



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

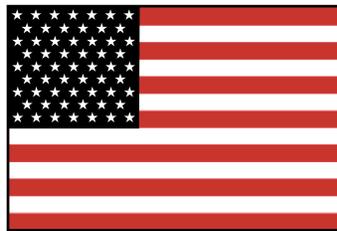


# ADVISORY CIRCULAR 43-16A

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# AVIATION MAINTENANCE ALERTS

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**ALERT  
NUMBER  
284**

**MARCH  
2002**

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

**AVIATION MAINTENANCE ALERTS**

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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.

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**AIRPLANES**

**BEECH**

**Beech; Model C-23; Sundowner; Defective Flight Control Security; ATA 5751**

During an annual inspection, the inspector discovered the aileron attachment was defective.

The right aileron bracket (P/N 169-130005-16), at the outboard end of the aileron, was cracked at the aileron control arm attachment point. If the bracket fails, the aileron would separate and the pilot would lose control of the aircraft.

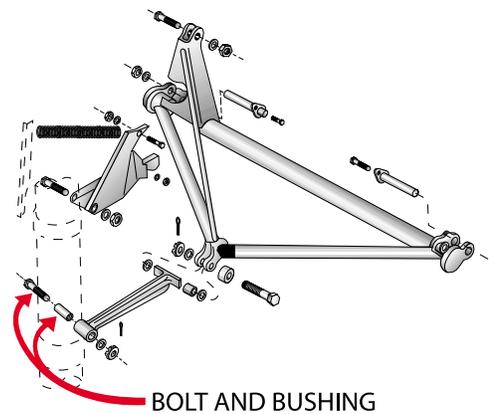
Part total time-3,178 hours.

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**Beech; Model V35B; Bonanza; Landing Gear Failure; ATA 3230**

During a landing sequence, the right main landing gear collapsed.

The technician discovered the right main landing gear leg assembly (P/N 35-815129) was defective. A bolt (P/N AN5-22/M) and bushing (P/N 35-815124) attach the leg assembly to the main gear. Also, there is a lubrication fitting (grease zerk) installed at this attachment point. (Refer to the illustration.) The bolt and bushing were partially frozen and binding even though lubrication (grease) was evident at bushing sides. The binding action compromised the full extension of the downlock and caused a false "down-and-locked" indication in the cockpit.



The submitter speculated that during landing, a crosswind caused enough side load on the gear to disengage the downlock mechanism. He suggested the bolt and bushing for both main gears be removed, cleaned, inspected for condition, lubricated, and reinstalled every 300 hours of operating time.

Part total time-5,943 hours.

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**Beech; Model 58; Baron; Defective Fuel Line; ATA 2820**

While completing a radio and electronic equipment installation, the technician noticed severe corrosion on a fuel line.

The corrosion penetrated the fuel pressure line (P/N 96-324128-121), located in the cockpit behind the instrument panel, to the point of imminent failure. The technician believes the corrosion was caused by moisture coming from the windshield defroster hose (Aeroduct) routed just above the fuel pressure line. The fuel line damage area was approximately 6 inches long, and the metal was brittle. (Refer to the illustration.)



A fuel leak, especially in the cockpit, creates a very dangerous compromise to both flight and ground safety. Regardless of the make and model of aircraft serviced, technicians should be constantly alert for this type of potentially fatal defect.

Part total time-6,873 hours.

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**Beech; Model 58; Baron; Firewall Defects; ATA 5412**

During a scheduled inspection, the technician discovered the firewall channels were cracked.

The technician explained this type aircraft has upper and lower channels installed on the engine firewalls. Typically, the upper channel (P/N 96-980001-5) cracks just below the engine mount bolts. Since the left and right upper firewall channels were cracked, he had to replace them.

The submitter recommended that technicians working on this type aircraft pay special attention to the upper nacelle firewall channels during inspections and maintenance.

Part total time not reported.

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**Beech; Model 58P; Baron; Structural Defect; ATA 5330**

During a scheduled inspection, the technician discovered a crack in the fuselage skin.

The crack was located in the aft upper fuselage skin adjacent to the vertical fin. The skin crack was approximately 1 inch long and originated at the left forward stabilizer spar extension cutout and traveled upward. The available evidence indicated the crack occurred due to a lack of proper radius and finish in the corner of the spar cutout. He speculated a stress riser was created from which the crack originated during normal flexing of the aft fuselage.

Part total time-7,165 hours.

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**Beech; Model 65A90; King Air; Erroneous Engine Fire Warning; ATA 2612**

After a flight, the pilot stated that during a descent in heavy rain the left engine fire warning system activated. The annunciator remained illuminated approximately 3 minutes and extinguished at the same time the rain ended.

The flightcrew determined the fire warning indication was false and continued to monitor the left engine. The submitter stated this is not an uncommon occurrence during operation in rain. He recommended that flightcrews be aware of possible false fire-warning indications in rain and take appropriate action.

The submitter did not determine the cause of this discrepancy but recommended that electrical connections in the fire warning system be checked for security and water resistance.

Part total time not reported.

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**Beech; Model 100; King Air; Landing Gear Failure; ATA 3230**

The pilot reported that during a training flight, he retracted the landing gear and heard a loud “bang.”

The left main and nose gear retracted, and the right main gear remained “down-and-locked.” The flightcrew used the emergency gear-extension system to extend the left main and nose gear and made a safe landing at the departure airport.

A technician discovered the right main gear actuator (P/N 99-810057-651) had failed internally. He removed the defective actuator and installed a new actuator. He did not determine a cause for this failure.

Part time since overhaul-610 hours.

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**Beech; Model 300; King Air; Defective Windshield; ATA 5610**

During a flight, the flightcrew noticed a crack had developed in the right windshield. The flightcrew complied with the checklist requirements to deal with this situation and landed the aircraft safely.

The crack was in the outer pane and appeared to begin at the lower center corner, traveling around the circumference of the parameter for approximately 6 inches. The windshield assembly (P/N 101-384025-22) was part of a manufacturer-supplied kit (no. 101-5041-1S), and was installed 4 months prior to this incident.

After removing and replacing the windshield assembly, the technician sent the defective part to the manufacturer (PPG) for evaluation.

Part total time-140 hours.

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**Beech; Model 400A; Beechjet; Electrical System Power Supply Failure; ATA 2433**

The flightcrew reported they smelled a strong electrical burning odor in the cockpit and asked maintenance personnel to investigate.

The technician discovered the cockpit side panel and carpet were heat damaged and melted. He determined the d.c. electrical system converter (KGS Electronics P/N UC-28-14) produced the heat and caused this damage. The carpet was resting on top of the converter and prevented proper cooling for the unit. The converter suffered internal damage and was inoperative.

The submitter recommended that the manufacturer redesign or relocate the converter to provide adequate airspace around the converter for proper cooling.

Part total time-120 hours.

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**Beech; Model 1900B; Airliner; Engine Cowling Defects; ATA 5414**

While conducting a scheduled inspection, the technician discovered several cracks on the engine air inlet cowling.

The cracks were inside the engine air inlet "hot lip" and ran horizontally and vertically adjacent to the welded seams. The technician speculated vibration harmonics, generated by the engine and/or propeller, caused this damage. He recommended the manufacturer consider using a thicker gauge metal at this location since it is exposed to high temperatures and vibration.

Failures at this location might cause engine failure; the technician suggested this area be checked closely during inspections and maintenance.

Part total time not reported.

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**Beech; Model 1900C; Airliner; Landing Gear Failure; ATA 3230**

The pilot reported that after takeoff, the landing gear would not retract. He continued the flight to the destination airport and made a safe landing.

A technician discovered an electrical wire (P/N G7C22) in the landing gear circuit had very high resistance. The wire runs from the left side of the fuselage to an electrical connector (P/N J107). After he replaced the defective wire, the system functioned properly.

Part total time-32,582 hours.

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**CESSNA****Cessna; Model 152; Engine Failure; ATA 7322**

The pilot reported that when he retarded the throttle during landing, the engine quit.

The technician saw fuel leaking from the engine cowling area and discovered the fuel was coming from the carburetor (Marvel-Schebler P/N MA-3A) vent. During further disassembly and inspection, he determined that both sides of the float chamber were full of fuel. The submitter did not state what type of float was used in this carburetor.

Part total time not reported.

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**Cessna; Model 172M; Skyhawk; Carburetor Discrepancy; ATA 7322**

The owner/pilot brought the aircraft to a maintenance shop and reported the engine ran rough.

A technician investigated finding that the carburetor (Precision, Model MA4SPA) bowl retaining screws were loose. This allowed excessive air to be drawn into the carburetor during engine operation and fuel leakage when the engine was not operating. The bowl retention screw locking tabs (P/N 78A110) were in place, but failed to keep the screws from backing out of the threads.

This is a serious defect that causes poor engine performance and the potential for an engine fire. The submitter reported finding this type defect on several other occasions. He urged all technicians to be vigilant during inspections and maintenance.

Part total time not reported.

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**Cessna; Model 172RG; Cutlass; Landing Gear Failure; ATA 3230**

The pilot reported that during a landing, the right main gear collapsed.

There were no prior reports of problems with the wheel brakes or landing gear, and the pilot had no warning of the impending failure. A technician had complied with the requirements of Airworthiness Directive (AD) 2001-06-06, Revision C, 103 operating hours prior to this occurrence.

The investigating technician discovered the right main landing gear pivot assembly (P/N 2441100-1) was broken at the place indicated in AD 2001-06-06, Revision C.

Two additional reports were received reporting defects (cracks) on the left main landing gear pivot assemblies. These defects were discovered on Cessna, Model R182 aircraft, which are not covered by the applicability statement in AD 2001-06-06 C. The "EFFECTIVITY" statement contained in Cessna Service bulletin (SB) SEB 90-1, Revision 3, which is referenced in AD 2001-06-06 C, includes a list of other 172 and 182 retractable landing gear model aircraft. The submitter suggested the FAA consider revising AD 2001-06-06 C to include the additional aircraft listed in SB SEB 90-1 R3.

The FAA Service Difficulty Program data base contains 28 reports concerning landing gear pivot assembly defects, and all 28 reports were for 172RG-series aircraft. It is possible that AD 2001-06-06, Revision C, did not reference R182-series aircraft because the FAA did not receive any reports for the R182-series aircraft.

Part total time since overhaul-204 hours.

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**Cessna; Model A185F; Skywagon; Defective Float; ATA 3246**

This aircraft is equipped with floats (Aqua, 3190) and operates from the water.

The pilot stated that while taxiing, he made a right turn, and the right float "swamped" and started to sink.

After the aircraft was recovered, a technician discovered the "pump-out" tube was disconnected in one of the aft float compartments. Due to this defect, the float was not expelling water.

The submitter recommended that technicians ensure the "pump-out" tubes are properly secured at every opportunity.

Part total time not reported.

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**Cessna; Model 208B; Caravan; Flight Control Interference; ATA 2710**

The pilot reported that just after takeoff, the aileron control system was binding. The pilot returned to the departure airport and made a safe landing.

The technician discovered the roll axis servo (P/N 065-0060-01) cover was misaligned and interfering with the servo operation. After he installed the servo cover correctly, the operational test revealed the problem was solved.

The submitter stated, "It is easy to install the servo cover incorrectly."

Part total time not reported.

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**Cessna; Model P210N; Centurion; Landing Gear Anomaly; ATA 3230**

During a landing sequence, a passenger noticed the right main landing gear was “trailing” and not locked down. After aerial maneuvers failed to lock the gear down, the pilot used the emergency-extension system and made a safe landing.

While troubleshooting the problem, a technician discovered the right main gear downlock switch (P/N S1377-1) was stuck in the closed position. When the nose and left main gear reached the locked position, the pump motor stopped leaving the right main unlocked. After the technician installed a new downlock switch, the operational test was satisfactory.

Part total time-4,241 hours.

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**Cessna; Model T337H; Turbo Skymaster; Empennage Structural Defects; ATA 5510**

During a scheduled inspection, the inspector determined the horizontal stabilizer deice boots were severely deteriorated and not in a condition for safe operation.

When the technician removed the deice boots and cleaned the surface, he found numerous cracks in the leading edge skin (P/N 1432000-3). The cracks were located at several of the rib-to-skin attachment rivets. He speculated the cracks were caused by improperly dimpled fastener holes. There are no inspection panels or other access to allow inspection of this area; therefore, it is very difficult to detect defects under the deice boots.

Part total time-3,243 hours.

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**Cessna; Model 340A; Engine Exhaust System Failure; ATA 7810**

During a flight, the pilot observed the right fuel-quantity indicator failed, the right fuel-transfer light illuminated and the right landing-light circuit breaker opened. The pilot secured the right engine and made a safe landing.

A technician visually inspected the right engine and discovered a hole was burned through the nacelle skin. The hole was adjacent to the right engine exhaust pipe exit from the nacelle. After opening the engine cowling, he discovered the exhaust pipe (P/N 9910299-2) was broken at the outboard bend. The excessive heat from the exhaust gases damaged the nacelle skin, firewall, canted bulkhead, engine beam, and wiring located behind the firewall.

The submitter believes fatigue cracking caused the exhaust pipe failure. Airworthiness Directive (AD) 2000-01-16, references this subject and is applicable to this aircraft. He recommended amending the AD to require an “overhaul frequency” for engine tailpipes. The submitter referenced AD 2000-01-16, Note 5, which states:

“Although not required by this AD, the FAA recommends removing and cleaning internally (every 12 calendar months) all tailpipes that are more than 5 years old from the date of manufacture or overhaul (yellow tag). This includes accomplishing the following:  
--inspecting for cracks, pinholes, corrosion buildup, and general airworthiness;  
--overhauling the tailpipe or replacing all parts considered suspect; and  
--approving for return to service of all parts considered airworthy.”

The failure of exhaust system parts presents a very serious threat to flight safety and should be dealt with accordingly.

Part total time not reported.

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**Cessna; Model 501; Citation; Wing Flap Failure; ATA 2750**

After returning from a flight, the flightcrew reported the wing flaps failed to respond when the control was placed in the second position.

The technician found the shear pin, connecting the flap drive motor to the gearbox (P/N 5565175-38), was broken. After further investigation, he determined the flap gearbox was binding. After he removed and replaced the gearbox, a system operational test was successful. He did not disassemble the defective flap gearbox; however, he sent it to an overhaul shop for evaluation.

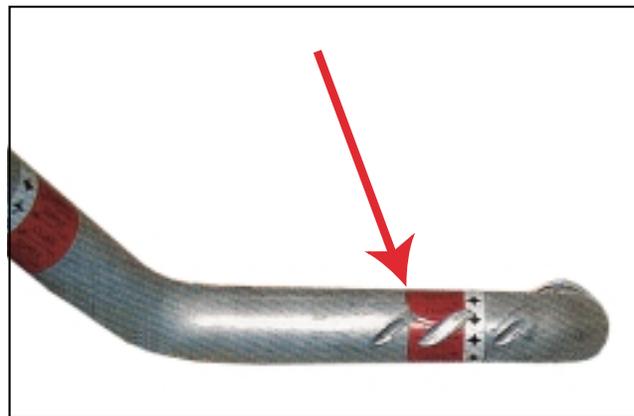
Part total time not reported.

