

Precision Engine LLC

2200 Airport Road
Owensboro, KY 42301
Telephone: 270-684-1083
Fax: 270-684-1125

Email: precisionengine@mindspring.com

Work Order Number 1640

Annual or 100-Hour Inspection Form
Models AA5, AA5A, AA-5B

Gregory D Johnson				
OWNER'S NAME		STREET ADDRESS		
		CITY	STATE	ZIP CODE
WORK PHONE	HOME PHONE	FAX	EMAIL	

N9868U	Grumman American	AA5A	AA5A-0268
IDENTIFICATION NUMBER	MAKE	MODEL	SERIAL NUMBER
	Lycoming	0-320-E2G	L-46162-27A
	ENGINE MAKE	ENGINE MODEL	SERIAL NUMBER
	2,440.17	2,576.2	2,440.17
	TACH-O-METER TIME	HOBBS TIME	TOTAL TIME

Precision Engine	2200 Airport Road	Owensboro	KY	42301
SERVICING AGENCY	ADDRESS	CITY	STATE	ZIP
4-29-02				
Date inspection Started				
1-07-03				
DATE INSPECTION COMPLETED				

Pilot/Operator reported discrepancies/squawks	LABOR	PARTS	INSP
<p>Options/Requested services requested by Owner/Operator</p> <p>Removal, and installation of engine for major overhaul. Engine, engine mount, battery & battery box, electric fuel pump, starter & master relays, and voltage regulator were removed from firewall. Old firewall seam sealant was removed. Firewall was cleaned with mineral spirits, and Scotch-Btite Pads. Firewall was zinc-chromated, and painted with white enamel. Firewall seams, and rivet heads were resealed. All items removed from firewall were cleaned, and where appropriate were glass beaded, etched, and zinc-chromated. All items removed from firewall were reinstalled with new mounting hardware. All Scat Aero Ducting forward of firewall was replaced. All oil, and fuel lines forward of firewall were replaced with hoses fabricated out of fresh hose stock, which were then fire sleeved.</p> <p>Note: engine was modified to high compression during this Major Overhaul in accordance with Precision engine STC SE682, Engine was installed in accordance with Precision Engine STC SA 683NE.</p> <p style="text-align: right;">Parts \$1,500</p> <p style="text-align: right;">Labor 20 hours @ \$50 per hour \$1,000</p>	1,000	1,500	BS
<p>Engine Major Overhaul in accordance with Precision Engines High Compression STC. # SE682NE. The Major Overhaul includes all the parts listed on Lycoming Mandatory Service Bulletin #240 titled "Replacement Parts at Overhaul". This overhaul also includes the installation of factory new Lycoming Cylinder Kits, new Slick Magneto's, Slick Ignition Harness, and Champion Spark Plugs. The engine overhaul includes overhauled starter, alternator, fuel pump, and carburetor. As part of the major overhaul engine baffling will be cleaned, inspected, minor repairs done, zinc-chromated and painted. Exhaust system will be disassemble, cleaned, inspected, and assembled with new hardware.</p> <p>Note: the following parts and services are note included in the engine Overhaul Price.</p> <p>1 Major repairs or replacement of sheet metal baffling</p> <p>2 Muffler or exhaust system repairs</p> <p>3 Vacuum pump replacement</p> <p>4 Engine Lord mounts</p> <p>5 Oil cooler repair or replacement</p> <p>Note: Customer must further guarantee that the engines crankcase, and crankshaft will be serviceable, & further that the camshaft be repairable.</p> <p style="text-align: right;">Parts \$10,500</p>			

Labor 80 hours @ \$50 per hour		\$4,000	4,000	10,500	BS
<p>Crankshaft repair by Aircraft Specialties Services FAA Repair Station Number DD2R764K under their work order number 125123, dated 6-31-02, serial number S125123-1. Yellow tag states: Magnafluxed, inspected, ground rods, and mains to M003, cadmium plated & baked flange, repaired per Lycoming SI 1111, repaired in accordance with Lycoming SB505 and Aircraft Specialties Procedure 0014, inspected and or repaired per Lycoming SB 475B excluding paragraph 6, Complied with Lycoming SB530 applied urethabond 104-stamped flange PID in accordance with SB.</p> <p>Qt 1 Ground crankshaft to M003, and renitride \$200.00 Qt 1 Crankshaft CW SI 1111, SB505, SB530 \$175.00 Parts \$375.00</p>					
Labor		\$N/C	0	375.00	BS
<p>Install Saf-Air brand oil sump quick drain</p> <p>Qt 1 P5000 Drain valve, oil sump \$80.00</p> <p>Labor \$N/C</p>					
Labor		\$N/C	0	80.00	BS
<p>Install Tanis Electric engine heating system.</p> <p>Qt 1 TAS100-1 Tanis heating system \$350.00</p> <p>Labor 4 hours @ \$50.00 per hour \$200.00</p>					
Labor		\$200.00	200.00	350.00	BS
<p>Tachometer overhaul, and range markings changed in accordance with Precision Engine STC SE683NE.</p> <p>Tachometer was repaired, tested, certified and returned to service via FAA Form 8130-3 by Texas Aircraft Instruments, FAA Repair Station Number HE2R869K, under their wo # 20603-1, dated 8-14-02. Tachometer 2700 RPM red line range marking reduced to 2,650 RPM red line in accordance with Precision Engine STC SA563NE.</p> <p>Qt 1 Tachometer Repair \$175.00</p> <p>Labor \$N/C</p>					
Labor		\$N/C	0	175.00	BS
TOTAL PILOT/OPERATOR SQUAWKS AND OPTIONS			5,200.00	12,980.00	

Pre-Inspection Engine Run Up

Prior to beginning the Annual or 100 hour inspection, an engine run up is to be made to facilitate oil drainage and to observe the following, noting any discrepancies:		MECH	INSP
1	Fuel Pressure (0.5 to 8 PSI) Electric Pump only prior to engine start up _____		

