

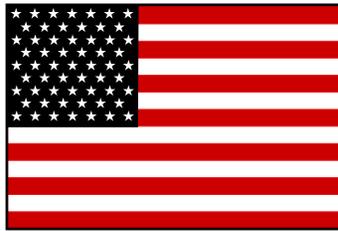


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AVIATION MAINTENANCE ALERTS



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

AVIATION MAINTENANCE ALERTS

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

AIRPLANES

BEECH

Beech; Model V35B; Bonanza; Defective Engine "Rod-Oil-Gauge Cap"; ATA 8550

While checking the engine oil quantity, the rod-oil-gauge cap failed to lock securely in place when it was installed. This aircraft incorporates a Teledyne Continental Motors (TCM) Model IO-520-BA engine.

During an investigation, the technician discovered one of the two locking tabs bent approximately 90 degrees up into the filler cap rod-plate spring housing. The locking tab was severely worn and was in imminent danger of separation. If the locking tab had separated, it would have entered the engine oil system. He speculated that over an extended period of time, repeated use and vibration contributed to the locking tab wear.

The submitter recommended checking the filler cap locking tabs each time the cap is removed. TCM designed a new filler cap (P/N 652171-1) which will alleviate this type defect.

Part total time not reported.

Beech; Model A-36; Bonanza; Engine Exhaust System Failure; ATA 7810

While flying the aircraft at 3,000 feet, the pilot noticed a sudden change of engine sound, and smoke entered the cockpit. He closed the throttle, lowered the landing gear, and landed safely at a nearby airport.

This aircraft was modified by installing Supplemental Type Certificate (STC) SA5223NM, which adds a modified Teledyne Continental Motors (TCM) engine equipped with a turbonormalizing system.

The technician conducted a damage evaluation and inspection and submitted the following list of defects. The engine exhaust pipe separated from the aircraft; there was extensive, severe heat damage in the engine compartment aft of the turbocharger; the

brake lines and hoses were destroyed; a hole was burned in the left side of the engine pedestal mount; the engine cowling paint was scorched; and the exhaust pipe attachment clamp was split.

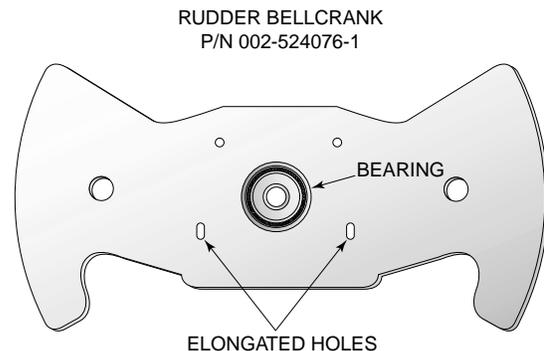
The pilot's immediate action of closing the throttle and landing quickly probably avoided combustion of the nose gear tire. The submitter recommended that all concerned personnel check the exhaust system clamps closely at every opportunity.

Part total time-545 hours.

Beech; Model 58TC; Baron; Rudder Security; ATA 5540

During a scheduled inspection, the inspector noticed a loose rudder attachment.

After disassembly, the technician discovered two of the four fastener holes in the bellcrank were elongated. (Refer to the following illustration.) These four holes attach the rudder mast (P/N 96-630000-333) to the bellcrank (P/N 002-524076-1). These four bolts appeared to be tight, and the technician could offer no reason for the elongation wear in the two holes.



The submitter suggested closely checking this area during scheduled inspections. Even though the "free play" in this case was slight and could very easily be overlooked, it could have caused rudder flutter.

Part total time-3,194 hours.

Beech; Model 65A90; King Air; Engine Failure; ATA 2830

While operating the aircraft at 4,500 feet, the pilot experienced a right engine failure. All attempts to restart the engine failed, and the pilot made a safe single-engine landing.

After troubleshooting the system, the technician discovered the high-pressure fuel pump did not supply sufficient pressure or volume to sustain engine operation. When he removed the fuel pump, he discovered a sheared drive coupling (P/N 5006050) spline.

The submitter speculated this problem was caused by the lack of lubrication to the drive coupling.

Part total time-516 hours.

Beech; Model 95B55; Baron; Engine Control Failure; ATA 7602

The pilot stated the right engine fuel mixture could not be leaned during flight. After landing and taxiing to the parking ramp, he discovered he could not shut down the engine using the mixture control.

The technician investigated and found the swaged end of the right engine mixture control cable (P/N 50-389010-21) separated at the fuel control unit. He did not describe the circumstance leading to this defect.

The submitter recommended giving close attention to all engine controls during scheduled inspections and maintenance.

Part total time not reported.

Beech; Model B-100; King Air; Engine Accessory Defects; ATA's 7260 and 7800

During a scheduled inspection, the technician discovered the left engine starter shaft was defective and worn far beyond serviceable limits.

The technician also discovered the engine exhaust duct retention hardware (bolt P/N AN4-4A and nut P/N MS21042L4) was severely corroded. The exhaust duct retention hardware installed on the right engine was in the same corroded state and required replacement.

This aircraft received a double engine overhaul a short time prior to this inspection, and the submitter speculated these defects were overlooked. He stated care, diligence, and attention to detail would eliminate this type of defect.

Aircraft time since engine overhaul-311 hours.

Beech; Model 200; King Air; Rudder Hinge Bearing Failure; ATA 2720

During a scheduled inspection, the technician discovered excessive radial free play in the rudder hinge assembly bearing.

The technician removed the hinge bearing (P/N MS28913-5) and discovered there was no viable lubrication inside the bearing. The small amount of lubricant present was hard and not in contact with the bearing surfaces.

The submitter suggested the manufacturer establish a life limit for this bearing and/or authorize the use of a bearing with a grease fitting to allow periodic lubrication.

Part total time-8,238 hours.

Beech; Model 200; King Air; Rudder System Malfunction; ATA 2720

After a flight, the pilot stated the left rudder hydraulic boost system was inoperative.

While troubleshooting, the technician found the right rudder boost check valve (P/N 50-380170-27) was allowing hydraulic fluid to flow in both directions. The defective check valve caused pressure to be applied to both sides of the rudder boost system. The differential pressure switch detected no pressure difference and caused the left rudder boost system to fail.

Part total time-4,885 hours.

Beech; Model 200; King Air; Cabin Entrance Door Failure; ATA 5210

While flying at 12,500 feet, the flightcrew experienced rapid cabin decompression. A crewmember discovered a cabin door failure caused the loss of pressurization. The pilot made a descent and landed the aircraft safely as soon as possible.

The technician inspected the aircraft and speculated the cabin door was not completely locked before takeoff. However, the pilot reported the "cabin door" warning light did not illuminate.

The technician found the cabin door warning light microswitch was not properly rigged, which caused the warning light to remain out with the door not completely locked. He speculated the crewmember assigned to close the door was not properly trained.

The submitter recommended all maintenance technicians closely inspect the cabin door latch rigging during the Phase 3 inspection. During this inspection, ensure the microswitch does not close before the door handle goes overcenter to the "locked" position.

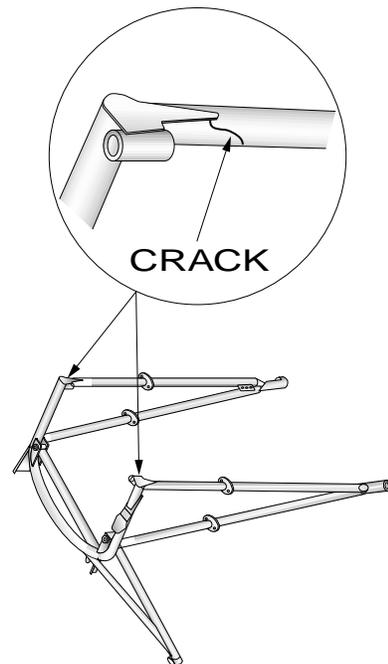
Part total time-6,887 hours.

Beech; Model 1900C; Airliner; Engine Mount Crack; ATA 7120

During a scheduled inspection, the technician discovered a crack in a right engine mount point.

The crack was located adjacent to a gusset weld at the upper outboard engine truss mount (P/N 129-910032-79). (Refer to the following illustration.) This defect is typical of those depicted in Airworthiness Directive (AD) 95-02-18 and Beech Service Bulletin (SB) 2255. AD 95-02-18 may also affect truss part numbers: 114-910025-1, 118-910025-1, 118-910025-37, and 118-910025-121. Refer to AD 95-02-18 and SB 2255 for specific applicability and data.

In accordance with AD 95-02-18, the submitter removed and replaced the truss assembly with an updated part (P/N 129-910047-17) which terminated the recurring inspection requirements. The new truss requires magnetic particle inspection at 8,000 operating hour intervals.



Part total time-1,700 hours.

CESSNA**Cessna; Model 172; Skyhawk; Flight Control Obstruction; ATA 2730**

After completing a flight, the pilot reported the elevator up travel was obstructed.

An inspection by a technician revealed the right side avionics cooling diffuser (P/N 057033-1) became loose, fell, and lodged between the control yoke tunnel and the avionics rack. When he moved the elevator control to the "up" position, the copilot's yoke aileron sprocket pinned the diffuser against the forward side of the instrument panel. His inputs from the control yoke could not overcome this obstruction.

The diffuser unit is normally held in position by four springs (P/N 1470221-2), which attach it to an identical diffuser on the left side of the avionics stack. In this case, the left side diffuser had been previously removed, and only one spring was still intact.

Part total time not reported.

Cessna; Model 172R; Skyhawk; Fuel Leak; ATA 2810

After returning from a flight, the pilot reported fuel was dripping from the lower fuselage surface.

A technician determined the fuel came from a fuel system drain valve. After installing a new drain valve, he discovered fuel once again leaked from the area of the drain valve. After investigating further, he found the leak source was a 2-inch long crack adjacent to a manufacturing weld on the fuel reservoir tank. The cracked weld was on the lower leading edge reservoir seam.

There was no apparent cause for this defect; however, the submitter speculated reservoir internal pressure, along with the fuel weight, may have led to this defect. He recommended closely inspecting the reservoir tank at frequent intervals for leakage and condition. If the reservoir tank ruptures in flight, it would present a possible fire hazard and engine fuel starvation.

Part total time not reported.

Cessna; Model 172R; Skyhawk; Suspect Induction Air Filter; ATA 7220

During a scheduled inspection, the technician examined the induction system air filter.

He found the paper element of the filter assembly (P/N Donaldson P19-8281) badly eroded. Approximately 40 percent of the forward facing filter surface was eroded to a depth which penetrated the "accordion" folds of the filter. After removing the filter assembly, it was evident the filter's filtering capacity was severely diminished.

Cessna lists this filter for replacement after 500 hours time in service. This aircraft is operated in a training environment from a hard-surface airport. The submitter suggested inspecting the induction air filter for wear, obstruction, and condition each 50 hours of operation.

Part total time-300 hours.

Cessna; Model 182R; Skylane; Defective Vacuum System Plumbing; ATA 3610

During a scheduled inspection, the technician found the vacuum system flexible hoses severely deteriorated.

The hose (Imperial Eastman, HP006) exterior was cracked and pieces fell off when it was moved. The red hose interior lining was brittle and cracking. One of the hoses, in imminent danger of failure, ran from the instrument air filter to the artificial horizon.

This aircraft is approximately 15 years old, and the submitter did not say if these hoses were installed as original equipment. There are many other aircraft makes and models with flexible hoses installed that have exceeded their expected useful life. He encouraged all maintenance personnel to strictly abide by the life limits established for flexible hose installations.

Part total time-1,608 hours.

Cessna; Model 190; Defective Aileron Security; ATA 5751

During a scheduled inspection, the inspector found the left and right inboard aileron hinge brackets cracked.

