



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

# **General Aviation Airworthiness Alerts**

**AC No. 43-16**

---

A large, stylized graphic of a wing or tail section, composed of several sharp, black, triangular shapes pointing downwards and to the right, positioned to the left of the word 'ALERTS'.

# **ALERTS**

**ALERT NO. 230  
SEPTEMBER 1997**

**Improve Reliability-  
Interchange Service  
Experience**

# CONTENTS

## AIRPLANES

AMERICAN CHAMPION .....	1
BEECH.....	2
CESSNA .....	5
PIPER .....	7
REPUBLIC .....	10

## HELICOPTERS

IMPROPER INSTALLATION OF PARTS .....	10
AMERICAN EUROCOPTER.....	10
BELL .....	11
ENSTROM .....	12
McDONNELL DOUGLAS .....	12

## AGRICULTURAL AIRCRAFT

AIR TRACTOR .....	12
PIPER .....	12

## AMATEUR, EXPERIMENTAL, AND SPORT AIRCRAFT

AVID.....	13
RANS.....	13
SKYSTAR.....	13
U.S. LIGHT .....	13

## PROPELLERS & POWERPLANTS

TEXTRON LYCOMING .....	14
------------------------	----

## ACCESSORIES

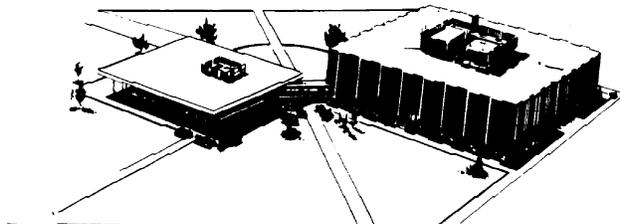
CHAMPION SPARK PLUGS .....	14
BENDIX MAGNETO .....	14

## AIR NOTES

AIRWORTHINESS DIRECTIVES (AD'S) ISSUED IN JULY 1997 .....	14
APPROVED PARTS SEMINARS .....	16
ALERTS ONLINE .....	16
ELECTRONIC AVAILABILITY OF INFORMATION .....	17
FAA FORM 8010-4, MALFUNCTION OR DEFECT REPORT .....	18
SUBSCRIPTION REQUEST FORM .....	18

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

## GENERAL AVIATION AIRWORTHINESS ALERTS



**FLIGHT STANDARDS SERVICE**  
Mike Monroney Aeronautical Center

The General Aviation Airworthiness 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 of you 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 CHAMPION

**American Champion      Cockpit Fuel Fumes**  
**(Bellanca)                      2810**  
**Model 8KCAB**  
**Decathlon**

The aircraft owner complained of fuel fumes in the cockpit.

An investigation disclosed that a fitting on the header tank outlet was seeping fuel. The line this fitting was attached to ran from the header tank, under the control panel, and then to the firewall shutoff valve. The fitting that was leaking was a "compression-type fitting" rather than a standard "AN-type fitting." The carpet was saturated with fuel,

and the fuel was dripping out of the aircraft. While attempting to tighten the fitting, the line broke just behind the fitting nut, and fuel sprayed into the technician' face.

The fuel line (P/N 1-10089) had no support between the header tank and the firewall shutoff valve, and there were two 90-degree bends in the line. Other like aircraft were inspected, and the same defect was found.

This situation creates a very hazardous condition, and the aircraft and the occupants are placed in serious jeopardy. This defect has been reported to the manufacturer and the responsible FAA aircraft certification office. All owners, operators, and maintenance technicians should be aware of this hazardous situation, and it should be corrected.

Part total time-1,720 hours.

**BEECH**

**Beech  
Model B24R  
Sierra**

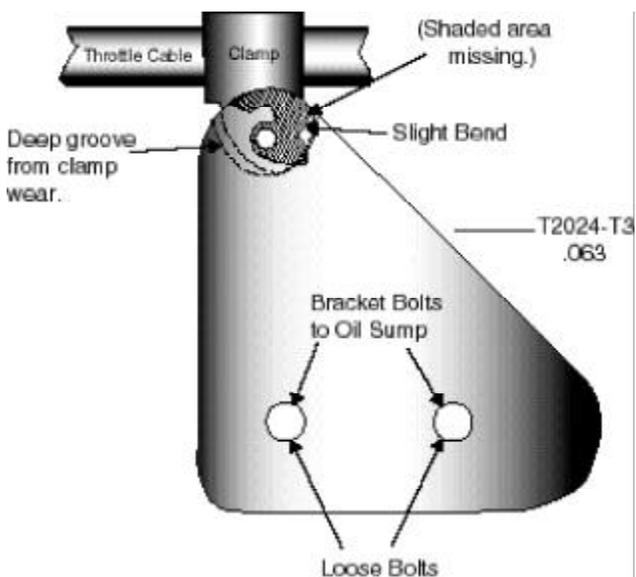
**Engine Throttle  
Failure  
7603**

This aircraft was delivered to maintenance with a report of engine throttle failure.

An inspection disclosed that the throttle bracket support (P/N 169-910017-23) was severely damaged and broken. (Refer to the following illustration.) A section of the bracket was missing; therefore the throttle-cable clamp was no longer attached. The bracket had a deep groove where the clamp traveled, a slight bend, and the bolts used to attach the bracket to the oil sump were loose. Research of the manufacturer's parts manual revealed (P/N 169-910017-23) was the wrong throttle-support bracket. The correct bracket (P/N 169-910017-45) had been replaced by (P/N 169-910017-23).

When replacement parts are installed, maintenance personnel are urged to check that the specific part number matches the specific model of aircraft.

Part total time-1,501 hours.



