1. Approving Civil Aviation Authority/Country:	2.	3. Form Tracking Number:
FAA/United States	**AUTHORIZED RELEASE CERTIFICATE** FAA Form 8130–3, AIRWORTHINESS APPROVAL TAG	18129

4. Organization Name and Address:	5. Work Order/Contract/Invoice Number:
Central Cylinder Service, INC. 6315 Lindbergh Drive Omaha, NE 68110	18129

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:
1	Lycoming Engine	IO-540-K1G5D	1	L-16361-48A	Overhauled

12. Remarks:

1 ea Lycoming IO-540-K1G5D Engine S/N: L-16361-48A
This engine has been disassembled, inspected, overhauled using listed parts, reassembled and tested in accordance with current recommended procedures and all clearances and tolerances are within new limits. Procedures and limits used are current and supplied by the Manufacturer's overhaul manual. A listing of Airworthiness directives complied with are attached to WO#18129
New Lycoming Cylinders, Oil pump, fuel pump, spark plugs, harness and starter. Overhauled fuel servo, flow divider, magneto and oil coolers. Crankcase NDT, dimentionally inspected and anti- seep groover per CCS8612
This engine has been test run and is approved to return to service.

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.:
			MY2R022L
13d. Name (Typed or Printed):	**13e. Date (dd/mmm/yyyy):**	**14d. Name (Typed or Printed):**	**14e. Date (dd/mmm/yyyy):**
		Danial Czarnecki	17/may/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	H-S032334

4. Organization Name and Address:	5. Work Order/Contract/Invoice Number:
HARTZELL ENGINE TECHNOLOGIES, 2900 SELMA HWY. MONTGOMERY, AL. 36108 PQ1383CE-D	M275860

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:
1	STARTER **** END ****	149NL	1	H-S032334	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:
	749188261		
13d. Name (Typed or Printed):	**13e. Date (dd/mmm/yyyy):**	**14d. Name (Typed or Printed):**	**14e. Date (dd/mmm/yyyy):**
MICHAEL C. STRICKLAND	20/APR/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.

HETCODE: 149NL

SLICK DUAL HARNESS INSTALLATION INSTRUCTIONS

1. Remove the two capacitors from the old dual harness cap, following magneto manufacturer's recommended procedures.

2. Wipe capacitors with a clean lint-free cloth. Test capacitors for electrical integrity following magneto manufacturer's recommended procedures. Replace as necessary.

3. Install two capacitors in the Slick dual harness cap, following magneto manufacturer's recommended procedures. Secure capacitors with appropriate lockwasher and nut, and torque to 60-70 in-lbs.

4. Assemble harness cap to magneto. Follow magneto manufacturer's recommended procedures for reconnecting capacitor terminals and seating harness cap on distributor housing. Evenly tighten the harness cap mounting screws, and torque as follows:

NON-PRESSURIZED MAGNETOS:	Torque to 30-35 in-lbs.
PRESSURIZED MAGNETOS:	Torque to 40-45 in-lbs.

Do not over tighten housing screws.

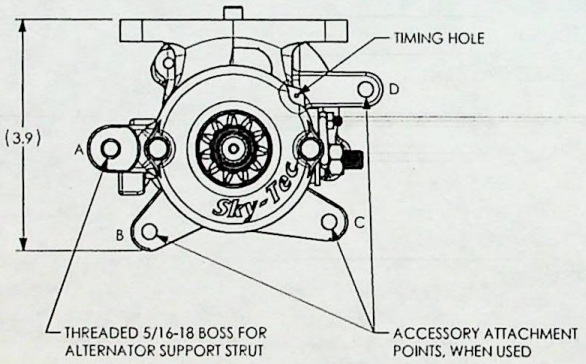
Reference Slick Form L-1318 for complete Dual Harness Application Data.

