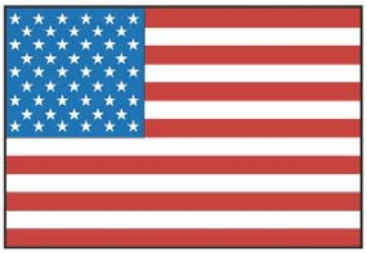
U.S. Department of Transportation
Federal Aviation Administration

AFS-600
Regulatory Support Division

ADVISORY CIRCULAR

43-16A

AVIATION MAINTENANCE ALERTS



ALERT NUMBER 383

JUNE 2010

CONTENTS

AIRPLANES

(AMATEUR) GLASAIR II SGR 1
(AMATEUR) QUICKSILVER 3
CESSNA 4

POWERPLANTS

CONTINENTAL 7
LYCOMING 14

ACCESSORIES

DUKES FUEL PUMP 17
SKY-TEC STARTER 17
SLICK MAGNETO 21

AIR NOTES

INTERNET SERVICE DIFFICULTY REPORTING (iSDR) WEB SITE 27
IF YOU WANT TO CONTACT US 29
AVIATION SERVICE DIFFICULTY REPORTS 29

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

(Amateur): **Glasair II SGR; Broken Hyd. Actuator Fitting; ATA 3230**

An unidentified submitter says, "The owner/pilot of this aircraft was performing 'touch and go' *(landings)*. When preparing for the second landing he noticed he did not have a green landing gear down light for the left main gear." "The pilot elected to land with the landing gear *(positioned)* down.... A safe landing was made, *(sustaining)* minor damage to the aircraft and no injuries to the pilot. Upon examination of the aircraft after recovery, it was determined one of the left main landing gear actuator hydraulic fittings had broken off the actuator. This allowed the hydraulic system to lose a substantial amount of fluid, such that the left main landing gear leg would not completely retract or extend. Physical examination of the broken fitting shows it failed at a point flush with the actuator housing. The 90 degree elbow portion remained attached to the flexible hose assembly. Examination of the gear well and the general layout of the gear components show the flex hose may have been stress loaded while the gear was in the *(retracted position)*. This may have...focused high loads on the hose elbow at the actuator housing. The gear actuator may also be rubbing against the top of the wheel well at the outboard edge. All of these *(observations)* were noted by both the owner and the airport's *(attending)* mechanic." *(Hydraulic fitting P/N: MS20822).*

2010/6/2

Part Total Time: 1,916.0 hours

(Amateur): **Quicksilver; Sport 2S; Failed Lift Strut Eyebolt; ATA (N/A)**

(The FAA's Small Airplane Directorate provides this safety admonition. The discussion concludes with contact information.)

The following failure description is an example of what can result when the experimental aircraft builder does not closely follow assembly instructions. The aircraft is a Quicksilver model Sport 2S Experimental Light Sport (ELSA), and the owner—a very lucky pilot!

This aircraft was involved in a near disastrous event when the left hand, aft wing strut attachment eyebolt pulled out of the threaded lift strut fitting, resulting in loss of vertical control. Fortunately for the pilot/owner, he landed in a tree—breaking his fall to the ground. He walked away from this accident, but the 2S sustained substantial damage.

Post-accident investigation revealed the eyebolt was improperly installed in the lift strut fitting. The Sport 2S *Assembly, Maintenance and Parts* manual clearly provides detailed information on the proper assembly of this critical wing attach component. The manual specifies a minimum of 5/8 inch engagement of the threaded portion of the eyebolt into the fitting with 3 ½ threads exposed. The accident eyebolt/fitting had 3/32 inch engagement with 16 threads exposed.

The manual clearly states the importance of these assembly specifications in a note and in a warning. It is clear and concise as to the details of this important assembly. Without proper thread engagement, the eyebolt—with only a couple of threads engaged—eventually pulled out of the lift strut fitting under normal wing loads.

Any builder of an experimental aircraft is responsible for following all assembly instructions, including important notes and warnings. And any person inspecting or maintaining an experimental aircraft should be equally aware of these assembly specifications, checking for proper installation.

The following picture shows the failed eyebolt to lift strut fitting. It is positioned near the opposite wing's correctly assembled parts for comparison.

(For further information contact Aerospace Engineer Barry Ballenger, 901 Locust St., Kansas City, MO 64106; phone 816-329-4152.)

Part Total Time: (N/A)

Cessna: 560XL; Shorted Light Strip; ATA 3320

"On approach to the *(airport)*," says this submitting writer, "the crew noticed smoke and a burning smell coming from the pedestal area near the auto-pilot controller. They donned oxygen masks, then advised the passengers—and manually *(caused)* their masks *(to deploy)*. The pilots declared an emergency and landed at the airport without incident. They turned off at the first taxiway and stopped in front of a *(waiting)* fire truck. The crew and passengers evacuated the aircraft through the main cabin entry door.

"Fire rescue personnel entered the aircraft and inspected—unable to find any cause for the smoke or smell. The crew secured the aircraft, removing battery power with the emergency disconnect switch—and physically disconnecting the battery. On-site maintenance personnel investigated *(the discrepancy)*. The center console was accessed and inspected; all wiring was inspected; all grounds tested and checked for security. The cockpit headliner, side walls, and flooring were removed—the entire area inspected for any cause of smoke or smell. *(Only)* one wire connector for roll trim was found to be loose. A pin in *(this)* connector was replaced. The aircraft *(electrical system?)* was powered up and operated in the hanger for over three hours with no defects noted. It was then returned to its original configuration and flown on an operational check flight for one hour, *(incurring)* no defects. The aircraft was returned to service. It has since flown 7.2 hours and eight cycles with no recurring condition.

"During subsequent maintenance activity, personnel found a melted drop-isle lighting strip (P/N 9919040-26) which may be the root cause of the previously reported cockpit smoke."

Part Total Time: 4,988.0 hours

POWERPLANTS

Continental: TSIO520NB; Failed Starter Adapter; ATA 8011

(This article references a Cessna 340A aircraft. The next article, is similar, but describes two additional failures and includes great photographs—Ed.)

"The newly overhauled starter adapter failed less than ten hours after installation," says a technician. "A second overhauled unit failed in *(less than)* five hours *(see next Alerts article)*. Disassembly and failure analysis of both units revealed overheated and mangled clutch springs. Each had a collapsed coil that had wound around the shaft gear minor diameter between the clutch drum and the integral spur gear. In the first failure, the collapsed coil was cutting into the shaft gear. In the second, the collapsed coil had cut the shaft gear in *(half)*. Mangled clutch springs and separated shaft gears make in-flight engine re-start impossible. Both cause significant oil contamination. The shaft gear separation stops operation of the turbocharger scavenge pump, which could cause loss of oil past the turbocharger seals and possible engine oil starvation. A separated shaft could damage crankcase pilot and cam/crank gear teeth, *(resulting)* in possible engine loss.

"We strongly suspect starter motor run-on after engine start. Starter run-on can only be caused by a faulty aircraft starter switch or relay. Most starter relays are airframe parts not replaced at overhaul, or *(during)* repair of the engine or starter. If starter adapter failure occurs, we recommend troubleshooting and failure analysis of the entire aircraft starting system to determine the root cause(s). *(This may)* prevent recurrence of the failure. We recommend the aircraft starter relay be replaced every 10 years or 3,000 hours, or every second engine change (whichever comes first), and whenever starter adapter failure or starter motor failure occur." *(Starter P/N: 642085A17. Clutch Spring P/N: AS539800M015. See next for more of the same and photographs.)*

Continental: TSIO520NB; Failed Starter Adapter (2 ea.) ; ATA 8011

(The following combines two additional, nearly identical articles from the same repair station as the previous entry. Both of these referencing different aircraft, but the same models; Cessna 340A. See the attached photographs.)

The unidentified technician states, "The newly overhauled starter adapter failed approximately five hours after installation *(1.4 hours for the second report)*. Disassembly and failure analysis of the unit revealed an overheated and mangled clutch spring. The spring had a collapsed coil that wound around the shaft gear minor diameter, between the clutch drum and integral spur gear. The collapsed coil had overheated the shaft gear so severely that it twisted into two *(pieces)*. Mangled clutch springs and separated shaft gears make in-flight engine re-start impossible. Both cause significant oil contamination. The shaft gear separation stops operation of the turbocharger scavenge pump, which could cause loss of oil past the turbocharger seals and possible engine oil starvation. A separated shaft could damage crankcase pilot and cam/crank gear teeth, *(resulting)* in possible engine loss.

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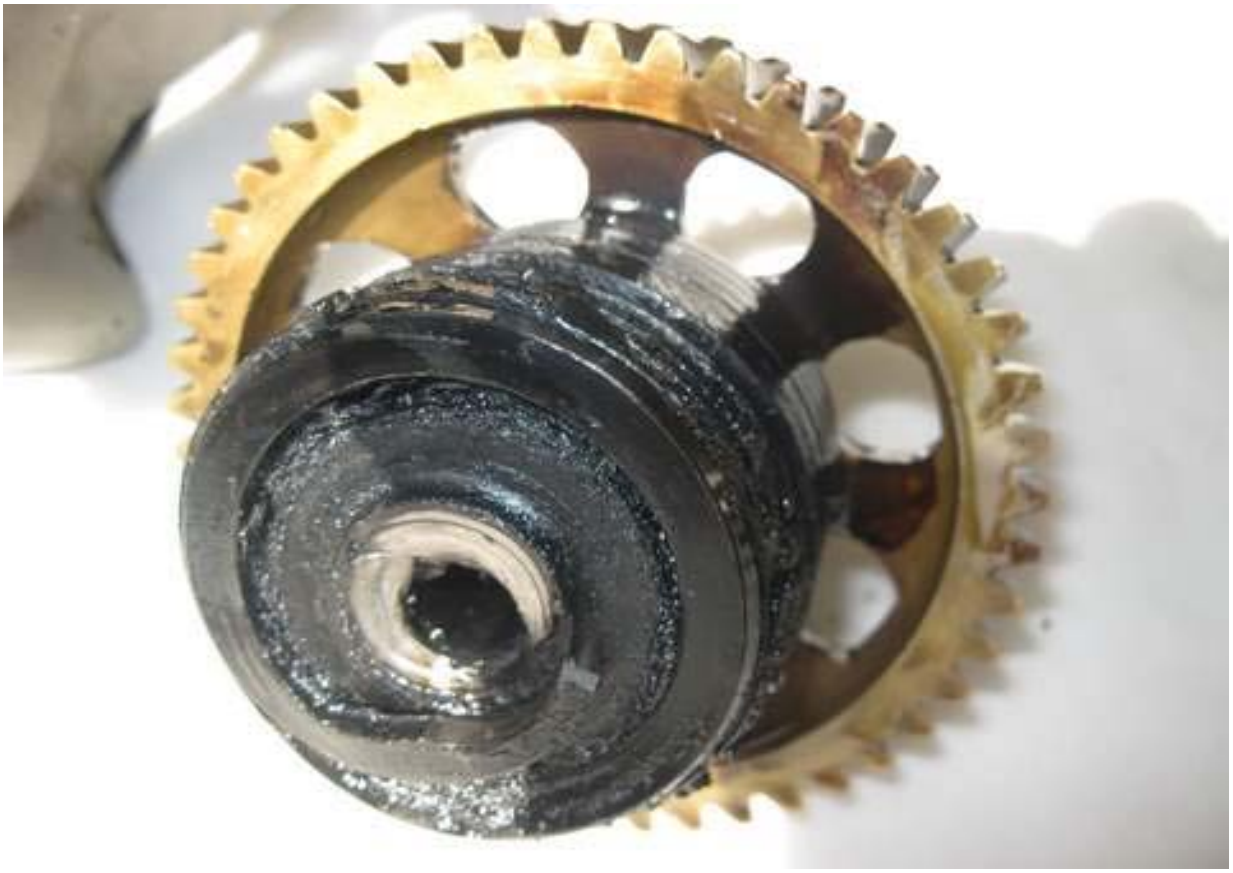
(Photos of adapter having less than five hours time.)



(Photos from adapter with 1.4 hours time.)

Part Total Times: 5 hours and 1.4 hours (respectively)

Lycoming: IO360-C106; Broken Camshaft; ATA 8520

"The pilot stated the engine became rough after takeoff," says a general aviation submitter. *(He)* returned to the airport and landed. *(I)* found the number one cylinder to be colder than the *(others)*. I pulled the rocker cover and noted the valves were not moving when the *(crankshaft)* was rotated. The rocker arms and pushrods were then pulled, but no problems were found. The engine was removed from the aircraft and brought to our repair station. We removed a cylinder and found the camshaft broken. The remainder of the engine was now disassembled. The valves moved freely in their guides and no other unusual problems were noted with the engine. The AEL18840 camshaft was installed new 236.48 hours previously with new *(P/N)* 72877 Lycoming lifters. The camshaft is broken about 3.37 inches from the forward end. While it will take a metallurgical evaluation to determine the exact cause of the fracture, the fracture appears to originate at the base of the letters "E" and "L" of the metal stamped part number, forward of the number one/two intake lobes."

(Great photographs! I'm with you on this; were I to shell out several grand for a camshaft it would be disheartening to have it prematurely scored...by the factory, no less—Ed.)

Part Total Time: 236.48 hours

ACCESSORIES

Dukes Fuel Pump: 5100-00-9; Insufficient Pressure; ATA 2822

(The following discussion references pumps on at least 20 different Diamond DA40 aircraft. Engine information includes a Lycoming IO360M1A.)

An unidentified technician states, "*(I)* submitted an SDR for this type of failure earlier...serial number 9693. When it failed we installed pump S/N 9888A. During the *(attached aircraft's)* second preflight this pump was found not to produce enough PSI (10.7). It has now been replaced after only 47.1 hours time in service with pump S/N 10235A. The aircraft P/N is D41-2823-10-00-CS; the manufacturer P/N is 5100-00-9. Out of 20 aircraft, 17 have had this part changed. Eleven have had it changed twice, and three aircraft three times each. The most time on one pump is 388.2 hours—*(this one)* is still working. The least amount of time in service for a pump is 11.5 hours. The average life time is 144.0 hours time in service."

(Okay; let us sum the numbers: 17 aircraft with at least 1 change = 17 replaced pumps; plus 11 more for second replacements and 3 more for third helpings yields 31 replaced pumps. The SDRS database reflects four entries for this -9 P/N. This particular entry is the only report for "low pressure"—notwithstanding we still are approximately 27 records short for this part number. But when I truncate the final digit off your number and add the search engine wild card, 23 similar pump reports do surface—but none with pressure problems! In short: It is difficult to make an argument for engineering modifications if the number of reported defects is low. At most we have four general failures for this specific part, only one of which is pressure related. The more you report, the more likely it is you will effect change—Ed.)

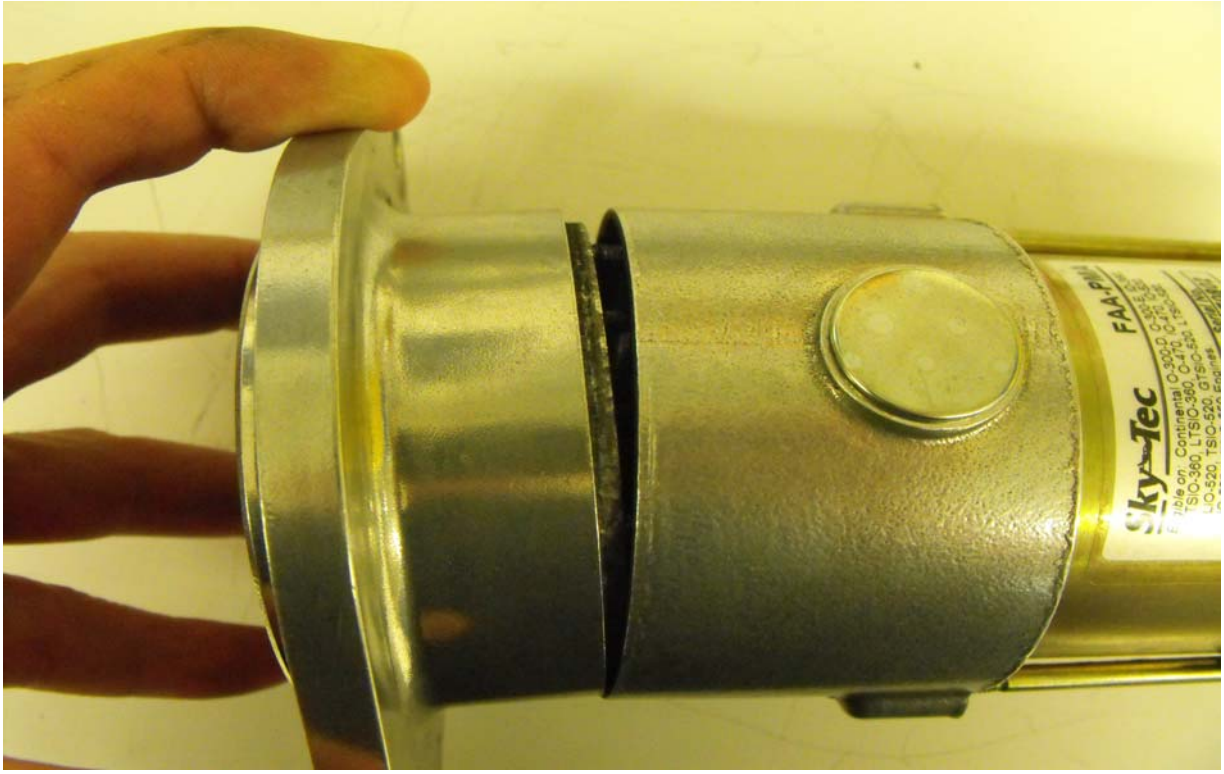
Part Total Time: 47.1 hours

Sky-Tec Starter: C12ST3 Rev. D; Housing Separation; ATA 8011

(The following discrepancy concerns a Cessna A185F. Not provided is the engine type or the identity of the submitter.)

"The pilot reported starting difficulties--the problem visibly obvious *(upon inspection)*. The starter housing had a partial separation between the housing that attaches to the starter adapter and the main starter housing. Pictures are *(attached)*. The exterior bolts that secure the housings together are intact and tight. *(This)* starter was replaced *(P/N C12ST3 Revision D)*."

