

HARTZELL

PROPELLER LOGBOOK

PROPELLER MODEL HC-E5N-3C

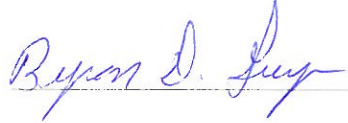
PROPELLER S/N RT 199

LOGBOOK # 1

Tach: Hobbs: 706.4 TTSN: 706.4 TSO:

1. Removed aircraft propeller P/N: HC-E4N-3/E9083S(K) S/N: HH4773 and installed aircraft propeller P/N: HC-E5N-3C/NC8834(K) S/N: RJ199 IAW Hartzell MM STC SA03291CH. Op and leak checks good. FAA form 337 filed this date with the Oklahoma Aircraft Registry. A copy of FAA form 337 provided with the airframe logbook.
2. Complied with a "A" inspection plus annual I.A.W. Socata MM Chapter 05-20-02, 05-20-05 and Hartzell MM 147. All AD's checked through revision 2016-03; see AD compliance record provided with the airframe logbook.
3. Performed propeller balance I.A.W. MicroVib II Users Manual 1013. Final reading .044 IPS @ 1656 R.P.M.

This aircraft, airframe, aircraft engine, propeller or appliance was repaired/inspected in accordance with the current Federal Aviation Regulations and has been found to be in an airworthy condition for scope of work performed. Pertinent details of the repair/inspection are on file at this Repair Station under Work Order No. 12269.

 3/7/16
Date

(LBID:12029)

For: FAA Approved Repair Station # X1IR595Y



Hartzell Propeller Inc.
One Propeller Place
Piqua, OH 45356-2634 USA
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Hartzell Top Prop Performance Conversions

Authorization For Use of STC Document

This Supplemental Type Certificate is the property of Hartzell Propeller, Inc. Hartzell Propeller, Inc. authorizes the use of the STC data only for the aircraft specified below. Any use of this STC beyond the aircraft specified below is a violation of proprietary laws and is subject to legal action.

Please keep the STC, installation instructions, Flight Manual Supplement, and this authorization sheet, in a secure location. There will be a charge for issuing replacement documents.

STC Number :	SA03291CH
Aircraft Model:	SOCATA TBM 850
Serial Number:	664
Aircraft Registration:	N850FP

Date Issued:	2/25/2016
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A handwritten signature in black ink that reads "Kathy Black". The signature is written over a horizontal line.

Kathy Black
Hartzell Top Prop Performance Conversions

Hartzell Customer Reference:	AVEX INC (SOCATA DISTRIBUTOR) CO 216849
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Hartzell Propeller Inc.
One Propeller Place
Piqua, OH 45356

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March 25, 2013

ICA_032513

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
FOR THE
HARTZELL HC-E5N-3C/NC8834K PROPELLERS
ON SOCATA TBM 700

STC SA03291CH

LOG OF REVISIONS

Revision	Revised Page(s)	Description of Revision	Engineer	Date
New	All	Original Release	L. Doud	3/25/13

NOTE: All changes are indicated by a black vertical line along the left margin.

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**INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
FOR THE
HARTZELL HC-E5N-3C/NC8834K PROPELLERS
ON SOCATA TBM 700**

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INTRODUCTION

The Instructions for Continued Airworthiness below document the maintenance requirements and procedures associated with the new Hartzell HC-E5N-3C/NC8834K five-blade composite propellers installed on TBM 700 aircraft.

Chapter 4 – AIRWORTHINESS LIMITATIONS

NOTE: The Airworthiness Limitations section is FAA approved and specifies maintenance required under Secs. 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

There are no new (or additional) airworthiness limitations associated with this equipment and/or installation.

Chapter 5 - TIME LIMITS / MAINTENANCE CHECKS

All required maintenance, inspections, time intervals and procedures for Hartzell Propellers are provided in Hartzell Manual 147 (Hartzell Propeller Owner's Manual) provided with each propeller. Recommended Time-Between-Overhaul (TBO) for the STC propeller is also provided in Hartzell Service Letter HC-SL-61-61Y. Propeller overhaul must be accomplished by a certified propeller repair station with the appropriate rating.

All propeller inspection requirements contained in Phase, Special, Biennial, Interim, Complete and Unscheduled inspections remain unchanged and should be complied with as provided in Chapter 5 of the applicable Socata TBM 700 Maintenance Manual.

Due to the composite construction of the propeller blade, in addition to the lightning strike inspection criteria provided in the Socata TBM 700 Maintenance Manual, refer to Hartzell Propeller Owner's Manual 147, Chapter 5, Special Inspections - Lightning Strike for detailed information on propeller lightning strike inspection and disposition.

Special Inspections – Propeller Overtorque or Overspeed

The HC-E5N-3C/NC8834K propeller is approved for transient overtorque events up to 2678 ft-lbs for twenty seconds without requiring special inspections. For all other levels and duration of overtorque events, consult Hartzell Manual 202A for special inspection requirements.

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**INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
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Special Inspections – Propeller Overtorque or Overspeed (continued)

Consult Hartzell Manual 202A for propeller overspeed limits and special inspection requirements.

Chapter 30 ICE AND RAIN PROTECTION

Propeller Electric Deicers

Propeller Electric Deicers – Description and Operation

The Hartzell HC-E5N-3C/NC8834K propeller uses a dual heating element deicer boot that is functionally equivalent to the deicer installed on the Hartzell four-blade propeller deice system described in the Socata TBM 700 Maintenance Manual. The primary change made to the propeller deice system when installing the five-blade composite propeller is the addition of a Metal Oxide Varistor (MOV) module for lightning strike protection. The MOV module is a passive component that protects the airframe system from the adverse effects of a lightning strike. Another change is how the deice boots are heated. Instead of the whole boot of opposing blades being heated simultaneously, the five-blade propeller heats the inboard or outboard boot sectors of all five blades simultaneously, then alternates to the other sector every 90 seconds.

There is one operational warning/caution that must be observed to prevent damage to the composite blades when operating the propeller deice system without the engine running. If the propeller deice system is operated without the propeller turning, the deicer can heat the blades to temperatures that will damage the composite blade. The following caution is provided in the STC installation instructions and Airplane Flight Manual Supplement:

CAUTION: OPERATION OF THE PROPELLER DE-ICE SYSTEM WITHOUT THE ENGINE RUNNING IS LIMITED TO 10 SECONDS OR SEVERE DAMAGE TO THE COMPOSITE BLADES MAY RESULT. IF 10 SECONDS IS EXCEEDED, CONTACT HARTZELL PRODUCT SUPPORT AT:

**Phone: (937) 778-4379 or 1-800-942-7767
e-mail: techsupport@hartzellprop.com**

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ON SOCATA TBM 700**

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Propeller Electric Deicers – Troubleshooting

For propeller deicer system description to aid in troubleshooting, refer to Hartzell Manuals 181 and 182 for propeller mounted components; refer to the Socata TBM 700 manual and the STC Installation Instructions for the airframe mounted (non-rotating) system components.

The propeller-mounted deicer system components are depicted in the Hartzell Manuals listed below.

Manual 180 – Propeller Ice Protection System Manual
Refer to “De-Ice Kits for Lightweight Turbine Propellers with Composite Blades” to see Illustrated Parts Lists for Propeller De-Ice Kit P/N 105551.

Manual 181 – Propeller Ice Protection System Component Maintenance Manual

Manual 182 – Propeller Electrical De-Ice Boot Removal and Installation Manual.

These manuals can be viewed and/or obtained via the internet on the Hartzell Propeller website (www.hartzellprop.com). The manuals are located in the “Service & Support” section under Services/Reference Library/Manuals/Ice Protection Manuals.

The MOV module does not require troubleshooting, because, much like a fuse, it is passive component that is only replaced in the event of a lightning strike.

Troubleshooting procedures of the propeller deice system are unchanged and the procedures provided in the Socata TBM 700 Maintenance Manual remain applicable.

For assistance with troubleshooting, please contact Hartzell Product Support at:
Phone: (937) 778-4379 or 1-800-942-7767 e-mail: techsupport@hartzellprop.com

Propeller Electric Deicers – Maintenance Practices

For maintenance of the propeller deicer system, refer to Hartzell Manuals 181 and 182 for propeller mounted components. Refer to the Socata TBM 700 manual and the STC Installation Instructions for the airframe mounted (non-rotating) system components.

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**INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
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ON SOCATA TBM 700**

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Metal Oxide Varistor (MOV) Module Replacement

Metal Oxide Varistor (MOV) module is installed on a new bracket near the brush block assembly for deicer system lightning protection. Hartzell recommends the MOV be replaced in the event of a lightning strike per Hartzell Manual 181. Refer to Hartzell airframe de-ice kit P/N 105068 (defined in Hartzell Manual 180) and STC installation instructions INST_032513 for MOV installation details.

Electrothermal Propeller Deicers

The airframe mounted components of the propeller de-ice system – except for the MOV – are unchanged; therefore, the system description and operation as provided in the Socata TBM 700 Maintenance Manual remains applicable.

Deicer Boot Removal and Installation

See latest revision of Hartzell Manual 182, Propeller Electrical De-ice Boot Removal and Installation Manual.

Chapter 61 - PROPELLERS

The STC propeller is a 91" diameter, five-blade, constant-speed, feathering and reversing propeller.

The STC propeller should be installed in accordance with STC Installation Instructions INST_032513. All required maintenance, inspections, time intervals and procedures are provided or referenced in Hartzell Manual 147 (Hartzell Propeller Owner's Manual) provided with each propeller.

