

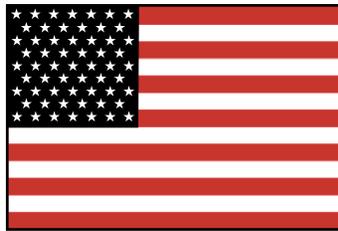


U.S. Department
of Transportation
**Federal Aviation
Administration**

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ADVISORY CIRCULAR 43-16A

AVIATION MAINTENANCE ALERTS



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

AVIATION MAINTENANCE ALERTS

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

AIRPLANES

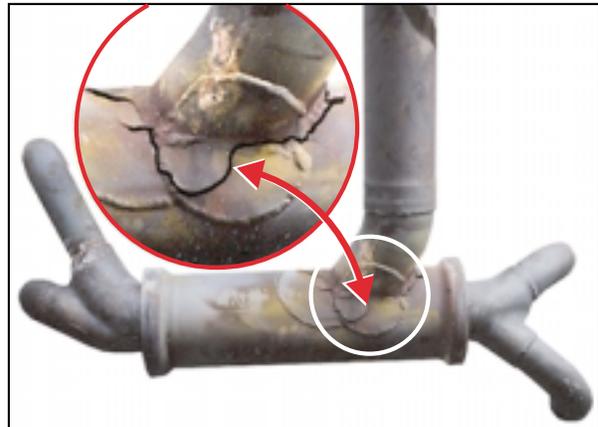
AMERICAN GENERAL

American General; Model AA-1; Clipper; Defective Engine Exhaust System; ATA 7810

While conducting an annual inspection, the technician discovered the engine exhaust system was cracked.

There were numerous "spider web" cracks at the junction of the tail pipe and the muffler (P/N 099001-113) can. The cracks were adjacent to a weldment that attaches the two components. In addition, a large welded repair was previously installed at the same location. (Refer to the illustration.)

The cause of this defect may be related to improper welding practices, the induction of hydrogen embrittlement in the metal adjoining welds, and "flash cooling." The submitter stated, "Better inspection techniques might provide early detection of this type defect."



Part total time-2,330 hours.

BEECH

Beech; Model F33; Bonanza; Wheel Brake Discrepancy; ATA 3243

Prior to a flight, the pilot taxied the aircraft back from the runup area and reported the right wheel brake was not functioning properly. Specifically, the right brake system would fail intermittently causing loss of aircraft directional control.

A technician investigated this report and discovered the right brake master cylinder (P/N 96-380034-25) was causing intermittent pressure to the right wheel brake. The master cylinder "poppet valve" (P/N A57G113) was sticking occasionally causing loss of brake pressure and aircraft directional control.

The submitter reported finding this defect numerous times on like aircraft.

Part total time-40 hours.

Beech; Model F33A; Bonanza; Turbocharger Tube Damage; ATA 8120

During an annual inspection, the technician discovered the turbocharger crossover tube was damaged.

It appeared the crossover tube was damaged when it contacted the air-conditioner system drive pulley. This aircraft had been modified by the installation of Turbo Flight Supplemental Type Certificate (STC) numbers SA5223NM and SA5222NM. The technician removed the damaged tube and noticed a hole below the damaged area. He speculated the damage and hole were the result of the tube being purposefully deformed during installation to provide clearance between the tube and the air-conditioner drive pulley.

The technician obtained a new replacement tube and was instructed to "deform it to gain clearance," to which the technician refused. The report did not give a resolution to this confrontation. However, if there is a clearance problem with this tube that requires "hand forming" or "deforming" of new parts, the STC holder should resolve the problem.

Part total time-316 hours.

Beech; Model F33A; Bonanza; Landing Gear Failure; ATA 3230

After a gear-up landing, the pilot placed the landing gear switch in the "down" position, but the gear did not respond. When all attempts to lower the landing gear failed, he made a gear-up landing.

The technician discovered the landing gear system appeared to be normal, and there were no obvious defects. However, when he applied electrical power, the "dynamic relay" (Eaton P/N SM50D7) was arcing between the contact points.

The submitter did not explain why or how the "dynamic relay" failure prevented emergency extension of the landing gear!

Part total time-335 hours.

Beech; Model N35; Bonanza; Nose Gear Steering Defect; ATA 3250

During an annual inspection, the technician discovered defective hardware in the nose gear steering system.

The nose gear steering yoke assembly bolt (P/N 35-825005) was bent and very difficult to remove. The bolt was cracked at the bend radius and in danger of breaking.

The submitter believes this damage occurred when the ground movement personnel exceeded the turn limits while moving the aircraft. He stated this was the second similar defect he has found recently.

He recommended that ground movement personnel be vigilant and observe the nose gear turning limits while moving the aircraft.

Part total time-5,040 hours.

Beech; Model S35; Bonanza; Alternator Failure; ATA 2421

The owner delivered the aircraft to the repair station and reported the alternator was inoperative.

The technician removed the alternator (Delco P/N 1100715) and conducted tests to determine the cause of failure. He noticed the cotter key, nut, and washer, used to secure the clutch assembly, were missing. The clutch assembly was broken, and the alternator shaft was severely worn. He discovered the interior of the alternator was soaked with oil. He removed the engine oil pan and found some of the missing hardware.

It appeared the alternator front bearing failed due to extreme wear allowing looseness of the shaft. The shaft looseness caused movement, the cotter key and nut broke, and the washer migrated out of place.

The submitter suggested technicians check the alternator bearings for “roughness” during inspections and maintenance.

Part total time since overhaul-340 hours.

Beech; Model 58; Baron; Electrical Burning Fumes in the Cockpit; ATA 3340

The pilot reported that during the previous flight, he detected an electrical burning odor in the cockpit.

The technician determined the taxi light switch (P/N 35-380132-43) was generating the odor. The switch was shorted internally and would not function. After he replaced the switch, the taxi light functioned properly. He did not detect any other electrical problems in the circuit.

The submitter did not offer a cause for the internal switch failure.

Part total time not reported.

Beech; Model C-90; King Air; Landing Gear System Anomaly; ATA 3230

After returning from a flight, the pilot noticed an unusual vibration when the landing gear was extended and retracted.

The technician discovered the right main landing gear actuator (P/N 50-810164-18) was binding and emitted a high pitched squeal during movement. The binding action caused the gear to oscillate during transit.

The submitter stated this was the second actuator failure he has seen in the past few months.

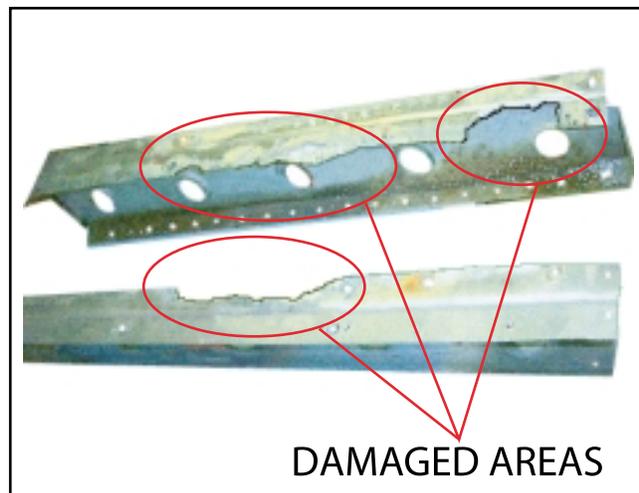
Part total time-4,644 hours.

Beech; Model 95-B55; Baron; Structural Corrosion; ATA 5315

While conducting a scheduled inspection, the technician noticed several small cracks in the baggage compartment door area.

The technician removed the baggage compartment floor and discovered severe corrosion on several structural members. (Refer to the illustration.) The insulation/sound-proofing material, used on the under side of the floor panels, was wet. The material retained moisture and held it in contact with the floor panels and the supporting structure.

The submitter suggested Raytheon issue a Service Bulletin to address and correct the corrosion problem in this, as well as other areas of the aircraft. Corrosion is a habitual problem with aviation products, especially older and high-time aircraft, and deserves close attention by owners, operators, and maintenance personnel.



Part total time-3,108 hours.

Beech; Model 100; King Air; Engine Operational Vibration; ATA 7261

The pilot stated that during a flight at cruise power, he noticed a vibration that seemed to vary in intensity. He made a safe, precautionary landing and summoned maintenance personnel.

After troubleshooting in accordance with the engine manufacturer's maintenance data, the technician concluded the vibration was caused by cavitation of the left engine oil system scavenge pump. After bleeding the system of entrapped air and running a "SOAP" test on the oil, he conducted a ground-operational test and a leak check. A flight check confirmed the problem was solved.

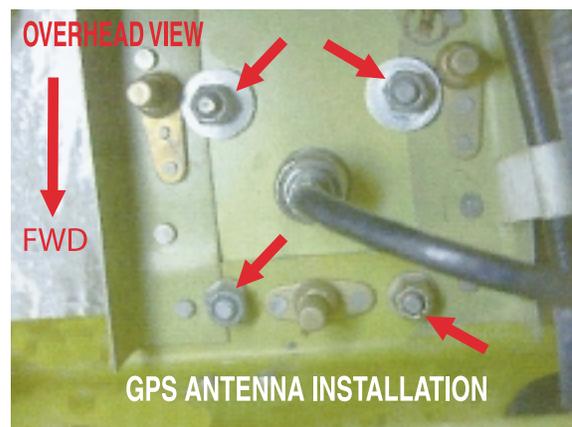
Part total time-10,496 hours.

Beech; Model 200; King Air; Defective GPS Installation; ATA 5330

During a scheduled inspection, the technician discovered a suspect GPS antenna installation.

The technician reviewed the aircraft maintenance records and found no record that a GPS antenna was installed. The antenna installation penetrated the fuselage pressure vessel in five locations and was not accomplished in accordance with approved data. Both the selection and use of the mounting hardware for the antenna was incorrect, and there was no sealant or doubler used. (Refer to the illustration.)

The penetration of an aircraft pressure vessel is a very serious matter and must be accomplished using



only approved data. The technician removed the antenna and, using an approved repair procedure, returned the pressure vessel to its original structural integrity. This process included proper installation of the GPS antenna.

The submitter cautioned all those involved to be diligent and meticulous in completing maintenance record entries in accordance with the Code of Federal Regulations.

Part total time unknown.

CESSNA

Cessna; Model 152; Engine Starting System Anomaly; ATA 8010

While preparing for a flight, the engine starter engaged when the pilot turned on the master switch.

A technician discovered the engine starter contactor (P/N S1577A1) points were welded together. This condition supplied electrical power to the engine starter when the master switch was closed.

The submitter did not give a cause for the premature failure of the contactor unit. Inadvertent propeller rotation creates a very dangerous condition, and all personnel are cautioned to give the propeller its due respect (even when it is not turning).

Part total time-47 hours.

Cessna; Model 172N; Skyhawk; Defective Wheel Brakes; ATA 3242

During a scheduled inspection, the inspector discovered the wheel brakes were defective.

The brake linings (P/N Rapco 66-109) on the right main wheel were severely cracked and broken. A technician disassembled the brake assembly and discovered the brake lining attachment rivets were loose and had not been properly installed. The rivets were not "swelled" sufficiently, and it appeared they were installed without using the correct tool. He disassembled the left main wheel and found similar defects.

The submitter believes the damage to the brake linings occurred during installation when an improper tool was used to set the rivets.

Part total time not reported.

Cessna; Model 172P; Skyhawk; Aileron Control System Failure; ATA 2710

While investigating an aircraft accident, an FAA inspector discovered the aileron control system failed.

The inspector found the right aileron cable was severed. There was evidence of severe corrosion at the point where the cable separated, as well as other locations. The cable separated adjacent to a pulley in the cabin overhead area, which is covered by the headliner. The cable strands were very brittle, and several cable strands were broken prior to the separation. (Refer to the illustration.)

The submitter strongly recommended that technicians conducting scheduled inspections open the headliner area, disconnect the cable, and pull the cable out far enough to thoroughly inspect the flight control cables. Many like aircraft are susceptible to corrosion damage in the cabin overhead area, especially those with long-term exposure to outside environmental conditions. This particular aircraft is based in a location where it is exposed to a salt-air environment and large yearly rainfall amounts.

Part total time not reported.



Cessna; Model 172R; Skyhawk; Wing Flap Discrepancy; ATA 2750

While accomplishing Cessna Service Bulletin (SB) 00-57-01, the technician discovered a discrepancy on the left wing flap support arm.

The inboard bearing support arm on the inboard flap track was severely gouged and worn. The damaged area was in a circular shape matching the outer radius of the roller assembly (P/N 0523921). The inner roller bearing cage of the roller assembly was offset enough to allow the outside diameter of the assembly to rotate against the flap support arm. The inner bearing cage offset was approximately .025 inch, which matched the support arm gouge depth.

The submitter stated it appeared the damage occurred when the inner bearing cage was improperly centered during the initial installation. He recommended giving this area close attention at every opportunity.

Part total time-933 hours.

Cessna; Model 208; Caravan; Improper Hardware Use; ATA 7120

During a scheduled inspection, a technician noticed the engine-mount hardware installation was improper.

The technician discovered the washers (P/N AN960-616L) that were installed on all 12 engine-mount bolts (P/N S3354-1) were not correct for the mount bolts. The engine-mount bolts require a “chamfer” at the inside diameter of the washer to accommodate the radius at the junction of the bolthead and shank. These washers had no “chamfer” and could lead to stress risers and possibly assembly failure.

The submitter strongly urged technicians to ensure the proper use of hardware during installations, inspections, and maintenance. This was the third occurrence he has found with this defect.

Part total time-801 hours.

Cessna; Model T210N; Centurion; Engine Failure; ATA 7160

Loss of engine power during takeoff resulted in a fatal aircraft accident.

An FAA inspector, investigating the accident, found the engine induction system air filter (Brackett P/N BA-2405) had been installed “backwards.” Due to this error, the filter element was ingested into the turbocharger intake and resulted in an “unrecoverable” loss of engine power.

The submitter recommended the filter manufacturer consider design changes to use a retaining screen on both sides of the filter assembly. This action should include a retrofit modification for those units that are currently in service.

The investigating FAA inspector is preparing a Safety Recommendation concerning this subject.

How would I feel if I had signed off on this aircraft’s last filter installation?

Part total time not reported.