The hinge brackets (P/N's 0322709 and 0322709-1) cracked in the bearing boss. The brackets are constructed of magnesium; and the submitter believes this makes them exceptionally vulnerable to severe corrosion. When he applied approximately 40-pounds of pressure, the hinge brackets broke. Failure of the inboard aileron hinge brackets in flight could result in a catastrophic aircraft accident and deserves close attention at every opportunity.

Part total time not reported.

Cessna; Model 195A; Elevator Structural Defect; ATA 5521

While conducting an inspection, the technician discovered both elevator spars cracked.

The elevator spars (P/N 0334220-13) cracked at the outboard end. The cracks ran vertically and appeared to originate from the bend radius of a flange used to mount the tip rib.

The submitter speculated these cracks resulted from "torsional flexing" caused by the counterweight installation at this location.

Part total time not reported.

Cessna; Model U206B; Super Skywagon; Nose Landing Gear Security; ATA 3246

The pilot reported the nose landing gear wheel assembly separated from the aircraft during landing.

The technician searched the landing site and found the nosewheel attachment bolt and other hardware. When he found the nosewheel bolt (P/N AN6-58A), the nut was not attached, but the bolt threads were not damaged. Along with the other hardware, he

found a self-locking nut (P/N AN363-6), but he could not positively identify it as coming from the nosewheel bolt. However, he could install the nut on the bolt by using only hand pressure.

Many times it is tempting to reuse a self-locking nut; however, you should resist this temptation. Also, self-locking nuts installed for exceptionally long periods of time may lose the efficiency of the locking device and allow the nut to loosen. In critical locations, a fastener failure may result in a catastrophic occurrence.

Part total time not reported.

Cessna; Model 208B; Caravan; Engine Oil Leak; ATA 7900

During a cross-country stop, the pilot delivered the aircraft to a repair station for correction of a recurring engine oil leak. The engine lost approximately $\frac{1}{2}$ quart of oil during the previous 3.5-hour flight. The pilot stated the loss of engine oil during flight had occurred on several occasions.

While investigating this problem, the technician found the engine oil leaking from the top of the torque line adapter (P/N 5950034-7), which is mounted at the front of the engine. Investigating further, he discovered the torque line adapter fitting was drilled to accommodate a .125-inch pipe thread fitting installation. The hole was drilled; however, the threads had not been cut. The engine oil leak occurred only during high power settings when the oil pressure is between 30 and 60 PSI. He removed the fitting, cut the proper threads, reinstalled the assembly, and conducted a leak check with the engine operating.

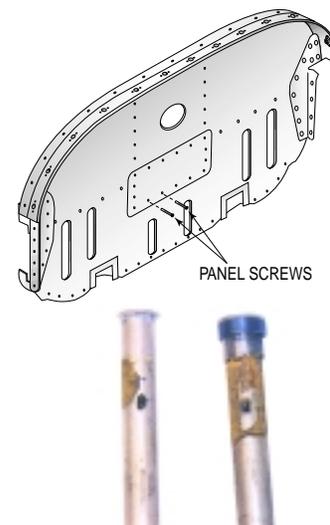
The submitter speculated the installation and defect occurred during the manufacturing process. Failure of the fitting would cause a total engine oil loss and subsequent engine failure.

Part total time not reported.

Cessna; Model 340; Fuel Tubing Damage; ATA 2820

While installing a fuel line cross-feed kit (Cessna P/N SK340-31-6), the technician discovered two fuel lines severely chafing.

In the process of removing the old fuel lines (P/N's 5600106-31 and -3), the technician found the wall thickness of these lines was almost penetrated by chafing action. (Refer to the following illustration.) The lines were originally covered with chafe protection, and the damage was not evident until the chafe protection was removed. The screws used to install an inspection panel caused the chafing. The damage location provides very little clearance for the panel screws, and it is very important to choose the proper screw length.



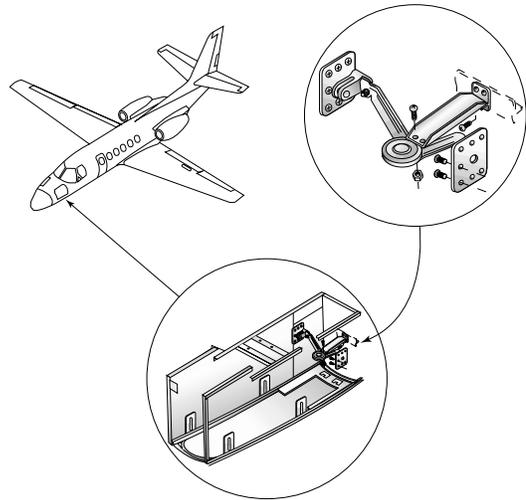
The submitter suggested verifying the fuel tubing/panel screw has clearance and adequate chafe protection is evident.

Part total time-6,300 hours.

Cessna; Model 550; Citation; Nose Landing Gear Security; ATA 3221

While conducting an inspection, the technician found the nose landing gear trunnion loose.

After investigating further, he discovered the screws (P/N NAS517-3-X) used to secure the left and right nose gear trunnion supports (P/N's 6613056-3 and -4) loose. (Refer to the following illustration.) He stated there is no required inspection time for this assembly; however, he suggested an inspection each 150 hours of operation. The location of these fasteners makes inspection and installation very difficult even with the aircraft on jacks. However, the time and effort spent is well worthwhile considering the damage that loose or dislodged fasteners may cause.



The submitter found this defect on several other like aircraft with comparable operating time.

Part total time-4,783 hours.

GULFSTREAM

Gulfstream; Model G-1159; Wing Flap Defect; ATA 2750

While installing a new right outboard wing flap actuator (P/N 1159SCC212-8), the technician found the stop on the end of the jackscrew loose.

Investigating further, he found the pin, which holds the "extend" stop on the end of the jackscrew, broken. Approximately .1875 inch of the pin remained on one side of the stop attaching it to the jackscrew. It appeared the pin suffered from the effects of corrosion, which may have contributed to its failure. The "extend" stop may be contacted during emergency extension of the wing flaps and, if it fails, could lead to a catastrophic event.

The submitter suggested all maintenance personnel and operators consider inspecting and/or replacing this assembly as soon as possible.

Part time since overhaul-3,777 hours.

PARTENAVIA

Partenavia; Model P-68C; Engine Fuel Starvation; ATA 2830

Approximately 1 hour after takeoff, the left engine failed. The pilot turned on the auxiliary fuel pump, restarted the engine, and landed safely at the nearest available airport.

A maintenance technician investigated this occurrence and discovered the engine-driven fuel pump (P/N AE40296C) inoperative. It appeared the fuel pump failed internally. The faulty fuel pump was recently overhauled and installed. Given the low number of operating hours since overhaul, the submitter suspects the pump was not overhauled properly.

Part total time since overhaul-13 hours.

PIPER

Piper; Model PA 22-108; Colt; Fuel Selector Valve; ATA 2823

A pilot complained the fuel selector valve is hard to set to the desired position, and the detents are not positive.

The pilot stated these characteristics make it necessary to look at the selector valve to ensure the correct position is selected. Since the selector valve is located on the lower left cockpit wall, it is difficult to see. He stated that if the selector valve is not used frequently, its operation becomes stiff making movement difficult. There are two different selector valves available from Piper (P/N's 492-014 and 11383-04). Piper issued an updated selector valve (P/N 11383-04) as "optional equipment" and as a replacement for the original valve (P/N 492-014). A "new style" selector valve is available from Jensen Aircraft and is authorized by their Supplemental Type Certificate.

Part total time not reported.

Piper; Model PA 28-140; Cherokee; Rudder Corrosion; ATA 5540

During a scheduled inspection, the inspector discovered severe corrosion on the lower rudder attachment.

The corrosion was prevalent at the junction of the steel rudder control horn and the aluminum control surface. The corrosion progressed to the point of making the assembly unairworthy. The submitter stated this condition could result in the rudder separating from the aircraft. The rudder lower rib is attached to the horn with rivets that were severely weakened by the corrosion. Using his fingernail, he removed two rivet heads and discovered the cross section showed deterioration of the shank.

The submitter believes the corrosion was caused by contact between the two "dissimilar" metals as well as the presence of moisture acting as an electrolyte. One way to reduce the possibility of this type defect, but not always possible, is to store the aircraft in a dry environment. This condition may be present on many other makes and

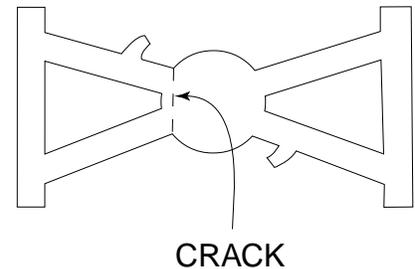
models of aircraft. He suggested that maintenance personnel take all measures necessary to verify the structural integrity of the rudder assembly attachment at frequent and regular intervals.

Part total time not reported.

Piper; Model PA 28-151; Warrior; Nose Gear Steering Defect; ATA 3251

While complying with the requirements of an annual inspection, the technician discovered a crack in the nose gear steering horn.

The nose gear steering horn assembly (P/N 35192-00) was cracked where it attaches to the nose gear strut. However, the crack did not penetrate the horn thickness. (Refer to the following illustration.)



The submitter suspects this crack occurred when excessive rudder pedal pressure was applied with the aircraft on the ground and not moving. Also, exceeding the turning limit during the aircraft's ground movement or a nosewheel landing may have caused this defect.

Part total time-4,500 hours.

Piper; Model PA 28-235; Charger; Defective Fuel System; ATA 2810

While complying with the requirements of an annual inspection, the inspector discovered the main fuel sump screen almost completely obstructed.

The technician found the reddish-brown material in the fuel screen came from the fuel tanks (P/N's 63998-16 and -17). It appeared a fuel tank "sloshing" compound was used at one time and was disintegrating and flaking off the interior of the tanks. He removed the fuel tanks and sent them to a shop for resealing.

It is interesting to note this aircraft was operated using "auto-fuel" in accordance with a Supplemental Type Certificate.

Part total time not reported.

Piper; Model PA 31-350; Chieftain; Hydraulic System Failure; ATA 2910

During a landing approach, the pilot attempted to extend the landing gear, and the normal system failed. He extended the gear using the emergency system and made a safe landing.

A technician inspected the landing gear system and found the hydraulic system was leaking, and the reservoir fluid level was very low. He discovered the source of the leak was a loose "B-nut" on the backside of the hydraulic system service port.

The submitter did not describe the circumstance that led to the loose "B-nut."

Part total time not reported.

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

After landing the aircraft, the pilot retracted the wing flaps. The right flap retracted, but the left flap remained down.

The technician found the left flap flexible drive shaft (P/N 486-631) inoperative. The retaining washer failed and allowed the drive end of the shaft to retract inside the housing and disengage from the transmission. This caused a 40-degree split-flap condition. He investigated further and discovered the "split-flap protection system" did not function because the time-delay relay (P/N 44407-000) failed.

Had this failure occurred during flight, it could have resulted in a fatal aircraft accident.

Part total time-210 hours.

Piper; Model PA 32R-300; Cherokee Lance; Stabilator Trim Control Damage; ATA 2731

The pilot stated the manual stabilator trim adjustment was inoperative during flight.

A technician examined the plastic trim control wheel (P/N 68414-03) and discovered it was severely worn in the area of the detent receptacle, which engages the swaged ball on the control cable. He replaced the control wheel with a new part and rigged the system in accordance with the manufacturer's specifications.

The submitter suspects this damage resulted from attempts to override the electric trim system by applying excessive force to the control wheel.

Part total time-2,441 hours.

