AIRMARK OVERHAUL, INC.

Date: 4/16/2019 Work Order No. 47301

ENGINE ASSEMBLY AND FINAL INSPECTION REPORT
DIRECT DRIVE AND 76 SERIES ENGINES

CUSTOMER'S NAME: S.A.G.A EURL C/O

ADDRESS:

LYCOMING MODEL O-360-A4M

S/N L-30677-36AC

PROPELLER STRIKE INSPECTION AND REPAIR

THIS FORM IS USED IN CONJUNCTION WITH APPLICABLE FACTORY OVERHAUL MANUAL AND SERVICE BULLETINS.

MAINTENANCE RELEASE

The aircraft engine identified above was ~~overhauled~~/repaired, inspected and functionally tested in accordance with current federal air regulations and was found airworthy for return to service. Pertinent details of the repair are on file at this agency under work order

NO: 47301

DATE: MAY 21, 2019

Authorized Signature

AIRMARK OVERHAUL, INC.
6001 N.W. 29th Avenue
Ft. Lauderdale, FL 33309
F.A.A. Approved Repair Station
No. JL4R288M

Technician

Inspector:

Note: All Ref. No's are from Manual SSP1776 unless otherwise noted

AIRMARK OVERHAUL, INC.

ENGINE ASSEMBLY INSPECTION RECORD

47301
Work Order No.

LYCOMING DIRECT DRIVE AND 76 SERIES

CRANK PIN SIZE (Ref. No. 501)			Journal Size	Out of Round	
1. 2.1243	4. 2.1244		Standard	1. .0002	4. .0002
2. 2.1243	5. —		M. 003	2. .0001	5. —
3. 2.1242	6. —		M. 006	3. .0001	6. —
			M.010		

MAIN JOURNAL SIZE (Ref. No. 500 & No. 508)			Journal Size	Out of Round	
1. 2.3756	3. 2.3754		Standard	1. .0001	3. .0002
2. 2.3754	4. 2.3755		M. 003	2. .0001	4. .0001
	5. —		M. 006		5. —
			M.010		

CRANKSHAFT RUNOUT (Ref. No. 500)		
Mounted on **Front** and **Rear** Journal	FLANGE .001	
Mounted on # 1 and # 4 Journal	#2 .001	#3 .001
Mounted on # 2 and # 4 Journal	#3 .001	
Mounted on # / and # / Journal	# —	

CAMSHAFT RUNOUT (Ref. No. 516
Mounted on **Front** and **Rear** Journal
CENTER .0005

CRANK SHAFT S/N: V537931

TAPPET BODY IN CRANKCASE GUIDE (Ref. No. 511)						
Int.	1. .002	2. .002	3. .002	4. .002	5. —	6. —
Exh.	1. .002	2. .002	3. .002	4. .002	5. —	6. —

Technician _____

Inspector: _____

Note: All Ref. No's are from Manual SSP1776 unless otherwise noted

AIRMARK OVERHAUL, INC.

ENGINE ASSEMBLY INSPECTION RECORD

47301

Work Order No.

LYCOMING DIRECT DRIVE AND 76 SERIES

DESCRIPTION CONNECTING RODS	1	2	3	4	5	6
Conn Rod Bend & Twist (Ref. No. 503 and No. 504)	Ø	Ø	Ø	Ø	—	—
Bushing in Connection Rod Diameter (Ref. No. 600)	1.1257	1.1257	1.1257	1.1258	—	—
Conn Rod Bushing & Piston Pin Clearance (Ref. No. 602)	.0013	.0013	.0013	.0014	—	—
Conn Rod Bearing & Crank Pin Clearance (Ref. No. 501)	.002	.002	.002	.002	—	—
Conn Rod Side Clearance (Ref. No. 502)	.008	.007	.007	.007	—	—

CRANKCASE	1	2	3	4	5	6
Crankshaft in Main Bearing Diameter (Ref. No. 500)	.003	.003	.003	.003	—	—
Bushing in Counterweight Diameter (Ref. No. 521)	N/A					
Bushing in Crankshaft Blades Diameter (Ref. Latest Revision of SI 1143)	N/A					
Bushing in Propeller Flange Diameter & Location (Ref. Latest Revision of SI 1098)	ok					
Counterweights on Crank Check Blades Side Clear (Ref. No. 519)	N/A					
Crankshaft in Front Bearing End Clear (Ref. No. 506)	.009					
Camshaft Flanges in Crankcase End Clear (Ref. No. 515)	.004					

Technician _____

Inspector: _____

Note: All Ref. No's are from Manual SSP1776 unless otherwise noted

AIRMARK OVERHAUL, INC.

ENGINE ASSEMBLY INSPECTION RECORD

47301
Work Order No.

LYCOMING DIRECT DIRVE AND 76 SERIES

	TECHNICIAN		COMMENTS	
Crankshaft Gear in Shaft Diameter (Ref No. 60294-7 7-53)	AO		.0002 T	
Check Idler Gears, Crank Gear and Cam Gear for Wear (Ref. No. 60294-7 Section 3)	AO			
Install Crank Gear, Bolt Torque and Safety 205 in lbs (Ref. Latest Rev. of S.B. 475 and O.H. Manual 60294-7 Section 7-65, Ref 927)	Tech. AO	Wrench No. AES383	Insp. [illegible]	Wrench No. AES382
Torque and Safety Cam Gear bolts (Ref. No. 60294-7 Section 7-70) & Table 1	Tech. N/A	Wrench No. —	Insp. N/A	Wrench No. —
Torque and Safety Idler Shaft Bolts 150 in lbs nut 200 in lbs bolts (Ref. No. 60294-7 Section 7-75 & Latest Revision of SI 1310)	Tech. AO	Wrench No. AES171	Insp. [illegible]	Wrench No. AES357
Check crank gear to idler gear for internal timing	Tech. AO		Insp. [illegible]	
Clean – Inspect Lifter Unit (Ref. No. 60294-7 Section 6-25)	AO			
Install Rocker Arms and Check Clearance (Ref. No. 618 SI – As applicable)	AO			
Install Covers and Torque Screws (Ref. No. 905)	AO			
Torque and Safety Rear Case Tie Bolt (Ref. 60294 –7 Section 7-93)	AO			
Install and Torque Piston Cooling Nozzles (Ref No. 913)	N/A		—	

Inspect – Install Oil Pump (Ref No. 703 Thru 707)	AO	
Oil Pump Gear In Housing Diameter (Ref. No. 703)	AO	.004
Oil Pump Gear Shafts in Cover Diameter (Ref. No. 703)p	AO	.003

Technician [signature]

Inspector: [signature]

te: All Ref. No's are from Manual SSP1776 unless otherwise noted

AIRMARK OVERHAUL, INC.

LYCOMING DIRECT DIRVE AND 76 SERIES

ENGINE ASSEMBLY INSPECTION RECORD

47301
Work Order No.

	TECHINICAN	COMMENTS
Magneto Brg. To Gear Diameter (Ref. No. 746)	N/A	—
Magneto Brg. In Case or Adapter Diameter (Ref No. 747)	N/A	—
Crankshaft Gear to Idler Gear Backlash (Ref. No. 805)	AO	.009
Magneto Drive Gear to Idler Gear Backlash (Ref. No. 804)	AO	L .010 R .010
Camshaft Gear to Idler Gear Backlash (Ref. No. 803)	AO	.010
Propeller Governor Idler and Camshaft Backlash (Ref. No. 823)	N/A	—
Oil Pump Gear Backlash (Ref. No. 808)	AO	.009
Install Fuel System and Torque Lines and Nozzles C/W with S.B. on Line Clamping (Ref. Latest Rev. of SB 342)	N/A	—

	Mech.	Wrench No.	Insp.	Wrench No.
Torque Rod Bolts (Ref No. 900 / Latest Revision of SI 1458) 480 in lbs	AO	AES383	LP	AES382
Torque and Safety Bolt Inside Pan. (Ref. Table 1)	AO	AES171	LP	AES357
Torque and Stripe Cylinder Hold Down Nuts (Ref. No. 929) 300 in lbs	AO	AES383	LP	AES382
Torque Crankcase and Thru Bolts and Nuts 600 in lbs	AO	AES383	LP	AES382

Technician _____

Inspector: _____

ote: All Ref. No's are from Manual SSP1776 unless otherwise noted

AIRMARK OVERHAUL, INC.

FAA APPROVED REPAIR STATION #JL4R288M
6001 NORTHWEST 29TH AVENUE
FORT LAUDERDALE, FLORIDA 33309
(954) 970-3200 • (800) 282-3202
FAX: (954) 970-3400

MAGNETIC PARTICLE INSPECTION

47301
Work Order NO.
Certified Inspection

Customer SAGA, EURL
Address
Phone No.
Fax. No.

Make LYCOMING Model O-360-A4M S/N L-30677-36A Date 4/25/19

Quantity	Part No.	Description	Parts Accepted	Parts Rejected
1		Crankshaft	1	0
~~2 4 6~~		Counterweights	~~0~~	
~~1~~		Camshaft	0	
4 ~~6~~		Connecting Rods & Caps	4	
2		Idler Gears	2	
2		Idler Shafts	2	
2		Magneto Drive Gears	2	
1		Crankshaft Gear	1	
4 ~~6~~		Piston Pins	4	
1		Fuel Pump Shaft	1	
1		Oil Pump Drive	1	
2		Oil Pump Impeller	2	
1		Tach Shaft	1	
~~1~~		Pro. Gov. Drive	0	
~~2~~		Prop. Gov. Idler Gears	~~0~~	
1		Vacuum Pump Drive	1	
~~1~~		Hyd. Pump Drive	~~0~~	
8 ~~12~~		Rocker Arms	8	
4 ~~6 12~~		Rocker Shafts	4	
8 ~~12~~		Push Rods	8	
~~1 2~~		Camshaft Gears	0	0

By : Inspector: Shawn Pelland

Form AO-112
9/14/00

AIRMARK OVERHAUL, INC.

