PT. SMART CAKRAWALA AVIATION

WORK ORDER

Form: SCA/MTC/030

Subject : **Propeller Assy Replacement**	No.	WO/047-SNH/VI/2023
	Date	26 Jun 2023
	A/C Reg.	PK-SNH - C208B 5587
Reference : MP C208B Issued 01 EI NO. 003/EO/TEK-TS/VI/2023	Prepared By	TS
	Checked By	CI
	Approved By	TM

To : Engineer In Charge

Description :

1. Perform Propeller Assy Replacement
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 Company Lic. No.: (Engineer In Charge)	Signature (Technical Manager)

AIRCRAFT CHECK WORK SUMMARY
(Form: SCA/MTC/051)

DATE OF ISSUED	JO/WO #	TYPE OF MAINTENANCE	DATE OF ACCOMPLISHED
26 Jun 2023	WO/047-SNH/VI/2023	Propeller Assy Replacement	

A/C Type	Mfg. Serial Number	A/C Registration
C208B	C208B-5587	PK-SNH

AIRCRAFT DATA

Subject	Pos #	Serial Number (SN)	TTSN/TCSN
Engine	#1	PCE-VA0662	
	#2	-	
Propeller/Rotor	#1	190837	
	#2	-	
Landing Gear	NLG		
	LH MLG		
	RH MLG		

PACKAGE COVERED

No	Subject	Qty	Remark
1	Non-Routine Card	1	
2	Inspection Card		
3	Work Order	1	
4	Summary Inspection List	1	
5	Material and Tool List	-	
6	Escalation form	-	
7	CRS (SMI / Unscheduled Maintenance)	1	

INSPECTION CARD (IC) LIST (Finding during maintenance)

No	Taskcard Ref	Subject	Status		Name/ Sign & Stamp
			Open	Close	
IC-001					
IC-002					
IC-003					
IC-004					
IC-005					
IC-006					

IC-007					
IC-008					
IC-009					
IC-010					
IC-011					
IC-012					
IC-013					
IC-014					
IC-015					

Prepared by : Technical Support	Checked by : Chief Maintenance	Verified by : Chief Inspector	Approved by : Technical Manager
			
.....	.....	.....	.....
Hani	Dodit	Yanuar	Istiono

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

WO Ref: WO/047-SNH/VI/2023

NO.	TASK CARD NO.	DESCRIPTION	DATE	EST MHR	NAME	STAMP
1	NRC-001	REPLACEMENT OF PROPELLER ASSY 4HFR34C778 REF EO NO. 003/EO/TEK-TS/VI/2023				

PT. SMART CAKRAWALA AVIATION

CERTIFICATE RETURN TO SERVICE

SCHEDULED MAINTENANCE INSPECTION
(CRS-SMI)

A/C TYPE	: CESSNA 208B	TTSN	:
A/C REG	: PK-SNH	TCSN	:
MSN	: C208B-5587	DATE	:

TYPE OF INSPECTION : PROPELLER ASSY REPLACEMENT

DUE AT

REFF : EO NO. 003/EO/TEK-TS/IV/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
	AIRFRAME & POWER PLANT			
	EIRA			

THE NEXT DUE TYPE OF INSPECTION :

DUE AT :

Form: SCA/MTC/049

smartaviation	**INSPECTION CARD** **(Form: SCA/MTC/ 048)**	TECHNICAL DEPARTMENT

1. CARD #	2. JO/WO #	3. ORIGINATOR	4. CARD REF	5. DATE
6. A/C REG/MSN	7. A/C TYPE	8. TRADE	12. VENDOR ORDER #	
9. ZONE	10. STA	11. MTC TYPE		

13. DESCRIPTION/DEFECT-IF FINDING OF CPCP INSPECTION, PLEASE COMPLETE SET. 20	14 PPC/ENG	15 DATE

16. CORRECTIVE ACTION		17 MECH	18 ENG. LIC	19 DATE
Performed at A/C TT : ..... A/C TC /LDG :				
20. CORROSION INFORMATION				
LOCATION	CAUSE OF DAMAGE ☐ Environment ☐ Internal Leakage			
CORROSION ☐ Isolated ☐ Widespread	☐ Chemical Spill			
CORROSION LVL ☐ 1 ☐ 2 ☐ 3	☐ LAV/Galley Spill			
PROPOSED ACTION ☐ Doublers	☐ Blocked Drain			
☐ Others	☐ Wet Insulation Blanket			
……..	☐ Other			
21. If the defect is RII, Please Sign this card finally by RII Inspector			INSP	DATE
NOTICE OF INSPECTOR				

