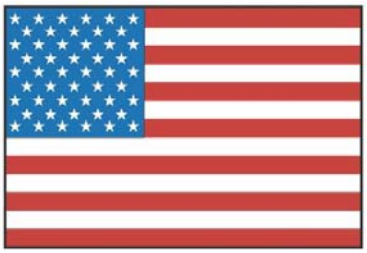
U.S. Department of Transportation
**Federal Aviation Administration**

AFS-600
Regulatory Support Division

# ADVISORY CIRCULAR

43-16A

# AVIATION MAINTENANCE ALERTS



**ALERT NUMBER 379**

**FEBRUARY 2010**

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

# AVIATION MAINTENANCE ALERTS

The Aviation Maintenance Alerts provides the aviation community with an economical means to exchange service experiences and to assist the FAA in improving aeronautical product durability, reliability, and safety. We prepare this publication from information operators and maintenance personnel who maintain civil aeronautical products pertaining to significant events or items of interest. At the time we prepared this document, we have not fully evaluated the material. As we identify additional facts such as cause and corrective action, we may publish additional data in subsequent issues of the Alerts. This procedure gives Alerts' readers prompt notice of conditions reported to the FAA Service Difficulty Reporting System (SDRS). We welcome your participation, comments, and suggestions for improvement. Send to: FAA; ATTN: Aviation Data Systems Branch (AFS-620); P.O. Box 25082; Oklahoma City, OK 73125-5029.

*(Editor's notes are provided for editorial clarification and enhancement within an article. They will always be recognized as italicized words bordered by parentheses.)*

# AIRPLANES

**Boeing: A75N1; Broken Engine Mount Bolts; ATA 7120**

A mechanic states, "During inspection of the engine installation on this aircraft, it was determined that one of the four high strength NAS-148 bolts that hold the engine mount to the fuselage was fractured completely through -- under the head of the bolt. This bolt has 100 hours total time in service. After informing the STC *(supplemental type certificate)* holder of the failure, we were informed we should have re-torqued these bolts after 25 hours of operation. This information was not included in the STC. According to the STC holder *(this data)* was referenced in the original aircraft maintenance manual where it states the original engine mount 'studs' should be re-torqued to 450 to 500 inch-pounds after the first 25 hours. These original engine mount studs are not installed in the STC aircraft as they have been removed, and the entire assembly was replaced with a different mount and hardware assembly. The replacement bolts are NAS 148 (internal wrenching) and are oversize from the original studs. The original *(maintenance)* manual torque values would not be sufficient, and no further instructions *(were)* given.

"These bolts are hidden and it would require the removal of the engine to re-torque them. We believe a critical safety issue exists, as the failure of these bolts will result in a catastrophic *(accident)*. (See accident report CA18/2/3/8321 where the failure of an identical bolt in a similar STC caused the separation of the engine and a fatality accident.) *(This)* STC is inadequate in its description for maintenance to ensure continued airworthiness."

*(That is a dramatic shot! Thanks for the photo effort—Ed.)*

Part Total Time: 100.0 hours

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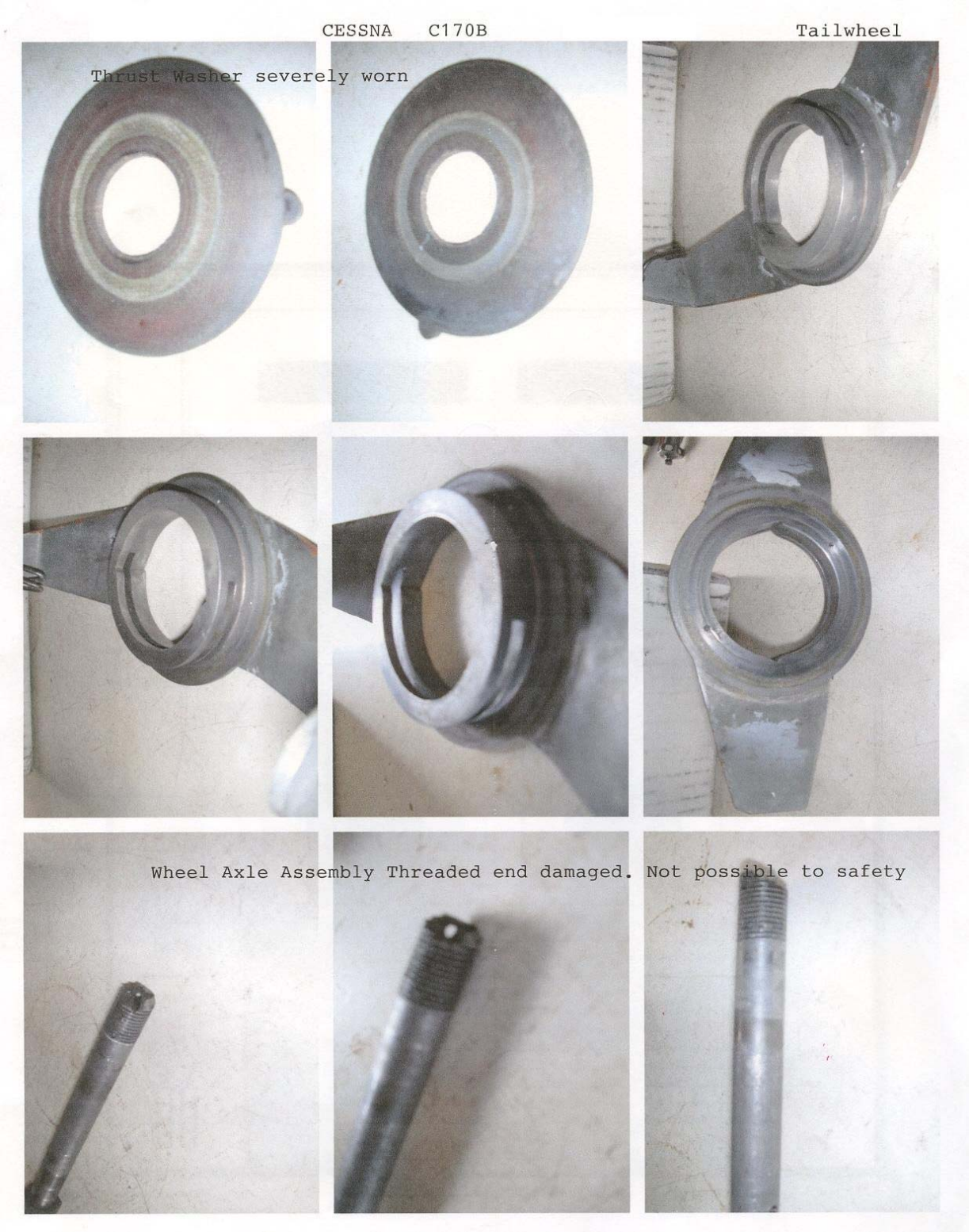
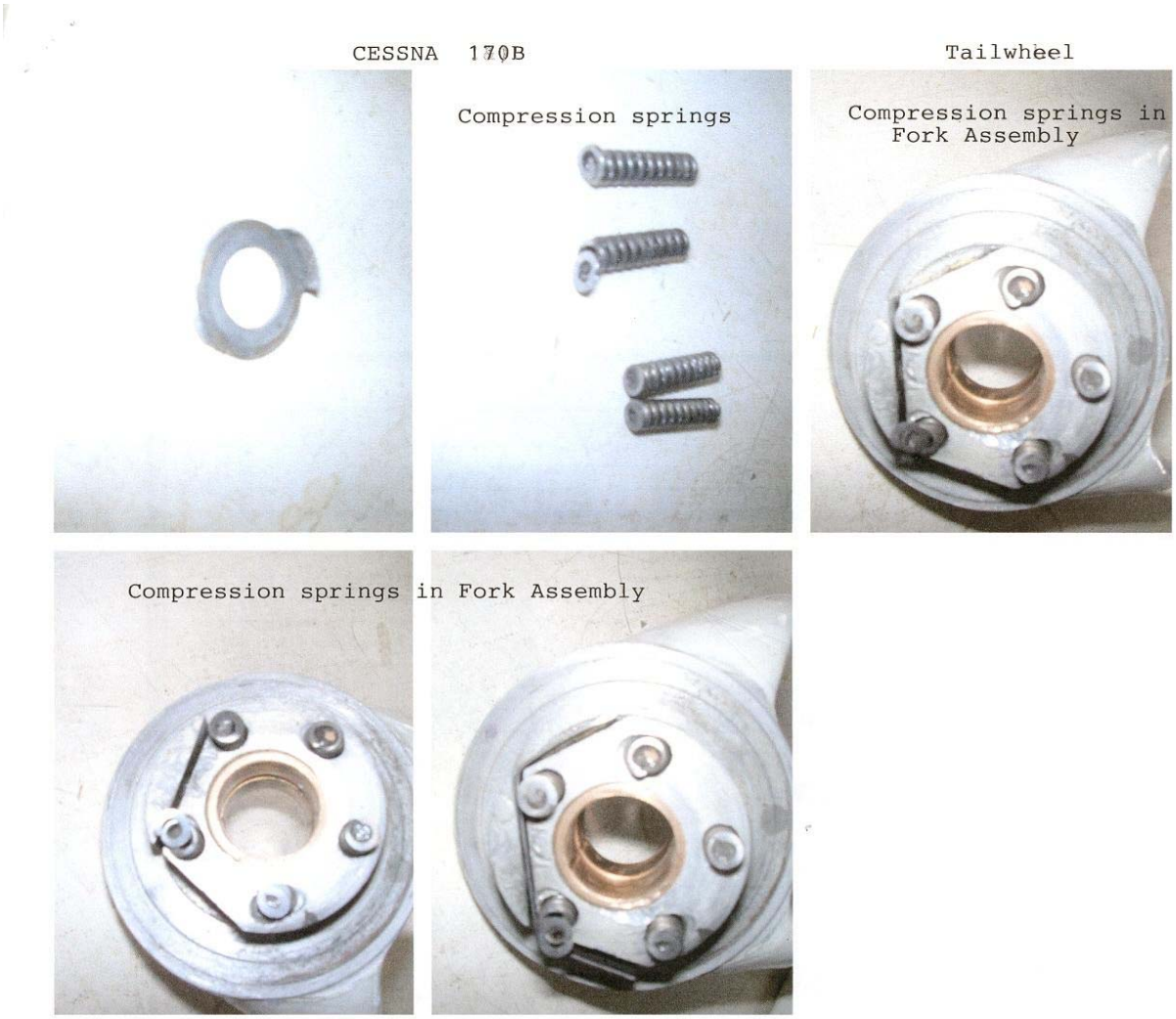
**Cessna: 170B; Failed Tail Wheel Assembly; ATA 3220**

"During an annual inspection, it was noted that the tail wheel could not be steered," says this mechanic. "The tail wheel had been painted in the past *(as)* the top grease fitting was completely *(covered)*. The aircraft owner stated *(a previous mechanic)* who had worked on the aircraft in the past told him not to grease the tail wheel, and to tighten the nut on the bottom of the steering bolt as tight as possible. Disassembly revealed all parts inside the tail wheel unit were extremely worn. The pins that should have been attached to the thrust plate were missing. Additionally, the axle for the tail wheel had been damaged previously, and the end of the axle was partially ground off—*(extending)* through the hole for the cotter pin *(used)* to secure the nut on the end of the axle. The entire tail wheel was beyond repair and was replaced with a serviceable *(unit)*." *(Part name and number: Scott 3200.)*


CESSNA C170B
Tailwheel
Thrust Washer severely worn
Wheel Axle Assembly Threaded end damaged. Not possible to safety

CESSNA 170B
Tailwheel
Bracket assembly worn and corroded
Grease fitting painted over
Grease fitting painted over
Thrust plate pins missing
Fork Assembly.
Holes worn and elongated




Part Total Time: (unknown)

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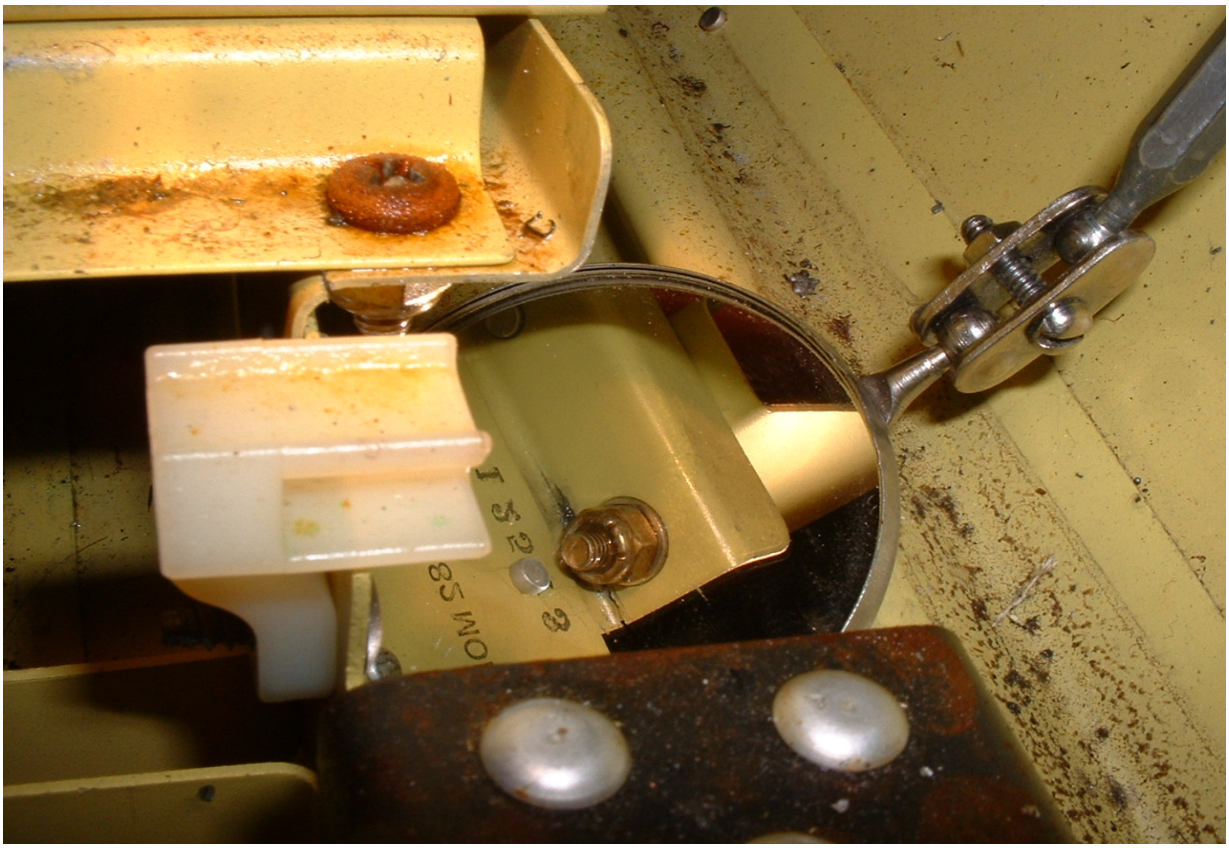
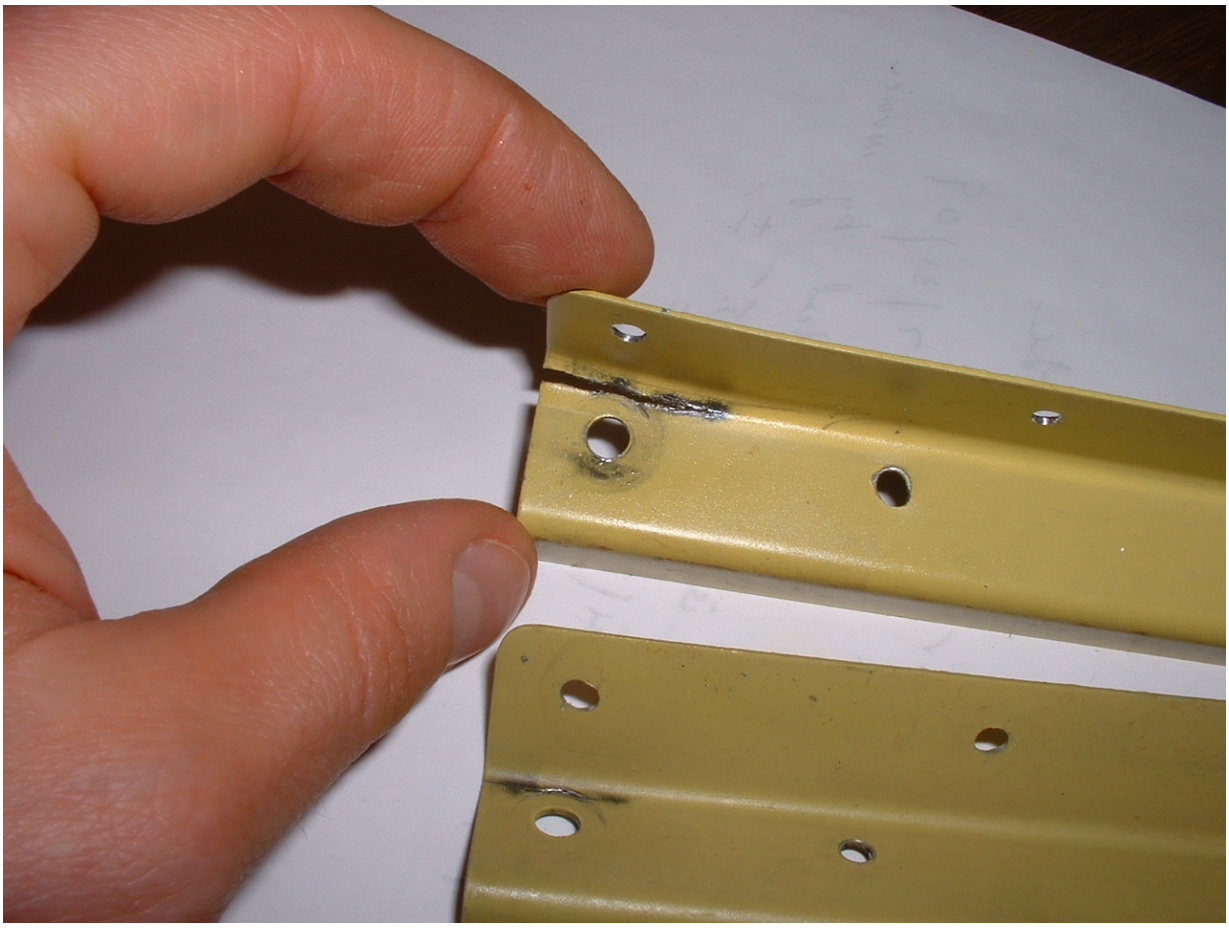
**Cessna: 182S; Cracked Battery Mount Structure; ATA 2571**

An unidentified mechanic writes, "During an annual inspection, both aircraft battery-shelf support brackets were found cracked in their forward and aft ends (four cracks total). Each crack started at the end of the support in the 90-degree bend radius, propagating toward the center of *(the part)*. Cracks *(measure)* from 0.25 to 0.75 inches long. This is the fourth 182S/T model we have found to be cracked in this manner, *(each requiring)* replacement supports (P/N 0712059-1). One previously repaired aircraft has already cracked the replacement parts, requiring yet another set to be installed. These support brackets are not *(sufficiently)* thick to withstand both the weight of the 24V battery and normal airframe vibration. *(I)* recommend close *(observation)* at every annual and 100-hour inspection with a small mirror. The area in question is not readily visible. I recommend the manufacturer improve the design *(by using)* thicker supports—and offer *(this new)* design as replacement parts."





