

ENGINE S/N
L-33585-SIE

AIRCRAFT TECHNICAL LOGS

Section 3. ENGINE

The United States of America
Department of Transportation
Federal Aviation Administration
Washington, D.C.

No. E 407324

Export Certificate of Airworthiness

This certifies that the product identified below and more particularly described in Specification (s)¹ of the Federal Aviation Administration, Numbered **1E10** has been examined and as of the date of this certificate, is considered airworthy in accordance with a comprehensive and detailed airworthiness code of the United States Government, and is in compliance with those special requirements of the importing country filed with the United States Government, except as noted below. This certificate in no way attests to compliance with any agreements or contracts between the vendor and purchaser, nor does it constitute authority to operate an aircraft.

Product: **Aircraft Engine**
Manufacturer: **Lycoming Engines**
Model: **IO-360-M1A**
Serial No.: **L-33585-51E**
New Newly Overhauled
Used Aircraft
Country to which exported: **Canada**
Exceptions: **None**


F.H. Hill, Jr.

Signature of Authorized Representative

May 30, 2007

Date

ODARF830878NE

District Office or Designee Number



¹ For complete aircraft, list applicable specification or Type Certificate Data Sheet numbers for the aircraft, engine, and propeller. Applicable specifications or Type Certificate Data Sheet, if not attached to this export certificate, will have been forwarded to the appropriate governmental office of the importing country.

A Textron Company

AND
MAJOR PARTS SHIPPED with ENGINE

652 Oliver Street Williamsport, PA 17701 U.S.A.

Model No: **IO-360-M1A**

Serial No: **L-33585-51E**

Enpl: **ENPL-RT10051**

Order No **AB297915**

TC No: **1E10**

Date: **5/30/2007**

Part Name	Part Number	Manufacturer	Serial	Setting
CARBURETOR				
INJECTOR	61J22633	PAM	70BN3310	2576568-1
LT ALTERNATOR			G090119	
RT ALTERNATOR	32C19553	KELLY		
MAGNETO LEFT	66GR25SANN	SLICK	07030233	
MAGNETO RIGHT	66GP-0SANN	SLICK	07041424	
MAGNETO DUAL				
LASER IGN CONT				
STARTER	31B22105	SKY-TEC	F4L-040727	
FUEL PUMP	LW-15473	LYC	4206 D/C	
IGN HARNESS L	67P20429	SLICK		
IGN HARNESS R	67P20428	SLICK		
LASER IGN HARNESS				
SPARK PLUG	1182-E7	Champion		
LT TURBOCHARGER				
RT TURBOCHARGER				
BYPASS VALVE				
DENSITY CONTR.				
PRESS. CONTR.				
AB PRESS REL.				
#1 INTERCOOLER				
#2 INTERCOOLER				

CRANKCASE MATCH NO. **TPK500**

CRANKSHAFT SERIAL NO. **V537947682**

All accessories listed are 0 (zero) time since New or 0 (zero) time since Overhaul.
All accessories are new unless part number is succeeded by -85 or -70.

Released: Inspector

(160)

Date: **5/30/2007**

C of A Issued Date: **5/30/07**



NOTE: Form to be used on all New, Overhauled, Rebuilt Engine Models.

Form ET-001 (REV 03/05)

ENGINE LOG

1. **Make** LYCOMING
2. **Model** IO-360-M1A
3. **Specification** 1E10
4. **Manufacturer's Serial Number** L-33585-S1E
5. **Date of Manufacture** _____
6. **Aircraft Inspection Cycle** _____

ENGINE SERVICE AND

DATE	TIME RUN		TIME SINCE OVERHAUL		INSTALLATIONS, INSPECTIONS, <small>NOTE: USE BOTH PAGES AND AS MANY LINES AS REQUIRED FOR COMPLETE</small>
	HRS.	MIN.	HRS.	MIN.	
BROUGHT FORWARD	→		0	0	<p style="font-size: 1.2em; margin: 0;">ENGINE INSTALLED NEW ON DA 40 S/N</p> <p style="font-size: 0.8em; margin: 5px 0 0 20px;">Engine installation inspected I.A.W. Diamond Aircraft Industries Inc. DA 40 W.I.S. Rev: N Form ME-01-A</p> <p style="font-size: 0.8em; margin: 5px 0 0 20px;">Engine service with 8 qts. Of Phillips 20W50 Type "M" engine oil.</p> <p style="font-size: 0.8em; margin: 5px 0 0 20px;">Engine break-in I.A.W. Lycoming Service Instruction 1427B, FLIGHT TEST COMPLETED</p>
AUG 29 2007			6	0	HOURS BROUGHT FORWARD
					<p style="font-size: 0.8em; margin: 0;">November 23, 2007 QualiTech Avlation, Inc.</p> <p style="font-size: 0.8em; margin: 0;">Registration: N245DS - Make: Diamond - Model: DA-40 XL - S/N: 40.833</p> <p style="font-size: 0.8em; margin: 0;">Engine: Lycoming - Engine S/N: L-33585-51E</p> <p style="font-size: 0.8em; margin: 0;">Tach: 35.0 - Airframe Total Time: 35.0 - Engine Total Time: 35.0</p> <p style="font-size: 0.8em; margin: 0; text-align: center;">100 Hour Inspection</p> <p style="font-size: 0.8em; margin: 0;">Ground ran engine to normal operating temperatures and performed compression check as per Lycoming SI 1191A. Cylinder compression readings were as follow: #1-75/80, #2-73/80, #3-75/80, #4-74/80. Drained oil and collected sample for oil analysis. Removed oil filter and suction screen. Complied with Lycoming SB 480E, by inspection of oil filter and suction screen. No defects found. Serviced engine with 8 quarts Phillips X/C 20W50 oil and Tempest oil filter, p/n AA48110. Pressure tested exhaust. No defects found. Cleaned and gapped spark plugs. Rotated and reinstalled spark plugs using new gaskets. Lubricated engine controls and starter. Ground run up and leak check was normal.</p> <p style="font-size: 0.8em; margin: 0;">Complied with AD 2002-26-01, dated January 31, 2003, by inspection of fuel injection lines and clamps as per Lycoming MSB No. 342D, dated July 10, 2001. No defects found. Compliance is due at each 100 hour inspection, annual inspection, or after any maintenance is performed on the fuel lines. <i>Next due at airframe total time 135.0 or November - 2008.</i></p> <p style="font-size: 0.8em; margin: 0; text-align: center;">I certify that this engine has been inspected in accordance with a 100 Hour Inspection and was determined to be in an airworthy condition.</p> <div style="text-align: right; margin: 5px 0 0 20px;"> <p style="font-size: 0.8em; margin: 0;">Keith A. Allison A&P 562571398</p> </div>
					CARRIED FORWARD
TOTAL THIS PAGE					
TOTAL FROM PREVIOUS SUMMARY					

