



United States of America
Department of Transportation
Federal Aviation Administration

Supplemental Type Certificate

Number: SE00357NY

This certificate issued to: Hartzell Engine Technologies LLC
2900 Selma Hwy
Montgomery, AL 36108

certifies that the change in the type design for the following product with the limitations and conditions therefore as specified hereon meets the airworthiness requirements of Part 33 of the Federal Aviation Regulations

Original Product – Type Certificate Number: See Page 3. Make: Textron Lycoming
Lycoming Engine Models Model: See Page 3, Lycoming Engine Models

Description of Type Design Change:

Configuration I

Replacement of Lycoming starter with SKY-TEC 24-volt permanent magnet Starter Model 149-24PM, installed in accordance with SKY-TEC DWG. 20101 Rev. B.

Configuration II

Replacement of Lycoming starter with SKY-TEC 24-volt Starter Model 122-24PM installed in accordance with SKY-TEC DWG 20101 Rev. B.

Configuration III

Replacement of Lycoming starter with SKY-TEC 24-volt Starter Model 122-24LS installed in accordance with SKY-TEC DWG 20130 Rev. C.

Configuration IV

Replacement of Lycoming starter with SKY-TEC 24-volt Starter Model 149-24LS in accordance with SKY-TEC DWG 20130 Rev. C.

Limitations and Conditions:

(See continuation sheet 3 of 3)

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

Date of Application: April 7, 1995
Date of Issuance: August 10, 1995

Date Reissued: 9/13/95; 1/14/97; 2/11/16; 3/9/16
Date Amended: May 23, 1996

By Direction of the Administrator

Signature

Title John Hardie

Acting Manager, Fort Worth Aircraft Certification Office,
Southwest Region

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 or made available to third persons by licensing agreements in accordance with 14 CFR 21.47. Possession of this Supplemental Type Certificate (STC) document by persons other than the STC holder does not constitute rights to the design data nor to alter an aircraft, aircraft engine, or propeller. The STC's supporting documentation (drawings, instructions, specifications, flight manual supplements, etc.) is the property of the STC holder. An STC holder who allows a person to use the STC to alter an aircraft, aircraft engine, or propeller must provide that person with written permission acceptable to the FAA. (Ref. 14 CFR 21.120)



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Supplemental Type Certificate

(Continuation Sheet)

Number: SE00357NY

Date of Issuance: August 10, 1995

Date Amended: May 23, 1996

Date of Reissuance: March 9, 2016

Models (Continued):

Lycoming Engine Models

TC E-286: O-360 Series

TC E-26EA: TO-360 Series

TC 1E10: IO-360 Series; All Models except L10, LH10

TC 1E12: IO-320 Series; All Models except L10-320 Series

TC E-274: O-320 Series

TC E-233: O-235 Series

TC E-229: O-290 Series

TC E-295: O-540 Series

TC 1E4: IO-540 Series; All Models except L10, LH10

TC E11EA: TIO-541 Series

Limitations and Conditions (Continued):

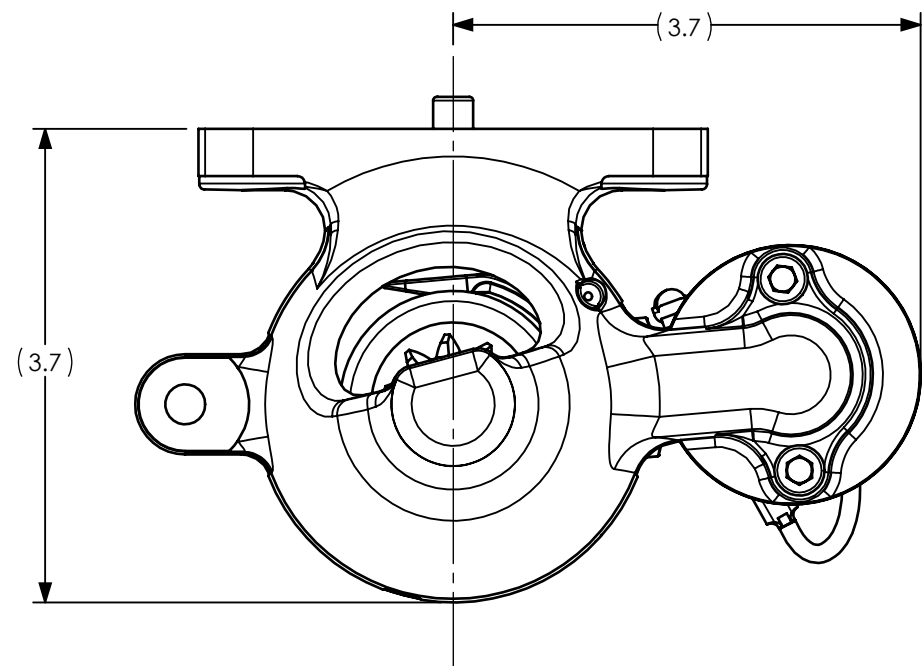
1. This approval is limited to aircraft with a 24-volt DC Source available to the starter.
2. Configuration I and IV are limited to SKY-TEC Starter Model 149-24PM used with a 149-Tooth engine ring gear and starter drive ratio of 13.55:1 and Configuration II and III are limited to SKY-TEC starter model 122-24PM used with a 122-Tooth engine ring gear and starter drive ratio of 14.9:1.
3. 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.

