U.S. Department of Transportation
Federal Aviation Administration

AFS-600
Regulatory Support Division

ADVISORY CIRCULAR

43-16A

AVIATION MAINTENANCE ALERTS

ALERT NUMBER 306

JANUARY 2004

CONTENTS

AIRPLANES

AVIAT 1
BEECH 1
CESSNA 2
LEARJET 4
MAULE 4
PIPER 5

HELICOPTERS

EUROCOPTER 6

AIR NOTES

A TRIBUTE TO THE FORGOTTEN MECHANIC 6
ELECTRONIC VERSION OF FAA FORM 8010-4,
MALFUNCTION OR DEFECT REPORT 7
PAPER COPY OF FAA FORM 8010-4, MALFUNCTION OR DEFECT REPORT 8
SERVICE DIFFICULTY REPORTING PROGRAM 8
IF YOU WANT TO CONTACT US 9
AVIATION SERVICE DIFFICULTY REPORTS 9

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: Aviation Data Systems Branch (AFS-620); P.O. Box 25082; Oklahoma City, OK 73125-5029.

AIRPLANES

AVIAT

Aviat; Model A-1; Husky; Interruption of the Fuel Vent System; ATA 2810

A Malfunction or Defect Report cited engine stoppage during an engine ground-run check.

The technician discovered the fuel vent was blocked on both overboard vents due to exposure during freezing rain. The freezing rain flowed off the wing trailing edge and the associated fuel vent tubes on both wings. This freezing rainwater flowing over the aluminum vent tubes caused an ice plug that blocked the entry of venting air into the fuel system. The lack of venting air resulted in fuel starvation and loss of engine power.

A second report from the submitter stated that an Aviat A-1B was exposed to freezing rain prior to flight. In this instance, the pilot checked his fuel tank vent tubes during the preflight check and did not find any anomalies. After takeoff, the aircraft experienced an engine stoppage. He was forced to land "dead stick." After landing, he opened the fuel tank caps and heard the sound of inrushing air.

Part total time: 540 hours.

BEECH

Beech; Model 1900C; Cracked Pressure Bulkhead; ATA 5312

During an operational check flight for pressurization checkout, the aircraft failed to maintain maximum cabin pressure on single-engine bleed air.

The technician discovered multiple cracks on the forward pressure bulkhead, lower right-hand corner of the web assembly (P/N 114-410026-6) at the upper-end of stiffener (P/N 114-410026-55) and at station 84.00. This crack was approximately 7 inches long. He discovered an additional crack running along the upper joggle of (P/N 114-410026-6.) This crack was also approximately 7 inches long.

The submitter stated that both cracks were repaired using the I.A.W. Beech B1900C structural repair manual.

Part total time: 41,000 hours.

Beech; Model 1900C; Frozen Rudder Control Cable; ATA 2720

The pilot reported the rudder froze in flight. After making an uneventful landing, he reported the rudder broke free during taxiing.

The technician removed the cargo compartment floor at the cargo door and observed water frozen around the rudder cable pulleys at fuselage station 495. He thawed the ice and removed the water.

According to the submitter, this is the third incident of this nature on this type aircraft.

Part total time: 32,370 hours.

CESSNA

Cessna; Models 120, 140, and 140A airplanes; Monarch; Air Fuel Caps; ATA 2810

The Airframe Propulsion and Services Branch (ACE-118W) of the Aircraft Certification Office (ACO), located in Wichita, Kansas, submitted the following article. (This article is published as it was received.)

Recently the FAA received a Safety Recommendation on Cessna 120, 140, and 140A model airplanes that had been equipped with replacement fuel caps provided by Monarch Air. Subsequently, Monarch issued a Service Bulletin 120/140-875-2453-001 Rev. A, dated November 2003, that describes a test procedure for their fuel caps to ensure adequate venting of fuel caps. The description below is an excerpt from their Service Bulletin and is recommended being accomplished on an annual basis for all vented fuel caps. However, the venting pressure requirements may be different for other vented fuel cap installations. Recently Monarch Air was reported to have ceased operations and we are providing this to operators who may not have access to their Service Bulletins.

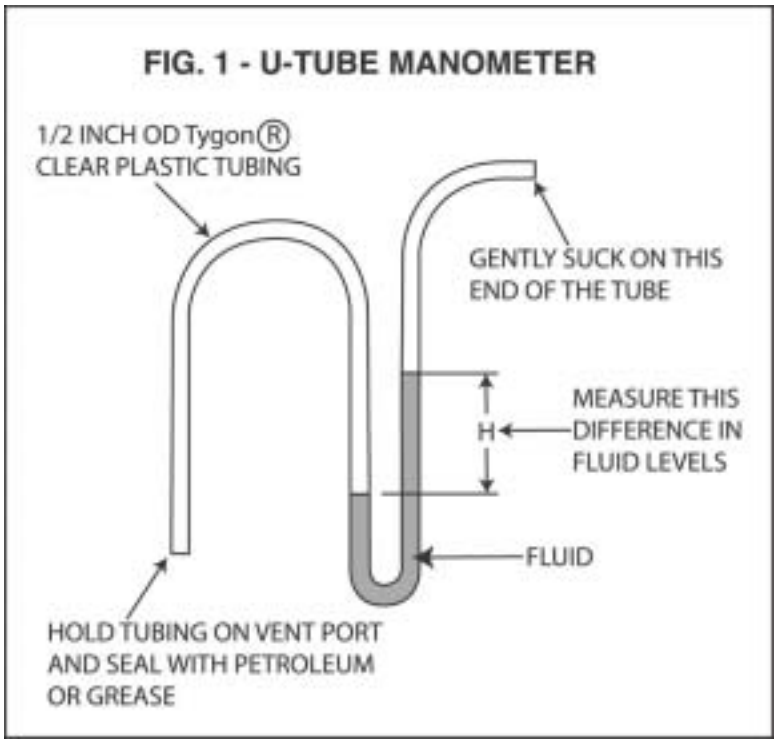


Table 1 -- Acceptable Manometer Height Readings

Fluid	Minimum Acceptable Height – in.	Maximum Acceptable Height – in.
Water	0.56 (9/16)	1.93 (1 15/16)
Gasoline	0.77 (13/16)	2.69 (2 11/16)

The pass/fail criterion is defined as follows: The cap passes if it allows air into the bulb after applying a small vacuum (0.02 – 0.07 psi) and it fails if it opens immediately or is sealed and does not allow air to pass thru and thus vent the tank. These vacuum pressures correspond to the range of height values, *h*, shown in Table 1. Caps that open before the minimum pressure is reached or fail to open before the maximum pressure is reached fail this test. Caps that fail this test are to be replaced before the aircraft is returned to service. This inspection should be performed every 100-hours of flight operation or every twelve months, whichever occurs first, and entered in the aircraft log book.

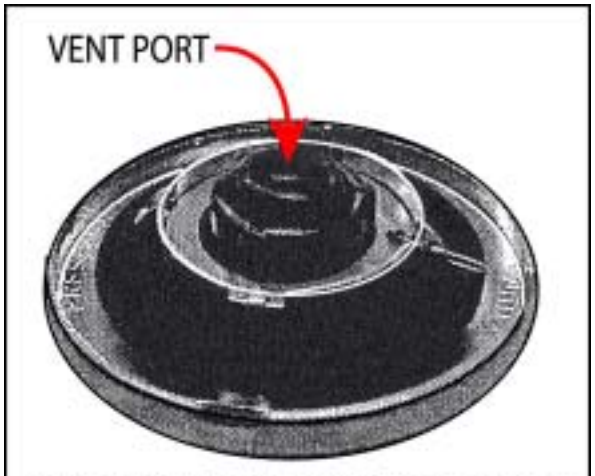


FIG 2 - MONARCH 875-2453 FUEL CAP

Recommendation

Pilots operating aircraft with a fuel selector that enables them to select both fuel tanks are strongly encouraged to select this setting for take-off and landing provided one tank is not completely exhausted. Flight operations with the fuel selector set to “Both” may cause engine failure when one tank is empty.

Cessna; Model 206H; Stationair; Failure of the Aileron Control Rod-End; ATA 2710

Immediately after takeoff, the pilot noticed minimal reaction from the aileron control inputs. He was able to land the aircraft safely.

The technician discovered the left aileron was disconnected from the control rod (P/N 1250648-1). The control rod had broken in the threaded area just forward of the aileron control rod-end jamnut.

The submitter believes the break occurred when the rod-end seized due to lack of lubrication.

Part total time: 507 hours.