*(While you are waiting for the "new & improved" thicker metal, I see two issues that will buy you a lot more time. In the second and third pictures both the inside and outside edges of the part's radius are clearly sharp and ragged—as are almost all factory produced parts. Five bucks argues you will never replace another set if you would feather both inside and outside radius edges of new parts with 220-grit paper, then polish the same with Scotch-Brite until glass smooth—takes 2 minutes per end, plus recoating. In picture four, the washer impression can be seen encroaching into the radius—the telltale edge "gleam" is very apparent in the bottom view. Under torque, that washer's edge is not only cutting/chafing a stressed area of the metal, but may also be transferring load into the radius if not sitting perfectly flat. Consider chamfering the edge of that washer if it is even close, and/or flipping the sharp edge of the washer to face the nut during installation. If they still crack, scream at Cessna and come beat lunch out of me—Ed.)*

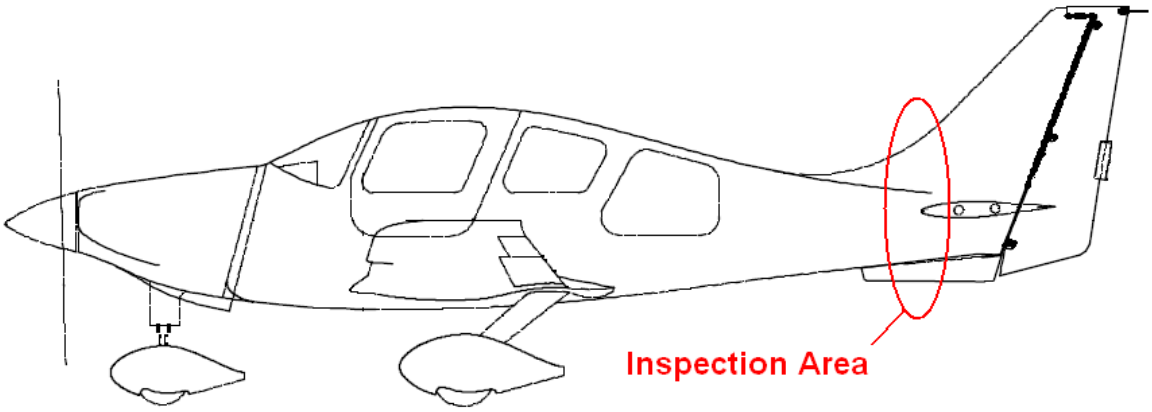
**Cessna: Corvalis Models *(see list);* Failed Empennage Structure; ATA 5500**

*(The Wichita Certification Office provides the following safety article referencing Cessna Corvalis model aircraft, including: 300 [LC40-550FG], 350 [LC42-550FG], and 400 [LC41-550FG], all serial numbers. Contact information follows the discussion.)*

"The FAA has four reports dating back to 2006 of structural damage being sustained to the empennage after extreme braking (see tire skid marks in first photograph below). The second and third photos indicate the range of observed structural damage. Extensive damage in the second photo is obvious—this failure opens up the structure. Another failure example is shown in the last picture. De-bonding of the composite fuselage can be seen just forward of the horizontal stabilizer (see arrows). Although this failure does not open up the structure, the damage is quite apparent.

"These extreme braking maneuvers consist of prolonged periods of heavy braking and tire skidding, resulting in large oscillatory motions known as *gear walk.* These conditions can be avoided by operating the airplane in accordance with the applicable POH *(Pilot's Operating Handbook).*

"Cessna is proposing a Service Newsletter that communicates important safety information about the proper use of brakes as noted in the POH. Additionally, this Newsletter will provide notification that TRs (Temporary Revisions) to the POH and the Airplane Maintenance Manuals are available and should be inserted into the appropriate manual upon receipt."



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*(For further information contact Aerospace Engineer Gary Park; Wichita Aircraft Certification Office, 1801 Airport Road, Room 100; Wichita, Kansas; 67209; phone: 316-946-4123)*

Part Total Time: (n/a)

**Convair: 340/440 (580); Fuel Cross-feed Advisory; ATA (N/A)**

*(Transport Canada provides the following admonition.)*

Transport Canada Transports Canada

TP 7394

| No. / N° | AV-2009-06 | 1/3 |
|---|---|---|
| Date | 2009-12-08 | |

## SERVICE DIFFICULTY ADVISORY

This Service Difficulty Advisory brings to your attention a potential problem identified by the Service Difficulty Reporting Program. It is a non-mandatory notification and does not preclude issuance of an airworthiness directive.

**Subject**

**Kelowna Flightcraft - Convair 340/440 (580) model aircraft Fuel Crossfeed and Transfer**

The purpose of this Advisory is to inform Owners, Flight Crew and Maintainers regarding safety concerns with certain fuel system configurations for the Kelowna Flightcraft - Convair 340/440 (580) model aircraft.

The United States National Transportation Safety Board (NTSB) issued report AAR-06/03 regarding an accident involving a Convair 580 near Covington Kentucky, 13 August 2004. A copy of the report is available at:
http://www.ntsb.gov/publictn/2006/AAR0603.pdf

The report states the probable cause of the accident as, "…fuel starvation resulting from the captain's decision not to follow approved fuel crossfeed procedures."

**Fuel Crossfeed and Transfer**

The manufacturer's approved aircraft Flight Manual (AFM), section: "EMERGENCY FUEL SYSTEM (CROSS-FEED) OPERATION" (EFSCO) procedure for an aircraft with a 1730 gallon fuel capacity states, "…Turn boost pump switch ON for tank being used and place the cross-feed switch in the ON position …Place the booster pump switch of the tank not being used to the OFF position…Move the fuel shutoff valve switch to CLOSED."

It has come to the attention of Transport Canada Civil Aviation (TCCA) that some flight crews of the Convair 580, in an effort to balance their fuel loads, follow part of the EFSCO procedure. They do not close the shutoff valve for the tank not being used but keep the valve open. There is a common belief

## AVIS DE DIFFICULTÉS EN SERVICE

Cet avis aux difficultés en service a pour but d'attirer votre attention sur un problème possible qui a été révélé par le Programme de rapports de difficultés en service. Il est une notification facultative et n'exclut pas nécessairement la publication d'une consigne de navigabilité.

**Objet**

**Intercommunication et transfert carburant des avions Convair 340/440 (580) de Kelowna Flightcraft**

Le présent Avis a pour objet d'informer les propriétaires, les équipages de conduite et les employés de maintenance des préoccupations liées à la sécurité concernant certaines configurations du circuit carburant des avions Convair 340/440 (580) de Kelowna Flightcraft.

Le conseil national de la sécurité des transports (NTSB) des États-Unis a publié le rapport AAR-06/03 au sujet d'un accident survenu à un Convair 580 près de Covington (Kentucky) le 13 août 2004. On peut consulter le rapport à l'adresse Internet suivante : http://www.ntsb.gov/publictn/2006/AAR0603.pdf

Le rapport indique que la cause la plus probable de l'accident était « … une panne d'alimentation en carburant due à la décision du commandant de bord de ne pas suivre les procédures approuvées en matière d'intercommunication carburant ».

**Intercommunication et transfert carburant**

La procédure de la rubrique « EMERGENCY FUEL SYSTEM (CROSS-FEED) OPERATION » (EFSCO) (utilisation d'urgence de l'intercommunication du circuit carburant) du manuel de vol approuvé préparé par le constructeur pour un aéronef ayant une capacité d'emport de carburant de 1730 gallons indique « … de mettre l'interrupteur de la pompe d'appoint à la position ON pour le réservoir qui est utilisé et de mettre l'interrupteur d'intercommunication à la position ON …Mettre l'interrupteur de la pompe d'appoint du réservoir non utilisé à la position OFF …Mettre l'interrupteur du robinet d'arrêt carburant à la position CLOSED ».

Il a été porté à l'attention de Transports Canada, Aviation civile (TCAC) que certains équipages de conduite du Convair 580, afin d'équilibrer leur charge de carburant, ne respectent la procédure EFSCO qu'en partie. Ils ne ferment pas le robinet d'arrêt carburant du réservoir non utilisé et gardent donc le

To request a change of address, contact the **Civil Aviation Communications Centre (AARC)** at **Place de Ville, Ottawa, Ontario K1A 0N8**, or **1 800 305-2059**, or **www.tc.gc.ca/civilaviation/communications/centre/ address.asp**

Pour demander un changement d'adresse, veuillez contacter le **Centre des communications de l'Aviation civile (AARC)** à **Place de Ville, Ottawa (Ontario) K1A 0N8**, ou **1 800 305-2059**, ou **www.tc.gc.ca/AviationCivile/communications/ centre/ adresse.asp.**

24-0028 (01-2005)

Canada

that fuel tank shutoff valves have a tendency to fail and if failed in the closed position, would prevent use of the fuel in the corresponding tank.

robinet ouvert. Une croyance répandue veut que les robinets d'arrêt carburant aient tendance à cesser de fonctionner et si ceci se produit une fois qu'ils sont fermés, cela empêcherait ainsi l'utilisation du carburant dans le réservoir correspondant.

While carrying out this unapproved procedure to balance the fuel load, the fuel being pumped from the tank being used will be flowing through the open shutoff valve of the tank not being used, leading to a potential safety risk. This was the configuration set up on the accident aircraft, resulting in a significant fuel imbalance and eventual fuel starvation of the engines. The aircraft crashed one mile south of its destination destroying the aircraft and killing one flight crewmember.

L'utilisation de cette procédure non approuvée pour équilibrer la masse de carburant peut faire en sorte que le carburant pompé du réservoir utilisé passe par le robinet d'arrêt ouvert du réservoir non utilisé, ce qui pourrait constituer un risque en matière de sécurité. L'avion en question utilisait cette configuration, laquelle a causé un déséquilibre important de la masse de carburant et finalement une panne d'alimentation en carburant des moteurs. L'avion s'est écrasé à un mille au sud de sa destination, ce qui a causé la destruction de l'appareil et la mort d'un membre d'équipage.

TCCA recommends that directors of operations, chief pilots and instructors review the procedures contained in their company operating and training manuals and revise them as necessary to ensure the approved AFM cross-feed procedures are clear to the flight crew and highlight the importance of closing the fuel shutoff valve for the tank not being used.

TCAC recommande aux directeurs des opérations, aux pilotes en chef et aux instructeurs de vérifier les procédures de leurs manuels de formation et d'exploitation de leur entreprise et de les réviser, au besoin, afin d'assurer que les procédures approuvées de l'AFM en matière d'intercommunication carburant sont bien comprises par les équipages de conduite, l'accent étant mis sur l'importance de fermer le robinet d'arrêt carburant du réservoir non utilisé

**Prop-Jet Convair Bulletin PJCB 10-21**

**Bulletin PJCB 10-21 de Prop-Jet Convair**

In 1969 Allison issued Prop-Jet Convair Bulletin PJCB 10-21 to, "…improve the service life of the aircraft fuel boost pump motor." The Instructional Bulletin allows for the installation of the same model pump but installed with a reduced output pressure in conjunction with an appropriate fuel low pressure switch.

En 1969, Allisson a publié le bulletin PJCB 10-21 de Prop-Jet Convair pour « …améliorer la durée de vie du moteur de la pompe d'appoint carburant de l'aéronef ». Ce bulletin d'information permet l'installation du même modèle de pompe qui prévoit une pression de sortie réduite et la pose d'un capteur d'indication de basse pression carburant approprié.

The NTSB believes that the fuel system presently in use is acceptable and different boost pump output pressures do not constitute hazards by themselves. However, the NTSB concluded that the existence of different fuel boost pump configurations could allow fuel transfer when the fuel crossfeed valve is unintentionally left open. The Board is therefore concerned that these configurations, appearing since the issuance of Convair Bulletin PJCB 10-21, could increase the safety risk.

Le NTSB est d'avis que le circuit carburant actuellement utilisé est acceptable et que des pressions de sortie différentes des pompes d'appoint des réservoirs de carburant ne constituent pas un danger en tant que tel. Il a toutefois conclu que l'existence de différentes configurations de pompes d'appoint pourrait permettre un transfert de carburant quand les robinets d'intercommunication sont laissés ouverts par inadvertance. Le NTSB s'inquiète donc du fait que les configurations apparues depuis la publication du bulletin PJCB 10-21 de Convair pourraient se traduire par une augmentation des risques en matière de sécrité.

TCCA recommends that owners check the status of their Convair 580 aircraft fuel boost pump installation (i.e. pre or post Instructional Bulletin PJCB 10-21). It is recommended that both the left and right boost pumps be configured to the same output pressures specified in either the manufacturer's approved maintenance manual or Instructional Bulletin PJCB 10-21.

TCAC recommande que les propriétaires vérifient sur quoi repose l'installation des pompes d'appoint de leurs appareils Convair 580 (c.-à-d. sur les directives avant ou après le bulletin d'information PJCB 10-21). On recommande que les pompes d'appoint droite et gauche soient réglées à la même pression de sortie spécifiée soit dans le manuel de maintenance approuvé du constructeur, soit dans le bulletin d'information PJCB 10-21.

| No. / N° | AV-2009-06 | 3/3 |
|---|---|---|

Defects, malfunctions and failures occurring on aeronautical products are to be reported to Transport Canada, Continuing Airworthiness in accordance with CAR 521 mandatory Service Difficulty Reporting requirements.

Les défectuosités, les mauvais fonctionnements et les pannes de produits aéronautiques devraient être signalés au Maintien de la navigabilité aérienne de Transports Canada, conformément aux exigences du RAC 521 qui obligent à transmettre des rapports de difficultés en service.

For further information, contact a Transport Canada Centre, or Mr. Robert Dixon, Continuing Airworthiness, Ottawa at 613-952-4357, email CAW WEB Feedback@tc.gc.ca

Pour de plus amples renseignements, communiquer avec un Centre de Transports Canada ou avec Robert Dixon, Maintien de la navigabilité aérienne, à Ottawa, téléphone 613-952-4357 télécopieur 613-996-9178 ou courrier électronique CAW WEB Feedback@tc.gc.ca

For Director, National Aircraft Certification

Pour le directeur, certification nationale des aéronefs

for Derek Ferguson
Chief, Continuing Airworthiness
Chef, Maintien de la navigabilité aérienne

**Note:** For the electronic version of this document, please consult the following Web address:

**Nota :** La version électronique de ce document se trouve à l'adresse Web suivante :

**www.tc.gc.ca/CivilAviation/certification/menu.htm**

Part Total Time: (N/A)

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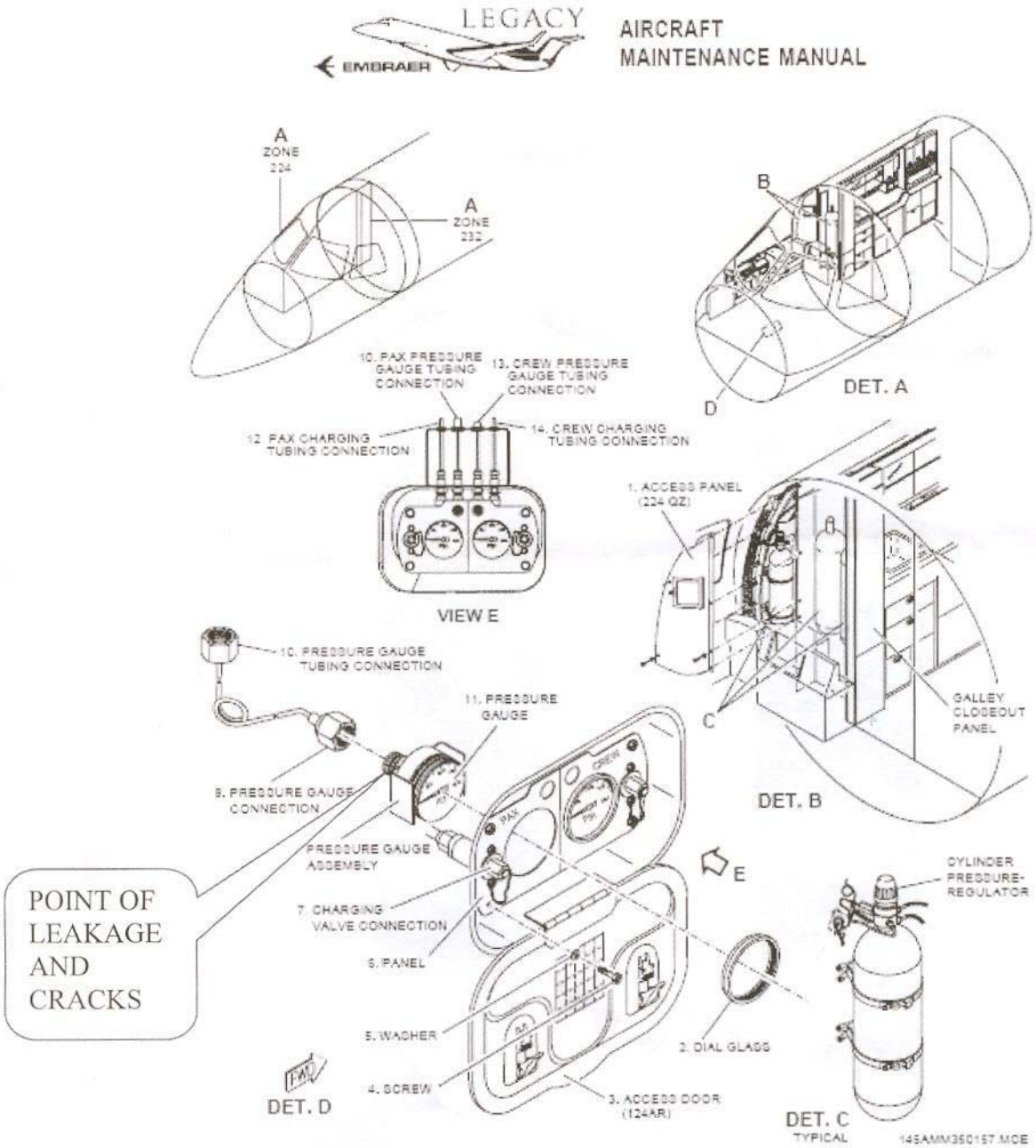
**Diamond: DA40; Failed Alternate Air Control Valve; ATA 7160**

