

Manufacturer: Textron Lycoming

Model IO-360 A3B6D

Serial: L-25961-51A

Type Certificate: 1E10-19

**This engine is currently installed
in aircraft:** M20J N192MK

Minimum Octane Fuel:
100/100LL

Oil Grade *Summer:* 50W
Winter: 40W

Magneto Time: 25° BTC

Spark Plug Gap: .016 - .021

Firing Order: 1-3-2-4

**Manufacturer's Recommended
TBO at 2000 hours**

ler

Comments: GAMI NOZZLES INSTALLED PREVIOUSLY PER STC
#SE09445SC

YEAR

DATE

This Document Is To Serve As Certification of
Major Overhaul and Block Test Run by
Certified Engines Unlimited, Inc.

and Alterations

ificate Number of
r specific entries.)

MFG. TEXTRON LYCOMINGMODEL 10-360A3B6DSERIAL # L-25861-51ATOTAL TIME 1443.5 HRS.AD. NOTES: C/W SEE REAR OF LOG

PERTINENT DETAILS OF THE WORK PERFORMED ARE ON FILE AT THIS AGENCY UNDER

INV/WO # 46118/25313DATE 5/5/06

SIGNATURE OF AUTHORIZED INDIVIDUAL

FOR CERTIFIED ENGINES UNLIMITED, INC.

4000 N.W. 145th Street, Airport, Opa-Locka, Florida 33054

Phone: (305) 685-8331 Fax: (305) 681-8027

JAB 145 APPROVED

FAA CRS# KG4R309M

SERVICEABLE**CERTIFIED
ENGINES
UNLIMITED, INC.**4000 N.W. 145 St. - Airport
Opa-Locka, Fla. 33054
Phone: (305) 685-8331
Fax (305) 681-8027

FAA Approved Repair Station No. KG4R309M

Part Name ENGINEPart No. 10-360A3B6D L-25861-51AInvoice/Work Order# 46118/25313Remarks 0' SINCE MAJOR OVERHAUL
& TEST RUNDate 5/5/06Inspector [Signature]

YEAR

DATE

CERTIFIED ENGINES UNLIMITED, INC.

FAA CRS# KG4R309M
4000 N.W. 145th Street, Airport, Opa-Locka, Florida 33054
Phone: (305) 685-8331

LIMITED OVERHAUL WARRANTY

1. **Subject Matter and Scope of Warranty.** Certified Engines Unlimited, Inc. (hereafter referred to as "CEU") warrants each overhauled engine to be free from defects in material workmanship. This Warranty is expressly subject to the terms and conditions set forth below and shall not apply outside the operational periods listed or to any engine which has been subject to misuse, neglect, accident or damage from the elements or which has been installed, repaired, maintained or altered in any manner which in the judgment of CEU has had an adverse effect on the performance or reliability of engine or part.

2. **Time Limits.** This Warranty for parts and labor, extends for a period of nine (9) months from the date of service or two hundred (200) hours, whichever occurs first. An additional prorated warranty extends, parts only, to six hundred (600) hours on direct engines, and four hundred (400) hours on geared engines. Certified Engines Unlimited considers the frequent use and operation of an engine to be an integral factor in extending engine life. For this reason, CEU considers warranty hours based upon a minimum usage of 30 hours a month, regardless of actual operation hours.

3. **Express Conditions.** As a time and condition of this Warranty, the customer is required to follow factory recommended service procedures and maintenance guidelines.

4. Proper maintenance logbooks are to be kept by and maintained by the customer and shall be furnished to CEU on demand as a condition of the Warranty.

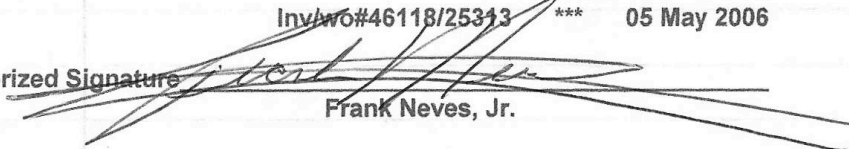
5. **Limitations and Exclusions.** All parts and labor are to be approved by CEU prior to commencement of work under this Warranty. CEU is responsible only for the cost of reasonable labor and materials necessary to repair or replace the parts CEU determines to be defective in material or workmanship at CEU's place of business, located at Opa-Locka, Florida. Under no circumstances shall CEU be responsible for charges in the removal and reinstallation of defective parts or engines.