Recommended Time-Between-Overhaul (TBO) limits for the STC propeller are provided in Hartzell Service Letter HC-SL-61-61Y. Propeller overhaul must be accomplished by a certified propeller repair station with the appropriate rating.

Spinner Inspection

Refer to Hartzell Manual 127 for 105180(P) aluminum spinner assembly inspection and maintenance information.

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**INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
FOR THE
HARTZELL HC-E5N-3C/NC8834K PROPELLERS
ON SOCATA TBM 700**

STC SA03291CH

For Product Support contact:

Address: Hartzell Propeller Inc.
One Propeller Place
Piqua, Ohio 45356-2634
USA

Phone: (937) 778-4379 or
1-800-942-7767

E-mail: techsupport@hartzellprop.com

Internet: www.hartzellprop.com



United States of America
Department of Transportation
Federal Aviation Administration
Supplemental Type Certificate

Number: SA03291CH

This certificate issued to: Hartzell Propeller Inc
One Propeller Place
Piqua, Ohio 45356

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 23 of the Federal Aviation Regulations.

Original Product - Type Certificate Number: Make: SOCATA
A60EU Model: TBM 700

Description of Type Design Change:

Installation of Hartzell propeller model HC-E5N-3C/NC8834K in accordance with Hartzell STC Installation Instruction INST_032513 dated March 25, 2013 or later FAA Approved revisions. Airplane Flight Manual Supplement AFMS_032513 is required. Instructions for Continued Airworthiness ICA_032513 are applicable.

Limitations and Conditions:

1. The installer must determine whether this change is compatible with previously approved modifications.
2. 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.

(See Continuation Sheet 3 of 3 pages)

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: 4/19/2013

Date reissued:

Date of issuance: 2/11/2014

Date amended:

By direction of the Administrator

Signature Brian E. Meyer

Title Brian E. Meyer
STC ODA administrator
Hartzell ODA-100082-CE

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).



United States of America
Department of Transportation
Federal Aviation Administration
Supplemental Type Certificate
(Continuation Sheet)
Number: SA03291CH

Hartzell Propeller Inc
Date of issuance February 11, 2014

Limitations and Conditions continued:

3. TBM 700A, B, C1, C2 and TBM 700N versions are also approved under this STC. See STC Installation Instruction INST_032513 for serial number applicability.

4. Revised Type Certificate Data Sheet information:

Propeller and Propeller Limits:

HARTZELL Constant speed
HC-E5N-3C/NC8834K

Diameter: 91 inches, no reduction permitted

Pitch setting at 30-inch radius:	Low: 19.5+/-0.1 degrees
	Feather: 85.0+/-0.5 degrees
	Reverse: -9.0+/-0.5 degrees

5. The original certification basis was used for this STC with the follow exceptions (current amendment levels):

14 CFR 23.907 amendment 23-59
14 CFR Part 36, Appendix G, amendment 36-28

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).

Hartzell Propeller Inc.
One Propeller Place
Piqua, OH 45356

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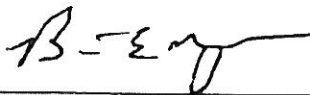
INSTRUCTIONS FOR INSTALLATION
OF A
HARTZELL HC-E5N-3C/NC8834K PROPELLER
ON SOCATA TBM 700 AIRCRAFT

LOG OF REVISIONS

Revision	Revised Page(s)	Description of Revision	Engineer	Date
New	All	Original Release	L. Doud	3/25/13
A	6	- Update PWC SB 14476R1 to 14476R2	L. Doud	3/6/14
	17	- Clarified requirement to perform adjustment of beta control - Clarify reverse power setting check and adjustment		

NOTE: All changes are indicated by a black vertical line along the left margin.

FAA Approved


Brian E. Meyer
STC ODA administrator
Hartzell STC ODA-100082-CE

Date MARCH 7, 2014

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Rev. A, March 6, 2014

**INSTRUCTIONS FOR INSTALLATION
OF A
HARTZELL HC-E5N-3C/NC8834K PROPELLER
ON SOCATA TBM 700 AIRCRAFT**

Please read these instructions and the Instructions for Continued Airworthiness before starting installation. If you have any questions regarding installation of this STC, please contact Hartzell Propeller at:

*Phone: (937) 778-4379 or
1-800-942-7767*

E-mail: techsupport@hartzellprop.com

APPLICABLE MODELS AND SERIAL NUMBERS

All Socata TBM 700 configurations listed below:

Aircraft Config.	Aircraft Serial Number Range	Max TOGW (lbs)	Engine	Max Cont Power HP @ RPM
700A	1-125, except 38 and 71	6579	PT6A-64	700 @ 2000
700B	126 to 243, except 205 and 240	6579	PT6A-64	700 @ 2000
700C1	205, 240, 244 to 345, except 269 with Mod No 70-140-00	6579	PT6A-64	700 @ 2000
700C2	205, 240, 244 to 345, except 269 with Mod No 70-139-00 and Mod No 70-140-00	7394	PT6A-64	700 @ 2000
700N (aka 850)	346 to 684 (Marketing designation TBM 850)	7394	PT6A-66D	850 @ 2000

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**INSTRUCTIONS FOR INSTALLATION
OF A
HARTZELL HC-E5N-3C/NC8834K PROPELLER
ON SOCATA TBM 700 AIRCRAFT**

- NOTES:
- 1) These instructions require that the aircraft be in the type-certificated configuration with the four-blade Hartzell HC-E4N-3/E9083SK propeller installed. If any other propeller has been installed, the aircraft must be returned to the original type-certificated Hartzell HC-E4N-3/E9083SK propeller configuration before installing this STC.
 - 2) Approximately 8 man-hours of labor are required for field-installation of this STC kit when replacing an existing Hartzell HC-E4N-3/E9083SK propeller.

REQUIRED DOCUMENTS:

- 1) Hartzell Propeller Owner's Manual 147
- 2) TBM 700 Maintenance Manual applicable to aircraft model and serial number
- 3) Hartzell Drawing 105550, 105551, 105068 (latest revisions)
- 4) Pratt & Whitney PT6A-64 Maintenance Manual (for TBM 700A, B, C ())
Or Pratt & Whitney PT6A-66D Maintenance Manual (for TBM 700N)
- 5) Pratt & Whitney Service Bulletin No. 14476R1 (or later revision) for PY-Tube support with five-blade propellers on PT6A-64 and PT6A-66D engines

A) Propeller Installation

1. When replacing the HC-E4N-3/E9083SK propeller, remove original spinner and propeller per Chapter 61 of the TBM 700 Maintenance Manual (P/N Z00.DMNMPXEE0R6).

NOTE: Step 1 is omitted when installing this STC on new-production aircraft.

2. Unpack and inspect the new HC-E5N-3C/NC8834K propeller per Chapter 3 of Hartzell Propeller Owner's Manual 147.
3. Verify/inspect spinner bulkhead and propeller mounted de-ice components are properly installed and secured on the new propeller per Hartzell Drawing 105550.

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Propeller Installation (continued)

4. Install the engine-mounted propeller de-ice Metal Oxide Varistor (MOV) module and associated bracket on the engine gearbox by following the steps below.
 - A. Disconnect existing brush block wires from brush block as shown in Figure 1. Confirm airframe wire labels are as follows:
 - 1) # 1 Wire (GND) attached to inboard brush block
 - 2) # 2 Wire (inboard boot sector) attached to middle brush block
 - 3) # 3 Wire (outboard boot sector) attached to outboard brush block
 - B. Remove existing de-ice brush block and bracket and attaching parts from the engine gearbox as shown in Figure 1.
 - C. Install 105065 brush block bracket in the place of the removed bracket as shown in Figure 2. Torque nuts holding the bracket to engine gearbox using standard torque values provided in the Pratt & Whitney Maintenance Manual.
 - D. Temporarily position MOV mounting plate (P/N 105070) and brush block shim (P/N 1H1157) on brush block bracket with two 105398-53 10-32 hex bolts as shown in Figure 3. Install a B-3837-0332 CRES flat washer under the head of each bolt.
 - E. Install P/N 105404 modular brush block assembly onto bracket using a B-3837-0332 washer and B-3869-3 nut on each bolt as shown in Figure 4. Do not torque at this time.
 - F. Attach short wire harness connecting MOV module assembly (P/N 105069) to de-ice brush block as shown in Figure 5. Simultaneously attach the aircraft wires to the brush block module as follows:
 - 1) Connect MOV Wire A and aircraft wire # 3 to Terminal A on the de-ice brush block.
 - 2) Connect MOV Wire B and aircraft wire # 2 to Terminal B on the de-ice brush block.
 - 3) Connect aircraft wire # 1 (ground) to Terminal C on the de-ice brush block

NOTE: Rubber terminal boots may be omitted if desired.

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ON SOCATA TBM 700 AIRCRAFT**

G. Install MOV module on the MOV mounting plate as shown in Figure 6 using the following procedure:

- 1) Install one 105398-53 10-32 hex bolt through the front hole with a B-3855-32 external tooth lock washer under the head and under the B-3869-3 nut.
- 2) Install one 105398-53 bolt in the aft hole with a B-3837-0332 flat washer under the head and nut.
- 3) Torque fasteners to 22-25 in-lbs.

H. The completed brush block and MOV installation is shown in Figure 7. Temporarily tie-back the brushes in the brush block with string to avoid damage during propeller installation.