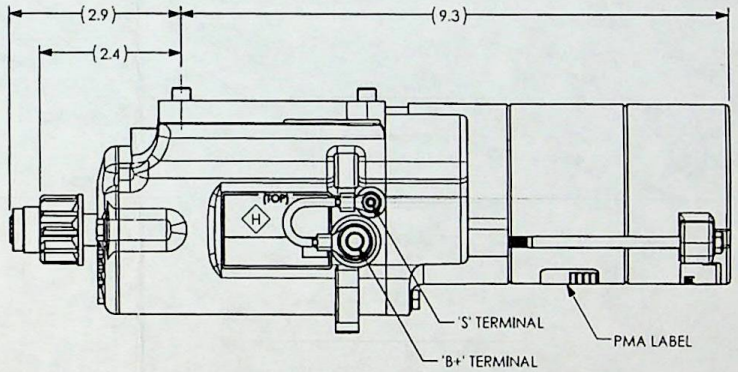
CHAMPION AEROSPACE LLC
1230 Old Norris Road
Liberty, South Carolina 29657
www.championaerospace.com

INSTALLATION INSTRUCTIONS:

1. INSTALL NEW STARTER WITH EXISTING MOUNTING HARDWARE OR APPROVED REPLACEMENTS.
2. USE 4 EA. AN936-516 INTERNAL TOOTH LOCK WASHERS OR SUPPLIED M8 INTERNAL TOOTH LOCK WASHERS UNDER EACH NUT AND/OR BOLT HEAD.
3. TORQUE MOUNTING NUTS AND/OR BOLTS TO 100 INCH-POUNDS.
4. NL & NLR MODELS: FOR 12V OPERATION, INSTALL JUMPER WIRE BETWEEN THE 'B+' TERMINAL AND THE 'S' TERMINAL. FOR 24V OPERATION, REMOVE THE JUMPER WIRE AND DISCARD.
   NL/EC & NLR/EC MODELS (24V ONLY): LEAVE JUMPER WIRE BETWEEN THE 'B+' TERMINAL AND THE 'S' TERMINAL.
5. PLACE MS2571-1S AND MS2571-2S (OR SIMILAR) INSULATING NIPPLES OVER THE 'B+' AND 'S' TERMINAL CONNECTIONS WHEN INSTALLING.
6. PLACE POWER CABLE RING-TERMINAL OVER STARTER 'B+' TERMINAL. INSTALL SUPPLIED M8 INTERNAL TOOTH LOCK WASHER AND NUT ON STARTER 'B+' TERMINAL. USE A 13MM WRENCH TO TORQUE THE NUT TO 60 INCH-POUNDS.
7. IF JUMPER IS INSTALLED, USE A 7MM WRENCH TO TORQUE THE SUPPLIED M4 NUT ON THE 'S' TERMINAL TO 10 INCH-POUNDS.
8. CONTINUING AIRWORTHINESS: THE STARTER SHOULD BE RETURNED TO THE FACTORY FOR OVERHAUL AT 2700 HOURS OF ENGINE OPERATION OR WHEN A MAJOR OVERHAUL OF THE ENGINE IS PERFORMED, OR IF SERVICING IS REQUIRED. NO OTHER MAINTENANCE IS REQUIRED OR RECOMMENDED.
9. WHERE REQUIRED TO SUPPORT ANCILLARY EQUIPMENT, IT IS PERMISSIBLE TO DRILL OUT THE THREADED HOLE OR OTHERWISE ALTER BOSS 'A'. BOSSES 'B', 'C', & 'D' MAY BE TRIMMED TO WITHIN 1/8" OF THE STARTER CASE AND DISCARDED WHERE REQUIRED TO CLEAR OTHER DEVICES NEAR THE STARTER.

REVISIONS				
ECO	REV.	DESCRIPTION	BY	DATE
123512	G	1) REDRAWN IN SOLIDWORKS; 2) FORMAT: HET WAS SKYTEC; 3) DESCRIPTION: CHANGED TO "NL INSTALLATION INSTRUCTIONS"; 4) REMOVED PMA DATA TABLE AND LABEL GRAPHIC	EAB	10/19/16
123858	H	1) FLIPPED JUMPER WIRE ORIENTATION	EAB	12/15/16





SPECIFICATION CLASSIFICATION		
CLASSIFICATION	DIMENSION CONVENTION	NOTE NO. CONVENTION
CRITICAL	<XX.XX>	<#>
MAJOR	[XX.XX]	[#]
MINOR	XX.XX	#
REFERENCE	(XX.XX)	(#)

USER IS RESPONSIBLE FOR VERIFICATION OF CURRENT REVISION BEFORE USING THIS DOCUMENT. DOCUMENT CONSIDERED "REFERENCE ONLY" IF NOT THE CURRENT REVISION.

