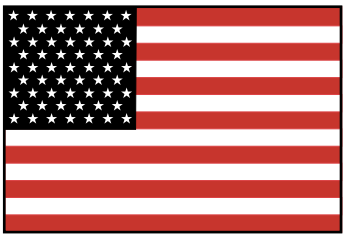
U.S. Department
of Transportation
**Federal Aviation
Administration**

AFS-600
Regulatory Support Division

ADVISORY CIRCULAR
43–16A

AVIATION MAINTENANCE ALERTS



ALERT
NUMBER
275

JUNE
2001

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

AVIATION MAINTENANCE ALERTS

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

NOTE CONCERNING UNAPPROVED PARTS NOTIFICATIONS

The Unapproved Parts Notifications (UPN) are issued by the FAA, Suspected Unapproved Parts Program Office, AVR-20, and published by the Airworthiness Programs Branch, AFS-610. *Each UPN is published as it was received.*

Any questions or comments concerning a UPN should be directed to the originating FAA office listed in each UPN. A complete listing of UPNs is found on the Internet at: <http://www.faa.gov/avr/sups.htm>.

UNAPPROVED PARTS NOTIFICATION

UNAPPROVED PARTS NOTIFICATION NO. 1998-00233
DATED APRIL 12, 2001

AFFECTED PARTS
Heat-treated aluminum parts.

INTRODUCTION
The purpose of this notification is to advise all aircraft owners and operators, maintenance organizations, manufacturers, and parts distributors regarding aluminum parts that have been improperly heat-treated.

BACKGROUND
Information received during a Federal Aviation Administration (FAA) suspected unapproved parts investigation indicated that West Coast Aluminum Heat Treat (WCAHT), formerly located at 14365 Macaw St., La Mirada, CA 90638, had improperly heat-treated numerous aluminum parts having aviation applications. WCAHT was engaged in the business of heat-treating all stages of aluminum parts, many of which were used in a wide variety of military and commercial aircraft applications. WCAHT was approved to perform heat-treating for many production approval holders. The investigation disclosed that from 1981 to March 1997, WCAHT improperly heat-treated and falsified quality testing on parts that are

used in various type-certificated aircraft. The FAA observed re-testing of some parts identified as having been heat-treated by WCAHT. The test results indicated that some parts did not meet the hardness and/or conductivity requirements.

The listing of the affected part numbers (12,000 plus distinct parts) can be viewed at the following Internet URL: http://www.faa.gov/avr/sups/heat_treated.htm

RECOMMENDATIONS
Regulations require that type-certificated products conform to their type design. Aircraft owners and operators, manufacturers, maintenance organizations, and parts distributors are encouraged to inspect their aircraft and/or aircraft parts inventory for the identified part numbers. Parts that cannot be determined to conform to the approved type design should be considered suspect and appropriate action taken. The parts in question do not display any external readily identifiable features or markings to distinguish them from properly heat-treated parts; therefore, documentation associated with parts should be reviewed to determine the source of heat-treating. Parts heat-treated by WCAHT may require hardness and/or conductivity testing.

FURTHER INFORMATION
The FAA Certificate Management Office – Boeing (CMO) listed below would appreciate any information that you could provide concerning the discovery of these parts from any source, the means used to identify the source, and the actions taken to remove the parts from aircraft and/or stock. This notice originated from the FAA Transport Airplane Directorate Certificate Management Office – Boeing, Suite C-2, 2500 East Valley Road, Renton, WA 98055-4056, telephone (425) 227-2170, fax (425) 227-1159; and was published through the FAA Suspected Unapproved Parts Program Office, AVR-20, telephone (703) 661-0581, fax (703) 661-0113.

The following SAIB was submitted for publication by the FAA, Engine and Propeller Standards Staff (ANE-110) located in Burlington, Massachusetts, and appears as it was received.

SPECIAL AIRWORTHINESS INFORMATION BULLETIN (SAIB)

SAIB NO. NE-01-20 DATED APRIL 6, 2001

The SAIBs are placed on the internet at “av-info.faa.gov”

This is information only. Recommendations are not mandatory.

INTRODUCTION
This Special Airworthiness Information Bulletin (SAIB) alerts you, an owner or operator, repair station, or Flight Standards District Office (FSDO) of the Air BP purchase of FAA approved Exxon turbine engine oil products. Air BP purchased the approved oil formulations and manufacturing facilities utilized to produce these aviation oils from Exxon. The FAA has determined that the Air BP Turbo Oils listed in this SAIB are identical to the approved Exxon Turbo Oils (ETO) and should be considered acceptable for use on aircraft turbine engines and accessories.

BACKGROUND
On January 4, 2001, Air BP purchased the Exxon Jet Turbine Oil business assets. However, ExxonMobil retained their piston engine oil business including the carry over of ExxonMobil brand

names. The acquisition includes all of the ETO assets and production plant. Air BP will continue to produce the turbine engine oil products at the production plant, using the identical formulations, processes, basestocks, and additives (including the same material sources) as the approved ETO products. The Department of Navy recently approved adding the BP Turbo Oil brand names corresponding to the existing approved ETO products to the Navy Qualified Products List (QPL). The ETO brand names will remain on the Navy QPL for several years to allow time for users to consume current oil stocks.

RECOMMENDATIONS

We recommend that you consider the following Air BP Turbo Oil products to be identical to the corresponding ETO products when determining acceptability for use on aircraft engines and accessories:

BP TURBO OIL	CORRESPONDING ETO	APPLICABLE QPLs
BPTO 2197	ETO 2197	QPL-23699-18
BPTO 2380	ETO 2380	QPL-23699-18 91-101/2 (DERD 2499)
BPTO 2389	ETO 2389	QPL-7808-38
BPTO 25	ETO 25	QPL-85734 91-100/2 (DERD 2497)
BPTO 274	ETO 274	91-98/2 (DERD 2487)
BPTO AERO-D	ETO AERO-D	QPL-23699-18

FOR FURTHER INFORMATION CONTACT:

Mark Rumizen, ANE-110, 12 New England Executive Park, Burlington, MA 01803; telephone: (781) 238-7113; fax: (781) 238-7199; email: mark.rumizen@faa.gov.

AIRPLANES

BEECH

Beech; Model C24R; Sierra; Nose Landing Gear Failure; ATA 3230

During a training flight, the instructor attempted to demonstrate the emergency landing gear extension system; however, the nose gear failed to fully extend. After he closed the emergency extension valve and attempted to extend the gear using the normal system, the nose gear still would not fully extend. He landed the aircraft with the nose gear in an intermittent position.

Maintenance personnel placed the aircraft on jacks but could not get the nose gear to fully extend using the normal or emergency systems. The technician discovered the emergency gear extension valve (P/N 169-380-104) was “unseated” which caused a loss of hydraulic system pressure. Due to the high operating time and cycles, the valve displayed wear and there was no “stop” position for fully open and closed.

Original part total time-1,967 hours.

Beech; Model A-36; Bonanza; Wing Flap System Failure; ATA 2750

During a landing approach, the pilot selected the wing flaps to the "14-degree" position, and the flaps ran to the full "down" position and could not be retracted. After a safe landing, he reported this incident to a maintenance shop.

The technician discovered the 14-degree limit switch (P/N BZ3AT) was defective. This defect allowed the flap motor to drive the flaps all the way down, and the motor continued to run the flaps past the down stop. The motor, wiring, and relay were overheated and failed without opening the wing flap control circuit breaker.

The submitter recommended the manufacturer design a flap system modification that will not allow failure of the 14-degree limit switch to bypass the down limit switch. This type of component failure prevents the pilot from retracting the wing flaps in flight.

Flap motor time since overhaul-847 hours.

Beech; Model B55; Baron; Wing Flap Failure; ATA 5752

The aircraft owner asked a maintenance technician to investigate and repair the wing flap system. He reported the flap control circuit breaker opened when the flaps were actuated.

The technician isolated the flap motor (P/N D160-00-3) and found that it was inoperative. There were three flap motors involved in this report and for clarity, they are referred to as number 1, number 2, and number 3. Number 1 is the original flap motor, number 2 is a new flap motor obtained from a vendor, and number 3 is an overhauled motor obtained from a repair station.

The technician obtained and installed flap motor number 2, which worked satisfactorily on the ground, but failed during a flight test. After removing motor number 2 and obtaining flap motor number 3, he noticed the data plate on each motor was identical except for one item. The data plate on motor number 2 indicated it was rated at 11.5 amps. The data plate on motor number 3 indicated it was rated at 5 amps. He installed motor number 3, and it operated properly through all parameters of operation. Even though motor number 3, identified as 5 amps, operated correctly, an FAA Suspected Unapproved Parts investigation determined the proper motor for this installation is the 11.5 amps motor. It should be noted that except for the amperage rating, the data plate on all three motors indicated the same part number. The origin of the 5 amp data plates could not be determined.

The total time for the original flap motor was not reported.

Beech; Model 58; Baron; Poor Engine Operation; ATA 2810

The pilot delivered the aircraft to the maintenance shop with a report that the left engine would not attain full takeoff power.

A technician investigating the problem discovered the fuel supply to the left engine was contaminated with water. After de-fueling and purging the tanks, an operational test confirmed the problem was solved.

The submitter believes the water entered the fuel system through the fuel cap due to defective "O-ring" seal. He cautioned all maintenance personnel to check the fuel cap "O-rings" closely during scheduled inspections and maintenance.

Part total time not reported.

Beech; Model 99; Airliner; Elevator Hinge Wear; ATA 5520

During a scheduled inspection, the technician discovered excessive wear on the left elevator hinges.

The middle hinge point was worn and elongated. Also, the outboard hinge exhibited some wear requiring the technician to replace both hinges. He speculated the hinge wear occurred when the pivot bolts were not properly torqued during the previous installation. If the bolt is not properly torqued to the bushings, it can allow space between the hinge plates and contribute to excessive vibration and wear.

The submitter suggested checking the hinge bolts for proper torque and security during scheduled inspections.

Part total time not reported.

Beech; Model 99; Airliner; Empennage Structural Defect; ATA 5510

While conducting maintenance, a technician discovered a structural defect on the horizontal stabilizer.

The technician found the left horizontal stabilizer tip rib was cracked. In accordance with the manufacturer's technical data, he repaired the damage and returned the aircraft to service.

The submitter stated this is a common defect on like aircraft. He believes it is caused by vibration-induced fatigue cracking. For some unknown reason, this type of damage is found on the left side of the horizontal stabilizer and is manifested by cracking and/or loose rivets. He believes improper propeller and/or flight control balancing may cause unusual vibration harmonics. He recommended that all operators conduct more frequent propeller and flight control balance checks.

Part total time-32,041 hours.

Beech; Model 200; King Air; Horizontal Stabilizer Security; ATA 5551

While completing an unrelated repair, a technician noticed the left horizontal stabilizer attachment bracket was cracked.

The attachment bracket (P/N 101-640012-3) secures the horizontal stabilizer to the vertical fin. The bracket was cracked at the lower fastener (Huck-bolt) hole. The bracket location makes inspection very difficult. The submitter suggested removing the access panel on top of the horizontal stabilizer that is used to mount the rotating beacon. With the access panel removed, it is possible to inspect the bracket using a light and mirror.

The cause for this defect could not be determined; however, the submitter speculated that improper shimming and/or fastener torque might have caused this defect. He recommended giving the bracket and surrounding area close attention during scheduled inspections.

Part total time-6,914 hours.

Beech; Model 200; King Air; Main Landing Gear Down-Lock Failure; ATA 3230

After an incident involving the collapse of both main landing gear, the aircraft was placed in a maintenance hangar for an inspection to determine the cause.

While inspecting the main landing, a technician removed and disassembled the down-lock assemblies. He found both down-lock pins (P/N 50810343-7) were worn approximately .002 inch beyond the limit. The holes in both links were scratched laterally around the inside circumference. This indicates the lock-pins rotated inside the link holes.

The submitter recommended disassembling and inspecting the hook and link assemblies every 6 years or 8,000 landings.

Part total time not reported.

Beech; Model 200; King Air; Engine Failure; ATA 7314

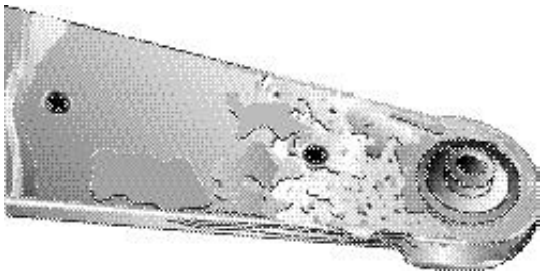
After returning from a flight, the pilot reported the left engine flamed out, the restart procedures failed, and he made a single-engine landing.

A technician discovered the high-pressure fuel pump (P/N 025323-300-02) drive shaft was broken. There was no metal in the oil filter, and the fuel control unit drains were not leaking. At the time of this report, the submitter had not determined a cause for the pump shaft failure. If further information is received, it will be presented in a future edition of this publication.

Part total time since overhaul-873 hours.

Beech; Model 1900; Commuter; Flight Control Damage; ATA 5552

During a scheduled inspection, the inspector discovered an elevator hinge bracket was corroded.



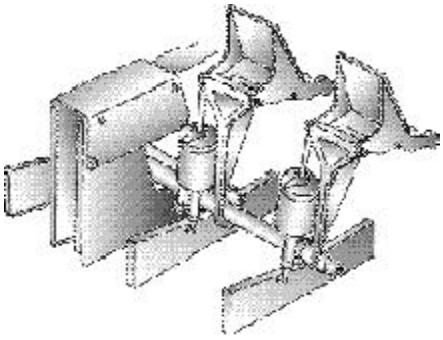
The hinge bracket (P/N 101-620011-3) was severely corroded, and the base metal was exfoliating. (Refer to the illustration.) The owner operates a fleet of five like aircraft. After this finding, he inspected all five aircraft, and four aircraft displayed similar defects. He recommended that other operators of like aircraft conduct a one-time inspection of their aircraft for similar damage.

Part total time not reported.

CESSNA

Cessna; Model 150G; Rudder Pedal Wear; ATA 2720

During an annual inspection, the technician found excessive wear associated with the pilot's rudder pedals.



The left side rudder pedal shafts (P/N's 1460501-21 and 0411778-2) were severely worn where the pins (P/N's MS24665-285 and MS20302-2C13) pass through to retain the shafts. (Refer to the illustration.)

The submitter stated he has found this type of wear on many occasions, and it is evident to him that this item is being overlooked during annual inspections.

Part total time-5,790 hours.

Cessna; Model 172S; Skyhawk; Poor Engine Performance; ATA 7320

The aircraft owner contacted a repair shop and reported the engine performance was deteriorating.

After an engine operational test, the technician cleaned the fuel servo and the injectors and conducted another engine run. Performance was slightly improved, but the engine still backfired between 1,300 and 1,500 RPM. He removed, inspected, and cleaned the fuel distribution valve and discovered a small amount of lint was partially blocking the passage at the port for the number 3 cylinder. After removing the lint, engine performance returned to normal.

The submitter speculated this problem may occur while cleaning of the fuel tanks during assembly of the aircraft.

Part total time-666 hours.

Cessna; Model 172S; Skyhawk; Defective Seat Position Mechanism; ATA 5347

After a flight, the pilot reported he was not able to reposition his seat.

While inspecting the pilot's seat assembly, the technician discovered the lock control (P/N 1611021-05) was broken which prevented the seat locking pins from retracting. This was the second failure of the seat locking mechanism since the aircraft was new. Also, the copilot's seat locking mechanism on this aircraft had broken twice in the past.

It is suggested that the seat locking assembly may not be strong enough to bear the imposed loads.

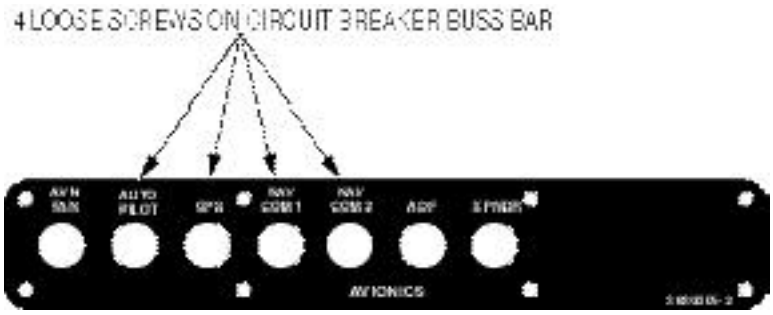
Part total time-431 hours.

Cessna; Model 172S; Skyhawk; Electrical Component Anomalies; ATA 2400

The pilot returned from a flight and reported the number 1 "Comm/Nav" was intermittent, and the transponder was inoperative.

A technician bench-checked, repaired, and reinstalled the components. After the next flight, the pilot reported the number 2 "Comm/Nav" intermittently lost electrical power, and the intercom did not work.

After some indepth troubleshooting, the technician found the "Audio Panel" communications selector was inoperative. He discovered four loose screws on the "Avionics" bus bar caused these electrical system anomalies. There was evidence of severe electrical arcing adjacent to each of the four screws. The loose screws were used to attach the "Auto-Pilot," "GPS," and "Nav/Com" 1 and 2 circuit breakers to the bus bar. (Refer to the illustration.)