Piper; Model PA 32-301; Saratoga; Landing Gear System Failure; ATA 3230

When the pilot placed the landing gear selector in the "down" position for landing, the landing gear control circuit breaker opened. Resetting the circuit breaker produced the same result. He used the emergency extension system to "free fall" the gear to the "down" position. However, the landing gear did not lock, and the right main gear collapsed during landing.

A maintenance shop recovered the aircraft from the runway and inspected the landing gear system. A technician found the hydraulic system reservoir fluid depleted. Further inspection revealed a "B-nut" on a line below the hydraulic system powerpack loose and leaking fluid.

After resetting the landing gear emergency extension system, repairing the leak source, and servicing the reservoir, the landing gear functioned properly during an operational test.

Part total time not reported.

Piper; Model 34-220T; Seneca; Engine Failure; ATA 7322

A submitter forwarded two similar reports concerning an engine failure during the after-landing rollout.

In both cases, the maintenance technician conducted an engine operational test and found rough engine performance. He determined the fuel/air mixture was excessively rich. He was unable to correct the mixture adjustment. He removed the fuel servos and sent them to Teledyne Continental for evaluation. At the time of these reports, the results of the manufacturer's evaluation were not available. It is interesting to note that both of these units were in service for only a short time.

Part total times-923 and 54 hours.

Piper; Model PA 44-180; Seminole; Landing Gear Anomaly; ATA 3200

The pilot reported that after takeoff, the landing gear would not retract. He discovered the landing gear control circuit breaker opened. The pilot returned to the departure airport and landed safely.

The technician found the "low power gear-up warning microswitch (P/N 487-925)" located on the throttle quadrant was broken internally. When he advanced the throttles, the microswitch opened and shorted to ground. This caused the landing gear control circuit breaker to open. When the throttles were retarded to the stop position, the microswitch closed. After resetting the gear control circuit breaker, the landing gear functioned normally.

The submitter speculated age and a high number of cycles caused this defect. He recommended giving the microswitch close attention at every opportunity.

Part total time-6,562 hours.

RAYTHEON**Raytheon; Model HS 125-700A; Environmental System Defect; ATA 2161**

After a flight, the crew reported the cabin and cockpit temperature became unbearably hot and smoke was present.

While investigating this incident, a technician discovered the auxiliary heat valve (P/N 104568) failed in the open position. The auxiliary heat valve is a component of the temperature control system, and its failure allowed uncooled engine bleed air from the right engine to enter the cabin and cockpit.

This defect caused a very hazardous condition and the submitter recommended adding a recurring operational test of the temperature control system to the aircraft maintenance schedule.

Part total time since overhaul-3,803 hours.

STINSON

Stinson; Model 108-2; Engine Power Failure; ATA 2820

During flight, the pilot lost engine power and landed the aircraft on a grass airstrip. During the landing, the right main landing gear collapsed resulting in damage to the propeller and right wing.

A maintenance technician discovered the engine failure was caused by fuel starvation. Further investigation disclosed the inner lining of the engine fuel supply hose (P/N 108-6221101), running from the sump to the carburetor, was loose and swollen. This condition severely restricted the fuel supply to the engine. The fuel hose was constructed of Specification MIL-H-6000 hose stock and was assembled in the third quarter of 1985.

The submitter speculated the hose failure was caused by age and exposure to "auto-fuel" used in the aircraft in accordance with a Supplemental Type Certificate for several years.

Part total time-15 years.

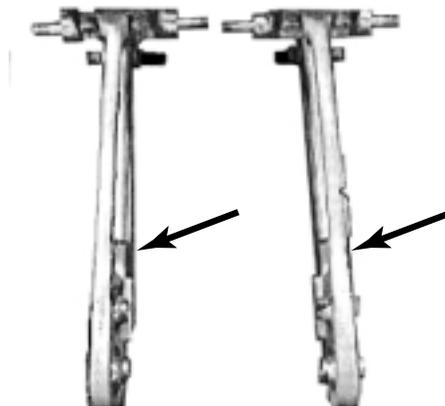
HELICOPTERS

BELL

Bell; Model 206L-4; Long Ranger; Defective Flight Control Servo Extensions; ATA 6730

The flight control servos (P/N 206-076-062-101) were being removed due to time change.

The technician noticed both of the servo extension (P/N C42642-69) assemblies bent to one side approximately .25 inch. The servo extension operating pressure is 1,000 PSI. (Refer to the following illustration.) This servo is the same design as the ones used in Bell Models 206L-1 and L-3, except operating pressure is 600 PSI. Other than the higher operating pressure, the submitter did not offer a cause for this defect.



Part total time-3,595 hours.

EUROCOPTER

Eurocopter; Model AS350B-2; Ecureuil; Exterior Light Security; ATA 3340

While conducting a postflight inspection, the technician found the strobe beacon light assembly hanging by wires on the side of the vertical stabilator.

The clamp designed to secure the light assembly was still in place but loose. Due to the loose clamp, the light lens wore away the holding adapter. When sufficient material was lost, the assembly broke free. The seriousness of this defect would have grown if the electrical wires broke and allowed the light assembly to contact the tail rotor.

The submitter stated this is the second occurrence of this type he has observed. He suggested closely checking the light assembly during preflight and postflight inspections.

Part total time-2,373 hours.

Eurocopter; Model BK117A-4; Defective Cyclic Control; ATA 6710

During a scheduled inspection, the technician discovered a very large amount of corrosion inside the cyclic control jackshaft.

The corrosion was well beyond the 4-millimeter damage allowed by the manufacturer's technical data. The technician removed the cyclic jackshaft (P/N 117-41201-01) and discovered corrosion-inhibiting treatment was not applied inside the steel tube. A casting is installed on each end of the jackshaft tube which angles up at 45 degrees. This allows the opportunity for liquids to enter the tube. Since there are no drain provisions, this sets up an environment conducive to corrosion.

The submitter stated he found a similar defect on another like helicopter less than 1 year ago. He suggested the manufacturer use a corrosion-inhibiting compound to treat the inside of the steel jackshaft tube during the manufacturing process.

Part total time-7,928 hours.

McDONNELL DOUGLAS

McDonnell Douglas; Model 500-E; Engine Failure; ATA 7261

During a flight, the pilot noticed a surge in the turbine outlet temperature and torque, and smoke discharged from the engine. The pilot immediately landed the helicopter safely. After the landing, he discovered there was less than 1 pint of oil remaining in the engine.

The technician disassembled the engine and found a compression fitting, used on a plastic oil pressure line (P/N 369A8010-681), failed. This allowed the discharge of engine oil into the engine plenum chamber and produced the indication observed by the pilot. The submitter suggested the manufacturer consider using metal plumbing lines instead of plastic inside the plenum chamber.

Part total time-151 hours.

SIKORSKY

Sikorsky; Model S-64E; Skycrane; Defective Main Rotor Gearbox; ATA 6320

While disassembling the main rotor gearbox (P/N 6435-20400-063) for overhaul, the technician found five cracks visually.

The cracks radiated from five of the nine lightening holes in the lower plate of the second-stage planetary plate assembly (P/N 6435-20231-014). After finding this problem, the technician conducted a magnetic-particle inspection and found three additional cracks. (Refer to the following illustration.) The longest crack was approximately 3.5 inches long and extended into the center hub. Seven of the eight cracks originated on the inboard side of the lightening holes and extended at a 45-degree angle toward the center hub radius. This part was in imminent danger of catastrophic failure.



Part total time-1,937 hours.

AMATEUR, EXPERIMENTAL, AND SPORT AIRCRAFT

CHRISTAVIA

Christavia; Model MK-1; Propeller Drive Failure; ATA 6110

This aircraft is equipped with a Subaru, EA81 engine and a warp drive C8289 propeller.

During takeoff, the aircraft lost thrust, descended rapidly, and impacted the terrain.

While investigating, the technician found both of the propeller drivebelts broken. The replacement life for the propeller drivebelts is 300 operating hours. These drivebelts had accumulated 220 operating hours.

The submitter speculated uneven wear and/or tension may have contributed to this failure. It is also possible one drivebelt failed and led to the failure of the second drivebelt. He suggested implementing a wide, single flat drivebelt instead of the two-belt arrangement.

Part total time indicated above.

KITFOX

Kitfox; Model Speedster; Rudder Failure; ATA 2720

While landing, the pilot lost directional control of the aircraft. The aircraft departed the left side of the runway and came to a stop in the grass.

A maintenance technician discovered all four rudder hinge points broken. The rudder was only retained by the two cables and the tailwheel springs. The rudder hinges use a rod-end with the .1875-inch shank attached to the vertical stabilizer at four locations. The rod-end shanks broke adjacent to where they attach to the vertical stabilizer.

The submitter stated this problem is not new, and the manufacturer now issues replacement rudder hinge rod-ends with a .3125-inch shank.

Part total time-360 hours.

ACCESSORIES

PNEUMATIC VALVES

Mr. Roy Boffo, an aeronautical engineer with the FAA, Aircraft Certification Office located in Chicago, Illinois, submitted the following article for publication. The subject of this article is deterioration of "valve manifolds and check valves," Series 1H5, 1H24, and 1H37, manufactured by Parker Aerospace (Airborne).

The above referenced components, supplied by Airborne for use in aircraft pneumatic systems, are manufactured with elastomeric components that deteriorate with age. As these components age, it is increasingly important to periodically assure their proper operation, thus avoiding unscheduled system problems and aircraft down time.

Failure of one or more of these check valves could cause incorrect functioning of gyroscopic indicators in the cockpit or failure of pneumatic de-ice boots.

It is recommended by Airborne that after the first 5 years of service from the date of manufacture, to verify the serviceability of these components every 12 months in accordance with the procedure provided on the applicable Airborne Technical Service Instructions. These instructions can be obtained by calling Parker Aerospace, Technical Services Hotline at (800) 382-8422.

AIRNOTES

AN END AND A BEGINNING

Each time we approach the end of a year, there is an urge to look over our shoulder at the events of the past year. Also, we eagerly look forward to the coming year with zeal for the things to come. If the natural order of things holds true, each new year should bring improvements and more efficiency since we have another year's worth of experience to draw upon. Yesterday is the past, tomorrow is the future; and tomorrow, today will become the past. Since the actions of the past cannot be changed, we can only hope to gain from our experience and improve our present actions. Therefore, with a thankful heart we should strive each day to gain, expand, and improve the skills and talents we have been given. As each person is different, so are their many and varied skills, as well as how each individual perfects the level of those gifts.

It has been our pleasure to serve the aviation community with this publication over the past year and since its inception. This is truly YOUR publication, since most of the material and information are supplied by you, our readers. The purpose of this periodical always has been, and will continue to be, the improvement of aviation safety and the professionalism of the aviation maintenance technician. You have come a long way since Charles Taylor, yet when we look back sometimes we wonder what miraculous and inconceivable progress we will embrace in the future as "common place." For one, I am proud to be counted among your numbers.

As the Holiday seasons approach, we wish all of you a safe and joyous time with family and friends.

MERRY CHRISTMAS AND HAPPY NEW YEAR

SUBSCRIPTIONS

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

ELECTRONIC VERSION OF MALFUNCTION OR DEFECT REPORT

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

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

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

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

SERVICE DIFFICULTY PROGRAM DATA ON THE INTERNET

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

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

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

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

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

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

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

ADDRESS CHANGES

In the past, the Designee Standardization Branch (AFS-640) maintained the mailing list for this publication. Now, the Government Printing Office (GPO) sells this publication and maintains the mailing list; therefore, please send your address change to:

U.S. Government Printing Office
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Washington, DC 20402

You may also send your address change to GPO via FAX at: (202) 512-2168. If you FAX your address change, please address it to the attention of: **SSOM, ALERT-2G**.

Whether you mail or FAX your address change, please include a copy of your old address label, and write your new address clearly.