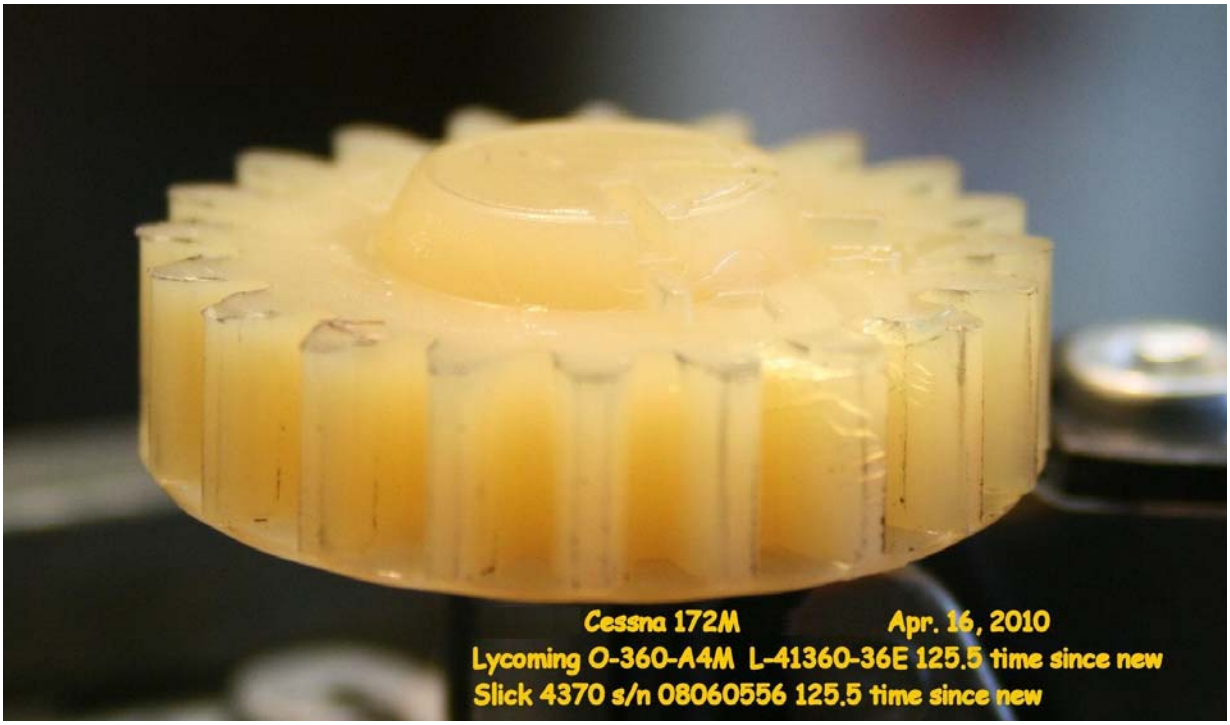
Sky-Tec
FAA-PMA
Eligible on: Continental O-300-D, O-300-E, IO-360, TSIO-360, LTSIO-360, O-470, IO-470, IO-520, LIO-520, TSIO-520, GTSIO-520, LTSIO-520, IO-550 & TSIO-550 Engines.
Model No.
C12ST3
Serial No.
2C3-470802
Rev D
Volts 12



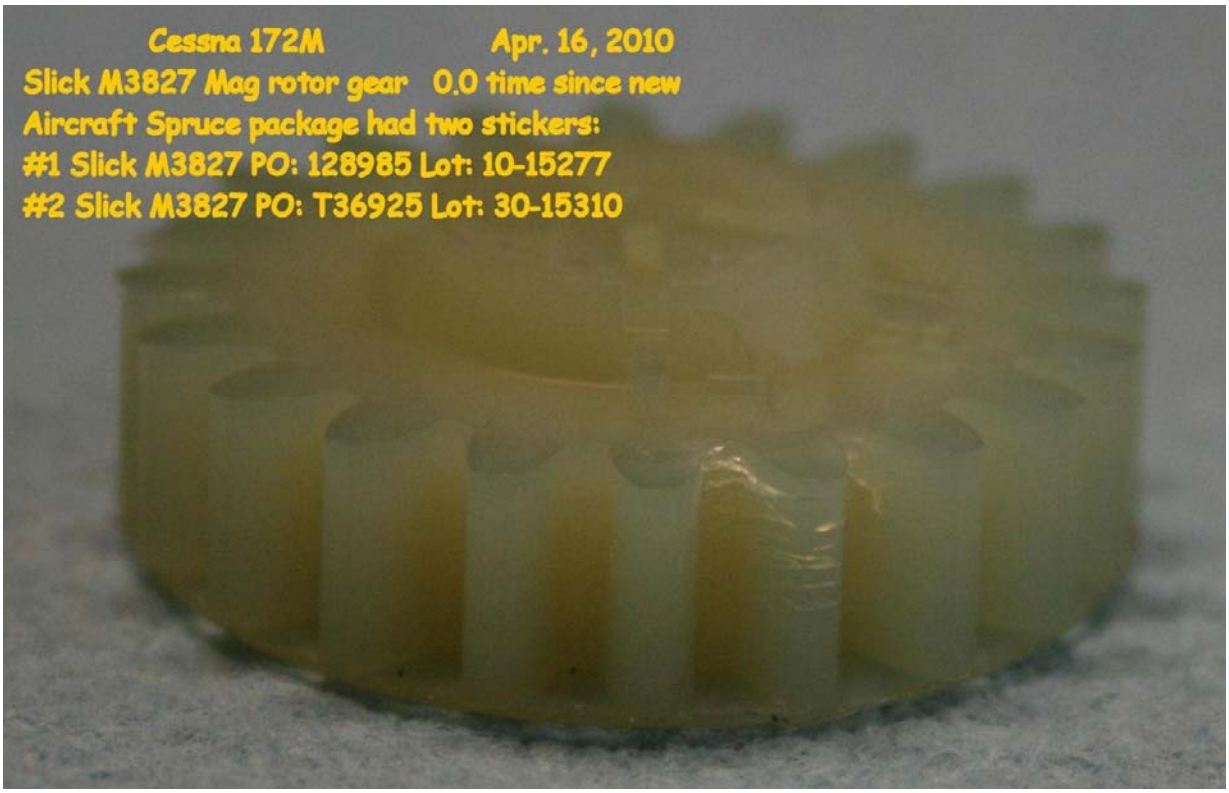
Part Total Time: 137.0 hours

Slick Magneto: 4373; Cracked Rotor Gears; ATA 7414

"Both magnetos were disassembled to comply with Slick *(service bulletin)* SB3-08A," says the submitter. "Prior to reassembly the mechanic noted the magneto rotor gears (P/N M3827) on both magnetos had numerous cracks in one of the gear teeth. *(We)* ordered two new gears and found numerous cracks in one of the new gears as well. All three gears had cracks in the same gear tooth. The gears are marked with a line for left and right rotation. There are three gear teeth between the left index tooth and the right index tooth. The cracks are *(visible)* from the top land of the tooth into the bottom land, and extend a short distance into the gear body. The left and right magnetos (Slick 4373 & 4370) each have 125.5 hours since new. The new rotor gear is from Aircraft Spruce; P/N M3827; PO T36925, Lot 30-15310; 0.0 hours since new. Both new gears were packaged separately, and both packages had the same information on the tags." *(This editor is responsible for removing the aircraft identification and "cropping" the enclosed photos. Readers should pay careful attention to the gear picture progression: used, used, new! That third "new gear" picture shows its cracks with eerie highlights. I cannot imagine more emphatic evidence for a defect report. I'll do my best to draw some attention to this, but backlighting these parts before installation seems a darn good idea. Thank-you for the tip and the excellent photo effort—Ed.)*



Cessna 172M Apr. 16, 2010
Lycoming O-360-A4M L-41360-36E 125.5 time since new
Slick 4373 s/n 08052105 125.5 time since new


Cessna 172M Apr. 16, 2010
Slick M3827 Mag rotor gear 0.0 time since new
Aircraft Spruce package had two stickers:
#1 Slick M3827 PO: 128985 Lot: 10-15277
#2 Slick M3827 PO: T36925 Lot: 30-15310

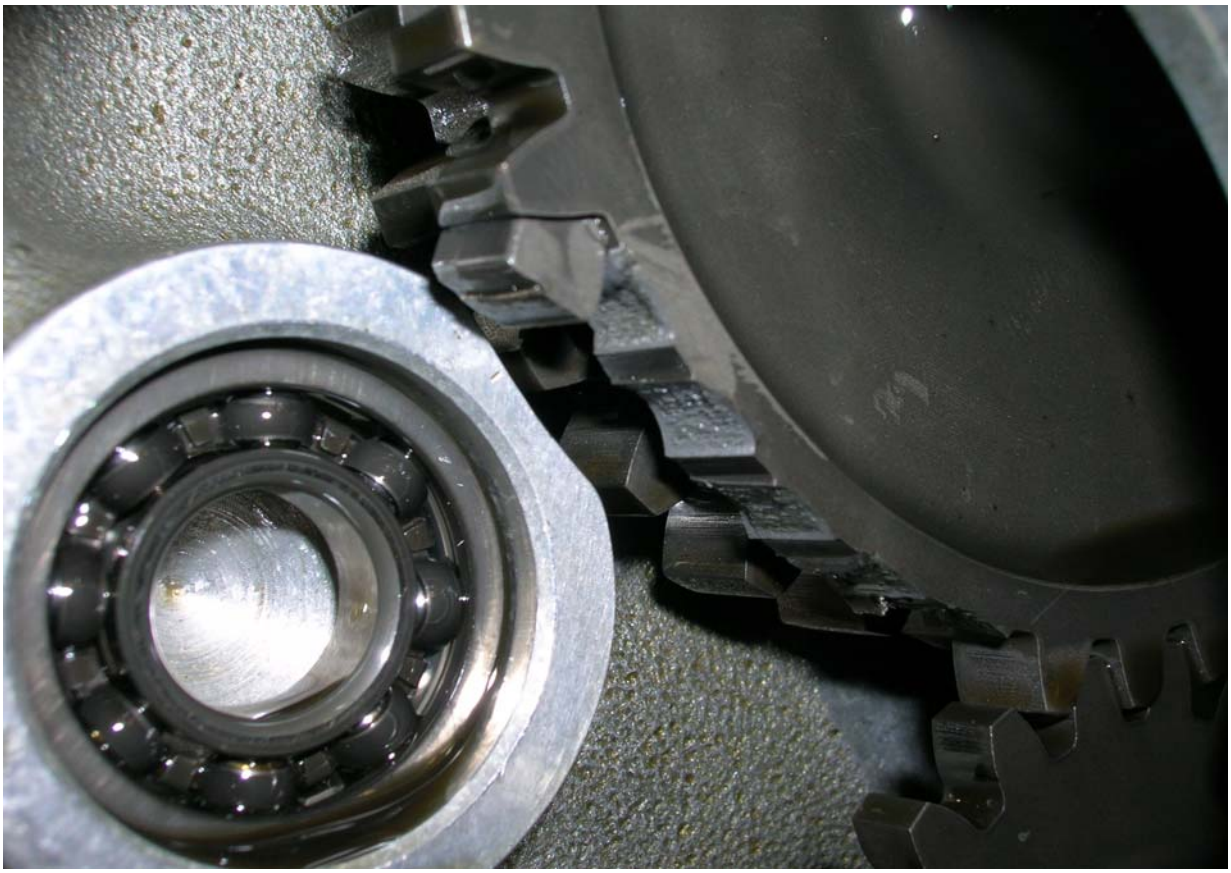
Part Total Time: 125.5 hours

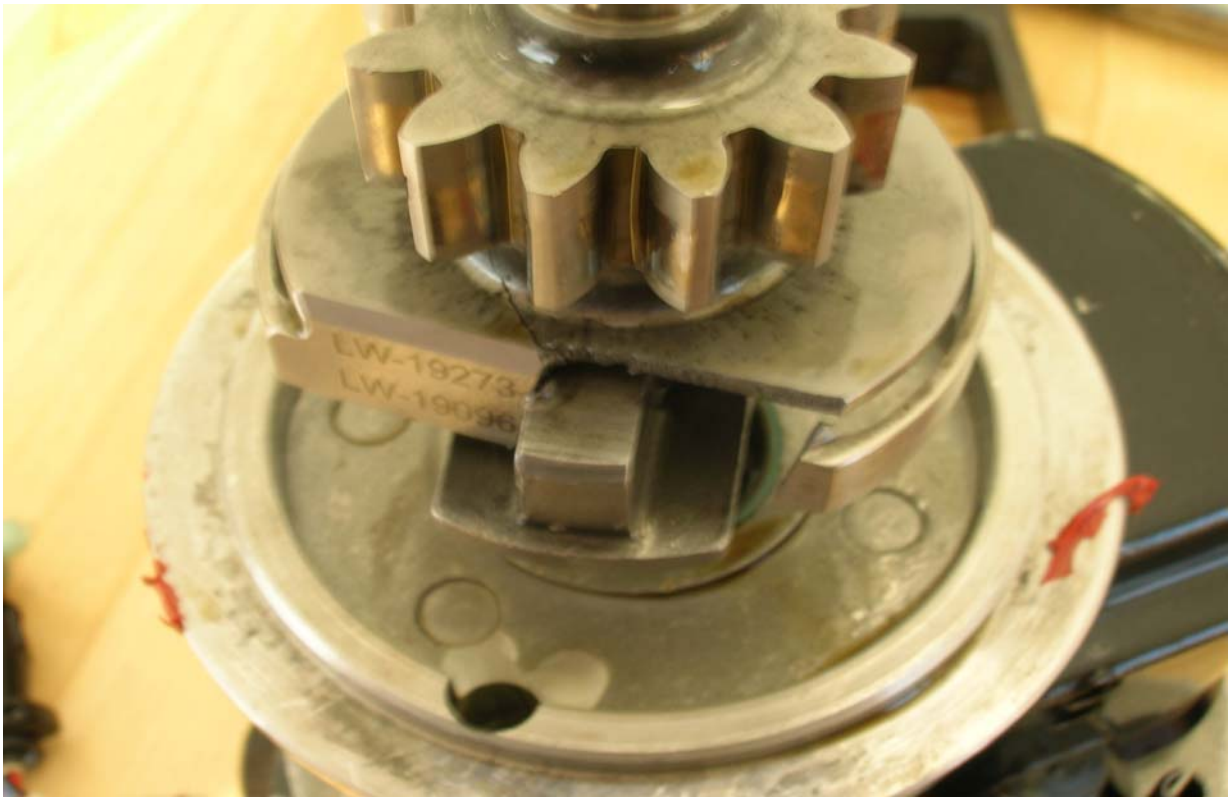
Slick Magneto: 6363; Seized Shaft Bearing; ATA 7414

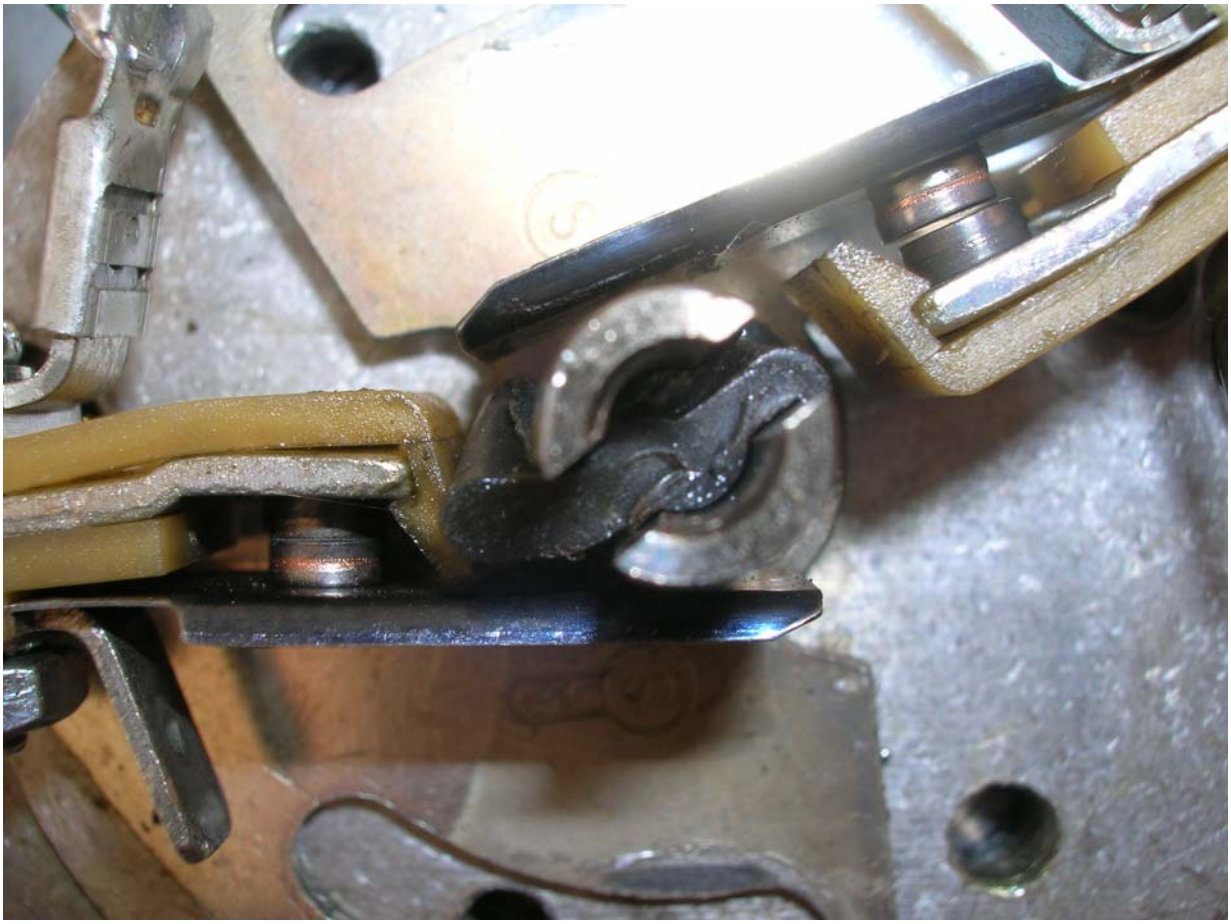
(This report concerns a Piper PA46-350T with a Lycoming TIO540AE2A.)

A general aviation submission states, "During a post maintenance run-up, the engine/propeller ceased to rotate. This occurred at or near the engine idle speed setting (approximately 850 RPM). *(I)* inspected the engine and found the left magneto dislodged slightly from its drive pad. I removed the left magneto and found the drive adapter distorted. The coupling 'paddle' had twisted the drive cushions 90 degrees in the drive retainer. The magneto would not rotate by hand. It was also noted that there were broken teeth on the camshaft gear. The right magneto was removed and no defects were noted. With both magnetos removed, the engine would *(still)* not

rotate by hand. I suspect the cause of the damage to be the failure of the left magneto shaft bearing. Further investigation will be needed to determine why this occurred. More importantly, why didn't the Woodruff key on the magneto shaft fail? Had this occurred as designed, the engine would not have experienced further damage. It is fortunate this *(defect)* occurred during ground operation and not during a critical phase of flight."




LW-18273
LW-19096



(Terrific photos; thank-you for your effort.)

Part Total Time: 153.0 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/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:

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**
2010FA0000414				VALVE	IMPROPER PART
4/23/2010				4A40475	SLIDE REGUALTOR

FOUND INCORRECT REGULATOR VALVE INSTALLED ON CHARGED CYLINDER ASSY. FWD DOOR SLIDE ASSY RECEIVED WITH AFT DOOR REGULATOR VALVE. POTENTIAL PROBLEMS DURING FUNCTIONAL TEST WOULD BE FWD DOOR SLIDE NOT OPERATING CORRECTLY. FWD SLIDES OPERATING PRESSURE IS 450+ OR -20 PSIG. AFT SLIDES 360+ OR -20 PSIG. FWD TOTAL CHARGED WEIGHT WITH GAS, 3.96 LBS + OR - .04. AFT TOTAL CHARGED WEIGHT 3.35 LBS + OR - .04. EVACUATION SLIDE LAST OHC BY ACTS 12-07. PROBABLE CAUSE FOR INCORRECT VALVE INSTALLATION COULD BE INADEQUATE PAPERWORK, POOR QUALITY CONTROL, PERSONNEL NOT PROPERLY TRAINED.