UNLESS OTHERWISE SPECIFIED

DIMENSIONS ARE IN INCHES AND APPLY AFTER HEAT TREAT AND PLATING
.X = ± .015
.XX = ± .010 ANGLES ±1°
.XXX = ± .005
BREAK ALL EDGES AND MACHINE ALL INSIDE CORNER FILLETS .015 MAX.
SURFACE FINISH 125

GEOMETRIC SYMBOLS PER ANSI Y14.5

FLATNESS
STRAIGHTNESS
ROUNDNESS
CYLINDRICITY
PROFILE
PERPENDICULARITY
POSITION
CONCENTRICITY
SYMMETRY
ANGULARITY
PARALLELISM
CIRCULAR RUNOUT
TOTAL RUNOUT

SCALE 1:2

DRAWN	EAB	10/19/16
ENGINEER	K. NORD	
APPRVD	123858	
FINISH	N/A	
WEIGHT	N/A	
MATERIAL	N/A	

HARTZELL ENGINE TECHNOLOGIES
2900 Selma Highway
Montgomery, AL 36108

NL INSTALLATION INSTRUCTIONS

SIZE	SH 1 OF 1	CODE ID	DRAWING NO.	REV.
B		65PY1	ST25001	H

1. Approving Civil Aviation Authoity / County: **FAA / United States**	2. **AUTHORIZED RELEASE CERTIFICATE** FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG	3. Form Tracking Number 125642
4. Organization Name and Address: **Pacific Oil Cooler Service, Inc. F.A.A RF3R813L** **1677 Curtiss Court, La Verne, CA 91750**		5. Work Order/Contact/Invoice No 125642

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:
1	OIL COOLER	8543897	1	79B-63	OVERHAULED

12. Remarks:

Work Order Number (Block 5) describing the actual work performed is attached.
The described work was performed in accordance with Harrison Spec, HES-62-77F, dated 01/Sep/1979. No applicable Airworthiness Directives work / status.
Certifies that the 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.145.5554

13a. Certified 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 CRF 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 RF3R813L
13d. Name (Type or Print)	13e.Date (dd/mmm/yyyy):	14d. Name (Type or Print) Francisco Sierra	14e. Date (dd/mmm/yyyy): 20/Apr/2018

User / Installer Responsibilities

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

When the user / installer performs the 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 that 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 national regulations by the user/installer before the aircraft may be flown.

1. Approving Civil Aviation Authoity / County:	2.	3. Form Tracking Number
FAA / United States	**AUTHORIZED RELEASE CERTIFICATE** FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG	125643

4. Organization Name and Address:	5. Work Order/Contact/Invoice No
Pacific Oil Cooler Service, Inc. F.A.A RF3R813L **1677 Curtiss Court, La Verne, CA 91750**	125643

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:
1	OIL COOLER	8543897	1	78M-42	OVERHAULED

12. Remarks:

Work Order Number (Block 5) describing the actual work performed is attached.
The described work was performed in accordance with Harrison Spec. HES-62-77F, dated 01/Sep/1979. No applicable Airworthiness Directives work / status.
Certifies that the 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.145.5554

13a. Certified the items identified above were manufactured in conformity to:	14a
☐ Approved design data and are in a condition for safe operation ☐ Non-approved design data specified in Block 12:	☑ 14 CRF 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
			RF3R813L
13d. Name (Type or Print)	13e.Date (dd/mmm/yyyy):	14d. Name (Type or Print)	14e. Date (dd/mmm/yyyy):
		Francisco Sierra	26/Apr/2018

User / Installer Responsibilities

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

When the user / installer performs the 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 that 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 national regulations by the user/installer before the aircraft may be flown.