ENGINE SERVICE AND

DATE	TIME RUN		TIME SINCE OVERHAUL		INSTALLATIONS, INSPECTIONS, <small>NOTE: USE BOTH PAGES AND AS MANY LINES AS REQUIRED FOR COMPLETE</small>
	HRS.	MIN.	HRS.	MIN.	
BROUGHT FORWARD	July 16, 2008				QualiTech Aviation, Inc. Registration: N245DS - Make: Diamond - Model: DA-40 XL - S/N: 40.833 Engine: Lycoming - Engine S/N: L-33585-51E Tach: 130.6 - Airframe Total Time: 130.6 - Engine Total Time: 130.6 100 Hour Inspection Ground ran engine to normal operating temperatures and performed compression check as per Lycoming SI 1191A. Cylinder compression readings were as follow: #1-76/80, #2-74/80, #3-78/80, #4-76/80. Drained oil and collected sample for oil analysis. Removed oil filter and suction screen. Complied with Lycoming SB 480E, by inspection of oil filter and suction screen. No defects found. Serviced engine with 8 quarts Phillips X/C 20W50 oil and Tempest oil filter, p/n AA48110. Pressure tested exhaust. No defects found. Cleaned and gapped spark plugs. Rotated and reinstalled spark plugs using new gaskets. Lubricated engine controls and starter. Ground run up and leak check was normal. Complied with AD 2008-08-14, dated April 29, 2008, by inspection of fuel servo model RSA-5AD1, as per paragraph (f). Brass regulator hex plug was not loose. Compliance required at whichever comes first - at every oil change or every 50 hours <i>Next inspection due at airframe total time 180.6 or next oil change.</i> Complied with AD 2008-14-07, dated August 14, 2008 by inspection of fuel injection lines and clamps as per Lycoming MSB No. 342E, dated May 18, 2004. No defects found. Compliance is due at each 100 hour inspection, annual inspection, or after any maintenance is performed on the fuel lines. <i>Next due at airframe total time 230.6 or July -2009.</i> I certify that this engine has been inspected in accordance with a 100 Hour inspection and was determined to be in an airworthy condition. <div style="text-align: right; font-size: 1.2em;"> <i>Charles Bonds</i> Charles H. Bonds A&P 3025225 </div>

December 03, 2008	QualiTech Aviation, Inc. Registration: N245DS - Make: Diamond - Model: DA-40 XL - S/N: 40.833 Engine: Lycoming IO-360-M1A - Engine S/N: L-33585-51E Tach: 176.5 - Airframe Total Time: 176.5 - Engine Total Time: 176.5 100 Hour Inspection Ground ran engine to normal operating temperatures and performed compression check as per Lycoming SI 1191A. Cylinder compression readings were as follow: #1-72/80, #2-74/80, #3-72/80, #4-72/80. Drained oil and collected sample for oil analysis. Removed oil filter and suction screen. Complied with Lycoming SB 480E, by inspection of oil filter and suction screen. No defects found. Serviced engine with 8 quarts Phillips 100AW Type A oil and Tempest oil filter, p/n AA48110. Added 1 can of Camguard to engine oil. Pressure tested exhaust. No defects found. Cleaned and gapped spark plugs. Rotated and reinstalled spark plugs using new gaskets. Replaced #2 cylinder valve cover gasket. Lubricated engine controls and starter. Ground run up and leak check was normal. Complied with Precision Airmotive MSB # PRS-107, Revision 4, dated July 16, 2008, by inspection and replacement of fuel servo gasket with new gasket p/n 2577258 and stamping the letter "G" on hex plug as per paragraph (G). No further action required. Complied with AD 2008-08-14, dated April 29, 2008, by inspection of fuel servo model RSA-5AD1, as per paragraph (f). Brass regulator hex plug was not loose. Compliance required at whichever comes first - at every oil change or every 50 hours <i>Next inspection due at airframe total time 226.5 or next oil change.</i> Complied with AD 2008-14-07, dated August 14, 2008 by inspection of fuel injection lines and clamps as per Lycoming MSB No. 342E, dated May 18, 2004. No defects found. Compliance is due at each 100 hour hours, or after any maintenance is performed on the fuel lines. <i>Next due at airframe total time 276.5.</i> I certify that this engine has been inspected in accordance with a 100 Hour inspection and was determined to be in an airworthy condition. <div style="text-align: right; font-size: 1.2em;"> <i>Charles Bonds</i> Charles H. Bonds A&P 3025225 </div>			
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	January 28, 2009				
	QualiTech Aviation, Inc. Registration: N245DS - Make: Diamond - Model: DA-40 XL - S/N: 40.833 Tach Time: 181.6 General Maintenance Replaced engine starter with new starter part number 31B22105. Ground run up and operational check was normal. <div style="text-align: right; font-size: 1.2em;"> <i>Charles Bonds</i> Charles H. Bonds A&P 3025225 </div>				
TOTAL THIS PAGE					
TOTAL FROM PREVIOUS SUMMARY					
TOTAL SINCE MFG.					