-END-

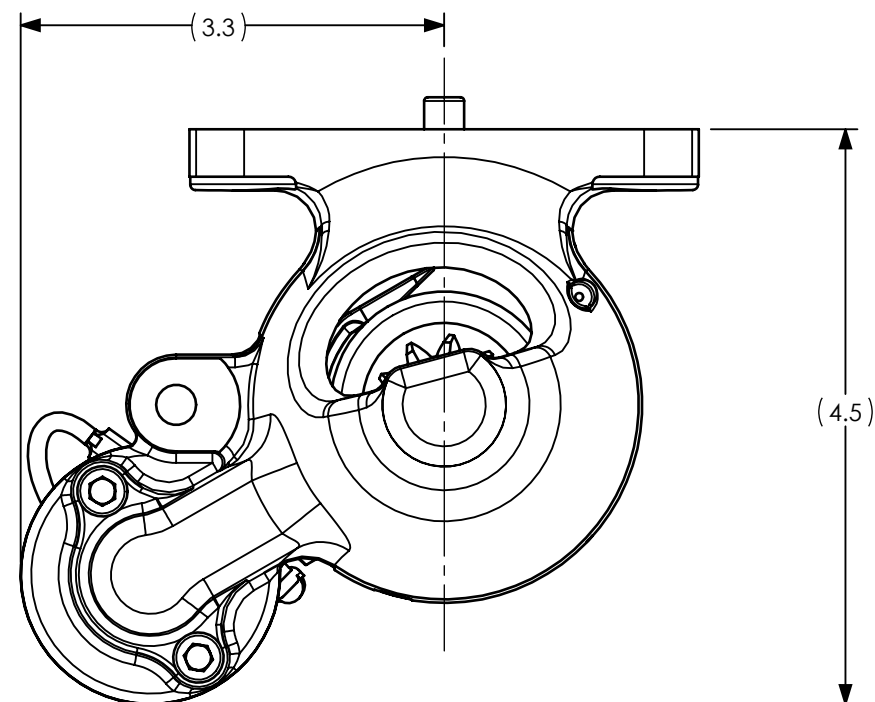
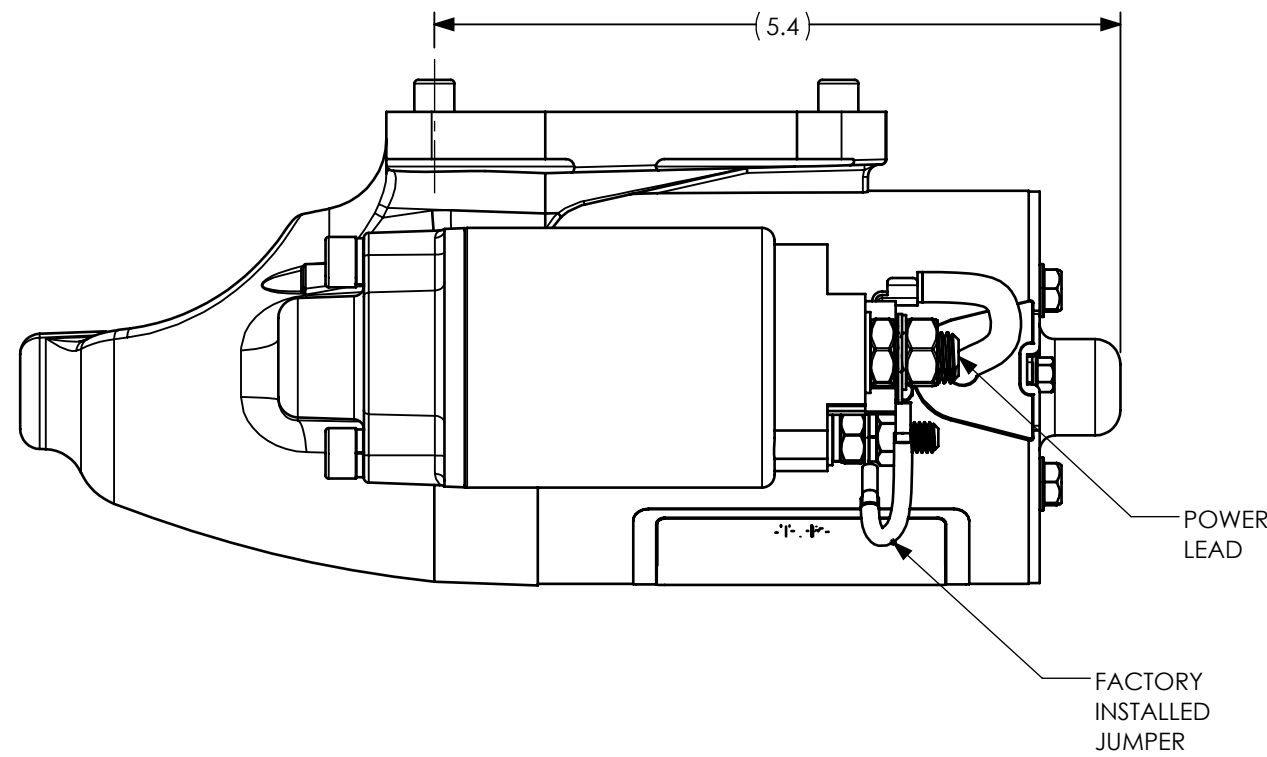
Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both. This certificate may be transferred or made available to third persons by licensing agreements in accordance with 14 CFR 21.47. Possession of this Supplemental Type Certificate (STC) document by persons other than the STC holder does not constitute rights to the design data nor to alter an aircraft, aircraft engine, or propeller. The STC's supporting documentation (drawings, instructions, specifications, flight manual supplements, etc.) is the property of the STC holder. An STC holder who allows a person to use the STC to alter an aircraft, aircraft engine, or propeller must provide that person with written permission acceptable to the FAA. (Ref. 14 CFR 21.120).