The submitter stated there had been no electrical system installations or maintenance performed since the aircraft was delivered new. The "Avionics" bus bar is located behind the main wiring harness and is very difficult to inspect. He recommended that all operators of new like aircraft conduct a one-time inspection for the condition described here.

Aircraft total time-967 hours.

Cessna; Model 177RG; Cardinal; Main Landing Gear Failures; ATA 3230

The following article was submitted for publication by the FAA, Aircraft Certification Office (ACE-115) located in Wichita, Kansas, and appears as it was received. This information was the subject of FAA Safety Recommendation 00.284.

The FAA continues to receive reports that the main landing gear (MLG) actuator rod end bearings (P/N S2049-6FG) fail on these aircraft. The failures occur at the hole for the lubrication zerk fitting.

On August 13, 1979, Cessna issued an Owner Care Advisory, SE79-37A, recommending that these parts be replaced with a new rod end bearing (P/N S2426-6). The newer part was strengthened, used a sealed bearing, and eliminated the hole for the lubrication zerk fitting. Since then, this part has been superceded with another rod end bearing (P/N S3469-1), which is similar to the other bearing (P/N S2426-6) except that it goes through an additional inspection before leaving the factory. Thus, if rod end bearing (P/N S2426-6) is installed, replacement may not be necessary. However, the rod end bearing (P/N S2426-6) should be carefully inspected during annual inspections and/or as required by Cessna service procedures. Thirteen Service Difficulty Reports (SDR), concerning this subject, were received between 1979 and 1998, and 5 accident/incident reports were dated between 1979 and 1989. All of these reports indicated the rod end bearing (P/N S2426-6) was broken.

Between 1977 and 2001, 30 SDR's reported broken rod end bearings (P/N S2049-6FG). Between 1978 and 1987, FAA records show 10 accident/incidents associated with broken rod end bearings (P/N S2049-6FG). The diminishing occurrences suggest that a large percentage of these aircraft have had this part replaced. No failures have been reported for rod end bearing (P/N 3469-1).

The submitter recommended that the rod end bearing (P/N S2049-6FG) be replaced with the replacement rod end bearing (P/N S3469-1) as soon as possible.

Part total time not applicable.

Cessna; Model R182; Skylane RG; Defective Elevator Trim System; ATA 2731

During a flight, the pilot found the pitch trim could not be adjusted for straight-and-level flight. He landed the aircraft safely and turned the aircraft over to maintenance personnel.

A technician discovered the elevator trim tab was not making full travel to the nose-down or tab-up position. After checking further, he found the elevator trim tab actuator (P/N 1260074-1) sprocket was spinning on the shaft because one of the two "groove" pins (P/N 31324.375 Type 3) was missing and the other was broken.

The submitter suggested carefully inspecting the pins for condition each 100-hours of operation.

Part total time-5,536 hours.

Cessna; Models 190 and 195; Aileron Hinge Bracket Defect; ATA 2710

While conducting an annual inspection, the technician discovered severe corrosion on an aileron hinge bracket.

The inboard aileron hinge bracket (P/N 0322709-1) is made of magnesium, and the submitter stated it is common to find corrosion and cracking associated with the bracket. The damage usually appears on the "foot" used to attach the bracket, as well as adjacent to the main bearing boss.

The submitter suggested removing the paint and subjecting these brackets to a "dye-penetrant" inspection, during each annual inspection. There is a Supplemental Type Certificate (STC) that provides aluminum replacement brackets for this application.

Part total time-3,800 hours.

Cessna; Model 402B; Businessliner; Wing Skin Cracks; ATA 5730

During a scheduled inspection, the technician discovered cracks in the upper wing skins.

Both the left and right upper wing skins (P/N 0822000-9) were cracked at approximately wing station (WS) 57.5. The cracks were typically 5 to 6 inches long. Also, the damage was just forward of the wing baggage locker and aft of the firewall adjacent to the center rib location. The nacelle panel covers this area, and the technician discovered the damage from the wheel well.

The landing gear side braces attach to the rib in this area, and the submitter believes hard landings and metal fatigue caused the cracks.

Part total time-9,523 hours.

Cessna; Model 550; Citation; Inoperative Rotating Beacon; ATA 3340

The owner delivered the aircraft to a repair station and reported the rotating beacon was inoperative.

A technician inspected the system and found the rotating beacon (P/N Grimes 40-0100-27) lamps were installed incorrectly. Since the lamps were "canted" sideways, they rubbed against the glass lens. The binding action produced an abnormal load on the light motor, which caused it to fail.

It was suggested that care be taken when installing the lamps to prevent interference.

Part total time not reported.

Cessna; Model 560; Citation; Flight Control Cable Interference; ATA 2710

While conducting a scheduled inspection, the technician discovered aileron cable interference.

When the aileron's control system was operated with the elevator control (control column) full nose up (back), the aileron balance cable chafed hard against a hydraulic line. The hydraulic line supplies pressure to retract the landing gear, and the point of interference is under the copilot's floor panel.

Continued use, without correction of this defect, could cause failure of the aileron balance cable and/or the landing gear hydraulic line. The technician found it necessary to re-form the hydraulic line to provide adequate clearance for the aileron cable. He suggested that other operators of like aircraft check for the presence of this defect during scheduled inspections.

Part total time-1,194 hours.

CIRRUS

Cirrus; Model SR-20; Flight Control Binding; ATA 2730

While preparing for takeoff on the end of the runway, the pilot checked the flight controls for proper deflection and found the elevator down authority could not be achieved using normal control pressure. He taxied the aircraft back to the ramp and asked a repair shop to check the problem.

A technician found the elevator control was binding in the pitch trim cartridge assembly (P/N 10680-003). Further investigation revealed the binding was caused by foreign object intrusion into the pitch trim cartridge. He discovered a single cotter pin tailing entered through the "cutout opening" for the pitch trim cartridge.

The submitter speculated the cotter pin tailing lodged in the aft spring retainer when the nose-up position was tested and prevented it from returning when nose-down position input was initiated.

Part total time-1,196 hours.

DASSAULT

Dassault; Model 20; Falcon; Electrical System Defect; ATA 2140

During a landing approach, the flightcrew detected an electrical burning odor and saw smoke in the cockpit. The smoke seemed to come from the pilot's side panel near the oxygen mask box. The pilot made a safe landing and summoned maintenance technicians to investigate the problem.

The technician discovered the "floor heat" switch (P/N 810UN01S1BA0A) was badly burned and electrically shorted. The 10-amp circuit breaker (P/N 2TC2-10) did not open. During a bench test, he discovered it was defective. After removing the "floor heat" switch, he discovered it was internally shorted and the entire assembly was severely burned.

The submitter recommended technicians conduct a functional test and inspection of these components during scheduled inspections.

Part total time-3,874 hours.

De HAVILLAND

De Havilland; Model DHC-8-103; Fuel Tank Electrical Short Circuit; ATA 2842

While complying with Service Bulletin (SB) 8-28-31 entitled "Special Inspection of Fuel Tank Bonding," the technician received an electrical shock after touching the fuel probe wiring harness conduit.

The technician was working on the right wing fuel tank. Using a multimeter, he found the conduit was carrying 20 volts of AC power. After removing electrical power from the system, he found evidence of electrical arcing between the wiring harness and the conduit at station 207. The source of the electrical short was found at station 261, where the wiring harness was chafed on the conduit. The 20 volts of AC power came from the fuel quantity indication system.

The technician repaired the system, replaced the damaged components, and returned the aircraft to service. Five days later he found the same defect on the left wing fuel tank of another like aircraft.

Part total time-32,171 hours.

PIPER

Piper; Model PA 23-250; Aztec; Defective Propeller; ATA 6110

The following report contains a comedy of errors that is not humorous and could be hazardous to health. The report, quoted below, details a good example of why properly qualified personnel and records are required by the FAA.

"Maintenance inspection revealed a crack approximately 1/8 inch long on both sides of race material (propeller bearing race part number A-2202-B). Propeller was purchased from an individual as an 'overhauled propeller' without records (reported lost). Purchaser submitted propeller for overhaul (to a certified repair station). In addition to this cracked part, the blades were found to be 2 inches under minimum diameter for the intended application."

Sometimes in our zeal to conserve time and/or money, we lose both, as well as create a possible hazardous condition.

Part total time not reported.

Piper; Model PA 23-250; Aztec; Defective Wheel Assembly; ATA 3246

As the pilot was taxiing out for takeoff, he noticed the right brake was grabbing. He stopped the aircraft, conducted an investigation, and found a "bulge" on the inside of the right wheel half. While taxiing back to the repair station, the wheel assembly failed.

A technician discovered an 8-inch piece of the wheel assembly (P/N 161-05800) bead was broken. During an interview, the pilot stated, "A rather hard landing occurred during the previous flight."

The submitter recommended that pilots avoid "hard landings" whenever possible. If you make a "hard landing," report it, and have the aircraft properly inspected by qualified personnel prior to further flight.

Part total time-3,180 hours.

Piper; Model PA 28R-201; Arrow; Starter/Alternator Security; ATA 2410

The submitter of this report stated, "All Arrows and Archers with an air-conditioning system installation have a repetitive security problem."

The forward left starter attachment bolt, which also secures the alternator attachment bracket, is commonly found with the case threads stripped. On several occasions, the technician used "Helicoils" to correct this problem. However, the "Helicoils" last only slightly longer than the original case threaded installation.

The submitter suggested the manufacturer incorporate a milled seat in the case to accommodate a bolt head and allow the use of a nut and lock washer.

Part total time not reported.

Piper; Model PA 31T2; Cheyenne; Engine Oil Hose Failure; ATA 7920

Mr. Richard Johnson, an airworthiness inspector with the FAA Flight Standards District Office in Lincoln, Nebraska, investigated two oil cooler inlet hose failures on this aircraft and offered the following information.

The repair station technician, who maintains the aircraft, reported the hose failures were due to the "manufacturing process." The oil cooler inlet hose assembly (P/N AE7010201K0242) is manufactured by Aeroquip and has an internal coil (P/N 90078013C) installed to reduce the possibility of kinking. The hose failed after 112 hours of operation, and the previous hose failed after 10 hours of operation.

Both hose assemblies failed in a similar manner, which strongly suggests the hoses were severely kinked during installation. A failure analysis report issued by Aeroquip also suggests that improper installation induced internal failure of the hose assemblies. In addition, Piper issued Service Letter (SL) number 811, dated April 26, 1997, that warns of engine oil cooler inlet hose failures caused by improper routing.

It was recommended that oil hose installers exercise extreme caution, care, and proper routing to prevent kinking of the hose assembly during installation. The continued use of Piper SL 811 should help to ensure proper installation and longevity of the hose assemblies.

Part total time as previously stated.

Piper; Model PA 31-350; Chieftain; Wing Damage; ATA 5730

This aircraft is equipped with a Supplemental Type Certificate (STC) modification. One part of the STC modification allows the installation of "winglets."

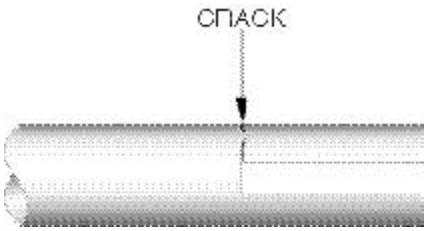
During an inspection, the technician discovered the upper wing skin and leading edge skin were wrinkled adjacent to the "winglet" attachment on both the left and right wings.

The technician speculated "exceeding the operating limitations" of the aircraft in its modified state caused the damage.

Total operating time since STC installation-73 hours.

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

During an engine runup at 2,000 RPM, the pilot noticed a 250 RPM drop on each magneto. The engine operation was very rough when operating on each magneto individually.



A technician investigated the magneto (Slick, P/N 6350 right and 6351 left) RPM drop and found a broken shaft on both the left and right magnetos. Both rotor shafts were broken at the base of the shaft slot. (Refer to the illustration.)

Part total times right-292 hours and left-458 hours.

Piper; Model PA 34-200T; Seneca; Tachometer Drive Failure; ATA 7714

The submitter of this report stated he recently replaced three 90-degree tachometer drive adapter units (P/N 640925).

The first tachometer drive unit, installed on the left engine, failed after 88 hours of operation; the second adapter, installed on the right engine, failed after 121 hours of operation; and the third adapter, installed on the right engine, failed after 274 hours of operation. When the adapter fails, there is no RPM indication in the cockpit for the respective engine.

The submitter believes the high failure rate for this unit is related to vibration exposure. He recommended the manufacturer devise provisions to reinforce the adapter, isolate it from vibration sources, and/or relocate the adapter unit.

Part total time as stated above.

Piper; Model PA 34-220T; Seneca; Intermittent Electrical Problem; ATA 2400

The flightcrew reported the electrical power supply was intermittent when the battery master switch was engaged.

A technician removed the battery master contactor (P/N 455-211) for inspection and discovered the bottom cover was full of water. The contact points were severely corroded, and the unit was beyond repair. This unit is installed on the relay shelf below the cabin floor. He installed a new contactor and conducted an operational test which confirmed the problem was solved. He conducted an inspection to determine the source of water leaking onto the relay shelf but could not find an obvious leak source. He noted the carpet and interior were dry. He suspected the water entered through the ground power unit door that is located just forward of the relay shelf.

Part total time-544 hours.

Piper; Model PA 44-180; Seminole; Landing Gear Defect; ATA 3230

The pilot reported the landing gear would not extend normally; therefore, he used the emergency system to lower the gear.

During an inspection, a technician found the emergency gear extension valve (P/N 492303) was leaking severely, and the hydraulic system fluid quantity was depleted. The hydraulic system powerpack, that was not being supplied with hydraulic fluid, failed.

The emergency gear extension valve, located in the nose compartment just below the heater, sprayed hydraulic fluid which saturated the compartment. This condition not only disabled normal landing gear function but also created a very serious fire hazard.

The submitter suspects an “O-ring” seal in the extension valve failed. He suggested that all operators inspect their supply of “O-ring” seals, as well as incoming stock, for shelf life expiration. The short life of this aircraft indicates the seal was defective or damaged during installation.

Part total time-100 hours.

Piper; Model PA 46-350P; Malibu Mirage; Landing Gear Defect; ATA 3230

During flight, the pilot lowered the landing gear; however, the right main gear did not indicate it was locked down. After performing aerial maneuvers designed to lock the gear down and cycling the landing gear several times, he received a “down-and-locked” indication and made a safe landing.

The technician removed and disassembled the right main gear actuator (P/N 89075-005). He found one of the four pawls, which lock the actuator collar internally, was sticking and would not complete the locking cycle. The remainder of the actuator assembly functioned properly. After he corrected the “sticking pawl” problem, it was reinstalled.

The submitter stated, “This is a recurring problem throughout the fleet.” He suggested maintenance entities establish an inspection interval of 500 hours for the actuator assemblies.

Part total time-1,273 hours.

HELICOPTERS

AGUSTA

Agusta; Model A109A; Mark II; Structural Defect; ATA 5500

While repairing the wiring for the left navigation light, the technician discovered a structural crack.

The crack was located under the vibration damper weight in the left synchronization elevator. There were no recorded unusual vibrations in the maintenance records and no cause was given for this defect. The submitter stated a normal daily inspection would not have revealed the defect and it would not be evident until the vibration weight separated from the attaching rib (P/N 109-0200-05-9).

The submitter recommended technicians remove the synchronization elevator (P/N 109-0200-02-93) tip cap and visually inspect this area at every opportunity.

Part total time-2,526 hours.

BELL

Bell; Models All 204B, 205A, 205A-1, 205B, and 212; Main Rotor Trunnion Bearing Failure; ATA 6300

The FAA, Rotorcraft Certification Directorate, submitted the following article. This information was printed as it was received.

> An operator of a Bell Model 212 helicopter reported total failure of a main rotor trunnion bearing (P/N 204-011-110-005). Black grease was found on the trunnion during a post flight inspection. After removal and disassembly of the trunnion, the inner and outer races of the bearing were found broken. The pilot reported no abnormal vibrations.
>
> This area should be monitored closely during inspections and maintenance. Please report any failures or malfunctions to: FAA, Rotorcraft Certification Office, Attn: Michael Kohner, Fort Worth, TX 76193-0170, telephone (817) 222-5447, fax (817) 222-5783.

EUROCOPTER

Eurocopter; Model AS-350BA; Ecureuil; Hydraulic System Failure; ATA 2913

During a flight, the pilot lost hydraulic system pressure and made a precautionary landing.

A technician inspected the helicopter and discovered the hydraulic pump drivebelt (P/N 704A33-690-004) was broken. The belt separated where it was joined at the “bond line.” The pilot stated he had inspected the belt during preflight inspection and it appeared the tension was correct and it was in good condition.

The submitter suggested the manufacturer redesign the hydraulic pump drive system.