MAINTENANCE RECORD

April 23, 2009 **QualiTech Aviation, Inc.**
Registration: N245DS - Make: Diamond - Model: DA-40 XL - S/N: 40.833
Tach: 205.5
50 Hour Inspection

NATURE

LICENCE
NUMBER

Ground ran engine to normal operating temperatures, drained engine oil and removed oil filter. Cut oil filter open for internal content inspection. No defects found. Serviced and charged aircraft battery. Serviced engine with 8 quarts Phillips Phillips X/C 20W50 oil and AA48110 oil filter. Lubricated engine controls and starter. Engine run up and leak check was normal.

Complied with AD 2009-02-03, dated February 09, 2009, by inspection of fuel injection servo plug. Brass regulator hex plug was not loose. Compliance required at whichever comes first - at every oil change or every 50 hours of engine run time. *Next inspection due at tach time 255.5.*

Charles Bonds

Charles H. Bonds A&P 3025225

November 11, 2009 **QualiTech Aviation, Inc.**
Registration: N245DS - Make: Diamond - Model: DA-40 XL - S/N: 40.833
Engine: Lycoming - Engine S/N: L-33585-51E
Tach: 246.5 - Airframe Total Time: 246.5 - Engine Total Time: 246.5
100 Hour Inspection

Ground ran engine to normal operating temperatures and performed compression check as per Lycoming SI 1191A. Cylinder compression readings were as follow: #1-70/80, #2-74/80, #3-70/80, #4-78/80. Drained oil and collected sample for oil analysis. Removed oil filter and suction screen. Complied with Lycoming SB 480E, by inspection of oil filter and suction screen. No defects found. Serviced engine with 8 quarts Phillips X/C 20W50 oil and Tempest oil filter, p/n AA48110. Pressure tested exhaust. No defects found. Replaced all spark plugs with new UREM38E spark plugs. Cleaned and serviced induction air filter. Degreased engine. Lubricated engine controls and starter. Ground run up and leak check was normal.

Complied with AD 2009-03-03, dated February 09, 2009, by replacement of fuel servo plug gasket with new gasket p/n 2577258 and inspection of hex plug and servo threads. No defect found. Stamped hex plug as per AD. As per paragraph (K), this constitutes terminating action to the repetitive inspection required by the AD. No further action required.

Complied with AD 2008-14-07, dated August 14, 2008 by inspection of fuel injection lines and clamps as per Lycoming MSB No. 342E, dated May 18, 2004. No defects found. Compliance is due at each 100 hour hours, or after any maintenance is performed on the fuel lines. *Next due at airframe total time 346.5.*

I certify that this engine has been inspected in accordance with a 100 Hour inspection and was determined to be in an airworthy condition.

Charles Bonds

Charles H. Bonds A&P 3025225

Hobbs 375.4 Tach 286.5 50 hour Inspection with oil filter, clean gap spark plugs AIP 3410335 Phil Leeder

11/24/2010 TACH 371.4 TTE 371.4 COMPLETED ANNUAL INSPECTION THIS DATE. SERVICED ENGINE WITH 8 QUARTS EXXON ELITE 20/50 AND CH48110-1 OIL FILTER. ACCOMPLISHED COMPRESSION CHECK. CLEAN GAP & ROTATE SPARK PLUGS. INSTALLED QUICK DRAIN FOR OIL CHANGE SERVICE CONVINCED. RAN ENGINE AND CHECK FOR OIL LEAKS NONE FOUND. THIS ENGINE WAS FOUND IN AIRWORTHY CONDITION AND IS APPROVED FOR RETURN TO SERVICE.
 A&P IA 3410335
 PHIL LEEDER

Phil Leeder

MAXIMUM HOURS BETWEEN OVERHAULS _____ HOURS.

HRS.	MIN.	HRS.	MIN.
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NOTE: USE BOTH PAGES AND ...

FOR COMPLET

4/21/2011 TACH 400.2 CHANGE ENGINE OIL AND OIL FILTER. CLEAN AND GAP SPARK PLUGS. ADJUST LEFT MAG FROM 27 DEGREES TO 25. USED 8 QUARTS AEROSHELL 15/50 AND ONE CH48110-1 OIL FILTER
 A&P 3410335
 PHIL LEEDER *Phil Leeder*

06/23/2011 TACH 411.7 TROUBLE SHOOT ROUGH RUNNING ENGINE. CHECKED MAGNETO TIMING, CLEAN ALL FUEL INJECTORS. DID COMPRESSION CHECK. REPLACED CRACKED EXHAUST SYSTEM. KIT NUMBER PFS-15102. RUN UP AND LOOK FOR LEEKS NONE FOUND. THIS AIRCRAFT IS APPROVED FOR RETURN TO SERVICE FOR THE WORK DESCRIBED ABOVE.
 A&P 3410335
 PHIL LEEDER *Phil Leeder*

11/28/2011 TACH 448.7 TTE 448.7 COMPLETED ANNUAL INSPECTION THIS DATE. SERVICED ENGINE WITH 7 QUARTS PHILLIPS X/C 20/50 AND CH48110-1 OIL FILTER. ACCOMPLISHED COMPRESSION CHECK. REPLACED SPARK PLUGS. RAN ENGINE AND CHECK FOR OIL LEAKS NONE FOUND. THIS ENGINE WAS FOUND IN AIRWORTHY CONDITION AND IS APPROVED FOR RETURN TO SERVICE.
 A&P IA 3410335
 PHIL LEEDER *Phil Leeder*

01/07/2012 TACH 452.9 INSTALLED REIFF ENGINE PREHEAT SYSTEM. THIS IS A MINOR ALTERATION FAA PMA PARTS INSTALLATION AND A 337 IS NOT REQUIRED.
 A&P 3410335
 PHIL LEEDER *Phil Leeder*