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

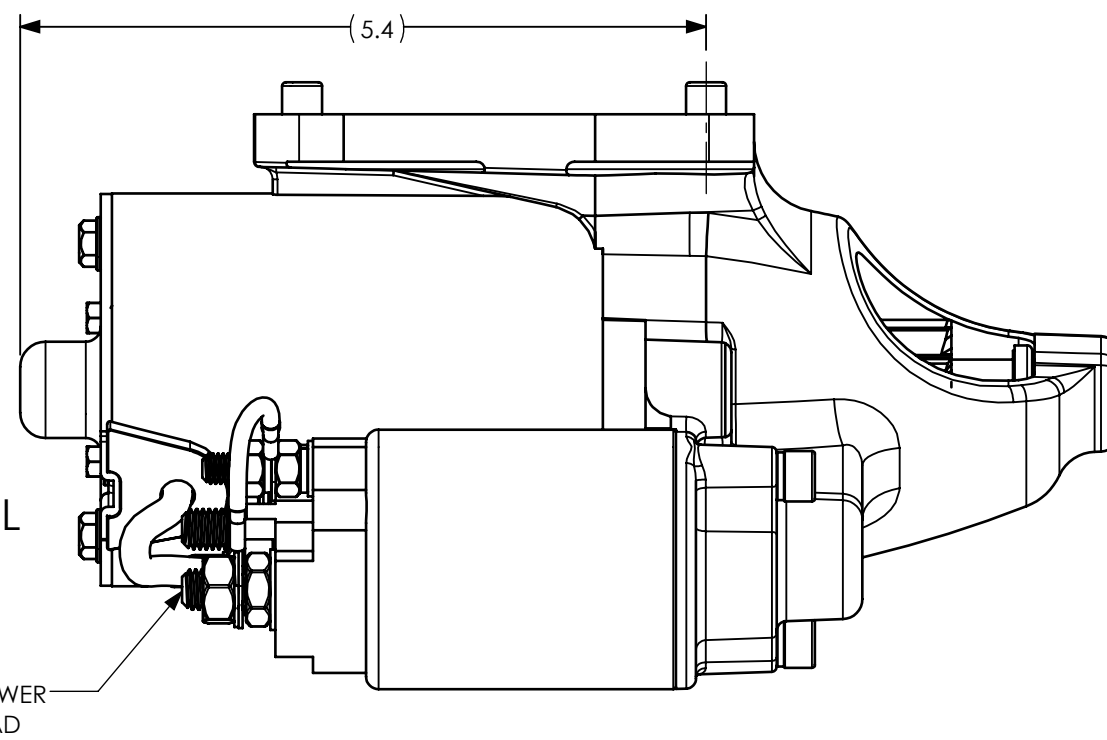
REVISIONS				
ECO	REV.	DESCRIPTION	BY	DATE
123518	K	1) REDRAWN IN SOLIDWORKS; 2) FORMAT: HET WAS SKYTEC; 3) REMOVED PMA DATA TABLE AND LABEL GRAPHIC; 4) REMOVED INSTALLATION AIDS	EAB	10/20/16



