PT. SMART CAKRAWALA AVIATION

WORK ORDER

Form: SCA/MTC/030

Subject : **Engine Assy Installation**	No.	WO/041-SNS/I/2023
	Date	26 January 2023
	A/C Reg.	PK-SNS C208B-2341
Reference : MP C208B Issued 01 EO NO. 001/EO/TEK-TS/I/2023	Prepared By	TS
	Checked By	CI
	Approved By	TM

To : Engineer In Charge

Description :

1. Perform Engine Assy 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 :

~~REF~~ TO INSPECTION CARD

Compliance Statement	Sign & Date / Company Lic. No.:	Signature
ENGINE ASSY INSTALLATION CARRIED OUT	16 FEB 2023 SCA 28 HENDRO (Engineer In Charge)	(Technical Manager)

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

DATE OF ISSUED	JO/WO #	TYPE OF MAINTENANCE	DATE OF ACCOMPLISHED
26 Jan 2023	WO/041-SNS/I/2023	Engine Replacament	16 FEBRUARY 2023

A/C Type	Mfg. Serial Number	A/C Registration
C208B	C208B-2341	PK-SNS

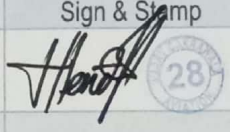
AIRCRAFT DATA

Subject	Pos #	Serial Number (SN)	TTSN/TCSN
Engine	#1	PCE-PC1288 OFF / PCE-PC1306 ON	13.884:9 / 15.028
	#2	-	581:21 / 581:21
Propeller/Rotor	#1	111120	7387 / 7387
	#2	-	7387 / 7387
Landing Gear	NLG		7387 / 7387
	LH MLG		
	RH MLG		

PACKAGE COVERED

No	Subject	Qty	Remark
1	Non-Routine Card	1	✓
2	Inspection Card	1	✓
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	61-00_00	FEEDBACK BEARING	-	✓	
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
Dwi M	Dodit	Yanuar	Istiono

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

WO Ref: WO/041-SNS/I/2023

NO.	TASK CARD NO.	DESCRIPTION	DATE	EST MHR	NAME	STAMP
1	NRC-001	INSTALLATION OF ENGINE ASSY PT6A-114A REF EO NO. 001/EO/TEK-TS/I/2023	16 FEB 23	160 MHR	HENDRO	28

PT. SMART CAKRAWALA AVIATION

CERTIFICATE RETURN TO SERVICE

SCHEDULED MAINTENANCE INSPECTION
(CRS-SMI)

A/C TYPE	: CESSNA 208B	TTSN	: 13.884:9
A/C REG	: PK-SNS	TCSN	: 15.028
MSN	: C208B-2341	DATE	: 16 ~~FEB~~ 23

TYPE OF INSPECTION : ENGINE ASSY INSTALLATION
DUE AT :
REFF : EO NO. 001/EO/TEK-TS/I/2023

EXCEPTION

NO EXCEPTION

NOTE : TSO : 0.0
CSO : 0.0

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
~~HENDRO~~	AIRFRAME & POWER PLANT	5583/28		16 ~~FEB~~ 23
	EIRA			

THE NEXT DUE TYPE OF INSPECTION : HOT SECTION INSPECTION (HSI)

DUE AT : 1800 HRS

Form: SCA/MTC/049

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1. CARD #	2. JO/WO #	3. ORIGINATOR	4. CARD REF	5. DATE
IC-001	WO/041-SNS/II/2023	SMART.	-	26-Feb.23
6. A/C REG/MSN	7. A/C TYPE	8. TRADE	12. VENDOR ORDER #	
PK-SNS	C208B			
9. ZONE	10. STA	11. MTC TYPE		

13. DESCRIPTION/DEFECT-IF FINDING OF CPCP INSPECTION, PLEASE COMPLETE SET. 20	14 PPC/ENG	15 DATE
- FOUND FEEDBACK RING BEARING WORN		26-Feb.23

16. CORRECTIVE ACTION	17 MECH	18 ENG. LIC	19 DATE
- REPLACE FEEDBACK RING BEARING C/O MM C208 REV.38 Performed at A/C TT : 6561:17 A/C TC /LDG : 7387			26-Feb.23

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
- FEEDBACK BEARING	B-5121	1	NSN	NSN	V	-

