.

CESSNA**Cessna; Model 152; Aerobat; Defective Fuel Tank Security; ATA 2810**

While investigating the source of a fuel leak, the technician removed the right wing fuel tank.

During the removal process, the technician found the aft outboard strap assembly (P/N 0523522-1) broken. The aluminum strap broke at the location of the screw hole, and the metal grain ran parallel to the fracture surface and the bend. He speculated the strap assembly would not have broken if the metal grain had been properly oriented perpendicular to the direction of applied stress.

The technician also discovered the source of the fuel leak was a crack in the fuel tank adjacent to the broken strap at the aft bottom fuel outlet fitting. The fuel tank crack was previously repaired by welding. He speculated the broken strap caused a repeat of the previous crack.

Part total time not reported.

Cessna; Model 152; Aerobat; Cockpit Oil Leak; ATA 3120

While performing maintenance, the technician discovered engine oil on the copilot's inboard rudder pedal.

The technician found the oil seeping from the crimped housing of the hour-meter pressure switch (P/N S1711-1). Evidently, the housing was not properly crimped during manufacture or was damaged later.

Cockpit fluid leaks, of any type, create a very hazardous situation, and all potential leak sources should be checked closely at every opportunity.

Part total time-2,158 hours.

Cessna; Model 172RG; Cardinal; Defective Nose Landing Gear Actuator Attachment; ATA 3233

During a scheduled inspection, a repair station technician discovered the nose landing gear retraction actuator attachment fitting cracked.

The fitting (P/N 2413002-3) was cracked from the lower left inner bolt hole to the outer edge of the fitting. The crack was approximately 1 inch long, and the fitting was in danger of imminent failure. All of the lower attachment bolts were loose, and the submitter believes the loose bolts caused the crack. It was recommended that the fitting bolt torque be checked during each 100-hour or annual inspection.

Part total time-11,971 hours.

Cessna; Model 177RG; Cardinal; Flight Control Balance; ATA 2731

While replacing the stabilator bearings, the inspector discovered cracks in the stabilator balance weight attachments.

Three of the four balance weight support brackets (P/N's 1732010-2, 1732031-1, and 1732031-2) were cracked in the bend radius. The length of the cracks was measured at

1.25 inches, 1.5 inches, and 1.75 inches. The stabilator was removed for replacement of the bearings, which made discovery of this defect much easier.

The submitter recommended that all operators conduct thorough and frequent inspections of the balance weight support brackets.

Part total time-5,000 hours.

Cessna; Model 182S; Skylane; Elevator Trim System Defect; ATA 2731

While checking for proper elevator trim system operation after complying with Service Bulletin (SB) 00-22-01A on the autopilot (KAP-104) servo, the technician discovered the trim would not attain full travel.

While investigating, the technician found the elevator servo trim cable swaged ball outside the servo drum. The autopilot cable was not centered in reference to the elevator trim neutral position. After rigging the trim system in accordance with the manufacturer's technical data, the trim system functioned properly. If this problem exists, it may not be evident until the elevator trim is run to its limit, allowing the swaged ball to come off the servo drum.

The submitter stated, "It was obvious that the elevator trim system was not properly rigged prior to delivery from the manufacturer." He cautioned others to conduct a thorough "receiving inspection," even on new aircraft.

Part total time-105 hours.

Cessna; Model 340A; Broken Propeller Deicer Clamp; ATA 6112

The pilot reported hearing an abnormal sound when he selected the landing gear to the "down" position prior to landing.

A maintenance technician conducted a thorough inspection and test of the landing gear system and found no problem. Investigating further, he discovered the left engine propeller number 3 blade deicer wire harness clamp (P/N MS21919-WCF6) broken.

He speculated the clamp broke and hit the left side of the fuselage when it separated from the aircraft causing the abnormal sound.

Part total time not reported.

Cessna; Model 414A; Chancellor; Wing Attachment Corrosion; ATA 5740

While conducting an annual inspection, the technician discovered severe corrosion on the left wing attachment fittings.

Each of the left wing attachment fittings (P/N's 5011023-1 and 5011024-1) was corroded in an area approximately 1.5 square inches and a depth of .125 inch. In this case, the damage required replacement of both fittings.

There was no obvious cause for this corrosion, although there are several unconfirmed possibilities. These possibilities include impurities or inclusions deposited inside the metal, inadequate metal preparation (heat treatment, surface treatments, etc.), contact with corrosive agents, and others. The submitter recommended inspecting this critical area at every opportunity.

Part total time-6,667 hours.

Cessna; Model 421C; Golden Eagle; Hydraulic System Failure; ATA 2910

During cruise flight, the pilot noticed the hydraulic system annunciator light began to flicker. Approximately 2 minutes later, the hydraulic system failed completely. The pilot immediately lowered the landing gear and made a safe landing.

A maintenance technician investigated the problem and discovered a ruptured right main landing gear actuator pressure hose. The hose failure caused complete depletion of the hydraulic system fluid.

The submitter gave no further details concerning the cause of this defect.

Part total time not reported.

Cessna; Model 550; Citation; Landing Gear Anomaly; ATA 3230

As part of a scheduled inspection, repair station personnel performed a landing gear operational test. During the test, the left main gear did not operate properly.

During the extension cycle, the left main gear “free-fell” to the “down” position. The right main and nose landing gear extended properly and locked in the “down” position. The technician investigated and found hydraulic pressure on the uplock cylinder, but no pressure was supplied to the “down” side of the actuator. While troubleshooting, he removed the clevis pin from the linkage connecting the uplock actuator to the uplock hook and found the actuator extended normally.

The technician solved this problem after reviewing the maintenance records, talking with the customer, and discussing the situation with the manufacturer. The customer, prior to the current inspection, replaced the uplock hook (P/N 5541103-13). An examination revealed the uplock hook was contacting the radius of a support bracket. The contact was evidenced by a gouge mark in the support bracket. The manufacturer inspected the parts and concluded that a “radius cut” was eliminated when the uplock hook was manufactured.

The manufacturer’s technical data does not require a landing gear operational test after replacement of the uplock hook. However, the submitter suggested maintenance personnel conduct an operational test after replacement of the uplock hook to prevent this type of occurrence.

Part total time not reported.

Cessna; Model 560; Citation; Aileron Balance Weight Security; ATA 5751

The flightcrew reported erratic aileron control during flight.

A maintenance technician discovered the left aileron balance weights loose and bouncing around in the inboard end cap. The weights came off, or pulled through, the small washer and nut that secures them to the structure. He found some corrosion in the area; however, he does not believe the corrosion caused this defect.

The submitter recommended the manufacturer design and make available a cover plate for the aileron and elevator balance weights, similar to that on other Cessna Citation models.

Part total time-2,361 hours.

MAULE**Maule; Model MX 7-180; Star Rocket; Engine Exhaust Failure; ATA 7820**

The pilot reported an abnormal odor in the cockpit. During the next takeoff, he heard a loud rattling sound and aborted the takeoff.

After parking the aircraft, the pilot found the right outer muffler shroud loose. After removing the shroud, he discovered the muffler severely ruptured. (Refer to the following illustration.) The submitter stated this failure motivated him to begin inspecting the entire engine exhaust system at 50-hour intervals.

Part total time-223 hours.



MOONEY

Mooney; Model M20J; Defective Ignition Switch; ATA 7430

The pilot reported the engine ignition switch operated intermittently. It was necessary to engage the switch several times to get the engine started, and the problem became progressively worse.

When a maintenance technician replaced the ignition switch (P/N 97-2273-1) during an annual inspection, he discovered it was the "new-type" switch. The submitter stated the switch had a low number of operating hours; therefore, the reliability of the switch is suspect. Also, this presents the inherent danger of grounding one or both magnetos due to ignition switch failure. The submitter recommended the manufacturer evaluate the reliability of this switch.

Part total time-428 hours.

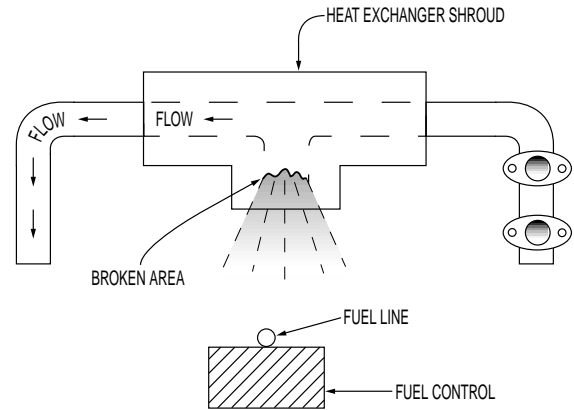
PIPER

Piper; Model PA 23-250; Aztec; Engine Exhaust System Failure; ATA 7800

After a flight, the pilot reported excessive and abnormal engine noise and the presence of exhaust fumes in the cockpit.

While investigating, the technician discovered a broken left inboard engine exhaust header. (Refer to the following illustration.) The exhaust header failed under the heat exchanger shroud adjacent to the crossover pipe. This failure directed hot exhaust system gases at the fuel control and associated fuel plumbing which created a hazardous condition.

Part total time-2,000 hours.



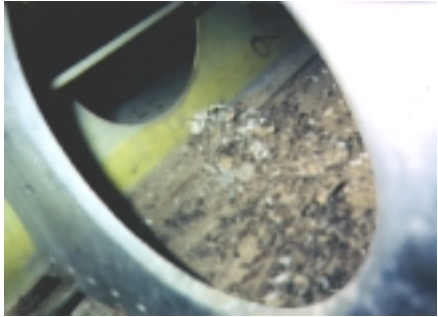
Piper; Model PA 28-160; Cherokee; Structural Wing Damage; ATA 5711

During an annual inspection, the inspector discovered severe corrosion inside the left wing.

The forward edge of the aft main wing spar, located behind the fuel tank, suffered corrosion exfoliation, which consumed approximately 50 percent of the spar thickness. This damage was attributed to the presence of a large nest and fecal matter deposited by the rodent residents. (Refer to the following illustration.)

The damage inflicted by rodents and other "creatures" was well documented in the past by this and many other publications. Once again, we remind readers to be aware of the severe and possible catastrophic damage these uninvited guests may impose. The submitter recommended conducting a thorough inspection of this area at every opportunity. Also, it is wise to take all appropriate precautions to exclude the entry of "creatures" into any part of our aircraft.

Part total time not reported.



Piper; Model PA 31P; Navajo; Alternator Failure; ATA 2410

The pilot reported the aircraft’s left engine alternator failed during flight. He made a safe landing and summoned maintenance personnel.

During an inspection, the technician found the left side of the aircraft covered with engine oil. When he opened the engine cowling, the alternator was loose and was contained by the cowling and attached wiring.

The submitter speculated the alternator adapter assembly bushing (P/N 75539) failed and caused the drive shaft to be misaligned which resulted in failure of the coupling (P/N LW-14464). He did not give a reason for the bushing failure.

Part total time not reported.

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

During a scheduled inspection, the technician discovered a crack in the left main landing gear retraction arm.