	Engine Pump only after engine start up _____ Both _____		
2	Oil Pressure (60 to 90 PSI) (Approx. 25 PSI idling) Actual _____ Actual _____		
3	Magneto RPM Drop (175 RPM maximum drop on either magneto; no more than RPM difference between magnetos.) Actual Drop Left _____ Right _____		
4	Static RPM: AA-5 & AA-5A (2250-2375) Actual _____ AA-5B (2150-2275) Actual _____		
5	Idling Speed: AA-5 & AA-5A (600-650 RPM) Actual _____ AA-5B (500-650 RPM) Actual _____		
6	Ammeter (no steady discharge in normal operating range)		
7	Suction Gauge (4.6 to 5.4 In. Hg.)		
8	Fuel Selector (check operation in all positions)		
9	Carburetor Heat Control		
10	Engine Response to change in power		
11	Idle cut-off		

A	PROPELLER GROUP	LABOR	PARTS	INSP
1	Remove spinner and check for cracks, scratches, scoring, dents, nicks, and distortions.	0	0	BS
2	<p>Inspect blades for erosion, scratches, nicks, and cracks. Dress out nicks as required.</p> <p>Propeller was found to have light erosion to its leading edge. Prop was sent out for overhaul.</p> <p>Prop Manufacture: McCauley Part Number: 1C172/BTM7359 Serial Number: 733053</p> <p>Propeller was overhauled by Aircraft Specialists Inc., FAA repair Station Number PZ4R458M, under their work order number 119567, dated 9-20-02. New prop log was provided by Aircraft Specialists, Inc.</p> <p>Qt 1Prop overhaul, includes shipping & insurance \$615.00</p> <p style="text-align: center;">Labor N/C</p>	N/C	615.00	BS

10	<p>Remove and service air filter (see Chapter 73 for details). Inspect carburetor heat control valve plate, shaft, valve plate to shaft screws, and bearings for signs of wear and security. Replace filter and/or gasket if damaged or defective. Reinstall carburetor air filter.</p> <p>Repaired carburetor air box. Replaced the chaffed front top of air box with flush patch. Replaced broken valve plate shaft. Replaced broken Air Filter Retention Screens in accordance with Gulfstream American Mandatory Service Bulletin No 170, dated July 23, 1981. Resealed air box joints. Installed new foam seal on bottom mounting flange of airbox.</p> <p>Installed new filter element warning placard.</p> <p>New Brackett Air filter element installed as part of engine Major Overhaul.</p> <p>Qt 2 5503006-20 Screens \$35.00 Qt 8 5503006-11 Retainer Straps \$20.00 Qt 16 1601-0410 Rivets \$12.00 Qt 1 5503006-503 Shaft, heat plate \$125.00 Qt 1 5503005-506 Placard, filter element \$6.00 Qt 1 BA48110 Air Filter Element N/C</p> <p style="text-align: right;">Parts \$198.00</p> <p style="text-align: right;">Labor 6 hours @ \$50 per hour \$300.00</p>	300.00	198.00	BS
11	<p>Check induction air intake seals for leaks, deterioration, and hardness. Check flex ducts for broken or loose strings, loose or displaced supporting wire, and general overall condition for signs of wear or perforation.</p> <p>Installed new Carburetor to Carburetor Air-Box duct. Note: Per Grumman this duct is a recommended 500 hour replacement item, Next replacement due @ 2,940.17 Tach & Total Time.</p> <p>Replaced all Scat Aero Ducting forward of firewall as part of the engines Removal and Installation charge listed above.</p> <p>Qt 1 5503004-1 Duct, PMA'd by Fletchair Inc. \$65.00</p> <p style="text-align: right;">Labor N/C</p>	0	65.00	BS
12	<p>Drain carburetor bowl. Reinstall drain plug. Remove and clean carburetor fuel inlet screen with acetone. Reinstall screen.</p>	0	0	BS
13	<p>Remove and clean electric fuel pump filter. Reinstall and resafety.</p> <p>Electric fuel pump screen checked and cleaned as part of the engines Removal and Installation charge listed above.</p>	0	0	BS

	Labor 4 hours @ \$50.00 per hour \$200.00	200.00	270.00	BS
17	<p>Remove exhaust shroud and check muffler tailpipe, risers, clamps, gaskets and exhaust system for cracks, leaks and secure mounting. Reinstall shroud.</p> <p>Exhaust system was disassembled cleaned and inspected as part of the engine Major Overhaul listed above. Muffler flame tube was found to be cracked, and distorted. Carb heat shroud was found to be cracked and eroded from vibration, and its mounting J Straps broken.</p> <p>Muffler, and carb heat shroud were repaired and yellow tagged by Aerospace Welding Minneapolis, Inc. FAA Repair Station UWDR792L under their work order number 56629, dated 6-11-02. Exhaust system was assembled with new hardware, and sealant on riser pipe clamps. Carb heat shroud was installed with new hardware, and mounting J Straps. Exhaust system was installed with new blow proof gaskets, and mounting hardware.</p> <p>Qt 1 Muffler repair \$600.00 Qt 1 Carb heat shroud repair \$125.00 Qt 2 503005-4 Strap carb heat shroud mounting \$30.00 Qt 16 AN3-5A Bolts, riser pipe clamps \$N/C Qt 16 MS21045-3 Nuts, riser pipe clamps \$N/C Parts \$745.00</p> <p>Labor N/C</p>	0	745.00	BS
18	<p>Check breather tube for obstructions and secure mounting.</p> <p>Installed Mil-6000 breather hose in accordance with Fletchair Inc. Critical Service Bulletin SB187 Dated November 6, 1997</p> <p>Qt 18" Mil-6000 – 3/4" Hose N/C Labor N/C</p>	0	0	BS
19	<p>Inspect cylinders for evidence of excessive heat indicated by burned paint on cylinder. Check for cracks, loose bolts, oil leaks, and general condition.</p> <p>Installed factory new Lycoming Cylinder Kits as part of the engine Major Overhaul. The cylinders Kits installed are part number 05K21100 high compression cylinder kits in accordance with Precision Engine STC SE682NE.</p>	0	0	BS
20	<p>Inspect engine mount for cracks, secure mounting and proper safety wiring. Check rubber vibration dampeners for signs of deterioration. Replace as required.</p>			