CENTRAL CYLINDER SERVICE INC.
AIRCRAFT ENGINE REBUILDERS

CERTIFIED REPAIR STATION MY2R022L
PHONE • (402) 451-6468 FAX • (402) 451-3202
6315 Lindbergh Drive • Riverfront Industrial Park • Omaha, NE 68110

SOLD TO

Attn: Rick Perk
University of Nebraska - Lincoln
3310 Holdrege Room 312
Lincoln, NE 68583-0973

No. 18129

Invoice Date: 05.17.2018

Shipped To: SAME

THIS IS YOUR INVOICE AND STATEMENT. NO FURTHER NOTICE OF PAYMENT WILL BE SENT UNLESS REQUESTED.
TERMS: Net 30 days

	DESCRIPTION	PRICE	
	1 ea Lycoming I0-540-K1G5D Engine Overhauled		
	Prop Gov S/N 181100	2,160.00	
	1 ea Lycoming I0-540-K1G5D Engine	40,600.00	
	Shop Supplies	200.00	
	Shipping Not included	0.00	
	Sub Total	42,960.00	
	Paid Deposit Pending	-15,000.00	
	Total Deposit Due	27,960.00	

Past-Due accounts are subject to a service charge of 1 1/2% per month. An account is past due when not settled by the first day of the second month of purchase. In addition, costs and reasonable Attorney's fees for collection may be charged.

AL CYLINDER SERVICE INC.
RAFT ENGINE REBUILDERS
ight Aircraft Engine Cylinder Repair
Certified Repair Station MY2RO22L
Lindbergh Drive • Riverfront Industrial Park
Omaha, Nebraska 68110 • (402) 451-6468

Customer: University of Nebraska-Lincoln NO: 18129

Address: 3310 Holdrege - Lincoln, NE 68583

Date: 05/17/2018 Phone: 712-389-5421

Make: Lycoming Model: IO-540-K1G5D S/N: L-16361-48A

Unit Name: Engine

Cylinder Number_____ Customer's P.O. # _____

Description of Work	1	2	3	4	5	6	Mech.	Insp.
Replace Install Int. Guides								
Replace Install Ex. Guides								
Replace Int. Seat								
Grwd Int. Seat								
Replace Ex. Seat								
Grwd Ex. Seat								
Replace Int. Valves								
Grwd. Int. Valves								
Replace Ex. Valves								
Grwd Ex. Valves								
Rebush Rocker Arms								
Reface Rocker Arms								
Stud Exhaust Port								
Hone Cylinder								
Grind Cyl. Oversize								
Clean & Inspect Cylinder								
Clean & Inspect Pistons								
Install Boss Bushings								
Replace Install Cyl. Sleeves								
Reface Ex. Port								
Complete Cyl. Rebuild								
Test Valve Springs								
Rebush Connecting Rods & Align								

1	SL-13367 Gasket Kit
6	73772 Nozzle
1	SL77808 Relief Valve
1	SL61084 Spring
1	SL1028B Ball
2	SL13885A Bearing
6	18E23886 Bearing
12	CCSR72877 Tappet exchange
12	15B26066 Hydr Unit
6	05K21120 Cylinder Kits
1	AN565B1032H5 Screw
1	AN8-14A Bolt
4	SL73810 Bushing
8	SL71903A Bushing
8	SLMS16625-3093-.50 Ring
8	SL71907A Plate
2	SL73648 Roller
2	SL76788 Roller
1	LW-10344 Oil Pump
1	05K23463 Gear Kit
1	06B23072 Gasket
1	SL53E19600 Temp Valve
1	AF15473 Fuel Pump
12	SL74309A Rod Bearing
12	LW-12596 Rod Bolt
12	SL12186 Rod Nut
6	AEL13923 Rod Bushing
12	SL72626A Shaft
12	SL67114 Rocker Bushing
6	ST-STD-2180 Hose
1	APS72702 Oil Drain Tube
1	APS72703 Oil Drain Tube
4	APS72727 Oil Drain Tube
2	SL13641 Mag Cushion
1	56G23399 Baffle
6	SL67196-S Gasket