The retraction arm (P/N 42042-00) connects the hydraulic actuator to the forward side brace for extension and retraction of the landing gear. The technician found the crack by observing the retraction arm during transition of the gear. In this case, the crack was small; however, with continued operation, the crack would have progressed to the point of failure. The weight of the landing gear and the airspeed during gear movement are factors which directly affect the stress applied to the retraction arm.

This is a “high-time” aircraft, and it is the submitter’s opinion that metal fatigue during many landing gear cycles caused this defect.

Part total time-15,290 hours.

Piper; Model PA 28RT-201; Arrow; Nose Landing Gear Trunnion Failure; ATA 3222

During an annual inspection, the technician turned the nose landing gear using a tow bar. When the nose gear reached the stop, a piece of the trunnion broke and fell to the floor.

While investigating, the technician found the trunnion (P/N 67054-03) was cracked in three locations. (Refer to the following illustration.) These areas displayed evidence of discontinuity in the interior structure of the metal. Another area had metal porosity at the surface. According to the aircraft maintenance records, the nose gear trunnion was installed as original equipment when the aircraft was manufactured.

Part total time-6,984 hours.



Piper; Model PA 32-300; Cherokee Six; Wing Skin Cracks; ATA 5730

During a scheduled inspection, the inspector discovered numerous cracks on the left wing skin.

The cracks were located at the inboard (root area) and outboard edges of the upper skin panel (P/N 62087-00) at each end of the stringers. Also, one of the stringers was cracked. When the skin panel was removed, the technician noticed it did not have reinforcement doublers which are normally installed at the inboard and outboard ends of the skin panel where it attaches to the stringers. When he received a new replacement skin panel, the reinforcement doublers were installed as part of the assembly.

The submitter speculated the cracks occurred because the doublers were not originally installed. He recommended that all operators of Piper aircraft with like wing design conduct an inspection to determine if the reinforcement doublers are installed.

Part total time-3,372 hours.

Piper; Model PA 34-200; Seneca; Nose Steering Defect; ATA 3250

While changing tires, the technician noticed excessive play in the nose steering linkage.

The technician investigated further finding the nose steering stops were damaged, and the nose gear centering spring (P/N 96522-00) was broken. The centering spring travel is normally greater than the steering stops. He suspected the damage was caused when the turn limits were exceeded during ground movement (towing). When the steering travel exceeds the stops, the centering spring, and possibly other components, will fail. Training and attention to detail during towing operations may prevent this type of defect.

Part total time-5,163 hours.

Piper; Model PA 42-720; Cheyenne III; Electrical System Failure; ATA 2440

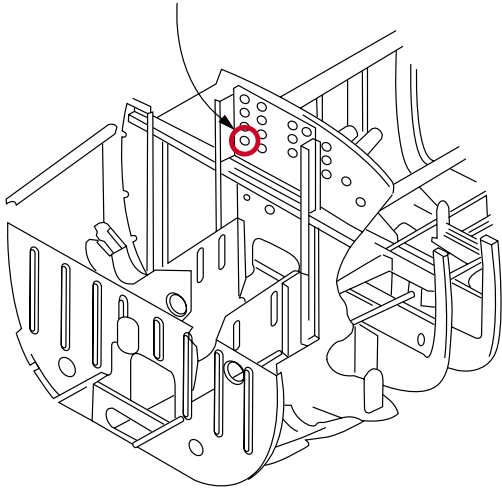
Approximately 45 minutes into a training flight, the crew suddenly detected a burning odor. This was followed by the opening (popping) of numerous circuit breakers, and the windshield wipers began operating even though the switch was in the "off" position. The pilots followed emergency procedures and made a safe landing. After taxiing to the parking ramp, the crew found they could not turn off battery power and had to remove the cables from the battery.

During an investigation, the technician found the source of the burning odor in the left nose access panel. After removing all of the avionics equipment from the top shelf, the technician discovered an electrical connector (E433) severely heat damaged. This is a three-part connector (P/N 556-416) consisting of a forward plug (P/N 206370-1), a feed-through (P/N 207201-1), and an aft plug (P/N 206369-1). (Refer to the following illustration for the connector location.) The connector contains 37 pins, 30 of which were damaged and shorted when the plastic connector assembly melted. Various aircraft components were either damaged or rendered inoperative by this electrical failure.

It is the submitter's opinion this damage was caused by exposure of the connector to constant cycling of pressurization and temperature during operation. In addition, vibration and other environmental factors over the 20-year life of this part were very likely causal factors. The location of the connector assembly makes it very difficult to properly inspect. However, it was suggested that all operators of like aircraft ensure this area is checked closely during scheduled inspections.

Part total time-5,755 hours

LOCATION OF ELECTRICAL CONNECTOR E433



**Piper; Model PA 44-180T; Turbo Seminole;
Poor Engine Operation; ATA 7300**

The pilot reported that during flight, the left engine began running rough and emitting smoke from the exhaust. The pilot made a safe landing and delivered the aircraft to the maintenance shop.

The maintenance technician found the electrical fuel primer for the left engine was active when the master switch was in the "on" position. While checking further, he found the "push-to-prime" switch (P/N 37756-003), located on the instrument panel, failed internally. The switch shorted internally causing electrical power to be applied to the primer when the master switch supplied input power. After changing the switch, the systems functioned properly, and engine performance returned to normal.

Part total time 1,350 hours.

**Piper; Model PA 46-350P; Malibu Mirage; Flight
Control Stiffness; ATA 2710**

After a flight, the pilot reported stiffness or binding in the aileron control system movement. The stiffness seemed to get progressively worse as the flight continued.

While troubleshooting this problem, the technician could not find the cause for the stiffness. The linkage, cable routing, and tension were correct. He lubricated the entire flight control system and solved the stiffness problem.

It is the submitter's opinion that the manufacturer did not lubricate the flight control system prior to delivery of the aircraft.

Part total time-18 hours.

TWIN COMMANDER

**Twin Commander; Model 690B; Aileron Hinge
Cracks; ATA 5751**

During a scheduled inspection, the technician found cracks on both ailerons.

The cracks were located in the inboard aileron hinge "U-channel" webs around the lower attachment bolt. The submitter did not offer a cause for this defect. However, he recommended the manufacturer design and issue a doubler to reinforce this area.

Part total time-4,616 hours.

HELICOPTERS

**UNAPPROVED PARTS NOTIFICATION
NUMBER 99-179, July 17, 2000**

AFFECTED AIRCRAFT: Bell Helicopter
206L-1, 206L-3, 206L-4

PURPOSE

The purpose of this notification is to advise all aircraft owners, operators, maintenance entities, suppliers, and distributors of improperly overhauled transmission assembly components for the above-referenced aircraft.

BACKGROUND

On September 20, 1995, a Bell 206L-1, registration number N2777W, was involved in

a blade-strike accident causing substantial damage to the aircraft that included torsional yielding of the main rotor mast. Quality Aircraft, Inc. (Quality), an aircraft parts distributor located at 1161 Cedar Dr., Midlothian, TX 76065, subsequently purchased the damaged aircraft. Quality utilized Galactic NDT Services, Inc., to perform magnetic-particle and liquid-penetrant inspections on the transmission parts. Galactic was not informed that the transmission had been involved in an accident, and therefore did not conduct additional hidden-damage inspections. The Bell Helicopter Maintenance Manual, BHT-206L1-MM-1, states:

“CAUTION: If the main rotor mast has evidence of torsional yielding, the mast assembly, transmission assembly, main driveshaft, and freewheeling assembly shall be considered unserviceable and scrapped.” The parts listed below may have been contained in the accident aircraft transmission assembly.

Part Name	Part Number	Serial Number
Link Attachments	206-033-513-001	B12-2520, B12-2567, B12-2658, and B12-2715
Stop - R/H	206-033-542-001	N/A
Stop - L /H	206-033-542-003	7925-3
Gear - Pinion	206-040-020-009	B12-7420
Gear - Spiral	206-040-025-001	B12-6138
Nut	206-040-046-003	N/A
Nut	206-040-047-001	N/A
Housing	206-040-052-009	B12-5194
Tube	206-040-064-001	N/A
Ring Spacer	206-040-068-001	N/A
Housing - Bearing	206-040-091-003	B12-8180
Gear - Ring	206-040-124-003	B12-11499
Housing	206-040-129-001	N/A
Filter - Head	206-040-525-001	B12-927
Dowel	206-040-528-001	N/A
Case - Main	206-040-530-001	B12-283
Case	206-040-531-001	B12-880
Case Top	206-040-532-005	B12-793A
Support - Lower	206-040-533-001	B12-763
Nut	206-040-539-009	N/A
Gear - Shaft	206-040-540-003	B12-1091
Gear - Sun	206-040-562-103	B-3307

RECOMMENDATION

Regulations require that type-certificated products conform to their type design. Aircraft owners, operators, maintenance organizations, suppliers, and distributors should inspect their aircraft, aircraft records, and/or aircraft parts inventories for any of the above-referenced parts originating from Quality Aircraft, Inc. If any of the parts are installed, appropriate action should be taken.

If any of the parts identified in the previous list are found in existing stock, it is recommended that the parts be quarantined until a determination can be made regarding each part’s eligibility for installation.

FURTHER INFORMATION

Additional information may be obtained from the FAA Flight Standards District Office (FSDO) shown below. The FAA would appreciate any information concerning the discovery of the above-referenced unapproved parts from any source, the means to identify the source, and the action taken to remove the parts from service.

This notice originated from the Dallas FSDO, 3300 Love Field Drive, Dallas, TX 75235, telephone (214) 902-1827, fax (214) 902-1862, and was published through the FAA Suspected Unapproved Parts Program Office, AVR-20, telephone (703) 661-0581, fax (703) 661-0113.

BELL

Bell; Model 206Bill; Jet Ranger; Airspeed Indication Anomaly; ATA 3414

After a flight, the pilot reported the airspeed indication appeared to be low while operating in a cruise-flight configuration.

When the maintenance technician investigated, he found the pitot static line (P/N 206-070-895-033) was punctured. The line chafed against the landing light until it penetrated the wall thickness. Evidently, the line was not properly routed and/or secured when it was previously installed.

Part total time not reported.

ENSTROM

Enstrom; Models All; Alternator Installation Error; ATA 2410

A submitter reported finding three cases of damage caused by separation of the alternator fan blades.

New alternators are fitted with a fan assembly. The manufacturer's technical data requires removing the fan assembly and replacing the fan assembly with a spacer prior to installation. In one case, when the alternator fan blade assembly separated, it punctured the engine oil cooler resulting in loss of engine oil and an off-airport landing.

The submitter stated he finds many alternator fan assemblies installed during inspections and maintenance. Each time, it is necessary to correct the installation by removing the fan assembly. It was suggested the manufacturer issue service information to its customers advising them of this problem. Further, the submitter recommended the FAA issue an Airworthiness Directive concerning this subject which would correct this dangerous situation. All maintenance personnel should be aware of this information and exercise due diligence during alternator installations.

Part total time not reported.

EUROCOPTER

Eurocopter; Model AS 350B1; Ecureuil; Engine Control Failure; ATA 7603

During an engine starting sequence, the pilot attempted to shut down the engine due to a "slow start." The engine continued to run, and he used the emergency shutoff system to secure the engine.