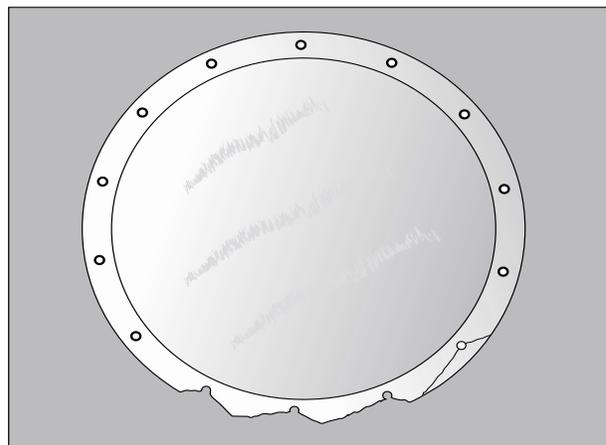
Cessna; Model 425; Conquest I; Defective Cabin Door Window; ATA 5210

A technician removed the window trim to reposition the frost seal and discovered a defect with the cabin door window.

The window, located in the upper cabin entrance door, had four adjacent mounting holes broken in the outer edge of the window. The broken holes were at the lower edge of the window. (Refer to the illustration.) He also discovered the retaining ring (P/N 5311260-9) was not installed.

After reviewing the available maintenance records, the submitter believes the manufacturer accomplished the previous window installation.

Part total time not reported.



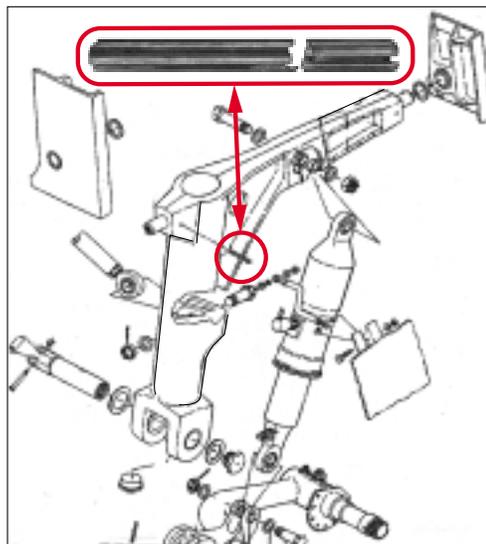
Cessna; Model 441; Conquest; Main Landing Gear Defect; ATA 3213

During a scheduled landing gear inspection, a technician discovered a defect on the left main gear pivot pin. He found the same discrepancy on two like aircraft from his fleet.

The inspection was initiated because of a landing gear pivot pin (P/N NAS 561P6-28) failure on another aircraft. (Refer to the illustration.) He disassembled the main gear from the two additional aircraft and discovered the left forward pins were broken, and one of the right side pins displayed signs of shearing.

The technician replaced all six pins and urged all technicians to be diligent in inspecting this area.

Part total time-5,027 hours.



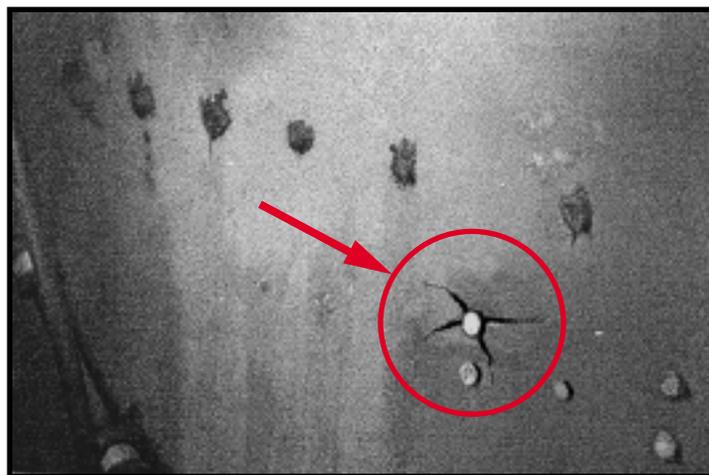
Cessna; Model 500; Citation; Pressure Bulkhead Structural Defect; ATA 5312

While troubleshooting a cabin pressurization problem, a technician discovered a structural defect in a pressure bulkhead.

The technician found the forward pressure bulkhead (P/N 5511040-13) was cracked adjacent to a fastener. (Refer to the illustration.) He did not give a cause for this damage. The fastener was part of a repair that was installed in accordance with approved data and properly recorded in the aircraft maintenance records.

The submitter stated this was the fourth like aircraft he has found with similar defects. He recommended giving this area close attention (especially on older Citation Model 500 aircraft).

Part total time-11,590 hours.



Cessna; Model 550; Citation; Speed Brake Plumbing Damage; ATA 2760

While performing maintenance and a scheduled inspection, a technician discovered the left speed brake plumbing was severely damaged.

The hydraulic tube (P/N 5517011-4), on the left speed brake retraction system, was severely chafed. The tube wall was almost penetrated from chafing against the center wing flap bellcrank rod attachment bolt.

The submitter recommended closely checking all tubing for proper clearance during scheduled inspections.

Part total time-451 hours.

GLOBESWIFT**Globe Swift; Model GC-1B; Landing Gear Collapse; ATA 3230**

The pilot stated that during an afterlanding rollout, the right main gear collapsed.

The aircraft was taken to a hangar, and a technician disassembled the defective landing gear. During the disassembly process, he discovered that a “Woodruff” key (P/N AN280-H-205) in the gear actuator was sheared. He could not determine if the key sheared before or after the gear collapse.

There are three possible causes for this defect:

1. Many aircraft owners have modified their aircraft by installing a different hydraulic pump and increasing the output pressure adjustment, purportedly to speed the landing gear cycle time. During landing gear extension with increased hydraulic pressure, sufficient force is applied against the “Woodruff” key that may cause it to shear.
2. It is also possible that the “Woodruff” key installed in this case was “soft” and not a properly hardened “AN” key. It is not uncommon for “hardware-store” variety hardware to find its way into aviation use.
3. Considering the location of the cockpit controls, it is possible that the pilot inadvertently moved the landing gear switch in the “up” direction while reaching for the wing flap switch. This could occur during an afterlanding rollout. When this occurs, the immediate reaction is to place the gear switch back to the “down” position as soon as the mistake is realized. This allows the landing gear to unlock and begin the retraction cycle. When the gear switch is then placed back in the “down” position, the hydraulic system pressure in the down direction is opposed by the aircraft weight which generates enough force to cause the “Woodruff” key to shear.

Part total time-1,390 hours.

GULFSTREAM

Gulfstream; Model G-V; Landing Gear Failure; ATA 3230

While changing tires, maintenance technicians placed the aircraft on jacks, and avionics personnel took advantage of this opportunity to perform tests on the electronic systems.

In order to perform the tests, the avionics personnel used “tongue depressors” to hold the landing gear switch in the “onground” position. This procedure is commonly used for testing purposes to override the actual position of the landing gear.

When the electronic tests were complete, the avionics personnel forgot to remove the “tongue depressors” from the gear switch. After the first takeoff, the pilot tried to retract the gear and received an “unsafe” landing gear indication. During landing, he placed the landing gear control in the “down” position, and the landing gear collapsed causing substantial aircraft damage.

The submitter recommended that all devices used to perform maintenance operations or to secure the aircraft be “flagged” and made clearly visible to anyone who may attempt to operate the aircraft. We have all seen and used the “Remove Before Flight” flags and streamers; however, even the switch-disabling device (“tongue depressors”) used in this case should have a means installed to notify an operator that the aircraft is not safe. The FAA Service Difficulty Program data base documents 30 accidents or incidents attributed to or related to “gust locks.” These 30 events accounted for 9 deaths and 7 serious personal injuries.

Many times a makeshift apparatus, such as bolts or nails, are used to lock the flight controls. These “homemade” devices rarely have an appropriate flag or streamer attached and are easily overlooked during preflight inspections. Even when the “store-bought” gust locks are used, the flags or streamers can become detached or damaged over time and become a hazard.

In addition to proper flags or streamers, it would be beneficial to devise a system of placing a “notice” in the cockpit that could not be overlooked by a person intending to operate the aircraft. This “notice” might take the form of a conspicuous sign hung on the flight control column or attached to the instrument panel in a manner that would obscure instruments needed for operation. In addition, a “notice” conspicuously attached to necessary aircraft cockpit controls would notify all persons that the aircraft is not safe to operate and give the reasons why.

When an aircraft accident or incident occurs, it is really not worth arguing about “who’s fault is it.” The more important question, and the one we need to concentrate our efforts on, is “HOW THIS CAN BE PREVENTED.” This subject should be near and dear to the heart of everyone involved in aviation and taken seriously – dead seriously.

PIPER

Piper; Model PA 18-135 (L-21-B); Super Cub; Severe Corrosion; ATA 5300

During a refurbishment project, a technician found exceptionally severe corrosion on the fuselage structure.

This aircraft is equipped with “observation windows” that have horizontal aft window channels approximately 3 feet long. The submitter believes the channels collected water and other contaminants

and routed them aft to a major upper longeron tube cluster where corrosion developed and consumed the structure.

The submitter found it necessary to “scrap” the fuselage due to the extent and severity of the corrosion damage.

Aircraft total time-3,700+ hours.

Piper; Model PA 23-250; Aztec; Wheel Damage; ATA 3246

During an annual inspection, the technician removed the tires and wheels for inspection.

The technician discovered a left main gear wheel half (Cleveland P/N 161-06900) was cracked in the bead area. It appeared the crack originated from the brake attachment plate rivets.

The submitter recommended removing the wheel assemblies and thoroughly inspecting this area (especially the bead area) for defects during scheduled inspections.

Part total time not reported.

Piper; Model PA 28-181; Archer; Pitot Static System Defect; ATA 3411

While conducting a 24-month test of the pitot static system, a technician discovered a massive leak.

The pitot system would not hold any pressure. He discovered both hoses that connect the aluminum tubing to the pitot static system probe were split and severely deteriorated.

The submitter stated this aircraft was operated in a “salt-air environment,” but it is not known if that factor contributed to the demise of the hoses. Given the relatively short time in service, makes one wonder how long the hose stock spent in a supply room since it was manufactured! The submitter did not identify defective hoses by part number, leaving another open question.

Part total time-481 hours.

Piper; Model PA 28-181; Archer; Flight Control Cable Damage; ATA 2740

During a scheduled inspection, the technician discovered the flight control cables were severely damaged.

Both the left and right stabilator control cables (P/N 62701-113 and P/N 62701-114) were severely frayed and worn. The damage was located at fuselage station (FS) 128.7, which is the forward cable sections.

The submitter believes “substandard cables installed by the manufacturer” caused this damage. The submitter’s conclusion was supported by 10 additional entries in the FAA Service Difficulty Program data base. The 10 additional reports included Piper Models PA 44-180 and PA 28-161 that use the same part number stabilator cable. Also, there was one report involving a Piper Model PA 28R-201, which uses a different control cable (P/N 62701-111) that only varies in length.

Part total time-2,342 hours.

Piper; Model PA 31-350; Chieftain; Defective Wing Flap System; ATA 2750

While the aircraft was in a hangar for other maintenance, a technician discovered a problem with the wing flap system.

When the technician attempted to lower the flaps, the right flap would not extend. He removed the drive cable (P/N 485-667) ends at the motor and discovered the right cable could be extracted several inches from the housing. After removing the transmission end of the right drive cable, he discovered the drive coupling swage had failed. It appeared the swage was worn when it contacted the cable housing.

The submitter suggested that technicians avoid making a sharp bend in the drive cable during installation. This should prevent the drive link from distorting inside the cable housing and avoid or minimize any chafing action.

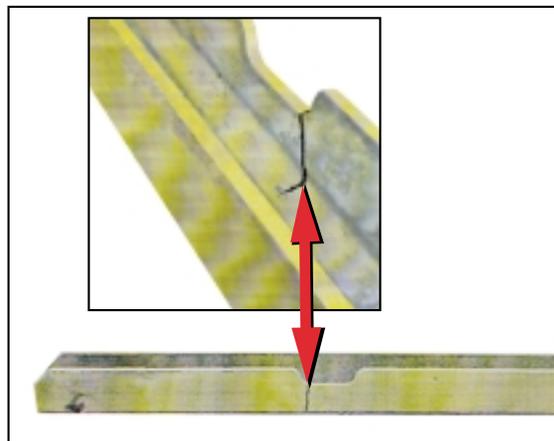
Part total time not reported.

Piper; Model PA 31-350; Chieftain; Nose Landing Gear Structural Defect; ATA 3233

During a scheduled inspection, the technician discovered a structural defect associated with the nose landing gear.

The upper nose landing gear actuator attachment support bracket (P/N 40987-2) was severely cracked. (Refer to the illustration.) The support bracket is in the form of a “U-channel” and has a cutout to accommodate a fitting for the hydraulic powerpack relief valve. The crack was located at the cutout radius and traveled down and into the lower portion of the support bracket “U-channel.”

The technician submitted three additional reports, on like aircraft that were very similar. He did not offer a conclusion concerning the cause of this defect; however, it may well have been the result of age, a high number of gear cycles, and/or high operating hours. Indeed, all four reports were on “high-time” aircraft.



Part total time-22,328 hours.

Piper; Model PA 31-350; Chieftain; Nose Landing Gear Anomaly; ATA 3231

After returning from a flight, the pilot stated the nose gear would not lock in the “up” position after takeoff. He placed the gear control in the “down” position and landed the aircraft safely at the departure airport. During the in-flight gear retraction, the door suffered minor damage.

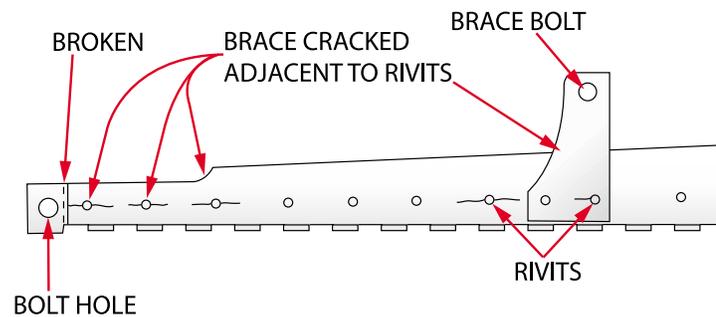
The technician inspected the nose gear and discovered the bolts, which secure the right gear door, were severely worn. After rigging the nose landing gear and repairing the door, he approved the aircraft for return to service.

Part total time not reported.

Piper; Model PA 32R-300; Cherokee Lance; Defective Nose Landing Gear Door; ATA 5280

This technician submitted 12 reports concerning nose landing gear door structural failures.

All the failures occurred on the right nose gear door brace (P/N 38076-01). In each case, the door brace broke at the rear attachment point. The technician discovered several cracks adjacent to the attaching rivets. (Refer to the illustration.) The failures happened between 54 and 1,076 operating hours on each part.



The submitter did not give a cause for these defects. However, he stated, "This is a common problem with this make and model aircraft."

Part total time previously stated.

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

During a scheduled inspection, a technician complied with the requirements of Airworthiness Directive (AD) 93-24-14 and discovered an unsafe condition.