WS9R2010FA0000466				CAMSHAFT	DAMAGED
4/21/2010				SL16511	ENGINE

((WS9R)) FOUND ABRASIVE MEDIA TRAPPED BETWEEN THE NR 4 EXHAUST LOBE AND THE FWD THRUST SURFACE OF THE CAMSHAFT. ALSO, BY USING A 10X MAGNIFYING GLASS, FOUND THAT THE CAM LOBES AND MACHINED BEARING SURFACES WERE ROUGH AS IF DAMAGED BY ABRASIVE MEDIA BLASTING.

WS9R10FA0000467				THRUST WASHER	MISMANUFACTURED
4/21/2010					ENGINE

(WS9R) THE COMPONENT IS MFG WITH IMPROPER TOLERANCES. HAVE DISCOVERED THIS PROBLEM DURING ENGINE O/H. THE THICKNESS OF THIS COMPONENT VARIES FROM .092-.097 INCHES. THIS THRUST WASHER IS FOUND IN MAIN BEARING SET FOR THESE ENGINES. THIS ISSUE MAKES OBTAINING PROPER CRANKSHAFT THRUST CLEARANCE NEARLY IMPOSSIBLE, IAW MFG MM.

2010F00105			HAMSTD	BUSHING	UNSERVICEABLE
5/7/2010			54H60	548942	PROP BLADE

AS INSPECTED, THE BLADE BUSHING CLEARANCE WAS OVER THE MAX ALLOWED (0.003) AND MEASURED LOCALLY AT 0.020. CLOSER INSPECTION REVEALED THE BLADE BUSHING WAS LOOSE AND HAD BACKED OUT OF THE TAPPER BORE AND THAT THE CURRENT PUSH-FIT OF THE BLADE BUSHING IN THE TAPPER BORE WAS 0.00, NOT THE EXPECTED 0.025-0.037. THE LOOSE PUSH-FIT AND MOVEMENT OF THE BUSHING RESULTED IN UNEVEN WEAR IN THE TAPPER BORE, DAMAGE TO THE DRIVE PIN AND A CRACK AT THE EDGE OF THE DRIVE PIN HOLE.

2010FA0000484				HOUSING	DAMAGED
5/13/2010				AC66374	SERVO BODY

SERVO BODY WAS FOUND TO BE CRACKED..FOUND BY DIE PENETRANT INSPECTION.

2010FA0000388		PWA		ADAPTER	MISSING
4/16/2010		PT6A60A		310333501	RGB

DURING ENGINE INSTALLATION OPERATOR REPORTED OIL LEAK FROM THE TORQUE TRANSDUCER BOSS ON REDUCTION GEARBOX (RGB) HSG. REPAIR STATION INVESTIGATION REVEALED MISSING OIL SLEEVE ADAPTER (PN 3103335-01, POST SB 13164) ON THE RGB TRANSDUCER BOSS. THE ADAPTER SERVES AS A SEALING SURFACE FOR THE TRANSDUCER O-RING. INVESTIGATION SUGGESTS ADAPTER BECAME DISLODGED DURING A CLEANING OR MX PROCESS. REPORTING REPAIR STATION IS COORDINATING WITH MFG, A REVIEW OF THE SB

RGB MODIFICATION (SB 13164) AND ANY ASSOCIATED MX PROCESSES THAT COULD LEAD TO THE DISLODGING OF THE ADAPTER.

2010FA0000453	AGUSTA	PWA	CONTROL BOX	LOOSE
5/2/2010	A119	PT6B37A	109001081103	THROTTLE SYS

DURING MANUAL THROTTLE TRAINING, ON GROUND, IT WAS NOTICED THAT THROTTLES WERE NOT MOVING SYNCHRONOUSLY AND PLA INDICATION DID NOT MOVE WITH PILOT'S THROTTLE. AIRCRAFT WAS SHUTDOWN. AFTER TROUBLESHOOTING IT WAS FOUND THAT THE THROTTLE CONTROL BOX ASSEMBLY DID NOT TRANSMIT MOVEMENT TO THE CABLE. THIS WAS DUE TO THE PIN WHICH LOCKS THE GEAR TO THE SHAFT HAVING BACKED OUT. THIS PIN IS HELD IN PLACE BY STAKING IN BOTH ENDS. NO WORK HAD BEEN PERFORMED ON THIS PART SINCE NEW. THE COMPLETE ASSEMBLY WAS REPLACED WITH A NEW UNIT AND AIRCRAFT RETURNED TO SERVICE. ALL INFORMATION WAS PROVIDED TO AUGUSTA SERVICE ENGINEERING AND PHILADELPHIA FACTORY QA DEPT FOR FOLLOW-UP INVESTIGATION WITH TRIUMPH CONTROLS, MFR OF THE PART.

2010FA0000460	AMTR	LYC	PRESSURE SWITCH	BINDING
5/2/2010	LANCAIR235	O320D2A	490A26	HYD SYSTEM

LANDING GEAR DID NOT EXTEND AND GEAR-UP LANDING WAS MADE. POST INCIDENT INSPECTION AND OPERATION CHECK DEMONSTRATED REPEATABLE FAILURE CONDITION. HYDRAULIC PRESURE SWITCH WAS SHOWN A SOURCE OF FAILURE.

P90R7138	BEECH	PWA	CONTROLLER	FAILED
5/5/2010	200BEECH	PT6A60A	HYLZ503361	CABIN TEMP

(P90R) PILOT REPORTED THAT AFTER TAKEOFF, THE PASSENGERS REPORTED SMOKE IN THE CABIN AND MADE A PRECATIONARY LANDING. HE STATED THAT THEY DID GROUND RUNS AND COULD NOT DUPLICATE THE PROBELM. DURING OUR TROUBLESHOOTING, WE FOUND THE ACFT NOT PRODUCING COLD AIR. THAT LED US TO FIND THAT THE CABIN TEMP CONTROLLER HAD A BURNED SMELL TO IT AND A TRANSISTOR THAT HAD FAILED. WE THEN WANTED TO MAKE SURE THAT SOMETHING ELSE DIDN'T CAUSE THE TEMP CONTROL TO FAIL AND FOUND A BAD MANUAL TEMP CONTROL RELAY PN 50-380048-11 LOCATED IN RELAY PANEL NR 5, RELAY K5.

2010FA0000402	BEECH	CONT	BEECH	BELLCRANK	CRACKED
4/23/2010	3533	O470J		1048200501	MLG ACTUATOR

ACFT LANDED AND NOSE GEAR COLLAPSED. FOUND NOSE GEAR BELLCRANK AT GEAR ACTUATOR CRACKED

2010F00112	BEECH		VALVE	LOOSE
5/24/2010	400A		1283890001	FUEL SYSTEM

FUSELAGE FUEL WOULD NOT GRAVITY FEED DURING REFUELING FROM THE FUSELAGE FILL TANK TO FORWARD MAIN FUSELAGE FUEL TANKS. THE FUEL DID FINALLY FEED TO THE MAIN FUSELAGE TANKS OVER A 3 DAY PERIOD. THE AFT TANK WAS INTERNALLY ACCESSED AND THE AFT FUSELAGE TANK SURGE PREVENTER VALVE WAS FOUND LOSSE ON ITS MOUNTS AND THE PROTECTIVE CAP FOR THE SURGE VALVE PLUNGER PIN WAS MISSING. THE CAP WAS FOUND IN THE BOTTOM OF THE FUEL TANK AFTER THE TANK FOAM BLOCKS WAS REMOVED. A NEW VALVE WAS INSTALLED AND REFUELING IS NOW NORMAL.

2010FA0000482	BEECH	CONT	IGNITION SWITCH	BURNED
5/18/2010	58	IO550C	103572301	RT ENGINE

RIGHT ENGINE FAILED TO CRANK UPON APPLICATION OF STARTER. PILOT NOTED SMOKE AND BURNING SMELL FROM UNDER INSTRUMENT PANEL. UPON INSPECTION IT WAS FOUND THAT THE IGNITION SWITCH CUPS WERE SEVERLY WORN, AND CONTACT POINTS WERE BURNT. SWITCH WAS REPLACED AND AIRCRAFT WAS RETURNED TO SERVICE. WE SUGGEST DISSASEMBLY AND INSPECTION OF THESE SWITCHES FOR WORN COMPONENTS AND PROPER LUBRICATION ON A 500HR BASIS TO PREVENT THIS FROM OCCURING AGAIN.

2010FA0000421	BEECH	MODULE	FAILED
4/7/2010	76	A0511100	ZONE 200

(YHLR) AA EFD-1000 PRIMARY FLIGHT DISPLAY SHOWS "RSM LINK FAIL" MESSAGE ON INITIALIZATION. RSM WAS

REPLACED, NEW SN 3884. PERFORMED SYS OPS CHECKS AND RSM CALIBRATION AS REQUIRED BY DOCUMENT 900-00003-001 REV F, SYS OPS CHECKS SATISFACTORY.

2010FA0000419	BEECH	CONT	CONT	EXHAUST VALVE	BROKEN
4/28/2010	A36	IO550B	IO550B14B	646286	NR 2 CYLINDER

ACFT EXPERIENCED POWER LOSS, VIBRATION, AND LOW NR EGT ON INSP THE NR 2 CYLINDER EXHAUST VALVE WAS FOUND TO BE MISSING ABOUT HALF OF IT'S FACE.

IFJA2010FA0000459	BEECH	PWC	ENGINE	LEAKING
5/11/2010	B200	PT6A42A	3030700	NR 1

ENGINE S/N 93901 WAS INSTALLED ON ACFT S/N BB-1219 AFTER OVERHAUL, DURING THE OPERATIONAL CHECK FLIGHT THE PILOT NOTICED SMOKE IN THE COCKPIT AND ABORTED THE CHECK FLIGHT RETURNING TO THE AIRPORT WITHOUT INCIDENT. AFTER TROUBLESHOOTING AND SPEAKING TO A TECH REP. IT WAS DETERMAINED THAT THERE WAS AN INTERNAL OIL LEAK IN THE NR 1 ENGINE S/N 93901 CAUSING SMOKE IN THE COCKPIT, THE NR 1 ENGINE WAS REPLACED AND AN OPERATIONAL CHECK FLIGHT WAS CONDUCTED WITH OUT INCIDENT.

2010FA0000454	BEECH	PWA	SKIN	CORRODED
5/10/2010	B300	PT6A60A	101120108173174	WING

THE LT & RT CENTER WING FUEL CELL ACCESS HAD CORROSION ON THE FLANGE. THIS IS THE SECOND B300 THE REPAIR STATION HAS SEEN WITH THIS PROBLEM. THE FLANGE IS HIDDEN BY THE FUEL CELL ACCESS PANEL AND IS NOT READILY VISIBLE DURING NORMAL MAINTENANCE. THE KING AIR SERIES HAS A HISTORY OF WATER INGRESS IN THIS AREA, HOWEVER THE B300'S ARE SHOWING CORROSION ON THE WING SKIN FLANGES. ONE COVER PLATE WAS REPLACED, BOTH WING SKIN FLANGES WERE REPAIRED PER THE KA SIRM.

VIB4 1536	BEECH	PWA	CIRCUIT BREAKER	INTERMITTENT
4/22/2010	E90	PT6*	MS265745	MLG

(VIB4) DURING TAKEOFF THE ACFT ATTEMPTED A NORMAL GEAR RETRACTION. THE LANDING GEAR STARTED A NORMAL RETRACTION WHEN IT STOPPED EARLY IN THE RETRACTION CYCLE. WHEN IT STOPPED THE ACFT DID NOT HAVE ANY DOWN AND LOCK LIGHTS NOR DID IT HAVE AN UNSAFE LIGHT IN THE GEAR HANDLE. THIS CONDITION WOULD NOT ALLOW THE PILOT TO KNOW THE POSITION OF THE LANDING GEAR. DURING INITIAL TROUBLESHOOTING THE LANDING GEAR OPERATION WAS NORMAL. AFTER PERFORMING RESISTANCE CHECKS IT WAS DETERMINED THAT THE 5 AMP LANDING GEAR CONTROL RELAY WOULD INTERMITTENTLY OPEN. WHEN THIS HAPPENS ALL VOLTAGE IS REMOVED FROM THE CONTROL PORTION OF THE LANDING GEAR RETRACTION AND EXTENSION RELAY AND ALL GEAR OPERATION LIGHTS. ALTHOUGH SEVERAL EMERGENCY EXTENSIONS WERE PERFORMED SUCCESSFULLY, WHEN THE BREAKER OPENS THE POSITION OF THE LANDING GEAR WOULD NEVER BE KNOWN BY THE PILOT.

2010FA0000441	BEECH	CONT	CIRCUIT BREAKER	INOPERATIVE
5/3/2010	F33A	IO520*	35380132103	ZONE 200

(VJ3R) NO POWER THROUGH THE SWITCH.

2010FA0000442	BEECH	CONT	CIRCUIT BREAKER	INOPERATIVE
5/3/2010	F33A	IO520*	35380132103	CABIN

(VJ3R) NO POWER THROUGH THE C/B SWITCH.

2010FA0000420	BEECH	CONT	RELAY	INTERMITTENT
4/28/2010	F33A	IO520BB	SM50D7	MLG

(VJ3R) PILOT REPORTED AFTER PUTTING THE GEAR SELECTOR IN THE UP POSITION HE STILL HAD (3) GREEN LIGHTS AND NO IN TRANSIT LIGHT, PILOT THEN PUT THE GEAR SELECTOR IN THE DOWN POSITION AND RETURNED TO BASE. ON TROUBLESHOOTING THE MECHANIC CYCLED GEAR SEVERAL TIMES BEFORE GEAR FAILED TO RETRACT. PROBABLE CAUSE AT THIS TIME UNKNOWN. RECOMMENDATION IS TO REPLACE RELAY UNTIL MFG DESIGNS A BETTER RELAY.

2010FA0000422	BEECH	CONT	CIRCUIT BREAKER	INOPERATIVE

4/29/2010	F33A	IO520BB	35380132103	CABIN

(VJ3R) PILOT REPORTED STROBE LIGHTS INOP. ON TROUBLESHOOTING, TECH FOUND CIRCUIT BREAKER/SWITCH TO BE AT FAULT. AD 2008-13-17 HAD BEEN COMPLETED 1405 FLIGHT HOURS PRIOR AND ESTIMATED CYCLES 5620. NO PROBABLE CAUSE OR RECOMMENDATIONS AT THIS TIME.

2010FA0000464	BEECH	CONT	CIRCUIT BREAKER	INOPERATIVE
5/13/2010	F33A	IO520BB	35380132103	TAXI LIGHT

PILOT REPORTED TAXI LIGHT INOP. ON TROUBLESHOOTING TECHNICIAN FOUND CIRCUIT BREAKER / SWITCH TO BE AT FAULT. A.D. 2008-13-17 HAD BEEN COMPLETED 1180 FLIGHT HOURS PRIOR AND ESTIMATED CYCLES 4720. NOTICED NEW CIRCUIT BREAKER MANUFACTURER IS TYCO ELECTRONICS. NO PROBABLE CAUSE OR RECOMMENDATIONS AT THIS TIME.

2010FA0000508	BELL	PWA	PACKING	FAILED
5/5/2010	412EP	PT6T3	MS9386126	P3 FILTER COVER

HELICOPTER EXPERIENCED AN UNCOMMANDED ACCELERATION OF THE LEFT ENGINE DURING HOVER ON MAY 5, 2010. THE ENGINE N1 SPEED IMMEDIATELY WENT TO 112% AND THE HOT SECTION TEMPERATURES REACHED 989 DEGREES. THE ACFT ROTOR SYSTEM AND LT ENGINE POWER TURBINE WHEEL WERE THEN OVER SPED TO 133%. THE FAULT WHICH CAUSED THE UNCOMMANDED ACCELERATION WAS DETERMINED TO BE A PIECE OF PACKING DEBRIS WHICH ENTERED THE P3 SYSTEM WHEN THE P3 FILTER BOWL WAS REMOVED. THE SIZED OF THE PACKING DEBRIS WAS APPROXIMATELY .035 THE FILTER COVER PACKING IS NORMALLY FOUND CRUMBLING AND FLAKING AFTER BEING IN SERVICE FOR 50 HOURS. THE PRATT DESIGN OF THE P3 FILTER ASSEMBLY IS SUCH THAT ANY DEBRIS; IN THE FILTER BOWL, ON THE OUTSIDE OF THE FILTER, ON THE TOP OF THE FILTER, ON THE THREADS OF THE BOWL, ON THE THREADS OF THE HOUSING, OR UP INSIDE THE HOUSING, CAN PASS UNRESTRICTED INTO THE AUTOMATIC FUEL CONTROL UNIT. THERE ARE NO WARNING IN MANUFACTURERS MAINTENANCE PROCEDURE WARNING THAT DEBRIS AS SMALL AS .035 CAN RESULT IN UNCOMMANDED ENGINE ACCELERATION. THIS IS A PACKING FAILURE AT REMOVAL AND A LACK OF PRECAUTIONARY NOTICES (WARNINGS) IN THE MAINTENANCE MANUAL INFORMING MAINTENANCE TECHNICIANS OF THE SIGNIFICANT OF MISSING A VERY SMALL PIECE OF PACKING DEBRIS. THE P3 FILTER OPERATES BACKWARDS OF THE NORMAL OPERATION OF A FILTER. MANUFACTURER DESIGN HAS THE DEBRIS COLLECTED ON THE INSIDE OF THE FILTER, WHEREAS MOST FILTER COLLECT DEBRIS ON THE OUTSIDE.

SROM2010002	BOEING	FAIRING	DELAMINATED
4/26/2010	737205		NLG

REPAIRED LEFT AND RIGHT GRAVEL EQUIPPED NOSE LANDING GEAR FILLET FAIRINGS AND DOOR FAIRINGS IN ACCORDANCE WITH FAA DER APPROVED FORM 8110-3, REV IR, DATED JANUARY 22, 2010 AND ENGINEERING STRESS REPORT SCS-3220-001, REV IR, DATED OCTOBER 05, 2009 AND SCS-3220-002SR, REV IR, DATED JANUARY 21, 2010. REFERENCE ROUTINE TASK CARD 43, DATED MARCH 01, 2010.

SROM2010003	BOEING	SKIN	DAMAGED
4/26/2010	737205		FUSELAGE

REPAIRED FUSELAGE SKIN BLEND OUT AT STRINGER S-23L, STA: BS 897 IN ACCORDANCE WITH BOEING 737-200 STRUCTURAL REPAIR MANUAL, REV 101, DATED MAR 10, 2010, SECTION 53-30-1, FIGURE 1 AND 53-30-3, FIGURE 48. REFERENCE NON-ROUTINE TASK CARD 206, DATED MAR 08, 2010.

SROM2010004	BOEING	BEARING	LOOSE
4/26/2010	737205		NLG

REPLACED NLG UPPER ATTACH BEARING IN ACCORDANCE WITH FAA DER APPROVED FORM 8110-3 NO. 091-1236-10-848, DATED APRIL 01, 2010, ASI ENGINEERING REPORT 5310848-ER, REV IR, DATED MARCH 25, 2010 AND ASI DRAWING 5310848-1, SHTS 1 THRU 3, REV IR, DATED MARCH 25, 2010. REFERENCE NON-ROUTINE TASK CARD 261, DATED MARCH 11, 2010.