IF YOU WANT TO CONTACT US

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

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

This web site also has view, search, E-Mail, and M or D submit functions.

AVIATION SERVICE DIFFICULTY REPORTS

The following are abbreviated reports submitted between October 20, 2000, and November 15, 2000, which have been entered into the FAA Service Difficulty Reporting (SDR) System data base. This is not an all inclusive listing of Service Difficulty Reports. For more information, contact the FAA, Regulatory Support Division, Aviation Data Systems Branch, AFS-620, located in Oklahoma City, Oklahoma. The mailing address is:

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

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

FEDERAL AVIATION ADMINISTRATION

Service Difficulty Report Data

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

ACFTMAKE ACFTMODEL REMARKS	ENGMAKE ENG MODEL	COMPMAKE COMP MODEL	PARTNAME PARTNUMBER	PART CONDITION PARTLOCATION	DIFF-DATE FAA REPORT NO.	T TIME TSO
	ALLSN 250C30		SPUR GEAR 23056634	SPALLED ASSEMBLY	06/17/1999 2000102500078	
THE REFERENCED SPUR ADAPTER GEARSHAFT ASSEMBLY WAS INSPECTED AT DALLAS AIRMOTIVE-MILLVILLE ON 6-17-99. THIS PART WAS DETERMINED TO BE UNSERVICEABLE AND UNREPAIRABLE DUE TO SPALLED GEAR TEETH (REFERENCE DALLAS AIRMOTIVE FORM ESPD NR 08-070-300100; ALLSION ENGINE COMPANY 250-C30 SERIES OVERHAUL MANUAL, SECTION 72-30-00, PAGE 331, ITEM 18; PAGE 332, FIGURE 314; AND SECTION 72-60-00, PAGE 308, TABLE 302, ITEM 2). THE CUSTOMER REQUESTED REJECTED PARTS BE RETURNED TO HIM (REFERENCE ATTACHED DAI FORM ESPD NR 99-999-001-028). REF: DAI JOB NR NR0017. (X)						
	GARRTT TFE7313R		TURBINE 30740962	CHAFED 3RD STAGE	07/26/1999 2000102500026	355
SECOND OCCURRENCE OF 3RD STAGE LP TURBINE RUBBING FORWARD SIDE OF 3RD STAGE LPT SEAL. (X)						
	PWA PW305		IGNITER CH34682	FAILED	01/26/2000 2000102500007	
RECEIVED 2 EACH IGNITERS. THE THIRD IGNITER OPS CHECKED OK. BATCH NUMBER UNKNOWN. THE IGNITER USED NORMALLY IS INSTALLED IN PWA 305 SERIES ENGINES. (P/N CH34682). (X)						
	PWA PW305		IGNITER CH34682	DEFECTIVE	02/09/2000 2000102500008	
RECEIVED 3 EACH IGNITERS. THE 4TH IGNITER OPS CHECKED OK. BATCH NUMBER UNKNOWN. THE IGNITER USED NORMALLY IS INSTALLED IN P&W 305 SERIES ENGINES. (PN 34682). (X)						
	AMD FALCON900		SKIN	CORRODED FUSELAGE	06/22/2000 2000110700088	
CORROSION OF FUSELAGE SKIN AT TOWER FRAME 10 UNDER FORWARD END OF PANEL 130A. THE DOMED NUTPLATES ARE RETAINING WATER. THIS PANEL IS REMOVED ONLY AT 2C INSPECTION. SUBMITTER RECOMMENDED REMOVAL AT EACH C-INSPECTION TO INSPECT FOR CORROSION. ACTT: 4,868.6 HRS. (X)						
	AMTR SEAREY		BULKHEAD 5310006	BROKEN LEFT SIDE	04/29/2000 2000102500129	165
DURING TAXI, THE LEFT LANDING GEAR COLLAPSED. INSPECTION REVEALED THE TWO LEFT LG BULKHEAD UPRIGHT SUPPORT TUBES BROKEN AT THE LG ATTACH POINT. IT IS SUSPECTED THE PARTS MAY HAVE BEEN OVERSTRESSED DURING ASSY OF MINIMAL STRENGTH OR THE RESULT OF FATIGUE CAUSED BY AN UNREPORTED HARD LANDING(S). (X)						
	BALWKS FIREFLY9		HOSE GL06049	SPLIT CRIMP END/HOSE	06/29/2000 2000110700050	
OUTER COVERING OF FUEL HOSES SPLIT AT CRIMP END FITTING. 10 BAD HOSES. (X)						
	BBAVIA 7GCBC		BOLT 19805	BROKEN LANDING GEAR	07/06/2000 2000110700038	
LEFT SIDE, LANDING GEAR DEPARTED AIRCRAFT. (X)						
	BELL 206B	BELL 206040015103	SPRING 206040106003	CRACKED T/R DRIVE SHAFT	08/18/2000 2000102000156	10443
(CAN) 600/YEARLY INSPECTION BEING CARRIED OUT ON MAIN DRIVESHAFT. UPON REMOVAL OF COUPLING CAP, FOUND SPRING BROKEN IN A DOZEN PIECES. THE PIECES DAMAGED THE INNER COUPLING RENDERING IT UNSERVICEABLE. THE CAP, SPRING AND INNER COUPLING WERE SCRAPED. (X)						

CESSNA 152	LYC O235L2C	LYC	CYLINDER LW11633	MAKING METAL CYLINDER WALLS	03/22/2000 2000102600135	460
DURING 100-HR INSP, ALUMINUM SHAVING FOUND IN OIL FILTER. (THIS IS THE 4TH TIME THIS SHOP HAS HAD THIS PROBLEM IN LAST 18-24 MOS). ALUM IS FROM PISTON PIN PLUGS RUBBING AGAINST LOWER PART OF CYL WHICH, AFTER 4-500 HRS, DEVELOPS SEVERE PITTING THEN CREATES A WEAR STEP IN CYL WALLS. ONE ENG LOST COMPRESSION IN ALL 4 CYL BELOW ACCEPTABLE LIMITS. SUBMITTER STATED MECH SHOULD BORESCOPE ALL O-235-L2C ENGINES AT EACH 50-HR AND ORDER REPLACEMENT CYL AT FIRST SIGNS OF PITTING AT LOWEST POINT OF CYL WALL WITH THE PISTON AT B.O.C. CYL NEED TO BE REPLACED AT FIRST SIGN OF METAL CONTAMINATION, WHICH WILL OCCUR VERY RAPIDLY. ONE 50-HR THERE WILL BE NO METAL, THE NEXT THERE WILL BE SIGNIFICANT						
CESSNA 152	LYC O235L2C	CESSNA	BRACKET 04320049	CRACKED TOP LT FWD	09/14/2000 2000110400020	16000
(CAN) BRACKET CRACKED ALONG WELDED SEAM ALONG LT FRONT TOP OF BRACKET. CRACK RUNS AROUND THE BOLT HOLE OF VERTICAL FINLT OUTBOARD ATTACH BOLT. (X)						
CESSNA 172F			ADAPTER 053200135	FRETTED RTELEVATOR	03/04/2000 2000102700192	4020
DURING ANNUAL CONDITION INSP, RT ELEVATOR WAS FOUND LOOSE ON THE TORQUE TUBE. FURTHER INVESTIGATION REVEALED THE RIVETS HOLDING THE TORQUE TUBE ADAPTER (PN 0532001-35) WERE FRETTING AND IT WAS DETERMINED TO BE THE CAUSE OF THE LOOSE CONDITION. SUBMITTER STATED THIS IS THIRD CONDITION FOUND ON CESSNA ACFT. POSSIBLY CAUSED BY HIGH WINDS AND/OR VIBRATION CAUSED BY PROP WASH. (X)						
CESSNA 172M	LYC O320E2D		STARTER MZ4222	DEFECTIVE FRONT BEARING	09/15/2000 2000102600078	119
FRONT BEARING WORKED OUT OF HOUSING IN 199 HOURS TIME IN SERVICE DUE TO INCORRECT BUSHING NOT PROPERLY FITTED IN HOUSING. INCORRECT PART SIZE, INCORRECT INSTALLATION. OHC WOH 467690 6/10/00. (X)						
CESSNA 172N	LYC O360A4M	SLICK	COIL M3114C	DEFECTIVE INTERNAL/OPEN	06/16/1999 2000102500152	1900
HAVE FOUND FOUR OCCURRENCES OF FAULTY COILS IN SLICK MAGNETOS WITH HOURS FROM 400 - 1,900. SOME COILS ARE OLDER, P/N M3114C. REPLACEMENT P/N, K3975. (X)						
CESSNA 172P			THROTTLE 565549011	INACCURATE	07/14/2000 2000110800163	
OWNER REQUESTED THROTTLE CABLE BE CHANGED DUE TO CABLE CREEPING. WHEN CABLE WAS COMPARED TO ORIGINAL CABLE, NEW CABLE WAS FOUND TO HAVE MANY DIFFERENCES: LENGTH WAS LONGER; FIREWALL SLEEVE IN DIFFERENT LOCATION; LARGER DIAMETER; ENGINE MOUNT ATTACHMENT COMPLETELY OFF. CESSNA NOTIFIED. (X)						
CESSNA 172R			SENSOR S33311	MALFUNCTIONED RT WING FUEL TAN	01/06/1999 2000102500031	340
DURING A POST INSPECTION RUN-UP, THE RIGHT FUEL GAUGE NEEDLE WAS READING ERRATIC (FULL TO ZERO). INSPECTION OF THE FUEL INDICATION SYSTEM FOUND THE RT FUEL TANK SENDER BAD. REPLACEMENT OF THE SENDER UNIT HAS CORRECTED THIS PROBLEM FOR A SHORT TIME. THERE HAS BEEN A HIGH NUMBER OF SENDERS; BOTH LEFT AND RIGHT, REPLACED IN FLEET OF 53 CESSNA 172R'S SINCE THEIR ARRIVAL. (X)						
CESSNA 172R			BEARING S16751	CRACKED CENTER	09/29/2000 2000110400161	1077
(CAN) DURING ROUTINE INSPECTION, RUDDER PEDAL TORQUE TUBE SUPPORT BEARING FOUND CRACKED IN HALF AT APPROXIMATELY THE CENTER OF THE UPPER BEARING HALF. BEARING HALVES WERE BOTH REPLACED. BEARING FAILURE APPEARS TO HAVE OCCURED DUE TO MANUFACTURING DEFECT. (X)						
CESSNA 172RG			DOOR 24130832	FAILED NOSE GEAR	06/30/2000 2000111000009	
DURING ATTEMPT OF EXTENSION OF LANDING GEAR, MLG EXTENDED NORMALLY, NLG WOULD NOT EXTEND. REPEATED ATTEMPTS WERE MADE TO EXTEND NOSE GEAR WITH NO SUCCESS. ACFT MADE SUCCESSFUL GEAR UP LANDING IN GRASS. UPON LIFTING ACFT TO EXTEND GEAR, FOUND RT NOSE GEAR DOOR OUTER SKIN WRINKLED AND DISTORTED. PRIED SKIN ON DOOR AWAY FROM AIRFRAME SKIN AND NOSE GEAR FELL OUT OF WELL TO A DOWN AND LOCKED POSITION. INVEST FOUND SPOT WELDS THAT HOLD INNER AND OUTER SKIN TOGETHER ON NOSE GEAR DOOR HAD FAILED CAUSING DOOR SKIN TO BIND ON GEARWELL SKIN. THIS INTERFERENCE WOULD NOT ALLOW GEAR TO						
CESSNA 180J	CONT IO520F		CARBURETOR	INACCURATE	05/17/2000 2000110800142	
NOTE: ACFT IS CONFIGURED ON AEROCET FLOATS AND INCORPORATES TEXAS SKYWAYS, INC. STC NR SE09017SC. INSTALL OF CARBURETED IO520F ENGINE. PILOT REPORTED ENGINE RUNS ROUGH AT ALL POWER SETTINGS. THE STC HOLDER ADVISED ACFT SHOULD BE OPERATED BY "LEANING WITH MIXTURE CONTROL AGGRESSIVELY FOR OPERATION" AS THE ENGINE IS CONFIGURED WITH A LARGER JET IN THE CARBURETOR DESIGNED TO RUN RICH TO ACCOMMODATE COOLING OF THE LARGER ENGINE, AS WELL AS SETTING THE IDLE RPM AT 1000, WELL ABOVE THE NORMAL IDLE OF 575-625 RPM. THE FLIGHT SUPPLEMENT SUPPLIED WITH THE STC DOES NOT ADDRESS THESE OPERATIONAL DEVIATIONS NOR DOES THE STANDARD PILOT'S OPERATING HANDBOOK, AND COULD POTENTIALLY						
CESSNA 182			SPRING 07410094	BROKEN RT MAIN L/G	08/11/1999 2000102700195	
AIRCRAFT TT 7,577 HOURS. RIGHT SIDE MAIN SPRING LANDING GEAR BROKE ON LANDING. SPRING LANDING GEAR BROKE APPROXIMATELY 3 INCHES FROM FUSELAGE ON A LINE THROUGH THE DIMPLES IN THE SPRING GEAR THAT HOLDS THE BRAKE LINE RETAINER BRACKET. (X)						
CESSNA 182S			BRACKET 2213063203	INADEQUATE ELEV CABLE PULLE	06/30/2000 2000110700095	
****PART LOC: ELEV CABLE PULLEY BRACKET****WHILE TRYING TO C/W CESSNA MANDATORY SB 00-27-01, REPLACEMENT OF ELEVATOR CONTROL CABLE SUPPORT BRACKET, FOUND NEW BRACKET PN 2213063-203 WAS IMPROPERLY MANUFACTURED AND WILL NOT PERFORM ITS INTENDED FUNCTION. (X)						
CESSNA 206H			CABLE GUARD 12601122	INADEQUATE AILERON	09/20/2000 2000110100030	3121
DURING INITIAL INSPECTION OF THE AILERON INTERCONNECT CABLE QUADRANTS (RT AND LT) IAW CESSNA SB SB00-27-02, IT WAS DETERMINED THE REQUIRED RADIUS AROUND THE EDGE OF THE HOLE WHERE THE INTERCONNECT CABLE PASSES WAS NOT PRESENT. SUBSEQUENT INSPECTION OF THE INTERCONNECT CABLE FOUND ONLY MINIMAL CHAFING WITH NO STRANDS BROKEN. THE CABLE TENSIONS BEFORE REMOVAL WERE WITHIN LIMITS. THE QUADRANTS WERE MODIFIED AND REINSTALLED PER THE INSTRUCTIONS. (X)						
CESSNA 206H	LYC IO540AC1A5		PUMP 216CW	SHEARED RIGHT SIDE SHAFT	08/19/2000 2000102000001	181
RIGHT VACUUM PUMP FAILED, DRIVESHAFT SHEARED. (X)						