"We maintain a fleet of 20 Diamond DA-40 aircraft...", writes the submitter. "All aircraft arrived a year ago straight from the Diamond factory with 10 hours average total time since new (TTSN). *(This defect first appeared...)* after 147 hours *(time accumulation)* and was found during scheduled maintenance. Mechanics are finding the alternate air valve body control cable (P/N DAI-9076-00-04) loose or completely disconnected and hanging next to the primary/alternate air valve body (P/N D41-7166-20-30). When they try to reinstall the cable they are finding the threads are stripped out on the alternate air valve body. This problem has now occurred on 14 different aircraft in our fleet—all between 147 and 350 hours TTSN. My concern is an operator of the aircraft may not know if the engine is getting filtered or unfiltered air if the cable has become disconnected. *(I suggest)* the manufacturer make the valve body thicker (more threads), install a steel Helicoil, or maybe spot-weld a nut on the outside of the valve body." *(The airplane sports a Lycoming IO-360 up front.)*

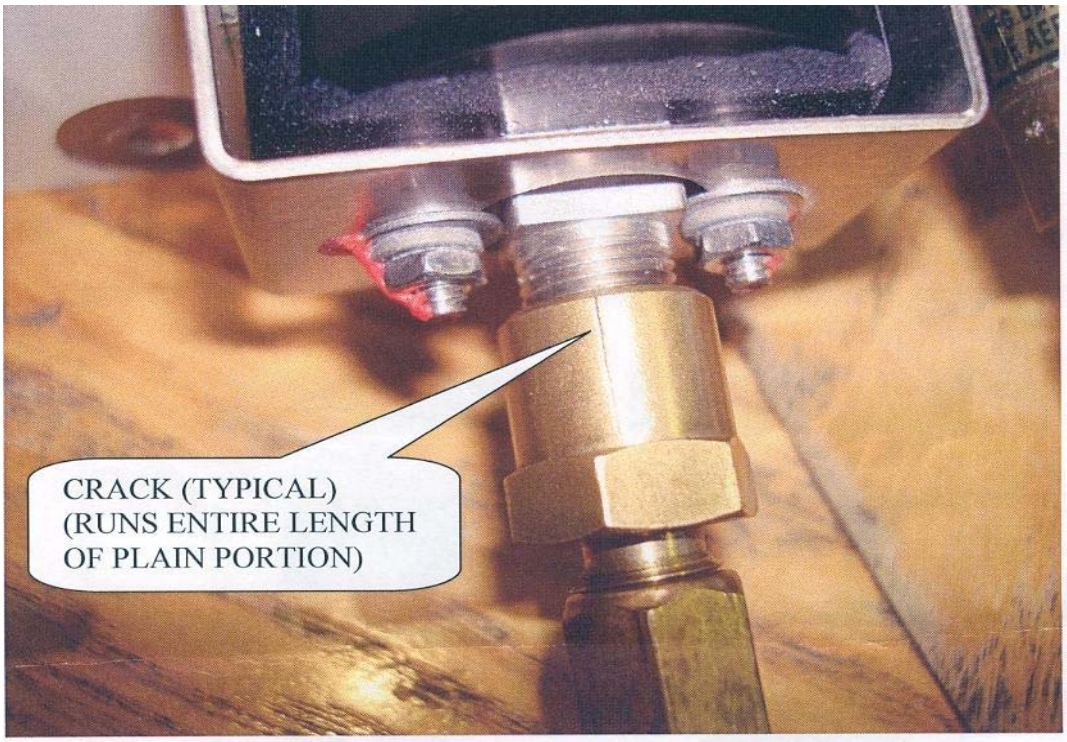
**Embraer: EMB-135BJ; Cracked O2 Gage Fitting; ATA 3500**

A repair station quality engineer writes, "During routine maintenance *(I)* investigated a 'low oxygen contents' indication for the passenger and crew systems. A gas leak was identified behind the oxygen-charging panel at station 3900 (R/H) while attempting to charge the system. Upon removing the ground charging panel assembly, cracks were discovered on two brass fittings (P/N 500189)—part of the gage assembly (P/N 171013) common to both passenger and crew systems. Oxygen leaks were apparent at these fittings. (Reference IPC 35-11-00 item 1; panel assembly P/N 135-05153-401 item 150; pressure gage P/N 171013 item 50; Capillary Tube item 155; Brass Oxygen fitting P/N 500189).

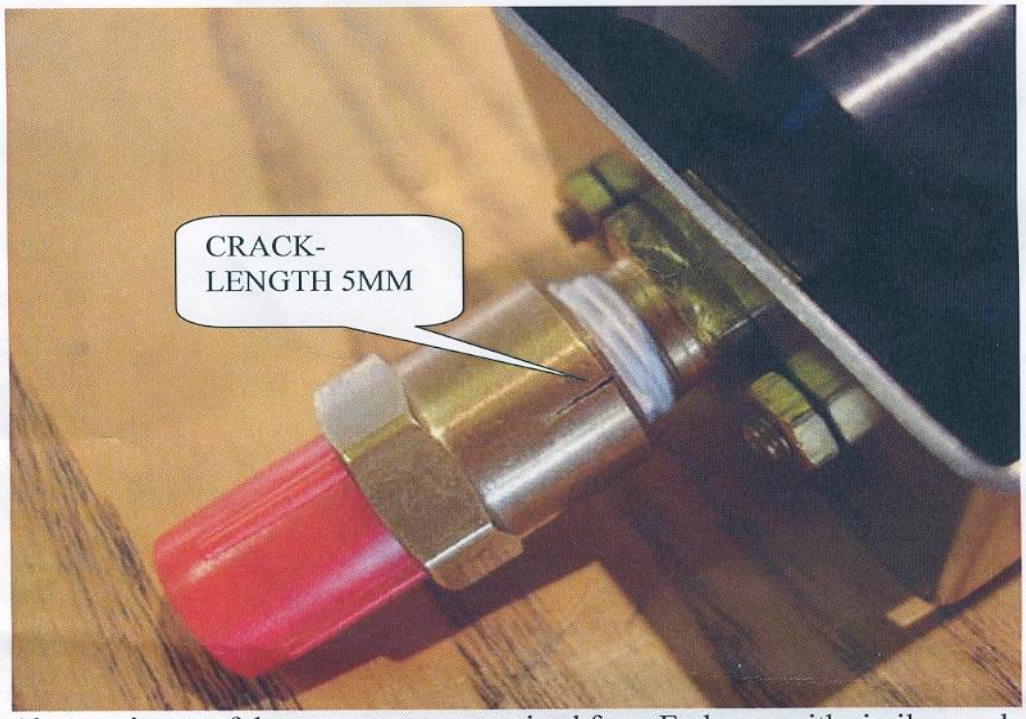
"Replacement items were ordered from the manufacturer (Embraer) for defect *(resolution)*. Upon receipt *(of a new)* replacement gage assembly (P/N 171013), an identical crack was found on fitting (P/N 500189)—the gage was rejected." "The cause of cracking can not be positively *(identified)*, but it may be due to over-torquing of the fittings to the gage."




Pressure Gauge Assembly - Removal/Installation
Figure 401




Above- Picture of one of the two original gauges found with cracked fitting, with complete oxygen panel assembly and tubes as removed from the aircraft.




Above- picture of the new gauge as received from Embraer, with similar crack.

Part Total Time: 908.0 hours

**Pilatus: PC-12-47; Flap Drive Arm Assembly Cracked; ATA 2750**

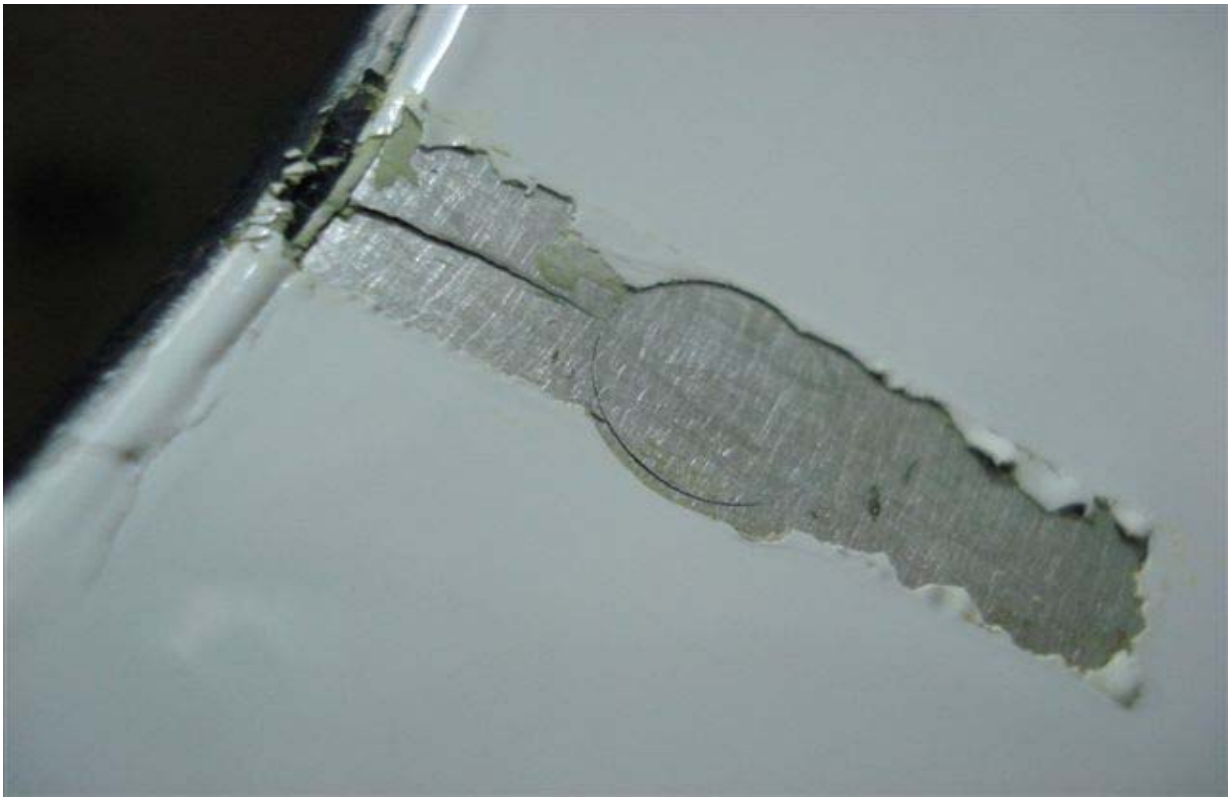
A technician for a repair station states, "*(The pilots received a flap warning light...)* on rollout after landing. *(I)* checked the *(CAS: Crew Alert System's)* flap errors and found several E211 codes. I then inspected the left inner resolver installation and found its drive pin pulled from the socket. Further inspection found the inboard, L/H flap drive arm assembly (P/N 527-52-12-153) cracked in several places. The cause is unknown. There are no recorded over-speeds on the CAS system and no signs of impact side loads. Rigging of the flaps checked okay—no further damage was found."

Part Total Time: 330.0 hours

**Rockwell: NA265-65; Cracked Fuselage Skin; ATA 5330**

*(This very short discrepancy report finds a very short crack—but note: this seemingly sparse story continues into the next report—Ed.)*

A repair station submission says, "The fuselage skin *(was found)* cracked at the lower aft corner of the left, over-wing escape hatch opening."



(Cracked skin: P/N 30631201621; location: fuselage station 262. Okay—the tiny crack self-terminates into the rivet hole, but the pressure vessel business is going to require a little engineering/manufacturer guidance. Guess we are done, right? See the next entry....)

Part Total Time: 8,000.0 hours at 5,980 cycles

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**Rockwell: NA265-65; Cracked Fuselage Side Frame; ATA 5311**

*(Our intrepid inspector from the previous report is still short on words, but very long in the eyeball department. Now we go inside the airplane—hunting for connections....)*

Our submitter writes, "A three-inch crack *(was found)* in the left fuselage side frame at station 257.65, approximately two-inches above the cabin floor." *(Frame P/N: 265312254031)*

*(Wow! This is a terrific safety catch. Did the tiny outside crack in the previous report peak your curiosity for an immediate inside inspection, or were the two discoveries incidental to one another? This will make for an interesting repair—Ed.)*

Part Total Time: 8,000.0 hours at 5,980 cycles

# POWERPLANTS

**Lycoming: TIO540; Cracked Engine Case; ATA 8520**

*(This engine hangs from the R/H wing of a Piper PA31-350.)*

An unidentified repair station technician writes, "The operator requested troubleshooting of low oil pressure on the R/H engine. Upon removal of the engine cowl, the mechanic discovered oil film on the L/H side of the engine case. Further inspection revealed what appeared to be a crack on the L/H case half. Paint was removed and dye penetrant applied, revealing a 1.3-inch crack on the case half at the number four cylinder (forward top stud area). The penetrant was cleaned *(from the surface)* and developer applied to the area. *(I)* ran the engine to verify the crack *(propagated completely...)* through the case. Run-up revealed oil coming from the suspected crack area. The operator was advised and the aircraft grounded until a repair *(is completed)*."

Part Total Time: (unknown)

# AIR NOTES

## INTERNET SERVICE DIFFICULTY REPORTING (iSDR) WEB SITE

The Federal Aviation Administration (FAA) Internet Service Difficulty Reporting (iSDR) web site is the front-end for the Service Difficulty Reporting System (SDRS) database that is maintained by the Aviation Data Systems Branch, AFS-620, in Oklahoma City, Oklahoma. The iSDR web site supports the Flight Standards Service (AFS), Service Difficulty Program by providing the aviation community with a voluntary and electronic means to conveniently submit in-service reports of failures, malfunctions, or defects on aeronautical products. The objective of the Service Difficulty Program is to achieve prompt correction of conditions adversely affecting continued airworthiness of aeronautical products. To accomplish this, Malfunction or Defect Reports (M or Ds) or Service Difficulty Reports (SDRs) as they are commonly called, are collected, converted into a common SDR format, stored, and made available to the appropriate segments of the FAA, the aviation community, and the general public for review and analysis. SDR data is accessible through the "Query SDR data" feature on the iSDR web site at: http://av-info.faa.gov/sdrx/Query.aspx.

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.

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 may impair its future function, it is considered defective and should be reported under the Service Difficulty Program.

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, 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 (ADs) to address a specific problem.

The iSDR web site provides an electronic means for the general aviation community to voluntarily submit reports, and may serve as an alternative means for operators and air agencies to comply with the reporting requirements of 14 Title of the Code of Federal Regulations (CFR) Section 121.703, 125.409, 135.415, and 145.221, if accepted by their certificate-holding district office. FAA Aviation Safety Inspectors may also report service difficulty information when they conduct routine aircraft maintenance surveillance as well as accident and incident investigations.

The SDRS database contains records dating back to 1974. At the current time, we are receiving approximately 40,000 records per year. Reports may be submitted to the iSDR web site on active data entry form or submitted hardcopy to the address below.

The SDRS and iSDR web site point of contact is:

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## 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://av-info.faa.gov/. Select the General Aviation Airworthiness Alerts heading.

## AVIATION SERVICE DIFFICULTY REPORTS

The following are abbreviated reports processed for the previous month, which have been entered into the FAA Service Difficulty Reporting (SDR) System database. 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 / Difficulty Date | Aircraft Make / Aircraft Model | Engine Make / Engine Model | Component Make / Component Model | Part Name / Part Number | Part Condition / Part Location |
|---|---|---|---|---|---|
| 2010FA0000013 | | | | CONDENSER | FAILED |
| 12/21/2009 | | | | 1051676 | MAGNETO |
| THIS CONDENSER FAILED WITH 17.1 HOURS TIS. SERIES CIRCUIT OPENED UP INTERNALLY, CAUSING CONTACTS TO BURN AND MAG TO QUIT. | | | | | |
| CA091127005 | | | HARTZL | SCREW | BROKEN |
| 11/26/2009 | | | | A0321 | BLADE CLAMP |
| (CAN) DURING DISASSEMBLY OF PROPELLER FOR OVERHAUL THE SAFETY LOCK WIRE ON ONE CLAMP BOLT WAS BEING CUT. AS THE WIRE WAS CUT THE BOLT FELL FROM ITS LOCATION IN THE BLADE CLAMP. IT IS BELIEVED THAT THE BOLT IS NOT A HARTZELL MANUFACTURED PART AS THE PART NUMBER IS NOT ON ITS OUTER CIRCUMFERENCE AS DESCRIBED IN HARTZELL SERVICE BULLETIN 137A. IT WAS ALSO NOTICED THAT THE TWO BLADE CLAMP HALVES WERE MISMATCHED BY SN WHICH IS NOT ACCEPTABLE PRACTICE IAW THE MANUFACTURER. THIS COULD HAVE CONTRIBUTED TO THE BOLT FAILURE (TC NR 20091127005) | | | | | |
| 2010FA0000004 | | | | STARTER GEN | MISOVERHAULED |
| 11/13/2009 | | | | 23085025 | ENGINE |
| DURING DISASSEMBLY OF THIS STARTER GENERATOR THAT WAS RECEIVED FOR ROUTINE O/H, 3 ITEMS WERE NOTED THAT ARE NOT APPROVED BY THE MFG 23085 SERIES, REV 4, 8/12/2003, 24-30-19 CMM. THE STATOR WAS COATED WITH GLYPTOL PAINT. CMM STATES THAT "THE USE OF GLYPTOL ON EITHER THE ARMATURE OR STATOR WINDINGS IS STRICTLY PROHIBITED. UNITS HAVING GLYPTOL COATING ON EITHER OF THESE PARTS MUST HAVE THESE PARTS REPLACED PRIOR TO RETURNING UNITS TO SERVICE." GLYPTOL WAS ALSO FOUND COATING THE INSIDE OF THE AIR SCOOP. THIS IS NOT APPROVED BY MFG SPD 1002. ANTI-DRIVE END BEARING LINER HAD BEEN STAKED IN 2 PLACES, PRESUMABLY TO HOLD THE BRG IN PLACE. THIS IS NOT AN APPROVED PRACTICE IAW CMM. THE LINER MUST EITHER BE REPLACED OR REPLATED IT THE DIMENSIONS ARE NOT WITHIN TOLERANCES. IT CMM HAD BEEN FOLLOWED AT THE PREVIOUS REPAIR FACILITY, THESE ITEMS WOULD NOT HAVE BEEN AN ISSUE. (K) | | | | | |
| 2010FA0000012 | | | | CONDENSER | FAILED |
| 12/21/2009 | | | | 1051676 | SERIES CIRCUIT |
| THIS CONDENSER FAILED WITH LESS THAN 10 HOURS TIME-IN-SERVICE. SERIES CIRCUIT OPENED UP INTERNALLY, CAUSING CONTACTS TO BURN AND MAG TO QUIT. SUSPECT MFG DEFECT ON THIS PART. MFG HAS BEEN NOTIFIED OF THIS TREND, AND FAILED CONDENSERS WILL BE RETURNED TO THEM FOR THEIR ANALYSIS. (K) | | | | | |
| 2010FA0000014 | | | | CONDENSER | FAILED |
| 12/21/2009 | | | | 1051676 | MAGNETO |
| THIS CONDENSER FAILED WITH LESS THAN 10 HOURS TIME-IN SERVICE. SERIES CIRCUIT OPENED UP INTERNALLY, CAUSING CONTACTS TO BURN AND MAG TO QUIT. THIS IS SECOND CONDENSER TO FAIL IN THIS MANNER WITH LOW TIS SINCE NEW. MFG CONTACTED SAID THEY HAVE NOT SEEN A TREND OF BAD CONDENSERS. | | | | | |
| 2010FA0000061 | | CONT | | BLADE | CORRODED |
| 1/7/2010 | | IO470* | | | PROPELLER |