FAA APPROVED REPAIR STATION #JL4R288M
6001 NORTHWEST 29TH AVENUE
FORT LAUDERDALE, FLORIDA 33309
(954) 970-3200 • (800) 282-3202
FAX: (954) 970-3400

NDT INSPECTION RECORD

47301
Work Order No.

Customer SAGA EURL C/O

Address

Phone No.

Fax. No.

Certified Inspection

- ☐ MAGNETIC PARTICLE
- ☒ LIQUID PENETRANT
- ☐ ULTRASONIC

Make LYCOMING Model O-360-A4M S/N L-30677-36AC Date 4-24-19

Quantity	Part No.	Description	Parts Accepted	Parts Rejected
1		OIL SUMP	1	0
1		ACCESSORY COVER	1	0

The component(s) identified above has been inspected and or tested in accordance with an approve specification or standard and has been found to be free of defects in so far as LIQUID PENETRANT test will reveal. This does not include inspection for conformity of material or dimension to a drawing or state of wear or preservation of this component(s) or part(s). Pertinent details of this inspection are on file at this repair station under W.O. #. 47301

Inspector:

Form AO-113
05/12/06

1. Approving Civil Aviation Authority/Country:	2.	3. Form Tracking Number:
FAA/United States	**AUTHORIZED RELEASE CERTIFICATE** FAA Form 8130–3, AIRWORTHINESS APPROVAL TAG	DIV WDC #123758

4. Organization Name and Address:	5. Work Order/Contract/Invoice Number:
DIVCO, INC., 2806 N. SHERIDAN ROAD, TULSA, OK 74115 (DB2R762K)	INVOICE #123851

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:
1	LYC O-360 CRANKCASE	CASTING #72081	1	MATCH #328	REPAIRED

12. Remarks:

REPAIRED #2 CAM JOURNAL & LOWER FRONT #2 & 4 & LOWER REAR #2 CYLINDER
CRANKCASE REPAIRED PER DIVCO APPROVED PROCESS SPECS 77-002 REV 6 18 JULY 2017.
DATE COMPLETED: 14/FEB/2019
WDC #123758
WORK SPECIFIED IN BLOCKS 11/12 WAS CARRIED OUT IN ACCORDANCE WITH EASA PART 145 AND WITH RESPECT TO THAT WORK THE COMPONENT IS CONSIDERED READY FOR RELEASE TO SERVICE UNDER EASA PART 145 APPROVAL NUMBER EASA 145-5286

13a. Certifies the items identified above were manufactured in conformity to:	14a. ☑ 14 CFR 43.9 Return to Service ☑ Other regulation specified in Block 12
☐ Approved design data and are in a condition for safe operation. ☐ Non-approved design data specified in Block 12.	Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
			DB2R762K
13d. Name (Typed or Printed):	**13e. Date (dd/mmm/yyyy):**	**14d. Name (Typed or Printed):**	**14e. Date (dd/mmm/yyyy):**
		DARYLE WAYNE DOTSON	14/FEB/2019

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1.

Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

AIRMARK OVERHAUL, INC.

FAA APPROVED REPAIR STATION #JL4R288M
6001 NORTHWEST 29TH AVENUE
FORT LAUDERDALE, FLORIDA 33309
(954) 970-3200 (800) 282-3202
FAX: (954) 970-3400

CYLINDER ASSEMBLY INSPECTION RECORD

47301
WORK ORDER

Date 5/9/19 Work Required Cyl Repair Engine Model # 0360A4M Cyl. Class 12

CYLINDER POSITION NUMBER	1	2	3	4	5	6
Cylinder Bore	5.1275	5.1275	5.1275	5.1285		
Out of Round	.0005	.0005	.0005	.0003		
Taper or Choke	.0115	.0115	.0115	.009		
Condition of Ports						
Condition of Exhaust Studs						
Springs Outer						
Springs Intermediate	VALVES WERE NOT					
Springs Inner	REMOVED					
Intake Valve to Guide						
Exhaust Valve to Guide						
Leak Check						
Liquid Penetrant Tested						
Magnafluxed Tested						
Part Number	LW/12427	LW/12427	LW/12427	LW/12427		
W/O # Stamped on Cylinder	47301.1	47301.2	47301.3	47301.4		
Type of Cylinder Barrel	NITRIDE	NITRIDE	NITRIDE	NITRIDE		
Type of Assembly	Comp	Comp	Comp	Comp		

RING SIDE CLEARANCE	1	2	3	4	5	6
1. Ring	.005	.003	.003	.003		
2. Ring	.003	.003	.003	.003		
3. Ring	.004	.004	.004	.004		
4. Ring						
5. Ring						

RING GAP	1	2	3	4	5	6
1. Ring	.045	.045	.045	.046		
2. Ring	.045	.045	.045	.046		
3. Ring	.021	.021	.022	.022		
4. Ring						
5. Ring						

Mechanic: [signature] Inspector: [signature]

Form AO-104
9/14/00

1. Approving Civil Aviation Authority/Country: FAA/United States	2. **AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	3. Form Tracking Number: 7364757443 1000000051673509
4. Organization Name and Address: AVIALL SERVICES INC. 2750 REGENT BLVD DALLAS, TX 75261		5. Work Order/Contract/Invoice Number: 10025213

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:
1.	MAGNETO	4371	1	17120862	NEW

12. Remarks:

US
JUL
1734

THIS PMA PART IS NOT A CRITICAL COMPONENT.
AIRWORTHINESS APPROVAL
THE PRODUCT(S)/ARTICLE(S) SHIPPED UNDER THIS APPROVAL WERE PRODUCED BY CHAMPION AEROSPACE LLC.

13a. Certifies the items identified above were manufactured in conformity to: ☒ Approved design data and are in a condition for safe operation. ☐ Non-approved design data specified in Block 12.		14a. ☐ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12 Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.	
13b. Authorized Signature: Thomas C. Willis	13c. Approval/Authorization No.: 127604222	14b. Authorized Signature:	14c. Approval/Certificate No.:
13d. Name (Typed or Printed): Thomas Willis	13e. Date (dd/mmm/yyyy): 11 MAR 2019	14d. Name (Typed or Printed):	14e. Date (dd/mmm/yyyy):

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article. Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)propeller(s)/ article(s) from the airworthiness authority of the country specified in the Block 1. Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

1. Approving Civil Aviation Authority/Country: FAA/United States	2. **AUTHORIZED RELEASE CERTIFICATE** FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG	3. Form Tracking Number: 7365117129 1000000051673508
4. Organization Name and Address: AVIALL SERVICES INC. 2750 REGENT BLVD DALLAS, TX 75261		5. Work Order/Contract/Invoice Number: 10025213

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:
1.	MAGNETO	4370	1	19020874	NEW

12. Remarks:

US
JUL
1737

THIS PMA PART IS NOT A CRITICAL COMPONENT.
AIRWORTHINESS APPROVAL
THE PRODUCT(S)/ARTICLE(S) SHIPPED UNDER THIS APPROVAL WERE PRODUCED BY CHAMPION AEROSPACE LLC.

13a. Certifies the items identified above were manufactured in conformity to: ☒ Approved design data and are in a condition for safe operation. ☐ Non-approved design data specified in Block 12.		14a. ☐ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12 Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.	
13b. Authorized Signature: Thomas C. Willis	13c. Approval/Authorization No.: 127604222	14b. Authorized Signature:	14c. Approval/Certificate No.:
13d. Name (Typed or Printed): Thomas Willis	13e. Date (dd/mmm/yyyy): 11 MAR 2019	14d. Name (Typed or Printed):	14e. Date (dd/mmm/yyyy):

User/Installer Responsibilities

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47301

1. Approving Civil Aviation Authority/Country:	2.	3. Form Tracking Number:
FAA/UNITED STATES	**AUTHORIZED RELEASE CERTIFICATE** FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG	H-S101308

4. Organization Name and Address:	5. Work Order/Contract/Invoice Number:
HARTZELL ENGINE TECHNOLOGIES, 2900 SELMA HWY. MONTGOMERY, AL. 36108 PQ1383CE-D	M442770

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:
1	STARTER **** END ****	149NL	1	H-S101308	NEW

12. Remarks:

AIRWORTHINESS APPROVAL- PARTS.FOR PMA ELIGIBILITY SEE WWW.HARTZELL.AERO/PMA/

13a. Certifies the items identified above were manufactured in conformity to:

☒ Approved design data and are in a condition for safe operation.

☐ Non-approved design data specified in Block 12.

14a. ☐ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No:
Gary Hancock	PQ1383CE-D		
13d. Name (Typed or Printed):	**13e. Date (dd/mmm/yyyy):**	**14d. Name (Typed or Printed):**	**14e. Date (dd/mmm/yyyy):**
Gary Hancock	18/Oct/2018		

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1.

Statements in Block 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the nationalr egulations by the user/installer before the aircraft may be flown.

