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of Transportation
Federal Aviation Administration

Aviation Maintenance Alerts

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Improve Reliability-Interchange Service Experience

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

AVIATION MAINTENANCE ALERTS

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

LAST COPY OF THE "ALERTS"

As the new millennium quickly approaches, we see evidence of a new technological age all around us. The "information super highway" is changing the way we all work, and government functions are not exempt. More information is now available at our fingertips through the internet than we could have imagined just a few short years ago. As you know, this publication, AC 43-16A, *Aviation Maintenance Alerts*, has been available through the internet for a number of years.

Another sign of the times is government downsizing and shrinking budgets. This has also had an impact on all of us. We are forced to re-evaluate all our business processes and make some decisions on how we spend our funds. Unfortunately, one of the victims of the analysis is the printed copy of the "Alerts." This is the last printed copy of the "Alerts" you will receive. Even though it will no longer be printed, we feel the "Alerts" is still an important publication, and we encourage you to access it through the internet. The internet address is:

http://www.mmac.jccbi.gov/afs/afs600

AC 43.13-1B AVAILABLE

The long awaited rewrite of Advisory Circular (AC) 43.13-1B, Acceptable Methods, Techniques, and Practices-Aircraft Inspection and Repair, is completed and is now available on the internet. The internet address is: http://www.faa.gov/avr/afs/300/pdf/1a-cover.pdf

This document is updated to include new technological changes since it was originally issued in 1972. Two FAA individuals, Mr. George Torres, AFS-610, and Mr. Bill O'Brien, AFS-300, were primarily responsible for the arduous effort which has now culminated in an excellent document. Many thanks to these individuals. Any questions or comments concerning AC 43.13-1B should be directed to Mr. Torres, AFS-610; FAA Mike Monroney Aeronautical Center; P. O. 25082; Oklahoma City, Oklahoma 73125; telephone No. (405) 954-6923; and FAX number (405) 954-4104. All comments, both positive and negative, are appreciated.

AIRPLANES

TURBINE AIRCRAFT FUEL

While visiting a parachute jump zone airport, an FAA Aviation Safety Inspector discovered that maintenance personnel refueled the

turbine-powered aircraft used for the parachuting activities with "home-heating kerosene" (also known as K1 kerosene).

This ***"fuel"*** does not meet the American Society for Testing and Materials (ASTM) standards for aviation turbine-engine fuel. It also does not meet the FAA requirements for other various makes and models of aircraft and powerplants specified in their type certificates.

We strongly suggest that everyone responsible for, or involved with, turbine-powered aircraft become familiar with the engine manufacturer's primary and alternate fuel requirements. This information is available in the FAA Type Certificate Data Sheet, the pilot's operating handbook, and the aircraft flight manual.

Using "unapproved" fuel in an aircraft powerplant creates a very dangerous **unknown** condition. Those unknown conditions (conditions which are derived from an element that is not controlled by aviation standards) significantly contribute to the increased number of aviation accidents, incidents, and fatalities. Consider a parachute jumper who contrives a new parachute device. It looks good on paper, but who wants to do the operational test?

The kerosene used in this case may work for a considerable amount of time until one gets a load of "bad fuel." The manufacturing quality control system used to produce K1 kerosene is far less stringent than for Jet A aviation fuel. For more information regarding these two petroleum products consult ASTM D-3699-98, Standard Specification for Kerosene and ASTM D-1655, Specification for Aviation Turbine Fuels. These documents give the standards used to manufacture K1 kerosene and Jet A fuel. A little research here may explain the absolute necessity to use only the proper approved fuel for aviation powerplants.

AEROSTAR

Aerostar; Model PA 60-600; Landing Gear Attachment Structural Defects; ATA 5730

A reader submitted reports concerning the same defect on three like aircraft. While conducting a scheduled inspection, technicians found a crack at the lower side of the left main landing gear attachment point.

Technicians determined the crack was beyond the allowable limits prescribed by the manufacturer's technical data. These cracks were at the outboard forward corner of the left main landing gear well. At this point, the skin has a radius to accommodate clearance for the gear during retraction. However, the repair scheme contains limits concerning the allowable damage. In these three cases, the damage exceeded the allowable limits. The submitter operates five like aircraft and found three with similar damage. The submitter recommends that all operators and maintenance personnel give this area close attention at every opportunity.

Part total times not reported.

BEECH

Beech; Model C23; Sundowner; Defective Instrument Panel Supports; ATA 5320

While conducting an annual inspection, maintenance personnel found that the instrument panel security was defective.

There were numerous cracks in the frame (P/N's 169-400011-7 and -8) angles which mount the instrument panel to the fuselage. The cracks extended to the adjacent channels and the fuselage skin. The submitter speculated that hard landings caused this damage and suggested a close inspection of the instrument panel mounting at every opportunity. This defect may be more prevalent on aircraft such as this one used for flight instruction.

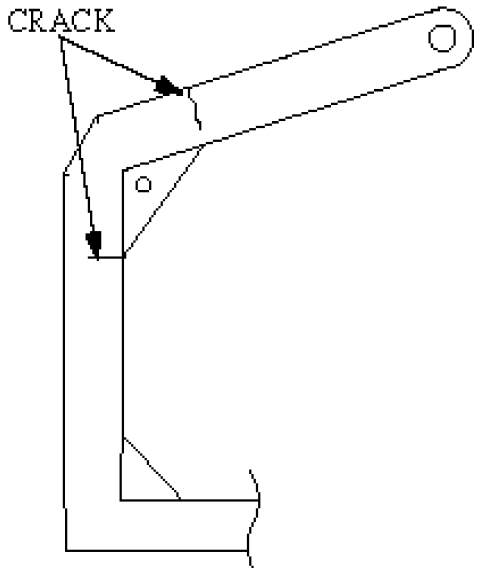
Part total time-4,789 hours.

Beech; Model E18S; Flight Control Column Cracks; ATA 2701

During a scheduled inspection, the maintenance technician discovered two cracks in the left flight control column (P/N 404-187500-26).

One crack was on the back of the upper section of the tube just above the bend and traveled around approximately two-thirds of the circumference. The other crack was approximately 1 inch long and was on the front of the control column tube just below the bend. (Refer to the following illustration.) The submitter speculated metal fatigue was caused by the length of service and the "twisting" load applied to the control column.

Part total time-10,243 hours.



Beech; Model E33; Bonanza; Engine Oil Leak; ATA 7930

Immediately after takeoff, a ground observer informed the pilot that the aircraft was leaving a smoke trail. The pilot returned the aircraft to the departure airport and made a safe landing.

The engine had lost approximately 6 quarts of oil through a broken oil pressure indicator line. The pilot stated there was no smoke in the cockpit and the oil pressure indicator remained in the green range. The 1/8-inch defective copper line had flare fittings at each end. The line failed around the circumference just behind the flare at the connection to the engine. The broken end remained in the fitting.

Notification from a ground observer allowed the pilot to avoid executing an emergency off-airport landing. The submitter suggested that all operators inspect the oil pressure indicator line for damage at both ends. If damaged, replace it with a suitable substitute in accordance with the manufacturer's data.

Part total time-4,450 hours.

Beech; Model 65 A And B Series; Queen Air; Propeller Deice Boot Failure; ATA 6112

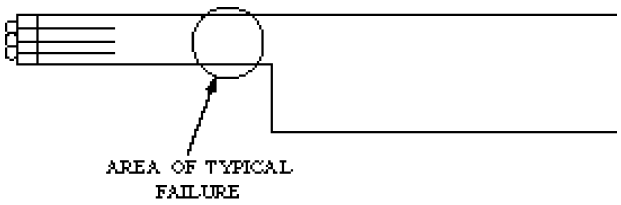
After a flight, maintenance technicians received an aircraft with a failed left engine propeller deicing system.