PROPELLER RECENTLY OVERHAULED 10/29/2009 PROPELLER CAME IN FOR REPITCH WITH NO TIME ON SINCE OVERHAULED. 1 BLADE PAINT WAS REMOVED AND LOTS OF CORROSSION LEFT UNDER PAINT NOT REMOVED AS SHOULD BE WITH OVERHAUL. PROPELLER WILL HAVE TO BE REOVERHAULED TO DETERMINE THAT SPECIFICATIONS OF WIDTH AND THICKNESS WILL STILL BE AMPLE AFTER REPAIRS.

| | | | |
|---|---|---|---|
| CA091124005 | CONT | FUEL CONTROL | MALFUNCTIONED |
| 10/14/2009 | IO520BB | | ENGINE |

(CAN) ENGINE WOULD QUIT ON LANDING WHEN TAXIING OFF OF RUNWAY. FOUND FUEL CONTROL UNIT HAD AREAS OF TRAVEL ON MIXTURE SIDE WAS HARD TO MOVE. HAVE HAD THREE DIFFERENT AIRCRAFT WITH THE SAME PROBLEM ALL WITH LESS THAN 250 HRS TOTAL TIME ON OVERHAULED ENGINES AND LESS THAN 6 MONTHS OF BEING INSTALLED IN THE AIRCRAFT. (TC NR 20091124005)

| | | | |
|---|---|---|---|
| CA091201003 | CONT | TERMINAL | FAILED |
| 11/30/2009 | TSIO550C | | PROPELLER DEICE |

(CAN) PILOT NOTICED PROPELLER DEICE FAILURE ANNUNCIATION. INVESTIGATION FOUND DEICE BOOT WIRE TERMINALS FAILED. (TC NR 20091201003)

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|---|---|---|---|
| 2010FA0000038 | PWA | PLANETARY GEAR | MISMANUFACTURED |
| 12/22/2009 | PT6A28 | E3035030 | 2ND STAGE |

2ND STAGE PLANET GEARS HAVE ON THE INTERNAL BORE A PRESS FIT BUSHING (PN E3035030). THIS BUSHING HAS ITS BORE COATED OR SPRAYED WITH BRONZE MATERIAL INTRODUCED BY SB 1404. DURING OUR INSP WE OBSERVED THAT THIS BRONZE COATING HAD ROTATED FROM ITS ORIGINAL POSITION INDICATING THAT IT IS LOOSE. HAVING SEPARATED FROM THE INTERNAL WALL OF THE BUSHING. THIS SITUATION COULD LEAD TO METAL CONTAMINATION AND GEARBOX FAILURE. THIS IS MFG DEFECT.

| | | | | |
|---|---|---|---|---|
| CA091124003 | AEROSP | PWA | SYMBOL GENERATOR | MALFUNCTIONED |
| 11/22/2009 | ATR42300 | PW120 | | EHSI |

(CAN) ON ENGINE NR 1 START, THE CAPTAINS EHSI WENT UNSERVICEABLE AND C/B POPPED. C/B RESET WITH NO POSITIVE RESULT. ODOR OF SMOKE WAS OBSERVED. EHSI AND SYMBOL GENERATOR REPLACED. SYSTEM FUNCTION CHECKED SERVICEABLE. (TC NR 20091124003)

| | | | | |
|---|---|---|---|---|
| CA091203003 | AIRBUS | GE | DUCT | CRACKED |
| 12/2/2009 | A310300 | CF680C2A8 | A4933101500201 | APU BOOST PUMP |

(CAN) PIREP DEFECT 1037394 - FUEL MIGRATING FROM LT INNER TANK TO CTR TANK. MX FOUND THE APU BOOST PUMP CANNISTER DELIVERY DUCT CRACKED. REPLACED PER MM 49-32-14 AND SERVICEABLE. (TC NR 20091203003)

| | | | | |
|---|---|---|---|---|
| CA091202002 | AIRBUS | GE | BOLT | DIRTY |
| 11/30/2009 | A319114 | CFM56* | | RUDDER ACTUATOR |

(CAN) F/CREW NOTED A LOSS OF YELLOW HYD FLUID DURING FLIGHT MCO TO YYZ. MAINTENANCE IN YYZ NOTED EVIDENCE OF HEAVY BUILD-UP ON THE RUDDER. FURTHER INVESTIGATION FOUND TWO OF THREE ATTACH BOLTS FOR ONE OF THE ACTUATOR RODS SHEARED. BOLTS SHANKS REMAINED BUT HEADS WERE MISSING. SEE ATTACHED PICTURES. (TC NR 20091202002)

| | | | |
|---|---|---|---|
| 2010FA0000042 | AMTR | GROMMET | FAILED |
| 12/22/2009 | GREATLAKES | | FIRE WALL |

FAILURE OF A RUBBER GROMMET ON THE PRIMARY 28 VDC DC POWER CABLE PASSING THROUGH THE FIRE WALL WAS FOUND DURING AN INSPECTION. FAILURE OF THIS GROMMET AND CHAFING THROUGH THE INSULATION WOULD CAUSE SHORTING OF THE BATTERIES AND A FIRE STARTING IN THE FRONT COCKPIT. THE MASTER RELAY WAS INSTALLED FWD OF THE FIREWALL, MEANING THAT THE 28 VDC POWER CABLE THAT PASSES THROUGH THE FIREWALL AND IS "HOT - LIVE", EVEN WITH THE MASTER SWITCH IN THE "OFF" POSITION. THE BATTERIES ARE LOCATED IN THE FRONT COCKPIT, AFT OF THE FIREWALL. A FIRE COULD HAPPEN IN FLIGHT OR EVEN IT THE ACFT WERE IN STORAGE (UNLESS THE BATTERIES ARE DISCONNECTED. THE MASTER RELAY

SHOULD BE LOCATED AFT OF THE FIREWALL AND CLOSE TO THE BATTERY BOX, SO THAT WITH THE MASTER RELAY SWITCHED "OFF" ALL CIRCUITS WOULD BE "COLD-DEAD", WITH NO CHANCE OF SHORTING THE BATTERIES. THE FIELD CIRCUIT WIRING SHOULD HAVE GONE THROUGH THE MASTER SWITCH TO CONTROL THE GENERATOR SYS. THIS ACFT WAS FOUND NOT TO HAVE THIS, WHEN THE ENGINE RUNS THE GENERATOR SYS IS "HOT-LIVE", AND THE PILOT HAS NO WAY TO KILL THE GENERATOR, SHOULD THERE BE A SHORT IN THE 28VDC.

| | | | | | |
|---|---|---|---|---|---|
| 2010FA0000015 | AMTR | LYC | LYC | SHROUD | CRACKED |
| 1/10/2010 | RV9A | O320D2J | FRCN040 | AEL14995 | NR 3 CYLINDER |

PN AEL 14995 (SPRING, SHROUD TUBE) WAS FOUND BROKEN ON NR3 CYLINDER. THE TUBE HAD BACKED PARTIALLY OUT LEAKING A SMALL AMOUNT OF OIL.

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|---|---|---|---|---|
| 2010FA0000022 | AYRES | WRIGHT | SPAR | CRACKED |
| 1/4/2010 | S2R | R182071 | 40261T023 | VERTICAL STAB |

TOP RUDDER ATTACH BRACKET CRACKED OUT OF REAR SPAR ON THE VERTICAL FIN. NOTICED CRACK AT ANNUAL INSPECTION. POSSIBLY INSTALL A HEAVIER REAR SPAR OR BEEF UPS IN THAT AREA.

| | | | | |
|---|---|---|---|---|
| CA091112004 | BEECH | PWA | LEVER | WORN |
| 11/10/2009 | 1900C | PT6A65B | 50944078 | THROTTLE |

(CAN) THE ALUMINUM INPUT LEVER ARM THAT GOES ONTO THE SHAFT FOR THE ENGINE CONTROL CAMBOX, LOCATED ON THE ENGINE, SLIPPED ON THE SHAFT CAUSING A RE-INDEXING OF THE ENGINE RIGGING, PILOTS WERE UNABLE TO REDUCE THE POWER TO IDLE. THIS IS A VERY POOR DESIGN FROM BEECHCRAFT. THE ALUMINUM ARM HAS NO SPLINES AND SLIDES OVER A STEEL SHAFT WITH VERY SMALL SPLINES. THE CLAMPING BOLT (ON THE LEVER) MUST BE EXTREMELY TIGHT (BEYOND STANDARD TORQUE AND NO SPECIAL TORQUE IS LISTED IN THE MAINTENANCE MANUAL) AND SINCE THERE IS NO SPLINES ON THE ARM, IT CAN EASILY SLIP ON THE SHAFT IF THE ARM IS NOT IN PERFECT CONDITION AND THE BOLT IS NOT OVER TIGHT. THIS IS THE MAIN PART USED TO TRANSFER POWER LEVER INPUTS FROM THE COCKPIT TO THE ENGINE. (TC NR 20091112004)

| | | | | |
|---|---|---|---|---|
| CA091118013 | BEECH | PWA | DOUBLER | CRACKED |
| 11/15/2009 | 1900C | PT6A65B | | HORIZOTNAL STAB |

(CAN) DURING A SCHEDULED 1200 HOUR INSPECTION, A CRACK WAS FOUND ON A DOUBLER WHERE THE HORIZONTAL STAB MEETS THE VERTICAL STAB ON THE TAIL. MAINTENANCE GROUNDED THE AIRPLANE IMMEDIATELY. UPON FURTHER INVESTIGATION, IT WAS FOUND THAT THE BOLTS THAT HOLDS THE VERTICAL AND HORIZONTAL STAB TOGETHER WERE NOT TIGHT. BELIEVE THAT THIS WAS THE MAIN CAUSE FOR THE CRACK BECAUSE OF THE MOVEMENT/FLEXING OF THE TWO STRUCTURES. PLEASE SEE ATTACHED PHOTOS (TC NR 20091118013)

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|---|---|---|---|---|
| CA091130003 | BEECH | PWA | SHAFT | BROKEN |
| 11/18/2009 | 1900C | PT6A67D | 1013800002 | TE FLAPS |

(CAN) NR 3 FLAP FLEX SHAFT (RT INBD) SHEARED CAUSING SPLIT FLAP PROTECTION TO SHUTOFF FLAP SYSTEM. (TC NR 20091130003)

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|---|---|---|---|---|
| CA091117004 | BEECH | PWA | MOUNT | BROKEN |
| 11/16/2009 | 3NM | R985AN14B | 18S9100 | ENGINE |

(CAN) FOUND ON ANNUAL INSPECTION, FORWARD END OF LOWER RT ENGINE MOUNT TUBE MEMBER BROKEN COMPLETELY AROUND TUBE AT DATA PLATE ATTACH RIVETS LOCATION. FAILURE LOOKS LIKE IT BEGAN AT THE FORWARD END OF THE DATA PLATE ATTACHING RIVETS. MAY HAVE CRACKED FROM RIVET TO RIVET THEN AROUND THE REST OF THE TUBE. (TC NR 20091117004)

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|---|---|---|---|---|
| 2010FA0000001 | BEECH | CONT | ARM | CRACKED |
| 1/7/2010 | 58 | IO550* | 3582517213 | NLG ACTUATOR |

NOSE GEAR ACTUATOR ARM FOUND CRACKED IN AREA OF WHERE THE ARM JOINS THE INPUT DRIVE BOSS. 2 OF THE 4 WEBS ATTACHING THE ARM TO THE BOSS WERE CRACKED.

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|---|---|---|---|---|
| 2010FA0000043 | BEECH | | TORQUE TUBE | CRACKED |

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|---|---|---|---|---|
| 12/11/2009 | 99A | | 115610015 | RT ELEVATOR |

WHILE PERFORMING MAGNETIC PARTICLE INSP IAW SB 2145 OF (RT) ELEVATOR TORQUE TUBE FOUND CRACKED ON (RT) TORQUE TUBE, THE PIN HOLE AREA.

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|---|---|---|---|---|
| CA091202018 | BEECH | GARRTT | SHUTOFF VALVE | MALFUNCTIONED |
| 11/30/2009 | B100 | TPE3316252B | | CABIN AIR |

(CAN) BOTH FLOW PACKS INSTALLED ON AIRCRAFT CHECKED ON GROUND RUN, VERY SLOW TO PRODUCE PRESSURIZATION ON EITHER SIDE. TESTED BOTH SIDES IN HANGAR IAW MM, FOUND FIRE WALL SHUTOFF VALVE WOULD NOT OPEN AT SPECIFIED PRESSURE. LEFT SIDE REQUIRED 30 PSI AND OVER A MINUTE TO START OPENING AND 40 PSI TO FULLY OPEN. MM SPECIFIES 19 PSI AND MAX 25 SECONDS TO FULLY OPEN. RIGHT SIDE REQUIRES 19 PSI TO START OPENING AND 30 PSI TO FULLY OPEN. (TC NR 20091202018)

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|---|---|---|---|---|
| CA091126001 | BEECH | PWA | GOVERNOR | MALFUNCTIONED |
| 11/23/2009 | C90 | PT6A21 | | FUEL CONTROL |

(CAN) AFTER TAKEOFF THE ENGINE EXPERIENCED AN UNCOMMANDED POWER INCREASE AND WAS SHUT DOWN. INVESTIGATION REVEALED A FAULTY FUEL CONTROL GOVERNOR SECTION. (TC NR 20091126001)

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|---|---|---|---|---|
| 2010FA0000037 | BEECH | | TERMINAL | LOOSE |
| 1/15/2010 | F33A | | | SWITCH |

CONTACT TERMINALS ARE LOOSE AND CAN BE MOVED BY HAND. SWITCH THROW HANDLE IS ALSO LOOSE AND CAN BE MOVED FROM ANY POSITION.

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|---|---|---|---|---|
| 2010FA0000036 | BEECH | | TERMINAL | LOOSE |
| 1/15/2010 | F33A | | | CONTROL PANEL |

CONTACT TERMINALS ARE LOOSE AND CAN BE MOVED BY HAND. SWITCH THROW HANDLE IS ALSO LOOSE AND CAN BE MOVED FROM ANY POSITION.

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|---|---|---|---|---|
| CA091203001 | BELL | ALLSN | FRICTION RING | DAMAGED |
| 12/1/2009 | 407 | 250C47B | 200SGL132Q | STARTER GEN |

(CAN) DURING ANNUAL INSPECTION/UNSCHEDULED ENGINE CHANGE, STARTER/GENERATOR WAS REMOVED & INSPECTED BEFORE TRANSFER TO REPLACEMENT ENGINE. AME NOTICED FRICTION RING SPLIT & PROTRUDING FROM SHAFT PLATE. STARTER GENERATOR SENT TO LOCAL REPAIR FACILITY FOR REPAIR. INSPECTION REPORT INDICATES FRICTION RING WAS FOUND TO BE CLAMPED SECURELY BETWEEN SHAFT PLATE & DAMPER PLATE, DUE TO THE SHAFT NUT BEING TIGHTENED DOWN ALL THE WAY. NEW FRICTION RING INSTALLED IAW CMM.

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|---|---|---|---|---|
| CA091202012 | BOEING | RROYCE | FAN BLADE | UNKNOWN |
| 12/2/2009 | 717200 | BR700715A130 | BRH20390 | |

(CAN) ENGINES 13372 AND 13338 ARE IN FOR MAINTENANCE. DURING DETAIL INSPECTION OF 1 OFF FAN BLADE FROM ENGINE 13372 BRH20390 S/N RGK14109 IT WAS NOTED FROM INSPECTION RECORD DATABASE THAT SERIAL NUMBER WAS IDENTICAL TO ENGINE 13338 FAN BLADE, BRH20390 S/N RGK14109. THE FAN BLADE ON BR715 ARE CLASSIFIED PART (SENSITIVE COMPONENT) AND SERIAL NUMBER IS UNIQUE FOR TRACEABILITY AND ENGINE LOG BOOK LIFE MONITORING. A SAFETY ALERT HAS BEEN SUBMITTED TO THE OEM (RRD). (TC NR 20091202012)

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|---|---|---|---|---|
| CA091125005 | BOEING | | STRUCTURE | CHAFED |
| 10/1/2009 | 7377* | | | INTERIOR |

(CAN) WITH REGARDS TO THE EXOTRIM INTERIOR SUPPORT STRUCTURE DAMAGE WAS FOUND. 1. LOCK FASTENERS CHAFING ON THE ALUMINUM STRUCTURE (FROM INITIAL INTERIOR INSTALL) 2. SECURING SCREWS BEING USED WERE TOO LONG CHAFING INTO THE ALUMINUM SUB-STRUCTURE (FROM ORIGINAL INTERIOR INSTALL) (TC NR 20091125005)

| | | | | | |
|---|---|---|---|---|---|
| CA091202016 | BOEING | GE | BOEING | SCUFF PLATE | DAMAGED |
| 12/1/2009 | 737800* | CFM56* | | 141A48421 | WINDOW |

(CAN) AFTER DEPARTURE FROM YEG, CREW REPORTED DIFFICULTY PRESSURIZING THE AIRCRAFT AND THE LT SLIDING WINDOW APPEAR TO BE NOT CLOSED PROPERLY. AIRCRAFT RETURNED TURNED BACK FROM FLIGHT AND LANDED SAFELY IN YEG. ON INVESTIGATION, FOUND THE SCUFF PLATE ON LT CD POST (FWD FRAME OF SLIDING WINDOW CUT-OUT) CRACKED AND SLIGHTLY DISLOCATED FROM ORIGINAL POSITION. THIS PLATE IS INSTALLED ONLY ON POST-MOD AIRCRAFT PER SB B737-56-1024. THIS PRESUMABLY PREVENTED THE LT SLIDING WINDOW FROM CLOSING PROPERLY CAUSING A PRESSURIZATION LEAK. (TC NR 20091202016)

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|---|---|---|---|---|
| CA091125001 | BOEING | GE | BEARING | FAILED |
| 11/18/2009 | 767333 | CF680C2B6F | | MLG WHEEL |

(CAN) NR 4 MAIN WHEEL INNER BEARING HAD A COMPLETE FAILURE. MAINTENANCE SPOTTED THE MAIN WHEEL SITTING AT AN ODD ANGLE ON THE GATE AND INVESTIGATED. OUTER BEARING AND THE PIECES LEFT FROM THE INNER BEARING HAVE BEEN HANDED OVER TO BOEING FOR FURTHER INVESTIGATION. THE MAIN WHEELS HAS BEEN SHIPPED TO AVEOS IN YUL FOR LAB TESTING. (TC NR 20091125001)

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|---|---|---|---|---|
| 2010FA0000044 | BOEING | | TURBINE WHEEL | CRACKED |
| 7/12/2009 | 777306ER | | 1865M13G03 | ENGINE |

DURING O/H OF THE STAGE 1 HPT DISK AFTER 18642 HRS AND 3330 CYCLES SINCE NEW. INSP OF THE DISK IAW ATA 72-53-02 INSP 001 REVEALED 5 OFF CRACKS DURING A CLASS G FPI. 4 OFF CRACKS WERE NOTED TO THE EDGE OF THE LOWER PRESSURE FACE AND 1 OFF CRACK NOTED TO THE EDGE OF THE UPPER PRESSURE FACE. ALL CRACKS WERE APPROX 0.5" IN LENGTH. THE OEM HAS BEEN INFORMED.

