

INST\_033109

INSTRUCTIONS FOR INSTALLATION

OF A HARTZELL (P)HC-C3YF-1RF/F8468AR, (P)HC-C3YF-1RF/F8468A-2R  
or (P)HC-C3YF-1RF/F8468A-4R PROPELLER  
AND A-2295-1(P) SPINNER ON CESSNA ( ) ( )206( ) SERIES AIRCRAFT

STC SA02752CH-D

LOG OF REVISIONS

Revision	Revised Pages	Description of Revision	Engineer	Date
New	All	Original Release	L. Doud	3/31/09

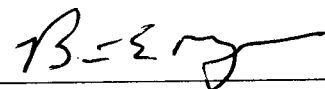
NOTE: All changes are indicated by a black vertical line along the left margin.

*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](mailto:techsupport@hartzellprop.com)*

FAA Approved



Brian E. Meyer  
DAS administrator  
Hartzell DAS-100082-CE

Date

8-26-09

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**PROPELLER INSTALLATION ELIGIBILITY**

Aircraft Model	TCM Engine Model	Approved Hartzell Propeller Hub Model (P)HC-C3YF-1RF Diameter & Blade Model
206	IO-520-A	Floatplanes: 86" F8468AR or 84" F8468A-2R Landplanes: 82" F8468A-4R
P206	IO-520-A	Floatplanes: 86" F8468AR or 84" F8468A-2R
P206A (replaces C58, C79 and C90 propellers)	IO-520-A	Floatplanes: 86" F8468AR or 84" F8468A-2R Landplanes: 82" F8468A-4R
U206	IO-520-A	Same as above
U206A	IO-520-A	Same as above
U206B	IO-520-F (see Note 1)	Floatplanes: 86" F8468AR or 84" F8468A-2R
U206C	IO-520-F (see Note 1)	Same as above
U206D	IO-520-F (see Note 1)	Same as above
U206E	IO-520-F (see Note 1)	Same as above
U206F	IO-520-F (see Note 1)	Same as above
U206G up to and including S/N U20604074	IO-520-F (see Note 1)	Same as above
TP206A (replaces C78, C79 and C90 propellers)	TSIO-520-C	Floatplanes: 86" F8468AR or 84" F8468A-2R Landplanes: 82" F8468A-4R
TU206A	TSIO-520-C	Same as above
TU206B	TSIO-520-C	Same as above
TU206C	TSIO-520-C	Same as above (see Note 2)
TU206D	TSIO-520-C	Same as above (see Note 2)
TU206E	TSIO-520-C	Same as above (see Note 2)
TU206F up to and including S/N U20602199	TSIO-520-C	Same as above (see Note 2)
<b>NOTES:</b> 1. Aircraft approved to 2850 RPM by TCDS are limited to 2700 RPM max under this STC. 2. TU206C, TU206D, TU206E and TU206F using the 86" (P)HC-C3YR-1RF/F8468AR are limited to 2690 RPM under the STC.		

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1. Remove the original propeller and spinner.
2. Install new propeller and spinner in accordance with Hartzell Owner's Manual number 115( ) (latest revision). Follow installation instructions for "Installation of "F" Flange Propellers" in Manual 115( ). Also reference the Cessna service manual appropriate to the aircraft being modified, removal and installation Section 12. Also reference Figure 1 on page 6 of these instructions.

NOTE: Mount the spinner bulkhead to the propeller hub using the following sequence:

- a. Place spacer included in kit under the head of each spinner mounting bolt (6 places). This spacer may be factory installed under the nut on the aft side of the propeller hub, in this case, remove spacer and relocate to under the head of the bolt on the forward side of the propeller hub.
- b. Place two washers between the hub and the spinner bulkhead on each spinner mounting bolt (6 places).
- c. After the bulkhead is in place, put one washer and nut on each spinner mounting bolt and torque to specification in Hartzell Manual 115( ).

NOTE: With cylinder #6 piston at TDC, HC- propellers are installed with one blade horizontal pointing toward #6 cylinder; PHC- propellers are installed with one blade pointed toward the 2 o'clock position when forward of propeller looking aft.

3. Re-mark tachometer as shown below (except for TU206C, TU206D, TU206E and TU206F):

For (P)HC-C3YF-1RF/F8468A-4R 82" Propellers

Radial Red Line	2700 RPM
Green Arc	2200-2700 RPM

For (P)HC-C3YF-1RF/F8468A-2R 84" Propellers

Radial Red Line	2700 RPM
Green Arc	2200-2700 RPM

For (P)HC-C3YF-1RF/F8468AR 86" Propellers

Radial Red Line	2700 RPM
Green Arc	2200-2250 RPM & 2450-2700 RPM
Yellow Arc – No continuous ops >26" MP	2250-2450 RPM

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For (P)HC-C3YF-1RF/F8468AR 86" Propellers on TU206C, TU206D, TU206E and TU206F

Radial Red Line	2690 RPM
Green Arc	2200-2250 RPM & 2450-2690 RPM
Yellow Arc – No continuous ops >26" MP	2250-2450 RPM

The colored arcs can be marked with Operating Range Decals from Aircraft Spruce and Specialty ([www.aircraftspruce.com](http://www.aircraftspruce.com)), P/N 10-03905 or equivalent green decal, tape, or paint. If needed, Advisory Circular AC 20-88A provides guidelines on marking aircraft powerplant instruments.

4. For installations using the (P)HC-C3YF-1RF/F8468AR 86" propeller only, install the following placard near the tachometer. Placard is either supplied with STC documentation or can be fabricated by the installer.