5. Install new propeller on the aircraft in accordance with Socata TBM 700 Maintenance Manual Chapter 61 and Hartzell Propeller Owner's Manual 147.
6. Remove string holding brushes and check for proper brush to de-ice slip ring alignment. Refer to Hartzell Manual 181, Chapter 7 for slip ring to brush block alignment procedure. Install or remove additional 1H1157 shims as needed to line-up the brush block assembly with the slip ring. When aligned, torque brush block assembly attachment hardware to 22-25 in-lbs.
7. Install the spinner dome on the propeller per spinner installation procedures provided in Chapter 3 of Hartzell Propeller Owner's Manual 147.

NOTE: The 105180() spinner assembly consists of the following components:

- A. 105176() Dome
- B. 105178() Rear Bulkhead
- C. 105181 Forward Bulkhead
- D. B-5486 Spacer(s)
- E. A-1020 Fiber Washers
- F. B-3845-8 10-32 Truss Head Screws

8. Re-rig the propeller reverse linkage as follows:

NOTE: Refer to Section 76-10-00 of the applicable Pratt & Whitney Maintenance Manual and Section 76-10-02 of the Aircraft Maintenance Manual for information and procedures when re-rigging propeller reverse linkage.

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- A. Disconnect the rear clevis of the push/pull control assembly from the propeller control cam/beta cam. Remove cotter pin, washer and pin fastening clevis to control arm.
 - B. Move clevis up one hole on the propeller control cam/beta cam (one hole further from the control cam pivot point) and re-install pin, washer and a new cotter pin. See Figure 8. Adjustment of the clevis may be necessary to facilitate installation at the new location.
 - C. Perform "Adjustment of Beta valve control" procedure in Section 76-10-02 in the applicable aircraft maintenance manual. Additional information and details about the engine-mounted prop reverse linkage can be found in Section 76-10-00 of the applicable PT6 maintenance manual.
9. Install PY line modification on engine per Pratt & Whitney Service Bulletin No. 14476R2 on airplanes using the PT6A-64 or PT6A-66D engines. Confirm the Service Bulletin provided in this kit is the latest revision via your P&WC Customer Portal access to technical publications, by calling a P&WC Field Service Representative, emailing P&WC at customer.service@pwc.ca or calling toll-free (USA & Canada) at: 1-800-268-8000, Global: 1-450-647-8000, International: (+IAC*): +8000-268-8000.
 10. Install the following placard on the pedestal console, just forward of the Condition Lever:

**WHEN OPERATING IN LO/IDLE
BLEED AIR MUST BE – OFF/RST**

When operating in LO / IDLE on the ground, BLEED AIR must be OFF/RST to minimize risk of exceeding ITT temperature limit. The above placard is necessary to remind the pilot to turn off bleed air when operating in LO/IDLE. Operating in LO/IDLE typically results in propeller RPM stabilizing in the yellow arc on the propeller tachometer, which also singles the pilot/operator to turn BLEED AIR to OFF/RST.

The placard is to be made locally with a color that contrasts to the background. Suggested placement of the placard is shown in Figure 9 for the TBM 700 and 850 without the G1000 and in Figure 10 for the TBM 850 with the G1000 cockpit.

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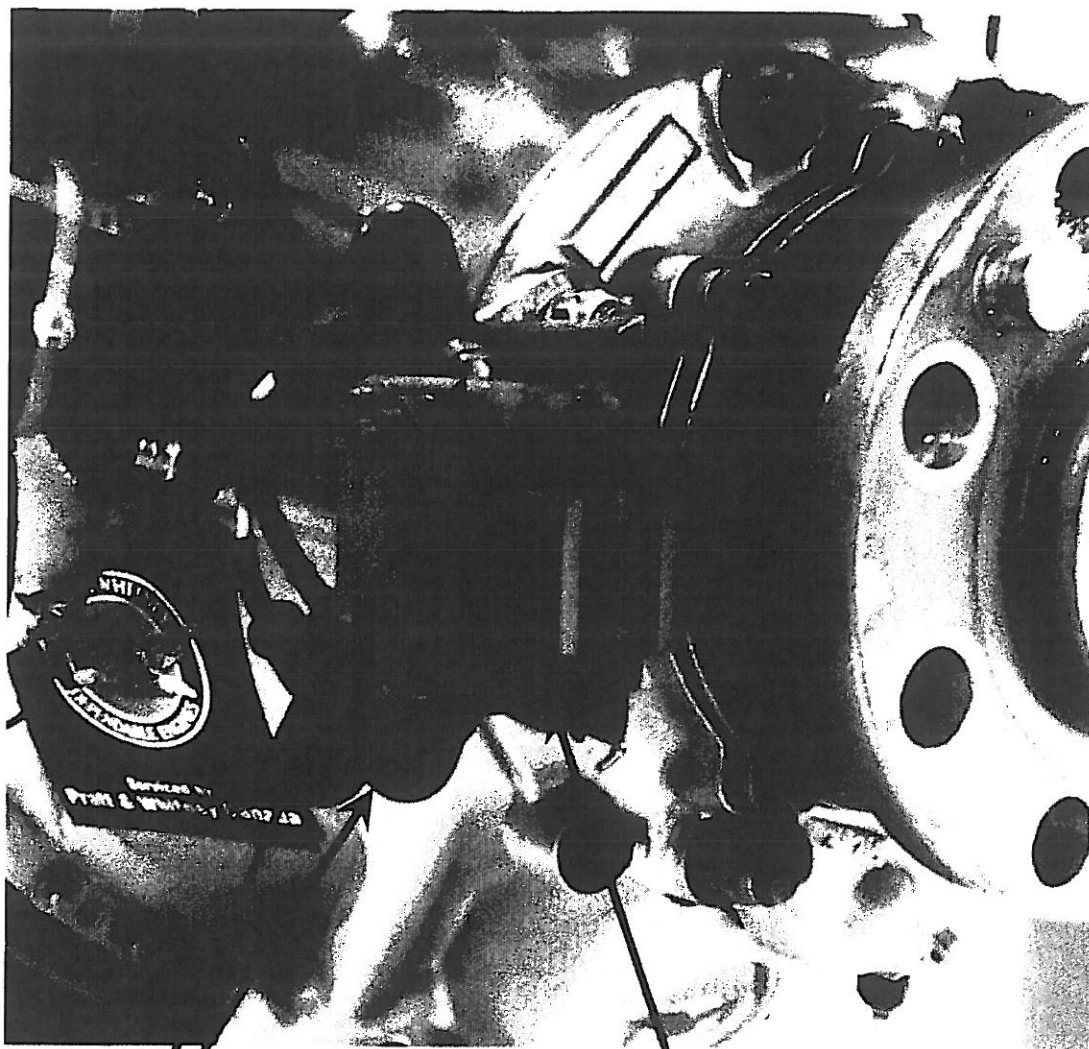


Figure 1

Disconnect brush block
wires

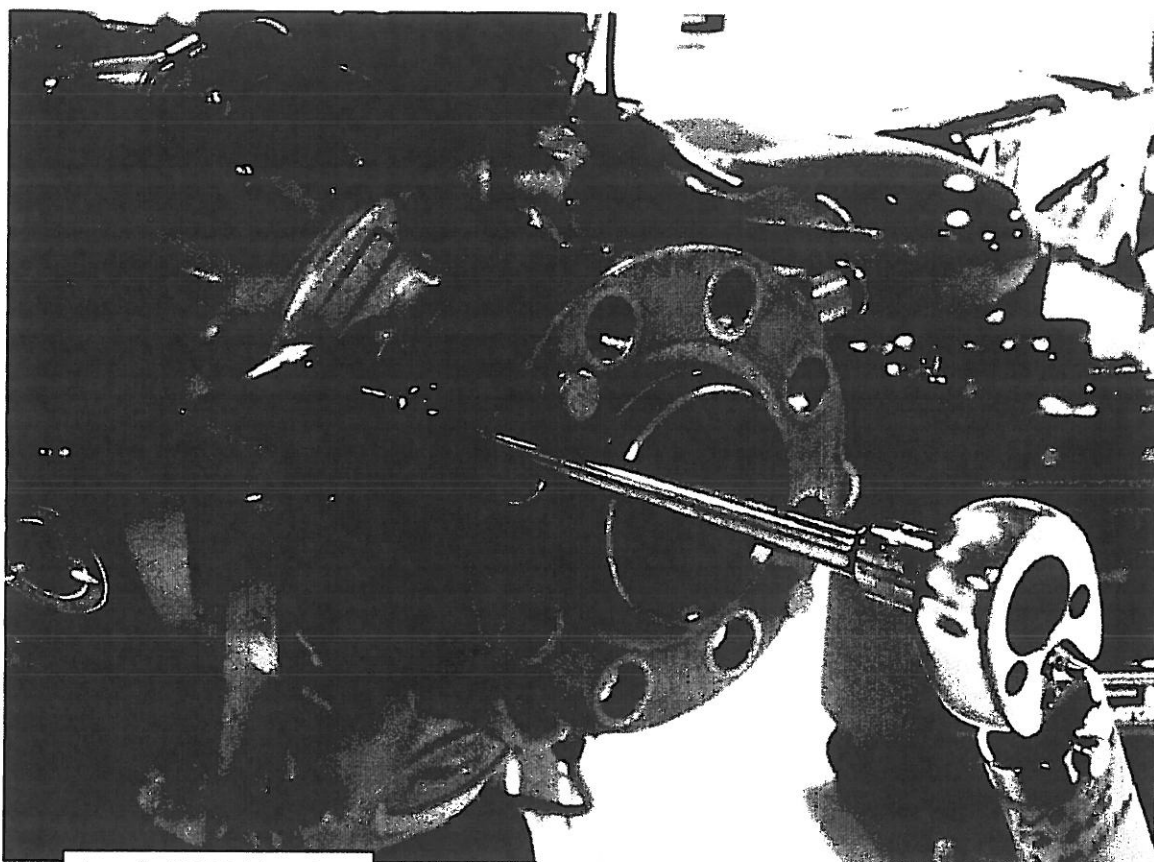
Remove the existing brush block and
bracket.