47301

1. Approving Civil Aviation Authority/Country: FAA/UNITED STATES	2. **AUTHORIZED RELEASE CERTIFICATE** FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG	3. Form Tracking Number: **INV #:** 6365

4. Organization Name and Address: **Aerotech of Louisville, Inc. 2209 Watterson Trail Louisville, KY 40299**	5. Work Order, Contract, or Invoice Number: **W/O:** 129933

6. Item:	7. Description:	8. Part Number:	9. Quantity	10. Serial Number:	11. Status/Work:
1	Chrysler alternator	4111810	1	**S/N** H-H090568	Overhauled

12. Remarks:

COPY OF WORK ORDER AVAILABLE ON REQUEST FROM AEROTECH OF LOUISVILLE.

CERTIFIES THAT THE WORK SPECIFIED IN BLOCK 11/12 WAS CARRIED OUT IN ACCORDANCE WITH EASA PART 145 AND WITH RESPECT TO THAT WORK THE AIRCRAFT COMPONENT IS CONSIDERED READY FOR RELEASE TO SERVICE UNDER EASA APPROVAL CERTIFICATE NUMBER145.6696 AND BY THE FAA AIR AGENCY CERTIFICATE NUMBER PU4R453M APPROVED FOR EXPORT. THE ORIGIONAL EQUIP. MFG. DATA APPEARS ON THE I.D. PLATE IN THE LINES IDENTIFIED AS MOD/NO & ORIG. MFG. COMPLIES WITH OE-A2 OR TW5000 LATEST REVISION.

THE FOLLOWING SERVICE BULLETINS & AD NOTES HAVE BEEN COMPLIED WITH. RESEARCHED: and not applicable.

13a. Certifies the items identified above were manufactured in conformity to: ☐ Approved design data and are in a condition for safe operation ☐ Non-approved design data specified in Block 12	14a. [X] 14 CFR 43.9 Return to Service [X] Other regulation specified in Block 12 Certifies that unless otherwise specified in block 12, the work identified in *Block 11 and described in Block 12 was accomplished in accordance* with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No:	14b. Authorized Signature: John C Evans	14c. Approval/Certificate No: **PU4R453M**
13d. Name *(Typed or Printed):*	13e. Date (dd/mm/yyyy):	14d. Name *(Typed or Printed):* **John C. Evans**	14e. Date: (dd/mm/yyyy): 03/May/2019

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article..

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1.

Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

AIRMARK OVERHAUL, INC.

FAA APPROVED REPAIR STATION #JL4R288M
6001 NORTHWEST 29TH AVENUE
FORT LAUDERDALE, FLORIDA 33309
(954) 970-3200 • (800) 282-3202
FAX: (954) 970-3400

LYCOMING ENGINE TEST PERFORMANCE

47301
Work Order No.

Model O-360-A4M S/N L-3677-36AC Operator [illegible] Date 5/21/19

Run Time	RPM	Oil Temp.	Oil Pres.	Man. Pres.	Cylinder Head Temperature 1	2	3	4	5	6	Fuel Pres.	Remarks
10	1200	140	70	12								Ok
10	1500	160	72	15	300	300	305	305				
10	1800	170	72	18	310	310	315	315				
10	2000	180	80	20	315	315	320	320				
10	2200	185	80	22	320	320	325	325				
10	2400	190	82	24	325	325	330	330				
15	2700**	190	82	27	325	325	330	330				
*60	2200	190	80	22	325	325	330	330				

*Oil weight at start	14.7	All references per
*Oil weight at end	14.3	overhaul manual no. 60294-7-14

*Oil consumption run, check oil quantity weight before and after consumption run.
**Refer to geared engine run in schedule for run time and RPM variations.

Comp Check: #1 80/ 77 #2 80/ 78 #3 80/ 76 #4 80/ 78 #5 80/ — #6 80/ —

Oil Pressure Verification at Propeller Governor Pad	NA
Propeller Oil Control Leak Test Procedure	40 PSI/ NA
Check Oil Screen for Contamination	1st Check: Clean 2nd Check: Clean
Check Engine for Leaks, Fuel and Oil	ok/Clean
Check Magneto Timing, Torque and Stripe	ok/complete

Inspector: [signature]

Form AO-115
01/31/04

AIRMARK OVERHAUL, INC.
FAA APPROVED REPAIR STATION #JL4R288M
6001 NW 29 AVENUE
FORT LAUDERDALE, FL 33309

SERVICE BULLETIN
TEXTRON LYCOMING
O, HO, LO, TO, LTO-360

MODEL O-360-A4M S/N L-30677-36AC W/O# 473201 DATE MAY 21, 2019

ISSUE NO	DESCRIPTION	SIGNATURE
201F	INSPECTION OF C/S FLANGES	
	FLANGE NOT BENT, 0.437" THICK	
212B	REPLACING STRAIGHT THRU-STUDS WITH	
	NECKED STUDS P/C/W	
222D	CRANKSHAFT RENITRIDING RECOMMENDATIONS	
	CRANKSHAFT NOT REWORKED	
225B	REPLACEMENT OF VALVE ROCKER THRUST	
	WASHERS NA TO MODEL	
238	MAGNETIZED CONDITION OF HYDRAULIC TAPPET	
	PLUNGER ASSY.	
	ALL INSPECTED GOOD, NONE MAGNETIZED	
240W (MANDATORY)	MANDATORY REPLACEMENT OF PARTS AT	
	NORMAL OVERHAUL PARTS REPLACED FOR	
	PROP STRIKE + UPON REMOVAL	
271A	CYLINDER PAINTING	
	NA TO WIDE DECK MODEL	
272A	RETORQUEING OF CENTER MAIN THRU-STUDS	
	NA TO MODEL	
273A	MODIFICATION OF CRANKCASE CENTER MAIN	
	BEARINGS SUPPORT	
	NA TO MODEL	
314C	LIMITED TRAVEL LIFTER REPLACEMENT	
	NA TO MODEL	
357	ENGINE INSPECTION IN EVENT OF IMMERSION	
	NA - PROP STRIKE INSPECTION	
366C (MANDATORY)	CARBURETOR THROTTLE BOWL SCREW INSPECTION	
	INSPECTED GOOD	
367F	REQUIRED INSPECTION OF P/N 69650 PISTON PIN	
	(4) LW14078 PISTON PINS INSTALLED	
367F SUPP 1	REQUIRED INSPECTION OF P/N 69650 PISTON PIN	
	(4) LW14078 PISTON PINS INSTALLED	
369R	ENGINE INSPECTION AFTER OVERSPEED	
	NA - PROP STRIKE INSPECTION	
370	OIL FILTER ATTACHING STUD REPLACEMENT	
	NEW CH48110-1 FILTER INSTALLED	
381C	OIL PUMP WOODRUFF KEY DRIVE &	S/S MSB524
	IMPELLER REPLACEMENT	

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SERVICE BULLETIN
TEXTRON LYCOMING
O, HO, LO, TO, LTO-360

MODEL O-360-A4M S/N L-30677-36A W/O# 47301 DATE MAY 21, 2019

ISSUE NO	DESCRIPTION	SIGNATURE
385C	OIL PUMP IMPELLER & DRIVE REPLACEMENT	S/S MSB524
385C SUPP 1	OIL PUMP IMPELLER & DRIVE REPLACEMENT	S/S MSB524
388C	EXHAUST VALVE & GUIDE CONDITION	
	NOT REQ'D ALL HI-CHROME EXH GUIDES	
398B	ACTION FOLLOWING USE OF INCORRECT FUEL	
	NA- PROP STRIKE INSPECTION	
400	INSTALLATION OF TEFLON THRUST BUTTONS	
	(2) THRUST BUTTONS INSTALLED	
406A (MANDATORY)	ROMEC & TITAN FUEL PUMP INSPECTION	
	NA TO MODEL	
411D (MANDATORY)	O-360-A3A - A4A - A4J-IO-360-B4A MAGNETO ISOLATION	
	DRIVE NA TO MODEL	
419	EXHAUST VALVE REPLACEMENT	
	NA TO MODEL	
425C	REPRINT TCM SB 645 IMPULSE COUPLING	
	NEW CHAMPION MAGNETO KIT INSTALLED	
431	TEFLON FIRE HOSES WITH FIRE SLEEVE	
	HOSES NOT SUPPLIED	
439A	INSPECTION OF CONNECTING RODS FOR GALLING	
	ALL INSPECTED GOOD, NONE GALLED	
446E	USE OF LYCOMING LW-16702 OIL ADDITIVE	
	NA TO MODEL	
447B (MANDATORY)	INSPECTION OF UPPER EXHAUST VALVE SPRING	
	SEATS NA TO MODEL	
451	OIL LEVEL GAGE REWORK/REPLACEMENT	
	NA TO MODEL	
455D	REPLACEMENT OF OIL PUMP IMPELLERS	S/S MSB524
456F	REPLACEMENT OF OIL PUMP IMPELLERS	S/S MSB524
466	INSPECTION OF OIL FILTER BASE ADAPTER	
	INSPECTED GOOD	
468C	REPRINT OF SLICK SB2-88A 4200 SERIES MAGNETOS	
	NEW CHAMPION MAGNETO KIT INSTALLED	
475C AND SUPP 1	CRANKSHAFT GEAR MODIFICATION & ASSY.	
	INSPECTED/INSTALLED AS SPECIFIED	
	13 #19646 GEAR, NEW STD 2246 BOLT	

