United States of America
Department of Transportation -- Federal Aviation Administration

Supplemental Type Certificate

Number SA10921SC

This certificate issued to

Hartzell Engine Technologies LLC
2900 Selma Highway
Montgomery, AL 36108

certifies that the change in the type design for the following product with the limitations and conditions thereof as specified hereon meets the airworthiness requirments of Part * of the * Regulations. *

Original Product Type Certificate Number: *

Make: *
Model: *

* See attached FAA Approved Model List (AML) for list of approved models and applicable airworthiness regulations.

Description of Type Design Change:

Installation of an alternator and regulator as a replacement to existing OEM generators and mechanical voltage regulators in accordance with Master Drawing List 11-0000, Revision A, dated October 14, 2008, or later FAA approved revision. Airplane Flight Manual Supplement AFMS-003, Revision IR, dated November 10, 2008, or later FAA approved revision is required.

Limitations and Conditions:

The installer must determine whether this design change is compatible with previously approved modifications. If the holder agrees to permit another person to use this certificate to alter a product, the holder must give the other person written evidence of that permission.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: December 04, 2007

Date of issuance: November 10, 2008

Date reissued: July 17, 2014; January 25, 2016

Date amended: December 18, 2008

By direction of the Administrator

(Signature)

Christopher Richards
Acting Manager, Propulsion & Program Management Branch
Chicago Aircraft Certification Office

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years, or both.

This certificate may be transferred in accordance with FAR 21.47.

United States of America
Department of Transportation - Federal Aviation Administration

Supplemental Type Certificate

(Continuation Sheet)

Number SA10921SC

Certification Basis (Continued):
The Certification Basis for this installation is per Approved Model List plus the following:

Regulations that meet amendment 23-55
23.901(a); 23.1041; 23.1163; 23.1301(a)(b)(c)(d); 23.1309(a)(b)(c); 23.1331(b); 23.1351(a)(b)(c); 23.1359(c); 23.1365(d); 23.1431(b); 23.1529; 23.1581(a)(b); 23.603(a)

Regulations that meet amendment 33-20
33.15; 33.17; 33.19; 33.25

-END-

FAA APPROVED MODEL LIST (AML)

SA10921SC

Hartzell Engine Technologies LLC
2900 Selma Highway
Montgomery, AL 36108

Date of issuance: November 10, 2008
Revised: December 18, 2008 (AML); July 17, 2009 (AML); February 10, 2011, October 25, 2011 (AML), July 17, 2014

Item	Aircraft Manufacturer *Group 1*	Aircraft Model	Original Type Certificate Number	Regulation/Part
1	AD Aerospace Inc.	T-211	A-791	CAR 3
2	Aircraft Parts & Development Corp.	A-3	A-758	CAR 4a
3	Aerodifusion, S.L.	D-1190S	A11IN	CAR 3
4	American Champion Aircraft Corp.	7EC; 7ECA; 7FC; 7JC; S7EC	A-759	CAR 4a CAR 8
	"	402	A3CE	FAR 23 CAR 3
5	Burl A. Rogers	15AC, S15AC	A-802	CAR 3
6	Hawker Beechcraft Corporation	45 (YT-34)	5A3	CAR 3
	"	35; A35; B35; 35R; G35; (C35; D35; E35; F35; Equipped with E225-8 Engine)	A-777	CAR 3
7	All American Aircraft, Inc.	10A	A-792	CAR 3
8	Cessna Aircraft Company	150, 150A, 150B; 150C; 150D; 150E; 150F; 150G; 150H; 150J; 150K; A150K; 150L; A150L; 150M; A150M	3A19	FAR 23
	"	140A	5A2	CAR 3 CAR 4a
	"	120; 140	A-768	CAR 4a
	"	170; 170A; 170B	A-799	CAR 3
	"	172; 172A; 172B; 172C; 172D; 172E; 172F;' 172G; 172H	3A12	CAR 3 FAR 23
9	Commonwealth Aircraft, Inc.	185	A-729	CAR 4a
10	Edward Scott Kearns	Trojan A-2	A-801	CAR 3
11	FS 2001 Corp.	J5A (Army L-4F), Equipped with C75-12 Engine	A-725	CAR 4a
12	Swift Museum Foundation, Inc.	GC-1A; GC-1B	A-766	CAR 4a
13	Goodyear Aircraft Corporation	GA-22A	1A12	CAR 3
14	Helio Aircraft Corporation	15A, Equipped with C145-2 Engine	3A3	CAR 4a
15	Avion Jodel	D-1190	A10IN	CAR 10 CAR 3