6. **THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND REPRESENTATIONS, EXPRESS OR IMPLIED, OR STATUTORY, WHETHER WRITTEN OR ORAL, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS AND FOR ANY PARTICULAR PURPOSE, AND ANY IMPLIED WARRANTY ARISING FROM ANY COURSE OF PERFORMANCE OR DEALING OR TRADE USAGE. THIS WARRANTY IS ALSO IN LIEU OF ANY OTHER OBLIGATION, LIABILITY, RIGHT OF CLAIM, WHETHER IN CONTRACT OR IN TORT, INCLUDING ANY RIGHT IN STRICT LIABILITY IN TORT OR ANY RIGHT ARISING FROM NEGLIGENCE ON THE PART OF CEU, AND CEU'S LIABILITY ON SUCH CLAIM SHALL IN NO CASE EXCEED THE PRICE ALLOCABLE TO THE ENGINE OR PART WHICH GIVES RISE TO THE CLAIM.**

7. **LIMITATION ON LIABILITY.** IN NO EVENT, WHETHER AS A RESULT OF A BREACH OF WARRANTY, CONTRACT OR ALLEGED NEGLIGENCE, SHALL CEU BE LIABLE FOR SPECIAL OR CONSEQUENTIAL OR ANY OTHER DAMAGE, INCLUDING BUT NOT LIMITED TO, LOSS OF PROFITS OR REVENUES, LOSS OR USE OF THE ENGINE OR AIRCRAFT OR COST OF REPLACEMENT, PERSONAL INJURY OR FATALITIES, OR FLIGHT DELAYS OR CANCELLATIONS.

8. **CRACKED CYLINDERS AND CRANK CASES ARE EXCLUDED FROM ALL WARRANTIES UNLESS IT CAN BE DETERMINED THAT THE DAMAGE IS A DIRECT AND PROXIMATE RESULT OF IMPROPER WORKMANSHIP BY CEU. ACCESSORY ITEMS ARE TO BE WARRANTED BY VENDOR OF SUCH ITEMS.**

YEAR DATE	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
				<div style="text-align: right;">  </div> <div style="text-align: center;"> <h2>MAINTENANCE RELEASE</h2> <p>FAA CRS# KG4R309M</p> <p>The aircraft engine and/or component identified was repaired and inspected in accordance with current Federal Air Regulations and was found airworthy for return to service.</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p>CAUTION!</p> <p>This engine has been run according to factory recommended procedures. Avoid prolonged ground run or slow flight as this causes new engine damage and will void warranty. For proper warranty coverage consult Certified Engines before any repairs or adjustments are made on the engine.</p> </div> <div style="width: 48%;"> <p>CAUTION!</p> <p>Warranty will be voided if all oil fed accessories are not cleaned, tagged and recorded in logbook at time of engine overhaul. eg. prop, prop governor, oil cooler, oil tank, & all fuel & oil lines.</p> </div> </div> <p>Pertinent details of the repair are on file at this agency under:</p> <p>INV/WO# <u>46118/25313</u> Date <u>5/5/06</u></p> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div> <p>Signed </p> <p>(Signature of authorized individual)</p> </div> <div> <p>For: <u>Certified Engines Unlimited</u></p> </div> </div> </div>

YEAR DATE	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
				<p>05 May 2006</p> <p>This engine model Lycoming IO-360 A3B6D, s/n L-25961-51A, was Major Overhauled by Certified Engines Unlimited Inc. of Opa Locka, Florida according to factory recommended procedures, specifications, limits & pertinent Federal Aviation Regulations.</p> <p>All internal steel parts were magnafluxed by Gold Coast Aero Accessories, CRS #GCDR387X & all non-ferrous materials were checked for cracks. All the guidelines from the Lycoming Table of Limits SSP#1776 & Overhaul Manual #60294-7-9 were followed at time of overhaul.</p> <p>The magneto is a factory rebuilt 3000 series unit. The starter was OHC by Executive Accessories, CRS#RL4R496M. The alternator was OHC by Kelly Aerospace, CRS #UT2R226L. The fuel pump was OHC by Aero Accessories, CRS#YV4R688M. The flow divider & servo fuel injector OHC by Avstar Aircraft Accessories, CRS #V1RR580Y. All 4 GAMI nozzles were cleaned, flowed, & re-certified by GAMI. All tags received from the accessory suppliers are located at the rear of this logbook.</p> <p>The camshaft reground to manufacturer specifications by Rock Aviation, CRS#RA7R115J. Four IFR Freedom cylinder assemblies, OHC by ECI, CRS #AG2R689K, a new ignition harness & a new set of spark plugs were installed.</p> <p style="text-align: right;"> Certified Engines Unlimited Inc. ** Opa Locka Airport, Florida USA FAA CRS#KG4R309M Inv/WO#46118/25313 *** 05 May 2006 </p> <p> Authorized Signature  Frank Neves, Jr. </p>

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05 May 2006

All recommended parts listed in the Lycoming Overhaul Manual & Service Bulletin SB#240S were installed at time of this overhaul....(see list below):

*FAA-PMA Parts are frequently substituted for Textron-Lycoming factory parts.