	<p>Engine mount was removed from firewall, cleaned glass beaded, inspected for cracks visually, zinc-chromated, painted with white enamel, and installed on firewall with new mounting hardware.</p> <p>Engine was installed on engine mount with new Lord Mounts, bolts, and lock nuts.</p> <p>Qt 1 Can Tempo Zinc-chromate \$6.00 Qt 1 Can Tempo White Enamel \$6.00 Qt 4 AN6-21 Bolts, mount to firewall \$12.00 Qt 4 AN310-6 Nuts, mount to firewall \$4.00 Qt 4 J7402-24 Engine Lord Mounts \$500.00 Qt 4 AN7-35A Bolts engine mounting \$20.00 Qt 4 MS20365-720C Nuts engine mounting \$4.00 Parts \$552.00</p> <p>Labor 4 hours @ \$50.00 per hour \$200.00</p>	200.00	552.00	BS
21	<p>Check all baffles for cracks, loose or missing screws and deteriorated seal material.</p> <p>Engine baffling was disassembled, cleaned, glass beaded, and inspected. Baffling was repaired or replaced as required. Baffling was zinc-chromated, and painted with Dull Aluminum Lacquer. Baffling was installed with new mounting hardware. All baffle seal material was replaced. New front baffling support struts were installed.</p> <p>Qt 1 5502022-502 Baffle, back left \$250.00 Qt 1 5502019-2 Baffle, #4 cyl.,left rear side \$250.00 Qt 1 5502010-15 Baffle, center front \$250.00 Qt 1 Baffle seal material, and mounting rivets \$200.00 Qt 1 5502010-20 Support strut, left hand \$18.00 Qt 1 5502010-22 Support strut, right hand \$18.00 Parts \$986.00</p> <p>Labor 2 hour @ \$50.00 per hour \$100.00</p>	100.00	986.00	BS
22	<p>Check alternator for secure mounting and lugs and brackets for cracks. Check condition and tension of alternator drive belt. Replace if required. Adjust belt tension to yield a 5/16 in. deflection at the center of the belt when applying a pressure equivalent to 14 pounds for new belts and 10 pounds for used belts.</p> <p>As part of engine Major Overhaul installed Part number D0FF10300J alternator that was overhauled and yellow tagged by Aero Electric Inc. FAA Repair Station Number NV2R045L under their wo # A-196959, dated 3-15-02, system tracking number A-171030.</p> <p>New, part number 37A19773-376 alternator drive belt</p>			

	<p>installed, and tensioned as part of engine Major Overhaul.</p> <p style="text-align: center;">Labor \$N/C</p>	0	0	BS
23	<p>Check battery electrolyte level and specific gravity. Clean and tighten battery terminals. Check battery box drains and vents for condition and drainage clear of aircraft structure.</p> <p>Serviced, and installed new battery. Cleaned, and painted battery box. Installed new seal on battery box lid.</p> <p>Qt 1 G25 Battery, serial G02054362 \$140.00 Qt 2 qts Battery Acid \$20.00 Labor 1 hour @ \$50.00 per hour \$50.00</p>	50.00	160.00	BS
24	<p>Inspect vacuum system components (if installed) for secure mounting. Check vacuum pump drive for evidence of seal leakage. Replace seal and pump if required. Check all interconnecting lines and fittings for leaks, deterioration and damage. Replace as required.</p> <p>As part of engine Removal and installation for engine Major Overhaul, installed new vacuum hose between pump, and firewall. Installed new pump over board vent hose.</p> <p>Note: Vacuum Pump was not replaced in accordance with aircraft owners instructions.</p> <p>Qt 20" MIL-H-6000-5/8" Hose vacuum \$N/C Qt 8" MIL-H5593-8 Hose pump overboard \$N/C Labor \$N/C</p>	0	0	BS
25	<p>Check ground straps for condition and secure attachment.</p> <p>Installed new engine ground strap at top of engine accessory section to top of engine mount.</p> <p>Qt 1 5402005-501 Strap, ground \$15.00 Labor \$N/C</p>	0	15.00	BS
26	<p>Check electrical wiring for condition and secure connections including shielded cable ground connections.</p> <p>Replaced all wiring harness tie-raps forward of firewall. Repaired broken wire on cabin light fuse holder located on battery box.</p> <p>Labor ½ hour @ \$50.00 per hour \$25.00</p>	25.00	0	BS
27	<p>Check voltage regulator, starter relay, and master switch relay for secure mounting and proper operation.</p> <p>Installed new PMA'd master relay from Fletcher inc.. Installed new Piper starter relay installed under the authority</p>			

	<p>of a field approval, which was granted for this aircraft, and a completed 337 for the installation of this relay has been filed with the FAA. Relays were installed with new mounting hardware.</p> <p>Qt 1 8781-2 Relay master, Fletchair PMA'd \$55.00 Qt 1 U487-149 Relay Starter, via Field approval \$100.00</p> <p style="text-align: right;">Labor ½ hour @ \$50.00 per hour \$25.00</p>	25.00	155.00	BS
28	<p>Install cowl, checking for proper engagement of air intake duct and cowl latches.</p> <p>Removed rusted cowling latch pins from top cowling. Cleaned, and polished latch pins. Installed pins in top cowling. Lubricated latch pins, and lower latch mechanism. Installed one new cowling opening spring, and mounted all four springs with new mounting grommets. Replaced all eight latch mechanism springs in lower cowling because of excessive rust. Installed cowling with new hardware. Adjusted cowling latches.</p> <p>Qt 1 LC-045H-7 Spring, cowling opening \$3.00 Qt 4 MS35489-8 Grommets, spring mounting \$2.00 Qt 8 LE026C-00 Springs, cowling latches \$8.00 Parts \$13.00</p> <p style="text-align: right;">Labor 1 hour @ \$50.00 per hour \$50.00</p>	50.00	13.00	BS
TOTAL ENGINE GROUP		662.50	3,634.00	
C	CABIN GROUP	LABOR	PARTS	INSP
1	<p>Remove front seats, fold rear seat forward, remove cover from rear seat support and remove console side panels.</p> <p>Rear seat was completely removed from aircraft as was the entire center console. Carpeting was removed from aircraft.</p> <p>Aircrafts entire floor was cleaned extensively using, vacuum, mineral spirits, puddy knives, and Scotch-Brite Pads.</p> <p style="text-align: right;">Labor 4 hours @ \$50.00 per hour \$200.00</p>	200.00	0	BS
2	<p>Check windshield, windows and canopy for cracks and secure mounting. Clean and lubricate canopy rails. Check canopy operation and locking devices.</p> <p>1/8" thick windshield found to have 3" cracks at its center forward mounting holes with fuselage coming. Windshield</p>			

