



U.S. Department
of Transportation

**Federal Aviation
Administration**

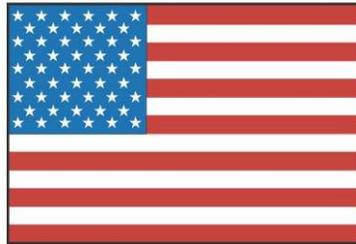
AFS-600

Regulatory Support Division

ADVISORY CIRCULAR

43-16A

AVIATION MAINTENANCE ALERTS



**ALERT
NUMBER
399**

**OCTOBER
2011**

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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

Beechcraft: B58; Broken/loose Elevator Balance Weights; ATA 2730

A repair station mechanic states, "During an Annual Inspection, (I) found the L/H elevator balance weight (P/N 96-610022-7) detached from its mount. The R/H elevator balance weight was found (both) broken and loose on its mount. The detached L/H weight was able to shift position inside the elevator and cause an out of balance condition. This damage appears to be caused by vibration." *(That—and toss in a ton of corrosion, too—Ed.)*



Part Total Time: 1,349.9 hours

Boeing: 747-200F; Cracked Pylon Stiffeners; ATA 5400

A technician from a repair facility in Xiamen, China states, "During inspection, cracks were found on the R/H vertical and horizontal flanges of number two (*engine*) pylon near station 228. Following removal of the damaged stiffener section, the bulkhead strap (P/N 65B90412-38) was found cracked at a stiffener fastener hole. While (*effecting*) the repair, two each existing 2/16 inch diameter rivet holes in the skin common to the new upper repair angle (of stiffener P/N 65B90415-6) were found oversized to 8/32 inches."

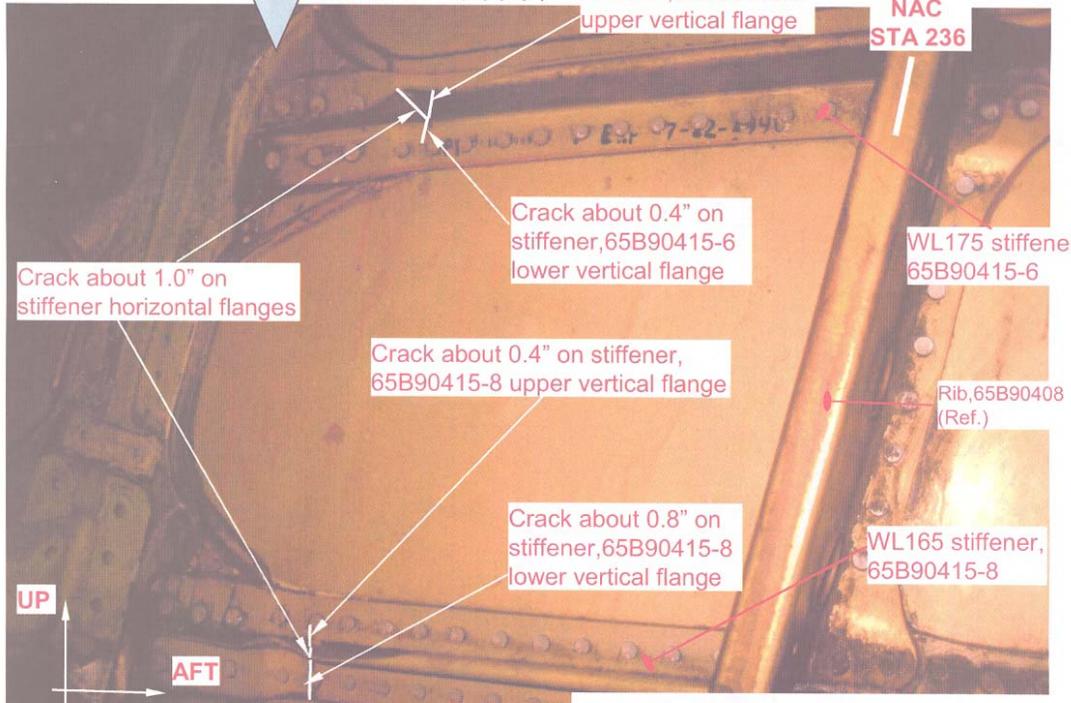
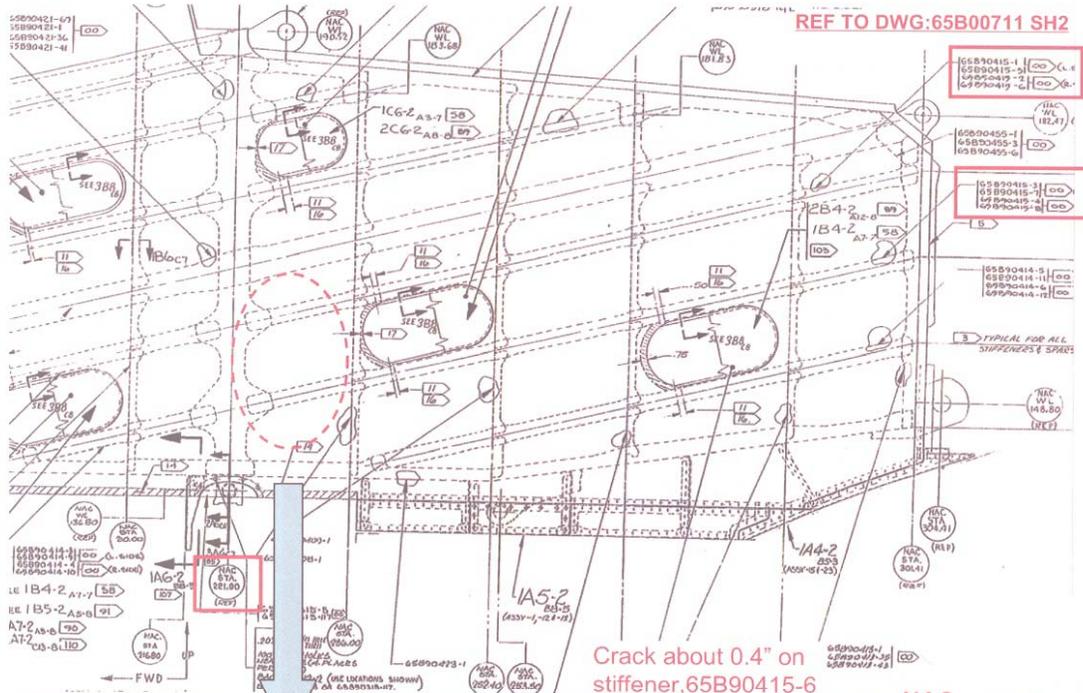


Figure 1 Damage Report

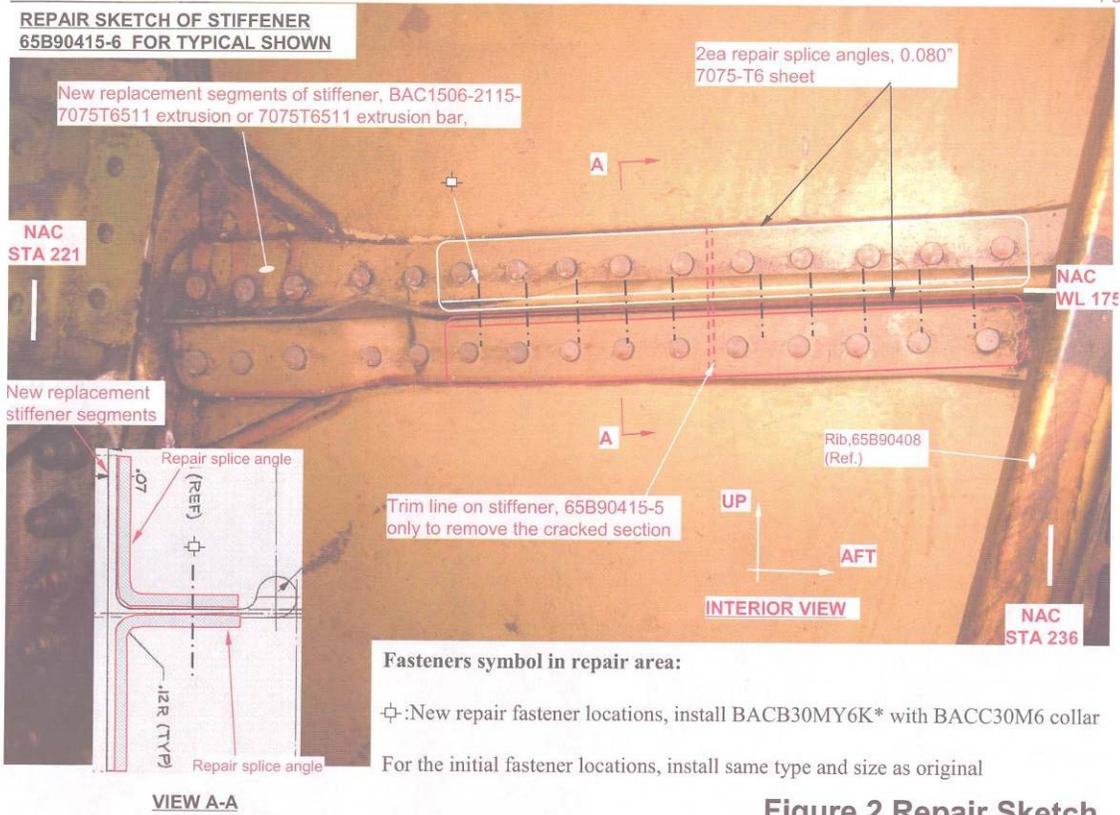
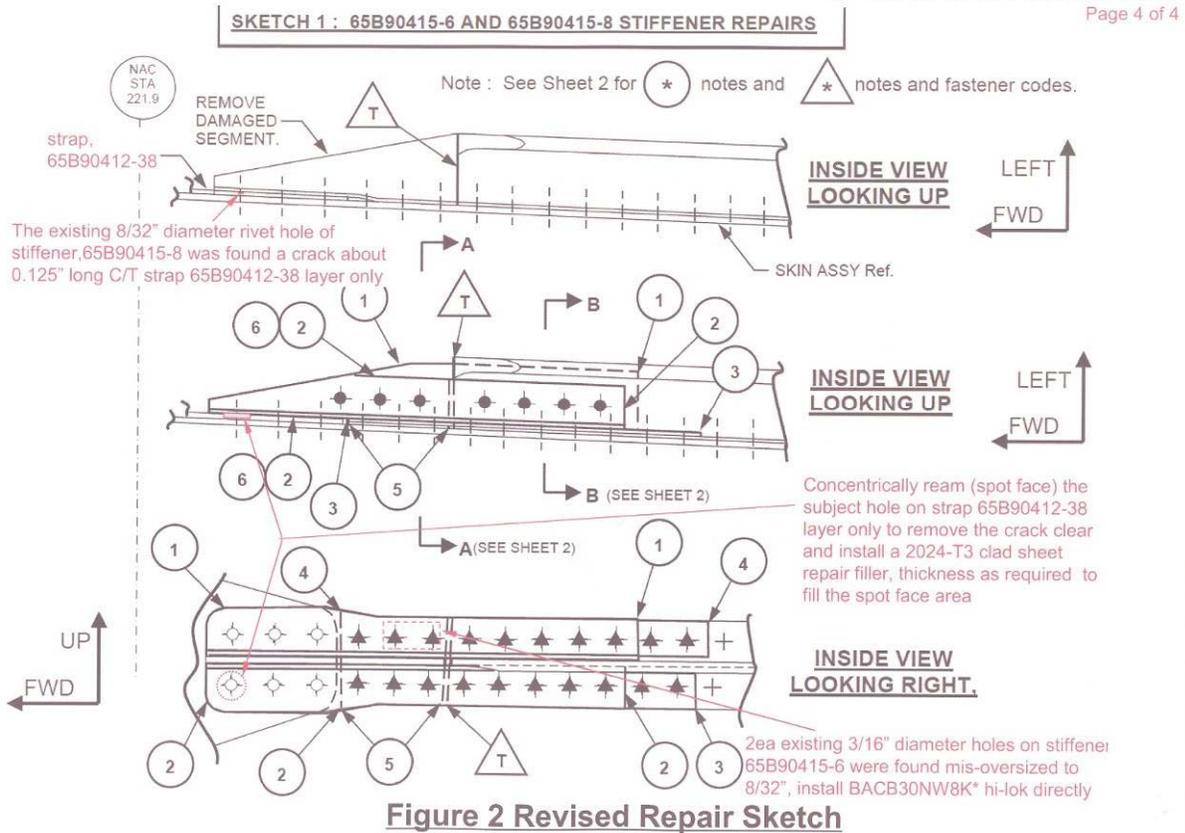


Figure 2 Repair Sketch



(Thank-you for your help and participation! Ed.)

Part Total Time: 98,526 hours (aircraft)

Boeing: 757-27A; Cracked Wheel; ATA 3246

A Director for Quality Control at a repair station states, "This main wheel hub half (P/N AH08901)...was noticed to have air leakage after one day's service. The main wheel assembly (P/N AHA1648) was returned to the (source) location for warranty evaluation. A large crack was visually confirmed in the inboard ring area of the wheel hub half, pictured in figure 1 and 2...."

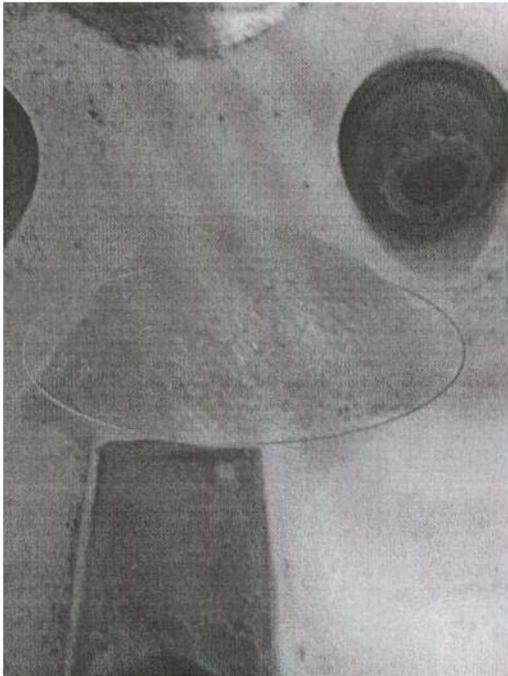


Figure 1: Soapy Water Liquid Test

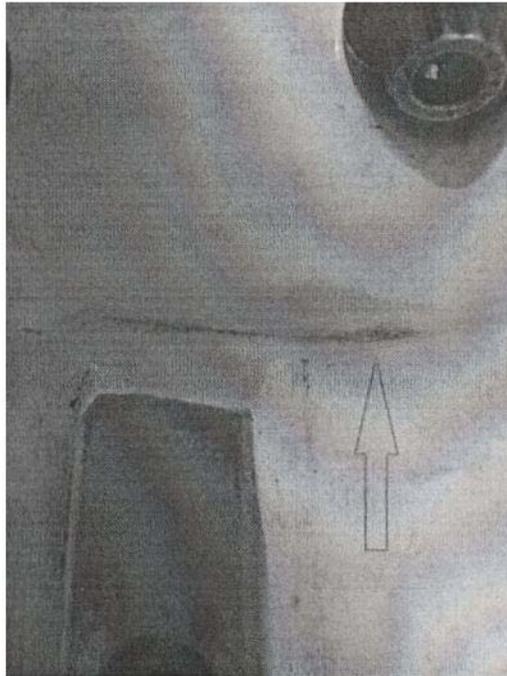


Figure 2: Inboard Ring Area Crack

(PN AHA1648 reflects three times in the SDRS database.)

