PT. SMART CAKRAWALA AVIATION

WORK ORDER

Form: SCA/MTC/030

Subject : **Engine Assy Replacement Due to Timex**	No.	WO/078-SNK/V/2022
	Date	10-May-2022
	A/C Reg.	PK-SNK C208-00658
Reference : MP C208B Rev. 10 EI NO. 001/EO/TEK-TS/V/2022	Prepared By	TS
	Checked By	CI
	Approved By	TM

To : Engineer In Charge

Description :

1. Perform Engine Assy Replacement Due to Timex.
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
10-May-2022	WO/078-SNK/V/2022	Engine Assy Replacement	

A/C Type	Mfg. Serial Number	A/C Registration
C208	C208-00658	PK-SNK

AIRCRAFT DATA

Subject	Pos #	Serial Number (SN)	TTSN/TCSN
Engine	#1	PCE-PC2327	
	#2	-	
Propeller/Rotor	#1	190345	
	#2	-	
Landing Gear	NLG		
	LH MLG		
	RH MLG		

PACKAGE COVERED

No	Subject	Qty	Remark
1	Non-Routine Card		
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 :	Checked by :	Verified by :	Approved by :
Technical Support	Chief Maintenance	Chief Inspector	Technical Manager
……	……	……	……

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

WO Ref: WO/078-SNK/V/2022

NO.	TASK CARD NO.	DESCRIPTION	DATE	EST MHR	NAME	STAMP
1	NRC-001	REMOVAL OF ENGINE ASSY PT6A-114A REF EO NO. 001/EO/TEK-TS/V/2022				
2	NRC-001	INSTALLATION OF ENGINE ASSY PT6A-114A REF EO NO. 001/EO/TEK-TS/V/2022				

PT. SMART CAKRAWALA AVIATION

CERTIFICATE RETURN TO SERVICE

SCHEDULED MAINTENANCE INSPECTION
(CRS-SMI)

A/C TYPE	: CESSNA 208	TTSN	:
A/C REG	: PK-SNK	TCSN	:
MSN	: C208-00658	DATE	:

TYPE OF INSPECTION : ENGINE ASSY REPLACEMENT
DUE AT :
REFF : EO NO. 001/EO/TEK-TS/V/2022

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
	WO-078-SNK-V-2022_Replacement Engine Assy			
6. A/C REG/MSN	7. A/C TYPE	8. TRADE	12. VENDOR ORDER #	
PK-SNK/00658	C208			
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

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

1. JO/WO #	2. DATE	3. MTC TYPE	4. A/C REG/MSN
WO/078-SNK/V/2022	**10-May-2022**	**REPLACEMENT**	**PK-SNK**
5. CARD #	6. ATA SPEC	7.TRADE	8. STA
#001	**71**		
9. ZONE	10. PANEL		
FRONT			

11. DESCRIPTION

PERFORM ENGINE ASSY REPLACEMENT MODEL PT6A-114A
REF EO NO. 001/EO/TEK-TS/V/2022

S/N OFF:_____ **S/N ON:**_____

REFERENCE	☒ 001/EO/TEK-TS/V/2020	☐ EMM Ch	☐ OTHER
RII (*)	☒ 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

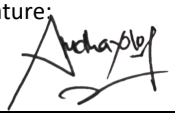
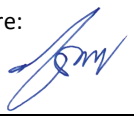
ENGINEERING ORDER

001/EO/TEK-TS/V/2022

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 Mahanani	Name: Yanuar Abdul Fatah	Name: Istiono
Date: 10 May 2022	Date: 11 May 2022	Date: 11 May 2022

SMART AVIATION

ENGINEERING ORDER

	No. EI: **001/EO/TEK-TS/V/2020**	Rev. No. : **01**
	Date Issued : **May 10, 2022**	
Task Description : **TO REMOVAL & INSTALLATION OF ENGINE ASSY PT6A-114A ON CESSNA C208**	Data Reference : - **Model 208 Series Maintenance Manual Revision 37, Revision Date Mar 1, 2020 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 C208.

2. Aircraft Effectivity.

REGISTRATION	SERIAL NUMBER
PK-SNK	C208-00658

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.