	<p>was also found to be debonded from windshield bow, and windshield coming on forward fuselage. Canopy rails were found to be very dirty.</p> <p>Installed new ¼” thick windshield in accordance with LP Aero Plastic Windshield Installation Instructions. Windshield was installed with new stainless steel mounting hardware.</p> <p>Installed new windshied to canopy seal on windshied bow. Seal was installed with new stainless steel mounting hardware.</p> <p>Cleaned canopy slider rails, and lubricated rails. Cleaned, and lubricated canopy sliders.</p> <p>Installed new seal on canopy trailing edge which seals with the aft fuselage turtle deck, and also installed a new seal on forward edge of aft fuselage turtle deck which seals with inside of canopy trailing edge fairing.</p> <p>Reinstalled canopy to side rails with new stainless steel mounting hardware.</p> <p>Installed new Questair Inc Electronic OAT gage in the same location as the factory installed OAT in the windshield.</p> <p>Qt 1 LP#965 Gray Windshield, ¼” thick, PMA’d \$470.00 Qt 2 Tubes, Dow 832 sealant \$15.00 Qt A/R Dow 1200 Primer, Dow 1205 Primer \$25.00 Qt MSC Stainless Hardware \$10.00 Qt 1 AES414-2 Seal, windshield bow to canopy \$35.00 QT 1 G205 Black Seal.rear canopy to fuselage \$10.00 QT 1 G204 White Seal, rear fuselage to canopy \$10.00 Qt 1 Questair Inc Electronic OAT gage \$95.00 Parts \$675.00</p> <p>Labor 20 hours @ \$50.00 per hour \$1,000.00</p>	<p>1,000.00</p>	<p>675.00</p>	<p>BS</p>
<p>3</p>	<p>Check seat belts and shoulder harnesses for condition and secure mounting.</p> <p>Shortened hard plastic seat belt sleeves that supports front seat inboard belt latches when they are not fastened to lap belt. The excessive length of these sleeves interfered with the latching, and unlatching of front seat lap belts. Copilots shoulder harness latch to lap belt found to be installed 180 degrees out. Disassembled lower shoulder harness strap from adjustment slider and reinstalled correctly.</p> <p>Labor 1 hour @ \$50.00 per hour \$50.00</p>	<p>50.00</p>	<p>0</p>	<p>BS</p>

4	<p>Check elevator trim control for condition, secure mounting, proper operation and indication.</p> <p>Cleaned elevator trim control drive gears with mineral spirits and a tooth brush. Lubricated drive gears.</p> <p style="text-align: right;">Labor ½ hour @ \$50.00 per hour \$25.00</p>	25.00	0	BS														
5	<p>Check rudder pedal and brake system for proper operation and condition. Check brake fluid level. Replace rudder pedal springs at 1000 hours.</p> <p>Installed new rudder springs, and checked rudder rigging. Note: Next spring replacement due @ 3,440.17 tach, and total time.</p> <p>Removed all four brake master cylinders, and their flexible mounting hoses. Disassembled master brake cylinders, cleaned and inspected parts. Assembled master brake cylinders with new seals. Installed new main shaft, and parking brake lever in pilots right master cylinder. Installed master brake cylinders and adjusted parking brake in accordance with maintenance manual.</p> <p>Installed replacement flexible master cylinder hoses fabricate out of fresh hose stock.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Qt 2 601053-1 Springs Rudder</td> <td style="text-align: right;">\$18.00</td> </tr> <tr> <td>Qt 14 Seals master cylinders</td> <td style="text-align: right;">\$14.00</td> </tr> <tr> <td>Qt 1 A-468-A Shaft, master cylinder</td> <td style="text-align: right;">\$100.00</td> </tr> <tr> <td>Qt 1 A-147-A Lever, Parking brake</td> <td style="text-align: right;">\$25.00</td> </tr> <tr> <td>Qt 6 12" 303-4 Hoses</td> <td style="text-align: right;">\$150.00</td> </tr> <tr> <td style="text-align: right;">Parts</td> <td style="text-align: right;">\$407.00</td> </tr> <tr> <td style="text-align: right;">Labor 8 hours @ \$50.00 per hour</td> <td style="text-align: right;">\$400.00</td> </tr> </table>	Qt 2 601053-1 Springs Rudder	\$18.00	Qt 14 Seals master cylinders	\$14.00	Qt 1 A-468-A Shaft, master cylinder	\$100.00	Qt 1 A-147-A Lever, Parking brake	\$25.00	Qt 6 12" 303-4 Hoses	\$150.00	Parts	\$407.00	Labor 8 hours @ \$50.00 per hour	\$400.00	400.00	407.00	BS
Qt 2 601053-1 Springs Rudder	\$18.00																	
Qt 14 Seals master cylinders	\$14.00																	
Qt 1 A-468-A Shaft, master cylinder	\$100.00																	
Qt 1 A-147-A Lever, Parking brake	\$25.00																	
Qt 6 12" 303-4 Hoses	\$150.00																	
Parts	\$407.00																	
Labor 8 hours @ \$50.00 per hour	\$400.00																	
6	<p>Check control "T" for secure mounting and adequate clearance from other equipment.</p> <p>The windshield being out for replacement allowed for the extensive cleaning of the control "T", chains, control cables, pulleys, ect.</p> <p style="text-align: right;">Labor 1 hour @ \$50.00 per hour</p>	50.00	0	BS														
7	<p>Check chains, cables, pulleys, turnbuckles and cable ends for condition, secure attachment and safeties. Specifically check cables at pulleys for fraying while actuating controls through full travel. (Max. of four broken wires acceptable)</p> <p>Control wheels found to be out of rig in roll, both wheels are not in neutral when ailerons are in neutral. Excessive slop found in aileron control system. Aileron control chain</p>																	