CESSNA 206H	LYC IO540AC1A5	FUEL LINE	CONTAMINATED	05/03/2000 2000110800141	
PILOT REPORTED ENGINE SURGING ON TAKEOFF WITH SIGNIFICANT FUEL FLOW FLUCTUATION WHICH WAS CORRECTED WITH A DECREASE IN ENGINE POWER BY ADJUSTMENT OF THE PROP CONTROL AND ACTIVATION OF THE STANDBY ELECTRIC FUEL PUMP. POST-GROUND RUNS COULD NOT DUPLICATE THE PROBLEM. FOLLOW-UP TEST FLIGHT COULD NOT DUPLICATE THE PROBLEM. INSPECTION OF THE AIRCRAFT FUEL SYSTEM DID NOT FIND ANY CONTAMINATION, OBSTRUCTIONS, OR LEAKAGE. (X)					
CESSNA 207A		PROPELLER	CRACKED PROPELLER HUB	07/02/2000 2000110700137	4267 1476
DURING ANNUAL INSPECTION, OIL STREAK DISCOVERED ON AFT HALF OF PROPELLER HUB CASTING. A DYE PENETRANT INSPECTION PERFORMED AND REVEALED HUB TO BE CRACKED. CRACK WAS APPROXIMATELY 1.50 INCHES LONG HAIR LINE. AWAITING TEAR-DOWN REPORT FROM OVERHAUL SHOP. (X)					
CESSNA 208B		ACTUATOR	SHEARED CABIN CEILING	06/13/2000 2000110800143	349
STANDBY FLAP MOTOR INOPERATIVE. ACTUATOR SHAFT ROLL PIN SHEARED. JACKSCREW CONTAMINATED WITH METAL PARTICLES, MOTOR INOPERATIVE. UPON REPLACEMENT OF TRANSMISSION ASSY, ALSO DISCOVERED ELECTRICAL PIN IN PRIMARY FLAP MOTOR POWER CONNECTOR PARTIALLY DISENGAGED CAUSED BY PIN LOCKING					
CESSNA 208B	PWA PT6A114	HOSE	LEAKING	05/19/2000 2000110700106	
HNL - FLT 8666 - ON CLIMB-OUT, PILOT REPORTED "FUEL FUMES IN COCKPIT". AIR TURNBACK TO HNL. FUEL ACCUMULATION IN ENGINE COWL DUE TO LOOSE FUEL LINE CONNECTION AT FIREWALL FUEL FILTER. TIGHTENED THE NOSE FITTING, FLUSHED COWLING WITH SOAP AND WATER. PERFORMED GROUND RUN-UP LEAK CHECK. AIRCRAFT RETURNED TO SERVICE. (X)					
CESSNA 310L		BRACE	FAILED ATTACH LOBE	06/07/1999 2000102500276	
AFTER LANDING, DURING ROLL-OUT, RIGHT MAIN LANDING GEAR SIDE BRACE EXPERIENCED CATASTROPHIC FAILURE RESULTING IN THE COLLAPSE OF THE RIGHT MAIN GEAR. THE ATTACHMENT LOBE ON THE SIDE BRACE FRACTURED.					
CESSNA 340A	CONT TSIO520NB	CRANKSHAFT	BROKEN RIGHT ENGINE	06/23/2000 2000102500179	60
RIGHT ENGINE CRANKSHAFT BROKE IN CRUISE FLIGHT 15,000 FEET, 2,300 RPM. NR 1 PISTON NOT MOVING WHEN PROPELLER IS TURNED. NR 5 CYLINDER, NO COMPRESSION. METAL FOUND IN OIL FILTER AND GOVERNOR GASKET					
CESSNA 402C		SIGHT GAUGE	FAILED HYDRAULIC TANK	09/01/2000 2000110100029	
HOLE IN SIGHT GAUGE (TUBE) APPEARS TO BE CAUSED BY HEAT, LOST FLUID. NOSE GEAR DID NOT EXTEND. LANDING WAS MADE WITH NOSE GEAR UP. (X)					
CESSNA 402C		RELAY	FAILED LEFT STAB WING	09/26/2000 2000110100106	
WHEN AIRCRAFT BATTERY MASTER SWITCH WAS TURNED ON, LEFT ENGINE MOTORED OVER. MAINTENANCE REMOVED AND REPLACED LEFT STARTER RELAY AND RELEASED THE AIRCRAFT BACK TO SERVICE. (X)					
CESSNA 402C		DRAG BRACE	CRACKED NOSE GEAR	06/05/2000 2000110700096	1737
ON PRE-FLIGHT, CREW FOUND SUSPECTED CRACK AT DRAG BRACE TO ACTUATOR ATTACH LUG AREA. MAINTENANCE PERFORMED NDT. FOUND TO BE CRACKED AT SUSPECTED AREA. REMOVED AND REPLACED DRAG BRACE AND ROD END (PN ADNE4JW) WITH NEW AND RETURNED AIRCRAFT TO SERVICE. (X)					
CESSNA 402CESSNA	MCAULY	LINK	DAMAGED BLADE & PCR	09/21/2000 2000102500277	
DURING PREFLIGHT INSPECTION, OPERATOR FOUND BLADE TO BE LOOSE. THE PROPELLER WAS REMOVED FROM AIRCRAFT AND SENT FOR REPAIR. DURING DISASSEMBLY, THE BLADE LINK SNAP RING WAS NOT INTACTED. THE PROPELLER RECEIVED A COMPLETE OVERHAUL WITH REPLACEMENT OF ALL UNAIRWORTHY PARTS. (X)					
CESSNA 421C		WINDOW	CRACKED EMERGENCY EXIT	09/11/2000 2000102000168	4520
WHILE REPLACING PRESSURIZATION SEAL ON EMERGENCY EXIT, UPHOLSTERY WAS REMOVED. FOUND OUTER WINDOW BROKEN BETWEEN FASTENER HOLES. PIECES WERE GLUED IN WITH RTV. CAUSE OF FAILURE BELIEVED TO BE IMPROPER INSTALLATION. NEW WINDOW INSTALLED ALONG WITH METAL RETAINER RING REQUIRED BY CESSNA					
CESSNA 421C		BEAM	CRACKED	09/11/2000 2000102000169	4520
WHILE PERFORMING ANNUAL INSPECTION, FOUND LEFT ENGINE BEAM WITH 1.50 INCH CRACK ON UPPER CAP. CRACK HAD BEEN STOP DRILLED, BUT THIS IS NOT A LEGAL REPAIR. BEAM MUST BE REPLACED WITH NEW. CESSNA FIELD SERVICE HAD TO ASSIST TO OBTAIN NEW PARTS THAT WOULD FIT. CAUSE OF CRACK SUSPECTED TO BE IMPROPER FIT AT MANUFACTURE. SUBMITTER SUGGESTED CLOSE VISUAL INSPECTION OF THESE BEAMS AT REGULAR INTERVALS.					
CESSNA 421C		SEAT	MISINSTALLED CABIN	09/11/2000 2000102000170	4520
UPON C/W CESSNA MANDATORY SB MEB 00-3, FOUND ALL 4 CABIN SEATS INSTALLED IN WRONG POSITIONS. PLACARDED AND REINSTALLED SEATS FOR SB. SUBMITTER SUGGESTED A RECURRING AD NOTE BE ISSUED TO REQUIRE C/W THIS BULLETIN. IMPROPER INSTALLATION OF FORWARD AND AFT FACING SEATS NEGATE ANY					
CESSNA 421C		UPLOCK	WORN	09/11/2000 2000102000171	4520
OPERATOR COMPLAINED OF HYDRAULIC SYSTEM STAYING ON AFTER LANDING GEAR RETRACTION. COULD NOT DUPLICATE ON JACKS. CESSNA FIELD SERVICE SUGGESTED INSTALLING NEW IMPROVED PARTS FOR UPLOCK HOOKS AND SWITCHES PER CESSNA SI LETTER NR M81-2. NEW PARTS WERE MORE SUBSTANTIAL AND HIGHER QUALITY. SOLVED PROBLEM. ORIGINAL PARTS BADLY WORN. SUBMITTER SUGGESTED COMPLIANCE ON ALL EARLY SERIAL					
CESSNA 500CESSNA		PUMP	LEAKING INTERNAL SEAL	07/31/2000 2000110800149	
BOOST PUMP WAS CAUSING CIRCUIT BREAKER TO TRIP. FURTHER INVESTIGATION REVEALED UNIT WOULD PUMP FUEL UP THROUGH THE ELECTRICAL MOTOR THEN THROUGH THE WIRE PROTECTIVE COVERING FINALLY COMING OUT OF THE BACK OF THE CANNON PLUG AND WOULD SHORT THE WIRES TOGETHER CAUSING THE CIRCUIT BREAKER					
CESSNA 550		TORQUE TUBE	CRACKED AT WELD	09/14/2000 2000102000163	187
OPERATOR REPORTED THE NOSE LANDING GEAR DOORS ARE NOT CLOSED TIGHT. INVESTIGATION FOUND THE NOSE LANDING GEAR DOORS TORQUE TUBE DAMAGED. THE RIGHT END PLATE ON TORQUE TUBE HAD ONE WELD BROKEN AND THE OTHER WELD CRACKED. REPLACED TORQUE TUBE AND RIGGED NLG DOORS. (X)					