LEARJET

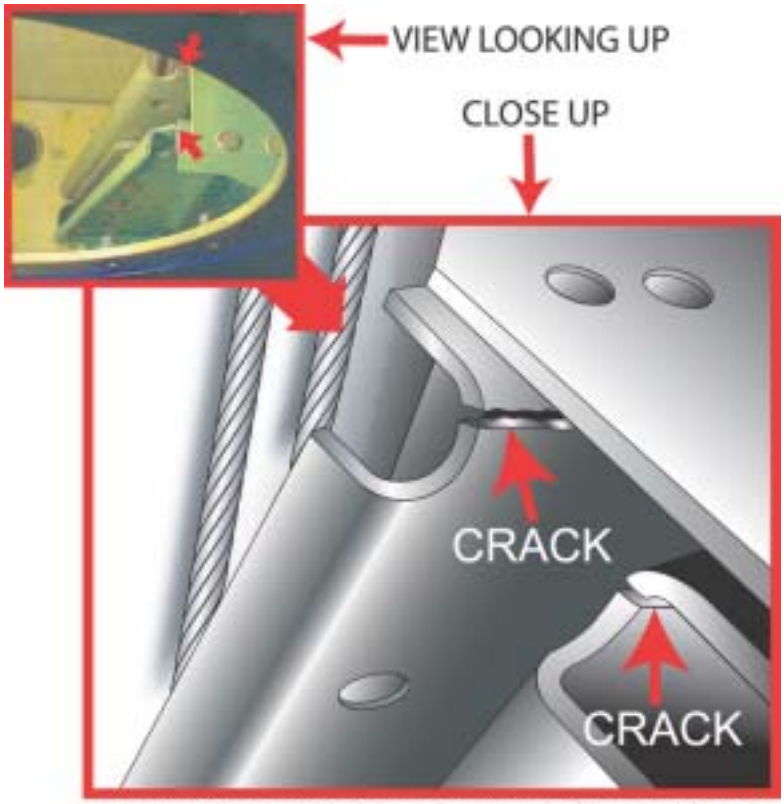
Learjet; Model 60; Crack Trailing Edge Flap Actuator Brackets; ATA 5753

While installing the left wing aileron cables, the technician discovered the left flap actuator upper support bracket (P/N 2325079-13) and lower support brackets (P/N 2325079-15) were cracked.

According to the submitter, these brackets are located under access panel 540EB. Technicians are not required to remove these brackets for 1,200-hour inspections. (Refer to the illustration.)

The submitter recommended removing the panel 540EB on the left wing and 640EB on right wing to inspect the brackets during every 1,200-hour inspection.

Part total time: 4,102 hours.



LH WING BRACKET AS VIEWED THROUGH LOWER WING PANEL #540EB

MAULE

Maule; Model MT-7-235; Super Rocket; Separated Alternate Air Intake Duct; ATA 7160

During an annual inspection, the technician discovered the alternate air intake duct (P/N Q-2-6) was broken off the left exhaust muffler at the weld. The duct and hose were chafing against the engine mount tubular structure. (Refer to the illustration.)

The submitter believes the failure was due to an inadequate means of support for the alternate duct and hose.

Part total time: 100 hours.

PIPER

Piper; Model PA-24-260; Comanche; Cracked Rudder Bellcrank; ATA 2720

During an annual inspection, the technician found a crack in the bellcrank (P/N 20185-00) bolt hole. On closer inspection, he discovered that all four bolt holes displayed cracks in various stages of progression.

The cracks began at the end of the part and proceeded towards the bolt holes. Only one crack proceeded all the way to the bolt hole. The largest crack could be seen clearly, but the remaining three required magnification. A dye-penetrant inspection produced the clearest result. Additionally, after the initial cleaning, the technician found a crack at one of the holes for the rudder cable attachment hardware. The fifth crack progressed all the way from the hole to the outer edge.The submitter stated that the aircraft has speed modification and is not restricted to 203 miles per hour.

Part total time: 5,500 hours.

Piper; Model PA-31T; Cheyenne; Cracked Nose Landing Gear Upper Drag Brace; ATA 3230

During a routine event-2 inspection, the technician discovered a crack in the nose landing gear upper right side drag brace (P/N 40336-000) retraction lug attach point.

According to the submitter, numerous cracks have been detected on other Piper PA-31T and PA-42 series aircraft.

A search of the FAA Service Difficulty Reporting Program data base revealed five additional reports citing failure of the nose landing gear drag brace on the PA-31, PA-31T, and PA-42 series aircraft.

Part total time: unknown.

HELICOPTERS

EUROCOPTER

Eurocopter; Model AS350BA; Hydraulic Pump Belt Failure; ATA 2913

During the preflight inspection, the pilot discovered the hydraulic pump belt (P/N 704A33-690-004) lying on the transmission deck. The previous pilot did not experience any type of hydraulic malfunction during his last flight the previous day.

The belt separated at the seam/joint where it is bonded together. There was no indication of the belt failing due to a malfunction or failure of an adjoining component.

A search of the FAA Service Difficulty Reporting Program data base revealed 35 additional failures of the hydraulic pump belt. Seventeen of the 35 reports indicate the belts are failing at the bonded seam/joint.

Part total time: 17 hours.

AIR NOTES

A TRIBUTE TO THE FORGOTTEN MECHANIC

Through the history of world aviation many names have come to the fore….
Great deeds of the past in our memory will last,
as they're joined by more and more….

When man first started his labor in his quest to conquer the sky he was designer, mechanic, and pilot, and he built a machine that would fly….

But somehow the order got twisted, and then in the public's eye the only man that could be seen was the man who knew how to fly….

The pilot was everyone's hero, he was brave, he was bold, he was grand, as he stood by his battered old biplane with his goggles and helmet in hand….

To be sure these pilots all earned it, to fly you have to have guts….

And they blazed their names in the hall of fame on wings with bailing wire struts….

But for each of these flying heroes there were thousands of little renown, and these were the men who worked on the planes but kept their feet on the ground….

We all know the name of Lindbergh, and we've read of his flight to fame….

But think, if you can, of his maintenance man,
can you remember his name?

And think of our wartime heroes, Gabreski,
Jabara, and Scott….

Can you tell me the names of their crew chiefs?
A thousand to one you cannot….

Now pilots are highly trained people, and wings are not easily won….

But without the work of the maintenance man
our pilots would march with a gun….

So when you see mighty aircraft as they mark their way through the air, the "grease-stained man" with the wrench in his hand is the man who put them there….

The anonymous author of this composition must surely have had an appreciation and respect for those of us past and present who endeavor to promote aviation safety to the highest possible level. We endure the environmental extremes of the flightline and are content to allow those who are pilots to reap the glory of the public eye. We are content to remain in the background with the calm assurance that we have given our all in the pursuit of safety in aviation. We swell with pride as we watch the product of our labor rise gracefully from the runway and embrace a pristine sky.

The greatest and most valued recognition we can hope to receive comes from our peers and from within. The Aviation Awards Program has become one of the most coveted forms of recognition for maintenance personnel. This program stresses education, training, and superior performance, as well as the other attributes mentioned here, to praise those worthy of its tests. Our most valued assets are the tools of our trade, our reputation and integrity, and the respect of our customers who put their lives in our hands.

With the many technological and sociological advances in aviation over the years, many of the ideas put forth in this poem are no longer valid. "Bailing wire" for example, is very much frowned upon as wing strut and hinge pin material.

Maintenance personnel, for the most part, no longer fit the stereotype "grease-stained man" with a rag hanging from his pocket, cap with a turned up bill, and a less than intelligent look on his face, is purely a fictional character created to provide contrast and further embellish the flyer. Also, not all maintenance men are men; there are many women now who have earned a position among the ranks and have made significant contributions to aviation maintenance safety.

Through the evolution of aviation maintenance, the requirement of brawn has been replaced by an ever-expanding requirement for brainpower. With the complex nature of today's aeronautical products has come maintenance people who can analyze, forecast, and troubleshoot problems by use of the computer. (Usually, we do not get "grease stained" from this activity.) The ever-changing demands of maintaining today's aircraft present a new challenge each day which is met with an eager enthusiasm to learn something new and to put things right. We approach each new challenge with pride and confident demeanor, which seems to say, "You can't break anything that I can't fix!"

ELECTRONIC VERSION OF FAA FORM 8010-4, MALFUNCTION OR DEFECT REPORT

One of the recent improvements to the Flight Standards Service Aviation Information 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/sdrx

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.

PAPER COPY OF FAA FORM 8010-4, MALFUNCTION OR DEFECT REPORT

In the past, the last two pages of the Alerts contained a paper copy of FAA Form 8010-4, Malfunction or Defect Report. To meet the requirements of *Section 508, this form will no longer be published in the Alerts; however, the form is available on the Internet at: http://forms.faa.gov/forms/faa8010-4.pdf. You can still download and complete the form as you have in the past.

*Section 508 was enacted to eliminate barriers in information technology, to make available new opportunities for people with disabilities, and to encourage development of technologies that will help achieve these goals.

SERVICE DIFFICULTY REPORTING PROGRAM

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

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

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

The collection, collation, analysis of data, and the rapid dissemination of mechanical discrepancies, alerts, and trend information to the appropriate segments of the FAA and the aviation community provides an effective and economical method of ensuring future aviation safety.

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

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

The SDR data base contains records dating back to 1974. Reports may be submitted on the Internet through an active data entry form or on hard copy. The electronic data entry form is in the Flight Standards Aviation web site. The URL is: http://av-info.faa.gov/.

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

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

Point of contact is:
John Jackson
Service Difficulty Reporting System Program Manager
Aviation Data Systems Branch, AFS-620
P.O. Box 25082
Oklahoma City, OK 73125

Telephone: (405) 954-6486
E-mail: mailto:9-AMC-SDR-ProgMgr@faa.gov

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.