	<p>Installed new defroster duct outlets in instrument panel cover. Installed new Scat Aero Ducting, defroster ducting, and verified it did not interfere with control system.</p> <p>Qt 2 Defroster outlets \$60.00 Qt 6' 1 1/2" Scat Aero Ducting \$18.00 Parts \$78.00</p> <p>Labor 1 hour @ \$50.00 per hour \$50.00</p>	50.00	78.00	BS
23	Check and verify correct quantity and rating of spare fuses mounted in right side of glove box.	0	0	BS
TOTAL CABIN GROUP		2,525.00	1,583.25	
D	FUSELAGE AND EMPENNAGE GROUP	LABOR	PARTS	INSP
1	Remove tailcone and empennage covers.	0	0	BS
2	<p>Inspect emergency locator transmitter for security, operation, and battery expiration date.</p> <p>Note: Current ELT Battery expires Mar-2003</p> <p>ELT Make: Ameri-King Corp Model: AK450 Serial Number: 456 058eLT marked 4500010, TSOC91P</p> <p>In order to clean, and inspect aft fuselage bay sections the ELT, its mounting Bracket , and mounting bulkhead were removed.</p> <p>ELT mounting bracket, and mounting bulkhead were cleaned, glass beaded, and alodined.</p> <p>To aid in removal of ELT, and its mounting bracket in future for inspections of aft fuselage, the ELT mounting bulkhead was made easily removable by installing it with four 10-32 machine screws, and 10-32 nut plates that were installed in aft fuselage panel for these mounting screws.</p> <p>Note the 10-32 machine screws installed are stronger then the 1/8" Avex rivets original used to mount the ELT mounting bulkhead to aft fuselage panel.</p> <p>ELT bracket was installed to mounting bulkhead with new mounting hardware.</p> <p>Qt 4 10-32 nut plates \$4.00</p> <p>Labor 1 hour @ \$50.00 per hour \$50.00</p>	50.00	4.00	BS
3	<p>Inspect exterior surfaces for condition and damage. Check all drain holes in the fuselage bottom for obstructions.</p> <p>The floor of the aft fuselage mays were found to be very</p>			

	<p>at bearing supports is 0.030 in. reduction in wall thickness.</p> <p>Rudder hinges bushings were found to have excessive wear. Removed rudder from aircraft. Cleaned, glass beaded, and alodined rudder hinge supports. Polished rudder hinge torque tubes. Installed, and sized new rudder hinge bushings.</p> <p>Cleaned, and painted rudders top rib that is used for rudder cap mounting. Installed rib with new mounting hardware.</p> <p>Installed new Whelen Strobe head on rudder in accordance with previously accomplished STC'd installation of the Whelen Strobe system which replaced the original Aero Flash, flashing beacon.</p> <p>Installed Translucent Red Rudder Cap conversion in accordance with Aircraft Developments Corp STC, and Installation Instructions. Rudder rebalanced in accordance with STC, and Grumman maintenance manual.</p> <p>Installed new rudder to airframe grounding strap.</p> <p>Installed rudder hinge supports, and rudder cap with new mounting hardware.</p> <p>Prior to its installation the rudder control horn was cleaned, glass beaded, inspected, and zinc-chromated.</p> <p>Rudder control cable were attached to rudder control horn with new clevis bolts, and castle nuts.</p> <p>Rudder tim tab mounting rivets were found to be loose. Rivets were reset with a flush set in a rivet squeezer.</p> <table data-bbox="147 1121 1023 1411"> <tr> <td>Qt 2 902013-1Bushings, rudder hinge</td> <td>\$22.00</td> </tr> <tr> <td>Qt 1 Red Rudder Cap&STC Aircraft Development</td> <td>\$300.00</td> </tr> <tr> <td>Qt 1 A635 Strobe head, Whelen, 01-0770058-03</td> <td>\$160.00</td> </tr> <tr> <td>Qt 1 5402006-501Strap assy, ground</td> <td>\$5.00</td> </tr> <tr> <td>Qt Misc AN hardware</td> <td>\$10.00</td> </tr> <tr> <td>Qt 2 AN23-11Clevis bolts</td> <td>\$4.00</td> </tr> <tr> <td>Qt 2 AN310-3 Castle nuts</td> <td>\$2.00</td> </tr> <tr> <td style="text-align: right;">Parts</td> <td>\$404.00</td> </tr> </table> <p style="text-align: right;">Labor 8 hours @ \$50.00 per hour \$400.00</p>	Qt 2 902013-1Bushings, rudder hinge	\$22.00	Qt 1 Red Rudder Cap&STC Aircraft Development	\$300.00	Qt 1 A635 Strobe head, Whelen, 01-0770058-03	\$160.00	Qt 1 5402006-501Strap assy, ground	\$5.00	Qt Misc AN hardware	\$10.00	Qt 2 AN23-11Clevis bolts	\$4.00	Qt 2 AN310-3 Castle nuts	\$2.00	Parts	\$404.00	<p style="text-align: right;">400.00</p>	<p style="text-align: right;">404.00</p>	<p style="text-align: right;">BS</p>
Qt 2 902013-1Bushings, rudder hinge	\$22.00																			
Qt 1 Red Rudder Cap&STC Aircraft Development	\$300.00																			
Qt 1 A635 Strobe head, Whelen, 01-0770058-03	\$160.00																			
Qt 1 5402006-501Strap assy, ground	\$5.00																			
Qt Misc AN hardware	\$10.00																			
Qt 2 AN23-11Clevis bolts	\$4.00																			
Qt 2 AN310-3 Castle nuts	\$2.00																			
Parts	\$404.00																			
7	<p>Check elevator trim mechanism for damage, secure mounting and proper operation.</p> <p>Left elevator trim tab control arm mounting rivets found to be loose in trim tab inboard rib end.</p> <p>Removed trim tab arm from trim tab. Control arm was cleaned, glass beaded, inspected, and zinc-chromated. Control arm was installed with over size Cherry Max rivets.</p> <p>Installed new Clevis bolts, and nut at elevator trim tab control arm pivots.</p> <p>Installed new Clevis bolts, washers, and nuts on elevator trim control arm to trim mechanism, and lubricated roller bearing.</p>																			