While investigating the cause of this defect, a technician discovered the end of the power lever control (P/N 350A57-1053-00) came off where it attaches to the fuel control. Even though the safety pin was in place, the technician found that the control end would come off of the ball joint (P/N 961) when the

release was pressed. The submitter recommended the inspection criteria for these parts be included in the appropriate maintenance workcards and procedures.

Part total time not reported.

Eurocopter; Model AS-350BA; Ecureuil; Abnormal Airframe Vibration; ATA 6500

During a flight, the pilot noticed an unusual airframe vibration. After a safe landing, the pilot reported the problem to the maintenance department.

The technician conducted an investigation and determined that failure of the tail rotor spherical bearing (P/N 350A-332153-00) caused the abnormal vibration. The bearing "elastimers" were severely torn. The submitter reported another occurrence of this defect in which the "elastimers" completely wore through their thickness. This failure occurred after 138 hours of operation.

Part total time-611 hours.

SIKORSKY

Sikorsky; Model S-76B; Blade Crack; ATA 6210

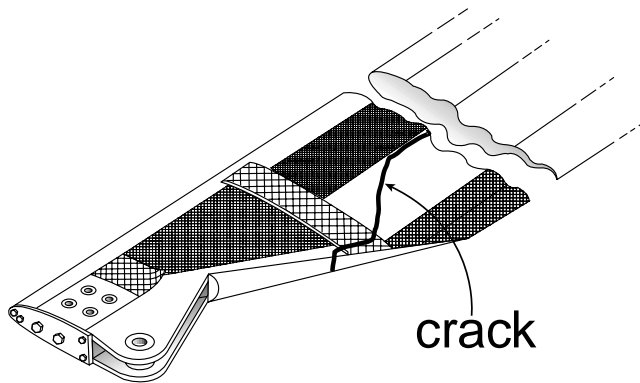
During a postflight inspection, the maintenance technician found a large crack in a main rotor blade.

The crack began 20 inches outboard from the blade root on the trailing edge of the blade (P/N 76150-09100-052), extended 5 inches lengthwise, and then traveled diagonally to a point just behind the spar. From there, the crack traveled another 12 inches lengthwise before terminating. (Refer to the following illustration.) The total crack length was approximately 24 inches. The FAA issued an Emergency Airworthiness Directive (AD) (2000-11-52), dated May 26, 2000, which requires inspection of the main rotor blades. In addition, the manufacturer issued Alert Service Bulletin 76-65-50, dated May 25, 2000,

and compliance is required by AD 2000-11-52. All operators should be aware of, and comply with, the requirements of these documents.

At the time of this report, the cause of this defect had not been determined. If further information is received, it will be printed in a future edition of this publication.

Part total time-3,615 hours.



POWERPLANTS AND PROPELLERS

UNAPPROVED PARTS NOTIFICATION NUMBER 2000-00107, July 1, 2000

AFFECTED ENGINES: General Aviation Aircraft – Continental and Lycoming reciprocating engines.

PURPOSE

The purpose of this notification is to advise all aircraft owners, operators, maintenance entities, and parts suppliers and distributors regarding improper maintenance or overhaul performed on the above-referenced engines between May 23, 1997, and January 25, 2000, by Colonial Aviation, 8640 Airway Blvd., New Port Richey, FL 34654-5106, or returned

to service under Mechanic Certificate (Airframe and Powerplant Ratings) No. 043341932.

BACKGROUND

Information received during a Federal Aviation Administration (FAA) suspected unapproved parts investigation indicated that Colonial Aviation overhauled a Lycoming engine without using the current maintenance manual, instructions for continued airworthiness, or other acceptable data. Evidence also indicates that the engine overhaul was performed without conducting the required magnetic particle inspection required by Avco Lycoming Overhaul Manual and Service Instruction 1285.

A facility inspection conducted at Colonial Aviation revealed that Colonial Aviation did not possess magnetic particle inspection equipment, glass bead cleaning equipment, or the engine test stand instrumentation required by Lycoming to conduct overhauls.

RECOMMENDATIONS

Regulations require that type-certificated products conform to their type design. It is recommended that aircraft, aircraft records, and aircraft parts inventories be inspected and reviewed for engines or engine parts maintained, overhauled, or returned to service by Colonial Aviation, or under the Mechanic Certificate (Airframe and Powerplant Ratings) No. 043341932. If any of these parts are installed or found in existing stock, it is recommended that appropriate action be taken to verify that maintenance or overhaul instructions have been complied with.

FURTHER INFORMATION

The Tampa Flight Standards District Office (FSDO), 5601 Mariner Street, Balboni Bldg., Suite 310, Tampa, FL 33609, telephone (813) 639-1540, would appreciate any information regarding the discovery of these engines from any source, the means used to

identify the source, and the actions taken to remove the affected engines from aircraft and/or stock.

This notice originated from the South Carolina FSDO. Additional information regarding this notice may be obtained by contacting Donald V. Dodge, FAA Aviation Safety Inspector, at (803) 765-5931. This notice was published through the FAA Suspected Unapproved Parts Program Office, AVR-20, telephone (703) 661-0580, fax (703) 661-0113.

NEW ADVISORY CIRCULAR

The FAA Aircraft Certification Service, ACE-100, issued Advisory Circular (AC) 20-143; Installation, Inspection, and Maintenance of Controls for General Aviation Reciprocating Aircraft Engines; dated June 6, 2000. This is an excellent publication and is recommended reading for everyone involved with the operation or maintenance of general aviation reciprocating engines.

AC 20-143 contains 13 pages of text and illustrations along with 9 pages of figures and drawings. The text covers the subjects of related regulatory requirements and general installation and maintenance of typical general aviation engine controls.

I especially like the inclusion of many figures, drawing, and the "common language" text. As the saying goes, a picture is worth a thousand words!

This AC may be downloaded free from the Internet at the following web site:

<http://www.faa.gov/avr/air/acs/achome.htm>

If you prefer, you can get a printed copy by using the "Order Blank" included in appendix 5 of AC 00-2.13, Advisory Circular Checklist, dated June 2000, or previous revisions.

TELEDYNE CONTINENTAL

The following article was submitted by the FAA, Aircraft Certification Office located in Atlanta, Georgia, and is printed with only minor editorial changes.

During a recent investigation of an accident involving a Cessna Model 150, with a Teledyne Continental Motors (TCM) Model O-200 engine installed, it was noted that one of the rocker arm bosses was cracked.

There is an Airworthiness Directive (AD) (94-05-05 R1), which applies to the TCM Models C75, C85, C90, C125, C145, O-200, O-300, GO-300, and Rolls-Royce C90, O-200, and O-300 series engines. AD 94-05-05 R1 mandates dye-penetrant inspection of the rocker arm bosses for cracks, as well as, dimensional inspection of the rocker shaft for looseness. However, the required compliance time is "at the next cylinder removal from the engine or at engine overhaul, whichever occurs first." The engine installed in the accident aircraft had not reached the threshold for compliance. Neither the FAA service difficulty data base nor the accident/incident data base indicates that this is a widespread problem, but there are sporadic reports.

Because a cracked rocker shaft boss will result in engine failure, it is recommended that during the next annual inspection of these model engines, which have acquired more than 500 hours time-in-service, that the rocker box covers be removed and the dimensional inspection specified in paragraph (b) of AD 94-05-05 R1 be accomplished. If looseness of the rocker shaft is found, it is further recommended that the complete requirements of the AD be accomplished. As always, the submittal of a Malfunction or Defect Report would be greatly appreciated.

ACCESSORIES

USE OF BLIND FASTENERS

The following article was submitted for publication by the FAA Aircraft Maintenance Division, AFS-300, located in Washington, DC.

The investigation of a fatal aircraft accident revealed the use of special (blind) rivets in a structural area may have contributed to the cause of the accident.

The fasteners failed at a point where a bracket and flight control servo were attached and contributed to the eventual failure of that attachment. Also, this led to failure of the servo and loss of aircraft yaw control. Originally, the manufacturer had installed solid-shank rivets in this area due to its structural application. Special (blind) rivets were chosen as replacement hardware to repair a component of the flight control system in the tail boom of the helicopter. The special rivets were used because of the difficulty in gaining access to the area, which prohibited the use of solid-shank rivets.

An aircraft, even though made of the best materials and strongest parts, would be of doubtful value unless those parts were firmly held together. Typical methods used to hold metal parts together include: riveting, bolting, bonding, brazing, and welding. Whatever the process used, it must produce a union that will be at least as strong as the parts that are joined. When selecting the type of fastener to replace an original manufacturer-installed fastener, special consideration of structural functions must be evaluated. Before using a substitute fastener, maintenance personnel should consult a source of approved technical data.

There are many places on each make and model of aircraft where access to both sides of a riveted structure or structural part is impossible. In some circumstances, limited

space will not permit the use of a bucking bar. Also, in the attachment of many nonstructural parts such as aircraft interior furnishing, flooring, deicing boots, and the like, the full strength of solid-shank rivets is not necessary.

For use in such places, special rivets have been designed which can be installed by pulling the center stem causing the blind side to expand. Special rivets are sometimes lighter than solid-shank rivets, yet are amply strong for their intended use. These special rivets are produced by several manufacturers and have unique characteristics that require special installation tools and special installation procedures. They are commonly called "blind fasteners."

The correct and appropriate use of technical data references is essential in determining the proper choice of replacement fasteners. Some sources of approved and acceptable technical data include:

1. Current manufacturer's data, such as service information, bulletins, manuals, and manufacturer-issued repair schemes.
2. FAA Airworthiness Directives; Type Certificate Data Sheets; Advisory Circular (AC) 43.13-1B, Acceptable Methods, Techniques, and Practices—Aircraft Inspection and Repair; Designated Engineering Representative (DER); FAA approved or accepted industry standards, and FAA field approval data.

NOTE: Reference data such as: aviation industry specifications, standards, handbooks, and other data may not exist in paper form; however, they may be available in the electronic media.

Technicians can make a critical mistake when selecting the repair procedure and the type of replacement hardware to be used. Mistakes may originate when

hardware selection is part of the evaluation of the difference between major and minor repairs.

AIR NOTES

SUBSCRIPTIONS

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

ELECTRONIC VERSION OF THE FAA FORM 8010-4, MALFUNCTION OR DEFECT REPORT

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

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

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

SERVICE DIFFICULTY 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.

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 June 16, 2000, and July 24, 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.