Technicians discovered the electrical lead wires to the deicer boot (Rapco P/N RA-1288-4) was broken. (Refer to the following illustration.) This reader sent reports of similar failures on 2 other like aircraft. A search through the FAA Service Difficulty Program (SDR) data base revealed three additional failures of this part number deicer boot leads. An interesting side light is that the SDR data base contains reports of 31 propeller deicer boot failures on Beech Model 1900 aircraft.

The deicer boot electrical leads seem prone to break approximately 12 inches from the terminal ends. There are many factors involved with these electrical lead failures: continued and extended exposure to centrifugal and other forces, exposure to temperature extremes, ultra violet light exposure, moisture, etc. Failures usually occur at the weakest point of a part. Therefore, since the failure of these five deicer boots electrical leads occurred at approximately the same location, it seems logical to assume that better security and protection from the elements mentioned

above may solve this problem. One other factor that warrants mentioning is an improvement in the design of the deicer boot in the failure area.

Part total time for the 5 parts was, 540, 1,345, and 438 hours. Two of the reports did not give the time in service.



Beech; Model C90A; King Air; Structural Bulkhead Cracks; ATA 5312

During a scheduled inspection, maintenance personnel discovered cracks in two pressure bulkheads.

The bulkheads (P/N's 50-420028-48 and -47) located at fuselage station (FS) 177 were cracked at water line (WL) 90 on the left and right sides. The crack on the right side had progressed to the fuselage outer skin. The manufacturer has developed a repair procedure for this type defect. Maintenance personnel should check this area closely during scheduled inspections and maintenance.

Part total time not reported.

Beech; Model B300; King Air; Windscreen Failure; ATA 5610

During flight, the inside pane of the right windscreen shattered. The pilot reduced the aircraft pressurization and made a decent and safe landing.

There were no windscreen (P/N 101-384025-16) defects noted in the aircraft maintenance records and no defects found during preflight inspection. The submitter gave no cause for this failure. It does seem curious that only the inside pane failed. If the outer pane had also failed, a very serious hazard to flight safety would have occurred. The submitter suggests that all operators and maintenance personnel be vigilant and attentive to any windscreen defects, especially on high time units.

Part total time-1,502 hours.

Beech; Model B300; King Air; Severe Nose Landing Gear Vibration; ATA 3244

The pilot reported a severe vibration from takeoff until the landing gear retracted. The vibration seemed to originate from the nose section of the aircraft.

During an investigation, maintenance technicians discovered that the nose gear tire balance patch was loose inside the tire. Maintenance personnel attach the balance patches at the proper location inside the tire with adhesive which evidently failed in this case. This condition creates a tremendous tire imbalance evidenced by vibration. This defect has occurred many times with tires of all makes and models which use the balance patch installation regardless of their installed position.

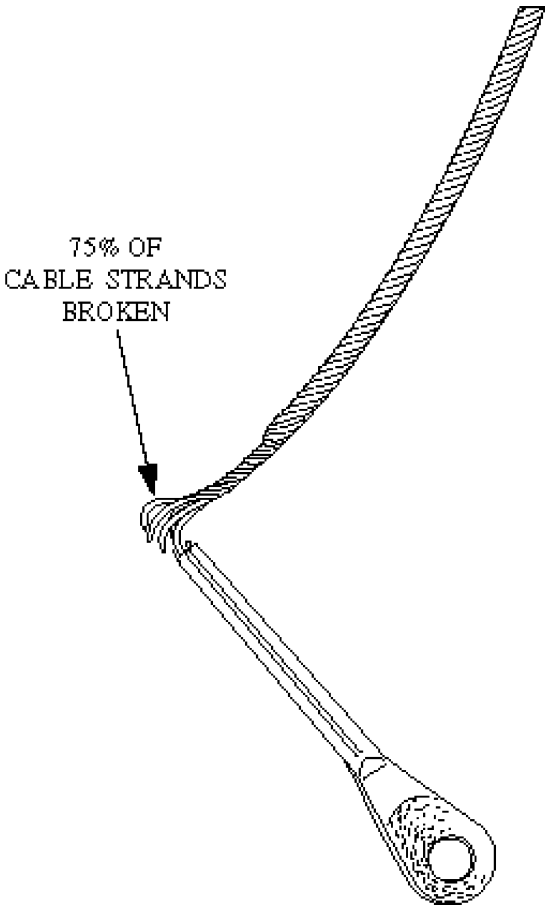
Part total time-55 hours.

Beech; Model 400A; Beechjet; Defective Landing Gear Cable; ATA 3230

During a scheduled inspection, maintenance personnel discovered a defective right main landing gear strut emergency release cable.

The cable had approximately 75 percent of the strands broken. The cable's damaged area is at the swaged end where it attaches to the gear up-lock mechanism. (Refer to the following illustration.) The submitter filed several other reports concerning this defect on other like aircraft. This cable's failure during flight would prevent the right main landing gear extension. The submitter stated this is a recurring problem and urged the manufacturer implement a solution.

Part total time-1,997 hours.



Beech; Model 1900D; Airliner; Propeller Pitch Change Fork Cracks; ATA 6111

A certified propeller repair station submitted three similar reports concerning the Hartzell, Model HC-E4A-3 propeller pitch change fork cracking.

With all three reports, cracking occurred on the forward ear of the pitch change fork (P/N 57D0495). Cracks were located at the inboard radius of the pitch pin engagement slot. The report specifies two cracks on each of the first two pitch change forks and three cracks on the third. It would be wise to scrutinize this area closely at every opportunity.

Part total times-1,748, 8,437, and 4,642 hours.

CESSNA

Cessna; Model A185F; Skywagon; Loose Air Duct; ATA 7160

Shortly after takeoff the engine lost power and the pilot returned to the airport making an uneventful landing.

The technician found that the engine air intake duct (P/N 165044-1) had disconnected from the duct adapter (P/N 165021-10) with the duct securing clamp still in place.

The submitter notes that the duct is constructed of silicon impregnated cloth, which, with wear, becomes flexible and slippery when it comes in contact with engine oil. A high volume of air produced in the takeoff roll, combined with the possibility of an improperly torqued clamp, may have accounted for the duct's movement away from the adapter.

The submitter states that on previous occasions, during ground run operations with the cowling off, similar ducts have folded in on themselves or moved back to come in contact with the auxiliary fuel pump cover. Either situation could cause air starvation and engine stoppage.

Part total time - Unknown hours

Cessna; Model 172; Skyhawk; Oil Pump Failure; ATA 8550

While in flight the oil pressure and tachometer indicators went to zero. The pilot made an emergency landing without incident.

When the technician inspected the aircraft, he discovered that the oil drive gear had failed, thus causing the subsequent failure of oil pump, tachometer drive, and the alternator gear.

The submitter states that he had to make an emergency landing at an earlier date in a similar make and model aircraft and maintenance personnel determined that the oil pump drive gear failure caused the engine

failure. Also another aircraft in the fleet had an alternator failure due to a damaged gear which operated off the same drive train.

A number of Airworthiness Directives (AD) address this problem. Make certain to investigate your aircraft's serial number to see if it falls within the range of any of these AD's.