06/19/2012 TACH 489.9 REPLACED LEFT MAGNETO PN# 4347 SN# 12041067. CHANGED ENGINE OIL AND OIL FILTER
 A&P 3410335
 PHIL LEEDER *Phil Leeder*

12/05/2012 TACH 516.9 TTE 516.9 COMPLETED ANNUAL INSPECTION THIS DATE. SERVICED ENGINE WITH 7 QUARTS PHILLIPS X/C 20/50 AND CH48110-1 OIL FILTER. ACCOMPLISHED COMPRESSION CHECK. RAN ENGINE AND CHECK FOR OIL LEAKS NONE FOUND. THIS ENGINE WAS FOUND IN AIRWORTHY CONDITION AND IS APPROVED FOR RETURN TO SERVICE.
 A&P IA 3410335
 PHIL LEEDER *Phil Leeder*

FOR YOUR RECORDS



Component ID N2450S

*oil sample ID
 ← Tag*

MAINTENANCE RECORD

	E	LICENCE NUMBER
<p>ENTRIES.</p> <p>05/14/2013 TACH 551.9 CHANGE ENGINE OIL AND OIL FILTER. 1) CH48110-1 OIL FILTER 1) PINT CAMGUARD)7 QUARTS PHILLIPS X/C 20/50. CLEANED SPARK PLUGS. DID COMPRESSION CHECK. #1 72 #3 70 # 2 74 #4 76 RUN UP AND LOOK FOR LEEKS NONE FOUND. THIS AIRCRAFT IS APPROVED FOR RETURN TO SERVICE FOR THE WORK DESCRIBED ABOVE.</p> <p>A&P 3410335 PHIL LEEDER <i>Phil Leeder</i></p>		
<p>08/09/2013 TACH 560.9 TTE 560.9 COMPLETED ANNUAL INSPECTION THIS DATE. SERVICED ENGINE WITH 7 QUARTS PHILLIPS X/C 20/50 AND CH48110-1 OIL FILTER. ACCOMPLISHED COMPRESSION CHECK. RAN ENGINE AND CHECK FOR OIL LEAKS NONE FOUND. THIS ENGINE WAS FOUND IN AIRWORTHY CONDITION AND IS APPROVED FOR RETURN TO SERVICE.</p> <p>A&P IA 3410335 PHIL LEEDER <i>Phil Leeder</i></p>		
<p>10/21/2013 TACH 594.8 CHANGE ENGINE OIL AND OIL FILTER. 1) CH48110-1 OIL FILTER 1) PINT CAMGUARD)8 QUARTS PHILLIPS X/C 20/50. CLEANED SPARK PLUGS. DID COMPRESSION CHECK. #1 74 #3 70 # 2 72 #4 75.RUN UP AND LOOK FOR LEEKS NONE FOUND. THIS AIRCRAFT IS APPROVED FOR RETURN TO SERVICE FOR THE WORK DESCRIBED ABOVE.</p> <p>A&P 3410335 PHIL LEEDER <i>Phil Leeder</i></p>		
<p>03/06/2014 TACH 642.7 HOBBS 828.7 CHANGE ENGINE OIL AND OIL FILTER. 1) CH48110-1 OIL FILTER 8 QUARTS PHILLIPS X/C 20/50. CLEANED SPARK PLUGS. DID COMPRESSION CHECK. #1 73 #3 72 # 2 72 #4 76 RUN UP AND LOOK FOR LEEKS NONE FOUND. THIS AIRCRAFT IS APPROVED FOR RETURN TO SERVICE FOR THE WORK DESCRIBED ABOVE.</p> <p>A&P 3410335 PHIL LEEDER <i>Phil Leeder</i></p>		

BAHAN AVIATION SERVICES

281-451-2163

N245DS 8/18/2014 Tach 689.0 Hobbs 887.1

- Removed engine cowling and drained oil and removed filter.
- Serviced engine with 8 quarts Phillips XC 20/50 and a new Tempest AA48108-2 filter.
- Engine test run with no defects noted.
- Re-installed engine cowling.
- I certify this engine is returned to service with respect to the work performed.

Ch. J. Bahan

Christopher James Bahan A&P/I.A. 2688469

END PAGE

MAXIMUM HOURS BETWEEN OVERHAULS _____ HOURS.

DATE	TIME RUN		TIME SINCE OVERHAUL		NOTE: USE BOTH PAGES AND AS MANY LINES AS REQUIRED FOR COMPLETE INSTALLATIONS, INSPECTIONS,
	HRS.	MIN.	HRS.	MIN.	

BAHAN AVIATION SERVICES
281-451-2163

BROUGHT FORWARD

N245DS 9/7/2014 Tach 691.4 Hobbs 891.0 Annual this date & time
 -Annual Inspection this date and time
 -Removed cowling and cleaned engine
 -Removed, cleaned, inspected, gapped and reinstalled spark plugs
 -Verified engine timing set to 25 degrees BTC
 -Performed compression check as follows: #1 78, #2 77, #3 78, #4 74
 -Inspected and engine cleaned air filter
 -All fuel injection nozzles removed, cleaned, inspected and re-installed.
 -Inlet screen removed, cleaned and re-installed.
 -Lubricated all engine controls
 -Inspected all electrical connections for security and condition
 -Re-cowled and performed run-up and noted no defects
 -Complied with the following AD's:
 AD2004-10-14 C (Gear bolts) Due upon sudden stoppage or prop strike
 AD2011-26-04 (Fuel injector lines) Complied with by pressure check and inspection
 Due again in 100 hours
 -All AD's checked through this date ATP Navigator V and an AD compliance listing created.
 -All maintenance performed in reference to the Diamond DA40 maintenance manual
 -I certify this engine has been inspected I/AW an 100 hr inspection and found to be in airworthy condition.