ACFT MAKE ACFT MODEL REMARKS	ENGMAKE ENG MODEL	COMP MAKE COMP MODEL	PART NAME PART NUMBER	PART CONDITION PART LOCATION	DIFF-DATE FAA REPORT NO.	T TIME TSO
AIRTRC AT401 INTERNAL CORROSION CAUSED FAILURE OF HORIZONTAL STABILIZER STRUT AT LOWER ATTACH FITTING. SUBMITTER RECOMMENDED LOWER ATTACH POINT DESIGNED SIMILAR TO UPPER FITTING AND LINSEED OIL APPLIED TO INSIDE OF STRUT. (X)			ATTACH 3010610	CORRODED HORIZ STAB STRUT	05/15/2000 2000061700639	5253
AMRGEN AA5B ENGINE WOULD NOT RUN UNLESS MIXTURE WAS LEANED ALMOST TO IDLE CUT-OFF, IT WAS VERY RICH AND WOULD NOT RUN ABOVE 1,500 RPM. FOUND PLASTIC FLOAT FILLED 100 II AVGAS TWO OF THREE CHAMBERS, FLOAT PN 30-800 CARBURETOR ASSY, DATE 9-97. (X)	LYC O360A4K	PRECISION	FLOAT 30800	DAMAGED	03/20/2000 2000070700122	225
AMTR VARIEZE ON DEPARTURE, THE ENGINE LOST POWER CAUSING AN INCIDENT. INSPECTION FOUND A CRACK IN THE FLOAT SIDE AND PARTIALLY FILLED. NO PREVIOUS INDICATION. POSSIBLE DUE TO CARBURETOR POSITION. COMPONENT S/N 104894A1BE1410418. (X)	CONT O200*	FACET	FLOAT 30766	LEAKING CARBURETOR	09/29/1999 2000071900403	1150
BALWKS FIREFLY11 EXCESSIVE AND PREMATURE DETERIORATION OF FABRIC PANELS AT GORE TAPE SEAM. GORE TAPE MATERIAL IS STIFF WITH SHARP EDGES AND CUTS INTO FABRIC PANELS WHERE PANELS OVERLAP TAPE APPROXIMATELY 1 INCH FROM PANEL EDGE. IT APPEARED THE AIRCRAFT MANUFACTURER HAD CHANGED THE GORE TAPE MATERIAL FROM A SOFTER MORE PLIABLE TAPE TO A STIFF TAPE WITH SHARP EDGES. (X)			ENVELOPE	DETERIORATED FABRIC PNLS	06/05/2000 2000061700642	
BBAVIA 11AC CONNECTOR CLIP PULLED OPEN ALLOWING STEERING SPRING TO COME LOOSE OF TAIL WHEEL STEERING HORN RESULTING IN A LOSS OF LEFT STEERING CONTROL. (X)		MAULE	CLIP 2609	SEPARATED STEERING SPRING	06/22/2000 2000071900589	

BBAVIA			HINGE	BROKEN	05/10/2000	
1877	7GCAA		2709	BOTTOM TAB	2000062200401	

DURING WINDS OF APPROX 40 KNOTS, AILERON HINGE THAT ATTACHES TO CONTROL ROD TORE LOOSE FROM INBOARD END OF AILERON. FURTHER INVESTIGATION REVEALED THAT HINGE TABS, TOP AND BOTTOM, THAT ARE RIVETED ONTO SPAR CAPS HAD BROKEN PREVIOUSLY. THIS EVIDENCED BY THE STEEL HINGE TABS RUSTED AT THE BREAK. THIS CONDITION IS NOT READILY NOTICED DURING ROUTINE INSPECTION DUE TO THE FACT THE HINGE TABS ARE COVERED WITH FABRIC AND FINISH. (X)

BBAVIA	LYC		MAGNETO	CONTAMINATED	05/05/2000	
8KCAB	AEIO320E1B		4150		2000061700326	

OWNER COMPLAINED OF ROUGH RUNNING/MISSING WHEN ENGINE HOT WHILE AT LOW POWER SETTINGS. RT MAG (4150) REMOVED. EXCESS PLAY IN DIST END BEARING (APPROX PLAY, .030 INCH) SN 9010274. LT MAG REMOVED (4151) SN 9010270. FOUND ENTIRE INTERIOR OF MAG CONTAMINATED BY GREASE FROM DRIVE END BEARING. THESE MAGS (4100 SERIES) ARE NOT REBUILDABLE AND SLICK SB RECOMMENDS REPLACEMENT AND TIS TO BE NOT IN EXCESS OF 800 HRS. ENGINE TT: 494 HRS SINCE NEW.

BELL		BELL	BULKHEAD	CRACKED	02/16/2000	
8345	206B			TAIL BOOM	206030446001F	

PART IN QUESTION IS LOCATED ON THE AFT MOST SECTION ON THE HELICOPTER TAIL BOOM. THE TAIL ROTOR GEARBOX AFT MOUNT STUDS PASS THROUGH THE TOP OF THIS FITTING ON THE LEFT AND RIGHT SIDES. CRACKS DEVELOPED FROM THESE STUD HOLES TO ADJACENT MOUNTING RIVET HOLES. ALSO, CRACKS WERE NOTED ON THE TOP SIDE OF THIS FITTING THAT WERE NOT VISIBLE WITH FITTING INSTALLED. CRACKS WERE FOUND DURING NORMAL 100-HOUR INSPECTION. POSSIBLE CAUSE CAN BE UNDER OR OVER TORQUING OF INSTALLATION HARDWARE, OR

BELL		BELL	BULKHEAD	CRACKED	04/03/2000	
7527	206B		2060304461F	TAIL BOOM	2000062200514	

DURING ROUTINE INSPECTION, DISCOVERED HARILINE CRACK IN SKIN. SUBMITTER SUGGESTED MORE FREQUENT CHADWICK BALANCE & TRACK OR OTHER FORM OF VIBRATION TEST AT OR OF TALL ROTOR BLADES AS THIS HIGH FREQUENCY VIBRATION, WHICH RESULTS FROM TAIL ROTOR OUT OF BALANCE CONDITION, CAN CAUSE THESE CRACKS. ALSO, CONTINUED DISCRETIONAL, EXTREMELY VIGILANT INSPECTION OF SURROUNDING AREA FOR IMPENDING SKIN CRACKS LEADING TO CASTING FAILURE AT TAIL ROTOR BELL

BELL	ALLSN	ALLSN	BEARING	WORN	05/21/2000	
49420	206B	250C20	6894171	SUPP ADAPTR	2000071900593	

(CAN) WHILE IN-FLIGHT, THE PILOT COULD HEAR A LOUD METALLIC SCREAMING GRINDING NOISE FROM THE ENGINE. HE LANDED AT A CLEARING AND SHUT DOWN ENGINE. THE ENGINE GEARBOX HAD QUICK DISCONNECT CHIP PLUGS, PULLED THE CHIP DETECTORS AND FOUND FERROUS METAL ON THE OUTER PERIMETER, BUT NO CHIPS CROSSING ONTO THE CENTER PROBE TO GIVE THE PILOT A CHIP LIGHT ON THE INSTRUMENT PANEL. THE SYSTEM WAS INSPECTED FOR LIGHT INDICATION AND FOUND SERVICEABLE. GEARBOX TSN 11,413.5 HOURS. TIME SINCE LAST MAJOR

BELL	ALLSN	LEARSIEGLER	BRUSH BLOCK	BROKEN	04/11/2000	
206B	250C20B	23032018	230321380	STARTER	2000072100156	436

(CAN) POST-FLIGHT INSPECTION REVEALED THAT ONE OF THE BRUSHES WAS WORN DOWN TWICE AS MUCH AS THE OTHER VISIBLE BRUSH. UPON REMOVAL, IT WAS THEN NOTED THAT ONE OTHER BRUSH WAS BROKEN AND/OR BURNT OFF. HOWEVER, THE STARTER/GENERATOR WAS STILL FUNCTIONING AS IT GAVE NO FAILURE WARNING INDICATION.

BELL	ALLSN	BELL	STRAP	DETERIORATED	05/15/2000	
206B3	250C20B	206011100145	206011147007	MAIN ROTOR HEAD	2000071200294	

(AUS) TENSION-TORSION (TT) STRAPS DETERIORATED. THE STRAPS WERE DISTORTED AND THE URETHANE COATING ADJACENT TO THE LATCH BOLT BUSHINGS WAS SPLIT REVEALING THE INTERNAL WINDINGS. (X)

BELL	ALLSN	BELL	MAIN ROTOR	DAMAGED	06/01/2000	
206B3	250C20B	TRUNNION		SPLIT CONE HALF	2000072100046	304

(AUS) MAIN ROTOR SPLIT CONE HALF INSTALLED UPSIDE DOWN. MAIN ROTOR TRUNNION CHAMFER DAMAGED BY SHARP EDGE OF CONE. MAST SPLIT CONE SEAT FRETTING.

BELL	ALLSN	ALLSN	NOZZLE	CRACKED	04/10/2000	206
BELL	250C20		6878426	1 BLADE PATH CIR	2000071900526	

(CAN) A GROUP OF 2ND STAGE NOZZLES ARE IN THE PROCESS OF RECALL. IT WAS FOUND THAT REPAIRS MADE TO SOME NOZZLES; WHICH WAS AN APPROVED REPAIR, HAVE FAILED TO REACH O/H AND ARE CRACKING WHERE THE FIRST STAGE BLADE PATH WAS JOINED TO THE 2ND STAGE NOZZLE. TRANSPORT CAW CORRECTIVE ACTION GROUP IS ADDRESSING THIS ISSUE.

BELL	ALLSN	ALLSN	COMPRESSOR	CRACKED	03/15/2000	
206L1	250C28B		23056109	UPPER/H	2000072200166	

(CAN) 1.5 INCH CRACK FOUND ON COMPRESSOR SCROLL STARTING ALONG AFT RADIUS OF SCROLL PROGRESSING TOWARD DISCHARGE ELBOW AND TURNING TO MIDDLE OF OUTSIDE FACE.

BELL	PWA		TUBE	LOOSE	03/29/2000	
212	PT6T3		212076151007	CYCLIC	2000072100086	

(CAN) DURING INSPECTION, THE RIGHT CYCLIC SERVO INPUT LEVER WAS FOUND IN AN AFT OF CENTER ORIENTATION. SUBSEQUENT OBSERVATION REVEALED BOTH CYCLIC BOOST TUBES HAD LOOSE CLEVIS ASSEMBLIES AT LOWER END. THIS CAUSED THE SERVO TO ROTATE IN ANY POSITION AND INTERFERE WITH THE PARENT STRUCTURE. NORMALLY, THE CLEVIS MUST BE TIGHT AND LOCKED IN POSITION TO PREVENT THE SERVO FROM TURNING. THE USE OF SILICONE SEAL WAS USED TO BOND THE THREADED CLEVIS TO TUBE AS PER BELL MAINTENANCE MANUAL. BELL WAS INFORMED AND STATED THAT THEY ARE MAKING THE CORRECTION TO THE MAINTENANCE MANUAL.

BELL		BELL	TAILPIPE	CRACKED	02/14/2000	
222U		222063307	222063307141	X-TUBES & BRKTS	2000071900556	

(CAN) TAILPIPE FORWARDED FOR FUSION WELD REPAIR TO 4 X-TUBE SUPPORT BRACKETS. EXCESSIVE PLAY WAS NOTED. DETAILED INSPECTION REVEALED WEAR THROUGH DAMAGE OF BOTH X-TUBES VISIBLE FROM ONLY INSIDE OF THE TAILPIPE WHERE WEAR WAS THEN NOTED IN 3 AREAS. BELL ENGINEERING WAS INFORMED AND THEY WILL CLOSELY MONITOR SUBSEQUENT FIELD REPORTS.