Part total time not reported

Cessna; Model 150M; Commuter; Carburetor; ATA 7322

Maintenance personnel installed a single-piece venturi (P/N CF46-F12) in a Marvel Schlebler, MA3-SPA carburetor to comply with Airworthiness Directive (AD) 93-18-03. This replaced the old two-piece venturi. After the installation, the engine failed to develop full power and ran rough.

In the course of troubleshooting this problem, the technician replaced the spark plugs, and checked the magnetos and timing. After noting no improvement, the technician reinstalled the two-piece venturi and the engine redeveloped full power and ran smoothly again.

The submitter speculates that the newer one-piece venturi does not fit in place at the same depth as the older two-piece part causing the problem.

Part total time — Unknown

Cessna; Model R182; Skylane; Corroded Oil Pressure Line; ATA 7920

Shortly after take-off, the pilot noticed the needle of the oil pressure gauge oscillating. While the aircraft was returning for a precautionary landing, the oil pressure dropped to zero and the engine quit approximately 2 miles from the airport. The pilot made a successful, and uneventful, dead stick landing.

Maintenance personnel inspected the engine and its compartment thoroughly. The technician discovered no oil present in the compartment. He also verified an empty oil sump. Further inspection revealed oil running out of a drain hole in the belly of the aircraft and the right cabin vent. The technician then found a fractured oil pressure line (P/N 0700099-37) behind the instrument panel. The fracture was in the portion of the line that runs from the firewall to the gauge. The oil ran down the firewall, between the rudder pedals, and into the belly of the aircraft.

The submitter states that corrosion of the aluminum oil line in that area is the probable cause of the failure. Someone previously routed an original equipment cooling hose, with numerous holes over the line. Much of the forming wire inside the cooling hose rusted because the base of the windshield, directly over the cooling hose, leaked water into the holes in the hose. The water dripping from holes at the bottom apparently changed its characteristics to a liquid high in iron oxidized elements, which, when it dripped onto the aluminum oil line had an electrolytic effect of dissimilar metals possibly accelerating the corrosion process. Occasional operation around salt water may also contribute.

Part total time - 2,600 hours

Cessna; Model 402B; Businessliner; Cylinder Head Temperature Case Problem; ATA 7721

During a 50-hour inspection, the technician noticed a hissing sound emanating from the number 4 cylinder while turning the propeller by hand.

A closer inspection revealed the hissing sound came from the hole in the cylinder head which accommodates the cylinder head temperature (CHT) probe. The technician observed signs of soot in the area around the hole.

The submitter speculates because the probe is located where the cylinder head attaches to the barrel, either drilling the hole too deeply or giving too much clearance to the inside of the head prior to assembly caused the problem.

Part total time - unspecified hours

Cessna; Model 402B; Businessliner; Broken Torque Tube; ATA 3213

During a flight, the pilot noted his airspeed was approximately 15 knots slower than usual. When he extended the landing gear for landing, he noticed the left green light illuminated first. Normally the nose gear light illuminates first.

He requested an inspection as a result of this observation. The technician discovered the left main gear's torque tube assembly broken in the shape of a spiral around the tube assembly in the area of the fork attach point bolt.

The submitter could not determine the cause of this problem by log book search. It would appear replacement of the torque tube assembly had never occurred.

Part total time — possibly 11,900 hours

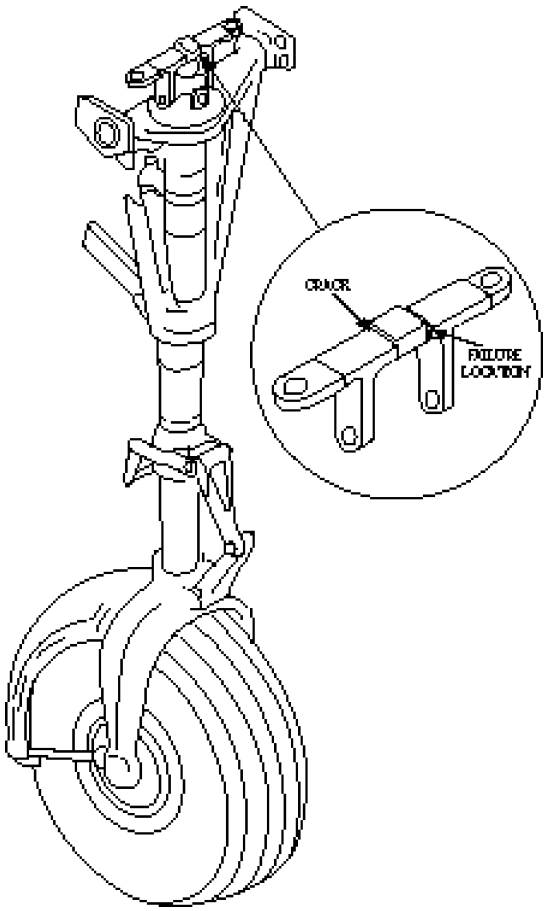
Cessna; Model 402B; Businessliner; Cracked Steering Bellcrank; ATA 3200

During a phase check, the technician discovered a cracked and separated nose wheel steering bellcrank (P/N 5042010-1) pulled away from the rest of the assembly by the steering cable. (See the following illustration.)

The pilot also stated that the rudder pedals were offset while steering straight on the ground, but were properly aligned while in flight.

Further inspection of the fleet revealed two other “B Model” aircraft with cracks in the same part. The “A and C Model” aircraft in the fleet did not seem to have the problem due to a differently designed bellcrank assembly.

Part total time - 10,976 hours



Cessna; Model C402C; Businessliner; Nose Gear Collapsed; ATA 3230

The nose gear collapsed upon landing. Inspection by a technician revealed that the nose gear rod end bearing (P/N ADNE4JW) had separated from the housing. This allowed the nose gear to become separated from the nose gear actuator. The actuator went to the fully extended position, which gave the pilot the false indication that all three gears were down and locked. In reality, the nose gear disconnected from the nose gear actuator.

The submitter states that the probable cause is the absence of any requirement to "time change" these items. Users operated the parts until they failed. They should be "time changed," or routinely inspected by dye-penetrant.

The submitter also notified the Wichita (ACE-117W) Aircraft Certification Office (ACO).

Part total time - 3,500 hours

Cessna; Model 414A; Chancellor; Hydraulic Pump Failure; ATA 2913

The pilot reported both the left and right hydraulic fluid flow lights on the caution panel illuminated. He extended the landing gear using the emergency gear extension procedure, and made a safe landing.

Following an inspection of the system, a technician discovered fluid leaking from the right engine's nacelle drain. That engine's hydraulic pump's (P/N 9910137-2) shaft seal failed. This allowed hydraulic fluid to be pumped overboard.

After the pump was replaced, the technician checked the emergency and normal landing gear systems in accordance with the Cessna Service Manual and the returned the aircraft to service.

Part total time - 277 hours

Cessna; Models 172RG, R182, and 210; Collapsed Nose Gear; ATA 3230

The downlock pins, press-fittted into the actuator bearing end and retained with a roll pin, became loose and cracked and/or broken at the retaining groove internal to the actuator bearing end, making detection difficult. A review by the responsible FAA Aircraft Certification Office revealed the actuator bearing end and downlock pin designs meet the current criteria for expected loads and the observed failure mode of the pin is consistent with design loads applied to an assembly in serviceable condition. Investigation has determined that the probable cause is improper ground handling of the aircraft during towing and continued use of the actuator after damage. Cessna has issued Recommendation Service Bulletin SEB95-20 which details inspection procedures and provides a more robust downlock pin which is less likely to failure due to exceeding landing, towing, or taxi loads. We recommend, especially for aircraft regularly operated on rough surfaces or towed by a tug or tractor, that this service bulletin be complied with ensuring the nose gear actuator downlock pins are not loose in the bearing end and the actuator bearing end is not damaged.