	Avions Jodel	150	A14IN	CAR 10 CAR 3
	Avions Jodel	DR-1050	A4IN	CAR 10 CAR 3
16	The Don Luscombe Aviation History Foundation, Inc.	8E; 8F; T-8F	A-694	CAR 4a
18	MICCO Aircraft Company, Inc.	MAC-125C; MAC-145	3A1	FAR 23
19	Sierra Hotel Aero, Inc.	Navion (Army L-17A); Navion A (Army L-17B & L-17C)	A-782	CAR 3
20	Piper Aircraft, Inc.	J3C-65 (Army L-4; L-4A; L-4B (Navy NE-1); L-4H; L-4J (Navy NE-2)); J3C-65S, Equipped with C75-12	A-691	CAR 4a
	"	J4A, Equipped with C85-12 Engine	A-703	CAR 4a
	"	J4E (Army L-4E), Equipped with C75-12 Engine	A-740	CAR 4a
	"	PA-18; PA-19; (PA-18S; PA-19S Equipped with C90-12F Engine)	1A2	CAR 3
21	Quartz Mountain Aerospace, Inc.	11A	A-804	CAR 3
22	S.O.C.A.T.A. – Group AEROSPATIALE	Rallye MS880B; MS885; 100S	7A14	CAR 10 CAR 3
23	Superior Aircraft Company	Culver V; V2	A-778	CAR 3
24	Taylorcraft 2000, LLC	19	1A9	CAR 3 FAR 23
	"	BC12D-4-85; BCS12D-4-85	A-696	CAR 4
25	Thomas H. McClish	B85C	A-715	CAR 4a
26	Univair Aircraft Corporation	415-C; 415-CD; Equipped with C75-12; C75-12F; C85-12; or C85-12F Engine	A-718	CAR 4a
	"	415-D; E; G; F-1; F-1A; A-2; A2-A; M10	A-787	CAR 3
Item	Aircraft Manufacturer Group 2	Aircraft Model	Original Type Certificate Number	Regulation/Part
1	Cessna Aircraft Company	R172F, R172G, R172H	3A17	CAR 3 FAR 23
2	MAULE AEROSPACE TECHNOLOGY, INC.	Bee Dee M-4; M-4; M-4C; M-4S; M-4T	3A23	CAR 3
	"	M-4-210, M-4-210C, M-4-210S, M-4-210T	2A23	CAR 3

	"	M-5-210C		CAR 36
3	Mooney Aircraft Company, Inc.	M20K	2A3	CAR 3, FAR 23, FAR 36
4	Piper Aircraft, Inc.	PA-28-201T, PA-28R-201T, PA-28RT-201T	2A13	CAR 3 FAR 23 FAR 23
	"	PA-34-200T, PA-34-220T	A7SO	FAR 23

FAA Approved: Scott A. Horn

Manager, Aircraft Certification Office

Southwest Region

Hartzell Engine Technologies LLC

Gear Driven Alternator Conversion Kit Parts List

MDL DRAWING NO. 11-0000 Rev. K

Created: 8/10/2007 Last Revised: 08/25/16

Rev	Date	By	Revisions
B	12/02/08	SJK	Updated 11-1024 Rev. A
C	4/29/09	BRJ	Added G-PACK, R1224B PMA approved Regulator, 11-1030, Updated 11-1001A REV B, 11-1099 REV A, Removed Airplane Make and Model Eiligibility, 12-1001B
D	5/26/2010	BRJ	Updated 11-1001A Rev. C, 11-1011 Rev. A, 11-1017 Rev. A, 11-1018 Rev. A, Removed 11-0001
E	1/28/2011	BRJ	Updated 11-1001A Rev. D, 11-1017 Rev. B 11-1010 Rev. A, 11-1016 Rev. A
F	5/10/2011	BRJ	UPDATED 11-1017 REV. C
G	6/27/2011	BRJ	UPDATED 11-1017 REV. D
H	9/11/2014	BRJ	1) FIRST RELEASE OF DRAWING TO HARTZELL DESIGN DATA, 2) HEADING WAS "PLANE POWER LTD." 3) UPDATED 11-1001A REV E AND ADDED DWG 11-1029
J	5/28/15	CMB	1) ADDED 10-1033 TO 10-1099 MOUNTING KIT; 2) CHANGED 10-1013 TO 10-1043 AND ADDED "AND REGULATOR ASSY" TO END OF 10-1043 DESC.; 3) REMOVED 11-1029; 4)ADDED 15-1014; 5)REMOVED 11-1008 FROM ER14-50 ASSEMBLIES AND ADDED 15-1014 IN ITS PLACE
K	8/25/16	CMB	1) AFMS 003 WAS AFMS 001