3074153-01 PROPELLER GOVERNOR

A 1633-72 O-RING HUB TO PROPELLER SHAFT

A 1639-32 NUT

B 5096 SPACER

B 5121 FEEDBACK ASSY

MS206685 GASKET PROPELLER OVER SPEED GOVERNOR

206684G/303952 GASKET PROPELLER GOVERNOR

AN 4044-1 GASKET STAR-GEN

S 3346-1 GASKET PROPELLER TACHOMETER

S 3346-1 GASKET NG TACHOMETER

S 3346-1 GASKET STBY ALTERNATOR

S 3346-1 GASKET AC COMPRESSOR DRIVE UNIT

AN363-720 NUT

MS24665-302 COTTER PIN MOUNT BRACKET TO MOUNT RING

VSF1015N12B SEAL CONICAL

9910333-1 ELASTOMER

MS24665-302 COTTER PIN

MS24665-134 COTTER PIN

MS24665-86 COTTER PIN

3007342 GASKET

S2808/AE3663 HOSE OIL

AS REQ:

MIL PRF 83483C LUBRICANT FOR THREAD PROPELLER

SMART AVIATION

ENGINEERING ORDER

MIL W-G-632 LUBRICANT FOR COMPRESSOR DRIVE UNIT, PLASTILUBE

Lockwire 0.020”, 0.025”, 0.032”

2380 ENGINE OIL

7. Special Tool Required.

Propeller Special Tool D-5945 1 SET

7/8-inch special tool 1 SET

MASTER COMPASS

8. Publication Affected.

None.

SMART AVIATION

ENGINEERING ORDER

9. Accomplishment Instructions.

C208B ENGINE REMOVAL

Date	:_____	Work Number	: **WO/078-SNK/V/2022**
Part No. Engine	: PT6A-114A	A/C Total Hours	:_____
Ser. No. Engine	: PCE-PC2327	A/C Total Landings	:_____
Engine Time	TSN:_____ TSO:_____		
	CSN:_____ CSO:_____		

Removed from A/C Reg. : PK-SNK

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.			

SMART AVIATION

ENGINEERING ORDER

7. Remove propeller.			
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) il 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).			

SMART AVIATION

ENGINEERING ORDER

viii) Ignition exciter high tension leads at ignition exciter (right engine mount truss).			
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.			
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.			

SMART AVIATION

ENGINEERING ORDER

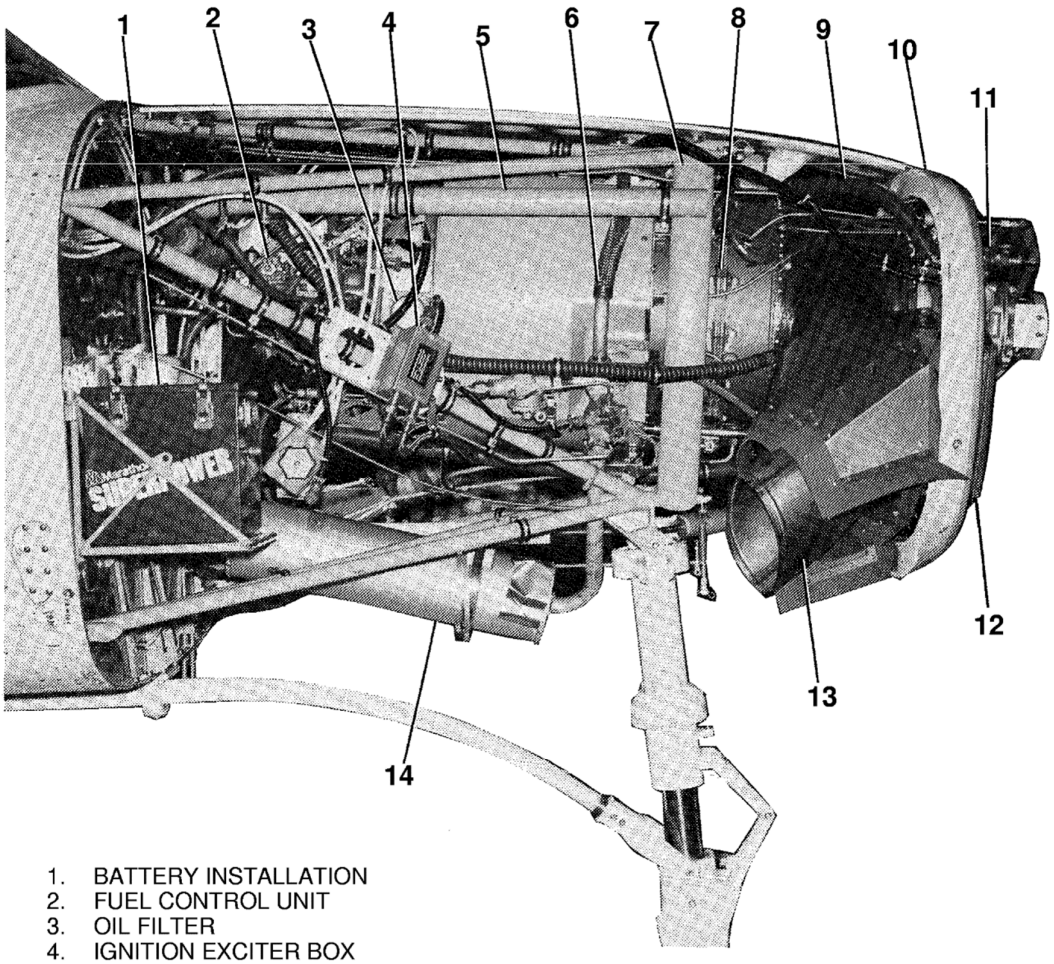
vi) Oil cooler bracket and pressure/return hoses. Refer to Chapter 79, Oil Distribution - Maintenance Practices.			
vii) Standby alternator (if equipped). Refer to Chapter 24, Standby Electrical System - Maintenance Practices.			
viii) Torque sensing line and fittings.			
20. Make and inventory record 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