**Beech  
Model C35  
Bonanza**

**Improper Stabilator  
Cuff Installation  
5512**

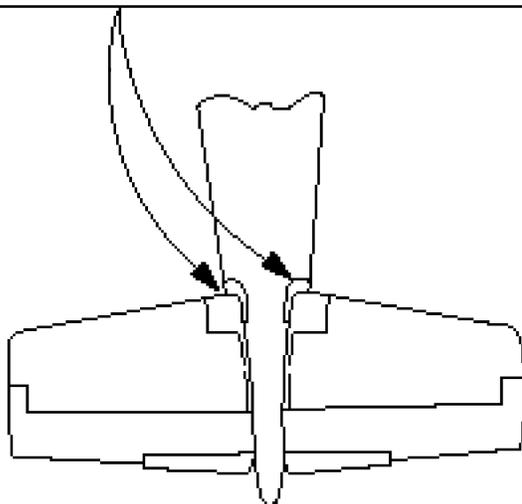
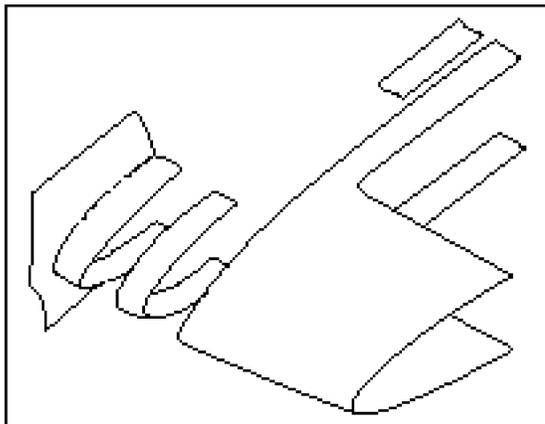
While complying with Airworthiness Directive (AD) 90-20-04, in conjunction with an annual inspection, the stabilator cuff fairing attachment fasteners were found improperly installed.

The left and right cuffs (P/N's 35-410504-15 and -16) were installed as part of a Beech Stabilizer Reinforcement Kit (P/N 35-4016-3). (Refer to the following illustration.) The "Cherry Max" rivets (P/N's CR3242-4-2 and CR3242-4-3) were of an inadequate grip length to penetrate the cuff, skin, and stringers. Further examination disclosed the cuffs had been installed upside down and on the wrong sides of the stabilator. (Left cuff was installed on the right side, and the right cuff was installed on the left side.) This was confirmed by the cuff part numbers when they were removed. When the cuffs were installed in this manner, there was a difference in the contour. This difference would not allow the rivet to penetrate and retain the intended structural members.

In the aircraft maintenance records, an entry was found for installation of the reinforcement kit. This entry was not in chronological order with other entries. It also had an improper date and there was no signature or certificate number. Other entries were found which did not comply with the requirements of Title 14 of the code of Federal Regulations (14 CFR) part 43, section 43.9.

"If a job is worth doing, it is worth doing right the first time."

Part total time-71 hours.



**Beech  
Model E55  
Baron**                      **Engine Mount Cracks  
7120**

While changing the left engine, cracks were found on an engine mount.

The submitter did not identify the specific engine mount or area of the cracks. The left engine mount was cracked in four places. The cracks could not be detected until the engine

was removed. An inspection of the right engine mount disclosed the right engine mount was more severely cracked than the left engine mount.

During scheduled inspections, engine mounts should be thoroughly inspected.

Part total time-1,675 hours.

**Beech    Entry Door Failure  
Model BE58                                      5210  
Baron**

The pilot reported that immediately after takeoff, the copilot's door "popped" open.

An inspection of the door assembly disclosed that the upper-latch assembly was not properly adjusted. Since a 100-hour inspection had just been completed, the submitter suggested the latch assembly should have been inspected for proper operation and adjustment at that time.

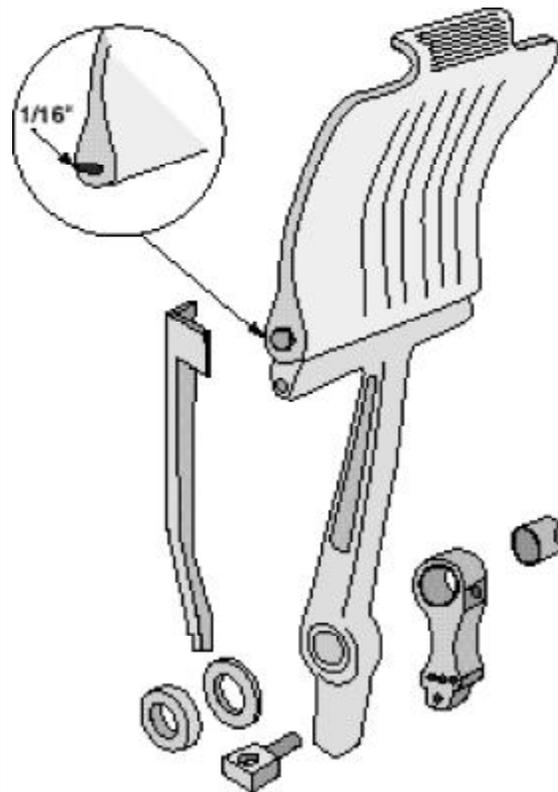
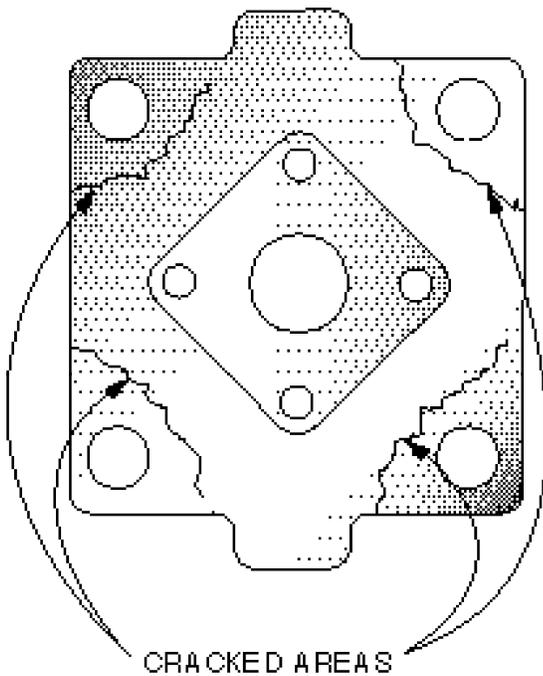
Part total time not reported.

**Beech    Hydraulic Pump  
Model 65-A80                                      Failure  
Queen Air    2913**

During a scheduled inspection, a hydraulic pump adapter was found broken.