Part Total Time: (unknown)

Cessna: Series 150/152; Seat AMOC for AD 2011-10-09; ATA (N/A)

(The following discussion and efforts are credited to Aerospace Engineer Gary Park of the Wichita Aircraft Certification Office, and the Lead Organization Designation Authorization Administrator--Mr. John Bouma of the Cessna Aircraft Company. Many others made contributions to help in this topic's publication; those whose names appear on various documents, and those who remain in the background. "Thank-you" goes out to everyone's labor.

The first part is Mr. Park's summation of the Airworthiness Directive difficulty and its Alternative Means of Compliance solution. The second part is the Wichita Aircraft Certification Office's approval of the requested AMOC, providing more background information. The third part is the actual Repair Definition from Cessna Aircraft. This data stands published as received. Contact information follows at the end—Ed.)

"The FAA has provided a Global Alternate Method of Compliance (Global AMOC) letter to Airworthiness Directive (AD) 2011-10-09 that allows repairs to the steel seat foot/roller housings on Cessna 150 and 152 airplanes—using Cessna Repair Definition document S-150-ATA25-01RD, Revision A, dated August 3, 2011 (attached). This Global AMOC is necessary since the effected parts cannot easily be removed from the seat and replaced.

"Readers might also reference the Government Docket: Number FAA-2010-1101 at the following website for these documents:

<http://www.regulations.gov/#!docketDetail;dct=FR+PR+N+O+SR;rpp=10;po=0;D=FAA-2010-1101>

Here they will find the FAA Global AMOC, the Cessna Repair Definition document S-150-ATA25-01RD, and the FAA Approval form 8100-9.

"Provided next for this *Alerts* publication are copies of the FAA Global AMOC, followed by the Cessna Repair Definition."



U.S. Department of Transportation
Federal Aviation Administration

Small Airplane Directorate
Wichita Aircraft Certification Office
1801 Airport Road, Room 100
Wichita, Kansas 67209

SEP 02 2011

L115W-11-804

Mr. John Bouma
Lead ODA Administrator
Cessna Aircraft Company
P.O. Box 7704
Wichita, KS 67277-7704

Dear Mr. Bouma:

Subject: Global AMOC for FAA AD 2011-10-09, Cessna Model 150/152 series

Reference: FAA Letter L115W-11-719, dated August 5, 2011; Cessna Letter, L390-11-1924, "Model 150/152, AMOC Request, AD2011-10-09, Docket No. FAA-2010-1101, dated August 4, 2011

This letter supersedes FAA Letter L115W-11-719 and provides clarification that this Alternate Means of Compliance (AMOC) is applicable to all operators of aircraft identified below.

The Wichita Aircraft Certification Office (ACO) approves your requested AMOC to use Cessna Report No. S-150-ATA25/01RD, "Repair Definition – Steel Seat Foot / Roller Housing Repair", Revision A, dated August 3, 2011, for compliance with FAA AD 2011-10-09 on Model 150/152 series airplanes. Cessna may make this Global AMOC available to all owners and operators for their use.

This Global AMOC is applicable to all operators of the following aircraft:

<u>Model</u>	<u>Serial Range</u>		
150	15059019	through	15079405
F150	F150-0001	through	F15001428
A150	A1500001	through	A1500734
FA150	FA1500001	through	FA1500120
FRA150	FRA1500121	through	FRA1500336
152	15279406	through	15286033
F152	F15201429	through	F15201980
A152	A1520735	through	A1521049
FA152	FA1520337	through	FA1520425
FA152	FA1520348	through	FA1520425

Upon publication of AD 2011-10-09 in the Federal Register, Volume 76, Number 93 (Friday, May 13,2011), Cessna recognized the need to address the seat tang (seat foot / roller housing) installation on Model 150/152 series airplanes since they are different than other applicable models. That is, the Model 150/152 series seat tangs are made of steel and welded in place; whereas, the other models are attached by rivets or bolt that are easily removable. The AD requires inspection of the tang dimensions for acceptability and to remove and replace if the dimensions are unacceptable (out of limits). Cessna has developed procedures to correct deformations of the seat tangs that are not the result of wear.

Before using the AMOC, you must notify your Principal Inspector in the Flight Standard District Office (FSDO). Please note this AMOC is transferable to the other owners/operators of the affected Model 150/152 series airplanes listed in the above table. This AMOC is subject to the following condition. If in future the Wichita ACO determines that the AMOC does not provide an acceptable level of safety, the ACO may revoke or revise the terms of the AMOC following with a notice to you and seven-day opportunity for you to comment on the revocation or proposed revision.

Should you have any questions, please contact Gary D. Park, 316/946-4123.

Sincerely,



for William Schinstock
Associate Manager, Airframe & Services
Wichita Aircraft Certification Office



CESSNA AIRCRAFT COMPANY
P. O. BOX 7704
WICHITA, KANSAS 67277-7704

STRUCTURES

MODEL NO: 150 (and others)

REPORT NO: S-150-ATA25/01RD

REPAIR DEFINITION

STEEL SEAT FOOT / ROLLER HOUSING REPAIR

REPORT DATE: July 28, 2011

PREPARED BY: John Baldessari
John Baldessari

PREPARED BY: Gale Meek
Gale Meek

APPROVED BY: Tony Massucci
Tony Massucci

Cessna Aircraft Company
 P. O. Box 7704
 Wichita, KS 67277

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 Aircraft: multiple serial nos.

REVISIONS

LETTER	DATE	DESCRIPTION	BY	APPROVED
-	Jul. 19, 2011	Original release EC 099005	JJB	See cover page
A	3 Aug. 2011	Removed proprietary restrictions; added clarification for defined damage agreeing with actual damage; removed reference to Cessna drawing and referred to Fig. 3.2-1 and AD; provided clarification that substantiation is approved data; added sentence that the repair is cold forming with no heating; changed "annealed" to "normalized"; defined suitable tools for forming and bending; added reference to paragraph 3.2.4 for NDI in paragraph 3.0. EC099005	GLM	 Sid Bauguess  Tony Massucci

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Cessna Aircraft Company
 P. O. Box 7704
 Wichita, KS 67277

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 Aircraft: multiple serial nos.

1.0 AIRCRAFT DATA

This repair is valid for the following aircraft models and serial numbers:

Model	Serial Range	
150	15059019	15079405
F150	F150-0001	F15001428
A150	A1500001	A1500734
FA150	FA1500001	FA1500120
FRA150	FRA1500121	FRA1500336
152	15279406	15286033
F152	F15201429	F15201980
A152	A1520735	A1521049
FA152	FA1520337	FA1520425
FA152	FA1520348	FA1520425

SPECIAL NOTES

- This Repair Definition covers only the damage defined in this document and it is the responsibility of the repair facility to assure that the defined damage agrees with the actual damage, i.e. no cracks, no twisting, or other damage. A
- All nondestructive inspections (NDI) specified in the Repair Definition must be performed by a qualified facility.

The repair described in the report satisfies applicable strength and fatigue, fail safe, and/or damage tolerance requirements. Approved data for structural substantiation and back-up data for this repair are contained in Engineering's Repair Definition Archive. A

The structural repairs designed herein for these aircraft do not affect the original structural inspection criteria (procedures or timing) as published in the appropriate Cessna Maintenance Manuals.

The repair definition contained within this document has been found to comply with the following regulations:

Part 3 of the Civil Air Regulations dated May 25, 1956, as amended by 3-4, Paragraphs 3.171, 3.172, 3.173, 3.174, 3.292, 3.293, 3.294, 3.295, 3.296, and 3.386.

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2.0 DAMAGE DESCRIPTION

FAA Airworthiness Directive (AD) 2011-10-09 became effective June 17, 2011, and requires Cessna Aircraft owners to inspect seat rails and seat foot ("roller housing") structure for cracks, wear, or other deformations.

Among other requirements, the AD specifies that the geometry for the tangs of the seat roller housings must fall within certain limits -- reference. AD 2011-10-09 paragraphs (g)(6), (g)(6)(i), and Figure 4 (reproduced in Fig. 2.0-1 below).

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FIGURE 2.0-1 ROLLER HOUSING TANG GEOMETRY REQUIREMENTS PER AD 2011-10-09

(6) Due to wear or deformation of the tangs, inspect the tang length from the inner edge of the tang to the outer edge (the bend area) of the roller housing (see figure 4).

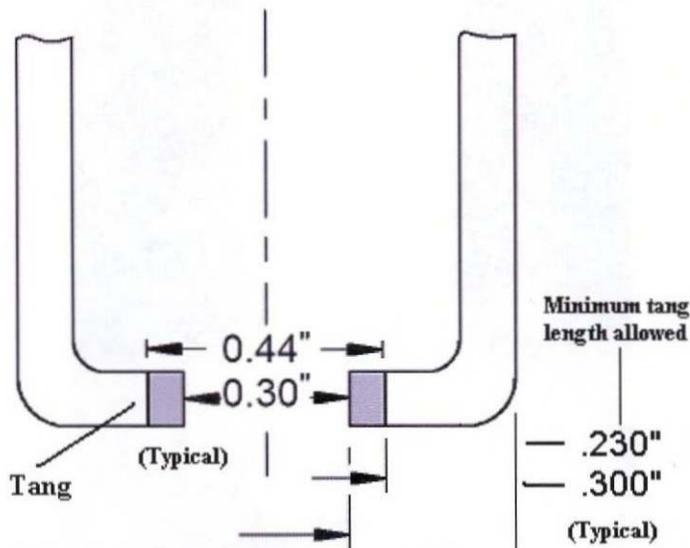


Figure 4. Closeup of seat roller housing and tang gap width

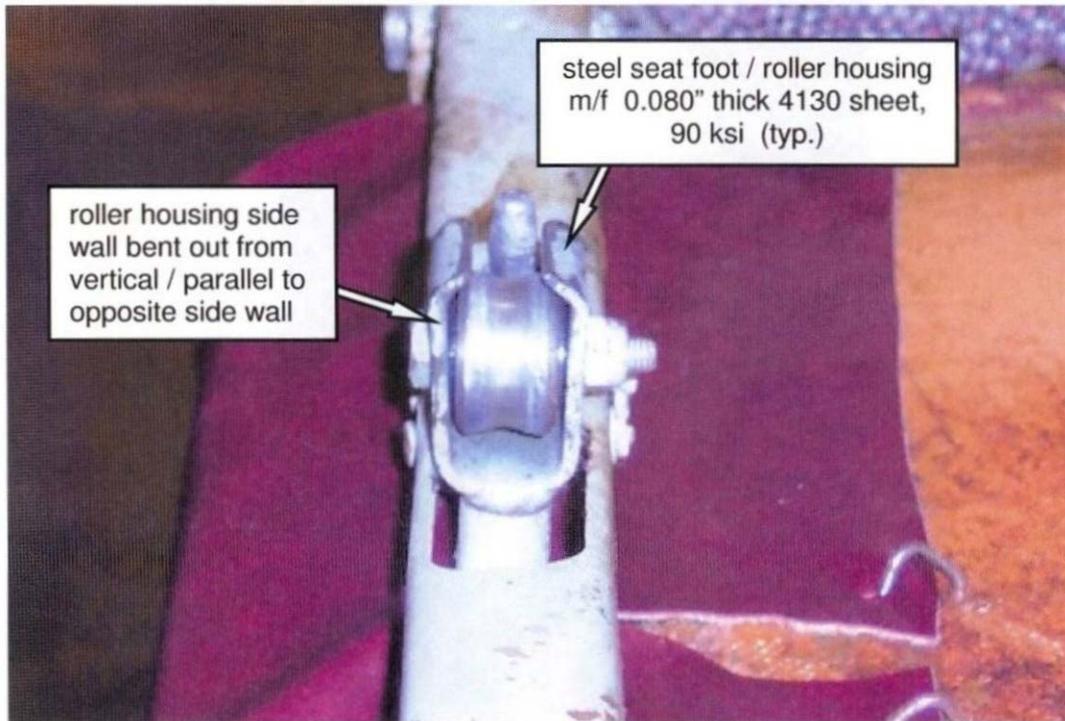
(i) The minimum measurement allowed for the remaining tang length is 0.230 inches remaining on either of the tangs, from the inner edge of the tang to the outer edge (the bend area) of the roller housing. If the measurement is less than 0.230 inches on either of the tangs, before further flight, replace the roller housing.

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In the case of seats which use steel roller housings (e.g. as defined by Cessna drawings 0311310 "Roller, Pilot Seat", and 0514016 "Housing Assy – Seat Roller"), the tangs may not meet the dimensional requirements set forth in the AD due to primarily to deformation or bending of the seat feet, rather than being caused by actual wear / loss of material. Ref. Figures 2.0-2 and 2.0-3 for examples of this type of deformation / bending of roller housing geometry.

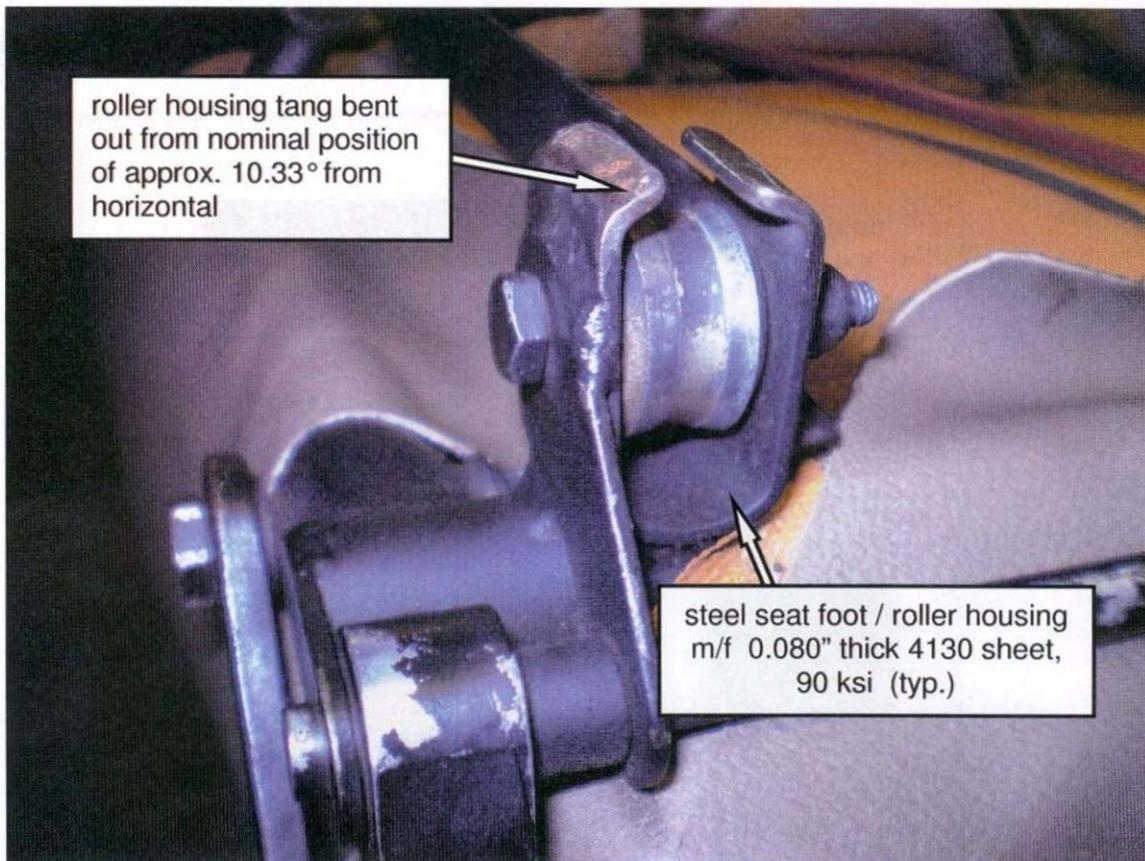
FIGURE 2.0-2 DETAIL OF BENDING / DEFORMATION OF SEAT ROLLER HOUSING SIDE WALL



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FIGURE 2.0-3 DETAIL OF DEFORMED / BENT SEAT ROLLER HOUSING TANGS



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3.0 REPAIR DEFINITION

Read the entire service document prior to beginning the repair; contact Cessna Customer Service if the repair cannot be performed as described below. Steel seat roller housings may be gently formed (or "bent") back to a configuration conforming to specifications as shown in Figure 3.2-1 below and AD 2011-10-09, followed by an NDI inspection (as identified in paragraph 3.2.4) for any cracking. Note that this is a cold forming operation. No heating is to be done for this operation.