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

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

1. JO/WO #	2. DATE	3. MTC TYPE	4. A/C REG/MSN
WO/041-SNS/I/2023	16 FEB 2023	ENGINE REPLACEMENT	PK-SNS
5. CARD #	6. ATA SPEC	7. TRADE	8. STA
#001	71		
9. ZONE	10. PANEL		
FRONT			

11. DESCRIPTION

PERFORM ENGINE ASSY/EPLACEMENT MODEL PT6A-114A
REF EO NO. 001/EO/TEK-TS/I/2023

S/N OFF: PCE-PC1288 S/N ON: PCE-PC1306

REFERENCE	[X] 001/EO/TEK-TS/I/2023	[ ] EMM Ch	[ ] OTHER
RII (*)	[X] Y	[ ] N	MHR : 160 MHR

12. RESULT

ENGINE REPLACEMENT C/O I&W AMM C20B REV.38 EMM PT6A-114A REV.43, GROUND PERFORMANCE CHECK FOUND SATISFACTORY.

Performed at A/C TT : 6531 : 17 A/C TC /LDG : 7387

MECH	ENG	INSP (*)
IBASRI		

FINDING	[ ] Y	[✓] N	ACT MHR :	DATE/TIME (DD/MM/YY)		
INSPECTION CARD (IC) #				16	FEB	2023

13. PARTS REQUIRED

DESCRIPTION	PART NO	QTY	REMARK	
			STOCK	STATUS
ENGINE ASSY PT6A-114A	PT6A-114A	1	✓	OK

14. TOOLS REQUIRED

DESCRIPTION	PART NO / MODEL	NEXT CALIBRATION DATE	STATUS
- CRANE	Local	ON CONDITION	OK.
- ENGINE HOIST	Local	ON CONDITION	OK
SLING	Local	ON CONDITION.	OK

ENGINEERING ORDER

001/EO/TEK-TS/I/2023

REMOVAL & INSTALLATION OF ENGINE ASSY PT6A-114A ON CESSNA C208B

PT. SMART CAKRAWALA AVIATION

Prepared	Checked	Approved
Technical Support	**Chief Inspector**	**Technical Manager**
Signature:	Signature:	Signature:
Name: Dwi M.	Name: Yanuar A. F.	Name: Istiono
Date: 26 Jan 23	Date: 26 Jan 23	Date: 26 Jan 23

SMART AVIATION
ENGINEERING ORDER

	No. EI: **001/EO/TEK-TS/I/2023**	Rev. No. : **Original**
	Date Issued : **26 January 2023**	
Task Description : **REMOVAL & INSTALLATION OF ENGINE ASSY PT6A-114A ON CESSNA C208B**	Data Reference : - **Model 208 Series Maintenance Manual Revision 38, Revision Date Oct 20, 2022 Chapter 71 Power Plant – Maintenance Practices**	
Aircraft Type : **CESSNA C208B WITH ENGINE MODEL PT6A-114A / PT6A114**		

SMART AVIATION
ENGINEERING ORDER

1. Description.

This EO is issued, to perform removal & installation checklist powerplant maintenance practices the PT6A-114/PT6A-114A engine on Cessna C208B.

2. Aircraft Effectivity.

REGISTRATION	SERIAL NUMBER
PK-SNS	208B-2341

3. Compliance

The Engine model PT6A-114A have TBO 3600 Hours, do a removal the engine installed on airframe refer to accomplishment instruction task card, and install the overhauled/new engine on the aircraft refer to accomplishment instruction task card.

4. Distribution.

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

5. Manhours

32.0 man-hour to do the inspection.

6. Material.

PWC09-005	Compound, Universal
PWC09-006	Compound, Universal
PWC11-027	Solvent, Petroelum
PWC11-031	Cleaner, Engine

7. Special Tool Required.

PWC34300	Stand, Engine
PWC51861-600	Sling Assembly, Engine

8. Publication Affected.

None.