The AD concerns the bolt that connects the nose gear upper drag link to the nose gear trunnion, and requires replacing the hardware. The technician retracted the nose gear and noticed the nose gear support center attachment bolt moved. He discovered the nose gear tunnel bracket (P/N 95554-000) was cracked, and the nose gear mount fitting (P/N 95555-000) attaching rivets were loose and excessively worn. Due to the damage, he replaced these parts.

Part total time not reported.

Piper; Model PA 60-601; Aerostar; Verticle Stablizer Structural Damage; ATA 5531

While completing an annual inspection, the technician discovered structural damage on the vertical stabilizer.

The lower forward rib (P/N 220000-21) was cracked in a 90-degree bend radius. This location is adjacent to the forward spar attachment.

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

Part total time-14,000+ hours.

HELICOPTERS

BELL

Bell; Model 206B-3; Jet Ranger; Defective Oil Quantity Indicator; ATA 6310

During a preflight inspection, the technician noticed the transmission oil quantity sight gauge indicated low. He added 2 quarts of oil, but the sight gauge reading did not change. During a ground engine-operational test, oil was expelled from the filler cap.

The technician investigated further and discovered the transmission oil level indicator (P/N 206-040-093-001 sight gauge) was defective. It appeared an internal metal part became dislodged and blocked off an inlet port in the oil quantity indicator.

The submitter cautioned technicians to be aware of this condition and suggested the part manufacturer incorporate "higher quality metal parts" inside the indicator.

Part time since overhaul-4,109 hours.

EUROCOPTER

Eurocopter; Model BK-117-A3; Main Rotor Blade and Vertical Stabilizer Damage; ATA 6210 and 5530

After landing on a hospital roof helipad, the pilot shut down the engines. During "coast down" of the main rotor blades, one of the blades contacted both vertical stabilizers.

The submitter stated this was the third such occurrence he has experienced. In his opinion, this damage is caused by a design fault, which allows exceptional "droop" of the main rotor blade during "coast down" in high or gusty wind conditions at low rotor speed.

The submitter stated, "During start or shutdown, there is not enough centrifugal force to keep the main rotor blades from 'flapping' excessively." The main rotor blades may strike one or both vertical stabilizers.

Aircraft total time-5,951 hours.

Eurocopter; Model EC120B; Defective Flight Control System; ATA 6700

After returning from a flight, the pilot reported the flight controls had a ratcheting feeling and were sluggish.

The technician conducted "hydraulics off" checks and found that the flight controls responded very slowly (10 seconds). Troubleshooting further, he discovered the hydraulic pressure and flow were lower than normal. After changing the hydraulic system pump, the flight control system functioned properly.

The submitter gave no information concerning the cause of this anomaly.

Part total time-347 hours.

Eurocopter; Model S-76; Spirit; Engine Starter Discrepancy; ATA 2435

After the last flight of the day, the pilot reported he heard a “chattering and grinding” noise when he depressed the start button for number 2 engine.

When the number 2 engine start button was released and depressed a second time, a fairly normal engine start was achieved. A technician, troubleshooting the system, discovered that the starter/generator (P/N 23081-002) brushes (P/N 30300-1383) were disintegrated and armature was damaged resulted from the housing for the brushes riding against the armature. The submitter did not explain the reason for this defect.

The submitter did not explain the reason for this defect.

Part total time-249 hours.

ROBINSON**Robinson; Model R-22; Mariner; Defective Engine Cooling Fan; ATA 7100**

To accommodate other maintenance, the technician removed the engine cooling fan assembly and discovered cracks in the mounting hub.

There were several cracks adjacent to the fastener holes that are used to attach the fan assembly (P/N B174-1) to the fan shaft and bearing assembly (P/N A007-3). Also, the reinforcement plate, used to strengthen the fan assembly, was severely cracked.

The submitter suspects the cracks occurred when the tapered shaft-retaining nut was overtorqued causing excessive stress on the tapered shaft. The location of the fan assembly makes inspection virtually impossible without removing the fan assembly.

The submitter suggested that technicians ensure the retaining nut is properly torqued when installing the fan assembly.

Part total time-3,646 hours.

AGRICULTURAL AIRCRAFT**WEATHERLY****Weatherly; Model 620B; Defective Propeller; ATA 6111**

This aircraft uses a Pratt & Whitney R985 engine and a Hartzell HCB3R30-48 propeller.

The pilot was conducting agricultural spraying operations and was performing a “procedure turn” when he experienced severe vibration and control problems. After a successful off-airport landing, he discovered that approximately 11 inches was missing from the propeller blade’s outboard section.

The submitter stated the propeller had suffered a previous propeller strike, which bent the blade. Evidently, the bent blade was “straightened” by a propeller overhaul shop. It appeared the propeller blade separated where it was previously straightened. What a surprise! Even more surprising is the fact that the propeller operated for 770 hours before it “let loose.”

Part total time as stated above.

POWERPLANTS AND PROPELLERS

TELEDYNE CONTINENTAL

Teledyne Continental; Model IO-520D; Valve Failure; ATA 8530

This engine is used in a Cessna, Model A188B aircraft that is used for agricultural spraying operations.

During an annual inspection, a technician performed an engine compression test and found that two cylinders tested below minimum compression. He removed and disassembled the two cylinders and conducted a tension test on the inner and outer valve springs (P/N 654441 and P/N 654442). All four springs failed the test and were replaced.

The submitter gave no reason for the valve springs failure.

Part total time-910 hours.

TEXTRON LYCOMING

TEXTRON LYCOMING; NOTICE OF PROPOSED RULEMAKING

On March 1, 2002, the FAA issued a Notice Of Proposed Rulemaking (NPRM) applicable to Textron Lycoming engines. The NPRM is found in the Federal Register, Docket No. 92-ANE-56-AD, and the “Comment Period” ends May 10, 2002. This NPRM proposes to supercede Airworthiness Directive (AD) 93-02-05 to add additional engine models to the applicability statement and include a reference to current revisions of the manufacturer’s service information.

The subject of AD 93-02-05 is possible failure of externally mounted fuel injector lines. Also, this topic was the subject of an article printed on page 15 of the February 2002, edition of this publication. In addition, Aircraft Technical Publishers (ATP) has included a “Notice” associated with AD 93-02-05, which describes the referenced manufacturer’s service information.

After reviewing the NPRM, several areas seemed to be misleading, confusing, and/or raised additional questions. All concerned persons are encouraged to review this NPRM and offer their comments by the end of the comment period. The procedure for offering comments is attached to the NPRM, and everyone is encouraged to participate in the rulemaking process.

ACCESSORIES

DEFECTIVE ENCODING ALTIMETER

A certified instrument repair station received an altimeter with a report that the “barometric scale” was “out of tolerance.”

The technician tested the instrument, and discovered it was 80 feet “out of tolerance.” He discovered the knob, with an “O-ring” installed on the barometric setting shaft, was not the correct part for this installation. The knob with the “O-ring” is intended for use on the artificial-horizon gyro instrument. The proper knob for the altimeter uses two setscrews for attachment.

The technician believes the improper knob caused a disruption of the correlation between the barometric pressure adjustment shaft and the pointer mechanism. After installing the correct knob assembly, the instrument functioned properly when tested.

Part total time not known.

AIRNOTES

SUBSCRIPTIONS

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

ELECTRONIC VERSION OF MALFUNCTION OR DEFECT REPORT

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

Various electronic versions of this form have been used in the past; however, this new electronic version is more user friendly and replaces all other versions. You can complete the form online and submit the

information electronically. The form is used for all aircraft except certificated air carriers who are provided a different electronic form. The Internet address is:

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

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

SERVICE DIFFICULTY REPORTING PROGRAM

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

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

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

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

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

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

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

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

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

Point of contact is:

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Telephone: (405) 954-6500
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ADDRESS CHANGES

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

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 February 28, 2002, and MARCH 22, 2002, which have been entered into the FAA Service Difficulty Reporting (SDR) System data base. This is not an all inclusive listing of Service Difficulty Reports. For more information, contact the FAA, Regulatory Support Division, Aviation Data Systems Branch, AFS-620, located in Oklahoma City, Oklahoma. The mailing address is:

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

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

FEDERAL AVIATION ADMINISTRATION

Service Difficulty Report Data

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

ACFTMAKE ACFTMODEL REMARKS	ENG MAKE ENG MODEL	COMPMAKE COMPMODEL	PART NAME PART NUMBER	PART CONDITION PART LOCATION	DIFF-DATE OPER CTRL NO.	T TIME TSO
	GTSIO520M	CONT	SLEEVE	SEPARATED LIFTER BORE	01/23/2002 2002FA0000209	
LIFTER BORES WERE SLEEVED (12 EA) NOTE: SLEEVES CAME LOOSE IN ALL HOLES (EXCEPT 2), ROTATING AND BLOCKING OIL PASSAGE. NO SAFETY PINS IN PLACE TO MAINTAIN SECURITY OF SLEEVES, NO OTHER MEANS OF HOLDING SLEEVES IN PLACE. ONLY THING THAT APPEARED TO HOLD SLEEVES WAS BURR, CREATED WHEN OIL HOLE WAS DRILLED, AND MAYBE DRAIN HOLE AT BOTTOM WAS BURRED. (INTENDED TO HAVE AN INTERFERENCE FIT ONLY, BETWEEN HOLE PREPARED FOR SLEEVE AND SLEEVE WAS OF VERY THIN WALL, ALUMINUM SLEEVE MATERIAL HOLE FINISH SIZE IS 1.000 INCH, FOR LIFTER, SLEEVE APPEARS TO HAVE APPROX 1.125 DIAMETER CREATING ONLY A .062 WALL THICKNESS. NOT ENOUGH TO MAINTAIN SECURITY WITHOUT AID OF STABILIZING PIN						
AEROSP AS355F1	ALLSN 250C20F		GASKET 350A32106321	FAULTY MAIN ROTOR	01/25/2002 AUS20020060	
(AUS) MAIN ROTOR TRANSMISSION EPICYCLIC RING GEAR GASKET FAULTY. GASKET WAS EXTRUDING FROM BETWEEN THE UPPER AND LOWER CASES AND BREAKING INTO PIECES AND CAUSING AN OIL LEAK WHICH WAS PROGRESSIVELY WORSENING. ON DISASSEMBLY THE MATING CASE FLANGES SHOWED SIGNS OF FRETTING.						
AEROSP AS355F1	ALLSN 250C20F		HOOK MS220441P00501	FAULTY CABIN	02/14/2002 AUS20020106	
(AUS) SAFETY HARNESS USED BY CAMERAMAN FAULTY. SNAP HOOK ON HARNESS MAY UNDER SOME CIRCUMSTANCES HAVE THE SPRING LOADED SAFETY CATCH FORCED OPEN ALLOWING THE SNAP HOOK TO SEPARATE FROM THE AIRCRAFT ATTACHMENT POINT.						
AEROSP AS355F1	ALLSN 250C20F		PUMP P94C16602	MAKING METAL FUEL BOOST	02/08/2002 CA020213008	
(CAN) NR 1 ENGINE FUEL BOOST PUMP WAS MAKING TOO MUCH NOISE AND VIBRATING AS COMPARED TO NR 2 FUEL BOOST PUMP. INSPECTED THE NR 1 ENGINE DRIVEN FUEL PUMP FILTER AND FOUND NON-FERROUS METAL IN THE FILTER. INSPECTED THE FUEL CONTROL FILTER FOR CONTAMINATION AND FOUND NON-FERROUS METAL. THE NR 1 FUEL BOOST PUMP PRESSURE WAS LOWER THAN THE NR 2 FUEL BOOST PUMP PRESSURE. REPLACED FUEL CONTROL, ENGINE DRIVEN FUEL PUMP AND NR 1 FUEL BOOST PUMP.						
AIRTRC AT301	PWA R1340AN1	HAMSTD 22D40505	SPIDER 54547AB	CRACKED PROPELLER HUB SE	02/19/2002 AUS20020133	570
(AUS) PROPELLER SPIDER CRACKED. CRACK LENGTH 50.8MM (2IN).						
AMD FALCON900	GARRTT TFE7315BR		STARTER GEN 80601401	FAILED ENGINE	02/08/2002 CA020220010	
(CAN) DURING START SEQUENCE, NR 2 ENGINE FAILED TO ROTATE, START SEQUENCE WAS CANCELLED, AND TRIED A SECOND TIME WITH NO ROTATION OF ENGINE. FAULT WAS TRACED TO THE STARTER GENERATOR, UNIT WAS REPLACED WITH A NEW AND START SEQUENCE WAS OK. NR 2 ENGINE STARTED AS PER MM. THIS IS THE SECOND STARTER GENERATOR FAILURE, THE OTHER HAPPENED 100 HOURS AGO ON NR 3 ENGINE. INSTALLED UPGRADED STARTER/GENERATOR [N 8060-150. FALCON JET IS AWARE OF THIS PROBLEM. THE NR 1 ENGINE STARTER GEN AND APU STARTER GEN ARE GOING TO BE UPGRADED TO -150.						
AMRGEN AA1	LYC O235C		PROPELLER 1A105SCM7153	SEPARATED NOSE	02/25/2002 2002FA0000325	2642 142
WHILE CRUISING AT 5000 FEET THE PILOT REPORTED SEVERE VIBRATION. AFTER PERFORMING AN UNEVENTFUL LANDING AND ENGINE SHUTDOWN, THE PILOT OBSERVED THAT APPROXIMATELY 4 INCHES OF ONE BLADE TIP WAS MISSING. FURTHER INVESTIGATION REVEALED THAT A SMALL STONE HAD LEFT A SMALL NICK IN THE LEADING EDGE OF THE PROPELLER BLADE WHICH IS WHERE THE TIP SEPARATED FROM THE REST OF THE BLADE.						
AMTR GLASAIR	LYC IO360A1A		FUEL FILTER	CLOGGED ENGINE FUEL	07/22/2001 2002FA0000294	
IN LINE FUEL FILTER INSTALLED BETWEEN FUEL SELECTOR VALVE AND BOOST PUMP. CLOGGED WITH RUST DEBRIS, AND RESTRICTED FLOW TO ENGINES.						