Editor: Isaac Williams (405) 954-6488
FAX: (405) 954-4570 or (405) 954-4655

Mailing address: FAA, ATTN: AFS-620 ALERTS, P.O. Box 25082, Oklahoma City, OK 73125-5029

You can access current and back issues of this publication from the internet at: http://av-info.faa.gov/. Select the General Aviation Airworthiness Alerts heading.

AVIATION SERVICE DIFFICULTY REPORTS

The following are abbreviated reports submitted between November 20, 2003, and December 31, 2003, 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

To retrieve the complete report, click on the Control Number located in each report. These reports contain raw data that has not been edited. Also, because these reports contain raw data, the pages containing the raw data are not numbered.

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.

Control Number	Aircraft Make	Engine Make	Component Make	Part Name	Part Condition
Difficulty Date	**Aircraft Model**	**Engine Model**	**Component Model**	**Part Number**	**Part Location**
2003FA0001273	BEECH			CIRCUIT BREAKER	TRIPPED
12/5/2003	B200			70000150	COCKPIT

DURING CLIMB, AC RT NR 1 BUSS FEEDER 50 AMP BREAKER OPEN. LT NR 1 BUSS FEEDER BREAKER OPENED SHORTLY AFTERWARD RESULTING IN LOSS OF PILOT SIDE EFIS, MFD, AND VARIOUS OTHER SYS. CREW RETURNED TO FLIGHT ORIG POINT, LANDED WITHOUT INCIDENT. VISUAL INSP OF CB PANEL REVEALED NO DEFECTS. COMPLETED ELECTRICAL LOAD DISTRIBUTION INSP IAW MFG 200 SERIES MM. NO DEFECTS SEEN, UNABLE TO DUPLICATE FAULT. FLIGHT PERMIT OBTAINED TO MAINT. FACILITY. INSP COMPLETED WITH AC LOAD CALCULATION, COULD NOT DUP FAULT. MFG TECH CONTACTED AND INFORMED OF DIFFICULTY. MFG STATED THIS FAILURE IS NOT UNCOMMON DUE TO CB FATIGUE OVER TIME IN SERVICE. REMOVED AND REPLACED BREAKERS WITH NEW, OPS CK NORMAL. AC RETURNED TO SERVICE.

2003FA0001247	BEECH	PWA	ANGLE	DAMAGED
12/16/2003	B200	PT6*		VERTICAL STAB

TWO ANGLES THAT ARE THE FORWARD MOUNTING STRUCTURE OF THE VERTICAL STABILIZER TO THE HORIZONTAL STABILIZER HAVE 2 HOLES EACH WITH BOLTS THAT ATTACH THE HORIZONTAL STAB., AND 5 HOLES EACH WITH 4 LOCKBOLTS INSTALLED THAT ATTACH TO THE VERTICAL STAB. THE TOP HOLE ON EACH ANGLE IS DRILLED THRU EACH STRUCTURAL PART EXCEPT P/N 101-640011-11 WHICH IS THE PRIMARY HOLE OF THESE INTERCONNECTING PARTS AND THIS FASTENER WAS NEVER INSTALLED.

2003FA0001261	BEECH		LINE	LEAKING
11/28/2003	B300		131823EM1360	RT BLEED AIR

PILOT REPORTED RT BLEED AIR LINE FAIL ANNUNCIATOR CAME ON, CLIMBING THROUGH FL 260. INVESTIGATED AND TROUBLESHOT IAW MM 26-11-00. FOUND SMALL HOLE IN BLEED AIR WARNING EVA TUBING IN FORWARD RT CABIN UNDERFLOOR AREA. NO BLEED AIR LEAKS NOTED ADJACENT TO AREA DURING ENGINE GROUND RUNS. TUBING NOT CHAFED ON ADJACENT STRUCTURE OR COMPONENTS. SPLICE-REPAIRED TUBING IAW MM AND RETURNED TO SERVICE. POSSIBLE TUBING MFG DEFECT, SECOND SIMILAR OCCURRENCE NOTED IN LATE MODEL AIRCRAFT.

2003FA0001264	BEECH	PWA	BRACKET	GOUGED
11/25/2003	C90A	PT6*	905241093	RUDDER BOOST

DURING SCHEDULED PHASE INSPECTION NOTED OB SIDE OF RT RUDDER BOOST BRACKET AT FS 303 GOUGED DEEPLY THROUGH BY ADJACENT CABLE AT AFT END. LOCATION JUST IB OF AFT FUSELAGE ACCESS DOOR. APPEARS BRACKET HAD BEEN INSTALLED INCORRECTLY AT MFG OR HAD SOMEHOW BECOME BENT OVER REPLACED BRACKET WITH NEW PN 905241093 BRACKET. AFTER BRACKET REPLACEMENT ADEQUATE CABLE CLEARANCE NOTED. WOULD RECOMMEND CHAFE PROTECTION TO BE BONDED TO BRACKET TO PREVENT CABLE/BRACKET DAMAGE IN CASE OF BRACKET BEING BENT SLIGHTLY.

2003FA0001177	BEECH	PWA	BLOWER	DEFECTIVE
11/7/2003	F90	PT6*	903840311	COCKPIT FLOOR

PILOT NOTIFIED MAINTENANCE FACILITY OF DEFECTIVE VENT BLOWER. INSPECTED AND FOUND VENT BLOWER SEIZED. REPLACED VENT BLOWER WITH OVERHAULED PART. SYSTEMS OPS CHECKED NORMAL. REPLACED CURRENT LIMITER ALSO. OVERHAUL TIME LIMIT OR MOTOR.(K)

2003FA0001242	BEECH	PWA	CONTACTOR	MALFUNCTIONED

12/5/2003	H18	R985*		MLG ACTUATOR

UPON LANDING THE AIRCRAFT, THE LANDING GEAR FAILED TO EXTEND DUE TO A MALFUNCTION OF THE LANDING GEAR MOTOR CONTRACTOR. PROBLEM WAS DUPLICATED WITH THE AIRCRAFT ON JACKS. TAPPING THE CONTACTOR WITH THE LANDING GEAR SELECTOR IN THE DOWN POSITION WOULD OPERATE THE LANDING GEAR. REPLACEMENT OF THE CONTACTOR CORRECTED THE GEAR MALFUNCTION.

CA030825008	BELL	PWA	ATTACH FITTING	BROKEN
7/26/2003	212	PT6T3	212030161001	TAILBOOM

(CAN) DURING CRUISE FLIGHT THE CREW FELT A (POP) ON THE AIRCRAFT WITH NO OTHER INDICATIONS. NO WARNING LIGHTS, NO CONTROL OR HANDLING PROBLEMS. AFTER LANDING, THE ENGINEER CARRIED OUT HIS ROUTINE (BEFORE FLIGHT) INSPECTION. LOOKING AT THE TAILBOOM TO FUSELAGE ATTACH FITTINGS, HE FOUND THE FITTING P/N 212-030-161-001 BROKEN IN HALF. DETAILED INSPECTION AFTER REMOVING THE TAILBOOM FOUND THE UPPER LT CAP ANGLE P/N 212-030-191-001 UNDER THE UPPER ATTACHMENT FITTING CRACKED.

CA031105005	BELL	PWC	SUPPORT	CRACKED
9/22/2003	427	PW207D	427034851101	T/R GEARBOX

(CAN) FOREIGN OPERATOR NOTICED, DURING WALK AROUND, A ROUTINE MAINTENANCE CRACK ON THE TAIL ROTOR GEAR BOX/VERTICAL FIN SUPPORT ASSEMBLY. PART HAD 310 HOURS SINCE NEW. PART HAS BEEN REMOVED AND SENT FOR INVESTIGATION.

2003FA0001209	CESSNA	CONT	SKIN	CORRODED
11/4/2003	150F	O200*	04265089,10	LT, RT WING TANK

LOWER TANK SKINS CORRODED THROUGH IN STRAINER ASSEMBLY SUMP. CORROSION NOTED IN OTHER AREAS OF TANK LOWER SURFACE CONSISTENT WITH STANDING BEADS OF WATER. CORROSION NOTED AROUND FUEL DRAIN VALVE PAD. STRAINER ASSEMBLY SUMP IS LOW POINT IN THE TANK AND HAS NO PROVISIONS FOR DRAIN. BOTH LT AND RT TANKS AFFECTED. AIRCRAFT INACTIVE FOR ABOUT A YEAR.(AL03200409911)

2003FA0001279	CESSNA	CONT	FRAME	CRACKED
12/19/2003	150M	O200*		EMPENNAGE

CRACKED FRAME AT TB/VERTICAL FIN SPAR JUNCTION. THIS IS THE SECOND SHIP WITH AN IDENTICAL CRACK THAT HAS BEEN SEEN IN THE LAST 90 DAYS. THE MFG SRM DETAILS THE REQUIRED REPAIRS. DETECTION IS POSSIBLE USING BRIGHT LIGHT AND MIRROR, OR BY DIRECT OBSERVATION. ADDITIONALLY THE VERTICAL FIN STRUCTURE ON BOTH SHIPS WAS CRACKED AND REQUIRED SUBSTANTIAL REPAIR USING DATA TO FABRICATE AND INSTALL DOUBLERS.