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This repair procedure is only applicable to seats which are listed in Section 1.0 which have not been modified with non-production roller housings. Production seat roller housings are made of 4130 steel and in normalized (90 ksi) condition.

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3.1 MATERIALS REQUIRED FOR REPAIR

No special materials are required to perform this repair.

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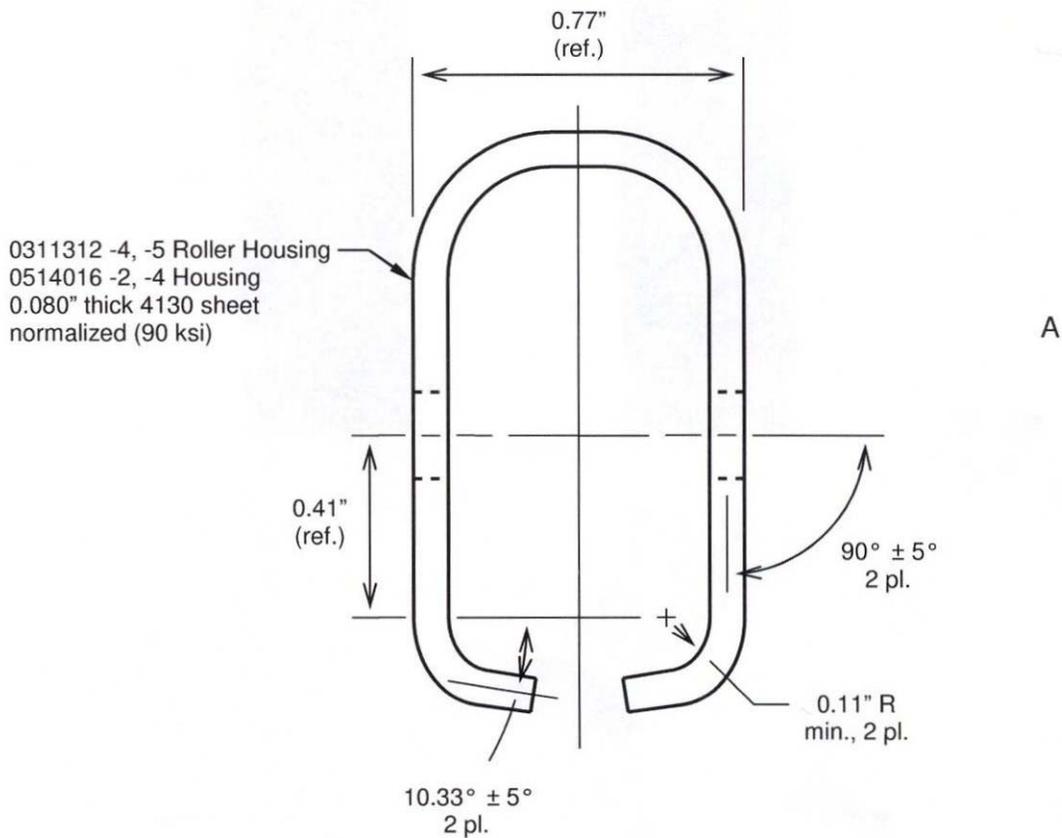
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3.2 REPAIR PROCEDURE

1. Using suitable tools, form (or "bend") the roller housing side walls and tangs to match the geometry specifications shown in Figure 3.2-1 below (or as close as possible, while still preventing interference with the seat rail and allowing free movement). Suitable tools include a hardwood block that will fit inside the roller housing, a non-marring hammer, pliers or vice grips with smooth jaws, or similar tools suitable for forming or bending without damage to the roller housing.

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FIGURE 3.2-1 ROLLER HOUSING GEOMETRY SPECIFICATIONS



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2. Polish to a surface finish of 125 RMS (surface smoothness, ref. ASME B46.1-2009) or better following all forming operations. Take care not to nick, gouge, or wrinkle any of the roller housing surfaces during forming operations. A
3. Following forming operations, check roller housing geometry against the requirements set forth in AD 2011-10-09. If the geometry still does not meet the requirements of AD 2011-10-09, the roller housing must be replaced.
4. Following forming operations, check all surfaces of the roller housing for cracks using dye penetrant and/or eddy current inspection methods. If any cracks are found, the roller housing must be replaced.
5. Repair surface finish / paint where required in accordance with the appropriate Cessna Maintenance Manual for the model of aircraft being repaired.
6. Make a logbook entry stating compliance with this repair definition.

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3.3 GENERAL

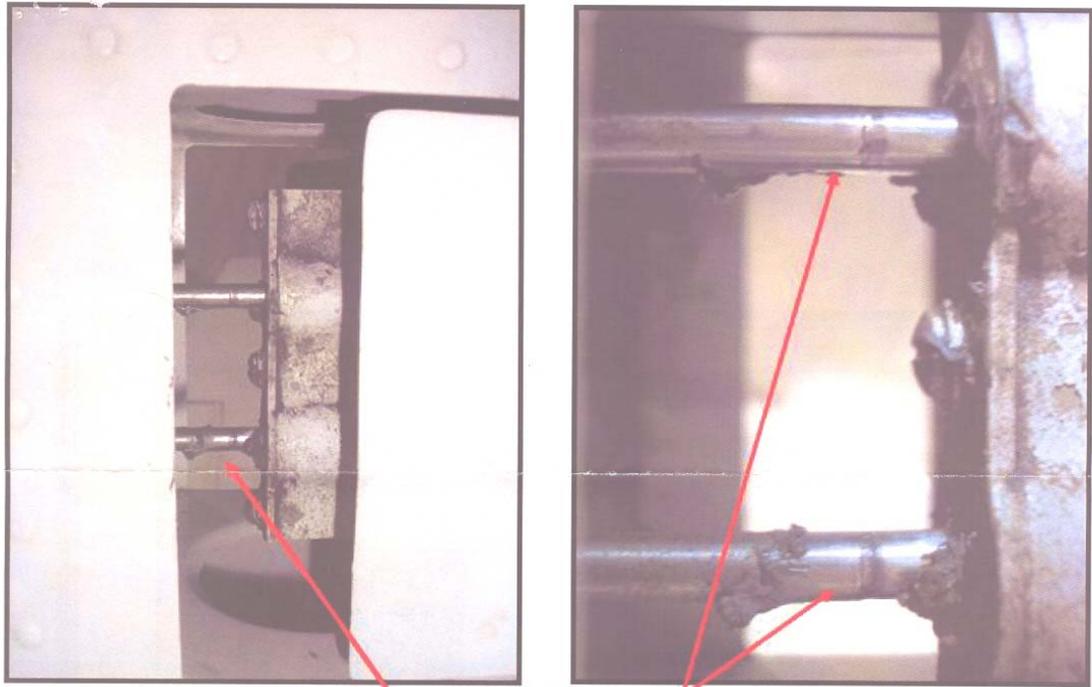
- This repair is authorized for the stated Serial Numbered airplanes only.
- This repair is for an unmodified airplane. Any non-Cessna modification that affects the aircraft gross weight, original design, or performance may invalidate published Continued Airworthiness requirements (i.e., inspection techniques and/or interval). Contact the STC Holder or originator of the modification for revised inspection criteria.

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

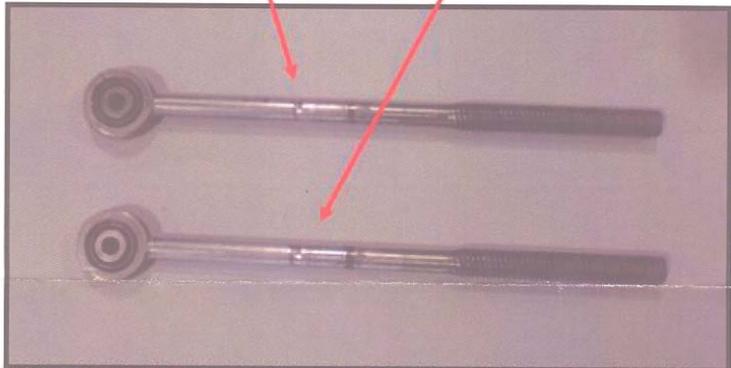
Part Total Time: (n/a)

Cessna: 560XL; Worn Rudder Actuator Screws; ATA 2722

A repair station submitter says, "(I) found grooves worn into the shaft of the two screws (P/N 6660251-52) that enter into the rudder actuator assembly. Probable cause: the aircraft is set for cruise configuration. During flight the tail vibrates, causing grooves to wear into the shaft of the screws at the point where they enter into the actuator."



Note wear rings.



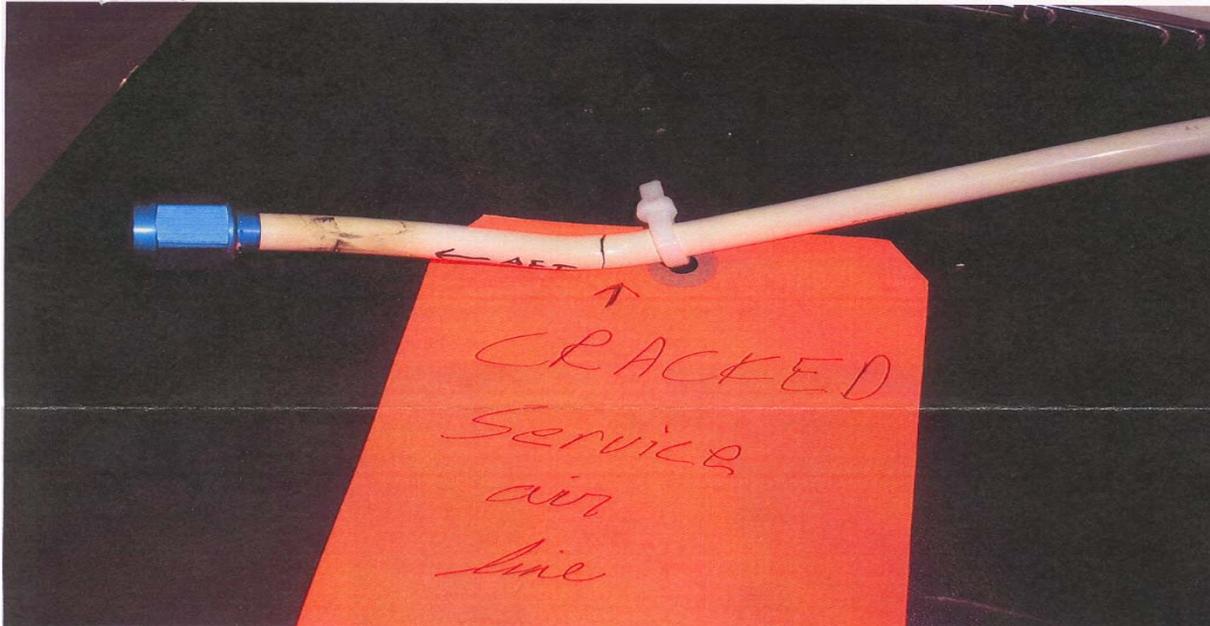
Cessna 560XL SN 560-5805 @ 2347.0 Hrs TT LND 1802



Part Total Time: (unknown)

Cessna: 680; Cracked Air Service Tube (rudder actuator); ATA 2722

A repair station submitter says, "(I) found the service air tube assembly cracked in the bend radius that leads to the rudder bias actuator in the tail cone." (Tube assembly P/N: 6914040-37.)

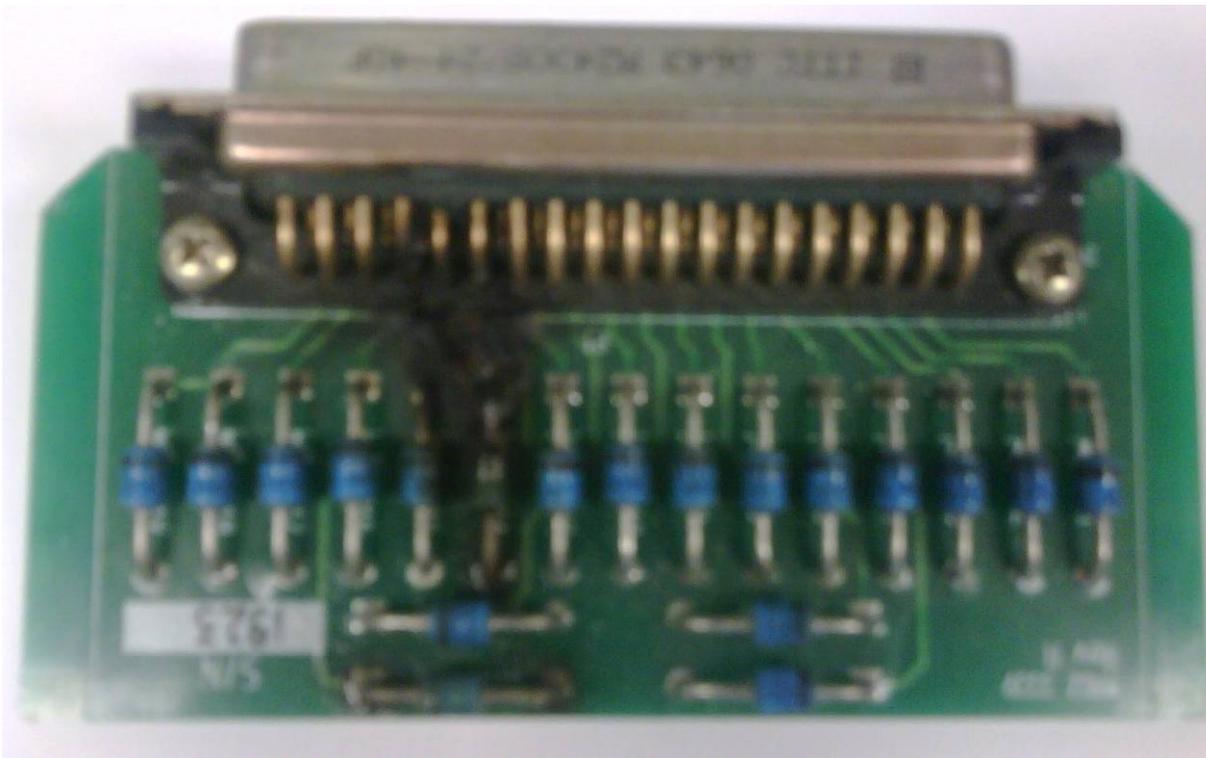


Part Total Time: (unknown)

Gulfstream: G200; Burned Ice Detection Circuit Card; ATA 3097

"After takeoff," states an unknown technician/pilot, "(I) noticed a very slight electrical smoke odor. After climbing through 24,000 feet, and the left and right 'Ice Detect Fail' EICAS came on simultaneously (*Engine Indicating & Crew Alert System*). These lights came on for about thirty seconds, then disappeared. Annunciators appeared about thirty seconds later (for a few seconds) around (approximately) 20,000 feet. They remained extinguished for the rest of the flight. No circuit breakers tripped, and everything looked normal on the electrical and secondary EICAS pages.