BELL	LYC	BELL	SPACER	CORRODED	02/13/2000	
222U	LTS101750C1		222012724103	TAIL ROTOR	2000063000145	

(AUS) TAIL ROTOR PITCH CHANGE MECHANISM SPACER SEVERELY CORRODED. A PIECE OF THE SPACER HAD FLAKED OFF AND JAMMED THE SPLINE PLATE PN 222-012-725-001 ON THE OUTPUT SHAFT SPLINES.

BELL 634	ALLSN 407	BELL 250C47B	BEARING 407030801105	FRETTED TAIL ROTOR G/B	04/15/2000 2000061700677
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WHILE PERFORMING SCHEDULED LUBRICATION OF TAIL ROTOR HANGER BEARINGS, MECHANIC NOTICED METALLIC FRETTING DUST AROUND TAIL ROTOR GEARBOX MOUNTING AREA. FURTHER INVESTIGATION REVEALED MOVEMENT BETWEEN TAIL ROTOR GEARBOX AND TAIL BOOM. THIS MALFUNCTION IS UNDER INVESTIGATION BY MANUFACTURER AND SUBMITTER IS AWAITING RESULTS OF THIS INVESTIGATION. (X)

BELL 412		SKIN 212030191001	CRACKED TAIL BOOM	12/21/1999 2000062200307
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DURING DAILY INSPECTION, MECHANIC FOUND A CRACK IN THE SKIN JUST BELOW TAIL BOOM ATTACH FITTING ON UPPER LEFT HAND SIDE OF THE AIRFRAME. INSP REVEALED THE MAIN BEAM CAP WAS BROKEN. MAINT REMOVED HELICOPTER FROM SERVICE. REMOVED RT HAND FITTING AND UPPER LT HAND FITTING FROM ANOTHER HELICOPTER S/N 36043, (SISTER SHIP). LT HAND FITTING HAD EVIDENCE OF CHIPS AND BURRS ON ALL BUT 2 HOLES. BEAM CAP IS THE SAME. MOST OF THE HOLES HAD NOT BEEN DEBURRED. THIS IS ON THE BROKEN FITTING AND BEAM CAP. AFTER REMOVING A SECTION OF THE FWD PORTION OF BEAM CAP, FOUND HOLES HAD NOT BEEN DEBURRED. THE RIGHT HAND FITTING LOOKS THE SAME. ALL BUT 3 OF THE HOLES WERE NOT DEBURRED. (X)

BOLKMS BO105S	ALLSN 250C20B	BOLKMS 1053172901	BUSHING 1053172904	LOOSE TAIL ROTOR ASSY	05/01/2000 2000072200162
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(CAN) PILOT STARTED AIRCRAFT AND FOUND PEDAL FORCES EXCESSIVE. AIRCRAFT WAS SHUT DOWN. T/R WAS DISASSEMBLED AND IT WAS FOUND THAT ONE OF THE OUTBOARD BUSHING HAD SLID APPROXIMATELY 1/4 OFF THE INNER SLEEVE AND WAS RUBBING THE OUTBOARD SPACER, LOCATED INSIDE THE BLADE GRIP.

CESSNA 172		SHIMMY 08424008	FAILED NOSE	04/22/2000 2000061700546
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AFTER LANDING, THE PIC WAS TAXIING TO THE RAMP WHEN THE NOSE WHEEL STARTED TO SHIMMY. HE APPLIED BRAKES AND THE AIRCRAFT MADE A HARD RIGHT TURN CAUSING THE AIRCRAFT TO TOP OVER TO THE LEFT/FRONT SIDE AND THE LEFT WING TIP AND PROPELLER MADE CONTACT WITH THE GROUND. INSPECTIONS OF THE AIRCRAFT REVEALED THE NOSE GEAR SHIMMY DAMPER AND BOTH STEERING RODS WERE BROKEN. (X)

CESSNA 60541	172M	CESSNA	SEAT 0514090	FAILED	05/24/2000 2000062200235
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WHEN SEAT CRANK IS TURNED, PIN RUBS ON VERTICAL ADJUST SCREW ASSY. IT CATCHES AT MAX ADJUSTMENT AND PREVENTS FULL SEAT ADJUST PIN ENGAGEMENT. SUBMITTER SUGGESTED A POSSIBLE MANUFACTURER DEFECT. (X)

CESSNA 172M	LYC O320E2D	CESSNA	FLAP TRACK 052323113	CRACKED TE FLAP	05/04/2000 2000062900203
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(CAN) FOLLOWING A SIMULATED FORCED APPROACH, THE INSTRUCTOR AND STUDENT HEARD A LOUD BANG AS THE FLAPS WERE RETRACTING. THE FLAPS CONTINUED TO RETRACT TO THE FULL UP POSITION AND THE FLIGHT CONTINUED BACK TO BASE AND LANDED UNEVENTFULLY. MAINTENANCE PERSONNEL FOUND THAT THE LEFT INBOARD FLAP TRACK (RIB ASSY) HAS CRACKED.

CESSNA 172M	LYC O320E2D		HOSE MILH60003Q98	BLOCKED OIL BREATHER LIN	05/02/2000 2000063000021
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DURING ANNUAL INSP, ORIG OIL BREATHER LINE FOUND WEATHER CHECKED AND DETERMINED UNAIRWORTHY. NEW LINE WAS CUT OFF OF BULK LENGTH STOCK AND REPLACED ORIG LINE IAW STD PRACTICES, AFTER LINE REPLACED, ACFT TEST RUN, ENG RUN-UP ON GROUND AT TAKEOFF POWER, CRUISE POWER, AND POST-MAINT CHK IAW CESSNA MM, CESSNA 172M. PILOTS OPER HANDBOOK WITH NO DISCREPANCIES OR OIL LEAKS NOTED, ACFT RELEASED FROM MAINT. FIVE MINUTES AFTER TAKEOFF, PILOT NOTED OIL SMOKE ENTERING COCKPIT, DECLARED EMERG, RETURNED TO AIRPORT. DURING RETURN, FRONT CRANKSHAFT SEAL BLEW OUT CAUSING LOSS OF OIL PRESS, DUMPING OIL OUT OF FRONT SEAL. ACFT LANDED SAFELY. INSP FND NEW BREATHER LINE BLOCKED. PLASTIC CAP SHOVED 4 INCHES UP

CESSNA 590	LYC 172S	O360*	SERVO RSA5AD1	VAPOR LOCK FUEL ENG	06/25/2000 2000071900524
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ACFT WAS ON NIGHT FLIGHT AND COMPLETED 5 LANDINGS. FULL STOP ON RUNWAY, THEN TAKING OFF. ON THE 6TH LANDING WHEN THROTTLE WAS RETARDED OVER THE RUNWAY THRESHOLD, ALTERNATOR LIGHT ILLUMINATED AND ON ROLL-OUT, ENGINE QUIT. ATTEMPTS WERE MADE TO RESTART, BUT WOULD NOT RESTART. ACFT TOWED TO PARKING. MAINTENANCE INSPECTED AND STARTED ENG WITH NO DIFFICULTIES. ALL OPERATING PERIMETERS NORMAL, IDLE SPEED, AND MIXTURE STRENGTH NORMAL. UPON RETURN HOME, ACFT DIVERTED FOR 1 HR DUE TO THUNDERSTORMS, THEN TOOK OFF, RETURNED HOME. UPON ARRIVAL, ENG IDLE WAS ROUGH, IDLE SPEED ERRATIC. ENG SHUT DOWN, RESTART ATTEMPTED, VAPOR LOCKED. RESTARTED END, NO DIFFICULTIES. FUEL SERVO SENT TO

CESSNA 180 O470K	CONT		CRANKSHAFT 649134	DAMAGED ENGINE	05/08/2000 2000062200419	1
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PER TCM MSB 00-5, CRANKSHAFT WAS REJECTED BY TELEDYNE CONTINENTAL MOTORS. (X)

CESSNA 8	180K		BUSHING 07421801	ERODED TAIL WHEEL SPRIN	06/09/2000 2000062900195
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RECENTLY INSTALLED TAIL SPRING BUSHINGS FOUND EXTRUDED AFTER ONLY 8 HOURS OF OPERATION. SUBMITTER KNOWS OF ONE OTHER LOW TIME FAILURE OF THESE BUSHINGS. (X)

CESSNA 182A			ATTACH 07122071	CRACKED LT SIDE	05/30/2000 2000062200495
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DURING ANNUAL INSP, LT SIDE HORIZONTAL STABILIZER ATTACH BRACKET WAS FOUND CRACKED NEXT TO A MOUNT BOLT. APPROX ONE YEAR PRIOR, THE HORIZ STAB HAD BEEN REBUILT. THE SPAR, STRINGERS, AND SKIN HAD BEEN REPLACED. VERY FEW OF THE ORIGINAL PARTS WERE RETURNED TO SERVICE. IT IS BELIEVED THE STABILIZER AND MOUNT BRACKET WERE DAMAGED DURING OR BY GROUND HANDLING THE ACFT BY THE TAIL. THE SMALL CRACK NEXT TO ONE OF THE TWO BOLTS THAT ATTACH IT TO THE ACFT WAS OVERLOOKED. (X)