1 ea Lycoming IO-540-K1G5D Engine S/N: L-16361-48A
This engine has been disassembled, inspected, overhauled using listed parts, reassembled and tested in accordance with current recommended procedures and all clearances and tolerances are within new limits. Procedures and limits used are current and supplied by the Manufacturer's overhaul manual. A listing of Airworthiness directives complied with are attached to WO#18129
New Lycoming Cylinders, Oil pump, fuel pump, spark plugs, harness and starter. Overhauled fuel servo, flow divider, magneto and oil coolers. Crankcase NDT, dimentionally inspected and anti-seep groover per CCS8612
This engine has been test run and is approved to return to service.

THE COMPONENT IDENTIFIED ABOVE WAS REPAIRED/OVERHAULED AND INSPECTED IN ACCORDANCE WITH CURRENT FEDERAL AVIATION REGULATIONS AND WAS FOUND AIR-WORTHY FOR THE RETURN TO SERVICE

_____, INSP.
FOR CRS MY2RO22L

May/17/2018 , DATE

Acceptable Defects and Other Specific Critical Items Found in Reconditioning NOTE:

PRELIMINARY INSPECTION

PROGRESSIVE INSPECTION

HIDDEN DAMAGE INSPECTION

FINAL INSPECTION

tral Cylinder Service, Inc.
A – CRS –MY2R022L

6315 Lindbergh Drive, Omaha, NE 68110
Phone(402) 451-6468

7.8.10.1 *PROGRESSIVE INSPECTION REPORT*

CUSTOMER NAME: U.N.L.

ENGINE MAKE: Lycoming MODEL IO-540-K1G5D SN: L-16361-48A

PRELIMINARY INSP: [signature] DATE: 4/5/2018 WO# 18129

FUNCTION	MECH. INSP.	REMARKS
DISASSEMBLY	CSH [signature]	rods & mains standard new limits
CLEAN UP	CSH [signature]	
CRANK ULTRASOUND	N/A	
MAIN BEARING SIZES	[signature] CSH	#1 2.625 #2 2.625 #3 2.625 #4 2.625
ROD JOURNAL SIZES	[signature] CSH	#1 2.2495 #2 2.2495 #3 2.2495 #4 2.250 #5 2.2495 #6 2.250 #7 #8
PARTS VERIFICATION	[signature] [signature]	
CYLINDER WORK PERFORMED	Installed new Lycoming cylinder kits	
CRANKCASE WORK PERFORMED	[illegible], dye checked, Dimensionally Inspected	

FUNCTION	MECH.	INSP.	REMARKS
CW BUSHINGS	[signature]	[signature]	
CRANK/ROD ASSM.	[signature]	[signature]	
CASE APPROVAL	[signature]	[signature]	
CYL. INSTALL	[signature]	[signature]	
OPERATIONAL TEST	[signature]	[signature]	
DOCUMENTATION REVIEW	[signature]	[signature]	

(Cont.)

Revision Number 5
Revision Date Jan. 24, 2011
Original Issue Date 09/01/04

Approved By: [signature] Accountable Manager

Accepted By: [signature] FAA

FEB 22 2018

Central Cylinder Service, Inc.
FAA – CRS – MY2R022L

6315 Lindbergh Drive, Omaha, Nebraska 68110
Phone (402) 451-6468

7.8.10.2. PROGRESSIVE INSPECTION REPORT (cont.)

ENGINE MAKE: Lycoming MODEL: IO-540-K1G5D SN: L-16361-48A

ACCESSORY	PART NUMBER	SN	MECH.	INSP.	REMARKS
LEFT MAGNETO	10-682560-13	A079902G	DWC	AMC	CCS overhaul
RIGHT MAGNETO	/				
FUEL PUMP					
FUEL SERVO (Precision)	RSA-10E01	70171910	DWC	DWC	Overhaul
CARBURETOR					
FLOW DIVIDER (Bendix)	2524232-2	T-463	AMC	AMC	Overhaul
FUEL METERING UNIT					
THROTTLE BODY ASSY.					
STARTER ASSEMBLY	149 NL	H-5032334	AMC	DWC	NEW Skytec
ALTERNATOR					
GENERATOR					
TURBOCHARGER					
CONTROLLER					
CONTROLLER					
WASTEGATE					
PRESSURE RELIEF					