[Signature]

Christopher James Bahan A&P/I.A. 2688469

2-7-15	Removed engine cowling, Removed oil Filter and drained oil. Serviced engine with 8 qts of XC 2050 oil and Installed New oil Filter Ch 48110-1.			
	Repr. Infl. #AP 3538625			



General Aviation Services
5260 Central Pkwy. Hangar 14
Conroe, TX 77303

Engine Logbook Entry
 Make: Lycoming Model: IO-360-MIA
 Serial: L-33585-51E
 Tach# 778.0 Hobbs# 999.9
 ACTT# 778.0

Registration: N245DS
 Make: Diamond
 Model: DA-40
 Serial: 40.833

Completed an Oil and Filter change this date.
 1. Drained oil and removed filter, cut filter to check for contaminants, none noted.
 2. Removed oil sump filter to check for contaminants, none noted.
 3. Serviced engine with 8 quarts of Phillips X/C 20W50 Oil and CH48110-1 filter.
 4. Performed run-up to check for proper operation and for leaks, all satisfactory
 I certify that all work was done in accordance with FAA regulations and approved maintenance manual.
 This Engine was found to be in an airworthy condition, and is approved for return to service with respect to work performed this date.

END


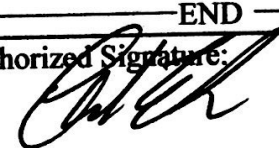
Date: 7-13-2015


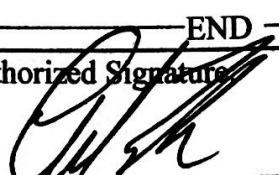
Authorized Signature:
[Signature]

Gregory J. Evans JR
A&P 3023363 IA

TOTAL FROM PREVIOUS SUMMARY		
TOTAL SINCE MFG.		

MAINTENANCE RECORD

 General Aviation Services 5260 Central Pkwy. Hangar 14 Conroe, TX 77303	Engine Logbook Entry Make: Lycoming Model: IO-360-MIA Serial: L-33585-51E Tach# 780.6 Hobbs# 1003.7 ACTT# 780.6	Registration: N245DS Make: Diamond Model: DA-40 Serial: 40.833
1. C/W AD# 2011-26-04 Injector, injector line, clamps inspection, Effective date January 25, 2010. No defects noted. Next due Tach# 880.6, at each engine O/H, and after any maintenance has been done on the engine where any clamps on a fuel injector line has been disconnected, moved or loosened. I certify that all work was done in accordance with FAA regulations and approved maintenance manual. This Engine was found to be in an airworthy condition, and is approved for return to service with respect to work performed this date.		
END		
Date: 8-14-2015	Authorized Signature: 	Gregory J. Evans JR A&P 3023363 IA

 General Aviation Services 5260 Central Pkwy. Hangar 14 Conroe, TX 77303	Engine Annual Logbook Entry Make: Lycoming Model: IO-360-M1A Serial: L-33585-51E Tach# 820.7 Hobbs# 1054.3 ACTT# 820.7	Registration: N245DS Make: Diamond Model: DA-40 Serial: 40.833
Completed a 100HR inspection in accordance with FAR 43, Appendix D and approved M/M. 1. Performed compression check: 1-80/80, 2-80/80, 3-80/80, 4-80/80. 2. Drained oil and removed filter. Opened filter and checked for contaminants, none found. Serviced engine with 8 quarts of Phillips X/C 20W50 and one CH48110-1 filter. 3. Cleaned, gapped, tested, all spark plugs. Reinstalled with all new M674 copper spark plug washers. 4. C/W Power Flow Systems Inc, IAW installation instructions and continued airworthiness report# PFS-15250-00 kit# PFS-15102 revision; E dated June 10, 2010. No defects noted this date. 5. C/W AD# 2015-19-07 Fuel injector, injector lines, and clamp insp. Effective date 11-3-2015 amendment #39-18269 IAW MSB#342G dated 7-16-2013. No defects noted, next due ACTT# 920.7 or if any maintenance is done to fuel injectors, lines or clamps. 6. No/new outstanding nAD's this date per Navigator V ATP program, latest revision dated 10-2-2015. I certify that this Engine has been inspected in accordance with a 100HR inspection and was found to be in an airworthy condition. This Engine is approved for return to service with respect to work performed this date.		
END		
Date: 10-7-2015	Authorized Signature: 	Gregory J. Evans JR A&P 3023363 IA

End Page

ENGINE SERVICE AND



General Aviation Services
5260 Central Pkwy. Hangar 14
Conroe, TX 77303

Engine Logbook Entry

Make: Lycoming Model: IO-360-MIA
Serial: L-33585-51E
Tach# 867.2 Hobbs# 1113.4
ACTT# 867.2

Registration: N245DS
Make: Diamond
Model: DA-40
Serial: 40.833

Completed an Oil and Filter change this date.

1. Drained oil and removed filter, cut filter to check for contaminants, none noted.
2. Removed oil sump filter to check for contaminants, none noted.
3. Serviced engine with 8 quarts of Phillips X/C 20W50 Oil and CH48110-1 filter.
4. Tighten all cylinder drain back tubes, and washed engine down.
5. Performed run-up to check for proper operation and for leaks, all satisfactory

I certify that all work was done in accordance with FAA regulations and approved maintenance manual.
This Engine was found to be in an airworthy condition, and is approved for return to service with respect to work performed this date.

END

Date: 3-17-2016

Authorized Signature:

Gregory J. Evans JR
A&P 3023363 IA



General Aviation Services
5260 Central Pkwy. Hangar 14
Conroe, TX 77303

Engine Logbook Entry

Make: Lycoming Model: IO-360-MIA
Serial: L-33585-51E
Tach# 915.6 Hobbs# 1173.3
ACTT# 915.6

Registration: N245DS
Make: Diamond
Model: DA-40
Serial: 40.833

Completed an Oil and Filter change this date.