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Install 105065 bracket

Figure 2

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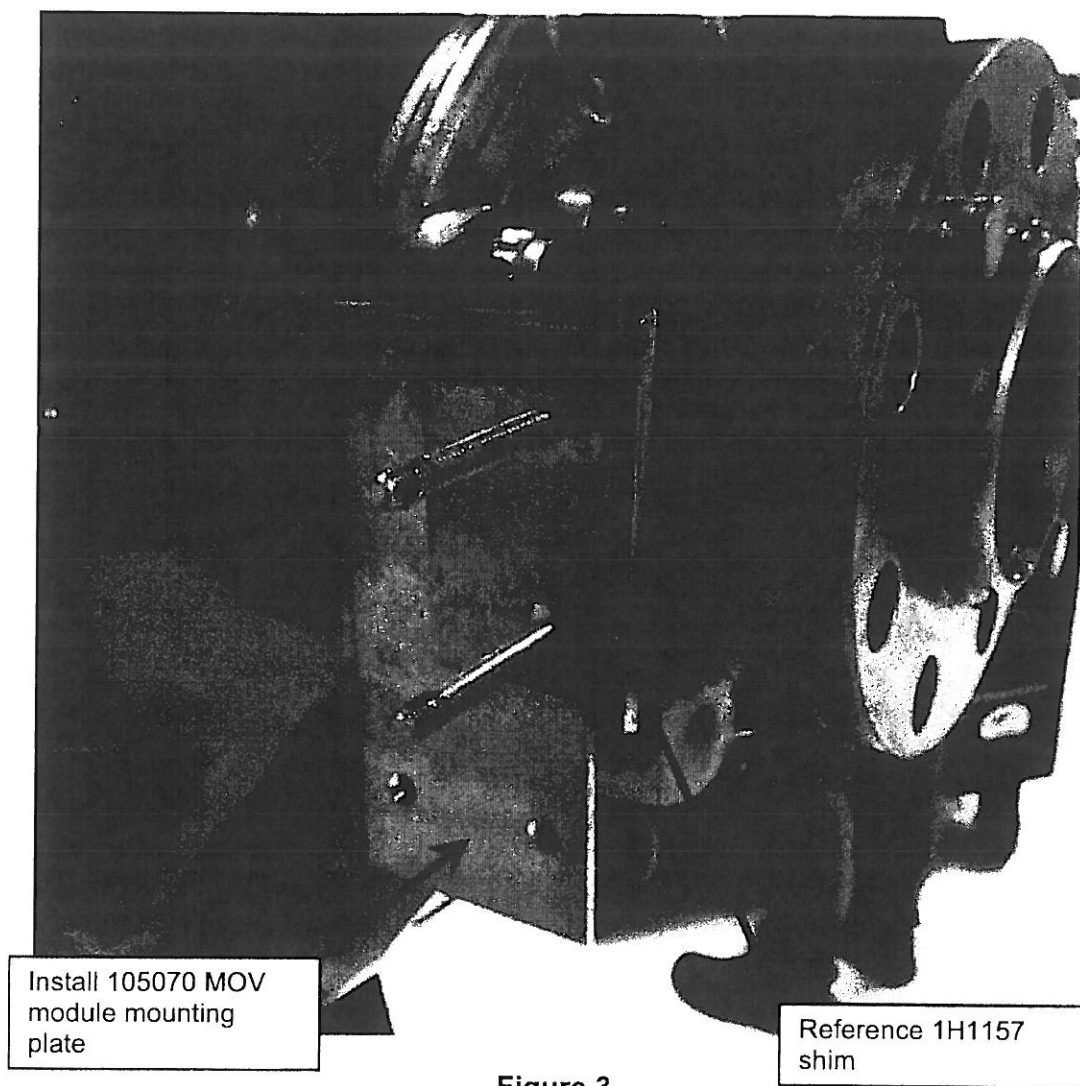


Figure 3

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INSTRUCTIONS FOR INSTALLATION
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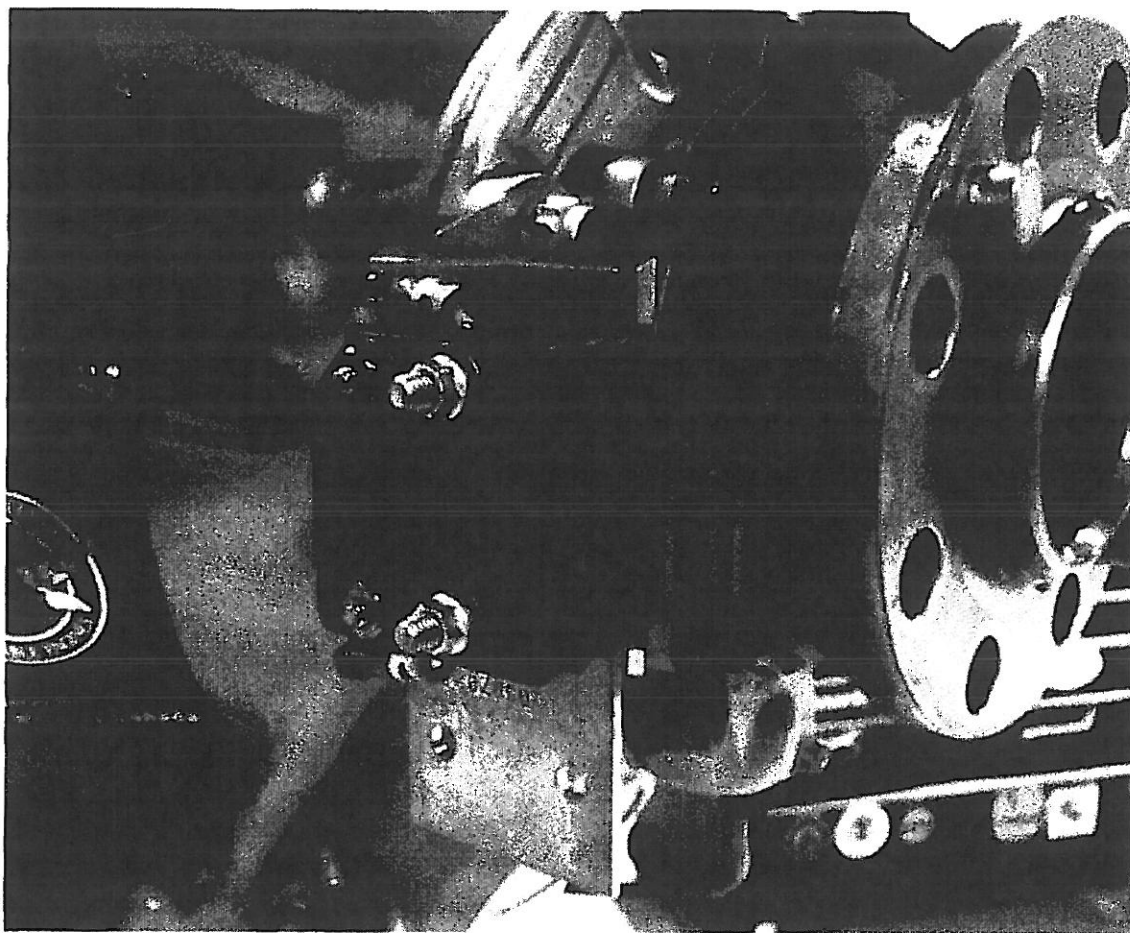