LS MODEL



PM MODEL



INSTALLATION INSTRUCTIONS:

- DISCONNECT POWER CABLE AND UNBOLT OLD STARTER FROM THE ENGINE.
- MOUNT NEW STARTER USING THE NEW LOCK WASHERS SUPPLIED AND TORQUE TO 100 IN-LBS.
- REMOVE THE CRANKING INFORMATION TAG FROM THE NEW STARTER BY REMOVING THE 8MM NUT FROM THE POWER TERMINAL AND PLACE THE TAG IN CUSTOMER'S LOG.
- ATTACH POWER CABLE USING A 13MM WRENCH ON THE 8MM NUT PREVIOUSLY REMOVED FROM THE POWER TERMINAL AND TORQUE TO 50 IN-LBS. (DO NOT OVERTORQUE, INSULATOR WILL BREAK)
- PLACE A MS25171 INSULATING NIPPLE OF THE PROPER SIZE ON THE POWER TERMINAL.
- 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. AN OCCASIONAL DROP OF OIL CAN BE PLACED ON THE PINION SHAFT TO HELP PREVENT RUST FROM FORMING. NO OTHER MAINTENANCE IS REQUIRED OR RECOMMENDED.

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 ANGLER ±1°
 .XXX = ±.005
 BREAK ALL EDGES AND MACHINE ALL INSIDE CORNER FILLETS .015 MAX.
 SURFACE FINISH 125/

THIS DRAWING CONTAINS INFORMATION THAT IS CONFIDENTIAL AND PROPRIETARY TO HARTZELL ENGINE TECHNOLOGIES. THIS DRAWING IS FURNISHED ON THE UNDERSTANDING THAT THE DRAWING AND THE INFORMATION IT CONTAINS WILL NOT BE COPIED OR DISCLOSED TO OTHERS EXCEPT WITH THE WRITTEN CONSENT OF HARTZELL ENGINE TECHNOLOGIES. WILL NOT BE USED TO THE DETRIMENT OF HARTZELL ENGINE TECHNOLOGIES, AND WILL BE RETURNED UPON REQUEST BY HARTZELL ENGINE TECHNOLOGIES.

GEOMETRIC SYMBOLS PER ANSI Y14.5
FLATNESS
STRAIGHTNESS
ROUNDNESS
CYLINDRICITY
PROFILE
PERPENDICULARITY
POSITION
CONCENTRICITY
SYMMETRY
ANGULARITY
PARALLELISM
CIRCULAR RUNOUT
TOTAL RUNOUT

DRAWN	EAB	10/20/16
ENGINEER	K. NORD	
APPRVD.	123518	
FINISH	N/A	
WEIGHT	N/A	
MATERIAL	N/A	
SIZE	SH 1 OF 1	CODE ID 65PY1

		2900 Selma Highway Montgomery, AL 36108	
		LS/PM INSTALLATION INSTRUCTIONS	
DRAWING NO. ST20101		REV. K	