The left engine hydraulic pump adapter (P/N 73303) was cracked or broken diagonally across each of the four corners. (Refer to the following illustration.) The adapter is used to attach the hydraulic pump to the engine accessory case. The submitter stated that many other failures of this type have been found. The cause of this failure was not given. This area deserves full attention during inspections and maintenance.

Part total time not reported.



**Beech  
Model 95-B55  
Baron**

**Rudder Pedal Wear  
2720**

During an annual inspection, the pilot's rudder pedals were found severely worn.

The pedals (P/N's 002-524020- and -6) were worn at the arm attachment pivot holes. The rudder arm pivot holes were worn to approximately 1/16 inch around the bushing holes. (Refer to the following illustration.) The submitter speculated this defect may have been caused by normal usage over time or possibly because of loose pivot bolts. This area should be checked for wear during scheduled inspections and maintenance.

Part total time-4,378 hours.

**Beech  
Model B200  
KingAir**

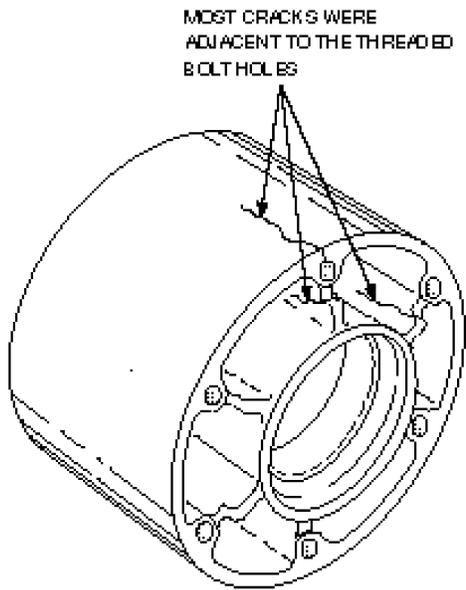
**Defective Elevator  
Control  
2730**

During a scheduled inspection, slack was detected in the elevator control system.

Further investigation revealed that a hole, which is used to attach a push-pull rod to the forward elevator bellcrank (P/N 50-524410-601), had been incorrectly drilled. This hole should be .25 inch in diameter; however it had been drilled to a diameter of .3125 inch. No cause for this defect was given.

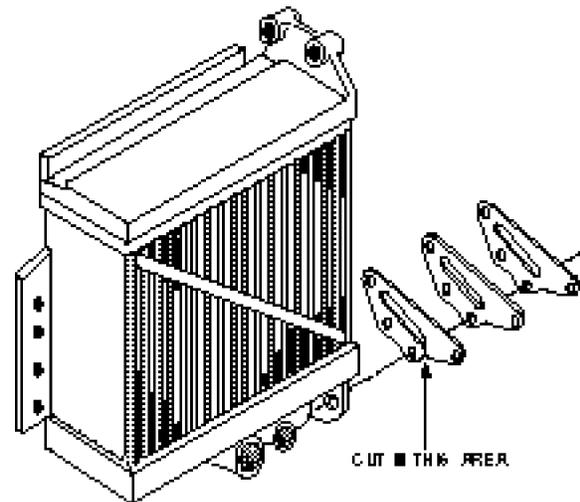
Part total time not reported.





An investigation disclosed the source of the oil leak was between the oil cooler (P/N 641484) and the case. When the oil cooler was removed, the gasket (P/N 629116) was found cut. The spacer (P/N 634867, Fig 11, Index 2) was not required to be installed for this engine model (GTSIO520L0). (Refer to the following illustration.) While examining the gasket, uneven tear marks were found at random locations. The cause of this torn gasket could not be determined. It was suggested that gaskets be closely examined before installation and that care be taken to prevent damage during installation.

Part total time-242 hours.



**Cessna  
Model 402B  
Businessliner**

**Main Landing Gear  
Door Bellcrank  
Failure  
3231**

During a postflight inspection, the pilot discovered the right main landing gear inboard door was open.

Further investigation revealed the bellcrank assembly (P/N 0841106-6) was broken. Only the gear door was affected by the break. The submitter stated this defect was caused by age and the amount of operating time. The fracture surface displayed evidence of a pre-existing crack. The pre-existing crack was approximately one-third of the fracture surface and had been there for a long period of time.

Part total time-13,807 hours.

**Cessna  
Model 421C  
Golden Eagle III**

**Engine Oil Leak  
7921**

This aircraft was delivered to the maintenance shop due to a leak in the right engine.

**Cessna  
Model CE 500  
Citation**

**Doorframe Structural  
Cracks  
5210**

During a scheduled inspection, a crack was found in the lower cabin entrance doorframe.

The crack emanated from the holes that had been drilled for installation of a nut plate. This nut plate was used as the aft attachment point for the doorstep installation. Also, there were numerous other cracks throughout this area and several other parts of the lower doorframe such as: the threshold frame (outside) P/N 5511249-14, the threshold frame (inside)

P/N 5511249-3, the channel (lower frame support) P/N 5511239-37 (-47), and the stiffener P/N 5511249-13.

Several of the holes drilled in the doorframe assembly did not have proper edge distance. Some of these holes were in the area of the two holes used for the main cabin door bottom retaining pins. There was no evidence of repairs in this area, and the submitter speculated that these defects were caused during manufacturing. Age and operating time may also have contributed to these defects. Close scrutiny in this area was recommended.

Part total time-6,319 hours.

**Cessna  
Model S550  
Citation**

**Defective Flight  
Control Column  
Attachment  
2701**

During a scheduled inspection, excessive play was found between the pilot's and copilot's control columns.

When the control columns were moved in opposite fore-and-aft directions, the excessive play was evident. Also, a "clicking" noise was heard when the control columns were moved. The "clicking" noise seemed to come from the bottom of the columns.

An investigation disclosed that all eight (four per column) mounting bolts, used to attach the control columns (P/N's 5565550-74 and -75) to the torque tube, were loose. All of the bolts were loose approximately one to two full turns, and there was no evidence of torque stripes being applied. The bolts, nut plates, and associated parts were not damaged. The submitter stated this was the second occurrence of this defect found by this repair facility. It was recommended that the manufacturer authorize the use of bolts with safety wire holes in the head to secure these bolts. This condition could easily lead to a catastrophic aircraft accident.