2003FA0001197	CESSNA		SUPPORT BRACKET	CRACKED
11/18/2003	152		04320049	EMPENNAGE

SUPPORT BRACKET WAS FOUND TO HAVE A CRACK IN THE WELD WHILE INSPECTING NUTPLATES IAW AD. CRACK WAS LOCATED JUST FORWARD OF NUTPLATE INSIDE BRACKET ABOUT .7500 INCH LONG. WITH DYE PENETRANT INSPECTION, DYE PENETRATED COMPLETELY THROUGH WELD TO OUTSIDE BRACKET. BRACKET HAS APPROXIMATELY 8550 TOTAL HOURS-NUTPLATES CHECKED OK.

2003FA0001207	CESSNA	LYC	FORD	PULLEY	LOOSE
11/18/2003	152	O235*			ALTERNATOR

RFD CONTROL TOWER NOTED SPARKS COMING FROM COWLING AREA. UPON COWL REMOVAL NOTED ALTERNATOR AND ALTERNATOR PULLEY HAD BEEN LOOSE AND WOBBLING. ALTERNATOR HOUSING GOUGED, PULLEY SEVERELY DAMAGED FROM EXCESSIVE WOBBLING AND VIBRATION. ROTOR SHAFT END AND THREADS GOUGED AND SEVERELY WORN. ALTERNATOR FORD PN DOFF 10300B.TRANSIENT AIRCRAFT, MAINTENANCE HISTORY UNKNOWN.

2003FA0001252	CESSNA	LYC	PIN	BROKEN
11/18/2003	172M	O320*	071100159	PILOT DOOR HINGE

DURING THE ANNUAL INSPECTION ON THIS AIRCRAFT, FOUND THE TOP PILOT DOOR HINGE PIN OVER HALF

MISSING AND ONLY A SMALL PORTION HOLDING THE HINGE TOGETHER, AM SUBMITTING THIS REPORT BECAUSE HAVE FOUND THIS PROBLEM ON MANY THIS TYPE AC HINGES IN THE LAST FEW YEARS. IF THE PIN FAILED COMPLETELY, THE DOOR WILL COME OFF AND MAYBE HIT THE TAIL.

2003FA0001205	CESSNA	LYC	VENT	CORRODED
12/2/2003	172N	O320*	05560203	FUEL SYSTEM

FOUND FUEL LEAK RT DOOR FRAME, CAUSED BY CORROSION AND CHAFING OF FUEL VENT PIPE IN WING ROOT. INSPECTED L/S AND FOUND BEGINNINGS OF LEAK ON THAT SIDE ALSO.

2003FA0001203	CESSNA	LYC	VOLT REGULATOR	BURNED
10/24/2003	172N	O320H2AD	VR600A	ELECTRICAL

A/C ARRIVED AT SHOP AFTER EXPERIENCING SMOKE IN THE CABIN. ELEC SYS WAS SHUT OFF (MASTER SWITCH). INSPECTION OF ELEC SYS SHOWED EVIDENCE OF A FIRE INSIDE OF VOLTAGE REG. VOLTAGE REG WAS INSTALLED IAW INSTRUCTION SHEET NR PPS-2020. THE VOLTAGE REGULATORS INTERNAL OVER VOLTAGE RELAY FAILED. THIS RESULTED IN AN (OVER VOLTAGE CONDITION). FOUND MULTIPLE ELEC UNITS (BLOWN) FROM LND LTS, FUEL QUANTITY GAUGES, BEACON FLASHER AND LAMP, TO ALL RADIOS. THE ORIGINAL OVER VOLTAGE RELAY (FROM MFG) IS DISCONNECTED W/ OTHER UNIT INSTALLATION IAW ABOVE INSTRUCTIONS.

2003FA0001254	CESSNA	LYC	VALVE	BROKEN
11/26/2003	172R	IO360L2A	04530181	CABIN HEAT

OWNER COMPLAINED OF NO HEAT IN CABIN AND CONTROL FROZEN. FOUND FLAPPER VALVE PN NR 04530181 BROKEN AT LT SIDE HINGE NOT ALLOWING DOOR TO OPEN AND CONTROL SHAFT GO OVER CENTER. REMOVED CABIN HEAT BOX AND REPLACED VALVE AND REASSEMBLED. OPS CHECKED OK. PART REPLACED UNDER MFG WARRANTY.

CA031028002	CESSNA	LYC	TUBE	MELTED
10/11/2003	172RG	O360F1A6	S10711	PITOT

(CAN) DURING A ROUTINE INSPECTION OF THE AIRFRAME IT WAS FOUND THAT THE SECTION OF PITOT TUBE IN THE WING NEAR THE PITOT TUBE ASSEMBLY WAS FOUND MELTED. THE REASON FOR THIS CONDITION WAS DETERMINED TO BE INTERFERENCE ON THE TUBE BY THE WIRING FROM THE PITOT HEATER ELEMENT. THERE WAS NO PREVIOUS REPORT BY THE CREW INDICATING ANY RELATED SYSTEMS FAILURE HOWEVER AT THE TIME OF INSPECTION IT WAS DEFINITELY FOUND TO BE DEFECTIVE. THE LINE WAS REPLACED AND ROUTING VERIFIED AS NOT TO INTERFERE WITH WIRING AGAIN. AIRCRAFT TOTAL TIME WAS 11770.

2003FA0001213	CESSNA	LYC	BULKHEAD	CRACKED
3/22/2002	172S	IO360A1A	055032111	PROP SPINNER

DURING A PREFLIGHT INSPECTION THE PILOT NOTED AN .7500 INCH CRACK IN THE CORNER OF SPINNER BULKHEAD.

2003FA0001269	CESSNA	CONT	BEARING	INOPERATIVE
12/8/2003	210N	IO520*	12604301	ELEVATOR

(ELEVATOR ARM ASSY) THE BEARING OF THE ARM CAME OFF DURING FLIGHT AND JAMMED THE ELEVATOR.

SPT	CESSNA		CHARGER	BURNED
10/8/2003	305A			MASTER BATTERY

PURCHASED A 24 VOLT CHARGER ABOUT 6 MONTHS AGO. IT WAS A PRISM BRAND IMPORTED BY CSB BATTERY IN FT. WORTH. IT WAS ADVERTISED NOT TO OVERCHARGE IF LEFT CONNECTED INDEFINITELY. I LEFT IT ON FOR 3 WEEKS WHILE I WAS TRAVELING. I RETURNED TO FIND THE ACID BOILED OUT OF THE BATTERY AND THE BATTERY MELTED. TRIED TO RESOLVE THE PROBLEM WITH ALL PARTIES. RETURNED THE CHARGER TO CSB. THEY TOLD ME THEY INSPECTED IT AND THERE WAS NOTHING WRONG AND THE PROBLEM WAS WITH MY BATTERY.

2003FA0001166	CESSNA		LINE	CORRODED
10/16/2003	340CESSNA		530010816, 17	OIL SYSTEM

2 TO 3 DAYS AFTER FLIGHT, NOTICED SIGNIFICANT OIL PUDDLE FORMED UNDER FUSELAGE AT THE MAIN CABIN

DOOR STATION. UPON VISUAL INSPECTION, LOCATED LEAK IN FLOOR AT STATION UNDER PILOT AND CO-PILOT'S SEATS. THE SOURCE OF THE LEAK WAS BOTH THE RIGHT AND LEFT OIL PRESSURE INDICATOR SUPPLY LINES (HARD LINES) BEING CORRODED AND CRACKED AS A RESULT OF LAYING AGAINST A CABIN AIR SCAT HOSE AS THEY WERE ROUTED IN THE BUNDLE. THE LINES ARE APPROXIMATELY 5 FEET IN LENGTH. APPROXIMATELY .5 TO .75 QUARTS OF OIL WERE REMOVED FROM THE FLOOR SECTION ADJACENT TO THE SEAT PEDESTALS.

2003FA0001278	CESSNA		BRACKET	BROKEN
12/14/2003	402C		51155382	TE FLAP

FAILURE OF RT FLAP INBOARD ACTUATING BELLCRANK BRACKET P/N 5115538-2 WHICH IN TURN CAUSED FAILURE OF FLAP BELLCRANK P/N 0822275-55. AIRCRAFT LANDED WITHOUT INCIDENT, WITH FLAPS RETRACTED.

2003FA0001263	CESSNA	WILINT	SQUAT SWITCH	MISSING
12/9/2003	525	FJ44	622EN186	LT MLG

PILOT REPORTED THE SQUAT SWITCH WAS INOPERATIVE. AFTER INVESTIGATION MAINTENANCE FOUND THAT SCREW AND NUT THAT FASTEN THE ROLLER TO THE SWITCH PLUNGER HAD FALLEN OFF AND THE ROLLER DEPARTED THE AIRPLANE RENDERING THE SQUAT SWITCH INOPERATIVE. SUGGEST A MORE POSITIVE METHOD OF ATTACHING THE ROLLER, PERHAPS A STEEL RIVET, TO PREVENT THIS FROM HAPPENING AGAIN.