ADDITIONAL REMARKS:

THE COMPONENT IDENTIFIED ABOVE WAS REPAIRED/OVERHAULED & INSPECTED IN ACCORDANCE WITH THE CURRENT FAA REGULATIONS & WAS FOUND AIRWORTHY FOR RETURN TO SERVICE. PERTINENT DETAILS ARE ON FILE AT THIS REPAIR STATION UNDER CCS WORK ORDER # 18129

INSPECTOR [signature] DATE: MAY 17 2018 CRS MY2022L

Revision Number 5

Revision Date Jan. 24, 2011

Original Issue Date 09/01/04

Approved By: [signature] Accepted By: [signature]

Accountable Manager FAA

FEB 2 0 2018

Cylinder Service, Inc.
CRS – MY2R022L

6315 Lindbergh Dr. Omaha, NE 68110
Phone 402-451-6468

HIDDEN DAMAGE REPORT

University of Nebraska - Lincoln
WO#18129

INSPECTOR: _____ DATE: April 5 2018

MAKE: Lyc. MODEL: IO540 K1A5D SERIAL # L-16361-48A

COMPONENT	METHOD	MAG	ZYGLO	CRITICAL AREA	PASS	FAIL
CRANKCASE	DYE		1	ALL AREAS		
ACCESSORY GEAR	CIRCULAR			TEETH/ KEYWAY		
ALTERNATOR GEAR	CIRCULAR			TEETH/SPLINES		
CAMSHAFT	CIR/COIL	1		ALL AREAS	✓	
CAMSHAFT BOLT	COIL			THREADS/NECK AREA		
CAMSHAFT GEAR	COIL			TEETH/SPLINES		
CASE THRU BOLTS	COIL			THREADS NECK AREA		
CASE TIE BOLTS	COIL			THREADS/NECK AREA		
CONNECTING ROD	CIR/COIL	6		ALL AREAS/WEB	✓	
COUNTERWEIGHTS	COIL	2		CUT OUT RAD II	✓	
CRANKSHAFT	CIR/COIL	1		ALL AREAS	✓	
CRANKSHAFT GEAR	CIRCULAR	1		TEETH/SPLINES	✓	
DRIVESHAFT	CIRCULAR			ALL AREAS		
DRIVESHAFT SLEEVE	CIRCULAR			ALL AREAS		
GENERATOR GEAR	CIRCULAR			TEETH/KEY		
GOVERNOR GEAR	CIRCULAR	1		TEETH/SPLINES	✓	
IDLER GEAR	CIRCULAR	2		TEETH	✓	
IDLER SHAFT	CIRCULAR	2		ALL AREAS	✓	
MAG DRIVE GEAR	COIL	2		TEETH/SLOTTED END	✓	
OIL PUMP DRIVE	CIRCULAR	1		ALL AREAS	✓	
OIL PUMP GEARS	CIR/COIL	2		TEETH/SPLINES	✓	
SCAVENGE PUMP GEAR	CIR/COIL			TEETH/SPLINES		

Revision Number 5
Revision Date Jan. 24,2011
Original Issue Date 09/01/04

Approved By: _____ Accountable Manager

Accepted By: _____ FAA

CE09 FEB 25 2011

Cylinder Service, Inc.
CRS – MY2R022L

6315 Lindbergh Dr. Omaha, NE 68110
Phone 402-451-6468

UNL

WO 18129

HIDDEN DAMAGE REPORT (Cont.)