"After landing, the odor appeared to be coming from wires from the avionics box located behind the pilot's seat—on top of the potable water controls. I found the ice detectors to fail the self-test and the system test. The system would heat normally, but no EICAS indication would (*generate*). We verified the ejector valve heater blankets had not failed by performing resistance checks at relay 350H in the right relay junction box. We investigated this right relay junction box for faults and damaged components. We found the PC diode card 82P to be discolored and displaying burn marks. We removed and replaced card 82P with a new unit. Operational check was good. No further faults were noted." (*Circuit card P/N: SPE3508005001.*)

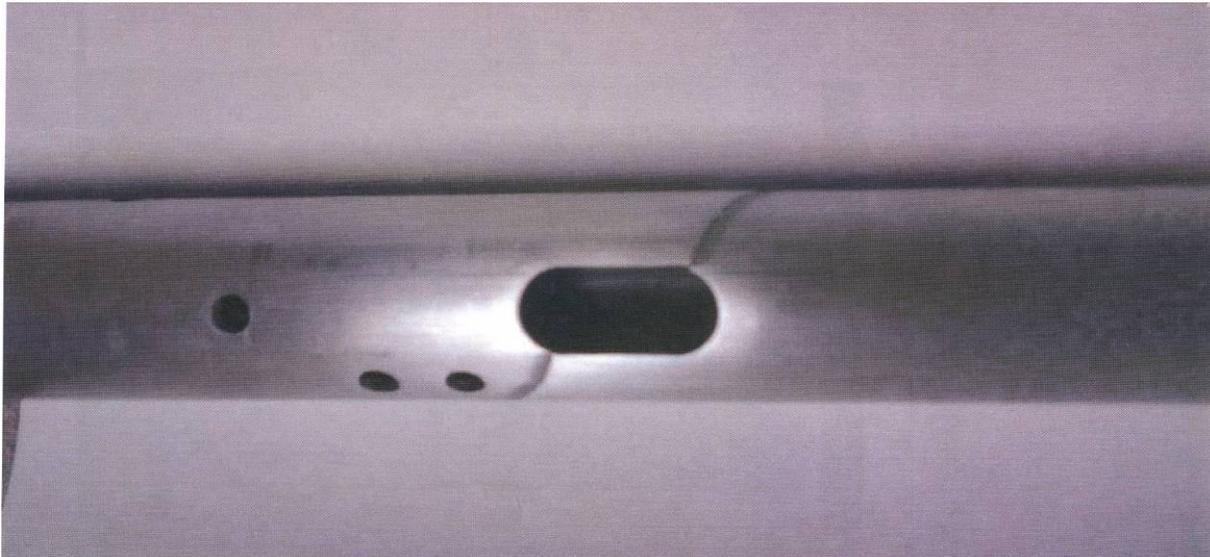




Part Total Time: 3,246 hours

Gulfstream: GIV; Cracked Seat Torque Tube; ATA 2510

"The co-pilot's seat was removed for recovering," states a submitter. "During the recovering (*process*) it was noticed the seat height adjustment torque tube was cracked (*P/N 2A0590174*). The technicians working on the seat said this was not an uncommon failure."



Part Total Time: 4,966 hours

Piper: PA25; Failed Landing Gear Shock Absorber; ATA (N/A)

(The following Civil Aviation Safety Alert is a reprint from our sister agency, Transport Canada.)



Transport
Canada

Transports
Canada

Document No. /Document n° : CASA 2011-02

Date : 2011-05-31

Page : 1 of/ de 5

**CIVIL AVIATION
SAFETY ALERT**

**ALERTE À LA SÉCURITÉ
DE L'AVIATION CIVILE**

ATTENTION:

**OWNERS AND MAINTAINERS OF PIPER
PA-25 SERIES AEROPLANES**

À L'ATTENTION DE

**PROPRIÉTAIRES ET SPÉCIALISTES DE LA
MAINTENANCE DES AVIONS PIPER DE LA SÉRIE
PA-25**

**PIPER PA-25 MAIN LANDING GEAR
HYDRASORB SHOCK ABSORBER ASSEMBLIES**

**SANDOWS AMORTISSEURS DU TRAIN
D'ATTERRISSAGE PRINCIPAL DES AVIONS PIPER
PA-25**

PURPOSE:

This CASA is issued to inform owners and maintainers of PA-25 series aeroplanes of a potential unsafe condition regarding the fatigue failure of end fittings on Piper PA-25-235 Main Landing Gear Hydrasorb shock absorber assemblies.

OBJET :

La présente Alerte à la sécurité de l'Aviation civile (ASAC) est publiée pour informer les propriétaires et les spécialistes de la maintenance des aéronefs Piper de la série PA-25 d'une situation potentiellement dangereuse concernant une rupture par fatigue de l'embout retenant les sandows amortisseurs du train d'atterrissage principal des aéronefs Piper PA-25-235.

BACKGROUND:

Following the investigation of a main landing gear collapse on a Piper PA-25 aeroplane, the Transportation Safety Board of Canada (TSB) has issued to Transport Canada Civil Aviation (TCCA), TSB Advisory Letter A10W0092-D1-A1.

CONTEXTE :

À la suite d'une enquête sur l'affaissement du train d'atterrissage principal d'un aéronef Piper PA-25, le Bureau de la sécurité des transports du Canada (BST) a envoyé à Transports Canada, Aviation civile (TCAC), l'Avis numéro A10W0092-D1-A1.

It has been determined that there have been at least six similar occurrences involving both foreign and Canadian registered aeroplanes.

On a déterminé qu'au moins six autres aéronefs immatriculés à l'étranger et au Canada avaient subi des incidents semblables.

TCCA believes this information is of value to all Piper PA-25 series aeroplane owners and maintainers as it may assist in preventing further incidents.

TCAC croit que les présents renseignements seront utiles à tous les propriétaires et spécialistes de la maintenance des aéronefs Piper de la série PA-25, car ceux-ci pourront contribuer à éviter d'autres incidents.

The following information is derived from the TSB Advisory Letter.

Les renseignements suivants sont tirés de l'avis du BST.

Following a normal three-point touchdown, the right main gear of a Piper PA-25-235 collapsed. The aeroplane ground looped and came to rest with the right wing on the ground. The propeller struck the ground under low power and the right wing sustained minor damage. There were no injuries.

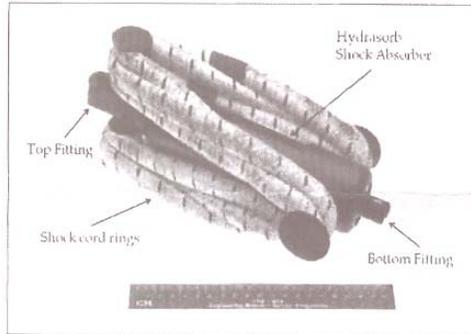
Après un atterrissage trois points normal, l'atterrisseur droit du train principal d'un aéronef Piper PA-25-235 s'est affaissé. L'aéronef a exécuté un cheval de bois, et il s'est immobilisé avec l'aile droite touchant le sol. L'hélice a heurté le sol à faible vitesse, et l'aile droite a été légèrement endommagée. Personne n'a été blessé.

- RDIMS Document number /
Numéro du document du SGDDI : 6561866
- File Classification Number /
Numéro de dossier de classification : Z 5000-35
(For internal use only - Pour usage interne seulement)

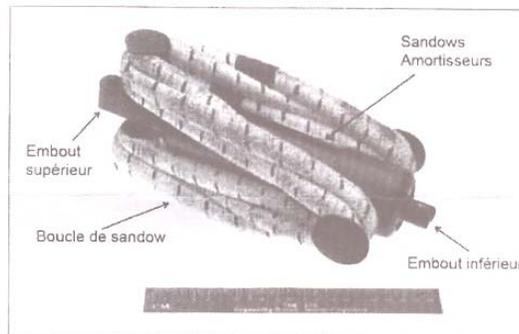


Initial examination determined that the right main landing gear Hydrasorb shock absorber had failed at the bolt hole in the lower fitting, resulting in separation of the upper end of the right main landing gear vee assembly. Subsequent dye penetrant inspection (DPI) determined that the lower fitting on the left Hydrasorb shock absorber was also cracked through the bolt hole. The Hydrasorb shock absorbers, in combination with shock chords, absorb and dissipate landing loads within the shock strut assemblies.

Une première vérification a permis de déterminer que le trou de boulon du raccord inférieur du sandow servant d'amortisseur au train d'atterrissage principal droit s'était brisé, ce qui avait causé la séparation de l'embout supérieur en V du train d'atterrissage droit. Par la suite, une inspection par pénétration a permis de déterminer que le raccord inférieur du sandow gauche était également fissuré jusqu'au trou de boulon. Les amortisseurs Hydrasorb, avec l'aide des sandows, absorbent et dissipent les charges à l'atterrissage dans les jambes amortisseuses du train.



Shock Strut Assembly.



Jambe élastique de train.

Both main landing gear shock strut assemblies were submitted to the TSB Laboratory for metallurgical examination. It was determined that the right Hydrasorb shock absorber had failed due to the instantaneous overstress extension of a high-cycle fatigue crack through the bolt hole in the bottom end fitting (see Photo 2).

Les deux jambes élastiques du train d'atterrissage principal ont fait l'objet d'un examen métallurgique au laboratoire technique du BST. On a déterminé que le sandow droit s'était brisé à cause de l'allongement en surcharge excessive instantané de la crique de fatigue mégacyclique du trou de boulon de l'embout inférieur (voir la photo 2).

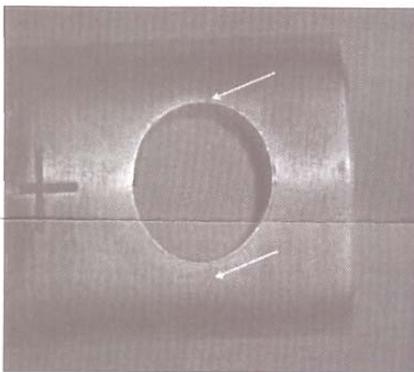


Photo 2. Fatigue crack in end fitting

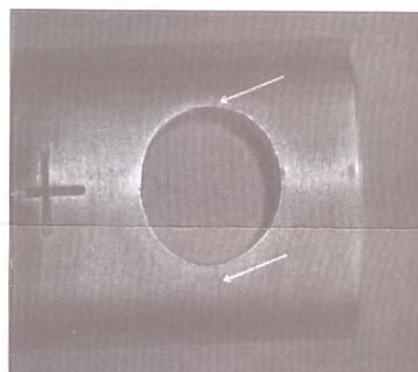


Photo 2. Fissure de fatigue de l'embout.

A similar fatigue crack was found on the bottom end fitting of the left Hydrasorb shock absorber (see Photo 2). In both cases the fatigue cracking had initiated from multiple origins located at the sharp edge of the bolt hole and at residual tool marks on the bolt hole surface which had acted as stress risers. Examination showed that the lack of a chamfer on the bottom end bolt holes and the use of non heat-treated steel were contributory to the fatigue failures of the bottom fittings.

The part number (P/N) of the shock strut assemblies was U64052-003. These shock assemblies are fitted to Piper PA-25-235 and PA-25-260 aeroplanes. Each shock strut assembly consists of a top fitting (P/N U64026-006), a bottom fitting (P/N U64029-000), a Hydrasorb shock absorber (P/N U486-604-1) and three shock cord rings (P/N U31322-005).

The Hydrasorb shock absorbers had been manufactured by Univair Aircraft Corporation in 2003 under a Federal Aviation Administration Parts Manufacturer Approval (FAA-PMA). The Univair label on each Hydrasorb shock absorber identified the production work order as 104040. The Hydrasorb shock absorbers had been installed on the aeroplane as components of two shock strut assemblies on 5 April 2005. The shock strut assemblies had accumulated 352.1 flight hours and an estimated 1400 take-off/landing cycles since installation.

Univair Aircraft Corporation received FAA-PMA approval to manufacture the U486-604-1 Hydrasorb shock absorber on 15 September 2003. A total of 45 shock absorbers were produced under Univair work order 104040. These shock absorbers were sold individually or as part of the U64052-003 assembly. Neither the Piper Aircraft Corporation original equipment manufacturer (OEM) specifications nor the Univair specifications required chamfering of the bolt hole in the top or bottom fittings or heat treatment of the fittings.

Univair Revision A of the OEM specification, dated 30 September 2003, required the sharp edges on the top and bottom end fitting bolt holes to be chamfered. Univair Revision B of the OEM specification dated 14 October 2009, required heat treatment of the top and bottom fittings. The top and bottom fittings on Hydrasorb shock absorbers manufactured to Univair Revision A and Revision B specifications are expected to be more resistant to fatigue cracking.

Une fissure de fatigue semblable a été relevée dans la partie inférieure de l'embout de du sandow gauche (voir la photo 2). Dans les deux cas, la fissure de fatigue prenait naissance en de nombreux points de l'arête vive du trou de boulon et aux endroits où l'on constatait des restes d'empreintes d'outil sur la surface du trou de boulon, lesquelles avaient servi de points de concentration de contraintes. Un examen a permis de constater que le chanfrein n'étant pas assez prononcé dans les trous de boulons de la partie inférieure et que l'utilisation d'acier non trempé étaient des facteurs contributifs à la rupture par fatigue des raccords inférieurs.

L'amortisseur porte le numéro de référence (réf.) U64052-003. Ces amortisseurs sont posés dans les aéronefs Piper PA-25-235 et PA-25-260. Chaque amortisseur est formé d'un embout supérieur (réf. U64026-006), d'un embout inférieur (réf. U64029-000), d'un sandow (réf. U486-604-1) et de trois boucles de sandow (réf. U31322-005).

Les sandows amortisseurs avaient été fabriqués par Univair Aircraft Corporation en 2003, en vertu d'une homologation de fabricant de pièces de la Federal Aviation Administration (FAA). L'étiquette d'Univair apposée sur chaque sandow amortisseur confirme l'ordre de fabrication numéro 104040. Les sandows amortisseurs avaient été posés en tant que composants des deux jambes élastiques de train de l'aéronef le 5 avril 2005. Les jambes élastiques de train totalisaient 352,1 heures de vol et on estime que l'appareil a effectué 1400 cycles (décollage et atterrissage) depuis leur pose.

Univair Aircraft Corporation a reçu l'homologation de fabricant de pièces de la FAA pour les sandows amortisseurs U486-604-1, le 15 septembre 2003. En tout, 45 amortisseurs ont été fabriqués par Univair dans le cadre de l'ordre de fabrication numéro 104040. Les amortisseurs en question ont été vendus séparément ou comme composant de l'ensemble portant la réf. U64052-003. Ni les spécifications du fabricant d'origine de Piper Aircraft Corporation ni les spécifications d'Univair ne prescrivait le chanfreinage du trou de boulon des embouts supérieur ou inférieur, ou le traitement thermique de l'acier utilisé pour fabriquer les embouts.