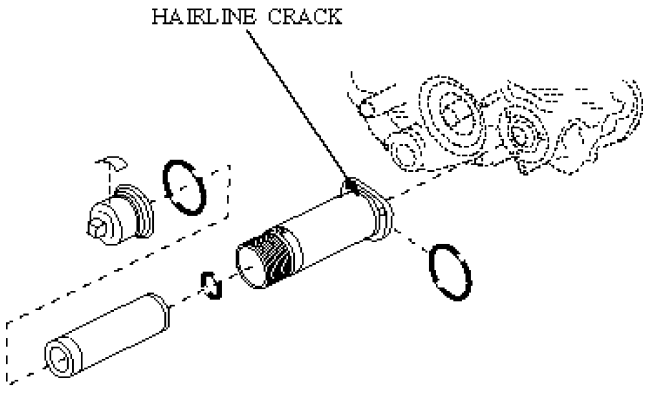
Part total time — Varying hours

Cessna; Model 650; Citation III; Cracked Oil Filter Housing; ATA 7920

After returning from a 2½ hour flight, the crew performed a transient walk around inspection and discovered the left engine oil was 1 ½ quarts lower than the starting, full level.

With further investigation, a technician discovered a cracked oil filter housing (P/N 3072231-1) (see the following illustration) as well as a cracked attach bracket (P/N 3071943-1).

Part total time – 2,885 hours



LAKE

Lake; Model LA-4-250: Renegade; Wing Attachment Hole Crack; ATA 5741

During repair of the lower right forward spar cap, technicians discovered a crack at the second most inboard wing attachment bolt hole. This required extensive disassembly of the leading edge skin and spar structure to accommodate the repair.

It appeared the crack initiated at a machined notch in the lower spar cap. The submitter speculated the purpose of the notch was to provide clearance for the wing root rib flange. This machined notch may be present in other Renegade and Buccaneer series aircraft. The crack ran vertically from the lower edge of the spar cap upward to the wing attachment bolt hole.

The submitter stated that extensive disassembly required to facilitate the repair, revealed the hidden crack. Even with the wing removed from the aircraft, it is unlikely that sufficient access for visual inspection could be obtained. The submitter suggested an "eddy current" inspection of the wing attachment bolt holes. However, this will only detect cracks which penetrate into the bolt hole. The submitter also suggested inspecting all affected aircraft for this defect at the earliest opportunity.

Part total time-970 hours.

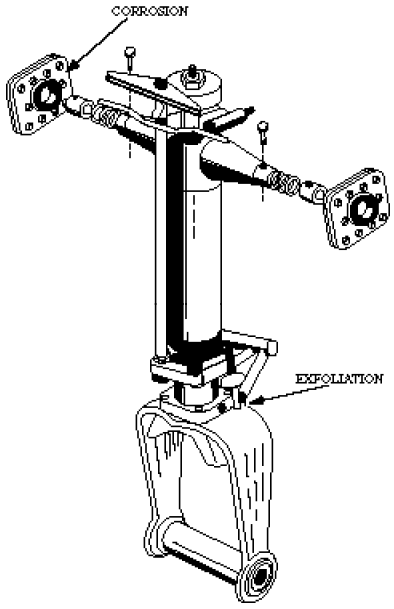
NAVION

Navion; Model A; Defective Nose Landing Gear; ATA 3222

During an annual inspection, maintenance personnel discovered that the nose landing gear had several serious defects.

There were several manufacturer's service bulletins which had not been complied with concerning the nose gear. The nose gear tire fork (P/N 145-34117) was bent and cracked. Paint "bubbling" was observed on the nose gear fork and, under 4 layers of paint, severe exfoliation corrosion was found. This part had virtually been consumed by the corrosion process. (Refer to the following illustration.) The left and right trunnion attachment points had excessive vertical and lateral play and both bearings were "worn." The nose gear attachment bolts appeared to be original equipment and many displayed evidence of wear. It was the submitter's opinion that the entire nose gear assembly had never been removed or properly maintained. This report suggested that maintenance personnel complete their inspection responsibilities "by the book" and with a liberal amount of applied "common sense."

Aircraft total time-2,400 hours.



PIPER

Piper; Model PA 28-140; Cherokee; Rudder Corrosion; ATA 5541

Maintenance technicians discovered severe corrosion when they removed the rudder bellcrank to accommodate other maintenance.

It appeared that the corrosion originated at the point where the rudder lower end rib attaches to the bellcrank. The corrosion

penetrated the thickness of the end rib in several locations. The end rib had not been primed prior to installation. The submitter speculated the corrosion resulted from contact between dissimilar metals. Even though it may require removal of the bellcrank, the submitter suggested that all operators of like aircraft thoroughly inspect this area for corrosion damage.

Part total time-3,379 hours.

Piper; Model PA 28-180; Cherokee; Defective Flight Control Cables; ATA 2710

During an annual inspection, maintenance technicians discovered two frayed aileron cables.

The technician located the damaged cables (P/N 62701-002) adjacent to the two metal roller pulleys (P/N 62825-00) at the top of the tunnel between the pilot and passenger seats. The location of this damage made it very difficult to detect. The best method of inspection may be feeling the cables using a soft cotton cloth. After removing the cables, a close inspection revealed that the cables had worn through approximately 25 percent of the cable strands. The submitter found the same type damage on a Piper, Model PA 28-160 aircraft.

The submitter speculated that “work hardening” of the cables in the area where they passed under the metal roller pulleys caused this defect. Age and the number of cycles the cables had experienced possibly contributed to the defect.

Part total time-5,325 hours.

Piper; Model PA 28-180; Cherokee; Critter Damage; ATA 5730

While performing an annual inspection, technicians removed the left wing fuel tank to replace deteriorated fuel hoses. Removal of the fuel tank exposed what the submitter described as, “the largest mouse nest I have ever seen.”

The nest was inboard of the fuel tank and forward of the wing spar. With the fuel tank installed, one cannot see the nesting area; however, the submitter suggests feeling through the area with a gloved hand through the lightning hole as a good inspection technique. The debris almost filled the area between two wing ribs. Upon removal of the nest, the technician found a considerable amount of severe corrosion.

Many types of critters type can cause extensive damage to aircraft parts and components. Mice, for example, like to gnaw on about any material including: electrical wires, hoses, tubing, flight control cables and pulleys, plastic, rubber, and you name it—and they seem to like it. Nesting material also presents several other problems. It holds moisture and contaminates in contact with metal aircraft structures creating a corrosive environment. Deposits left behind by mice, as well as other critters, may also enhance the corrosive environment. The nesting material and debris may interfere with the function of critical aircraft systems, i.e., flight controls.

With the fast approach of the winter season, mice and other critters are seeking refuge from the cold and may invade the aircraft structure to set up winter housekeeping. Even the smallest opening may be like putting out the welcome mat for these critters.

Needless to say, critters do not restrict their invasion to size, shape, make, or model of aircraft. Serious and costly damage to aircraft can result; therefore, critters deserve due respect. So, do what you can to let them know they are not welcome and inspect the entire aircraft very carefully at regular intervals.

Aircraft total time not applicable.

Piper; Model PA 28R-201T; Turbo Arrow; Main Landing Gear Attachment; ATA 3211

During an annual inspection, a maintenance technician discovered loose bolts on the main landing gear attachment.

