

ICA_032513

**INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
FOR THE HARTZELL HC-E5N-3C/NC8834K PROPELLER ON
DAHER AEROSPACE TBM 700
STC SA03291CH
LOG OF REVISIONS**

Revision	Revised Pages	Description of Revision	Revised By	Date
New	All	Original Release	L. Doud	03/25/13
A	All	· Reformatted entire document. · Updated telephone number for technical support. · Removed references to obsolete manuals.	B. Landess	10/02/2025

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

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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.

The information contained in these Instructions for Continued Airworthiness (ICA) supplements or supersedes the information provided in the applicable Daher Aerospace TBM 700 Maintenance Manual only in those areas listed.

Current ICA and service letters are maintained and distributed via www.hartzellprop.com.

CHAPTER 4 – AIRWORTHINESS LIMITATIONS

NOTE: The Airworthiness Limitations section is FAA approved and specifies maintenance required under 14 CFR §43.16 and §91.403 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 Propeller Owner's Manual 147 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 TBM 700 Maintenance Manual.

Due to the composite construction of the propeller blade, in addition to the lightning strike inspection criteria provided in the 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 (20) seconds without requiring special inspections. For all other levels and duration of overtorque events, consult Hartzell Manual 202A for special inspection requirements. Consult Hartzell Manual 202A for propeller overspeed limits and special inspection requirements.

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CHAPTER 30 – ICE AND RAIN PROTECTION

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 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) 778-4376 or 1-800-942-7767

e-mail: techsupport@hartzellprop.com

Propeller Electric Deicers – Troubleshooting

For propeller deicer system description to aid in troubleshooting, refer to Hartzell Manual 180 for propeller mounted components; refer to the 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 Hartzell Manual 180 that can be viewed and/or obtained via the internet on the Hartzell Propeller website (www.hartzellprop.com). The manuals are located under Services → Reference Library → Manuals → Ice Protection System Manuals. 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. Hartzell Manuals 181, 182, and 183 were incorporated into Manual 180 during Revision 27.

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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 TBM 700 Maintenance Manual remain applicable.

Propeller Electric Deicers – Maintenance Practices

For maintenance of the propeller deicer system, refer to Hartzell Manual 180 for propeller mounted components. Refer to the TBM 700 manual and the STC Installation Instructions for the airframe mounted (non-rotating) system components.

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 180. 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 TBM 700 Maintenance Manual remains applicable.

Deicer Boot Removal and Installation

See latest revision of Hartzell Manual 180 for procedures to remove and/or install the electrothermal deicer boots.

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 Propeller Owner's Manual 147 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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