2003FA0001266	CESSNA	GARRTT	CONTROL CABLE	DAMAGED
11/26/2003	650	TFE731*		AILERONS

DURING A PHASE 5 AIRFRAME INSPECTION, THE RT SIDE AILERON CABLES WERE FOUND TO BE RUBBING THE RT SPOILER ACTUATOR HYDRAULIC LINE. THE DAMAGED AREAS ON THE CABLES WERE AT RT WING STA 266 ON THE AFT SIDE OF THE WING REAR SPAR. THE PROTECTIVE SLEEVES ON THE CABLES WERE NEARLY WORN THROUGH TO THE POINT OF STARTING TO WEAR INTO THE CABLE STRANDS. THIS DAMAGE WAS CAUSED DUE TO THE LOCK NUT, SECURING THE ACTUATOR HYDRAULIC LINE ELBOW, HAVING COME LOOSE ALLOWING THE HYDRAULIC LINE TO ROTATE AND THE B-NUTS, ON THE LINE, TO COME IN CONTACT WITH THE CABLES. THIS HYDRAULIC LINE SHOULD BE CHECKED FREQUENTLY FOR SIGNS OF LOOSENING.

2003FA0001276	CESSNA	GARRTT	PULLEY	CHAFED
12/19/2003	650	TFE731*		RUDDER

INITIAL INSPECTION DURING A PHASE 5 OF AFT, OB RUDDER PULLEY, FOUND PULLEY TO HAVE WEAR ON IB EDGE. FURTHER INVEST FOUND AFT PULLEY TO BE CHAFING ON MOUNTING BRACKETS, & BE WEARING TO A KNIFE EDGE ON THE IB EDGE. ALSO FOUND, RUDDER CABLE TO HAVE BROKEN STRANDS BEYOND LIMITS IAW MM. FURTHER INVESTIGATION FOUND OB RUDDER CABLE TO BE MISALIGNED ENOUGH THAT IT PUT A SIDE LOAD ON AFT PULLEY, CAUSING THE PULLEY TO CHAFE ON THE PULLEY BRACKETS. IT ALSO CAUSED THE WEAR OF THE PULLEY, AND HAD WORN THE PULLEY ENOUGH TO ALLOW IT TO CHAFE ON THE EXIT HOLE. IT APPEARED THAT SOMEONE ELSE HAD NOTICED THIS BEFORE, UNKNOWN WHEN, AND HAD BENT THE PULLEY BRACKETS TO TRY AND KEEP THE CABLE FROM CHAFING ON THE EXIT HOLE.

2003FA0001210	CESSNA	CONT	LINE	SWOLLEN
11/12/2003	A185E	IO520*		FUEL SYSTEM

FUEL LINES IN LT AND RT DOOR POSTS FOUND SWOLLEN AND POROUS. RADIUS BEND AREA NEAR LOWER PORTION OF DOOR POST IS THE AREA AFFECTED.

2003FA0001214	CESSNA	CONT	MOUNT	CRACKED
2/18/2000	A185F	IO520*	07900066	RT GEARBOX

DURING AN ANNUAL, FOUND THE RT MAIN GEAR BOX STRUCTURE TO BE CRACKED. ALSO NOTED THAT THE RT GEAR WAS LOOSE IN CASTING.

2003FA0001231	CESSNA		FITTING	CRACKED
12/10/2003	R182		22430291	NLG ACTUATOR

DURING ANNUAL INSPECTION FOUND THE AFT ATTACH FITTING FOR THE NOSE GEAR ACTUATOR CRACKED IN TWO PLACES. THE CRACKS START AT THE ACTUATOR PIN BOSS AND PROGRESS UPWARD THROUGH THE FLANGE AREA TO THE EDGE OF THE FITTING. UNABLE TO DETERMINE CAUSE (AGE, FATIGUE OR HARD LANDINGS). THIS IS THE SECOND ONE FOUND IN THE FLEET(THE OTHER ONE ON S/N R18200008). ONE OF THE

FITTINGS HAS BEEN RETURNED TO MFG FOR THEIR EVALUATION.

2003FA0001175	CESSNA		SPAR	CRACKED
11/17/2003	T210N		122100511	WING

CRACKED WING SPAR WEB AT ATTACHMENT FOR RECIPROCATING FUEL PUMP ASSOCIATED WITH FLINT WING TIP AUXILIARY FUEL SYSTEM. VIBRATION ASSOCIATED WITH FUEL PUMP OPERATION CAUSES THIN SPAR WEB (.025 INCH) TO FLEX AND CRACK AT OUTSIDE RADIUS OF ATTACHMENT HARDWARE.

2003FA0001259	CESSNA	LYC	BULKHEAD	CRACKED
10/7/2003	TR182	O540*	07126103	TAIL CONE

DURING THE MFG OF THIS AC, THE OPTIONAL FACTORY OXYGEN SYS WAS INSTALLED. IT LOOKS LIKE THIS WAS KNOWN WHEN THE TAIL CONE WAS BUILT AS RIVETS IN THE AREA WHERE THE OXYGEN BOTTLE BRACKETS WERE OMITTED TO PROVIDE FOR INSTALLING THE BRACKETS. ONCE THE BRACKETS WERE INSTALLED, THE ORIGINAL RIVET PATTERN WAS NOT PICKED UP TO THE SIDES OF THE BRACKET MOUNTING. THREE OF THE FOUR BRACKETS COULD HAVE AT LEAST ON THE RIVET ON EACH SIDE OF THE BRACKET ADDED. SOME ON BOTH SIDES. THIS LARGE SPACING WITH NO RIVETS IN THE STRINGERS MAY HAVE LEAD TO THE CRACKING OF BOTH THE STRINGER AND THE BULKHEAD. THERE IS NO EVIDENCE THAT ANY OF THESE COMPONENTS HAVE EVER BEEN CHANGED.

649122003	CIRRUS	CONT	CARTRIDGE	FAILED
12/17/2003	SR20	IO360ES		ELEVATOR

ON APPROACH, PILOT DISENGAGED AUTOPILOT, FOUND ELEVATOR CONTROL TO BE STUCK IN FIXED POSITION, PITCH TRIM CONTROL WAS STILL AVAILABLE BOTH UP AND DOWN. AFTER SEVERAL ATTEMPTS TO (FREE) CONTROL WITH NO SUCCESS THE PILOT "JERKED" CONTROL BACK. CONTROL BROKE FREE ENOUGH TO PROVIDE "UP" ELEVATOR CONTROL. PILOT LANDED WITHOUT INCIDENT. AC WAS MOVED INTO HEATED HANGAR WHERE INITIAL INSPECTION REVEALED ELEVATOR TO BE VERY DIFFICULT TO MOVE IN EITHER DIRECTION. ELEVATOR WAS ABLE TO BE MOVED TO FULL TRAVELS IN BOTH DIRECTIONS WITH RELATIVE EASE ALTHOUGH PITCH TRIM CARTRIDGE MADE MORE "NOISE" THAN NORMAL. PITCH TRIM CARTRIDGE WAS REMOVED AND REPLACED WITH NEW PART. REMOVED PART WAS INSPECTED WITH NO ANOMALIES NOTED.

2003FA0001275	CIRRUS	CONT	STARTER	WORN
12/5/2003	SR22	IO550N	642083A10	ENGINE

STARTER ADAPTER FAILURE. STARTER WOULD NOT TURN ENGINE. NO METAL CHIPS FOUND IN ENGINE OIL AT THIS TIME BUT POTENTIAL EXISTS WITH THIS TYPE OF FAILURE.

CA031106005	CNDAIR	PWA	SPAR CAP	CRACKED
10/15/2003	CL2151A10	CWASP		LT WING

(CAN) DURING ACCOMPLISHMENT OF AD CF-92-26R1, THE ULTRASONIC INSPECTION WAS BEING COMPLETED IAW SB 215-A454. CRACKS WERE DETECTED ON THE LOWER RT AND LOWER LT SPAR CAPS. THE AIRCRAFT WILL BE REPAIRED IAW MFG REO PRIOR TO BEING TO RETURNED TO SERVICE.

2003FA0001212	CONAER	LYC	CONTROL HANDLE	BROKEN
7/17/2002	LA4	O360*	26305	COCKPIT

PILOT REPORTED THAT ON APPROACH TO LANDING THAT HE ADVANCED PROP TO FULL RPM AND THE PROP CONTROL LEVER BROKE OFF IN HIS HAND, INSTALLED A NEW PROP CONTROL LEVER. OLD PART SHOWS EVIDENCE THAT IT WAS CRACKED FOR SOME TIME PRIOR TO THIS, BUT WENT UNDETECTED DUE TO A PLASTIC COATING ON THE LEVER. RECOMMEND A CLOSER INSPECTION THAT WOULD INCLUDE THE REMOVAL OF THIS PLASTIC COATING IF A CRACK IS SUSPECTED.

2003FA0001204	DHAV	PWA	PAD	DETERIORATED
11/20/2003	DHC6*	PT6*	C6P115731	NR 5 FUEL CELL

REPORTED (AFT FUEL LOW) LIGHT ILLUMINATING WITH 300-400 LBS REMAINING ON GAUGE. (SHOULD BE 110 LBS). TROUBLESHOOTING REVEALED FLAPPER PAD (SEAL) WAS DETERIORATED TO THE CONSISTENCY OF A (GUMMY BEAR). AS FUEL IS MOVED INTO THE NR 5 (ENG FEED) TANK, BY MOTIVE FLOW SYSTEM, IT WOULD BEAK BACK OUT THROUGH THIS SEAL INTO SUBSIDIARY CELLS. A/C UNABLE TO KEEP NR 5 CELL FULL. A CALL TO MFG REVEALED THIS HAS BEEN REPORTED SEVERAL TIMES WHEN A/C OPERATED IN HOT ENVIRONMENTS. (S.