Figure 4

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INSTRUCTIONS FOR INSTALLATION
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HARTZELL HC-E5N-3C/NC8834K PROPELLER
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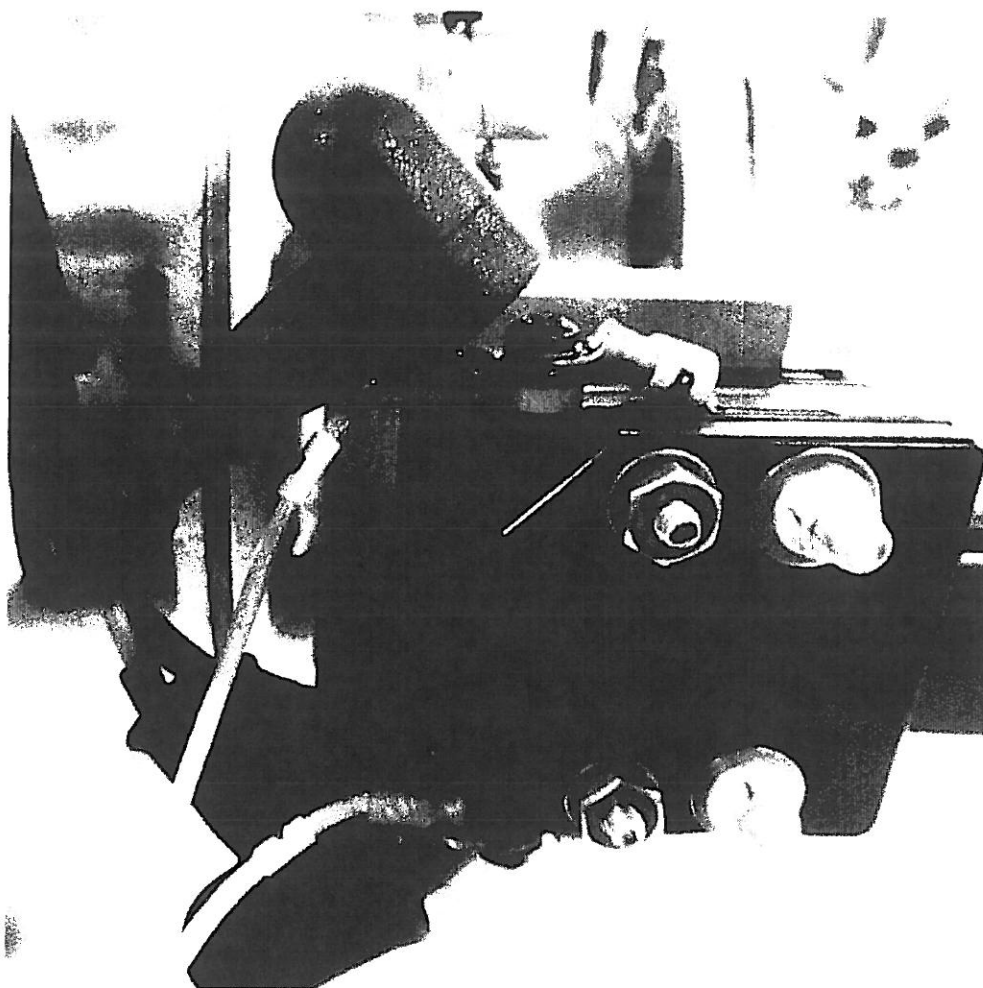


Figure 5

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INSTRUCTIONS FOR INSTALLATION
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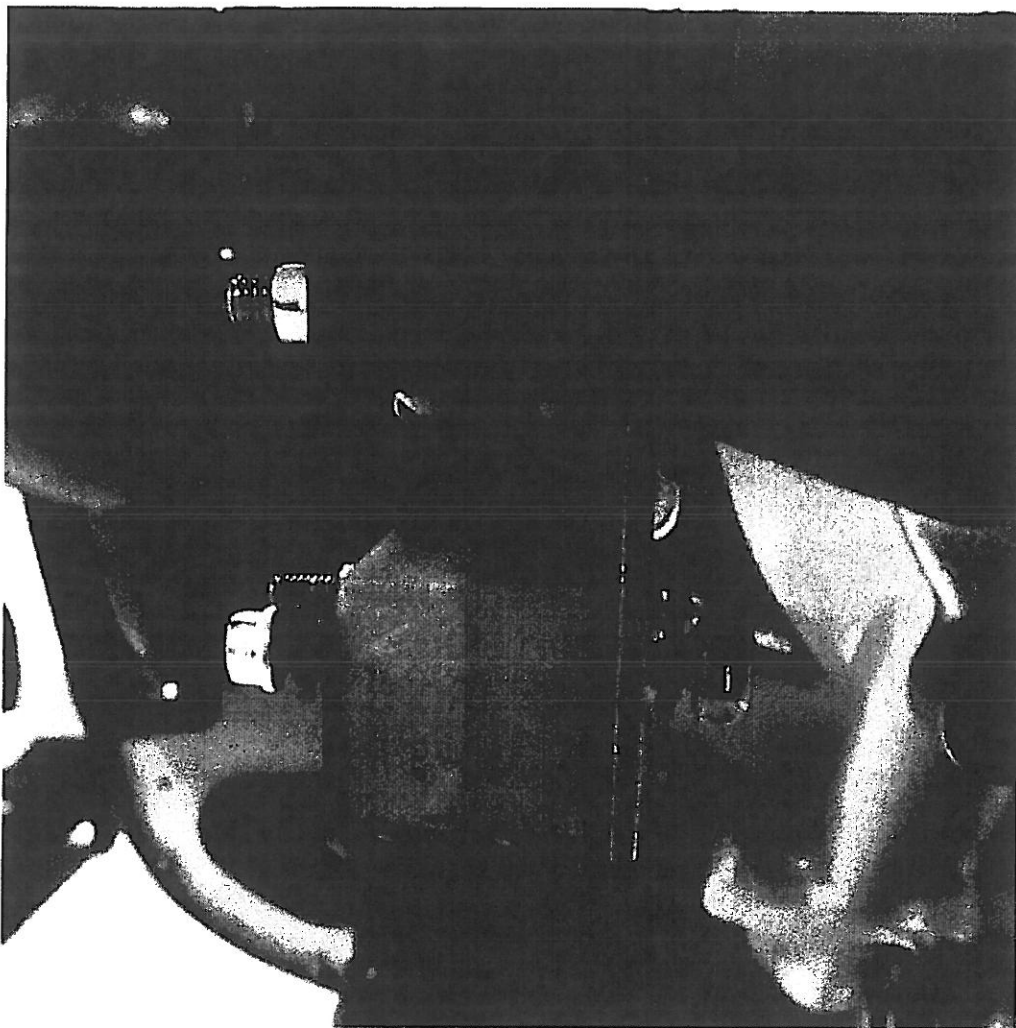