La révision A d'Univair visant les spécifications du fabricant d'origine, en date du 30 septembre 2003, prescrivait le chanfreinage des arêtes vives des trous de boulon des embouts supérieur et inférieur. La révision B d'Univair visant les spécifications du fabricant d'origine, en date du 14 octobre 2009, prescrivait le traitement thermique des embouts supérieur et inférieur. On s'attend à ce que les embouts supérieurs et inférieurs des sandows amortisseurs fabriqués conformément aux spécifications prescrites dans les révisions A et B d'Univair, visant les spécifications du fabricant d'origine, résistent davantage à la rupture par fatigue.

- RDIMS Document number /
 Numéro du document du SGDDI : 6561866-.....
 - File Classification Number /
 Numéro de dossier de classification : Z 5000-35
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Piper PA-25-235 and PA-25-260 main landing gear Hydrasorb shock absorber assemblies manufactured in accordance with OEM specifications under Univair Aircraft Corporation work order 104040, without chamfering of the end bolt holes and heat treatment of the top and bottom end fittings, are at a risk of developing fatigue cracks through the end bolt holes. Piper PA-25 main landing gear Hydrasorb shock absorbers manufactured by other vendors with no chamfering of the end bolt holes and no heat treatment of the end fittings, may have the same metallurgical properties, and therefore the same vulnerability to fatigue cracking, as the pre-revision A and B Hydrasorb shock absorbers manufactured by Univair.

Initiation and growth of fatigue cracks in the end fittings of the Hydrasorb shock absorbers can lead to failure of the end fittings and collapse of the main landing gear.

TCCA Comments:

There are approximately 92 Piper PA25 series aeroplanes presently registered in Canada.

The Design approval holder, Laviasa of Argentina, is aware of these shock absorber end fitting failures and has developed Service Bulletin (SB) 25-32-04 that introduces a safety cable to prevent spread or lateral movement of the main landing gear and also helps prevent wing damage should the landing gear collapse.

RECOMMENDED ACTION:

TCCA strongly recommends that all affected owners and operators pay close attention to the main landing gear shock absorber assembly, both during scheduled maintenance activity and during post and pre-flight inspection. To prevent unnecessary damage in the event of a failed Hydrasorb shock absorber assembly, it is recommended to incorporate the Laviasa SB 25-32-04, or at a minimum, incorporate the cable installation as per the Service Bulletin.

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 sandows amortisseurs du train d'atterrissage principal des aéronefs Piper PA-25-235 et PA-25-260 fabriqués conformément aux spécifications du fabricant d'origine dans l'ordre de production numéro 104040 d'Univair Aircraft Corporation, donc sans le chanfreinage des trous de boulon et le traitement thermique des embouts supérieur et inférieur, risquent de développer des fissures de fatigue dans les trous de boulon des embouts. Les sandows amortisseurs des trains d'atterrissage principaux des aéronefs Piper de la série PA-25 qui ont été fabriqués par d'autres fournisseurs, donc sans le chanfreinage des trous de boulon et sans le traitement thermique des embouts, peuvent avoir les mêmes propriétés métallurgiques et, par conséquent, la même vulnérabilité à la rupture par fatigue, tout comme les sandows amortisseurs fabriqués par Univair avant que ce dernier ne procède aux révisions des spécifications A et B.

La naissance et la croissance des fissures de fatigue dans les embouts des sandows amortisseurs peuvent mener à la défaillance des embouts et à l'affaissement du train d'atterrissage principal.

Commentaires de TCAC :

Environ 92 aéronefs Piper de la série PA25 sont actuellement immatriculés au Canada.

Le titulaire de l'approbation de conception, Laviasa (Argentine), est au courant des défaillances des embouts d'amortisseurs, et l'entreprise a élaboré le bulletin de service numéro (BS) 25-32-04 qui prescrit l'ajout d'un câble de sécurité pour éviter l'ouverture ou le déplacement latéral du train d'atterrissage principal et, par conséquent, éviter que tout dommage à la voilure à cause de l'affaissement du train d'atterrissage.

MESURE RECOMMANDÉE :

TCAC recommande fortement à tous les propriétaires et exploitants visés de porter une attention particulière aux amortisseurs du train d'atterrissage principal dans le cadre de travaux de maintenance périodiques comme des inspections avant et après le vol. Pour éviter tout dommage inutile découlant de la défaillance d'un sandow amortisseur, on recommande de suivre les directives du bulletin de service 25-32-04 de Laviasa ou, à tout le moins, de poser un câble conformément au bulletin de service.

Les défauts, 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.

CONTACT OFFICE:

For related service information, contact :
LAVIA ARGENTINA S.A. (LAVIASA) Avenida Colón
412, P.B. Dpto B C.P. 5500, Mendoza Republica
Argentina

For further information, contact a Transport Canada
Center, or Paul Jones, Continuing Airworthiness,
Ottawa at 613-952-4357, facsimile 613-996-9178, or
email CAWWEBFeedback@tc.gc.ca

Note: For the electronic version of this document,
please consult the following Web address:
www.tc.gc.ca/CivilAviation/certification/menu.htm

BUREAU RESPONSABLE :

Pour obtenir plus de renseignements sur le service,
communiquer avec LAVIA ARGENTINA S.A.
(LAVIASA), Avenida Colón 412, P.B. Dpto B,
C.P. 5500, Mendoza (République argentine).

Pour de plus amples renseignements, communiquer
avec un Centre de Transports Canada ou avec Paul
Jones, Maintien de la navigabilité aérienne, à Ottawa,
téléphone 613-952-4357, télécopieur 613-996-9178 ou
courriel CAWWEBFeedback@tc.gc.ca

Nota : La version électronique de ce document se
trouve à l'adresse Web suivante :
www.tc.gc.ca/aviationcivile/certification/menu.htm

For Director, National Aircraft Certification

Pour le directeur, certification nationale des aéronefs



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

THE TRANSPORT CANADA CIVIL AVIATION
SAFETY ALERT (CASA) IS USED TO CONVEY
IMPORTANT SAFETY INFORMATION AND
CONTAINS RECOMMENDED ACTION ITEMS. THE
CASA STRIVES TO ASSIST THE AVIATION
INDUSTRY'S EFFORTS TO PROVIDE A SERVICE
WITH THE HIGHEST POSSIBLE DEGREE OF
SAFETY. THE INFORMATION CONTAINED
HEREIN IS OFTEN CRITICAL AND MUST BE
CONVEYED TO THE APPROPRIATE OFFICE IN A
TIMELY MANNER. THE CASA MAY BE CHANGED
OR AMENDED SHOULD NEW INFORMATION
BECOME AVAILABLE.

L'ALERTE À LA SÉCURITÉ DE L'AVIATION CIVILE
(ASAC) DE TRANSPORTS CANADA SERT À
COMMUNIQUER DES RENSEIGNEMENTS DE
SÉCURITÉ IMPORTANTS ET CONTIENT DES
MESURES DE SUIVI RECOMMANDÉES. UNE ASAC
VISE À AIDER LE MILIEU AÉRONAUTIQUE DANS SES
EFFORTS VISANT À OFFRIR UN SERVICE AYANT UN
NIVEAU DE SÉCURITÉ AUSSI ÉLEVÉ QUE POSSIBLE.
LES RENSEIGNEMENTS QU'ELLE CONTIENT SONT
SOUVENT CRITIQUES ET DOIVENT ÊTRE TRANSMIS
RAPIDEMENT PAR LE BUREAU APPROPRIÉ. L'ASAC
POURRA ÊTRE MODIFIÉE OU MISE À JOUR SI DE
NOUVEAUX RENSEIGNEMENTS DEVIENNENT
DISPONIBLES.

- RDIMS Document number /
Numéro du document du SGDDI : 6561866-.....
- File Classification Number /
Numéro de dossier de classification : Z 5000-35
(For internal use only - Pour usage interne seulement)

Part Total Time: 352.1 hours

Piper: PA28R-180; Corroded Spar Attach Fittings; ATA 5711

A mechanic writes, "During repair of the L/H wing, the aft spar attach fitting was removed. Severe corrosions was found under the fitting. Possible cause is trapped moisture, lack of a preventing treatment(s), and lack of proper inspection of the area." (*L/H Aft Spar P/N 62054-000. This number is found three times in the SDRS database—and several more times as the trailing zeros are removed in the search.*)





Part Total Time: 4,491.8 hours

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/faq8010-4.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 following address.

The SDRS and iSDR web site point of contact is:

Pennie Thompson
Service Difficulty Reporting System, Program Manager
Aviation Data Systems Branch, AFS-620
P.O. Box 25082
Oklahoma City, OK 73125
Telephone: (405) 954-5313
SDRS Program Manager e-mail address: 9-AMC-SDR-ProgMgr@faa.gov

IF YOU WANT TO CONTACT US

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

Editor: Daniel Roller (405) 954-3646

FAX: (405) 954-4570 or (405) 954-4655

E-mail address: Daniel.Roller@faa.gov

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

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

AVIATION SERVICE DIFFICULTY REPORTS

The following are abbreviated reports processed for the previous month, which have been entered into the FAA Service Difficulty Reporting System (SDRS) 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	Aircraft Make	Engine Make	Component Make	Part Name	Part Condition
Difficulty Date	Aircraft Model	Engine Model	Component Model	Part Number	Part Location
2011FA0000490				PIN	ERODED
7/27/2011					SEAT
HAVE NOTED A PROBLEM WHILE INSPECTING FOR SEAT RAIL AD. ON 2 SEPARATE ACFT, THE PINS THAT HOLD THE BACK OF THE SEAT FROM FALLING ARE ALMOST COMPLETELY CUT IN HALF. IF THEY ARE TO FAIL THE SEAT BACK WOULD FALL. AM NOT SURE IF THIS HAS BEEN A PAST FAILURE OR SOMETHING TO BE AWARE OF ON OLDER ACFT.					
SF3R20110819001				METERING UNIT	FAILED
8/16/2011					FUEL PUMP
SERVO VALVE (PN 22282790-104) NONCONFORMITY IS THE LASER WELD JOINING THE FEEDBACK WIRE (FBW) TO THE FEEDBACK SPRING IS MISALIGNED WITH THE WELD JOINT. THE FAILURE MODE IS THAT THE FEEDBACK WIRE WELD JOINT CAN BREAK. THE FAILURE EFFECT AT SERVO LEVEL IS LOSS OF PROPORTIONAL CONTROL OF SPOOL.					
3HCR20110804001		ALLSN	HONEYWELL	HOUSING	MISREPAIRED
8/4/2011		250C30P	DPV1	2543926	FUEL CONTROL
TEARDOWN FOR O/H. INSPECTED. FOUND REPAIR TO MAIN FLOW BODY THAT IS NOT IN CMM 15-673C.					
AG2R20110728001		CONT		CYLINDER	CRACKED
7/28/2011		IO520*			ENGINE
EXHAUST SEAT BOSS CRACKED THROUGH OUTER WALL.					
2011FA0000533		LYC		FLOAT	FAILED
8/10/2011		O320*		30804	CARBURETOR
CARBURETOR WAS SUBMITTED FOR O/H. DURING O/H PROCESS THE WHITE PLASTIC, ADVANCED POLYMER HOLLOW FLOAT WAS FOUND PARTIALLY FULL OF FLUID. THIS CARBURETOR IS NOT IN COMPLIANCE WITH SB MSA-13, WHICH STATES PRIOR TO DEC 31, 2008, ALL CARBURETORS NOT ALREADY IN COMPLIANCE MUST BE UPDATED TO THE CURRENT FLOAT.					
2011FA0000520		LYC		CARBURETOR	MISOVERHAULED
8/5/2011		O360*		30802	ENGINE
CUSTOMER REPORTED THAT ENGINE STALLED AFTER LANDING. CUSTOMER ALSO REPORTED OBSERVING FUEL DRIPPING FROM THE THROAT OF THE CARBURETOR. INSPECTION FINDS THAT THE WHITE PLASTIC, ADVANCED POLYMER HALLOW FLOAT HAD TAKEN ON FUEL. CAUSING THE FLOAT TO RIDE LOWER THAN THE RECOMMENDED FLOAT HEIGHT GIVEN IN THE CARBURETOR O/H MANUAL. CARBURETOR FOUND TO BE NOT IN COMPLIANCE WITH MSA-13, WHICH STATES "PRIOR TO DECEMBER 31, 2008, ALL CARBURETORS NOT ALREADY IN COMPLIANCE MUST BE UPDATED TO USE THE CURRENT FOAM FLOAT, PN 30-860, 30-862, OR 30-864 DEPENDING UPON APPLICATION. CARBURETOR WAS ALSO FOUND NOT TO BE IN COMPLIANCE WITH SB SB-2, WHICH STATES "IN ORDER TO MAINTAIN FLIGHT SAFETY, WITHIN 30 DAYS OF THE DATE OF ISSUANCE OF THIS FSSB, EACH OWNER OF CARBURETOR NOT EQUIPPED WITH A SOLID, BLUE EPOXY FLOAT IS REQUESTED AND STRONGLY ENCOURAGED TO INSPECT THE CARBURETOR AND TO REINSPECT THE CARBURETOR AT 30-DAY INTERVALS THEREAFTER UNTIL THE FLOAT IS REPLACED BY A SOLID BLUE EPOXY FLOAT IAW THE INSTRUCTIONS IN PARA 6					

OF THIS SB. THIS BULLETIN WAS ISSUED ON FEB 1, 2009, MAKING COMPLIANCE DATE MARCH OF 2009.
RECOMMENDS REPLACING ALL HALLOW FLOATS IAW THE LISTED SB'S.

2011FA0000530	AGUSTA	ALLSN	BLADE	CRACKED
8/2/2011	A109E	250C20	709010301109	MAIN ROTOR

A CRACK WAS FOUND ON 1 OF THE MAIN ROTOR BLADES L/E ABRASION STRIP DURING A ROUTINE 30 DAY/50 HR INSP. CRACK IS 65MM IN LENGTH AND LOCATED 6` 4" FROM BLADE ROOT, TOP SECTION OF L/E. REMOVED BLADE FOR REPAIR BY MFG CERTIFIED BLADE REPAIR SHOP.

2011FA0000539	AYRES	PWA	ENGINE	FAILED
8/22/2011	S2R	R1340*		

ENGINE FAILED JUST AFTER TAKEOFF, FOR UNKNOWN REASONS RESULTING IN AN ACCIDENT. PILOT REPORTED HEARING A LOUD "BANG" COME FROM THE ENGINE WITH A SUDDEN LOSS OF POWER, FOLLOWED BY TOTAL ENGINE FAILURE.

2011FA0000540	AYRES	PWA	FUEL SYS	MALFUNCTIONED
8/24/2011	S2RT34RESTD	PT6A34AG		BOOST PUMP

TOTAL ENGINE FAILURE WHILE PERFORMING AERIAL APPLICATION. EXAMINATION OF THE FUEL SYS REVEALED AIR IN FUEL FEED LINE FROM THE BOOST PUMP TO THE ENGINE PUMP INLET.

E81RJT2309420A	BEECH		DUCT	CRACKED
8/5/2011	400A		45A40303071	LT ENGINE

DURING SCHEDULED INSP, FOUND LT ENGINE INBD SIDE ENGINE PAD TO "Y" DUCT BLEED AIR ANTI-ICING DUCT CRACKED AT BELLOWS, STAINLESS STEEL BRAIDING BLOWN-OUT AND FRAYED. MX HISTORY UNKNOWN, POSSIBLY CAUSED BY MIS-ALIGNMENT. RECOMMEND MFG INVESTIGATE WHETHER THIS IS A HIGH REPLACEMENT COMPONENT OR AN OCCASIONAL ISSUE RELATED TO INSTALLATION. RECOMMEND A NOTE MADE IN THE MM REGARDING DUCT INSTALLATION ALIGNMENT.