Part total time-8,611 hours.

**Cessna  
Model 650  
Citation**

**Rudder Stiffness  
2720**

The pilot reported that during a landing approach, rudder operation became extremely stiff in both directions. The aircraft was landed without incident.

During an investigation, it was found that the rudder would make full travel in both directions. Rudder operation was very difficult with electrical power on or off. The stiffness would occasionally "break free" and then become stiff once more. The rudder bias and the nosewheel steering system were inspected, and no defects were found. The problem was finally located in the rudder servo. The rudder-servo drive output clutch was found fully engaged and would not release. This condition could cause a very hazardous situation if a crosswind landing required vigorous use of the rudder.

Part time since overhaul-1,597 hours.

**PIPER**

**Piper  
Model PA 18-150  
Super Cub**

**Elevator Cable  
Failure  
2730**

The lower elevator cable separated during flight; however, the aircraft was able to land safely.

The cause of the elevator cable (P/N 13745-00) failure was due to a "work-hardened splice" area. This area of the cable broke when it attempted to travel around a pulley. The pulley was located just forward of the forward control stick. This area seems to be a "wear point" on this model of aircraft. The cable splice was approximately 14-inches long.

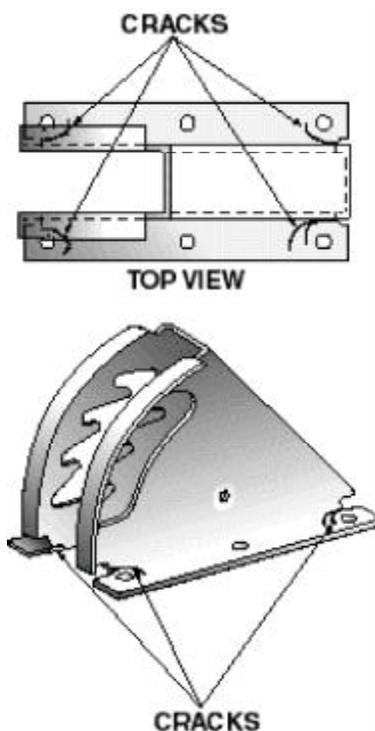
Part total time not reported.

**Piper  
Model PA 28-140  
Cherokee**                      **Cracked Wing Flap  
Detent Bracket  
2750**

While complying with Piper Service Bulletin 965, the wing flap detent bracket was found cracked.

Several cracks were found, and each corner of the flap bracket (P/N 62706-00) had at least one crack. (Refer to the following illustration.) All of the cracks were adjacent to holes used to mount the bracket. This bracket deserves close attention during scheduled inspections and maintenance.

Part total time-5,848 hours.



station, and stated their aircraft “sounded funny” when it flew over his house. The retired technician had an excellent reputation and had received the “Taylor Award” from the FAA.

When the aircraft landed, there was no report of any engine discrepancies or other problems. This aircraft was a flight school rental. An inspection of the aircraft disclosed that the muffler (P/N 66894-003) internal flame tube had “burned out.” A section of the flame tube was completely blocking the muffler outlet. The engine exhaust system should be thoroughly inspected during scheduled inspections (including preflight inspections).

Thanks to the “calibrated ear” of a conscientious retired maintenance technician, this defect was corrected before further damage occurred.

Part total time-1,017 hours.

**Piper  
Model PA 28-181  
Archer**                      **Rudder Control  
Failure  
2720**

The pilot reported that the rudder control “felt mushy” during a crosswind landing.

An inspection disclosed that the left rudder bar and pedal assembly (P/N 63420-08) was severely cracked. The crack had progressed almost to the point of separation. It appeared the crack originated at an “oiling hole,” traveled in a radial direction for a short distance, longitudinally for approximately 3/8 inch, and then around the tubing circumference. A hard landing may have caused this defect. After a hard landing, the rudder control system should be closely inspected.

Part total time-3,445 hours.

**Piper  
Model PA 28-161  
Warrior**                      **A Defective Muffler &  
“A Very Good Ear”  
7820**

A retired aircraft maintenance technician (who lives near the airport) called the repair

**Piper  
Model PA 31-325  
Navajo**                      **Hydraulic Pump  
Failure  
2933**

During a landing approach, the landing gear was extremely slow to extend, and the pilot considered using the hand pump. However,

the gear finally locked down, a safe landing was made, and the aircraft was delivered to the maintenance shop.

An inspection revealed that both hydraulic pumps failed due to a lack of hydraulic fluid. The hydraulic reservoir and the entire system were empty. The hydraulic reservoir in this aircraft incorporated a "sight gauge" for checking fluid quantity. When the "sight gauge" was "quickly" checked during troubleshooting, the reservoir appeared to be full. However, a closer check disclosed the erroneous indication was actually a hydraulic fluid stain on the inside of the "sight gauge."

The submitter stated the "sight gauge" should not be trusted. Use a "good light source" while gently rocking the aircraft. This will allow the fluid to be observed "sloshing" in the "sight gauge."

The owner of this aircraft does not accomplish 100-hour inspections. This aircraft had been operated 150 hours since the reservoir was last serviced or checked for fluid quantity. The manufacturer's maintenance manual requires the hydraulic reservoir fluid level to be checked and replenished, as necessary, each 50 hours of operation.

Part total time-not reported.

<b>Piper</b>	<b>Fuel Supply Control</b>
<b>Model PA 31-350</b>	<b>Failure</b>
<b>Chieftain</b>	<b>2823</b>

While in flight, the right fuel control arm, located on the fuel control panel, broke off during tank selection. The control arm broke in the "off" position, and the right engine suffered fuel starvation. A safe single-engine landing was made, and maintenance personnel were summoned.

The fuel control arm (P/N 52263-03) was found broken where it was attached to the control handle with a roll pin. During a previous repair, the roll-pin hole was incorrectly drilled and was "oversized." When the control arm roll-pin hole becomes elongated, the arm should be replaced. This may be evidenced by

free play between the control handle and the arm shaft.

Part total time-14,956 hours.