Figure 6

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STC SA03291CH

March 25, 2013
Rev. A, March 6, 2014

INSTRUCTIONS FOR INSTALLATION
OF A
HARTZELL HC-E5N-3C/NC8834K PROPELLER
ON SOCATA TBM 700 AIRCRAFT

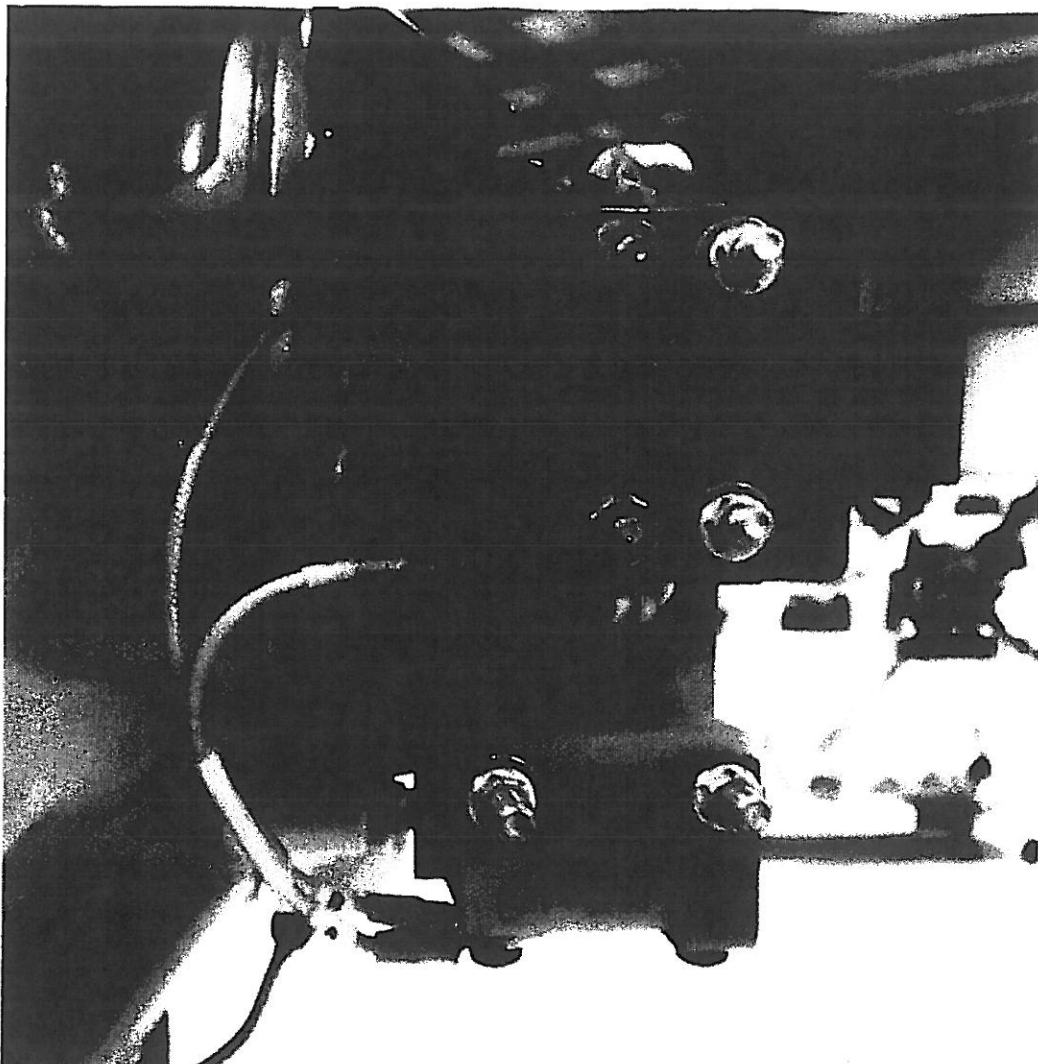


Figure 7

INST_032513

STC SA03291CH

March 25, 2013
Rev. A, March 6, 2014

INSTRUCTIONS FOR INSTALLATION
OF A
HARTZELL HC-E5N-3C/NC8834K PROPELLER
ON SOCATA TBM 700 AIRCRAFT

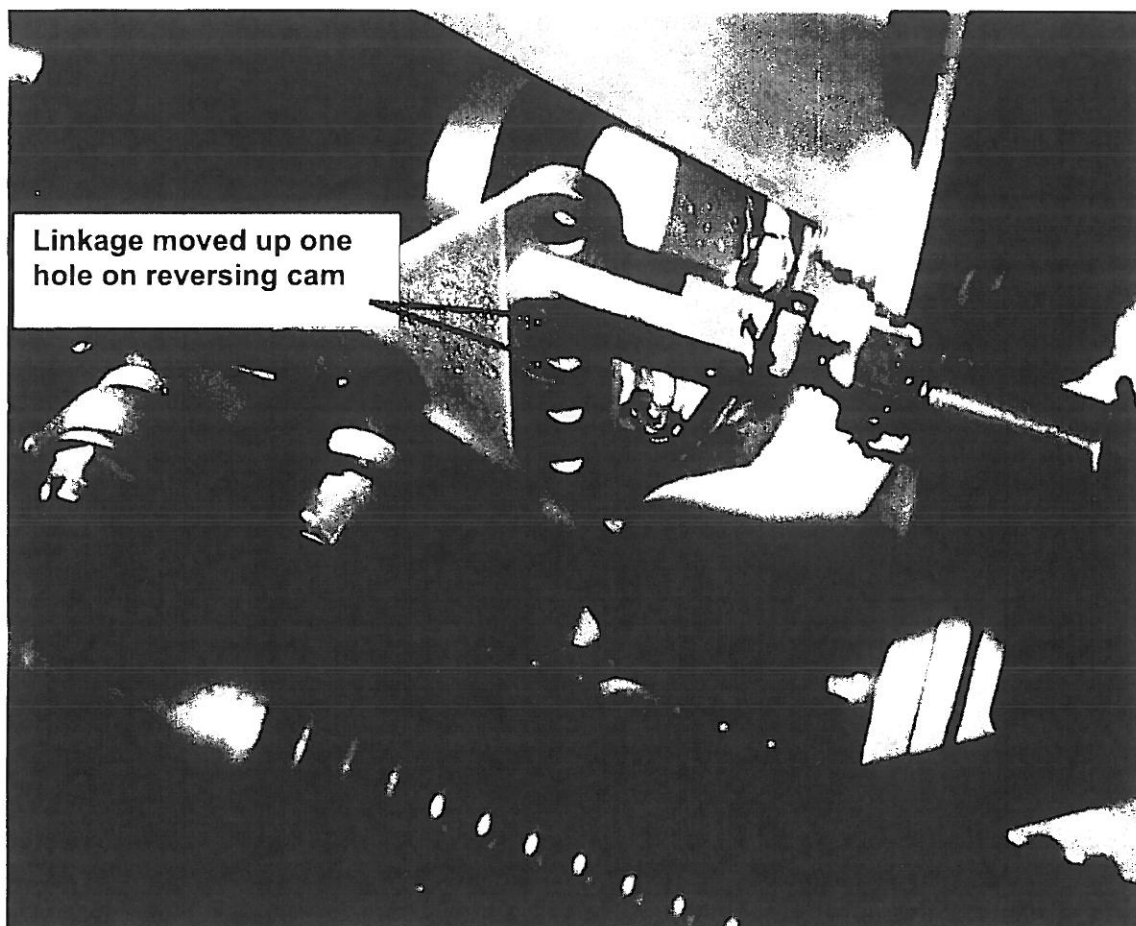


Figure 8

INST_032513

STC SA03291CH

March 25, 2013
Rev. A, March 6, 2014

INSTRUCTIONS FOR INSTALLATION
OF A
HARTZELL HC-E5N-3C/NC8834K PROPELLER
ON SOCATA TBM 700 AIRCRAFT

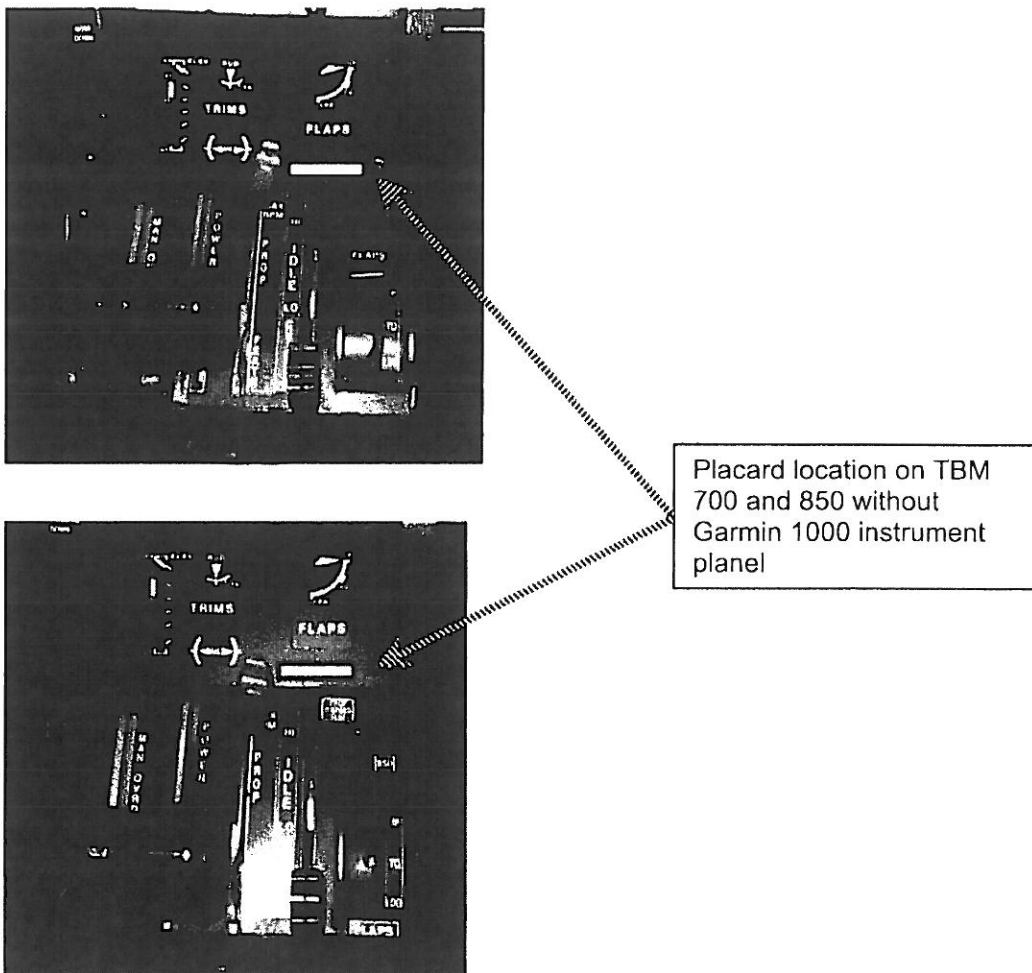


Figure 9: Placard Location on TBM 700 and 850 Without G1000

INST_032513

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ON SOCATA TBM 700 AIRCRAFT

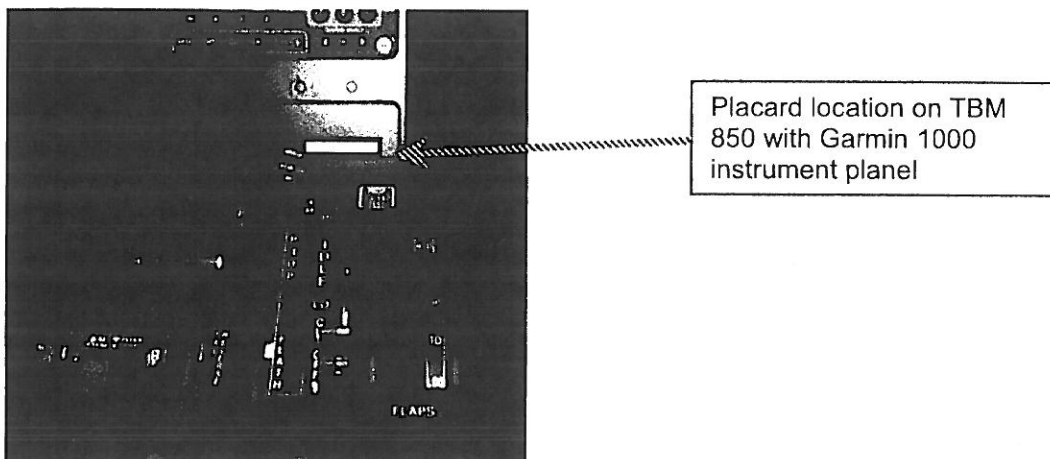


Figure 10: Placard Location on TBM 850 With G1000

INST_032513

STC SA03291CH

March 25, 2013
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INSTRUCTIONS FOR INSTALLATION
OF A
HARTZELL HC-E5N-3C/NC8834K PROPELLER
ON SOCATA TBM 700 AIRCRAFT

B) Functional Ground Tests

CAUTION: OPERATION OF THE PROPELLER DE-ICE SYSTEM WITHOUT THE ENGINE RUNNING IS LIMITED TO 10 SECONDS OR SEVERE DAMAGE TO THE COMPOSITE BLADES MAY RESULT.

1. Start the engine using normal procedures checklists.
2. Perform Propeller De-Ice functional check with engine running. Move PROP DE ICE switch to the "ON" position. Check illumination of green light located above the switch to indicate proper amperage (8-12 amps). The propeller de-ice timer will cycle de-ice power to the inboard section of the de-ice boot for 90 seconds then to the outboard section for 90 seconds. Refer to Chapter 7 of the Hartzell Propeller Owner's Manual 147 and ICA_032513 for propeller de-ice maintenance practices if necessary.
3. Check HI and LO IDLE speeds per section of Chapter 71 of the Socata TBM 700 Maintenance Manual to verify/adjust engine idle RPM settings.