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|---|---|---|---|---|
| CA091124001 | BOLKMS | LYC | GEARBOX | MAKING METAL |
| 10/9/2009 | BK117B2 | LTS101750B1 | 1171200501 | MAIN ROTOR |

(CAN) DURING TRAINING FLIGHT, PILOTS NOTED TRANSMISSION CHIP LIGHT, BURN-OFF ATTEMPTED PER FLM. NOT SUCCESSFUL, RETURNED TO BASE AME INSPECTED CHIP DETECTOR. FUZZ FOUND CLASS C CHAP 11 TABLE 11-2 MM. CLEANED AND GROUND RUN, NO FAULT FOUND. AIRCRAFT RETURNED TO SERVICE. PILOTS RESUMED TRAINING, NOTED TRANSMISSION CHIP LIGHT. BURN-OFF ATTEMPTED PER FLM. NOT SUCCESSFUL, RETURN TO BASE AME INSPECTED CHIP DETECTOR, CHIPS FOUND CLASS D-F CHAP 11 TABLE 11-2 MM. MAIN TRANSMISSION REMOVED FOR REPAIR (TC NR 20091124001)

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| CA091124002 | BOLKMS | LYC | TRANSMISSION | MAKING METAL |
| 10/20/2009 | BK117B2 | LTS101750B1 | 1171200501 | MAIN ROTOR |

(CAN) PILOTS NOTED TRANSMISSION CHIP LIGHT IN FLIGHT, RETURNED TO BASE. AME INSPECTED CHIP DETECTOR. METAL FOUND ON CHIP DETECTORS. MAIN TRANSMISSION REMOVED FOR REPAIR (TC NR 20091124002)

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|---|---|---|---|---|
| CA091120001 | BOMBDR | PWC | PROBE | MALFUNCTIONED |
| 11/17/2009 | DHC8400 | PW150A | 028069109 | FUEL TANK |

(CAN) ON CRUISE NR 2 TANK FUEL LOW, CAUTION LIGHT ILLUMINATED, FUEL INDICATOR WAS ERRATIC WITH READING OF DASHES. ON FINAL APPROACH FOR LANDING ABOUT 8 MILES, ENG NR 2 FLAME OUT. MAINTENANCE ACTION, PERFORMED FUNCTIONAL TEST OF THE FUEL CONTROL ELECTRICAL WIRING HARNESS IAW AMM TASK 73-21-11.720.80, OK PERFORMED FUEL QUANTITY CHECK OF LT AND RT FUEL TANKS USING MAGNA STICK IAW AMM TASK 28.40.26.610.801 RESULTS: LT 769 KG. RT NIL PERFORMED FIM TASK NR 28-40.00.810.827 FOUND TANK PROBE NR 9 FAULTY. (TC NR 20091120001)

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|---|---|---|---|---|
| 2010FA0000006 | CESSNA | LYC | SHAFT | WORN |
| 12/7/2009 | 152 | O235L2C | | THROTTLE |

PARTIAL POWER LOSS AT 200 FT AGL. ACFT SUCCESSFULLY LANDED OFF AIRPORT WITHOUT DAMAGE. INSP OF CARBURETOR FOUND FUEL STAINS AROUND THROTTLE SHAFT ON BOTH SIDES- ACCELERATOR PUMP END AND THROTTLE ARM END. UNIT DISASSEMBLED. FOUND SHAFT WEAR EXCESSIVE AND CONTACT WEAR ON THROTTLE PLATE. UNIT SENT FOR REPAIR. UNIT RETURNED WITH NEW SHAFT, THROTTLE PLATE WITH SCREWS, BUSHINGS, AND NEWEST COMPLAINT FLOAT KIT. EXTENSIVE GROUND RUN UPS TO FULL POWER ACCOMPLISHED. RELEASED FOR FLIGHT.

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| 2010FA0000018 | CESSNA | | CONNECTOR | BURNED |

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| 1/13/2010 | 172P | | | S20641 | LANDING LIGHTS |

LANDING & TAXI LIGHTS INOP ON PRE-FLIGHT. FOUND COWLING CONNECTOR ASSY, COMPRISING PN S1637-3 & -4, PLUS POWER WIRE AND CONNECTOR PINS BURNED AND CONNECTOR MELTED. REPLACED CONNECTOR AND REMOVED BURNED POWER WIRE. OPS CHECK SAT. THIS CONDITION IS CAUSED BY LEAVING LANDING AND TAXI LIGHTS ON IN FLIGHT FOR EXTENDED TIMES AS THE SYS IS NOT CAPABLE OF THIS ELECTRICAL LOAD FOR EXTENDED OPERATION WITH OUT OVERHEATING WIRES, CONNECTORS AND SWITCHES. SEB09-6A ADDRESSED THIS PROBLEM WITH THE LANDING/TAXI LIGHT SWITCHES REQUIRING INITIAL SWITCH REPLACEMENT AND REOCCURRING REPLACEMENT AT 4 YEARS. SWITCH WAS REPLACED PREVIOUSLY DUE TO OVERHEATING. THIS PROBLEM EXISTS WITH THIS MODEL ACFT, 12 AND 24 VOLT SYS, WITH CONTINUOUS OPERATION OF LANDING LIGHT AND OR TAXI LIGHTS. IN A FLIGHT TRAINING OPERATION MORE NUMEROUS TAKEOFF AND LANDINGS ARE CONDUCTED ON A DAILY BASIS CONTRIBUTING TO THIS PROBLEM. A FIRE HAZARD EXISTS IF OVERHEATED COMPONENTS ARE NOT DETECTED.

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| CA091126005 | CESSNA | LYC | LYC | RING GEAR | FAILED |
| 11/23/2009 | 172S | IO360L2A | | 72566 | STARTER |

(CAN) ONE TOOTH ON RING GEAR ASSEMBLY WAS MISSING, TOOTH BROKEN AT BASE, NO EVIDENCE OF DAMAGE ON STARTER PINION GEAR FOUND. NO EVIDENCE OF STARTER KICK BACK/ENGINE KICK BACK NOTED. NO OTHER DAMAGE NOTED ON ANY GEAR TEETH. SUSPECT QUALITY CONTROL AT POINT OF MANUFACTURE. (TC NR 20091126005)

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| 2010FA0000033 | CESSNA | LYC | CONTROL CABLE | DAMAGED |
| 1/8/2010 | 172S | IO360L2A | 0510105365 | AILERONS |

CABIN OVERHEAD CTR PANEL WAS REMOVED FOR PROGRESSIVE INSP. DURING FLAP & AILERON CABLE INSP FLAT SPOTS WERE NOTICED ON 3 AILERON CONTROL CABLES. ROLLED CABLES FOR BETTER VIEW OF CONTACT POINT WITH PULLEYS AND WAS ABLE TO CATCH FRAYED WIRES WITH A RAG AND COULD SEE A SUBSTANTIAL GROOVE IN THE CARRY-THRU CABLE. CABLE TENSIONS WERE WITHIN PROPER SPECS AND AREA WAS CLEAN & FREE OF ANY DIRT/DEBRIS. ALSO PLASTIC PULLEYS WERE INSPECTED, THEY WERE CLEAN AND FREE TO ROLL. THIS PROBLEM SEEMS TO BE HAPPENING DURING NORMAL FLIGHT TRAINING SCHOOL USE AND HAS BEEN NOTICED TO BE HAPPENING WITH OUR OTHER ACFT WITH THE SAME TIMES. CAUSE IS PROBABLY FROM PULLEYS THEMSELVES. THEY ARE MADE FROM A HARD WHITE PLASTIC MATERIAL. THE BRAIDED STEEL CABLES ARE RUBBING AGAINST THE PULLEYS INSTEAD OF ROLLING ON THEM. THAT IS CAUSING THEM TO FLAT SPOT AT FIRST AND THEN GROOVE ONCE WORN INTO THE CABLE DEEP ENUGH. THERE IS ALSO NO NOTICIBLE CABLE DEFLECTION WHERE THE CABLES CONTACT THE PULLEYS, SEEMS LIKE THE PULLEY DIAMETER IS TOO SMALL. REPLACE THE PULLEYS WITH A NORMAL BROWN PHENOLIC TYPE PULLEY USED IN ALL OTHER AREAS OF THE ACFT OR TO ENLARGE THE PULLEY DIAMETER TO INCREASE THE CABLE TO PULLEY CONTACT.

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| CA091125003 | CESSNA | LYC | ALTERNATOR | FAILED |
| 11/22/2009 | 172S | IO360L2A | 991059111RX | ENGINE |

(CAN) THE AIRCRAFT PFD INDICATED CHARGING SYSTEM FAILURE IN FLIGHT. AIRCRAFT RETURNED TO BASE TROUBLE SHOOTING C/O FOUND ALTERNATOR FAILED, UNIT ONLY HAD 300 HRS SINCE OVERHAUL. MANUFACTURER RECOMENDS 500 HR INTERVAL. (TC NR 20091125003)

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| 2010FA0000003 | CESSNA | CESSNA | ROD END | BROKEN |
| 12/11/2009 | 310 | | HM4 | RT MLG |

ROD END BROKE WHEN ATTEMPTING TO EXTEND THE LANDING GEAR IN FLIGHT. COULD NOT EXTEND THE GEAR, RESULTING IN A GEAR-UP LANDING. UPON INSPECTION OF THE ROD END, FOUND THAT IT HAD BEEN CRACKED PRIOR TO THE INCIDENT. PROBABLE CAUSE IS FATIGUE FAILURE DUE TO THE AGE OF THE COMPONENT. RECOMMEND TIME CHANGE REQUIREMENT. (K)

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| 2010FA0000005 | CESSNA | CONT | STUD | DAMAGED |
| 12/18/2009 | 337G | IO360G | 6436511 | CYLINDER DECK |

DURING THE TORQUE SEQUENCE FOR THE ENG O/H FINAL ASSY, FASTENERS ON THE ENG CASE WERE BROUGHT TO HALF THEIR FINAL TORQUE VALUES WITHOUT ISSUE IAW THE CURRENT MM AND PERTINENT SB`S. THEN WHILE ATTEMPTING TO REACH FINAL TORQUE VALUES, NOTED THAT MANY OF THE STUDS SEEMED TO BE PULLING FROM THE CASE RATHER THAN REACHING TORQUE. REMOVED A CYLINDER TO INVESTIGATE, WHERE

WE DISCOVERED THE STUDS WERE STRETCHING. THEN REMOVED 2 STUDS TO EXAMINE THE THREADS IN THE CASE, NO DAMAGE WAS FOUND AND THE STUDS CENTER PORTIONS WERE OBVIOUSLY ELONGATED AND NARROWED IN THE CENTER. REQUESTS FOR POSSIBLE CAUSE TO THE MFG AND THE OTHER TECH ADVISORS SEEMED TO SPECULATE THAT THE STUDS MAY HAVE BEEN OVERTORQUED AT SOME POINT BRINGING THEM FROM AN ELASTIC STAT TO PLASTIC. (NOTE: THE STUDS WERE STRETCHING BETWEEN 220-350 IN/LBS OF TORQUE, WELL UNDER FINAL TORQUE VALUE).

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| 2010FA0000029 | CESSNA | CONTROL VALVE | CRACKED |
| 12/9/2009 | 421C | 99102251 | LANDING GEAR |

DURING AN ANNUAL INSP, A HAIRLINE CRACK WAS DISCOVERED ON THE BLOCK OF THE LANDING GEAR CONTROL VALVE, PN 9910225-1. THE CRACK WAS ALLOWING HYD FLUID TO LEAK OUT, THE LEAK WAS SMALL. THE PART HAD 16.1 HRS SINCE O/H. THE VALVE WAS SENT BACK TO O/H, WHERE THE BLOCK WAS REPLACED UNDER WARRANTY, NO EXPLANATION WAS GIVEN FOR THE CRACK, THE WARRANTIED PART WAS INSTALLED AND WORKED AS DESIGNED.

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| CNQ3200902 | CESSNA | DUCT | CHAFED |
| 12/4/2009 | 560CESSNA | 65155204 | ZONE 100 |

FOUND WIRE BUNDLE THAT ORIGINATES IN THE BOTTOM OF THE AFT J-BOX AND RUNS HORIZONTALLY THROUGH BULKHEAD VERTICLE SUPPORT STRUCTURE FEED-THROUGH HOLE TOWARD ORANGE FRESH AIR DUCT TO BE CHAFING ON THE FRESH AIR DUCT. FOUND MINOR DAMAGE TO THE SHIELDING BUT NOT TO THE CONDUCTORS. PERFORMED CONTINUITY CHECKS, REPAIRED AND INSTALLED PROTECTIVE SLEEVING IAW WIRING DIAGRAM, MM, CHAPTER 20. NOTIFIED MFG PRODUCT SUPPORT OF CONDITION FOUND.

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| 2010FA0000039 | CESSNA | PWC | ATTACH BRACKET | CRACKED |
| 11/26/2009 | 560XL | PW545B | 662403412 | AILERON |

DURING ACFT INSP THE RT AILERON ATTACH BRACKET PN 6624034-12 WAS FOUND CRACKED. THE CRACK APPROX 5MM IN LENGTH WAS STARTING FROM FORWARD BOTTOM EDGE TOWARDS THE BOTTOM RIVET. MFG WAS ADVISED ABOUT THE FINDING.

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| 2010F00003 | CESSNA | ACTUATOR | DEFECTIVE |
| 12/31/2009 | 680CE | 99142574 | PITCH TRIM |

AS THE ACFT CREW WAS PERFORMING THEIR COCKPIT CHECKLIST, THE SECONDARY PITCH TRIM FUNCTIONAL CHECK FAILED. MX WAS NOTIFIED AND TROUBLESHOT TO DEFECTIVE PITCH TRIM ACTUATOR. INSTALLED OVERHAULED PITCH TRIM ACTUATOR. PERFORMED OPS CHECK WITH NO DEFECTS NOTED.

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| CNQ3200903 | CESSNA | PLUG | UNDERTORQUED |
| 12/13/2009 | 750 | AN8146J | HYD SYSTEM |

AIRCRAFT LOST "B HYD PRESSURE IN FLIGHT AS THE RESULT OF HYD FLUID LOSS. FOUND FLUID TO BE LEAKING FROM PN AN814-6J PLUG, O-RING NAS1612-6 (REF. IPC 29-20-00, FIG.1001, PAGE 1, ITEM 17.) PLUG WAS FOUND TO BE AT LESS THAN SPECIFIED TORQUE. THIS PLUG IS INSTALLED ON PN 6707005-7 MANIFOLD ASSY-RUDDER STANDBY (REF.IPC 29-20-00, FIG. 1001, PAGE 1, ITEM 1.) O-RING WAS REPLACED, FILTERS CHECKED FOR DEBRIS, SYSTEM BLED AND OPERATIONALLY CHECKED. ACFT WAS RETURNED TO SERVICE.

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| CA091128001 | CESSNA | ALLSN | ACM | ODOR |
| 11/18/2009 | 750 | AE3007C | 73838433 | |

(CAN) DURING GROUND OPERATION, FLIGHT CREW OBSERVED AN ODOR IN THE CABIN, FOLLOWED BY HOT AIR BEING CIRCULATED IN THE CABIN. OPERATING THE TEMPERATURE CONTROLS IT WAS NOTED THAT THE COCKPIT ACM DUCT SUPPLY TEMPERATURE WAS RISING, REGARDLESS OF CABIN TEMP SELECTION. SYSTEM WAS DEFERRED AND AIRCRAFT OPERATED BACK TO A MAINTENANCE BASE WITHOUT INCIDENT. INVESTIGATION OF THE COCKPIT ACM FOUND THE UNIT DIFFICULT TO TURN. ONCE REMOVED FOR THE AIRCRAFT A PIECE OF DEBRIS, APPEARING TO BE BEARING CAGE WAS RATTLED FROM THE UNIT. COCKPIT ACM WAS REPLACED AND SERVICE IAW AMM 21, 12. UNIT GROUND CHECKED SERVICEABLE. SYSTEM DEFERRAL CLEARED AND AIRCRAFT RETURNED TO SERVICE. (TC# 20091128001)

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|---|---|---|---|
| 2010FA0000031 | CESSNA | SWITCH | CRACKED |

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|---|---|---|---|---|
| 12/17/2009 | R172K | | S19061 | TE FLAPS |

OWNER COMPLAINT - WHEN FLAPS "DOWN" WAS SELECTED, SPARKS CAME OUT AROUND HANDLE. FOUND MICROSWITCH PN S1906-1, BROKEN IN HALF, AND SHORTING OUT ON MOUNTING BRACKET. SWITCH BELIEVED TO BE ORIGINAL. REPLACED SWITCH, ALL OPS NORMAL.

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| 2010FA0000030 | CESSNA | CONT | ADAPTER | BROKEN |
| 12/18/2009 | T210N | IO550P | 642083A2 | STARTER |

DURING 100HR INSP FOUND GEAR TOOTH IN OIL SUMP DRAIN PLUG. INVESTIGATED, FOUND STARTER DRIVE TOOTH BROKEN AND MATCHED TOOTH TO GEAR. NO FURTHER DAMAGE NOTED.