22. PARTS REQUIRED						
PART DESCRIPTION	PART NO	QTY	SERIAL NO		STATUS	
			ON	OFF	CLOSE	OPEN

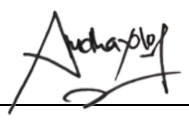
23. TOOLS REQUIRED			
DESCRIPTION	PART NO. / MODEL	NEXT CALIBRATION DATE	STATUS

ENGINEERING ORDER

003/TEK-TS/VI/2023

REMOVAL & 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: 26 Jun 2023	Date: 26 Jun 2023	Date: 26 Jun 2023

SMART AVIATION ENGINEERING ORDER			
Aircraft Reg.: **PK-SNH (208B5587)**	Make/Model: **C208B**	No. EO: **003/TEK-TS/VI/2023**	Rev. No. : **Original**
Total Flight Hours:	Total Flight Cycle:	Date Issued : **26 Jun 2023**	
Task Description : **REMOVAL & 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 removal & installation checklist Propeller Assembly maintenance practices the 4HFR34C778 Series Propeller on Cessna 208B Grand Caravan.

2. Aircraft Effectivity.

REGISTRATION	SERIAL NUMBER
PK-SNH	208B5587

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.

8. Publications Affected.

None.

SMART AVIATION
ENGINEERING ORDER

9. Accomplishment Instructions.

PROPELLER REMOVAL

Date	:		WO Number	:	
Part No. Propeller	:	4HFR34C778-	A/C Total Hours	:	
Serial No. Propeller	:		A/C Total Landing	:	
Propeller Time	:	TSN: TSO:			
Removed from A/C Reg.	:				

Description	Eng.	RII	Remarks
A. REMOVE PROPELLER (Refer to Figure 01 to 04)			
1. Make sure the airplane propeller control lever has the FEATHER position selected and the propeller blades are in feather.			
NOTE: If the propeller control lever is not in the FEATHER position or the propeller blades are not in feather, consult the Pilot's Operating Handbook for instructions to put the propeller control in the feather position and to feather the propeller.			
2. Place a drip pan under the propeller mounting surface to catch any spilled engine oil when the propeller is removed.			
3. Remove the feedback bearing assembly from the feedback collar groove. Refer to the aircraft or engine manual for procedure.			
4. Remove the cowling as required for access to the mounting nuts.			
5. Remove the cowling as required for access to the mounting nuts.			
NOTE: Make sure the rods are inserted through the correct holes of the tool. The beta rods must be pulled directly forward. CAUTION: Do not draw the feedback collar too far forward as the beta rods will be damaged			
6. Turn the large threaded rod of the retractor tool clockwise to draw the feedback collar forward to allow access to the propeller mounting nuts.			
7. Break the torque on the propeller mounting nuts. (McCauley Torque Wrench Adapter part number B-5588 may be used to gain easier access to mounting nuts.)			
8. Install propeller sling and attach to hoist. If hoist is unavailable, propeller may be supported and lifted by hand. This will require			

SMART AVIATION
ENGINEERING ORDER

additional personnel. **CAUTION: The C700 propellers weigh approximately 120 pounds (54 kg), the C750 propellers approximately 140 pounds (64 kg). CI000 series propellers weigh 180 pounds (83 kg) or more**			
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 removed.			
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.			
9. Take up the slack on the propeller sling and hoist, or have additional personnel support the propeller, and remove the nuts.			
10. Carefully slide the propeller forward and remove from the engine			
11. Place the propeller on a suitable support or propeller stand a. Do not let the propeller be supported by the tips of the propeller blades or "stand" the propeller on the propeller blade tips b. The stand should be able to hold the propeller securely and have a weight limit rating at least twice that of the removed propeller. c. Make sure the propeller is protected from damaged while in the stand. All areas of the stand that come in contact with the propeller should be padded sufficiently to prevent abrasion damage to the propeller.			
12. Install a protective cover over the propeller hub mounting flange.			
13. Install a protective cover over the open end of the engine propeller flange.			
14. Remove the D-5945 feedback collar retractor tool from the propeller.			