BBAVIA 11AC	CONT A65*	PLATE	DELAMINATED RT SPAR	05/30/2001 2002FA0000231	1685
FWD REINFORCING PLATE ON RIGHT REAR SPAR AT STRUT ATTACH FITTING WAS FOUND DELAMINATING AND SEPARATING FROM SPAR AT BOND AREA. PROBABLE CAUSE IS ATTACK BY MOISTURE AND THIN OR POOR QUALITY WOOD SURFACE FINISH. RECOMMEND MORE PRECAUTION WHEN FINISHING WOOD STRUCTURES. PART TOTAL 1685					
BBAVIA 7AC		SPAR 5147L	CRACKED WING	01/08/2002 2002FA0000234	3528
RIGHT REAR SPAR CRACKED ON TOP AT OUTBOARD END OF STRUT ATTACHMENT DUBBLER. TIP OF SPAR HAS DUBBLER PLATES. SPAR HAS BEEN DAMAGED BEFORE.					
BBAVIA 7AC	CONT A65*	SPAR	CRACKED RT WING	01/03/2001 2002FA0000240	
1) RIGHT WING FRONT SPAR BETWEEN 3RD AND 4TH RIB ON FORWARD FACE OF SPAR A CRACK CROSSING 3 ANNUAL RINGS APPROXIMATELY 4 INCHES IN LENGTH. 2) LEFT WING LOOSE OR MISSING NAILS IN FRONT SPAR AS 3RD AND 4TH RIBS LOOSE OR MISSING NAILS IN FRONT AND REAR SPARS ADJACENT TO STRUT ATTACH FITTING AND OUTBOARD OF					
BBAVIA 7AC	CONT A65*	SPAR	CRACKED RT WING	01/03/2001 2002FA0000241	
1) RIGHT WING/ CRACKS PROPAGATING FROM BOLT HOLES ADJACENT TO FUSELAGE ATTACHMENT FROM AND REAR. 2) CRACK OUTBOARD OF REAR LIFT STRUT REAR SPAR (RIGHT WING) 3) LEFT WING REAR SPAR (ORIGINAL FACTORY SPAR) EDGE GLUED JOINT DELAMINATED FROM ATTACH FITTING OUT TO AILERON 1ST INBOARD RIB.					
BBAVIA 7AC	CONT A65*	SPAR	CRACKED LT WING	02/01/2002 2002FA0000249	
DURING INSPECTION OF AD INSPECTION. FOUND LEFT WING FORWARD SPAR CRACKED AT UNDER SIDE OF SPAR OUT BOUND OF LIFT STRUT ATTACH POINT. OWNER WAS CALLED TO INFORM HIM THIS WING WILL BE REPAIRED WITH NEW SPAR INSTALLED.					
BBAVIA 7CCM	CONT C90*	STRUT	DAMAGED WING	02/01/2002 2002FA0000260	
WING STRUTS HAD FILLED WITH WATER FROM SITTING OUTSIDE. RUST STAINS VISIBLE FROM OUTSIDE OF STRUT. WHEN POKED WITH ANAWL IT PUSHED A HOLE INTO STRUT AND DRAINED WATER. DRILLED A .0312 HOLE IN BOTTOM OF OTHER 3 STRUTS AND WATER CAME OUT IN EXCESS OF 1 CUP EACH. OWNER NOTIFIED OF UNAIRWORTHY					
BBAVIA 7CCM	CONT C90*	SPAR	CRACKED WING	02/01/2002 2002FA0000261	
CRACK ON BOTTOM SURFACE OF SPAR LEFT SIDE REAR. FOUND PRIOR TO CRACK INSPECTION AS PER AD, OWNER DISCONTINUED ANNUAL INSPECTION PRIOR TO FULL INSPECTION.					
BBAVIA 7EC		SPAR	CRACKED RT WING	07/18/2001 2002FA0000258	
WING SPAR, CRACK VISIBLE MIDWAY FROM TOP TO BOTTOM OF NIGHT WING FRONT SPAR FROM 44 INCHES INBOARD ALONG SPAR TO APPROXIMATELY 1130 INCHES FORM INBOARD. WOOD APPEARS TO BE IN GOOD CONDITION OTHERWISE. DEFECT DISCOVERED DURING SPAR INSPECTION IN COMPLIANCE WITH AD. AIRCRAFT WAS NOT DAMAGED OR UNAIRWORTHY IN ANY OTHER WAY.					
BBAVIA 7EC	CONT C90*	SPAR	CRACKED RT WING	02/22/2002 2002FA0000254	
DURING THIS ANNUAL INSPECTION FOUND COMPRESSION CRACKS ON THE RIGHT WING REAR SPAR AT TOP LOCATION ON TOP SIDE OF SPAR. THIS COMPRESSION CRACK WAS HIDDEN UNDER OLD SPAR VARNISH AND WOULD HAVE BEEN MISSED IF TOP INSPECTION HOLES WERE NOT INSTALLED ALSO MANY OTHER CRACKS WERE SPOTTED IN SAME AREAS. BUT WERE NR 2 PENCIL LINES THE MFG USED TO LOCATE THE GLUE LINES.					
BBAVIA 7ECA	CONT O200*	FASTENER	MISSING SPAR	05/17/2001 2002FA0000243	2572
APPROXIMATELY 8 RIB ATTACH NAILS WERE FOUND MISSING ON EACH WING. (BOTH SPARS) SCRATCHES AND GOUGES WERE FOUND ON LEFT REAR SPAR MID AREA. THESE WERE APPARENTLY MADE BY REPAIRMAN SLIDING RIBS DOWN SPAR, DURING THE LAST REPAIR OF WING. BOTH WINGS WILL HAVE COVER REMOVED FOR FURTHER INSPECTION AND					
BBAVIA 7ECA	LYC O235*	SPAR 5262	CRACKED WINGS	06/27/2001 2002FA0000239	1762
DURING ANNUAL INSPECTION, WING SPAR INSPECTION IAW AD., FOUND LONGITUDINAL CRACKS IN THE AREA OF WING STRUT ATTACH POINTS. RIGHT FORWARD SPAR LONGITUDINAL CRACK OBSERVED FROM MISSING CENTER RIB NAIL, INBOARD FROM THE STRUT ATTACH DOUBLER APPROXIMATELY 2 INCH LONG, ANOTHER OUTBOARD FROM STRUT ATTACH DOUBLER UPPER BOLT HOLE APPROXIMATELY 3 INCHES LONG. LEFT FORWARD SPAR, OUTBOARD RIB FROM STRUT ATTACH DOUBLER, A RIB NAIL WAS PREVIOUSLY REPLACED AND LONGITUDINAL CRACK IN BOTH DIRECTIONS FROM NAIL POSITION (CENTER NAIL) APPROXIMATELY 2 INCHES LONG. THIS IS WHERE THE INSPECTION WAS TERMINATED. DID NOT CUT ANY HOLES OR INSPECT THE REST OF THE SPAR DUE TO REJECTION OF THE WING SPARS.					
BBAVIA 7ECA	LYC O235*	SPAR	CRACKED RT WING	04/03/2001 2002FA0000253	2214
WHILE COMPLYING WITH AD, A LONGITUDINAL CRACK IN THE RIGHT FORWARD WOODEN WING SPAR APPROXIMATELY 30 INCHES LONG.					
BBAVIA 7ECA	LYC O235*	FASTENER	MISSING FWD & REAR SPARS	08/01/2001 2002FA0000255	3566
NUMEROUS RIB NAILS MISSING OR BACKED OUT FARTHER THAN .1250 ON FORWARD AND AFT WING SPARS, LEFT AND RIGHT WINGS. INSPECTED SPARS AND REPLACED SUCH NAILS.					
BBAVIA 7ECA	LYC O290*	FLANGE	LOOSE WING RIB	08/15/2001 2002FA0000232	1515
FOUND LOOSE NAILS LESS THAN .1250 OUT ON SECOND RIB OUTBOARD OF STRUT AFT SPAR. FIRST AND SECOND RIB INBOARD OF STRUT AND FIRST RIB OUTBOARD OF STRUT AND FRONT SPAR ALL ON RIGHT WING. LEFT WING, FOUND LOOSE NAILS MORE THAN .1250 OR MISSING ON 1ST AND 2ND RIB OUTBOARD OF STRUT ON FRONT SPAR. ONE NAIL MISSING ON 1ST RIB INBOARD OF STRUT ON FRONT SPAR. ONE LOOSE LESS THAN .1250 ON SECOND RIB INBOARD OF STRUT ON FRONT SPAR. NO CRACKS FOUND IN EITHER WING.					
BBAVIA 7GCAA	LYC O320A2B	SPAR SAR5263L	CRACKED LT WING	01/29/2001 2002FA0000263	
WINGS REMOVED FROM AC, THE REPAIR ON THE LT REAR SPAR STRUT ATTACH POINT. ALL FABRIC COVERING REMOVED, LT REAR SPAR HAD A 1 INCH X 16 INCHES LONG .1250 PLYWOOD STRIP GLUED TO THE TOP OF THE SPAR WHICH HID THE CRACK TO BUSHING HOLE. IT WOULD APPEAR THAT CRACK, 4 .7500 AND ADDING THE 1 INCH X 16 INCH STRIP ON TOP. GLUING WAS LESS THAN ACCEPTABLE. 2 INCH CRACK ON THE LT SPAR REMOVED FROM THE RIB FLANGE AND THE RIB MOVED, DETECTION OF THE CRACK IS NEXT TO IMPOSSIBLE. THE 1 INCH COMPRESSION FAILURE ON THE RIGHT SPAR IS BESIDE EDGE OF THE .1250 PLYWOOD REINFORCEMENT. CRACK IS VISIBLE WITH GOOD LIGHT, CRACK DOES NOT GO COMPLETELY ACROSS THE .7500 INCH THICKNESS AND NO LINE VISIBLE ON THE OPPOSITE SIDE.					
BBAVIA 7GCAA	LYC O320A2B	SPAR SAR5263L	FAILED LT WING	06/15/2001 2002FA0000242	5025
CRACK IN REAR SPAR OF LEFT WING OUTBOARD OF DOUBLER AT SPAR ATTACH FITTING. WING HAS HIT GROUND BEFORE WHEN INBOARD LANDING GEAR BOLT FAILED. TIP OF FORWARD SPAR HAS REPAIR AND DOUBLER.					

BBAVIA	LYC	SPAR	CRACKED	05/07/2001	
7GCAA	O320A2D	5263	WING	2002FA0000238	
INSPECTED AIRCRAFT AS PER AD, FOUND LEFT AFT SPAR HAS COMPRESSION CRACK AT OUTBOARD END OF DOUBLER PLATES FOR STRUT ATTACHFITTING.					
BBAVIA	LYC	SPAR	CRACKED	06/26/2001	
7GCB	O320*		RT WING	2002FA0000256	
LONGITUDINAL CRACK LOCATED AT ROOT END OF FRONT WING SPAR IN RIGHT WING. CRACK RUNS FROM BUTT END OF SPAR THROUGH THE TWO TOP BOLT HOLES OF THE SPAR TO FUSELAGE ATTACHMENT BRACKET. CRACK COULD BE SEEN IN THE BUTT END GRAIN AND BY REMOVING THE FUSELAGE ATTACHMENT BRACKET AND THE BUSHINGS FROM THE BOLT HOLES.					
BBAVIA	LYC	SPAR	CRACKED	07/17/2001	979
7GCBC	O320*	5270	WING	2002FA0000251	
DETECTED COMPRESSION CRACK AT TOP OF AFT SPAR ON THE OUTBOARD END OF LIFT STRUT DOUBLER PLATE. CRACK PROGRESSED DOWN AFT SIDE ABOUT 1 INCH. LONGITUDINAL CRACK WAS ALSO FOUND IN AFT SPAR LAST 12 INCHES NEAR TIP. CRACK WAS IN CENTER OF SPAR. WHEN THE WING WAS DISASSEMBLED FOR SPAR REPLACEMENT, LONGITUDINAL CRACKS WERE FOUND ON FRONT SPAR UNDER THE DOUBLER PLATES FOR THE FUSELAGE TO WING ATTACH FITTINGS. THESE CRACKS WERE NOT DETECTED UNTIL THE PLATE WAS REMOVED. CRACKS WERE BETWEEN THE BOLT HOLES FOR THE DOUBLER PLATE. THIS WING SUSTAINED A TIP STRIKE, AND WAS REPAIRED. SUBMITTER SPECULATES THAT COMPRESSION CRACK AND OTHER DAMAGE OCCURRED AT THIS TIME.					
BBAVIA	LYC	SPAR	CRACKED	01/25/2001	2881
7KCAB	IO320*		WING	2002FA0000250	
WOODEN SPARS, NAILS OUT OF LEADING EDGE RIBS, WOODEN SPACERS WERE LEFT OUT OF FIRST FOUR INBOARD LEADING EDGE RIBS. LEADING EDGE LOOSE, NAILS LOOSE. HAD BEEN PATCHED BEFORE, HAD PUT SCREWS INSTEAD OF NAILS ON LEADING EDGE SPARS AND RIBS. SOME RIBS CRACKED, INNER RIB LACING CORDS BROKEN, HAVE SCRAPPED WINGS AND REPLACING WITH NEW METAL SPAR WINGS.					
BBAVIA	LYC	FASTENER	MISSING	05/17/2001	1290
8KCAB	AEIO360*		RIB	2002FA0000244	
APPROXIMATELY 10 RIB NAILS WERE MISSING ON EACH WING. NAIL HOLES WERE NOT ELONGATED. NO OTHER DAMAGE WAS FOUND. THE GENERAL LOCATION OF MISSING NAILS WERE AT STRUT ATTACH AREAS.					
BEECH	PWA	BRACKET	CRACKED	01/19/2002	13347
1900D	PT6A67D	12139902	SEAT	CA020130008	
(CAN) DURING THIRD INSPECTION WE FOUND NINE SEAT BRACKET CRACKED. THE CRACK WAS GENERATED FROM THE REAR THRU THE HOLE ADJACENT TO THE BEND. AFTER FLEET INVESTIGATION WE FOUND 33 BRACKET CRACKED.					
BEECH	PWA	WINDSHIELD	FAILED	01/25/2002	
200BEECH	PT6A41	10138402522	COCKPIT	CA020208001	
(CAN) APPROX 15 MINS AFTER LEVELLING OFF AT CRUISE ALTITUDE OF 29,000 FEET, SMALL CRACK FORMED ON RIGHT WINDSHIELD. FEW SECONDS LATER, ENTIRE INNER PLY SHATTERED & CABIN PRESSURIZATION LOST AT RATE OF APPROX 2500 FT/MIN. EMERGENCY OXYGEN DEPLOYED & MASKS DONNED, & EMERGENCY DESCENT TO SAFE ALTITUDE OF 11,000 FEET CARRIED OUT BY CREW. A/C CARRIED ON TO MEDICINE HAT (CYXH), WHERE UNEVENTFUL APPROACH & LANDING WERE CARRIED OUT. INSPECTION OF WINDSHIELD UPON ARRIVAL CONFIRMED THAT ENTIRE INNER PLY HAD SHATTERED. HAD BEEN NO PREVIOUS REPORTS OF DAMAGE ON WINDOW, & WINDSHIELD HEAT OP NORMAL. INSPOF FUSELAGE WINDSHIELD ATTACH STRUCTURE REVEALED NO ABNORMALITIES. REPLACED					
BEECH	CONT	SELECTOR	CORRODED	02/11/2002	
58	IO520C	HE7805	FUEL SYSTEM	AUS20020120	197
(AUS) LT FUEL SELECTOR VALVE EXCESSIVELY CORRODED DUE TO CONTAMINATION.					
BEECH	CONT	SELECTOR	CORRODED	02/11/2002	
58	IO520C	HE7803	FUEL SYSTEM	AUS20020121	197
(AUS) RT FUEL SELECTOR VALVE EXCESSIVELY CORRODED DUE TO CONTAMINATION.					
BEECH	LYC	SENSOR	STUCK	01/16/2002	
76	IO360A1G6		FUEL QUANTITY	AUS20020076	
(AUS) RT FUEL SENSOR JAMMED IN HALF FULL POSITION. ERRONEOUS FUEL INDICATIONS ALLOWED RT FUEL TANK TO BE LOW ON FUEL RESULTING IN RT ENGINE POWER LOSS.					
BEECH		DRAG BRACE	CRACKED	01/09/2002	12588
A200		501202015	MLG	2002FA0000166	
DURING SCHEDULED LANDING GEAR TIME CHANGE, THE DRAG BRACE SUPPORTS WERE CLEANED AND INSPECTED. THE RIGHT DRAG BRACE SUPPORT APPEARED TO BE CRACKED. A DYE-PENETRANT INSPECTION WAS CONDUCTED AND THE CRACKED CONFIRMED. AT THAT TIME AN ALERT WAS ISSUED TO TEST THE FLEET AND ANOTHER 4 SUPPORTS WERE FOUND CRACKED. THE AREA TO PAY CLOSE ATTENTION TO IS THE RADIUS BETWEEN THE TWO LUGS. THE C12 FLEET BEING USED ARE HIGH TIME AIRCRAFT WITH HIGH LANDING CYCLES. DURING MAINTENANCE INSPECTIONS, CLOSE ATTENTION SHOULD BE PAID TO THE DRAG BRACE SUPPORTS.					
BEECH		BELLCRANK	CORRODED	02/20/2002	6662
B100		100600012	RUDDER	2002FA0000330	
REMOVED RUDDER FROM AIRCRAFT FOR OTHER MAINTENANCE. DISCOVERED RUDDER BELLCRANK SEVERELY CORRODED IN THE AREA BENEATH THE RUDDER ATTACH FITTING. REPLACED PART WITH NEW ITEM.					
BEECH		INTERCOSTAL	CRACKED	01/31/2002	4738
B200		504300431291	PAX DOOR	2002FA0000173	
UPON PHASE INSPECTION OF CABIN DOOR, FOUND EXCESSIVE MOVEMENT FROM HAND RAIL ASSEMBLIES AT HINGE AREAS ON BOTH FORWARD AND AFT HANDRAILS. UPON FURTHER INSPECTION, FOUND BOTH INTERCOSTAL STRUCTURES CRACKED AROUND RIVETS.					
BEECH	PWA	PUMP	LEAKING	02/07/2002	
B200	PT6A42	02532330003	FUEL SYSTEM	CA020226005	
(CAN) DURING SCHEDULED MAINTENANCE, NOTICED A DRIP OF FUEL COMING OFF OF THE ENGINE DRIVEN FUEL PUMP TO ENGINE FLANGE. WITH A CLOSER LOOK FOUND A BROWN STAIN AS WELL. REMOVED ENGINE DRIVEN FUEL PUMP ASSEMBLY AND INSPECTED. FOUND SPLINE DRIVE COUPLING WHICH ENTERS THE ENGINE ACCESSORY CASE CORRDDED AND SEVERELY WORN. ENGINE DRIVEN PUMP ASSEMBLY REPLACED.					
BEECH	PWA	STRINGER	CRACKED	02/03/2002	
B200C	PT6A42		FUSELAGE	AUS20020091	
(AUS) STRINGER NR 9 LT LOCATED BEHIND FRONT PRESSURE BULKHEAD CRACKED AT THE END OF THE ATTACHMENT GUSSETT.					
BEECH	CONT	TURBOCHARGE	LEAKING	02/26/2002	56
B36TC	TSIO520*	63272913	ENGINE	2002FA0000293	
TURBOCHARGER WAS FOUND TO BE LEAKING OIL INTO INDUCTION SYSTEM. CHECKED SYSTEMS AS PER MFG AND MM. THIS IS NR 1 OF SEVERAL REPLACED ON THIS ENGINE.					
BEECH	CONT	TURBOCHARGE	LEAKING	02/07/2002	21
B36TC	TSIO520*	63272913	ENGINE	2002FA0000303	
TURBOCHARGER LEAKING OIL IN INDUCTION. THIS UNIT WAS REMOVED AND RETURNED DIRECTLY TO MFG FOR INVESTIGATION. THIS IS NR 3 FOR THIS ENGINE. NO WORD FROM MFG ON CAUSE OF PROBLEM. ENGINE IS TO BE REPLACED BY MFG.					