QUANTITY	PART NO.	DESCRIPTION
1	SL61084	OIL PRESSURE RELIEF SPRING
1	05K19423-S	OIL PUMP IMPELLER KIT
4	LW-14078	PISTON PIN
1	LW-10342	OIL PUMP HOUSING
8	SL72626	ROCK AXLE SHAFT
4	SL13923A	CONN ROD BUSHING
1	MS16625-1081	CLIP
8	SL14820	RET RING
2	SL72797	C/W ROLLER
2	SL14W21696	C/W ROLLER
1	LW-10284M	C/S GEAR, MODIF.
8	72198	PISTON PIN PLUG
4	AE1STD2180	SEAL, FUEL PUMP OIL
8	SL12596	ROD BOLT
8	SL12186	CONN ROD NUT
1	AN565B1032H5	SET SCREW
1	SL53E19600	VERNATHERM, VALVE
1	M2915	DUAL HARNESS
1	MS9144-01	PROP GOVERNOR GASKET
8	SL71907A	C/WEIGHT RET WASHER
4	SL31-0.94	BOLT
8	SL67114	ROCKER ARM BUSHING
4	SL16266-10-75	INJECT LINE CLAMP
2	SL16266-10-13	INJECT LINE CLAMP
4	ECI	ECI OH'D IFRFREEDOM CYL ASSYS

Certified Engines Unlimited Inc. ** Opa Locka Airport, Florida USA

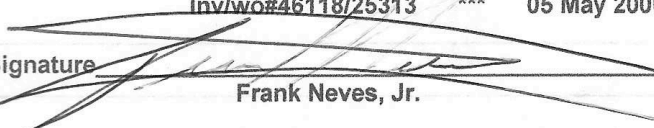
FAA CRS#KG4R309M

Inv/wo#46118/25313

*** 05 May 2006

Authorized Signature

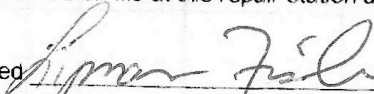
Frank Neves, Jr.

YEAR DATE	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
	05 May 2006			<p>After final assembly, this engine was run-in for a period of three hours with all temperatures, pressures, & performances within those limits as prescribed by the factory.</p> <p>All airworthiness directives complied with at major overhaul are listed at the rear of this logbook. This engine is airworthy & acceptable for return to normal service.</p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p><i>This Engine Is Equipped With</i></p> <h1>GAMIjectors®</h1> <h2>Performance Fuel Injection</h2> <p>NOTE: Fuel Injector Nozzle Location Is Specific To Each Cylinder. Refer To Individual Cylinder/Injector Identification When Removing/Installing Nozzles.</p> <p>General Aviation Modifications, Inc. 2800 Airport Rd. - Ada, OK 74820 - (580)436-4833</p> </div> <p style="text-align: right;">CIP</p>
				<p>Certified Engines Unlimited Inc. ** Opa Locka Airport, Florida USA FAA CRS#KG4R309M Inv/wo#46118/25313 *** 05 May 2006</p>
				<p>Authorized Signature  Frank Neves, Jr.</p>

YEAR DATE	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
5/24/06				Installed on Mooney M20J S/N 24-3264
Tach	1443.5			with new land mounts & bolts. New hoses,
SMOH	0			off Alternator, starter, magnetos & fuel servo.
Total	1443.5			Serviced with Aeroshell 100 mineral oil.
				Set idle speed & mixture. Checked ADS thru
				06-09. I have inspected this engine in accordance
				with an annual inspection and find it
				to be in airworthy condition. John R. Kidd
				262536153 JIA
9/19/06				Changed oil & Filter. Added 8qts. Aeroshell
Tach	1471.7			mineral oil. Inspected Engine installation.
SMOH	28.2			Ground Run, NO leaks Found. Frank King ATP300304977
02/06/07	1498.8			OIL CHANGED AND FILTER. ADDED 8QTS OF AERO-
				SHELL 100 PLUS. GROUND RUN & CHECKED FOR
				LEAKS.
				Angela May A9P2557040

