

INST_021913

INSTRUCTIONS FOR INSTALLATION OF A
HARTZELL HC-C2YR-1BF/F7666A-4 or HC-C2YR-1BFP/F7497 PROPELLER

ON PIPER PA-24 (180 HP) AIRCRAFT

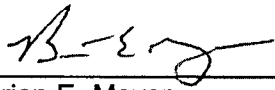
STC SA00631CH

LOG OF REVISIONS

<u>Revision Number</u>	<u>Revised Pages</u>	<u>Description of Revision</u>	<u>Date</u>
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NOTE: All changes are indicated by a black vertical line along the left margin.

FAA Approved: _____


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

Date MAY 13, 2013

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COMPATIBILITY NOTES:

- 1) The HC-C2YR-1BF/F7666A-4 and HC-C2YR-1BFP/F7497 propellers are compatible with all pressure-to-increase pitch governor models listed in the Aircraft Type Certificate Data Sheet (TCDS) 1A15 or Hartzell Propeller TCDS P-920 for the PA-24 aircraft.
- 2) The HC-C2YR-1BF/F7666A-4 and HC-C2YR-1BFP/F7497 propellers installed on the PA-24 are compatible with following spinners:
 - a. Hartzell C-888 spinner dome and C-885 bulkhead adapter listed in Aircraft Specification 1A15
 - b. Hartzell 835-54(P) (aluminum dome)
 - c. Hartzell 835-58(P) (aluminum dome)
 - d. Hartzell 103585() (composite dome)

INSTALLATION INSTRUCTIONS:

1. Remove the original propeller and spinner per the applicable Piper Service Manual.

NOTE: Some Hartzell steel-hub propellers incorporate a phenolic spacer between the propeller and engine-mounting flange. When installing an aluminum hub propeller, this spacer is to be discarded. The aluminum hub propeller mounting O-ring is located on the inside diameter of the propeller hub. There should not be an O-ring on the engine flange when installing an aluminum hub propeller.

2. Install new propeller and spinner in accordance with Hartzell Owner's Manual Number 115N. Follow installation instructions for "Installation of "K" and "R" Flange Propellers" in Section 3 of Manual 115N.

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3. Attach applicable Hartzell Propeller Inc. Airplane Flight Manual Supplement AFMS_021913 to the existing Piper Pilot's Operating/Information Handbook or FAA Approved Airplane Flight Manual.
4. Install the following placard between the tachometer and the manifold pressure gauge for the HC-C2YR-1BF/F7666A-4 propeller only:

"AVOID CONTINUOUS OPERATION BETWEEN 2000 AND 2250 RPM."

No RPM limitation placard is required when installing the HC-C2YR-1BFP/F7497 propeller.

5. HC-C2YR-1BF/F7666A-4 propeller only:
Remark the tachometer as follows

Green Arc	500 to 2000 rpm
Red Arc	2000 to 2250 rpm
Green Arc	2250 to 2700 rpm
Red Radial	2700 rpm

HC-C2YR-1BFP/F7497 propeller only:

Remove any propeller RPM placards and tachometer markings and re-mark tachometer as follows

Red Radial	2700 rpm
Green Arc	2100-2700 rpm

The colored arcs can be marked with Operating Range Decals from Aircraft Spruce and Specialty (www.aircraftspruce.com), P/N 10-03905 or equivalent green decal, tape, or paint.

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6. Revise weight and balance records to show:

Removal of the original Type Certified propeller and spinner (if replacing spinner). Reference the aircraft equipment list and/or Type Certificate Data Sheet 1A15 for the appropriate weight and moment arm.

Installation of Hartzell HC-C2YR-1BF/F7666A-4 or HC-C2YR-1BFP/F7497 propeller and applicable spinner. Use the weights provided in the following table and the moment arms provided in the aircraft equipment list or TCDS 1A15 for the propeller and spinner you are replacing.

STC Propeller & Spinner	Weight
<u>Hartzell</u>	
HC-C2YR-1BF/F7666A-4	55.0 lbs
HC-C2YR-1BFP/F7497	58.1 lbs
835-54(P) Spinner	3.8 lbs
835-58(P) Spinner	3.7 lbs
103585 Composite Spinner	3.1 lbs

Propeller Arm (Hartzell): +2.1 inches aft of datum
Spinner Assembly Arm (all): +3.0 inches aft of datum

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Weight and balance example:

Remove -

Weight of McCauley 2D36C14/78KM-4 propeller = -60.0 lbs
Moment arm = +3.0 inches

Weight of Piper spinner = -3.0 lbs
Moment arm = +3.0 inches

Install -

Weight of HC-C2YR-1BFP/F7497 propeller = +58.1 lbs
Moment arm = +2.1 inches

Weight of spinner 103585() = +3.1 lbs
Moment arm = +3.0 inches

7. Perform ground engine run for a functional and leak check of the Hartzell propeller installation per Hartzell Owner's Manual 115N.
8. Make the appropriate logbook entries and return aircraft to service with FAA Form 337.
9. Fly a functional check-flight using normal procedures, note maximum RPM setting and readjust governor high-RPM stop if necessary.
10. Post-installation dynamic balance of the propeller/engine combination is recommended, but not required, per Hartzell Owner's Manual 115N.

END

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