AFRICA) THIS A/C OPERATED FROM ID TO NEW MEX. MFG CLAIMS WORKING ON DEVELOPING NEW SEAL.

CA031106004	DHAV	PWA	CONTROL CABLE	FAILED
11/6/2003	DHC8102	PW120A	82700550001	HORIZONTAL STAB

(CAN) DURING THE HEAVY CHECK AT THE YHZ BASE THE FOLLOWING HAS BEEN DISCOVERED. THE ELEVATOR TRIM CHAINS IN THE HORIZONTAL STAB HAVE BEEN FOUND TO HAVE SEVERAL CRACKS IN THE LINKS. ONE OF THE CHAINS FELL APART DURING MAINTENANCE IN THE AREA. IPCREFERENCE 27-38-00 FIG 20 ITEM 170. THE CHAIN/CABLE ASSEMBLY HAS BEEN REPLACED.

CA031106006	DHAV	PWA	LINK	BROKEN
10/24/2003	DHC8311	PW123	85230448001	CARGO DOOR

(CAN) DURING GROUND HANDLING WHILE CLOSING THE CARGO DOOR THE LINK ASSEMBLY BROKE CAUSING THE HANDLE FREE TO TURN. RAMP CREW WAS NOT ABLE TO LOCK THE DOOR USING THE HANDLE. THE LINK WAS FOUND BROKEN AT THE LOWER SECTION EYE END.

2003FA0001171	GULSTM	LYC	ACTUATOR	FROZEN
11/4/2003	114B	IO540*	97200M,488372C3	RT MLG

DURING NORMAL INSPECTION, CYCLED LANDING GEAR. HEARD A SQUEAL FOLLOWED BY APOP FROM THE RT MAIN LANDING GEAR, FOUND THAT THE LANDING GEAR HYD ACTUATOR ATTACH BEARING WAS FROZEN CAUSING THE ACTUATOR HOUSINGS AROUND THE BEARING TO BREAK AND PULL APART. DURING THE RETRACTION CYCLE. RECOMMEND: INSPECTION AND LUBEING THESE AREAS AT MORE FREQUENT INTERVALS (AT OIL CHANGES). NOTE: INSPECTED LT SIDE, BEARING WAS GOOD. INSPECTED A SECOND AC FOUND BOTH MAIN GEAR ACTUATOR BEARINGS FROZEN, LUBED AND WORKED FREE.

2003FA0001170	GULSTM	LYC	HOUSING	CORRODED
11/4/2003	114B	IO540*		MLG STRUT

DURING NORMAL INSPECTION, HEAVY CORROSION WAS FOUND ON BOTH MAIN LANDING GEAR HOUSING`S UNDER AND AROUND CLAMPS SECURING LANDING LIGHTS AND HYDRAULIC HOSES AND TUBES. REMOUND CLAMPS FOUND CLAMP WHERE INSTALLED PRIOR TO FINAL PAINT WITH NO PRIMER OR ANY CORROSION PROTECTION, CLAMPS ARE STAINLESS STEEL HOUSINGS ARE ALUMINUM. REMOVE CLAMP AND PRIMED AND PAINT BETWEEN SURFACES. NOTE: CKD SECOND AC, BOTH MAIN GEAR HOUSINGS HAVE SAME CORROSION.

2003FA0001182	III		MOUNT	CRACKED
8/25/2003	650TCN		R2700001	RUDDER HINGE

THE LOWER HINGE POINT MOUNT AS WELL AS THE REST OF THE RUDDER ASSY IS MADE OF CARBON FIBER. THE MOUNT HAS CRACKED, DELAMINATED, AND SEPARATED FROM RUDDER ASSY AND IS ONLY ATTACHED BY A FEW FIBERS. THE BALL JOINT THAT CONTROLS THE RUDDER HAS ALSO BEEN BENT AND DAMAGED. POSSIBLE CAUSE: OVER EXTENSION OF RUDDER ASSEMBLY. PREVENTION: INSTALLATION OF RUDDER GUST LOCKS (FOR GROUND OPS) AND THE INSTALLATION OF RUDDER CONTROL STOPS (FOR INFLIGHT OPS).(K)

CA031028005	ISRAEL	GARRTT	DOOR	DETACHED
10/26/2003	ASTRASPX	TFE73140		LT MLG

(CAN) AT 30,000 FT. ON DESCENT AT 300KIAS A SHUDDER WAS FELT ON AIRCRAFT. ALL GEAR INDICATION WAS NORMAL. LANDING GEAR LOWERED FOR LANDING ALL GREEN LIGHTS NO RED LIGHT IN HANDLE. LANDED NORMALLY, AT CHALKSIT WAS OBSERVED LT OUTBOARD GEAR DOOR WAS SEPERATED FROM HINGE.

2003FA0001246	LANCAR	CONT	LINK	MISMANUFACTURED
12/16/2003	LC40550FG	IO550N		AILERON

WHILE RIGGING AC, USING TORQUE SPEC FROM MFG MM. AILERON FINAL CONTROL LINK THREADS WERE DESTROYED WHILE ATTEMPTING TO REACH LOW END OF SPECIFIED TORQUE (REF MFG MM CHAP 27, SECT 27-10, B., STEP 9). THE MFG WAS NOTIFIED OF THIS SITUATION AND RESPONDED WITH: USE SPECIFIED TORQUE FOR LINK (REF DWG LA57275900 REV B, WHICH DIFFERS FROM MM). NEW LINK WAS ORDERED AND DURING TORQUING PROCEDURE, THREADS ON LINK WERE DESTROYED AGAIN. TORQUE WRENCH USED IN BOTH INSTANCES WAS CHECKED WITH OUR IN SHOP CHECKER AND VERIFIED TO BE WITHIN SPEC. TRIED TO CONTACT COMPANY REP BUT HAD NO RESPONSE TO OUR INQUIRES.

2003FA0001235	LEAR	PWA	HMU	MALFUNCTIONED
8/9/2003	60LEAR	PW305A	189111	ENGINE

NO FUEL FLOW AT START. MANUFACTURER CLAIMS CAUSED BY DIEGME FUEL CONTAMINATION. FUEL SYSTEM CLEANED, NO EVIDENCE OF CONTAMINATION FOUND. REPLACEMENTS UNITS INSTALLED, REPEAT OCCURRENCE 3 FLIGHT HOURS LATER. ALSO NO CONTAMINATION IN EVIDENCE, EVEN FROM EXTENSIVE LABORATORY TESTING OF FUEL SAMPLES. IT SEEMS THAT THESE UNITS ARE INTOLERANT OF FUEL THAT MEETS ALL ASTM STANDARDS. AIRFRAME FILTRATION MAY BE INADEQUATE. THESE UNITS ALSO ON G200, HAWKER 1000, AND DO328JET. WE ARE AWARE OF NO LESS THAN 20 OTHER INCIDENTS.

CA031028006	LEAR	PWA	TIRE	SEPARATED
10/27/2003	60LEAR	PW305A	178K431	MLG

(CAN) DURING PRE-FLIGHT INSPECTION BY CREW, THE CAPTAIN NOTICED NR 2 TIRE HAS THE THREAD SEPARATED FROM THE ASSY. THE WHEEL ASSY WAS REPLACED WITH A REPAIRED UNIT, AIRCRAFT RETURN TO SERVICE.

2003FA0001193	MAULE	FRNKLN	WHEEL	FAILED
11/14/2003	M4220C	6V350*		TAIL

TAILWHEEL SHIMMIED SHORTLY AFTER TOUCHDOWN, WHEN WEIGHT ON WHEELS INCREASED. SHIMMY STOPPED FOR ABOUT A SECOND THEN RETURNED VIOLENTLY. DIRECTIONAL CONTROL WAS LOST WHEN RUDDER BECAME INEFFECTIVE AND A SLOW TURN TO THE RIGHT DEVELOPED (WIND WAS 65 DEGREE TO THE RIGHT OF RUNWAY HEADING AT 8K) FULL LEFT RUDDER AND BRAE WERE APPLIED EARLY ON BUT HAD LITTLE EFFECT. THE RIGHT TURN TIGHTENED UNTIL THE LEFT GEAR FAILED FROM SIDE LOAD. DAMAGE WAS TO LEFT WING TIP, LEFT GEAR AND PROPELLER TIPS. INSP OF TIRE REVEALED, OUT OF BALANCE, OUT OF ROUND AND DRY ROTTED. UPON TEARDOWN, DISCOVERED DETENTS THAT LOCK STEERING WERE WORN. THE BRONZE BUSHING IN THE VERT SHAFT WAS WORN. (PTRS SO15200406316)

2003FA0001164	MOONEY	LYC	DUKES	SHAFT	WORN
10/2/2003	M20J	IO360A1A		B10076	MLG ACTUATOR

SET OF SUBJECT GEARS WERE INSTALLED AT 4280.14 TT. OWNER CALLED AND WAS HAVING PROBLEM WITH ACTUATOR NOT SHOWING DOWN AND LOCKED. TOLD HIM NOT TO FLY THE AC AND TO BRING THE ACTUATOR. DISASSEMBLED ACTUATOR, FOUND WORN GEAR, PN B100-76 TO BE SO WORN THAT PINION GEAR WOULD NOT ENGAGE WORN GEAR. ONE MORE OPERATION AND GEAR WOULD HAVE PROBABLY COLLAPSED. THERE HAVE BEEN NO GEAR KITS AVAILABLE FROM MFG NOR HAS THERE BEEN ANY ACTION TO MAKE OWNER AWARE OF PROBLEM OF GEARS THAT WERE SOLD BUT HAD NOT BEEN CARBURIZED. SOFT GEARS EFFECT EVERY MODEL THAT USES THESE ACTUATORS BUT IT HAS HAD MOST SEVERE EFFECT ON THIS AC. MGF CHANGED GEAR RATIO IN THOSE ACTUATORS, CAUSING THEM TO WEAR OUT FASTER.