SROM2010005	BOEING	SKIN	DAMAGED
4/26/2010	737205		FUSELAGE

REPAIRED FUSELAGE SKIN BLEND OUT THREE INCHES BELOW STRINGER S-25R, STA: BS 775 IN ACCORDANCE

WITH BOEING 737-200 STRUCTURAL REPAIR MANUAL, REV 101, DATED MARCH 10, 2010, SECTION 53-30-3, FIGURE 48, DETAIL XII. REFERENCE NON-ROUTINE TASK CARD 334, 316 AND 663, DATED MARCH 12, 2010.

SROM2010006	BOEING	SKIN	DAMAGED
4/26/2010	737205		FUSELAGE

REPAIRED FUSELAGE SKIN BLEND OUT 1.75 INCHES ABOVE STRINGER S-23R, STA: BS 904.8 IN ACCORDANCE WITH BOEING 737-200 STRUCTURAL REPAIR MANUAL, REV 101, DATED MARCH 10, 2010, SECTION 53-30-3, FIGURE 48. REFERENCE NON-ROUTINE TASK CARD 380, 374, 375, AND 383, DATED MARCH 12, 2010.

SROM2010007	BOEING	INTERCOSTAL	DAMAGED
4/26/2010	737205		FUSELAGE

REPAIRED STRINGER INTERCOSTAL AT STRINGER S-4L, STA: BS 305 BY REPLACEMENT WITH NEW PART 50-8261-62 IN ACCORDANCE WITH BOEING 737-200 STRUCTURAL REPAIR MANUAL (SRM), REV 101, DATED MARCH 10, 2010, SECTION 53-30-3 AND BOEING DRAWING 50-8261, REV H. REFERENCE NON-ROUTINE TASK CARD 428, DATED MARCH 15, 2010.

SROM2010008	BOEING	SKIN	NICKED
4/26/2010	737205		FUSELAGE

REPAIRED FUSELAGE NICK 3 INCHES ABOVE STRINGER S-20R, STA: BS 914 IN ACCORDANCE WITH BOEING 737-200 STRUCTURAL REPAIR MANUAL (SRM), REV 101, DATED MARCH 10, 2010, SECTION 53-30-3, FIGURE 48. REFERENCE NON-ROUTINE TASK CARD 617, DATED MARCH 18, 2010.

SROM2010010	BOEING	SKIN	DAMAGED
4/26/2010	737205		FUSELAGE

REPAIRED FUSELAGE SKIN BLEND OUT ABOVE STRINGER S-26R, STA: BS 838.5 IN ACCORDANCE WITH MESSAGE KFC-ATR-10-0001-01C, DATED MARCH 31, 2010, KFC-ATR-10-0001-05B, DATED APRIL 05, 2010, KFC-ATR-10-0001-06C, DATED APRIL 19, 2010, BOEING REPAIR DRAWING 65-45775, SHT 18, AND BOEING ENGINEERING APPROVED FORM 8100-9, NO 201004010066-0002D1, DATED APRIL 21, 2010. REFERENCE NON-ROUTINE TASK CARD 702, DATED MARCH 18, 2010.

SROM2010011	BOEING	SKIN	DAMAGED
4/26/2010	737205		FUSELAGE

REPAIRED FUSELAGE SKIN BLEND OUT 1.6 INCHES ABOVE STRINGER S-23L, STA: BS 926.5 IN ACCORDANCE WITH BOEING 737-200 STRUCTURAL REPAIR MANUAL, REV 101, DATED MARCH 10, 2010, SECTION 53-30-3, FIGURE 48, PAGES 256 TO 260 AND 264, DETAIL VII, PAGES 261 AND 281 AND 51-70, FIGURE 1, PAGE 4, 51-30-2, PAGE 3C AND 51-30-3, PAGE 7. REFERENCE NON-ROUTINE TASK CARD 737 AND 514, DATED MARCH 18, 2010.

SROM2010012	BOEING	SKIN	DAMAGED
4/26/2010	737205		FUSELAGE

REPAIRED FUSELAGE SKIN BLEND OUT AT STRINGER S-20L, STA: BS 974 IN ACCORDANCE WITH BOEING 737-200 STRUCTURAL REPAIR MANUAL, REV 101, DATED MARCH 10, 2010, SECTION 53-30-3, FIGURE 48, DETAIL XV. REFERENCE NON-ROUTINE TASK CARD 743, 742 AND 744, DATED MARCH 18, 2010.

SROM2010013	BOEING	SKIN	DAMAGED
4/26/2010	737205		FUSELAGE

REPAIRED FUSELAGE SKIN SCRIBE LINES LEFT WING TO BODY FAIRING AT STRINGERS S-16L TO 3 INCHES BELOW S-17L, STA: BS 500B - 516 IN ACCORDANCE WITH MESSAGE KFC-ATR-10-0001-01C, DATED MARCH 30, 2010, KFC-ATR-10-0001-05B, DATED MARCH 31, 2010, KFC-ATR-10-0001-06B, DATED APRIL 02, 2010, KFC-10-0001-07C, DATED APRIL 15, 2010, BOEING REPAIR SKETCH KEL-ATR-10-0001-01C, SHTS 1 AND 2, AND BOEING ENGINEERING APPROVED FORM 8100-9, NO. 201003310069-0002D1, DATED APRIL 20, 2010. REFERENCE NON-ROUTINE TASK CARD 763, DATED MARCH 19, 2010.

SROM2010014	BOEING	SKIN	DAMAGED
4/26/2010	737205		FUSELAGE

REPAIRED FUSELAGE SKIN BLEND OUT 0.4 INCHES BELOW STRINGER S-20L, STA: BS 896 IN ACCORDANCE WITH BOEING 737-200 STRUCTURAL REPAIR MANUAL (SRM), REV 101, DATED MARCH 10, 2010, SECTION 53-30-3, FIGURE 48. REFERENCE NON-ROUTINE TASK CARD 799, DATED MARCH 25, 2010.

SROM2010015	BOEING	SHEAR TIE	CRACKED
4/26/2010	737205		FUSELAGE

REPAIRED SHEAR TIE BETWEEN STRINGERS 20L AND S-21L, STA: BS 907 IN ACCORDANCE WITH BOEING 737-200 STRUCTURAL REPAIR MANUAL (SRM), REV 101, DATED MARCH 10, 2010, SECTION 53-10-4, FIGURE 8. REFERENCE NON-ROUTINE TASK CARD 813, DATED APRIL 01, 2010.

SROM2010009	BOEING	SKIN	DAMAGED
4/26/2010	737205		FUSELAGE

REPAIRED FUSELAGE SKIN BLEND OUT BELOW STRINGER S-25R, STA BS 885.25 IN ACCORDANCE WITH BOEING 737-200 STRUCTURAL REPAIR MANUAL, REV 101, DATED MAR 10, 2010, SECTION 53-30-3, PAGES 254, 257 TO 263 AND 286 AND 51-30-1, PAGE 3. REFERENCE NON-ROUTINE TASK CARD 661, 662, AND 660, DATED MARCH 18, 2010.

EE4Y100104	BOEING	SKIN	CRACKED
5/26/2010	7372X6C		BS 306 S18R

LOWER EXTERNAL FUSELAGE AT BS 306 STRINGER 18R SKIN WITH CRACK.

2010FA0000477	BOEING	STIFFENER	CRACKED
5/17/2010	747200		ZONE 400

PYLON NR 1 STIFFENER LOWER FLANGE NO.3 CRACK AT NAC. STA.256

2010FA0000478	BOEING	STIFFENER	CRACKED
5/17/2010	747200		ZONE 400

PYLON NR 2 STIFFENER NR 3 CRACK

2010FA0000433	BOEING	STIFFENER	CRACKED
4/5/2010	7472B5F	65B903626	NR 3 PYLON

CRACK WAS FOUND ON THE STIFFENER OF THE NR 3 PYLON. INSTALLATION SPLICE REPAIR ANGLES.

2010FA0000435	BOEING	DOOR	CRACKED
4/6/2010	7472B5F		NR 2 PYLON

NR 2 PYLON LT SIDE PRESSURE RELIEF DOOR CRACK (0.35 INCH).

2010FA0000432	BOEING	SKIN	CRACKED
4/5/2010	7472B5F	65B900362	NR 4 PYLON

NR 4 PYLON AFT FAIRING DOOR LT SIDE CRACKED. BONDING EXTERNAL REPAIR DOUBLER.

2010FA0000436	BOEING	SKIN	CRACKED
4/6/2010	7472B5F	65B9045211	NR 3 PYLON

NR 3 ENG LT PYLON ACCESS PANEL CRACKED.

2010FA0000437	BOEING	SKIN	CRACKED
4/6/2010	7472B5F	65B90423601	NR 3 PYLON

NR 3 ENG PYLON AFT LWR SPAR FIREWALL SKIN 1.5 INCH CRACK.

2010FA0000438	BOEING	SKIN	DENTED
4/5/2010	7472B5F	65B02771190	LT APU DOOR

APU LT ACCESS DOOR SKIN DENT. INSTALL EXTERNAL REPAIR DOUBLER.

2010FA0000431	BOEING	LONGERON	CRACKED
4/5/2010	7472B5F		LT NACELLE

NR 3 ENG LT SIDE COWL UPPER LONGERON CRACK. INSTALL REPAIR DOUBLER.

2010FA0000434	BOEING	SKIN	CRACKED
4/5/2010	7472B5F	65B007263	NR 3 NACELLE

NR 3 ENG LT SIDE COWL SKIN CRACK. INSTALL EXTERNAL REPAIR DOUBLER.

2010FA0000495	BOEING	STIFFENER	CRACKED
5/20/2010	7472F6B	65B100984	ZONE 100

FUSELAGE RT SIDE VERTICAL STIFFENER STA.980, RBL 11,33 WAS CRACKED AND PERFORM HFEC INSPECTION METHOD TO ENSURE CRACK :+/- 20MM

2010FA0000494	BOEING	STIFFENER	CRACKED
5/20/2010	7472F6B	65B941004	ZONE 400

SUPPLEMENTAL INFORMATION:PYLON NR 1 STIFFENER NR 3 BEWEEN NAC STA.234-259 WAS CRACK +/- 25MM

2010FA0000496	BOEING	STRINGER	CORRODED
5/20/2010	7472F6B	BAC1498147	BS 960-1000

STRINGER 43 LT CORRODED STA 960-1000 AT AREA BELOW FORWARD CARGO.

2010FA0000489	BOEING	SKIN	CORRODED
5/19/2010	7472F6B		ZONE 600

PYLON NR 4 UPPER DSB LOWER WING SKIN WAS CORROTION LEVEL 2, REFER TO JOB CARDS NR 54-812-01-04.

2010FA0000493	BOEING	SKIN	CORRODED
5/20/2010	7472F6B		NR 3 PYLON

PYLON NR 3 UPPER DSB LOWER WING SKIN WAS CORROSION LEVEL 2

2010FA0000486	BOEING	STRINGER	CORRODED
5/19/2010	7472F6B		BS 960-1000

STRINGER 43 LT CORRODED AT STA 960 TO STA 1000 AREA BELOW FORWARD CARGO

2010FA0000487	BOEING	SKIN	CRACKED
5/19/2010	7472F6B		ZONE 100

EAO 4753070 R1 ,FUSELAGE-CENTER SECTION -BODY STATION 1480 BULKHEAD AND SPLICE COMPONENT INSPECTION REPAIR AND MODIFICATION,HFEC INSPECT FOUND HOLE NR 3 OF LONGERON EXTENSION FITTING SKIN PANEL CRACK

2010FA0000485	BOEING	STIFFENER	CRACKED
5/18/2010	7472F6B		ZONE 400

PYLON NR 1 STIFFENER NR 3 BETWEEN NAC STA .234-259 WAS CRACK +/- 25MM

2010FA0000488	BOEING	SKIN	CORRODED
5/19/2010	7472F6B		ZONE 500

PYLON NR 2 LT WING LOWER FRONT SPAR LOWER WING SKIN WBL 470 WAS CORROTION LEVEL 2, REFER TO JOB CARDS 57-216-02-01.

2010F00106	BOEING	BRACKET	OUT OF TOLERANCE
5/10/2010	777*		TE FLAPS

DURING ACCOMPLISHMENT OF S/B 777-27A0071, THE FOLLOWING DEFECTS WERE FOUND DUE TO POOR

MACHINING DURING FACTORY BUILD. NR 1 T/E FLAP DRIVE ARM ASSY FWD JOINT 1A AND WING SUPPORT BRACKET MACHINED BEYOND S/B LIMITS. NR 2 T/E FLAP DRIVE ARM ASSY AFT JOINT 2B MACHINED BEYOND S/B LIMITS. NR 3 T/E FLAP AFT TENSION BEAM FWD OUTER BUSHING MIGRATING. DURING REPAIR 3 OUT OF 4 BORES FOUND CORRODED. NR 6 T/E FLAP COMPRESSION STRUT ASSY JOINT 6Y OUT/BD FITTING MACHINED BEYOND S/B LIMITS. DEFECT RECTIFICATION DETAILS: ALL BUSHINGS REPLACED IAW S/B. SERVICE ORDERS 51723782, 51723538, 51723733, 51723387, 51724094 REFER TO SERVICE ORDERS FOR PART NUMBER DETAILS. ALSO DURING AD 777-27A0017 INSPECTION OF NR 6 FLAP SUPPORT MECHANISM. INBOARD UPPER FAIRING LINK BUSH FOUND TO HAVE MIGRATED. DEFECT RECTIFICATION DETAILS: BUSHING REPLACED IAW CMM 27-57-84 SVO 51724396

2010FA0000428	BOEING	GE	COMPRESSOR	DAMAGED
4/1/2010	777*	GE9085B	1844M90G02	ENGINE

(QEMY) DURING INCOMING INSP OF THE SUBJECT HP COMPRESSOR, 8-10 SPOOL (IPC 72-31-00-01-590), 1-OFF INDICATION HAS BEEN IDENTIFIED ON THE RAISED EBN LAND SITUATED INTERNALLY BETWEEN THE STAGE 9 AND 10 DISKS. THE INDICATION HAS BEEN DETECTED DURING THE FLUORESCENT PENETRANT INSP AND HAS BEEN MEASURED AT APPROX 0-100 INCH IN LENGTH. THE OEM HAS BEEN INFORMED OF THE CONDITION (REFERENCE SR-7-1-2230226756.

QMLD2010F00108	BOLKMS		SKIN	CRACKED
5/12/2010	BK117B2		1172283812	ZONE 100

WHILE PERFORMING A REPAIR TO THE LEFT JACK PAD AND BELLY PANEL, FOUND THE RIGHT JACK PAD AND BELLY PANEL CRACKED.

2010F00098	CASA	GARRTT	SHUTTLE VALVE	STUCK
4/20/2010	C212CC	TPE331*	5004384	ZONE 700

LT BRAKE FAILED ON LANDING. R & R BRAKE ASSEMBLY SHUTTLE VALVE.

2010FA0000501	CESSNA	LYC	PROPELLER	OVERSPEED
5/11/2010	152	O235L2C	72CKS6056	

THIS PROP WAS PURCHASED NEW AND INSTALLED, IT HAS BEEN OVERSPEEDING BY 25-50 RPM. SENT IT TO BE REPITCHED AND THAT CORRECTED THE ISSUE. RECORDS INDICATE THAT IT SHOULD BE AN APPROPRIATE PROP FOR THIS ENGINE/ AIRCRAFT.

2010FA0000474	CESSNA	CONT	FITTING	DAMAGED
4/29/2010	172P	IO520*		FUEL TANK

SENT TANK (AMO110-90) FOR REPLACEMENT OF OUTLET FITTING COLLAR DUE TO DAMAGED THREADS. ON RETURN, FOUND THREADS IN NEW FITTING TO BE SEVERELY DAMAGED OR DEFECTIVE. RETURNED TANK FOR REDO. EITHER NO INSP OF PART BEFORE WELDING NOR INSPECTION OF COMPLETED WORK. THREADS MUCH WORSE AFTER REPAIR THAN BEFORE. APPARENTLY NO QC INSPECTION CARRIED OUT.

2010FA0000440	CESSNA	LYC	CESSNA	PISTON	BROKEN
4/23/2010	172P	O320*		98820125	MASTER CYLINDER

(Z94E) THE BRAKE PISTON ON THE LT BRAKE MASTER CYLINDER BROKE AT THE THREADED END WHERE IT ATTACHES TO THE CLEVIS. WHEN THE BRAKES FAILED THE PILOT VEERED TO THE RT AND STRUCK A RUNWAY TAXI LIGHT.

2010FA0000423	CESSNA		ACTUATOR	CRACKED
4/29/2010	172RG		98820152	ZONE 700

(DU0S) AFTER TAKEOFF, LANDING GEAR RETRACTED. WHILE IN TRANSIENT A BANG WAS HEARD. RT MAIN GEAR WOULD NOT RETRACT OR EXTEND. THE FLIGHT INSTRUCTOR WAS ABLE TO MANUALLY PULL THE GEAR FWD AND ENGAGE DOWNLOCK. ON INSP, RT ACTUATOR PN 9882015-2 WAS FOUND BROKEN AND THE PISTON DID NOT ENGAGE SECTOR GEAR. ACTUATOR HSG WAS CRACKED ACROSS UPPER AFT BOLT HOLE AND TOP WAS BROKEN IN FRONT OF ROLLER. AFTER DISASSEMBLY ,THE PISTON WAS WORN .020 ON A TAPER WHERE THE ROLLER ENGAGES. THE MOUNTING BOLTS WERE TIGHT AND SECTOR GEAR AND PISTON WERE WELL LUBRICATED. ESTIMATED NR OF GEAR CYCLES IS 21,805.

2010FA0000452	CESSNA		CONTACT	BURNED
5/6/2010	172S		A1196A	IGNITION SYS

AD 93-05-06 (IGNITION SWITCH INSPECTION) DOES NOT APPLY BY S/N TO 2001 CESSNA 172S - BUT THE AD STATES: REPEAT INSPECTION AND LUBRICATE IAW ACS SB92-01 EACH 2000 HRS. CHOOSE TO INSPECT & RE-LUBE BECAUSE OF THE MFR'S, 2000 HR SERVICE LIFE. UPON INSPECTION THE SWITCH CONTACTS WERE FOUND TO BE BURNT ON THE STARTER CIRCUIT CONTACTS (AS SUSPECTED IN AD 93-05-06) AND THERE WAS NO SIGNS OF EVER BEING FACTORY LUBRICATION. NOTE: THE AD STATES THAT SWITCHES MFR'D, AFTER FEB 1989 CAME LUBRICATED. INSTALLED ACS PRODUCTS KIT A3650-2 (NEW CONTACTS & SPECIAL GREASE).

2010FA0000491	CESSNA		CONTROL CABLE	FRAYED
5/19/2010	172S		0510105364	AILERON BALANCE

DURING INSPECTION THE AILERON CABLES ARE INSPECTED WITH MAGNIFICATION WHERE KNOWN WEAR/FRAYING IS COMMON. THIS CABLE, CESSNA P/N-0510105-364 WAS FOUND WORN AT FS 65.33. THERE WERE BROKEN STRANDS AND THE AREA IS EXTREMELY SHINY. THIS IS A COMMON DISCREPANCY FOR THIS MODEL AIRCRAFT. THIS OPERATOR MAINTAINS MANY OTHER AIRCRAFT WITH SOME APPROACHING 9,000 HOURS TIS, FLOWN UNDER THE SAME CONDITIONS, AND THE CABLES ARE STILL SERVICEABLE AND IN GOOD CONDITION.