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**Cessna; Model 750; Citation; Fuel System Damage; ATA 2820**

While conducting a scheduled inspection, the technician discovered the engine fuel supply system was severely damaged.

The right engine main fuel supply tube (P/N 6716000-26) was chafed deeply in two locations. The right elevator cable was chafing and had worn grooves in the fuel tube just forward of the right battery. The chafing action had almost penetrated the fuel tube. (Refer to the illustration.) He discovered the line had been installed “backwards” and caused interference with the elevator cable. After he installed a new tube correctly, there was ample clearance from the elevator cable.



Part total time-2,395 hours.

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## CIRRUS

**Cirrus; Model SR-20; Oil Temperature Control Difficulty; ATA 7921**

This aircraft uses a Teledyne Continental, Model IO-360 engine.

The submitter of this report stated, “All like aircraft have an oil cooling problem. In warm climates, the oil temperature heats up close to red line (240 degrees) rapidly. This characteristic requires expediting taxi and run time and slows or stops after takeoff climbs to stabilize the oil temperature.”

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The submitter contacted other operators of like aircraft to verify his findings and confirmed the problem with the aircraft manufacturer. It is not known if this difficulty originates from a cowling or engine baffling problem.

Part total time-410 hours.

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### **GLOBE SWIFT**

#### **Globe Swift; Model GC-1B; Loss of Engine Oil; ATA 7261**

This aircraft uses a Teledyne Continental, Model IO-360-D engine that was installed in accordance with a Supplemental Type Certificate.

During a flight, the aircraft lost all the engine oil, and the engine seized. The pilot made a safe landing without aircraft damage or personal injury.

The technician discovered the engine oil was lost through the crankcase cover assembly (P/N 640849). The threads in the magnesium crankcase cover, used to accommodate the oil filter adapter failed, allowing separation of the oil filter adapter.

Part total time not reported.

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### **PIPER**

#### **Piper; Model PA 28-181; Archer; Defective Aileron Cable; ATA 2710**

During a scheduled inspection, the technician discovered an aileron cable was severely worn.

The left aileron balance cable (P/N 62701-123) was worn to the point of being unserviceable. The cable was worn where it passes over the center pulley in the middle of the fuselage.

The submitter gave no further details concerning this defect. He recommended that all technicians pay close attention to all flight control cables during inspections and maintenance.

Part total time-2,227 hours.

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#### **Piper; Model PA 28RT-201; Arrow; Defective Landing Gear Component; ATA 3260**

After a gear-up landing, the student pilot stated he did not hear the landing gear warning horn prior to contact with the runway.

While investigating this incident, the technician discovered the gear warning horn switch (P/N 487-925), located on the throttle quadrant, operated intermittently. He conducted a landing gear operational test with the aircraft on jacks and determined the throttle switch was defective. After he replaced the switch, the system functioned properly.

Part total time not reported.

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**Piper; Model PA 31-350; Chieftain; Heater Fuel Leakage; ATA 2140**

During a flight, the flightcrew noticed the right engine fuel pressure dropped intermittently.

While investigating, the technician turned on the cabin heater (Janitrol) and noticed fuel leaking from the heater fuel pressure regulator/shutoff valve (P/N A23D04-7-5). Since the heater fuel supply comes from the right engine fuel supply, he believes this caused the intermittent right engine fuel pressure indication.

The faulty fuel valve had recently been replaced in accordance with Airworthiness Directive (AD) 2001-17-13. The FAA Service Difficulty Program data base contains 16 additional reports of leakage involving the same part number fuel valve.

Part total time 17 hours.

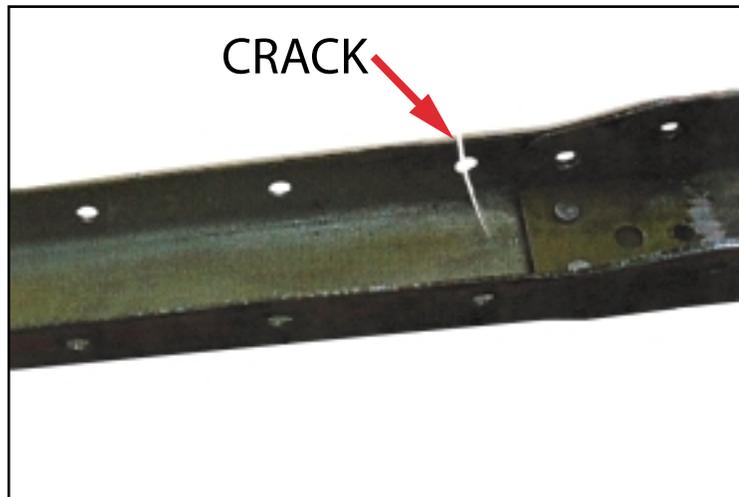
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**Piper; Model PA 31-350; Chieftain; Elevator Structural Defect; ATA 5521**

While complying with the requirements of Airworthiness Directive (AD) 99-12-05, the technician discovered a structural defect on the elevator spar.

The defect was located in an area that was not visible, and the technician was using a borescope. The spar (P/N 40075-16) was cracked from the edge, through a fastener hole and the radius, and extended through approximately 75 percent of the spar. (Refer to the illustration.) The crack was located at the outboard end of the spar.

AD 99-12-05 requires compliance within 1,000 hours of the effective date of the AD. This defect was found at 730 hours from the AD's effective date. The submitter suggested that sooner compliance might be warranted.



Part total time-5,530 hours.

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**Piper; Model PA 32-260; Cherokee Six; Wing Attachment Corrosion; ATA 5740**

During an annual inspection, the technician discovered severe corrosion on a wing attachment fitting.

The right wing aft attachment fitting and the aft wing spar (P/N 62054-01) were severely corroded. The available evidence indicated the damage was caused by contact of the steel attachment fitting and the aluminum wing spar producing "dissimilar metal corrosion." There was no evidence of a "water barrier" or other corrosion inhibiting protection at this location.

The submitter recommended giving this area close attention during inspections. If there is any doubt about the condition of the junction, the parts should be disassembled for a closer examination.

Part total time-3,679 hours.

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**Piper; Model PA 32R-300; Cherokee Lance; Landing Gear Failure; ATA 3230**

After a landing-gear collapse incident, the pilot stated he had an electrical power failure. The failure occurred just prior to touchdown on the runway, and the left main gear unlocked and collapsed on touchdown.

The aircraft was recovered from the runway, and a technician investigated the cause of this failure. There was severe corrosion on the aircraft battery positive terminal. He speculated the battery terminal corrosion interrupted the electrical power supply and allowed the gear to “unlock.” A scheduled inspection was completed on the aircraft approximately 1 month prior to this incident.

The submitter suggested that better inspections and record-keeping techniques might have prevented this problem.

Part total time not reported.

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**Piper; Model PA 32R-301T; Turbo Saratoga; Defective Magneto; ATA 7414**

During an annual inspection, a technician removed the engine magnetos for a 500-hour inspection.

The technician disassembled the left magneto and noticed the nylon gears had a “frosted” appearance. The distributor and cam gears were deteriorated and crazed. (Refer to the illustration.) An electronic tachometer pickup (Piper P/N598-881), incorporating a vent filter, was installed in place of the normal vent. He removed the tachometer pickup and discovered the air would not pass through the vent. Investigating further, he discovered the air passage on the magneto side was not properly drilled through to the filter chamber. He returned the unit to the manufacturer for evaluation. He believes the nonfunctioning vent allowed the magneto to overheat and caused the gears to deteriorate.



The submitter recommended reducing the inspection interval for the magnetos from 500-hours to 250-hours. The inspection should include removing the tachometer pickup and verifying that air passes through the filter chamber. Also, he recommended the manufacturer increase the air passage size to allow better venting.

Part total time-419 hours.

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**Piper; Model PA 34-220T; Seneca; Landing Gear Failure; ATA 3230**

The pilot reported that just after takeoff, he detected the odor of hydraulic fluid in the cockpit. He selected the landing gear to the “down” position and received an “unsafe” indication. He used the emergency landing gear extension system to ensure the gear was “down-and-locked” and made a safe landing at the departure airport.

The technician inspected the landing gear system and discovered corrosion had penetrated a hydraulic line (P/N 95153-40), located in the nose wheel well. The hydraulic system fluid was depleted and prevented the gear from completing the down cycle. It appeared the hydraulic line was "original equipment." The damage to the hydraulic line was located adjacent to and under the forward attachment clamp.

Part total time-2,306 hours.

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**Piper; Model PA 46-310P; Malibu; Defective Magneto; ATA 7414**

The pilot returned from the engine runup area and reported the engine would not operate on the right magneto.

The technician removed and disassembled the right magneto (Slick 6320) and discovered one of the coil anchor wedges was displaced. The wedge had migrated onto the secondary tower, which was burned and melted. There were obvious signs of a direct electrical short at the secondary terminal contact tab.

The submitter did not give a conclusion concerning the cause of this defect.

Approximate part total time-1,000 hours.

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**Piper; Model PA 46-350P; Malibu; Defective Engine Exhaust System; ATA 7810**

During a scheduled inspection, the technician discovered an engine exhaust system pipe was defective. The crossover pipe (P/N 40B19850) was split between the left and right turbochargers. Since the defect was located under the heat shield, hot engine exhaust gases were directed onto the forward side of the firewall. The firewall was not damaged; however, the excessive heat had melted the vinyl trim on the forward side of the nose baggage compartment.

The submitter recommended removing the heat shield each 500-hours of operation to allow for a thorough inspection of the exhaust system crossover pipe.

Part total time-2,139 hours.

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## **AGRICULTURAL AIRCRAFT**

### **AIR TRACTOR**

**Air Tractor; Model AT-502B; Corrosion Damage; ATA 5711**

While complying with the eddy-current inspection requirements of Airworthiness Directive (AD) 2001-10-04, Revision 1, the technician detected three cracks.

The crack indications were adjacent to a .375-inch bolt in the right wing lower spar cap (P/N 20431-2). This aircraft had not attained the inspection time of 4,000 hours, and the submitter is concerned that the time interval for the initial inspection may be too high. He suggested a recurring inspection interval be established by operators, which would keep the operator knowledgeable of the structural integrity of the wing assemblies.

Part total time-3,134 hours.

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## HELICOPTERS

### BELL

#### **Bell; Model 205A-1; In-Fight Fire; ATA 2435**

After landing the helicopter, the pilot conducted a 2-minute shutdown procedure. He noticed the generator was cycling on and off. The fire-warning light illuminated momentarily and then went off. The fire-warning light came on again accompanied by more generator cycling.

Leaving the engine operating at flight idle, he exited the helicopter and inspected the engine compartment. He saw flames and smoke coming from the generator electrical cannon plug in the engine bay. He shutdown the engine and extinguished the fire with a portable "Halon" fire extinguisher.

The technician discovered the fire virtually destroyed the starter/generator cannon plug in the engine bay. He believes the fire was caused by an electrical short circuit inside the cannon plug. In addition, the electrical wiring harness leading to the cannon plug (P/N 205-075-902-017) was severely burned and melted together. Also, there was other collateral airframe damage to the helicopter.

The submitter did not determine the cause for the electrical short circuit.

Helicopter total time not reported.

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#### **Bell; Model 222U; Engine Fuel Supply Anomaly; ATA 2823**

During a flight, the pilot experienced an uncommanded shutdown of the number 1 engine.

The technician discovered the fuel shutoff switch (P/N 10648BH1-1) could be inadvertently activated, closing the fuel shutoff valve. The engine failure was caused when the fuel supply was interrupted. The fuel shutoff switch is configured as a "push-for-on" and "push-again-for-off" and is illuminated by four lamps.

The FAA Service Difficulty Program data base contains seven additional reports concerning the fuel shutoff switch. The submitter's research indicates Bell sold 38 switches since January 2000. Bell Models 222, 230, and 430 helicopters use this same switch.

Part total time not reported.

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### EUROCOPTER

#### **Eurocopter; Model EC-120B; Starter/Generator Discrepancy; ATA 8011**

During a scheduled inspection, the technician discovered the starter/generator was not airworthy.

There were copious amounts of carbon dust on and around the starter/generator (P/N 160SG140Q). The technician discovered the contact brushes (P/N 150SG1009-5) were worn far beyond acceptable limits. These brushes were in service for a short of amount of time, and normal wear would not cause this much damage.

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The submitter speculated the brushes were manufactured with material that was “too soft” and “nonstandard.”

Part total time-200 hours.

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### **Eurocopter; Model AS350-B2; Ecureuil; Fuel Control Leak; ATA 7322**

After installing an engine fuel control unit, the technician turned on the fuel boost pumps to test for leaks. He noticed fuel leaking from the engine deck drain.

The technician determined the fuel was coming from the fuel control unit (P/N 0164248850) overboard drain. He replaced the faulty fuel control unit with a new unit. He sent the faulty unit to the manufacturer for further evaluation. At the time of this report, the manufacturer had not responded to the technician.

This submitter filed five other similar reports concerning fuel leakage from the fuel control unit drain.

Part total time-227 hours.

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## **AMATEUR, EXPERIMENTAL, AND SPORT AIRCRAFT**

### **AVID**

#### **Avid; Catalina; Engine Failure; ATA 8520**

During a flight, the engine failed. The pilot made a safe off-airport landing, but the aircraft suffered minor damage.

This aircraft uses a Rotax, Model 582, 65-horsepower engine. After removing and disassembling the engine, the technician discovered the connecting rod roller bearings were destroyed. The submitter did not offer a cause for this failure.

Part total time-260 hours.

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### **VAN'S**

#### **Van's; Model RV-8; Propeller Governor Oil Leak; ATA 6122**

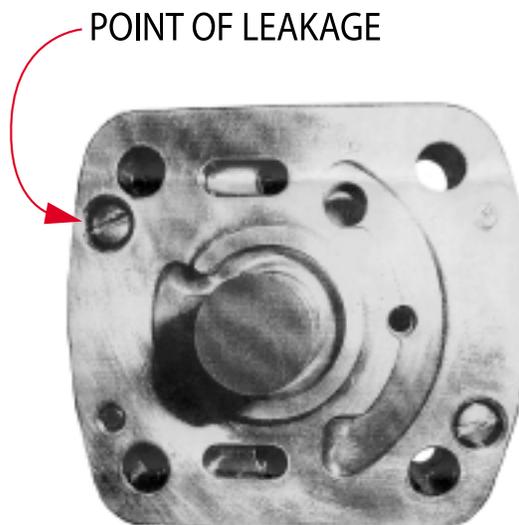
After returning from a flight of less than 15 minutes, the technician found the oil system was over 4 quarts low. After washing the engine, he discovered the oil was coming from the mating surfaces of the engine case and the propeller governor.