The submitter stated that it is shop practice to check the security of the landing gear attachment bolts on PA 28R-, PA 32R-, and PA 34-series aircraft during annual inspections. Most of the time, at least some of these bolts are loose on each aircraft. The submitter speculated that "up and down" movement of the landing gear may cause the holes to elongate and possibly crack. He recommends checking main gear attachment bolts for proper torque during each scheduled inspection.

Part total time-2,276 hours.

Piper; Model PA 30; Twin Comanche; Firewall Cracks; ATA 5412

After removing the air filter assembly from the left engine, the technician found cracks on the firewall.

The firewall (P/N 25249-00) was cracked at the upper and lower engine mounting points. The submitter believed "insufficient support" in the damaged area caused the cracks. This finding prompted an inspection of the right engine firewall where technicians found similar damage. One should check this area thoroughly each time they remove the air filter, or at least annually.

Part total time-5,412 hours.

Piper; Model PA 31T1; Cheyenne; Rudder Structural Corrosion; ATA 5540

While conducting a scheduled inspection, technicians discovered severe corrosion on the rudder torque tube.

After removing the rudder, a closer inspection revealed damage to the rudder torque tube
(P/N 40040-7) was beyond acceptable limits. The technician replaced this part and a severely corroded bottom rudder rib. When the technician removed the rudder skin to accommodate replacement of these parts, he found the residue of old paint stripper. The aircraft maintenance records indicated the aircraft had been painted approximately 5 years earlier and evidently all of the paint stripper was not removed prior to painting. The submitter speculated the paint stripper residue, along with dissimilar metals of the torque tube and the rib, and the absence of a drainage hole in the bottom rudder rib contributed to the damage found.

Liquid paint strippers are very efficient and do their job quite well; however, their residue can cause extensive damage if not properly removed prior to the painting operation.

Part total time-2,706 hours.

Piper; Model PA 31-350; Chieftain; Faulty Main Landing Gear Position Indication; ATA 3260

During a landing approach, the right main landing gear would not indicate "down and locked." A ground observer reported that the right main gear appeared to be down fully. The pilot made a safe landing and summoned maintenance personnel.

Technicians discovered a frozen in place down lock control rod ball-end (P/N 452-860). This prevented the down lock from making full contact with the down lock micro-switch. The location of the down lock control rod places it in the engine exhaust path. The technician believed the cause was exhaust gas residue, corrosion, and a lack of lubrication. One can preclude recurrence of this problem by frequently cleaning and lubricating the down lock control rod and ball-end.

Part total time not reported.

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

During an operational test of the landing gear in conjunction with an annual inspection, technicians found that the gear motor ran intermittently.

Troubleshooting the system revealed that the emergency landing gear "free-fall" valve was leaking internally. The internal valve leakage allowed the hydraulic system pressure to bleed off and caused the motor to operate for replenishment of pressure. Both pilots and maintenance technicians should be aware that intermittent cycling of the landing gear motor may be an indicator of serious problems.

Part total time-189 hours.

Piper; Model PA 42-1000; Cheyenne; Landing Gear Retraction Failure; ATA 3230

The pilot reported that after takeoff the left main landing gear would not retract. He placed the landing gear selector in the "down" position and landed safely at the departure airport.

During an investigation, maintenance technicians discovered a sheared left main gear fork bolt (P/N 400-159). The fork bolt attaches the hydraulic actuator to the forward side brace. Piper technical data lists a 500-hour life limit for the bolts used to attach the main gear actuator to the airframe. However, the fork bolt is not life limited. The submitter recommended the fork bolts be replaced at 500-hour intervals. The submitter did not offer a cause for this failure.

Part total time-4,651 hours.

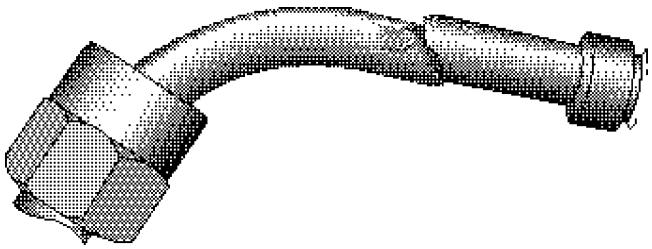
RATHEON

Ratheon; Model 800; Hawker; Pitot Drain Tube Damage; ATA 3411

During a scheduled inspection, maintenance personnel found a severely damaged pitot system drain line.

The damage was located under the copilot's floor adjacent to the pitot drain tube (P/N 257SF207-35A) connection to the drain valve. A flight control cable had chaffed against the drain tube for a considerable length of time. (Refer to the following illustration.) The submitter did not identify the flight control cable or damage it may have received. This area deserves full attention during inspections to ensure properly maintained clearance.

Part total time-4,563 hours.



HELICOPTERS

AMERICAN EUROCOPTER

American Eurocopter; Model AS350B1; Ecureuil; Fuel Leak; ATA 2820

During a scheduled inspection, the maintenance technician found fuel on the engine compartment deck.

An investigation revealed that the fuel ran down from the top of the engine when the starter was engaged. The left engine fuel injector line was cracked at the top flare. The submitter described involvement with two other similar defects. The submitter suggested a possible cause for this defect is an inferior tubing flare, and may involve factors such as vibration and security.

Part total time-1,776 hours.

BELL

Bell; Model 206B3; Inoperative Fuel Quantity Indication; Jet Ranger; ATA 2842

The pilot delivered a helicopter to maintenance personnel reporting an inoperative fuel quantity indicator.

Technicians discovered that the fuel quantity sending unit (P/N EA470-3587) was defective. When the sending unit was removed, the float arm pivot pin was missing. The float arm and the pin were recovered from the fuel tank. An examination of the float arm pin disclosed that it had not been properly "staked" during factory assembly. A thorough receiving inspection of all parts was recommended.

Part total time not reported.

Bell; Model 222; Main Rotor Bearing Attachment Failure; ATA 6200

The FAA Rotorcraft Certification Office, ASW-170, located in Fort Worth, Texas, furnished information for this article.

Bell Helicopter Textron issued Alert Service Bulletin (ASB) 22-98-83, dated October 12, 1998. This ASB is applicable to serial numbers (SN's) 47006 through 47089 and Model 222B serial numbers 47131 through 47156.

A Bell Model 230 helicopter operator reported that during a post flight inspection, he found one of the four bolts securing the flapping bearing to the yoke broken. An investigation revealed that stress corrosion caused the bolt fracture.

Part I of the ASB lists completion of an initial inspection of the four flapping bearing-to-yoke attachment bolts during the next 50-hour inspection. Part II of the ASB contains a requirement to disassemble and inspect the main rotor hub every 2,500-hours of operation.

Bell; Model 412; Main Rotor Vibration; ATA 6210

After returning from a flight, the pilot reported that the helicopter suddenly developed a vertical and lateral "shuffle" vibration.

Maintenance technicians inspected the main rotor system. They found the main rotor spindle lastomeric damper bearing assembly on the "red" blade spindle separated from the inner bearing sleeve. The submitter recommended that the manufacturer establish a life limit for the damper bearing assembly. Serious control problems can result from failures of this type.

Part total time-3,214 hours.

McDONNELL DOUGLAS

McDonnell Douglas; Model MD 500D; Tail Rotor Drive Failure; ATA 6510

The pilot landed the helicopter for refueling after a heavy lift operation. When the pilot started the engine for the next flight, he advanced the throttle to 100 percent and heard a loud abnormal banging sound. He shut down the engine and began an investigation.