2010FA0000492	CESSNA		CONTROL CABLE	FRAYED
5/19/2010	172S		0510105365	AILERON

DURING INSPECTION THE AILERON CABLES ARE INSPECTED WITH MAGNIFICATION WHERE KNOWN WEAR/FRAYING IS COMMON. THIS CABLE, CESSNA P/N-0510105-364 WAS FOUND WORN AT W.S.: 71.125. THERE WERE BROKEN STRANDS AND THE AREA IS EXTREMELY SHINY. THIS IS A COMMON DISCREPANCY FOR THIS MODEL AIRCRAFT. THIS OPERATOR MAINTAINS MANY OTHER AIRCRAFT WITH SOME APPROACHING 9,000 HOURS TIS, FLOWN UNDER THE SAME CONDITIONS, AND THE CABLES ARE STILL SERVICEABLE AND IN GOOD CONDITION

2010FA0000507	CESSNA		CONTROL CABLE	FRAYED
5/25/2010	172S		0510105360	AILERON

DURING INSPECTION THE AILERON CABLES ARE INSPECTED WITH MAGNIFICATION WHERE KNOWN WEAR/FRAYING IS COMMON. THIS CABLE, P/N-0510105-360 WAS FOUND WORN AT F.S.: 65.53. THERE WERE BROKEN STRANDS AND THE AREA IS EXTREMELY SHINY. THIS IS A COMMON DISCREPANCY FOR THIS MODEL AIRCRAFT. THIS OPERATOR MAINTAINS MANY OTHER DIFFERNT MFG. AIRCRAFT WITH SOME APPROACHING 9,000 HOURS TIS, FLOWN UNDER THE SAME CONDITIONS, AND THE CABLES ARE STILL SERVICEABLE AND IN GOOD CONDITION.

2010FA0000490	CESSNA		CONTROL CABLE	FRAYED
5/19/2010	172S		0510105360	AILERON

DURING INSPECTION THE AILERON CABLES ARE INSPECTED WITH MAGNIFICATION WHERE KNOWN WEAR/FRAYING IS COMMON. THIS CABLE, P/N-0510105-360 WAS FOUND WORN AT F.S.: 65.53. THERE WERE BROKEN STRANDS AND THE AREA IS EXTREEMLY SHINY. THIS IS A COMMON DISCREPANCY FOR THIS MODEL AIRCRAFT. THIS OPERATOR MAINTAINS MANY OTHER AIRCRAFT WITH SOME APPROACHING 9,000 HOURS TIS, FLOWN UNDER THE SAME CONDITIONS, AND THE CABLES ARE STILL SERVICEABLE AND IN GOOD CONDITION.

2010FA0000425	CESSNA	CONT		GUIDE	BROKEN
4/19/2010	172S	IO360*		CJ10011	SEAT HARNESS

(HE8S) PILOT`S SEAT HARNESS GUIDE BROKE AT SHOULDER HARNESS MOUNT TUBE. SUGGEST MAKING THIS PART WITH MORE DURABLE MATERIAL OR HAVING A REINFORCEMENT AT AREA OF BREAKAGE. THE BROKEN PART HAS A STRESS AREA WHERE IT WAS BROKEN DUE TO THE HOLE WHERE HEAD REST MOUNT PASSED THRU. ALSO HOLE WHERE PART BROKE IS LARGER THAN NEEDED.

2010FA0000451	CESSNA	LYC	CESSNA	STRUT	SEPARATED
5/6/2010	172S	IO360L2A		07436311	NLG

DURING FIREWALL REPLACEMENT THE NOSE LANDING GEAR WAS REMOVED TO FACILITATE REPLACEMENT. WHEN THE TECHNICIAN DEPRESSED THE NOSE STRUT TO CHECK FLUID LEVEL IN DEFLATED STRUT THE TOP OF

THE INNER STRUT TUBE DEPARTED THE STRUT OUT THE TOP. UPON FURTHER DISASSEMBLY THE INNER STRUT TUBE UPPER AND LOWER SECTION RETAINING PINS HAD WORKED LOOSE ALLOWING THE SEPARATION. THE AIRCRAFT HAD PREVIOUSLY BEEN SUBJECT TO A HARD LANDING CAUSING FIREWALL DEFORMATION AND REPLACEMENT. THE ONLY WAY TO FIND THIS DAMAGE WOULD BE TO COMPLETELY DISASSEMBLE THE NOSE LANDING GEAR SHOCK STRUT. THIS IS NOT A REQUIREMENT OF THE CESSNA 172S HARD/OVERWEIGHT LANDING REF 172MX MANUAL 5-50-00 (REV 17).

2010FA0000411	CESSNA	LYC	CONTROL CABLE	FRAYED
4/23/2010	172S	IO360L2A	0510105360	AILERONS

DURING A ROUTINE INSP, THIS CABLE WAS FOUND WORN WITH BROKEN STRANDS. IT IS VERY DIFFICULT TO SEE WITHOUT MAGNIFICATION AND APPEARS ONLY AS A SHINY SPOT ON THE CABLE. THIS CABLE AND (2) OTHERS PASS ACROSS THE CEILING THROUGH 3 PULLEYS JUST ABOVE THE REAR SEAT UNDER THE HEADLINER COVER. EVEN IF THE PULLEYS ROTATE FREELY, THE CABLE STILL WEAR OUT, LIKELY DUE TO VIBRATION.

2010FA0000409	CESSNA	CONT	BARREL	WORN
4/3/2010	310G	IO520E	08516191	LT MIXTURE CNTRL

PILOT STATED THAT WHILE IN FLIGHT AT 5000 FT, HE WAS UNABLE TO CHANGE THE MIXTURE SETTING ON THE LT ENGINE. THIS ENGINE HAD JUST RETURNED FROM A MAJOR O/H DUE TO TBO REQUIREMENTS. ACCORDING TO THE PILOT, THIS ENGINE HAD NOT HAD ANY PREVIOUS PROBLEMS IN THE PAST 1700 HRS OF FLIGHT. INSP FOUND THAT THE THREADS ON THE BARREL ASSY WERE WORN BEYOND LIMITS. BRONZE FILINGS WERE OBSERVED IN THE LT ENGINE COMPARTMENT BENEATH BARREL ASSY.

2010FA0000444	CESSNA		PIVOT ASSY	BROKEN
5/1/2010	340A		081273513	PILOT SEAT

DURING ANNUAL INSPECTION FOUND THE PILOT SEAT, LEFT SIDE PIVOT ARM FOR THE SEAT BACK BROKEN 1 INCH FROM THE TOP. CAUSED EXCESSIVE PLAY IN THE SEAT BACK.

DD2R171075	CESSNA	CONT	CLUTCH SPRING	FAILED
8/31/2009	340A	TSIO520NB	AS539800M015	STARTER

OVERHAULED STARTER ADAPTER FAILED LESS THAN 10 HRS AFTER INSTALLATION. 2ND OVERHAULED UNIT FAILED IN UNDER 5 HRS. DISASSEMBLY & FAILURE ANALYSIS OF BOTH UNITS REVEALED OVERHEATED & MANGLED CLUTCH SPRINGS. EACH HAD A COLLAPSED COIL THAT HAD WOUND AROUND THE SHAFT GEAR MINOR DIAMETER BETWEEN CLUTCH DRUM & INTEGRAL SPUR GEAR. IN 1ST FAILURE, COLLAPSED COIL CUT INTO THE SHAFT GEAR. IN 2ND, COLLAPSED COIL HAD CUT SHAFT GEAR IN TWO. MANGLED CLUTCH SPRINGS & SEPARATED SHAFT GEARS MAKE INFLT ENGINE RESTART IMPOSSIBLE. BOTH CAUSE SIGNIFICANT OIL CONTAMINATION. SHAFT GEAR SEPARATION STOPS OPERATION OF TURBOCHARGER SCAV PUMP, COULD CAUSE LOSS OF OIL PAST TURBOCHARGER SEALS, POSSIBLE ENG OIL STARVATION. SEPARATED SHAFT GEAR COULD DAMAGE CRANKCASE PILOT & CAM/CRANK GEAR TEETH, POSSIBLE ENGINE POWER LOSS. STRONGLY SUSPECT STARTER MOTOR RUN-ON AFTER ENG START. STARTER RUN-ON CAN ONLY BE CAUSED BY A FAULTY ACFT STARTER SWITCH OR RELAY. MOST STARTER RELAYS ARE AIRFRAME PARTS NOT REPLACED AT OVERHAUL OR REPAIR OF ENG & STARTER. IF STARTER ADAPTER FAILURE OCCURS, RECOMMEND TROUBLESHOOTING & FAILURE ANALYSIS OF ENTIRE ACFT STARTING SYS TO DETERMINE ROOT CAUSE IN ORDER TO PREVENT RECURRENCE OF FAILURE. RECOMMEND THE ACFT STARTER RELAY BE REPLACED EVERY 10 YEARS OR 3,000 HRS OR EVERY 2ND ENGINE CHANGE, WHICHEVER COMES FIRST, & IF STARTER ADAPTER FAILURE OR STARTER MOTOR FAILURE OCCUR.

2010FA0000426	CESSNA	CONT	CONTROL CABLE	LOOSE
4/23/2010	421B	GTSIO520*		RUDDER

THE CONTROL CABLE FOR THE RUDDER WAS UNDER TENSIONED AND THE FAIR LEAD MISSING AT FUSELAGE STA 289.94 CAUSING THE CONTROL CABLE TO SAW INTO THE BULKHEAD .1250" DEEP. THE CABLE TENSION AND CONDITION OF THE RUDDER CONTROL SYS WAS NOT CLOSELY INSPECTED DURING 100 HOUR INSPECTIONS.

2010FA0000439	CESSNA	CONT	GEARBOX	WORN
4/30/2010	421B	GTSIO520F	0894000208940001	MLG

AFTER TAKEOFF GEAR DID NOT FULLY RETRACT. THE RED GEAR IN-TRANSIT LIGHT REMAINED ILLUMINATED.

EMERGENCY GEAR EXTENSION WAS PERFORMED AND GOT (3) GREEN INDICATION. RETURNED TO AIRPORT AND PLACED ACFT ON JACKS. RETRACT CHECK PERFORMED AND AFTER GEAR UNLOCKED AND STARTED TO RETRACT A GRINDING GEAR NOISE WAS HEARD. THE REDUCTION UNIT WAS REMOVED AND FOUND THAT THE GEAR ON THE REDUCTION UNIT AND THE GEAR IT DRIVES IN THE GEARBOX WERE WORN SO THAT THERE WAS NOT ENOUGH TEETH ENGAGEMENT WHEN THE WEIGHT OF THE GEAR DURING RETRACT WAS APPLIED THE TEETH WOULD SLIP AND GRIND ON EACH OTHER. APPEARED TO BE NORMAL WEAR. GREASE WAS PRESENT ON GEARS.

2010FA0000504	CESSNA	PWC	UPLOCK SWITCH	INTERMITTENT
5/6/2010	510	PW615FA	65430087	UPLOCK ACTUATOR

(CNQR) DURING APPROACH THE ACFT WENT TO EXTEND THE LANDING GEAR AND RECEIVED A LANDING GEAR UNLOCK LIGHT. CYCLED THE GEAR SEVERAL TIMES WITH NO CHANGE OF STATUS. DECLARED AN EMERGENCY AND BLEW THE GEAR DOWN USING THE EMERGENCY EXTENSION SYSTEM. ACFT LANDED SAFELY. TROUBLESHOT TO THE UPLOCK SWITCH BEING STUCK IN THE CLOSED POSITION, REPLACED SWITCH, SYSTEM OPS CHECKS GOOD IAW THE MM.

2010FA0000390	CESSNA	WILINT	DIFFUSER	DAMAGED
4/19/2010	525A	FJ443A	75327	ENGINE

CUSTOMER CALLED TO REPORT AN IFSD OF HIS ENGINE DURING AN ACFT FERRY FLIGHT. THE ACFT WAS GOING TO TROUBLESHOOT AN OIL SMELL IN THE CABIN COMPLAINT. ENGINE 216118 HAS 1223 HOURS REPORTED AT THIS TIME. A FIRE WARNING ANNUNCIATED AS THE AIRCRAFT WAS PASSING FL080 AT CLIMB OUT. PILOT NOTED THE ITT HAD INCREASED BEYOND LIMITATIONS APPROX 1000 DEGREES C. THROTTLE POSITION WAS REDUCED TO IDLE; VIBRATION WAS NOTED AND THE ENGINE WAS SHUTDOWN BY THE PILOT, AT THE SAME TIME THE FIRE WARNING LIGHT WENT OUT. THE PILOT RETURNED TO DEPARTURE ON ONE ENGINE WITHOUT FURTHER INCIDENT.

2010FA0000506	CESSNA		PCB	MALFUNCTIONED
5/10/2010	525B		631839721	ZONE 700

DEFECTIVE GEAR MONITOR PCB BOARD RESULTS IN ILLUMINATION OF GEAR UNLOCK WARNING LIGHT.

2010FA0000505	CESSNA		ACTUATOR	DEFECTIVE
5/6/2010	525B		99123707	NLG

DEFECTIVE NOSE LANDING GEAR ACTUATOR RESULTED IN ILLUMINATION OF GEAR UNLOCK WARNING LIGHT .

2010FA0000458	CESSNA	WILINT	LEVER	BINDING
3/28/2010	525B	FJ442A	6226208223	AUTOPILOT

AT START OF APPROACH, DISENGAGED AUTO-PILOT BUT FOUND CONTROLS AND TRIM STIFF OR JAMMED. COMMANDED AUTO-PILOT DISCONNECT AGAIN BUT NO CHANGE. TRIED ELECTRIC TRIM ALSO BUT WITHOUT CHANGE AND GOT NO TRIM MOTION. THEN SAW THAT AUTO-PILOT ENGAGE LEVER HAD NOT MOVED TO OFF POSITION AS EPECTED AT DISENGAGE. MANUALLY MOVED LEVER TO AFT/OFF POSTION AND RE-GAINED NORMAL FLIGHT CONTROLS. ENTIRE EVENT TOOK ABOUT 6 SECONDS. SUBSEQUENT SERVICE FOUND AUTO-PILOT ENGAGE LEVER JAMMED AND FRICTION PREVENTING IT FROM MOVING BETWEEN ON AND OFF POSITIONS.

2010FA0000430	CESSNA	CONT	CASTOR	DAMAGED
1/31/2010	A185F	IO520D	35A42100	MLG

OWNER/OPERATOR OF AMPHIBIOUS AEROCET 3400 FLOATS INSTALLED ON ACFT HAD BEEN MAINTAINING THE FLOATS IAW THE MFG MM BY GREASING THE NOSE GEAR CASTOR ASSEMBLIES ONE HALF PUMP OF GREASE SLOWLY WITH NO INDICATION OF ANY PROPLEM. AFTER TAKEOFF THE PILOT RETRACTED THE GEAR FOR A SHORT FLIGHT. ON ARRIVAL THE GEAR WAS EXTENDED AND 4 GREEN LIGHTS WERE NOTED IN THE COCKPIT. UPON LANDING ON A LIGHTLY SNOW COVERED BLACKTOP RUNWAY, THE ACFT WAS FOUND TO BE MISSING BOTH FRONT CASTOR ASSEMBLIES. THE INTRODUCTION OF GREASE THROUGH THE GREASE FITTINGS RELEASES THE LOCKING MECHANISM THAT ATTACHES THE CASTORS TO THE GEAR LEG. NO SAFETY WAS DESIGNED INTO THE ASSY. THE PARTS MANUAL FOR THE FLOATS SHOWS AN UPDATED ASSY WITH 2 SAFETY BOLTS IN EACH SIDE OF THE ASSY AND THE DWG WAS REVISED IN MARCH OF 2008. THE FLOATS MENTIONED

WERE MFG. ON FEB 2009, WITHOUT THE UPDATED PART INSTALLED FROM THE FACTORY. AT THIS TIME THERE HAS BEEN NO SB ISSUED TO THE OWNER. ALSO, SEVERAL DISCREPANCIES WERE FOUND IN THE MM ON THE GREASING PROCEDURE.

2010FA0000368	CESSNA	SWITCH	INOPERATIVE
4/16/2010	S550	991207612	MACH WARNING

OVERSPEED WARNING INOPERATIVE. TESTED ON GROUND AND FOUND OVERSPEED WARNING SWITCH, PN 9912076-12, SN 173 TO BE OUT OF CALIBRATION. R & R SWITCH WITH OVERHAULED UNIT, SN 259 (PROCURED FROM MFG WITH A LAB TAG DATED AUG 12, 2009). TESTED AND UNIT FAILED. R & R SWITCH WITH INSPECTED UNIT, SN 09J108 (PROCURED FROM MFG WITH A LAB TAG DATED OCT 31, 2009). TESTED AND UNIT FAILED. R & R SWITCH WITH O/H UNIT, SN 152 (PROCURED FROM MFG WITH A LAB TAG DATED NOV 13, 2009). TESTED AND UNIT FAILED. R & R SWITCH WITH O/H UNIT, SN 191 (PROCURED FROM MFG WITH A LAB TAG DATED MAR 3, 2010). TESTED AND UNIT UNIT PASSED IAW AMM 34-11-10.

2010FA0000370	CESSNA	SWITCH	INOPERATIVE
4/16/2010	S550	991207612	MACH WARNING

OVERSPEED WARNING INOPERATIVE. TESTED ON GROUND AND FOUND OVERSPEED WARNING SWITCH, PN 9912076-12, SN 173 TO BE OUT OF CALIBRATION. R & R SWITCH WITH OVERHAULED UNIT, SN 259 (PROCURED FROM MFG WITH A LAB TAG DATED AUG 12, 2009). TESTED AND UNIT FAILED. R & R SWITCH WITH INSPECTED UNIT, SN 09J108 (PROCURED FROM MFG WITH A LAB TAG DATED OCT 31, 2009). TESTED AND UNIT FAILED. R & R SWITCH WITH OVERHAULED UNIT, SN 152 (PROCURED FROM MFG WITH A LAB TAG DATED NOV 13, 2009). TESTED AND UNIT FAILED. R&R SWITCH WITH OVERHAULED UNIT, S/N 191 (PROCURED FROM MFG WITH A LAB TAG DATED MAR 3, 2010). TESTED AND UNIT UNIT PASSED IAW AMM 34-11-10.

2010FA0000509	CESSNA	SERVO	SHORTED
5/21/2010	S550	4006719914	ZONE 100

IN THE PROCESS OF TROUBLESHOOTING A PITCH PUMPING PROBLEM, A REPLACEMENT PITCH SERVO WAS INSTALLED. AS SOON AS POWER WAS APPLIED TO AIRCRAFT, THE AUTOPILOT CIRCUIT BREAKER TRIPPED. THE SERVICEABLE SERVO WAS FOUND TO HAVE PIN A, THE +28 VOLT MOTOR INPUT FOR CCW ROTATION, WAS INTERNALLY SHORTED TO THE CASE OF THE SERVO. THIS SAME INCIDENT OCCURRED ON MARCH 3, 2010 WITH A REPLACEMENT SERVO FROM THE SAME REPAIR STATION. THE FIRST INCIDENT DAMAGED THE AUTO PILOT COMPUTER BEFORE THE CIRCUIT BREAKER TRIPPED. RECORD CHECKS REVEALED THIS SERVO TO BE THE SAME ONE FROM THE PREVIOUS INCIDENT. FOLLOWING THE FIRST INCIDENT THE REPAIR STATION WAS CONTACTED AND GIVEN A DETAILED DESCRIPTION OF THE FAILURE, TO INCLUDE THE SHORT BETWEEN PIN A AND THE CASE. THE REPAIR REPORT THAT ACCOMPANIED THE SERVO WAS DATED MARCH 7, 2010 STATES DEAD SHORT, FAILED ON INSTALL, BURNED AP COMPUTER. THE DISPOSITION STATES FINAL TESTED OK, RECERTIFY UNIT AND RETURN TO SERVICE" AND IS DATED MARCH 15, 2010. THIS SUBMITTER BELIEVES THAT THE SERVO TEST FIXTURES AND CONNECTOR BACKSHELLS NEED TO BE GROUNDED IN ORDER TO ENSURE THAT THIS TYPE OF FAULT IS DISCOVERED PRIOR TO RETURNING A PART TO SERVICE.