<b>Piper</b>	<b>Fuel Control</b>
<b>Model PA 31T-620</b>	<b>Malfunction</b>
<b>Cheyenne II</b>	<b>7322</b>

During cruise flight, the left engine suddenly went to maximum power. Torque, temperature, and speed limits were exceeded. The engine was shut down using the fuel shutoff lever, an emergency was declared, and a safe landing was made.

An investigation revealed the bearings in the fuel controller input shaft deteriorated, caused the input shaft to disengage, and allowed an uncontrolled engine runaway. Apparently, the lubricant had been "washed out" by the fuel, and caused the bearing to fail.

Part time since overhaul-2,048 hours.

<b>Piper</b>	<b>Cowling Security</b>
<b>Model PA 32R-300</b>	<b>7110</b>
<b>Cherokee Lance</b>	

During an instructional flight, a front corner of the engine cowling "raised up" approximately .5 inch. The airspeed was reduced to minimum, and a safe landing was made.

The cowling was inspected, the latches were tightened on the attachment pins, and the aircraft was then returned to service. The aircraft was flown on a 250-mile trip without incident. During departure for the return-trip, the top cowling (P/N 68780-04) separated from the aircraft. The left one-third of the cowling was attached to the aircraft by the side latches. A safe landing was made. An inspection revealed the cowling pin assembly (P/N 65148-01) had failed.

This area should be closely inspected during scheduled inspections and maintenance.

Part total time-4,008 hours.

**Piper  
Model PA 34-220T  
Seneca II**                      **Nosewheel Steering  
Failure  
3250**

After the nosewheel steering became inoperative, the aircraft was delivered to maintenance.

The lower tab of the nosewheel steering arm assembly mount bracket (P/N 39459-02) was found broken. The submitter speculated this failure may have resulted from improper towing of the aircraft.

This assembly should be closely inspected at every opportunity.

Part total time-7,325 hours.

**REPUBLIC**

**Republic  
Model RC-3  
Seabee**                      **Landing Gear  
Collapse  
3230**

During a normal landing on a hard surface, the left main landing gear collapsed.

An examination revealed that the two overcenter locking springs (P/N 175F41014) on the gear came off, and the overcenter locking mechanism released. The gear rotated aft toward the retracted position. The springs were slightly deformed, and new springs were installed.

Part total time not reported.

**HELICOPTERS**

**IMPROPER INSTALLATION OF PARTS**

Information for the following article was furnished by Mr. James Coppit who is an Aviation Safety Inspector with the FAA Flight Standards District Office located in Baton Rouge, Louisiana.

It has been learned that some Supplemental Type Certificate (STC) holders may have designed and developed helicopter parts which were manufactured under a Parts Manufacturing Approval (PMA) issued by the FAA. Some of these parts have been installed on certificated aircraft which do not incorporate the STC under which they were developed and manufactured. When a PMA is issued in conjunction with an STC, the PMA is limited to application under that specific STC number. Therefore, a part produced under such a PMA for a certain aircraft is not eligible for installation unless the entire STC has been installed.

Currently, the FAA investigation is centered on the various makes and models of rotorcraft; however, this problem may also concern airplanes. If you have any question concerning this situation, contact your nearest FAA Manufacturing Inspection District Office (MIDO).

**AMERICAN EUROCOPTER**

**American Eurocopter                      Hardware Failure  
Model AS 350B2                      6510  
Ecureuil**

While complying with the requirements of Service Bulletin (SB) 350.05.08, in accordance with Airworthiness Directive (AD) 82-20-05, a screw (P/N 22208BC060012L) was being installed into the tail rotor drive shaft bearing support mount bracket.

When the torque was set to the middle of the torque-limit range, the maintenance technician stated the torque "did not feel stable." When the screw was removed for inspection, no obvious defect was found. The screw was reinstalled, and the nut was torqued to the same setting. Once again, the torque "did not feel stable." While attempting to torque the nut to the maximum limit, the screw broke.

The submitter believed the screw had been manufactured below the strength value.

This defect was detected by the “feel” of the installer. This is a “nondefinable talent” which most technicians have to varying degrees.

Part total time-400 hours.

**BELL**

**Bell  
All Models**

**Tail Rotor Hanger  
Bearing Storage  
6510**

Information for this article was submitted by the FAA Rotorcraft Certification Office, ASW-170, located in Fort Worth, Texas. Although this article deals with tail rotor drive shaft hanger bearings, the information may also be pertinent to many other parts. (Except for minor editorial changes, this article is printed as it was received from ASW-170.)

The following is the text from Bell Helicopter Textron Operations Safety Notice (OSN) GEN-97-31, dated 5/1/97. This OSN was issued to all Bell Helicopter owners/operators.

“Bell Helicopter has become aware of an instance where prolonged shelf storage of a tail rotor drive shaft hanger bearing, which had been removed from its protective packaging, resulted in severe internal corrosion of the bearing. Extended periods of shelf storage may increase the risk of internal bearing corrosion, and this is especially true if the sealed protective packaging has been opened. The manufacturer of the grease used in the hanger bearings has recommended a service life of the grease not to exceed 3 years. Grease breakdown may lead to internal corrosion or loss of lubrication, and this may lead to hanger bearing failure. This could result in possible loss of directional control of the aircraft.

The purpose of this OSN is to reinforce the requirements found in the applicable maintenance manual for tail rotor drive shaft

hanger bearing maintenance. Bell Helicopter will introduce new part numbers for the current tail rotor hanger bearing to assist operators in determining bearing age. Bell Helicopter is also revising the maintenance manual guidelines to further clarify requirements.”

**Bell  
Model 214ST  
Super Transport**

**Defective Window  
5610**

During cruise flight, the left hinged windowpane separated from the aircraft. When the windowpane separated from the aircraft, the window was closed and latched.

This window (P/N 214-031-892-105) is installed in the larger side windows (P/N's 214-031-891-103 and -104). Please consult the appropriate technical data for applicable part numbers by serial number. The window frame remained attached to the larger window assembly in which it was installed. The windowpane was bonded to the frame, and evidence indicated the bonding material failed. It was fortunate that the windowpane did not strike the tail rotor when it separated. The submitter stated that five other like aircraft were inspected (2 windows per aircraft) and 7 of the 10 windows displayed signs of “debonding.”