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ISSUE NO	DESCRIPTION	SIGNATURE
477A	INSPECTION & REWORK OF P/N LW-18790	
	ROCKER ARM ASSY.	
	(4) 69444, (4) 74636 ROCKER ARMS	
477A SUPP 1	ADDITION OF SERIAL NUMBERS TO THE ENGINE	
	(4) 69444, (4) 74636 ROCKER ARMS	
480F (MANDATORY)	OIL AND FILTER CHANGE INTERVALS	
	NEW CH48110-1, NO OIL, WHEN SHIPPED	
486	INSPECTION OF SINGLE BELT DRIVEN RING GEAR	
	SUPPORT	
	SUPPORT NOT RECEIVED, NOT SUPPLIED	
488A	PROPELLER GOVERNOR LINE SUPPORT	
	NA TO MODEL	
488A SUPP 1	A/C BRACKET & HARDWARE	
	NA TO MODEL	
495A	REPLACEMENT OF COMPOSITE FLOATS W/METAL	S/S MSB582
	(PRECISION AIRMOTIVE)	
496	LEAR ROMEC RELIEF DIAPHRAGM REPLACEMENT	
	NA TO MODEL	
501B	PISTON PIN RECALL (LW-14077)	
	(4) LW 14078 PISTON PINS INSTALLED	
502	REPLACEMENT OF LW-13262 INTAKE VALVE	
	NA TO MODEL	
505B (MANDATORY)	INSPECTION OF PITTING ON CRANKSHAFTS	
	NA - SOLID SHAFT	
508	TCM MAGNETO IMPULSE COUPLING INSTALLATION	
	(TCM SB 639)	
	NEW CHAMPION MAGNETO KIT INSTALLED	
509	REPRINT AEROQUIP SB AA135	
	HOSES NOT SUPPLIED	
515 (MANDATORY)	REPRINT OF TCM'S SB 643 MAINTENANCE INTERVALS	
	NEW CHAMPION MAGNETO KIT INSTALLED	
516A (MANDATORY)	INSPECTION OF BENDIX/TCM MAGNETOS WITH IC.	
	NEW CHAMPION MAGNETO KIT INSTALLED	
517 (MANDATORY)	REPRINT OF TCM SBCSB 641 OPEN CONDITION	
	IN THE CAPACITORS	
	NEW CHAMPION MAGNETO KIT INSTALLED	
517 SUPP 1	CORRECTION OF AFFECTED ENGINES FOR SB517	
	NEW CHAMPION MAGNETO KIT INSTALLED	
518D (MANDATORY)	INSPECTION OF THERMOSTATIC BYPASS VALVE	
	SL53E19600/45244 REINSTALLED	

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ISSUE NO	DESCRIPTION	SIGNATURE
519 (MANDATORY)	SHROUD TUBE RETAINING SPRINGS (LW-14995)	
	SPRINGS INSTALLED FROM GASKET SET	
520	INCORRECT PISTONS IN CERTAIN LYCOMING KITS	
	NOT FACTORY KITS	
524 (MANDATORY)	REPLACEMENT OF OIL PUMP GEARS	
	AEL 78531 PUMP W/AEL 18109-10 IMPELLERS	
525A (MANDATORY)	LYCOMING LW-15473 HIGH PRESSURE FUEL PUMPS	
	NA TO MODEL	
527C (MANDATORY)	RECALL OF PISTON PIN LW-14077	
	(4) LW 14078 PISTON PINS INSTALLED	
528 (MANDATORY)	REPRINT TCM SERVICE BULLETIN SB 658	
	NEW CHAMPION MAGNETO KIT INSTALLED	
529B (MANDATORY)	AN FUEL PUMPS LEAR ROMEC SB101 SB020	
	NA TO MODEL	
530B (MANDATORY)	APPLICATION OF PROTECTIVE COATING ON C/SHAFT	
	REF. S.I. 1511A	
	NA - SOLID SHAFT	
533C (MANDATORY)	PROP STRIKE INSPECTION (ATTACH CHECKLIST)	
	C/W - SEE ATTACHED CHECKLIST	
539A (MANDATORY)	REPRINT OF CRANE/LEAR ROMEC S.B.	
	NA TO MODEL	
540 (MANDATORY)	VALVE SEAT INSPECTION	
	P/C/W - TIME IN SERVICE	
541 (MANDATORY)	REPRINT OF TCM CSB662A CAPACITOR REPLACEMENT	
	AND DATE CODE INSPECTION	
	NA TO MODEL	
SI1304J	ENGINE NAMEPLATE REPLACEMENT	
	P/C/W	
TCM CSB662A	CAPACITOR REPLACEMENT & DATE CODE INSPECTION	
	NA TO MODEL	
543C (MANDATORY)	OIL FILER BASE SEAL REPLACEMENT	
	NA TO MODEL	
543A SUPP 1	OIL FILER BASE SEAL REPLACEMENT	S/S BY 543B
548A (MANDATORY)	DIAPHRAGM - TYPE FUEL PUMP INSP./REPLACEMENT	
	AERO ACC'YS OH 2015 PUMP REINSTALLED	
549 (MANDATORY)	CRANKSHAFT SERIAL NUMBER INSPECTION	
	NA BY CRANKSHAFT S/N	

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ISSUE NO	DESCRIPTION	SIGNATURE
SB549 SUPP 1	CRANKSHAFT SERIAL NUMBER INSPECTION	
	NA BY CRANKSHAFT S/N	
555A (MANDATORY)	OIL PUMP BODY PLUG INSPECTION	
	P/N'S 78528, 78890, 51A22618	
	NA- AEL78531 OIL PUMP HOUSING	
555 SUPP 2	OIL PUMP BODY PLUG INSPECTION	SUPERCEDED
		BY SB555A
557 (MANDATORY)	RSA-5, RSA-10 FUEL SERVOS OVERHAULED BY	
	PRECISION AIR MOTIVE	
	NA TO MODEL	
559	KELLY AEROSPACE STARTER REPLACEMENT	
	(KELLY AEROSPACE) S/B NO. A-112 REV A	
	NEW 149NL STARTER INSTALLED	
565 (MANDATORY)	DIAPHRAGM TYPE FUEL PUMP INSPECTION	
	NA TO MODEL	
566 (MANDATORY)	CRANKSHAFT REPLACEMENT	
	NA TO MODEL	
566 SUPP NO. 1	CRANKSHAFT REPLACEMENT	
	NA TO MODEL	
568 (MANDATORY)	REPRINT OF SLICK S/B NO SB1-88B LYCOMING ENGINE	
	EQUIPPED WITH PRESSURIZED SLICK MAGS	
	NA TO MODEL	
569A (MANDATORY) AND	CRANKSHAFT RETIREMENT FOR CERTAIN LYCOMING	
SUPP NO. 1	ENGINES (SEE SERVICE LETTER L244 FOR KIT P/N)	
	NA TO MODEL	
B06-01E (MANDATORY)	REMOVAL OF SUPERIOR CYLINDERS WITH SOFT	
SUPERIOR	BARRELS	
	ALL CYLINDERS LYCOMING	
573 (MANDATORY)	PRESSURIZED MAGNETO PRESSURE TESTS	
	NA TO MODEL	
574A (MANDATORY)	CYLINDER STUD HOLE CROSS THREADED	
	NA BY LOT/DATE CODE OF ALL CYLS	
576	TCM SB633A-TACH CIRCUIT INTEGRITY	
	NEW CHAMPION MAGNETO KIT INSTALLED	
577A	SKY TEC STARTER SKYTEC S/B 07-01 REV. D	
	NEW 149NL STARTER INSTALLED	
MSB028A	KELLY AEROSPACE FUEL PUMP REPLACE	
	DIAPHRAGM & PLUNGER REPLACEMENT (GEARED PUMPS)	
	NA TO MODEL	

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ISSUE NO	DESCRIPTION	SIGNATURE
578	INCORRECT CYLINDERS ASSEMBLIES SHIPPED W/CYLINDER KITS	
	NOT FACTORY KITS	
MSB: 08-1 REV 3	ENGINE COMPONENTS INC. INSPECTION REMOVAL OR	
(MANDATORY)	REPLACEMENT OF AEL65102 CYLINDER ASSEMBLY	
	ALL CYLINDERS LYCOMING	
582A (MANDATORY) AND	REPLACEMENT OF BRASS OR POLYMER FLOAT	
SUPP 1	WITH FOAM FLOAT PRECISION S/B MSA-13	
	NO WORK ACCOMPLISHED	
583A (MANDATORY)	REPRINT OF SLICK MAGNETO SB2-08A	
	NEW CHAMPION MAGNETO KIT INSTALLED	
584B (MANDATORY)	REPRINT OF SLICK MAGNETO SB3-08A	
	NEW CHAMPION MAGNETO KIT INSTALLED	
591A (MANDATORY)	REPRINT OF KELLY AEROSPACE MSB 039	
	REPLACMENT OF TURBINE WHEEL	
	NA TO MODEL	
CSB668	INSPECTION OF IGNITION HARNESS ATTACHMENT PLATE	
	(TCM S-20/S-200)	
	NA- CHAMPION MAGNETOS	
592	ENGINE INSPECTION AFTER OVERBOOST	
	NA- NOT OVERBOOST	
SB-18 REV A	MARVEL SCHEBLER EMERGENCY SERVICE BULLETINE	
	HA-6 CARBURETORS	
	NA TO MODEL	
601	NON COMPLIANT OIL FILL TUBE P/N 77527	
	NA TO MODEL	
615	DIAPHRAGM TYPE FUEL PUMP REPLACEMENT	S/S SB621
617	DIAPHRAGM TYPE FUEL PUMP REPLACEMENT	S/S SB621
619	HARDNESS CHECK LW15014 ROCKER ARMS	
	NA TO MODEL	
SB670 TCM	MAGNETO BLOCK INSPECTION (S-20,200,1200 SERIES)	
	NEW CHAMPION MAGNETO KIT INSTALLED	
SB621B	DIAPHRAGM TYPE FUEL PUMP REPLACEMENT	
	NA TO MODEL	
622	SLICK LASAR MAGNETOS	
	NOT LASAR MAGNETOS	
623	HARTZELL SB-062, LW14326 AND LW14338 ALTERNATORS,	
	THRU BOLT REPLACEMENT	
	NA BY ALTERNATOR P/N	