2003FA0001238	MOONEY	CONT	PUSHROD TUBE	CORRODED
12/1/2003	M20K	TSIO360*	730048503	AILERON

FOUND BOTH AILERON OB PUSH ROD TUBES RUSTING INTERNALLY. IF RUST IS NOTICED ON EXTERIOR OF TUBE, IT IS ALREADY AT POINT OF FAILURE. TT 5140 HRS RECOMMEND REPLACING BOTH AILERON PUSH ROD TUBE ASSEMBLIES ON ANY AC WHICH HAVE NOT BEEN REPLACED IN PAST FIVE YEARS. WATER MOISTURE COLLECTING. (NE03200404128)

2003FA0001260	MOONEY	CONT	CLUTCH SPRING	BROKEN
11/19/2003	M20S	IO550*	2032071	MLG

IN FLIGHT, 178.3 HOURS SINCE COMPLIANCE WITH MFG SB AND MANDATORY REPLACEMENT OF NO BACK CLUTCH SPRING WITH NEW. BOTH TANG ENDS BROKE OFF OF SPRING INSIDE OF LANDING GEAR ACTUATOR WHEN GEAR WAS SELECTED DOWN FOR LANDING. ONE BROKEN TANG APPARENTLY JAMMED BETWEEN THE NO BACK CLUTCH SPRING AND THE NO BACK CLUTCH SPRING HOUSING MAKING EITHER ELECTRICAL OR EMERGENCY MANUAL EXTENSION OF THE LANDING GEAR IMPOSSIBLE. AC WAS LANDED, GEAR UP, UNEVENTFULLY BUT SUBSTANTIAL DAMAGE TO PROPELLER AND BOTTOM OF FUSELAGE WAS CAUSED BY CONTACT WITH RUNWAY. INVESTIGATION UNDER WAY, OTHER REPORTS OF IDENTICAL FAILURES.

CA03081300A	NAMER	PWA	PISTON	DAMAGED

8/13/2003	HARVARDMK4	S3H1	15373	ENGINE

(CAN) AT INSPECTION, A VERY SMALL AMOUNT OF FERROUS MATERIAL FOUND IN PRESSURE FILTER. ADDITIONAL INSPECTION FOUND A PISTON WITH BROKEN TOP COMPRESSION RING. INSPECTION OF OTHER PISTONS FOUND THEM TO HAVE BEEN WORN BEYOND LIMITS IN THE TOP RING GROOVE WIDTH. WORN PISTONS WERE REPLACED WITH NEW.

2003FA0001191	NAMER	PWA	LINE	CHAFED
11/6/2003	SNJ4	R1340AN1		FUEL PRIMER

DURING AN ANNUAL INSPECTION, THE FUEL PRIMER LINE WAS FOUND TO BE CHAFED THROUGH AND COMPLETELY SEPARATED AT THE CLAMP ON THE INTAKE TUBE. THERE WAS EVIDENCE OF THIS LINE SQUIRTING FUEL ALL OVER THE ENGINE WHEN THE PRIMER IS USED. ALL OF THE OTHER PRIMER LINES WERE FOUND TO BE IN ALMOST THE SAME CONDITION. THEY WERE ALL ABOUT READY TO BREAK AT THE CLAMP AREA. ALL PRIMER LINES WERE REPLACED. THIS COULD BE A POTENTIALLY DANGEROUS SITUATION, SINCE WITH THE COWLING ON THE AIRCRAFT, THE FUEL SPRAYING ON THE ENGINE DURING PRIMING MAY NOT BE NOTICEABLE. THE CHAFFING IS NOT READILY VISIBLE WITHOUT CLOSELY LOOKING AT THE CLAMP AREA. THE NEWER PRIMER LINES CAME WITH AN ANTI-CHAFE SLEEVE ON THEM.

TAM1112200301	PIPER	LYC	PLATE	FAILED
10/31/2003	PA18	O320A2B	U14426000	SPINNER

SPINNER BACKPLATE BRACKETS SEEM TO FAIL OFTEN, PICTURE NR 1. THIS PARTICULAR BACKPLATE APPEARS VERY NEW, THE AIRCRAFT HAS FLOWN 35 HOURS SINCE ANNUAL INSPECTION. PICTURE NR 2 SHOWS HOW THE PROPELLER HITS THE BRACKET LEG AND PUSHES THE SPINNER BACKPLATE AFT, SLIGHTLY OUT OF ALIGNMENT. PERHAPS THIS INTERFERENCE IS CAUSING ABNORMAL STRESS ON THE TAB ACUTE ANGLE, THUS CAUSING THEM TO FAIL. A SUGGESTION TO PREVENT INTERFERENCE IS BY SLIGHTLY REWORKING THE BRACKET LEG AS IN PICTURE NR 3. PICTURE NR 4 SHOWS THE PROP MOUNTED FLUSH WITH THE BACKPLATE.

SLACK	PIPER		STRUT	CRACKED
12/2/2003	PA28140			MLG

DURING 100 HR. INSPECTION IAW SB 1131 THE LT MAIN GEAR UPPER STRUT CYLINDER WAS CRACKED AS DEPICTED IN THE BULLETIN. THE PART WAS DYE CHECKED AT THE PREVIOUS INSPECTION WITH NO CRACK EVIDENT. THE CRACK IS APPROX. 2 IN. LONG STARTING AT THE BOTTOM OF THE OUTBOARD (EAR).

2003FA0001251	PIPER	LYC	ROD END	BROKEN
12/2/2003	PA28R201	IO360A1A	452729	NLG ACTUATOR

PILOT REPORTED NOSE GEAR RETRACTED AND A THUMPING NOISE WAS NOTED, UPON WHICH THE NOSE GEAR EXTENDED AND LOCKED. MAIN GEAR WERE EXTENDED AND PRECAUTIONARY LANDING MADE. INSPECTION BY MECHANIC PERSONNEL FOUND NOSE GEAR ACTUATOR ROD END HAD SHEARED AT THE END OF THE THREADS ON THE BEARING END. NO OTHER DAMAGE NOTED.

2003FA0001270	PIPER	LYC	TORQUE TUBE	CORRODED
12/2/2003	PA31350	TIO540*		RUDDER

WHEN COMPLYING WITH MFG SB 1105A, RUDDER TORQUE TUBE INSPECTION, CORROSION WAS FOUND. UPON REMOVING THE EFFECTED PARTS FOR REPLACEMENT, THE LARGEST AREA OF CORROSION WAS FOUND ON THE BOTTOM RIB FORWARD OF THE FRONT SPAR. THIS AREA IS NOT ADDRESSED IN THE SB AS TO BE INSPECTED. THE SB ONLY COVERS THE AREA AFT OF THE FRONT SPAR. I FEEL THAT IN ORDER TO PERFORM A THOROUGH INSPECTION OF THE AFFECTED AREA THE SB NEEDS TO BE REVISED TO NCORPORATE PROVISIONS FOR ACCESS TO THIS AREA FOR INSPECTION.

2003FA0001272	PIPER	LYC	MASTER SWITCH	LOOSE
12/2/2003	PA31350	TIO540*	587866	COCKPIT

DURING VISUAL INSPECTION, 2 OR THE 8 EXTERNAL WIRE CONNECTIONS WERE FOUND TO BE LOOSE. DISASSEMBLY OF THE SWITCH REVEALED LOOSE INTERNAL CONNECTIONS AS WELL. CORRECT ELECTRICAL OPERATION WAS QUESTIONABLE. SEVERAL REPORTS OF HAVING A SPLIT POWER BUSS WERE OBSERVED. THIS SHOULD NOT BE. TIME AND USE OF A NEWLY INSTALLED SWITCH WILL VERIFY IF THIS WAS THE CAUSE OR IF OTHER PROBLEMS EXIST. TIME ON DEFECTIVE SWITCH WAS APPROX 5950 HOURS. RECOMMEND A THOROUGH

VISUAL INSPECTION BE ACCOMPLISHED AT ANNUAL.