A one-time inspection of these windows should be completed. We are interested in learning the results of your inspection.

Part total time not reported.

**Bell  
Model 222U**

**Tail Boom Crack  
5500**

During a postflight inspection, a crack in excess of 2-inches long was found on the right side of the tail boom (forward of the horizontal stabilizer).

The submitter could not offer a cause for this defect; however, other operators stated the same defect has been observed on like aircraft.

The manufacturer issued Technical Bulletin (TB) 222U-94-65. This TB deals with this subject and offers a repair procedure. Any cracks in this area should be repaired in accordance with this TB.

Part total time-1,371 hours.

**ENSTROM**

<b>Enstrom</b>	<b>Collective Failure</b>
<b>Model F-28C</b>	<b>6710</b>
<b>Falcon</b>	

After completion of a ground run-and-hover check to evaluate engine performance, the aircraft was landed and the collective was lowered to secure friction. Moderate pressure was applied and before the friction could be set an abnormal "bang" was heard. The pilot's collective stick dropped approximately 1 inch.

During an inspection, the pilot's collective stick socket (P/N 28-16186-1) was found cracked on the aft side just above the bolts used to secure it to the torque tube. This socket assembly deserves your full attention during scheduled inspections and maintenance.

Part total time-3,093 hours.

**McDONNELL DOUGLAS**

<b>McDonnell Douglas</b>	<b>Powerplant Failure</b>
<b>Model 369D</b>	<b>2821</b>

After takeoff, at an approximate altitude of 50 feet above ground level, the Allison Model 250-C20B powerplant lost all power. An emergency landing was made. There were no personal injuries; however, the aircraft sustained substantial damage.

A collapsed fuel nozzle inlet screen was found during an inspection. This stopped or severely limited fuel flow to the turbine section and caused the power loss. The fuel screen (P/N 6890917) appeared to contain debris which contributed to its collapse. The

remainder of the fuel system was inspected, and no debris or contamination was found. The submitter stated the powerplant maintenance manual does not have an inspection requirement for this "last chance" filter. It was suggested that inspection of this filter be added to the scheduled inspection criteria for 100-hour inspections.

Part time since overhaul-502 hours.

**AGRICULTURAL AIRCRAFT**

**AIR TRACTOR**

<b>Air Tractor</b>	<b>Propeller Control</b>
<b>Model AT 802A</b>	<b>Failure</b>
	<b>6123</b>

During a preflight engine runup, a loud "bang" was heard when the propeller was reversed.

The engine was immediately shut down, and an investigation was conducted. The propeller was removed. The abnormal "bang" was caused by the feather-spring assembly (P/N 57B0831-50). The feather-spring assembly separated from the pitch-change rod (P/N 57B4026). All of the damage was confined to the feather-spring assembly.

Part total time-2,257 hours.

**PIPER**

<b>Piper</b>	<b>Engine Oil Leak</b>
<b>Model PA 36-300</b>	<b>7920</b>
<b>Brave</b>	

After a flight, a severe oil leak was discovered.

The engine compartment was washed down and an engine run revealed the engine oil was spraying out of a hose (P/N 62400-8D-0290) at the rear of the engine. There was evidence of heat damage to the exterior of the hose where it was in the proximity of the engine-exhaust system. This hose was approximately 6-years old.



**PROPELLERS & POWERPLANTS**

**TEXTRON LYCOMING**

**SERVICE BULLETIN REMINDER**

In October 1996, Textron Lycoming issued Service Bulletin (SB) 527. This SB preceded Airworthiness Directive (AD) 97-01-03.

In order to increase the public attention to this issue, SB 527 was included in Textron Lycoming's publication "Service Alert."

SB 527 requires an inspection, and if necessary, replacement of a suspect lot of piston pins. The piston pins were shipped in certain engine models, cylinder kits, and as spare parts. Please refer to SB 527, Revisions B and C, and AD 97-01-03 for applicability. These piston pins left the factory during the time period of December 15, 1995 through September 17, 1996.

At this time, the compliance rate with SB 527 (Revisions B and C) has been below 50 percent. Textron Lycoming wishes to stress the need for compliance with SB 527. Failure of a piston pin will cause substantial internal damage to the engine, and most likely, result in engine stoppage.

Textron Lycoming is covering the inspection and replacement of these parts under warranty.

**ACCESSORIES**

**CHAMPION SPARK PLUGS**

<b>Champion Spark Plugs</b>	<b>Electrode Damage</b>
<b>Part Number RHB325</b>	<b>7421</b>

The submitter reported that during a 1-year period, 30 of these spark plugs have been

found with "delaminated" electrodes. These spark plugs are used in several different engines. This particular spark plug has the ground electrode at the side of the center electrode. The submitter did not offer a cause or cure for this defect.

Part total time-between 40 and 72 hours.

**BENDIX MAGNETO**

<b>Bendix Magneto</b>	<b>Shaft Failure</b>
<b>Model S4LN-203</b>	<b>7414</b>
<b>Part Number 10-163045-3</b>	

This occurrence involved a Piper PA 28-180 aircraft with a Textron Lycoming O360-A4A engine. The aircraft owner reported the right magneto was inoperative.

An investigation disclosed the rotor shaft was sheared just aft of the seal-runner bushing. The fractured surface of the shaft displayed evidence this failure was the result of a pre-existing crack. The engine had been overhauled approximately 441 hours prior to this incident due to a propeller strike. The submitter speculated, because the magneto is a direct drive, that the crack may have been initiated during the propeller-strike incident.

All components subjected to these stresses should be thoroughly inspected before they are returned to service.

Part total time-1,857 hours.

**AIRNOTES**

**AIRWORTHINESS DIRECTIVES (AD'S)  
ISSUED IN JULY 1997**

97-08-06R1 Issued on Louis L'Hotellier ball-and-swivel joint quick connectors installed on gliders that are not equipped with a "Uerling" sleeve or an LS-safety sleeve.