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

SMART AVIATION
ENGINEERING ORDER

PROPELLER INSTALLATION

Date :
Part No. Propeller : 4HFR34C778-
Serial No. Propeller :
Propeller Time : TSN: TSO:
Install to A/C Reg. :

WO Number :
A/C Total Hours :
A/C Total Landing :

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.			
18. McCauley Torque Wrench Adapter:			

SMART AVIATION
ENGINEERING ORDER

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 *****			

SMART AVIATION
ENGINEERING ORDER

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 : _____ Stamp :

Signature : _____ Place/Date : _____

- END -

PROPELLER CHANGE – Component Inventory Record			
Registration	:	Work Order Number	:
Airframe Time	:	Airframe Landing	:
Propeller Time	:	Propeller Cycle	:

Propeller OFF				**Propeller ON**		
Description	**Part Number**	**Serial Number**	**Time Remaining**	**Part Number**	**Serial Number**	**Time Remaining**
Propeller Hub						
Blade#1						
Blade#2						
Blade#3						
Blade#4				a		

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

NON ROUTINE CARD
(Form: SCA/MTC/047)

1. JO/WO #	2. DATE	3. MTC TYPE	4. A/C REG/MSN
WO/047-SNH/VI/2023		**REPLACEMENT**	**PK-SNH**
5. CARD #	6. ATA SPEC	7.TRADE	8. STA
#001	**61**		
9. ZONE	10. PANEL		
FRONT			

11. DESCRIPTION

PERFORM PROPELLER ASSY REPLACEMENT MODEL
4hFR34C778 REF EO NO. 003/EO/TEK-TS/VI/2023

S/N OFF:190837

REFERENCE	[X] 002/EO/TEK-TS/IV/2023	[X] MCCAULEY MPC 700/750	[ ] OTHER
RII (*)	[X] Y	[ ] N	MHR :

12. RESULT				MECH	ENG	INSP (*)
Performed at A/C TT : ..... A/C TC /LDG :						
FINDING	[ ] Y	[ ] N	ACT MHR :	DATE/TIME (DD/MM/YY)		
INSPECTION CARD (IC) #						

13. PARTS REQUIRED

DESCRIPTION	PART NO	QTY	REMARK	
			STOCK	STATUS

14. TOOLS REQUIRED

DESCRIPTION	PART NO / MODEL	NEXT CALIBRATION DATE	STATUS

Additional Work Sheet
Propeller Assy Replacement

Aircraft Registration: **PK-SNH**

WO# Nr: **WO/047-SNH/VI/2023**

Parts Used Sheet

Special Tool Used

No.	Description	Due Date	Engineer

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Additional Work Sheet
Propeller Assy Replacement

Aircraft Registration: **PK-SNH**

WO# Nr: **WO/047-SNH/VI/2023**

Parts Used Sheet

Part Used

Date	Part Nr.	Serial Nr.	Description	Quantity	Engineer

Reg. Mark : PK - Date :

MSN : Station :

TSN / CSN : WO No. :

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

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 : _____ Place/Date : _____

Sign & Stamp : _____

1. Approving Civil Aviation Authority/Country:	2.	3. Form Tracking Number:
FAA/United States	**AUTHORIZED RELEASE CERTIFICATE** FAA Form 8130–3, AIRWORTHINESS APPROVAL TAG	YA-08102022-CB-01

4. Organization Name and Address:	5. Work Order/Contract/Invoice Number:
YINGLING AVIATION, 2010 AIRPORT RD. WICHITA, KS. 67209 316-943-3246 YN8R621Y	25460

6. Item:	7. Description:	8. Part Number:	9. Quantity:	10. Serial Number:	11. Status/Work:
1	PROPELLER	P7785550-01	1	181192	OVERHAUL

12. Remarks:

Overhauled propeller. All work accomplished in accordance with McCauley Maintenance Manuals: MPC750 Series Overhaul Manual Rev.4, BOM100 Rev.11, and SPM100 Rev.8. For detailed work instruction see log entry dated 08/10/2022, or WO#25460.

PROPELLER ASSEMBLY TT: 90.4 TSO: 0.0
BLADE S/N #1 AOK30032
BLADE S/N #2 ANA30036
BLADE S/N #3 ANA30039
BLADE S/S #4 ANA30046

13a. Certifies the items identified above were manufactured in conformity to:

☐ Approved design data and are in a condition for safe operation.
☐ Non-approved design data specified in Block 12.

14a. ☑ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 12

Certifies that unless otherwise specified in Block 12, the work identified in Block 11 and described in Block 12 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

13b. Authorized Signature:	13c. Approval/Authorization No.:	14b. Authorized Signature:	14c. Approval/Certificate No.:
XXXXXXXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXX		FAA CRS YN8R621Y
13d. Name (Typed or Printed):	**13e. Date (dd/mmm/yyyy):**	**14d. Name (Typed or Printed):**	**14e. Date (dd/mmm/yyyy):**
XXXXXXXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXX	CODY BEAT	10/AUG/2022

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the aircraft engine/propeller/article.

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts aircraft engine(s)/propeller(s)/article(s) from the airworthiness authority of the country specified in Block 1.

Statements in Blocks 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.