Part No.	Rev	Date	Description	Qty	ER14-50	ER14-50 with ER14-GR (ASSEMBLY)	ER14-50 with G-PACK (E-Series)
			INSTALLATION INSTRUCTIONS				
11-1001A	E	9/11/14	**ER14-50 Installation Instructions**	1	X	X	X
			MOUNTING KIT				
11-1099	B	5/22/15	**MOUNTING KIT**	1	X	X	X
11-1010	C	5/28/15	ENABLE PLUG ASSEMBLY	1			
11-1030	A	11/4/14	GASKETS	2			
14-1010	A	11/3/14	14V ALTERNATOR INOPERATIVE LAMP	1			
14-1012	A	11/3/14	SINGLE ENGINE PLACARDS	1			
10-1033	NEW	2/2/15	RING TERMINAL	8			
			ALTERNATOR				
15-1014	**NEW**	5/28/15	**ALTERNATOR ASSEMBLY**	1	X	X	X
11-1008	B	5/28/15	14 VOLT GEAR DRIVEN ALTERNATOR	1			
C10-221	NEW	2/2/15	SAFETY WIRE	AR			
11-1029	NEW	1/9/15	LABEL	1			
10-1031	A	11/7/14	14V BRUSH ASSEMBLY	1			

11-1008	**B**	5/27/15	**14 VOLT GEAR DRIVEN ALTERNATOR**	1
11-1009	A	11/4/14	REAR COVER	1
11-1011	B	11/4/14	RECTIFIER	1
11-1012	A	11/4/14	BRUSH RETAINER	1
11-1043	A	5/28/15	14 VOLT BRUSH AND REGULATOR ASSY	1
11-1014	A	11/4/14	REAR BEARING RETAINER	1
11-1015	A	11/4/14	RECTIFIER TERMINAL INSULATOR	1
11-1016	B	11/4/14	REAR HOUSING	1
11-1017	D	11/4/14	14 VOLT ROTOR	1
11-1018	B	11/4/14	ASSEMBLY STUD	1
11-1019	A	11/4/14	STATOR	1
11-1020	A	11/4/14	REAR BEARING	1
11-1021	A	11/4/14	BEARING RETAINER	1
11-1022	A	11/4/14	FRONT BEARING	1
11-1023	A	11/4/14	SPACER	1
11-1024	B	11/4/14	FRONT HOUSING	1
11-1025	A	11/4/14	MOUNT	1

11-1026	A	11/4/14	SEAL	1			
11-1028	A	11/4/14	**SOURCE CHART**				

REGULATOR

			R1224B PMA approved Regulator	1	X	X	X

GEAR ASSEMBLY

11-1002	A	11/14/14	**NUT**	1		X	X
11-1003	A	11/4/14	**GEAR**	1		X	
11-1004	A	11/14/14	**SLEEVE**	1		X	X
11-1005	A	11/14/14	**COUPLING**	1		X	X
11-1006	A	11/4/14	**WOODRUFF KEY**	1		X	X
11-1007	A	11/3/14	**BUSHING**	2		X	X

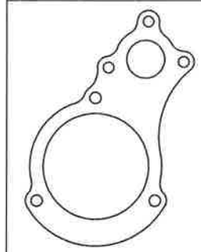
AFMS

AFMS 003	-	7/20/15	**AFMS 003**	1	X	X	X

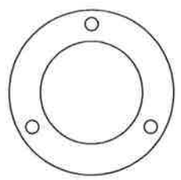
REVISIONS				
EN	REV.	DESCRIPTION	BY	DATE
1409062	D	FIRST RELEASE INTO HET DESIGN DATA	BJ	9/11/14
1409063	E	1) TITLE BLOCK WAS PLANE-POWER, LTD. 2) "HARTZELL ENGINE TECHNOLOGIES LLC" WAS "PLANE-POWER, LTD" 3) MODEL NO. 11-1008 WAS ER14-50 4) ADDED 11-1029 CALLOUT TO DATA TAG 5) REMOVED "PLANE POWER" FROM INSTRUCTIONS WHERE APPLICABLE	BJ	9/11/14