1. Drained oil and removed filter, cut filter to check for contaminants, none noted.
2. Removed oil sump filter to check for contaminants, none noted.
3. Serviced engine with 8 quarts of Phillips X/C 20W50 Oil and CH48110-1 filter.
4. Performed run-up to check for proper operation and for leaks, all satisfactory

I certify that all work was done in accordance with FAA regulations and approved maintenance manual.
This Engine was found to be in an airworthy condition, and is approved for return to service with respect to work performed this date.

END

Date: 10-25-2016

Authorized Signature:

Gregory J. Evans JR
A&P 3023363 IA

CARRIED FORWARD

TOTAL THIS PAGE

TOTAL FROM
PREVIOUS SUMMARY


TOTAL
SINCE MFG.

MAINTENANCE RECORD

REPAIRS, ADJUSTMENTS, MODIFICATIONS
ENTRIES. DRAW A DIAGONAL LINE THROUGH ANY UNUSED LINES IN DATE AND TIME COLUMNS.

SIGNATURE



Date: 01/06/2017 Tach: 926.3 ETT: 926.3 Reg.#: N245DS
C/W 100 hour inspection referencing FAR Part 43 appendix (d) and Lycoming service/maintenance manuals. Compression tested: #1-72/80, #2-71/80, #3-73/80, and #4-71/80. Removed spark plugs, cleaned, inspected, gapped, tested, and re-installed. Removed right and left magnetos and sent to Navajo Aircraft Accessories for overhaul inspection(See attached Paperwork). Re-installed LH magneto model 4347, S/N: 12041067 and RH Magneto model 4370, S/N: 10111103 with new hardware and gaskets, and timed to the engine. Removed oil dipstick tube, cleaned, re-installed with new SL72059 gasket, and safety wired tube to crankcase. Drained oil, removed filter, and inspected for metal. Serviced engine with 7qts X/C 20W50 and CH48110-1. Installed all new exhaust gaskets P/N: SL77611. Installed new rocker box cover gaskets, P/N: SL75906. Installed new intake gasket P/N: SL71973 on #3 cylinder. Adjusted engine mixture control referencing manufacturer's service manual. Verified AD compliance bi-weekly to 01/06/2017 per manufacturer. C/W AD 2015-19-07 by inspection of fuel injector lines and clamps, due again at tach: 1026.3. No new applicable AD's found at this time. A complete AD summery has been furnished to the aircraft owner and is part of the aircraft permanent records. Run-up, ops, and leak check, Ok. *I certify that this engine has been inspected in accordance with a 100hr inspection and was determined to be in an airworthy condition at this time.*
A&P 3168048  JD Casteel

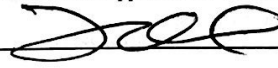
ENGINE
Reg: N245DS
Model: IO-360-M1A
S/N:
W/O: MS-17-03616



Date: 6 April 2017
Hobbs: 1,232.1
Tach: 959.9
ACTT:
ETT:

Performed the **oil and filter change** and screen cleaning per Lycoming MSB No. 480E. Drained the oil. Removed and replaced the oil filter with new (p/n CH48110-1). Inspected the filter and the oil sump screen and did not find any metal contaminates. Serviced the engine with 7 quarts of Phillips 20W-50 X/C oil. Performed an engine ground run. Operational checks were satisfactory. No leaks or defects noted.

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 with respect to the work performed. Pertinent details are on file under the above work order.

Signed:  **CRS #M9TR576Y**
525 Turbine Ave, Chesterfield, MO (636)532-6155

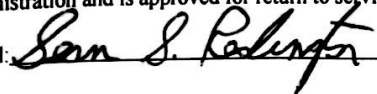
ENGINE
Reg: N245DS
Model: IO-360-M1A
S/N:
W/O: MS-17-03781



Date: 25 August 2017
Hobbs: 1,292.6
Tach: 1,008.1
ACTT:
ETT:

- 1) Performed the **oil and filter change** and screen cleaning per Lycoming MSB No. 480E. Drained the oil. Removed and replaced the oil filter with new (p/n CH48110-1). Inspected the filter and the oil sump screen and did not find any metal contaminates. Serviced the engine with 7 quarts of Phillips 20W-50 X/C oil.
- 2) Complied with **AD 2015-19-07**, effective date 11/3/2015, by inspection of the fuel injector fuel lines and clamps in accordance with **Lycoming MSB No. 342G** Fuel Line Inspection and Installation Checklist and Diagram #1. No defects noted.
- 3) Removed and replaced the alternator cooling SCAT hose with new (p/n F222060).
- 4) Performed an engine ground run. Operational checks were satisfactory. No leaks or defects noted.

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 with respect to the work performed. Pertinent details are on file under the above work order.

Signed:  **CRS #M9TR576Y**
525 Turbine Ave, Chesterfield, MO (636)532-6155

DATE	TIME RUN		TIME SINCE OVERHAUL		INSTALLATIONS, INSPECTIONS, NOTE: USE BOTH PAGES AND AS MANY LINES AS REQUIRED FOR COMPLETE
	HRS.	MIN.	HRS.	MIN.	
BROUGHT FORWARD →					

ENGINE
 Reg: N245DS
 Model: IO-360-M1A
 S/N: L-33585-51E
 W/O: MS-17-03891



Date: 23 January 2018
 Hobbs: 1,357.1
 Tach: 1,058.0
 ACTT: 1,058.0
 ETT: 1,058.0

Scheduled Inspections/Maintenance Checks:

- 1) Complied with the Annual Inspection/200 Hour Check per the "Maintenance Checklist Airframe" in reference to Diamond DA 40 Series Airplane Maintenance Manual, Doc.#6.02.01, Rev. 7, Chapter 05-28-50.
- 2) Complied with the Annual Inspection/200 Hour Check per the "Maintenance Checklist DA 40 with Lycoming IO-360-M1A Engine" in reference to Diamond DA 40 Series Airplane Maintenance Manual, Doc.#6.02.01, Rev. 7, Chapter 05-28-00.
- 3) Performed a differential compression test per AC 43.13-1B, Paragraph 8-14: 1) 74/80, 2) 73/80, 3) 74/80, 4) 75/80.
- 4) Removed, cleaned and reinstalled the fuel injector nozzles in reference to Lycoming SI No. 1275C.
- 5) Performed the oil and filter change and screen cleaning per Lycoming MSB No. 480E. Drained the oil. Removed and replaced the oil filter with new (p/n CH48110-1). Inspected the filter and the oil sump screen and did not find any metal contaminants. Serviced the engine with 8 quarts of Phillips 20W-50 X/C oil. Sent in an oil sample for analysis.