This aircraft uses a Textron Lycoming, Model IO-360-A1B6D engine and a Hartzell, Model HC-C2YK-1BF propeller. This was the second time this problem occurred after a new propeller governor (McCauley P/N D-2098-27) was installed. The new governor comes with a gasket (P/N MS914401) that does not adequately cover the full face of the mating surface. The “short” gasket leaves approximately one-sixteenth inch of a lower screw hole exposed. (Refer to the following illustration.)

The lower screw hole intersects an oil pressure cavity on the engine side of the mating surface. During a test, he cycled the propeller to the low RPM position, and oil leaked from the lower screw hole. While attempting to stop the oil leak, he installed six new gaskets, but the gaskets did not work.

The new governor installation instructions refer to a gasket (P/N B-20024). However, the gasket that comes with the governors is gasket (P/N MS914401). The submitter recommended the manufacturer ensure the proper gasket is supplied with the new governors. Oil leaking from the propeller governor could result in oil starvation and failure and an in-flight fire.

Part total time-0 hours.



## ZENITH

### Zenith; Model CH 601 HD; Zodiac; Canopy Separation; ATA 5210

The aircraft owner/pilot reported the canopy separated from the aircraft during straight-and-level flight. He maintained aircraft control and made a safe landing.

This aircraft uses a side-hinge canopy. After examining the canopy system, the owner determined the locking-hook device (P/N 6E2-1) failed to secure the canopy. (Refer to the illustration.) He believes the canopy-retention system has a design problem and stated his knowledge of several other similar failures. Other occurrences of this failure were not found in the FAA Service Difficulty Program data base; therefore, he assumed the other failures were not reported.



The aircraft kit manufacturer has designed and issued a forward-hinged canopy as a replacement.

Part total time-19 hours.

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## POWERPLANTS AND PROPELLERS

### TEXTRONLYCOMING

#### **Textron Lycoming; Model IO-320-C1A; Defective Cylinder; ATA 8530**

This engine was being used in a Piper, Model PA-30B aircraft and was overhauled by an engine repair station. The repair station used Superior Air Parts, Millennium cylinders.

The technician installed the engine and conducted an operational test. He noticed an oil leak in the area of the lower spark plug boss of the number 1 cylinder. Further inspection revealed “cuts” between the cooling fins adjacent to the spark plug boss. The “cuts” had penetrated the boss area and were almost into the spark plug hole threads. It was apparent the engine oil leak originated from the “cut” area on the cylinder spark plug boss. The number 2 cylinder had the same defect; however, the “cuts” were not as deep, and there was no oil leakage.

The submitter stated this damage may be caused by a “casting problem;” however, the manufacturer’s quality-control system should have detected the damage prior to delivery.

Part total time-0 hours.

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## ACCESSORIES

### **EXHAUST HEATED AIR SYSTEMS INSTALLED IN SINGLE-ENGINE AND SOME TWIN-ENGINE GENERAL AVIATION AIRPLANES**

This article was submitted by the FAA, Aircraft Certification Office (ACE-116W), located in Wichita, Kansas. (*The article is printed as it was received.*)

The FAA continues to receive many reports of pilot incapacitation, in-flight fires, and off-airport landing incidents involving aircraft that have been the subject of Airworthiness Directives (ADs) on the engine exhaust systems. Several of the ADs applicable to the suspect airplanes have been in existence for over 30 years.

Some examples of these continuous compliance ADs are applicable to the Turbocharged Cessna 200 series airplanes (AD 71-09-07) and normally aspirated (non-Turbocharged) Piper PA-28 series airplanes (AD 62-26-06). The two examples shown above are representative of many repetitive-inspection ADs that have been issued on general aviation airplanes over the past 50+ years.

The FAA has always encouraged the aircraft manufacturers to provide improved replacement engine exhaust components. However, the obvious need for vigilant inspection of some installations is still a very important part of the continuous airworthiness program for many general aviation airplanes.

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## AIRNOTES

### TOOL-CONTROL PROCEDURES FOR THE GENERAL AVIATION INDUSTRY

Mr. Van Stumpner of St. Louis, Missouri, submitted the following article. Mr. Stumpner is an A&P mechanic and holds an Inspection Authorization (I.A.).

More than one A&P mechanic has been embarrassed when an aircraft owner returns a tool the mechanic left in the aircraft. Most of the time, the mechanic didn't know the tool was "missing." Incidents like this could cause a customer confidence problem and give the appearance of less-than-professional maintenance procedures. An aircraft and occupants may be endangered if a "missing" tool jams the control systems or causes a foreign object damage (FOD) incident.

When I worked with military contracts, I was forced to develop personal tool-control procedures. These tool-control procedures have been a great benefit to me since I returned to the general aviation industry. Establishing and practicing tool-control procedures is essential in any aircraft maintenance setting. Proper tool-control procedures prevent potential aircraft damage or even loss of life. The ability to know, at a glance, that you can account for all your tools saves time and effort.

Without positive tool-control procedures, the mechanic loses time trying to locate a "missing" tool needed to complete a task. Since a long period of time may pass before a mechanic realizes the tool is "missing," it **may be** difficult to recover. If the "missing" tool cannot be found, it has to be replaced at a substantial cost. No one likes to buy the same tool twice.

The following items are a guide for establishing professional tool-control procedures.

1. Configure toolboxes using wrench racks, socket holders, and shadowing techniques.
2. Perform an "ok-to-close" inspection before reinstalling any access panels or covers.
3. Perform a final inspection of the work area to ensure there are no tools or loose hardware present.
4. Inventory the toolbox to make sure all the tools are present.
5. Put reflective tape on the tools to make them easier to locate if they are dropped into dark areas with poor accessibility.
6. Create a logbook to track tools other mechanics have borrowed. (Note what tool was borrowed, who borrowed the tool, and the date the tool was borrowed.)

Establishing tool-control procedures is not difficult; however, it does take time and effort. Using tool-control procedures after completing a task, will become "second nature." The mechanic will have less wasted time, more satisfied customers, and peace of mind.

The military organizations have practiced the concept of positive tool-control procedures for several decades. The practice of using tool-control procedures has resulted in a substantial reduction of FOD incidents and loss of aircraft.

Tool-control procedures save lives, time, and money. Perhaps it is time for general aviation mechanics to adopt positive tool-control procedures.

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## ELECTRONIC VERSION OF MALFUNCTION OR DEFECT REPORT

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

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

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

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

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## SERVICE DIFFICULTY REPORTING PROGRAM

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

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

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

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

The FAA analyzes SDR data for safety implications and reviews the data to identify possible trends that may not be apparent regionally or to individual operators. As a result of this review, the FAA may disseminate safety information to a particular section of the aviation community. The FAA also may adopt new regulations or issue airworthiness directives (AD's) to address a specific problem.

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

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

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

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

**Point of contact is:**

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

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

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## 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

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## 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>

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

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## AVIATION SERVICE DIFFICULTY REPORTS

The following are abbreviated reports submitted between February 1, 2002, and February 27, 2002, which have been entered into the FAA Service Difficulty Reporting (SDR) System data base. This is not an all inclusive listing of Service Difficulty Reports. For more information, contact the FAA, Regulatory Support Division, Aviation Data Systems Branch, AFS-620, located in Oklahoma City, Oklahoma. The mailing address is:

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

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

### FEDERAL AVIATION ADMINISTRATION

#### Service Difficulty Report Data

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

ACFTMAKE ACFTMODEL REMARKS	ENG MAKE ENG MODEL	COMPMAKE COMPMODEL	PART NAME PART NUMBER	PART CONDITION PART LOCATION	DIFF-DATE OPER CTRL NO.	T TIME TSO
(AUS) FOLLOWING BULK STRIP DUE TO FAILURE OF THE NR 2 CYLINDER CONNECTING ROD IT WAS FOUND THAT THE OIL GALLERY SUPPLYING NR 2 MAIN BEARING WAS NOT DRILLED INTO THE MAIN OIL GALLERY.	LYC O360A4M		CONNECTING LW13820	MISMANUFACTURE NR 2 CYLINDER	12/12/2001 AUS20011452	120
(CAN) ENGINE WAS UNABLE TO ACHIEVE THE RATED POWER WITHIN THE SPECIFIED TEMPERATURE LIMITS. THE OPERATOR DECIDED TO PERFORM AN HSI AND REMOVED THE HOT SECTION COMPONENTS FOR SHIPMENT TO ATLANTIC TURBINES FACILITY IN ATLANTA. AT THIS POINT IT WAS NOTED THAT THE ENGINE HAD SUSTAINED AN HP TURBINE BLADE FAILURE WITH CONSIDERABLE FOD. THE HP & LP TURBINE COMPONENTS WERE FORWARDED TO ATLANTIC TURBINES FOR INVESTIGATION AND RESTORATION TO SERVICEABLE CONDITION.	PWA JT15D1A		ENGINE	FAILED LT OR RT	11/16/2001 CA020114008	
(CAN) ENGINE WAS SENT TO ATI FOR INVESTIGATION AND REPAIR AFTER THE OPERATOR REPORTED THAT ENGINE HAD BEEN SHUT DOWN INFLIGHT. THE OPERATOR REPORTED THAT DURING THE APPROACH THE PILOT HAD NOTICED THE TURBINE INTERSTAGE TEMPERATURE HAD INCREASED TO 950 DEGREES C, AND HAD SHUT DOWN THE ENGINE AND LANDED ON THE ONE REMAINING ENGINE. THE OPERATOR HAS SPLIT THE ENGINE, NOTED EXTENSIVE INTERNAL DAMAGE, AND RE-ASSEMBLED THE UNIT PRIOR TO SHIPMENT TO ATI.	PWA PT6A41		ENGINE	FAILED LT OR RT	11/30/2001 CA020114009	
(CAN) IN CRUISE FLIGHT LT BAGGAGE DOOR DEPARTED THE AIRCRAFT, HITTING THE LT ENGINE COWL. THE AIRCRAFT WAS INSPECTED BY A QUALIFIED AME, BAGGAGE DOOR REPLACED, ENGINE COWL REPAIRED AND THE AIRCRAFT WAS RETURNED TO SERVICE.	AEROSP AS355F1	ALLSN 250C20F	DOOR D21761	SEPARATED CARGO	01/18/2002 CA020128002	
(CAN) DURING ANNUAL INSPECTION THE MAIN WHEELS WERE REMOVED FOR BEARING LUBRICATION AND INSPECTION. THE BEARING RACES REQUIRED REPLACEMENT. UPON REMOVAL OF THE RACES THE WHEEL WAS FOUND CORRODED BEYOND LIMITS. BOTH WHEEL ASSEMBLIES HAVE BEEN REMOVED FROM SERVICE AND WERE REPLACED WITH SERVICEABLE MAIN WHEEL ASSEMBLIES. NOTE THE MAIN WHEEL ASSEMBLIES ARE MAGNESIUM.	AIRTRC AT802		WHEEL 16212401	CORRODED MLG	01/18/2002 CA020128001	
(CAN) DURING ANNUAL INSPECTION THE FLAP DRIVE RUBBER COUPLING WAS FOUND TO BE SPLIT, EARLIER IN THE OPERATING SEASON A LOOSE WIRE ON THE FLAPS DOWN SWITCH CAUSED THE FLAPS TO OVERTRAVEL AND BOTTOM OUT THE ACTUATOR. EXPERIENCE HAS SHOWN THAT WHEN THIS SITUATION HAPPENS, THE RUBBER COUPLING IS DAMAGED FROM THE SUDDEN STOPPAGE. THE RUBBER COUPLING SHOULD BE INSPECTED ANY TIME AN OVERTRAVEL	AIRTRC AT802		COUPLING B10006	SPLIT FLAP DRIVE	11/16/2001 CA011127005	
(CAN) DURING INSPECTION THE AIR CONDITIONER DRIVE ASSY WAS BEING REMOVED FOR LUBRICATION. IT WAS NOTED THAT THE FIRE SLEEVING OF THE FLEX FUEL PRESSURE LINE, HAD BEEN WORN THROUGH. FURTHER INVESTIGATION REVEALED THAT THE STEEL FITTING ATTACHING THE FUEL LINE TO THE FUEL PUMP ASSY. HAD COME LOOSE AND ALLOWED THE FUEL LINE TO CONTACT THE AIR CONDITIONING SYSTEM COMPRESSOR PULLEY. THE OUTER RUBBER OF THE FUEL LINE WAS ALSO DAMAGED. THE LINE WILL BE REPLACED WITH A SERVICEABLE UNIT, AND THE REST OF THE AIRTRACTOR FLEET WILL BE INSPECTED PRIOR TO FURTHER FLIGHT.	AIRTRC AT802	PWA PT6A67A	LINE 5129811	CHAFED FUEL SYSTEM	12/03/2001 CA011210018	
(AUS) TAIL WHEEL ATTACHMENT BOLT FAILED. TAIL WHEEL SEPARATED FROM TAIL LEAF SPRING.	BBAVIA 7GCAA	LYC O320A2D	SCOTT CITABRIATYP	BOLT AN723	FAILED NOSE/TAIL LANDIN	12/28/2001 AUS20011454
(CAN) FUEL LEAK DISCOVERED BY VISUAL INSPECTION AT FABRIC DRAIN HOLES IN TE OF WING. INBOARD FUEL TANK OF LEFT WING REMOVED AND PIN HOLE FOUND IN THE WELD WHERE DRAIN BOSS WHERE FUEL HOSE ATTACHES. BOSS REWELDED AND PRESSURE TESTED TANK. NO FURTHER LEAKS FOUND.	BBAVIA 8GCBC	LYC O360C2A		FUEL TANK 71493	LEAKING LT WING	12/03/2001 CA020112001
(CAN) LT & RT PULLEYS AT WING ROOT FOUND SEIZED AND WORN. BOTH FLAP CABLES FRAYED AT SAME	BBAVIA 8GCBC	LYC O360C2E		FUEL TANK 714941R	CRACKED RT OUTBOARD	11/09/2001 CA011130005
(CAN) 3 RIBS RT, 2 RIBS LT WING FOUND CRACKED AT UPPER CORNER OF FLANGE WHERE RIB ATTACHES TO REAR SPAR. ALL RIBS LOCATED CLOSEST INBOARD AT WING ROOT, AND ALL RIBS CRACKED EXACTLY THE SAME.	BBAVIA 8GCBC	LYC O360C2E		RIB 21588	CRACKED LT WING	12/04/2001 CA011205001
(CAN) TUBE FOUND BROKEN THROUGH APPROXIMATELY AT WELD TO RT FORWARD END OF LDG FITTING.	BBAVIA 8GCBC	LYC O360C2E		TUBE 71470101R	BROKEN MLG	12/03/2001 CA011221004

BEECH	PWA	HOUSING	DAMAGED	12/12/2001	18687
100BEECH	PT6A28	30146	BRAKE ASSY	CA020124003	

(CAN) THE PILOT REPORTED WHEN STOPPING AT THE RAMP THE LT BRAKE PEDAL WENT TO THE FLOOR. UPON INSPECTION THE LT FWD CALIPER WAS FOUND DRAGING ON THE GROUND. IT WAS DISCOVERED AFTER THE MISSING PARTS WERE OBTAINED AFT THE TAXI-WAY, THAT THE BOLT HOLDING THE DOWL PIN INTO THE CALIPER HAD WORKED LOOSE, & THE DOWL PIN UNSCREWED OUT OF THE CALIPER DISENGAGING THE CALIPER FROM THE BACK PLATE. (HOWEVER THE BOLT WAS STILL CORRECTLY LOCKWIRED IN POSITION.) THE CALIPER THEN FELL DOWN HITTING THE GROUND AND DISINTEGRATING. INSPECTION OF THE BOLTS ASSEMBLED THERE IS NO INDICATION THAT THE DOWL PIN IS LOOSE OR NOT, MISLEADING THE INSPECTOR TO THINK ALL IS OK.