14 VOLT 50 AMP GEAR DRIVEN ALTERNATOR

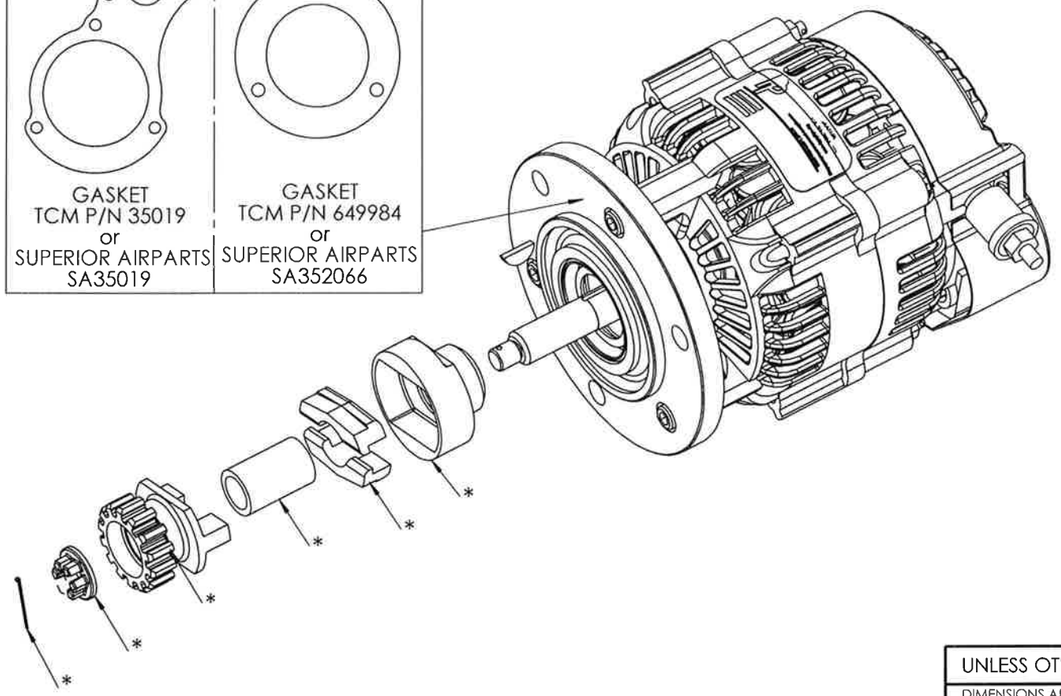
NOTE: BOTH GASKETS SUPPLIED
USE APPROPRIATE GASKET FOR
YOUR ENGINE

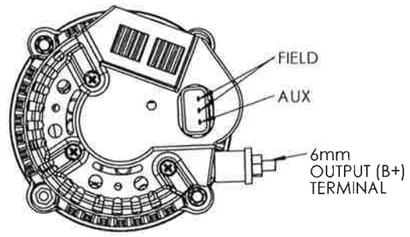


GASKET
TCM P/N 35019
or
SUPERIOR AIRPARTS
SA35019

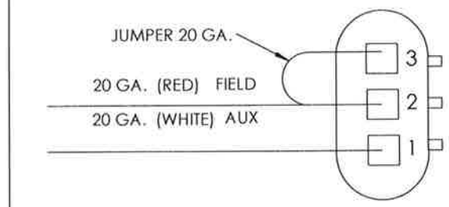


GASKET
TCM P/N 649984
or
SUPERIOR AIRPARTS
SA352066

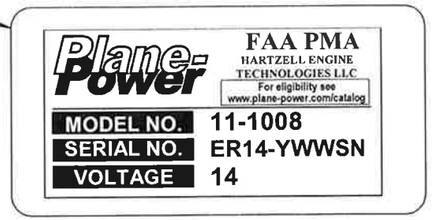




PRE-WIRED FIELD PLUG WIRING DIAGRAM
AS VIEWED FROM REAR OF CONNECTOR



11-1029



NOTES:
1. PARTS MARKED WITH * ARE SHOWN FOR INSTALLATION PURPOSES ONLY AND ARE NOT SUPPLIED WITH KIT, AVAILABLE SEPERATELY AS GEAR ASSEMBLY ER14-GR