MAKE: Lycoming MODEL: IO540 K1G5D SERIAL # L-16361-48-A

COMPONENT	METHOD	MAG	ZYGLO	CRITICAL AREA	PASS	FAIL
PISTON PINS	COIL			SHEAR PLANE/ENDS		
PLANETARY PIN HOLES	CIRCULAR			CUT OUT RADII CAGE		
PLANETARY GEAR	CIRCULAR			TEETH/BEARING SURFACE		
PROP DRIVESHAFT	CIR/COIL			JOURNAL TEETH/FLANGE		
PUSH ROD	COIL			ROCKER FACE/SOCKET		
ROCKER ARM	CIRCULAR	12		ROCKER FACE/SOCKET	✓	
ROCKER ARM SHAFT	COIL			ALL AREAS		
STATIONARY GEAR	CIRCULAR			CUT OUT RADII/PIN HOLES		
TAPPET BODY	COIL			BASE RADII/OIL HOLES		
VALVES	COIL			VALVE HEAD/KEY GROOVE		
FUEL PUMP DRIVE	CIRCULAR			ALL AREAS		
TACH DRIVE GEAR	CIRCULAR			TEETH/KEY WAY		
TACH DRIVE SHAFT	CIRCULAR			ALL AREAS		
VACUUM PUMP DRIVE	CIRCULAR	1		TEETH/SPLINES	✓	

REMARKS

WET PARTICLE CONCENTRATION ✓

AMBIENT VISIBLE LIGHT LESS THAN 20Lx ✓

BLACK LIGHT GREATER THAN 10000 W/cm2 ✓

Revision Number 5
Revision Date Jan. 24 2011
Original Issue Date 09/01/04

Approved By: _____ Accountable Manager

Accepted By: _____ FAA

CE09

FEB 25 201

CAMSHAFT GRINDING PROCEDURES

CAMSHAFT GRINDING CHECKLIST

CENTRAL CYLINDER SERVICE
CAM GRINDING CHECKLIST

WORK ORDER NUMBER 18129

START DATE: 4-26-18 COMPLETION DATE: 4-26-18 INSEPCTOR: [signature]

ENGINE MODEL: LYCOMING ENGINE SERIAL NUMBER: L-16361-48A

CAMSHAFT PART NUMBER: LW13908

SUBJECT	DATE	INSPECTOR
PRELIMINARY INSPECTION:	✓	
DIMENSIONAL CHECK	✓	
SURFACE HARDNESS 61	✓	
MAGNAFLUX INSPECTION:	✓	
GRINDING OPERATION:	✓	
POST GRINDING DIMENSION CHECK:	✓	
MAGNAFLUX INSPECTION:	✓	
SURFACE HARDNESS 61	✓	
SURFACE ROUGHNESS 15 Ra	✓	
MAG PHOSPHATE APPLICATION	N/A	
IDENTIFICATION:	✓	
FINAL INSPECTION:	✓	
AIRWORTHINESS RELEASE:	✓	

REMARKS: _____

Central Cylinder Service, Inc.
FAA – CRS – MY2R022L

6315 Lindbergh Drive, Omaha, Nebraska 68110
Phone (402) 451-6468

CENTRAL CYLINDER SERVICE, INC.

ENGINE CHECK LIST

WO# 18129

ENGINE: Lycoming MODEL: IO540 K1G5D SN: L-16361-48A

INSPECTOR: Antwany Cook DATE COMPLETED: 5/14/18

RPM	M.P.	OIL TEMP.	OIL PR.	FUEL PR.	NOZ PR.	CHT
1000	14	—	68			—
1500	~~15.5~~ 16	90	76			180
2200	20	110	82			260
1800	18	110	80			180
2700	27.5	150	90			260
1000	14	170	50			310
2200	20	180	76			280
700	13	180	50			280
1800	18	210	62			240
2000	~~28~~	200	82			300

MAGNETO DROP: LH MAG 87 RH MAG 83 @ 1800 RPM

COMPRESSION #1 78 / 80 2# 77 / 80 3# 79 / 80 4# 78 / 80

#5 78 / 80 #6 79 / 80

Revision Number 3
Revision Date September 30, 2007
Original Issue Date September 1, 2004

Approved By: _____ Accepted By: Thomas D Rook
Accountable Manager FAA