For non-turbocharged airplanes manifold pressure is limited to 26" MP in the RPM range 2250-2450. Non-turbocharged airplanes use the following placard:

Continuous operation is  
prohibited above 26" MP  
between 2250 – 2450 RPM

For turbocharged airplanes manifold pressure is limited to 28" in the RPM range 2250-2450. Turbocharged airplanes use the following placard:

Continuous operation is  
prohibited above 28" MP  
between 2250 – 2450 RPM

(placard does not apply to 82" (P)HC-C3YF-1RF/F8468A-4R or 84" (P)HC-C3YF-1RF/F8468A-2R propeller)

5. Attach Hartzell Propeller Inc. Airplane Flight Manual Supplement AFMS\_033109 to the existing Pilot's Operating Handbook and FAA Approved Airplane Flight Manual.

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6. Revise weight and balance records to show:

**Removal** of the original McCauley propeller and spinner:

Check equipment list in Pilot's Operating Handbook and FAA Approved Airplane Flight Manual for appropriate McCauley propeller weight and moment arm.

Example:

Weight of D2A34C58 /90AT-4 propeller = 55 lbs  
Moment arm = -40.2 inches (forward of datum)

Weight of Cessna 0752040 spinner = 4 lbs  
Moment arm = -39.5 inches

**Installation** of Hartzell (P)HC-C3YF-1RF/F8468A-4R propeller and Hartzell A-2295-1P spinner:

Weight of propeller and spinner = 82.2 pounds,  
Moment arm = -40.2 inches

OR

**Installation** of Hartzell (P)HC-C3YF-1RF/F8468A-2R propeller and Hartzell A-2295-1P spinner:

Weight of propeller and spinner = 82.4 pounds,  
Moment arm = -40.2 inches

OR

**Installation** of Hartzell (P)HC-C3YF-1RF/F8468AR propeller and Hartzell A-2295-1P spinner:

Weight of propeller and spinner = 82.6 pounds,  
Moment arm = -40.2 inches

7. Perform ground engine run for a functional and leak check of the Hartzell propeller installation.

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8. Adjust governor high-RPM stop per aircraft maintenance manual procedures to set a maximum of 2700 RPM (or 2690 RPM in the case of TU206C, TU206D, TU206E, and TU206F using the 86" (P)HC-C3YF-1RF/F8468AR.
9. Make the appropriate logbook entries and return aircraft to service with FAA Form 337 referencing STC.
10. Fly a functional check-flight using normal procedures, note maximum RPM setting and readjust governor high-RPM stop if necessary.
11. Post-installation dynamic balance of the propeller/engine combination is recommended, but not required, per Section 61-00-15 of Hartzell Owner's Manual 115N.

**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

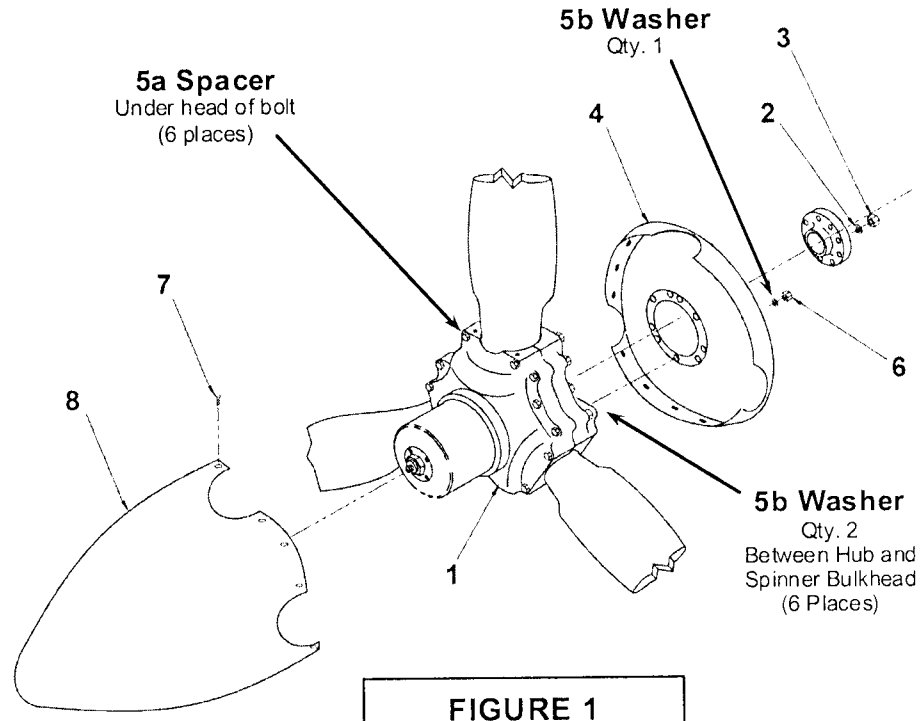
E-mail: techsupport@hartzellprop.com

Internet: www.hartzellprop.com

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Item Number	Part Number	Item Description	Qty. Required
1	<b>(P)HC-C3YF-1RF/F8468AR, F8468-2R or F8468A-4R</b>	Propeller Assembly	1
2	<b>A-1381</b>	1/2" Mounting Washer	6
3	<b>A-2044</b>	1/2" Mounting Nut	6
4	<b>C-2294-12(P)</b>	Spinner Bulkhead	1
5a	<b>A-2246-3</b>	Spinner Mounting Spacer	6
5b	<b>B-3834-0663</b>	Spinner Mounting Washer	18 Provided
6	<b>B-3599</b>	Spinner Mounting Nut	6
7	<b>B-3845-8 w/ A-1020 fiber washer</b>	10-32 Spinner Dome attaching screws	15
8	<b>C-3532-5(P)</b>	Spinner Dome	1