CESSNA 182E		ANGLE 07106082	RUSTED GEARBOX	04/12/2000 2000062200274	3811
DURING ANNUAL INSPECTION, DISCOVERED PN 0710608-2 ANGLE HEAVILY RUSTED. AIRCRAFT ANNUAL INSPECTION COMPLETED 12 MONTHS PRIOR TO THIS INSPECTION, AND THE AIRCRAFT WAS DELIVERED FOR INSIDE STORAGE. INSPECTION DISCOVERED DRIED MUD AND DEBRIS IN THE BELLY. AIRCRAFT WAS PREVIOUSLY OPERATED ON A GRASS AND DIRT STRIP. ALL BELLY DRAIN HOLES WERE PLUGGED WITH MUD AND DEBRIS, AND ALLOWED WATER TO COLLECT. SUBMITTER STATED DURING FUTURE ANNUALS, INSPECT BELLY OF AIRCRAFT THOROUGHLY. (X)					
CESSNA 182P		FLAP TRACK 122101015	CRACKED LT WING	04/11/2000 2000061700190	
SHEARED RIVETS AT FORWARD LOWER END OF FLAP TRACK AND CRACKED FLAP TRACK MOUNTING ANGLE LOWER END FORWARD. WING FLAP WAS DAMAGED WHEN FLAPS WERE RETRACTED AND CONTACT WAS MADE WITH BRACKET IN FLAP WELL. POSSIBLE CAUSE, OPERATING FLAPS AT HIGHER THAN NORMAL SPEEDS. (X)					
CESSNA 182S		PUMP 5100001RX	LEAKING	06/01/2000 2000062200703	
SEAL BETWEEN PUMP AND MOTOR LEAKING SEVERELY OUT DRAIN TUBE. THE ONLY WAY TO STOP IT FROM LEAKING IS TO TURN THE FUEL SELECTOR VALVE TO THE OFF POSITION. THE ORIGINAL PUMP WAS REPLACED FOR THE SAME PROBLEM AT 81.9 HOURS. INSTALL OVERHAULED PUMP P/N 5100-00-3RX. AIRCRAFT TT, 593.2 HRS. SUBMITTER STATED THEY HAVE EXPERIENCED SAME PROBLEM WITH OTHER CESSNA 182S MODELS. (X)					
CESSNA 187	182S	RUDDER PEDAL 04117785	WRONG PART LTRUDDER PEDAL	11/22/1999 2000062800059	
THE PILOT'S LEFT RUDDER PEDAL HAS THE WRONG PART NUMBER FORWARD SHAFT INSTALLED FROM FACTORY AND IN THE PARTS BREAKDOWN. PN 0411778-5 IS TOO SHORT AND WILL SHEAR THE COTTER PIN ALLOWING SHAFT TO COME OUT. THIS WOULD CAUSE POTENTIAL LOSS OF RUDDER CONTROL. SUBMITTER STATED: TO FIX THIS PROBLEM, THE PROPER LENGTH SHAFT SHOULD BE INSTALLED: PN 0411778-6. (X)					
CESSNA 191	LYC 206H	O540* MS21044N3	NUT FUEL INJECTION	04/07/2000 2000062200509	
DURING A 100-HOUR INSPECTION, THE FUEL INJECTION LINE CLAMPS WERE FOUND SECURED WITH FIBER LOCK NUTS, OF WHICH THE FIBER LOCK WAS MELTED FROM THE HEAT OF THE ENGINE DURING OPERATION. ALL NUTS WERE REPLACED WITH ALL-STEEL LOCK NUTS, P/N MS21045. (X)					
CESSNA 208B		SCREW MS24694	MISINSTALLED WING PLATE	03/05/2000 2000062900197	
(CAN) DURING A PHASE 1 INSPECTION, INCORRECT LENGTH SCREWS WERE FOUND INSTALLED AT WING ACCESS PANELS FOR THE AILERON BELL CRANK. THE SCREWS WERE RUBBING ON THE BELL CRANK AND THE SUBMITTER STATED THAT THE ENDS OF THE SCREWS WERE FOUND WORN OFF.					
CESSNA 402B	CONT TSIO520E	CESSNA 082260068	FITTING TIP TANKS	05/02/2000 2000062900202	11500
(CAN) DURING SCHEDULED INSPECTION, MOVEMENT WAS NOTICED AT THE AFT TIP TANK FITTING AS MAINTENANCE PERSONNEL APPLIED UP AND DOWN FORCES TO THE TIP TANK TRAILING EDGE. THE TWO MOST OUTBOARD RIVETS WHICH ATTACH THE FITTING TO THE OUTBOARD RIB (THROUGH THE REAR SPAR) WERE FOUND SHEARED. THE SUBMITTER STATES THAT THIS IS THE SECOND AIRCRAFT HE HAS FOUND IN THIS CONDITION.					
CESSNA 5233	421C	CESSNA 503403034	MOUNT LT ENGINE BAY	CRACKED 2000061700193	
DURING ANNUAL INSPECTION, FOUND ONE INCH CRACK LEFT SIDE, AFT CORNER, LEFT ENGINE BAY, CANTED BULKHEAD TOP CAP. EXHAUST CORROSION IN THIS AREA WAS NOTED. PER AD 2000-01-16 EXHAUST SYSTEM, FOUND CRACKS ON EXHAUST COMPONENTS ALSO IN THIS AREA THAT MAY HAVE CONTRIBUTED TO THIS FAILURE. (X)					
CONAER LA4		MOUNT LA4180	CRACKED RT LOWER	04/14/2000 2000061700396	757
RIGHT LOWER ENGINE ATTACH POINT CRACKED TO RIGHT STRUT ATTACH POINT. (RADIALLY THROUGH MOUNT TUBE). DETECTED DURING ANNUAL INSPECTION VISUALLY AND VERIFIED BY DIE/PENETRANT. (X)					
GROB G103ATWINII		PUSH ROD TUBE	FAILED 96 INCH OUT BD	05/10/2000 2000061700497	7775
LEFT WING AILERON PUSH ROD FOUND MISSING PLASTIC BEARING CAUSING RIVETS TO WEAR THROUGH PUSH ROD IN 2 PLACES. (X)					
HUGHES 369D	ALLSN 250C20B	DRIVE SHAFT 369D25518	DAMAGED DAMPER BRACKET	03/03/2000 2000072100084	9502
(CAN) UPON REMOVAL OF TAIL ROTOR GEARBOX AND DRIVESHAFT, EXTENSIVE DAMAGE WAS FOUND ON TAIL ROTOR DRIVESHAFT. INVESTIGATION REVEALED THAT THE DAMPER BRACKET WAS BROKEN OFF WHICH ALLOWED THE TAIL ROTOR DRIVESHAFT TO WHIP AND RESULT IN THIS DAMAGE.					
MTSBSI MU2B25		WINDOW 010A31890	SEPARATED LEFT CABIN	04/25/2000 2000062800063	6477
IN-FLIGHT, APPROXIMATELY 18,000 FEET, AIRCRAFT LOST PRESSURIZATION. AFTER LANDING, INSPECTION OF THE AIRCRAFT REVEALED LEFT CABIN WINDOW HAD FAILED. DAMAGE WAS LIMITED TO THE WINDOW, NO OTHER AIRFRAME PARTS WERE DAMAGED. WINDOW HAD BEEN POLISHED 8 MONTHS EARLIER. (X)					
PIPER J3C65	CONT A651	PLUG 25117	LOOSE PISTON PIN	08/16/1999 2000071900307	85
FOLLOWING MAJOR OVERHAUL, ALUM PARTICLES WERE FOUND IN THE OIL SCREEN AT 30, 55, AND 75 HOURS. CYLINDERS WERE REMOVED AND THE PISTON PIN PLUGS WERE FOUND WORN ON THE SHANK IN THE FORM OF A TAPER. THE PINS AND PLUGS WERE NEW AND CAME FROM A SET. THE OVERHAUL MANUAL CALLS FOR THESE TO BE A .0005 INCH TO .0025 INCH TIGHT FIT, BUT THE SERVICE LIMIT IS .003 INCH LOOSE AND PLUGS HAVE ALWAYS SLID IN AND OUT. SUBMITTER STATED THEIR FIX WAS TO GET PLUGS WITH A .0025 INCH FIT. (X)					
PIPER		SPAR	CORRODED	06/15/2000	

PA28160		62015		2000061700717	
FORWARD LOWER EDGE OF MAIN SPAR INBOARD BEHIND FUEL TANK BADLY CORRODED. DEFOLIATED BY ABOUT 50 PERCENT OF THICKNESS. MICE NESTS AND FECAL MATTER FOUND. SUBMITTER RECOMMENDED FUEL TANK REMOVAL FOR INSPECTION AT LEAST EVERY 5 YEARS. ALSO, INSTALL INSPECTION HOLE BEHIND TANKS FOR BETTER					
PIPER		TRUNNION	CRACKED	05/22/2000	8724
PA28161		7873802	TORQUE LINK LUG	2000062700067	
RIGHT GEAR OLEO PISTON ASSY TORQUE LINK LUGS CRACKED. EARLY DETECTION CAN ONLY BE DETECTED BY DYE PENETRANT OR OTHER NDT INSPECTION. AIRCRAFT USED FOR TRAINING 90 PERCENT OF ITS TOTAL TIME. (X)					
PIPER	NARCO	SENSOR	LEAKING	03/09/2000	1086
PA28181				2000061700321	
*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. THIRD FAILURE KNOWN TO SUBMITTER. (X)					
PIPER		MOUNT	BROKEN	05/30/2000	8696
PA28R201		6711957	RT DRAG BRACE	2000062200707	
PILOT REPORTED GEAR UNLOCKED INDICATION WITH GEAR RETRACTED. INVESTIGATION FOUND ENGINE MOUNT TUBE BROKEN JUST ABOVE RIGHT DRAG BRACE MOUNT. WHEN GEAR WAS RETRACTED, MOUNT FLEXED NOT ALLOWING UPLOCK SWITCH CONTROL. (X)					
PIPER	LYC	COOLER	FAILED	05/08/2000	4600
A31310	TIO540J2BD	8535311	RT ENG OIL SYS	2000072100246	
AS AIRCRAFT ROTATED DURING TAKEOFF, MANIFOLD PRESSURE DROPPED, PILOT FOUND LOW OIL PRESSURE, AND RETURNED TO AIRPORT AND SECURED ENGINE AFTER LANDING. ON INSPECTION, FOUND OIL COOLER BOWED OUTWARD AND INNER COILS BULGED WITH 2.5 INCH SPLIT. OIL COOLER WAS OVERHAULED APPROXIMATELY 120 HRS. NO APPARENT DAMAGE OTHER THAN LISTED FOUND ON COOLER. FOUND NO REASON FOR COOLER RUPTURE. ON ENGINE GROUND TEST, ALL ENGINE PRESSURES NORMAL. (X)					
PIPER		ROD	BINDING	05/19/2000	
PA31350			DOWN AND LOCK	2000062200497	
-RT MAIN GEAR NO DOWN AND LOCK INDICATION. FOUND ROD AND BINDING NOT LETTING THE HOOK DROP INTO PLACE. CLEANED AND LUBED, OPS CHECKED GOOD. (X)					
PIPER	LYC	FUEL LINE	LEAKING	04/20/2000	
PA31350	TIO540J2BD	565583	FUEL INDICATOR	2000062200505	
DURING CRUISE, PILOT SMELLED FUEL. AFTER LOOKING AROUND THE COCKPIT, PILOT NOTICED A SMALL FUEL STAIN IN THE COPILOT'S CARPET. THE AIRCRAFT IMMEDIATELY RETURNED TO THE AIRPORT. REPLACED FUEL LINE TO FUEL FLOW INDICATOR.					
PIPER	GARKENYON	O-RING	FAILED	03/22/2000	4343
PA32RT300		MS3877	NLG ACTUATOR	2000062200502	
AFTER TAKEOFF, THE NOSE GEAR FAILED TO FULLY RETRACT AND WOULD NOT EXTEND TO DOWN AND LOCKED POSITION. THE PILOT PERFORMED VARIOUS MANEUVERS AND GEAR FINALLY EXTENDED DURING A POWER OFF STALL. AFTER LANDING INSPECTION, FOUND THE SHAFT O-RING ON THE NOSE GEAR ACTUATOR BADLY DETERIORATED CAUSING LOSS OF ALL SYSTEM FLUID. ACTUATORS SHOULD BE INSPECTED CLOSELY AND ANY SIGNS					
PIPER		HOSE	CONTAMINATED	04/27/2000	7264
PA34200T		6390128		2000063000148	
P/N 63901-28 AND P/N 63901-70 HOSES (TT 7,264.3 HRS) CAUSED CONTAMINATION TO BE INJECTED INTO ORFICE FITTING OF NOSE GEAR ACTUATOR CAUSING NOSE TO NOT COME OUT OF WHEEL WELL MAKING FOR A NOSE GEAR UP					
PIPER	CONT	SERVO	FAILED	05/18/2000	923
PA34220T	TSIO360RB	RSA5AD2	FUEL INJECTOR	2000062900192	
LEFT ENGINE DIED ON ROLL-OUT AFTER LANDING. THIS SERVO HAS 923 HOURS TT SINCE NEW AND 450 HOURS FROM REPAIR OF MIXTURE PLATE. ENGINE RAN ROUGH AT IDLE AND AT LOW POWER SETTINGS. THE MIXTURE WAS ON THE RICH SIDE AND UNABLE TO ADJUST MIXTURE. SERVO REMOVED AND A NEW ONE INSTALLED IAW TCM AND PIPER					
PIPER	CONT	SERVO	GOUGED	04/25/2000	
PA34220T	TSIO360RB	654353	TOP ENGINE (AFT)	2000071900011	
FUEL SERVO GOUGED AT BASE BY SHOCK MOUNT ATTACHED TO ENGINE. SUBMITTED STATED SHOCK MOUNT DOES NOT COVER COMPLETE BASE OF SERVO. (X)					
PIPER	LYC	CABLE	SEPARATED	04/18/2000	
PA44180	LO360E1A6	554546	PEDESTAL	2000062900205	
(CAN) DURING TAKEOFF, THE LEFT ENGINE REMAINED AT MAXIMUM RPM WHEN CLIMB POWER WAS SELECTED FOR BOTH ENGINES. MAINTENANCE FOUND THE LEFT THROTTLE CABLE BROKEN WITHIN THE PEDESTAL AREA AT THE POINT WHERE THE CABLE ENTERS THE HOUSING. CABLE REPLACED.					
PIPER	LYC	RIVET	BROKEN	04/27/2000	118
PA46350P	TIO540AE2A	AN470	BAFFLE	2000061700559	DURING
AN OIL CHANGE, TWO RIVET HEADS (AN470) WERE FOUND IN THE OIL SUCTION SCREEN. THE ENGINE WAS REMOVED AND THE OIL SUMP PULLED OFF. TWO RIVET HEADS WERE MISSING FROM THE OIL SUMP BAFFLE. THESE ARE MS20470AD4-4 RIVETS. THE HOLES ON THE DRIVEN SIDE APPEARED TO BE COUNTERSUNK OR EXCESSIVELY DEBURRED, WHICH GAVE LITTLE BEARING SURFACE FOR THE RIVET HEAD. LYCOMING SB489B REFERS TO THESE					
PIPER	LYC	GEAR	WORN	05/01/2000	119
PA46350P	TIO540AE2A	61298	TEETH	2000062700220	
ON REMOVAL OF OIL PUMP, WEAR WAS NOTED ON ALUMINUM GEAR TEETH FACES. IT LOOKED LIKE IMPROPER HARDENING. WEAR ALSO ON TEETH EDGES. DATE CODE: 36/99. (X)					
PIPER		WINDOW	BLEW OUT	05/05/2000	
PA60601		250003503	EMERGENCY WIND	2000062900191	