BEECH	PWA	WIRE	BINDING	12/19/2001	
1900D	PT6A67D		INSTRUMENT	CA020122003	

(CAN) ON DESCENT INTO ST. JOHN'S, YYT, PILOT NOTICED THAT HE HAD NO AURAL WARNINGS FOR DECISION, H8, ALTITUDE, ALERT, OVERSPEED, GEAR WARNING OR STALL WARNING. MAINT INSPECTED PLUGS FOR AURAL AMPLIFIERS & NOTHING APPEAR TO BE WRONG. WIRING INSP & FOUND 2 WIRES HAD BEEN CHAFED BY LARGE PLASTIC TYWRAPS. ONE WIRE (CODE 24A22) FOR 28VDC INPUT OF AURAL ANNUNCIATOR AMPLIFIER, P/N 207 & AN OTHER WIRE AT PLUG W314P8 FOR CO-PILOTS SPEAKERS, WIRING REPLACED BY MEANS OF BUTTSPLICES. OPAL CHECKS WERE CARRIED OUT FOR APPLICABLE WARNINGS & CHECKED SERVICEABLE. WIRES IN QUESTION WERE TIE WRAPPED AT A POINT WHERE BUNDLE WAS BENDING. IF TIE WRAPS HAD TO BE 1CM ON EITHER SIDE OF BEND THIS WOULD NOT HAVE

BEECH	TORQUE LINK	MISMANUFACTURE	01/30/2002	
65A901	7089850810295	ZONE 700	020231	

WE WERE REPLACING THE TORQUE LINKS ON OUR KING AIR 65A90 IN ORDER TO RELIEVE THE REPETITIVE INSPECTION REQUIREMENTS OF AD 2001-01-10. ONE OF THE TWO TORQUE LINKS SENT WAS FINE. THE OTHER APPEARED AT FIRST GLIMPSE TO BE NORMAL. AFTER INSTALLATION, A RETRACTION TEST WAS PERFORMED AND THE FAULTY TORQUE LINK ALLOWED THE GEAR FORK TO OVEREXTEND AND CAUSED SUPERFICIAL DAMAGE TO THE WHEEL WELL. UPON CLOSER EXAMINATION IT WAS DISCOVERED THAT THE ANGLE OF THE STOP BOSS WAS TOO SHALLOW, ALLOWING THE OVEREXTENSION OF THE FORK.

BEECH	PWA	DRAIN VALVE	BROKEN	10/29/2001	
99	PT6A20	A1090	RT ENGINE	CA011210009	

(CAN) DURING THE LATTER PART OF A FLIGHT THE RT NACELLE WAS SHOWING A DECLINE IN DUEL CAPACITY ABOVE NORMAL. WHEN REACHING THE DESTINATION IT WAS DISCOVERED THAT FUEL WAS ESCAPING FROM THE RT FUEL MANIFOLD DRAIN. UPON FURTHER INVESTIGATIONIT WAS FOUND THAT THE CENTRE PORTION OF THE DRAIN VALVE HAD BROKEN OFF AND FALLEN OUT.

BEECH	PWA	BEECH	HINGE	CRACKED	10/10/2001	39106
99	PT6A27		1156200219	LT ELEVATOR	CA011126003	39106

(CAN) DURING ROUTINE INSPECTION, CRACK WAS FOUND ON ELEVATOR HINGE. PART WAS REPLACED AND AIRCRAFT RETURNED TO SERVICE.PART AVAILABLE FOR INSPECTION IN QUARANTINE.PART TSO/TSN/CYCLES ARE AIRCRAFT

BEECH	PWA	SWITCH	INTERMITTENT	01/10/2002	
99	PT6A28	1003810061	NLG	CA020111001	

(CAN) PILOT SELECTED GEAR DOWN AND GOT NO NOSE GREEN LIGHT. PILOT WAS READY TO DO A EMERGENCY EXTENTION WHEN THE GREEN LIGHT CAME ON. MAINTENANCE REPLACED THE SWITCH AND RETURNED AIRCRAFT

BEECH	PWA	ENGINE	CONTAMINATED	12/14/2001	14795
99A	PT6A27	PT6A27	NR 2	CA020109005	

(CAN) OIL CONTAMINATION NR 2 LIGHT ILLUMINATED AFTER TAKEOFF, DURING CLIMB OUT. RETUNED FOR LANDING. LANDING WAS UNEVENTFUL. MAINTENANCE INSPECTION REVEALED OIL CONTAMINATED WITH METAL

BEECH	PWA	HOSE	BROKEN	11/14/2001	
A100	PT6A28	503800573	OXYGEN SYS	CA011128017	

(CAN) HOSE BROKE CAUSING LOSS OF PRESSURIZATION, REPLACED HOSE AND FLIGHT TESTED SERVICEABLE.

BEECH	PWA	BEARING	FAILED	10/11/2001	
A100	PT6A28	115380103	MLG ACTUATOR	CA011217001	

(CAN) ON CLIMBOUT RT GEAR DID NOT INDICATE UP & LOCKED & INTRANSIT LIGHT ILLUMINATED. GEAR EXTENDED, THIS TIME GEAR DID NOT INDICATE DOWN & LOCKED & INTRANSIT LIGHT REMAINED ILLUMINATED. UPON LDG RT MAIN GEAR COLLAPSED. LDG GEAR ACTUATOR REMOVED & SENT TO TSB LAB FOR ANALYSIS. IT DETERMINED THAT THRUST BEARING IN ACTUATOR WAS INSTALLED BACKWARDS. RESULTING FAILURE OF THRUST BEARING CAUSED TEETH ON PINION & RING GEAR TO FAIL.

BEECH	PWA	DIODE	BURNED	12/24/2001	
A100	PT6A28	5036430821	BUSS FEEDER	CA011231003	

(CAN) PILOT HAD MULTIPLE FAILURES WHEN COMING IN TO LAND, SOME EXTERIOR AND INTERIOR LIGHTS WOULD NOT WORK AND THE LANDING GEAR WOULD NOT COME DOWN. THE PILOT EXTENDED THE GEAR MANUALLY AND LANDED WITHOUT INCIDENT. MAINTENANCE FOUND THERT NR 1 BUSS FEEDER DIODE BURNT. THE RT NR 1 BUSS FEEDER DIODE WAS REPLACED, NR 2 BUSS FEEDER DIODE WAS REPLACED AND THE RT NR 1 BUSS FEEDER WIRE CONNECTOR PIN WAS ALSO REPLACED AT THE RT CIRCUIT BREAKER PANEL. BEEHCRAFT HAS AN INSPECTIONEVERY 800 HOURS THAT WOULD HAVE IDENTIFIED THE PROBLEM DIODE BEFORE THIS HAPPENED, THIS AIRCRAFT WAS 150 HOURS AWAY FROM THAT INSPECTION. I SUBMITTED ANOTHER SDR ON THIS SUBJECT SEE CONTROL NUMBER

BEECH		WINDSHIELD	CRACKED	12/02/2001	
B100		5042006938	COCKPIT	CA011212003	

(CAN) WINDSHIELD CRACKED / CRAZED DURING CRUISE FLIGHT. THE CREW LOWERED CABIN PRESSURE, DISCONTINUED HEAT AND LANDED WITHOUT FURTHER INCIDENT. MAINTENANCE FOUND THE INNER LAMINATE LAYER OF THE WINDSHIELD PRC SEALED TO THE WINDOW FRAME STRUCTURE WHICH PREVENTED FREE FLOATING OF THE WINDSHIELD WITHIN THE WINDOW FRAME CREATING STRESS TO THE INNER LAMINATE LAYER WHICH-EVENTUALLY CRACKED. A NEW WINDSHIELD ASSY WAS INSTALLED.

BEECH	PWA	DOOR	SEPARATED	01/14/2002	
B200C	PT6A42	9981003034	MLG	AUS20020028	

(AUS) RT MAIN LANDING GEAR DOOR SEPARATED FROM AIRCRAFT DUE TO FAILURE OF THE HINGE PIN.

BEECH	PWA	SKIN	CRACKED	11/26/2001	
C90	PT6A21		LT WING	CA011127006	

(CAN) ON A RECENT ROUTINE INSPECTION ON LJ886 A CRACK WAS FOUND ON THE LT UPPER WING SKIN AT STA 175 AND WL 81 SEEN FROM THE UNDERSIDE IN THE WHEEL WELL. THE AFT NACELLE FAIRING WAS REMOVED AND ANOTHER CRACK WAS FOUND AT STA 182 AND WL70.THE AFT NACELLE FAIRING OF THE RT WING WAS REMOVED AND SUBSEQUENTLY TWO MORE CRACKS IN THE SAME LOCATIONS DESCRIBED ON THE LT WING WERE FOUND.

BEECH	PWA	ANGLE	CRACKED	10/30/2001	
C90A	PT6A21	90120003	LT & RT NACELLE	CA011128016	

(CAN) INSIDE LT AND RT MAIN LANDING GEAR WELLS, OUTBOARD SIDE WALL, ANGLE AT CORNER OF SIDE WALL AND FORWARD FACE OF MAIN SPAR WEB, LOWER END OF ANGLE. POSSIBLE NEED TO REMOVE PAINT TO NOTE CRACK. BOTH CRACKS APPROX. .75 INCHES IN LENGTH.

BEECH	PWA		OIL FILTER	DAMAGED	12/14/2001
C90A	PT6A21		PTI05228757952	ENGINE OIL	CA011214001

(CAN) WHEN REPLACING INBD O-RING, FOUND VERY SHARP EDGE IN OIL FILTER BODY DAMAGING O-RING EVERY TIME.

BELL	ALLSN	BELL	GEAR	DAMAGED	12/17/2001
206B	250C20	206040002025	2060401223	MAIN ROTOR	AUS20011455 707

(AUS) MAIN TRANSMISSION SUN GEAR TEETH (2OFF) CHIPPED WITH SUBSTANTIAL SECONDARY DAMAGE. METAL CONTAMINATION OF TRANSMISSION. SUSPECT PNO 206-040-122-3 GEAR IS NOT TO BE USED IN A PNO 206-040-002-025 MODEL TRANSMISSION AS PER TB 206-75-12.

BELL	ALLSN	BELL	BEARING	SPALLED	07/25/2001
206B	250C20	20601033217	2060400365	MAIN ROTOR MAST	CA020118003

(CAN) UPON INSPECTION 3 BALL BEARINGS, FOUND EXCESSIVELY SPALLED AND INNER RACE SHOWED 3 SIGNS OF PITTING IN 3 AREAS. BEARING WAS SCRAPPED.

BELL	ALLSN		MAST	CORRODED	07/25/2001
206B	250C20		20601033217	MAIN ROTOR	CA020118004

(CAN) UPON 1500 HOUR INSPECTION OF MAST BEARING RETAINING NUT REMOVAL. PRC SEALANT WAS REMOVED FROM THE LOWER MAST THREADS TO UNCOVER CORROSION PITTING WELL IN EXCESS OF CORROSION TOLERANCES. MAST WAS SCRAPPED.

BELL	ALLSN	ALLSN	BEARING	CRACKED	01/04/2002
206B	250C20B	6894171	6890493	GEARBOX	CA020125002

(CAN) THIS AIRCRAFT RUNNING NORMAL. PILOT ON START HEARD A LOUD SQUEELING NOISE, THEN GOT A CHIP LITE. MAINTENANCE FOUND HUGE AMOUNTS OF METAL ON BOTH PLUGS. PROBLEM FOUND TO BE 2 1/2 BEARING FAILURE. 2 1/2 BEARING ON SPUR ADAPTER, REPLACED. PROBLEM SEEMS TO BE FROM A HIGH N1 GEAR TRAIN VIBRATION. POSSIBLE OUT OF BALANCE COMPRESSOR.

BELL	ALLSN		GOVERNOR	FAILED	11/09/2001
206B	250C20B		252476914	ENGINE	CA011121004

(CAN) THE HELICOPTER WAS INVOLVED IN FOREST INVENTORY WORK AT LOW ALTITUDE AT NEAR GROSS WEIGHT AT SLOW SPEED WHEN PILOT NOTICED HIS ROTOR RPM DROPPING, LOW ROTOR WARNING AND AN INDICATION OF 95 PERCENT. HE MANAGED TO DROP COLLECTIVE AND LAND IN A SMALL CLEARING. THE GOVERNOR WAS REPLACED, AIRCRAFT RUN-UP AND OPERATIONAL CHECKED, OK.

BELL	ALLSN	BELL	CLUTCH	BROKEN	11/13/2001
206B	250C20B	20604023013	CL422501	FREEWHEEL UNIT	CA011127001

(CAN) FREEWHEEL UNIT SENT IN FOR REPAIR OWNER REPORTS: LEAKING AND ROUGH TO TURN ONCE REMOVED. FREEWHEEL DISASSEMBLED AND CLUTCH CAGE FOUND CRACKED AND A PIECE BROKEN OFF. THE INNER RACE AND OUTER RACE BOTH FOUND WORN BEYOND LIMITS. BELL HELICOPTER PRODUCT SUPPORT TECH REP CONTACTED AND HE WILL BE HERE THURSDAY NOVEMBER 15, 2001 TO VIEW THE DAMAGED UNIT.