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

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

GEOMETRIC SYMBOLS PER ANSI Y14.5

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

SCALE NTS

DRAWN	BJ	8/10/07
CHECKED	RFQ	9/12/14
ENG.	CMB	9/12/14
FINISH	N/A	
WEIGHT	N/A	
MATERIAL SEE INDIVIDUAL PARTS		

HARTZELL ENGINE TECHNOLOGIES
MONTGOMERY, ALABAMA, USA

(E)
2900 Selma Highway
Montgomery, AL 36108

ER14-50 INSTALLATION INSTRUCTIONS

SIZE	SH 1 OF 4	CODE ID	DRAWING NO.	REV.
B		65PY1	11-1001A	E

ER14-50 INSTALLATION INSTRUCTIONS

READ AND THOROUGHLY UNDERSTAND ALL OF THE INSTALLATION INSTRUCTIONS BEFORE BEGINNING INSTALLATION OF THIS KIT.

NOTE: IF AIRCRAFT DOES NOT HAVE A CIRCUIT BREAKER OR CURRENT LIMITING DEVICE IN THE GENERATOR OR ALTERNATOR OUTPUT WIRE AND REGULATOR INPUT CIRCUIT THEY MUST BE INSTALLED.

NOTE: IT IS THE RESPONSIBILITY OF THE INSTALLER TO DETERMINE BY CALCULATION THAT THE TOTAL CONTINUOUS ELECTRICAL LOAD OF THE AIRCRAFT DOES NOT EXCEED 80% OF THE OUTPUT LOAD LIMIT OF THE ALTERNATOR AND, IF EXCEEDED, ADDRESS THIS ISSUE PER AC43.12-1B § 11.35 (a) BY REDUCING THE LOAD OR INSTALLING APPROPRIATE PLACARDS.

1. Disconnect aircraft battery.

2. Remove generator and voltage regulator.

3. Remove drive gear assembly from old generator or alternator. If assembly is in airworthy condition and all part numbers match the TCM part numbers on Figure A page 4 of this manual the drive gear assembly may be re-used. Otherwise purchase a new gear assembly P/N ER14-GR or a TCM gear assembly. (See Fig. A, Page 4) Note: gear assemblies must support alternator drive shaft diameter 0.5in. Gear assemblies for larger diameter drive shafts require G-Pack.

4. If original gear assembly is to be re-used inspect gear, sleeve, retainer and hub for airworthy condition. Replace any worn/damaged parts or assemblies.

NOTE: IT IS THE RESPONSIBILITY OF THE INSTALLER TO THOROUGHLY INSPECT AND PROPERLY INSTALL THE GEAR ASSEMBLY. DAMAGE TO THE ALTERNATOR FROM THE INSTALLATION OF WORN, DEFECTIVE OR IMPROPERLY INSTALLED PARTS WILL VOID ER14-50 WARRANTY AND MAY CAUSE ENGINE DAMAGE.

----------(Refer to Pages 1 and 4)----------

5. **ASSEMBLE DRIVE GEAR ASSEMBLY WITH 2 NEW BUSHINGS TCM P/N 626543 OR SA# 632050** on alternator shaft. Ensure Bushings and Drive Key are properly installed in shaft.

6. Torque Shaft Nut # 11-1002 or TCM P/N 530412 to Minimum torque of 180 inch Lbs. and install cotter pin #MS24665-132. If cotter pin will not pass through drilled hole in shaft slowly increase torque to align hole. **DO NOT EXCEED 220 INCH LBS.**

7. Install alternator on engine with new gasket TCM P/N 35019 (SA35019) or TCM P/N 649984 (SA352066) depending on engine model. Ensure that alternator drive gear meshes to engine gear without forcing or binding.

8. Torque the 3 mounting nuts to 200 Inch Lbs. **Check drive gear lash by carefully moving the ER14-50 cooling fan on rotor back and forth (Typical lash .075" on outer diameter of fan blade). If no lash is detected remove ER14-50 and correct the cause before proceeding.**

9. **Ensure that internal jumper #1 and internal jumper #2 of the R1224B regulator are set for 14V operation** (See regulator instructions for location of jumpers).