AIRCRAFT EMERGENCY WINDOW BLEW OUT, WHILE IN CRUISE, AFTER TAKEOFF FROM TOLEDO. AIRCRAFT LANDED BACK IN TOLEDO. AIRCRAFT GROUNDED DUE TO AWAITING REPLACEMENT WINDOW. (X)

PIPER	FITTING	CORRODED	06/24/1999	2065
PA60601P	20002102	INBD GEAR SIDE	2000071900519	

DURING ANNUAL INSPECTION, FOUND SEVERAL AREAS THROUGHOUT AIRFRAME HAVE SURFACE CORROSION STARTING. RIGHT WING GEAR AFTSIDE BRACE SUPPORT FITTING HAS INTERGRANULAR CORROSION VISIBLE. REMOVED FITTING FOR REPLACEMENT. OTHER AREAS THROUGHOUT AIRFRAME CAN BE REPAIRED USING STANDARD REMOVAL, AND REPRIMER TECHNIQUES. AIRCRAFT WILL BE TREATED WITH "CORROSION X" AFTER ALL PAINTING IS COMPLETED. AIRCRAFT SPENDS TIME NEAR "SALT AIR" ENVIRONMENT ON OUTSIDE RAMP AROUND ONE-THIRD OF THE YEAR; OTHERWISE, IS KEPT IN HANGAR AT HOME BASE. AS THE AEROSTAR FLEET CONTINUES TO AGE, INCREASED VIGILANCE IS REQUIRED FOR SUCH CONDITIONS. (X)

RAYTHN	CONT	ENGINE	CRACKED	03/10/2000	10525
58	IO520CB	9691001061	UPPER CROSS-OVER	2000062200513	

DURING A SCHEDULED INSPECTION, A CRACK WAS DISCOVERED IN THE LEFT ENGINE MOUNT AT THE UPPER CROSSOVER TUBE NEAR THE WELD AT THE UPPER INBOARD ENGINE ATTACH POINT (CUSHION MOUNT). AD 91-15-20 A3 AND C HAD BEEN PREVIOUSLY C/W 2,344.4 HOURS AGO. THE MOUNT WAS REMOVED AND REPAIRED BY REPLACING THE DAMAGED TUBE. A RECORD CHECK SHOWS SUDDEN ENGINE STOPPAGE 1,160.8 HOURS PRIOR TO THIS DISCOVERY, AT WHICH TIME THE ENGINE WAS OVERHAULED AND THE MOUNT WAS INSPECTED FOR DAMAGE. IT IS BELIEVED THAT IN LIGHT OF THE PAST HISTORY, THE SUDDEN STOPPAGE FATIGUED THE MOUNT AT THIS POINT AND NORMAL ENGINE VIBRATION ALLOWED THE CRACK TO DEVELOP. (X)

RAYTHN	PWA	PESCO	COUPLER	SHEARED	05/05/2000
65A901	PT6A20		5006050	CASE TO PUMP	2000062200501 516

EXPERIENCED AN ENGINE FAILURE DURING CRUISE AT 4,500 FEET. AFTER SOME TROUBLESHOOTING ON THE GROUND, FOUND IT TO BE THE HIGH PRESSURE FUEL PUMP, PARTICULARLY THE DRIVE COUPLING. THE SPLINES WERE DAMAGED (SHEARED) ENOUGH THAT IT ALLOWED TOO MUCH PLAY AND THE PUMP QUIT PUMPING. THE POSSIBLE CAUSE COULD HAVE BEEN INSUFFICIENT LUBRICATION TO THE DRIVE COUPLING. THE PUMP ITSELF HAS NOT YET BEEN TORN ALL THE WAY DOWN TO SEE IF THERE WERE INTERNAL PROBLEMS THAT MAY HAVE CONTRIBUTED. (X)

RAYTHN	RELAY	FAILED	06/05/2000	2900
95B55	6046H39B	LDG MOTOR	2000062900189	

PILOT REPORTED LANDING GEAR MOTOR CIRCUIT BREAKER WOULD TRIP WHEN SELECTING GEAR DOWN. TRIED EMERG EXTENSION HANDLE AND FOUND TIGHT. AFTER SEVERAL TRIES, PILOT WAS ABLE TO EXTEND L/G GEAR WITH THE EMERG EXTENSION HANDLE AND LANDED WITHOUT PROBLEMS. WHEN MAINTENANCE INSPECTED ACFT, THEY FOUND THE LANDING GEAR TRANSMISSION BINDING. LANDING GEAR APPEARED TO BE IN RIG. FURTHER INVESTIGATION REVEALED THE L/G MOTOR DYNAMIC BRAKE RELAY NOT REVERSING THE CURRENT TO STOP MOTOR AND LANDING GEAR TRANSMISSION WHICH ALLOWED THE MOTOR TO DRIVE THE SECTOR GEAR AGAINST THE INTERNAL TRANS STOP. FOUND SECTOR GEAR BADLY DAMAGED AT ONE END. RE-INSTALLED TRANSMISSION AFTER

RAYTHN	PWA	WIRE	LOOSE	05/10/2000
A100	PT6A28	V31001	MLG SWITCH	2000062900199

(CAN) AIRCRAFT RETURNED WITH GEAR IN-TRANSIT LIGHT. AFTER NUMEROUS GEAR SWINGS IT WAS DISCOVERED THAT THE WIRE WAS LOOSE WHERE IT IS ATTACHED TO THE EMERGENCY GEAR EXTENTION MICRO-SWITCH. THIS SWITCH CUTS POWER SO THAT WHEN THE EMERGENCY SYSTEM IS USED THERE IS NO POWER. THE INTERMITTANT POWER CAUSED THE GEAR NOT TO FULLY RETRACT AND CAUSE THE IN-TRANSIT LIGHT TO STAY ON. WIRE WAS

RAYTHN	MOUNT	WORN	03/29/2000	5807
B100	909100141		2000061700400	

WHILE DOING A HOT SECTION INSPECTION ON THE RIGHT ENGINE AFTER REMOVAL FROM THE AIRCRAFT, NOTICED DAMAGE TO THE TUBULAR ENGINE MOUNT CROSS-MEMBER. AFTER FURTHER INVESTIGATION, FOUND AN ENGINE MOUNT BRACKET RUBBING AGAINST THE TUBULAR CROSS-MEMBER. (X)

RAYTHN	GARRTT	BEECH	BELLCRANK	LOOSE	04/28/2000	68480
B100	TPE3316252B		50600016	RUDDER	2000062900196	

(CAN) PILOT COMPLAINED OF WING ROCKING PROBLEM. INVESTIGATION FOUND 1/4 PLAY AT RUDDER TRAILING EDGE WHILE PEDALS BEING HELD AT FULL DEFLECTION. PLAY FOUND TO ORIGINATE FROM BELLCRANK FITTING (P/N 50-600016) AND LOWER SUPPORT TUBE ATTACHMENT POINT (RIVETS). DISASSEMBLY FOUND THE RIVETS WORN, THE 3 BOLTS (P/N AN173-12A) CONNECTING THE RUDDER BELLCRANK AND BELLCRANK FITTING SLIGHTLY BENT AND THE HOLES DISTORTED NEW BELLCRANK, BELLCRANK FITTING AND BOLTS INSTALLED. SUBMITTER SUSPECTS DAMAGE CAUSED FROM WIND GUSTS AND TOWING WITH GUST LOCK ON.