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ISSUE NO	DESCRIPTION	SIGNATURE
SL255A	APPROVED FUEL PUMPS HIO-360-D1A, G1A, TO-360-C1A6D	
	NA TO MODEL	
628	REPRINT OF HARTZELL ENGINE TECHNOLOGIES SB ASB069	
	NA TO MODEL	
MSB 630A	CONNECTING ROD BUSHING INSPECTION WHEN CYLINDER	
	IS REMOVED	
	ALL RODS REBUSHED, (4) AEL13923 BUSHINGS	
MSB 632B	IDENTIFICATION OF CONNECTING RODS WITH NON	
	CONFORMING SMALL END BUSHINGS	
	ALL RODS REBUSHED, (4) AEL13923 BUSHINGS	
MSB 634	CYLINDER AND HEAD ASSEMBLY SERVICEABLE LIFE	
	NA BY CASTING MARKINGS	
MSB 637	CHAMPION SLICK IMPULSE COUPLED MAGNETO	
	INSPECTION RIGHT MAGNETO NA BY S/N	
	LEFT MAGNETO REQUIRES INSPECTION	
	AT 400 HRS.	

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ISSUE NO	DESCRIPTION	SIGNATURE
59-10-07	CYLINDER BAFFLE CLAMPS (O-360) SB 254A	
	P/C/W	
64-16-05	POSS. ENGINE OIL LOSS A/C FUEL PUMP (SB 298)	
	NA BY PUMP PART NUMBER	
66-20-04	OIL FILTER ADAPTER GASKET (SB 307)	
	SL12795 INSTALLED FROM GASKET SET	
73-23-01	PISTON PINS (O-360) SB 367F	
	(4) LW14078 PISTON PINS INSTALLED	
74-26-09	DRIVE BUSHINGS BENDIX/TCM (SB 556B)	
	NEW CHAMPION MAGNETO KIT INSTALLED	
75-08-09R3	OIL PUMP FAILURES (O,HO-360) SB 381B/385C	
	AEL 7853; PUMP W/ AEL 18109-10 IMPELLERS	
78-09-07R3	IMPULSE MEASUREMENT BENDIX/TCM SB 645	S/S BY 96-12-07
78-18-04	2000 SERIES MAGNETO (SB 590A)	
	NA TO MODEL	
79-10-03R2	ENGINE MOUNT BRACKET ATTACH BOLTS (O-360)	
	SI 1380 NA TO MODEL	
79-12-07	GREEN BLOCK 2000 SERIES (SB 606)	
	NA TO MODEL	
79-15-02	INTERNAL ECONOMIZER CHANNEL PLUG REPLACEMENT	
	NA TO MODEL	
79-18-06 R1	2000 SERIES MAGNET (SB 605A)	
	NA TO MODEL	
80-02-13	TURBO OIL DRAIN FLANGE (TO-360-C) SB 426	
	NA TO MODEL	
80-04-03R2	UPPER SPRING SEATS (SB 435)	
	NA TO MODEL	
80-14-07	UPPER SPRING SEATS (O,LO-360) SB 447	
	NA TO MODEL	
80-17-14	2000 SERIES MAGNET (SB 605A)	
	NA TO MODEL	
81-12-06R1	3000 SERIES GEAR INSPECTION (SB 618/619)	
	NA TO MODEL	
81-18-04R2	FAILURE OF OIL PUMP GEARS (SB 455A/456)	S/S 96-09-10
82-11-05	2000 SERIES GEAR INSPECTION (SB 617B)	
	NA TO MODEL	
82-13-01	GREEN BLOCK 1200 SERIES (SB 613)	
	NEW CHAMPION MAGNETO KIT INSTALLED	

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ISSUE NO	DESCRIPTION	SIGNATURE
82-20-01	IMPULSE CAM SOFTNESS BENDIX/TCM (SB 623)	
	NEW CHAMPION MAGNETO KIT INSTALLED	
87-10-06R1	ROCKER ARM FAILURE (LW-18790) SB 477A	
	(4) 67444, (4) 74636 ROCKER ARMS	
90-04-06R1	PROP. GOVERNOR LINE (ALL 4 CYLINDER ENGINES)	
	SB 488A NA TO MODEL	
91-14-22	PREV. LOOSENING/FAILURE OF CRANKSHAFT BOLTS	S/S 2004-10-14
	(SB 475C)	
92-12-05	PISTON PIN LW-14077 (SB 501)	
	(4) LW14078 PISTON PINS INSTALLED	
92-20-07	FUEL PUMPS AERO ACCY	S/S 93-05-21
93-02-05	INJECTION LINES (SB 342D & SUPPLEMENT No. 1)	S/S 2002-26-01
93-05-21	FUEL PUMPS AERO ACCY	S/S 93-11-11
93-11-11	FUEL PUMPS AERO ACCY	
	NA TO MODEL	
94-01-03R2	COIL AND MAGNET INSPECTION MSB 644	
	NEW CHAMPION MAGNETO KIT INSTALLED	
94-06-09	CAPACITOR BATCH CODES (CSB 641) BENDIX/TCM	
	NEW CHAMPION MAGNETO KIT INSTALLED	
94-14-13	DETONATION DUE TO LOW OCTANE FUEL	S/S 95-26-02
94-25-04	HA-6 SERIES CARBURETOR	
	NA TO MODEL	
95-07-01	75060 SUSPECT UNAPPROVED CONNECTING ROD	
	BOLT (8) NEW SL74644 BOLTS INSTALLED	
95-26-02	DETONATION DUE TO LOW OCTANE FUEL	
	NA - PROP STRIKE INSPECTION	
96-09-10C	REPLACEMENT OF OIL PUMP GEARS	
	AEL7853i PUMP W/AEL18109-10 IMPELLERS	
96-12-07	INSPECTION OF TCM IMPULSE COUPLINGS	S/S 2005-12-06
96-23-03	LYCOMING LW-15473 HIGH PRESSURE FUEL PUMPS SB 525A	
	NA TO MODEL	
97-01-03	RECALL OF PISTON PIN LW-14077 SB 527C	S/S 97-15-11

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ISSUE NO	DESCRIPTION	SIGNATURE
97-15-11	RECALL OF PISTON PIN LW-14077 SB 527C	
	(4) LW14078 PISTON PINS INSTALLED	
98-01-06	ONE PIECE VENTURI & FUEL NOZZLE	
	PRECISION SB MSA -2,-7,-8,-9	
	P/C/W	
98-02-08	INSPECTION OF PITTING ON CRANKSHAFTS MSB505B	
	NA - SOLID SHAFT	
98-17-11	CRANKSHAFTS REPAIRED BY NELSON BALANCING SERVICE	
	SHAFT NOT REPAIRED BY NELSON	
98-18-12	AN FUEL PUMP LEAR ROMEC (MSB 529A)	S/S 2003-14-03
2000-18-53	OIL FILER BASE SEAL REPLACEMENT (MSB543A)	S/S 2002-12-07
2002-12-07	OIL FILTER SEAL REPLACEMENT (MSB543A)	
	NA TO MODEL	
2002-26-01	INJECTION LINES	S/S 2008-14-07
2003-14-03	LEAR ROMEC FUEL PUMP (SB529B)	
	NA TO MODEL	
2004-10-14C	PREVENT LOOSENING OF CRANKSHAFT GEAR BOLT	
	(MSB475C) INSPECTED/INSTALLED PER	
	MSB475C + SUPP1, 13519646 GEAR,	
	NEW STD 2246 BOLT	
2005-0023R3	EASA EXHAUST VALVE AND GUIDE INSPECTION	
	NA - ALL #1-CHROME GUIDES	
2005-12-06	INSPECTION OF TCM IMPULSE COUPLINGS	
	NEW CHAMPION MAGNETO KIT INSTALLED	
2005-19-11	CRANKSHAFT REPLACEMENT (MSB566)	
	NA TO MODEL	
2005-26-10	ECI CLASSIC CAST CYLINDERS	S/S 2006-12-07
2006-06-16	CRANKSHAFT REPLACEMENT CMSB566 SUPP NO 1	
	TABLE 2 NA TO MODEL	
2006-10-21 C2	REPLACEMENT OF CERTAIN AEL11750 CONN RODS	
	(4) 74502 RODS REINSTALLED	
2006-12-07	ECI CLASSIC CAST CYLINDERS	
	ALL CYLINDERS ARE LYCOMING	
2006-20-09	CRANKSHAFT REPLACEMENT (MSB569A)	S/S 2012-19-01