CAUTION: OPERATION IN LO IDLE WITH BLEED AIR ON CAN RESULT IN ENGINE OVERTEMPERATURE. MONITOR ITT CLOSELY WHILE OPERATING IN LO IDLE

NOTE: The ground operation RPM restriction represented by the yellow arc on the propeller tachometer (450-1000) is not applicable to the new five-blade propeller and may be ignored.

4. Check beta system operation by momentarily moving power lever to full reverse. Perform "Adjust reverse power setting" procedure (subsection to "Engine Power Run") in Section 71-00-00 of the applicable aircraft maintenance manual to confirm maximum reverse power meets minimum requirements. Adjust the "Max Reverse" stop screw if necessary.
5. Shut down engine. Check engine oil level and replenish as necessary.

INST_032513

STC SA03291CH

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OF A
HARTZELL HC-E5N-3C/NC8834K PROPELLER
ON SOCATA TBM 700 AIRCRAFT

C) Documentation

1. Attach Hartzell Propeller Inc. Airplane Flight Manual Supplement AFMS_032513 to existing Airplane Flight Manual.
2. Revise weight and balance records and equipment list to show the removal of the original propeller and installation of the new propeller at FS 43.11 moment arm:

	Weight (lbs)
a. Remove Hartzell HC-E4N-3/E9083SK propeller and D-630-1(P) spinner assembly	-153.22
b. Install Hartzell HC-E5N-3C/NC8834K propeller and 105180(P) spinner assembly	+168.5
3. Post-installation dynamic balance is recommended but not required. Perform post-installation dynamic balance of the propeller/engine combination per Chapter 61 – Propeller Dynamic Balance Maintenance Practices in Socata BTM 700 Maintenance Manual. Specific information about balance weight hardware and installation limits are provided in the Chapter 6 - Maintenance Practices section of Hartzell Owner's Manual 147.
4. Make the appropriate logbook entries and return aircraft to service with FAA Form 337 referencing STC.
5. Perform a functional check-flight using normal procedures, note maximum RPM setting and readjust propeller governor and/or engine ground idle speeds if necessary per procedures in Chapter 71 of Socata TBM 700 Series Maintenance Manual.

---- END ---

The New AVEX, Inc.

C.R.S. X1IR595Y

205 Durley Avenue, Suite A, Camarillo, CA 93010 (805) 389-1188 FAX (805) 389-3323

PROPELLER artzell Propeller HC-E5N-3C/NC8834

S/N RJ199

N850FP

Work Order: 13060

Date: 3/3/2017

Tach:

Hobbs:

TTSN:

TSO:

1. Removed aircraft propeller P/N HC-E5N-3, S/N RJ199 and sent to Santa Monica Propeller for repair per APO9302

This aircraft, airframe, aircraft engine, propeller or appliance was repaired/inspected in accordance with the current Federal Aviation Regulations and has been found to be in an airworthy condition for scope of work performed. Pertinent details of the repair/inspection are on file at this Repair Station under Work Order No. 13060.

Byron D. Guy 3/3/17
Date

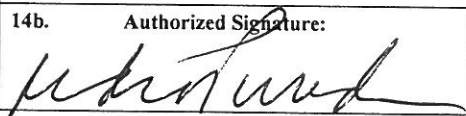
(LBID:12944)

For: FAA Approved Repair Station # X1IR595Y

1. Approving National Aviation Authority/Country: FAA/United States		2. AUTHORIZED RELEASE CERTIFICATE FAA FORM 8130-3, AIRWORTHINESS APPROVAL TAG			3. Form Tracking Number: 84983	
4. Organization Name and Address: SANTA MONICA PROPELLER SERVICE, INC 3135 DONALD DOUGLAS LOOP SOUTH SANTA MONICA, CA 90405					5. Work Order/Contract/Invoice Number K30079	
6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:	
1	HARTZELL PROPELLER	HC-E5N-3C/NC8834K	1	HUB: RJ199	INSPECTED	

12. Remarks: CORRECTED: 22/FEB/2016

PROPELLER VISUALLY INSPECTED, REMOVED CYLINDER INSPECTED, NO ABNORMALITIES NOTED. REPLACED NEEDED O-RINGS AND NEEDED HARDWARE, ASSEMBLED, AIR PRESSURE LEAK CHECKED, FUNCTIONALLY TESTED AND SAFTIED I.A.W. HARTZELL SERVICE MANUALS 158 REV. 15, SPM202A VOLUMES 1, 1, 11. NO OTHER WORK PERFORMED, CONTINUE TIME.

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.:
			ZY2R362L
13d. Name (Typed or Printed):	13e. Date (dd/mm/yyyy):	14d. Name (Typed or Printed):	14e. Date (dd/mm/yyyy):
		PEDRO PAREDES	09/MAR/2017

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the part/component/assembly.

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 parts/components/assemblies 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.

[illegible]

The New AVEX, Inc.

C.R.S. X1IR595Y

205 Durley Avenue, Suite A, Camarillo, CA 93010 (805) 389-1188 FAX (805) 389-3323

PROPELLER artzell Propeller HC-E5N-3C/NC8834

S/N RJ199

N850FP

Work Order: 13060

Date: 3/18/2017

Tach:

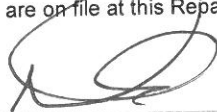
Hobbs: 924.4

TTSN:

218.0 AM @
~~924.4~~ TSO: Avex

1. Installed repaired propeller after receipt from vendor. Repaired under APO09302. I.A.W. Hartzell MM Chapter 61. Ops checked good
2. Complied with a "C" inspection plus annual I.A.W. Daher MM Chapter 05-20-04, 05-20-05, and Hartzell MM 147. All AD's checked through revision 2017-04; see AD compliance record provided with the airframe logbook. Daher checklist meets requirements of 14 CFR 91.409 and 14 CFR 43 Appendix D.
3. Balanced propeller I.A.W. Micro Vibe II Instructions. Final Balance .049IPS @ 1651 RPM

This aircraft, airframe, aircraft engine, propeller or appliance was repaired/inspected in accordance with the current Federal Aviation Regulations and has been found to be in an airworthy condition for scope of work performed. Pertinent details of the repair/inspection are on file at this Repair Station under Work Order No. 13060.



3/18/17

Date

(LBID:12968)

For: FAA Approved Repair Station # X1IR595Y

PROPELLER artzell Propeller HC-E5N-3C/NC8834 **S/N** RJ199 **N850FP**
Work Order: 13350

Date: 8/29/2017

Tach: **Hobbs:** 965.4 **TTSN:** 259.0 **TSO:**

1. Complied with a "A" inspection plus annual I.A.W. Daher MM Chapter 05-20-02 and 05-20-05 and Hartzell MM 149. All AD's checked through revision 2017-17; see AD compliance record provided with the airframe logbook. Daher check list meets requirements of 14 CFR 43 Appendix D.
2. Performed propeller balance I.A.W. MicroVibe II Users Manual 1013. Final reading .011 IPS @ 1656 R.P.M.

This aircraft, airframe, aircraft engine, propeller or appliance was repaired/inspected in accordance with the current Federal Aviation Regulations and has been found to be in an airworthy condition for scope of work performed. Pertinent details of the repair/inspection are on file at this Repair Station under Work Order No. 13350.

Byron D. Guy 8/29/17
Date

(LBID:13423)

For: FAA Approved Repair Station #C.R.S. X1IR595Y

205 Durley Avenue, Suite A, Camarillo, CA 93010 (805) 389-1188 FAX (805) 389-3323

PROPELLER artzell Propeller HC-E5N-3C/NC8834

S/N RJ199

N850FP

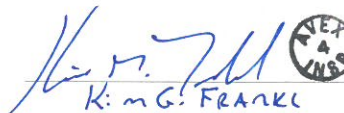
Work Order: 14164

Date: 7/9/2018

Tach: Hobbs: 1157.7 TTSN: 451.3 TSO:

1. Complied with a "B" inspection plus annual I.A.W. Daher MM Chapter 05-20-03, 05-20-05 and Hartzell 147 MM. All AD's checked through revision 2018-13; see AD compliance record provided with the airframe logbook. Daher checklist meets requirements of 14 CFR 91.409 and 14 CFR 43 Appendix D.
2. Complied with 600 hr. coin tap test of the exposed section of the erosion shield surface per Hartzell Manual 147 requirement and I.A.W. procedure outlined in Hartzell Manual 170.
3. Painted 5 blade propeller I.A.W. Hartzell MM Chapter 61. Performed propeller balance I.A.W. MicroVibe II Users Manual 1013. Initial Reading: 0.052 IPS at 1652 RPM and Final reading: 0.044 IPS @ 1660 R.P.M.

This aircraft, airframe, aircraft engine, propeller or appliance was repaired/inspected in accordance with the current Federal Aviation Regulations and has been found to be in an airworthy condition for scope of work performed. Pertinent details of the repair/inspection are on file at this Repair Station under Work Order No. 14164.

  07/09/18
K. M. G. FRANKL Date

(LBID:14395)

For: FAA Approved Repair Station # X1IR595Y

AVEX Inc.