2010FA0000475	CESSNA	ACTUATOR	MALFUNCTIONED
3/26/2010	TR182	12805149	NLG

ACFT LANDED WITH RT MAIN GEAR NOT DOWN AND LOCKED. FOUND POWER PAC WITH NO HYD FLUID IN IT. FLUID LOSS CAUSED BY NOSE GEAR ACTUATOR LEAK. WHILE INSP PARTS, FOUND O-RING ON PISTON SHAFT DAMAGED AND BACKUP RING BROKEN. ALSO, PISTON SHAFT PN 1280241-2 AND BEARING PN 1280600-5 WORN. BELIEVE WEAR ON PISTON SHAFT AND BEARING ALLOWED O-RING AND BACKUP TO FAIL.

2010FA0000473	CESSNA	CONT	WIRE	OVERHEATED
3/9/2010	U206G	IO520*		

AUTOPILOT DISABLED IAW FAR 91.213. FOUND WIRES FROM CIRCUIT BREAKER TO AUTOPILOT OVERHEATED. IT IS BELIEVED THAT THE PILOTS CUT THE PLASTIC TIE WRAP ON THE CIRCUIT BREAKER AND USED THE AUTOPILOT ANYWAY. THE AUTOPILOT FUNCTIONS ON MANUAL HEADING ONLY. RECOMMEND FAR 91.213 BE REVISED TO SAY " AT ANNUAL INSP ALL INOP EQUIPMENT WILL BE REMOVED OR FIXED".

2010FA0000393	CIRRUS	CONT	CRANKCASE	CRACKED

4/5/2010	SR20	IO360ES	64928610	ENGINE

DURING A SCHEDULED INSPECTION AND UPON VISUAL INSPECTION A CRACK IN THE CRANKSHAFT CASE WAS DISCOVERED.

2010FA0000394	CIRRUS	CONT	CRANKCASE	CRACKED
4/16/2010	SR20	IO360ES	64928610	ENGINE

DURING A SCHEDULED INSP AND UPON VISUAL INSP A CRACK IN THE CRANKSHAFT CASE WAS DISCOVERED.

2010FA0000395	CIRRUS	CONT	CRANKCASE	CRACKED
4/5/2010	SR20	IO360ES	64928610	ENGINE

DURING A SCHEDULED INSP AND UPON VISUAL INSP A CRACK IN THE CRANKSHAFT CASE WAS DISCOVERED.

2010FA0000398	CIRRUS	CONT	CRANKCASE	CRACKED
9/15/2009	SR20	IO360ES	64928610	ENGINE

(CE8S) DURING A SCHEDULED INSP AND UPON VISUAL INSP A CRACK IN THE CRANKSHAFT CASE WAS DISCOVERED.

YD5R2010F00101	CIRRUS		BRUSHES	WORN
5/6/2010	SR22		ALE13A	ALTERNATOR

ALTERNATOR WAS WORKING AT TIME OF REMOVAL FOR OTHER DISCREPANCY ((YD5R)) (LEAKING SEAL). BRUSH HSG WAS REMOVED TO CHECK CONDITION DUE TO TIME ON COMPONENT. UPON REMOVAL (SEVERAL PIECES OF THE BRUSH ASSEMBLIES FELL OUT OF HOLDER. BOTH CARBON BLOCKS WERE WORN TOO NEAR MINIMUM .25". ONE BRUSH HAD BROKEN COPPER WIRE FLUSH WITH CARBON BLOCK. COPPER LEAD WAS MISSING COMPLETELY. THE BRUSH HAD ITS COPPER LEAD COMPLETELY SEVERED AT MID SPAN (WIRE IS ABOUT 1 INCH LONG BETWEEN CARBON AND CONTACT BUTTON. THE CARBON BRUSHES ARE CONSIDERED A WEAR ITEM. IT IS EXPECTED THAT THE CARBON WILL WEAR DOWN OVER TIME. HOWEVER, BROKEN OR MISSING WIRE LEADS SHOULD NOT BE CONSIDERED NORMAL WEAR. THE COPPER LEAD NEEDS TO BE MORE ROBUST. THE CURRENT DESIGN IS TOO FRAGILE FOR ITS WORKING ENVIRONMENT.

YD5R2010F00102	CIRRUS	CONT	BRUSH HOLDER	DAMAGED
4/29/2010	SR22	IO550N	ALE3045BS	ALTERNATOR

23-80.001 COMMUNICATIONS DISC EXCESS STATIC IN HEADSET INTERMITTNETLY ((YD5R)) INTERFERES WITH RECEPTION ON BOTH COMS. ISOLATED NOISE TO BE FROM ALTERNATOR (1) (NOISE GOES AWAY WHEN UNIT IS TURNED OFF). PERFORMED INSP IAW (KAES SIL-A-135). FOUND INBD BRUSH SPRING TO BE COLLAPSED. IT WAS NOT APPLYING ANY FORCE ON BRUSH TO KEEP POSITIVE CONTACT AGAINST COMMUTATOR RING. (BRUSH APPEARED TO BE FLOATING) THIS LIKELY HAD CAUSED EXCESS ARCING EVEN THOUGH POWER OUTPUT WAS NORMAL. IT WAS ALSO FOUND THAT 75 PERCENT OF THE WIRE STANDS WIRE BROKEN ON BOTH BRUSHES. REPLACEMENT OF BRUSH HOLDER ASSY FIXED EMI NOISE ISSUE. THE FRAGILE NATURE OF THE BRUSH DESIGN APPEARS TO BE THE MAIN ISSUE AND NEEDS TO BE ADDRESSED BY MFG TO CREATE A MORE ROBUST DESIGN.

2010FA0000455	CIRRUS	CONT	SPARK PLUG	CRACKED
5/10/2010	SR22	IO550N	RHB32S	ENGINE

CHAMPION SPARK PLUG, PART NUMBER RHB32S, BATCH 2D05 FIVE (5) SPARK PLUGS WITH CRACKS. 400 HOURS OF OPERATING TIME ON THE SPARK PLUGS. THE CENTER ELECTRODE ON 2 SPARK PLUGS DEVELOPED CRACKS ON THE TIPS. THE WIRE ELECTRODE ON 2 OTHER SPARK PLUGS DEVELOPED A CRACK GOING LENGTHWISE ALONG THE WIRE. ONE SPARK PLUG HAD CRACKS ON BOTH, THE CENTER ELECTRODE AND WIRE.

2010FA0000416	CIRRUS	CONT	CONTROL MODULE	FAILED
4/23/2010	SR22	IO550N		ENGINE

PILOT WAS FLYING ALONG AND NOTICED THE ALTERNATOR 1 CIRCUIT BREAKER TRIPPED. UPON LANDING THE LOCAL SHOP FOUND THE FIELD CONTROL MODULE TO BE FAULTY. REPLACED MODULE AND EVERYTHING WAS OK.

2010FA0000407	CIRRUS	CONT	WIRE	BROKEN
4/8/2010	SR22	IO550N		ALTERNATOR BRUSH

(YD5R) WHILE COMPLING WITH A 500 HR INSPECTION, THE BRUSH HOLDER ASSY WAS REMOVED FOR INSP OF BRUSHES. IT WAS FOUND THAT (1) BRUSH HAD A BROKEN WIRE. THE WIRE HAD PULLED AWAY FROM THE CONTACT BUTTON. TT ON COMPONENT ONLY 30.0 HOURS. IT WAS LIKELY CAUSED BY AN IMPROPER CRIMP OR SOLDIER JOINT DURING MFG.

2010FA0000413	CIRRUS	CONT	SPARK PLUG	CRACKED
3/25/2010	SR22	IO550N	RHB32S	ENGINE

(5CSR) DURING ROUTINE MX OF SPARK PLUGS IT IS FOUND THA THE CTR ELECTRODE INSULATING CERAMIC IS CRACKED AND/OR MISSING CHUNKS. ON AVERAGE, ARE FINDING ABOUT (1) OUT OF 20 SPARK PLUGS OF THIS MODEL HAVE THIS CONDITION AND THIS HAS BEEN THE CASE FOR ABOUT THE PAST YEAR. SUSPECT THERE IS A MFG PROBLEM WITH EITHER THE MATERIAL OR THE DIMENSIONS CAUSING WEAT POINT STRESS POINTS IN THE CERAMIC CAUSING THE FAILURE. RECOMMEND INSP OF THE MFG PROCESS AND MATERIALS. IT IS ALSO POSSIBLE THERE IS INADIQUATE INSTRUCTION ON SPARK PLUG SERVICEING TECHNIQUE AND DUE TO IMPROPER SERVICEING FOREIGH MATERIAL COULD BE CAUSING THE STRESS POINTS.

0415105365	CNDAIR		COUPLING	BROKEN
4/15/2010	CL6002B16		A44C13	RT WING L/E

(LY1R) ANTI-ICE "DUCT" MESSAGE DISPLAY ON CAS DURING CLIMBOUT. REMOVED V-BAND CLAMP COVER AT RT WING L/E (WS-258) AND FOUND BROKEN V-BAND CLAMP ON WING ANTI-ICE DUCTING. R & R V-BAND CLAMP (PN A44C13), INSPECTED, TESTED AND RETURNED ACFT TO SERVICE. THE CLAMPS SECURING BOLT WAS BROKEN AT THE BASE WHERE THE THREADS START. THE FOLLOWING MANUALS WERE REFERENCED FOR THIS REPAIR, MM 30-11-00-710-801 AND SPM 20-30-00-910-805.

2010FA0000472	COLUMB	CONT	CLAMP	WRONG PART
4/30/2010	LC41550FG400	TSIO550C		OIL LINE

WRONG SIZE ADEL CLAMP ON OIL LINE TO WASTEGATE UNDERNEATH OIL SUMP. THE CLAMP MOVED ON ENGINE MOUNT CAUSING CONTACT BETWEEN THE METAL BAND ON OIL LINE AND THE SUMP. CHAFING OCCURRED RESULTING IN MATERIAL LOSE OF OIL SUMP. REPLACED CLAMP WITH PROPER SIZE, REPLACED OIL SUMP WITH NEW AND CHECKED OIL LINE FOR SECURITY.

K08R10FA0000470	DHAV	PWA	BEARING RACE	DAMAGED
3/29/2010	DHC7102	PT6*	7384301	NR 3 PROP BLADE

(K08R) UPON DISASSEMBLY OF THE PROPELLER ASSY, FOLLOWING REMOVAL FOR TIME CHANGE. THE NR 3 PROPELLER BLADE, PN PFA12D1-9, SN 862170, BEARING RACE WAS FOUND TO BE SIGNIFICANTLY DAMAGED WITH CONSIDERABLE SPALLING WITHIN THE RACE SURFACES WITH CRACKS AND THE END OF THE RACE HALF BROKEN OFF.

V0XR201004280001	DHAV	PWA	SHEAR WEB	CORRODED
4/28/2010	DHC8106	PW120	85330431	ZONE 100

(V0XR) LT REAR BAGGAGE FLOOR INBD OF AFT DOOR SILL IS CORRODED BEYOND LIMITS. REMOVED AND REPAIRED BAGGAGE COMPARTMENT FLOOR, SHEAR WEB. W/C 1082.

V0XR201004280002	DHAV	PWA	SKIN	CRACKED
4/28/2010	DHC8106	PW120	85711069	ZONE 100

(V0XR) CRACK ON LT WING UPPER SKIN LADDER PLATE OTBD OF AFT CORNER UNDER PANEL 522AT AT WS YW 137.0. REPAIRED WING UPPER SKIN LADDER PLATE. W/C 5073.

V0XR201004280003	DHAV	PWA	SKIN	DENTED
4/28/2010	DHC8106	PW120	85320282	ZONE 100

(V0XR) DENT ON RT FUSELAGE AT 1.5 INCHES FWD OF STA X312.35 BETWEEN STR 7R AND 8R IS BEYOND LIMITS. REPAIRED DENT ON RT FUSELAGE. W/C 2182.

2010FA0000348	DIAMON	CONT	STARTER	MISMANUFACTURED
3/15/2010	DA20C1	IO240B	C12ST2S	ENGINE

ENGINE OIL SYS FOUND CONTAMINATED WITH FERROUS METAL. AFTER REMOVING STARTER, GOUGES WERE FOUND IN STARTER NOSE BOWL FROM PINION GEAR. PROPELLER WAS ROTATED THROUGH, REVEALING DAMAGE TO MANY CLUSTER GEAR TEETH, INCLUDING ONE HAVING BEEN BROKEN OFF. THE STARTER PINION GEAR HAS (8) TEETH, WHILE THE MM DESCRIBES A NINE-TOOTH PINION GEAR. THE NOSE BOWL CASTINGS OF THESE (2) STARTERS APPEAR TO HAVE BEEN MFG TO DIFFERENT SPECIFICATIONS.

U43R2010AF0000185	DIAMON	LYC	PUMP	FAILED
3/30/2010	DA40	IO360M1A	5100009	FUEL SYSTEM

3ND FLIGHT OF THE DAY, DURING PRE-FLIGHT INSPECTION. CREW DID A FUNCTION CHECK OF THE ELECTRIC FUEL PUMP, IT WAS NOT EVEN MAKING SOUNDS.

U43R2010AF0000186	DIAMON	LYC	PUMP	FAILED
5/5/2010	DA40	IO360M1A	5100009	FUEL SYSTEM

SUBMITTED SDR FOR THIS TYPE OF FAILURE EARLIER AND IDENTIFIED THE SERIAL NR OF THIS PUMP THAT FAILED. THE PUMP FROM THE FACTORY WAS SN 9693, WHEN IT FAILED WE INSTALLED PUMP SN 9888A. THIS PUMP DURING THE 2ND PREFLIGHT WAS FOUND TO NOT PRODUCE ENOUGH PSI (10.7). IT HAS NOW BEEN REPLACED AFTER ONLY 47.1 HRS TIME IN SERVICE WITH PUMP SN 10235A. ACFT P/N D41-2823-10-00-CS (MANUFACTURER P/N 5100-00-9) OUT OF 20 AIRCRAFT 17 HAVE HAD TO HAVE THIS PART CHANGED. 11 HAVE HAD IT CHANGED TWICE, 3 OF THE 20 THREE TIMES. THE MOST TIME ON 1 PUMP IS 388.2 HRS AND IS STILL WORKING. THE LEAST AMOUNT OF TIME IN SERVICE FOR A PUMP 11.5 HRS. THE AVERAGE LIFE TIME IS 144.0 HRS TIME IN SERVICE.

2010FA0000424	DIAMON	THIELT	ECU	MALFUNCTIONED
4/29/2010	DA42	TAE12501	02761055181R1	ZONE 400

AFTER A SERIES OF 3 POWER OFF STALLS (BOTH GEAR/FLAPS UP & DOWN), APPLICATION OF FULL THROTTLE (IN ORDER TO RECOVER) RESULTED IN 65 TO 75 PERCENT POWER (MAX,100 PERCENT POWER NOT AVAILABLE) 2 OUT OF 3 ATTEMPTS, RT ENGINE, OPERATED NORMALLY. THIS WAS THE SECOND FLIGHT WITH THE SAME RESULTS. ELECTRONIC ENGINE CONTROL (ECU) OR SOFTWARE APPEARS TO BE THE PROBLEM, HOWEVER, THERE WAS NO MALFUNCTION NOTED ON EITHER THE INSTRUMENT PANEL AT THE TIME OF THE MALFUNCTION OR DID WE NOTE AN ERROR CODE WHEN THE FLIGHT DATA WAS DOWNLOADED AND FORWARDED TO THE MFG TECHNICAL SERVICE. WHAT IS MOST ALARMING IS THAT THE MFG TECH PERSON HAVE BEEN AWARE OF THIS PROBLEM FOR SOME TIME, YET NO INFORMATION WAS DISTRIBUTED THROUGH NORMAL CHANNELS TO ADVISE ACFT OPERATORS OF THE DISCREPANCY. ACCORDING TO THE TECH REP THIS HAS BEEN AN ONGOING PROBLEM SPECIFICALLY WITH FLIGHT TRAINING ACFT AFTER STALLS HAVE BEEN PRACTICED.

2010FA0000499	EMB		FITTING	CRACKED
5/20/2010	EMB135BJ		500189	OXYGEN SYSTEM

THE CUSTOMER REPORTED THAT THE CREW OXYGEN SYSTEM LOST PRESSURE OVER A FEW DAYS. DURING TROUBLESHOOTING OF THE SYSTEM THE TECHNICIAN FOUND THE ADAPTER FITTING, P/N 500189, LOCATED BETWEEN THE TUBING NUT AND THE PRESSURE GAUGE, P/N 171013-00, FOR THE CREW OXYGEN BOTTLE, LOCATED IN EXTERNAL OXYGEN SERVICING PANEL. FURTHER INSPECTION REVEALED THAT THE FITTING WAS CRACKED LONGITUDINALLY ON THE FEMALE PORTION OF THE FITTING, WHICH IS A PIPE THREAD. THIS CRACK IS EXACTLY THE SAME AS PREVIOUSLY REPORTED AND PRINTED IN AC 43-16A. A NEW GUAGE, P/N 171013-00 WHICH INCLUDES THE FITTING, P/N 500189, WAS INSTALLED AND LEAK CHECKED. NO LEAKS WERE NOTED.

V0XR201005030022	EMB		STRIP	CRACKED
5/3/2010	EMB145EP		14572021002	ZONE 100

RT WING TO FUSELAGE FAIRING STRIP X=12473.0 - X=13893.0 IS CRACKED. REMOVED AND REPLACED STRIP. W/C 2135

V0XR201005030011	EMB		STRUCTURE	CRACKED
5/3/2010	EMB145EP		14531597002	ZONE 200

(V0XR) RT SIDE BOTTOM PART OF VERTICAL AT FR 77 STG 01L IS CRACKED BEYOND LIMITS. R & R SHAPE L, W/C 3058.

V0XR201005030017	EMB		FLOOR SUPPORT	CORRODED
5/3/2010	EMB145EP		14520600003	ZONE 100

(V0XR) BEAM FR 20 BETWEEN LT OMEGA BEAM AND CTR OMEGA BEAM IS CORRODED BEYOND LIMITS. R & R BEAM. W/C 1102.

V0XR201005030018	EMB		GUIDE	BROKEN
5/3/2010	EMB145EP		14534469001	CABLE

(V0XR) LEFT NR 2 CABLE GUIDE BROKEN. R & R CABLE GUIDE. W/C 1118.