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ISSUE NO	DESCRIPTION	SIGNATURE
2007-04-19R1	REMOVAL OF SUPERIOR CYLINDER WITH SOFT	
	BARRELS. SUPERIOR B06-01E	
	ALL CYLINDERS ARE LYCOMING	
2008-14-07	INJECTION LINES	S/S 2011-26-04
2008-19-05	INSPECTION & REPLACEMENT OF ECI TITAN CYLINDERS	S/S 2009-26-12
2008-08-14	PRECISON AIRMOTIVE MSB N. PRS107	S/S 2009-02-03
	REV 1 AND PEX-1	
2009-02-03	PRECISION AIRMOTIVE MSB NO. PRS107	
	REV. 4 & PEX-1 INSPECT BRASS PLUG	
	S/N 383493 SEE SI 1520	
	NA TO MODEL	
2009-26-12	INSPECTION & REPLACEMENT OF ECI TITAN CYLINDERS	
	ALL CYLINDERS ARE LYCOMING	
2010-07-08	REMOVAL OF TURBOCHARGERS AS PER	
	KELLY AEROSPACE SB N0. 039	
	NA TO MODEL	
2011-13-03	CLEANING OF MACHINING DEBRIS FROM TURBOCHARGER	
	CENTER HOUSINGS (HARTZELL S.B. NO. 040 REV.A)	
	NA TO MODEL	
2011-15-10	AVSTAR SERVO DIAPHRAGM REPLACEMENT	S/S 2012-03-06
2011-26-04	INJECTION LINES (SB 342 F)	S/S 2015-19-07
2011-26-07	MANDATORY REPLACEMENT OF CERTAIN SLICK	
	MAGNETOS	
	NEW CHAMPION MAGNETO KIT INSTALLED	
2012-03-06	AVSTAR SERVO DIAPHRAGM REPLACEMENT	
	NA TO MODEL	
2012-03-07	BILLET HA-6 CARBURETOR REPLACEMENT	
	NA TO MODEL	
2012-19-01	CRANKSHAFT REPLACEMENT (MSB569A)	
	NA TO MODEL	
2015-02-07	PROPELLER GOVERNOR SET SCREW INSTALLATION	
	NA TO MODEL	
2017-16-11	CONNECTING ROD BUSHINGS MSB 632B	
	ALL RODS REBUSHED, HAR-13923 BUSHINGS	

AIRMARK OVERHAUL, INC.
REPAIR STA. #JL4R288M

AIRMARK OVERHAUL, INC.
REPAIR STA. #JL4R288M

Engine Inspection Checklist After Propeller Strike for All Lycoming Engines - Except Geared Engines			
Engine Model: O-360-A4M		**Engine Serial Number:** L-30677-36AC	
Date Inspection Started: 4-16-19		**Date Inspection Completed:** MAY 21, 2019	
	Sequential Task	**Additional Information**	**Corrective Action Done/Comments**
1.	Examine the propeller for extent of damage; record condition of propeller.	Condition of Propeller/Corrective Action: ☐ Propeller satisfactory ☐ Repair propeller in accordance with propeller manufacturer's instructions ☐ Replace propeller in accordance with the airframe manufacturer's instructions.	CUSTOMER RESPONSIBILITY
2.	Remove the propeller.	As per the airframe and propeller manufacturer's instructions.	
3.	Remove the engine.	In accordance with the airframe manufacturer's instructions.	
CRANKCASE P/N:		**MATCH NO:**	
4.	Disassemble the engine - remove the crankshaft, camshaft, connecting rods, crankshaft gear, and internal steel parts.	In accordance with the applicable Lycoming engine manual.	OK
5.	Complete blast cleaning of the crankcase with 17 grit walnut shells or equivalent at 35 to 45 psi (241 to 310 kPa); remove all coatings on the crankcase and engine mount bosses.	Make sure there is no dirt, debris, sludge, paint, or any other substance that could prevent reliable Fluorescent Penetrant Inspection (FPI) or subsequent oil flow.	OK
6.	Complete blast cleaning of the oil sump and engine mount bosses with 17 grit walnut shells or equivalent at 35 to 45 psi (241 to 310 kPa).	Make sure there is no dirt, debris, sludge, paint, or any other substance that could prevent reliable FPI or subsequent oil flow.	OK
7.	Complete blast cleaning of the engine mount brackets (on six-cylinder engines) and, if used, the lower mount rings (on helicopter engines) with 17 grit walnut shells or equivalent at 35 to 45 psi (241 to 310 kPa).	Make sure there is no dirt, debris, sludge, paint, or any other substance that could prevent reliable FPI or subsequent oil flow.	NA- INTEGRAL TO CRANKCASE
8.	Complete blast cleaning of the accessory housing with 17 grit walnut shells or equivalent at 35 to 45 psi (241 to 310 kPa).	Make sure there is no dirt, debris, sludge, paint, or any other substance that could prevent reliable FPI or subsequent oil flow.	OK

Engine Inspection Checklist After Propeller Strike for All Lycoming Engines - Except Geared Engines (Cont.)			
	Sequential Task	**Additional Information**	**Corrective Action Done/Comments**
9.	Remove and discard the existing crankshaft gear retaining bolt and lockplate.		OK
10.	Examine the crankshaft.	Refer to the applicable Lycoming engine manual and the latest revision of the Service Table of Limits - SSP-1776 for the crankshaft disassembly and inspection procedures.	INSPECTED GOOD LP
11.	Examine, the crankshaft counter-bored recess, the alignment dowel especially at the base where it goes into the crankshaft, the bolt hole threads, and the crankshaft gear for wear, galling, corrosion, and fretting.	Refer to the latest revision of Service Bulletin No. SB-475. If the bolt hole threads are damaged, they cannot be repaired. Replace the crankshaft.	INSPECTED GOOD LP
12.	Clean the crankshaft, camshaft, crankshaft gear, counterweights, rollers and bushings.	Make sure there is no dirt, debris, sludge, paint, or any other substance that could prevent reliable magnetic particle inspection or subsequent oil flow.	OK
13.	Clean the following internal parts made of steel: • Connecting rods • Tappets (not roller tappets) • Piston pins • Rocker shafts • Accessory drive gears • Magneto drive gears • Idler and oil pump shafts • Shaft gears and impellers		OK

⚠ **CAUTION:** BASED UPON THE ACCUMULATED ENGINEERING, TECHNICAL, AND HISTORICAL DATA AVAILABLE, LYCOMING ENGINES PROHIBITS STRAIGHTENING OR GRINDING OF BENT CRANKSHAFT PROPELLER FLANGES TO RESTORE MAXIMUM RUN-OUT SPECIFICATION AS NOTED IN THE LATEST REVISION OF THE SERVICE TABLE OF LIMITS - SSP-1776. IF THE CRANKSHAFT PROPELLER FLANGE IS BENT, REPLACE THE CRANKSHAFT. DO NOT TRY TO STRAIGHTEN OR GRIND THE CRANKSHAFT PROPELLER FLANGE.

Engine Inspection Checklist After Propeller Strike for All Lycoming Engines - Except Geared Engines (Cont.)

CRANKSHAFT P/N: 13B27134 **S/N:** V537931

	Sequential Task	Additional Information	Corrective Action Done/Comments
14.	Measure the flange run-out on the crankshaft.	Refer to the latest revisions of both Service Bulletin No. SB-240 and the Service Table of Limits - SSP-1776 for crankshaft flange run-out tolerance. Record the crankshaft flange run-out measurement.*	☒ Use crankshaft ☐ Replace crankshaft REFER TO AD-108
15.	Measure the main bearing run-out on the crankshaft.	Refer to the latest revision of the Service Table of Limits - SSP-1776 for the main bearing run-out tolerance Record the main bearing run-out measurement.*	☒ Use crankshaft ☐ Replace crankshaft REFER TO AD-108
16.	Measure the polished dimensions on the main journals.	Refer to the latest revision of the Service Table of Limits - SSP-1776 for the dimensions on the main journals Record the dimensions of the main journals.* REFER TO AD-108	☒ Main journals within acceptable limits - use crankshaft ☐ Replace crankshaft
17.	Measure the polished dimensions on the pin journals.	Refer to the latest revision of the Service Table of Limits - SSP-1776 for the dimensions on the pin journals Record the dimensions of the pin journals.* REFER TO AD-108	☒ Pin journals within acceptable limits - use crankshaft ☐ Replace crankshaft

* If the measurement or dimension is out of tolerance, discard the crankshaft and replace it with a serviceable crankshaft. Install the crankshaft per the applicable Lycoming manual and the latest revision of the Service Table of Limits - SSP-1776.

			Parallelism Measurement	
18.	Complete a check of connecting rod parallelism.	Refer to the section "Connecting Rod Parallelism/Squareness Check" in this Service Bulletin. Record the parallelism measurement for each connecting rod. Replace all connecting rods not in compliance with measurements in the latest revision of the Service Table of Limits - SSP-1776 (Reference 503).	Connecting Rod 1	.0000
			Connecting Rod 2	.0000
			Connecting Rod 3	.0000
			Connecting Rod 4	.0000
			Connecting Rod 5	
			Connecting Rod 6	
			Connecting Rod 7	
			Connecting Rod 8	

Engine Inspection Checklist After Propeller Strike for All Lycoming Engines - Except Geared Engines (Cont.)

	Sequential Task	Additional Information	Corrective Action Done/Comments
19.	Complete a check of connecting rod squareness.	Refer to the section "Connecting Rod Parallelism/Squareness Check" in this Service Bulletin. Record the squareness measurement for each connecting rod. Replace all connecting rods not in compliance with measurements in the latest revision of the Service Table of Limits - SSP-1776 (Reference 504).	Squareness Measurement Connecting Rod 1: .0010 Connecting Rod 2: .0000 Connecting Rod 3: .0000 Connecting Rod 4: .0000 Connecting Rod 5: Connecting Rod 6: Connecting Rod 7: Connecting Rod 8:

NOTICE: The magnetic particle inspection must be done by a certified technician as per the latest revision of Service Instruction No. SI-1285.

