

INST-10091

INSTRUCTIONS FOR INSTALLATION OF HARTZELL
HC-C3YR-4BN/NC8302H-7.5 PROPELLER ON
GAME COMPOSITES GB1 GAMEBIRD AIRCRAFT
STC SA11836CH
LOG OF REVISIONS

Revision	Revised Pages	Description of Revision	Date
IR	All	Initial Release	12/04/2024

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

FAA Approved


Digitally signed by Bo
Landess
Date: 2024.12.04
09:45:31 -05'00'

Bo R. Landess
STC ODA Administrator
Hartzell STC ODA-100080-CE

Date See Electronic Signature

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

E-mail: techsupport@hartzellprop.com

1.0 General

These STC installation instructions provide the necessary information to install an HC-C3YR-4BN/NC8302H-7.5 propeller on the Game Composites GB1 GameBird aircraft. The specific propeller and spinner model are identified for the airplane model in the table below.

Airplane Model	Propeller Model	Spinner
GB1 GameBird	HC-C3YR-4BN/NC8302H-7.5	109725

2.0 Applicable Models

This STC propeller installation applies to all Game Composites GB1 GameBird aircraft equipped with a Lycoming AEIO-580-B1A engine.

It is the responsibility of the installer to verify compatibility of this STC with previously approved modifications installed on the airplane.

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3.0 Propeller Installation

1. Remove the currently installed propeller and spinner per the Game Composites GB1 GameBird Maintenance Manual procedures.
2. Complete the "Pre-Installation" inspections found in the INSTALLATION AND REMOVAL chapter of Hartzell Propeller Owner's Manual 145.

NOTE: During spinner bulkhead installation, the wave washer will not compress flat.

NOTE: During spinner bulkhead installation, use of a thin-walled box end wrench will greatly increase ease of access to the bolt heads near the propeller blade counterweights. See Figure 1.

3. Install the spinner bulkhead on the new propeller hub per Manual 145 using the "Installation of a Composite Spinner Bulkhead" instructions in the "Bulkhead Installation" section. See Figure 2 at the end of these instructions for a diagram of the bulkhead, washer, and spacer stack-up. This stack-up should result in a spinner-to-cowling clearance of approximately 0.5" – 0.6" and a blade-to-blade cutout clearance of approximately 1/8". If the blade-to-blade cutout clearance is less than 1/8", the installer may remove the washer highlighted red in order to increase the clearance. Removing this washer will increase the gap between the spinner and engine cowling by the thickness of the washer.
4. Follow installation instructions for "Installation of R-flange Propellers" in Manual 145 to install the new propeller and spinner bulkhead assembly onto the aircraft. Also reference the Game Composites GB1 GameBird Maintenance Manual section appropriate to the aircraft S/N and configuration being modified.
5. Attach Hartzell Propeller LLC Airplane Flight Manual Supplement AFMS-10091 to the existing GB1 GameBird FAA Approved Airplane Flight Manual.
6. Revise weight and balance records to show:

Removal of original propeller and spinner:

Check equipment list in the current FAA Approved Airplane Flight Manual for appropriate propeller weight and moment arm. Hartzell Propeller measured the original propeller and spinner including residual propeller cylinder oil to be:

Weight of propeller = 67.90 lb @ -45.3 inches from datum

Weight of spinner = 2.20 lb @ -51.1 inches from datum

Installation of Hartzell HC-C3YR-4BN / NC8302H-7.5 propeller and Hartzell spinner:

Weight of propeller = 66.57 lb @ -45.3 inches from datum

Weight of spinner = 3.29 lb @ -51.1 inches from datum

7. Perform ground engine run for a functional and leak check of the Hartzell propeller installation.
8. Make the appropriate logbook entries and return aircraft to service with FAA Form 337 referencing this STC.

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9. Perform a functional check flight using normal procedures, note maximum RPM setting and adjust governor high-RPM stop if necessary.
10. Post-installation dynamic balance of the propeller/engine combination is recommended, but not required, per the MAINTENANCE PRACTICES chapter, Dynamic Balance section of Manual 145.



Figure 1 Bolt access under blade counterweight

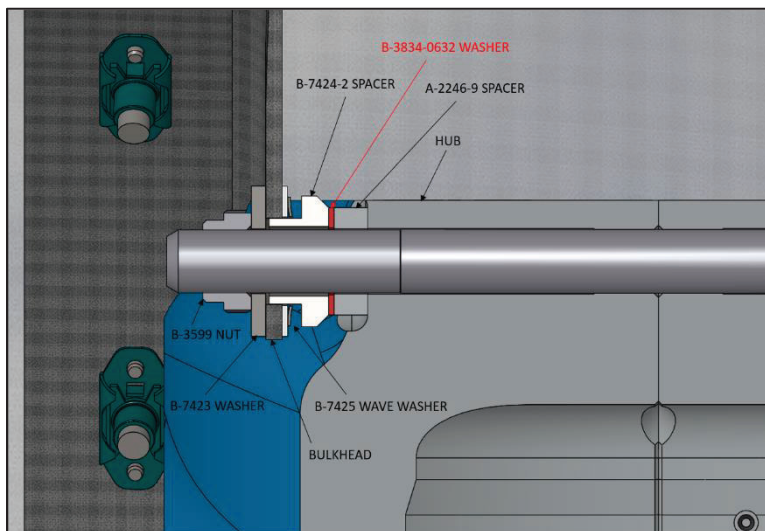


Figure 2 Bulkhead, Washer, & Spacer Diagram

END