BELL	PWA	BENDIX	GOVERNOR		02/16/2002	
212	PT6T3	25249994		GOVERNOR	CA020228012	

(CAN) COCKPIT INDICATION OF ENGINE TORQUE SPLIT DURING HOVER TAXI, AIRCRAFT RETURNED TO RAMP. TORQUE SPLIT CAUSED BY N2GOVERNOR FAILURE CONFIRMED BY UNIT REPLACEMENT.

BELL	LYC	BELL	SLEEVE	WORN	02/01/2002	
222B	LTS101750C1	222010400121	222010405115	SWASHPLATE	CA020228013	

(CAN) WHEN SWASH PLATE ASSY WAS REMOVED TO FACILITATE 7 YEAR MAST REMOVAL FOR INSPECTION AND RECALIBRATION, THE SLIDER BEARINGS (20F) P/N 222-310-464-003 WERE FOUND DETACHED AND LOOSE, CREATING AN EXCESSIVE WEAR ON THE SLEEVE JOURNALS THATHOUSE THESE BEARINGS TO A POINT WELL BEYOND CONTINUED AIRWORTHINESS. THE BALL SLEEVE ASSY AND SUPPORT WERE DEEMED UNSERVICEABLE AND WERE REPLACED AT GREAT EXPENSE.

BELL			ISOLATION	FAILED	02/22/2002	
230			222331617103	AUTOFLIGHT	HEEA078024	

IN CRUISE FLIGHT, AN AIRFRAME VIBRATION DEVELOPED. MAINTENANCE FOUND THE LATERAL ISOLATION MOUNT FAILED. MAINTENANCE REPLACED THE ISOLATION AMPLIFIER.

BELL			SWASHPLATE	LEAKING	02/25/2002	1829
407			406010401117	MAIN ROTOR	HEEA078038	

SWASHPLATE GREASE LEAKING FROM UPPER SEAL.

BELL			BEAM	CORRODED	03/01/2002	
407			400052007109	MLG	HEEA078153	

MOUNT HARDWARE FROZEN IN BEAM ASSY. FOUND INNER BUSHING FACE CORRODED BEYOND LIMITS. SENDING FOR AN EVALUATION DUE TONO PREVENTIVE MAINT ON MFG PART.

BELL			HOUSING	BROKEN	02/19/2002	10475
412			412040002103	TRANSMISSION	ERAA077924	

AUX JET HOUSING CRACKED. HOUSING BROKEN IN TWO PIECES. ACTION TAKEN: REMOVED TOP CASE AND UPPER PLANETARY INSTALLED NEW HOUSING AND GASKET. REINSTALLED UPPER PLANETARY AND TOP CASE ALL WORK IAW BHT CR&O 63.

BELL	PWC		B-NUT	LEAKING	02/04/2002	
427	PW207D		70077200G600	FUEL LINE	CA020213010	

(CAN) SMALL AMOUNT OF FUEL OBSERVED LEAKING FROM RT FLOOR CAVITY DRAIN. CAVITY WAS OPENED, FUEL TRANSFER LINE INSPECTED. LEAK ORIGINATED FROM AFT 'B' NUT FITTING. TORQUE WAS CHECKED ON 'B' NUT, WITHIN SPECS. AIRCRAFT DRAINED OF FUEL, LINE REMOVED AND INSPECTED. OUTCOME, STAINLESS BRAIDED FUEL LINE MANUFACTURED TOO SHORT. ORDERED NEW LINE FROM B.H.T. THIS LINE ALSO TOO SHORT. ORDERED NEW LINE, 2ND LINE LENGTH OK. NEW LINE INSTALLED. AIRCRAFT FUELED AND LEAK CHECK C/O. FUEL LEAK SOLVED.

BELL	PWC		LINE	CHAFED	01/25/2002	
427	PW207D		427065244101	ENGINE OIL	CA020213012	

(CAN) DURING MODIFICATION OF AIRCRAFT, NR 2 ENGINE OIL LINES WERE REMOVED. UPON REMOVAL OF LINES IT WAS OBSERVED THATTHE MAIN OIL FEED LINE (FROM OIL COOLER) WAS CHAFED TO A DEPTH OF 0.004 INCH. THE CHAFING OCCURRED IN THE AREA BELOW THE FORWARD ENGINE FIREWALL. THE FIREWALL HAS A STAINLESS STEEL 'TUNNEL' WHICH THE OIL LINES PASS THROUGH. THE FORWARD OUTBOARD EDGE OF THIS TUNNEL CHAFED INTO THE ALUMINUM OIL TUBE. THIS TUBE WAS REMOVED FROM SERVICE.

BOLKMS			DOOR	DEPARTED	03/11/2002	
BO105S			10562582	HYD PACK	HEEA078232	

WHILE IN FLIGHT, THE HYDRAULIC PACK INSPECTION DOOR ON THE LT SIDE OF TRANSMISSION COWL DEPARTED AIRCRAFT. NO ADDITIONAL DAMAGE TO AIRCRAFT. REPLACED COVER.

BOLKMS			TRANSMISSION	MAKING METAL	01/10/2002	4923
BO105S			4638001001	MAIN ROTOR	ERAA077890	

TRANSMISSION IS MAKING METAL. HINGED SUPPORT BEARINGS FROZEN. ONE EACH SLIDING SLEEVE TO CONTROL LINK BRG MECHANICALLY DAMAGED. UPPER CENTER HOUSING SLIGHTLY CORRODED ONE PLANETARY AXLE BREAKING DOWN & ONE PLANETARY GEAR PITTED. ACTION TAKEN: DISASSEMBLED AS FAR AS NECESSARY FOR REPAIR. REPLACED ONE PLANETARY GEAR, ONE PLANETARY AXLE,ONE DOUBLE ROWED CAGE. REPLACED BOTH HINGED SUPPORT BRGS, ONE CONTROL LINK TO SLIDING SLEEVE BEARING. REPLACED LOCK PLATES, AND HARDWARE AS NECESSARY. REPAIRED I/A/W BO-105 REM 103 & M/M CHAPTER 41. COPY TO AEC.

CESSNA	LYC		SKIN	CRACKED	01/27/2002	11841
152	O235L2C		043200122	ELEVATOR	CA020208004	

(CAN) - CRACK FOUND ON PRE-FLIGHT. - CRACK LOCATED AT OUTBOARD AFT CORNER OF ELEVATOR UNDER TRIM TAB HINGE.

CESSNA	LYC		LIGHT	SHORTED	09/18/2001	
172M	O320*		PQ8765W	COCKPIT	2002FA0000338	

THE PART WAS INSTALLED AROUND THE TACH AND CONNECTED TO THE RHEOSTAT FOR THE INSTRUMENT LIGHTS. AFTER A COUPLE OF YEARS IT SHORTED OUT THE SYSTEM. IT BURNED OUT THE RHEOSTAT S2091-5 AND THE POWER TRANSISTOR 2N3055. THIS CAUSED NO INSTRUMENT LIGHT IN THE AIRCRAFT. THIS HAPPENED IN THE DAY TIME AND NOT AT NIGHT IFR. THE OWNER NOTICED NO LIGHTS AND NOTIFIED HIS TECHNICIAN. AFTER TROUBLESHOOTING THE SYSTEM HE FOUND THAT THE WIRES ON THE TOP OF THE LITE RING WERE TOUCHING ONE ANOTHER, CAUSING A DIRECT SHORT. CALLED MFG, THEY INQUIRED, WHEN THIS RING WAS INSTALLED. THEY SAID TO REMOVE IT FROM THE AIRCRAFT AND SEND IT BACK TO THEM, THEY WOULD REPLACE IT FREE OF CHARGE, BECAUSE THIS IS AN OLD

CESSNA	LYC	CESSNA	MUFFLER	CRACKED	02/26/2002	
172M	O320E2D	175400125	175400125	ON ENGINE	CA020226002	

(CAN) FOUND DURING AD CF90-03R2 MUFFLER INSPECTION. CRACK FOUND AT BASE OF TAIL PIPE TO MUFFLER CAN CONNECTION. (ALONG WELD BEAD.)MUFFLER REPLACED IN ACCORDANCE ADCF90-03R2. PART 1 SUB PART 5.

CESSNA			SWITCH	FAILED	02/26/2002	
172N			TTGCTA201TW	INSTRUMENT	2002FA0000320	

DURING LANDING APPROACH SMOKE WAS DETECTED IN THE COCKPIT COMING FROM THE LOWER PILOT SIDE INSTRUMENT PANEL FROM THE LANDING / TAXI LIGHT COMBINATION SWITCH. THIS IS AN ONGOING PROBLEM WITH

CESSNA	LYC		LINER	CRACKED	02/13/2002	
172N	O320*		66109	BRAKE CYLINDER	2002FA0000268	

ON INSPECTION OF BRAKE LININGS AT A 100 HOUR INSPECTION, THE RIGHT BRAKE LININGS WERE FOUND CRACKED. UPON REMOVAL, THE THEY WERE FOUND LOOSE ON THE BRAKING PLATE. LINING RIVETS WERE FOUND TO BE IMPROPERLY SWAGED AND APPEARED TO BE COMPRESSED WITH IMPROPER TOOLING.

CESSNA			TRANSMITTER	DETERIORATED	02/28/2002	2941
172P			C6680500802	FUEL QUANTITY	2002FA0000324	

FUEL QUANTITY TRANSMITTER REMOVED TO REPLACE LEAKING BASE GASKET. FOUND COMPOSITE FLOAT ON TRANSMITTER ARM WAS DETERIORATED DUE TO CONTACT WITH THE TOP OF FUEL TANK WHEN FULL. APPROXIMATELY 1/4 INCH OF FLOAT DETERIORATED ON ONE CORNER. SUBSEQUENTLY FOUND FINE BLACK RESIDUE IN FUEL STRAINER. TRANSMITTER WAS INSTALLED PROPERLY AND NO ADJUSTMENT PROVISIONSALLOWED.