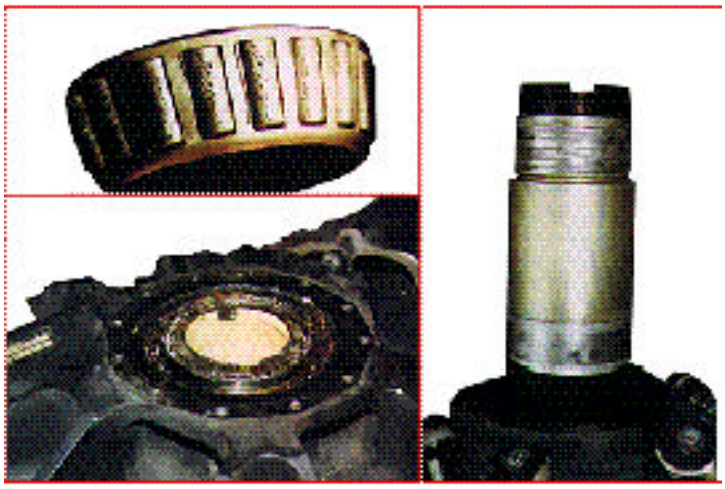
Part total time-238 hours.

McDONNELL DOUGLAS

McDonnell Douglas; Model 600N; Notar; Main Rotor Head Bearing Failure; ATA 6220

The pilot reported that during a flight, the collective forces changed for no apparent reason. The collective forces progressed from being neutral in cruise flight to being “light” with a slight tendency to climb. Over the next few minutes, it developed a definite upload requiring collective friction. The pilot aborted the mission and returned to the departure base.

A postflight inspection revealed abnormally heavy collective forces were required to raise the collective off the “full-down” position. When the collective was cycled from full-down to full-up, a technician noticed the rotor head lifted approximately .5 inch and then slammed down with a loud clunking sound.



Technicians opened the rotor head and found the drive shaft locknut retainer screws were broken. The screws were hanging from the safety wire and were still attached to the heads. The drive shaft flange inner surface displayed score marks produced by the loose screw heads. The retainer was no longer engaged with the rotor mast, and the rotor head locknut (Jesus nut) had lost torque. The locknut was backed off to within one thread on the top of the mast. The broken retainer screw shanks remained in the locknut and were sheared off even with the top of the locknut. Collateral damage was found on the side of the locknut bearing against the grease-seal retainer and the locknut was seized to the seal retainer. The bottom side of the grease-seal retainer was galled and scored where it was spinning on top of the bearing. The cone bearing was damaged by contact with the grease-seal bearing surface. The rollers in the cone bearing displayed evidence of metal fatigue, and pieces were missing from numerous rollers. Also, the bearing is discolored from apparent heat damage. The bearing race, pressed into the rotor head, is also scored and discolored.

In the opinion of the submitter, this damage resulted from material failure of the cone bearing, which led to overheating and increased turning resistance and wear. As the bearing developed increased play, the torque on the rotor head locknut was reduced and allowed the bearing to spin on the mast.

The torque forces were transmitted to the grease-seal retainer, the rotor head locknut, and finally to the retainer designed to keep the locknut from backing up the mast in response to loads from below. As the lock backed up the mast, it pushed the retainer ahead of it allowing contact between the sheared screw heads and the bottom of the drive shaft flange until they were pushed off the sides of the grease-seal retainer, and were held only by the safety wire.

The rotor upper hub cone bearing was in imminent danger of complete failure and loss of the rotor, which would have resulted in a catastrophic helicopter accident.

Refer to the illustrations for a pictorial reference of the damage described.

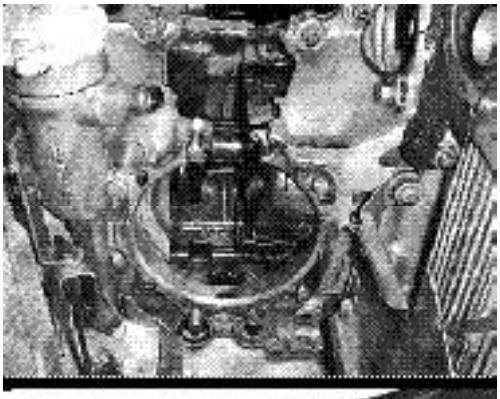
POWERPLANTS AND PROPELLERS

TELEDYNE CONTINENTAL

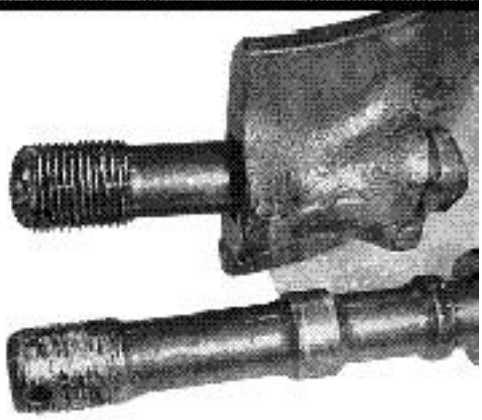
Teledyne Continental; Model IO-520-C; Cylinder Failure; ATA 8530

This engine was installed on the right side of a Beech, Model 58 aircraft.

During cruise flight, the pilot heard a loud abnormal sound from the right engine and the engine failed. The pilot was able to make a safe single-engine landing and reported the incident to maintenance personnel.



While inspecting the engine, the technician discovered the number 2 cylinder connecting rod was broken loose from the crankshaft, and the engine case was broken adjacent to the cylinder attachment. (Refer to illustration number 1.) The cylinder separated from the case and was contained by the cowling. The connecting rod penetrated the upper cowling.



After collecting all the broken parts the technician laid them out on a work table and determined that one of the connecting rod cap bolts did not have the remains or any evidence that the cotter pin was installed. (Refer to illustration number 2.) The submitter suspects the cotter pin was not installed during the previous assembly which allowed the nut to back off inducing “hammering” and transferring the entire load to the remaining bolt. The bolt head was broken, and the bolt threads relatively undamaged compared to the other bolt threads.

The only suggestion offered by the submitter was to ensure hardware is properly torqued and safetied during assembly.

Part total time-2,206 hours.

TEXTRON LYCOMING

Textron Lycoming; Model O-320-E2A; Idler System Impending Failure; ATA 8520

This engine is installed in a Piper, Model PA 28-140 aircraft.

While complying with the engine oil pump Airworthiness Directive (AD) 96-09-10, the technician discovered a bolt was broken and the head was missing. The bolt (P/N STD-705) in the idler shaft mount for the idler system was located between the camshaft and the crankshaft.

The submitter stated, “Failure of the idler system will cause sudden stoppage of the engine.” He speculated the bolt failure might have been caused by excessive torque applied during installation. The manufacturer issued Service Instruction (SI) 1310A, which deals with this subject. It allows upgrading the bolts to .3125-inch diameter and includes accommodations for safety wire.

The submitter recommended inspecting the idler gear assembly for condition and looseness of the shaft each time the magneto is removed.

Part total time-5,214 hours.

Textron Lycoming; Oil Pump Airworthiness Directive Update; ATA 8550

The FAA, New York Aircraft Certification Office (ANE-170) requested publication of the following article. *The article and supporting information is offered as it was received.* Also, this subject was covered in an article in the March 2001, edition of this publication.

Clarification of AD 96-09-10

In order to determine if an engine is affected by AD 96-09-10, an owner/operator must know the oil pump configuration currently in the engine. The original factory shipped configuration with sintered iron impellers can be determined from Lycoming SB 524, List I. Contact Lycoming for the original factory shipped configuration with aluminum impellers. If repairs, and/or overhauls have been accomplished, the engine records must be reviewed to determine the oil pump impeller configuration currently in the engine. Some engines, regardless of the engine serial number, may still be affected by the AD because of overhauls, including Lycoming overhauled and remanufactured engines, field repairs, compliance with AD 81-18-04R2 and other Lycoming SB’s.

If the oil pump impeller configuration cannot be determined by the engine records, the inspection, described in Lycoming SB 385C can be performed to determine if the original configuration, a fixed shaft retained by a cotter pin, is still in place. If a fixed shaft retained by a cotter pin is still in place, the engine is not affected by this AD. If a fixed shaft retained by a cotter pin is not present, the oil pump cover must be removed and the gears compared to the figure on page 2 of SB 524 in order to determine if hardened steel gears are installed and the engine is in compliance with the AD. (A set of hardened steel impellers can be identified by the letter “N” on one impeller and the letter “C” on the other impeller. Lycoming only sells these parts in sets. However, they may be available individually in the after-market.) These letters have been mechanically marked on the face of the impeller. A copy of Lycoming SB 524 can be obtained from the Lycoming website at: www.lycoming.textron.com.

AD 96-09-10 applies to all sintered iron impellers and aluminum oil pump impeller and shaft assemblies P/N LW-13775. This is confirmed in the AD SUMMARY that proceeds the AD. This statement appears in paragraph (c) of the AD as, “… replace any aluminum oil pump impeller and shaft assembly with a ….” , however, P/N LW-13775 does not appear in this sentence. P/N LW-13775 is an aluminum impeller attached to a shaft and the assembly of these two parts (impeller and shaft) rotate together. This P/N LW-13775, aluminum oil pump impeller and shaft assembly is the only aluminum impeller that is required to be replaced by AD 96-09-10.

P/N 60747, aluminum oil pump impeller is NOT an impeller and shaft assembly. It is an impeller that rotates on a fixed, non-rotating shaft. This shaft is retained by a cotter pin passing through the oil pump housing and shaft. This configuration is not effected by this AD. Lycoming SB 524 requires P/N 60747 aluminum oil pump impeller to be replaced, however, AD 96-09-10 (written after the release of SB 524) does not require its replacement – the SUMMARY that precedes the AD explains that, “… only aluminum impellers, P/N LW 13775, are affected.” Therefore a visual

inspection of the oil pump, as described in Lycoming SB 385C, can be made and if the original configuration, a fixed shaft retained by a cotter pin, is still in place, the engine is not affected by AD 96-09-10 or by AD 81-18-04 R2.

Compliance with AD 81-18-04 R2 cannot by itself indicate that hardened steel impellers are installed and terminate the requirement to comply with AD 96-09-10. The impeller configuration must be known, by knowing the actual impeller part numbers installed, kit number installed, which paragraph of AD 81-18-04 R2 was accomplished, by visual inspection or by some other means.

Compliance with AD 81-18-04 R2, paragraph (a) (1) states to, "Replace the oil pump driven impeller and shaft with hardened steel impeller and shaft P/N LW-18110 and replace the driving impeller with impeller P/N LW-18109…" per Lycoming SB 454. This is also terminating action for AD 96-09-10 as stated in paragraph (a) (2) of AD 96-09-10.

Compliance with AD 81-18-04 R2, paragraph (b) (1), installs aluminum oil pump impeller and shaft assembly P/N LW-13775, per Lycoming SB 455A. P/N LW-13775 is one of the subjects of AD 96-09-10 and it must be removed.

Compliance with AD 81-18-04 R2, paragraph (c), installs aluminum oil pump impeller and shaft assembly P/N LW-13775, per Lycoming SB 456. P/N LW-13775 is one of the subjects of AD 96-09-10 and it must be removed.

Sintered iron impellers and aluminum impeller and shaft assemblies, manufactured under an FAA Parts Manufacturing Authority, are also affected by AD 96-09-10.

Reference Service Bulletins and Service Instructions (SI)
AD 81-18-04 R2, SB 454, SB 455A, SB 456 AD 96-09-10 SB 454B, SB 455D, SB 456F, 524, (inspection only 381C and 385C)

SB 381, SB 381A & SB 381 B
Introduces P/N LW-14038 (sintered Iron) which is installed with P/N LW-13775 (aluminum) AND Provides for the continued use of P/N 78532 (sintered iron) which is used with P/N 77313 (sintered iron) or P/N LW-12897(sintered iron) AD 96-09-10 removes the sintered iron impeller and the P/N LW-13775 aluminum impeller.

SB 381C
Introduces the use of either of two impeller configurations: P/N LW-14038 (sintered Iron) which is installed with P/N LW-13775 (aluminum) OR P/N 60746 (steel) which is installed with P/N LW-14711 (sintered iron) AND Provides for the continued use of P/N 78532 (sintered iron) which is used with P/N 77313 (sintered iron) or P/N LW-12897(sintered iron) AD 96-09-10 removes the sintered iron impeller and the P/N LW-13775 aluminum impeller.

SB 385, SB 385A & SB 385B
Introduces P/N LW-14038 (sintered Iron) which is installed with P/N LW-13775 (aluminum) AND Provides for the continued use of P/N 78532 (sintered iron) which is used with P/N 77313 (sintered iron) or P/N LW-12897 (sintered iron) AD 96-09-10 removes the sintered iron impeller and the P/N LW-13775 aluminum impeller.

SB 385 C
Introduces the installation of either of two impeller configurations: P/N LW-14038 (sintered Iron) which is installed with P/N LW-13775 (aluminum) OR P/N 60746 (steel) which is installed with

P/N LW-14711 (sintered iron) AND Provides for the continued use of P/N 78532 (sintered iron) which is used with P/N 77313 (sintered iron) or P/N LW-12897 (sintered iron) AD 96-09-10 removes the sintered iron impeller and the P/N LW-13775 aluminum impeller.

SB 454, SB 454A & SB 454B
Introduces hardened steel impellers, PN LW-18109 and LW-18110. Accomplishment of SB 454 is terminating action for AD 81-18-04 R2. Accomplishment of SB 454B is terminating action for AD 96-09-10.

SB 455, SB 455A & SB 455B
Introduces impeller P/N LW-13775 (aluminum) and impeller P/N 60746 (steel). AD 96-09-10 removes the P/N LW-13775 aluminum impeller. Accomplishment of SB 455A is terminating action for AD 81-18-04 R2.

SB 455C & SB 455D
Introduces hardened steel impellers, PN LW-18109 and LW-18110. Accomplishment of SB 455D is terminating action for AD 96-09-10.

SB 456 & SB 456A
Replaces sintered impellers with impeller P/N LW-13775 (aluminum) and impeller P/N 60746 (steel). Accomplishment of SB 456 is terminating action for AD 81-18-04 R2.

SB 456B, SB 456B Supplement No. 1, SB 456C, SB 456D, SB 456D Suplement No. 1, SB 456E & SB 456F
Replaces prior configurations with hardened steel impellers, PN LW-18109 and LW-18110. Accomplishment of SB 456F is terminating action for AD 96-09-10.

SB 524
Replaces impeller P/N LW-13775 (aluminum) and impeller P/N 60747 (aluminum) with hardened steel impellers, PN LW-18109 and LW-18110. Aluminum impeller P/N 60747 is not required to be replaced by AD 96-09-10 when used in the original configuration of a stationary shaft retained with a cotter pin and steel impeller P/N 60746. Accomplishment of SB 524 is terminating action for AD 96-09-10.

Service Instruction (SI) 1009AJ
Lists the Lycoming Recommended Time Between Overhauls for various engine models.

ACCESSORIES

GENERAL AVIATION AIR-CONDITIONING REFRIGERANT CONVERSIONS

The subject of this article affects all aircraft and helicopters with CFC-12 (R-12) Vapor Cycle air-conditioning systems. The information is provided to advise all owners, operators, and maintenance entities of proper standards for converting CFC-12 Vapor Cycle Systems to refrigerants approved by the FAA and the Environmental Protection Agency (EPA).

In 1994, the EPA established the "Significant New Alternative [Refrigerant] Policy" (SNAP) Program to review alternatives to ozone-depleting substances like CFC-12. Under the authority of the 1990 Clean Air Act (CAA), the EPA examines new substitutes for their ozone-depleting, global warming, flammability, and toxicity characteristics. The EPA has determined that several refrigerants are acceptable for use as CFC-12 replacements, subject to certain use conditions. The EPA provides information about the current crop of refrigerants and their characteristics and details for their use.

Many companies use the term "drop-in" to mean that a substitute refrigerant will perform identically to CFC-12, that no modifications need to be made to the system, and that the alternative can be used alone or mixed with CFC-12. However, the EPA believes the term confuses and obscures several important regulatory and technical points. First, charging one refrigerant into a system before extracting the old refrigerant is a violation of the SNAP use conditions and is, therefore, illegal. Second, certain components may be required by law, such as hoses and compressor shutoff switches. If these components are not present, they must be installed. Third, it is impossible to test a refrigerant in the thousands of air-conditioning systems in existence to demonstrate identical performance. In addition, system performance is greatly affected by outside temperature, humidity, usage conditions, etc., and it is impossible to ensure equal performance under all of these conditions. Finally, it is very difficult to demonstrate that system components will last as long as they would have if CFC-12 were used. For all of these reasons, the EPA does not use the term "drop-in" to describe any alternative refrigerant.

The submitter recommended modifications to any Vapor Cycle System should, at a minimum, meet the regulatory requirements under the CLEAN AIR ACT Amendments (CFR Title VI – Section 608). The Society of Automotive Engineers (SAE) provides guidelines for air-conditioning refrigerant retrofit in their publication J1661.

Under the SNAP rule, each new refrigerant must be used in accordance with approved conditions. If you choose to use an alternative, make sure the service shop meets the appropriate requirements and that it has dedicated recovery equipment for blends or recovery/recycling equipment for HFC-134A.

Conversion of Vapor Cycle Systems is considered a major alteration to the aircraft Type design and conversions may be accomplished using the Supplemental Type Certificate or an FAA Field Approval process.