YEAR DATE	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
5/10/07	1520.8			COMPRESSION CHECKED ¹ 76/80, ² 76/80, ³ 76/80
SMOH:	77.3		⁴ 75/80	CHANGED OIL AND FILTER. CLEANED, GAPPED &
TOTAL:	1520.8		ROTATED	SPARK PLUGS. CHECKED MAG TIMING TO ENGINE.
			CLEANED	INJECTOR & SCREEN. INSPECTED EXHAUST SYS.
			COMPUED	W/ AD 02-26-01. CHECKED ADS THRU 2007-13.
			SERVICED	ENGINE W/ 8 QTS. OF AEROSTELL W100 PLUS.
			1 CERTIFY	THAT THIS ENGINE HAS BEEN INSPECTED I.A.W/
			AN ANNUAL	INSPECTION AND WAS DETERMINED TO BE IN
			AIRWORTHY	CONDITION.
				<i>myalun</i> IA2857040
4/23/08	1550.5		Changed	oil and filter. Serviced engine with 8 qts of Aeroshell
				100 Plus. Ran engine and leak checked.
				<i>CP</i> A+P 58009913

[illegible]

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				<p>EPPS Aviation</p> <p>AIRCRAFT REG: 192MK DATE: 3/10/09</p> <p>MFG: MOONEY WORK PACKAGE: P1687</p> <p>MODEL: M20J TACH TIME</p> <p>SERIAL: 24-3264 ENG TOTAL TIME:</p> <p>HOURLY METER: 1615.5 TSMOH:</p> <p>DRAINED OIL, REMOVED FILTER CUT OPEN. FILTER APPEARED NORMAL. SERVICED 8 QTS OF A/S 15W50 OIL AND NEW AA48103 FILTER PER SECTION 5 OF LYCOMING 360 SERIES OPERATORS MANUAL OPS AND LEAK CHECK GOOD.</p> <p>The aircraft, airframe, engine, propeller or appliance identified above was repaired and inspected in accordance with current regulations of the Federal Aviation Administration and is approved for return to service. Pertinent details of the repair are on file at this repair station under work package no. P1687</p> <p>Signed  Lyman Fisher</p> <p>for Epps Air Service, Inc., ESMR688D 1 Aviation Way Atlanta, GA 30341</p>

YEAR 2009 DATE	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
9/24/09	1666.3			Changed oil & Filter. Added 8qts. Aeroshell 100plus
EngTT	1666.3			Cleaned, gapped & rotated spark plugs. Checked mag
SMOH	222.8			Timing & ignition harness. C/w AD 08-14-07
				External Fuel Injection Lines by inspecting clamps & lines.
				Cleaned injector nozzles & screen. Compression on
				Cyl's #1 78/80 #2 77/80 #3 77/80 #4 78/80. Checked
				AD compliance thru Bw2009-19.
				Engine
				I certify that this _____ has been
				inspected in accordance with <u>Annual</u>
				inspection and was determined to be in
				airworthy condition. <u>Frank Kurtz</u>
				Frank A. Kurtz A. & P. 300564977IA 9/24/09

YEAR 2010 DATE	RECORDING TACH TIME	TODAY'S FLIGHT	TOTAL TIME IN SERVICE	Description of Inspections, Tests, Repairs and Alterations Entries must be endorsed with Name, Rating and Certificate Number of Technician or Repair Facility. (See back pages for other specific entries.)
10/1/2010	1712.2		1712.2	Changed oil & Filter. Added 8qts. Aeroshell
EngsMoh	268.7			100plus. Cleaned, gapped & rotated spark plugs.
				checked mag timing & ignition harness. cleaned inje
				nozzles & screen. C/w AD 08-14-07 External Fuel
				injection Lines by inspecting clamps & Lines. Compres
				on cyl's #1 79/80 #2 78/80 #3 78/80 #4 79/80. Checked
				AD Compliance thru BW 2010-19. Replaced rocker
				cover gaskets with silicon gaskets \$167193-5.
				Replaced induction air filter element.
				Engine
				I certify that this _____ has been
				inspected in accordance with _____ Annual
				inspection and was determined to be in
				airworthy condition. <u>Frank Kurtz 243509467</u>
				Frank A. Kurtz . 10/1/2010