CESSNA 172R	FIREWALL	CRACKED ENGINE BAY	02/10/2002 2002FA0000191	
IT WAS DISCOVERED DURING AN ANNUAL INSPECTION THAT FIREWALL HAD A 2.75 INCH CRACK AT THE CENTER, LOWER COWL MOUNT DOUBLER. ALMOST IMPOSSIBLE TO VISUALLY DISCOVER WITHOUT KNOWLEDGE OF THE PROBLEM.				
CESSNA 172R	FIREWALL	CRACKED ENGINE BAY	02/10/2002 2002FA0000193	
DISCOVERED DURING AN ANNUAL INSPECTION THAT THE FIREWALL HAD A 2.75 INCH CRACK AT THE CENTER, LOWER COWL MOUNT DOUBLER. ALMOST IMPOSSIBLE TO VISUALLY DISCOVER WITHOUT KNOWLEDGE OF THE PROBLEM.				
CESSNA 172R	FIREWALL	CRACKED ENGINE BAY	02/10/2002 2002FA0000194	
DISCOVERED DURING AN ANNUAL INSPECTION THAT THE FIREWALL HAD A 2.75 INCH CRACK AT THE CENTER, LOWER COWL MOUNT DOUBLER. ALMOST IMPOSSIBLE TO VISUALLY DISCOVER WITHOUT KNOWLEDGE OF THE PROBLEM.				
CESSNA 172R	FIREWALL	CRACKED ENGINE BAY	02/10/2002 2002FA0000195	
DISCOVERED DURING AN ANNUAL INSPECTION THAT FIREWALL HAD A 2.75 INCH CRACK AT THE CENTER, LOWER COWL MOUNT DOUBLER. ALMOST IMPOSSIBLE TO VISUALLY DISCOVER WITHOUT KNOWLEDGE OF THE PROBLEM.				
CESSNA 172R	LYC IO360A1A	FIREWALL ENGINE BAY	01/29/2002 2002FA0000186	
DISCOVERED DURING ROUTINE MAINTENANCE THAT THE LEFT LOWER FIREWALL HAD CRACK LOCATED BENEATH THE DOUBLER FOR THE LEFT LOWER COWL MOUNT. IN ONE INSTANCE, CRACK WAS ACTUALLY LOCATED BENEATH THE LEFT FLANGE OF THE BATTERY MOUNT.				
CESSNA 172R	LYC IO360A1A	ROLLER 0523921	GOUGED TE FLAP	02/06/2002 2002FA0000223
DURING ACCOMPLISHMENT OF SB, THE LT FLAP INBOARD TRACK INBOARD AFT BEARING SUPPORT ARM WAS FOUND TO BE GOUGED .025 INCH DEEP MATCHING THE OUTER RADIUS OF THE ROLLER ASSEMBLY. THE ROLLER ASSEMBLY WAS FOUND TO HAVE THE INNER ROLLER CAGE OFFSET ENOUGH TO ALLOW THE OUTSIDE DIAMETER OF THE ASSEMBLY TO ROTATE AGAINST THE FLAP SUPPORT ARM CAUSING THE GOUGE. THE OFFSET OF THE INNER CAGE WAS FOUND TO BE .025 INCH MATCHING THE DEPTH OF THE GOUGE. PROBABLE CAUSE APPEARS TO BE IMPROPER CENTERING OF THE INNER BEARING CAGE AT INITIAL ASSEMBLY. MFG HAS BEEN NOTIFIED. RECOMMEND BEARING INSPECTION AT FLAP INSTALLATION AND ASSURING CLEARANCE BETWEEN THE BEARING ENDS AND THE FLAP				
CESSNA 172R	LYC IO360L2A	SERVO 25765362	MALFUNCTIONED FUEL SYSTEM	02/02/2002 2002FA0000278
REPORTED ENGINE LOST POWER TWICE (ENG RUNNING 1 HOUR).				
CESSNA 172S	LYC IO360A1A	FIREWALL ENGINE BAY	CRACKED ENGINE BAY	02/10/2002 2002FA0000187
IT WAS DISCOVERED DURING AN ANNUAL INSPECTION THAT THE FIREWALL HAD A 2.75 INCH CRACK AT THE CENTER, LOWER COWL MOUNT DOUBLER. ALMOST IMPOSSIBLE TO VISUALLY DISCOVER W/O KNOWLEDGE OF THE PROBLEM.				
CESSNA 172S	LYC IO360A1A	SPINNER 05503671	CRACKED PROPELLER	01/09/2002 2002FA0000199
FOUND CRACKED PROP SPINNER.				
CESSNA 182	CONT O470L	SUPPORT 05411212	CRACKED MLG	02/01/2002 CA020213011
(CAN) RT OUTBOARD LANDING GEAR SUPPORT CASTING FOUND TO BE CRACKED IN TWO PLACES. FAULT WAS DISCOVERED WHEN GEAR LEG WAS REMOVED FOR NDT OF LANDING GEAR COMPONENTS. NO OTHER FAULTS FOUND. LANDING GEAR NDT INSPECTION WAS CARRIED OUT AT OWNER'S REQUEST.				
CESSNA 182B	CONT O470*	BLADE 90A8	MISREPAIRED PROPELLER	01/21/2002 AUS20020087
(AUS) INSPECTION OF PROPELLER WHEN RECEIVED FOR REPAIR FOUND THAT THE BLADE THREADS HAD BEEN TRUNCATED TO COMPLY WITH AD/PMC/24/3 BUT HAD NOT BEEN SHOT PEENED. THE RETENTION NUTS DID NOT HAVE THE O-RING GROOVE WIDENED AS LISTED IN SL 1990-2. AD/PMC/41HAD NOT BEEN INCORPORATED AT THE LAST OVERHAUL. THE SERIAL NUMBER OF ONEBLADE WAS INCORRECT IN THE LOGBOOK. PERSONNEL/MAINTENANCE				
CESSNA 182M	CONT O470R	PISTON SA640518	FAILED NR 5 CYL	12/01/2001 2002FA0000267
CASTROSPHOIC ENGINE FAILURE AFTER TAKEOFF. EMERGENCY LANDING WAS EXECUTED WITHOUT INCIDENT. ENGINE WAS DISASSEMBLED, REVEALING NR 5 PISTON DISINTEGRATED. ENGINE HAD BEEN OVERHAULED APPROXIMATELY 280 HOURS AND 3.5 YEARS PRIOR TO FAILURE. ALL PISTONS HAD BEEN REPLACED WITH NEW AT OVERHAUL. PARTS WERE SUBMITTED TO THE MANUFACTURER FOR ANALYSIS.				
CESSNA 195A	JACOBS L4*	BRACKET 0322709	CORRODED AILERON HINGE	12/26/2001 2002FA0000212
BOTH BRACKETS CRACKED ALL THE WAY ACROSS BEARING BOSS, SEVERELY CORRODED AND MOUNTING LEG OF ONE BRACKET BROKEN OFF. THE PROBLEM WITH THESE BRACKETS IS THE HIGHLY REACTIVE MAGNESIUM WHICH THEY ARE MADE OF. THIS IS A HIGHLY CRITICAL COMPONENT AND SHOULD BE INSPECTED CLOSELY OR REPLACED.				
CESSNA 195A	JACOBS R7559	BRACKET 0322709	CORRODED AILERON HINGE	01/22/2002 2002FA0000295
INBOARD AILERON HINGE BRACKET, THESE MAGNESIUM BRACKETS WERE SEVERELY CORRODED AND CRACKED UNDER THE PAINT AND COULD ONLY BE SEEN AFTER BEAD BLASTING. THESE BRACKETS ARE THE ATTACH FOR THE AILERONS AND ARE CRACKING COMPLETELY ACROSS THE RETAINING BOSS FOR THE BEARING. SUGGEST PAINT REMOVAL AND INSPECTION OF BRACKET OR REPLACE WITH STC'S ALUMINUM BRACKETS. APPROXIMATELY 80 PERCENT OF THE ORIGINAL BRACKETS WE HAVE INSPECTED HAVE BEEN SEVERELY CORRODED/ CRACKED.				
CESSNA 208	PWA PT6A11	WASHER	WRONG PART ENGINE BOLTS	01/15/2002 2002FA0000198
DURING A ROUTINE INSPECTION, FOUND THE ENGINE MOUNT BOLTS HAD AN960616L WASHERS INSTALLED UNDER BOLT HEADS (12 BOLTS)TOTAL. THIS TYPE BOLT MUST HAVE MS20002C6 WASHERS.				
CESSNA 208B	PWA PT6A114A	PUMP 025323150	FAILED FUEL SYSTEM	01/25/2002 2002FA0000176
HAD AN ENGINE FAILURE WHICH RESULTED IN THE AIRCRAFT LANDING SHORT OF THE AIRPORT. NO ONE WAS INJURED AND THE AIRCRAFT WAS NOT DAMAGED. ENGINE QUIT DUE TO ENGINE DRIVEN FUEL PUMP FAILURE. FUEL PUMP WAS REMOVED, A NEW PUMP INSTALLED, AND THE AIRCRAFT RETURNED TO SERVICE.				
CESSNA 210D	CONT IO520*	NUT	LOOSE ELT ANTENNA	02/07/2002 2002FA0000331

THE ELT ANTENNA WAS FOUND TO BE LOOSE ON VISUAL INSPECTION. REMOVED ELT ANTENNA ASSEMBLY, FOR PROGRESSIVE INSPECTION. FOUND SHIELD LOCKING NUT SECURING METAL RADIATING ROD TO ANTENNA BASE ASSEMBLY WAS LOOSE. WHEN RADIATING ROD WAS REMOVED FROM ANTENNA BASE ASSEMBLY, THE FEMALE BNC BARREL CONNECTOR SOLDIER JOINT WAS BROKEN. THE SECURING OF THE 24 INCH RADIATING ROD IS ACCOMPLISHED ONLY BY MEANS OF AN INSULATING PLASTIC HOUSING AT THE ANTENNA BASE IN A COMPRESSION NUT. THE FEMALE BNC BARREL SHOULD HAVE BEEN CRIMPED.

CESSNA	CONT	SPAR	CRACKED	01/09/2002
210N	IO520L	123262224	HORIZONTAL STAB	AUS20020062

(AUS) HORIZONTAL STABILISER MAIN SPAR CRACKED. CRACKS WENT THROUGH SPAR, SPLICE AND CHANNEL. CRACKS RADIATED FROM THE TOP AND BOTTOM OF THE CENTRAL LIGHTENING HOLE. REAR ATTACHMENT FITTING ALSO CRACKED AT THE TAILPLANE TO FUSELAGE ATTACHMENT POINT.

CESSNA	CONT	ENGINE	FAILED	01/30/2002	2642
310G	IO470D	IO470D	5&6 CYLINDERS	2002FA0000175	1170

WHILE PERFORMING A STATIC GROUND RUN, AT APPROX. 2200 RPMS THE ENGINE SHOOK VIOLENTLY. THE ENGINE WAS QUICKLY SHUT DOWN AND FUEL SHUT-OFF VALVE SELECTED TO THE OFF POSITION. CLOSE INSPECTION OF THE ENGINE REVEALED THAT THE NR 6 CYLINDER HAD SEPARATED FROM THE ENGINE. THE NR 5 CYLINDER WAS JAMMED WITH THE PISTON CONNECTING ROD SEVERED IN HALF. THE FORWARD ENGINE CASE WAS CRACKED IN SEVERAL PLACES EXPOSING BOTH NR 5 AND NR 6 CYLINDER ASSEMBLIES INNER MECHANISM AND CRANKSHAFT. RECOMMENDATIONS ARE TO REMOVE ENGINE AND SUBMIT IT TO A TEARDOWN INSPECTION ALONG WITH A METALLURGIC EVALUATION ON THE INTERNAL PARTS FOR FAILURE. IN PARTICULAR, THE NR 5 CYLINDER

CESSNA		BELLCRANK	BROKEN	02/01/2002
310L		08421022	MLG	2002FA0000196

AFTER REPLACING BROKEN SQUAT SWITCH, CONDUCTED ROUTINE RETRACTION TEST TO CHECK FUNCTION OF GEAR. MAINS RETRACTED NORMALLY, NOSE GEAR STARTED TO RETRACT AND THEN BOUND UP. BEFORE LANDING GEAR LEVER COULD BE MOVED TO NEUTRAL POSITION, LOUDBANG AND MOVEMENT OF FLOOR UNDER LEFT SIDE OF CONSOLE NOTED. NOSE GEAR SWUNG FREE, INSPECTION FOUND THAT THE IDLER BELLCRANK HAD A UNSEEN BREAK IN THE METAL AROUND THE REAR BOLT HOLE. THIS ALLOWED THE METAL TO TIP UP AND CONTACT THE BULKHEAD, THE RESULTING BINDING CAUSED THE BOLT AND BEARING IN THE REAR DRIVE TUBE TO BE PULLED OUT OF THE ROD END. FORTUNATELY THIS OCCURRED WHEN AIRCRAFT WAS ON JACKS.

CESSNA	CONT	CYLINDER	BROKEN	02/26/2002
340CESSNA	TSIO520K	CN635448FC	RT ENGINE	2002FA0000326

PILOT REPORTED PARTIAL LOSS OF POWER AND VIBRATION FROM RIGHT ENGINE ON CLIMB-OUT. UPON INSPECTION FOUND RIGHT ENGINE NR 2 CYINDER HEAD BROKEN IN THE AREA OF THE FOURTH AND FIFTH COOLING FINS. HEAD WAS COMPLETELY SEPARATED FROM THE BARREL AND WAS HELD IN PLACE ONLY BY THE ENGINE COOLING BAFFLES.

CESSNA	CONT	ACTUATOR	BROKEN	02/12/2002	9000
340CESSNA	TSIO520N	JE 1	RT MLG	2002FA0000216	

RT MLG DOWN LIGHT DID NOT SHOW DOWN AND LOCK. REMOVED RIGHT SWITCH (DOWNLOCK) 1SE1 SWITCH AND ACTUATOR SWITCH LEAF (JE1) FELL OUT. THE JE1 ACTUATOR WAS BROKEN AND PART OF THE ACTUATOR WAS MISSING. ORDERED NEW PARTS,REPLACED 1SE1(SWITCH)AND ACTUATOR JE1 WITH MFG PART, PART NUMBER S2112-1 (ACTUATOR) AND S2088-4(SWITCH).