Most Original Equipment Manufacturer's (OEM) chose R-134A to be the long-term replacement for R-12 in air-conditioning systems, both in new aircraft and in retrofit applications. At this time, however, wide-scale performance testing has not been performed on vehicles retrofitted to these blend refrigerants. Should you have questions about retrofitting to an alternative refrigerant, consult the refrigerant's manufacturer and/or the several EPA publications. One such EPA publication you may want to review is titled "Choosing and Using Alternative Refrigerants in Motor Vehicle Air Conditioning," which is available on the Internet at: <http://www.epa.gov/docs/ozone/title6/snap/macssubs.html#>

The EPA telephone Hot Line number is (800) 296-1996.

GENERAL AVIATION AIRCRAFT CABIN HEATERS

A combustion head (P/N 51A45) from a Janitrol cabin heater was received as a "core" by an FAA, Certified Repair Station, for a new part purchased by the aircraft owner.

The trade-in combustion head had a hole approximately .4375 inch in diameter burned through the combustion head wall. The entire part was severely corroded, which reduced the metal thickness. The submitter stated, "These heaters are being operated without proper maintenance and allowed to operate until catastrophic failure occurs."

If a proper inspection of this heater, including a pressure decay test, had been accomplished, this defect would have been obvious to the inspector.

During the warm weather months we hardly give a thought to the aircraft heater or its condition. All the while, it rides along collecting corrosion and deteriorating generally. When a cold spell sets in, we turn the thing on and expect it to function properly. What's wrong with this picture!

When these units fail, they can cause fire, inject smoke into the cockpit, produce carbon monoxide, electrical system failures, fuel leaks, and just plain fail to operate. In general, failure of a heater can be hazardous to your health and well being.

A bit of research in the FAA, Service Difficulty Reporting system data base revealed 241 reports related to heater system failures. Most of the reported failures occurred during the past 5 to 6 years. These failures involved all combustion makes and models of heaters approved for use in general aviation aircraft and the reported defects covered the entire gamut of possibilities.

All those involved in general aviation are urged to give the heater units their due respect and ensure they are in a condition for SAFE operation during inspections, maintenance, and every time the opportunity presents itself.

AIR NOTES

AIRCRAFT LANDING GEAR AND COMPONENTS AFFECTED BY "FOOT-AND-MOUTH" DISEASE CHEMICALS

The FAA has received several E-Mail messages from Boeing and Honeywell concerning landing gear components exposed to the corrosive effects of chlorine spray which is used to control the spread of "foot-and-mouth" disease.

Boeing sent the following message to all Boeing operators, field service bases, and all Boeing regional directors. *The message appears as it was received from Boeing.*

> Boeing has been advised that some European Airport Authorities may soon be required to apply chemicals to various parts of airplanes in attempt to prevent the spread of foot-and-mouth disease. Specifically, sodium hypochlorite (chlorine bleach) may be applied to the wheels and tires of airplanes. Other chemicals have been mentioned as well, including citric acid or sodium carbonate.

This message advises that these chemicals pose a significant corrosion risk on metallic parts and can also damage other equipment such as wheels, brakes, and electrical equipment used on or near the landing gear.

It is our understanding that these chemicals may be sprayed onto the tires of some incoming or outgoing aircraft. It is our expectation that overspray will contact adjacent areas of the landing gear such as the wheels, brakes, axles, other landing gear structural components, and electrical equipment on or near the landing gear.

Boeing has investigated several cases of fractured landing gear components where the cause of the fracture was traced to exposure to chlorine-based chemicals. One example is an operator who experienced two events of fractured landing gear axles. Refer to Boeing In-Service Activities Report (ISAR) 98-03-3211-30, dated 02-20-1998. A detailed examination of the damaged axles showed unusually high levels of chlorine in corrosion products near the fracture site and damage to areas of chrome plate, both of which were attributed to exposure to chlorine-based chemicals.

In addition to corrosion on metallic parts, sodium hypochlorite will also damage the heat sinks of airplanes equipped with carbon brakes. One of the brake manufacturers, Honeywell/Bendix, has recently released Service Information Letter (SIL) number 710, which discusses the effects of these chemicals on wheels and brakes, with particular emphasis on carbon heat sinks used in some brakes.

As a result of the above comments, we recommend that exposure to chlorine-based products be discouraged or at least limited to that which is absolutely necessary.

If sodium hypochlorite or similar chemicals are used, we recommend the following precautions:

1. Do not allow sodium hypochlorite to dwell on the aircraft structure any longer than is necessary.

2. Preferably, the sodium hypochlorite solution should only be applied to the tires and not to the brakes, wheels, or the landing gear structure. The application should be by a controlled method which minimizes overspray or spillage. Note that while these chemicals may also have a detrimental effect on tires, they are easily inspected for damage and are frequently cycled on-and-off the airplane.

3. Any area where sodium hypochlorite is used should be promptly flooded with water to ensure complete removal of all residues. Water should be applied in a low-pressure/high volume manner.

4. For airplanes equipped with carbon brakes, it is important that the brakes be exercised a few times during taxi-out since carbon brakes can freeze solid in flight if they are flooded with water immediately before a takeoff.

5. We recommend that grease zerk fittings on the lower portions of the landing gears be lubricated on a more frequent basis to ensure that water and/or sodium hypochlorite residue is pushed out of joints.

If you need further information regarding the subject, please direct your request to your local Boeing Field Service Representative. If your local Field Service Representative is not available, you may contact Craig Blankenstein - Renton Airline Support Manager at the following Internet address; <Christopher.Dubuque@PSS.Boeing.com> or call (206) 544-7500.

In addition, exposure of aircraft components to these chemicals may induce failures related to chemical stress corrosion and/or the corrosion problems mentioned above. The affects of these chemicals on aircraft components are not limited to large aircraft. Small general aviation aircraft, business class aircraft, and helicopters are also susceptible to the same damage.

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

ELECTRONIC VERSION OF MALFUNCTION OR DEFECT REPORT

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

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

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

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

SERVICE DIFFICULTY PROGRAM DATA ON THE INTERNET

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

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

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

This web site is now active; however, it is still under development and improvements are being made. We ask for your patience, ideas, and suggestions. If you find the web site useful, let us know. Also, spread the word about the availability of information on the web site. To offer comments or suggestions, you may contact the web master or call Tom Marcotte at (405) 954-4391.

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

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

ADDRESS CHANGES

In the past, the Designee Standardization Branch (AFS-640) maintained the mailing list for this publication. Now, the Government Printing Office (GPO) sells this publication and maintains the mailing list; therefore, please send your address change to: U.S. Government Printing Office, **ATTN: SSOM, ALERT-2G**, 710 N. Capital Street N. W., Washington, DC 20402

You may also send your address change to GPO via FAX at: (202) 512-2168. If you FAX your address change, please address it to the attention of: **SSOM, ALERT-2G**. Whether you mail or FAX your address change, please include a copy of your old address label, and write your new address clearly.

IF YOU WANT TO CONTACT US

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

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

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

AVIATION SERVICE DIFFICULTY REPORTS

The following are abbreviated reports submitted between April 16, 2001, and May 21, 2001, which have been entered into the FAA Service Difficulty Reporting (SDR) System data base. This is not an all inclusive listing of Service Difficulty Reports. For more information, contact the FAA, Regulatory Support Division, Aviation Data Systems Branch, AFS-620, located in Oklahoma City, Oklahoma. The mailing address is:

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

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

FEDERAL AVIATION ADMINISTRATION

Service Difficulty Report Data

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

ACFT MAKE ACFT MODEL REMARKS	ENG MAKE ENG MODEL	COMP MAKE COMP MODEL	PART NAME PART NUMBER	PART CONDITION PART LOCATION	DIFF-DATE OPER CTRL NO.	T TIME TSO
ALLSN 250B17F2		TURBINE	MISDRILLED ENGINE		11/30/2000 20010129CW002	
DURING REASSEMBLY OF THE TURBINE AFTER REPAIR, THE ANTIROTATION PIN WAS FOUND TO BE LOOSE. UPON REMOVAL, FOUND BURRS AT THE BASE OF THE PIN, CAUSED BY THE PIN BEING PRESSED INTO TOO SMALL A HOLE. MEASUREMENT OF THE PIN HOLE FOUND IT TO BE 0.002 TO 0.003 BELOW THE PRINT LIMIT.						
CONT IO520D		CONNECTING 655004	GOUGED ENGINE		04/03/2001 20010410AP021	0

FACTORY NEW ENGINE WITH 0 HRS TTIS WAS BEING DISASSEMBLED FOR CRANKSHAFT REPLACEMENT UNDER MSB 00-5. THE MAJORITY OF CONNECTING ROD BOLTS COULD NOT BE REMOVED WITH REASONABLE PRESSURE AND HAD TO BE DRIVEN OUT OF THE CAP. INSPECTION REVEALED THAT THE ROD BOLTS EXHIBITED A BURR AND EVIDENCE OF GALLING ON THE SHANK AT THE POINT WHERE THE ROD AND CAP PARTING SURFACE WOULD BE. INSPECTION OF THE CAPS SHOWED DAMAGE EVIDENCED BY SIGNIFICANT GOUGING WHERE THE BOLTS HAD BEEN REMOVED, RENDERING

	PWA	TOWERSHAFT	FRACTURED	03/16/2001	
	PW120A	311196801	SPIRAL GEAR	CA010411013	

(CAN) THE CAUSE OF THE IN FLIGHT SHUTDOWN WAS A FRACTURED TOWERSHAFT, RESULTING IN A LOSS OF DRIVE TO THE FUEL AND OIL PUMPS. FAILURE ANALYSIS OF THE TOWERSHAFT INDICATES THAT THE FRACTURE RESULTED FROM FATIGUE AT THE OUTER SURFACE, LEADING TO A TWISTED DUCTILE FRACTURE WITH THE CENTRE OF THE SHAFT FAILING IN TENSILE MODE.THERE WERE NO IDENTIFIED WORKMANSHIP ERRORS RELATED TO THE FAILURE OF THE TOWERSHAFT. 2001-04-12 TC: NO DEFINITE RESULT OF FAILURE WAS DETERMINED.

AEROSP		BEARING	FAILED	01/09/2001	
SA365N1		365A33600501	TAIL ROTOR GRBX	20010124CW008	

MANUFACTURER TEARDOWN OF GEARBOX, FOUND PITCH CHANGE SHAFT DUPLEX BEARING FAILURE AND SHAFT SHEAR T/R BLADES IN-NEG-PITCH WITH NO CONTROL OF TAIL ROTOR. NOTE: NO T/R GEARBOXES INSTALLED ON ANY 365 IN OUR FLEET HAVE ELECTRONIC CHIP DETECTOR.

AMD		LINE	LEAKING	04/25/2001	15
FALCON2000			BRAKE SYSTEM	20010510AP003	

RIGHT MLG BRAKE LINE WAS FOUND LEAKING FROM THE B NUT THAT CONNECTS THE LINE TO THE BRAKE CALIPER FITTING. THE BRAKE LINE IS MADE OF CLEAR PLASTIC TUBING AND THE B NUT IS BRASS AND UTILIZES A BRASS COMPRESSION FITTING TO FORM THE SEAL AT THE CALIPER FITTING. SUSPECT THE LEAK IS DUE TO THERMAL EXPANSION OF PLASTIC AND BRASS CAUSED BY ELEVATED BRAKE TEMPERATURES DURING SHORT FIELD BRAKING. SUGGEST THAT PLASTIC TUBING AND BRASS FITTINGS BE REMOVED AND REPLACED WITH AN STANDARD FITTINGS AND MEDIUM PRESSURE HOSE THAT MEETS THE APPROPRIATE MIL SPEC.

AMTR	LYC	CANOPY	FAILED	04/11/2001	240
LONGEZ	IO540*		CANOPY LATCH	20010417AP003	240

CANOPY SHATTERED IN FLIGHT, DEPARTED AIRCRAFT AND HIT PROP, DESTROYING PROP. PILOT MADE EMERGENCY LANDING. IT APPEARS THE LONG-EZ CANOPY FRAME LATCH PASSED THROUGH THE FRAME AND RESTED ON THE GLASS. THE GLASS SHATTERED.

AMTR	LYC	LATCH	FAILED	04/02/2001	
LONGEZ	IO540*		CANOPY	20010420CW008	

CANOPY DEPARTED THE AIRCRAFT WHILE IN FLIGHT. CANOPY LATCH FAILED.

AVIAT	LYC	ATTACH	SHEARED	03/27/2001	
A1B	O360*		LT MLG STRUT	20010510AP007	

TACH 80.2 HOURS LEFT MAIN GEAR ATTACHMENT(FORWARD STRUT) SHEARED OFF AT FUSELAGE ATTACHMENT POINT DURING NORMAL LANDINGOF AIRCRAFT. THE WELDED AREA THAT THE LH FORWARD STRUT ATTACHES TO THE FRAME LOOKS TO HAVE POSSIBLE INADEQUATE PENETRATION, POROUS AND CONSIDERED A COLD WELD.

BAG	GARRTT	HARNESS	BROKEN	03/29/2001	
JETSTM4112	TPE33110	3408360821	OVERRIDE SWITCH	CA010423012	

(CAN) DURING CLIMB, THE FLAPS WOULD NOT OPERATE WITH THE CONTROL SWITCH. THE HYDRAULIC OVERRIDE HANDLE HAD TO BE USED TO FUNCTION THE FLAPS UP AND DOWN.THE OVERRIDE SWITCH WIRING HARNESS (P/N 340-4263110) WAS FOUND TO BE AT FAULT, ONE WIREWAS BROKEN, THE RECOIL SPRING WAS BROKEN WHICH PROBABLY CAUSED THE WIRE TO BREAK DUE TO A LACK OF SUPPORT FROM THE SPRING.

BBAVIA	LYC	SPAR	CRACKED	04/02/2001	
7ECA	O235*		RT WING	20010419CW012	

A LONGITUDINAL CRACK IN THE RIGHT FORWARD WOODEN WING SPAR, APPROXIMATELY 30 INCHES LONG.

BBAVIA		SPAR	DAMAGED	01/25/2001	2881
7KCAB			WINGS	20010417AP002	

WOOD SPARS; NAILS OUT OF LEADING EDGE RIBS; WOODEN SPACERS WERE LEFT OUT OF FIRST FOUR IN-BOARD LEADING EDGE RIBS; LEADING EDGE LOOSE; NAILS LOOSE; SOMEBODY HAD PATCHED UP BEFORE AND PUT SCREWS INSTEAD OF NAILS ON LEADING EDGE SPARS AND RIBS; SOME RIBS CRACKED; INNER RIB LACING CORDS BROKE; HAVE JUNKED WINGS AND REPLACING WITH NEW METAL SPAR WINGSLATER THIS YEAR.

BEECH	PWA	HOSE	CHAFED	12/01/2000	138
200BEECH	PT6A41	CI30021	RT ENGINE	20010129CW021	

HOSE IS RUBBING AGAINST ENGINE COWLING. RT ENGINE OUTBOARD STACK RELOCATE PICK UP TUBE LOCATION, ANGLE TOWARDS ENGINE CASE.

BEECH	CONT	BULKHEAD	CRACKED	03/28/2001	7583
35C33	IO470*	00244002465	FUSELAGE	SW15200110536	

DURING 100 HOUR INSPECTION FOUND CRACKS IN THE DOUBLER TAIL, A CRACK ON THE RIGHT HAND SKIN SECTION AND A CRACK ON THE AFT BULKHEAD APPROX 1 INCH AT THE BEGINNING OF THE RADIUSED AREA RADIATING OUTBOARD .7500 ON THE RIGHT SIDE AND .5000 ON THE LEFT SIDE. THE SKIN SECTION IS CRACKED 1.75 INCH FROM THE AFT EDGE OF THE SKIN, JUST ABOVE THE CRACK IN THE DOUBLER EXTENDING OUTBOARD .7500 INCH. THE BULKHEAD CRACKS EXTENDS .3750 INCH DOWN THE RADIUSED AREA AT THE TOP LEFT HAND CORNER.

BEECH	PWA	BEECH	COWLING	BENT	03/18/2001	4448
400A	JT15D5		45A350271	LT ENGINE	00114	

COWLING ON LEFT HAND ENGINE BOTTOM INBOARD SIDE WAS BENT BACK DURING FLIGHT. THE CAUSE IS UNKNOWN, THESE COWLINGS ARE KNOWN TO HAVE THIS TYPE OF PROBLEM.

BEECH		BELLCRANK	CORRODED	03/05/2001	3661
400BEECH		45A620911	TE FLAPS	20010410AP009	

DURING ''A'' & ''B'' INSPECTION FOUND THAT BOTH INBOARD AND OUTBOARD FLAP BELL CRANKS ON BOTH WINGS HAD EXCCESSIVE PLAY. THIS CONDITION COULD BE OBSERVED WITH FULL CABLE TENSION WITH FLAPS IN FULL DOWN POSITION. WHEN EACH BELLCRANK WAS DISSASSEMBLED FOUND BOTH BEARINGS, BOLT, STEEL INSERT AND ALUMINUM BELL CRANK TO HAVE HEAVY CORROSION. BOTH OUTBOARD BELL CRANKS HAD TO BE REPLACED.

