

INST_071707

INSTRUCTIONS FOR INSTALLATION

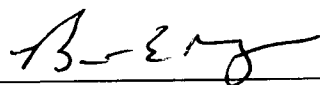
OF A HARTZELL (P)HC-C3YF-1RF/F8468A-2R or (P)HC-C3YF-1RF/F8468AR
PROPELLER
AND C-3575-(P) SPINNER ON CESSNA A185E AND A185F AIRCRAFT

STC SA02528CH-D

LOG OF REVISIONS

Revision	Revised Pages	Description of Revision	Engineer	Date
New	All	Original Release	L. Doud	7/17/07

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

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

Date JUNE 18, 2008

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**INSTRUCTIONS FOR INSTALLATION OF A
HARTZELL (P)HC-C3YF-1RF/F8468A-2R or (P)HC-C3YF-1RF/F8468AR PROPELLER
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APPLICABLE MODELS

(All models use Continental IO-520-D engine)

MODEL NUMBER	YEAR	SERIAL NUMBER
A185E	1966	185-0968 thru 185-1149
"	1967	185-1150 thru 185-1300
"	1968	185-1301 thru 185-1447
"	1969	185-1448 thru 185-1599
"	1970	18501600 thru 18501934
"	1971	
"	1972	18501935 thru 18502090
A185F	1973	652, 18502091 thru 18502310 except 18502300
"	1974	18502311 thru 18502565
"	1975	18502566 thru 18502838
"	1976	18502839 thru 18503153
"	1977	18503154 thru 18503458
"	1978	18503459 thru 18503683
"	1979	18502300, 18503684 thru 18503938
"	1980	18503939 thru 18504138
"	1981	18504139 thru 18504328
"	1982	18504329 thru 18504394
"	1983	18504395 thru 18504415
"	1984	18504416 thru 18504424
"	1985	18504425 thru 18504448

NOTE: When installing a heavier three-blade propeller on the A185(E,F), use of a heavy-duty engine mount and isolators may result in smoother operation by increasing isolation of the normal engine vibrations. Heavy-duty mount systems are available from aftermarket suppliers.

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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: When installing (P)HC-C3YF-1FR/F8468A-2R or F8468AR propellers with C-3575-(P) spinner, begin installation with only the 0.315" spacer between spinner bulkhead and propeller hub ("Area 2" as shown in Manual 115), install the remaining three washers behind the bulkhead under the nut ("Area 1") on each hub-clamping bolt (6 places). After propeller is installed, the spinner can be moved further aft if necessary to adjust spinner/cowl gap by relocating a maximum of two washers from behind, to forward of the spinner bulkhead at each mounting location. Leave at least one washer under the nut at "Area 1." The recommended spinner/cowl gap is ¼ - ½ inch. Nuts are torqued per 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:

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

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. If needed, Advisory Circular AC 20-88A provides guidelines on marking aircraft powerplant instruments.

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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.

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

5. Attach Hartzell Propeller Inc. Airplane Flight Manual Supplement AFMS_071707 to the existing Pilot's Operating Handbook and FAA Approved Airplane Flight Manual.
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-O/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-2R propeller and Hartzell C-3575-(P) spinner:

Weight of propeller and spinner = 81.8 pounds,
Moment arm = -40.2 inches

OR

Installation of Hartzell (P)HC-C3YF-1RF/F8468AR propeller and Hartzell C-3575-(P) spinner:

Weight of propeller and spinner = 82.1 pounds,
Moment arm = -40.2 inches

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7. Perform ground engine run for a functional and leak check of the Hartzell propeller installation.
8. Adjust governor high-RPM stop per aircraft maintenance manual procedures to set a maximum of 2700 RPM.
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

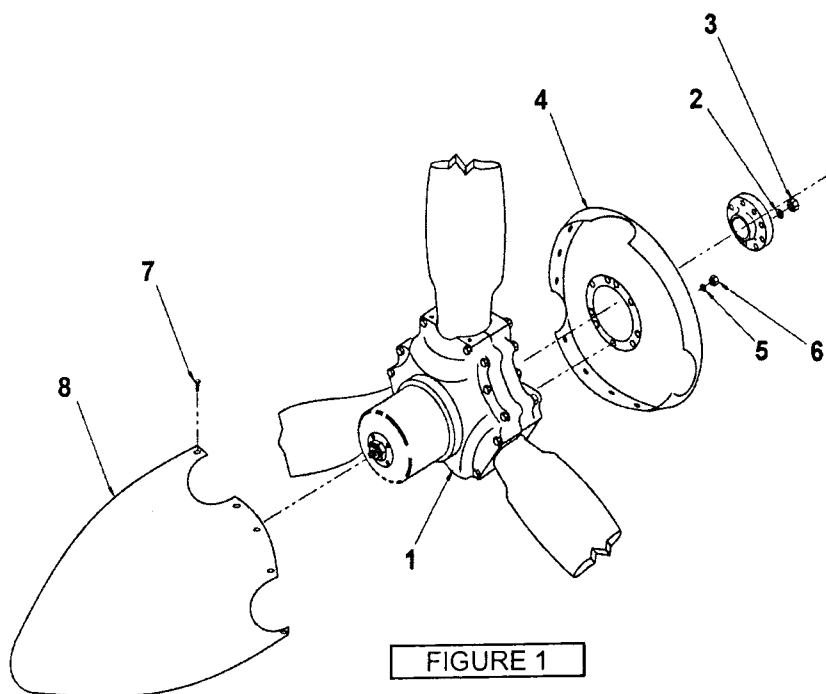
E-mail: techsupport@hartzellprop.com

Internet: www.hartzellprop.com

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Item Number	Part Number	Item Description	Qty. Required
1	(P)HC-C3YF-1RF/F8468A-2R or F8468AR	Propeller Assembly	1
2	A-1381	1/2" Mounting Washer	6
3	A-2044	1/2" Mounting Nut	6
4	C-3576-2(P)	Spinner Bulkhead	1
5	A-2246-3 B-3834-0663	Spinner Mounting Spacer Spinner Mounting Washer	6 18 Provided*
6	B-3599	Spinner Mounting Nut	6
7	B-3845-8 w/ A-1020 fiber washer	10-32 Spinner Dome attaching screws	18
8	C-3532-15(P)	Spinner Dome	1

*Note: Place A-2246-3 (0.315" bushing/spacer) between propeller hub and spinner bulkhead. Place B-3834-0663 washers (6 places) on forward or aft side of spinner bulkhead as required to achieve desired spinner-to-cowling gap; i.e. two washers between bulkhead and spacer will move spinner aft as far as possible.