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|---|---|---|---|---|
| CA091124006 | CESSNA | CONT | LANDING GEAR | STUCK |
| 11/23/2009 | T310P | TSIO520B | | NOSE |

(CAN) NOSE RETRACTION AFTER TAKEOFF, NLG STUCK IN PARTIALLY RETRACTED POSITION. EMERGENCY EXTENSION ATTEMPTED WITH NO MOVEMENT IN NOSE GEAR. EMERGENCY LANDING CARRIED OUT. GEAR INSPECTION TO BE CARRIED OUT TO DETERMINE CAUSE. (TC NR 20091124006)

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|---|---|---|---|---|
| CA091202010 | CESSNA | CONT | SHAFT | BROKEN |
| 11/27/2009 | U206F | IO520F | | ELEVATOR TRIM |

(CAN) IT APPEARS THE THREADED SHAFT OF THE ELEVATOR TRIM BROKE ON TAKEOFF OR IMMEDIATELY AFTER, CAUSING THE ELEVATOR TO JAM AND CREATING FLUTTER IN THE ELEVATOR CAUSING IT TO BREAK. THIS ALSO CAUSED THE OUTER PORTION OF THE RIGHT HORIZANTAL STABILZER TO FLUTTER AND BREAK THROUGH FRONT AND REAR SPAR. AIRCRAFT LANDED SAFELY UPDATES: WHEN ELEVATOR TRIM ACTUATOR BOLT BROKE, SOON AFTER THE ELEVATOR WAS JAMMED IN A FULL DOWN POSITION, FORCING THE AIRCRAFT TO PITCH UP. SHORTLY THEREAFTER, THE PILOT HEARD A LOUD NOISE FOLLOWED BY A TAIL SHUTTERING AND THE ELEVATOR PITCH CONTROL WAS REGAINED. THE PILOT WAS NEAR THE AIRFIELD AND WAS FORTUNATELY ABLE TO LAND SAFELY. THE TRIM ACTUATOR THREADED ROD WAS LATER FOUND TO BE BROKEN WHICH CAUSED THE JAM TO OCCUR BETWEEN THE TRIM TAB AND THE ELEVATOR ITSELF. THERE WAS NO EVIDENCE OF CORROSION ON THE FAILED THREADED ROD AND THE LUBRICANT WAS FRESH (NOT CONTAMINATED WITH MOISTURE OR WATER). NEW INFO: SDR SUBMITTER STATED THAT FAILED ACTUATOR ASSY IS AN OLDER PART NUMBER THAT DOES NOT HAVE A GREASE NIPPLE FOR LUBRICATION PURPOSES. (TC NR 20091202010)

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|---|---|---|---|---|
| WL7R200121109 | CNDAIR | WINSLOW | CLAMP | IMPROPER PART |
| 12/11/2009 | CL6002B16 | 1218FAAVSL | 3202 | LIFE RAFT |

DURING ROUTINE INSP OF LIFE RAFT, SN 11218 LAST SERVICED, IT WAS DISCOVERED THAT A HAND CLAMP PN 3202 POSSIBLY USED AS A PACKING AID IN THE FOLDING PROCESS WAS NOT REMOVED PRIOR TO RETURN TO SERVICE. IT SHOULD BE NOTED THAT THIS CLAMP IS NOT CALLED OUT FOR IN CMM 25-60-101. FAILURE TO REMOVE THE CLAMP PRIOR TO THE LIFE RAFT BEING INSERTED INTO THE CARRYING CASE (VALISE)COULD HAVE PREVENTED PROPER INFLATION OF THE LIFE RAFT IN THE EVENT OF AN EMERGENCY. THE CLAMP MAY HAVE BEEN ATTACHED TO THE UPPER AND LOWER BUOYANCY TUBE CHAMBERS DURING THE FOLDING PROCESS.

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| CA091202004 | CNDAIR | GE | DETECTION SYS | FAULTED |
| 11/30/2009 | CL6002B19 | CF343A1 | 8004301 | TE FLAP |

(CAN) ON APPROACH TO MKE THE FLAPS FAILED AT ZERO DEGREES WHEN SELECTED TO 8 DEGREES. FLAP FAIL CAUTION MESSAGE DISPLAYED. AN UNEVENTFUL FLAP ZERO LANDING WAS CARRIED OUT. THE FLAPS WERE MANUALLY CONFIGURED TO 8 DEGREES BY MTC AND THE A/C FERRIED TO A MTC BASE. FECU CODES RETRIEVED INDICATED THE SKEW DETECTION UNIT. THE SKEW DETECTION UNIT ALSO HAD FAULT LIGHTS ILLUMINATED. THE SKEW DETECTION UNIT WAS REPLACED AND THE SYSTEM TESTED SERVICEABLE. SKEW DETECTION UNIT P/N 80-043-01, S/N A994 WAS REPLACED (TC NR 20091202004)

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|---|---|---|---|---|
| 2010F00001 | CNDAIR | | UNKNOWN | ODOR |
| 12/24/2009 | CL6002C10 | | | CABIN |

AFTER TAKEOFF SMOKE ODOR WITH LITTLE HAZE IN CABIN NEAR ROWS 3 AND 4 IN GALLEY AREA, COFFEEMAKERS WERE NOT ON. ACFT WAS REMOVED FROM SERVICE. PERFORMED GVI OF CABIN AND GALLEY NO DEFECTS NOTED. ALL GALLEY AND CABIN SIDEWALL/CEILING LIGHTS ILLUMINATED. INSPECTED CABIN LIGHT

BALLASTS NO DEFECTS NOTED. INSPECTED AVIONICS BAY AND FOUND NO SMOKE ODOR OR EVIDENCE OF BURNING. PERFORMED SEVERAL HIGH POWER ENGINE RUNS IAW GHC WITH BOTH PACKS ON SERVERAL DIFFERENT SETTINGS COULD NOT DUPLICATE. THE ACFT WAS RETURNED TO SERVICE.

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|---|---|---|---|---|
| CA091201001 | CNDAIR | GE | OIL SYSTEM | LOW PRESSURE |
| 11/30/2009 | CL604 | CF343B | | RT ENGINE |

(CAN) DURING THE TAKEOFF ROLL, THE RT ENG LOW OIL PRESS INDICATION CAME ON THE CREW REDUCED ENGINE POWER TO IDLE AND THE ENGINE SHUT DOWN UNCOMMANDED AIRCRAFT RETURNED TO PARKING POSITION. INVESTIGATION ON GOING, FIRST CHECK OF OIL LEVEL SHOWED SUFFICIENT OIL QTY, NO SIGNS OF EXTERNAL OIL LEAKS. (TC NR 20091201001)

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| CA091201004 | CNDAIR | GE | TRANSMITTER | MALFUNCTIONED |
| 11/24/2009 | CL604 | CF343B | | SPOILERS |

(CAN) CADOR 2009C3326 ON TAKEOFF WHEN THE PILOT ADVANCED THE THRUST LEVERS HE GOT A CONFIGURATION SPOILER WARNING MESSAGE. THE TAKEOFF WAS REJECTED AND THE AIRCRAFT RETURNED TO BASE. UPON INVESTIGATION IT WAS FOUND THAT MAINTENANCE WAS PERFORMED ON THE RT FLIGHT SPOILER TRANSMITTER PRIOR TO THE FLIGHT. RIGGING OF THE FLIGHT SPOILER TRANSMITTER REFERS TO THE OPERATIONAL TEST OF THE FLIGHT SPOILER TRANSMITTER. ALL PROCEDURES WERE FOLLOWED FOR ADJUSTMENT AND TESTING OF THE TRANSMITTER AS REQUIRED BY THE MAINTENANCE MANUAL. THE TRANSMITTER ALSO GIVES AN INPUT FOR THE TAKEOFF CONFIGURATION. THERE IS NO REFERENCE TO TEST THE TAKE OFF CONFIGURATION AFTER ADJUSTING THE SPOILER TRANSMITTER IN THE MM. THE TRANSMITTER WAS READJUSTED AND TESTED. A CONFIGURATION CHECK WAS COMPLETED AND AIRCRAFT RETURNED TO SERVICE WITH NO FURTHER SNAGS (TC NR 20091201004)

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|---|---|---|---|---|---|
| CA091202015 | CNDAIR | GE | TACTAIR | SOLENOID | OPEN |
| 11/25/2009 | CL604 | CF343B | | 601R751451 | SELECTOR VALVE |

(CAN) MLG FAILED TO DEPLOY. QRH PROCEDURES FOLLOWED, ALT EXTENSION CARRIED OUT. T/S DISCOVERED OPEN CIRCUIT ON EXTEND SOLENIOD OF MLG SELECTOR VALVE. VALVE CHANGED AND GEAR SWINGS COMPLETED PER AMM. A/C RETURNED TO SERVICE. (TC NR 20091202015)

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|---|---|---|---|---|
| CA091130001 | CVAC | ALLSN | REGULATOR | MALFUNCTIONED |
| 8/20/2009 | 440 | 501D13D | 6505680 | PROPELLER |

(CAN) DURING CRUISE AT FL200 RT PROPELLER OVERSPEED WITHOUT DECOUPLING, ENGINE SHUTDOWN, PROPELLER FEATHERED AND LANDED AT CLEVELAND USA. PROPELLER REGULATOR REPLACED DUE INTERNAL FAILURE AND AIRCRAFT RETURNED TO SERVICE REF. AIRCRAFT LOG BOX PAGE 10872 DEFECT NR 1. (TC NR 20091130001)

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|---|---|---|---|---|
| CA091118010 | DHAV | PWA | CONTROL COLUMN | CRACKED |
| 11/17/2009 | DHC2MK3 | PT6A27 | C2CF33951 | COCKPIT |

(CAN) DURING INSTALLATION OF THE DUAL CONTROLS A CRACK WAS FOUND ON THE WELD AT THE BASE OF THE LOWER CONTROL COLUMN. THIS CRACK IS WHERE AWD CF-84-01R1, S/B 2/28 REV B REQUIRES INSPECTION. CRACK WAS INITIALLY NOTICED AS A PAINT CRACK AND UPON FURTHER INSP CONFIRMED WITH NDT AS AN ACTUAL CRACK. (TC NR 20091118010)

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|---|---|---|---|---|
| CA091203002 | DHAV | PWA | CYLINDER HEAD | CRACKED |
| 11/26/2009 | DHC2MKI | R985AN14B | 399355 | ENGINE |

(CAN) WHILE PERFORMING THE INSPECTION TO COMPLY WITH AD 78-08-07, OIL WAS NOTICED AT THE TOP OF THE CYLINDER BEAD AND ALSO ON AFT SECTION OF ENGINE. UPON FURTHER INSPECTION, A FINE CRACK WAS NOTICED BETWEEN THE COOLING FINS OF THE CYLINDER BEAD. (TC NR 20091203002)

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|---|---|---|---|---|
| CA091201005 | DHAV | PWA | STRUCTURE | CRACKED |
| 11/26/2009 | DHC3 | PT6A34 | | TE FLAP |

(CAN) PILOT REPORTED VIBRATION IN LT FLAP AFTER SECOND FLIGHT OF THE DAY. UPON INSPECTION BY

MAINTENANCE PERSONNEL, CRACKS WERE FOUND ON THE LT FLAP. THE CRACKS WERE LOCATED ON THE TOP OF THE FLAP TOWARDS THE LEADING EDGE ON BOTH THE RT SIDE OF THE FLAP AND IN THE CENTER OF THE FLAP, RT OF THE HANGER. THE FLAP INSTALLED IN THIS POSITION HAD BEEN CHANGED BY REPLACEMENT TWICE PREVIOUSLY IN THE LAST MONTH FOR A SIMILAR REPORTED DEFECT. UPON FURTHER INSPECTION IT WAS FOUND THAT THE INBOARD FOREFLAP END FUSELAGE FITTING WAS INCORRECTLY POSITIONED. THE SAME RELEASING ENGINEER HAS BEEN IDENTIFIED AS INVOLVED IN THE FIRST TWO OCCURRENCES. (TC NR 20091201005)

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| CA091126002 | DHAV | PWA | TUBE | MISINSTALLED |
| 11/18/2009 | DHC7102 | PT6A50 | 77900155003 | BREATHER SYSTEM |

(CAN) DURING FLIGHT, NR 4 ENGINE LOST OIL PSI INDICATION ALONG WITH MASTER CAUTION & OIL PSI LIGHT ILLUMINATED ON ANNUNCIATOR PANEL. ENGINE SHUTDOWN & ACFT LANDED WITHOUT FURTHER INCIDENT. ENGINE INSPECTED & FOUND TO HAVE NO OIL IN OIL TANK. AFTER SERVICING OIL TANK ENGINE RUNS WERE COMPLETED ENGINE DUMPED A LARGE AMOUNT OF OIL OUT BREATHER SYSTEM. DETERMINED THAT DURING FLT OIL HAD FILLED ACCESSORY GEARBOX LEAVING OIL TANK EMPTY & CAUSING LOSS OF OIL PRESSURE DUE TO OIL STARVATION AT PUMP. FOUND LAST SECTION OF BREATHER PIPING IN AFT PART OF THE NACELLE INSTALLED RUNNING IN AN UPHILL MANNER CREATING A GOOSENECK ALLOWING OIL TO POOL. ONCE THE GOOSENECK FILLED WITH OIL IT BLOCKED THE SYSTEM CAUSING THE PRESSURE IN THE ACCESSORY GEARBOX TO BUILD UP, NOT ALLOWING THE OIL TO RETURN TO THE OIL TANK, CAUSING THE OIL PUMP TO RUN OUT OF OIL. THE BREATHER PIPING WAS RE-ALIGNED TO REMOVE THE GOOSENECK AND ALLOW FOR PROPER DRAINAGE, THE LEAKING GARLOCK SEAL WAS REPLACED AND THE AIRCRAFT RETURNED TO SERVICE. (TC NR 20091126002)

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| CA091123003 | DHAV | PWA | BONDING JUMPER | DAMAGED |
| 11/18/2009 | DHC8102 | PW120A | MS250837BBX | |

(CAN) WHILE PERFORMING TASKS REQUIRED BY AD CF 2007-32 AND ASSOCIATED DE SERVICE BULLETIN AND FSL IAW AWL 110 FOUND SEVERAL REJECTED BONDING JUMPERS THAT WERE IN THE LIST TO TEST, REFER FSL 170. REPLACED THE FAULTY BONDING JUMPERS BY NEW PARTS. SOME OF THE NEW REPLACEMENT BONDING JUMPERS (2) WERE ALSO FAULTY. THESE WERE REJECTED. (TC NR 20091123003)

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|---|---|---|---|---|
| CA091201006 | DHAV | PWA | BLADE | DAMAGED |
| 11/27/2009 | DHC8102 | PW120A | SFA13MIROAD | PROPELLER |

(CAN) FLIGHT 7723 ON NOV 27/09 ENCOUNTERED MULTIPLE BIRDSTRIKE ON APPROACH INTO LONDON (CYXU) AIRPORT. PILOT REPORTED STRIKE TO THE RIGHT WINDSHIELD, RT WING ROOT AND RT NACELLE. MAINTENANCE INSPECTED THE AIRCRAFT IN ACCORDANCE WITH MM 05-50-26, ENGINE MM 05-50-00 AND PROPELLER MM 61-10-00. DAMAGE FOUND ON RT PROPELLER ASSY BLADES NR 1 AND 2. DAMAGE WAS NOT SEVERE BUT WAS BEYOND THE LIMITS SPECIFIED IN THE MMANUAL. BOTH BLADES WERE REPLACED IN ACCORDANCE WITH HAMILTON STANDARD PROPELLER ASSEMBLY MAINTENANCE MANUAL CHAPTER 61-13-02. AIRCRAFT GROUND RUN, FUNCTION CHECKS AND LEAK CHECKS COMPLETED. AIRCRAFT WAS RETURNED TO SERVICE ON NOV 28/09. (TC NR 20091201006)

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|---|---|---|---|---|
| CA091202001 | DHAV | PWA | FITTING | CRACKED |
| 11/27/2009 | DHC8102 | PW120A | 85321414111 | DOOR FRAME |

(CAN) WHILE CARRYING OUT ZONAL INSPECTION OF THE MAIN PASSENGER ENTRANCE DOOR SURROUND STRUCTURE, A CRACK WAS NOTED ON THE TOP FORWARD CORNER MACHINED FITTING. THIS AIRCRAFT WAS IN ON A SCHEDULED HEAVY CHECK "C" VISIT. A NEW FITTING HAS BEEN ORDERED FOR REPLACEMENT BEFORE AIRCRAFT WILL BE RELEASED FROM MAINTENANCE. REFERENCE :- DE HAVILLAND DASH 8 ILLUSTRATED PARTS CATALOG CHAP 53-10-00 FIGURE 35, ITEM 570. PLEASE SEE ATTACHED PHOTO OF THE MACHINED FITTING AND IPC. (TC NR 20091202001)

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|---|---|---|---|---|
| CA091118012 | DHAV | PWA | WIRE | CHAFED |
| 11/13/2009 | DHC8102 | PW120A | | ELECTRICAL |

(CAN) NR 1 SPU POPPING BREAKER, UPON ARRIVAL FOUND WIRING CHAFED AT FAULT AND SUSPECTED BURNING IN THE CENTER WING WIRE BUNDLE, TEMP WIRING REPAIR CARRIED OUT. AC FERRIED FOR FURTHER INVESTIGATION. DURING THE INVESTIGATION, IT WAS FOUND THE SEVERAL WIRES HAD BURN DAMAGE THAT RESULTED FROM THE WIRES CHAFING ON A BRADED WIRE IN THE BUNDLE. 18 WIRES WERE FOUND WITH

VARIOUS AMOUNTS OF DAMAGE AS WELL AS BURNT PINS AT THE WING ROOT CONNECTOR. WIRE CHAFED AFTER SHORTING ON NR 1 ENGINE ECU. (TC NR 20091118012)

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|---|---|---|---|---|
| CA091130005 | DHAV | PWA | PUMP | MALFUNCTIONED |
| 11/28/2009 | DHC8301 | PW123 | | HYD SYSTEM |

(CAN) NR 1 STBY HYD PUMP NOT COMING ON LINE. (RESOLVED ON W/O: 216586 TASKCARD: NR-00001) FOUND BURNT WIRES ON THE UPPER AFT CORNER OF NR 2 AC CONTACTOR BOX, (CB POPPED AS WELL) WIRES ON TOP OF BOX HAVE ARCED AND BURNED A HOLE IN THE AC CONTACTOR BOX AS WELL AS CHARRING SOME WIRES INSIDE BOX. A NUMBER OF WIRES REQUIRE REPAIR OUTSIDE OF BOX AND WIRES AND COMPONENTS INSIDE BOX REQUIRE FURTHER INSPECTION TO DETERMINE EXTENT OF DAMAGE. RAYCHEM SPLICE CARRIED OUT ON WIRES 10004B18B-1 AND 10006B18C-1. BOX CLEANED UP AND REASSEMBLED. REQUIRES INSTALLATION ON THE AIRCRAFT AND FUNCTION CHECKS. RT AC CONTACTOR BOX BOLTED INTO PLACE. REQUIRES AVIONICS TO RECONNECT ELECTRICALLY. RECONNECTED AND SECURED ALL CONNECTORS ASSOCIATED WITH THE RT AC CONTACTOR BOX, REQUIRES FUNCTION CHECK ON BOTH STANDBY HYDRAULIC PUMPS AND AC VARIABLE FREQUENCY SYSTEMS. PERFORMED OPERATIONAL TEST OF AC VARIABLE SYSTEM IAW AMM 24-21-02 AND STANDBY HYDRAULIC PUMP IAW AMM29-11-17, CHECKED, SERVICEABLE. (TC NR 20091130005)