BEECH	CONT	LANDING GEAR	MALFUNCTIONED	03/07/2001	
58	IO520C		MAINS	20010430CW002	

AIRCRAFT COMING INTO AIRPORT, COULD NOT GET (3) GEAR DOWN AND LOCK LIGHTS. FOUND GEAR INDICATOR LIGHT SWITCH IN DIM POSITION. PILOT COULD NOT SEE LIGHTS IN DAY FLIGHT. REPOSITIONED, CYCLED GEAR OPS

BEECH	PWA	FIRE DETECTOR	SHORTED	04/18/2001	
A100	PT6A28	302157	NR 1 ENGINE	CA010508007	

(CAN) DURING DESCENT NR 1 ENG FIRE INDICATION ILLUMINATED. ENGINE WAS SHUT DOWN. INSPECTION DETERMINED NO ACTUAL FIRE. THE ERRONEOUS FIRE INDICATION COULD NOT BE DUPLICATED ON GROUND. BASED ON PREVIOUS TROUBLE SHOOTING ALL THE WIRING FOR THE FIRE DETECTIONS WAS SPRAYED WITH WATER. WHEN THE WIRING WAS MOVED, OR THE WIRE BUNDLE SQUEEZED, THE FIRE INDICATION ILLUMINATED. INVESTIGATION REVEALED THAT THE WIRING FOR THESE DETECTIONS ARE SUSCEPTABLE TO MOISTURE AND SUBSEQUENTLY WILL

BEECH		SERVO	MISINSTALLED	11/30/2000	3191
A36		KS270	AUTOPILOT SERVO	20010125CW007	

FOUND PITCH SERVO INOPERATIVE DUE TO WATER CONTAMINATION. FOUND SERVO ON TOP OF MOUNTING BRACKETT AND CLUTCH DRIVE ON TOP OF BRACKETT. SERVO AND CLUTCH DRIVE GEARS WERE ONLY SPLINING ABOUT .0156, AFTER SEVERAL TEST, UNIT WOULD FAIL. INSTALLED NEW SERVO AND CLUTCH DRIVE TOGETHER ON

BEECH		FLOAT VALVE	BENT	04/05/2001	295
B200		1009200673	RT NACELLE TANK	20010410AP024	

THE FUEL VENT FLOAT VALVE IN THE TOP OF THE RT NACELLE TANK WAS IMPROPERLY INSTALLED. THE FLOAT PIVOT BRACKET WAS BENT. THIS WOULD PREVENT THE VALVE FROM SEATING PROPERLY. THIS WAS ALLOWING FUEL TO TRANSFER INTO THE AUX TANK WHEN EVER THE MAIN TANK WAS FULL.

BEECH		CABLE	FRAYED	01/31/2001	
B24R		169524074	TE FLAPS	20010424CW001	

DURING ANNUAL INSPECTION, CABLE WAS INSPECTED AND FOUND TO HAVE SEVERAL BROKEN STRANDS. AFTER FURTHER INSPECTION, FOUND THAT FLAP CABLE 169-524074 WAS CONTACTING A SCREW HEAD WHEN THE FLAPS ARE IN THE UP POSITION. RECOMMEND THAT PROTECTIVE TAPE BE PUT OVER THE SCREW AND TO MONITER FLAP CABLE

BEECH	PWA	STARTER GEN	FAILED	03/16/2001	
B300	PT6A60A	23085001	RIGHT	CA010406011	288

(CAN) WHILE IN CRUISE FLIGHT THE RT GENERATOR FELL OFF LINE AND WOULD NOT RESET. AIRCRAFT CONTINUED TO FUEL STOP AIRPORT. MAINTENANCE DISCOVERED FAULTY STARTER/GENERATOR WITH OBVIOUS DAMAGE TO FORWARD (DRIVE SPLINE END) BEARING. GENERATOR SENT FOR OVERHAUL WITH REQUEST FOR BEARING

BEECH		CLIP	MISSING	01/25/2001	
S35		35524656	CONTROL YOKE	20010125CW009	

DURING ANNUAL INSPECTION OF AC A VISUAL INSPECTION WAS PERFORMED ON CHAIN INSIDE THE DUAL CONTROL YOKE. CHAIN MASTER LINK PLATE AND CLIP WERE MISSING FROM LOWER LEFT CHAIN ATTACH POINT TO FITTING. RECOMMEND MORE ATTENTION IN THIS AREA UPON ANNUAL INSPECTION/ 100 HOUR INSPECTION

BEECH	CONT	CABLE	BROKEN	04/09/2001	
S35	IO520B	35521189	AILERON CONTROL	AU010352	

(AUS) AILERON THREADED CABLE AND FITTING SEPARATED APPROXIMATELY MIDWAY BETWEEN THE THREADED END AND THE SWAGED NUT.

BELL	ALLSN	LEARSIEGLER	BRUSHES	BROKEN	04/05/2001	
206B	250C20	23032018	230321380	STARTER GEN	CA010425004	324

(CAN) STARTER-GENERATOR WAS INSPECTED BECAUSE OF PREVIOUS HISTORY OF PROBLEMS IN THIS AR4A. UPON INSPECTION FOUND 3 BRUSH LEADS BROKEN OFF BRUSHES AND 3 SPRINGS BROKEN. THE STARTER GENERATOR HAS BEEN REMOVED FOR OVERHAUL. STARTER-GENERATORLAST OVERHAULED AT CANADIAN AERO ACCESS, CALGARY AND INSTALLED ON AIRCRAFT AT 12445.8 BRUSHES HAD BEEN REPLACED AT 12653.3STARTER-GENERATOR REMOVED

BELL	ALLSN	BELL	BEARING	FAILED	04/06/2001	
206B	250C20B	206011100021	206010189001	MAIN ROTOR	CA010423006	980

(CAN) FAILURE OF ROLLER BEARING CAGE CAUSED ROLLERS TO BUNCH UP AND MISALIGN WITH RACES, SCORING RACES, ROLLERS AND HUB.FAILURE WAS DETECTED BY AN ENGINEER OBSERVING PIECES OF METAL IN THE PURGED GREASE. PRIOR TO DISASSEMBLY NO RESTRICTED MOTION WAS DETECTED, HOWEVER, PIECES OF FAILED CAGE SHOWED EVIDENCE OF BEING SQUASHED BETWEEN ROLLERS AND RACES. THIS COULD POTENTIALLY CAUSE A SEIZURE

BELL		GPS	MALFUNCTIONED	04/06/2001
206B3		13824120234	COCKPIT	HEEA072141

MUST INPUT CODE EVERYTIME UNIT IS TURNED ON. UNIT ONLY PICKS UP ONE OR TWO SATELLITES WHEN ANOTHER UNIT WILL PICK UP SEVEN OR EIGHT IN THE SAME AIRCRAFT. UNIT ALSO INTERMITTENTLY RESTARTS, CHANGES MODES WHILE WAITING FOR IT TO PICK UP MORE SATELLITES INTERMITTENTLY. SENT TO TRIMBLE NAVIGATION

BELL	ALLSN		TUBE	CRACKED	04/03/2001	14068
206L	250C20R	206010355001	206010355003	PITCH LINK ASSY	CA010510003	

(CAN) CRACK WAS VISIBLE TO NAKED EYE EMINATING FROM LOWER INSERT FAYING SURFACE AND EXTENDING VERTICALLY UPWARD 0.4 INCHES. SOME CORROSION PRESENT. REPLACED BOTH PITCH LINK ASSEMBLY WITH LINK ASSY P/N 206-010-360-005. SUSPECT THEY ARE ORIGINAL WHICH MEANS 14,068 HOURS.

BELL	ALLSN	FUEL CONTROL	LEAKING	04/10/2001
206L1	250C30P	25490924	ENGINE	HEEA072463

FUEL LEAKING FROM AROUND BYPASS COVER. DURING OVERHAUL FOUND EXCESSIVE CORROSION AND PITTING AROUND BYPASS COVER AND BORE. THIS CONDITION WILL CAUSE LEAKING FROM THE BYPASS COVER. REPLACED COMPLETE MAIN FLOW BODY ASSY. UNIT TESTED SATISFACTORY.

BELL		CROSSTUBE	CORRODED	04/03/2001	602
206L3		206323017	LANDING GEAR	AC2A072826	

PART HAS INTERGRANULAR CORROSION SEVERAL PLACES ON TUBE. THIS FORWARD CROSSTUBE HAD ONLY 602 HOURS SINCE INSTALLATION,THE CORROSION WAS EXTENSIVE AND BEYOND LIMITS. REPLACED CROSSTUBE WITH NEW PART.

BELL		CROSSTUBE	CORRODED	04/09/2001
206L3		206323018	MLG	HEEA072389

CORROSION PITS UNDER SADDLE MOUNTS. SCRAPPED AND REPLACED WITH SERVICEABLE CROSSTUBE

BELL		CONTROL ROD	CORRODED	04/11/2001
206L3		206001058101	TAIL ROTOR	HEEA072540

CORROSION UNDER NYLATRON SLEEVE FOUND TO BE .020 INCH DEEP. SCRAPPED AND REPLACED WITH SERVICEABLE

BELL		LIFE RAFT	DISLODGED	04/19/2001
206L3		ACR108BP	EMERGENCY EQUIP	HEEA072718

DURING POSTFLIGHT INSPECTION, NOTICED THAT LIFE RAFT WAS COMING OUT OF COVER. FURTHER INVESTIGATION FOUND THAT INFLATION BOTTLE VALVE WAS SLOWLY LEAKING GAS INTO THE RAFT. SENT TO OFFSHORE HELICOPTER SUPPORT FOR WARRANTY REPAIR.

BELL		TRUNNION	RATCHETING	04/24/2001
206L3		206001364001	MAIN ROTOR DR	HEEA072754

BEARING RATCHETING.

BELL		HOSE	LEAKING	12/08/2000
206L3		70053H000A100	HYD PUMP	AC2A072800

SMALL PIN HOLE IN HYDRAULIC FLEX LINE CAUSED LOSS OF HYDRAULIC FLUID. FLEX LINE IS LOCATED ON THE PRESSURE OUTLET OF THE HYDRAULIC PUMP. REPLACED LINE.

BELL		HOSE	LEAKING	12/12/2000	8998
206L3		70053H000A100	HYD PUMP	AC2A072801	

PILOT REPORTED GETTING FEEDBACK IN THE FLIGHT CONTROLS UPON SHUTDOWN OF THE AIRCRAFT. AFTER COMPLETING THE SHUTDOWN, HE EXAMINED THE AIRCRAFT AND FOUND HYDRAULIC FLUID IN THE TRANSMISSION DECK. REPLACED HOSE ASSY.

BELL		BLADE	CORRODED	04/03/2001	1340
206L3		206015001107	MAIN ROTOR	HEEA071942	

TRAILING SKIN AND SPAR HAS EXCESSIVE CORROSION NEAR THE TIP ON THE LOWER SIDE.

BELL	MOUNT	CRACKED	04/06/2001	
206L3	206033201163A	ENGINE	HEEA072151	

CRACKED AT ENGINE MOUNT BOLT HOLE AREA. REPLACED WITH SERVICEABLE PART.

BELL	LIFE VEST	FAILED	04/05/2001	
206L3	3500145NL72	COCKPIT	HEEA072082	

VEST WILL NOT HOLD AIR. SENT TO J.D. MANUFACTURING FOR INSPECTION AND REPAIR.

BELL	SERVO VALVE	STUCK	04/05/2001	
206L3 206076062003	C4264215	MAIN ROTOR	HEEA072083	

SLIDE AND SLEEVE ASSY (SERVO VALVE) HAS STICKY MOVEMENT. REPLACED WITH SERVICEABLE ASSY.

BELL	ALLSN	SEAL	LEAKING	02/13/2001	
206L3	250B*	23063371	GEARBOX	AC2A072783	

AIRCRAFT WAS GROUND RUN AND LEAK CHECKED FOLLOWING ENGINE CHANGE. NO LEAKS FOUND. AIRCRAFT RETURNED AFTER 20 MINUTE TEST FLIGHT. OIL WAS FOUND IN THE ENGINE PAN. OIL LEAKING FROM STARTER-GENERATOR SEAL ON ENGINE GEARBOX. REPLACED SEAL. UPON INSPECTION OF SEAL, IT WAS FOUND TO HAVE A TEAR OR CUT HALF WAY AROUND THE INSIDE CIRCUMFERENCE OF THE SEAL.

BELL	ALLSN	FUEL CONTROL	MALFUNCTIONED	04/11/2001	
206L3	250C30	25490925	ENGINE	HEEA072571	

ENGINE LIGHTS OFF VERY HOT ON ALL STARTS AND THERE IS NO MORE ADJUSTMENT LEFT FOR LIGHTOFF DERICHMENT. IF ACCELERATIONIS MOVED BACK, START IS STILL HOT AND ACCELERATION SLOW. PERFORMED PRELIMINARY INSPECTION AND FOUND NO DISCREPANCIES. UNIT TESTED OK.

BELL	ALLSN	GOVERNOR	MALFUNCTIONED	04/11/2001	8138
206L3	250C30P	252469211	ENGINE	HEEA072567	

N2 SLOW TO RECOVER AFTER POWER CHANGES. GOVERNOR RESPONDED POORLY ON TEST BENCH. SLOPE RESPONDED SLOWLY. CLEANED INTERIOR AND UNIT TESTED OK.

BELL	ALLSN	NOZZLE	DEBONDED	01/10/2001	
206L3	250C30S	6898683	4TH STAGE	AC2A072773	

MAIN ROTOR BLADES FAILED TO TURN BY SPECIFIED N1 SPEED UPON STARTING ENGINE. IT WAS DETERMINED THAT SOMETHING INSIDE OFTURBINE WAS RUBBING DUE TO SOUND COMING FROM TURBINE WHEN ROTOR WAS TURNED BACKWARDS. TURBINE WAS REMOVED AND DISASSEMBLED. IT WAS FOUND THAT THE 4TH STAGE NOZZLE #4 BLADE PATH HAD DISBONDED AND WAS RUBBING THE #4 TURBINE WHEEL OUTER DIAMETER KNIFE EDGES CREATING DRAG THAT WAS CAUSING PROBLEM WITH MAIN ROTOR NOT TURNING ON START. DISBONDING WAS IN APPROXIMATELY 25 SEPARATE SPOTS SPACED AROUND CIRCUMFRENCE OF BLADE PATH, WITH THE LARGEST SPOT BEING AROUND ONE QUARTER INCH INDIAMETER, ROUGHLY ROUND IN SHAPE AND RAISED ENOUGH TO CONTACT THE WHEEL OUTER DIAMETER. THIS CONDITION WOULD APPEA

BELL	CONTACTOR	FAILED	04/03/2001	
BELL	PANEL	MISMANUFACTURE	04/02/2001	
214ST	2140212111105	TAILBOOM	HEEA071926	

PANEL RECEIVED PREVIOUSLY TRIMMED ALONG FORWARD END. CANNOT POSITION ON TAILBOOM TO ACHIEVE PROPER EDGE DISTANCE ON ALL FASTENERS. PANEL NEEDS TO BE MOVED FORWARD AND CORE TRANSITION IS ALREADY CONTACTING STRAP AT BOOM STATION 293.50. PANEL IS SHORTER THAN THE PANEL REMOVED FROM THE TAILBOOM SENT TO BELL HELICOPTER TEXTRON FOR CREDIT.

BELL		CONTROL ROD	INTERFERENCE	04/23/2001	127
407		C807382	TAIL ROTOR	HEEA072747	

INSPECTION OF INTERFERENCE BETWEEN T/R CONTROL TUBE AND N1 TELEFLEX CABLE IN ROOF BEAM. INSPECTION DUE TO FINDING A N1TELEFLEX CABLE ROUTED THROUGH THE WRONG LIGHTENING HOLE AND INTERFERING WITH THE T/R CONTROL TUBE.

BELL		SEAL	FAILED	04/06/2001	1687
407			MAIN ROTOR	HEEA072112	

SWASHPLATE HAS A BLOWN GREASE SEAL.

BELL	CROSSTUBE	DAMAGED	04/09/2001	
412	412050045107	MLG	HEEA072432	

UPON REMOVING CENTER PIVOT SADDLE; IT WAS FOUND THAT THERE WAS NO HOT BOND AGENT UNDER PIVOT.

BELL	OIL COOLER	LEAKING	04/11/2001	
412	8538100	ENGINE	HEEA072484	

LEAKING FROM CENTER CORE AREA.

BELL	HOSE	LEAKING	04/11/2001	
412	70066L000R230	HYD SYSTEM	HEEA072491	

LEAKING THROUGH STEEL BRAIDED SLEEVE. REPLACED WITH SERVICEABLE HOSE.

BELL	BEARING	DAMAGED	04/18/2001	
412	412010216105	MAIN ROTOR	HEEA072673	

BEARING RETAINING RING POPPED OUT OF GROOVE. ALSO BEARING SPINS IN HOUSING. REPLACED WITH SERVICEABLE

BELL	AMPLIFIER	MALFUNCTIONED	04/03/2001	
412	30236ET1	FIRE DETECTOR	HEEA071930	

WHILE IN CRUISE FLIGHT THE BAGGAGE COMPARTMENT FIRE LIGHT ILLUMINATED. NO FIRE OBSERVED. MAINTENANCE REPAIRED CHAFED WIRE AT AMPLIFIER CONTROL CONNECTOR.