10. If original output circuit breaker is rated at less than 50-amps and you wish to be able to utilize the increased capacity of the alternator, remove the breaker and replace with suitable breaker up to 50-amp maximum size. **Ensure wire size from alternator output terminal to output circuit breaker and from output circuit breaker to bus is rated for more than the size of breaker installed per AC43.13-1B. Note: If aircraft has been equipped with an Amp Meter, ensure that it is of adequate size to handle the increased output capability before increasing the output wire and breaker.**

11. Wire the system as follows:

    a. For regulator wiring instructions view the regulator installation instructions.

    b. Connect the GRND terminal of the regulator to the common aircraft ground.

    c. Install output (B+) wire and torque to 50 inch Lbs. **If the output breaker is to be increased to 50 amps ensure that the output wire is of sufficient size to carry more than 50 amps.** (Refer to AC43.13-1B)

    d. Run the Red Field wire of the Enable Plug (P/N 11-1010) to the FLD terminal of the regulator.

    e. **ENSURE THAT A 7.5AMP CIRCUIT PROTECTION DEVICE IS INSTALLED IN SERIES WITH, OR IS PART OF, THE FIELD SWITCH FOR THE ALTERNATOR**. (This is commonly the original generator or alternator Field switch & breaker.) Use the existing wire from the switch/breaker or install a new wire, minimum 20AWG, to the ENABLE terminal of the regulator. Install, in view of the pilot, placard ALP-1001 (ALT FIELD part of 14-1012) adjacent to the field switch for the alternator.

    f. Ensure that the other end of the FIELD switch/breaker is connected to the aircraft positive bus.

    g. If the aircraft has a "Generator Inoperative" indicator lamp, it may be used in this step. If the lamp is not currently installed or is not compatible use the supplied lamp P/N 14-1010 Alternator inoperative Lamp (14 Volt) and install it in pilots' clear field of view.

    h. Install, in view of the pilot, placard ALP-1006 (ALT INOP) adjacent to the indicator for the alternator. Also run a new wire, minimum 18 AWG, from the AUX terminal of the alternator to the AUX terminal of the regulator.

12. Adjust and Test the system:
    a. Set FIELD switch to OFF.

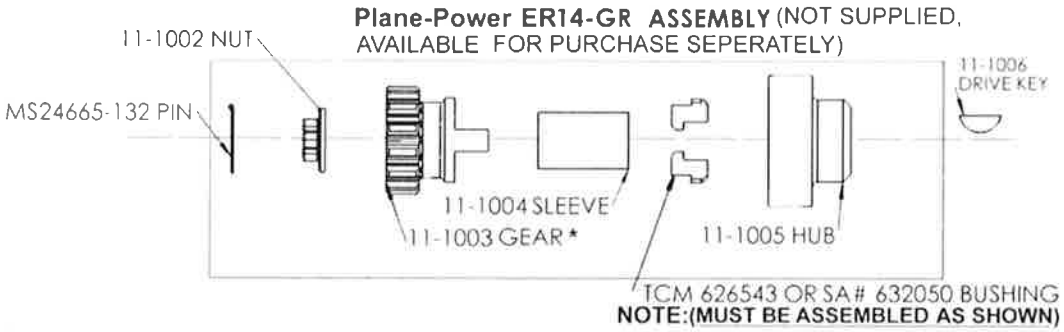
    b. Turn on MASTER switch and start the engine and check for any oil leaks or abnormal sounds. Stop the engine immediately if any are noticed and correct the condition before proceeding.

    c. With FIELD switch in OFF position ensure that ALT INOP indicator is illuminated.