SMART AVIATION
ENGINEERING ORDER

9. Accomplishment Instructions.

C208B ENGINE REMOVAL

Date : 18 FEB 2023

Work Number : 001/EO/TEK-TS/I/2023

Part No. Engine : PT6A-114A

A/C Total Hours : 6531:17

Ser. No. Engine : PCE-PC1288

A/C Total Landings : 7387

Engine Time TSN: _____ TSO: 3595:41

CSN: _____ CSO: 4607

Removed from A/C Reg. : PK-SNS

Description	Eng.	RII	Remarks
A. REMOVE ENGINE (Refer to Figure 01 and Figure 02)			
CAUTION: Chock main wheels and place a tailstand under tailcone before attempting engine removal.			
1. Turn electrical power off.			
2. Pull fuel firewall shutoff control out (off).			
3. Remove upper cowling doors and lower cowling panels.			
4. Drain residual fuel from lines and fuel filter using filter drain. Remove fuel supply hose at fuel heater. Remove fuel motive flow hose at fuel control unit.			
5. Remove right nose cap and oil cooler.			
6. Remove top cowl center panel assembly and nose cap.			
7. Remove propeller.			

SMART AVIATION
ENGINEERING ORDER

8. Disconnect and remove propeller speed control cable.			
9. Remove the left nose cap/induction air duct/inertial air separator.			
10. Disconnect cabin heater bleed air line at flow control valve and bleed air hose at mixing air valve.			
11. Remove starter/generator cooling air hose from starter/generator.			
12. Remove engine fire detector wiring harness.			
13. Disconnect electrical wiring connectors and ground wires at the following equipment locations: i) Propeller overspeed governor and ITT harness (left front of engine).			
ii) Propeller tachometer generator (right front of engine)			
iii) Cabin bleed air heater flow control valve (lower right side of engine).			
iv) Oil temperature sensor (right side of engine).			
v) Fuel control heater (right rear of engine).			
vi) Gas generator section tachometer generator (lower right side of engine).			
vii) Starter/generator (center top of engine accessory case).			
viii) Ignition exciter high tension leads at ignition exciter (right engine mount truss).			NOT REMOVED

SMART AVIATION
ENGINEERING ORDER

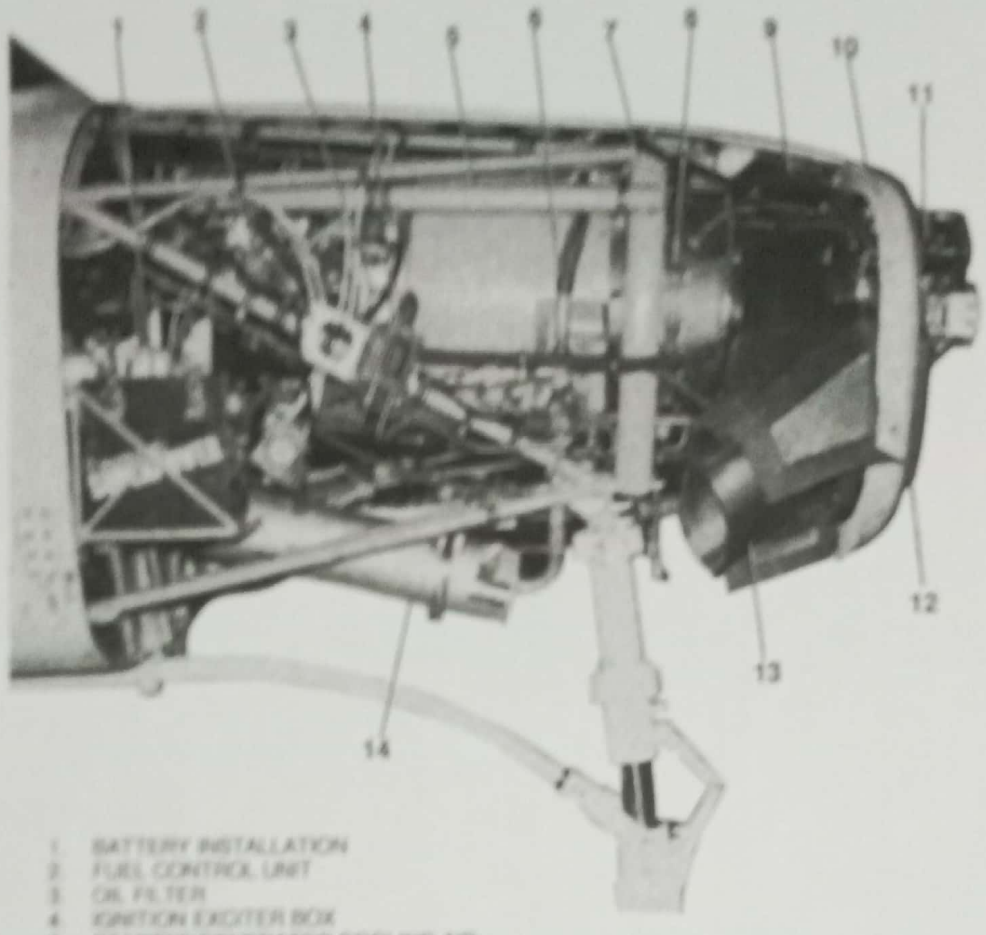
14. Disconnect engine power control cables at fuel control unit.			
15. Remove torquemeter pressure and vent lines at forward upper right side of engine mount truss.			NOT REMOVED
16. Connect hoist sling to forward and aft lifting brackets and connect sling to engine hoist.			
17. Raise hoist to just support weight of engine and remove nuts and bolts at each of four corners of engine mounting ring.			
18. Ensure all wiring and lines are free, then carefully move hoist and engine forward to clear engine mount truss.			
19. If engine is to be returned for overhaul or replaced, remove the following items: i) Engine induction air plenum. Refer to Chapter 71, Engine cowling and Nose Cap - Maintenance Practices.			
ii) Engine mount ring, elastomers, and engine mount brackets. Refer to Chapter 71, Engine mount – Maintenance Practices.			
iii) Propeller overspeed governor. Refer to Chapter 61, Propeller Control - Maintenance Practices.			
iv) Propeller tachometer generator. Refer to Chapter 77, Propeller RPM Indicator - Maintenance Practices.			
v) Oil temperature sensing sensor. Refer to Chapter 79, Oil Indicating - Maintenance Practices.			
vi) Oil cooler bracket and pressure/return hoses. Refer to Chapter 79, Oil Distribution - Maintenance Practices.			