BELL	PWA	GOVERNOR	MALFUNCTIONED	04/09/2001	
412	PT6T3B	25249994	FREE TURBINE	HEEA072416	

N2 WENT HIGH WITH THROTTLE AT IDLE. FOUND UNIT TO BE SLIGHTLY HANGING. SPLIT UNIT AND FOUND INTERIOR OF UNIT TO BE DIRTY, WITH FLYWEIGHTS STICKING. THIS WAS THE CAUSE OF THE HANGING ON BENCH. CLEANED INTERIOR OF UNIT AND GOVERNOR TESTEDOK.

BELL	PWA	GOVERNOR	FAILED	04/16/2001	
412	PT6T3B	25249994	NR 1 ENGINE	HEEA072604	

NR 1 ENGINE OSCILLATES DURING POWER TRANSITION AT APPROX. 80 PERCENT TORQUE. FOUND GOVERNOR WAS HANGING. FOUND INTERIOR OF UNIT VERY DIRTY WHICH CAUSED THE FLYWEIGHTS TO STICK. CLEANED FLYWEIGHTS AND REPLACED FLYWEIGHT PINS DUE TO WEAR.UNIT TESTED OK.

BELL			EROSION	DAMAGED	03/11/2001	
430		430015001123	4300150037101	MAIN ROTOR	AC2A072819	

EROSION TAPE FOR MAIN ROTOR BLADE WAS FOUND BUBBLED. FUTHER INSPECTION FOUND BUBBLE WAS FULL OF WATER. THERE WAS NO SIGN OF AREA OF ENTRY. REPLACED EROSION TAPE.

BELL			TUBE	CHAFED	03/11/2001	46
430			230025203101	ENGINE BLEED AIR	AC2A072822	

CUSTOMER BLEED AIR TUBE HAD A WORN SPOT FROM THE UPPER ENGINE COWLING(PN 230-061-803-104). REPLACED TUBE ASSY AND REPAIRED COWLING.

BELL			CLIP	MISINSTALLED	03/11/2001	46
430			222035165164	FUSELAGE	AC2A072823	

TAIL ROTOR DRIVE SHAFT COVER (PN 222-035-165-179) WAS RUBBING TAIL ROTOR DRIVE SHAFT SUPPORT BEARING SUPPORT (PN 430-035-164-105). CAUSE OF RUBBING WAS FORWARD TAIL ROTOR DRIVE SHAFT COWLING CLIP (PN 222-025-165-164) WAS INSTALLED TO CLOSETOGETHER AND DID NOT GIVE SUFFICIENT CLEARENCE FOR SUPPORT. ADDED SPACER PAD BETWEEN DRIVE SHAFT COVER AND CLIP.

BELL			BOLT	CORRODED	03/11/2001	46
430			2006508083	MAIN ROTOR	AC2A072824	

WHILE REMOVING MAIN ROTOR YOKES WATER CAME OUT OF AREA OF MAIN ROTOR DRIVE BUSHINGS AND MAIN ROTOR BOLTS. DRIVE PLATE WAS FOUND NOT TO BE SEALED PROPERLY AND 2 MAIN ROTOR BOLTS WERE FOUND TO HAVE CORROSION PITTING. REPLACED BOLTS AND SEALED PROPERLY.

BELL			SEAL	LEAKING	03/25/2001	46
430		222042001103	222342402101	TAIL ROTOR G/B	AC2A072825	

TAIL ROTOR GEAR BOX WAS LEAKING FROM OUT PUT SEAL. WHEN SEAL WAS RENOVED IT WAS DISCOVERED THAT THE SEAL LIP HAD SEALENT MIL-S-8784 ON IT. THIS SEALENT IS USED ON THE OUTER SURFACE OF THE SEAL WHEN INSTALLING. REPLACED SEAL.

BELL			PLATE	LOOSE	03/11/2001	46
430		430010100113	430010105105	MAIN ROTOR	AC2A072820	

CLAMP PLATE WAS NOT SHIMED PROPERLY ON SHEAR RESTRAINT. RESHIMED CLAMP PLATE.

BELL			WINDOW	SEPARATED	04/10/2001	
430			222180109	COCKPIT	HEEA072475	

ENROUTE TO MP283 AT 3000 FEET AT 135 KNOTS, THE CO-PILOT''S DOOR WINDOW DEPARTED THE AIRCRAFT. INSPECTED AND FOUND NO DAMAGE TO AIRCRAFT.

BELL			YOKE	CRACKED	01/01/2001	2862
430			430010101101	MAIN ROTOR	AC2A072804	

SPAN-WISE CRACK 12 INCHES FROM CENTER. REPLACED.

BELL			BLADE	CRACKED	01/01/2001	1742
430			222016001131	TAIL ROTOR	AC2A072805	

FEATHERING BEARINGS CRACKED. FEATHERING BEARINGS WERE REPLACED BEFORE THIS AT TIME 589.4. THE BLADE HAS 1152.8 SINCE REPLACEMENT OF BEARINGS. REPLACED BLADE

BELL	ALLSN		LINE	LEAKING	03/27/2001	46
430	250C40B		6871937	ENGINE	AC2A072787	

OIL LEAK ON INBOARD SIDE OF NR 1 ENGINE. FOUND TUBE ASSY FROM CHECK VALVE TO GEAR BOX HOUSING WOULD NOT SEAT PROPERLY. REPLACED TUBE ASSY.TO THIS.

BELL	LYC		GRIP	CRACKED	03/22/2001	
47G5A	VO435B1A		471202527	MAIN ROTOR HEAD	AU010281	577

(AUS) MAIN ROTOR GRIP CRACKED IN SECOND, THIRD AND FOURTH THREADS. FOUND DURING EDDY CURRENT INSPECTION. X-RAY INSPECTION RESULTSWERE INCONCLUSIVE.

BELL	LYC		BLADE	CRACKED	04/02/2001	2500
UH1H	T53*		204011250113	MAIN ROTOR	20010502CW005	1648

A CRACK WAS NOTICED INSIDE DENT AFT OF THE SPAR ON THE TOP OF THE MAIN ROTOR BLADE. REMOVAL OF PAINT DETERMINED THE CRACK TO BE IN EXCESS OF 6 INCHES LONG. THE ROTOR BLADE WAS DETERMINED TO BE UNSERVICEABLE AND REMOVED FROM SERVICE.

BOLKMS	LYC		BEARING	ROUGH	04/09/2001	4574
BK117A4	LTS101650B1	11731521	BB1B649781A	TAIL ROTOR DRIVE	CA010504018	

(CAN) HEARD CLICKING NOISE DURING DAILY INSPECTION WHILE TURNING MAIN ROTOR.DISCOVERED ROUGH NR 3 TAIL ROTOR DRIVESHAFTBEARING, BEARING CAUSED RUBBER SLEEVE ON SHAFT TO SPIN. DAMAGE TO SHAFT BEYONG LIMITS. SUSPECT INTERNAL CORROSION DUE TO HISTORY OF THIS PART SITTING IN STORAGE FOR A LONG TIME.

BOLKMS	LYC		CARGO HOOK	FAULTY	03/03/2001	
BK117B1	LTS101750B1		A25LT	CARGO AREA	AU010278	

(AUS) CARGO HOOK FAILED AND RELEASED LOAD. INVESTIGATION FOUND SCREWLOCATED ON THE LOWER LH SIDE OF THE COVER WAS INTERFERING WITHTHE RETURN OF THE LEVER AND LATCH ASSEMBLY RESULTING IN INTERMITTENT OPERATION OF THE LATCH. EXCESSIVE PLAY IN LINK AND PINS CONTRIBUTED TO THE PROBLEM.

BOLKMS			EXHAUST PIPE	CORRODED	04/05/2001	
BO105S			10560186	ENGINE	HEEA072178	

RUST PITS THROUGH STACK AT MOUNT FLANGE. REPLACED WITH SERVICEABLE PART.

BOLKMS	ALLSN		SPLINE	CORRODED	01/30/2001	756
BO105S	250C20B	6890550	23039791	COMPRESSOR	AC2A072782	

COMPRESSOR WAS REMOVED DUE TO F.O.D. SPLINE ADAPTER WAS REMOVED IN ORDER TO DISASSEMBLE COMPRESSOR ROTOR FOR REPAIR. SPLINE ADAPTER WAS FOUND TO HAVE A RING OF CORROSION AROUND OUTSIDE CIRCUMFRENCE OF ADAPTER .650 INCH FROM REAR END OF ADAPTER. CORROSION IS AT THE POINT WHERE THE ADAPTER SEATS INTO THE IMPELLER AT THE JUNCTION OF THE ADAPTER AND THE REAR END OF THE IMPELLER. CORROSION IS AT THE SAME LOCATION WHERE CHEVRON PREVIOUSLY HAD AN ADAPTER FAIL THAT RESULTED IN AN INFLIGHT ENGINE FAILURE AND UNSCHEDULED LANDING. SPLINE ADAPTER FIT AND INSTALLATION WERE IN ACCORDANCE WITH MAINTENANCE INSTRUCTIONS. SPLINE ADAPTER WAS REPLACED. COMPRESSOR IS STILL IN SPARES AT THIS TIME AND

CESSNA	CONT		BRACKET	CRACKED	03/21/2001	5116
150F	O200A		04320041	HORIZONTAL STAB	CA010409019	

(CAN) FOUND DURING INSPECTION FOR 80-11-04 NUTPLATES FOR CRACKS. ALSO SDA AV-2000-06. AFTER REMOVAL OF BRACKET ALSO FOUND REAR SPAR REINFORCEMENT P/N 0432001-15 CRACKED (HOLES ARE ALSO ELONGATED) ALONG TOPSIDE, AFTER REMOVAL OF REAR SPAR.REINFORCEMENT BOTH L/H AND R/H SPARS P/N 0432001-56.

CESSNA	CONT		WIRE	CHAFED	03/07/2001	
150L	O200*			INSTRUMENT	20010418CW008	

WIRE SHIELDING CHAFED OTHER WIRES IN SAME BUNDLE CAUSING MULTIPLE SHORTS. OCCURRED IN FORMAL OPERATION. PROBABLE CAUSE WAS SHIELDING ON PB 10 TOUGHER THAN INSOLATION IN OTHER WIRES CAUSING SEVERE WEAR. TO PREVENT RECURRENCE PB 10 NEEDS A SLEEVE OR COVER OVER SHIELDING OR ISOLATE PB 10 FROM THE REST OF THE WIRE BUNDLE.

CESSNA	LYC	CESSNA	SPAR	CRACKED	04/17/2001	9133
152	O235L2C	04330101	04330106	RUDDER	CA010510008	

(CAN) 4 CRACKS WERE FOUND ORIGINATING FROM A 1.0 INCH DIA. LIGHTENING HOLE, 1.50 INCH BELOW UPPER RUDDER HINGE BRACKET.NOTE: REPLACEMENT SPAR WITH THE SAME P/N FROM CESSNA DOES NOT HAVE THIS

CESSNA	LYC	CESSNA	BRACKET	CRACKED	04/16/2001	9133
152	O235L2C	043200159	04320049	HORIZONTAL STAB	CA010510009	

(CAN) 2 CRACKS FOUND AT WELDED EDGE.2 CRACKS FOUND AT ANCHOR NUT HOLE.1 CRACK WELD CRACKED. 1 CORNER NOT WELDED.

CESSNA	LYC		HOUSING	CRACKED	04/02/2001	3857
172M	O320D2G			THROTTLE CABLE	20010430CW012	

THROTTLE CABLE OUTER HOUSING DETERIORATED AND SEPARATED FROM SWEDGED FITTING AT CLAMP LOCATION AFT OF ENGINE. THIS ALLOWED THE OUTER HOUSING TO MOVE INSTEAD OF THE CARBURETOR CONTROL ARM AS THE THROTTLE CONTROL WAS MOVED. RECOMMEND CABLEREPLACEMENT WHEN ANY INDICATION OF CRACKING IN THE OUTER HOUSING BECOMES VISIBLE.

CESSNA	LYC		YOKE	CORRODED	03/14/2001	12525
172P	O320D2J		05600145	CONTROL COLUMN	20010419CW001	

MAINTENANCE TECH FOUND AREA BELOW PIVET BOLT EXCESSIVELY CORRODED TO THE POINT OF EXFOLIATION. WHEN DRILLING THE INSPECTION HOLE CALLED FOR, THE DRILL BIT ACTUALLY FELL THROUGH AFTER APPROXIMATELY 2 TURNS OF THE BIT. CENTRAL YOKE WAS REPLACED AT THIS TIME. TECH STRONGLY RECOMMENDS THIS PROCEDURE SHOULD BECOME AN AIRWORTHINESS DIRECTIVE.

CESSNA	LYC		PIVOT	BROKEN	04/02/2001	2800
172RG	O360A1D		244110010	RT MLG	20010430CW008	

WHILE ON CHECK RIDE, THE RIGHT MAIN LANDING GEAR FAILED TO EXTEND. THE PILOT SUCCESSFULLY MANAGED TO LOCK THE GEAR IN PLACE BY LAYING ON THE FLOOR BEHIND THE PILOTS SEATS, USING HIS HEAD TO HOLD DOOR OPEN, REACHING OUT AND PULLED GEAR INTO POSITION. LANDED SAFELY. FOUND THE SPLINED PART OF THE PIVOT HAD COMPLETELY TWISTED OFF FROM THE REST OF THE PIVOT.NO HISTORY OF ANY BRAKE PROBLEMS, NOR REPORTS OF HARD LANDINGS WERE MADE. NO LEAKS WERE DETECTED WHILE PERFORMING THE ANNUAL

CESSNA			BULKHEAD	BROKEN	12/13/2000	143
172S			055032110	PROP SPINNER	20010129CW009	

FOLLOWING A ROUTINE TRAINING FLIGHT, THE STUDENT AND INSTRUCTOR RETURNED TO FIND THE SPINNER BULKHEAD BROKEN OFF AROUNDTHE NUTPLATE AND SPINNER BENT IN THAT AREA. THE PROBABLE CAUSE WAS IMPROPER SPINNER TO BULKHEAD FITTING FROM THE FACTORY, CREATING EXCESSIVE TENSION IN THAT AREA. SUGGEST BETTER QUALITY CONTROL FROM THE MFG WHEN SPINNER IS INSTALLED TO PREVENT RECURRENCE.

CESSNA			SWITCH	INOPERATIVE	03/08/2001	1003
172S			S337711	COCKPIT	20010418CW009	1003

PILOT REPORTED AVIONICS MASTER SWITCH INOPERATIVE, WHEN BATTERY SWITCH IS TURNED ON, ALL AVIONICS LEFT IN ON POSITION POWER UP REGARDLESS OF AVIONICS MASTER SWITCH POSITION. MAINTENANCE FOUND ONE SIDE OF AVIONICS MASTER SWITCH INOPERATIVE. REPLACED AVIONICS MASTER SWITCH. OPERATIONAL CHECKED

CESSNA			SEAT BACK	BENT	03/12/2001	1003
172S			051421224	COCKPIT	20010418CW010	1003

MAINTENANCE FOUND RIGHT FRONT SEAT BACK RECLINED APPROXIMATELY 4 INCHES FROM NORMAL UPRIGHT POSITION. THE SEAT WAS REMOVED AND INSPECTED, FINDING THE SEAT BACK FRAME BENT. THE FRAME WAS BENT ON THE LEFT SIDE JUST ABOVE THE ATTACH FORGINGPN 05142158. REPLACED SEAT BACK FRAME.

CESSNA			SEAT BACK	BENT	03/16/2001	1007
172S			051421515	COPILOTS SEAT	20010410AP012	

DURING PHASE 1 MAINTENANCE INSPECTION, CO-PILOTS SEAT BACK WAS RECLINED APPROXIMATELY 4 INCHES FROM FULL UPRIGHT POSITION. FOUND SEAT BACK FRAME P/N 0514215-15 WAS BENT AT THE TOP OF THE RIGHT ATTACH

CESSNA			CONTROL	BROKEN	03/26/2001	1008
172S			161102105	COCKPIT SEAT	20010410AP016	

DURING PHASE 3 INSPECTION FOUND PILOTS SEAT LOCK CONTROL ASSEMBLY P/N 1611021-05 BROKEN. ONE SEAT LOCK PIN WAS ENGAGEDAND WOULD NOT RELEASE DUE TO THE ACTUATOR CABLE BROKEN. THIS IS THE 5TH SEAT CONTROL ASSEMBLY THAT HAS FAILED WITH A BROKEN CABLE FOR THIS ORGANIZATION. REPLACED CONTROL

CESSNA	LYC		SKIN	CRACKED	03/29/2001	1168
172S	IO360A1A		05239016	LEFT TE FLAP	20010507CW020	

DURING A PHASE 2 INSPECTION PERFORMED, SEVERAL CRACKS WERE NOTICED ON THE TRAILING EDGE RIVETS ON THE LOWER LEFT FLAP SKIN, AT APPROX 2-3 FEET FROM THE INBOARD EDGE. 6 RIVETS HAD CRACKS STARTING TO FORM FROM THEM. THE CRACKS ARE ABOUT .1250 TO .2500 OF AN INCH LONG.