BELL	ALLSN	ALIDSG	DRIVE SHAFT	DAMAGED	11/30/2001
206B	250C20B	252476914		GOVERNOR	CA011210010

(CAN) PILOT REPORTED IN NORMAL LEVEL CRUISE FLIGHT AT LOW TO MEDIUM TORQUE SETTING. HE FELT, HEARD AND NOTICED A POWER SURGE AND GAUGE FLUCTUATION APPROX. 2 PERCENT N1. THIS WOULD OCCUR FOR JUST A SECOND AND WOULD ONLY OCCASIONALLY HAPPEN 1 TIME OR SEVERAL TIMES IN A 1 HOUR PERIOD. THE A/C RETURNED BACK TO BASE AFTER COMPLETING HIS WORK AND WAS DUE FOR 100HR INSPECTION, THE GOVERNOR WAS REMOVED FOR INSPECTION AND THE DRIVE END AND CIRCLIP WERE FOUND LOOSE AND READY TO FALL OFF. THIS GOVERNOR HAS BEEN REMOVED 3 PREVIOUS TIMES FOR SURGING, DROOPING AND THE LAST TIME FOR THE

BELL	ALLSN	BELL	BEARING	FAILED	01/22/2002
206L1	250C28B	206011132113	206011118001	CAGE	CA020130005

(CAN) PILOT REPORTED A "SPRINGY" FEELING IN CYCLIC ALONG WITH THE NECESSITY OF APPLYING CONSTANT FORWARD CYCLIC INPUT FOR CRUISE FLIGHT. NO PROBLEMS WERE FOUND IN THE FLIGHT CONTROLS. THE ROTOR HEAD WAS REMOVED AND DISASSEMBLED AND AT THIS TIME THE DAMAGED BEARING WAS NOTED. NO OTHER PARTS WERE FOUND DAMAGED. THE ROTOR HEAD, HAVING ONLY 80 HOURS REMAINING UNTIL OVERHAUL, HAS BEEN SENT FOR FURTHER EVALUATION AND OVERHAUL. THE FAILED BEARING IS BEING KEPT IN QUARANTINE FOR INSPECTION, IF

BELL	ALLSN	RROYCE	PUMP	GALLED	01/23/2002
206L1	250C30P	250C30P	23039794	GEAR OIL	CA020129006

(CAN) DURING REINSTALLATION OF ENGINE BY OPERATOR. ENGINE HAD NO OIL PRESSURE: OPERATOR NOTED UNUSUAL NOISE HEARD COMING FROM GEARBOX WHEN N1 GEAR TRAIN SPUN. GEARBOX RETURNED FOR REPAIR. UPON INSPECTION FUEL CONTROL / OIL PUMP FLEXIBLE COUPLING SHAFT FOUND FRACTURED. WHEN TURNED BY HAND N1 GEAR TRAIN ROTATED NORMALLY. OIL PUMP COULD NOT BE TURNED BY HAND. OIL PUMP REMOVED & DISASSEMBLED. ONE OF IDLER GEARS HAD METAL BUILD-UP ON END FACE. ADJACENT FACES ON GEAR POCKET & SEPARATOR WERE ALSO HEAVILY SCORED. GEAR END CLEARANCES WERE MEASURED & FOUND TO BE .0005 TO .0075, WHICH IS WITHIN ROLLS ROYCE OVERHAUL LIMITS. IT WAS CONCLUDED OIL PUMP HAD SEIZED DUE

BELL	PWA	BELL	CHAIN	BROKEN	01/29/2002
212	PT6T3	204040806011	204001736005	HYD DRIVE OIL	CA020131004

(CAN) THE HELICOPTER WAS IN CRUISE WHEN ALL OF A SUDDEN THE ROTOR TACH GENERATOR INDICATOR WENT TO ZERO. BACK AT THE BASE AN ENGINEER TROUBLE SHOOTED THE PROBLEM AND FOUND THE TACH. GEN DRIVE WAS DISCONNECTED. THE ROTOR TACH GENERATOR DRIVE IS LOCATED IN THE #1 HYDRAULIC QUILL ASSEMBLY OF THE MAIN ROTOR TRANSMISSION. SUSPECT THE CHAIN HAS FAILED INSIDE THE HYDRAULIC/TACH GEN DRIVE QUILL.

BELL	PWA	BELL	BOLT	BENT	11/22/2001
212	PT6T3	212040004003	204040612001	QUILL ASSY	CA011211002

(CAN) THIS BOLT HOLDS THE TAIL ROTOR DRIVE SHAFT COUPLING TO THE INPUT QUILL OF THE 90 DEGREE GEARBOX. WHEN THE BOLT WAS REMOVED FOR SCHEDULED MAINTENANCE (GREASE REPACKING). IT WAS NOTICED THAT IT WAS NOT THE NORMAL COLOR (BLACK) THAN IT WAS NOTICED THAT IT WAS DISTORTED AROUND THE FLANGE RADIUS. EVEN CLOSER INSPECTION SHOWS THAT THE BOLT DUE TO THE BEND IN THE FLANGE IS NOW LONGER. THE BOLT SHOWS SIGNS OF STRETCHING AND TOOL MARKS MAY INDICATE THAT IT WAS MANUFACTURED BY SOMEONE OTHER THAN THE ORIGINAL MANUFACTURE. THERE IS NO PART NO. WRITTEN ON THIS PART AS THERE IS A NEW ONE. I BELIEVE THIS IS AN UNAPPROVED PART (BOGUS). PART HELD FOR INVESTIGATION.

BELL	PWA		GEARBOX	CONTAMINATED	01/16/2002
212	PT6T3			REDUCTION GEAR	CA020123003 14924

(CAN) IN CRUISE FLIGHT THE PILOT THE PILOT NOTED THE C-BOX CHIP LIGHT FLICKER FAINTLY FOLLOWED SHORTLY BY THE C-BOX OIL PRESSURE CAUTION LIGHT ILLUMINATING. C-BOX OIL PRESSURE WAS OBSERVED DROPPING AND AN UNSCHEDULED BUT NORMAL LANDING PROCEDURE WAS CARRIED OUT. AFTER LANDING THE C-BOX OIL PRESSURE WAS OBSERVED TO DROP TO ZERO AND THE ENGINES WERE SHUT DOWN. NO EXTERNAL LEAKS WERE FOUND. AN ACCUMULATION OF METAL WAS FOUND ON THE REDUCTION (C-BOX) CHIP DETECTOR AND IN THE REDUCTION GEARBOX OIL FILTER.

BELL 212	PWA PT6T3B	BELL 212040001123	BEARING 204040135001	FAILED BEARING	11/01/2001 CA011116015
(CAN) WHILE IN DESCENT TO THE LANDING AREA THE MAIN ROTOR TRANSMISSION CHIP LIGHT ILLUMINATED. THE PILOT MAINTAINED ITS APPROACH AND LANDED. UPON INSPECTION ON THE CHIP DETECTOR METAL WAS FOUND AND THEN THE WAFFER FILLER WAS CHECKED WHERE MORE METAL WAS FOUND. MAIN ROTOR TRANSMISSION					
BELL 407	ALLSN 250C47B	BELL 407040303101	BEARING 407340339103	FAILED FAN SHAFT	11/24/2001 CA011130006
(CAN) WHILE ON 5TH SCENIC TOUR OF DAY. AT 2,500 FT ASL IN QUIET MODE CRUISE, A/C SOUND & VIBRATION LEVEL SUDDENLY CHANGED FROM NORMAL TO LOUD WITH HEAVY VIBRATION FROM TAIL ROTOR DRIVE AREA. PILOT IMMEDIATELY RETURNED A/C TO NORMAL MODE CRUISE RPM & EXITED SCENIC ROUTE. HE RETURNED DIRECTLY TO MAIN BASE AT PQ3 WITH PRECAUTIONARY LDG & SHUTDOWN WITHOUT FURTHER INCIDENT. TAIL ROTOR CONTROL AUTHORITY NEVER LOST. AFTER ENGINE SHUTDOWN, INSPECTION REVEALED A COMPLETELY FAILED FWD FAN SHAFT BEARING WITH DISINTEGRATED BEARING CAGE.					
BELL 47G2	LYC VO435A1E	BELL A5222640	THROTTLE A5222690	FROZEN BELOW RH ENGINE	12/05/2001 CA011211018
(CAN) THROTTLE FROZEN AT CRUISE POWER WHEN HELICOPTER CLIMBED THROUGH FREEING LEVEL AT APPROXIMATE 3,000'. THE CABLE BECAME UNSTUCK WHEN THE HELICOPTER RETURNED TO A LOWER LEVEL. BY THIS TIME THE PILOT (FLIGHT INSTRUCTOR) CARRIED OUT AN AUTO ROTATION TO ABBOTSFORD AIRPORT AND HOVER TAXIED BACK TO THE HANGAR.					
BOLKMS BK117A1	LYC		FLANGE 11203025221	CORRODED TAILBOOM	12/03/2001 CA020109001
(CAN) TAILBOOM SENT FROM A CUSTOMER IN THE USA FOR REPAIR OF A DAMAGED SKIN. DURING DISASSEMBLY THE TAILBOOM TO FUSELAGE ATTACHMENT RING FOUND CORRODED. AT THE 1:00 AND 11:00 O'CLOCK POSITION DEPTH 1 MM AT THE 2:00 AND 10:00 O'CLOCK POSITION 0.2 MM AT THE 6:00 O'CLOCK POSITION DEPTH OF 0.6MM.					
BOLKMS BK117B1	LYC LTS101750B1		BEARING LN9367GE12N2	CONTAMINATED TURBINE	12/31/2001 CA020104021
(CAN) LACK OF DROOP COMPENSATION OBSERVED BY PILOTS. ENGINEERING NOTIFIED. ENGINEERING DISCOVERED A BINDING BEARING IN THE N2 CONTROL SYSTEM, LOCATED IN CABIN CEILING. BEARING WAS CLEANED OF DIRT, LUBRICATED AND FUNCTION TESTED SERVICABLE.					
BOLKMS BK117B1	LYC LTS101750B1		BEARING LN9367GE5DN2	WORN TURBINE	12/31/2001 CA020104022
(CAN) WHEN INSPECTING THE N2 DROOP SNAG(PLEASE SEE PREVIOUS SDR ON SAME DAY), THE BALL WAS DISCOVERED TO BE WORN THROUGH THE SOCKET. THE ARM ASSY WAS REPLACED BY A SERVICABLE UNIT AND THE HELICOPTER WAS RETURNED TO SERVICE.					
BOLKMS BO105C	ALLSN 250C20B		TUBE 6859172	CHAFED FUEL DRAIN	12/07/2001 CA011207002
(CAN) DRAIN LINE CHAFING ON FUEL CONTROL TO FUEL PUMP BY PASS TUBE IS 99 PERCENT CHAFED.					
BOLKMS BO105CBS	ALLSN 250C20B		BEARING 4638302023	DAMAGED M/R GEARBOX	11/22/2001 CA011126001
(CAN) OUTER AND INNER RACE OF BEARING DISPLAY MODERATE PITTING AND PEELING. ONE BALL DISPLAYS HEAVY					
BOLKMS BO105CBS	ALLSN 250C20B		BEARING 46192040014638	PEELING M/R GEAR BOX	12/03/2001 CA011203005
(CAN) BOTH THE PLANETARY AXLE AND ROLLER BEARING PLATIN					
CESSNA 150J	CONT O200A		CONTROL S123019	BROKEN CARB HEAT	11/12/2001 CA011121002
(CAN) PILOT APPLIED CARB HEAT ON DOWNWIND AND KNOB SHAFT ASSEMBLY CAME OUT IN HER HAND. PUSH / PULL WIRE HAD BROKEN ABOUT 3 INCHES PAST THE END OF THE SHAFT. EXAMINATION OF THE BREAK INDICATED A LONG STANDING CRACK ABOUT 2/3 OF THE WAY THROUGH THE WIRE. THERE ARE NO SHARP BENDS AT THIS POINT, THOUGH THE CABLE IS CURVED SOMEWHAT. NO EVIDENCE OF PREVIOUS TRAUMA TO THE WIRE. THE AIRCRAFT WAS LANDED IN NORMAL FASHION AND SHUT DOWN.					
CESSNA 150M	CONT O200A		BOLT MS20073XXXX	WRONG PART PROPELLER	12/01/2001 CA020103005
(CAN) WHILE REMOVING MCCAULEY PROP FOR 5 YEARS CORROSION INSPECTION IT WAS NOTED THAT PROP BOLTS WERE TO SHORT APPROX 4 THREADS ON ALL BOLTS WERE SECURING THE PROP. NEW BOLT KIT A2513-77 INSTALLED					
CESSNA 152	LYC O235L2C		SPRING 031019613	BROKEN RUDDER	10/31/2001 CA011102009
(CAN) THIS IS SECOND OCCURRENCE OF SAME DEFECT IN 1205 HRS/18 MONTHS. HAS ALSO OCCURED ON OTHER 152 IN OUR FLEET. OBSERVED DURING WALK-AROUND BY NEXT PILOT (RUDDER SWINGS FREELY WITHOUT NORMAL RESISTENCE). OUR AMO SAYS THAT BROKEN SPRING COULD INTERFERE WITH FLIGHT CONTROLS DURING FLIGHT.					
CESSNA 152	LYC O235L2C		TUBE 05430224	JAMMED RUDDER	12/03/2001 CA011219008
(CAN) A/C HAS 15120.6 T.A.T. TIME ON PART UNKNOWN. MAY BE ORIG. UPON TAXI TO HOLD LINE, PILOT TURNED FULL LEFT THEN FULLRIGHT TO CHECK BRAKES & STEERING. PILOT APPLIED FULL POWER AFTER T/O CLEARANCE & HAD TO KEEP GREATER THAN NORMAL RIGHT RUDDER TO KEEP A/C STRAIGHT. WHEELS LEFT GROUND AT 70K A/C IMMEDIATELY YAWED HARD LEFT. PILOT PUT IN FULL RIGHT RUDDER & AILERON TO COMBAT, RUDDER STAYED JAMMED HARD LEFT. A/C LANDED ON GRASS & HIT DITCH CAUSING EXTENSIVE ENGINE, PROP & FUSELAGE DAMAGE. AME & TSB DISCOVERED THAT RT STEERING PUSH-PULL ROD COULD HAVE JAMMED IN SHORTENED POS&AS OLEO EXTENDED, ITPULLED LT RUDDER PEDAL IN, IN TURN DEFLECTING RUDDER FULL LEFT. WASHER THAT USUALLY					
CESSNA 172B	CONT O300D	CESSNA 0532001201	SPAR 05320019	CRACKED HORIZONTAL STAB	11/20/2001 CA020102003
(CAN) AT ANNUAL INSPECTION THE CENTRE SECTION OF THE STABILIZER SPAR WAS FOUND TO BE BUCKLED AND CRACKED AT THE CENTRE LIGHTENING HOLE, WHERE THE TRIM CABLES RUN THROUGH. THERE WERE TWO CRACKS ABOUT 2 IN. LONG, RUNNING FROM THE BOTTOM RIGHT AND TOP LEFT SIDES OF THE HOLE, WITH CORRESPONDING BUCKLING. THE CRACKS WOULD OPEN AND CLOSE AS PRESSURE WAS APPLIED TO THE TIP OF THE STABILIZER - UP OR DOWN. THE STABILIZER HAD ONLY A SLIGHT LOSS OF STIFFNESS - SO THE PROBLEM WAS ONLY NOTICED BY VISUAL INSPECTION OF THE AFFECTED AREA. THE STABILIZER WAS REMOVED AND REPAIRED.					
CESSNA 172M	LYC O320E2D		SPAR 05230142	CORRODED WING SPAR	01/02/2002 AUS20020002
(AUS) FORWARD SPAR ASSEMBLY CONTAINED SEVERE EXFOLIATION CORROSION BETWEEN THE SPAR PNO 0523014-2 AND THE ATTACHMENT PLATE PNO 0523016-1. THE THICKNESS OF THE ASSEMBLY WAS REDUCED BY APPROXIMATELY 50% DUE TO THE CORROSION. THE RIVETS HOLDING THE ASSEMBLY TOGETHER WERE ALSO CORRODED (180F22). CORROSION WAS ALSO FOUND AT RIB TO SKIN INTERFACES. INVESTIGATION OF OTHER SIMILAR WINGS HELD IN STORAGE FOUND THEM TO BE IN A SIMILAR CONDITION.					