SMART AVIATION
ENGINEERING ORDER

vii) Standby alternator (if equipped). Refer to Chapter 24, Standby Electrical System - Maintenance Practices.			
viii) Torque sensing line and fittings.			
20. Make and inventory record P/N and S/N of the engine and its accessories from the engine that removed, fill out into the List (Form Engine Change – Major Component Inventory Record)			
21. Make an appropriate entry in Work Order (WO) and Aircraft Flight Maintenance Log (AFML)			

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

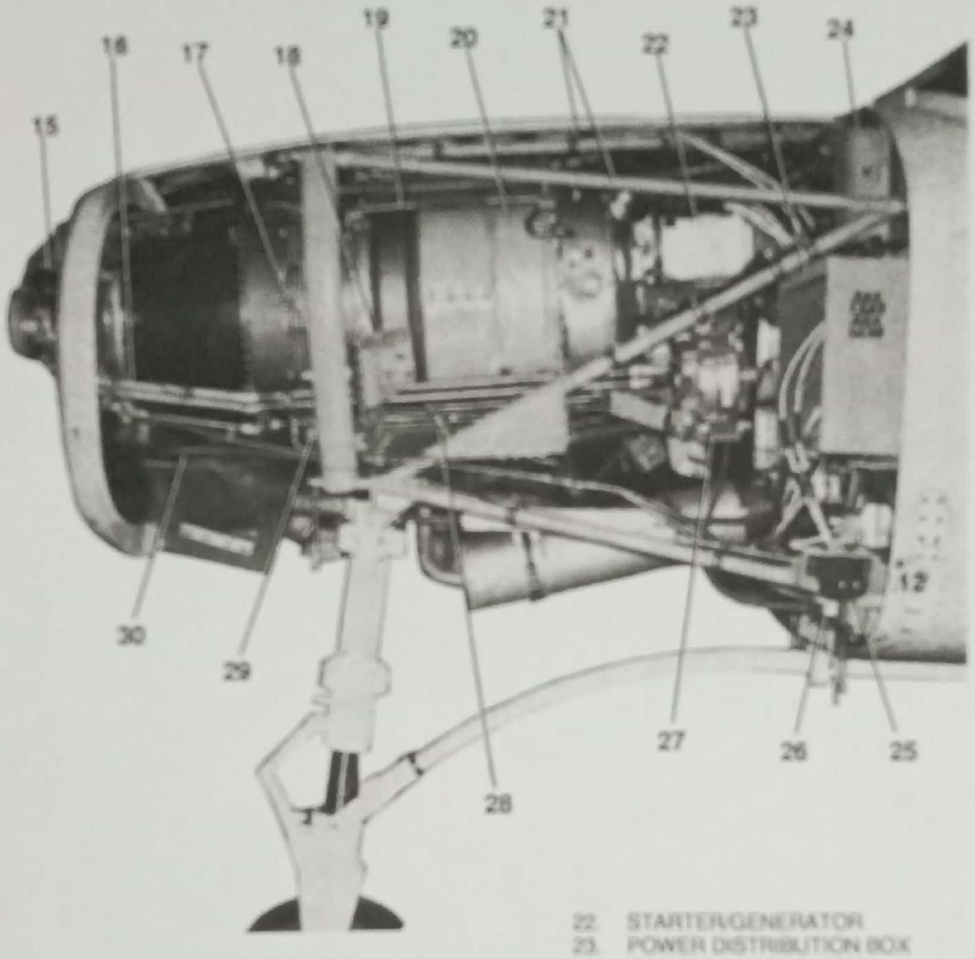
SMART AVIATION
ENGINEERING ORDER



1. BATTERY INSTALLATION
2. FUEL CONTROL UNIT
3. OIL FILTER
4. IGNITION EXCITER BOX
5. STARTER/GENERATOR COOLING AIR BLAST TUBE
6. BLEED AIR PRESSURE LINE
7. ENGINE MOUNT RING