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|---|---|---|---|---|
| CA091124004 | DIAMON | | BALANCE WEIGHT | UNSECURE |
| 11/18/2009 | DA20C1 | | 2255206002 | ELEVATOR |

(CAN) ELEVATOR MASS BALANCE WEIGHT FORWARD ATTACH CAP-SCREW FOUND MISSING DURING PRE-FLIGHT INSPECTION, AFT CAP-SCREW IN PLACE BUT NOT TIGHT. DOSS AVIATION REPORTED THAT MASS BALANCE HAD NO PREVIOUS MAINTENANCE CARRIED OUT. REMAINDER OF FLEET (44 AIRCRAFT) INSPECTED FOR MISSING CAP-SCREWS, NONE FOUND. TORQUE CHECK OF CAP-SCREWS IS CARRIED-OUT AS AIRCRAFT CAME IN FOR INSPECTION, NO REMAINING CAP-SCREWS FOUND LOOSE. (TC NR 20091124004)

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|---|---|---|---|---|
| CA091121001 | DIAMON | CONT | CABLE | FRAYED |
| 11/1/2009 | DA20C1 | IO240B | A15500550 | THROTTLE |

(CAN) DURING GROUND OPERATION IT WAS NOTED THAT THE THROTTLE CABLE MOVEMENT WAS ROUGH AND CATCHES HALF WAY. INSPECTION REVEALED THAT THE INNER PART OF THE CABLE WAS STARTING TO FRAY AND CATCHING IN THE AREA WERE IT PASSES THROUGH THE FIREWALL. NEW CABLE INSTALLED. (TC NR 20091121001)

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|---|---|---|---|---|
| CA091127004 | DIAMON | CONT | ROD END | WORN |
| 11/19/2009 | DA20C1 | IO240B | HF3M | MIXTURE CONTROL |

(CAN) DURING SCHEDULED MAINTENANCE IT WAS DISCOVERED THAT THE BUSHINGS RETAINING THE ROD END SWIVEL BALL WERE WORN AND ONE SIDE HAD DISLODGED CAUSING THE SWIVEL BALL TO SEPARATE FROM THE ROD END. MIXTURE CONTROL WAS NOT LOST DUE TO THE LARGE RETAINER WASHER ON THE BOLT SECURING THE ROD END TO THE MIXTURE CONTROL ARM. (TC NR 20091127004)

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|---|---|---|---|---|
| CA091121002 | DIAMON | CONT | CABLE | BROKEN |
| 11/13/2009 | DA20C1 | IO240B | | THROTTLE |

(CAN) ON START UP, RPM WENT TO 2300 WITH THROTTLE CONTROL AT IDLE. INSPECTION REVEALED THAT INNER THROTTLE CABLE HAD BROKEN. NEW CABLE INSTALLED. (TC NR 20091121002)

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|---|---|---|---|---|
| CA091119003 | DIAMON | | RELEASE MECH | MISINSTALLED |
| 10/22/2009 | DA42 | | DA452000051 | AFT DOOR |

(CAN) DURING ROUTINE INSPECTIONS ON THE AIRCRAFT IT WAS DISCOVERED THAT THE AFT DOOR EMERGENCY RELEASE HANDLE WAS NOT ABLE TO BE USED DUE TO EXCESSIVE SILICONE AROUND THE REAR LAMP HOUSING. (TC NR 20091119003)

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|---|---|---|---|---|
| CA091127002 | DIAMON | THIELT | CONTROL VALVE | LEAKING |
| 11/20/2009 | DA42 | TAE1250299 | 057212E002801 | PROPELLER |

(CAN) IT WAS REPORTED ON NOVEMBER 25, 2009 THAT DURING A TRAINING FLIGHT THE RT ENGINE EXPERIENCED A SEVERE POWER LOSS. JUST PRIOR TO THIS INCIDENT ENGINE WAS NOTICED SURGING

BETWEEN 50 AND 70 PERCENT POWER. JUST AFTER THE INITIAL POWER LOSS THE ENGINE INADVERTENTLY RESTARTED BEFORE EXPERIENCING A SECOND SIGNIFICANT POWER LOSS. WITH THE EXCEPTION OF "ALTERNATOR FAILURE", NO OTHER WARNINGS WERE NOTED THROUGHOUT. CREW WAS NOT ABLE TO RESTART ENGINE, DECLARED AN EMERGENCY AND WERE ABLE TO LAND AT DEPARTURE AIRPORT WITHOUT FURTHER INCIDENT. (TC NR 20091127002)

| | | | |
|---|---|---|---|
| 2010FA0000040 | DOUG | VALVE | SEPARATED |
| 1/15/2010 | DC1010 | 1489951 | NR 2 HYD SYS |

THIS IS TO REPORT A LOSS OF NR 2 HYD SYS "PRESSURE AND QUANTITY" PRIOR TO TAKE-OFF, ACFT RETURNED TO GATE. INVESTIGATION FOUND VALVE ASY (M1-164) FOR THE 2-1 NON-REVERSIBLE MOTOR PUMP TO BE AT FAULT. REF IPC 29-12-59, FIG 1, PG 9, ITEM 340, PN 148995-1, SN 331. THE VALVE SEPARATED AT THE UNION POINT OF THE MOTOR AND VALVE RESULTING IN COMPLETE LOSS OF FLUID IN NR 2 HYD SYS. THE DISCREPANT VALVE HAS BEEN SENT FOR FAILURE ANALYSIS.

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|---|---|---|---|---|
| CA091125008 | EMB | GE | CLAMP | BROKEN |
| 11/20/2009 | ERJ170200LR | CF348E5 | 17055400401 | A/C PACK |

(CAN) DURING REMOVAL OF OUR NR 1 PACK ACM FOUND TWO CLAMPS BROKEN OFF AND LAYING IN THE AIR CONDITIONING BAY BOTTOM. INSPECTED THE AREA AND FOUND THEM MISSING FROM THE PACK RAM AIR INLET SCOOPS LT AND RT. ALSO THE RUBBER BOOTS WHERE THE CLAMPS BELONG ARE TORN AND DETERIORATED ON THE UPPER FORWARD EDGES. HAVE SINCE REPLACED THE BOOTS AND CLAMPS WITH NEW PARTS. ATTACHED ARE SOME PICS OF THE WORN PARTS. NOTE: BOTH AIR-CONDITIONING PACKS FUNCTIONED NORMALLY BEFORE AND AFTER THE BOOTS WERE REPLACED. (TC NR 20091125008)

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|---|---|---|---|---|
| CA091202003 | EMB | GE | STEERING SYS | FAULTED |
| 11/30/2009 | ERJ190100IGW | CF3410E5A1 | | NLG |

(CAN) LANDING IN SFO CREW EXPERIENCED A NOSE GEAR STEERING FAULT. RESET ATTEMPTED NIL FIX. ALTERNATE BREAKING USED TO GET TO GATE. (TC NR 20091202003)

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|---|---|---|---|---|
| CA091202005 | EMB | GE | LANDING GEAR | MALFUNCTIONED |
| 11/27/2009 | ERJ190100IGW | CF3410E5A1 | | LT MLG |

(CAN) ON APPROACH TO YYC LEFT MAIN LANDING GEAR DID NOT EXTEND. GO AROUND AND QRH COMPLETED. GEAR RESELECTED ALL INDICATIONS NORMAL. (TC NR 20091202005)

| | | | | |
|---|---|---|---|---|
| CA091202007 | EMB | GE | FLAP SYSTEM | WARNING MESSAGE |
| 11/25/2009 | ERJ190100IGW | CF3410E5A1 | | TE FLAPS |

(CAN) YYZ TO SEA ON APPROACH FLAP FAIL MESSAGE, GO AROUND CARRIED OUT AND EMERGENCY DECLARED. NORMAL LANDING FLAPS 1 (TC NR 20091202007)

| | | | | |
|---|---|---|---|---|
| CA091126003 | EMB | GE | ACTUATOR | MALFUNCTIONED |
| 11/25/2009 | ERJ190100IGW | CF3410E5A1 | | FLAPS |

(CAN) DURING THE APPROACH, THE FLIGHT HAD A FLAPS FAILED MESSAGE. THE CREW EXECUTED A GO-AROUND, DECLARED AN EMERGENCY AND LANDED NORMALLY WITH THE FLAPS IN POSITION 1 (TC NR 20091126003)

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|---|---|---|---|---|
| CA091126004 | EMB | GE | SLAT SYSTEM | MALFUNCTIONED |
| 11/26/2009 | ERJ190100IGW | CF3410E5A1 | | |

(CAN) EN ROUTE, IN THE BEGINNING OF THE CRUISE STAGE, THE CREW EXPERIENCED A FLAP FAILURE. A DECISION TO RETURN WAS MADE IN CONSULTATION WITH MTC AND SOC. THE FLIGHT RETURNED, DECLARED AN EMERGENCY AND LANDED WITHOUT FURTHER INCIDENT AT THE ZERO FLAP SETTING. THERE WERE NO PASSENGERS ON BOARD. (TC NR 20091126004)

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|---|---|---|---|---|
| CA091202006 | EMB | GE | FLAP SYSTEM | MALFUNCTIONED |
| 11/26/2009 | ERJ190100IGW | CF3410E5A1 | | TE FLAPS |

(CAN) YYC TO SEA START OF CRUISE FLAP FAILURE CREW RETURNED TO YYC. DECLARED EMERGENCY AND

LANDED WITH FLAPS 0 WITHOUT INCIDENT. (TC NR 20091202006)

| | | | | |
|---|---|---|---|---|
| CA091127003 | GROB | LYC | ENGINE | POWER LOSS |
| 11/23/2009 | G120A | AEIO540D4D5 | | |

(CAN) THE INSTRUCTOR AND STUDENT WERE DEPARTING ON A LOCAL TRAINING FLIGHT AND EXPERIENCED A ROUGH RUNNING ENGINE WHEN THEY REDUCED POWER AFTER T/O. THE INSTRUCTOR ACTIONED THE `ROUGH ENGINE` TASKS OF THE APPROVED CHECKLIST, CONTACTED ATC TO DECLARE AN EMERGENCY AND RETURNED TO THE DEPARTURE AIRPORT WITH OUT FURTHER INCIDENT. AS THE ENGINE RAN SMOOTHLY FOLLOWING POWER REDUCTION, THE INSTRUCTOR TAXIED THE AIRCRAFT BACK TO THE APRON WITH ARFF FOLLOWING THEM IN. A POST SHUTDOWN INSPECTION REVEALED NO DANGER AND THE FIREFIGHTERS ADVISED THE SITUATION AS SECURED. THE INSTRUCTOR JOINED ATTENDING AME TO CONDUCT GROUND RUNS FOLLOWING AN INSPECTION OF THE ENGINE TO DETERMINE IF IT WAS SAFE TO DO SO. THE AIRCRAFT HAD EXPERIENCED ROUGH RUNNING ON A FLIGHT SEVERAL DAYS EARLIER AND COULD NOW BE DUPLICATED INTERMITTENTLY. FURTHER TROUBLESHOOTING SUGGESTED THE ROUGHNESS ORIGINATED WITH STICKING VALVE TRAIN AND THE ENGINE WAS REMOVED AND SENT TO AN OVERHAUL FACILITY AS IT WAS CLOSE TO RECOMMENDED TBO. (TC NR 20091127003)

| | | | | |
|---|---|---|---|---|
| 2010FA0000007 | ISRAEL | GARRTT | VANE | BROKEN |
| 12/10/2009 | 1124A | TFE73131G | 193058518 | RT TE FLAP |

RT NR 3 FLAP VANE DEPARTED ACFT IN OR AROUND 12/6/2009. ACFT LANDED AND CREW DISCOVERED THAT THE FLAP VANE BROKE OFF OF THE FLAP AT THE BOLT HEAD OF THE ATTACHING BRACKET.

| | | | | |
|---|---|---|---|---|
| CA091202013 | LEAR | PWA | ACTUATOR | LEAKING |
| 12/2/2009 | 60LEAR | PW305A | 2317100017 | NLG |

(CAN) DURING A DAILY INSPECTION HYDRAULIC FLUID WAS NOTED ON THE NOSE GEAR TIRE. THE FLUID WAS COMING FROM THE NOSE GEAR ACTUATOR BODY VENT HOLES. A REPLACEMENT ACTUATOR WAS ORDERED. WHEN TRANSFERRING THE DOWN AND LOCKED SWITCH FROM THE LEAKING ACTUATOR TO THE REPLACEMENT METAL WAS FOUND IN THE SWITCH HOUSING. THE LEAKING ACTUATOR WAS DISASSEMBLED IAW THE LEARJET 60 MAINTENANCE MANUAL AND MORE METAL WAS FOUND AS WELL AS WEAR ON THE SHAFT PLATING WHERE THE LOCKING BALLS ENGAGE. THE ACTUATOR WAS BRAND NEW 57 LANDINGS AGO INSTALLED SOMETIME IN JULY OF 2008. THIS AIRCRAFT HAS HAD SEVERAL INCIDENTS WITH NOSE GEAR ACTUATORS. (TC NR 20091202013)

| | | | | |
|---|---|---|---|---|
| 2010F00002 | LEAR | PWA | BLEED VALVE | DEFECTIVE |
| 12/31/2009 | 60LEAR | PW305A | 31B575601 | RT ENGINE |

RT ENGINE WOULD NOT SPOOL UP HIGHER THAN 35 PERCENT. TROUBLESHOT TO DEFECTIVE BOV VALVES AND BOV SOLENOID CONTROL VALVES. INSTALLED NEW BOV VALVES AND BOV SOLENOID CONTROL VALVES. PERFORMED ENGINE GROUND RUN WITH NO DEFECTS NOTED. PERFORMED ENGINE OPS CHECK FLIGHT WITH NO DEFECTS NOTED.

| | | | | |
|---|---|---|---|---|
| 2010F00004 | PILATS | PWA | NOSE COWL | UNSECURE |
| 12/29/2009 | PC1245 | PT6* | 5711012271 | LT NACELLE |

UPON CLIMBOUT THE PILOTS NOTICED THE LT UPPER NOSE COWLING WAS SLIGHTLY LIFTING FROM ITS MATING SURFACE. THE PILOTS REDUCED POWER DROPPED FLAPS AND GEAR DECLARED AND EMERGENCY AND TURNED BACK FOR THE AIRPORT. THE ACFT LANDED UNEVENTFULLY. UPON SHUTDOWN OUR MX STAFF INSPECTED THE ACFT AND FOUND THE COWLING LATCH WAS NOT LATCHED AT THE LT AFT LATCH. INSPECTED THE COWLING AND FOUND NO DEFECTS. THE ACFT WAS INSPECTED FOR PROPER LATCHING OF THE COWLING AND RETURNED TO SERVICE.

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|---|---|---|---|---|
| CA091130004 | PILATS | PWA | DEICE SYSTEM | MALFUNCTIONED |
| 11/27/2009 | PC1245 | PT6A67B | | PROPELLER |

(CAN) CREW REPORTED PROP DEICE CAUTION ON A FEW MINUTES AFTER SELECTED. SWITCH RECYCLED A FEW TIMES, CAUTION EVENTUALLY WENT AWAY, NO OTHER CAUTIONS NOTED. PROBLEM COULD NOT BE DUPLICATED AT MAINTENANCE BASE. TESTING OF COMPONENTS DID NOT REVEAL ANY FAULTS. A DIRTY SLIP RING MAY HAVE BEEN THE CAUSE. (TC NR 20091130004)

| | | | | |
|---|---|---|---|---|
| CA091130002 | PILATS | PWA | DISPLAY | MALFUNCTIONED |
| 11/27/2009 | PC1245 | PT6A67B | 1242102011 | AHRU |

(CAN) "ATTITUDE FAIL" FLAG CAME INTO VIEW ON PILOTS NR 1 EADI. UPON SWITCHING TO AHRS NR 2, FLAG WENT AWAY. PILOT SELECTED AHRS NR 1 OVER TO THE CO PILOTS NR 2 , "ATTITUDE FAIL" CAME INTO VIEW ON NR 2 SIDE. UPON RE-SWITCHING, DEFECT WENT AWAY, (INTERMITTENT). PROBLEM RETURNED A WHILE LATER, SAME RESULTS. NR 1 AHRU REPLACED. (TC NR 20091130002)

| | | | | |
|---|---|---|---|---|
| 5APR577Y24 | PILATS | PWA | BRAKE DISC | BROKEN |
| 1/9/2010 | PC1245 | PT6A67B | 244755 | MLG |

DURING A 100 HR INSP, DISCOVERED THE RT BRAKE OTBD DISC WAS BROKEN INTO 2 PIECES. REMOVED AND REPLACED BRAKE ASSY IAW MM INSTRUCTIONS.

| | | | | |
|---|---|---|---|---|
| 5APR577Y25 | PILATS | PWA | DRAG LINK | CRACKED |
| 1/9/2010 | PC1245 | PT6A67B | 5322012289 | NLG DOOR |

DURING NDT INSP OF NLG RT DRAG LINK PN 532.20.12.289 IAW AMM 12-A-32-20-06-00A-313A-A AND AD 09-14-13 A CRACK INDICATION WAS DETECTED IN THE PRESCRIBED NDT INSPECTION AREA. REMOVED RT DRAG LINK AND INSTALLED AN UPGRADED DRAG LINK PN 532.20.12.296 IAW SRM AND AD 09-14-13.

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|---|---|---|---|---|
| 5APR577Y23 | PILATS | PWA | BRAKE DISC | CRACKED |
| 1/5/2010 | PC1247 | PT6A67B | 244755 | BRAKE ASSY |

DURING A 100 HOUR INSP THE RT BRAKE OTBD DISC WAS DISCOVERED TO BE CRACKED. REMOVED AND REPLACED BRAKE ASSEMBLY IAW MFG MX INSTRUCTIONS.