CESSNA	LYC		CYLINDER	CRACKED	12/03/2001	
172P	O320D2J		AEL6510241	ENGINE	CA011212002	

(CAN) DURING A REGULAR MAINTENANCE INSPECTION THE CYLINDERS WERE VISUALLY CHECKED USING A BORESCOPE, CRACKS WERE NOTED AT THE SPARK PLUGS PORTS OF NR 1 & 2 CYLINDERS. ALL CYLINDERS WERE

CESSNA	LYC		CYLINDER	CRACKED	11/27/2001	
172P	O320D2J		AEL6510241	ENGINE	CA020108002	

(CAN) DURING CLIMB THE PILOT NOTICE A LOSS OF POWER AND ENGINE VIBRATION. RETURNED TO BASE. MAINTENANCE FOUND NR 3 CYLINDER CRACKED AT THE EXHAUST VALVE. THIS IS THE 3RD CYLINDER ON 2 DIFFERENT ENGINES TO CRACK IN THIS PLACE. ALL CYLINDERS REMOVED AND RETURNED TO SUPPLIER. OVERHAULED CYLINDERS INSTALLED AND AIRCRAFT RETURNED TO SERVICE.

CESSNA	LYC		SPAR	CRACKED	01/04/2002	
172P	O320D2J		053200198	HORIZONTAL STAB	CA020116004	

(CAN) CRACK WAS FOUND DURING A SCHEDULED INSPECTION OF THE AIRCRAFT, IN THE AREA OF THE FRONT SPAR OF THE STABILIZER. AT THE LIGHTENING HOLE BETWEEN THE TWO NOSE RIBS.

CESSNA	LYC		PIN	SHEARED	01/31/2002	474
172R	IO360L2A			ELEVATOR TRIM	2002FA0000152	

WHILE REMOVING THE TRIM TAB ACTUATOR FOR SERVICE, BOTH GROOVE-PINS (P/N 3/32X.38TYPE3) WHICH ATTACH THE ROLL CHAIN SPROCKET, (P/N 0310332-0) TO THE SCREW-INTERNAL THREADS (P/N 1260049-1) OF THE TRIM TAB ACTUATOR WERE FOUND TO HAVE SHEARED. THIS ALLOWED THE SPROCKET TO BE SLIPPED OFF BY HAND. ONLY FRICTION BETWEEN THE SPROCKET AND THE SCREW-INTERNAL THREADS WAS ENABLING THE TRIM TAB TO BE

CESSNA	CONT	CESSNA	BUSHING	CRACKED	12/04/2001	
180J	O470S	0523919	0523921	TE FLAP SUPPORT	CA011205003	

(CAN) WHILE PERFORMING A FLAP SUPPORT INSPECTION, A CRACK WAS FOUND ON THE FLAP ROLLER BUSHING (LT REAR). THE CYLINDRICAL BUSHING WAS SPLIT IN HALF AND ONLY BECAME APPARENT WHEN THE BUSHING WAS REMOVED FROM THE FLAP ROLLER ASSEMBLY.

CESSNA	CONT		BRACKET	CRACKED	12/04/2001	
180J	O470S		05121602	CABLE PULLEY	CA011205004	

(CAN) DURING A ROUTINE 100 HOUR INSPECTION THE RUDDER CABLE PULLEY BRACKETS THAT ARE LOCATED AT THE BATTERY BOX BULKHEAD, WERE BOTH FOUND TO BE CRACKED AT THE TOP ATTACH POINT (RIVET). BOTH BRACKETS WERE REPLACED.

CESSNA			HOSE	OUT OF POSITION	02/05/2002	2976
182Q			S14953	RT MLG	2002FA0000177	

WHILE BOTH MLG TRUNNION FAIRINGS WERE REMOVED FOR OTHER MAINTENANCE, TRUNNIONS AND BRAKE LINES WERE CLEANED AND INSPECTED. OPERATOR DISCOVERED RT BRAKE LINE CHAFED THROUGH AND WEEPING HYDRAULIC FLUID. CHAFED POINT IN LINE WAS A BEAM FLANGE ON TRUNNION WHICH SUPPORTS COPILOT'S STEP. A HOSE (WHICH SHOULD BE POSITIONED MIDWAY ALONG BRAKE LINE TO PREVENT CONTACT WITH THE STEP STRUCTURE) WAS FOUND AT LOWER END OF BRAKE LINE. HOSE SEGMENT HAD EVIDENTLY MIGRATED DOWN THE LINE AS RESULT OF VIBRATION OR ACCUMULATED LANDINGS. LOGBOOK ENTRIES SUGGEST THIS HOSE COMPONENT

CESSNA	PWA		DOUBLER	CRACKED	01/15/2002	
208B	PT6A114A		26530351	FIREWALL	CA020128004	

(CAN) THE LOWER FWD DOUBLER IS SITUATED ON BOTTOM OF FIREWALL & SUPPORTS NOSEGEAR SPRING ATTACH. DOUBLER FOUND CRACKED ON ITS LT WEB NEAR BOTTOM.

CESSNA	PWA		ACTUATOR	FAILED	01/08/2002	
208B	PT6A114A		26612151	ELEVATOR TRIM	CA020118011	

(CAN) AFTER TAKEOFF FROM YHM, THE AIRCRAFT LOST ELEVATOR TRIM ELECTRICAL AND MANUAL CONTROL AND THE AUTOPILOT FAILED. THE AIRCRAFT RETURNED TO THE AIRPORT. MAINTENANCE INVESTIGATION FOUND ONE OF THE TWO RODS ON THE LT ELEVATOR TRIM ACTUATOR WAS BINDING A LITTLE WHEN THE ELEVATOR WAS IN THE NEUTRAL POSITION, BUT FREE WHEN THE ELEVATOR WAS DEFLECTED UP OR DOWN. THE ONE ROD WAS ADJUSTED 1/4 OF A TURN - SYSTEM TESTED AND FOUND TO BE FREE THROUGH THE RANGE OF TRAVEL OF THE ELEVATOR. THE ACTUATOR HAD RECENTLY BEEN REMOVED FOR OVERHAULED AND REINSTALLED.

CESSNA	CONT		DOOR	MISINSTALLED	01/02/2002	
310L	IO470U			EMERGENCY EXIT	AUS20020003	

(AUS) EMERGENCY EXIT INCORRECTLY INSTALLED. ONLY TWO OF THREE LATCHING PINS ENGAGED. EMERGENCY RELEASE CABLE LOOPED AND THE TWO LATCHING PINS WERE FITTED BACKWARDS. IT WOULD HAVE BEEN IMPOSSIBLE FOR THE EMERGENCY EXIT TO BE RELEASED.

CESSNA	CONT		BRACKET	BROKEN	11/30/2001	
310R	IO520MB		A91641	LIGHT	CA020116001	

(CAN) FIRE IN COCKPIT ON DESCENT FROM FLIGHT TO AIRPORT. SMOKE EMITTING FROM RT DASH BY PROP DE-ICE GAUGE. SMOKE TURNED TO FLAME AND EXTINGUISHER EXERCISED. EXAMINATION REVEALED POST LIGHT PLASTIC BROKEN AND FELL DOWN TO METER. LINE POSTLIGHT SHORTED ON METER TERMINAL. POST LIGHT SOCKET PLASTIC HEATED UP AND PLASTIC CAUGHT FIRE.

CESSNA	CONT		DIAPHRAGM	DAMAGED	12/11/2001	
401	TSIO520E			HEATER FUEL	CA011212004	

(CAN) FUEL WAS NOTICED LEAKING FROM THE HEATER FUEL PUMP VENT LINE. THE FUEL PUMP WAS DISMANTLED AND THE DIAPHRAM WAS FOUND TO HAVE FAILED CAUSING FUEL TO LEAK DOWN TO THE BEARING, REMOVING ALL LUBRICATION AND ALSO FALLING. THE FUEL PUMP WAS REPLACED.

CESSNA	CONT	CONT	CONNECTING	FAILED	12/24/2001	
404CESSNA	GTSIO520M	GTSIO520M		RECIPROCATING	AUS20011441	127

(AUS) NO5 CONNECTING ROD FAILED. NO1, NO2 AND NO4 MAIN BEARINGS OVERHEATED. SIGNS OF OVERHEATING ON ALL BIGEND BEARINGS. INVESTIGATION INDICATES INCORRECT MACHINING OF CRANKCASE OILPASSAGES IN MAIN BEARING SUPPORT.

CESSNA	GARRTT		HOSE	RESTRICTED	01/10/2002	
441	TPE3318		124F0018CR0194	RT ENGINE OIL	AUS20020027	

(AUS) RT ENGINE OIL COOLER SCAVENGE HOSE INTERNALLY RESTRICTED. SUSPECT HOSE COULD HAVE BEEN KINKED DURING ENGINE INSTALLATION.

CESSNA			BRACKET	FAILED	02/08/2002	2553
560CESSNA				RT WING	2002FA0000181	

IN-TRANSIT LIGHT STAYED ON AFTER GEAR WAS RETRACTED. GEAR WAS EXTENDED AND A/C LANDED WITHOUT INCIDENT. UPON INSPECTION, THE RT GEAR WELL PLACARD CLOSEOUT PANEL WAS FOUND TORN AND BENT UP. THE INBOARD Z-BRACKET HAD FAILED, AS WELL AS THE LOWER ANGLE, THAT THE PANEL IS RIVETED TO. AFTER FAILURE OF BOTH PANEL MOUNT BRACKETS, AIRLOADS MAY HAVE STARTED TO PULL THE PANEL OUT UNTIL THE LANDING GEAR FINALLY CAUGHT IT AND TORE IT UPWARD WHEN GEAR WAS RETRACTED. REPLACED THE PANEL AND BOTH MOUNT BRACKETS. THE Z-BRACKET IN THIS AREA HAS A HISTORY OF FAILING AND IS REPLACED AT

CESSNA	CONT	MCAULY	CONTROL ARM	MISINSTALLED	11/07/2001	
A185E	IO520D	C290D3RT9	A20609	PROP GOVERNOR	CA011116002	

(CAN) GOVERNOR WOULD NOT CYCLE PROP BELOW 1500 RPM. CONTROL ARM INSTALLED IN THE INCORRECT POSITION ON CONTROL SHAFT.