CESSNA	CONT	CONNECTING	FAILED	01/16/2002
402B	TSIO520E	TSIO520E	RECIPROCATING	AUS20020048

(AUS) RH ENGINE INTERNAL FAILURE. INSPECTION FOUND HOLES IN THE FORWARD END OF THE CRANKCASE IN THE AREA OF NO5 AND NO6CYLINDERS. ON DISASSEMBLY MASSIVE INTERNAL DAMAGE FOUND. CONNECTING ROD FOUND IN SUMP. CAMSHAFT BROKEN. SUSPECT CONNECTING ROD OR CONNECTINGROD BOLT FAILURE.

CESSNA	CONT	CLAMP	UNAPPROVED	02/25/2002
402C	TSIO520VB	MS935302	MLG BLOWDOWN	AUS20020139

(AUS) LANDING GEAR EMERGENCY BLOWDOWN SYSTEM CONTROL CABLE CLAMP INCORRECT ITEM. THE INCORRECT ITEM WAS A RUBBER CUSHIONED CLAMP WHICH ALLOWED THE CONTROL CABLE TO SLIP AND JAM THE FIRINGSYSTEM. WHEN THE CORRECT CLAMP WAS FITTED THE SYSTEM OPERATED NORMALLY. UNAPPROVED PART.

CESSNA		LINE	FAILED	02/08/2002
414A		5100106159	BRAKE SYSTEM	2002FA0000316

DURING MAXIMUM POWER MAINTENANCE GROUND RUNUP AFTER ROUTINE OIL CHANGE, THE RIGHT BRAKE FAILED. QUICK ACTION BY THE MECHANIC RUNNING THE AIRCRAFT AVOIDED A POTENTIAL ACCIDENT. FOUND BRAKE LINE UNDER COPILOTS FLOORBOARD TO HAVE A HOLE CORRODED IN IT. THIS ALUMINUM TUBE RUNS BELOW A SECTION OF STEEL WIRE SUPPORTED SCAT HOSE. SUSPECT THAT THE CONTACT WAS MADE BETWEEN THE TUBE AND HOSE CAUSING CORROSION. AREA WHERE DAMAGE OCCURED IS NOT VISUALLY ACCESSABLE, EXCEPT BY BORESCOPE. REPLACED TUBE & MADE SURE NO FURTHER CONTACT IS MADE BETWEEN THE HOSE & TUBE. SUBMITTED BY: JOHN D. TOBIN A&P 2250313 EPPS AIR SERVICE INC.

CESSNA		LINE	CORRODED	02/08/2002
414A		5100106159	BRAKE SYSTEM	2002FA0000318

DURING MAXIMUM POWER RUNUP, AFTER ROUTINE OIL CHANGE, THE RIGHT BRAKE FAILED. QUICK ACTION BY THE MECHANIC RUNNING THE AIRCRAFT AVOIDED A POTENTIAL ACCIDENT. FOUND BRAKE LINE UNDER COPILOTS FLOORBOARD TO HAVE A HOLE CORRODED IN IT. THIS ALUMINUM TUBE RUNS BELOW A SECTION OF STEEL WIRE SUPPORTED SCAT HOSE. SUSPECT THAT THE CONTACT WAS MADE BETWEEN THE TUBE AND HOSE CAUSING CORROSION. AREA WHERE DAMAGE OCCURED IS NOT VISUALLY ACCESSABLE, EXCEPT BY BORESCOPE. REPLACED TUBE & MADE SURE NO FURTHER CONTACT IS MADE BETWEEN THE HOSE & TUBE.

CESSNA	CONT	CONT	EXHAUST PIPE	LEAKING	01/26/2002
421B	GTSIO520H	GTSIO520H	ENGINE	AUS20020125	

(AUS) RH ENGINE FIRE. ENGINE COMPARTMENT DAMAGED. FIRE WAS EXTINGUISHED USING CABIN FIRE EXTINGUISHER. INVESTIGATION FOUND THE FIRE WAS CAUSED BY MISALIGNMENT OF THE EXHAUST SWIVEL JOINT WHICH ALLOWEDEXHAUST GAS TO LEAK INTO THE ENGINE BAY. A LIST OF DAMAGE IS AS FOLLOWS:- 1.OUTBOARD ENGINE MOUNT BEAM HEAT DAMAGED 2.STARTER HEAT DAMAGED3.OUTBOARD REAR ENGINE MOUNT HEAT AFFECTED4.INTERCOOLER INDUCTION TUBE HEAT DAMAGED 5.VARIOUS FUEL, OIL AND DRAIN HOSES HEAT DAMAGED6.TURBOCHARGER SEIZED 7.TACHO GENERATOR HEAT AFFECTED 8.INTERCOOLER HEAT AFFECTED 9.VACUUM PUMP HEAT AFFECTED 10. OIL PUMP HEAT AFFECTED

CESSNA	CONT	WINDSHIELD	DEPARTED	03/04/2002
421B	TSIO360*	511604202	COCKPIT	2002FA0000307

AT APPROXIMATELY 17,000 FEET CO-PILOTS WINDSHIELD DEPARTED AIRCRAFT, RECOMMEND LARASCOPE INSPECTION OF WINDSHIELD HOLES. TOTAL TIME ON PART 6,234.9.

CESSNA		WIRE HARNESS	CHAFED	03/13/2002	6735
441			BOOST PUMP	441M	

FOUND CHAFED WIRE THAT HAD BEEN ARCING ON THE BOX THAT SURROUNDS THE BOOST PUMPS TO KEEP THE FUEL IN THE FUEL HOPPER. ABOUT SIX INCHES FROM WHERE THE BOOST PUMP, CONNECTOR PLUG ENTERS THE INBOARD RIB OF THE WET WING AREA, A WIRE (THE RED WIRE) HAD BEEN CHAFING ON THE BOX AND CHAFED THROUGH THE INSULATION. A PIN HOLE WAS CREATED IN THE CAN FROM THE ELECTRICAL ARCING.

CESSNA 441	GARRTT TPE331*	PIN NAS561P628	CRACKED LT MLG	01/28/2002 2002FA0000211	5026
DUE TO PIN FAILURE ON AIRCRAFT, PINS WERE REMOVED FOR INSPECTION AND THE LEFT TO THE POINT OF FAILURE . THE FORWARD PIN ON THE RIGHT SIDE WAS INTACT BUT SHOWING SIGNS OF SHEARING. ALL FOUR MAIN LANDING GEAR PIVOT SLOTTED PINS WERE REPLACED WITH NEW NAS561P628.					
CESSNA 441	GARRTT TPE33110	AMMETER A60088	BLEW OUT INST PANEL	03/08/2002 2002FA0000335	960
N442HA A CESSNA 441 WAS DECENDING THROUGH APPROX. 12000 FT WHEN THE PROPELLER DE-ICE AMP METER EXPLODED SENDING BROKEN GLASS INTO THE PILOT FACE JUST MISSING HIS EYES. PRIOR TO THE FAILURE THE PILOT HAD SELECTED THE PROPELLER DE-ICE SYSTEM TO THE ON POSITION. TO CYCLE THE SYSTEM PRIOR TO LANDING. THE PILOT SHUT DOWN THE PROPELLER DE-ICE SYSTEM FOLLOWING THIS INCIDENT. THE CIRCUIT PROTECTOR DID NOT OPEN WITH THIS FAILURE. THE GAGE WAS REMOVED AND INSPECTED THE SHUNT LOCATED IN THE BACK OF THE GAGE HAD BURNED AND MELTED OPENING THE CIRCUIT.					
CESSNA 560	CESSNA	CIRCUIT 7014300901	ARCED ELECTRICAL	01/17/2002 2002FA0000169	
COCKPIT FILLED WITH SMOKE AND ODOR OF BURNING MATERIAL. INSPECTION OF WIRING AND SYSTEM INSTALLATION, FOUND ONE TERMINAL ON POWER CIRCUIT BREAKER PANEL WITH EVIDENCE OF ARCING, BUT NOT RELATED TO THIS UNITS OPERATION SOME INTERNAL FAILURE HAS OCCURRED, W HEN POWERED UP IT STARTS TO					
DIAMON DA20A1	ROTAX ROTAX912	SPARK PLUG 897255	BROKEN CYLINDER HEAD	02/09/2002 CA020211017	
(CAN) ENGINE ROUGHNESS WAS NOTED ON STARTUP AT ALL POWER SETTINGS BELOW 1600 RPM. NR 3 CYLINDER SPARK PLUG WAS FOUND TO HAVE ELECTRODE BROKEN OFF AT 90 DEGREE BEND.					
DIAMON DA20A1	ROTAX ROTAX912	WIRE N965177	BROKEN COIL	02/16/2002 CA020220015	
(CAN) FOLLOWING A FLIGHT THE ENGINE DID NOT SHUTDOWN WHEN IGNITION SELECTED TO OFF. NO RPM DROP WAS NOTED WHEN SWITCHING IGNITION FROM 'BOTH' TO 'R'. A BROKEN GROUND WIRE WAS FOUND IN THE IGNITION					
DIAMON DA20A1	ROTAX ROTAX912	ROTAX 913425	EXHAUST N854115	CHIPPED CYLINDER HEAD	02/18/2002 CA020221019
(CAN) AFTER TAKE-OFF IT WAS NOTED THAT THE ENGINE WAS NOT DEVELOPING FULL POWER. WHEN THE POWER SETTING WAS REDUCED TO ESTABLISH THE AIRCRAFT ON A DOWNWIND LEG A LOW FREQUENCY ENGINE VIBRATION WAS NOTED. A 1/4" DIA CHIP WAS FOUND MISSING ON THE CIRCUMFERENCE OF THE EXHAUST VALVE OF NR 3 CYLINDER.					
DIAMON DA20A1	ROTAX ROTAX912	ROTAX 913435	INTAKE VALVE N854105	CRACKED CYLINDER HEAD	02/25/2002 CA020225005
(CAN) DURING THE POST-INSPECTION ENGINE RUN SUBSTANTIAL ENGINE VIBRATION WAS NOTED. THE NR 4 CYLINDER WAS REMOVED AND THE INTAKE VALVE WAS FOUND TO HAVE A CRACK EXTENDING FROM A CENTRAL LOCATION TO THE EDGE OF THE VALVE. SMALL CHIPS WERE ALSO NOTED TO BE MISSING FROM THE VALVE NEAR THE					
DIAMON DA20A1	ROTAX ROTAX912	ROTAX 913435	INTAKE VALVE N854105	CORRODED CYLINDER HEAD	02/25/2002 CA020225006
(CAN) THE BASE OF THE INTAKE VALVE STEM FROM THE NR 2 CYLINDER WAS FOUND TO BE PITTED.					
DIAMON DA20A1	ROTAX ROTAX912	ROTAX 913435	EXHAUST N854115	DAMAGED CYLINDER HEAD	02/25/2002 CA020225007
(CAN) THE VALVE SEAT ON THE EXHAUST VALVE FROM CYLINDER NR 2 WAS FOUND TO BE DISHED.					
DIAMON DA20A1	ROTAX ROTAX912	NEEDLE 961215	SHEARED CARBURETOR	02/16/2002 CA020227009	
(CAN) DURING FLIGHT SUDDEN ROUGHNESS OCCURRED. PROP UNRESPONSIVE WITH POWER FULL. AIRCRAFT RAN ROUGH THE WHOLE FLIGHTBACK, UNABLE TO MAINTAIN ALTITUDE, SLOW DESCENT APPROX 100 FEET/MIN FROM BIRDS HILL TO ST. ANDREWS. WINGS REMOVED AND AIRCRAFT TRANSPORTED TO WINNIPEG BASE, UPON INSPECTION FOUND L/H CARB NEEDLE SHEARED, NEEDLE AND CIRCLIP REPLACED, RT CARB INSP, WINGS REINSTALLED, SAFETIED AND TRAVEL CHECKED, PITOT STATIC TEST CARRIED OUT AS PER AWM 511 APPENDIX B. NO DEFECTS NOTED. AIRCRAFT GROUND RUN AND LEAK CHECKED SERVICEABLE.					
DIAMON DA20C1	CONT IO240B	PUMP	INOPERATIVE FUEL BOOST	01/28/2002 2002FA0000170	
ENGINE QUIT DURING STALL PRACTICE. ENGINE WOULD START BUT NOT RUN. LANDED IN FIELD. FUEL PRESSURE TOO LOW. FACTORY REP INSTALLED SETUP GAGES AND ADJUSTED TO PROPER SPECS. ENGINE RAN GOOD AFTER					
HUGHES 369D	ALLSN 250C20	BEARING 369A795149	INOPERATIVE MLG	02/09/2002 2002FA0000308	
FOUND LEFT FRONT MAIN LANDING GEAR KEEL BEARING AND RETAINER BACKED OUT OF KEEL FITTING. IT IS NORMALLY RETAINED WITH A CIRCLIP BUT IT WAS NOT ENGAGED BUT IT WAS CAPTURED BY THE BOLT. THE LIMIT OF REMOVAL WAS DEFINED BY THE FORK ON THE END OF THE LANDING GEAR LEG. THE ID OF THE BORE IN THE KEEL FITTING WAS WITHIN LIMITS AND A NEW RETAINER AND BEARING WERE INSTALLED WITH A NEW CIRCUP.					
HUGHES 369D	ALLSN 250C20	GUIDE 369HG20073	BROKEN MLG	02/12/2002 2002FA0000309	
DURING 100/300 ROUTINE INSPECTION THE GUIDE TUBE FOR THE SPRING LOADED FILLETS WERE FOUND BROKEN ON (3) THREE LANDING GEAR.					
MAULE M6235		SPROCKET D31	BROKEN CONTROL YOKE	02/20/2002 2002FA0000277	872
LEFT AILERON CONTROL SPROCKETS STOP PIN WAS FOUND BROKEN OFF. THIS ALLOWED BALANCE WEIGHTS TO HIT UPPER WING SKIN AND AILERON TRAVEL TO 60 BEYOND RECOMMEND UP/DOWN MOVEMENT. SUSPECT PIN WAS BROKEN OFF WITH AIRCRAFT OUTSIDE IN WINDY CONDITIONS WITH NO GUST LOCK INSTALLED.					
MOONEY M20E		WIRE	WRONG PART PROP HUB	02/20/2002 0242	1450 170
DURING ANNUAL INSPECTION, FOUND PROPELLER HUB SAFETY WIRE UNDER SIZE - .032. AIRCRAFT PARTS MANUAL CALLS FOR SIZE - .041 SAFETY. INSTALLED PROPER WIRE AND RETURNED TO SERVICE. SIX PRIOR INCIDENTS IN LAST THREE MONTHS. AC 43.13-1B DOES NOT SPECIFY ANYTHING.					
MOONEY M20M	LYC TIO540AF1B	BEARING	FAILED ENGINE	02/25/2002 2002FA0000317	399
DURING A REGULER OIL CHANGE INTERVAL. METAL CONTAMINATS WER NOTED IN THE FOLDS OF THE OIL FILTER. THEY APPEARED TO BE OF ALUMINUM. FURTHER INVESTIGATION INTO THE PICK UP SCREEN FOUND A LARGER AMOUNT OF DEBRIS. SIZE OF THE DEBRIS APPEARED TO BE AROUND 1/16 OF AN INCH IN SIZE. IN ACCORDANCE WITH TEXTRON LYCOMING SERVICE INSTRUCTION THE AIRCRAFT WAS GROUNDED. SAMPLE FROM BOTH THE FILTER AND PICK UP SCREEN WERE PACKAGED SEPERATLY AND SENT TO TEXTRON LYCOMING IN THE SAME PACKAGE BUT SEPERATED. TEXTRON CALLED BACK AND SAID THE CONTENTS OF THE SAMPLE WERE BEARING MATERIAL. AT THE SAME TIME AS THE OIL WAS DRAINED FROM THE ENGINE, A SAMPLE WAS TAKEN FOR ANALYSIS. THE OIL SAMPLE WAS					