C.R.S. X1IR595Y

205 Durley Avenue, Suite A, Camarillo, CA 93010 (805) 389-1188 FAX (805) 389-3323

PROPELLER artzell Propeller HC-E5N-3C/NC8834

S/N RJ199

N850FP

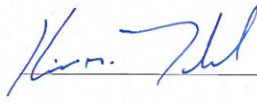
Work Order: 15190

Date: 8/1/2019

Tach: Hobbs: 1297.2 TTSN: 590.8 TSO:

1. Complied with an "A" Inspection plus Annual I.A.W. Daher MM Chapter 05-20-02 and 05-20-05 and Hartzell 147 MM. All AD's checked through revision 2019-15; see AD compliance record provided with the airframe logbook. Daher checklist meets requirements of 14 CFR 91.409 and 14 CFR 43 Appendix D.
2. Removed worn and replaced with new prop de-ice bush block I.A.W. Daher MM Chapter 30. Op checks good.

This aircraft, airframe, aircraft engine, propeller or appliance was repaired/inspected in accordance with the current Federal Aviation Regulations and has been found to be in an airworthy condition for scope of work performed. Pertinent details of the repair/inspection are on file at this Repair Station under Work Order No. 15190.

  08/01/19

Date

(LBID:15670)

For: FAA Approved Repair Station # X1IR595Y

AVEX, Inc.**C.R.S. X1IR595Y**

205 Durley Avenue, Suite A Camarillo, CA 93010 (805) 389-1188 Fax: (805) 389 - 3323

PROPELLER Hartzell Propeller HC-E5N-3C/NC8834 **S/N** RJ199 **N850FP****Work Order:** 16072**Date:** 9/3/2020**Tach:** **Hobbs:** 1389.4 **TTSN:** 683.0 **TSO:**

1. Complied with a "C" inspection plus annual I.A.W. Daher MM Chapter 05-20-04 and Hartzell 147, 05-20-05. All AD's checked through revision 2020-17; see AD compliance record provided with the airframe logbook. Daher checklist meets requirements of 14 CFR 91.409 and 14 CFR 43 Appendix D.
2. Removed defective carbon beta block, and installed new carbon beta block I.A.W. Hartzell MM 147.
3. Repaired propeller deice boots I.A.W. Hartzell MM 180. Operational test and leak check good.
4. Performed propeller balance I.A.W. MicroVibe II Users Manual 1013. Final reading .009 IPS @ 1653 R.P.M.

This aircraft, airframe, aircraft engine, propeller or appliance was repaired/inspected in accordance with the current Federal Aviation Regulations and has been found to be in an airworthy condition for scope of work performed. Pertinent details of the repair/inspection are on file at this Repair Station under Work Order No. 16072.



3 Sep 2020

Date

(LBID:17013)

For: FAA Approved Repair Station C.R.S. X1IR595Y



C.R.S. X1ID595Y

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11804 Corporate Way Broomfield, CO 80021

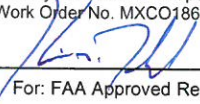
Phone: (720) 399-8008

Fax: (720) 541 - 9001

PROPELLER	Hartzell HC-E5N-3C/NC8834K	S/N: RJ199	Work Order: MXCO186	N850FP
Hobbs: 1401.8	TTSN: 695.4	TTSO:	Date: 09/15/2021	

1. 1.1 Complied with an "A" Inspection plus Annual in reference to Daher MM Chapter's 05-20-03, 05-20-05 and Hartzell 147 MM. All AD's checked through revision 2021-18; see AD compliance record provided with the airframe logbook. Daher checklist meets requirements of 14 CFR 91.409 and 14 CFR 43 Appendix D.

This aircraft, airframe, aircraft engine, propeller or appliance was repaired/inspected in accordance with the current Federal Aviation Regulations and has been found to be in an airworthy condition for scope of work performed. Pertinent details of the repair/inspection are on file at this Repair Station under Work Order No. MXCO186.

  09/15/21
For: FAA Approved Repair Station C.R.S. X1ID595Y Date

C.R.S. X1ID595Y

11804 Corporate Way Broomfield, CO 80021 Phone: (720)399-8008 | Fax: (720) 541-9001

N850FP

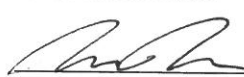
Work Order No: MXCO1086

November 14, 2022

Propeller MFR: Hartzell
HOBBS: 1,581.90Model: HC-E5N-3C
TSN: 875.50SN: RJ199
TSO:

1. Complied with a B inspection plus annual I.A.W. 14 CFR 91.409 and 14 CFR 43 Appendix D using the Daher MM Chapter 05-20-03, 05-20-05, and Hartzell MM 147 as guides. All AD's checked through revision 2022-23; see AD compliance record provided with the airframe logbook.
2. Removed 5-Blade propeller P/N HC-E5N-3C, S/N RJ199 and sent to Rocky Mountain Propellers for overhaul per PO 22-51534. Reinstalled after overhaul I.A.W. Hartzell MM 147. Performed propeller balance, final numbers of .052 at 1950 RPM. All work performed I.A.W. Hartzell MM 147 and the microvib manual. Operational checks ok.

This aircraft, airframe, aircraft engine, propeller or appliance was repaired/inspected in accordance with the current Federal Aviation Regulations and has been found to be in an airworthy condition for scope of work performed. Pertinent details of the repair/inspection are on file at this Repair Station under Work Order No. MXCO1086.

 11/14/22
For: FAA Approved Repair Station C.R.S. X1ID595Y Date

N850FP

Work Order No: MXCO2231

December 22, 2023

Propeller MFR: Hartzell

Model: HC-E5N-3C/NC8834K

SN: RJ199

HOBBS: 1,726.00

TSN: 1,019.60

TSO: 144.10

Complied with an A inspection plus annual I.A.W. 14 CFR 91.409 and 14 CFR 43 Appendix D using the Daher MM Chapter 05-20-03, 05-20-05, and Hartzell MM 147 as guides. All AD's checked through revision 2023-26; see AD compliance record provided with the airframe logbook.

Complied with 12 month / 600 hour coin tap test of the erosion shield surface per Hartzell Manual 147 requirement and I.A.W. procedure outlined in Hartzell Manual 170.

Carbon beta block is worn beyond limit. Removed and replaced carbon beta block with new I.A.W. Hartzell CMM 147.

This aircraft, airframe, aircraft engine, propeller or appliance was repaired/inspected in accordance with the current Federal Aviation Regulations and has been found to be in an airworthy condition for scope of work performed. Pertinent details of the repair/inspection are on file at this Repair Station under Work Order No. MXCO2231.

  12/22/23
Signature Date

For: FAA Approved Repair Station # C.R.S. X1ID595Y

N850FP

Work Order No: MXCO3316

December 10, 2024

Propeller MFR: Hartzell

Model: HC-E5N-3C/NC8834K

SN: RJ199

HOBS: 1,793.70

TSN: 1,087.30

TSO: 211.80

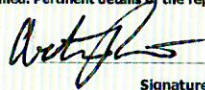
Complied with a "C" inspection plus annual in reference to Daher MM Chapter 05-20-03, 05-20-05, and Hartzell MM 147. All AD's checked through revision 2024-24; see AD compliance record provided with the airframe logbook. Daher checklist meets requirements of 14 CFR 91.409 and 14 CFR 43 Appendix D.

Complied with 12 month/600 hour coin tap test of the erosion shield surface per Hartzell Manual 147 requirement and I.A.W. procedure outlined in Hartzell Manual 170.

Complied with 12 month/200 hour de-ice circuit resistance check in the propeller de-icing system I.A.W. Hartzell Manual 180, Paragraph E, Page 5-40. No defects noted.

Performed propeller balance I.A.W. MicroVibe II Users Manual 1013. Final reading 0.037 IPS at 1946 NP.

This aircraft, airframe, aircraft engine, propeller or appliance was repaired/inspected in accordance with the current Federal Aviation Regulations and has been found to be in an airworthy condition for scope of work performed. Pertinent details of the repair/inspection are on file at this Repair Station under Work Order No. MXCO3316.



Signature



12/10/24

Date

For: FAA Approved Repair Station # C.R.S. X11R595Y



C.R.S. X1IR595Y

11804 Corporate Way Broomfield, CO 80021 Phone: (720)399-8008 | Fax: (720) 541-9001

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N850FP

Work Order No: MXCO4164

November 24, 2025

Propeller MFR: Hartzell

Model: HC-ESN-3C/NC8834K

SN: RJ199

HOBBS: TSN: 1,087.30

TSO: 211.80

Complied with an "A" inspection plus annual in reference to Daher MM Chapter 05-20-02 05-20-05, Pratt and Whitney PT6A-66D, and Hartzell MM 147. All AD's checked through revision 2025-23; see AD compliance record provided with the airframe logbook. Daher checklist meets requirements of 14 CFR 91.409 and 14 CFR 43 Appendix D.

Complied with 12 month / 200 hr de-ice circuit resistance check in the propeller de-icing system I.A.W Hartzell Manual 180, Paragraph E, Page 5-40. No defects noted.

Complied with 12 month / 600 hr coin tap test of the erosion shield surface per Hartzell Manual 147 requirement and I.A.W procedure outlined in Hartzell Manual 170.

This aircraft, airframe, aircraft engine, propeller or appliance was repaired/inspected in accordance with the current Federal Aviation Regulations and has been found to be in an airworthy condition for scope of work performed. Pertinent details of the repair/inspection are on file at this Repair Station under Work Order No. MXCO4164.


Signature

Date 11/24/2025
For: FAA Approved Repair Station # C.R.S. X1IR595Y