20.	Complete a magnetic particle inspection on the crankshaft.	Record test results.	☒ Use crankshaft REFER TO AD-112 ☐ Replace crankshaft
21.	Complete a magnetic particle inspection on the crankshaft counterweights. Examine the counterweight bushing bores in both the counterweights and the crankshaft.	Record test results.	Replace all counterweight pins, bushings, end plates and snap rings - regardless of their condition. NA
22.	Complete a magnetic particle inspection on the camshaft.	Record test results.	☒ Use camshaft SENT FOR REGRIND ☐ Replace camshaft
23.	Complete a magnetic particle inspection on the connecting rods.	Record test results. OK REFER TO AD-112	Replace connecting rod bolts and nuts -regardless of condition. Refer to the latest revision of Service Instruction No. SI-1458 for assembly instructions.
24.	Complete a magnetic particle inspection on the crankshaft gear; examine the gear end as per the latest revision of Service Bulletin No. SB-475.	Record test results.	☒ Use crankshaft gear REFER TO AD-112 ☐ Replace crankshaft gear
25.	Complete a magnetic particle inspection on the following internal parts made of steel: • Accessory drive gears • Magneto drive gears • Idler and oil pump shafts • Shaft gears and impellers • Piston pins • Connecting rods	Record test results. REFER TO AD-112	Use / Replace ☒ / ☐ Accessory drive gears ☒ / ☐ Magneto drive gears ☒ / ☐ Idler and oil pump shafts ☒ / ☐ Shaft gears and impellers ☒ / ☐ Piston pins ☒ / ☐ Connecting rods

Engine Inspection Checklist After Propeller Strike for All Lycoming Engines - Except Geared Engines (Cont.)			
	Sequential Task	**Additional Information**	**Corrective Action Done/Comments**
26.	Complete the visual inspection and Fluorescent Penetrant Inspection (FPI) on the crankcase. Refer to the latest revision of Service Instruction No. SI-1285. Closely examine the forward crankcase bearing support and adjacent structure.	Record test results. REFER TO AO-113	☒ Use crankcase ☐ Replace crankcase
27.	Complete the visual inspection and FPI on the oil sump.	Record test results. REFER TO AO-113	☒ Use oil sump ☐ Replace oil sump
28.	Complete the visual inspection and FPI on the engine mounts and, if used, the lower mount rings (on helicopter engines).	Record test results. NA	☐ Use engine mounts ☐ Replace engine mounts
29.	Complete the visual inspection and FPI on the accessory housing.	Record test results. REFER TO AO-113	☒ Use accessory housing ☐ Replace accessory housing
30.	Complete the visual inspection on the oil pump impeller.	Record test results.	☒ Use impeller ☐ Replace impeller
NOTICE:	Roller tappets, counterweight rollers, and bushings must be replaced.		
31.	Complete the visual inspection and FPI on the tappets (not roller tappets) and lifters. Refer to the latest revision of Service Instruction No. SI-1011.	Record test results. REPLACED FOR PITTING	☐ Tappets/lifters acceptable ☒ Replace tappets/lifters
32.	Examine each magneto in accordance with the magneto manufacturer's instructions.	Record test results.	☒ Replace magneto
33.	Examine the pistons as per instructions in the applicable Lycoming manual and the latest revision of the Service Table of Limits - SSP-1776.	Record test results.	☒ Pistons acceptable ☐ Replace pistons
34.	Refer to the latest revision of Service Bulletin No. SB-240 to identify any parts that must be replaced during engine assembly.	Record parts that must be replaced.	REFER TO PARTS LIST
35.	Install a new crankshaft gear retaining bolt and lockplate.	Refer to the latest revision of Service Bulletin No. SB-475.	OK

Engine Inspection Checklist After Propeller Strike for All Lycoming Engines - Except Geared Engines (Cont.)			
	Sequential Task	**Additional Information**	**Corrective Action Done/Comments**
36.	Review the documents of all other engine-mounted accessories on the engine, propeller governor (if installed), etc. for instructions on what to do for components exposed to sudden engine stoppage.		CUSTOMER RESPONSIBILITY
37.	Assemble and install the engine. Install the propeller and test the engine. Complete an operational check of the engine.	In accordance with instructions in the applicable Lycoming engine manuals, the latest revisions of the Service Table of Limits - SSP-1776 and Service Instruction No. SI-1427.	TEST RUN GOOD REFER TO AD-115.
38.	Record maintenance findings and any corrective action in the engine logbook.		OK

UNAIRWORTHY PARTS:

NO UNAIRWORTHY PARTS RESULTING FROM PROPELLER STRIKE.

ADDITIONAL WORK/INSPECTIONS NECESSARY:

NONE FOR ENGINE AS SHIPPED.

OUTCOME OF INSPECTION- SUMMARY NOTES:

ENGINE, AS SHIPPED, IS AIRWORTHY.

LYCOMING

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MANDATORY SERVICE BULLETIN

DATE: October 18, 2016

Service Bulletin No. 533C
(Supersedes Service Bulletin No. 533B)
Engineering Aspects are
FAA Approved

SUBJECT: Recommended Action for Sudden Engine Stoppage, Propeller/Rotor Strike or Loss of Propeller/Rotor Blade or Tip

MODELS AFFECTED: All Lycoming reciprocating aircraft engines

TIME OF COMPLIANCE: BEFORE FURTHER FLIGHT

REASON FOR REVISION Applies to all Lycoming aircraft engines (not just direct drive engines); added checklist specific for Lycoming geared engines; updated checklist which applies to all other Lycoming aircraft engines, added check for connecting rod squareness to the checklists.

NOTICE: Incomplete review of all the information in this document can cause errors. Read the entire Service Bulletin to make sure you have a complete understanding of the requirements.

This Service Bulletin identifies propeller/rotor damage conditions and gives corrective action recommendations for aircraft engines that have had propeller /rotor damage as well as any of the following:

- Separation of the propeller/rotor blade from the hub
- Loss of a propeller or rotor blade tip
- Sudden stoppage

A propeller strike includes:

- Any incident, whether or not the engine is operating, where repair of the propeller is necessary
- Any incident during engine operation where the propeller has impact on a solid object. This incident includes propeller strikes against the ground. Although the propeller can continue to turn, damage to the engine can occur, possibly with progression to engine failure
- Sudden RPM drop on impact to water, tall grass, or similar yielding medium where propeller damage does not usually occur

A propeller strike can occur at taxi speeds and during touch-and-go operations with propeller tip ground contact. In addition, propeller strikes also include situations where an aircraft is stationary and a landing gear collapse occurs causing one or more blades to be bent, or where a hangar door (or other object) hits the propeller blade. These instances are cases of sudden engine stoppage because of potentially severe side loading on the crankshaft propeller flange, front bearing, and seal.

⚠ **CAUTION:** BASED UPON THE ACCUMULATED ENGINEERING, TECHNICAL, AND HISTORICAL DATA AVAILABLE, LYCOMING ENGINES **PROHIBITS** STRAIGHTENING OR GRINDING OF BENT CRANKSHAFT PROPELLER FLANGES TO RESTORE MAXIMUM RUN-OUT SPECIFICATION AS NOTED IN THE LATEST REVISION OF THE SERVICE TABLE OF LIMITS - SSP-1776. IF THE CRANKSHAFT PROPELLER FLANGE IS BENT, REPLACE THE CRANKSHAFT. **DO NOT TRY TO STRAIGHTEN OR GRIND THE CRANKSHAFT PROPELLER FLANGE.**

Recommended Corrective Action for Propeller Strikes

⚠ **CAUTION:** DAMAGE TO A PROPELLER IS SERIOUS AND CAN CAUSE THE ENGINE TO BE UNAIRWORTHY.

Circumstances of a propeller strike cannot always be used as predictors for the extent of engine damage or its future reliability. There can be varying degrees of damage to an engine and propeller from a propeller strike. The initial damage can be hidden but could become progressively worse with time and wear.

Given these possibilities and the fact that there is no identified clear, quantifiable threshold limit or gradient standard to reliably measure the extent of damage to an engine, Lycoming Engines can only recommend BEFORE FURTHER FLIGHT, that you complete the tasks in the sequential order shown in the applicable "Inspection Checklist After a Propeller Strike" included in this Service Bulletin as the corrective action for a propeller strike. One checklist applies specifically to Lycoming geared engines (GO-435, GO-480, GSO-480, IGO-480, IGO-540, IGSO-540, and TIGO-541) while the other checklist is for all other Lycoming aircraft engines. Make a copy of the checklist that applies to your engine model, complete it and keep it as a service record. Record all results and any corrective action taken in compliance as per the revision of this Service Bulletin in the engine logbook.

NOTICE: The agency that returns the aircraft to service is responsible for the decision to operate an engine that had a propeller strike. Lycoming Engines does not take the responsibility for the decision to return the engine to service after a propeller strike.

1. Approving Civil Aviation Authority/Country:	2.	3. Form Tracking Number:
FAA/United States	**AUTHORIZED RELEASE CERTIFICATE** FAA Form 8130–3, AIRWORTHINESS APPROVAL TAG	47301

4. Organization Name and Address:	5. Work Order/Contract/Invoice Number:
AIRMARK OVERHAUL, INC. * 6001 N.W. 29TH AVENUE * FT. LAUDERDALE, FL 33309 (JL4R288M)	W/O: 47301

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:
001	ENGINE	O-360-A4M	1/EA	L-30677-36AC	REPAIRED

12. Remarks:

THIS TEXTRON LYCOMING ENGINE WAS REPAIRED AS NEEDED DUE TO A PROPELLER STRIKE ONLY IN ACCORDANCE WITH TEXTRON LYCOMING OVERHAUL MANUAL 60294-7, REV. #14. SEE FULL DETAILS OF WORK AND A.D.'s CARRIED OUT PER WORK ORDER NUMBER 47301. TIME SINCE MAJOR OVERHAUL 1126.1 HOURS.