97-13-02	Issued on Diamond Aircraft Industries, Model DA 20-A1 airplanes. Requires the installation of a placard prohibiting spin maneuvers until modification is installed.		replacement of the forward horizontal stabilizer front bolt.
97-13-11	Issued on Ayres S2R series airplanes. Requires the inspection of bolt hole areas.	97-15-08	Issued on McDonnell Douglas Helicopter systems Models 369, 500, AH-6 and MH-6 helicopters. Requires the replacement of certain transmission output drive gears.
97-14-01	Issued on Pilatus Britten-Norman Ltd. BN-2A and BN-2A Mk III series. Requires the inspection of left-hand rudder bar assembly for cracks and loose fasteners.	97-15-10	Issued on Allied Signal TPE331 series turboprop engines. Requires the revision of applicable emergency or abnormal procedures section of manuals to include paragraph relating to nonresponsive power lever.
97-14-05	Issued on Air Tractor Models. Requires inspection of front-spar attachment lugs and rear-spar attachment lugs for fatigue cracks.	97-15-11	Issued on Lycoming reciprocating engines. Requires the removal of defective piston pins from service.
97-14-14	Issued on Industrie Aeronautiche Piaggio P-180 airplanes. Requires inspection of the baggage compartment for stringer or air-cycle machine by-pass duct damage.	97-15-12	Issued on Burkhart Grob G 109 sail planes. Requires the installation of a damper and a new bellcrank lever on the rudder.
97-14-15	Issued on various Raytheon (Beech) 33, 35, 36, 50, 55, 56, 58, and 95 Models. Requires checking cabin-side door handle and utility door handle.	97-15-13	Issued on Raytheon (Beech) 1900 Models. Requires the installation of lubrication fittings in the air stair door handle and the latch housing mechanisms.
97-14-16	Issued on Raytheon (Beech) 1900 series airplanes. Requires inspection of flap aft-roller bearings and flap-attachment brackets.	97-15-14	Issued on Industrie Aeronautiche Piaggio S.P.A. P-180 airplanes. Requires an inspection for cracks around the vertical pin and the torque tube bottom flange of the rudder.
97-15-01	Issued on TCM engines that have "factory new" cylinders.	97-15-15	Issued on Eurocopter France SA Models. Requires the inspection of planetary gear shafts.
97-15-04	Issued on Bell 214 helicopters. Requires changing the method of calculating retirement life.	97-15-16	Issued on Bell 430 rotorcraft. Requires the inspection of main rotor adapter assemblies.
97-15-07	Issued on Aeromot Models AMT-100 and AMT-200 powered sail planes. Requires		

97-16-10 Appliance AD on RAPCO filters installed on some Cessna, Piper, and Raytheon (Beech) airplanes.

seminar schedules will also be available on the Internet. The Regulatory Support Division, AFS-600, has established a "HomePage" at the following Internet address:

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

## APPROVED PARTS SEMINARS

The Designee Standardization Branch, AFS-640, had previously presented an Approved Parts Seminar. However, the FAA convened a task force to conduct a thorough review of the Suspected Unapproved Parts (SUP) issue, and the seminar was discontinued until the review was completed. As a result of the task force recommendations, a new national SUP Program Office, AVR-20, was established to standardize national policy. Now that policy is completed, the Approved Parts Seminar will again be presented by AFS-640.

Attendance at these seminars is open to everyone in the aviation community; however, the material and content is mainly directed to Representatives of the Administrator, both foreign and domestic; FAA inspectors; Civil Aviation Authority (CAA) representatives; aircraft engine and propeller manufacturers; parts manufacturers; distributors; suppliers; air carriers; mechanics; and repair stations. It is expected that the seminars will be approved to be used as an acceptable means of renewal for Inspection Authorization (IA). The seminars can also be used as acceptable training in conjunction with the Aviation Maintenance Technician Award.

The major areas which will be covered in these 8-hour seminars are: type design, conformity, different methods to obtain approval on parts that are eligible for installation on U.S.-type certificated products, quality systems, and examples of litigation as a result of the installation of fraudulent/unairworthy parts.

The seminars are tentatively scheduled to begin after January 1998. You may contact AFS-640 for a schedule of seminar locations. The telephone number is (405) 954-6481. The

## ALERTS ONLINE

This publication is now available through the FedWorld Bulletin Board System (BBS), via the Internet.

You may directly access the FedWorld BBS at telephone number (703) 321-3339. To access AC 43-16, General Aviation Airworthiness Alerts, through the Internet, use the following address: "<http://www.fedworld.gov/ftp.htm>". This will open the "FedWorld File Transfer Protocol Search And Retrieve Service" screen. Page down to the heading "Federal Aviation Administration" and select "FAA-ASI". The file names will begin with "ALT", followed by three characters for the month, followed by two digits for the year (e.g. "ALTJUN96.TXT"). The extension "TXT" indicates the file is viewable on the screen and also available for download.

In July 1996, we began using the Adobe Acrobat software program format to upload this monthly publication. Since that time, the "ALT" files now appear with a "PDF" extension, and it is necessary to download the files for viewing. This change was necessary to accommodate inclusion of the illustrations associated with various articles. The Adobe Acrobat Viewer is available for download from the Internet (free of charge) and will allow the files to be read.

Also available at this location are the Service Difficulty Reports (SDR's) for the past 2 months, which may be of interest.

The Regulatory Support Division (AFS-600) has established a "HomePage" on the Internet, through which the same information is available. The Internet address for the

AFS-600 "HomePage" is: "http://www.mmac.jccbi.gov/afs/afs600". Also, this address has a large quantity of other information available. There are "hot buttons" to take you to other locations and sites where FAA Flight Standards Service information is available. If problems are encountered, you can "E-mail" us at the address below.

If you wish to contact the staff of this publication, you may do so by any of the means listed below.

**Editor:** Phil Lomax, AFS-640  
**Telephone No.:** (405) 954-6487  
**FAX No.:** (405) 954-4570  
 or (405) 954-4748

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

**Mailing Address:**  
 FAA  
**ATTN: AFS-640 ALERTS**  
 P.O. Box 25082  
 Oklahoma City, OK 73125-5029

We hope this will allow you to contact us by a means which will be convenient and save some of your time. We welcome the submission of aircraft maintenance information via any form or format. This publication provides an opportunity for you to inform the general aviation community of problems you have encountered as well as bringing them to the attention of those who can resolve the problems. The Service Difficulty Reporting (SDR) program also brings the problems to the attention of those who are able to resolve the problems, as well as, bringing them to the attention of those who can resolve these problems. Your participation in the SDR program is vital to ensure accurate maintenance information is available to the general aviation community.