2003FA0001233	PIPER	LYC	MUFFLER	DETACHED
11/12/2003	PA32260	O540E4B5	6871800	ENGINE EXHAUST

EXHAUST TUBE ON MUFFLER, BECAME DETACHED FROM MUFFLER AND DEPARTED AIRCRAFT DURING NORMAL FLIGHT UNDER NORMAL CONDITIONS. RECOMMENDATIONS: CHANGE MUFFLER AT MFG RECOMMEND TIME OF 1000 HOURS OF USE.

2003FA0001229	PIPER	LYC	FUEL CONTROL	OUT OF ADJUST
12/5/2003	PA32300	IO540*		ENGINE

PILOT, UPON TOUCHDOWN TO LANDING, HAD HIS ENGINE QUIT AND WOULD NOT START AND NEEDED A TOW IN. HE ALSO FOUND THAT HE COULD NOT ADVANCE HIS THROTTLE. INSPECTED FUEL SERVO AND FOUND PIN OUT ON THE IDLE MIXTURE SETTING. INSTALLED OLD PIN, WITH HAS HELD PARTICALY IN PLACE WITH THE SPRING, NEW WASHER P/N 177718 AND COTTER PIN 901200. RUN UP CHECK GOOD.

2003FA0001237	PIPER	LYC	PUMP	DAMAGED
11/11/2003	PA32R300	TIO540*		VACUUM SYS

THE VACUUM PUMPS OVERBOARD AIR LINE SHOWED SIGNS OF DAMAGED THREADS, AND WORKED OUT OF THE PUMP. WHEN IT FELL, ITS PRESUMED THAT IT BECAME CAUGHT IN THE NOSE GEARS DOWN LOCK MECHANISM. ON LANDING, THE NOSE GEAR WOULD NOT FULLY EXTEND OR LOCK, CAUSING A SAFE NOSE GEAR UP LANDING AT SMO. (WP200404833/ INCIDENT NR IWP 23004004)

11252003	PIPER		BRACKET	CRACKED
11/25/2003	PA34200		9572402	NLG

NLG COLLAPSED ON LANDING, AFT END OF NOSE GEAR ACTUATOR ATTACHES TO BRACKET. THIS IS RIVETED THRU FIREWALL TO NOSE GEAR MOUNT FITTING. RIVETS WORKED FROM FORWARD/AFT PUSHING MOTION OF NOSE GEAR ACTUATOR, ELONGATING, THEN SHEARING OFF RIVETS. ACTUATOR WENT TO FULLY EXTENDED POSITION, BUT DID NOT CAUSE NOSE GEAR DRAG LINK TO GO TO OVER-CENTER POSITION, AS SHEARED OFF RIVETS PREVENTED IT FROM GETTING GOOD PUSH, AND OVER-CENTER ACTION OCCURING. NOSE GEAR COLLAPSED WHEN WEIGHT OF AC WENT ONTO NON-OVER CENTER DRAG LINK. ELONGATED AND SHEARED OFF SITUATION GOES UNDETECTED AS RIVETS ARE COVERED ON SIDE OF TUNNEL BY MATERIAL GLUED TO TUNNEL WHERE CO-PILOTS LT FOOT WOULD NORMALLY BE. NEED AD

39906	PIPER		LINE	LEAKING
11/25/2003	PA34220T			FUEL SYSTEM

FUEL ODOR IN CABIN CAUSED US TO REMOVE SIDEWALLS TO TRACE LINES. FOUND BOTH CROSSOVER LINES AND SCUPPERS WET WITH FUEL. COULD NOT GET LINES TO STOP LEAKING BY TORQUING. DEFUELED AND DISASSEMBLED ALL FITTINGS ASSOCIATED. CLEANED AND INSPECTED AND FOUND ALL TO BE OK. NO CRACKS OR DEFORMITIES WERE NOTED. RE-ASSEMBLED WITH CONICAL SEALS AT ALL JOINTS. RE-FUELED AND NO FURTHER LEAKING WAS NOTED.

2003FA0001165	PIPER	LYC	TRUNNION	BROKEN
11/17/2003	PA44180	O360*	67042013	RT MLG

ON LANDING, THE RT LANDING GEAR DOWN LIGHT FLICKERED. THE CREW OPTED TO SHUT DOWN ONCE OFF THE RUNWAY AND MAKE A VISUAL INSPECTION OF THE LANDING GEAR. THEY NOTICED THAT THE RMG WAS AT AN ODD ANGLE AND CALLED MAINTENANCE. THE MAINTENANCE CREW FOUND THAT THE AFT TRUNION (P/N-67042-013) WAS BROKEN IN SEVERAL LOCATIONS. ALL FLEET AIRCRAFT WERE GROUNDED AND WILL HAVE NEW PARTS INSTALLED.

CA031106003	PIPER	LYC	ATTACH FITTING	CRACKED
10/15/2003	PA60600	IO540K1J5	20001201	WING

(CAN) DURING ANNUAL ISPECTION OF WING TO FUSELAGE ATTACH FITTINGS IAW MFG SB 600-136, THE LT AFT FITTING WAS FOUND TO BE CRACKED. ALL OTHER AIRCRAFT IN THE FLEET WERE INSPECTED WITH NO FURTHER DEFECTS NOTED. THE AIRCRAFT WILL BE REPAIRED PRIOR TO BEING RELEASED FOR SERVICE.

2003FA0001185	STNSON	FRNKLN	WASHER	BROKEN

10/16/2003	10B	6A4150B3	17726	VALVE SPRING

SEVERE ENGINE ROUGHNESS OCCURRED WHILE IN FLIGHT. AN OFF AIRPORT LANDING WAS MADE WITH NO DAMAGE TO AIRCRAFT AND NO INJURIES. NR 1 CYLINDER FOUND TO HAVE NO COMPRESSION. FOUND THAT PN 17726 VALVE SPRING WASHER HAD FAILED ALLOWING INTAKE VALVE TO DROP INTO CYLINDER NR 1. ENGINE TSMOH 1106. TIME SINCE TOP OVERHAUL 418.45. I WAS UNABLE TO DETERMINE IF PART WAS REPLACED AT MAJOR OVERHAUL OR TOP OVERHAUL. THIS REPORT IS SUBMITTED AS A CORRECTION TO THE DIFFICULTY DATE. PREVIOUS REPORT HAD DATE OF 11/19/2003. ACTUAL DATE OF OCCURENCE WAS 10/16/2003.

2003FA0001189	TMPSON	CONT	LINK	CRACKED
10/20/2003	NAVIONA	E185*	14533107	RT MLG

AC MLG FAILED DURING LANDING ROLLOUT. SCISSOR LINK ASSY HAD FRACTURED DURING THIS OPERATION CAUSING RT MAIN WHEEL TO BE TOE-IN. LANDING ROLLOUT WITH WHEEL IN THIS CONFIGURATION CAUSED MAIN TRUNION TO FAIL AND GEAR TO COLLAPSE. AN INSP OF AC RT MLG LINK ASSY SHOWED SIGNS OF A PREVIOUS, UNLOCATED, FRACTURE THAT PROPAGATED FROM THIS INCIDENT. DISASSEMBLY OF LINKAGE WAS ACCOMPLISHED, IT WAS NOTED THAT THE SPACER AND LOWER BUSHING BLOCK INNER WALL SHOWED SIGNS OF CORROSION. FURTHER INSP REVILED OB AREA OF SPACER HAD NO LUBE. (REST OF SPACER HAD MINIMAL LUBRICATION) LUBE WAS REMOVED FROM BUSHING BLOCK. GREASE HAD A DISCOLORATION DUE TO HIGH USAGE AND POSSIBLE BURNING.

2003FA0001256	UNIVAR	CONT	BRAKE ASSY	CORRODED
12/8/2003	415C	A75*		MLG

WHEEL HALVES BADLY CORRODED, GALVANIC CORROSION WHERE STEEL KEYS ARE LOCATED IN INNER WHEEL HALF. APPEARS TO BE FROM LONG TIME SETTING OUT OF USE. OUTSIDE STORAGE APPARENTLY AFFECTED CORROSION.

2003FA0001255	UNIVAR	CONT	SPAR	CORRODED
12/8/2003	415C	A75*		WING

LEFT FRONT SPAR SHOWS EXFOLIATION CORROSION ABOUT 12 INCHES FROM ROOT. HAD BEEN INSPECTED AND COATED WITH PRIMER, THEN SIGNED OFF AS AIRWORTHY. THIS CORROSION APPEARED TO BE 75 PERCENT THROUGH BOTTOM SPAR FLANGE.

2003FA0001257	UNIVAR	CONT	BEARING	WRONG PART
12/8/2003	415C	C75*		ENGINE

ENGINE STOPPAGE INFLIGHT, FIRST DIAGNOSIS WAS CARBURETOR PROBLEM. SECOND STOPPAGE INDICATED A DIFFERENT PROBLEM. TEARDOWN OF ENGINE REVEALED A SERIES OF FRONT MAIN JOURNAL BEARING HAD BEEN INSTALLED, BLOCKING AN OIL GALLERY, CAUSING SEVERE WEAR AND SEIZURE OF ENGINE. CONFERRED WITH MFG TECH, CONFIRMED DIAGNOSIS AS CAUSING THIS PROBLEM. NOTE: THIS ENGINE HAD 3 STOPPAGES BETWEEN DEPARTURE AND DESTINATION, ALL CARB ICE.

END OF REPORTS