Airworthiness Directives / Service Bulletins:

- 6) Complied with AD 2015-19-07, effective date 11/3/2015, by inspection of the fuel lines in accordance with Lycoming MSB No. 342G Fuel Line Inspection and Installation Checklist and Diagram No. 1 of Supplement No. 1 To SB No. 342G. Next due at Tach 1168.0.
- 7) Complied with AD 2017-16-11, effective date 8/15/2017, by researching the aircraft records. Paragraph (c)(1) is not applicable by engine serial number per Lycoming MSB No. 632B Table 1. Paragraph (c)(2) is not applicable since no replacement parts listed in Table 2 were replaced during date range.

Maintenance Actions:

- 8) Cleaned, gapped, inspected and rotated the spark plugs in reference to Champion ASM (V6-R). Reinstalled plugs with new gaskets (p/n M674).
- 9) Removed, cleaned and reinstalled the fuel injector nozzles in reference to Lycoming SI No. 1275C. Leak check satisfactory.
- 10) Performed an engine ground run per FAR 43.15(c)(2) in reference to DA 40 Series AMM 05-28-91 Engine Ground Test. Operational checks were satisfactory. No leaks or defects noted.

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 with respect to the work performed. Pertinent details are on file under the above work order.

Signed:

CRS #M9TR576Y
 525 Turbine Ave, Chesterfield, MO (636)532-6155

ENGINE
 Reg: N245DS
 Model: IO-360-M1A
 S/N: L-33585-51E
 W/O: MS-17-03896



Date: 23 January 2018
 Hobbs: 1,357.1
 Tach: 1,058.0
 ACTT: 1,058.0
 ETT: 1,058.0

Maintenance Actions:

- 1) Removed and replaced the lower #1 cylinder spark plug with new (p/n REM38S).
- 2) Adjusted the timing of the left and right magnetos in reference to (L)IO-360-M1A Maintenance and Overhaul Manual, Section 72-60-03e.
- 3) Replaced one missing #2 cylinder rocker box cover screw and two baffle screws with new (p/n STD1925).
- 4) Removed and replaced the #3 cylinder fuel injection line with new (p/n LW12098-0-180) with new clamps (2 ea. p/n LW16266-10-75 and 2 ea. p/n LW16266-10-13) in reference to Lycoming MSB342G and the diagram per Lycoming MSB342G supplement 1.
- 5) Removed and replaced the oil dipstick tube gasket with new (p/n 72059).
- 6) Removed and replaced all four rocker box cover gaskets with new (p/n 75906) in reference to (L)IO-360-M1A Maintenance and Overhaul Manual, Section 72-60-05. No leaks noted.
- 7) Performed an engine ground run per FAR 43.15(c)(2) in reference to DA 40 Series AMM 05-28-91 Engine Ground Test. Operational checks were satisfactory. No leaks or defects noted.

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 with respect to the work performed. Pertinent details are on file under the above work order.

Signed:

CRS #M9TR576Y
 525 Turbine Ave, Chesterfield, MO (636)532-6155

TOTAL FROM PREVIOUS SUMMARY		
TOTAL SINCE MFG.		

MAINTENANCE RECORD

6

REPAIRS, ADJUSTMENTS, MODIFICATIONS

ENTRIES. DRAW A DIAGONAL LINE THROUGH ANY UNUSED LINES IN DATE AND TIME COLUMNS.

SIGNATURE

LICENCE
NUMBER

Hobbs 1390.5

02-04-19

Annual insp. completed IAW FAR 43 and Lycoming MM.
 Serviced engine with 7 qts Aeroshell 15W50.
 Replaced oil filter with new Tempest AA48110-2.
 Inspected old filter, no metal noted. Cyl. compressions
 are as follows: 1) $\frac{74}{80}$, 2) $\frac{72}{80}$, 3) $\frac{70}{80}$, 4) $\frac{74}{80}$. M.O. $\frac{46}{80}$.
 Cleaned, gapped, and rotated spark plugs. Checked
 magneto to engine timing. All applicable ADs
 complied with. Performed engine run, no defects or
 leaks noted. This engine has been inspected IAW
 an annual insp. and has been found to be airworthy
 at this time. JL Call A&P 2759388IA

wo: WO_314

Engine - page 1 of 1



KJC Aircraft Services

N245DS
Tach: 1403.8

June 15, 2020

1. Completed Annual Inspection reference FAR 43 appendix D.
2. Completed compression test with the following results: #1 cyl. 66/80, #2 cyl. 64/80, #3 cyl. 70/80, #4 cyl. 78/80.
3. Drained engine oil and removed filter. Cut open old filter and inspected. No metal found. Installed new 48110 oil filter. Serviced engine with 7 qts Aeroshell15W50.

I certify this engine has been inspected in accordance with an Annual inspection reference FAR 43 appendix D and was determined to be in an airworthy condition. With respect to the work performed, this engine is approved for return to service. Details of work performed are on file with KJC Aircraft Services under work order: WO_314.

Ted Stephens A&P/IA 3288321

Ted Stephens

MAXIMUM HOURS BETWEEN OVERHAULS _____ HOURS.



A Textron Company

AIRWORTHINESS DIRECTIVE COMPLIANCE LIST

5/30/07

652 Oliver Street

Williamsport, PA 17701 U.S.A.