## ELECTRONIC AVAILABILITY OF INFORMATION

In light of the previous article, we solicit your input and ideas for the future of this publication. The electronic information media has made available a vast amount of information in a more expedient and efficient manner. We believe the expanded use of this media can bring about the conveyance of safety information in a more efficient and timely manner.

We are currently distributing approximately 28,000 printed copies of this publication each month, and the distribution number continues to increase. The cost for publishing, printing, and mailing this publication has also increased, and there has been a substantial negative impact on our budget allotment.

In an effort to save tax dollars and make better use of the electronic media, we encourage our readers to cancel their printed copy subscription to this publication and use the computer to download the monthly issues. (The instructions for downloading the Alerts were given in the preceding article.) We will be happy to help you if you require further assistance. Some of you may not yet have the equipment necessary to receive the information electronically, and you are welcome to continue receiving it in the printed form.

There have been some efforts to charge an annual subscription fee for this publication. So far these efforts have not been given much credence, and we will make every effort to keep this a free-of-charge publication. However, we need your input and ideas. Would you be willing to pay a nominal subscription charge for this publication?

We appreciate your interest in this publication and the opportunity to serve you. Please offer any comments, questions, or suggestions to us

---

via any of the means listed in the preceding article.

---

**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.)

---

**SUBSCRIPTION REQUEST FORM**

For your convenience, a Subscription Request Form for AC 43-16, General Aviation Airworthiness Alerts, is printed in every issue.

If you wish to be placed on the distribution list, complete the form, and return it, in a stamped envelope, to the address shown on the form.

---

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION		OPER. Control No.			3. Comments (Describe the malfunction or defect and the circumstances under which it occurred. State probable cause and recommendations to prevent recurrence.)	FAA DISTRICT OFFICE	OPERATING DENYMENT
<b>MAJUNCTION OR DEFECT REPORT</b>		ATA Code					
		1. A/C Reg. No.	N-				
Enter part and class	MANUFACTURER	MODEL/SERIES	SERIAL NUMBER		FAA DISTRICT OFFICE	OPERATING DENYMENT	
2. AIRCRAFT							
3. POWERPLANT							
4. PROPELLER					FAA DISTRICT OFFICE	OPERATING DENYMENT	
5. SPECIFIC PART (of component) CAUSING TROUBLE							
Part Name	MFG. Model or Part No.	Serial No.	Part/Defect Location.				
					FAA DISTRICT OFFICE	OPERATING DENYMENT	
6. APPLIANCE COMPONENT (Assembly that includes part)							
Comp/Appl Name	Manufacturer	Model or Part No.	Serial Number				
					FAA DISTRICT OFFICE	OPERATING DENYMENT	
Part TT	Part TSO	Part Condition	T. Date Sub.				
					<b>Optional Information:</b> Check a box below, if this report is related to an aircraft <input type="checkbox"/> Accident; Date _____ <input type="checkbox"/> Incident; Date _____		

FAA Form 8010-4 (10-99) SUPERSEDES PREVIOUS EDITIONS

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

U.S. Department  
of Transportation

**Federal Aviation  
Administration**

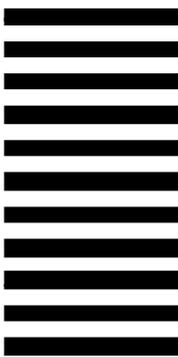
Flight Standards Service  
Maintenance Support Branch  
P.O. Box 25082  
Oklahoma City, OK 73125

AFS-640

Official Business  
Penalty for Private Use \$300



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES



**Federal Aviation Administration  
AFS-640 (Alerts)  
P.O. Box 25082  
Oklahoma City, OK 73125-5029**

# SUBSCRIPTION REQUEST FORM

## ADVISORY CIRCULAR (AC) 43-16, GENERAL AVIATION AIRWORTHINESS ALERTS

Please use this request to subscribe to AC 43-16 or to change your address if you are presently on the mailing list. Once your name has been entered, you will continue to receive this publication until you request your name be removed or a copy is returned because of an incorrect address.

Because this mailing list is independent of other FAA mailing lists, it is necessary that you notify us when your address changes. (Our address is on the following subscription request.) If you are presently receiving this publication it is **NOT** necessary to send another subscription request. The following subscription request may be duplicated, as necessary. **TELEPHONE REQUESTS WILL ALSO BE ACCEPTED; THE TELEPHONE NUMBER IS (405) 954-6487. THE FAX NUMBERS ARE: (405) 954-4748 and/or (405) 954-4570.**

### AC 43-16 SUBSCRIPTION REQUEST

If you would like to **BEGIN** receiving AC 43-16, or **CHANGE** your address, please complete the following:

**PLEASE PRINT INFORMATION LEGIBLY,  
INCLUDE YOUR ZIP CODE, AND THE DATE  
OF YOUR REQUEST.**

**NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**ZIP CODE** \_\_\_\_\_

**DATE:** \_\_\_\_\_

#### CIRCLE ONE OF THE FOLLOWING:

1. This is a **NEW** subscription.
2. This is an **ADDRESS CHANGE**.

SEND **ONLY ONE** SUBSCRIPTION REQUEST TO  
THE FOLLOWING ADDRESS:

FAA, Regulatory Support Division  
**ATTN: AFS-640 (Phil Lomax)**  
P.O. Box 25082  
Oklahoma City, OK 73125-5029

***If you require more than one copy of AC 43-16, it may be reproduced.***

U.S. Department  
of Transportation

**Federal Aviation  
Administration**

Designee Standardization Branch  
**ATTN: ALERTS, AFS-640**  
P.O. Box 25082  
Oklahoma City, OK 73125-5029

**AFS-640**

Official Business  
Penalty for Private Use \$300

**BULK MAIL  
POSTAGE & FEES PAID  
Federal Aviation  
Administration  
PERMIT No. G44**