CESSNA A185F		THRITTLE C289505050	BROKEN ENGINE COMPT	06/02/1999 2000102500187	700
THROTTLE CABLE OUTER HOUSING SEPARATED AT THE THROTTLE HORN END CAUSING SLOPPY OPERATION OF THROTTLE CONTROL. (X)					
CESSNA T210N		ACTUATOR 12810012	BROKEN BROKEN BODY	06/10/2000 2000110800161	11299
RIGHT MAIN GEAR DID NOT FULLY RETRACT. GEAR WAS EXTENDED AND AIRCRAFT LANDED WITHOUT PROBLEMS. FOUND THE RT MLG ACTUATOR BODY BROKEN JUST FORWARD OF THE ROLLER BEARING. THIS ALLOWED THE RACK AND PINION GEARS TO "JUMP A TOOTH". THE ACTUATOR BODY, P/N 128101-2, WAS REPLACED. (X)					
CESSNA T303		RIB 252200656	CRACKED WING/ENG MOUNT	12/01/1999 2000110800159	8660
RIB FOUND CRACKED AT INBOARD RIGHT WING AT INBOARD ENGINE MOUNT SUPPORT. ADDED A DOUBLER SUPPORT AND STOP DRILLED CRACK. THIS IS THE THIRD AIRCRAFT OF THIS TYPE WITH THIS PROBLEM FOUND DURING AN ANNUAL INSPECTION, ONE AIRCRAFT WAS FOUND WITH BOTH ENGINES' MOUNTS CRACKED AT THE SAME INBD AREAS. SUBMITTER SUSPECTED FATIGUE FROM TIME CAUSING CRACKS. (X)					
CESSNA TU206G		BRACKET 122005217	CRACKED LT OUTBOARD	03/05/1999 2000102500149	2169
THIS AIRCRAFT IS EQUIPPED WITH A ROBERTSON STOL KIT. BOTH OUTBOARD AILERON ATTACH BRACKETS WERE FOUND CRACKED AND BROKEN. THE ADDITIONAL STRESSES RELATED TO THE ROTATION CAUSED THIS CONDITION. THESE PARTS SHOULD BE INSPECTED ON ALL ROBERTSON EQUIPPED AIRCRAFT. (X)					
CVAC 440	CVAC	LIGHT 820014196	OPEN ANNUNCIATOR	07/11/2000 2000110700083	15000
CREW EN ROUTE FROM MMCS TO ELP. CREW LOWERED LANDING GEAR AND DID NOT RECEIVE A DOWN/LOCKED LIGHT FOR LT MAIN GEAR (INTRANSIT). LIGHT WAS NOT ILLUMINATED NOR DID THEY RECEIVE GEAR HORN. OPTED TO MAKE FLYBY. TOWER WOULD NOT CONFIRM GEAR DOWN. CREW PERFORMED HIGH "G" MANEUVER, DID NOT RECEIVE GEAR DOWN LOCKED INDICATION. CREW MADE FLYBY AND TOWER THEN INDICATED GEAR APPEARED TO BE DOWN AND LOCKED. CREW LANDED PLANE WITHOUT INCIDENT. INSP OF ACFT REVEALED LIGHT ASSY WAS DEFECTIVE. REPLACED LIGHT. ACFT RETURNED TO SERVICE. (X)					
LEAR 25B	GE CJ6106	MANIFOLD 37E501248P101	LEAKING MAIN FITTING	05/31/2000 2000110700092	
FUEL MANIFOLD STARTED TO LEAK AT THE SILVER SOLDER JOINT BY THE LARGE B-NUT. FUEL CAUGHT FIRE AND BURNED ENGINE COWL ON TAKEOFF. (X)					
MOONEY M20M		SPINNER D6199	CRACKED	07/05/2000 2000110700079	473
FOUND SPINNER BULKHEAD SEVERELY CRACKED DURING ROUTINE MAINTENANCE. SUBMITTER STATED THIS IS THE SECOND M20M WITH LESS THAN 500 HOURS THAT THE BULKHEAD HAS FAILED. SPINNER BULKHEAD HAS CRACKS AT ATTACHEMNT HOLES AND AT FIRST BEND RADIUS. SEVERAL PIECES MISSING. (X)					
PIPER PA25	LYC O320A1A	RUDDER 6106200	CORRODED RUDDER POST	07/19/2000 2000110700049	5900
RUDDER TAIL POST CORRODED AND BROKE JUST ABOVE LOWER RUDDER MOUNTING PIN AND FORMING TUBE BROKE OFF AT RUDDER POST. (X)					
PIPER PA28181		ALTERNATOR 4111809	FAILED SOLDER TAB	09/07/2000 2000102000007	53
DURING TRAINING FLIGHT, PILOT NOTICED SEVERAL HIGH AMPERAGE SPIKES FOLLOWED BY A TOTAL LOSS OF ELECTRICAL OUTPUT FROM THE ALTERNATOR. ALSO DAMAGED ELECTRICALLY WERE THE VOLTAGE REGULATOR AND OVERVOLTAGE RELAY. POSSIBLE CAUSE FOUND DURING A BENCH CHECK OF AFFECTED ALTERNATOR, AN ARCING FROM FIELD TERMINAL LUG TO THE TIP OF THE REAR COOLING FAN. ABRASIONS FOUND ON ALL OF THE COOLING FAN TIPS INDICATED A CONTINUOUS ARCING HAD BEEN OCCURRING. THE MATTER HAS BEEN BROUGHT TO THE ATTENTION OF THE ELECTROSYSTEMS, INC. (X)					
PIPER PA28181		GASKET 462056	TORN FUEL CAP	06/20/2000 2000110700051	9
THE FUEL CAP GASKET DETERIORATES AND TEARS AFTER PUTTING THE FUEL CAP ON AND OFF A FEW TIMES. APPROXIMATELY 10 TIMES OF TAKING THE FUEL CAP ON AND OFF. (X)					
PIPER PA28181	LYC O360A4M	CRANKSHAFT AEL36001Y	FAILED	07/17/2000 2000110700040	243
CRANKSHAFT FAILED IN-FLIGHT, FORWARD CHEEK OF NR 4 CONROD JOURNAL. AIRCRAFT LANDED AT AIRPORT. NO DAMAGE. (X)					
PIPER PA28R201	LYC IO360C1C6	SEAL 77569	MISSING INTAKE MANIFOLD	09/21/2000 2000110100017	44
AIRCRAFT OWNER, PILOT, COMPLAINED OF PROGRESSIVELY WORSENING BAD IDLE, ABNORMALLY HIGH MANIFOLD PRESSURE AT REDUCED POWER SETTINGS AND AFTER FIRING ON THROTTLE REDUCTION AND HIGH EGT READY ON NR 3 CYLINDER. AFTER CHECKING COMPRESSION AND FUEL NOZZLES, THE COWL WAS REMOVED, NR 3 AND NR 1 INTAKE SEALS WERE FOUND PARTIALLY INGESTED. NO PIECES HAD SEPARATED AND WENT INTO THE MANIFOLD. THE SEALS AND GASKETS ON THE FLANGES WERE REPLACED AND THE ENGINE RAN-UP NORMALLY. (X)					
PIPER PA28RT201		BOLT AN551	WORN NOSE GEAR	04/08/1999 2000102500083	3000
THE AN5-51 BOLT THAT ATTACHES THE SPRING ARM AND DRAG LINK TO THE TRUNNION WAS REMOVED FOR INSPECTION AFTER NOSE GEAR FAILED TO EXTEND. THE WEAR PATTERN APPEARED NORMAL, BUT WAS DEEP ENOUGH TO REQUIRE REPLACEMENT. SUBMITTER RECOMMENDED INSPECTION OF THIS BOLT WITHIN THE NEXT 25 HOURS TIS FOR WEAR. IF WORN, REPLACE BEFORE FURTHER FLIGHT. THEREAFTER, INSPECT EVERY 500 HOURS TIS IF AIRCRAFT USED FOR PILOT TRAINING, OR EVERY 5 YEARS FOR NON-TRAINING AIRCRAFT. (X)					
PIPER PA30	LYC IO320B1A	EXHAUST	SHEARED LEFT, NR 2 CYL	06/28/2000 2000110800153	
DURING FLIGHT, PILOT HEARD BANG AND NOTICED DIMINISHED POWER. PILOT LANDED WITH BOTH ENGINES RUNNING. ON GROUND, INSPECTION FOUND "O" COMPRESSION ON LEFT ENGINE, NR 2 CYLINDER. ON FURTHER INSPECTION, TOP OF EXHAUST VALVE WAS SHEARED OFF STEM. STEM WAS STILL IN PLACE, VALVE WAS GONE, CYLINDERS AND PISTONS WERE BADLY GOUGED. (X)					
PIPER PA31350		LINK 5698102	WORN SPRING ATTACH	09/06/2000 2000102000176	
C/W AD 98-08-18 (SB626C) ELEVATOR DOWN SPRING REPLACEMENT. SB CALLS FOR REPLACEMENT OF SPRING, PN 71056-03, AND LINK, P/N 71086-03, BUT DOES NOT ADDRESS THE LINK (P/N 56981-02) AT THE OTHER END OF THE SPRING WHICH IS WORN AT THE ATTACH HOLE. (X)					