13a. Certifies the items identified above were manufactured in conformity to:		14a. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12 Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.	
☐ Approved design data and are in a condition for safe operation. ☐ Non-approved design data specified in Block 12.			
13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.: JL4R288M
13d. Name (Typed or Printed):	13e. Date (dd/mmm/yyyy):	14d. Name (Typed or Printed): WILLIAM POLLARD	14e. Date (dd/mmm/yyyy): 21/MAY/2019

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1.

Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

1. Approving Civil Aviation Authority/Country:	2. **AUTHORIZED RELEASE CERTIFICATE** FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG	3. Form Tracking Number:
FAA/UNITED STATES		JDM19031-81365133

4. Organization Name and Address:	5. Work Order/Contract/Invoice Number:
LORD Corporation, 124 Grant Street, Cambridge Springs, PA 16403 USA (PQ0466NE)	2558716

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:
1	Mounting Kit	J-9613-40	250 pcs.	N/A	NEW

12. Remarks:

Reference Lord FAA/PMA Supplement No. 25.
Batch No.: 0011922544
Cure Date (mm-yy): 214 pcs at (07-18) and 36 pcs at (10-18)
Shelf Life: Five (5) years from cure date when stored in the manner prescribed in order to minimize deterioration due to such factors as temperature, humidity, ozone, sunlight, oils, solvents, corrosive liquids and fumes, insects and rodents.
Reference MIL-HDBK-695.

END

13a. Certifies the items identified above were manufactured in conformity to:

☒ **Approved design data and are in condition for safe operation.**

☐ **Non-approved design data specified in Block 12.**

14a. ☐ **14 CFR 43.9 Return to Service** ☐ **Other regulation specified in Block 12**

Certifies that unless otherwise specified in block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
Jason MacQuarrie	PQ0466NE		
13d. Name (Typed or Printed):	**13e. Date (dd/mmm/yyyy):**	**14d. Name (Typed or Printed):**	**14e. Date (dd/mmm/yyyy):**
Jason MacQuarrie	13/Feb/2019		

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block1.

Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

1. Approving Civil Aviation Authority/Country:	2. AUTHORIZED RELEASE CERTIFICATE FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG	3. Form Tracking Number:
FAA/UNITED STATES		ST0930426

4. Organization Name and Address:	PC 206	5. Work Order / Contract / Invoice Number:
Piper Aircraft, Inc. 2926 Piper Drive Vero Beach, FL 32960 USA		ST0930426 / 210008000 / SH0148369 Page 1 of 1

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work
10	NUT	404-891	200	N/A	NEW

12. Remarks: Airworthiness Approval

13a. Certifies the items identified above were manufactured in conformity to:	14a. ☐ 14 CFR 43.9 Return to Service/ ☐ Other regulation specified in Block 12
[X] Approved design data and are in condition for safe operation. [ ] Non-approved design data specified in Block 12.	Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No:	14b. Authorized Signature:	14c. Approval/Certificate No.
James Wilson	PC206		
13d. Name (Typed or Printed):	13e. Date (dd/mmm/yyyy):	14d. Name (Typed or Printed):	14e. Date (dd/mmm/yyyy):
Wilson, James	08/Nov/2018		

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1.

Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

NSN: 0052-00-012-9005

1. Approving Civil Aviation Authority/Country:	2.	3. Form Tracking Number:
FAA/UNITED STATES	**AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	ST0925915

4. Organization Name and Address:		5. Work Order / Contract / Invoice Number:
Piper Aircraft, Inc. 2926 Piper Drive Vero Beach, FL 32960 USA	**PC 206**	ST0925915 / 210008000 / SH0134764 Page 1 of 1

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:
10	WASHER	690-630	500	N/A	NEW

12. Remarks: Airworthiness Approval

13a. Certifies the items identified above were manufactured in conformity to:

[X] Approved design data and are in condition for safe operation.

[ ] Non-approved design data specified in Block 12.

14a. [ ] 14 CFR 43.9 Return to Service/ [ ] Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of/ Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No:	14b. Authorized Signature:	14c. Approval/Certificate No.
	PC206		
13d. Name (Typed or Printed):	**13e. Date (dd/mmm/yyyy):**	**14d. Name (Typed or Printed):**	**14e. Date (dd/mmm/yyyy):**
Wilson, James	07/Jun/2018		

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1.

Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

1. Approving Civil Aviation Authority/Country:	2.	3. Form Tracking Number:
FAA/UNITED STATES	**AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	ST0931735

4. Organization Name and Address:		5. Work Order / Contract / Invoice Number:
Piper Aircraft, Inc. 2926 Piper Drive Vero Beach, FL 32960 USA	**PC 206**	ST0931735 / 210008000 / SH0148110 Page 1 of 1

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work
10	BOLT STEEL HEX HEAD PLATED	401-543	10	N/A	NEW

12. Remarks: Airworthiness Approval

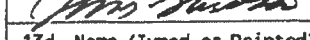
13a. Certifies the items identified above were manufactured in conformity to:

[X] Approved design data and are in condition for safe operation.

[ ] Non-approved design data specified in Block 12.

14a. [ ] 14 CFR 43.9 Return to Service/ [ ] Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No:	14b. Authorized Signature:	14c. Approval/Certificate No.
	PC206		
13d. Name (Typed or Printed):	**13e. Date (dd/mmm/yyyy):**	**14d. Name (Typed or Printed):**	**14e. Date (dd/mmm/yyyy):**
Wilson, James	07/Nov/2018		

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1.

Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

NSN: 0052-00-012-9005

1. Approving Civil Aviation Authority/Country:	2.	3. Form Tracking Number:
FAA/UNITED STATES	**AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	ST0931735
4. Organization Name and Address: Piper Aircraft, Inc. 2926 Piper Drive Vero Beach, FL 32960 USA	**PC 206**	5. Work Order / Contract / Invoice Number: ST0931735 / 210008000 / SHD148110 Page 1 of 1

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work
10	BOLT STEEL HEX HEAD PLATED	401-543	10	N/A	NEW

12. Remarks: Airworthiness Approval

13a. Certifies the items identified above were manufactured in conformity to:

[X] Approved design data and are in condition for safe operation.

[ ] Non-approved design data specified in Block 12.

14a. [ ] 14 CFR 43.9 Return to Service/ [ ] Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No:	14b. Authorized Signature:	14c. Approval/Certificate No.
James Wilson	PC206		
13d. Name (Typed or Printed):	**13e. Date (dd/mmm/yyyy):**	**14d. Name (Typed or Printed):**	**14e. Date (dd/mmm/yyyy):**
Wilson, James	07/Nov/2018		

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1.

Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

NSN: 0052-00-012-9005

FAA Form 8130-3 (02-14)

1. Approving Civil Aviation Authority/Country:	2. AUTHORIZED RELEASE CERTIFICATE FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG	3. Form Tracking Number:
FAA/UNITED STATES		ST0913588

4. Organization Name and Address:	PC 206	5. Work Order / Contract / Invoice Number:
Piper Aircraft, Inc. 2926 Piper Drive Vero Beach, FL 32960 USA		ST0913588 / 210008000 / SH0119710 Page 1 of 1

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:
10	WASHER	85012-101	40	N/A	NEW

12. Remarks: Airworthiness Approval

13a. Certifies the items identified above were manufactured in conformity to:

[X] Approved design data and are in condition for safe operation.

[ ] Non-approved design data specified in Block 12.

14a. [ ] 14 CFR 43.9 Return to Service/ [ ] Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of/ Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No:	14b. Authorized Signature:	14c. Approval/Certificate No.:
Carolyn Melton	PC206		
13d. Name (Typed or Printed):	**13e. Date (dd/mmm/yyyy):**	**14d. Name (Typed or Printed):**	**14e. Date (dd/mmm/yyyy):**
Melton, Carolyn	15/Dec/2017		

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1.

Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

NSN: 0052-00-012-9005

FAA Form 8130-3 (02-14)

1. Approving Civil Aviation Authority/Country:	2.	3. Form Tracking Number:
FAA/UNITED STATES	**AUTHORIZED RELEASE CERTIFICATE** **FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG**	ST0925370

4. Organization Name and Address:	5. Work Order / Contract / Invoice Number:
Piper Aircraft, Inc. 2926 Piper Drive Vero Beach, FL 32960 USA **PC 206**	ST0925370 / 210008000 / SH0146294 Page 1 of 1

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work
10	BULKHEAD ASSY-SPINNER (181)	65804-000	6	N/A	NEW

12. Remarks: Airworthiness Approval

13a. Certifies the items identified above were manufactured in conformity to:

[X] Approved design data and are in condition for safe operation.

[ ] Non-approved design data specified in Block 12.

14a. [ ] 14 CFR 43.9 Return to Service/ [ ] Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of/ Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No:	14b. Authorized Signature:	14c. Approval/Certificate No.
	PC206		
13d. Name (Typed or Printed):	**13e. Date (dd/mmm/yyyy):**	**14d. Name (Typed or Printed):**	**14e. Date (dd/mmm/yyyy):**
Wilson, James	16/Oct/2018		

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1.

Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.