V0XR201005030006	EMB		CHANNEL	CORRODED
5/3/2010	EMB145EP		14521713005	ZONE 100

(V0XR) CTR HAT CHANNEL BEAM AT FR 16-25 Y0.0 IS CORRODED BEYOND LIMITS. R & R HAT CHANNEL BEAM. W/C 1081.

V0XR201005030001	EMB		SILL	CORRODED
5/3/2010	EMB145EP		14521725615	ZONE 100

(V0XR) RT SILL AFT OF SERVICE DOOR FR 22-23 RY 780.0 IS CORRODED BEYOND LIMITS. R & R SILL. W/C 1063.

V0XR201005030002	EMB		DOUBLER	CORRODED
5/3/2010	EMB145EP		14522461011	ZONE 100

(V0XR) DOUBLERS FOR RT BEAM FR 20-22 RY 479.0 ARE CORRODED BEYOND LIMITS. R & R DOUBLERS. W/C 1066

V0XR201005030003	EMB		GUSSET	CORRODED
5/3/2010	EMB145EP		14522460013	ZONE 100

(V0XR) GUSSET AT CTR BEAM FR 18-23 RY Y0.0 IS CORRODED BEYOND LIMITS. R & R GUSSET. W/C 1067.

V0XR201004280004	EMB	ALLSN	SEAT TRACK	CORRODED
4/28/2010	EMB145EP	AE3007A	14532605001	ZONE 100

(V0XR) RT UPPER SEAT TRACK FR 23-30 IS CORRODED BEYOND LIMITS. R AND R RT SEAT TRACK. W/C 1095.

V0XR201004290001	EMB	ALLSN	SILL	CORRODED
4/29/2010	EMB145EP	AE3007A	14521725013	ZONE 100

(V0XR) RT SILL FWD OF SERVICE DOOR FR 17-20 RY 780.0 IS CORRODED BEYOND LIMITS. R & R RT SILL. W/C 1065.

V0XR201004290002	EMB	ALLSN	FLOOR SUPPORT	CORRODED
4/29/2010	EMB145EP	AE3007A	14521725013	ZONE 100

(V0XR) OMEGA BEAM AT FR 20 RY 479.0 IS CORRODED BEYOND LIMITS. R & R BEAM. W/C 1070.

V0XR201004290003	EMB	ALLSN	FLOOR SUPPORT	CORRODED
4/29/2010	EMB145EP	AE3007A	14521718007	ZONE 100

(V0XR) FLOOR SUPPORT ANGLE AT LY 479.0 FR 19-20 IS CORRODED BEYOND LIMITS. R & R ANGLE. W/C 1071.

V0XR201004280005	EMB	ALLSN	SEAT TRACK	CORRODED
4/28/2010	EMB145EP	AE3007A	14532606011	ZONE 100

(V0XR) LT UPPER SEAT TRACK FR 17-23 IS CORRODED BEYOND LIMITS. R & R LT SEAT TRACK. W/C 2106.

V0XR201004300002	EMB	ALLSN	PROFILE	CORRODED

4/30/2010	EMB145EP	AE3007A	14525140023	ZONE 100

(V0XR) PROFILE AT FR 17-18 OUTBOARD OF LY 479.0 IS CORRODED BEYOND LIMITS. R & R PROFILE. W/C 1078.

V0XR201004300003	EMB	ALLSN	CHANNEL	CORRODED
4/30/2010	EMB145EP	AE3007A	14521719003	ZONE 100

(V0XR) CTR HAT CHANNEL BEAM AT Y0.0 IS CORRODED BEYOND LIMITS. R & R BEAM. W/C 1083.

V0XR201004300004	EMB	ALLSN	PROFILE	CORRODED
4/30/2010	EMB145EP	AE3007A	14524187003	ZONE 100

(V0XR) PROFILE AT FR 22 FROM OMEGA BEAM TO RY 780.0 IS CORRODED BEYOND LIMITS. R & R BEAM. W/C 1117.

V0XR201004300001	EMB	ALLSN	PROFILE	CORRODED
4/30/2010	EMB145EP	AE3007A	14524199401	ZONE 100

(V0XR) PROFILE AT FR 17 LY 479.0 -780.0 IS CORRODED BEYOND LIMITS. R & R PROFILE. W/C 1077.

V0XR201005030019	EMB	ALLSN	GUIDE	BROKEN
5/3/2010	EMB145EP	AE3007A	14534802003	ZONE 100

(V0XR) LEFT NR 4 CABLE GUIDE BROKEN. R & R CABLE GUIDE.

V0XR201005030013	EMB	ALLSN	SILL	CORRODED
5/3/2010	EMB145EP	AE3007A	14522178605	ZONE 100

(V0XR) SERVICE DOOR SILL IS CORRODED BEYOND LIMITS. R & R SILL.

V0XR201005030009	EMB	ALLSN	ANGLE	CRACKED
5/3/2010	EMB145EP	AE3007A	14590083005	ZONE 100

(V0XR) ANGLE AT FR 14 LY 780.0 IS CRACKED BEYOND LIMITS. R & R ANGLE.

V0XR201005030005	EMB	ALLSN	GUSSET	CORRODED
5/3/2010	EMB145EP	AE3007A	14522460015	ZONE 100

(V0XR) GUSSET AT FR 16.5-18 LY 479.0 - Y0.0 IS CORRODED BEYOND LIMITS. REMOVED AND REPLACED GUSSET.

V0XR201005030021	EMB	RROYCE	STRIP	CRACKED
5/3/2010	EMB145EP	AE3007A1	14572167001	W-B FAIRING

(V0XR) LT WING TO FUSELAGE FAIRING STRIP X=14967.0 - X=16143.5 IS CRACKED. R & R STRIP. W/C 2132.

2010FA0000456	EMB		FLASHLIGHT	INOPERATIVE
5/11/2010	EMB145LR		P4010030	CABIN

F/O'S FLASHLIGHT INOP.

V0XR201005040001	EMB	ALLSN	SEAT TRACK	CORRODED
5/4/2010	EMB145LR	AE3007A	14530659011	ZONE 100

(V0XR) LT LOWER SEAT TRACK FR 17-23 IS CORRODED BEYOND LIMITS. R & R SEAT TRACK.

V0XR201005040002	EMB	ALLSN	SEAT TRACK	CORRODED
5/4/2010	EMB145LR	AE3007A	14532605015	ZONE 100

(V0XR) RT UPPER SEAT TRACK FR 36-46 IS CORRODED BEYOND LIMITS. R & R SEAT TRACK.

2010FA0000448	EMB		STALL WARNING	MALFUNCTIONED
5/5/2010	EMB500		SX7EG181	COCKPIT

DURING PREFLIGHT STICK PUSHER WOULD NOT TEST THE FIRST TIME THE STALL WARNING SYSTEM WAS

TESTED AFTER APPLYING ELECTRICAL POWER TO THE AIRPLANE. SUBSEQUENT TESTS WERE NORMAL.

2010FA0000449	EMB		CONTROL UNIT	INTERMITTENT
5/5/2010	EMB500		900050343	BRAKE SYSTEM

DURING ENGINE START, "BRAKE FAIL" CAS MESSAGE WAS DISPLAYED FOR A FEW MOMENTS THEN WOULD EXTINGUISH. BRAKES WERE ALWAYS OPERATIONAL.

2010FA0000450	EMB		ELECTRICAL SYS	MALFUNCTIONED
5/5/2010	EMB500		SX7EG181	

RECEIVE AN "ELEC XFR FAIL" CAS MESSAGE DURING EVERY ENGINE START, THEN GOES AWAY AFTER A FEW MOMENTS.

2010FA0000471	EMB		COOLING FAN	INOPERATIVE
5/14/2010	EMB500		SF9202D00	HYD POWERPACK

THE HYD POWER PACK COOLING FAN WAS FOUND INOPERATIVE.

2010FA0000468	EMB		TRANSDUCER	INTERMITTENT
5/14/2010	EMB500		90005036	WHEEL SPEED

DURING TAXI, ACFT PULLS TO THE LT DURING APPLICATION OF THE BRAKES. THE RT WHEEL SPEED TRANSDUCER WAS DISPLAYING 0 KTS INTERMITTENTLY WHILE ACFT WAS IN MOTION.

2010FA0000469	EMB	PWA	SERVO	OUT OF TOLERANCE
5/14/2010	EMB500	PT6A114A	0110143601	AUTOPILOT

RUDDER AUTO PILOT SERVO MOUNT SLIP CLUTCH COULD NOT BE ADJUSTED TO AMM LIMITS.

2010F00104	EMB		BUSHING	CRACKED
5/8/2010	ERJ170100SE		14G0311203	THRUST REVERSER

PROBLEM FOUND ON AIRCELLE THRUST REVERSER REMOVED FROM ACFT, UPON PRELIMINARY INSPECTION AT APPLIED COMPOSITES ENGINEERING (ACE) IT WAS DISCOVERED THAT THE FWD HINGE BUSHING P/N 14G0311-203 WAS CRACKED ACROSS THE SHOULDER AND AROUND THE TRANSITION FROM THE RADIAL TO THE FLANGE ON THE OUTSIDE OF THE BUSHING.PHOTOGRAPHS OF THE BUSHING ARE ON FILE AT THE REPAIR STATION.

2010FA0000497	FOUND	LYC	BAFFLE	CRACKED
5/13/2010	FBA2C1	IO540*	56G23399	OIL SYSTEM

DURING ENGINE MAINTENANCE THAT REQUIRED THE REMOVAL OF THE OIL SUMP THE INTERNAL OIL SUMP BAFFLE (P/N 56G23399) WAS FOUND BADLY CRACKED (APPROX. 4" LONG) ON THE PAN SHEET, ALONGSIDE THE RIVET LINE FOR THE BACK BONE STIFFENER. ADDITIONALLY, 5 OF THE 6 MOUNTING HOLES WERE CRACKED, WITH 2 OF THEM BEING COMPLETELY BROKEN OUT IN A CIRCLE LEAVING THE BOLTS PROVIDING NO SUPPORT TO THE BAFFLE. UPON FURTHER EXAMINATION THERE WAS NO EVIDENCE OF THIS BAFFLE CONTACTING THE OIL SUMP AS REFERANCED IN LYCOMING SERVICE BULLETIN 579. THIS COMPONENT HAS 329.3 HOURS SINCE NEW.

2010FA0000479	GULSTM	GARRTT	SCAVENGE PUMP	DIRTY
4/10/2010	690C	TPE3315	3108138	LT ENGINE

DURING FLIGHT, LT ENGINE OIL TEMP NEARED RED LINE BUT DID NOT GO OVER. NO OTHER ENGINE PARAMETERS HAD ANY DEFECT. THE PILOT SHUTDOWN THE LT ENGINE AS A PRECAUTION AND LANDED WITH NO OTHER INCIDENTS. MX REMOVED REAR SCAVANGE PUMP AND CLEANED OIL RESIDUE FROM JET TUBE AND FROM TRANSFER TUBE. INSTALLED NEW SEALS AND GASKETS, INSPECTED FILTER WITH NO DEFECTS, AND CHANGED OIL. GROUND RUNS AND 2.7 HOUR FLIGHT BACK TO AIRPORT CONFIRMED OIL TEMP STAYED IN GREEN AND MATCHED THE RT ENGINE EXACTLY. NO OTHER FAULTS FOUND.

2010FA0000498	GULSTM		CONTROL CABLE	WORN
5/20/2010	G1159		1159C20076113	AILERON

DURING A PREFLIGHT INSPECTION WITH THE AILERON UP, EXCESSIVE WEAR OF THE FORWARD OUTBOARD

AILERON CABLE WAS NOTED AT THE RBS 189 FAIRLEAD. THE PHENOLIC PROTECTOR WAS IN GOOD CONDITION EVEN THOUGH THE CABLE HAD BEEN RUBBING ON IT. MANY STRANDS WERE WORN THROUGH AND THEY WERE BURNISHED TO THE POINT WHERE A RAG DRAGGED ACROSS THEM DID NOT CATCH. THE LEFT AILERON CABLE HAD 40 STRANDS BROKEN; RIGHT AILERON CABLE HAD 20 STRANDS BROKEN. THE WEAR WAS NOTICED ONLY BECAUSE OF THE DIVOT IN THE CABLE. THIS IS A VERY DIFFICULT LOCATION TO SEE AND THE WEAR IS ONLY VISIBLE WHEN THE AILERON IS UP ON THE SIDE YOU'RE INSPECTING. I'D RECOMMEND AN INITIAL INSPECTION OF THIS CABLE WITH THE AILERON UP (ON THE SIDE BEING INSPECTED), AND ADD A NOTE ON THE 36 MONTH WING REAM BEAM INSPECTION TO LOOK FOR AILERON CABLE WEAR AT THE RBS 189 FAIRLEAD WITH THE AILERON UP.

2010F00114	GULSTM	RROYCE	WINDSHIELD	CRACKED
1/3/2009	G1159A	SPEY511*	1159SCB31021	COCKPIT

LEFT WINDSHIELD OUTER PANE CRACKED AT FL410, DESCENT TO 10,000 FT AND RETURNED TO AIRPORT. NO LOSS OF PRESSURIZATION

2010FA0000399	GULSTM	RROYCE	BATTERY PACK	INOPERATIVE
4/22/2010	GIV	SPEY51114	PAC5005	EMERGENCY LIGHTS

EMERGENCY LIGHTS SEAT ROW 32AB THRU 41AB INOP.

2010FA0000392	GULSTM	RROYCE	WHEEL	LOOSE
4/17/2010	GIV	TAYMK6108	50084471	MLG

MAIN WHEEL NR2 (ABS) WHEEL WEIGHT SCREW FELL OUT CAUSING WEIGHTS TO SWING IN TOWARDS THE GEAR, DAMAGING THE BREAK LINE (CREASING LINE). APPEARS THAT LOCKING INSERT ON WHEEL FAILED, SCREW INSTALLED WAS WRONG SIZE, OR SCREW WAS NEVER INSTALLED. WHEEL OVERHAULED..

2010F00109	HAWBEE	PWC	PUMP	MAKING METAL
11/19/2009	4000	PW308A	303243800	HYD SYSTEM

DPI FOUND EXTENDED DURING INITIAL 100 HOUR INSPECTION. REMOVED FILTER AND FOUND METAL IN FILTER AND FILTER HOUSING. REPLACE RT HYDRAULIC ENGINE DRIVEN PUMP.

2010F00110	HAWBEE	PWC	PUMP	MAKING METAL
4/23/2010	4000	PW308A	3032438001	HYD SYSTEM

DPI FOUND EXTENDED DURING PF INSPECTION. REMOVED FILTER AND FOUND MINOR METAL IN FILTER AND FILTER HOUSING. REPLACE RT HYDRAULIC ENGINE DRIVEN PUMP.

2010FA0000443	HUGHES	LYC	STRUT	BROKEN
4/30/2010	269C	HIO360*	269A5423009	ZONE 100

(OG5S) DURING UNSCHEDULED MX THE LOWER DRIVE SUPPORT STRUT WAS FOUND TO BE CRACKED 90 PERCENT THROUGH THE TUBE WHERE THE UPPER ATTACH LUG IS WELDED. UPON REMOVAL THE LUG COMPLETELY SEPARATED FROM THE TUBE. IF TUBE HAD SEPARATED DURING FLIGHT LOSS OF MAIN ROTOR TORQUE WOULD HAVE OCCURRED.

2010FA0000401	HUGHES		COLLECTIVE STICK	CRACKED
4/22/2010	369D		369H7353	ZONE 100

FOUND A CRACK IN THE PILOT'S COLLECTIVE STICK. THE CRACK RADIATES.

2010FA0000447	HUGHES	ALLSN	FIREWALL	CRACKED
5/5/2010	369E	250C20B		BS 124

CRACK AT STA 124, ENGINE FIREWALL, M/R TRANSMISSION OIL COOLER LINES AREA.

2010FA0000445	HUGHES	ALLSN	FIREWALL	CRACKED
2/16/2010	369E	250C20B		BS 124

CRACK AT STA 124, ENGINE FIREWALL, M/R TRANSMISSION OIL COOLER LINES AREA.

2010FA0000446	HUGHES	ALLSN	FIREWALL	CRACKED
4/8/2010	369E	250C20B		BS 124

CRACK AT STA 124, ENGINE FIREWALL, M/R TRANSMISSION OIL COOLER LINES AREA.

2010FA0000511	HWKSLY	GARRTT	CABIN PRESSURE	FAILED
1/21/2009	HS125600A	TFE7313D		

AFTER INITIAL TO FL260 THE CREW HEARD A LOUD SOUND FOLLOWED BY AN IMMEDIATE RAPID LOSS OF PRESSURIZATION.

JGVR2010F00103	ISRAEL	GARRTT	ATTACH BRACKET	CORRODED
5/7/2010	1125	TFE7313C		AILERON

(JGVR) DURING A SCHEDULED A-CHECK INSPECTION, CORROSION WAS FOUND ON THE LT AILERON ACTUATOR ATTACH BRACKET. STARTED REMOVING CORROSION AND FOUND CORROSION MIGRATING BENEATH COMPOSITE LAYERS. CUSTOMER ELECTED TO REPLACE LT AILERON.

YN8R10676	LANCAR	CONT	MAGNETO	FAULTY
5/17/2010	LC42550FG	IO550N	105005561	ENGINE

(YN8R) UPON PERFORMING ENGINE RUN-UP, ENGINE PERFORMANCE NOTED UNSATISFACTORY. PROBLEM ISOLOATED BY MX TO BE SEVERELY RETARDED TIMING VALUES ON BOTH MAGNETOS. SUSPECT BROKEN OR MIS ASSEMBLED IMPULSE COUPLING SPRINGS IN BOTH MAGNETOS. AWAITING TEAR-DOWN REPORT FOR DETAILS. PARTS UNDER WARRANTY AND UNABLE TO DISASSEMBLE PRIOR TO RETURNING TO MFG. BOTH MAGS SAME PN, MAGNETO SN'S: D08JA296 AND D08JA286

2010FA0000396	LEAR	GARRTT	LINE	CHAFED
4/21/2010	35A	TFE731*	250600214	FUEL SYSTEM

THE SOURCE OF A FUEL LEAK WAS TRACED TO THE RT MAIN FUEL LINE TO THE FILTER AND SHUTOFF VALVE IN THE AFT EQUIPMENT BAY JUST FWD OF THE RT MAIN SHIP BATTERY. THE FUEL LINE WAS CHAFED BY THE UNION FITTING OF A HYD LINE RUNNING PARALLEL TO THE FUEL LINE. UPON REMOVAL OF THE RT BATTERY EVIDENCE OF FUEL SPAYING ON THE BATTERY DURING OPERATION WAS DISCOVERED.

2010FA0000457	LEAR		MUFFLER	CRACKED
5/11/2010	45LEAR		12945096001	HYDRAULIC SYS

DURING A ROUTINE INSPECTION NEAR THE MAIN HYDRAULIC MANIFOLD, A LARGE OF INSULATION MATERIAL WAS NOTED. FURTHER INVESTIGATION REVEALED THE INSULATION WAS FROM THE OUTER COVERING OF THE MUFFLER. CRACK WAS FOUND AT THE TOP OF THE MUFFLER P/N 12945-096-001.

2010FA0000417	LEAR	GARRTT	MUFFLER	CRACKED
4/27/2010	45LEAR	TFE731*	12945096001	COCKPIT AIR

WELDED MUFFLER SEAM CRACKED AT THE TOP INBOARD EDGE OF THE BOX. CRACKED TOOK PLACE OVER NORMAL OPERATING CONDITIONS.