CESSNA	CONT		GYRO	INOPERATIVE	04/18/2001	
182	O470*			COCKPIT	20010418CW001	

DURING ROUTINE ANNUAL INSPECTION THE ELEVATOR WAS FOUND TO TRAVEL ONLY 19 DEGREE UP. THE TYPE CERTIFICATE CALLS FOR 25DEGREE. INVESTIGATION FOUND THE D. G. MOUNTED DIRECTLY ABOVE THE CONTROL WHEEL TUBE. AS THE WHEEL WAS PULLED AFT THE AN3-10A BOLT CONTACTED THE D.G. STOPPING THE TRAVEL.

CESSNA	CONT		CABLE	DAMAGED	04/18/2001	
182	O470*			BATTERY	20010418CW004	

THE BATTERY CABLE WAS BARE IN MANY PLACES INCLUDING THE PENETRATION OF THE FIREWALL. IT HAD ALSO BEEN PENETRATED BY A SCREW THROUGH THE BELLY OF AIRCRAFT, JUST FORWARD OF THE BATTERY BOX.

CESSNA	CONT	PREAIR	NEEDLE VALVE	SEPARATED	02/16/2001	52
182K	O470R	MA45	43362	CARBURETOR	20010410AP001	52

OWNER REPORTED ROUGH IDLE AFTER LANDING, ASSUMED THE PROBLEM WAS RELATED TO CARB ICE ON THE GROUND. AIRCRAFT WAS BROUGHT IN FOR ANNUAL INSPECTION AND DURING PRE INSPECTION RUN UP CONFIRMED ROUGH IDLE, BUT SMOOTHED OUT WHEN CARB HEAT WAS APPLIED. DURING INSPECTION FOUND THE CARBURATOR IDLE MIXTURE SCREW, SPRING, AND WASHER HAD FALLEN

OUT. THE AIRCRAFT ISBASED AT A HIGH ALTITUDE (5883 FT) AIRPORT AND TO OBTAIN CORRECT IDLE MIXTURE SETTING THE IDLE MIXTURE SCREW HAS LIGHT CONTACT WITH SETTING SPRING. CARBURETOR WAS SUPPLIED WITH FACTORY REMANUFACTURED ENGINE 52.04 HOURS AGO.

CESSNA			RUDDER	INTERFERENCE	01/24/2001	
182S				TAIL	20010124CW009	

WHEN CHECKING RUDDER TRAVEL, ELEVATOR WAS IN NEUTRAL POSITION. WHILE THE RUDDER WAS DEFLECTED FULL IN EITHER DIRECTION, THE ELEVATOR WOULD HIT THE RUDDER WHEN THE ELEVATOR WAS RAISED. THE RUDDER TRAVEL WAS RIGGED CORRECTLY PER MAINTENANCE MANUAL. THIS COULD CAUSE THE RUDDER AND

CESSNA	LYC	CESSNA	SPROCKET	MALADJUSTMENT	04/02/2001	
206H	IO540*		12606421	IDLER	20010418CW007	

EXCESSIVE LEFT RUDDER PETAL PRESSURE REQUIRED TO MAINTAIN STRAIGHT AND LEVEL FLIGHT. FOUND TRIM CHAIN TENSION ADJUSTMENT IDLER SPROCKET SLIPPED IN ADJUSTMENT SLOT. TRIM CHAIN JUMPED POSITION ON STEERING BUNGEE GEAR, CAMPING LIMITED LEFT RUDDER TRIM. RUDDER TRIM RIGGING RESET, AIRCRAFT FLIGHT CHECKED, RUDDER CONTROL SYSTEM AND RUDDER TRIM OPERATION NORMAL.

CESSNA		BRACKET	BROKEN	05/08/2001	3789
208B		26111447	FLAP	20010508CW002	

PRIMARY FLAP MOTOR DRIVE COUPLER FAILED. STAND BY SYSTEM USED TO EXTEND FLAPS. FLAP LIMIT SWITCHES NOT INCORPORATED IN STAND BY SYSTEM. OPERATIONAL SWITCH OF STAD BY SYSTEM HELD TOO LONG AND FLAP MOTOR CONTINUED TO RUN PAST LIMIT SWITCHLOCATION AND TWISTED FLAP DRIVE ASSEMBLY OUT OF MOUNTING BRACKET. RECOMMENDATION, PILOT BE MORE AWARE OF SYSTEM OPERATION OR INCORPORATE SWITCHES INTO

CESSNA		FLOORBEAM	CORRODED	02/21/2001	3783
210		12134083	FUSELAGE	20010410AP002	

DURING ANNUAL INSPECTION DISCOVERED SEVERE INTERGRANULAR CORROSION ON LEFT 4 INCHES OF ANGLE. CORROSION OCCURED PRIMARILY WHERE .25 IN. HI-SHEAR RIVITS ATTACH ANGLE TO BULKHEAD AND WING LIFT STRUT ATTACH FITTING. ANGLE WAS LESS THAN HALF ORIGINAL THICKNESS WHEN REMOVED. LIGHT SURFACE CORROSION NOTED IN ENTIRE AREA. THIS AREA IS VERY CRITICAL AND SHOULDBE INSPECTED VERY THOROUGHLY DURING ALL INPECTIONS. FLOORBOARDS REMOVED AND NEW PART INSTALLED.

CESSNA	CONT	TORQUE LINK	CRACKED	04/16/2001	
210L	IO520L	12434262	NOSE GEAR	CA010503012	

(CAN) UPPER NOSE GEAR TORQUE LINK FOUND CRACKED HALF WAY UP PART AS SHOW. CRACK WAS IN TWO LOCATIONS ABOUT 1/4 INCH LONG. PART HAD NOT FAILED.THIS IS THE SECOND PART FOUND CRACKED ON CESSNA 210 AIRCRAFT, BOTH IN THE SAME LOCATION.

CESSNA	CONT	BULKHEAD	CRACKED	03/21/2001	5921
310K	IO470*	08130005	FUSELAGE	20010413CW005	

DURING REPLACEMENT OF AIRCRAFT HEATER DUCTING, MECHANIC NOTICED THE RIGHT BULKHEAD AT STA 29.93 UNDER HEATER WAS CRACKED. ALSO CHECKED LEFT SIDE BULKHEAD AT STA 29.93 AND FOUND THAT BULKHEAD CRACKED IN THE SAME LOCATION. NOTE THAT SUPPORT FOR NOSE WHEEL STEERING PULLEY IS ATTACHED TO BULKHEAD NEAR CRACK. MOVEMENT OF PULLEY AND CABLE TENSION MAY CAUSE BULKHEAD TO FLEX. RECOMMEND CHECKING CABLE TENSION DURING INSPECTION OF NOSE WHEEL STEERING SYSTEM.

CESSNA		BELLCRANK	BROKEN	03/07/2001	
310R		08421043	NOSE GEAR	20010430CW003	

PILOT HEARD POPPING NOISE OUT OF GEAR, WHEN GEAR WAS RETRACTED. SELECTED GEAR DOWN AND DID A FLYBY. TOWER SAID NOSE GEAR HALF WAY DOWN, FLEW TO AIRPORT AND LANDED, NOSE GEAR COLLAPSED. LIFTED AIRCRAFT ON TO RUNWAY. NOSE GEAR SWUNG DOWN AND LOCKED, ZERO RESISTANCE, FOUND BELLCRANK BROKEN WHERE FORK BOLT GOES THROUGH.

CESSNA	CONT	CONT	GEAR	WORN	01/18/2001	188
337G	IO360GB		632617	ACCESSORY DRIVE	CWA1	188

DURING RUN-UP, FOLLOWING ANNUAL INSPECTION, NO VACUUM INDICATION OBSERVED FROM REAR ENGINE. REMOVED PUMP FOR REPLACEMENT AND OBSERVED DRIVE ON ENGINE DID NOT TURN WITH PROPELLER. REMOVED ACCESSORY DRIVE COVER AND FOUND NO TEETH LEFT ON DRIVING BEVEL GEAR. DRIVEN GEAR WAS NOT WORN.

CESSNA	CONT	CESSNA	FITTING	CORRODED	03/23/2001	
402C	TSIO520VB	402C	0811351	WING SPAR	AU010291	

(AUS) WING SPAR CAP FITTING CONTAINED SEVERE EXFOLIATION CORROSION ON THE FORWARD FACE.

CESSNA	CONT	CABLE	BROKEN	03/13/2001	6160
414A	TSIO520*	500000863	TE FLAPS	20010416CW010	

CABLE SNAPPED BY FIRST PULLEY OUTBOARD OF FLAP MOTOR, RIGHT SIDE. NO EVIDENCE OF WEAR OR CORROSION. PULLEY WAS TURNING FREE. FAILURE CAUSED SPLIT FLAPS ON LANDING.

CESSNA	CONT	CYLINDER	CRACKED	12/18/2000	
421B	GTSIO520H	642344	ENGINE	20010125CW008	83

PILOT NOTICED RT ENGINE WAS RUNNING ROUGH. SHUT DOWN ENGINE, DURING INSPECTION FOUND THAT NR5 CYLINDER WAS COLD, WITHCOMPRESSION TEST, RESULTS WAS 0/80. FOUND EXHST STUD AND NUT MISSING, ALSO REVEALED BURN MARKS FROM EXHST AND MANY CRACKS AROUND EXHST PORT AND SPK PLUG HOLE. RMVD EXHST SYSTM AND CYL, EXHST VLV WAS SITTING ON TOP OF THE SEAT WITH LOOSE SEAT BECAUSE OF CRACKS THROUGH SEAT AREA. POOR COND. OF CYL PRIOR TO O/H . EXTENT OF RECOND REQUIRED TO REPAIR PREVIOUS DAMAGE EVIDENT BY WELD AROUND SPK PLUG HOLES AND PORTS WAS TO MUCH FOR CYLINDER IN THIS COND. DAMAGE AROUND EXHST PORT., IMPROPER INSTALL OF STUD OR REPAIR OF HOLES ARE WHERE CRKS STARTED THEN EXHST

CESSNA	CONT	FUEL CAP	CRACKED	02/07/2001	5280
421C	GTSIO520F		HEATER	20010501CW001	

FUEL LEAK AT HEATER FUEL FILTER ASSEMBLY IN RIGHT WING. CAP ON TOP OF ASSEMBLY WAS FOUND TO HAVE CRACK IN THREADS. CAP IS MADE OF ALUMINUM. PART IS PRESUMED TO BE ORIGINAL EQUIPMENT. NO KNOW DISASSEMBLY IN SERVICE HISTORY. CAP WAS LOOSE IN SPITE OF LOCK TAB STILL BEING INTACT.

CESSNA	RIB	CRACKED	05/14/2001	8620
441	57222061	LEFT CENTER	20010515AP002	

DURING A SCHEDULED INSPECTION, THE LEFT WING CENTER SECTION CANTED RIB CAP (CWS 26.85 INCHES) WAS FOUND CRACKED. THE CANTED RIB UPPER CAP (P/N: 5722206-1) WAS CRACKED AFT OF THE AFT MAIN SPAR AT FS 177.45, IN THE BEND RADIUS, AND RAN AFT APPROXIMATELY 1.375 INCH. THE CRACK WAS FIRST NOTED USING VISUAL INSPECTION THEN VERIFIED WITH DYE PENETRANT. AFTER REMOVING THE RIB CAP, CLOSE EXAMINATION OF THE PART REVEALED THAT THE CAP WAS MANUFACTURED SO THAT THE BEND WAS PARALLEL WITHGRAIN OF THE METAL INSTEAD OF PERPENDICULAR WHICH COULD RESULT IN THIS TYPE OF FAILURE. CESSNA CURRENTLY DOES NOT HAVE ANY SPECIFIC INSPECTIONS RELATING TO THIS MATTER, THEREFORE,THIS AREA SHOULD BE CLOSELY

CESSNA		HOSE	BURST	03/14/2001	2572
550		124F0016CL0532	HYD PUMP	951141	

DURING FLIGHT BOTH THE HYDRAULIC FLOW LIGHTS AND THE HYDRAULIC RESERVEOIR LOW LEVEL LIGHT ILLUMNINATED. FOUND THE PRESSURE LINE FROM THE NR 1 HYDRAULIC PUMP BURST APPROX. 18 INCHES FROM THE PUMP. THERE WERE NO CHAFF MARKS ON THE HOSE, SUSPECT INTERNAL FAILURE OF THE HOSE. THE INCIDENT IS

CESSNA	CONT		SPAR	CRACKED	04/23/2001
A188B	IO520*			RT ELEVATOR	20010507CW010

FOUND RIGHT ELEVATOR SPAR CRACKED AT OUTBOARD ATTACH POINT. HORIZONTAL STABILIZER HAD PREVIOUS REPAIRS WERE LOCATED DIRECTLY FORWARD OF CRACK IN ELEVATOR SPAR.

CESSNA			RIB	CRACKED	02/22/2001 2249
R182			073261110	HORIZONTAL STAB	20010410AP004

DURING AN ANNUAL INSPECTION FOUND THE RT HORIZONTAL STABILIZER INBOARD LEADING EDGE RIB CRACKED. DETECTED CRACK DUE TOEXCESSIVE SKIN PLAY AT RIB AND A WORKING FASTNER. CONFIRMED CRACK USING A BORESCOPE. DISASSEMBLED THE EMPENNAGE ENOUGHTO FACILITATE RIB REPLACEMENT.

CESSNA	LYC		TUBE	LOOSE	03/23/2001 6001
R182	O540*		1260141	AILERON CONTROL	20010425CW007

DURING ANNUAL INSPECTION THE TWO ALUMINUM RIVETS SECURING THE FORWARD END OF SHAFT WERE FOUND LOOSE AND THE BUCK TAILS MISSING . THE SQUARK TUBE PORTION OF ASSEMBLY APPEARS TO BE ALUMINUM. THE FORWARD THREADED END IS STEEL. THE FIT OF THE TWO PARTS IS NOT VERY CLOSE. FOUND SHAFT ON FORWARD END OF TUBE WORN WERE IT IS INSTALLED IN BEARING BLOCK. IF THE TWO RIVETS HAD FALLEN OUT, IT COULD HAVE RESULTED IN TOTAL LOSS OF AILERON CONTROL.(PHOTOS)

CESSNA	LYC		LINE	LEAKING	11/27/2000 391
R182	O540J1A5		1560016D0140	FUEL SYSTEM	20010508CW010

STEELE BRADED FUEL LINE FOUND SEVERLY LEAKING AT ANNUAL INSPECTION. NOTICED ENGINE COMPARTMENT VERY WASHED FROM FUEL LEAKING WHILE RUNNING. FUEL LINE WAS PRESSURE LINE FROM ENGINE FUEL PUMP TO CARBURETOR. INSTALLED 2.97 391TT VERY COMMON PROBLEM. TIME LIMIT NEEDED ON STEELE FUEL LINES.

DHAV	PWA		MOUNT	CRACKED	02/12/2001 8689
DHC2*	R985AN14B		C2EM4A	ENGINE	CA010508013

(CAN) THE ENGINE WAS CHANGED IN THE AIRCRAFT. UPON INSPECTION, THE ENGINE MOUNT WAS FOUND TO BE CRACKED AROUND THE LORDMOUNT PADS. THE MOUNT ASSEMBLY P/N C2EM4-A WAS REPLACED WITH A REPAIRED

EMB	PWA		TAPER PIN	CORRODED	03/15/2001
EMB110P1	PT6A34		4A0021001	WING	CA010411003

(CAN) AIRCRAFT TT: 18965.4 HRS CYC: 24946 PART TT: APP. 7200 HRS. IF REPLACED AT LAST C12 INSP. TAPER PIN CONE BUSHINGS ALSO AFFECTED. PIN DID NOT COME OUT WITH MANUFACTURERS SPECIAL TOOL PRESS. NEW PINS AND CONES REQUIRED. PIN HAD TO BE DRILLED AND CUT BY MACHINIST.IT APPEARS ITL P/N 1027251T2, MASTINOK 6856K JOINTING COMPOUND MADE BY PRC PESOTO INTERNATIONAL HAS NOT BEEN UTILIZED AT INSTALLATION AS

GULSTM			SKIN	CORRODED	02/20/2001
G1159				ELEVATOR	ZVSR409Y

EXTENSIVE SURFACE CORROSION ON HORIZONTAL STABILIZER AND ELEVATORS. CORROSION ON ELEVATORS EXTENDED THROUGH THE SKIN SURFACE. CORROSION WAS FOUND WHILE AIRCRAFT WAS IN MAINTENANCE FOR AN EXTERIOR PAINT JOB. CORROSION WAS FOUND AFTER PAINT WAS STRIPPED AND A VISUAL INSPECTION WAS

HUGHES	ALLSN	DOUG	GEAR	BROKEN	03/16/2001	
369D	250C20B	369D25100505	269D2512311	M/R TRANSMISSION	CA010423009	2214

(CAN) MAIN ROTOR TRANSMISSION REMOVED FOR MAKING METAL. UPON DISASSEMBLY IT WAS DISCOVERED THAT ON INPUT GEAR TOOTH HADBROKEN OFF. THE TOOTH WAS FOUND IN THE SCAVENGE PUMP INTAKE.REMNANTS OF THE TOOTH WERE FOUND IN THE SCAVANGE SPRAY TUBE.