An observer who was on the parking ramp stated that the tail rotor blades stopped soon after the noise occurred while the main rotor blades continued to turn after engine shutdown. This information lead maintenance technicians to discover a broken tail rotor drive shaft. The failure occurred approximately 18 inches forward of the tail rotor drive shaft damper block between the two bulkheads in the "turtle back." The technician determined that the drive shaft failure occurred due to severely worn conical bearings which caused an "out-of-balance" condition in the tail rotor blade assembly. This condition caused the drive shaft to flex severely. Ironically, the conical bearings were due change after 4 more hours of operation. Everyone should be aware that proper tail rotor balance is critical to safe operation. The submitter suggested the entire tail rotor assembly be inspected at frequent intervals including a proper balance check.

Part total time-594 hours.

AMATEUR, EXPERIMENTAL, AND SPORT AIRCRAFT

KITFOX

Kitfox; Model III; Amphibious Float Landing Gear Failure; ATA 3230

The aircraft was equipped with an amphibious float landing gear system (Aero Marine, Inc. model 69001). During landing, the left landing gear collapsed. The left float suffered minor damage to the keel.

During an investigation, maintenance personnel found that the left gear rotation tube (P/N 480-5058-102) was collapsed and bent. Apparently, the stop bracket rotated past the stop bolt allowing the gear to unlock. The submitter stated that this aircraft had experienced two similar occurrences in the past. It was speculated that "because the rotation tube is constructed of stainless steel it may be too soft."

Part total time-1/2 hour.

REVOLUTION

Revolution; Model Mini 500; Sprague Clutch Oil Leak; ATA 6310

During an inspection, the owner noticed a film of oil around the inside of the "sprague" clutch assembly.

During a telephone conversation, the kit manufacturer's, representative stated that leakage was "impossible." After removing and disassembling the clutch, the technician discovered no oil remained in the case. The cause of clutch oil loss was a "pinched" O-ring seal. The submitter stated that "seizure of the unit was imminent." Since there is no means provided for checking the clutch oil quantity, the submitter suggested that frequent checks be made for evidence of leakage.

Part total time-5 hours.

Revolution; Model Mini 500; Inadequate Tail Rotor Control; ATA 6720

During a hover, the pilot found it impossible to control tail rotor "swing."

After landing, disassembly of the tail boom, tail rotor, and push-pull control cable (P/N 0428) revealed that the control had approximately .5-inch of free-play. This condition made control of the tail rotor impossible. The submitter suggested this cable be replaced with one having closer tolerance to provide better tail rotor control.

Part total time-5 hours.

ROTAX

Rotax; Model 582; Starter Housing Failure; ATA 8000

This engine was installed in a Revolution Model Mini 500 helicopter.

After approximately 1 hour of engine operation, the owner discovered that the starter housing was cracked.

The starter housing was cracked on both sides of the starter motor. The submitter speculated that the starter had been mounted improperly when the kit was received. This was evidenced by the "flat" appearance of the "O" ring seals. It was suggested that a thorough receiving inspection be completed prior to any assembly work.

Part total time-1 hour.

TAILWIND

Tailwind; Model W-8; Engine Throttle Control Failure; ATA 7603

After starting, the pilot lost engine throttle control when retarding the throttle to idle.

The technician found that the throttle control (inner) cable had broken inside the outer

sheath. The cable failed approximately 5 inches aft of the throttle arm. The fracture surfaces of the broken cable were clean and there was no evidence of material necking. This evidence indicated cable failure was instantaneous.

Part total time-105 hours.

VANS

Vans; Model RV-6; Engine Textron Lycoming Model O-360; Propeller Sensenich Model W71T5H; Propeller Engine Vibration; ATA 8510

During cruise flight, a severe vibration began coming from the engine compartment. Expulsion of the engine oil supply followed this occurrence. The aircraft sustained substantial damage during an emergency landing.

An investigation revealed that a loose propeller caused the vibration. The safety wire broke on the six propeller attachment bolts and two of the bolts were missing. There was no explanation concerning when or how this defect occurred. Due to the severe vibration, the front crankshaft compression plug opened allowing the engine oil to escape. Compliance with the engine manufacturer's Service Instruction (SL 1435) had not been accomplished. Compliance with SL 1435 would have allowed the engine oil to return to the sump. The engine was new when installed.

Aircraft, engine, and propeller total time-73 hours.

POWERPLANTS AND PROPELLERS

PRATT & WHITNEY

Pratt & Whitney; Model JT8D-15; Severe Oil Leak; ATA 7261

During flight, the pilot shut down the number 3 engine after the low oil pressure light illuminated. The oil quantity indicator for the number 3 engine was at "0," and the oil pressure was extremely low.

Maintenance personnel opened the cowling and a major oil leak was evident. A visual inspection failed to find the leak source. Maintenance personnel serviced the oil system and washed down the engine area. An engine operational check very quickly revealed the leak source. A "banjo" fitting on the engine oil pressure sensing line was loose at the point where it attached to the engine gearbox (P/N 664643). Pressurized oil sprayed out of the fitting. Technicians determined the cause of this defect was severely worn threads holding the "banjo" fitting to the gearbox. It was necessary to use a "Helicoil" insert in the gearbox threaded boss to remedy this problem.

Part total time not reported.

TELEDYNE CONTINENTAL

Teledyne Continental; Model GTSIO-520-L; Defective Engine Oil Pump Housing; ATA 8550

Upon receiving a new engine oil pump housing (P/N 632623A23) from a distributor, technicians found several defects during a receiving inspection.

They found the housing chamber depth was below the specified minimums and the manufacturer failed to clean up a radius step after the machining process. The less-than-specified housing depth causes the gears to be higher in the chamber bore. This eliminates the end clearance, and with the scavenge pump installed causes the gears to bind. The submitter recommended that all parts received be completely checked visually and dimensionally prior to use. This was the second defective oil pump housing found by this submitter.

Part total time "0" hours.

TEXTRON LYCOMING

Textron Lycoming; Model O-235-L2C; Crankshaft Failure; ATA 8520

This engine was installed in a Piper Model PA 38-112 aircraft. During flight, the engine failed suddenly requiring an off-airport landing which destroyed the aircraft. During the landing the pilot sustained minor injuries.

When they disassembled the engine, technicians found the crankshaft had separated. The failure occurred at a location adjacent to the center main bearing journal and resulted from fatigue cracking. Two previous propeller strikes were recorded in the maintenance records. These occurrences did not require inspection of the crankshaft in accordance with the criteria contained in Airworthiness Directive (AD) 91-14-22. Technicians speculated that excessive stress was applied to the crankshaft during one or both of the previous propeller strikes. The submitter recommended the FAA revise AD 91-14-22 to require an inspection of the crankshaft after any propeller strike which requires propeller rework or replacement.

Engine total time-6,462 hours.

Textron Lycoming; Model IO-360-A3B; Excessive Oil Consumption; ATA 8520

The pilot/owner delivered the aircraft to maintenance personnel reporting excessive engine oil consumption.

While accomplishing a differential compression check, technicians found blow-by on the number 4 cylinder. The blow-by pressurized the engine crankcase causing the oil filler tube to expel air. They removed the cylinder and found the piston pin plug worn away from contact with the severely worn cylinder wall. An oil analysis revealed excessive metal. If we just listen, the aircraft will tell us many things about impending failures. Any change in the “normal operating habits” of an engine or aircraft should be cause for a complete investigation.

Part total time not reported.

AIR NOTES

AIRWORTHINESS DIRECTIVES (AD’S) ISSUED IN SEPTEMBER 1998

AD 98-05-14 R1 Cessna T210N, P210N, and P210R airplanes which requires revising AFM to specify procedures to prohibit flight in severe icing conditions.