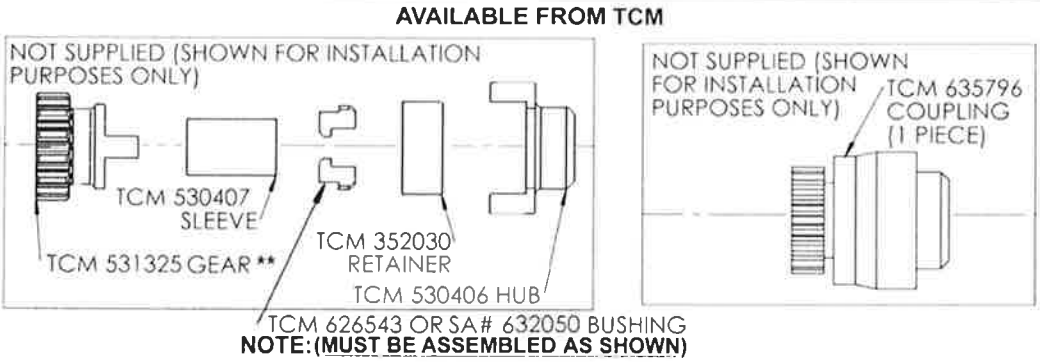
    d. Turn on the FIELD switch. Check proper charging indication. Check ALT INOP indicator is off. Check aircraft maintenance manual for proper bus voltage (typically 14.0V ± 0.3V). Adjust the regulator to the desired bus voltage at 1200 engine RPM.

    e. Recheck and inspect the entire installation, and make a log book entry. Complete FAA form 337, make log book entry, update aircraft equipment list, and weight and balance.

FIGURE A: ANY OF THE FOLLOWING GEAR ASSEMBLIES MAY BE USED WITH THE ER14-50



***Note: 11-1003 gear for use only on C75, C85, C90, C125, C145, O-200, and O-300 engines**



****Note: Use TCM 531325 gear on C75, C85, C90, C125, C145, O-200, and O-300 engines. Use TCM 530997 gear on E165, E185, and E225 engines.**

Instructions for Continued Airworthiness:

MAINTENANCE INSTRUCTIONS:

Maintenance operations will commence when there is a Pilot report that the voltage level on the aircraft does not meet the aircraft manufacturer's requirement. The alternator should be inspected to be certain that the alternator shaft moves freely with no unusual noise. If the alternator output is not satisfactory, the voltage setting should be adjusted by following the regulator instructions

PERIODIC MAINTENANCE:

It is recommended that the operation of the ER14-50 alternator be checked every 100 hour inspection or every annual inspection which ever comes first.

Annual / 100 Hour Inspections:

1. Check regulated voltage is within limits per aircraft maintenance manual.

5 Year or 500-Hour Intervals:

1. Repeat: Annual / 100 Hour Inspection
2. Remove Field Brush assembly and inspect brushes for excess wear. Replace Brush assembly if brushes extend less than .250" from edge of brush holder.
3. Replace 2 Drive Coupling Bushings, TCM Part Number 626543 or SA# 632050.
4. Inspect Gear Assembly and Drive Key for wear.

Each annual/100 hour inspection, the alternator and its associated wiring should be checked for secure electrical connections and physical connection to the airframe.

For voltage regulator maintenance instructions view the voltage regulator instructions. Voltage regulator inspections should be concurrent with those of the alternator. No special tools are required.

Hartzell Engine Technologies LLC
Montgomery, AL. 36108
Document No. AFMS 003

FAA-APPROVED
AIRPLANE FLIGHT MANUAL SUPPLEMENT
FOR
STC SA10921SC

INSTALLATION OF
Gear Driven Alternator Conversion
MODEL ER 14-50

Aircraft Make & Model _____
Registration No: _____
Serial No: _____

This supplement must be attached to the appropriate FAA Approved Airplane Flight Manual when the aircraft is modified in accordance with STC SA10921SC. The information contained herein supplements or supersedes the Airplane Flight Manual only in those areas listed herein. For limitations, procedures and performance information not contained in this supplement, consult the Airplane Flight Manual.

FAA APPROVED

for: Steven L. Lardinois, Manager
Systems and Flight Test Branch,
ACE-117C

Chicago Aircraft Certification Office
2300 E Devon Ave,
Des Plaines, IL 60018

Original Issue Date: November 10, 2008

List of Effective Pages

Use the page to determine the current effect date for each page in this supplement. This supplement is controlled by this page.

When updating this supplement to a later FAA Approved revision level, remove the current List of Effective page and Log of Revision page and the pages to be replaced and insert the newly revised pages.