	<p>Qt 3 MS20470AD4-5 Cherry Max rivets \$6.00 Qt 2 AN23-8 Clevis bolts \$4.00 Qt 2 AN23-10 Clevis bolts \$4.00 Qt 4 AN310-3 Nuts castle \$2.00 Parts \$17.00</p> <p>Labor 1 ½ hours @ \$50.00 per hour \$75.00</p>	75.00	17.00	BS
8	<p>Check rudder and elevator cables and pulleys for damage, proper operation and safeties. Check bellcrank attaching bolts for wear.</p> <p>Replaced rusted rudder pulley mounting brackets, to forward horizontal stabilizer thru spar with new AN hardware.</p> <p>Qt 8 AN3-5A Bolts \$4.00 Qt 8 MS20365-1032 Nuts, self locking \$4.00 Parts \$8.00</p> <p>Labor 1 hour @ \$50.00 per hour \$50.00</p>	50.00	16.00	BS
9	Lubricate per lubrication chart. (Chapter 12)	0	0	BS
10	<p>Inspect antenna mountings, wiring and electronic installations.</p> <p>Wiring for the strobe power supply, ELT, and tail cone mounted navigation light were found to be in contact with control cables in aft fuselage bay. Many of the wiring harness mounting plastic clips had become detached from aircraft structure. Ground connections to the aft fuselage bay upper pan were corroded.</p> <p>Relocated previously installed Whelen Strobe Power Supply from bottom of aft fuselage bay upper pan, to top of aft fuselage bay upper pan to insure clearance between it's wiring, and the aircrafts control cables. 10-32 nut plates were installed in aft fuselage bay upper pan to allow easy installation and removal of strobe power supply for inspection of aft fuselage in the future. Power supply was installed with new mounting hardware.</p> <p>Reduced length of strobe power supply to strobe head wiring harness which was excessively long, installed new ground terminals to wiring harness, and connected ground terminals to airframe with new hardware. Reduced length of ELT switching harness which was excessively long.</p> <p>Replaced or reattached, detached wiring harness mounting plastic clips in aft fuselage. Secured wiring harnesses with</p>			

	<p>Qt 1 5604005-501 Drive arm assy flap \$145.00 Qt 2 5901005-2 Bolts flap drive arm \$30.00 Qt 4 AN3-4A Bolts, outboard flap hinge \$2.00 Qt 4 AN3-5A Bolts, outboard aileron hinge \$2.00 Qt 4 MS20365-1032 Nuts, outboard aileron hinge \$2.00 Parts \$389.00</p> <p>Labor 8 hours @ \$50.00 per hour \$400.00</p>				
		400.00	389.00	BS	
4	<p>Check fuel vents and connecting lines for damage and restrictions.</p> <p>Installed new left fuel sump to fuel tank vent splice hose.</p> <p>Qt 4" 5200003-17 Tube, Hose vent \$1.00</p> <p>Labor ½ hour @ \$50.00 per hour \$25.00</p>				
		25.00	1.00	BS	
5	<p>Check fuel tanks, sump tanks, and lines for evidence of leakage. Check sump tanks and lines for secure mounting.</p> <p>Installed new left fuel sump drain valve.</p> <p>Qt 1 CAV-110H-4 Drain valve Parker SAF-AIR \$20.00</p> <p>Labor ¼ hour @ \$50.00 per hour \$12.50</p>				
		12.50	20.00	BS	
6	<p>Check fuel cap gaskets for airtight seal.</p> <p>Lubricated cap gaskets with fuel proof grease.</p> <p>Labor \$N/C</p>				
		0	0	BS	
7	<p>Check wing and outboard wing section attaching bolts. Torque to 60-85 in. lb.</p> <p>Wing bolt torque checked, and stripe of yellow torque seal placed on heads of bolts.</p> <p>Labor \$N/C</p>				
		0	0	BS	
8	<p>Inspect fuel tank placards.</p> <p>Installed new fuel tank placards in accordance with Precision Engine STC SE 683NE.</p> <p>Qt 2 5803007-114 Placards fuel tanks, 100 oct. min \$12.00</p> <p>Labor ½ hour @ \$50.00per hour \$25.00</p>				
		25.00	12.00	BS	