AD 98-20-33 Cessna T210R airplanes which requires revising AFM to specify procedures to prohibit flight in severe icing conditions.

AD 98-19-14 S.N. Centrairr 101 series sailplanes which requires replacing airbrake control system.

AD 98-19-15 Fairchild SA226 and SA227 series airplanes which requires the AFM to impose a speed restriction and a minimum pilot requirement.

AD 98-19-17 Glaser-Dirks Flugzeugbau GmbH DG-400 gliders which requires inspecting powerplant mount and propeller mount.

AD 98-20-28 Pilatus PC-12 and PC-12/45 airplanes which requires revising AFM to specify procedures to prohibit flight in severe icing conditions.

AD 98-20-17 SAFT America Inc. which requires replacing all battery terminal screws.

AD 98-18-13 SOCATA-Groupe Aerospatiale Models TB20 and TB21 airplanes which requires repetitively inspecting main landing gear attaching bearing.

AD 98-19-01 Stemme GmbH & Co. KG Model S10 sailplanes which requires replacing O-ring installed on mounting part of pitot tube.

AD 98-19-04 Agusta S.p.A. Models A109C, A109E, and A109K2 helicopters which requires inspection of main rotor blade tip cap.

AD 98-19-13 Bell Helicopter Textron Canada Model 407 which requires inspection of driveshaft.

AD 98-20-41 Bell Helicopter Textron Canada Model 407 which requires inspection of tail rotor blades.

AD 98-10-09 Eurocopter France SA.315B, SA.316B, SA.316C, SA.319B, SE.3160 helicopters which requires inspection of main rotor blade.

AD 98-18-11 Schweizer and Hughes models 269A, 269A-1, 269B, 269C, 269D, and TH-55A helicopters which requires inspection of bond line between main rotor blade abrasion strip.

AD 98-18-10 General Electric CF6-6 series turbofan engines which requires replacing low pressure turbine stage 4 disks.

AD 98-19-02 Superior Air Parts piston pins installed on Teledyne Continental Motors Reciprocating engines

AD 98-19-03 Pratt & Whitney PW4000 series turbofan engines which requires fluorescent penetrant and eddy current inspections of 2nd stage high pressure turbine rotating airseals.

AD 98-19-10 CFM International CFM56-3, -3B, and -3C series turbofan engines which requires replacement of engine.

AD 98-18-12 Textron Lycoming Fuel injected reciprocating engines which requires torque check inspections of pump relief valve attaching screws.

AD 98-14-51 CFM International CFM56-7B series turbofan engines which requires checks of Accessory Gearbox/Transfer Gearbox magnetic chip detector.

AD 98-20-18 International Aero Engines which requires inspecting high pressure turbine disk.

AD 98-19-20 CFM International CFM56-7B and -7B/2 series turbofan engines which requires inspections of hydromechanical unit overspeed governor spool valves.

AIRWORTHINESS DIRECTIVES (AD's) ISSUED IN OCTOBER 1998:

83-22-01 R1 Piper PA-23 models requiring fuel weight limitations in the AFM.

96-12-03 R2 Aviat S-1 and S-2 models requiring inspecting aft lower fuselage wing attach fitting.

98-20-34 Twin Commander 500 series, 680 series, 690 series, and 720 series aircraft requiring AFM revision to prohibit flight in severe icing conditions.

98-20-38 Raytheon (Beech) 200 series aircraft requiring AFM revision to prohibit flight in severe icing conditions.

98-20-39 Mitsubishi MU-2B series aircraft requiring inspection of forward attachment fitting bolt.

98-21-13 British Aerospace Jetstream Model 3101 airplanes requiring elevator trim motor replacement.

98-21-14 British Aerospace Jetstream Model 3101 airplanes requiring navigation system modification.

98-21-15 SOCATA-Groupe Aerospatiale Model TBM 700 airplanes requiring modifying oxygen generators.

98-21-16 British Aerospace Model HP 137 Jetstream Mk. 1, Jetstream series 200, and Jetstream models 3101 and 3201 airplanes requiring replacing windshield wiper arm attachment bolts.

98-21-20 Raytheon (Beech) 1900, 1900C, and 1900D airplanes requiring installation of exterior placards.

98-21-21 Bob Fields Accessories Inflatable Door Seals. Priority letter requiring inspection of door seals.

98-21-25 British Aerospace Jetstream Models 3101 and 3201 airplanes requiring inspection of ground inhibit function.

98-21-26 Mooney M20 series airplanes requiring inspection of surface of MLG leg bracket.

98-21-27 Pilatus PC-12 and PC-12/45 airplanes requiring modification of passenger seats and seat rail covers.

98-21-28 British Aerospace Jetstream Model 3101 airplanes requiring modifying propeller deicing system to assure system performance at low temperatures.

98-21-35 Raytheon (Beech) 200, 300 series airplanes requiring replacing MLG actuator clevis assembly.

98-23-01 Parker Hannifan dry air pumps inspection.

98-21-09 Robinson R22 helicopters requiring inspection of auxiliary fuel tank quantity gauge.

98-21-12 McDonnell-Douglas helicopters models 369 series, 500N, AH-6 and MH-6 requiring visual inspections of overrunning clutch retainer, carrier, housing, and pin.

98-21-36 Robinson R44 helicopters requiring replacing cyclic control pilot's grip assembly.

98-22-16 Robinson R44 priority letter requiring inspections of main rotor blade.

AIRWORTHINESS AVIATION SAFETY PROGRAM MANAGERS

This is a current list of headquarters and regional FAA Airworthiness Aviation Safety Program Managers, and we encourage you to use their services. They provide a contact in your local Flight Standards District Office (FSDO) where you can learn about programs, seminars, services, and exchange knowledge and experience.

NATIONAL

FAA
Attn: Lee Norvell, AFS-340
800 Independence Ave., S.W.
Washington, DC 20591
(202) 267-8616
FAX: (202) 267-5115

AERONAUTICAL CENTER

FAA
Attn: Eric Baird, AFS-641
P.O. Box 25082
Oklahoma City, OK 73125
(405) 954-6474
FAX: (405) 954-4748

ALASKAN REGION

FAA
Attn: Johnnie Wallace
Federal Building
222 W. 7th Ave., Box 14
Anchorage, AK 99513-7587
(907) 271-5335
FAX: (907) 276-6207

CENTRAL REGION

FAA
Attn: Danny Morford
601 East 12th Street
Kansas City, MO 64106
(816) 426-3237 Ext. 227
FAX: (816) 426-6811

EASTERN REGION

FAA
Attn: Charlie Fowler
Fitzerald Federal Building 111
JFK International Airport
Jamaica, NY 11430
(718) 553-3231
FAX: (718) 995-5696

GREAT LAKES REGION

FAA
Attn: Rich Mileham
2300 East Devon Avenue
Des Plaines, IL 60018
(847) 294-7623
FAX: (847) 294-8001

NEW ENGLAND REGION

FAA
Attn: Tony Janco
12 New England Executive Park
181 S. Franklin Ave., Room 202
Burlington, MA 01803-5299
(781) 238-7229
FAX: (781) 238-7245

NORTHWEST MOUNTAIN REGION

FAA, Seattle FSDO
Attn: Greg Young
1601 Lind Ave., S.W.
Renton, WA 98055
(425) 227-2254
FAX: (425) 227-1200

and/or

FAA, Seattle FSDO
Attn: Lou Lerda
1601 Lind Ave., S.W.
Renton, WA 98055
(425) 227-2887
FAX: (425) 227-1810

SOUTHERN REGION (NONE)

SOUTHWEST REGION

FAA
Attn: Fred Dryden
2601 Meachem Blvd.
Fort Worth, TX 76137-4298
(817) 222-5251
FAX (817) 222-5285

WESTERN PACIFIC REGION

FAA
Attn: Don Green
6650 Belleau Wood Lane
Sacramento, CA 95822
(916) 422-0272
FAX: (916) 422-0462

SUSPECTED UNAPPROVED PARTS (SUP) SEMINAR

As announced in previous editions of the Alerts, the Designee Standardization Branch, AFS-640, is once again presenting the Suspected Unapproved Parts (SUP) seminar. A schedule of the seminars and information for requesting an SUP seminar in your area is listed in this article.