2011FA0000487	BEECH		DISPLAY	INOPERATIVE
7/26/2011	76		A0511000	INSTRUMENT PANEL

UPON LANDING, AIRSPEED INDICATION SHOWS RED X AND ALSO PITOT HEAT MESSAGE IS SHOWN. UNIT OPERATES NORMALLY IN FLIGHT, ONLY OCCURS AFTER LANDING. REPLACED EFD-1000 PRO PFD DISPLAY AS REQUIRED. PERFORMED SYS OPS CHECKS IAW EFD1000 INSTALLATION MANUAL, PN 900-00003-001.0

2011FA0000573	BEECH		FUEL CELL	LEAKING
9/6/2011	B200		21026	ZONE 600

FOUND INBOARD LEADING EDGE FUEL CELL IN RT WING LEAKING AT RUBBER NIPPLE REINFORCEMENT FLANGE. THIS PMA FUEL CELL WAS INSTALLED 3 MONTHS AGO.

FCPR20110007	BEECH	PWA	DOWNLOCK SWITCH	LOOSE
8/2/2011	C90	PT6A135A	404EN16	ZONE 700

ON LANDING, WHEN GEAR SELECTED DOWN, 3 GREEN DOWN AND LOCKED LIGHTS ILLUMINATED. SHORTLY AFTER, LT DOWN AND LOCKED LIGHT EXTINGUISHED. PILOT WENT AROUND AND EMERGENCY EQUIPMENT DISPATCHED TO THE RUNWAY. ACFT LANDED WITHOUT INCIDENT. UPON INSP, LT GEAR DOWNLOCK SWITCH FOUND TO HAVE NOT BEEN SAFTIED. JAM NUT CAME LOOSE AND DOWNLOCK SWITCH BACKED OUT IN ITS HOUSING.

2011FA0000521	BEECH	PWA	RESTRICTOR	FAILED
8/12/2011	C90	PT6A60A	50921592	FUEL SYSTEM

ACFT WAS SQUAWKED FOR INSUFFICIENT FUEL TRANSFER OPERATION ON THE LT SIDE. BECAUSE THE PUMP WAS MAKING NOISE BUT THERE WAS MINIMAL FLOW, THE PUMP WAS REPLACED WITH AN O/H UNIT. THE O/H PUMP MADE THE SAME NOISE AND BEHAVED THE SAME. FURTHER TROUBLESHOOTING (AND COMPARING WITH

THE RT SIDE FUEL TRANSFER SYS) DETERMINED THAT THE RESTRICTOR INSERT FROM PN: 50-921592 TEE CAME LOOSE AND TRAVELED DOWN THE LINE AND LODGED ITSELF IN THE NEXT TEE DOWNSTREAM. THIS SEVERELY RESTRICTED FUEL FLOW TO THE NACELLE TANK FROM THE TRANSFER TANK. THIS DID NOT PREVENT GRAVITY FEED FROM THE OTHER LT WING TANKS INTO THE NACELLE.

2SQR20110825001	BEECH	CONT	CYLINDER	PEELING
8/23/2011	E33A	IO550B	AEC631397	ENGINE

CYLINDER BARREL NICKEL PROCESS PEELED AWAY FROM BARREL AND WAS BROKEN INTO PIECES BY THE RINGS.

2011FA0000536	BEECH	CONT	CIRCUIT BREAKER	FAILED
8/19/2011	F33A	IO520BB	35380132103	BEACON LIGHT

PILOT REPORTED BEACON LIGHT INOPERATIVE. ON TROUBLESHOOTING, TECH FOUND CIRCUIT BREAKER TO BE AT FAULT. AD 2008-13-17 HAD BEEN COMPLETED 1472 FLIGHT HOURS PRIOR. NOTICED NEW CIRCUIT BREAKER MFG. NO PROBABLE CAUSE OR RECOMMENDATIONS AT THIS TIME.

2011FA0000497	BEECH	CONT	CIRCUIT BREAKER	FAILED
8/3/2011	F33A	IO520BB	35380132103	STROBE

PILOT REPORTED STROBE LANDING LIGHT INOP. ON TROUBLESHOOTING THE TECH FOUND THE CIRCUIT BREAKER/SWITCH AT FAULT. INSTALLED NEW CIRCUIT BREAKER/SWITCH. OPS CHECK OK. NO PROBABLE CAUSE OR RECOMMENDATIONS AT THIS TIME.

2011FA0000485	BEECH	CONT	CIRCUIT BREAKER	FAILED
7/26/2011	F33A	IO520BB	35380132103	TAXI LIGHTS

PILOT REPORTED TAXI LIGHT INOP. ON TROUBLESHOOTING, TECH FOUND CIRCUIT BREAKER TO BE AT FAULT. INSTALLED NEW CIRCUIT BREAKER, OPS CHECKED OK. NO PROBABLE CAUSE OR RECOMMENDATIONS AT THIS TIME.

2011FA0000486	BEECH	CONT	CIRCUIT BREAKER	FAILED
7/26/2011	F33A	IO520BB	35380132103	LANDING LIGHT

PILOT REPORTED LANDING LIGHT INOP. TECH FOUND CIRCUIT BREAKER/ SWITCH TO BE AT FAULT. AD 2008-13-17 HAD BEEN COMPLETED 1998 FLIGHT HOURS PRIOR, ESTIMATED CYCLES 7992. NO RECOMMENDATIONS AT THIS TIME.

2011FA0000498	BEECH	CONT	CIRCUIT BREAKER	FAILED
8/3/2011	F33A	IO520BB	35380132103	STROBE

PILOT REPORTED STROBE LANDING LIGHT INOP. ON TROUBLESHOOTING, THE TECH FOUND THE CIRCUIT BREAKER/SWITCH AT FAULT. INSTALLED NEW CIRCUIT BREAKER/SWITCH. OPS CHECK OK.

2011FA0000537	BEECH		CIRCUIT BREAKER	FAULTY
7/1/2011	V35B		35380132101	NAV LIGHTS

CIRCUIT BREAKER FAILED TO TURN ON NAV LIGHTS. NEW CIRCUIT BREAKER WAS INSTALLED TO COMPLY WITH AD2008-13-17.

2011FA0000538	BEECH		CIRCUIT BREAKER	FAILED
6/1/2011	V35B		35380132107	LANDING LIGHTS

CIRCUIT BREAKER FOR THE LANDING LIGHT FAILED. SECOND OF THE NEW CIRCUIT BREAKERS TO FAIL.

REPLACED ALL NEW CIRCUIT BREAKERS WITH PMA CIRCUIT BREAKERS BECAUSE OF ALL THE REPORTED FAILURES OF THE MFG CIRCUIT BREAKER.

ALGAR919115682	BELL		CROSSTUBE	CORRODED
9/19/2011	407		407724101	MLG

CROSS TUBE CORRDED BEYOND LIMITS IAW AA00061 PAGE 19, FIG 2, TABLE 8.

2011FA0000541	BELL		NUT PLATE	LOOSE
8/16/2011	407		NAS577B4A	ZONE 300

UPON PRE-FLIGHT, FOUND 1 OF 4 BOLTS THAT HOLD THE VERTICAL STABILIZER, TO BE STICKING OUT APPROX 2 INCHES. THIS BOLT WAS THE AFT UPPER BOLT. UPON EXAMINATION OF THE REMAINING BOLTS, AFT LOWER BOLT HAD POSSIBLY ONLY 1 THREAD ENGAGED AND WAS STICKING OUT APPROX .2500", FWD UPPER WAS ONLY FINGER TIGHT, AND THE FWD LOWER DID NOT HAVE SPECIFIED TORQUE. ACFT WAS INSPECTED 2 DAYS PRIOR AND PRE-FLIGHT/POST FLIGHT WAS ACCOMPLISHED THE DAY BEFORE. HELICOPTER IS PARKED AND MAINTAINED WITHIN PRIVATE HANGAR. AFTER REMOVAL OF 2 EA BOLTS, PN NAS6604-36 (FWD), 2 EA BOLTS PN NAS6604-28 (AFT) AND 4 EA NUTPLATE PN NAS577B4A, ALL 4 BOLTS WERE ABLE TO BE SCREWED IN BY HAND TO FULL THREAD ENGAGEMENT. THERE IS NO LOCTITE OR SAFETIES UTILIZED FOR THIS INSTALLATION.

2011FA0000542	BELL	ALLSN	LONGERON	CRACKED
8/5/2011	407	250C47B	206031314177	FUSELAGE

WHEN COMPLYING WITH ASB 407-11-95 INSP OF UPPER LT LONGERON CHANNEL FOUND LONGERON CRACKED THROUGH.

2011FA0000518	BELL	HNYWL	PINION GEAR	FAILED
8/2/2011	UH1H	T5313BHNYWL	2040404009	GEARBOX

GEARBOX WAS O/H AS PART OF AN AIRFRAME REFURBISHMENT PROJECT. THE INPUT QUILL SEAL HAD DEVELOPED AN OIL LEAK AND UPON INVESTIGATION IT WAS FOUND THAT THE INPUT SEAL HAD WORN UNEVEN AND THE MALE COUPLING HAD BECOME UNSERVICEABLE DUE TO A GROOVE WORN BY THE SEAL. ALSO IT WAS FOUND THAT THE PINION GEAR PN 204-040-400-9 HAD BECOME UNSERVICEABLE DUE TO IMPROPER WEAR PATTERN AND CONDITION (SPAILED). PRESUMABLY FROM THE EXCESS IN GEAR BACKLASH (.012 INCH, MAX ALLOWED IAW O/H MANUAL IS .010 INCH) WHICH WAS FOUND. THIS CONDITION ALSO AFFECTED THE WEAR PATTERN ON PN 204-040-401-7 GEAR, RENDERING IT UNSERVICEABLE. THE GEARBOX WAS REPLACED WITH A SERVICEABLE ASSY AND THE ACFT RETURNED TO SERVICE.

FOTR2111712507	BOEING		FRAME	DENTED
7/25/2011	727223			ZONE 100

FWD CARGO COMPARTMENT- DENT AT STA 700 BETWEEN STR 23L AND 22L. REPAIRED ON FASI WO21117, NR 12507.

FOTR2111712817	BOEING		SKIN	DEBONDED
7/25/2011	727223			LT WING TE FLAP

LT INBD FOREFLAP UPPER SURFACE HAS 6"DIAMETER DISBOND. REPAIRED ON FASI WO 21117, NR 12817.

FOTR2111712726	BOEING		BRACKET	CRACKED
7/25/2011	727223		65173103	NR 7 SLAT

NR 7 SLAT ACTUATOR MOUNT OTBD BRACKET ON SLAT IS CRACKED, WS629.0. REPAIRED ON FASI WO 21117, NR 12726.

FOTR2111311128	BOEING		SKIN	DENTED
6/28/2011	737*			NR 8 SPOILER

RT WING NR 8 SPOILER UPPER SURFACE HAS 1 DENT BEYOND ALLOWABLE LIMITS. REPAIRED ON WORK ORDER 21113 NR 11128.

FOTR2111311100	BOEING		SKIN	DENTED
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6/24/2011	737800*			LT WING TE FLAP
LT WING INBD AFT FLAP LOWER SKIN HAS DENT WITH A CRACK. REPAIRED ON FASI WORK ORDER 21113 NR 11100.				
FOTR2111311101	BOEING		FLAP	DELAMINATED
6/27/2011	737800*			ZONE 500
LT WING INBD FLAP LOWER SKIN STATION 253 IS DELAMINATED. REPAIRED ON FASI WORK ORDER 21113 NR 11101.				
FOTR2111311125	BOEING		SKIN	DENTED
6/28/2011	737800*			LT WING SPOILER
LT WING NR 5 SPOILER UPPER SURFACE HAS ONE DENT BEYOND ALLOWABLE LIMITS. REPAIRED ON FASI WORK ORDER 21113, NR 11125.				
FOTR2111311130	BOEING		SKIN	DENTED
6/28/2011	737800*			RT WING SPOILER
RT WING NR12 SPOILER UPPER SURFACE HAS 2 EACH DENTS BEYOND ALLOWABLE LIMITS. REPAIRED ON FASI WORK ORDER 21113 NR11130.				
FOTR2111311126	BOEING		SKIN	DENTED
6/28/2011	737800*			LT WING SPOILER
LEFT WING NR6 SPOILER UPPER SURFACE HAS 1 DENT BEYOND ALLOWABLE LIMITS. REPAIRED ON FASI WORK ORDER 21113 NR 11126.				
2011F00183	BOEING		HEAT SHIELD	CRACKED
8/12/2011	767231		311T157083	NR 2 NACELLE
DURING A HEAVY MX INSP EVENT FOUND NR 2 PYLON HEAT SHIELD CRACKED AT FWD STINGER FAIRING. WELDED NR 2 PYLON HEAT SHIELD IAW PROCESS STANDARDS MANUAL 900-7-2-1-REV 48. WORKED ON PROJECT N702AX-5. ITEM, RETURNED TO SERVICE.				
2011FA0000513	BOEING	BOEING	SKIN	DELAMINATED
8/11/2011	767231			LTAILERON
DURING A MX EVENT, THE LT OTBDAILERON LOWER SKIN PANEL PN 113T7100-1 OTBD SIDE WAS FOUND DELAMINATED BY STATIC WICKS IN CRITICLE AREA. REPAIREDAILERON IAW SRM 51-70-05 AND ACCOMPLISHED EA B657-59422.				
2011FA0000507	CESSNA	CONT	CYLINDER	BROKEN
8/8/2011	170B	O300*	AEC65314	ENGINE
FOUND METAL PARTICLES IN OIL SCREEN AT 30 HOURS AND AGAIN AT 74 HOURS. FOUND CYLINDERS COMING APART INSIDE BORE. PIECES MEASURED .4 X .3 INCHES.				
2011FA0000504	CESSNA		HINGE	BROKEN
7/23/2011	172			PAX DOOR
UPPER DOOR HINGE ON THE LT DOOR BROKE IN FLIGHT CAUSING THE DOOR TO PULL AWAY FROM THE PLANE. THE PILOT WAS ABLE TO HOLD THE DOOR AND FLY THE PLANE AND LAND AT A NEARBY AIRPORT. THE HINGE BROKE THROUGH THE RIVET HOLES ON THE PART OF THE HINGE THAT ATTACHES TO THE FUSELAGE. NOTICED THIS PROBLEM ON A SLIGHTLY NEWER PLANE 2 WEEKS LATER WHERE THE HINGE WAS CRACKED.				
2011FA0000505	CESSNA		HINGE	CRACKED
8/6/2011	172E			DOOR
NOTICED THAT UPPER LT DOOR HINGE HAD A CRACK IN IT WHERE IT ATTACHES TO THE FUSELAGE. THIS WAS THE SECOND PLANE SEEN WITH THIS PROBLEM.				

[2011FA0000516](#) CESSNA LYC EXHAUST VALVE BROKEN
8/12/2011 172M O320E2D LW19001 NR 3 CYL

NR 3 ENGINE CYLINDER EXHAUST VALVE HEAD BROKE OFF INSIDE THE CYLINDER COMBUSTION CHAMBER. THIS HAPPEND AFTER TAKEOFF AND UPON REACHING 500 FEET. STC 2375SW AND SE3692SW WERE COMPLIED WITH ON THE ENGINE.