RAYTHN	PIN	WORN	05/25/2000
B200	508103437	MLG DOWNLOCK	2000061700501

THE RELEASE LINKS AND PINS IN BOTH MAIN LANDING GEAR DOWNLOCKS WERE REMOVED FROM AIRCRAFT FOR INSPECTION. INSPECTION REVEALED BOTH PINS WERE WORN APPROX. .002 INCH BEYOND LIMITS AND BOTH LINK PIN HOLES HAD CIRCUMFERENTIAL SCRATCHES INDICATING THAT PINS HAD AT SOME TIME ROTATED IN LINK. PINS AND LINKS WERE REPLACED. ACFT TIME: 8,933.1 HOURS, 5,559 LANDINGS. SUBMITTER SUGGESTED THAT HOOK AND LINK ASSYS BE DISASSEMBLED AND INSPECTED AT EACH 6 YEAR 8,000 LANDING INSPECTION OF DRAG BRAKE ASSY. (X)

RAYTHN	PWA	BLADE	MISSING	05/30/2000
B99	PT6A27	3013102	PT DISK	2000062200705

ON TAKEOFF, PILOT FELT AIRCRAFT SHUDDER, RETURNED TO FIELD WITHOUT ANY DAMAGE TO AIRCRAFT. UPON INVESTIGATION ON ENGINE, FOUND 2 INCH SQUARE AREA MISSING FROM EXHAUST. UPON FURTHER INVESTIGATION, FOUND PORTION OF POWER TURBINE BLADE MISSING. THIS ENGINE HAD 339.1 HOURS SINCE POWER SECTION WAS DISASSEMBLED FOR POWER TURBINE BLADE INSPECTION. (X)

RAYTHN	SHIMMY	LEAKING	06/07/1999
C23	C1000161A	INTERNAL	2000061700394

SHIMMY DAMPENER HAS NUMEROUS DEAD SPOTS (AIR INSIDE) WHEN ACTUATED. CAUSES NOSE WHEEL TO SHIMMY READ BAD. (X)

C90		GUSSET	CRACKED	05/15/2000	
		0001101122	BS 160.00 WS 110	2000062200405	
RIGHT LOWER OUTBOARD WING HAD CRACK IN DOUBLER AT FORWARD ATTACH POINT AND GUSSET CRACKED AT APPROX BS 160.00 AND WS 110.11. TWO CRACKS IN WING SKIN RIGHT WING 4 INCHES BEHIND FORWARD SPAR JUST AFT OF FORWARD WING BOLT ON TOP SIDE OF WING. TWO CRACKS IN WING SKIN ON LEFT WING JUST AFT OF FORWARD SPAR BEHIND FORWARD WING BOLT ON TOP SIDE OF WING. (X)					
RAYTHN	PWA	TUBE	BROKEN	04/12/2000	7845
C90	PT6A21	3027974	FCJ	2000062200234	
WHILE APPLYING POWER FOR TAKEOFF, THE LEFT ENGINE WOULD NOT RESPOND. INSPECTED AND FOUND THE PY LINE CRACKED AT THE FUEL CONTROL UNIT. (X)					
RAYTHN		ANNUNCIATOR	WILL NOT TEST	06/01/2000	
365	C90A		CABIN	2000062200665	
A/P TRIM FAILED, CABIN ALT HIGH, AND CABIN DOOR ANNUNCIATOR LIGHTS INTERMITTENT IN ANNUNCIATOR TEST POSITION. FOUND GROUNDING WIRE WRAPPED AROUND POSTS, BUT NOT SOLDERED. (X)					
RAYTHN	CONT	CYLINDER	SEPARATED	05/04/2000	1548
E35	E2258	536727	BARREL	2000062200388	
752	AT				
ANNUAL INSPECTION, FOUND SIGNS OF SEEPAGE AT BARREL (INDICATIONS OF BARREL SEPARATING FROM HEAD) IN NR 4, NR 5, NR 6 CYLINDERS. POSSIBLE CAUSE IS AGE ON CYLINDERS AND TIME IN SERVICE. (X)					
RAYTHN		ROLL PIN	MISSING	04/30/2000	3600
K35		520220940625	FUEL SEL VALVE	2000062200494	
FUEL STARVATION, OFF AIRPORT LANDING. PILOT REPORTED THAT WHEN HE SWITCHED TANKS HE DID NOT FEEL POSITIVE DETENT. APPROX 12 MINUTES LATER, ENGINE QUIT. AGAIN ATTEMPTED TO SWITCH TANKS AND SELECTOR HANDLE CAME DETACHED FROM SELECTOR VALVE SHAFT. EMERG LANDING MADE AND ON ROLL-OUT, ACFT STRUCK A FENCE CAUSING NOSE GEAR COLLAPSE, HEAVY DAMAGE TO ACFT. INVEST REVEALED THE ROLL PINS WERE MISSING FROM FUEL SELECTOR VALVE SHAFT, UPPER AND LOWER. SUBMITTER STATED SAFETY WIRING THROUGH ROLL PIN AND SHAFT WOULD HAVE ELIMINATED DEFECT. (X)					
ROBSIN	LYC	ROBSIN	SPAR	CRACKED	02/24/2000
R22BETA	O320B2C		A0441	HORIZ STABILIZER	2000070700231
(AUS) HORIZONTAL STABILIZER SPAR CRACKED THROUGH ATTACHMENT BOLT HOLES (4 OFF). FOUND FOLLOWING TAIL ROTOR STRIKE INSPECTIONAL THOUGH IT IS SUSPECTED THAT THE CRACKS WERE ALREADY PRESENT.					
ROBSIN	LYC	LYC	MUFFLER	FAILED	05/10/2000
R22BETA	O320B2C		A1696	ENGINE NOISE SUP	2000071900016
(AUS) EXHAUST MUFFLER SPLIT. MUFFLER WAS A NEW ITEM.					
SKRSKY		TAIL BOOM	CRACKED	05/11/2000	396
S55			TAIL CONE	2000062700100	
UPPER TAIL CONE SKIN AT STA 181.9 CRACKED APPROXIMATELY 12 INCHES IN LENGTH. (X)					
SNIAS		SPIDER	UNDERTORQUED	06/01/2000	908
AS350B		350A33200406	TAIL ROTOR	2000062800116	
AFTER THE LAST FLIGHT OF THE DAY, INSP REVEALED TAIL ROTOR SPIDER ASSY LOSS OF TORQUE AT CASTELLATED NUT SECURING SPIDER ASSY. THIS FINDING PROMPTED REMOVAL AND REPLACEMENT OF SPIDER ASSY WITH SERVICEABLE COMPONENT. SPIDER ASSY P/N 350A33.2004.06. TT IN SERVICE 186.6 FLYING HRS SINCE -06 MODIFICATION C/W BY AMERICAN EUROCOPTER. POSSIBLE CAUSE OF LOSS OF TORQUE, UNKNOWN. RECOMMENDATION TO PREVENT RECURRENCE, INCREASE TORQUE VALVE AT CASTELLATION. (X)					
SNIAS	TMECA	TURBINE	FAILED	06/14/2000	59300
AS350B	ARRIEL1B	M031070	FUEL INJECT	2000072100287	
(CAN) DURING START PROCEDURE STARTER WAS UNABLE TO MOTOR ENGINE. AFTER INSPECTING ENGINE FOR F.O.D. AND REMOVING COMPONENTS ON THE ACCESSORY GEARBOX, ENGINE WAS DISMANTLED TO ISOLATE THE LOCK UP. LOCK UP WAS FOUND TO BE IN THE GAS PRODUCER ASSEMBLY (M024M03). ASSEMBLY WAS SENT TO REPAIR CENTER WHERE IT WAS FOUND TO BE FUEL COKING ON THE LABYRINTH SEALS OF THE CENTRIFUGAL INJECTION WHEEL.					
SNIAS		DRIVE GEAR	FAILED	05/31/2000	370
AS350B2		S40	HYD PUMP DRIVE	2000061700136	
HYDRAULIC PUMP FAILED IN-FLIGHT. PRECAUTIONARY LANDING COMPLETED. INSP REVEALED DRIVE SPLINES AT HYD DRIVE COUPLING (FEMALE SPLINES), AND THE DRIVE SPLINES AT THE HYD PUMP (MALE SPLINES) WERE PREMATURELY WORN. SPLINE ENGAGEMENT INSUFFICIENT FOR DRIVE DEMAND. HYD PUMP DRIVE SPLINES INSPECTED AND GREASED AT BASIC INSP. 500 FLYING HRS OR 15 MONTHS BY CALENDER. POSSIBLE CAUSE OF FAILURE UNKNOWN. RECOMMENDED TO PREVENT RECURRENCE, INSPECT HYD DRIVE SPLINES WHEN ACFT IS DELIVERED NEW, AND EACH 100-HOUR AIRFRAME INSP INTERVAL UP TO THE 500-HR INSP FOR A TREND ANALYSIS.					
ENCOUNTER					
SNIAS		SEAL	LEAKING	04/12/2000	
AS350B2		BABDRR	M/R TRANSMISSION	2000071200293	72
(CAN) MAIN ROTOR TRANSMISSION INPUT SEAL LEAKING AT 71.6 HOURS SINCE INSTALLATION. SEAL CHANGED, BUT LEAKING AGAIN AT 101.3 HOURS. INPUT SEAL WAS FOUND TO BE .003 THOUSANDS OF AN INCH LARGER DIAMETER.					
SNIAS	TMECA	TMECA	LINE	CRACKED	03/05/2000
AS350BA	ARRIEL1B		0301007710	BELOW FLARE	2000071200295
(CAN) ENGINE FAILED TO START, MAINTENANCE FOUND SPRAY OF FUEL BETWEEN THE LEFT HAND FITTING TO THE START INJECTOR. THE LINE WAS REMOVED AND FOUND CRACKED AT BASE OF THE FLARE.					
SNIAS	LYC	SEAT BELT	UNLATCHED	03/30/2000	10000
AS350D	LTS101600A2	P131	5000B2	SEAT BELT LATCH	2000072200164
(CAN) IT WAS NOTICED THAT 2 OF THE 4 SEAT BELT LATCHES DO NOT ALWAYS ENGAGE PROPERLY. WHEN THE BUCKLE IS INSERTED ALL THE WAY INTO THE LATCH, IT SOUNDS AND LOOKS LIKE IT IS LATCHED BUT IF BELT IS PULLED TO TIGHTEN IT, THE BUCKLE PULLS OUT OF THE LATCH WITH NO RESTRICTION. IT TAKES 4 TO 5 ATTEMPTS BEFORE BUCKLE LATCHES POSITIVELY. PROBLEM HAS NOW BEEN IDENTIFIED AND REPLACEMENT PARTS ARE ON					

SOCATA	HOSE	RESTRICTED	10/06/1999
TB21	F1K21700	COPILOT BRAKE	2000071900402

FOUND COPILOT BRAKE FLEX HOSES RESTRICTED DUE TO INTERNAL SWELLING OF THE RUBBER. UNKNOWN IF IMPROPER FLUID EVER USED. BRAKE WOULD LOCK UP WHEN RIGHT BRAKE APPLIED. NEW HOSES INSTALLED, SYSTEM LOCKED IN THE VERTICAL POSITION. POST-INCIDENT INSPECTION OF THE ENGINE REVEALED THE CRANKSHAFT HAD FAILED. (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				OTHER		
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		REP. STA.		
Part TT	Part TSO	Part Condition	7. Date Sub.	Optional Information: Check a box below, if this report is related to an aircraft <input type="checkbox"/> Accident; Date _____ <input type="checkbox"/> Incident; Date _____			SUBMITTED BY: _____ TELEPHONE NUMBER: () _____

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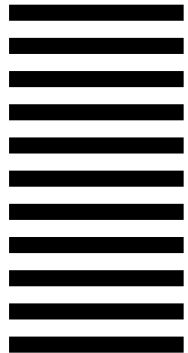
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