CESSNA	CONT	CHANNEL	CRACKED	05/20/2001	
A185F	IO520D	07326032	HORIZONTAL STAB	CA011211005	
(CAN) CHANNEL FOUND CRACKED DIRECTLY BEHIND LT STAB HINGE REINFORCEMENT, WHICH WAS ALSO CRACKED. FURTHER INVESTIGATION REVEALED CRACKED SPAR ALSO IN SAME AREA.					
CESSNA	CONT	RIB	CORRODED	05/08/2001	
A185F	IO520D	07346041	LT ELEVATOR	CA011211019	
(CAN) LEAD BALANCE WEIGHT ATTACHES TO AFFECTED RIB AND CORROSION FORMED DUE TO DISSIMILAR METAL. AREA IMPOSSIBLE TO INSPECT UNLESS ELEVATOR TIP SKIN IS REMOVED TO ACCESS RIB. UPON REPLACEMENT OF RIB,					
CESSNA	CONT	CESSNA	BRACKET	CRACKED	05/20/2001
A185F	IO520D	12320008	07321014	HORIZONTAL STAB	CA011221001
(CAN) CRACK NOTED FROM RETAINER'S EDGE TO INBOARD ATTACHMENT SCREW HOLE AS VIEWED FROM THE LT SIDE OF A/C. ANOTHER CRACK NOTED IN BOTTOM BEND RADIUS OF BRACKET AND EXTENDING ALONG THE BEND FOR APPROX. 1 INCH. PROBABLE CAUSE IS FROM CARRYING EXTERNAL LOADS ON THE SIDE OF THE A/C SUCH AS CANOES, SMALL BOATS ETC.					
CIRRUS	CONT	BRACKET	ELONGATED	09/24/2001	244
SR20	IO360*	11799001	NLG	V5MR198Y1	
NOSE WHEEL PANT BRACKETS, QTY2, FOUND WITH ELONGATED MOUNTING HOLES UNDER NORMAL USE. AIRCRAFT HAS BEEN OPERATED BY A SINGLE INDIVIDUAL WITH MINIMAL TAKEOFFS AND LANDING IN APPROXIMATELY ONE YEARS TIME. FURTHERMORE, THE MOUNTING HOLES IN THE NEW REPLACEMENT PART ARE APPRECIABLY LARGER THAN THE AN3 BOLT THAT IS SPECIFIED TO SECURE IT TO THE FORK ASSEMBLY. THE HOLE IS LARGER THAN .1875 OF INCH BUT SMALLER THAN .2500 OF AN INCH.					
CIRRUS	CONT	BRACKET	ELONGATED	09/24/2001	402
SR20	IO360*	11799001	NLG	V5MR198Y3	
NOSE WHEEL PANT BRACKETS, QTY 2, FOUND WITH ELONGATED MOUNTING HOLES UNDER NORMAL USE. AIRCRAFT HAS BEEN OPERATED AS A CLUB AIRCRAFT WITH MANY TAKEOFFS AND LANDING IN LESS THAN ONE YEARS TIME. FURTHERMORE, THE MOUNTING HOLES IN THE NEW REPLACEMENT PART ARE APPRECIABLY LARGER THAN THE AN3 BOLT THAT IS SPECIFIED TO SECURE IT TO THE FORK ASSEMBLY.					
CIRRUS		BRACKET	DAMAGED	09/24/2001	54
SR22		11799001	NLG	V5MR198Y	
NOSE WHEEL PANT BRACKETS, QTY 2, FOUND WITH ELONGATED MOUNTING HOLES UNDER NORMAL USE. AIRCRAFT HAS BEEN OPERATED BY A SINGLE INDIVIDUAL WITH MINIMAL TAKEOFFS AND LANDING IN APPROXIMATELY FOUR MONTHS TIME. FURTHERMORE, THE MOUNTING HOLES IN THE NEW REPLACEMENT PART ARE LARGER THAN THE AN3 BOLT THAT IS SPECIFIED TO SECURE IT TO THE FORK ASSEMBLY. THE HOLE IS LARGER THAN .1875 OF INCH (AN3) BUT SMALLER THAN .2500 OF AN INCH. NO BUSHINGS ARE SPECIFIED IN THE MFG IPC.					
CNDAIR	GE	AILERON	FAILED	11/23/2001	10950
CL6002B19	CF343B1	60091000	AILERON	CA011128007	
(CAN) AIRCRAFT 7158 TAT:10950.5 HOURS FLIGHT 5401 FROM CINCINNATI OH (CVG) TO TOLEDO OH (TOL) ON APPROACH TO TOL "AFTER TURNING OFF THE A/P HAD A STRONG RIGHT ROLL. TRIED TO TRIM WITH LEFT WING DOWN WITHOUT ANY CHANGES TO ROLL TENDENCY. FLAPS WERE AT 20 DEGREES." NO SECUR FAULTS NOTED. FLAPS LOOKED GOOD. THERE WERE NO MESSAGES ON EICAS. SENT AVIONICS TO DOWNLOAD FDR. MAINTENANCE CONTROL ADVISES THAT THE FDR WAS DOWNLOADED AND THE AIRCRAFT RETURNED TO SERVICE. BOMBARDIER AEROSPACE REGIONAL AIRCRAFT WILL ANALYZE THE DATA FROM THE FDR DOWNLOAD AND UPDATE THE SDR.					
CONAER	LYC	CYLINDER	FAILED	01/28/2002	
C2	O360A1A	14102B	MLG	CA020205002	
(CAN) A/C C-2 SKIMMERS, BOTH UTILIZE COLONIAL STYLE MAIN UNDER CARRIAGE OLEOS. ONE OLEO PER A/C CAME APART. THE MAIN GEAR OLEOS ARE CRACKING AT LOWER END CAP TO CYLINDER (CASING) ATTACH BOLTS. WHEN THIS OCCURS, BEFORE LONG END CAP DISLODGES FROM OLEO CAUSING GEAR LEG & TRAILING DRAG ARM TO COLLAPSE. THE CRACKS IN THIS AREA HAVE ALSO BEEN FOUND ON NEWER STYLE GERDES & AEROFAB MANUFACTURED OLEOS, P/N 2-4111-11 INST ON LA-4 SERIES A/C. IF CRACKS ARE FOUND, LAKE A/C REPAIR IS TO ROTATE END CAP WITHIN CYLINDER, RE-DRILL & INST NEW HARDWARE.					
HAV	PWA	CONTROL	FRAYED	11/29/2001	
DHC2MK1	PT6A34	VALLT2CF1029R	RUDDER	CA011218009	
(CAN) FOUND THE FORWARD RUDDER CABLE TO BE SHOWING WEAR AT THE LOCATION AT THE FAIRLEAD AT STATION 8.00. THE CABLE WAS REPLACED WITH A NEW UNIT AND THE CABLE RUN WAS CHECKED THROUGH THE					
DHAV	PWA	TRANSMITTER	LEAKING	01/29/2002	
DHC2MK1	R985AN14B	TJ13	FUEL CELL	CA020129001	
(CAN) TWO FUEL TRANSMITTERS WERE FOUND TO BE LEAKING DURING ROUTINE MAINTENANCE. REFER TO FIGURE 42 OF THE DHC 2 PARTS MANUAL FOR CLARIFICATION. THE GASKET ITEM 42 WAS FOUND TO BE LEAKING BETWEEN ITEM 43 (FLANGE) AND ITEM 3 (CASE). THE GASKET THAT SEPERATED THE ITEMS APPEARED TO BE SWOLLEN AND					
DHAV	PWA	DHAV	STRUCTURE	CRACKED	01/28/2002 26981
DHC2MK1	R985AN14B	C2CF833A	C2CF1977	CONTROL COLUMN	CA020129002
(CAN) DURING INSPECTION OF CONTROL COLUMN BASE AS PER CF-84-01-R1 A CRACK WAS NOTED ON THE REAR FACING WELD FILLET. WHERE THE VERTICAL TUBE IS WELDED TO THE HORIZONTAL TUBE. THE ASSEMBLY WAS REMOVED FOR REPAIR AND A SERVICABLE UNIT WAS REINSTALLED.					
DHAV	PWA	CONTROL	FRAYED	05/16/2001	15315
DHC2MK1	R985AN14B	C2CE67A	FUEL SELECTOR	CA011211003	15315
(CAN) CABLE FRAYED WHERE IT BENDS AROUND FUEL SELECTOR PULLEY. ITEM NOTED DURING ANNUAL INSPECTION. IT IS ADVISABLE TO HAVE SOMEONE MOVE THE FUEL SELECTOR CONTROL WHILE INSPECTING TO ACCESS AS MUCH OF CABLE AS POSSIBLE AS ITS INSTALLED.					
DHAV	PWA	BOLT	SHEARED	11/26/2001	
DHC2MK1	R985AN14B	AN3C6A	ELEVATOR TRIM	CA020104001	
(CAN) DURING 100 HR INSP REMOVED PUSH/PULL ROD FOR MAINTENANCE. RE-INSTALLED PUSH / PULL ROD AT LATER TIME WITH PREVIOUSLY REMOVED HARDWARE. WORK WAS CHECKED DURING INDEPENDENT INSPECTION. BOLT WAS FOUND SHEARED THE FOLLOWING DAY AFTER SITTING OVERNIGHT IN THE HANGAR. THE BOLT HEAD HAD SHEARED CLEAN OFF AND WAS FOUND ON THE HANGAR FLOOR. PART RETURNED TO SEALAND AVIATION FOR					
DHAV	PWA	BLADE	CRACKED	01/08/2002	
DHC6300	PT6A28	3039901	COMPRESSOR	CA020129003	
(CAN) WHILE CARRYING OUT A POST LEASE INSPECTION ON THE AIRCRAFT BOTH ENGINES ARE SPLIT AT THE "C" FLANGE FOR HOT SECTION INSPECTION. DURING THE RIGHT H.S.I. THE ENGINEER NOTICED "LINES" ON SOME OF THE C.T. BLADES. NINE BLADES SEEM TO BE CRACKED. SEVEN BLADES CRACKED FROM TIP HEADING TOWARDS ROOT. TWO SEEM CRACKED ACROSS THE BLADE FROM LEADING EDGE TO TRAILING EDGE.					

DIAMON DA20A1	ROTAX ROTAX912	EXHAUST N854115	CHIPPED ENGINE	01/27/2002 CA020205001	
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(CAN) SHORTLY AFTER T/O, A PARTIAL ENGINE POWER LOSS WAS EXPERIENCED WITH ASSOCIATED ENGINE VIBRATION AND REDUCED CLIMB PERFORMANCE. THE AIRCRAFT RETURNED TO THE AIRPORT TO LAND. THE COMPRESSION WAS FOUND TO BE LOW IN THE NR 3 CYLINDER. AIR WAS FOUND TO BE LEAKING OUT THE EXHAUST. THE EXHAUST VALVE WAS FOUND TO HAVE A 1/16 IN DIA HOLE. THE VALVE HAD ALSO MADE CONTACT WITH THE PISTON. TWO FLIGHTS PRIOR TO THE INCIDENT FLIGHT THE ENGINE EXPERIENCED A SUBSTANTIAL BACKFIRE ON SHUTDOWN DUE TO SHUTTING DOWN AT HIGH POWER. IT IS UNCLEAR IF THIS CONTRIBUTED TO THE DAMAGED

GULSTM 690A	GARRTT TPE3315251K	SKIN 410008173	CRACKED VERTICAL STAB	12/03/2001 CA011210017	
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(CAN) DURING INSPECTION OF THE AIRCRAFT, CRACKS WERE NOTED ON THE VERTICAL STABILIZER SKIN. THE CRACKS WERE LOCATED AT THE FIRST FASTENER ABOVE THE DOUBLER AT THE CENTRE SPAR. THE LONGEST CRACK MEASURED .75 INCHES IN LENGTH. A X-RAY INSPECTION WAS ACCOMPLISHED IN THE AREA OF THE DOUBLER AND 2 CRACKS WERE NOTED ON THE SKIN AT THE FASTENER THAT WAS UNDERNEATH THE DOUBLER. THE DOUBLER WAS REMOVED FROM THE AIRCRAFT TO INSPECT THE AREA NO FURTHER DAMAGE WAS NOTED.

HUGHES 369D	ALLSN 250C20B	GYRO 200DC	SHORTED COCKPIT	10/29/2001 CA011116011	
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(CAN) ON FINAL FOR LANDING, PILOT AND PASSENGERS NOTICED AN ELECTRICAL SMELL, SECONDS LATER WHITE SMOKE FILLED THE CABIN COMING FROM BEHIND INSTRUMENT PANEL. ALL CIRCUIT BREAKERS WERE PULLED AND AIRCRAFT SHUT DOWN. INSPECTION REVEALED DIRECTIONAL GYRO HAD SHORTED INTERNALLY AND MELTED DOWN.

HUGHES 500N	ALLSN 250C20R2	STRUT	CRACKED MLG	12/04/2001 CA011211013	
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(CAN) CRACK FOUND ON UPPER PART OF STRUT AROUND THE BRACE ATTACHMENT HOLE.

MAULE M5235C	LYC O540*	CONTROL 317729	LOOSE RUDDER	01/16/2002 2002FA0000146	1660
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UPON LANDING, WINDS WERE DOWN RUNWAY AT 15 MPH, THE LEFT RUDDER CABLE CAME LOOSE AT AIRCRAFT NICOPRESS SLEEVE CAUSING AIRCRAFT TO GROUND LOOP. THERE WAS NO EVIDENCE OF CORROSION ON CABLE OR SLEEVE AND SLEEVE WAS PREVIOUSLY INSPECTED FOR CORRECT SWEDGE PER AD. THE AIRCRAFT IS REPAIRABLE AND WILL BE REPLACING ALL CABLES AND DOUBLING THE NUMBER OF NICOPRESS SLEEVES TO ENSURE SECURITY.

MOONEY M20C	LYC O360A1D	PROPELLER	DAMAGED FORWARD	11/06/2001 CA020116007	
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(CAN) OWNER DISCOVERED PROP WOULD NOT CYCLE AT PRE-FLIGHT INSPECTION. AIRCRAFT WAS BROUGHT TO THE SHOP AND THE SPINNER WAS REMOVED. GREASE FITTINGS WERE REMOVED AND OIL BEGAN TO RUN OUT. PROP WAS REMOVED AND SENT FOR INSPECTION.

MOONEY M20E	LYC	PINION GEAR 940024005	FAILED MLG	02/04/2002 0216	4917 90
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DURING ANNUAL INSPECTION AND AD73-21-01 COMPLIANCE, FOUND END THREE THREADS BROKEN OFF, ACTUATOR BLOCK UNABLE TO RETRACK LANDING GEAR. THREADS WERE CORRODED AND SEPERATED FROM GEAR. TIME SINCE LAST ANNUAL INSPECTION - 90 HOURS. PART NOT REPAIRABLE. REPLACED AND RETURNED TO SERVICE. AGE 25

MOONEY M20J	LYC IO360A3B6	TUBE 0354130	MISINSTALLED FUSELAGE	01/04/2002 CA020104019	
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(CAN) WHEN INTERIOR OF THE A/C WAS REMOVED IT WAS NOTICED THAT THE TUBULAR STRUCTURE WELDED JOINT ON THE LT SIDE JUST FWD OF SPAR ON DIAGONAL BRACE BELOW THE FRONT OF REAR WINDOW IS MISSING A WELD. IN THE SAME AREA NOTICED A CLUSTER GUSSETS WITH INCOMPLETE WELDS.

MTSBSI MU2B36		BOLT 030A39313	CRACKED NLG	12/05/2001 CA011221007	
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(CAN) THE NOSE LANDING GEAR DRAG STRUT ATTACH BOLT WAS FOUND CRACKED. THIS BOLT HAD BEEN MAGNETIC PARTICAL INSPECTED EVERY 2000 HOURS.

MTSBSI MU2B36	MTSBSI	LINE 017A4710127	CHAFED OIL COOLER	12/20/2001 CA011221008	
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(CAN) THE OIL LINE RUNNING FROM THE OIL COOLER WAS FOUND CHAFED BY A SCREW THAT WAS TOO LONG IN A PANEL ON THE SIDE OF THE NACELLE. THE LINE WAS REPLACED AND THE SCREW WAS REPLACED WITH A SHORTER

PIPER PA23250	LYC IO540C4B5	PIPER	SPRING 487312	BROKEN DOWNLOCK	11/21/2001 CA011130012
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(CAN) - RIGHT HAND MAIN LANDING GEAR INDICATION FAILED IN FLIGHT. - PILOT RECYCLED GEAR AND LIGHT APPEARED TO WORK. - INSPECTION REVEALED A BROKEN DOWNLOCK SPRING.

PIPER PA28140	LYC O320E2A	RIB	CORRODED TRAILING EDGE FL	12/19/2001 AUS20011456	
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(AUS) LH AND RH FLAP NOSE RIBS SEVERELY CORRODED. SUSPECT CAUSED BY DISSIMILAR METAL CONTACT BETWEEN RIBS AND HINGE BRACKETS. CORROSION WAS ALSO FOUND ON THE LOWER RUDDER RIB WHERE IT CONTACTED THE CONTROL HORN (DISSIMILAR METALS CORROSION). THE LOWER SECTION OF THE FIN AND ON THE TOP FUSELAGE SKIN UNDER THE FIN ALSO CONTAINS CORROSION. THE CORROSION ON THE FUSELAGE SKIN AND IN THE FIN WAS CAUSED PRIMARILY BY THE ACCUMULATION OF DEBRIS IN THE LOWER HALF OF THE FIN (MUD, WASPS NESTS) THAT ALLOWED PROLONGED MOISTURE CONTACT IN THIS AREA. THE AIRCRAFT IS LOCATED IN A CORROSIVE SEACOAST

PIPER PA28140	LYC O320E2A	SPAR	CORRODED WING SPAR	12/19/2001 AUS20011457	
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(AUS) LH AND RH WING REAR SPAR ATTACHMENT POINTS CORRODED AS DESCRIBED IN AD/PA28/40. INSPECTION WAS CARRIED OUT IAW AD/PA28/40 WHICH WAS NOT DUE FOR ANOTHER TWO YEARS.

PIPER PA31325	LYC LTIO540F2BD	COMBUSTION	BURNED HEATER	12/21/2001 CA020109006	
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(CAN) PILOT SMELLED FUMES IN THE CABIN. HE SHUT OFF THE JANITROL HEATER. HEATER WAS REMOVED AND INSPECTED FOUND A HOLE BURNED THROUGH COMBUSTION TUBE. INSTALLED NEW OVERHAULED HEATER.

PIPER PA31350	LYC LTIO540J2BD	LYC LTIO540J2BD	CRANKSHAFT 13F17751	SHEARED RECIPROCATING	12/15/2001 AUS20011411
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(AUS) ENGINE CRANKSHAFT SHEARED AT NO6 BEARING JOURNAL. INTERNAL DAMAGE TO ENGINE.

