PT. SMART CAKRAWALA AVIATION

WORK ORDER

Form: SCA/MTC/030

Subject : **PROPELLER INSTALLATION**	No.	WO/042-SNJ/VIII/2023
	Date	11 Aug 2023
	A/C Reg.	PK-SNJ - C208B 5640
Reference: MP C208B Issued 01 EO NO. 005/EO/TEK-TS/VIII/2023	Prepared By	TS
	Checked By	CI
	Approved By	TM

To : Engineer In Charge

Description :

1. Perform Propeller Installation
2. Make an entry in Maintenance Log.
3. Return the Completed Work Order and Form to PPC.

#If any finding, please close the routine card, and transferred to inspection card.

Additional Work :

Compliance Statement	Sign & Date	Signature
	Company Lic. No.: SCA-03 18 Sept 2023 (Engineer In Charge)	(Technical Manager)

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SUMMARY INSPECTION ITEMS
(Form: SCA/MTC/050)

WO Ref: WO/042-SNJ/VIII/2023

NO.	TASK CARD NO.	DESCRIPTION	DATE	EST MHR	NAME	STAMP
1	NRC-001	PROPELLER INSTALLATION EO: 005/TEK/TS/VIII/2023	18 Sept 2023		Sampurna	
2	E06.7	PROPELLER BALANCE	19 Sept 2023		Sampurna	

PT. SMART CAKRAWALA AVIATION

CERTIFICATE RETURN TO SERVICE

SCHEDULED MAINTENANCE INSPECTION
(CRS-SMI)

A/C TYPE	: CESSNA 208B	TTSN	: 1998:14
A/C REG	: PK-SNJ	TCSN	: 3342
MSN	: C208B-5640	DATE	: 19 Sept 2023

TYPE OF INSPECTION : ROPELLER INST.

DUE AT
REFF : EO NO. 005/EO/TEK-TS/VIII/2023

EXCEPTION

AUTHORIZED PERSON

I hereby certify that this aircraft has been maintained accordance with CASR and Maintenance Program. Aircraft safe and airworthy for flight

NAME	CAT	AMEL/OTR NO	SIGN&STAMP	DATE
Sampurna H.	AIRFRAME & POWER PLANT	4870/SCA-03		19 Sept 2023
	EIRA			

THE NEXT DUE TYPE OF INSPECTION : NEXT PROPELLER OVERHAUL

DUE AT : 5498:14 Hrs

Form: SCA/MTC/049

ENGINEERING ORDER

005/TEK-TS/VIII/2023

INSTALLATION OF PROPELLER MCCAULEY MODEL 4HFR34C778 Series ON CESSNA 208B GRAND CARAVAN

PT. SMART CAKRAWALA AVIATION

Prepared	Checked	Approved
Technical Support	**Technical Manager**	**Chief Inspector**
Signature:	Signature:	Signature:
Name: Dwi M	Name: Istiono	Name: Yanuar A. F.
Date: 11 Aug 2023	Date: 11 Aug 2023	Date: 11 Aug 2023

SMART AVIATION
ENGINEERING ORDER

Aircraft Reg.:	Make/Model:	No. EO:	Rev. No. :
PK-SNJ (208B5640)	**C208B**	**005/TEK-TS/VIII/2023**	**Original**

Total Flight Hours:	Total Flight Cycle:	Date Issued :
1998:14	3342	**11 Aug 2023**

Task Description :

INSTALLATION OF PROPELLER MCCAULEY MODEL 4HFR34C778 Series ON CESSNA 208B GRAND CARAVAN

Technical Data Reference :

MCCAULEY PROPELLER SYSTEMS Propeller Owner/Operator Information Manual C700/C750/C1000 Propeller Removal/Installation

Effectivity :

CESSNA 208B EQUIPPED WITH PROPELLER MCCAULEY MODEL 4HFR34C778 Series

SMART AVIATION
ENGINEERING ORDER

1. Description.

This EO is issued, to perform installation checklist Propeller Assembly maintenance practices the 4HFR34C778 Series Propeller on Cessna 208B Grand Caravan.

2. Aircraft Effectivity.

REGISTRATION	SERIAL NUMBER
PK-SNJ	208B5640

3. Distribution :

TECHNICAL MANAGER	[√]	MATERIAL SUPPORT	[√]
SAFETY & QUALITY MANAGER	[√]	TECHNICAL SUPPORT	[√]
CHIEF INSPECTOR	[√]	FILE	[√]

4. Man Hours

18.0 man-hour to do the inspection

5. Material

A1633-72 Packing
A1639-32 Nut, Propeller

6. Special Tool Required

Tracking, Propeller
Adapter, Torque Wrench
Start Lock Release

7. Compliance

The Propeller model 4HFR34C778 Series have 4 of Blades, do a removal the propeller installed on Engine refer to accomplishment instruction task card, and install the Serviceable/New Propeller on the aircraft refer to accomplishment instruction task card.