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|---|---|---|---|---|
| CA091127007 | PIPER | LYC | LEVER | SEPARATED |
| 11/23/2009 | PA28140 | O320E3D | 6697900 | THROTTLE |

(CAN) DURING THE DOWNWIND LEG, PRIOR TO LANDING, THE THROTTLE KNOB UNEXPECTANTLY SEPARATED FROM THE THROTTLE LEVER WHEN THE PILOT SOUGHT TO REDUCE POWER FOR THE DESCENT. THE PILOT WAS ABLE TO CONTINUE THE APPROACH AND LANDING UNEVENTFULLY BY MANIPULATING THE LEVER ARM (WITHOUT THE KNOB). AN EXAMINATION REVEALED THAT THE SCREW THAT ATTACHED THE THROTTLE KNOB TO THE THROTTLE LEVEL BECAME DETACHED, MOST LIKELY DUE TO VIBRATION. THERE IS NO ANCHOR BOLT CALLED FOR IN THE DESIGN. AN INSPECTION OF THE REMAINING FLEET OF THREE CHEROKEES REVEALED TWO WITH LOOSE ATTACHMENT SCREWS. ONE OF THE FOUR CHEROKEES HAD A SECURE ATTACHMENT SCREW. THE AMO PLACE ANCHORING BOLT ON THE ATTACHMENT SCREWS OF ALL AIRCRAFT. HAD SEPARATION OCCURRED ON SHORT FINAL, THE RESULT COULD HAVE BEEN CATASTROPHIC. (TC NR 20091127007)

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|---|---|---|---|---|
| 2010FA0000008 | PIPER | | TUBE | CRACKED |
| 12/1/2009 | PA28R201 | | 63547000 | RUDDER HORN |

INNER PORTION OF RUDDER HORN TUBE (PN 63547-000) CRACKED AT WELD ASSY (PN 63546-000) ON UNDERSIDE OF WELD BEAD. AREA IN QUESTION EXHIBITED SIGNS OF EXCESSIVE WELD PENETRATION ALONG WITH PROJECTING GLOBULES. PROBABLE CAUSE OF CRACK OCCURRED DUE TO WEAKENING OF METAL FROM IMPROPER WELDING TECHNIQUES. TO PREVENT REOCCURRENCE, THE MFG SHOULD RE-EXAMINE THE HEAT RANGE REQUIREMENT IN ORDER TO GAIN PROPER DEPTH OF WELD PENETRATION REQUIRED TO INSURE FISSION OF BASE METAL AND FILLER ROD.

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|---|---|---|---|---|
| CA091123002 | PIPER | LYC | SHAFT | MALFUNCTIONED |
| 11/16/2009 | PA31350 | LTIO540J2BD | 40958000 | RHEOSTAT |

(CAN) AIRCRAFT HAD JUST TAKEN OFF IN THE CLIMB WITH THE AUTOPILOT ON, THE AIRCRAFT PITCHED UP. PILOT DISCONNECTED AUTOPILOT, ELEVATOR TRIM WAS RESTRICTED TO PITCH UP ONLY. THE PILOT DIVERTED TO WINNIPEG WITH REDUCED POWER TO MAINTAIN LEVEL FLIGHT. INSPECTION OF THE TRIM SYSTEM FOUND THE TRIM CABLE DRUM IN THE HORIZ STAB WAS BINDING. THE SHAFT P/N 40958-000 THAT CONNECTS THE ARM P/N 43204-00 FROM THE TRIM DRUM TO THE RHEOSTAT P/N 41229-000 HAD BEEN ALLOWED TO PUSH BACK OUT OF THE ARM AND FALL AND JAM THE TRIM DRUM EXTENDING MORE FOR "UP" TRAVEL ON THE ELEVATOR TRIM. ROOT CAUSE ANALYSIS, ELEVATOR TRIM CABLE WAS REPLACED A FEW MONTHS AGO. THE MECHANISM FROM THE DRUM TO THE RHEOSTAT HAS A TIGHTENING NUT P/N MS20365-832C. THIS NUT WAS FOUND NOT TIGHT

ENOUGH TO HOLD THE RHEOSTAT SHAFT IN PLACE, THUS ALLOWING THE SHAFT TO SHIFT SUCH THAT THE ARM MOVED INTO THE TRIM DRUM TRAVEL. REINSTALLED WITH NEW NUT AND NEW RHEOSTAT. (TC 20091123002)

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|---|---|---|---|---|
| CA091118015 | PIPER | PWA | HOUSING | CRACKED |
| 11/17/2009 | PA31T2 | PT6A135 | 45316003 | STRUT |

(CAN) DURING THE INSPECTION, WHILE GREASING NOSE LANDING GEAR, MAINTENANCE NOTICED BLISTERING UNDER THE PAINT. MAINTENANCE REMOVED THE BLISTERS, CLEANED-UP THE GREASE AND NOTICED A HAIRLINE FRACTURE ON GEAR STRUT HOUSING ASSY. (TC NR 20091118015)

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|---|---|---|---|---|
| 2010FA0000032 | PIPER | LYC | MAGNETO | MISOVERHAULED |
| 11/26/2009 | PA32R301 | TIO540S1AD | D3000 | ENGINE |

MAGNETO WAS O/H ALONG WITH ENTIRE ENG 150 HRS AGO, 5 YRS CALENDAR TIME. ON A SUCCESSFUL RUN UP, DEPARTING, ENG BEGAN RUNNING VERY ROUGH ABOUT 100 FT ABOVE RUNWAY. ACFT WAS STILL GENERATING ENOUGH CLIMB POWER TO GET UP TO 1,000 FT AND COMPLETE A SAFE LANDING BACK ON THE FIELD. ON LANDING, NOTICED LT MAGNETO DEAD, RT UNEVEN. CALLED SHOP THAT O/H ENG AND MAGNETO, DID NOT KNOW WHY THIS COULD HAVE HAPPENED BUT FELT THE CALENDAR TIME (5 YRS) WAS SIGNIFICANT AND COULD HAVE A FACTOR ON THE BREAKAGE. SHIPPED THE MAGNETO TO FACILITY AND REPLACED A NUMBER OF PARTS, INCLUDING BOTH NYLON DRIVE WHEELS, WHICH HAD SIGNIFICANT TEETH DAMAGE. MECHANIC, WHO HAD SEEN THE INSIDE OF THE MAGNETO, WAS QUITE APPALLED AT THE BURNING OF THE POINTS AND CONDITION OF THE NYLON WHEELS. FELT THE AMOUNT CHARGED AND THE NUMEROUS PARTS THEY REPLACED WAS EXCESSIVE FOR A MAG THAT ONLY HAD 150 HRS ON IT.

| | | | | | |
|---|---|---|---|---|---|
| 2010FA0000002 | PIPER | LYC | LYC | VERNATHERM | DISTORTED |
| 1/7/2010 | PA32RT300 | IO540K1G5D | | 53E19600 | OIL FILTER ADAPT |

AFTER REMOVING THE LT OIL COOLER SUPPLY HOSE AT THE CASE FOR ACCESS TO MAGNETO, IT WAS NOTICED THAT THE NUT OFF THE END OF THE VERNATHERM WAS STUCK IN THE FITTING STICKING OUT OF THE CASE. VERNATHERM WAS REMOVED AND REMAINING PARTS LOCATED. INSPECTED SEAT AREA AND FOUND NO UNUSUAL MARKS. REMOVED AND INSPECTED SUCTION SCREEN AND OIL FILTER ELEMENT. NO UNUSUAL CONTAMINANTS NOTED. THIS HOSE CONNECTION HAD BEEN REMOVED 13 HOURS PREVIOUS FOR OTHER MX AND NO NUT WAS VISIBLE AT THAT TIME. SB 518B APPLIES BY PN, BUT THIS VALVE IS A HIGHER SN THAN THAT SPECIFIED IN THE SB. THIS ENG IS A FACTORY REBUILT 8/27/1994.

| | | | |
|---|---|---|---|
| E81RJW302236 | RAYTHN | SHUTOFF VALVE | FAILED |
| 1/11/2010 | 390 | 5188001 | RT ANTI-ICE |

REPLACED FAILED RT ENG INLET ANTI-ICE SHUTOFF VALVE ASSY WITH "0 TSOH" VALVE. NEWLY O/H VALVE CAUSED VIBRATION FELT THROUGH AIRFRAME, BELIEVED TO BE CAUSED BY RAPID VALVE MODULATION. VALVE O/H WO NR R79693 DATED 10/27/2009. THIS IS THE SECOND RECENTLY O/H VALVE INSTALLED IN LAST MONTH FROM SAME FACILITY THAT HAVE HAD SIMILAR FAILURES UPON INSTALLATION OR SHORTLY THEREAFTER. RECOMMEND MFG O/H FACILITY REVIEW RECORDS TO DETERMINE IF A QUALITY CONTROL/POST-MX TESTING ISSUE, OR IF O/H STANDARDS NEED TO BE REVISED.

| | | | | |
|---|---|---|---|---|
| 2010FA0000000 | RAYTHN | GARRTT | BEARING | FAILED |
| 12/28/2009 | HAWKER800XP | TFE7315BR | 3587523 | TOWER SHAFT |

DURING FLIGHT INBOUND, THERE WAS AN IN FLIGHT SHUTDOWN OF THE NR 2 ENGINE. THE ENGINE UNDERWENT A MPI/CZI INSP 80.8 HOURS PRIOR TO THE FAILURE. TEARDOWN INSP REVEALED A FAILURE OF THE UPPER TOWER SHAFT BEARING. THIS WAS AN ORIGINAL BEARING THAT UNDERWENT CZI INSP. BEARING FAILURE CAUSED THE TOWER SHAFT TO SHEAR WHICH THEN CAUSED IT TO DISENGAGE FROM THE TRANSFER GEARBOX. THE LOSS OF ACCESSORY POWER RESULTED IN THE LOSS OF FUEL AND OIL PRESSURE WHICH RESULTED IN ENGINE SHUTDOWN.

| | | | |
|---|---|---|---|
| 2010FA0000010 | RAYTHN | VALVE | MALFUNCTIONED |
| 12/18/2009 | HAWKER850XP | | HYD SYSTEM |

THE ACFT DEPARTED AFTER ROUTINE MX. UPON OPENING THE MAIN AIR VALVES, THE PILOTS NOTICED SMOKE IN THE CABIN, DECLARED AN EMERGENCY AND RETURNED TO THE AIRPORT. INVESTIGATION FOUND HYD FLUID IN THE BLEED AIR DUCTING. DURING SERVICING, HYD FLUID BYPASSED THE NON RETURN VALVE IN THE RT PIPE

CONNECTING THE HYD RESERVOIR TO THE BLEED AIR SUPPLY PROVIDING HEAD PRESSURE TOT HE HYD SYSTEM. DURING SUBSEQUENT GROUND RUNS NO SMOKE WAS NOTED. THE ACFT WAS RETURNED TO SERVICE. SITTING OVERNIGHT, THE FLUID MIGRATED INTO THE BLEED AIR SYS. AFTER DEPARTURE, WHEN THE MAV`S WERE OPENED IT ALLOWED THE HOT AIR TO CONTACT THE HYD FLUID AND PRODUCE SMOKE WHICH WAS TRANSFERRED INTO THE CABIN. ALL CONTAMINATED COMPONENTS WERE CLEANED AND REINSTALLED. THE MALFUNCTIONING VALVE WAS REPLACED AS WAS A SERVICING NON RETURN VALVE ON THE RESERVOIR. THE ACFT WAS RETURNED TO SERVICE AND DEPARTED WITHOUT FURTHER INCIDENT.

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|---|---|---|---|---|---|
| CA091202014 | ROBSIN | LYC | BENDIX | WIRE | CHAFED |
| 12/1/2009 | R44 | O540F1B5 | | | MAGNETO |

(CAN) DURING A FLIGHT THE LOW ROTOR HORN AND LIGHT CAME ON AND THE PILOT LANDED. TROUBLESHOOTING REVEALED FAULTY TACH POINTS. THE MAGNETO WAS REPLACED AND THE DEFECT WAS RECTIFIED. THE MAG WAS INSPECTED AND FOUND A TACH WIRE HAD CHAFED AND SHORTED TO THE OPPOSITE TACH SPADE TERMINAL WHICH WOULD DISRUPT THE RPM SIGNAL TO THE GOVERNOR CONTROLLER. THE WIRING IN THE POINT COMPARTMENT WAS ROUTED IAW TCM SB 663A. (TC NR 20091202014)

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|---|---|---|---|---|
| CA091202008 | ROBSIN | LYC | STARTER | INOPERATIVE |
| 11/15/2009 | R44RAVENII | IO540AE1A5 | 14924HTH | ENGINE |

(CAN) STARTER WOULD NOT ENGAGE (TC NR 20091202008)

| | | | | |
|---|---|---|---|---|
| CA091202009 | ROBSIN | LYC | PUMP | LEAKING |
| 11/10/2009 | R44RAVENII | IO540AE1A5 | D5001 | HYDRAULIC SYS |

(CAN) PUMP FOUND LEAKING ON SUCTION SIDE, REPLACED WITH A SERVICABLE PUMP (TC NR 20091202009)

| | | | | |
|---|---|---|---|---|
| CA091201002 | SNIAS | TMECA | SWITCH | UNSERVICEABLE |
| 11/30/2009 | AS350B2 | ARRIEL1D1 | MS2771923 | COLLECTIVE |

(CAN) THE HYDRAULIC SYSTEM INCORPORATES A CUT OFF SWITCH ON THE COLLECTIVE, THE HYDRAULIC TEST PUSH BUTTON DID NOT ACTIVATE THE T/R SOLENOID TO CENTER THE T/R PEDALS, THE CIRCUIT BREAKER HAD BLOWN, AND WAS REPLACED, AFTER REPLACEMENT THE CUTOFF COLLECTIVE SWITCH STILL DID NOT WORK, INVESTIGATION SHOWED TO BE A BAD SWITCH, SWITCH WAS REPLACED AND ALL SYSTEMS CHECK AND FOUND NORMAL. (TC NR 20091201002)

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|---|---|---|---|---|
| CA091125007 | SWRNGN | GARRTT | TRUNNION | CORRODED |
| 11/21/2009 | SA226TC | TPE33110UA | 5451001001 | NLG |

(CAN) FOUND CORROSION PITTING IN TRUNNION BORES ON BOTH SIDES OF NLG TRUNNION, WHICH HOUSE THE DRAG BRACE PINS. PITTING IS 0.030 INCHES DEEP LONGITUDINALLY IN END OF BORE AND 0.045 INCHES DEEP LATERALLY AT END OF BORE, AROUND THE BORE RADIUS FOR APPROXIMATELY 0.4 INCHES. THERE ARE NO PUBLISHED INSPECTION REQUIREMENTS SPECIFIC TO THIS AREA. (TC NR 20091125007)

| | | | | |
|---|---|---|---|---|
| CA091202011 | SWRNGN | GARRTT | RELAY | MALFUNCTIONED |
| 12/1/2009 | SA226TC | TPE33110UA | 6041H205A | GENERATOR |

(CAN) CREW ARRIVED AFTER ONE HOUR FLIGHT REPORTING ABNORMAL LT GENERATOR VOLT METER INDICATION. THE GEN FAIL LIGHT FUNCTIONED NORMALLY WITH THE GENERATOR OFF OR ON, HOWEVER, THE GENERATOR WOULD NOT SUPPLY THE BUS, THIS WAS CONFIRMED ON A GROUND RUN CHECK. AFTER SOME INVESTIGATION MAINTENANCE FOUND A BURNT WIRE FROM THE GENERATOR RELAY'S X2 POST (COIL) TO GROUND. THE INSULATION HAD BURNT OFF IT AND ALSO DAMAGED OTHER WIRES IN THE BUNDLE. THE WIRING WAS MODIFIED IN THIS AREA BY AD 97-11-13 AND VARIOUS SERVICE BULLETINS INCORPORATED BY THAT AD. IT WAS DETERMINED THAT THE MOST LIKELY CAUSE WAS THE FAILURE OF THE GENERATOR RELAY, CAUSING THE MAIN CONTACTOR INSIDE TO TOUCH THE GEN FAIL INDICATOR CONNECTIONS ON THE TOP OF THE RELAY. THIS PROVIDED A DIRECT PATH TO GROUND THROUGH THE X2 POST OF THE RELAY AND CAUSED THE BURNT WIRE. THIS RELAY CAN BE REPLACED BY SB 226-24-033, HOWEVER, THAT HAS NOT BEEN ACCOMPLISHED ON THIS AIRFRAME. THE OPERATOR IS ISSUING A NOTICE TO INSPECT ALL AFFECTED AIRFRAMES AT NEXT ACCESS, AND A CAMPAIGN TO REMOVE THE X2 WIRE FROM THE BUNDLE AND ROUTE IT SEPARATELY SO IN THE EVENT OF A FAILURE, THIS WIRE WILL NOT DAMAGE ANY OTHER WIRING. (TC NR 20091202011)

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| CA091125004 | SWRNGN | GARRTT | TURBINE BLADES | FAILED |
| 11/18/2009 | SA227AC | TPE33111U | 31081251 | RT ENGINE |

(CAN) A/C CAME IN FOR A ROUTINE FUEL NOZZLE CHANGE ON THE RT ENGINE. THE MECHANIC AT THAT TIME WAS DOING A SCHEDULED BOROSCOPE AND BEFORE PUTTING THE NEW FUEL NOZZLES IN HAD FOUND SOME DISCREPANCIES INSIDE THE ENGINE. THE MECHANIC THEN NOTIFIED THE TURBINE SHOP TO COME AND DO AN EVALUATION ON THE NOTED DAMAGE. THE ENGINE WAS THEN REMOVED AND FORWARDED TO THE ENGINE SHOP FOR REPAIR. THE NOTED DAMAGE WAS FOUND TO BE 3 OF THE 36 TURBINE ROTOR BLADES HAD FAILED AND HAD PIECES OF MATERIAL MISSING FROM THE BLADES. THE FAILED NR 1 TURBINE ROTOR WAS FORWARDED TO A METALLURGICAL LAB FOR EVALUATION ON THE FAILURE. THE METALLURGICAL EVALUATION REPORT WILL BE ADDED TO THIS SDR AT A LATER DATE WHEN RECEIVED. (TC NR 20091125004)

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| CA091202017 | UROCOP | TMECA | SPLINE | DISENGAGED |
| 12/1/2009 | EC120B | ARRIU2F | 0319157200 | PUMP DRIVE ADAPT |

(CAN) FOLLOWING A SCHEDULED ENGINE CHANGE, ENG PRESS WARNING LIGHT CAME ON DURING A TEST FLIGHT. PILOT LANDED WITHOUT INCIDENT. SUBSEQUENT TROUBLESHOOTING REVEALED DISENGAGEMENT OF THE ENGINE OIL PUMP DRIVE ADAPTER FROM PUMP SLINES. DRIVE ADAPTER APPEARS TO HAVE LOST LOCKING FEATURE, HENCE THE DISENGAGEMENT. THE ENGINE ASSEMBLY TSR=0.3 HRS. (TC# 20091202017)

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| CA091127001 | ZLIN | LYC | LINE | BROKEN |
| 11/25/2009 | Z242L | AEIO360A1B6 | Z4253100700 | BRAKE |

(CAN) THE LEFT BRAKE LINE WAS OBSERVED TO BE BROKEN AT A FLARE END. (TC NR 20091127001)