DELR050710	LEAR		BEARING	MISMANUFACTURED
5/7/2010	60LEAR		AA40112	SPOILERS

NEW SPOILERON BEARINGS THAT WERE ORDERED, P/N AA401-12, WERE RECEIVED WITH THE OUTSIDE DIAMETER BELOW THE TOLERANCE LISTED IN THE SRM CAUSING A LOOSE FIT WHEN INSTALLED. SRM STATES .4400 OUTSIDE DIAMETER WITH NO TOLERANCE ALLOWED. ALL BEARINGS RECEIVED MEASURED .438. NOTIFIED LEARJET AND THEY STATED ALL THEIR BEARINGS IN STOCK ALSO MEASURE .438. REFERENCE LEARJET 60 SRM, 51-71-03, PAGE 1 & 2, ITEM 12.

2010FA0000461	MORAVN	LYC	CONTROL CABLE	FRAYED
5/13/2010	Z242L	AEIO360*	Z42431300000000	TE FLAPS

FOUND FLAP CABLE STRANDS BROKEN.

2010FA0000462	MORAVN	LYC		CONTROL CABLE	FRAYED
5/13/2010	Z242L	AEIO360*		Z42431300000000	TE FLAPS

FOUND FLAP CABLE STRANDS BROKEN.

2010FA0000463	MORAVN	LYC		CONTROL CABLE	FRAYED
5/13/2010	Z242L	AEIO360*		Z42431300000000	TE FLAPS

FOUND FLAP CABLE STRANDS BROKEN.

5APR577Y37	PILATS		BFGOODRICH	BRAKE DISC	CRACKED
5/18/2010	PC1247			244759	BRAKE ASSY

DURING A 100 HOUR INSPECTION THE RIGHT BRAKE OUTBOARD DISC WAS DISCOVERED CRACKED. REMOVED AND REPLACED BRAKE ASSEMBLY IN ACCORDANCE WITH MANUFACTURERS MAINTENANCE INSTRUCTIONS.

5APR577Y34	PILATS	PWA	PILATS	LUG	SEPARATED
4/2/2010	PC1247	PT6A67		5551012150	HORIZONTAL STAB

(5APR) THE HORIZONTAL STAB PN 555.10.12.037, SN 815, FWD PITCH TRIM ACTUATOR ATTACHMENT FITTING LT OTBD LUG PN 555.10.12.150, IS SEPARATED FROM THE CTR SECTION OF THE FITTING BY 0.76 MM'S. OTBD ATTACHMENT LUGS ARE NORMALLY ALIGNED WITH THE CTR SECTION OF THE ATTACHMENT FITTING WITH NO GAPS. NOTIFIED ENGINEERING OF THE MECHANICAL IRREGULARITY WITH A MFG DEFECT REPORT; AND RECEIVED TECHNICAL MEMO ECC-12-TM-10-104 IN RESPONSE TO THE DEFECT REPORT. PERFORMED EDDY CURRENT INSP OF THE SUSPECT ATTACHMENT LUG WITH NO DEFECTS NOTED. CHECKED ALIGNMENT AND SYMMETRY OF THE HORIZ STABILIZER UTILIZING FACTORY SPECIFICATIONS FOR THIS ACFT SN WITH NO DEFECTS NOTED. APPLIED PR1422-B2 SEALANT TO THE ATTACHMENT LUG GAP AS AN INTRIM MEASURE, DETERMINED THE ACFT TO BE AIRWORTHY AND RELEASED THE ACFT FOR 50 HOURS OF OPERATION OR UNTIL 4-30-10 IAW THE TECHNICAL MEMO WHILE ENGINEERING DETERMINES A TERMINATING ACTION FOR THE DEFECT. IT APPEARS THAT THE LT ATTACHMENT LUG MAY HAVE BEEN MISALIGNED DURING MFG, OR MAY HAVE SHIFTED DURING OPERATION.

5APR577Y35	PILATS	PWA		BRAKE DISC	BROKEN
4/13/2010	PC1247	PT6A67B		244759B	RT BRAKE

(5APR) DURING A 100 HR INSP, THE RT BRAKE OTBD BRAKE DISC WAS DISCOVERED TO BE BROKEN INTO (2) PIECES. R & R BRAKE ASSY IAW MM.

5APR577Y36	PILATS	PWA	BFGOODRICH	BRAKE DISC	CRACKED
5/14/2010	PC1247	PT6A67B		244759	MLG

DURING A LINE CHECK THE OUTBOARD DISC OF THE LEFT MAIN BRAKE WAS DISCOVERED TO BE CRACKED. REPLACED BOTH BRAKES AND MAIN WHEEL ASSEMBLIES IAW MANUFACTURER CONVERSION KIT, STC SA01376CH.

2010FA0000481	PIPER			SPAR	CORRODED
5/17/2010	J3C65				AILERON

SEVERE CORROSION ON SPAR BETWEEN HINGES AND SPAR. AIRCRAFT WAS NOT HANGARED. WATER SEEPAGE BETWEEN STEEL HINGE BRACKET AND ALUMINUM SPAR DEVELOPED TO CAUSE CORROSION TO BLISTER AROUND RIVETS FASTENING HINGE TO SPAR. THIS CONDITION WAS FOUND DURING THE FABRIC RECOVERING PROCESS.

2010FA0000503	PIPER	LYC		CARBURETOR	MALFUNCTIONED
5/21/2010	PA18135	O290D2	MA35PVA	1035651	ENGINE

THE CARBURETOR WAS REBUILT AND YELLOW TAGGED. FLOAT LEVEL WAS SET AT 9/32 INSTEAD OF THE REQUIRED 7/32 CAUSING A LEAN CONDITION THAT BURNED THE TOP END OFF THE MOTOR.

2010FA0000406	PIPER	LYC		CYLINDER	CORRODED

4/9/2010	PA22108	O235C1B		09100300	LT MLG BRAKES

LT BRAKE LOCKED UP ON LANDING WHICH RESULTED IN LOSS OF CONTROL AND DAMAGE TO THE ACFT. INSP REVEALED THAT (1) BRAKE PISTON WOULD NOT FULLY RETRACT INTO THE CYLINDER WHEN THE COCKPIT BRAKE HANDLE WAS RELEASED. AFTER DISASSEMBLY, CORROSION WAS FOUND IN THE ID OF THE CYLINDER CIRCUMFERENCE WHERE THE PISTON O-RING RESTS. THE PISTON WOULD NOT FREELY SLIDE THROUGH THIS AREA BY HAND. IT IS LIKELY THAT HYDRAULIC PRESSURE WAS ABLE TO PUSH THE PISTON UP THROUGH THIS CORRODED AREA OF THE CYLINDER TO APPLY THE BRAKES, BUT THE RETURN SPRING WAS UNABLE TO SLIDE IT BACK. THIS CAUSED THE BRAKE SHOE TO DRAG AND GRAB THE DRUM, THUS LOCKING UP THE WHEEL. RECOMMEND A PERIODIC CHECK OF THE BRAKE CYLINDER OPERATION. ESPECIALLY ACFT THAT ARE INFREQUENTLY FLOWN. IF A PISTON DOES NOT SMOOTHLY RETRACT, THE CYLINDER ASSY SHOULD BE DISASSEMBLED, CLEANED AND COMPONENTS REPLACED AS NEEDED.

2010FA0000476	PIPER	LYC	PRESTOLITE	MOUNT	BROKEN
4/29/2010	PA23250	TIO540*			STARTER

PILOT REPORTED STARTER MAKING A GRINDING NOISE. TROUBLESHOOTING REVEALED THE STARTER DRIVE GEAR NOT FULLY MESHING IN RING GEAR. FURTHER INVESTIGATION REVEALED MOVEMENT OF START DRIVE CASE WHILE MOVING PROP WITH DRIVE ENGAGED. CRACK WAS FOUND ON FWD LT CORNER OF MOUNTING FLANGE BROKEN OFF AND CRACK EMITTING ALONG RT SIDE OF FLANGE. POSSIBLE CAUSE ENGING KICKBACK DURING STARTING PROCEDURES. ALSO, EVIDENT WAS CASTING POROSITY IN NOSE CASE.

ECPR466DAA	PIPER	LYC	PIPER	SUPPORT ANGLE	CRACKED
4/27/2010	PA28161	O320D2G		358460203	ENGINE FIREWALL

(ECPR) THE LT AND RT BATTERY BOX SUPPORT ANGLE ASSEMBLIES, PNS 35846-02 & 35846-03, WERE FOUND CRACKED JUST INBD, TOWARDS THE BATTERY BOX, OF THE BOTTOM FIREWALL ATTACH HOLES. THE CRACKS WERE BETWEEN THE ACTUAL HOLE AND THE START OF THE CURVED PORTION OF THE ANGLE. THESE CRACKS DID NOT GO THROUGH THE HOLES THEMSELVES.

UC2R10FA0000502	PIPER		PIPER	SPRING	BROKEN
4/19/2010	PA28R201			62820000	FLAP CNTRL SYS

THE PILOT REPORTED THAT WHEN USING THE FLAP HANDLE TO EXTEND THE FLAPS SHE HEARD A LOUD BANG. THE ACFT LANDED WITHOUT INCIDENT. THE PILOT ALSO REPORTED THE THE FLAPS WENT TO THE FULL EXTENSION POSITION AFTER LANDING. WHILE INSPECTING THE FLAP SYSTEM AFTER THE FLIGHT, THE FLAP CONTROL RETURN SPRING WAS FOUND BROKEN OFF ON FWD HOOK END. THE FLAP RETURN SPRING WAS REPLACED AND THE SYSTEM WORKED NORMALLY. PROBABLE CAUSE, POSSIBLY A DEFECTIVE SPRING?

2010FA0000415	PIPER	LYC	LYC	INTAKE VALVE	BROKEN
4/20/2010	PA28R201	IO360C1C6		LW13622	NR 2 CYLINDER

(ECPS) DURING THIRD TOUCH AND GO CLIMB OUT AT APPROXIMATELY 400 FT. A LOUD BANG WAS HEARD AND A SMOKE / BURNT OIL SMELL APPEARED. ONLY PARTIAL ENGINE POWER WAS AVAILABLE BUT WAS ENOUGH TO TURN AROUND AND LAND ON THE SAME RUNWAY, WITHOUT INCIDENT. ENGINE WAS SHUT DOWN AFTER CLEARING THE RUNWAY AND AIRCRAFT TOWED TO THE RAMP.

2010FA0000483	PIPER			ATTACH BRACKET	CORRODED
5/18/2010	PA34200			9598000	STABILATOR

FOUND RT STABILATOR ATTACH BRACKET EXFOLIATED.

2010FA0000412	PIPER	LYC		RIB	CRACKED
4/15/2010	PA44180	O360*		38210001	WING

(BF8R) (W/O NR: 01000553) THE DISCREPANCY WAS FOUND DURING (1) OF OUR PROGRESSIVE INSPECTIONS. IN THE LT AND RT WING GEAR WELL AREA, THE WING RIB BEHIND EACH MAIN GEAR STRUT AT THE OPEN ACCESS HOLE IN THE RIB THERE ARE 4 CRACKS PROPAGATING FROM THE HOLE OUTWARD IN VARYING LENGTHS UP 1.25 INCHES. NO APPARENT DAMAGE WAS FOUND ON THE ACFT TO SUGGEST ANY KIND OF OVERSTRESS OF THE WINGS OR AIRFRAME. THIS ACFT IS USED FOR FLIGHT TRAINING AND DOES SEE MORE THAN NORMAL TAKEOFFS/LANDINGS, SUSPECT CRACKS POSSIBLY CAUSED BY MULTIPLE HARD LANDINGS OVER THE YEARS.

SUGGEST MFG MIGHT LOOK INTO SOME KIND OF STRENGTHENING PLATE FOR THE RIB IF THIS IS HAPPENING WITH OTHER ACFT.

2010FA0000427	PIPER	LYC	CONTROL CABLE	STUCK
4/27/2010	PA44180	O360A1H6	554528	THROTTLE

(JX8S) IN CRUISE FLIGHT RT THROTTLE CONTROL BECAME STUCK DURING POWER REDUCTION. THE CONTROL TENSION WAS IMMEDIATELY CHECK /REDUCED BY MOVING FRICTION HANDLE. NO CHANGE NOTED. THE THROTTLE BECAME STUCK AT 24 " MAP NO MOVEMENT IN EITHER DIRECTION OBTAINABLE. FLIGHT CREW LANDED ACFT UNEVENTFUL WITH RT ENGINE SHUTDOWN. MX CREW CONFIRMED PROBLEM AFTER REMOVING RT THROTTLE CONTROL ASSY FROM ACFT. THE CONTROL CABLE END NEAREST THE CARBURETOR WAS STUCK DUE TO THE INNER CONTROL CABLE END SEIZED TO THE OUTER SWAGED TUBE END.

FGQR10FA0000500	PIPER	WINDOW	UNSERVICEABLE
5/5/2010	PA46350P	8228202	COCKPIT

(FGQR) PILOT LEVELED OFF AT AROUND 15,000 FT. LT SIDE COCKPIT WINDOW FRACTURED AND CTR PART OF WINDOW DEPARTED ACFT, REMOVING PILOTS HEADSET IN PROCESS. SB1175A PERTAINS TO CRACKING AT LOWER AFT REAR CORNER OF STORM WINDOW. THAT AREA OF WINDOW REMAINED INTACT. A NEW WINDOW PN 82282-022 WITHOUT STORM WINDOW WAS INSTALLED.

E81RJW302753	RAYTHN	ACTUATOR	MALFUNCTIONED
5/15/2010	390	233500101	LEFT

ON FINAL APPROACH TO MSN PILOT REPORTED RECIEVING SPOILER AND SPEEDBRAKE SYSTEM FAIL INDICATIONS. AFTER LANDING COMMANDED SPEED BRAKES TO LIFT DUMP MODE BUT NOTED ONLY R/H WING PANELS EXTENDING. NOTED LOUDER THAN NORMAL NOISES WHEN CONDUCTING POST-LANDING SPOILER SYSTEM BIT TEST. DURING TROUBLESHOOTING PROCEDURES FOUND LT WING ROLL/SPOILER ACTUATOR E2 VOLTAGE READINGS FLUCTUATING BETWEEN -4.08 V AND -6.74 V. REPLACED L/H ROLL/SPOILER ACTUATOR (HBC P/N 390-381007-0003)WITH A REPAIRED ACTUATOR, OPERATION AND VOLTAGE READINGS WITHIN SERVICE LIMITS. RECOMMEND MANUFACTURER'S SERVICE FACILITY INVESTIGATE REMOVED UNIT AT TEARDOWN TO DETERMINE IF FAILED FROM NORMAL WEAR, AND INVESTIGATE WHETHER ACTUATOR UNITS NEED TO HAVE A RECOMMENDED CALENDAR OR TIME-LIMITED TBO.

2010FA0000400	RAYTHN	WIRE HARNESS	CHAFED
4/22/2010	400ARAYTHEON	4013651630003	ICE DETECTION

RT ICE DETECTOR FAIL CAS MESSAGE DISPLAYED AT 27000 FT AGL AND REMAINED ON. FOUND CHAFED WIRE IN A WIRING BUNDLE RT SIDE FUSELAGE FWD OF AFT ENGINE BEAM AT FUSELAGE STA 573. NO APPARENT CAUSE FOR CHAFE. APPEARS CONDITION WAS PRESENT AT PRODUCTION. WIRE WORE THROUGH POSSIBLY DUE TO FLEXING OF BUNDLE. REPAIRED BROKEN WIRE IAW MFG ELECTRICAL INSTALLATION MANUAL AND APPLIED PROTECTIVE SILICONE TAPE AND SPIRAL WRAP. PERFORMED OPS CHECK OF SYS WITH SATISFACTORY RESULTS.

2010FA0000405	ROBSIN	LYC	POINTS	SEPARATED
3/29/2010	R44RAVENII	IO540AE1A5	10382585	LT MAGNETO

SB-643, C/W, MAGNETO INSTALLED IN ACFT. ACFT FLEW 5.0 HOURS AT WHICH TIME, PILOT REPORTED A DEAD - CUT WHEN SELECTING THE LT MAGNETO ON THE RUN UP ON THE FIRST FLIGHT OF THE DAY. MAGNETO REMOVED AND FOUND THAT 1X TUNGSTEN DISCS HAD SEPARATED FROM MAIN CONTACT POINTS AND ENDED UP SITTING IN THE CONTACT POINTS COMPARTMENT CAUSING AN EXTREME CHANGE IN MAGNETO TO ENGINE TIMING. MFG NOTIFIED.

2010FA0000510	SCWZER	WALTER	WHEEL HALF	SHEARED
5/21/2010	G164B	M601E11	40101	MLG

WHEEL ASSY INNER FLANGE FAILED INFLT. FLANGE BROKE INTO SEVERAL PIECES. TIRE (TUBE TYPE) PUSHED INWARD & PUSHING THE FLANGE PIECES INTO BRAKE ROTOR & DEPRESSED THE CALIPER PISTON. DURING FLT, PILOT NOTICED RT BRAKE PEDAL FELT LOCKED & FLUID LEAKING FROM RT BRAKE VALVE. CONTACTED BASE OF OPS & NOTIFIED GROUND PERSONNEL HE WAS GOING TO LAND ON A DIRT STRIP NEXT TO RUNWAY. ON

TOUCHDOWN, RT BRAKE CALIPERS DEPARTED. ACFT VEERED TO RT, CROSSED & WENT OFF THE RUNWAY & INTO A DITCH. ACFT SUSTAINED DAMAGE TO LT & RT WING SPARS, ENGINE & PROP. VISUAL INSPECTION DID NOT LOCATE INITIAL FAILURE POINT OF FRACTURE.

2010FA0000480	SKRSKY	PWA	FITTING	BROKEN
5/14/2010	S76B	PT6*		HYD SYSTEM

AT TAKEOFF, HELICOPTER EXPERIENCED A NR 2 HYD SYS CAUTION LIGHT ILLUMINATION AND THE NR 2 HYD PRESSURE GAUGE NEEDLE INDICATED ZERO PRESSURE. THE HELICOPTER LANDED WITHOUT INCIDENT ON THE NR 1 HYD SYS. UPON INSPECTION, THE FWD MAIN ROTOR SERVO HYD PRESSURE PORT FITTING ON THE NR 1 SYS SIDE HAD BROKEN OFF COMPLETELY AT THE SERVO MAIN HSG. NO CAUSE COULD BE DETERMINED FOR THE FAILURE AT THIS TIME. THE SERVO WAS REMOVED AND SENT FOR EVALUTION.

2010FA0000429	SWRNGN	SELECTOR VALVE	MISMANUFACTURED
2/13/2010	SA227*	2781014021A	MLG

RECEIVED (2) EMERGENCY GEAR SELECTOR VALVES, NEW PART FROM M7, PN 27-81014-021A. IT IS THE SECOND ONE RECEIVED THAT IS ASSEMBLED INCORRECTLY AND DOES NOT PORT PROPERLY FOR EMERGENCY GEAR SELECTION. WHEN THE SELECTOR ARM IS IN THE NORMAL POSITION, THE VALVE IS CLOSED AND VICE VERSA FOR THE EMERGENCY POSITION. ITEMS ARE BEING RETURNED TO THE MFG FOR DISPOSITION.