SMART AVIATION
ENGINEERING ORDER

PROPELLER INSTALLATION

Date	:	18 Sept 2023 - 19 Sept 2023	WO Number	:	WO/042-SNJ/VIII/2023
Part No. Propeller	:	4HFR34C778-	A/C Total Hours	:	1998 : 14 Hrs
Serial No. Propeller	:	190837	A/C Total Landing	:	3342
Propeller Time	:	TSN:3696:26Hrs TSO: 0			
Install to A/C Reg.	:	PK-SNJ			

Description	Eng.	RII	Remarks
B. INSTALL PROPELLER (Refer to Figure 01 to 04).			
NOTE: McCauley recommends that the propeller mounting nuts (McCauley part number A-1639-32) be replaced at each propeller installation, whenever possible. However, nuts may be reused if the locking material prevents turning of the nut on the stud by hand.			
1. Install the D-5945 feedback collar retractor tool on the propeller.			
2. Remove protective cover from the end of engine propeller flange.			
3. Make sure the flange is clean and free of nicks and burrs.			
4. Make mounting sure stud that the holes are engine clean, propeller dry, and flange, free of dowels, nicks and and burrs.			
5. Remove protective cover from the propeller hub mounting the flange.			
6. Make sure and that the propeller studs hub mounting flange, dowel pin holes, are clean mounting and, undamaged.,			
7. Make sure that a new O-ring is installed in the groove of the propeller hub mounting flange. Lubricate the O-ring with engine oil prior to installation of the propeller. NOTE: Refer to the Installation Parts For Turbine Engine Propellers, Table 1002 for the O-ring part number. NOTE: In the past, new propeller assemblies shipped from McCauley, the propeller hub/engine O-ring was installed in the O-ring groove of new propellers and hub assemblies. This practice has been discontinued. The O-ring is now included in the propeller unattached parts kit, which is included in the box with the propeller or hub assembly. Install the O-ring according to the assembly instructions in this Owner/Operator Manual.			
8. Use a propeller sling and hoist, or additional personnel, to position the propeller close to the engine propeller flange and align engine			

SMART AVIATION
ENGINEERING ORDER

flange dowel pins with the dowel pin holes on the propeller hub mounting flange. Rotate engine propeller mounting flange as required to align the dowel pin holes.			
A. Hoist straps must be a minimum of 4 inches (100 mm) wide			
B. The sling and hoist should have a weight limit rating at least twice the weight of the propeller that is to be installed.			
C. The straps of the propeller sling should be placed on two of the propeller blades at least 6 inches (152 mm) outboard of the propeller hub. Make sure you protect the deice boots or anti-ice shoes from potential propeller sling abrasion damage, if installed.			
CAUTION: Propeller must be installed straight onto the engine flange. Any rocking of the propeller with respect to the flange could result in damage to the engine/propeller flange mating surfaces.			
9. Mount the propeller on the engine propeller shaft.			
10. Make sure the alignment mark on the spinner aft bulkhead and the propeller blade with are in alignment.			
11. Ensure threads of nuts and studs are free of burrs, nicks, and similar damage, and clean of foreign material.			
CAUTION: Do not use oil as a substitute for approved lubricant. It is imperative that the correct specification of lubricant be used during installation. Substitution of the approved grease with an unapproved lubricant { or no lubricant) could result in undertorquing or severe over-torquing of propeller attaching parts.			
12. Lubricate the threads of studs and nuts and the faces of nuts, spacers, or washers with MIL-PRF-83483 (McCauley part number A-1637-16) grease.			
13. Install mounting nuts on mounting studs.			
14. Torque the mounting nuts in an alternating sequence to prevent the hub rocking on the engine flange.			
15. When the hub is seated fully on the engine flange, torque to the specification called out in the mounting decal located on propeller hub at the number 1 socket. **NOTE: If the decal containing the propeller installation instructions is missing or illegible, install a new decal. All Pratt & Whitney engine installations, use a part number A- 2230-7 decal. The A-2230-7 decal specifies a lubricated 68 to 72 foot-pounds (92.196 to 97.619 N-m) torque.**			
16. After you apply the final torque, apply torque seal to nut and stud threads.			
17. If required, install the deice leads.	N/A		
18. McCauley Torque Wrench Adapter:			