8. FUEL MANIFOLD
9. OIL RETURN FROM OIL COOLER
10. RIGHT COWLING BULKHEAD
11. PROPELLER GOVERNOR
12. OIL COOLER
13. PRIMARY EXHAUST STACK
14. BLEED AIR HEATER MUFFLER

Figure 01 Sheet 1

SMART AVIATION
ENGINEERING ORDER



15. PROPELLER OVERSPEED GOVERNOR
16. REDUCTION GEARBOX OIL LINES
17. SPARK IGNITER
18. ENGINE MOUNT BRACKET
19. INDUCTION AIR PLENUM
20. COMPRESSOR INLET
21. ENGINE MOUNT TRUSS
22. STARTER/GENERATOR
23. POWER DISTRIBUTION BOX
24. STANDBY ALTERNATOR CONTROL UNIT
25. AUXILIARY POWER RECEPTACLE
26. FUEL FILTER
27. STANDBY ALTERNATOR
28. COMPRESSOR DRAIN LINE
29. FUEL MANIFOLD DUMP VALVE
30. OIL COOLER PRESSURE HOSE

Figure 1 Sheet 2

SMART AVIATION
ENGINEERING ORDER

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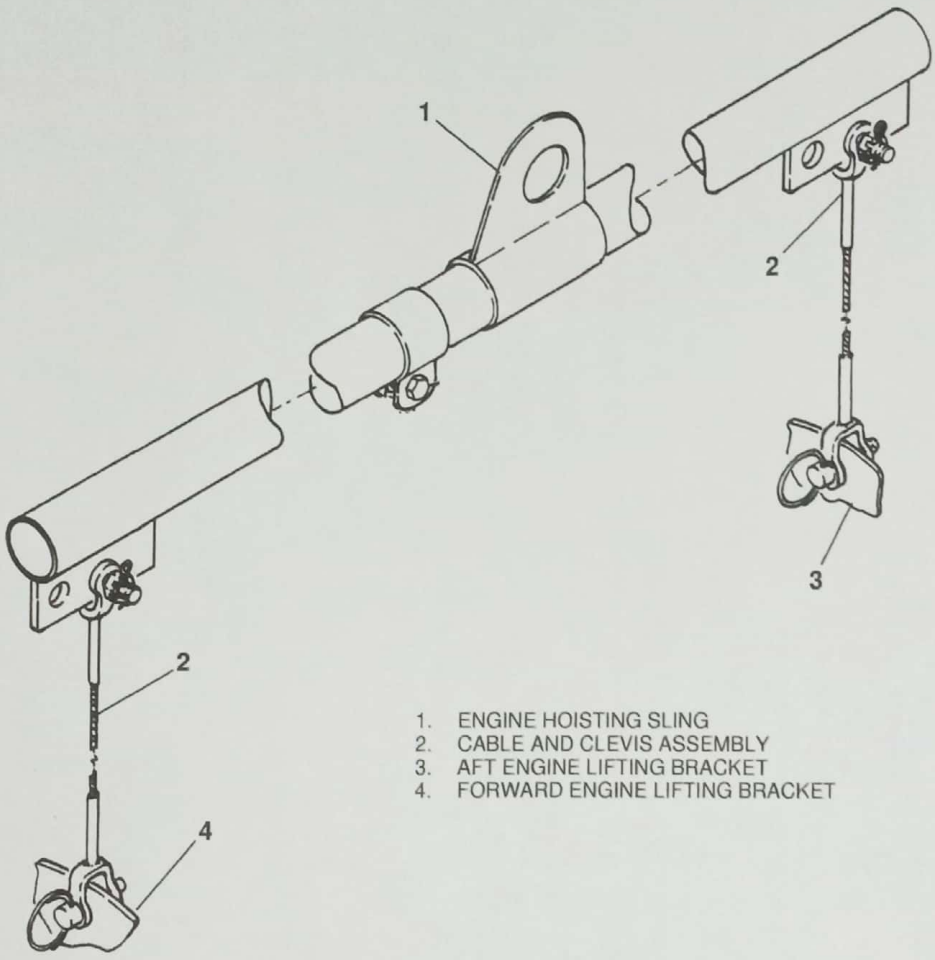