HUGHES	ALLSN		BLADE	CRACKED	03/28/2001 2269
369D	250C20B		369D21100523	MAIN ROTOR	CA010405002

(CAN) UPPER AND LOWER SKIN CRACKED AT STN 36.5. CRACKED FROM TRAILING EDGE TOWARDS LEADING EDGE 4.25

HUGHES	ALLSN		BEARING	DAMAGED	03/16/2001
369D	250C20B		369A56553	BLOWER ASSY	20010419CW013

DURING SHUTDOWN, A LOUD GRINDING AND POPPING WAS HEARD COMING FROM THE TRANSMISSION AREA. OIL COOLER BLOWER ASSY PN 369025630-101 WAS REMOVED AND DISSASSEMBLED FOR INSPECTION. THE LOWER BLOWER BEARING PN 369A5655-3 HAD FAILED. IT IS SUSPECTED THAT THE BEARING CAGE FAILED AS NUMEROUS PIECES OF CAGE MATERIAL WAS RECOVERED. THIS BEARING HAS A RL OF 1200 HOURS. PART TT AT FAILURE WAS 515.4 BEARING RETAINED FOR 90 DAYS AS EXHIBIT.

HUGHES	ALLSN		GEARBOX	FAILED	04/19/2001 10003
369FF	250C30		369025400	TAIL ROTOR	20010511CW007 1666

UPON SHUT DOWN, THE PILOT AND MECH NOTICE AN ODD NOISE COMING FROM THE TAIR ROTOR ACCOMPANIED BY A SLIGHT VIBRATION. AIRCRAFT WAS DUE FOR A 100 HR INSPECTION, SO T/R OIL WAS DRAINED AGAIN. THE CHIP PLUG HAD NO CHIPS BUT DID HAVE A BLACK PASTE. PASTE WAS EXAMINED AND HAD EXTREMELY SMALL METALLIC PARTICLES IN IT. NOT ENOUGH TO ILLUMINATE CHIP LIGHT. GEARBOX WAS DISASSEMBLED FOR INSPECTION. INPUT GEAR SHAFT WAS FOUND TO BE SHEARED IN TWO PIECES. IT IS NO UNDERSTOOD WHY THE GEARBOX DID NOT COMPLETELY FAIL BECOMING CATASTROPHIC. AIRCRAFT FLEW 3.5 HRS THIS DAY WITH NO EVIDENCE OF A PROBLEM. GEARSHAFT HAS BEEN SENT TO A LAB FOR TESTING AND MDHC HAS BEEN INFORMED.

MOONEY	LYC		DISK	WORN	01/28/2001
M20D	O360*		530021000	MLG STRUT	20010501CW023

MAIN LANDING GEAR SHOCK DISCS WERE FOUND TO BE COMPRESSED BEYOND LIMITS. WHEN CHECKED PER THE MANUAL INSTEAD OF .1250 MAX CLEARANCE THERE WAS .3750 INCH OF CLEARANCE. ALSO FOUND AN INCORRECT FITTING INSTALLED ON LEFT BRAKE THAT ALLOWED THE BRAKE HOSE TO INTERFEAR WITH THE INNER GEAR DOOR.

PIPER	LYC		SKIN	CRACKED	04/05/2001
PA28161	O320D3G		62061804	WING	CA010508008

(CAN) UPON INSPECTION ON SCHEDULED #50, FOUND REAR WALK SKIN FLEX TOO MUCH ON ONE SPOT. OPEN INSPECTION PANEL, FOUND CRACK DOUBLER, ON ENFORCED SKIN (THAT IS SANDWICH SKIN). CRACK LENGTH 5 INCHES.SKIN ORDERED, TO BE REPLACE.

PIPER			AIR BOX	CRACKED	12/15/2000 781
PA28R201			9904700	INTAKE SYSTEM	20010129CW005 781

DURING SCHEDULED INSPECTION 2 OF 3 RIVETS HOLDING THE ALTERNATE AIR DOOR HINGE, SHEARED. UPON REMOVAL OF AIR BOX ASSEMBLY, A CRACK WAS FOUND EXTENDING ACROSS THE WELD AND INTO EACH TUBE FORMING THE 90 DEGREE TURN OF THE ASSEMBLY.

PIPER	LYC		GASKET	CUT	01/04/2001 61
PA31350	TIO540J2BD		06B26072	OIL FILTER	20010129CW004

GASKET FOUND CUT UPON REMOVAL. POSSIBLY DUE TO INSTALLATION PROCEDURE. RECOMMEND MORE CARE IN INSTALLING ADAPTER PLATE TO PREVIENT COCKING ON INSTALLATION. MAKE SURE GASKET IS CENTERED ON

PIPER	PWA		CONTROL	CROSSED	05/02/2001 2655
PA31T1	PT6A11		55408 02	FUSELAGE	ER00101 200

DURING SCHEDULED INSPECTION, THE RIGHT HAND AILERON INTERCONNECT CABLE WAS FOUND TO BE CROSSED OVER THE PRIMARY RUDDER CONTROL CABLE (PT NO 46845-0)AT THE UNDERFLOOR SECTION AFT OF THE CABIN DOOR. THERE IS NO WEAR APPARENT AT THIS TIME, THE AIRCRAFT LOG BOOKS ARE BEING INSPECTED IN AN ATTEMPT TO ASCERTAIN WHEN THE SYSTEM WAS LAST DISTURBED.

PIPER			STRUT	CRACKED	04/16/2001	3639
PA32301			78738 04	LT MLG	20010417AP005	

DURING ANNUAL INSPECTION FOUND LEFT LOWER MAIN GEAR STRUT CRACKED AT THE ATTACHMENT OF THE STRUT TO THE AXLE SHAFT. THESTRUT CASTING WAS CRACKED IN TWO DIFFERENT PLACES WITH ONE CRACK MEASURING OVER 1 INCH IN LENGTH. EXAMINATION OF THE RIGHT STRUT FOUND NO DAMAGE. REVIEW OF THE AIRCRAFT MAINTENANCE RECORDS REVEALED A LANDING ACCIDENT SEVERAL YEARS AGO. TECHNICIAN RECOMMENDS DURING INSPECTIONS TO PLAY CLOSE ATTENTION TO MAIN GEAR CASTING.

PIPER	PWA	SKIN	DEBONDED	04/13/2001	5203
PA42720	PT6A61	4252931	MLG DOOR	RX8R2001001	11

AFTER LANDING IT WAS NOTICED THAT THE RIGHT INBOARD LANDING GEAR DOOR SKIN HAD PEELED OFF FROM THE REST OF THE DOOR AT THE LEADING EDGE. UPON FURTHER EXAMINATION THE DOOR SKIN AND SUPPORTING STRUCTURE WHICH ARE BONDED TOGETHER WITH STRUCTURAL ADHESIVE SHOWED CORROSION AT THE BONDING SURFACE ON BOTH THE DOOR SKIN AND THE DOOR STRUCTURE. OPERATORS OF PA42-720AIRCRAFT MAY WANT TO INSPECT THE LEADING EDGE OF THE INB. LNDG. DOORS FOR CORROSION AND SEPARATION OF THE SKIN.

PIPER		VALVE	BENT	02/19/2001	3818
PA44180		492152	PARKING BRAKE	CA010403015	

(CAN) PILOT REPORTED PARK BRAKE APPLYING ITSELF. NOTICED ONCE ON TAKEOFF ONCE ON LANDING. CONFIRMED BY APPLYING SLIGHT PRESSURE TO PARK BRAKE SELECTOR TO THE OFF POSITION. UNIT REPLACED WITH SERVICEABLE UNIT, WHICH WAS SERVICED WITH NEW O-RINGS AND SYSTEM BLED GROUND CHECKED OK.

RAYTHN	GARRTT	VALVE	CONTAMINATED	03/09/2001	526
HAWKER800	TFE7315BR	ACM22740	MLG	20010510AP002	

NR 1 TIRE FLAT SPOTTED, NR 2 TIRE FLAT SPOTTED AND DEFLATED, NR 3 TIRE FLAT SPOTTED. VISUAL INSPECTION FOUND NR 1 MODULATOR VALVE CONTAMINATED WITH PAINT CHIPS AND SHAVINGS OF PLASTIC. FOUND NR 2 MODULATOR VALVE PISTON O-RING DECOMPOSED/CONTAMINATED. REPLACED NR 1 AND 2 MODULATOR VALVE, BRAKE CONTROL VALVE, FLUSHED ENTIRE BRAKE SYSTEM HYDRAULIC LINES AND FUNCTIONALLY TESTED BRAKE

RAYTHN	GARRTT	MAXARET	INOPERATIVE	01/04/2001	788
HAWKER800	TFE7315BR	AC65218	WHEEL AXLE	20010510AP005	

NR 1 AND 2 TIRES FOUND FLAT SPOTTED DURING POST-FLIGHT INSPECTION. NR 1 MAXARET UNIT DID NOT PASS ANTI-SKID FUNCTIONAL TEST. REPLACED NR 1 MAXARET UNIT WITH OVERHAULD UNIT.

RKWELL		ARONCA	LEVER	MIS-MANUFACTURE	04/24/2001	369
NA26580			23220258511	THRUST REVERSER	20010510AP001	369

ON 8/9/99 1EA. P/N232-20258-511 WAS INSTALLED ON LT T/R. 2EA. P/N 232-20258-513 AND 2EA. 232-20258-514 LEVERS WERE INSTALLED ON RT T/R DURING REPAIR OF THESE T/R’’’S. IN JAN. 2001 THE CUSTOMER REPORTED PROBLEMS WITH THE LT T/R. INSPECTION OF BOTH T/RS REVEALED BROKEN DRIVE CABLES AND BENT LEVERS. IT WAS BELIEVED AT THIS TIME THAT THE LEVERS WERE NOT PER DRAWING AND REMAINING STOCK WAS RETURNED.

SCWZER	PWA	CYLINDER	CRACKED	03/13/2001
G164A	R1340AN1	212359	NR 2 ENGINE	20010501CW006

NO RECORDS ON CYLINDERS. AIRCRAFT LOST POWER AFTER TAKE OFF AND LANDED LONG, RAN INTO WOODS (DESTROYED AIRCRAFT) PILOT UNHURT. INVESTIGATION REVEALED NR 2 ENGINE CYLINDER WAS CRACKED FROM THE INTAKE VALVE HOLE TO SPARK PLUG HOLE, ALMOST COMPLETELY AROUND THE CYLINDER.

SKRSKY	GE	BEARING	FAILED	04/18/2001	
S61N	CT581401	SB3151A1	MAIN ROTOR GB	CA010503017	

(CAN) INPUT BEARING FAILED DURING THE INITIAL RUN IN PROCEDURE. INVESTIGATION SHOWED THAT BEARING PUSHER TOOL WAS IMPROPERLY USED CAUSING DEFORMATION OF BEARING CAGE AT OVERHAUL. TOOL WAS REMOVED FROM SHOP TO PREVENT POSSIBLE REOCCURRENCE.

SKRSKY		RECEIVER	MALFUNCTIONED	04/17/2001
S76A		071106603	COCKPIT	HEEA072594

WILL NOT GIVE BEARING INFO OR AUDIO. PERFORMED PRELIMINARY INSPECTION AND FOUND HUNDREDS SECTION S101 TERMINAL #26 HAS BROKEN WIRE AND VOLUME CONTROL NOISY. RESOLDERED WIRE ON S101 TERMINAL 26 AND CLEANED VOLUME CONTROL. REPAIRED. BENCHCHECK GOOD.

SKRSKY		BEARING	DETERIORATED	04/05/2001	907
S76A	23081018	03600923	DRIVE END	AC2A072790	

PART IS DETERIORATED. BEARING CAGE FAILED ALLOWING ALL BALLS TO GROUP TOGETHER. NO BALLS WERE LOST OR DETERIORATED OVERHAULED STARTER - GENERATOR AND REPLACED BEARINGS.

SKRSKY		BLADE	DAMAGED	04/03/2001	12811
S76A		7610105101041	TAIL ROTOR	HEEA071922	

TRAILING EDGE OF PADDLE A IS SPLIT OPEN. THE CENTER PLUG IS ALSO DEBONDED. SENT TO INTERNATIONAL AVIATION COMPOSITES FOR INSPECTION AND REPAIR.

SKRSKY	TIP CAP	CRACKED	04/05/2001
S76A	7615009043050	MAIN ROTOR	HEEA071923

TOP SKIN HAS A CRACK SPANWISE APPROXIMATELY 2 INCHES FROM TRAILING EDGE. THE ABRASION STRIP HAS A CRACK WITH SEPARATION. SENT TO COMPOSITE TECHNICS FOR INSPECTION AND REPAIR.

SKRSKY	ALLSN	SHAFT	CRACKED	04/26/2001	
S76A	250C30	6898785	TURBINE	AU010382	3464

(AUS) ENGINE GEARBOX POWER TAKEOFF SHAFT CRACKED. SUSPECT CAUSED BY OVERTIGHTENING OF THE POWER OUTPUT ADAPTER.

SKRSKY	SHUTOFF VALVE	LEAKING	03/16/2001
S76C	7650007903102	BLEED AIR	HEED072251

LEAKING WILL NOT SHUT OFF. REPLACED UNIT.

SKRSKY	TMECA	SPAR CAP	CRACKED	04/20/2001
S76C	ARRIEL1S	7620105501101	VERTICAL STAB	AU010369

(AUS) VERTICAL STABILISER FORWARD RH SPAR CAP ANGLE LOCATED AT VS117.25 CRACKED IN THE AREA WHERE THE RIVETS ATTACH THETOP RIB TO THEANGLE.

SKRSKY	TMECA	SHAFT	WORN	03/23/2001
S76C	ARRIEL2B	31176002	GENERATOR	CA010503015

(CAN) AIRCRAFT GENERATOR TURNS AT 12,000 RPM IS DRIVEN BY THE MAIN TRANSMISSION OF HELICOPTER & FAN CAME LOOSE ON SHAFT, RETENTION NUT MS21042-4 HAD SELF LOCKING FRICTION STILL WITHIN LIMITS. FAN IS A FIT ON SHAFT BY NUT TORQUE ONLY, NUT MUST NOT HAVE BEEN ON TIGHT ENOUGH, EVEN THOUGH NUT FRICTION WAS WITHIN LIMITS. FAN BEGAN TO VIBRATE AND A HIGH FREQUENCYVIBRATION WAS FELT. FAN COST IS US$4,900.00 FOR A SIMPLE FAN BLADE WITH REQUIRED AN EXCHANGE GENERATOR COST US$13,000.

SNIAS		CABLE	BROKEN	04/20/2001	
AS350B2		AS2219	CARGO HOOK	CA010504012	

(CAN) THE METAL SHEATH THAT FORMS THE OUTER COVER OF THE MANUAL EMERGENCY RELEASE CABLE FOUND BROKEN. THE SHEATH WAS BROKEN WHERE THE RELEASE CABLE ATTACHES TO THE CARGO HOOK. THIS IS A CARGO SWING INSTALLATIION WHERE THE CARGO HOOK IS ATTACHED TO A FRAME THAT IS SUSPENDED FROM THE HELICOPTER BY FOUR CABLES. THERE IS A SUBSTANTIAL AMOUNT OF MOTION/MOVEMENT OF THE CARGO HOOK RELATIVE TO THE HELICOPTER. THE RELEASE CABLE UNDERGOES A LOT OF FLEXING, LEADING TO FATIGUE FAILURE

SNIAS	TMECA	BRACKET	CRACKED	04/15/2001	4216
AS350B2	ARRIEL1D	350A35107000	HYD PUMP MOUNT	CA010504021	

(CAN) UPON INSPECTION THE ENGINEER NOTICED A CRACK ON THE HYDRAULIC PUMP MOUNTING BRACKET. THE CRACK SEEMS TO ORIGINATEFROM TOOL MARKS CAUSED BY MAINTENANCE.

SWRNGN	GARRTT	COOLING FAN	FAILED	03/14/2001
SA227*	TPE33112UA	071040370001	AIR DISTRIBUTION	AU010284

(AUS) AVIONICS COOLING FAN FAILED. CIRCUIT BREAKER POPPED.

OMB No. 2120-0003

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

MALFUNCTION OR DEFECT REPORT

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

Enter pertinent data	**MANUFACTURER**	**MODEL/SERIES**	**SERIAL NUMBER**
2. **AIRCRAFT**			
3. **POWERPLANT**			
4. **PROPELLER**			

5. SPECIFIC PART *(of component)* CAUSING TROUBLE

Part Name	MFG. Model or Part No.	Serial No.	Part/Defect Location.

6. APPLIANCE/COMPONENT *(Assembly that includes part)*

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

Part TT	Part TSO	Part Condition	7. Date Sub.

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

Optional Information:

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

☐ Accident; Date _____ ☐ Incident; Date _____

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