

HP 1012P, Rev. B


INSTRUCTIONS FOR INSTALLATION

OF A HARTZELL PHC-J3YF-1RF/F7691() PROPELLER

AND C-4582-(P) SPINNER ON CESSNA 210F – 210N, and T210F – T210L
AIRCRAFT

STC SA00773AT

LOG OF REVISIONS

Revision	Revised Pages	Description of Revision	FAA Approved	Date
A	All	Complete Rewrite		
B	All	Added models 210F – 210J, & T210 F – T210L		NOV 30 2009

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

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APPLICABLE MODELS

(All models use Continental (TS)IO-520 -() engines rated at 285 HP @2700 RPM)

MODEL NUMBER	YEAR	SERIAL NUMBER
210F	1966	210-58716 thru 210-58818
T210F	1966	T210-0001 thru T210-0197
210G	1967	210-58819 thru 210-58936
T210G	1967	T210-0198 thru T210-0307
210H	1968	210-58937 thru 210-59061
T210H	1968	T210-0308 thru T210-0392
210J	1969	210-59062 thru 210-59199
T210J	1969	T210-0393 thru T210-0454, 210-58140
(T)210K	'70 -'71	210-59200 thru 210-59502
(T)210L	'72 -'76	210-59503 thru 210-61573
210M	'77-'78	210-61574 thru 210-62954
210N	'79 -'84	210-62955 thru 210-64897

1. Remove the original propeller and spinner.

NOTE: If the propeller being removed has electro-thermal de-ice, the propeller de-ice system must be disabled per the aircraft maintenance manual or other acceptable methods (AC43-13-1). The brush block assembly should be removed and it's associated wires capped and stowed per acceptable methods. Power to the propeller de-ice system switch must be disabled with the wire appropriately capped and stowed. An appropriate placard must be positioned above the propeller de-ice switch indicating the propeller de-ice system is "INOP".

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 5 of these instructions.

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NOTE: When installing PHC-J3YF-1RF/F7691 propeller with C-4582-(P) spinner, begin installation with only the 0.195" 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 $\frac{1}{4}$ - $\frac{1}{2}$ inch. Nuts are torqued per Manual 115().

NOTE: With cylinder #6 piston at TDC, HC- propellers are installed with one blade aligned with #6 cylinder.

3. Check Tachometer for correct markings per table below. If tachometer does not have correct markings, remove tachometer and have an approved instrument repair shop correct the markings. Reinstall tachometer with correct instrument markings.

Tachometer markings for aircraft equipped with IO-520-L engine and PHC-J3YF-1RF/F7691() propeller (210K, L, M, & N only).

Operating Range (Green Arc) – 2200 to 2550 RPM

Caution Range (Yellow Arc) – 2700 to 2850 RPM

Maximum (Red Radial Line) – 2850 RPM

4. Install the following placard next to the tachometer. Placard is either supplied with STC documentation or can be fabricated by the installer.

Do not exceed 20 inch Manifold Pressure below 2200 RPM
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5. Perform ground engine run for a functional and leak check of the Hartzell propeller installation. Perform maximum RPM check per Hartzell Owner's Manual number 115(). Adjust governor high RPM stop and /or low pitch stop if necessary.
6. Attach Hartzell Propeller Inc. Flight Manual supplement to the existing Cessna 210 Pilot's Operating Handbook and FAA Approved Flight manual.
7. 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 D3A34C404/80VA-0 propeller = 69.0 lbs
Weight of D3A34C402/90DFA-10 propeller = 73 lbs
Moment arm = -44 inches (forward of datum)

Weight of spinner = 3.5 lbs
Moment arm = -44.5 inches

Installation of Hartzell PHC-J3YF-1RF/F7691 propeller and Hartzell C-4582-(P) spinner:

Weight of propeller = 72.2 pounds,
Moment arm = -43.9 inches

Weight of spinner = 4.1 lbs
Moment arm = -43.9 inches

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

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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.

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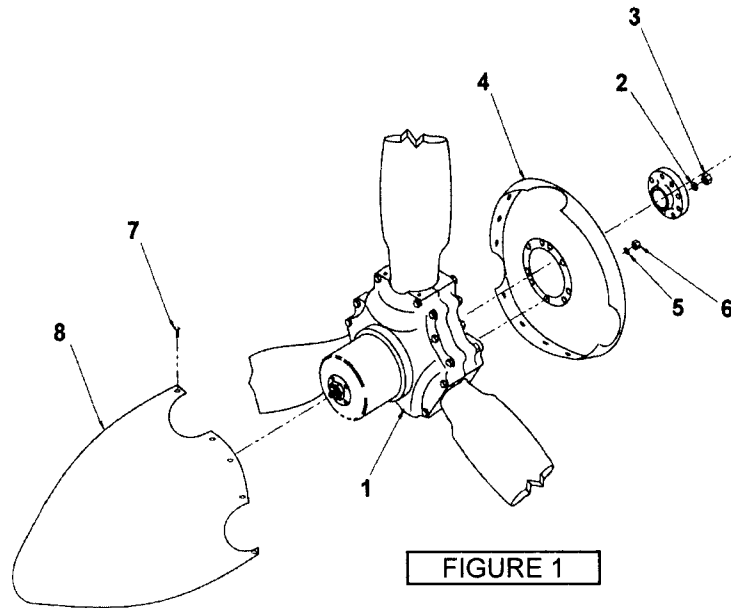


FIGURE 1

Item Number	Part Number	Item Description	Qty. Required
1	PHC-J3YF-1RF/F7691()	Propeller Assembly	1
2	A-1381	1/2" Mounting Washer	6
3	A-2044	1/2" Mounting Nut	6
4	C-4583-2	Spinner Bulkhead	1
5	A-2246-9	Spinner Mounting Spacer	6
	B-3834-0663	Spinner Mounting Washer	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-4586	Spinner Dome	1

*Note: Place A-2246-9 (0.195" 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.

Date _____