1. ENGINE HOISTING SLING
2. CABLE AND CLEVIS ASSEMBLY
3. AFT ENGINE LIFTING BRACKET
4. FORWARD ENGINE LIFTING BRACKET

2680X1044

Figure 02

SMART AVIATION
ENGINEERING ORDER

C208B ENGINE INSTALLATION

Date : 16 Feb 2023

Work Number : 001/EO/TEK-TS/I/2023

Part No. Engine : PT6A-114A

A/C Total Hours : 6531:17

Ser. No. Engine : PCE-PC1306

A/C Total Landings : 7387

Engine Time TSN:13,884:9 H TSO:0

CSN:15028 CSO:0

Installed on A/C Reg. : PK-SNS

Description	Eng.	RII	Remarks
B. INSTALL ENGINE (Refer to Figure 01 and Figure 02).			
1. Make and inventory record P/N and S/N of the engine and its accessories. Fill out into the List (Form Engine Change – Major Component Inventory Record)			
2. Install engine mount brackets, elastomers, and engine mount ring. Refer to Chapter 71, Engine mount – Maintenance Practices.			
3. Connect lifting hoist sling to forward and aft lifting brackets on engine and lift engine into position forward of engine mount truss.			
4. Make sure that all engine lines and equipment are clear.			
5. Lubricate the engine mount bolts with MIL-PRF-81322G Grease, before you install them to prevent corrosion.			
6. Make sure that the threads of bolts are covered during application of grease. Lubrication on threads can alter the torque reading.			
7. Move the hoist and engine aft to align the engine mount ring holes with the holes in the engine mount truss.			
8. Install the mount bolts (engine mount truss to engine mount ring) and torque the bolt/nuts to 450 to 500 inch-pounds (50.8 to 56.4 N-m). Remove the hoist and sling.			

SMART AVIATION
ENGINEERING ORDER

9. Connect torquemeter pressure and vent lines at upper left firewall. Bleed torquemeter indicating system.			
10. Connect engine power controls at fuel control unit. Rig controls.			
11. Connect the electrical leads of the following items of electrical equipment: i) Ignition exciter high tension leads at ignition exciter (right engine mount truss).			
ii) Starter/generator (center top of engine accessory case).			
iii) Gas generator section tachometer generator (lower right side of engine).			
iv) Fuel control heater (right rear of engine).			
v) Oil temperature sensor (right rear of engine).			
vi) Cabin bleed air heater flow control valve (lower right side of engine).			
vii) All engine to engine mount ground straps.			
viii) Propeller overspeed governor and ITT harness (left front of engine).			
ix) Propeller tachometer generator (right front of engine).			
12. Install engine fire detector warning harness.			
13. Connect starter/generator cooling air hose to starter/generator.			

SMART AVIATION
ENGINEERING ORDER

14. Connect engine bleed air line to cabin bleed air heater flow control valve. Connect engine bleed air hose to cabin bleed air heater mixing air valve.			
15. Install left nose cap/induction air duct/inertial air separator, if not previously installed.			
16. Install propeller, if not previously installed.			
17. Install and connect propeller governor control cable.			
18. Install left and right nose cap bulkhead assemblies and top cowling center panel.			
19. Install oil cooler and right nose cap.			
20. Connect fuel supply hose at fuel heater and fuel motive flow hose at fuel control unit.			
21. Push fuel firewall shutoff control fully in.			
22. With fuel line disconnected at fuel manifold below engine, motor engine with starter to purge fuel lines.			
23. Perform RII Dual Inspection **before** to first engine start.			
24. Start engine and perform operational check. Refer to Pilot's Operating Handbook and FAA-Approved Airplane Flight Manual.			
25. Perform Ground Run, Use the Pratt and Whitney PT6A-114/-114A/-135/-135A Engine Maintenance Manual with the Pilot's Operating Handbook and FAA-Approved Airplane Flight Manual to do the operational check of the different components on the engine.			
26. Shut down engine and check for fluid leaks, connections or hardware, etc.			
27. Perform RII inspection if any controls have been disturbed or adjusted.			