[2011FA0000511](#) CESSNA ANTENNA BROKEN
8/9/2011 208B 110773 ELT

ANTENNA, PN 110-773 APPEARS TO BE BROKEN INTERNALLY. THE TOP PORTION OF THE ANTENNA, INCLUDING THE WIRE WHIP, CAN BE EASILY LIFTED OFF THE BASE. VISUAL INSP ALONE WILL NOT REVEAL THIS DISCONNECT. THIS ANTENNA IS PART OF THE ME406 ELT SYSTEM. THIS IS THE 4TH INCIDENT OF THIS CONDITION ON VARIOUS AIRPLANES IN THE FLEET ALL OF WHICH HAD LOWER TIME AND CYCLES ON THE ANTENNA THAN THIS ONE.

[2011FA0000528](#) CESSNA PWA COMPRESSOR WHEEL DAMAGED
8/1/2011 208B PT6A114A ENGINE

ALUMINUM, STANDARD, 470 RIVETS ATTATCHING THE GASKET ON THE INTAKE SHROUD HAVE CORRODED HEADS THAT SEPERATED AND WERE SUCKED INTO THE COMPRESSOR THROUGH THE SCREEN AND CAUSING DAMAGE TO FIRST STAGE COMPRESSOR WHEEL. COMPRESSOR WHEEL WAS REPAIRED.

[2011FA0000543](#) CESSNA CONT ALTERNATOR FAILED
8/11/2011 210M IO520L DOFF10300B

ALTERNATOR COOLING FAN CAME APART IN FLIGHT AFTER TAKEOFF. PART OF COOLING FAN PUNCHED A HOLE IN INDUCTION AIR BOX DOWN STREAM OF AIR FILTER AND THE ALTERNATOR BELT CAME LOOSE IN THE ENGINE COMPARTMENT. LOSS OF ENGINE POWER FROM ENGINE FOD DAMAGE RESULTED IN AN UNEVENTFUL LANDING BACK TO THE AIRPORT. OUR FINDINGS CONCLUDE THAT THE COOLING FAN HAD A FRACTURED CRACK AT 1 OF THE COOLING FINS SPOT WELDS.

[EAVR20110816001](#) CESSNA CONT CYLINDER HEAD CRACKED
8/15/2011 310Q IO470VO EC646144CN ENGINE

AIRCRAFT LEVELED OFF FROM CRUISE CLIMB. ACFT WAS ALLOWED TO ACCELERATE TO CRUISE SPEED. POWER WAS SET TO CRUISE POWER SETTINGS OF 23/23 IN MP AND 2300/2300 RPM. FUEL FLOW WAS SET AT 12/12 GPH. APPROX 10 MINUES LATER, A SLIGHT JOLT WAS FELT WITH A CONTINUED SLIGHT ROUGHNESS. UNABLE TO DETERMINE WHICH ENGINE WAS AFFECTED (OR IF IT WAS AN ENGINE). TRIED TROUBLSHOOTING BY REDUCING MP ON LH ENGINE THEN THE RH ENGINE AND CHECKING THE MAG DROP. THERE WAS NO DECERNABLE CHANGE IN ROUGHNESS, OIL TEMP, OIL PRESS, CHT. NO VISIBLE SMOKE, OIL LEAK, OR COWL VIBRATION. CONTINUED FLIGHT WHILE MONITORING ENGINE GAGES, ROUGHNESS, ETC. DURING LANDING WITH REDUCED POWER, ROUGHNESS INCREASED. LANDED NORMALLY, NOTED RT RPM WAS 100 RPM HIGHER THAN LT ENGINE WITH BOTH THROTTLE CONTROLS PULLED TO IDLE.

[2011FA0000503](#) CESSNA CONT ECI CONNECTING ROD FRACTURED
8/2/2011 340A TSIO520NB 1162 NR 4 CYLINDER

LEFT ENGINE NR 4 CYLINDER CONNECTING ROD, FRACTURED AND PUNCTURED THE ENGINE CASE ABOVE NR 4 CYLINDER MOUNT FLANGE. AT ENGINE TT 4096.7 (7/17/07) THIS ENGINE WAS O/H AND MODIFIED TO 335HP IAW STC SE09104SC RAM SERIES VII. AT THAT TIME MODIFIED CONNECTING RODS PN 1162 WERE INSTALLED IAW STC SE4327SW.

[2011FA0000510](#) CESSNA CONT HUB CRACKED
8/4/2011 414A IO470* PROPELLER

REAR HUB HALF CONTAINS 12 INCH LONG CRACK RESULTING IN SEPARATION OF ONE BLADE SOCKET.

[E81RJ2307930](#) CESSNA PWA SKIN DAMAGED

7/21/2011	501	JT15D1A		INLET DUCT
DURING SCHEDULED PHASE INSP OF ACFT PREVIOUSLY MODIFIED, STC ST09559AC, ENGINE INSTALLATION NOTED (2) MISSING RIVET HEADS IN LT ENGINE INLET DUCT SKIN. SUBSEQUENT INVESTIGATION REVEALED MINOR CRACK FROM RIVET HOLE. NO FOD DAMAGE NOTED TO ENGINE. INLET DUCT SKIN WAS REPAIRED. SRM SUPPLEMENT TEMPORARY REVISION 51-40-20. RECOMMEND STC HOLDER INVESTIGATE WHETHER INLET DUCT AND ATTACH RING LOOSE RIVETS AND CRACKING AT RELATIVELY LOW TIME IN SERVICE MAY REQUIRE DETAILED INSPECTION AND/OR MODIFICATION IAW SB ACTION.				
2011FA0000506	CESSNA	WILINT	HEATER	BURNED
7/29/2011	525B	FJ443A	105881	ZONE 100
ATA REF: 30-70-00-1-3, CREW FOUND THE FORWARD EVAPORATOR REFRESHMENT CENTER DRAIN HEATER HAS SCORCHED. CREW FOUND THE RELIEF TUBE DRAIN HEATER HAS SCORCHED.				
2011FA0000534	CESSNA		STRUCTURE	BROKEN
8/10/2011	550		551900921	SEAT BASE
SEAT BASE BROKEN.				
2011FA0000522	CESSNA	PWA	ENGINE	POWER LOSS
8/12/2011	550	PW530A		RIGHT
DURING INTIAL DECENT PILOT STATED THE RIGHT ENGINE ROLLED BACK TO IDLE. IT HAD WAS UNABLE TO GET POWER OUT OF IT. HE ABORTED APPROACH SHUTDOWN ENGINE AND RESTARTED. HE HAD NO OTHER PROBLEMS WITH THE ENGINE AFTER THAT.				
2011FA0000517	CESSNA		WIRE	SHORTED
7/29/2011	560CESSNA			MLG INDICATOR
THE ACFT LANDED WITH NO DOWN AND LOCKED INDICATION FOR THE LANDING GEAR AND THE LANDING GEAR INDICATION CIRCUIT BREAKER WAS TRIPPED. WIRES WERE FOUND RUBBING ON STRUCTURE IN THE LT WING INBD T/E JUST FWD OF THE FLAP WELL. 3 WIRES WERE FOUND SHORTED TO GROUND AND WERE REPAIRED TO CORRECT THE LANDING GEAR INDICATION PROBLEM.				
2011F00172	CESSNA		SQUAT SWITCH	FALSE INDICATION
8/9/2011	560XL			RT MLG
RT LANDING GEAR ACTUATOR GAVE A FALSE INDICATION, CONFLICTING WITH THE INDICATION OF THE SQUAT SWITCH GIVING A FALSE LOW BRAKE PRESSURE/ANTI SKID INOP WARNING.				
CWQR2011081514	CESSNA		HINGE BRACKET	CRACKED
8/15/2011	560XL		663400359	HORIZONTAL STAB
DURING AN INSPECTION, FOUND THE OTBD ELEVATOR HINGE BRACKET CRACKED. IT WAS CRACKED IN THE UPPER BRACKET RADIUS AREA THAT ATTACHES TO THE UPPER SKIN OF THE HORIZ STABLIZER. REPLACED CRACKED HINGE BRACKET WITH NEW AND SUBMITTED SERVICE CONDITION REPORT TO MFG UNDR SCR 583576.				
DXTA2010090704218	CESSNA		TIRE	FAILED
9/4/2010	560XL		315713	RT MLG
RT TIRE BLEW AND SEPARATED UPON BRAKE APPLICATION DURING LANDING. R & R WHEEL AND TIRE ASSY IAW MM 32-41-02. OPS CHECKED GOOD.				
2011FA0000509	CESSNA	PWA	TRANSDUCER	FAILED
8/2/2011	560XL	PW545A		RT ENG OIL PRESS
THE RT ENGINE OIL PRESSURE TRANSDUCER FAILED IN-FLIGHT GIVING A FALSE INDICATION OF DECRESSING PRESSURE.				
2011FA0000494	CESSNA	LYC	BAFFLE	LOOSE
7/5/2011	R182	O540*	65043	MUFFLER CONE

CONE SHAPED BAFFLE IN MUFFLER CAME LOOSE AND COMPLETELY BLOCKED EXHAUST STACK.

2011FA0000493	CIRRUS	CONT	POINTS	DEFECTIVE
7/11/2011	SR22	IO550*	10382584	MAGNETO

THE RT MAGNETO FAILED ON RUN UP, INSP OF THE MAGNETO REVEALED THAT THE TUNGSTEN CONTACT AREA ON THE FIXED SIDE OF THE POINTS HAD SEPARATED FROM THE BASE. THIS LOOKS TO BE SPOT WELDED TO THE NON TUNGSTEN PORTION OF THE CONTACT. WHEN THIS SEPARATED, IT WOULD NOT ALLOW THE POINTS TO MAKE CONTACT. THE PROPER POINT GAP IS AROUND .017. THE POINT CONTACT THAT SEPARATED IS .042, IT WAS FOUND FLOATING AROUND THE INSIDE OF THE MAGNETO. THIS SET OF POINTS WAS INSTALLED DURING THE 500 HR ROUTINE MAGNETO MX AND HAD A TOTAL OF 20.5 HRS IN SERVICE.

2011FA0000508	CIRRUS	CONT	TUBE	LOOSE
7/19/2011	SR22	IO550N	22610004	WASTE GATE DUMP

ON THE ACFT WITH A TURBO NORMALIZED SYS MODIFIED, THE WASTE GATE DUMP TUBE FITS TOO LOOSELY CAUSING WASTE GATE EXHAUST TO BE VENTED INTO THE ENGINE COMPARTMENT. THIS POOR FIT CAUSES THE ENGINE COMPARTMENT TEMPERATURE TO RISE HIGH ENOUGH TO FAIL THE MCU (MASTER CONTROL UNIT) AND CAUSE A TOTAL ACFT ELECTRICAL FAILURE. TURBO ALLEY HAS IMPLIED THAT THEY HAVE OLD STYLE DUMP TUBES IN SERVICE AND IN STOCK FOR SALE. THIS IS THE 4TH MCU FAILURE IN THIS ACFT CAUSED BY THIS PROBLEM. C/A WAS REPLACEMENT OF THE WASTE GATE FLANGE, WASTE GATE DUMP TUBE, ALTERNATORS 1 & 2 AND MCU.

2011FA0000535	GROB	LYC	CONTROL CABLE	FAILED
8/19/2011	G120A	AEIO540*	120A6122	FUEL MIXTURE

PILOT REPORTED DURING FLIGHT HE EXPERIENCED A TOTAL LOSS OF MIXTURE CONTROL. INVESTIGATION REVEALED THE MIXTURE CONTROL CABLE HAD BROKEN AT THE CONTROL IN THE CABIN. NO RECOMMENDATIONS AT THIS TIME.

2011FA0000488	GULSTM	LYC	DIODE	BURNED OUT
6/18/2011	114B	IO540T4B5	NTE5814	ZONE 200

AIR CONDITIONING/ALTERNATOR NR 2 SYS PROBLEM GENERATED SMOKE IN THE COCKPIT. ACFT PERFORMED PRECAUTIONARY LANDING. PROBLEM WAS IDENTIFIED BY MX AND SYS WAS DISABLED AND PLACARDED "INOPERATIVE" FOR A FLT TO HAVE ADDITIONAL REPAIRS MADE. TROUBLESHOOTING REVEALED THE SOURCE OF THE SMOKE TO BE FROM A DIODE BEHIND THE RT SIDE PANEL, IN BETWEEN WIRES M509B18 & M500A18. DIODE GOT VERY HOT, EMITTED ELECTRICAL BURNING ODOR, THEN PHYSICALLY SEPARATED & ELECTRICALLY OPENED, AFTER 15 MINUTES OF SYS OPS DURING TROUBLESHOOTING. RAN VARIOUS SYS TEST WIRES TO MULTIPLE SPOTS IN SYS CIRCUITRY AND PUT AMMETERS IN-LINE AT NR 2 VOLTAGE REGULATOR AND AIR CONDITIONER COMPRESSOR MOTOR & BROUGHT ALL TEST LINES INTO COCKPIT FOR TROUBLESHOOTING RUNS. SOLDERED NEW DIODE INTO LINE FOR TESTING. RAN ACFT SEVERAL TIMES FOR TROUBLESHOOTING, AND JUMPING OUT COMPONENTS & LINE SEGMENTS TO RECORD CHANGES. JUMPED ALL WIRING OUT FOR THE K-24 PUSH TO TEST RELAY, AND MINIMIZED THE CURRENT DRAW AT THE NR 2 VOLTAGE REGULATOR RED WIRE M500C13 WHICH IS TAPPED BETWEEN WIRES M509B18 AND M500A18. REMOVED RELAY K-24 AND BENCH TESTED OK. REINSTALLED RELAY K-24 AND RESOLDERED ALL WIRE CONNECTIONS. RAN UP AND CONFIRMED SIGNIFICANTLY DECREASED CURRENT DRAW AT THE NR 2 VOLTAGE REGULATOR RED WIRE M500C13 THROUGH THE DIODE CONFIRMING THAT THERE MUST HAVE BEEN HIGHER THAN NORMAL RESISTANCE IN THE K-24 RELAY COIL SOLDER JOINTS AT CONTACTS NR 2 OR NR 9 CAUSING INCREASED AMPERAGE DRAW THROUGH THE DIODES. INSTALLED A NEW PN NTE5814 DIODE IN BETWEEN WIRES M509B18 AND M500A18. REMOVED ALL ADDITIONAL WIRING AND AMMETERS INSTALLED FOR TESTING. REASSEMBLED ALL OF THE INSTRUMENT PANEL AND RT SIDE PANEL COMPONENTS DISASSEMBLED FOR ACCESS. RAN UP ACFT, AND TEST FLEW FOR .5 HOURS WITH THE AIR CONDITIONER ON, WITH NO DEFECTS NOTED.

DU4R2011001A	LKHEED		BEAM	CORRODED
7/25/2011	382G44K30		33138961	ZONE 700

R & R CORRODED LEFT 517 BEAM, INTER CAP, REINFORCING STEEL DOUBLER AND MAIN LANDING TRACK.

NI6R20110817001	LKHEED	BENDIX	FILTER HOUSING	RUPTURED
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7/30/2011 P2V5F 570055 HYDRAULIC SYS

AFTER DROPPING RETARDANT ON A FIRE, WHILE AT CRUISE RETURNING TO BASE, MAIN HYDRAULIC SYSTEM FAILURE OCCURRED WITH ASSOCIATED VAPORS IN THE COCKPIT. VISUAL INSPECTION SHOWED NO FLUID PRESENT WITH MAIN SYSTEM PRESSURE READING ONLY ACCUMULATOR PRESSURE. DIVERSION TO ALTERNATE AIRPORT WAS INITIATED AND SUCCESSFULLY ACCOMPLISHED. VISUAL INSPECTION REVEALED THAT THE MAIN HYDRAULIC SYSTEM FILTER BOWL HAD CRACKED AND RUPTURED CAUSING LOSS OF THE MAIN HYDRAULIC SYSTEM FLUID AND PRESSURE.