9	<p>Check pitot heating element for proper operation (if installed).</p> <p>Pitot tube and its mounting bracket found to be bent, and rusted. Removed pitot tube and its mounting bracket from left wing tip.</p> <p>Mounting bracket was cleaned, glass beaded, inspected, zinc-chromate, and painted with white enamel. Servicable pitot tube installed to mounting bracket. Tube, and mounting bracket installed on wing with new mounting hardware.</p> <p>Qt 1 AN3-5A Bolt \$\$.50 Qt 1 MS20365-1032 Nut \$.50 Qt 1 AN970-3 Washer \$.25 Qt 1 401010-501 Pitot tube assy \$75.00 Parts \$76.25</p> <p>Labor 1 hour @ \$50.00per hour \$50.00</p>	50.00	76.25	BS
10	<p>Check pitot tube opening and lines. Drain accumulated moisture.</p> <p>Installed new vinyl pitot hose in left wing tip. Installed hose with new clamps and mounting hardware.</p> <p>Qt 3' 1/4" ID vinyl hose \$3.00 Qt 1 MS21919WDG4 Adel cushion clamp \$1.00 Parts \$4.00</p> <p>Labor 1/4 hour @ \$50.00 per hour \$12.50</p>	12.50	4.00	BS
11	<p>Check for interior corrosion of skin indicated by a white flaking ash.</p>	0	0	BS
12	<p>Reinstall wing tips, and wing inspection panels.</p> <p>Wing tips were installed with new stainless steel mounting screws, and clip nuts were replaced as required.</p> <p>Wing inspection panels were installed with new stainless steel mounting screws.</p> <p>Qt 48 AN507C1032R8 Machine screws, wing tip \$4.80 Qt 12 LHA4972-1032 Clip nuts, wing tips \$12.00 Qt 48 507C1032R8 Machine screws, insp panels \$4.80 Qt 24 AN526C-832R8 Machine screws \$2.40 Parts \$24.00</p> <p>Labor 1 hour @ \$50.00 per hour \$50.00</p>	50.00	24.00	BS
TOTAL WING GROUP		625.00	528.75	
F	MAIN LANDING GEAR GROUP	LABOR	PARTS	INSP

	<p>bolts.</p> <p>Installed wheel pants to inboard brackets with new AN3 mounting hardware.</p> <p>Installed missing wheel pant mounting pivot bushing.</p> <p>Qt 1 5804022-7 Mud scraper \$30.00 Qt 1 804019-504 Strap, mud scrapper mounting \$20.00 Qt 3 AN3-5A Bolts scraper mounting \$1.50 Qt 1 Pint White Color Guard Paint \$8.00 Qt 2 AN6-14A Bolts bracket pivots \$2.00 QT 16 AN3-5A Bolts, pant mounting \$8.00 Qt 1 804056-2 Bushing pant mounting \$25.00</p> <p style="text-align: right;">Parts \$94.50</p> <p style="text-align: right;">Labor 3 hours @ \$50.00 per hour \$150.00</p>				
TOTAL MAIN LANDING GEAR GROUP		450.00	94.50		BS
G	NOSE GEAR GROUP	LABOR	PARTS		INSP
1	Check nose gear strut for secure mounting, deformation, damage and cracks.	0	0		BS
2	<p>Remove nose gear strut from torque yoke and inspect for corrosion of the faying surfaces every 12 calendar months. Remove corrosion if present, paint surfaces with zinc-chromate and reassemble wet. Seal strut to yoke connection with RTV-102 by DOW CORNING.</p> <p>Removed nose gear strut from its mounting yoke on firewall. Remove nose wheel pant, nose wheel, and fork from nose strut. Nose strut fairing was removed from nose strut.</p> <p>Strut was cleaned, glass-beaded, inspected, and fork spindle was polished. Strut was zinc-chromated, and painted with white enamel. Strut was installed and sealed to yoke connection with RTV.</p> <p style="text-align: right;">Labor 2 hours @ \$50.00 per hour \$100.00</p>	200.00	0		BS
3	<p>Remove and check nose gear fork for deformation, wear and cracks. Maximum fork to strut bearing clearance is 0.035 in.</p> <p>Nose gear fork was cleaned, glass-beaded, inspected, and alodined.</p> <p style="text-align: right;">Labor 1 hours @ \$50.00 per hour \$50.00</p>	50.00	0		BS
4	Grease fork and friction dampener, assemble to strut and tighten to 10-22 lb. drag at axle.				

	<p>Greased strut fork spindle, and fork spindle bearings. Installed new strut spindle to fork seal. Adjusted pre load on strut to fork seal. Greased and installed Bellville friction dampener washers, and plain mounting washers. Adjusted tension on dampener, and installed new locking cotter pin.</p> <p>Qt 1 MS28775-224 O-ring seal \$1.00 Qt 1 702054-5 Plain washer \$10.00 Qt 1 AN960-1016 Plain washer \$.50 Qt 1 MS24665-353 Cotter pin \$.50 Parts \$12.00</p> <p>Labor N/C</p>	0	12.00	BS
5	<p>Remove nose wheel, check for cracks, clean, inspect, and repack bearings, reinstall wheel and safety axle at first 100 hours and each 500 hours thereafter. Inspect wheel bearing grease for contamination and solidification at each annual or 100 hour inspection. For operation in dusty areas or areas of high humidity, repack every 100 hours. Perform a complete wheel inspection when tire is replaced.</p> <p>Cleaned wheel with mineral spirits, and Scotch Brite pads. Cleaned, inspected, and repacked wheel bearings with grease. Installed new axel castle nut, and self locking nut.</p> <p>Labor N/C</p>	0	0	BS
6	Inspect nose wheel for cracks, corrosion, and loose or broken bolts.	0	0	BS
7	Check tire for approved type, wear, and proper inflation.	0	0	BS
8	<p>Check wheel fairing for damage and secure mounting (if installed).</p> <p>Installed nose wheel pant to nose fork with new mounting hardware. Installed new nose wheel pant to strut fairing with new mounting hardware. Glued new nose strut faring to trailing edge of nose strut.</p> <p>Qt 2 AN4-7A Bolts \$1.00 Qt 2 AN5-10A Bolts \$1.00 Qt 1 804019-22 Gasket \$9.00 Qt 1 5702001-2 fairing \$20.00 Parts \$31.00</p> <p>Labor 1 hours @ \$50.00 per hour \$50.00</p>	50.00	31.00	BS
TOTAL NOSE GEAR GROUP		300.00	43.00	