SMART AVIATION
ENGINEERING ORDER

28. Install engine cowling.			
29. Make an appropriate entry in Work Order (WO) and Aircraft Flight Maintenance Log (AFML)			

MAINTENANCE RELEASE

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

Name : [illegible] Stamp : 28

Signature : Place/Date : MALINAU / 16 FEB 23

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		Rev. No	Original
		Rev. Date	26/01/23

ENGINE CHANGE - Major Component Inventory Record

Registration	: PK-SNS	**Work Order Number**	: 001/EO/TEK-TS/I-2023
Airframe Time	: 6531:17	**Airframe Landings**	: 7387
Engine Time	: TSN : 13884:9 / TSO:00	**Engine Cycle**	: CSN : 15.028 / CSO : 0.0

	Engine OFF			Engine ON		
Description	**Part Number**	**Serial Number**	**Time Remaining**	**Part Number**	**Serial Number**	**Time Remaining**
Engine Assembly	PT6A-114A	PCE-PC1288		PT6A-114A	PCE-PC1306	
Propeller Assembly	3GFR34C703			3GPR34C703		
Compressor Bleed Valve	59364	4963		30213		
Fuel Control Unit	3214897-4	C166799		3214897-4	C65908	
Oil Fuel Heater	3032710	WA23408		1055LE	7948	
Igniter Exciter	10-381550-4	11450001		10-381550-4	11450001	
Flow Divider		25536-4		3019906	7211	
Oil Cooler	10751B	2346		10751B	2346	
Starter Generator	200SGL-1190-2	S00131K2		200SGL-1190-2	S00131K2	
Alternator	ASG12000-2RX	H-0100164		ASG12000-2RX	H-0100164	
Fuel Pump	3034792E	001251		3034792E	001304	
Propeller Governor	8210-002-01	1303947		8210-002-01	1559306	
Propeller Overspeed Governor	D210507	17770756		D210507	17770756	
Fuel Nozzle	3106397-01	3011154				

NOTE: ANY OTHER COMPONENT CHANGES MUST BE FILL ON INSPECTION CARD (SCA/MTC/048)

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Additional Work Sheet
Engine Assy Installation

Aircraft Registration: PK-SNS

WO# Nr: WO/041-SNS/I/2023

Parts Used Sheet

Special Tool Used

No.	Description	Due Date	Engineer
1.	D-5545 ASSY / PROP- PULLER	ON CONDITION	Hernowo
2.	TORQUE WRENCH	AUGUST, 2023	Hernowo
3.	ENGINE HOISTING SLING	ON CONDITION	Hernowo
4.	ENGINE CRANE	ON CONDITION	Hernowo
5.	MASTER COMPASS RADIANT / [illegible] REV / 752849/005	NOVEMBER, 2023	Hernowo

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Additional Work Sheet
Engine Assy Installation

Aircraft Registration: **PK-SNS**

WO# Nr: **WO/041-SNO/I/2023**

Parts Used Sheet

Part Used

Date	Part Nr.	Serial Nr.	Description	Quantity	Engineer
14 Feb 23	B-5124	NSN	CAM ON BLOCK BEARING ASSY	1 ea	[illegible]
14 Feb 23	A 1633-72	NSN	PACKING	1 ea	Aris
14 Feb 23	AC 3209-115	NSN	PACKING	1 ea	Aris
15 Feb 23	MS 24665-153	NSN	PIN	3 ea	Aris
15 Feb 23	MS 24665-302	NSN	PIN COTTER	3 ea	Aris
15 Feb 23	MS 24665-134	NSN	COTTER PIN	10 ea	Aris
15 Feb 23	MS 9248/1-113	NSN	~~COTTER~~ O RING	1 ea	[illegible]
16 Feb 23	Turbo oil top 2380	NSN	Oil	9 ea	Aris