Engine Model No: IO-360-M1A

Engine SN: L-33585-51E

Page 1 of 2

AD NO. / SB	RV RV	Description / Method of Compliance	Next Due	Once Rec	Code	Sign
2002-26-01 342	E	FUEL LINE AND SUPPORT CLAMP INSPECTION & INSTALL. NEW LINES INST. WITH NEW CLAMP	100 HOURS	X	1	3
2004-10-14 475	C	CRANKSHAFT GEAR MODIFICATION AND ASSY PROCEDURES NEW P/N INSTALLED	N/A	X	1	3
2005-19-11 566		Crankshaft replacement Replace Crankshaft	N/A	X	1	3
75-09-15 382		BENDIX FUEL INJ RS-43 INSP OF MOD OF FLOW DIVIDERS NEW P/N GASKET INSTALLED	N/A	X	1	3
93-11-11 N/A		AC, TEXTRON LYC FUEL PUMP O/H BY AERO ACCESSORIES NEW AC F/P INST. WHEN APPLIC.	N/A	X	1	3
94-01-03 N/A	R2	DEFECTIVE IGN COILS AND ROTATING MAGNETS NEW CONFIGURATION PART INST.	N/A	X	1	3
94-06-09 517		INCOMPLETE INTERNAL GROUNDING ON MAG CAPACITORS NEW CONF. CAPACITORS INSTALLED	N/A	X	1	3
96-23-03 525	A	HIGH PRESSURE FUEL PUMP INSTALLED LW-15473 NEWLY MANUFACTURED PUMPS INST.	N/A	X	1	3
97-15-11 527	C	RECALL OF PISTON PIN P/N LW-14077 NEW CONFIGURATION P/N INST.	N/A	X	1	3
98-02-08 530	A	INSPECTION OF CRANKSHAFT ID FOR CORROSION MAG INSP./APPLY URETHABOND 104	N/A	X	1	3
2002-12-07 543	B	OIL FILTER CONVERTER PLATE GASKET REPLACEMENT NEW P/N CONVERTER PLATE INSTALLED	N/A	X	2	
2003-14-03 529	B	ROTARY FUEL PUMP TORQUE. NEW PUMP WITH "M" SUFFIX INSTALLED	N/A		X	2
2006-06-16 566 Sup 1		Replace crankshaft Crankshaft replaced	N/A	X		2
2006-10-21 N/A		ECI connecting rods P?N AEL11750 Used genuine Lycoming Parts	N/A	X		2
2006-12-07 N/A		ECI Cylinder Assemblies P/N AEL65102 Used genuine Lycoming parts	N/A	X		2
2006-20-09 569	A	CRANKSHAFT REPLACEMENT REPLACE CRANKSHAFT	N/A	X		2
64-16-05 298	Inactive	AC FUEL PUMP OIL SEAL NEW CONF. FUEL PUMP INSTALLED	N/A	X		2

Codes:

- 1 AD Applicable to Engine
- 2 AD Not Applicable to Engine
- 3 Field Compliance where applicable



LYCOMING**AIRWORTHINESS DIRECTIVE COMPLIANCE**

A Textron Company

5/30/07

652 Oliver Street

Williamsport, PA 17701 U.S.A.

Page 2 of 2

Engine Model No: **IO-360-M1A**Engine SN: **L-33585-51E**

AD NO. / SB	RV RV	Description / Method of Compliance	Next Due	Once Rec	Code	Sign
66-06-03 302	A	REPLACEMENT OF CONNECTING ROD ASSY. NEW ROD CONFIGURATION	N/A	X	2	
66-20-04 307		OIL FILTER ADAPTER GASKET NEW CONF. GASKET INSTALLED	N/A	X	2	
67-22-06 305	4 B	REPLACEMENT OF BENDIX FUEL DIAPHRAGM ASSY NEW OR NEWLY O/H INSTALLED	N/A	X	2	
71-05-02 327	C	INSPECTION OF CENTER MAIN BEARING NEW INSTALLED	N/A	X	2	
71-11-02 328		REPLACEMENT OF EXH & INT HYD TAPPET PLUNGERS NEW P/N HYD TAPPETS INSTALLED	N/A	X	2	
73-23-01 367	F	INSP FOR CRACKS IN PISTON PINS INST NEW PARTS	N/A	X	2	
78-23-10 428		BENDIX FUEL INJ. BULLETIN RS-42 NEW P/N INSTALLED	N/A	X	2	
79-04-05 433	A	BENDIX FUEL INJ. BULLETIN RS-57 NEW P/N INSTALLED	N/A	X	2	
87-10-06 477	R1 A	INSPECTION AND REWORK OF LW-18790 ROCKER ARM ASSY NEW CONFIGURATION P/N INST.	N/A	X	2	
90-04-06 488	R1 A	PROPELLER GOVERNOR LINE SUPPORT NEW LINE W/STEEL CON. NUTS INS	N/A	X	2	
92-12-05 501	B	LW-14077 PISTON PIN NEW PARTS INSTALLED	N/A	X	2	
93-14-15 N/A		INST OF PLCKRD DENOTING OPER. NOT TO EXCEED 33.#HG FIELD COMPLIANCE AFTER STC	N/A	X	2	
95-07-01 N/A		CONNECTING ROD BOLT FAILURE LYCOMING PART INSTALLED	N/A	X	2	
95-26-02 398		ENGINES OPERATED WITH LOW OCTANE FUEL ENGINE IS NEW OR HAS BEEN REBUILT AT MANUFACTURER	N/A	X	2	
96-09-10 524		REPLACEMENT OF OIL PUMP IMPELLERS STEEL IMPELLERS INSTALLED	N/A	X	2	
98-17-11 N/A		CRANKSHAFT REPAIRED BY NELSON BALANCING SERVICE MAG/PARTICLE INSP OF C/SHAFT	N/A	X	2	

Codes:

- 1 AD Applicable to Engine
- 2 AD Not Applicable to Engine
- 3 Field Compliance where applicable