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iii-iii	1	May 18, 2015			
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2-1	1	May 18, 2015			
3-1	1	May 18, 2015			
3-2	1	May 18, 2015			
3-3	1	May 18, 2015			
4-1	1	May 18, 2015			
4-2	1	May 18, 2015			
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5-2	1	May 18, 2015			
5-3	1	May 18, 2015			
6-1	1	May 18, 2015			
7-1	1	May 18, 2015			
7-2	1	May 18, 2015			
7-3	1	May 18, 2015			
8-1	1	May 18, 2015			

FAA APPROVED
REVISED: JUL 20 2015

Log of Revisions

Rev	Description	Page	Approved by	Date
- -	Original Release	1-13	SEE COVER PAGE	10/08/2008
1	Change Name to HET, & manual no. AFMS-001 to AFMS-003 all pages. General, change Qty from 2 to 1, remove last sentence from 2nd para. Applied single alternator info to Emergency Procedures, Title, steps 2 & 3.	1 thru 13 1-3 3-1	SEE COVER PAGE	JUL 2 0 2015

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Forward

This Airplane Flight Manual Supplement (AFMS) presents changes associated with the installation of Belt Driven Alternator Conversion kit ER 14-50.

Important Notice

This supplement to the Airplane Flight Manual should be read carefully by the owner and/or operator in order to become familiar with the operation of the airplane. It contains limitations, operating procedures, performance information, and systems descriptions that are essential information for the pilot to properly operate the Make and Model aircraft that have been modified in accordance with STC SA10921SC. As specified, this supplement must accompany the basic Airplane Flight Manual and be available to the pilot at any time during flight. If a section has not been provided in this document, then refer to the basic Airplane Flight Manual.

Sections

This supplement is divided into the following sections:

Revising This AFM Supplement

Each time this supplement is revised or reissued, a new Log of Revisions page is provided along with the pages containing corresponding data or changes. In the footer of each page is shown the approval date and revision letter (when applicable). When updating this supplement to a later FAA Approved revision level, remove the Log of Revision page and the pages to be replaced and insert the new Log of Revision page and revised pages. That portion of text or an illustration, which has been revised by the addition of, or change in, information is denoted by a solid revision bar located adjacent to the area of change, and placed along the outside margin of a page. Revision bars show only information changed within latest revision.

Section 1
General

The alteration to the aircraft was performed using a kit that includes (1) alternator, (1) alternator mounting kit, (1) ALT INOP placard, (1) ALT FIELD placard, (1) regulator, (1) alternator inoperative lamp, and installation instructions to replace generator on single engine aircraft which are listed in the Approved Model List of STC SA10921SC.

The alternator and associated regulator will provide increased output at low engine RPM over that of the original generator.

Section 2
Limitations

Unchanged.

Section 3
Emergency Procedures

Battery discharging indication or ALT INOP lamp illuminated.

1. Reduce electrical load.
2. Check ALT FIELD circuit breaker
   A. If tripped, turn off ALT FIELD switch and reset breaker.
   B. Turn on ALT FIELD switch.
   C. If breaker trips again, turn off the ALT FIELD switch and land as soon as practical.
3. Check alternator output circuit breaker.
   A. If tripped turn off ALT FIELD switch and reset breaker.
   B. Turn on ALT FIELD switch.
   C. If breaker trips again, turn off the ALT FIELD switch and land as soon as practical.

WARNING
Land before battery power is depleted or be prepared to operate aircraft with no electrical power if ALT INOP lamp remains illuminated and/or battery discharging indication is observed.

Section 4
Normal Procedures

Before starting engine, turn on MASTER switch and verify ALT INOP lamp is illuminated.

WARNING
A problem exists if ALT INOP lamp is not illuminated with MASTER switch on before starting engine. Have an authorized technician correct the problem before attempting to start engine.

After starting engine, turn on ALT FIELD switch. Verify battery charging indication and ALT INOP lamp is not illuminated.

WARNING
A problem exists if ALT INOP lamp remains illuminated with MASTER and alternator switches on after engine is running. Have an authorized technician correct the problem before attempting.

Section 5
Performance Data

Unchanged from basic Airplane Flight Manual.

Section 6
Weight and Balance

There are no changes to the aircraft weight limits or center of gravity (CG) limits. See the basic Airplane Flight Manual for weight and center of gravity information.

The Equipment List / Weight and Balance Record are revised by the STC installer for installation of this Belt Driven Alternator Conversion. For current empty weight and CG, see revised weight and balance record.

Section 7
Airplane and Systems Description

The installed alternator conversion kit provides up to a maximum of 50 amps at the rated voltage, limited by current wiring and breakers.

Section 8
Handling, Service, and Maintenance

The basic AFM is unchanged. See Instructions for Continued Airworthiness provided with this installation for details on inspections and maintenance.