2011FA0000515	MOONEY		WIRE HARNESS	BURNED
8/11/2011	M20E		LSM50033172W	ZONE 100

HID BALLAST WIRE HARNESS THE LIGHT END MELTED AT LIGHT.

2011FA0000531	MOONEY	ACK	BATTERY	LEAKING
8/3/2011	M20J		MN1300	ELT

ELT REMOVED FOR FAR 91.207D INSP WHITE POWDER NOTED AT PARTING SURFACE BETWEEN TRANSMITTER AND BATTERY COMPARTMENT. DISASSEMBLED ELT AND FOUND 6 OF 8 D-CELL BATTERIES LEAKING AND RUPTURED. ANY ELT USING INDIVIDUAL UNSEALED BATTERIES SHOULD HAVE ALL BATTERIES REPLACED YEARLY.

2011FA0000532	MOONEY		TUBE	FAILED
8/3/2011	M20J		302246401	TIRE

RT MAIN TIRE FLAT AT RUN UP AREA. REMOVED WHEEL. DISASSEMBLED AND FOUND BUTYL TYPE G15-G00-6 TUBE WITH HALF INCH LONG SLIT IN SIDEWALL. INSPECTED TIRE AND FOUND NO HOLES OR SLITS IN SIDEWALL AND NO ABNORMALITY ON INSIDE OF TIRE. THIS IS THE THIRD BUTYL TYPE TUBE TO FAIL ON THIS ACFT IN 8 MONTHS. BUTYL TUBES FAIL FAR MORE OFTEN THAN NATURAL RUBBER TYPES.

5APR577Y79	PILATS	PWA	CONTROL PANEL	MALFUNCTIONED
8/12/2011	PC1245	PT6A67	9728132102	

CREW REPORTED NR 1 AND NR 2 BATTERY VOLTAGE AND AMP METER FLUCTUATES WILDLY. THE OVERHEAD PANEL, WAS R & R IAW AMM 12-A-31-10-01-00A-920A-A, AND THE NR2 BATT CURRENT SENSOR PN 524.52.12.720 WAS R & R IAW AMM 12-A-24-30-08-00A-920A-A. ALL CHECKED SATISFACTORY.

5APR577Y78	PILATS	PWA	SENSOR	FAULTY
8/8/2011	PC1245	PT6A67B	5245212720	ZONE 100

BEFORE DEPARTURE, CREW REPORTED ESSENTIAL BUSS-BATTERY CAWS & AURAL WARNING ON START. BATT 1 VOLTS FLUCTUATE BTW 17.5 AND 21.5, BATTERY 2 BTW 18.5 AND 23.5 AMPS ON BOTH -020 -002. CONFIRMED SECURITY OF RELAY K221 WITH NO DISCREPANCY'S. CONFIRMED SECURITY OF GROUNDS AT PG150 AND PG151 WITH NO DISCREPANCY'S. COMPLIED WITH REMOVAL AND INSTALLATION OF BATT 1 CURRENT SENSOR PN 524.52.12.720 IAW AMM 12-A-24-30-08-00A-920A-A.

5APR577Y81	PILATS	PWA	ATTACH FITTING	OUT OF ALIGNMENT
8/15/2011	PC1245	PT6A67B	5551012150	HORIZONTAL STAB

THE HORIZ STABILIZER ATTACHMENT FITTING, WHERE THE PITCH TRIM ACTUATOR IS SECURED TO THE STABILIZER. EACH SIDE OF THE ATTACHMENT FITTING HAS 2 LUGS. ON THE LT SIDE, THESE 2 LUGS ARE SEPARATING. THE GAP WAS MEASURED WITH A FEELER GUAGE, AND FOUND TO BE .406MM. THERE IS NO EVIDENCE OF DAMAGE TO THE STABILIZER. THE BRACKET PN IS 555.10.12.150, ANGLE FITTING LEFT. THE ACFT MFG ISSUED A REPAIR MEMO WITH STATEMENT OF APPROVED DESIGN DATA (ECC-12-RM-11-182) WITH THE FOLLOWING INSTRUCTIONS: CHECK THE LUGGED FACE OF THE LT BRACKET PN 555.10.12.150 (ANGLE FITTING LT) FOR STRAIGHTNESS. IF WITHIN LIMITS, COMPLETE A VISUAL AND NDT INSP (DYE PENETRANT OR EDDY CURRENT) OF THE ANGLE FITTING AND THE BOLTS. IF NO CRACKS OR DEFECTS NOTED, REINSTAL1 THE FITTING AND HARDWARE USING SEALANT.

5APR20110815001	PILATS		ELECTRICAL BOX	FAILED
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8/15/2011 PC1247 9740338136

BUSS-TIE MESSAGE ON START UP, OVERHEAD BUSS TIE CB NOT TRIPPED. POWER JUNCTION BOX, WAS R & R IAW AMM 12-B-24-52-10-00A-920A-A. THE ADJUSTMENT/TEST WAS ACCOMPLISHED WITH NO FURTHER FAULTS FOUND IAW AMM 12-B-24-52-10-00A-903A-A.

5APR577Y77	PILATS	PWA	DISC	CRACKED
8/8/2011	PC1247	PT6A67	244759D	BRAKE ASSY

THE LT BRAKE WAS INSPECTED DURING A LINE CHECK AND FOUND TO HAVE A CRACKED ROTOR. THE LT BRAKE ASSY WAS R & R USING A SERVICEABLE UNIT OF THE SAME PART NUMBER IAW AMM 12-B-32-40-03-00A-920A-A.

5APR577Y76	PILATS	PWA	PROXIMITY SENSOR	FAULTED
7/28/2011	PC1247	PT6A67B	9733033111	MLG

AFTER DEPARTING, THE FLIGHT CREW WAS UNABLE TO MOVE THE LANDING GEAR HANDLE TO THE UP POSITION. THE ACFT RETURNED TO DEPARTURE AND LANDED SAFELY. THE ACFT FERRIED FOR MX. A FAULTY LT GEAR UP PROXIMITY SENOR WAS FOUND DURING TROUBLESHOOTING. THE SENSOR WAS R & R AND TESTED IAW AMM 12-A-32-10-00-00A-903A-A. OPS CHECKED GOOD.

5APR20110820001	PILATS	PWA	BFGOODRICH	BRAKE DISC	CRACKED
8/20/2011	PC1247	PT6A67B		244759D	RT MLG

THE RT BRAKE WAS INSPECTED DURING A LINE CHECK AND FOUND TO HAVE A CRACKED ROTOR. THE RT BRAKE ASSEMBLY WAS R & R USING A SERVICEABLE UNIT OF THE SAME PN 959.56.01.512 IAW AMM 12-A-32-40-03-00A-920B-A.

2011FA0000489	PIPER		STRUT	FRACTURED
7/23/2011	J5A		30452L	MLG

LT MLG VEE FAILED ON BOTH STRUT TUBES APPROX .5" ABOVE SUPPORT ANGLES ON AXLE CLUSTER. IT APPEARS FROM VISUAL INSP THAT BOTH STRUT TUBES MAY HAVE HAD PREVIOUS STRESS FRACTURES PRIOR TO FAILURE DUE TO DARK CRACK WORKING INDICATIONS ADJACENT TO SHINY FRESH CRACK INDICATIONS. THIS AREA IS LIKELY TO BE COVERED BY FABRIC (LANDING GEAR VEE ASSY) AND MAY BE DIFFICULT TO INSPECT DURING ROUTINE AND ANNUAL INSPECTION.

2011FA0000491	PIPER	LYC	VALVE SEAT	DAMAGED
7/21/2011	PA24250	O540A1D5		GOVERNOR

ACFT OWNER STATED; PROP DOES NOT WORK CORRECTLY AND WITH ENGINE OVERSPEED, PROP AND GOVERNOR INSTALLED NEW 1-15-98. BENCH CHECK GOVERNOR, FOUND ONLY 80 LBS PRESSURE, NEEDS 290. REMOVE RELIEF VALVE AND FOUND THE VALVE SEAT PN A-20572 SMASHED AND IN 3 PIECES. GOVERNOR BODY DAMAGED AS WELL DUE TO THE SPRING SEAT BEING HAMMERED BY THE RELIEF VALVE.

2011F00154	PIPER	LYC	SLICK	SHAFT	BROKEN
7/11/2011	PA28161	O320D3G			MAGNETO

ACFT WAS WRITTEN UP FOR POWER LOSS. LT AND RT MAGS WERE PULLED. TACH TIME ON BOTH MAGS, 933.5. INSP REVELED LT MAG CAM FOLLOWER SHAFT BROKEN. BOTH MAGS HAD OIL GETTING PAST OIL SEAL AS A RESULT, POINTS WERE PITTED, MAGS WERE REPLACED.

2011FA0000524	PIPER	LYC	SKIN	BUCKLED
8/16/2011	PA28180	O360*		RIGHT

RT WING HAS BUCKLING ON BOTTOM INBD PANELS. INSP OF INSIDE OF WING ROOT REVEALED MISSING AND INCOMPLETE BUCKED RIVETS.

2011FA0000500	PIPER	LYC	TAPPET	MAKING METAL
7/7/2011	PA28181	O360A4M	15B26064	ENGINE CASE

THE PILOT REPORTED THAT THE ENGINE BEGAN RUNNING ROUGH IN FLIGHT. THE AIRPLANE WAS TAKEN TO THE

SHOP FOR INSP AND THE TECH FOUND THE NR 4 EXHAUST VALVE TAPPET FACE AND THE NR 2 INTAKE TAPPET FACE WERE MAKING METAL. THE ENGINE WAS REMOVED FROM THE ACFT FOR REPAIRS.

2011FA0000526	PIPER	LYC	BENDIX	LEAD	BROKEN
8/16/2011	PA31350	TIO540J2BD			IGNITION HARNESS

LT ENGINE IGNITION HARNESS LEAD THAT ATTACHES TO THE SPARK PLUG IS A 90 DEGREE TUBING WITH BRAZED COUPLERS. THESE BRAZED COUPLERS ARE CRACKING AND BREAKING, REQUIRING THEIR UNSCHEDULED REPLACEMENT. 2 HAVE REQUIRED REPLACEMENT IN 283.5 HOURS TIME IN SERVICE.

2011FA0000495	PIPER	PWA	JANITROL	TUBE	COLLAPSED
7/25/2011	PA31T2	PT6A60A			HEATER

DURING ROUTINE HEATER PRESSURE DECAY TEST HEATER WAS REMOVED AND INSPECTED. COMBUSTION CHAMBER/TUBE WAS FOUND CRUSHED INWARD ON ALL SIDES BUT NOT LEAKING. IF HEATER SHROUD WAS NOT REMOVED, CONDITION WOULD NOT HAVE BEEN DISCOVERED.

2011FA0000499	PIPER			BEARING	FAILED
7/9/2011	PA32300				MAGNETO

PILOT REPORTED RT MAGNETO FAILURE. INSPECTED FOR SECURITY OF ATTACHMENT AND CORRECT TIMING TO ENGINE. REMOVED RT MAGNETO AND DISASSEMBLED. UPON INSPECTION, BRASS (OR BRASS LOOKING) METAL SHAVINGS INTERNALLY UNDER DISTRIBUTOR CAP AND NEAR GEAR. DISTRIBUTOR GEAR WAS LOOSE IN THE BEARING. SO LOOSE THAT IT WALLOWED THE BEARING AND CONTACTED THE IGNITION STUDS (4 OF 6) AND HAD WORN THEM DOWN EXCESSIVELY. THIS CAUSED THE CAPS TO BE EXCESSIVE AND THE MAGNETO TO FAIL TO PRODUCE SPARK. INFORMED THAT ONLY 60 HRS AND 11 MONTHS OF SERVICE WERE ON THE MAGNETO. THE MAGNETO IS A REMANUFACTURED MAGNETO. NO OTHER DAMAGES WERE KNOWN. THE OWNER DEMANDED TO KEEP THE PART FOR WARRANTY CONSIDERATIONS. A REPLACEMENT WAS FORWARDED, INSTALLED AND OPERATIONALLY TESTED WITHOUT DEFECTS.

2011FA0000519	PIPER	LYC		CONTROL ARM	BROKEN
8/5/2011	PA32300	IO540K1G5		63457003	RUDDER PEDAL

THE PILOT REPORTED THAT THE RUDDER TRIM WAS WEAK. INVESTIGATION LED TO FINDING THE ARM ATTACH POINT ON THE RUDDER CONTROL ARM ASSY (63457-003) HAD BROKEN OFF. THE RUDDER PEDAL ASSY WAS REMOVED FROM THE ACFT AND SUBSEQUENT INSPECTION FOUND THAT THE CENTER SUPPORT BRACKET (63451-000) WAS BROKEN AT THE FWD 2 ATTACH BOLTS, LEAVING ONLY THE AFT 2 BOLTS HOLDING THE SUPPORT IN PLACE. NEW PART WERE OBTAINED AND INSTALLED.

2011FA0000514	PIPER			SHAFT	BROKEN
8/11/2011	PA32R301T			62716007	ZONE 200

DISCONNECTING YOKE SHAFT WHERE IT ATTACHES TO THE U JOINT ASSY WHICH IS HELD BY 2 THROUGH BOLTS AT 90 DEGREES. IN THE PROCESS THE U JOINT BROKE OFF OF THE SHAFT, IF THIS HAD BROKEN IN FLIGHT, TAKEOFF OR LANDING, PILOT WOULD HAVE TIME TO REACT TO THE OTHER YOKE. IT BROKE AT THE TAPER PIN. ONE SIDE OF THE BREAK IS CRISP AND CLEAN INDICATING FRESH BREAK AND THE OTHER SIDE IS TARNISHED AN IDICATION THAT IT HAS BEEN BROKEN FOR SOME TIME. THE TAPER PIN DOES NOT LOOK LIKE IT HAS BEEN REMOVED SINCE MFG. THIS SHAFT NEEDS TO BE TESTED TO SEE IF IT HAS BEEN TEMPERED WRONG OR IF IT IS DEFECTIVE MATERIAL. THERE IS A SB OUT ON THIS NR 1197 BUT IT IS FOR DETECTING IMPROPER ASSY OF THIS PART. BY THIS TEST, THIS ONE WAS ASSEMBLED PROPERLY.

E81RJW304642	RAYTHN			CONTROL UNIT	FAILED
8/2/2011	390			3903814010013	TE FLAPS

INVESTIGATED REPORTED FLAP SYS FAILED TO OPERATE. FOUND THE FLAP CONTROL UNIT TO HAVE AN INTERNAL FAILURE, WOULD NOT RESET. REPLACED THE FLAP CONTROL UNIT WITH A SERVICEABLE FLAP CONTROL UNIT AND SYS OPERATIONS FOUND NORMAL. RECOMMEND AIRFRAME AND COMPONENT MFG TRACK FAILURE INTERVALS FOR VARIOUS P/N FCU'S USED AND DETERMINE A MODIFICATION LEVEL STANDARD FOR THE GREATEST RELIABILITY. RECOMMEND ISSUING A RECOMMENDED TYPE SB TO REPLACE FCU'S WITH MORE RELIABLE CONFIGURATION UNITS.

[UVVR2011072200017](#) RKWELL

SKIN

CORRODED

7/22/2011

NA26565

LT WING

DURING COMPLIANCE OF SB 99-2 INSPECT LT & RT WING TIPS, LT TOP AND BOTTOM AFT WING PLANK
CORRODED AROUND NUT PLATE AREAS AT REAR SPAR (RS) 258.371 TO 270.371.