PIPER PA31350		SHUTOFF VALVE 492114	FAILED INTERNAL	06/14/2000 2000102500123	3542	
DURING INSPECTION, FOUND RIGHT FIREWALL SHUT-OFF VALVE FAILED TO RIG PROPERLY. FUEL STILL FLOWED IN AFT POSITION. FOUND VALVE HAD FAILED INTERNALLY. AD 80-18-10 AND PIPER SB 648A APPLIES TO AIRCRAFT WITH LOWER SERIAL NUMBERS, BUT NOT THIS AIRCRAFT. SUBMITTER SUGGESTED SB AND AD BE APPLIED TO ALL SERIAL NUMBERED AIRCRAFT. NEW VALVE WAS INSTALLED AND SYSTEM TESTED PROPERLY. LEFT VALVE WAS ALSO						
PIPER PA31350	LYC TIO540J2BD	PIPER DWG54300	PUMP 481802	FAILED RT WING ROOT	09/27/2000 2000110100038	3332
(CAN) THIS PUMP TURNS ON FROM ENGINE START UNTIL SHUT DOWN. AT THE END OF GING TO LEG, PILOT NOTICED FUEL PRESSURE HITTING VARY MIN (25 PSI) A T IDLE 750 RPM, UNBURN RUNNING OK AT 1000 RPM. (CARGO FLIGHT ON RETURN LAG, TAKEOFF AND CLIMBOK. DURING CRUISE, RIGHT FUEL BOOST PUMP INOP LIGHT CAME ON FOR THE REST OF THE FLIGHT. PILOT PULLED CIRCUIT BREAKER OFF. AFTER LANDING, PUMP CHECKED AS DEAD, INOP, WITH EFFORT TO START WHEN TAPPED ON. REPLACED PUMP. NOTE: CHECKED ALL AIRCRAFT ASM, SBS, SLS/INSP PROG, NO						
PIPER PA31350	LYC TIO540J2BD	PIPER 4204200	ROD END 755956	BROKEN FROM ARM	09/22/2000 2000110400123	13223
(CAN) LOG PAGE 665 REFERS. PILOT REPORTED GEAR NOT LOCKED, LIGHT ILLUMINATE AFTER TAKEOFF - RECYCLED 3 TIMES FOR 3 GREEN LIGHT FOR LANDING. MAINTENANCE FOUND LEFT MAIN GEAR RETRACTION ARM BROKEN OFF FROM ROD END. (X)						
PIPER PA31350	LYC TIO540J2BD		CAMSHAFT LW19340	DAMAGED NR 4/NR 6 INTAKE	07/24/2000 2000110700041	1454
DURING INSPECTION, METAL CONTAMINATION WAS DISCOVERED IN THE SPIN ON OIL FILTER. FURTHER INVESTIGATION FOUND NR 4 AND NR 6 CYLINDER INTAKE VALVE LIFT IN EXCESS. NR 6 CYLINDER REMOVED AND THE INTAKE LOBE OF NR 4/NR 6 CYLINDERS ON THE CAMSHAFT TO HAVE SEVERE WEAR AS WELL AS FACES OF THE						
PIPER PA31T			CLAMP 554901	LOOSE NOSE	01/27/1999 2000102500036	
ENVIRONMENTAL SYSTEM INTERCONNECT HOSE, P/N 49990-07, PULLED FREE FROM UNDER CLAMP, P/N 554-901, AND STRAP, P/N 49989-05, FOR A LENGTH FROM 10 TO 2 O'CLOCK POSITION. THE STRAP AND CLAMP WERE STILL IN PLACE. AIRCRAFT WAS AT 27,000 FEET WHICH CAUSED IMMEDIATE DECOMPRESSION. CORRECTIVE ACTION WAS TO RETURN INTERCONNECT HOSE TO PROPER LOCATION UNDER CLAMP AND STRAP AND RE-TORQUE CLAMP. THERE ARE SIMILAR CLAMPING ARRANGEMENTS ON THE NOSE SECTION ENVIRONMENTAL DUCT WORK. SUGGEST TORQUE CHECK						
PIPER PA32300	LYC IO540K1A5		TAPPET 72877	DEFECTIVE	02/22/1999 2000102500037	
ALL POSITIONS EXCEPT REARMOST FOLLOWING EMERG LANDING, ENG TEARDOWN REVEALED ALL BUT ONE OF THE TAPPET FACES BROKEN. ENG STILL FUNCTIONING, BUT OIL PRESS WAS VERY LOW AT SHUTDOWN SINCE THE COURSE OIL SCREEN WAS 2/3 FULL OF PEA-SIZED AND SMALLER PIECES OF TAPPET BODY FACES WHICH HAD BEEN BROKEN OFF LIKE WEDGES OF A PIE. ENG TIME SMOH: 995 HRS. TT: 4,968 HRS. POSSIBLE CAUSE WAS ONE BROKEN TAPPET BODY FACE WHICH WAS KICKED BY SPINNING CRANK AND WEDGED BEHIND ANOTHER RECEDING TAPPET BODY AND SOON THROUGH THE ENGINE. CASE BROKEN OUTWARD IN 3 PLACES WHERE PRESS WOULD HAVE BEEN APPLIED BY SOMETHING WEDGED BEHIND A TAPPED BODYFACE. MAGNAFLUX INSP OF REWORKED TAPPETS SHOULD PREVENT						
PIPER PA32300	LYC IO540K1A5		PUSHROD 73555	FAILED NR 4 CYLINDER	06/22/2000 2000110700080	
ENGINE USING EXCESSIVE OIL AFTER RECENT OVERHAUL (200 HRS). CYL REMOVED FOR RE-OVERHAUL. UPON RE-INSTALL OF NEWLY O/H CYLINDERS, DISCOVERED NR 4 CYL PUSHROD WAS MODIFIED BY APPARENT ATTEMPT TO SHORTEN LENGTH BY CUTTING AND DOWELING ROD ON ONE END. ROD ESTIMATED TO HAVE AT LEAST 200 HRS TIS. ROD STARTING TO FAIL SHOWING MUSHROOMING. TIP COULD BE PULLEDAPART BY HAND PRESSURE. NOTE: PN 73555 IS SUPERCEDED TO PN 15F21362-21. THIS IS WRONG P/N FOR ENG MODEL. THE CORRECT PUSHROD PN IS 73455 S/S TO						
PIPER PA32301T			PUMP 636029	INOPERATIVE INTERNAL SEAL	07/22/1999 2000102800057	143
MALFUNCTION OCCURRED IN-FLIGHT. PUMP SEAL WENT BAD. ALL FLUID LEAKED OUT AND GEAR FREE FELL TO DOWN AND LOCKED POSITION. TROUBLESHOT PROBLEM, DETERMINED LT MAIN GEAR ACTUATOR WAS LEAKING AND NOSE GEAR ACTUATOR WAS SUCKING AIR CAUSING PUMP TO CYCLE. THIS CYCLING CAUSED PUMP TO FAIL AND FLUID TO ALL LEAK OUT WHICH IS WHEN THE PILOT NOTICED A PROBLEM WHEN HIS GEAR FELL DOWN AND LOCKED						
PIPER PA32R301T			ACTUATOR SFA2325	LEAKING ACTUATOR SHAFT	07/22/1999 2000102500084	143
MALFUNCTION OCCURRED IN-FLIGHT. PILOT REPORTED HYDRAULIC PUMP FAILURE IN-FLIGHT. TROUBLESHOT PROBLEM, DETERMINED THAT LT MAIN GEAR ACTUATOR WAS LEAKING AT ACTUATOR SHAFT, AS WELL AS NOSE GEAR ACTUATOR LEAKING INTERNALLY AND SUCKING IN AIR, ALL CONTRIBUTING TO CAUSE HYDRAULIC PUMP TO CYCLE CONTINUOUSLY AND FAIL. (X)						
PIPER PA34200T			SWITCH 688131	BROKEN INSTRUMENT	05/17/1999 2000102500076	20
LANDING GEAR SELECTOR SWITCH BROKE OFF UPON SELECTING GEAR UP. THE SHAFT ON THE SWITCH SNAPPED AND APPEARS TO HAVE BEEN OVERSTRESSED OR WEAK MATERIAL. (X)						
PIPER PA36300	HARTZL		PROPELLER	CRACKED HUB	07/07/2000 2000110700138	542
DURING PROPELLER OVERHAUL, HUB, PN D-22-1-17, PROP ASSY, SN CH30810A, FACTORY HUB, PN A20277A, WAS DISCOVERED CRACKED. CRACK IS LOCATED IN BOTTOM HUB HALF, NR 2 BLADE SOCKET, T/E SIDE, CRACKED FROM INSIDE TO OUTSIDE ABOUT 3.5 INCHES AROUND BULKHEAD HUB HALF BOLT HOLE AND OUTER HUB HALF BOLT HOLE. CRACK DOES NOT GO THROUGH BOLT HOLES, CRACK STOPS INBD OF OUTER HUB HALF BOLT HOLE. NOTE: CRACK IS VISIBLE WITHOUT USE OF 10X GLASS. HUB FALLS OUTSIDE S/ N RANGE OF AD NOTE 90-02-23. PROP O/H WITH REPLACEMENT HUB AND RETURNED TO SERVICE 1-12-98. (X)						
PIPER PA44180			THROTTLE 554528	SEPARATED RIGHT	09/07/2000 2000102000182	1311
AFTER TAKEOFF DURING POWER REDUCTION, RIGHT THROTTLE WOULD NOT DECREASE BELOW 20 INCHES MANIFOLD PRESSURE. AIRCRAFT RETURNED TO BASE UNEVENTFULLY. INSPECTION REVEALED THROTTLE CABLE SEIZED AT ENGINE SIDE WHERE CABLE EMERGES FROM OUTER SHEATH. THE OUTER SHEATH HAD SEPARATED AT FLEXIBLE SWEDGE THAT ALLOWED INCREASE OF THROTTLE POSTION BUT LITMED RETARDING TO 20 INCHES MANIFOLD PRESSURE. CABLE REPLACED AND AIRCRAFT RETURNED TO SERVICE. (SUBMITTED BY FAR-FSDO FROM INFORMATION ON FORM 8010-4 SUPPLIED BY OPERATOR). (X)						
PIPER PA46310P			ROD END 82836002	CORRODED AT BOTTOM TUBE	06/26/2000 2000110800152	3181
DURING ANNUAL INSPECTION, TUBE WAS FOUND WITH EXTERIOR CORROSION ON BOTTOM AFT SURFACE. FLAKED OFF LOOSE PAINT FOUND ADEEP PIT. ABLE TO PASS THIS TUBE WITH AN AWL. WAS ABLE TO PUSH THROUGH A SECOND AREA OF TUBE THAT DID NOT HAVE SIGNSO F CORROSION EXTERNALLY. POSSIBLY CAUSE IS WATER GETTING INTO THE INSIDE OF ROD ASSY FROM THE FORWARD ROD END. SUBMITTER RECOMMENDED INSPECTION FOR CORROSION AND SPRAYING A CORROSION PREVENTIVE INSIDE OF TUBE. (X)						

PIPER PA46350P		PUSHROD TUBE 829132	BINDING INBD FLAP WELL	09/06/2000 2000102000172	28
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BOTH FLAPS BINDING IN TRACKS WHILE EXTENDING FROM FULL UP POSITION TO APPROXIMATELY FIVE DEGREES. FOUND PUSH ROD P/N 82913-2 THE WRONG LENGTH PER MM, CHAPTER 27-509-00 PAGE 8, PARA (69). THIS MEASUREMENT OF 5.26 INCHES WILL NOT ALLOW BOLT TO BE INSTALLED. (X)

PIPER PA46350P	LYC TIO540AE2A	BAFFLE LW13383	ELONGATED RIVET HOLES	05/17/2000 2000110400116	
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ON RECEIPT OF A THIRD NEW BAFFLE, IT WAS DERIVETED TO CHECK FOR DEFECTIVE HOLES LIKE THE PREVIOUS UNITS. THIS IS ALSO OF THE NEW (5 RIVETS PER SIDE) DESIGN. SUBMITTER STATED THE HOLES ARE ELONGATED, OVERSIZED, AND NO LONGER SUITABLE FOR THE MS20470AD4-4 RIVETS CALLED FOR. (X)

PIPER PA46350P	LYC TIO540AE2A	GEAR 61298	WORN TEETH	04/27/2000 2000110400124	118
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UPON REMOVAL OF THE OIL PUMP, TO CHECK FOR POSSIBLE DAMAGE DUE TO TWO RIVET HEADS FOUND IN THE OIL SUCTION SCREEN, IT WAS NOTED THAT THE ALUMINUM OIL PUMP GEAR HAD EXCESSIVE WEAR ON THE DRIVEN SIDE OF EACH TOOTH, AND CHIPS MISSING ON THE OUTER EDGE OF SEVERAL TEETH. IT ALMOST APPEARS THAT THE HARDNESS OF THE ALUMINUM GEAR WAS NOT CORRECT. THE STEEL DRIVING GEAR 61297 WAS ALSO DAMAGED,

PIPER PA46350P	LYC TIO540AE2A	BAFFLE LW13383	BROKEN RIVETED JOINT	07/20/2000 2000110700140	1288
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RIVET HEAD FOUND IN OIL SUCTION SCREEN ON OIL CHANGE. HEAD IS OF THE TYPE USED TO INSTALL THE VERTICAL BAFFLE ON THE OIL SUMP BAFFLE. REFERENCE LYC. SB489A. SUBMITTER STATED AFTER RECEIVING 4 NEW DEFECTIVE OIL SUMP BAFFLES FROM LYCOMING OF THIS PART NUMBER, THERE IS CONCERN ABOUT THE MANUFACTURING PROCESS. SEE SDR QC10263/BJ3RE000003,000004, AND 000005.