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CAUTION: If an adaptor or extension (such as McCauley part number B-5588) is attached to torque wrench drive end and this adds to its length, then the actual applied torque will be greater than the dial reading. The following formula should be used to find what the dial should read in order to obtain the correct applied torque: Dial Reading = Torque Wrench Length x Desired Torque / (Torque Wrench Length + Extension Length)			
19. Remove the D-5945 feedback collar retractor tool from the propeller			
20. Make sure of proper rigging of engine controls. Refer to aircraft maintenance manual or STC maintenance manual supplement.			
a. Feather, reverse, and low blade angles are set during assembly or overhaul. These angles are NOT adjustable in the field.			
CAUTION: Do not operate the propeller below the minimum propeller idle speed operating restriction. The minimum propeller idle speed operating restriction is the result of a specific vibratory resonant condition known as "reactionless mode". Ground operation, at or near a reactionless mode vibratory resonance speed, can cause very high stresses in the propeller blades and hubs. These high stresses are more severe when operating in a tail-wind condition. If the propeller is operated within a restricted RPM range or below a minimum RPM restriction for an extended period of time, the propeller blades and hubs may become unairworthy due to fatigue. Hub or blade failure has the potential of causing a catastrophic event due to blade separation. The propeller RPM restriction is often placed below the minimum idle RPM; however, certain aircraft have a restriction that is above the propeller idle RPM setting. Either restriction is important. The propeller operating restrictions or limitations may be found in the Airplane Flight Manual (AFM) or Airplane Flight Manual Supplement (AFMS). The propeller installations may be controlled by the various airframe manufacturers Type Certificate (TC) or by Supplemental Type Certificate (STC).			
21. Install Propeller Spinner			
22. Start engine I.A.W Pilots Operating Handbook and FAA			
23. Perform propeller dynamic balancing ref. C208B MM chapter 61-11-00 Dynamic balancing (McCauley) - Adjustment test. Refer also to related balancer tools manual.			
24. Make an appropriate entry in Work Order and Aircraft Flight & Maintenance Log (AFML).			

***** END OF THE TASK *****

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MAINTENANCE RELEASE

I hereby certify that the above stated maintenance and/or inspection was performed in accordance with the approved Aircraft Maintenance Manual and meets requirements of Civil Aviation Safety Regulations.

Name : Sanpurna H.

Stamp :

Signature :

Place/Date : NBX / 19 Sept 2023

- END -

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	TECHNICAL DEPARTMENT	Rev. No	Original
	ENGINEERING ORDER	Rev. Date	11 Aug 2023

PROPELLER CHANGE – Component Inventory Record			
Registration	: PK-SNJ	Work Order Number	:
Airframe Time	: 1998:14 HRS	Airframe Landing	: 3342
Propeller Time	: ~~1998:~~ 0 HRS TSO	Propeller Cycle	: -

Propeller OFF				**Propeller ON**		
Description	**Part Number**	**Serial Number**	**Time Remaining**	**Part Number**	**Serial Number**	**Time Remaining**
Propeller Hub	ONE ASSY ON TO PK-SNH			4HFR34C778-1	190837	
Blade#1	ONE ASSY ON TO PK-SNH			102BHA-0	ANH30063	
Blade#2	ONE ASSY ON TO PK-SNH			102BHA-0	ANH30096	
Blade#3	ONE ASSY ON TO PK-SNH			102BHA-0	ANH30105	
Blade#4	ONE ASSY ON TO PK-SNH			[a] 102BHA-0	ANH 30097	

NOTE: ANY OTHER COMPONENT CHANGES MUST BE FILLED ON ADDITIONAL WORKSHEET (SCA-MTC 030)

Reg. Mark	: PK - SNJ	Date	: 19 Sept 2023
MSN	: 20865640	Station	: NBX
TSN / CSN	: 1998:14 /3342	WO No.	: WO/042-SNJ/VIII/2023

NO.	ZONE	TASK	SIGNATURE	
			ENGINEER SIGN&STAMP	RII SIGN&STAMP
01	211 212	Perform propeller dynamic balancing refer to Cessna Maintenance Manual 61-11-00.		
*** End of OOP61001 Items ***				

PERSONNEL PARTICIPATING IN THIS INSPECTION

NAME	POSITION	SIGNATURE	LICENSE NUMBER
Sampurna	Engineer		4870
AMIN SAID	Engineer		8690

RETURN TO SERVICE

The work recorded above has been carried out in accordance with the requirements of the Civil Aviation Safety Regulation for the time being in force and in that respect the aircraft is consider fit for Release to Service.

Name : SAMPURNA H. Place/Date : NBX / 19 Sept 2023

Sign & Stamp :

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Additional Work Sheet

Propeller Installation

Parts Used Sheet

Aircraft Registration: **PK-SNJ**

WO# Nr: **WO/042-SNJ/VIII/2023**

Special Tool Used

No.	Description	Due Date	Engineer
1.	PROPELLER PULLER	–	Sampurna
2.	TORQUE WRENCH P/N: TC-0150	JAN 2025	Sampurna

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Additional Work Sheet

Propeller Installation

Parts Used Sheet

Aircraft Registration: **PK-SNJ**

WO# Nr: **WO/042-SNJ/VIII/2023**

Part Used

Date	Part Nr.	Serial Nr.	Description	Quantity	Engineer
18 Sept 2023	A-1633-72	-	PACKING	1EA	Sampurna
18 Sept 2023	A-1639-32	-	NUT	8 EA	Sampurna