Seminar dates will be announced in the Alerts, the Designee Update newsletter, and on the Internet under FedWorld.gov. You may access the FedWorld BBS directly at (703) 321-3339. You may access the Alerts through the Internet, using the Regulatory Support Division, AFS-600, "HomePage" at the following address.

http://www.mmac.jccbi.gov/afs/afs600

The seminar will discuss the following:

1. Introduction to the policy of the Suspected Unapproved Part Program Office, AVR-20.
2. What is an approved part/unapproved part?
3. How can approved parts be produced?
4. What is a suspected unapproved part?
5. How is a suspected unapproved part reported in accordance with FAA Order 8120.10A, Suspected Unapproved Parts Program, and utilizing FAA Form 8120-11, Suspected Unapproved Parts Notification?
6. How do you determine the status of parts?
7. What is the procurement process?

8. How do you use the Internet and FedWorld to find a list of unapproved parts?

The cost of this 1-day, 8-hour seminar is $60. The seminar may be used for the Inspection Authorization (IA) renewal training requirement specified in Title 14 of the Code of Federal Regulations (14 CFR) part 65, section 65.93(a)(4).

The seminar is open to the aviation industry. Anyone wishing to attend may telephone (405) 954-0138. Payment is required in advance by using VISA, MasterCard, or a check. **When scheduling attendance, please reference the seminar number.**

SCHEDULE FOR SUSPECTED UNAPPROVED PARTS (SUP) SEMINARS

Seminar No.	1998	Location
759903	Nov 18	Wichita, KS
759904	Nov 19	Wichita, KS

Seminar No.	1999	Location
759905	Jan 27	Raleigh, NC
759906	Jan 28	Raleigh, NC
759907	Feb 10	San Antonio, TX
759908	Feb 11	San Antonio, TX
759909	Mar 3	Cincinnati, OH
759910	Mar 4	Cincinnati, OH
759927	Mar 17	Jackson, MS
759911	Apr 14	Albany, NY
759912	Apr 15	Albany, NY
759913	Apr 28	Scottsdale, AZ
759914	Apr 29	Scottsdale, AZ
759915	May 12	Ft. Lauderdale, FL
759916	May 13	Ft. Lauderdale, FL
759917	Jun 9	Helena, MT
759918	Jun 10	Helena, MT
759919	Jun 23	Minneapolis, MN
759920	Jun 24	Minneapolis, MN
759928	Jul 14	Portland, ME
759921	Aug 11	San Diego, CA
759922	Aug 12	San Diego, CA
759923	Aug 25	Denver, CO
759924	Aug 26	Denver, CO
759925	Sep 15	Little Rock, AR
759926	Sep 16	Little Rock, AR

If you require an ADDITIONAL SUP seminar, please write to: FAA, ATTN: Les Sargent (AFS-640), P.O. Box 25082, Oklahoma City, OK 73125. Depending on the availability of AFS-640 personnel, the requests for additional SUP seminars may be authorized. The registration process is the same as that previously discussed in this article. If you have specific questions regarding an ADDITIONAL SUP seminar, please contact Les Sargent at (405) 954-6494.

IF YOU WANT TO CONTACT US

If you want to contact the staff of this publication we welcome your comments, suggestions, and questions. Also, you may use any of the following means of communication to submit reports concerning aviation-related occurrences.

Editor: Phil Lomax
Phone: (405) 954-6487
FAX: (405) 954-4570 or (405) 954-4748

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Oklahoma City, OK 73125-5029

Internet E-mail address:
ga-alerts@mmacmail.jccbi.gov

AFS-600 HomePage Internet address:

http://www.mmac.jccbi.gov/afs/afs600

Current and back issues of this publication may still be obtained from the FedWorld Bulletin Board System (BBS) via the Internet at the following address:

http://www.fedworld.gov/ftp.htm

Sled; Model NP12-25; Noel Flyer; Oil Leak; ATA 7910

This aircraft had seven "oat eating" engines installed in accordance with Supplemental Type Certificate (STC) SA122598HOHO.

The "Jolly Ole" pilot reported that oil dripped on the stable floor and requested it be repaired before an upcoming marathon flight. An inspection of the "skid lubrication" oil system disclosed a cracked oil tank. A .1225-inch long crack was on the side of the tank. There were two creases in the tank running in a vertical direction on both the forward and aft sides of the tank. It appeared the crack originated at the top of the forward crease. A pressurized oil tank with even a small crack can cause a substantial amount of oil loss.

Four vertically challenged technicians removed the tank and made the necessary repairs, although a final inspection revealed evidence of cookie crumbs and milk drops in the vicinity of the repair.

The submitter recommended the oil tank be inspected at frequent intervals, in the "off season," for creases, dents, cracks, and/or cookie crumbs. For all who read these Alerts and their loved ones, have a happy and safe holiday season.

Part total time - 4,000,000 hours.

HAPPY HOLIDAYS

Reflections and Projections

As we approach the end of another productive year, let us reflect upon the events of the past and look with enthusiastic optimism to the future. May the experiences of the past year guide us to decisions which will increase aviation safety in the years to come.

Over the past year, it has been our privilege to provide the aviation community with this media for disseminating your aviation experience. The intent is to create a safer aviation environment through the interchange of information. With your input and help, this publication (in its present form) has existed since August 1978. Since that time, there have been many changes in aviation. Some of the changes may not have been good; however, with all changes considered, aviation has taken great strides forward. Many of the innovations and advancements have taken place because one person had an idea or wondered if there is a better way of doing things

As we ponder and project the future of aviation, we have visions of great changes to come which now are only a glimmer in someone's mind. So, with august anticipation, we look to see what each new day will present. We meet challenges and problems with solutions and change.

MERRY CHRISTMAS AND HAPPY NEW YEAR

FAA FORM 8010-4, MALFUNCTION OR DEFECT REPORT

For your convenience, FAA Form 8010-4, Malfunction or Defect Report, will be printed in every issue of this publication. You may complete the form, fold, staple, and return it to the address printed on the form. (No postage is required.)

OMB No. 2120-0003

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

MALFUNCTION OR DEFECT REPORT

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

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

5. SPECIFIC PART (of component) CAUSING TROUBLE

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

6. APPLIANCE/COMPONENT (Assembly that includes part)

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

Part TT	Part TSO	Part Condition	7. Date Sub.

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

Optional Information:

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

☐ Accident; Date _____ ☐ Incident; Date _____

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COMMUTER	
FAR	
UPS.	—
AIR TAXI	( )
HELICOPTER	
OPER.	SUBMITTED BY:
REP. AIR.	TELEPHONE NUMBER:

FAA Form 8010-4 (10-82) SUPERSEDES PREVIOUS EDITIONS

Use this space for continuation of Block 8 (*if required*).

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