RAYTHN 200BEECH	PWA PT6A41	ENGINE	MAKING METAL	06/26/2000 2000110700098	
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PILOT EXPERIENCED OIL PRESSURE AND TORQUE FLUCTUATION. THIS ENGINE SHUT DOWN IN-FLIGHT. INSPECTION OF OIL FILTER SHOWED METAL CONTAMINATION. THIS ENGINE HAS BEEN OPERATED FOR 714.9 HOURS ON THE MORE PROGRAM. THE EXACT REASON FOR THIS FAILURE IS NOT KNOWN AT THIS TIME. (X)

RAYTHN 58		BRACE 4582507239	CRACKED RT AFT RETRACT	10/16/2000 2000102000164	9694
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FOUND ITEM CRACKED DURING ROUTINE INSPECTION. CRACK LOCATED ON LOWER SIDE OF RIGHT TUBE WHERE RETRACT ROD ATTACH POINT AND BRACE PIVOT POINT ARE WELDED TOGETHER. SECOND INCIDENT IN NINETY DAYS. FIRST INCIDENT PART FAILED AND CAUSED GEAR COLLAPSE ON LANDING. AIRCRAFT N NR 103GA, S/N JH-213.

RAYTHN 58		SWITCH	SHORTED TAXI LIGHT	08/30/2000 2000102000165	
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BWI - TAXIING OUT FOR TAKEOFF, SMELLED SMOKE, RETURNED TO BASE. FOUND TAXI LIGHT SWITCH SHORTED TO WIRING HARNESS SUPPORT CLAMP. REMOVED AND REPLACED TAXI LIGHT SWITCH AND BURNED WIRES. RETURNED AIRCRAFT TO SERVICE. (X)

RAYTHN 58	MCAULY	HUB D2AF34C30NP	CRACKED BLADE RET	09/06/2000 2000102000226	
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PROPELLER RECEIVED TO INVESTIGATE CAUSE OF DYED OIL LEAKING FROM HUB CAVITY. PROPELLER WAS DISASSEMBLED AND UPON INSPECTION, SEVERAL CRACKS WERE FOUND IN THE BLADE RETENTION THREADS. CRACKS WERE VERIFIED USING EDDY CURRENT INSPECTION. (X)

RAYTHN 58		PUMP 442CW12	FAILED	07/07/2000 2000110700104	222
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VACUUM PUMP FAILED UNDER NORMAL ENGINE OPERATING CONDITIONS. THE INTERNAL DRIVE COUPLING AND ASSOCIATED INTERNAL SPLINE ASSY SEPARATED FROM THE ROTOR. (NOT TO BE CONFUSED WITH THE NORMAL BREAK AWAY FLEXIBLE COUPLING.) (X)

RAYTHN 58		CABLE	CHAFED FREON LINE	06/22/2000 2000110800157	46
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FOUND ONE OF THE AILERON TRIM CABLES CUTTING INTO A FREON LINE UNDER THE FLOOR ON THE LEFT SIDE OF AIRCRAFT BETWEEN STA 100.00 - STA 118.5, P/N 58-555028-13. LINE NEEDS TO FORM DIFFERENTLY TO PROVIDE CLEARANCE FROM THE CABLES. (X)

RAYTHN 95B55	RAYTHN	WHEEL 3680025	CRACKED NOSE GEAR	06/12/2000 2000110700084	
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A CRACK APPEARED ON NOSE WHEEL 3 INCHES TO 4 INCHES LONG ON THE OUTER HALF OF THE WHEEL. AS THE WHEEL IS INSTALLED, THE CRACK IS ON THE HORIZONTAL SURFACE BETWEEN THE HUB AND THE WHEEL FLANGE. THE CRACK WAS DISCOVERED BEFORE FAILURE OCCURRED. THE WHEEL WAS REPLACED WITH CLEVELAND ASSY P/N

RAYTHN A36		CABLE	CHAFED UNDER AFT FLRBD	06/24/2000 2000110700134	465
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DURING ANNUAL INSPECTION, FOUND LT RUDDER CABLE RUBBING ON EDGE OF HOLE WHERE IT PASSES THROUGH BULKHEAD UNDER AFT FLOORBOARDS. NO DAMAGE TO CABLE. APPEARS TO RUB ONLY WHEN RUDDER IS FULLY DEFLECTED TO EITHER SIDE. SUBMITTER SUGGESTED INSPECTION OF ALL CABLES WHERE THEY PASS THROUGH

RAYTHN B300C	PWA PT6A41	DIODE 13240822	SHORTED PASSENGER	09/15/2000 2000102000157	
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(AUS) CABIN OXYGEN CONTROL SOLENOID TRANSIENT VOLTAGE SUPPRESSION DIODE SHORT CIRCUITED. FAILURE OF PASSENGER OXYGEN MASK AUTOMATIC DEPLOYMENT. (X)

RAYTHN C90		GASKET 509215873	SPLIT FUEL	08/25/2000 2000110100040	
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GASKET SPLITTING AND FUEL LEAKING FROM NACELLE INTO ENGINE EXHAUST PATH. (X)

RAYTHN F33A	CONT IO520BA	CYLINDER 642594CP	CRACKED NR 3 POSITION	06/09/2000 2000110700082	1698
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CYLINDER NR 3 CRACKED FROM BOTTOM SPARK PLUG HOLE THROUGH EXHAUST PORT EXTENDING INTO EXTERNAL FINDS. FOUND DURING COMPRESSION CHECK FOR ANNUAL INSPECTION. CHANNEL CHROME CYLINDER, EXACT HOURS ON CYLINDER UNKNOWN (CHROME PLATED 9/86). SUBMITTER RECOMMENDED LIFE LIMIT ON CYLINDER HEAD SHOULD NOT EXCEED 1,800 HOURS. (X)

RAYTHN F90		WIRE	CHAFED WS 39.7 WING CTR	04/28/2000 2000102600137	5025
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SEVERAL WIRES IN A WIRE BUNDLE WERE FOUND CHAFED THROUGH TO GROUND ON A LEADING EDGE RIB. WIRES GOING TO INTERMITTENT GROUND INCLUDE RT AUTOFEATHER WIRE, ELECTRIC HEAT WIRE, BATTERY CHARGE SHUNT-TO-MODULE WIRES. BUNDLE WAS INSULATED AND SECURED AWAY FROM RIB AFTER REPAIR OF WIRING. FOUND DURING MFG'S PHASE-4 INSPECTION. (X)

RAYTHN		ROD END	BROKEN	05/14/2000	
J35		HEIMHML6	N/G RETRACT ROD	2000102700188	

PILOT WAS TAXIING OUT FOR TAKEOFF WHEN NOSE GEAR SUDDENLY RETRACTED CAUSING SUDDEN STOPPAGE OF ENGINE. FOUND ROD END BROKEN AT AFT END OF NOSE GEAR RETRACT ROD WHERE IT ATTACHES TO GEAR ACTUATOR. SUBMITTER RECOMMENDED CLOSER INSPECTION AT ANNUAL. (X)

SCWZER		RUDDER	CORRODED	04/15/1999	7555
G164A			SPAR	2000102700193	

AN INTERNAL INSPECTION OF THE RUDDER SPAR RECEIVED CORROSION. AD 78-08-09 REQUIRES AN EXTERNAL VISUAL INSPECTION EACH 300 HRS. SUBMITTER RECOMMENDED AN INTERNAL INSPECTION AT EACH ANNUAL AND FOR ALL G-164 SERIES AIRCRAFT. (X)

SCWZER	PWA	CYLINDER	CRACKED	07/17/2000	
G164B	R134059	399359	SPARK PLUG	2000111000010	1070

THE NUMBER SEVEN CYLINDER HEAD IS CRACKED STARTING AT THE FORWARD SPARK PLUG BOSS RADIATING UP OVER THE TOP OF THE HEAD AND STOPS AT THE AFT SPARK PLUG BOSS. THE CRACK IS OPEN TO AS MUCH AS .0625 INCH, AND EXHAUST GAS RESIDUE IS PRESENT. TOTAL TIME OF CYLINDER IS UNKNOWN. (X)

SKRSKY	GE	CHECK VALVE	CRACKED	09/21/2000	
S61N	CT581401	HP6101002C10	1368DP	CHECK VALVE	2000111000008

(CAN) DURING REFUELING OF HELICOPTER, A HYDRAULIC LEAK WAS DETECTED. THE FAULT WAS FOUND TO BE A CHECK VALVE/ FITTING FOR THE PRIMARY HYDRAULIC MANIFOLD. FITTING WAS REPLACED WITH A LATER P/N STEEL

SKRSKY		ROD END	CRACKED	09/26/2000	
S76A		1945E235	MLG	2000110100033	

WHILE PERFORMING THE REQUIREMENTS OF ASB 76-32-26, CORROSION INSPECTION OF THE THREADED JOINT, FOUND BEARING CRACKED. REPLACED POSITIONING ROD END. (X)

SKRSKY	ALLSN	HYDRAULIC	LEAKING	09/05/2000	
S76A	250C30S	7665104001051	MAIN HYD SYS	2000102000155	

(CAN) PRIOR TO TAKEOFF, NR 1 SERVO JAM LIGHT CAME ON. NR 1 HYDRAULIC SYSTEM LEVEL HAD DROPPED TO THE REFILL LINE AND ACTIVATED THE LOW LEVEL SWITCH. AFTER REMOVAL OF T/R COWLS, HYD FLUID WAS WIPED UP BUT NO CRACK COULD BE SEEN - FLUID LEVEL WAS TOPPED UP AND A/C WAS GROUND RUN AT 3000 PSI. FLUID WAS LEAKING FROM HYD LINE AT 6 INCHES FROM T/R SERVO. LINE WAS CHANGED AND GROUND RUN CHECKED

SERVICEABLE. (PORUS SECTION WHERE LEAK IS, IS NOT VISIBLE TO NAKED EYE). (X)

UNIVAR		BRACKET	CRACKED	04/27/2000	
108			HORIZ STABILIZER	2000102600136	

DURING ANNUAL INSPECTION, FOUND RT FORWARD HORIZONTAL STABILIZER ATTACH BRACKET CRACKED. CRACK APPROXIMATELY .3750 INCH LONG. CRACK EXTENDED THROUGH UPPER ATTACH POINT BOLT HOLE. (X)

ZLIN	LYC	SLICK	IMPULSE	BROKEN	09/25/2000	2135
Z242L	AEIO360A1B6	4372	M3100	LATCHING PAWL	2000110100034	

(CAN) A STUDENT PILOT REPORTED ENGINE WOULD NOT START. MAINT NOTICED IMPULSE COUPLING WAS NOT SNAPPING (THE LT MAGNETO HAS IMPULSE COUPLING ONLY). LT MAGNETO WAS REMOVED, FOUND ONE OF IMPULSE COUPLING PAWL RIVETS HAD SHEARED CAUSING PAWL TO FALL DOWN BEHIND REMAINING PAWL NOT ALLOWING IT TO ENGAGE ON MAGNETO STOP PIN. MAGNETO ROTOR SHAFT WAS ALSO DAMAGED BEYOND REPAIR BY UNATTACHED PAWL. SLICK 500 HR INSP REQUIRES AN INSP BE CARRIED OUT ON IMPULSE HUB ASSY PAWL AND THEIR RETAINING

RIVETS - A MEASUREMENT IS GIVEN IN SLICK MAINT MANUAL FOR CLEARANCE BETWEEN PAWL BOSS AND PAWL