PIPER PA28161		COTTER PIN	BROKEN PEDAL	03/11/2002 2002FA0000312	
DURING ROUTINE CABIN INSPECTION IT WAS DISCOVERED THAT THE COTTER PIN WHICH HOLDS THE PILOTS RIGHT PEDAL AND CLEVIS ASSEMBLY TO THE BRAKE CYLINDER WAS DAMAGED AND BACKING OUT. THE DAMAGE WAS APPARENTLY CAUSED BY THE PILOTS RIGHT FOOT COMING IN CONTACT WITH THE COTTER PIN AND RUBBING IT. SUBMITTER SUGGESTS INSTALLING THE FLAT HEAD PIN SO THAT THE COTTER PIN WILL BE TO THE CENTER OF THE AIRCRAFT AND FEET WILL NO LONGER COME INTO CONTACT WITH IT.					
PIPER PA28181		CONTROL	WORN FWD STABILATOR	02/14/2002 2002FA0000273	2480
DURING A ROUTINE INSPECTION THE RIGHT AND LEFT FORWARD STABILATOR CABLE WERE FOUND WORN AND FRAYED. THE AILERON RIGHT AND LEFT BALANCE CABLES WERE ALSO FOUND IN A SIMILAR CONDITION. THE WORN AND FRAYED PARTS OF THE CABLES WERE FOUND AT PULLEYS, FAIR LEADS OR ANYPLACE THE CABLES CAME IN CONTACT WITH. PROBABLE CAUSE: SUBSTANDARD CABLE.					
PIPER PA28181		CONTROL	WORN STABILATOR	02/14/2002 2002FA0000274	2480
DURING A ROUTINE INSPECTION THE RIGHT AND LEFT FORWARD STABILATOR CABLE WERE FOUND WORN AND FRAYED. THE AILERON RIGHT AND LEFT BALANCE CABLES WERE ALSO FOUND IN A SIMILAR CONDITION. THE WORN AND FRAYED PARTS OF THE CABLES WERE FOUND AT PULLEYS, FAIR LEADS OR ANY PLACE THE CABLES CAME IN					
PIPER PA28181	LYC O360*	CONTROL	WORN STABILATOR	02/19/2002 2002FA0000285	2536
DURING A ROUTINE INSPECTION THE RT AND LT FORWARD STABILATOR CABLES WERE FOUND WORN AND FRAYED. THE AILERON RIGHT AND LEFT BALANCE CABLES WERE ALSO FOUND IN A SIMILAR CONDITION. THE WORN AND FRAYED PARTS OF THE CABLES WERE FOUND AT PULLEYS FAIRLEADS OR ANY PLACE THE CABLES CAME IN CONTACT					
PIPER PA28R201T	CONT TSIO360FB	LINE	WORN ENGINE OIL	02/15/2002 2002FA0000217	2620 450
ENGINE LOST OIL PRESSURE IN CRUISE FLIGHT. THE PILOT MADE AN UNSCHEDULED LANDING. INVESTIGATION REVEALED THAT THE OIL FILLER CAP HAD COME OFF AND THE ENGINE LOST OIL. THE INTERNAL AREA OF THE OIL FILLER TUBE HAD WORN AND WOULD NO LONGER PUT SUFFICIENT PRESSURE ON THE OIL CAP RETAINING SPRING CLIPS. DUE TO THE IMPACT ON SAFETY, THE OIL FILLER TUBE SHOULD BE REPLACED AT ENGINE TBO.					
PIPER PA31350	LYC TIO540*	BOLT	WORN NLG DOOR	02/05/2002 2002FA0000266	
PILOT REPORTED NOSE WHEEL WOULD NOT LOCK (UP) AND RETURNED TO BASE WITHOUT ABNORMAL INDICATION. MAINTENANCE INSPECTION REVEALED THAT THE BOLTS IN THE NOSE WHEEL RIGHT DOOR WERE WORN AND WERE REPLACED. DOOR WAS STRAIGHTENED AND RERIGGED. RETRACTION AND OPS CHECKED OK. FLOWN AND RELEASED FOR SERVICE.					
PIPER PA31350	LYC TIO540*	HOSE	DAMAGED HYD SYSTEM	02/25/2002 2002FA0000297	6363
HOSE ASSEMBLY FAILED AFTER TAKE-OFF AND NOSE GEAR WOULD NOT RETRACT. PILOT TRIED TO HAND PUMP THE MANUAL HYDRAULIC PUMP WITH SO SUCCESS. INSPECTION NOTED LINE BLEW A HOLE BELOW THE TSO TAG AREA. IT IS RECOMMENDED THAT ON ANNUAL INSPECT BOTH ACTUATOR HOSE ASSEMBLY SHOULD BE INSPECTED BELOW THE TSO TAG AND SPIRAL WRAP FOR DAMAGE.					
PIPER PA31350	LYC TIO540*	SHUTOFF VALVE	LEAKING FUEL REGULATOR	01/10/2002 2002FA0000334	4
CREW REPORTED FUEL PRESSURE FOR RIGHT ENGINE WOULD DROP INTERMITTENTLY, THE HEATER FUEL SUPPLY COMES FROM FUEL FOR RIGHT ENGINE. TURNED HEATER ON, AND FUEL LEAKED FROM FUEL REGULATOR/SHUTOFF VALVE. THIS WAS A NEW VALVE THAT REPLACED A NEW VALVE PER THE REQUIREMENTS OF AD.					
PIPER PA31350	LYC TIO540J2BD	BRACKET	OUT OF ADJUST MLG	01/22/2002 AUS20020047	
(AUS) RT MAIN LANDING GEAR MICROSWITCH MOUNT BRACKET MOVED. MICROSWITCH OUT OF ADJUSTMENT. BRACKET HAD BEEN REMOVED DURING DRAG BRACE REPLACEMENT.					
PIPER PA31350	LYC TIO540J2BD	PUMP	FAILED VACUUM SYS	12/04/2001 CA020226007	
(CAN) VACUUM PUMP INSTALLED ON ENGINE, TEST SHOWED EXCESSIVE OIL LEAK AT MOUNT BASE. OIL PRESSURE ON ENGINE WENT TO "0" INDICATED AND ENGINE WAS SHUT DOWN. REPLACEMENT PUMP INSTALLED AND OIL SCREEN DETECTED METAL IN ENGINE.					
PIPER PA32300	PWA PT6A67B	WIRE ROPE	WORN LT AILERON	01/16/2001 2002FA0000160	2227
LEFT AILERON BALANCE CABLE, DURING A ROUTINE INSPECTION, THE LEFT AILERON BALANCE CABLE WAS FOUND WORN WHERE THE CABLE PASSES OVER THE CENTER PULLEY IN THE MIDDLE OF THE FUSELAGE.					
PIPER PA32RT300	LYC IO540K1G5	CABLE	FAILED ELEVATOR TAB	01/18/2002 AUS20020046	
(AUS) STABILATOR TRIM CABLE SEPARATED AT ELECTRIC TRIM SERVO ACTUATOR.					
PIPER PA34200T	CONT TSIO360EB	MASTER	BROKEN COCKPIT	02/22/2002 2002FA0000310	
THE MASTER SWITCH IS DIVIDED INTO TWO SWITCHES A THAT ARE COUPLED TOGETHER WITH A PLASTIC TAB. THE HALF OF THE SWITCH THAT CONTROLS THE ALTERNATOR FIELDS IS HIDDEN UNDER THE SIDE PANEL. WHEN THE TAB THAT COUPLES THE TWO TOGETHER BROKE, THE ALTERNATORS DROPPED OFF LINE.					
PIPER PA36285	LYC IO540K1G5	CONT	WORM GEAR STARTER CLUTCH	07/09/2001 CA020211013	
(CAN) THE PILOT COULD NOT START THE ENGINE. NOTED THAT ALTHOUGH THE STARTER APPEARED TO SPIN, IT WAS NOT TURNING THE ENGINE. THE AME INVESTIGATED AND DETERMINED THAT THE PROBLEM WAS INTERNAL. THE ENGINE WAS DISMANTLED TO REVEAL THE STARTER WORM GEAR BROKEN IN 3 PLACES. PREVIOUSLY, THE ENGINE HAD BEEN KICKING BACK EXCESSIVELY ON STARTUP. IT WAS FOUND THAT THE MAGNETO SHOWER OF SPARKS WAS WIRED TO THE ADVANCE POINTS RATHER THAN THE RETARD AND THIS COULD HAVE WEAKENED THE WORM GEAR TO THE POINT OF SUBSEQUENT FAILURE.					
PIPER PA44180		AIR BOX	BROKEN ENGINE	02/25/2002 2002FA0000315	122 60
THE CARBURETOR AIR BOX AIR INLET TUBE BROKE OFF. THE WELD ON THE INSIDE OF THE BOX HAD BEEN GROUND OFF AT THE FACTORY. THE BOX ASSY NR WAS 86245-34 AND THE PART THAT BROKE OFF HAD A NR OF 86245-035.					
PIPER PA60601P	LYC IO540S1A5	HOSE	RUPTURED ENGINE	02/02/2002 CA020228016	
(CAN) TURBO OIL SUPPLY HOSE FROM OPTIONAL FILTER P/N 300180-501 TO WAISTGATE ACTUATOR ROUTED IN CLOSE PROXIMITY TO EXHAUST PIPES WITH SHARP BENDS DUE TO EXTREMITY TIGHT ROUTING. ADDITIONALLY THIS HOSE IS DISTURBED EVERY 50 HOURS DUE TO REMOVAL AND CLEANING OF FILTER ELEMENT CLEANING, SUBJECTING HOSE TO ADDITIONAL STRESSES. HOSE FAILED IN CLIMB OUT, RESULTING IN LOSS OF OIL PRESSURE.					

PIPER	LYC		CRANKCASE	CRACKED	01/16/2002	2585
PA60601P	IO540S1A5		LW13827	RT ENGINE	2002FA0000204	

CRANKCASE FAILED NEAR NR 2 CYLINDER, CRACKED FROM IN FRONT OF CYLINDER RADIALLY BELOW AND AROUND TO THE REAR OF THE CYLINDER. CRACK EXTENDS MORE THAN 180 DEGREES, ALL 3 UPPER CYLINDER BASE STUDS AND UPPER CRANKCASE THRU BOLT WERE ALL BROKEN. THE ONLY THING STILL HOLDING THE CYLINDER TO THE ENGINE WAS THE LOWER .5000 THRU BOLT.

ROBSIN	LYC	ROBSIN	TAIL CONE	CRACKED	02/14/2002	
R44	O540F1A5	C0231	C0231	TOP SKIN	CA020215008	

(CAN) 2 INCH CRACK FOUND ON TOP SKIN OF TAIL CONE AT LOCATION OF AFT FACTORY INSTALLED VHF ANTENNA MOUNT 51.5 TO 53.5 INCHES AFT OF FORWARD TAIL CONE SKIN. CRACK APPEARS TO HAVE ORIGINATED FROM TAPERED FACTORY SHIM PN B322-1.

SNIAS	TMECA		STARFLEX	DEBONDED	02/06/2002	
AS350B3	ARRIEL2B	355A3100200	350A31190703	MAIN ROTOR HUB	CA020211015	

(CAN) AIRCRAFT TOTAL TIME 463 HOURS CONDUCTED A 500/A CALENDAR INSPECTION. BUSHING FOUND LOOSE ON STARFLEX ARM DURING INSPECTION AS PER WORK CARD 62.20.605 PARA. 5.3.

SNIAS	TMECA		BELT	DEBONDED	01/18/2002	395
AS350BA	ARRIEL1B		704A33690004	HYDRAULIC SYS	2002FA0000165	

WHILE RETURNING FROM STRIP TOURS, THE AIRCRAFT EXPERIENCED A LOSS OF HYDRAULIC POWER. UPON SAFE LANDING ON THE TAXI WAY, THE AIRCRAFT WAS IMMEDIATELY TOWED TO THE MAINTENANCE HANGER AND INSPECTED FOR PROBABLE CAUSES OF THE HYDRAULIC FAILURE. IT WAS FOUND THAT THE BONDED SEAM OF THE HYDRAULIC DRIVE BELT HAD SEPARATED AT THE BOND. POSSIBLE RECOMMENDATIONS TO PREVENT REOCCURRANCE WOULD BE HIGHER QUALITY CONTROL AT THE MANUFACTURER OR A HIGHER QUALITY HYDRAULIC DRIVE BELT.

UROCOP	TMECA		BRUSHES	WORN	01/17/2002	300
EC120B	ARRIU2F		M20014	STARTER GEN	2002FA0000306	

DEFECT FOUND DURING SCHEDULED MAINTENANCE, 100 HOUR INSPECTION. STARTER GENERATOR HAD PRIOR OVERHAUL AND MODIFICATION TO (XL) CONFIGURATION. FOUND 4 BRUSHES WORN LIMIT, 4 WITH UNDER 10 HOURS APPROXIMATE TIME LEFT. STARTER REPAIRED, NEW BRUSHES INSTALLED. POSSIBLE WRONG OR TOO SOFT CARBON

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION		OPER. Control No.		8. Comments (Describe the malfunction or defect and the circumstances under which it occurred. State probable cause and recommendations to prevent recurrence.)	DISTRICT OFFICE	OPERATOR DESIGNATOR
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		1. A/C Reg. No. N-				
Enter pertinent data	MANUFACTURER	MODEL/SERIES	SERIAL NUMBER	OTHER	COMPUTER	FAA
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.	Optional Information:		
				Check a box below, if this report is related to an aircraft		
				<input type="checkbox"/> Accident; Date _____ <input type="checkbox"/> Incident; Date _____		
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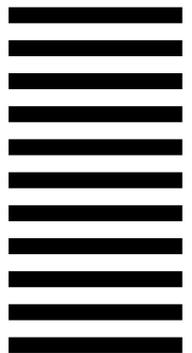
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