H	OPERATIONAL INSPECTION	LABOR	PARTS	INSP
1	Check brake operation (including parking brake).	0	0	BS
2	Check fuel primer operation and lines for leaks.	0	0	BS
3	Check booster pump operation. Electric 4.5 PSI	0	0	BS
4	Check fuel pressure. Engine only 4.7 PSI, Electric & Engine 4.7 PSI	0	0	BS
5	Check starter for proper operation.	0	0	BS
6	Check oil pressure and temperature. 650 RPM= 68 PSI oil Pressure 2,500 RPM=85 PSI oil pressure	0	0	BS
7	Check engine controls for proper operation. Check throttle control for proper cushion.	0	0	BS
8	Check magneto operation; both ON, left OFF; both ON, right OFF; both ON. (Maximum magneto drop 175 RPM with 50 RPM maximum difference between magnetos). With engine at idle, turn switch to OFF position momentarily to check magneto grounding. 90 RPM drop on both left and right magneto's	0	0	BS
9	Check engine static RPM: 2250-2375, Model AA-5 and AA-5A Static RPM = 2,375	0	0	BS
10	Check carburetor heater for proper operation.	0	0	BS
11	Check alternator output.	0	0	BS
12	Check suction gauge and vacuum system output 4.6 to 5.4 in Hg. 5.1 In Hg @ 1,800 RPM and up	0	0	BS
13	Check fuel selector valve operation and indexing.	0	0	BS
14	Check heating, defrosting and ventilating system for proper operation.	0	0	BS
15	Check radio for proper operation.	0	0	BS
16	Check engine mixture setting and idle speed: 600-650 RPM, Model AA-5 and AA-5A; Idle speed = 650 RPM	0	0	BS
17	Check idle cut off on carburetor for proper operation. OK, 30 RPM rise @ ICO	0	0	BS

18	Check ailerons for proper operation.	0	0	BS
19	Check elevators and trim tabs for proper operation.	0	0	BS
20	Check flaps for proper operation.	0	0	BS
21	Check fuel quantity gauges for condition and proper operation.	0	0	BS
22	Check interior lights for proper operation and adjustment.	0	0	BS
23	Check navigation and anti-collision lights for proper operation and landing lights for proper operation and adjustment.	0	0	BS
24	Check pitot heat for proper operation.	0	0	BS
25	Check stall warning device for operation.	0	0	BS
26	Inspect engine after ground run-up. Flight test and inspect for oil leaks and secure mounting of all components.	0	0	BS
TOTAL OPERATIONAL INSPECTION		0.00	0.00	
I	GENERAL	LABOR	PARTS	INSP
1	Aircraft cleaned and serviced. Interior vacuumed, exterior washed, and windows cleaned	0	0	BS
2	Aircraft conforms to FAA Specifications.	0	0	BS
3	All FAA Airworthiness Directives complied with.	0	0	BS
4	All manufacturers' Service Letters and Bulletins complied with.	0	0	BS
5	Checked for proper Owners Manuals or Pilots Operating Handbook. Supplemental pilot operating manual installed in operation manual in accordance with Precision engine STC SA683NE	0	0	BS
6	Aircraft papers in proper order. Make log book entry.	0	0	BS
TOTAL GENERAL		0.00	0.00	

“END INSPECTION”

UNSCHEDULED MAINTENANCE CHECKS—DESCRIPTION/OPERATION

1. General

Following a hard landing, certain items and systems of the aircraft should be inspected for subsequent damage. Applicable groups in Figure 201, 5-2-1 should be used as a guideline when performing the unscheduled inspections required as a result of unusual circumstances. For example, if the landing gear requires an unscheduled inspection, each procedure listed under the landing gear group should be completed.

	LABOR	PARTS
TOTAL PILOT/OPERATOR SQUAWKS AND OPTIONS	5,200.00	12,980.00
TOTAL PROPELLER GROUP	0.0	615.00
TOTAL ENGINE GROUP	662.50	3,634.00
TOTAL CABIN GROUP	2,525.00	1,583.25
TOTAL FUSELAGE AND EMPENNAGE GROUP	1,325.00	867.20
TOTAL WING GROUP	625.00	528.75
TOTAL MAIN LANDING GROUP	450.00	398.50
TOTAL NOSE GEAR GROUP	200.00	43.00
TOTAL OPERATIONAL INSPECTION	0	0
TOTAL GENERAL	0	0
	10,987.50	20,649.7
	TOTAL LABOR	TOTAL PARTS

BASE INSPECTION PRICE 60 hours @ \$50.00 per hour \$3,000.00 – 50%=\$1,500.00	1,500.00
EXTRA LABOR REQUIRED FOR DISCREPANCIES AND EXTRA SERVICES (TOTAL LABOR)	10,987.50
EXTRA PARTS REQUIRED FOR DISCREPANCIES AND EXTRA SERVICES (TOTAL PARTS)	20,649.70
VENDOR WORK	0.0
FUEL 100 oct. 1-7-2003 Mid America Jet, Owensboro, KY 15.9 gallons \$42.28 1-7-2003 Dubois County, Huntingburg, IN. \$57.33 1-8-2003 Owensboro Aviation, Owensboro, KY 4.3 gallons \$11.44 Total fuel \$111.05	111.05

STATE SALES TAX (6% PARTS ONLY) Delivered out of state to Dubois County Flight Services, located at Dubois County Airport, in Huntingburg, IN. on 1-7-03	0
TOTAL DUE	33,248.25
DEPOSITS 4-29-02 Check number _____ in the amount of _____ \$8,000.00 5-2-02 Check number _____ in the amount of _____ \$2,000.00 8-12-02 Wire transfer to Precision in the amount of _____ \$4,000.00 10-15-02 Wire transfer to Precision in the amount of _____ \$7,000.00 10-15-02 Wire transfer to Precision in the amount of _____ \$4,000.00 12-23-02 Wire transfer to Precision in the amount of _____ \$3,000.00 Total Deposits _____ \$28,000.00	-28,000.00
BALANCE DUE 3-20-03 Wire Transfer to Precision in the amount of 5,248.25 paid in full	5,248.25

I certify that this aircraft and engine has been inspected in accordance with a 100 Hr/Annual inspection and was determined to be in airworthy condition. Pertinent details of this inspection are on file at this agency under work order number: 1640

Tach-O-Meter	2,440.17
Hobbs Meter	2,576.2
Total Time	2,440.17
Engine since major overhaul	0.0
Date	1-7-03
Signed	William Scott
	AP-IA 084507914