PIPER PA31350	LYC TIO540J2BD	LINE 4083300	BROKEN HYD POWERPACK	11/20/2001 CA011128018	
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(CAN) ON APPROACH PILOT SELECTED GEAR DOWN WITH NO INDICATION OF ANY MOVEMENT OF THE GEAR. MANUALLY HAND PUMPED GEAR WITH NO SUCCESS. AFTER SEVERAL ATTEMPTS AND BURNING OFF EXCESS FUEL MADE A GEAR UP LANDING WITH NO DIFFICULTY. ON INSPECTION FOUND THE GEAR DOWN LINE AT THE POWER PACK BROKEN AT THE FLARE. REPAIRED LINE INSTALLED AND GEAR FUNCTIONED NORMALLY AFTER FILLING WITH

PIPER	PWA	CLEVELANDXXX	HYDRAULIC	CONTAMINATED	01/23/2002	
PA31T2	PT6A135	30142	41	FLUID	CA020125001	

(CAN) LEFT BRAKE WAS DRAGGING DURING AIRCRAFT TAXIING. THE AIRCRAFT WAS TOWED TO HANGAR WHERE THE BRAKE SYSTEM WAS FOUND WORKING NORMALLY. THE BRAKE SYSTEM (CALIPER & MASTER CYLINDER) WAS DISASSEMBLED AND WATER CONTAMINATION WAS FOUND PRESENT IN THE HYDRAULIC FLUID. SYTEM WAS DRAINED, CLEANED AND REPLENISHED WITH NEW HYDRAULIC FLUID. NEW O-RINGS WERE INSTALLED. THE BRAKE SYSTEM WAS BLED AND TESTED OK.

PIPER	LYC		SPAR	CORRODED	01/19/2002	3679
PA32260	O540E4B5		6205401	RT WING	HO1R15248	

DURING ANNUAL INSPECTION THE RIGHT WING AFT ATTACH FITTING OUTBOARD OF THE FUSELAGE AND AFT WING SPAR WERE FOUND TO EXHIBIT DISSIMILAR METAL CORROSION BETWEEN THE STEEL ATTACH FITTING AND THE REAR SPAR. THE AFT SPAR WAS CORRODED TO THE POINT WHERE A CRACK HAD DEVELOPED IN THE REAR SPAR. CRACK WAS NOT FOUND UNTIL STEEL ATTACH FITTING WAS REMOVED FOR HIDDEN DAMAGE INSPECTION.

PIPER	LYC		FITTING	CRACKED	01/16/2002	
PA36375	IO720D1C		97101301	FUSELAGE	AUS20020033	

(AUS) RT FRONT SPAR ATTACHMENT FITTING ON FUSELAGE LOCATED AT RT STN 124.250 CRACKED IN REAR LAMINATE. CRACK LENGTH 10MM (0.39IN).

PIPER	PWA		PUMP	STRIPPED	12/14/2001	
PA42	PT6A41		025323300	FUEL SYS	CA020108003	

(CAN) ENGINE SHUT DOWN IN CRUISE FLIGHT. AIRCRAFT MADE AN UNSCHEDULED LANDING TROUBLESHOOTING REVEALED NO FUEL FLOW TODIVIDER. HIGH PRESSURE FUEL PUMP REMOVED. FUEL PUMP SPLINES FUND TO BE STRIPPED. PUMP REPLACED.

PIPER			SHUTOFF VALVE	LEAKING	01/30/2002	474
PA44180			484180	HEATER	2002FA0000148	

CREW REPORTED FUEL FUMES IN COCKPIT WHEN HEATER SELECTED ON. SUBSEQUENT INSPECTION REVEALED THAT FUEL REGULATOR AND SHUTOFF VALVE WAS LEAKING.

PIPER			HYDRAULIC	CONTAMINATED	01/16/2002	
PA44180				MAIN SYSTEM	CA020122002	

(CAN) DURING THE TRAINING FLIGHT THE PILOT NOTICED THE GEAR UNSAFE LIGHT WAS STILL ILLUMINATED. NOTICED THE NOSE LANDING GEAR ONLY PARTIALLY RETRACTED, HE SELECTED GEAR DOWN AND THE 3 GEAR DOWN INDICATION LIGHTS ILLUMINATED WITH GEAR UNSAFE LIGHT EXTINGUISHED. PILOT LANDED THE AIRCRAFT WITHOUT INCIDENT. A VISUAL CHECK OF THE HYDRAULIC FLUID LEVEL IN THE UNDERCARRIAGE HYDRAULIC PUMP RESERVOIR SHOWED THAT THE QUANTITY LEVEL BELOW LIMITS AND THE FLUID WAS VERY DARK IN COLOUR. THE HYDRAULIC PUMP AND MOTOR ASSEMBLY WERE DRAINED, FLUSHED WITH CLEAN NEW FLUID. THE HYDRAULIC PUMP AND MOTOR ASSEMBLY WERE REINSTALLED AND FLUID LEVEL TOPPED UP AND TEST CHECKED WITHOUT

PIPER	LYC		DOOR FRAME	CRACKED	01/14/2002	11790
PA44180	O360E1A6		76467003	FUSELAGE	CA020125005	

(CAN) THE INNER DOOR FRAME WAS FOUND CRACKED ALSO THE OUTER FRAME OF FUSELAGE SKIN WAS CRACKED. THE INNER FRAME WAS REPLACED. THE OUTER FRAME WAS CLEANED OF CORROSION TREATED AND ZING CHROMATED. THE OUTER CRACK WAS STOP DRILLED USING 7/64 INCH DIA STOP DRILL HOLE.NOTE: THE OUTER SKIN CRACK WILL BE MONITORED IF IT EXTENDS BEYOND STOP DRILL HOLES IT WILL HAVETO BE REPLACED. NOTE: P/N & DESCRIPTION FOUND IN PARTS MANUAL FIGURE 10-31.

PIPER	LYC		COLLAR	CRACKED	01/02/2002	
PA60600	IO540K1F5			MLG	CA020104006	

(CAN) PILOT LANDED NORMAL: WHILE ROLLING ON RUNWAY AIRCRAF WENT RIGHT AND PILOT HAS A HARD TIME CONTROLLING AIRCRAFT BUT MANAGED TO GET AIRCRAFT STOPPED. SHUT DOWN ENGINES AND GOT OUT TO INVESTIGATE; NOTICED RIGHT MAIN GEAR TIRE 90 DEGREESFROM NORMAL WITH HELP GOT AIRCRAFT TO TARMAC.UNABLE TO GIVE PART NUMBER AS THERE IS NO FURTHER BREAKDOWN IN PARTS MANUAL.

PIPER			RIB	CRACKED	12/18/2001	
PA60601			22000000	VERTICAL STAB	2002FA0000150	

DURING ANNUAL INSPECTION THE VERTICAL STABILIZER LOWER FORWARD RIB WAS FOUND CRACKED AT THE 90 DEGREE BEND ADJACENT TO THE FORWARD SPAR. THIS AREA NEEDS CLOSE INSPECTION. 10X MAGNIFYING GLASS

ROBSIN	LYC		GEARBOX	MAKING METAL	11/01/2001	
R22BETA	O320B2C		A0061	MAIN ROTOR	CA011217019	

(CAN) OCT23 AT 1290 HRS M/R OIL CHANGED (500 HR CHANGE. OCT 30 IN CRUISE FLIGHT MAIN ROTOR CHIP LIGHT -M/R CHIP PLUG REMOVED AND CLEANED OCT 31. OCT 31 MADE ANOTHER FLIGHT 1.1 HRS NO CHIP LIGHT. NOV.1 ON START UP CHIP LIGHT ON M/R AGAIN. SHUT-DOWN AND INSPECTED-FOUND NUMEROUS CHIPS AGAIN. M/R TRANSSION REMOVED AND SENT TO ROBINSON FOR REPAIR OVERHAUL WAS REQUIRED. NO REPORT ON WHAT PART FAILED.

ROBSIN			BUNGEE	FAILED	12/18/2001	
R44				CYCLIC	CA011220003	

(CAN) PLIOT COMPLAINED OF HEAVY AFT CYCLIC FORCES.INVESTIGATION REVEALED CYCLIC BUNGEE TO BE DISCONNECTED FROM AFT ATTACH POINT ON PUSH ROD P/N C121-9 AT C317-1 BELLCRANK. SUSPECT DISCONNECTION IS DUE TO COLD OPERATING ENVIRONMENT AT THIS TIME. LOCAL TEMERATURES REACHED BELOW -25 DEGREES C.BUNGEE MATERIAL MAY STIFFEN WHEN COLD CAUSING A LOS OF ELASTICITY AND ALLOWING THE DISCONNECTION. THIS AIRCRAFT HAS THE UPDATED STYLE BUNGEE ATTACHMENT CLIP. STYLE BUNGEE ATTACHMENT CLIP.

ROBSIN	LYC		RETAINER	CRACKED	01/21/2002	
R44	O540F1B5		C1683	M/R CLUTCH	CA020122005	

(CAN) CLUTCH WAS REMOVED FROM SERVICE DUE TO OIL LEAK.INVESTIGATION REVEALED THAT SEAL RETAINER PLATE EAR APPEARRED TOBE CRACKED. RETAINER WAS REMOVED AND EAR WAS FOUND TO BE NO LONGER ATTACHED TO RETAINER PLATE.NO OTHER CRACKS COULD BEFOUND IN RETAINER PLATE OR ON OPPOSITE RETAINER. RETAINER PLATE WILL BE REPLACED WITH NEW.

SKRSKY	ALLSN	ABEX	SHAFT	SHEARED	01/22/2002	
S76A	250C30			HYD PUMP	CA020123004	

(CAN) INFLIGHT INDICATION OF PRESSURE LOSS NR 1 SYSTEM. INSPECTION REVEALED PUMP SHAFT SHEARED AND BRASS PARTICLES IN FILTER.

SKRSKY	TMECA		LINE	CHAFED	12/09/2001	
S76A	ARRIEL1S1		7665103004073	HYD SYSTEM	CA011219009	

(CAN) DURING POST FLIGHT WALK AROUND FLIGHT CREW NOTICED HYD FLUID LEAKING OUT OF COWLING. COWL WAS REMOVED. HYD RESEVOIR WAS 1/2 FULL AND A/C GROUND RUN A LEAK WAS DETECTED UNDER A CLAMP OF NR 2 SYSTEM PRESSURE LINE. THE LINE WAS REPLACEDWITH A NEW PART, NR 2 SYSTEM HYD OIL TOPPED UP TO FULL MARK. A/C GROUND RUN & LEAK CHECKED SERVICEABLE & RETURNED TO SERVICE.

SNIAS	TMECA		ADJUSTER	CRACKED	01/25/2002	
AS332L	MAKILA1A			ANTITORQUE	CA020125007	

(CAN) PEDAL ADJUSTER LOCATION PIN SUPPORT CRACKED CAUSING THE PEDAL ADJUSTER LEVER TO BE UNMOVEABLE AND THE PEDALS UNADJUSTABLE.

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SNIAS	TMECA	AEROSP	RIB	CRACKED	01/02/2002	
AS332L	MAKILA1A	332A131500	332A1315001151	HORIZONTAL	AUS20020004	

(AUS) HORIZONTAL STABILISER ROOT RIB ASSEMBLY CRACKED BEYOND LIMITS.

SNIAS	TMECA		BLADE	CRACKED	12/11/2001	
AS350B3	ARRIEL2B			TAIL ROTOR	CA020102001	

(CAN) 35 MM CRACK IN BLADE SKIN ON TAIL ROTOR.

SNIAS	LYC		SEAL	DESTROYED	12/13/2001	
AS350BA	LTS101600A3		350A070867	COMPRESSOR	CA020103006	

(CAN) A/C IN CRUISE. FLYING IN SNOW, VISIBILITY 1 MILE, TEMP -2 DEGS. ON 1ST FLT OF DAY. AFTER 25 MIN FROM TAKEOFF, A/CHAD LIGHT COMPRESSOR STALL. THEN HAS A SERIES OF LARGE ONES. HAD SOME RPM DROP. ON INSPECTION AFTER LDG. FOUND 2 OF INTAKE SEALS INCLUDING RETAINING STRIPS & CLIPS IN INTAKE BOX. ONE RETAINING STRIP & CLIPS & ALSO ONE RUBBER SEAL MISSING. AXIALCOMPRESSOR WHEEL BLADES ARE SEVERELY DAMAGED. ENGINE IS PRESENTLY REMOVED.

URO COP	TMECA		NOZZLE	BURNED	01/17/2002	200
EC120B	ARRIU2F		319307840	TURBINE SECTION	2002FA0000142	

ENGINE WOULD NOT START. REPLACED START NOZZLES (START-INJECTORS). POSSIBLE CAUSE: FUEL BURNED IN NOZZLE AT END OF START CYCLE.

ZLIN	LYC		CAMSHAFT	WORN	11/30/2001	
Z242L	AEIO360A1B6		LW18840	ENGINE	CA011217018	

(CAN) DURING SCHEDULED 50 HOUR INSPECTION THAT CONTAINED TASKS REQUIRED TO COMPLY WITH THE ENGINE ON THE CONDITIONS PROGRAM ESTABLISHED FOR THE ENGINE BEING INSPECTED, A MODERATE AMOUNT OF VERY SMALL METAL PARTICLES WERE FOUND IN THE OIL FILTER ELEMENT DURING INSPECTION. NUMBER ONE CYLINDER WAS REMOVED IN ORDER TO INVESTIGATE THE SOURCE OF THE SOURCE OF THE METAL CONTAMINATION. WITH THE CYLINDER REMOVED IT WAS OBSERVED THAT THE FRONT LOBE OF THE ENGINE CAM SHAFT WAS WORN ABNORMALLY AND THE CAM FOLLOWER WAS VERY BADLY SPALLED. THE ENGINE WAS REMOVED FROM THE AIRCRAFT AND SENT.

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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
<b>MALFUNCTION OR DEFECT REPORT</b>		ATA Code				
		1. A/C Reg. No. N-				
Enter pertinent data	MANUFACTURER	MODEL/SERIES	SERIAL NUMBER		OTHER	
2.	AIRCRAFT				COMPUTER	
3.	POWERPLANT				FAA	
4.	PROPELLER				MFG.	
5. SPECIFIC PART (of component) CAUSING TROUBLE					AIR TAXI	
Part Name	MFG. Model or Part No.	Serial No.	Part/Defect Location.		MECH.	
					OPER.	
6. APPLIANCE/COMPONENT (Assembly that includes part)					REP. STA.	
Comp/Appl Name	Manufacturer	Model or Part No.	Serial Number		SUBMITTED BY:	
					TELEPHONE NUMBER: ( ) —	
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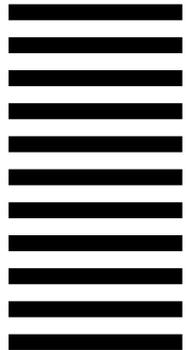
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