A21758



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

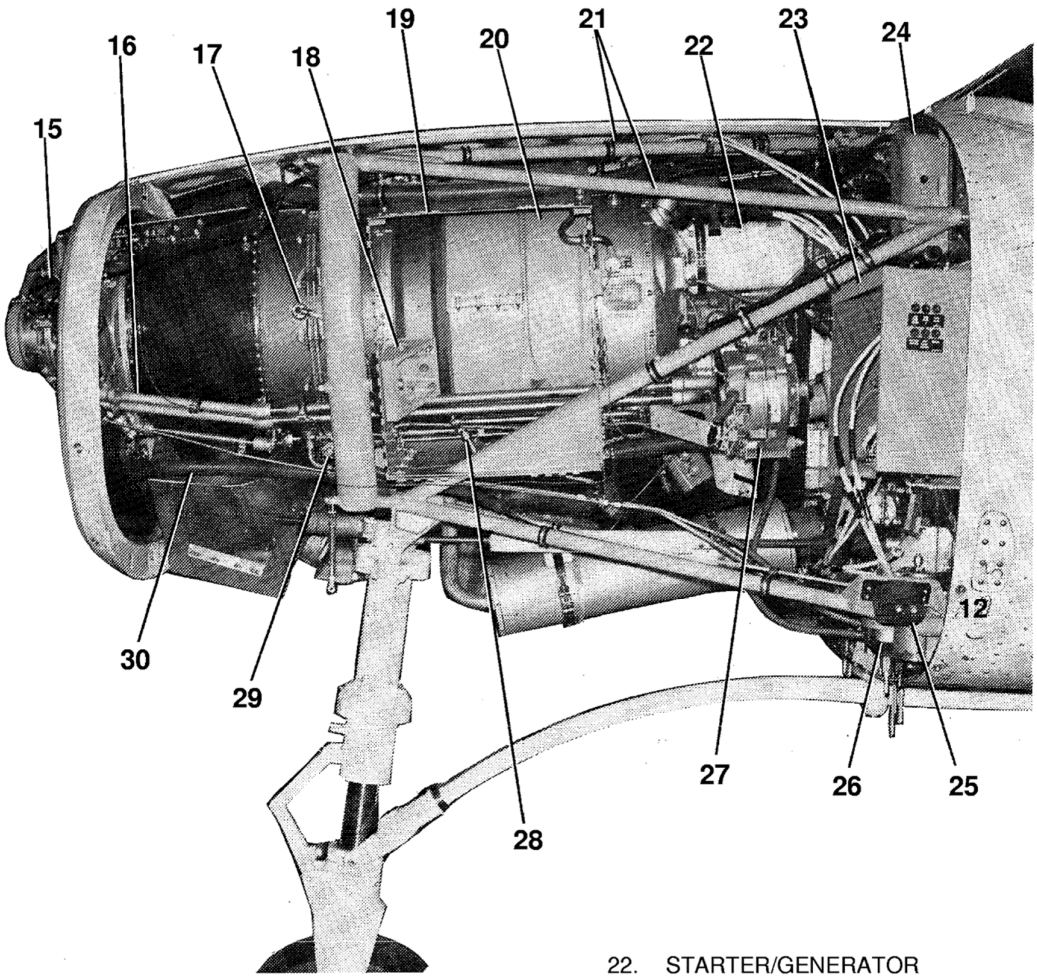
2650X1002

Figure 01 Sheet 1

SMART AVIATION

ENGINEERING ORDER

A21759



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

2650X1003

Figure 1 Sheet 2

SMART AVIATION

ENGINEERING ORDER

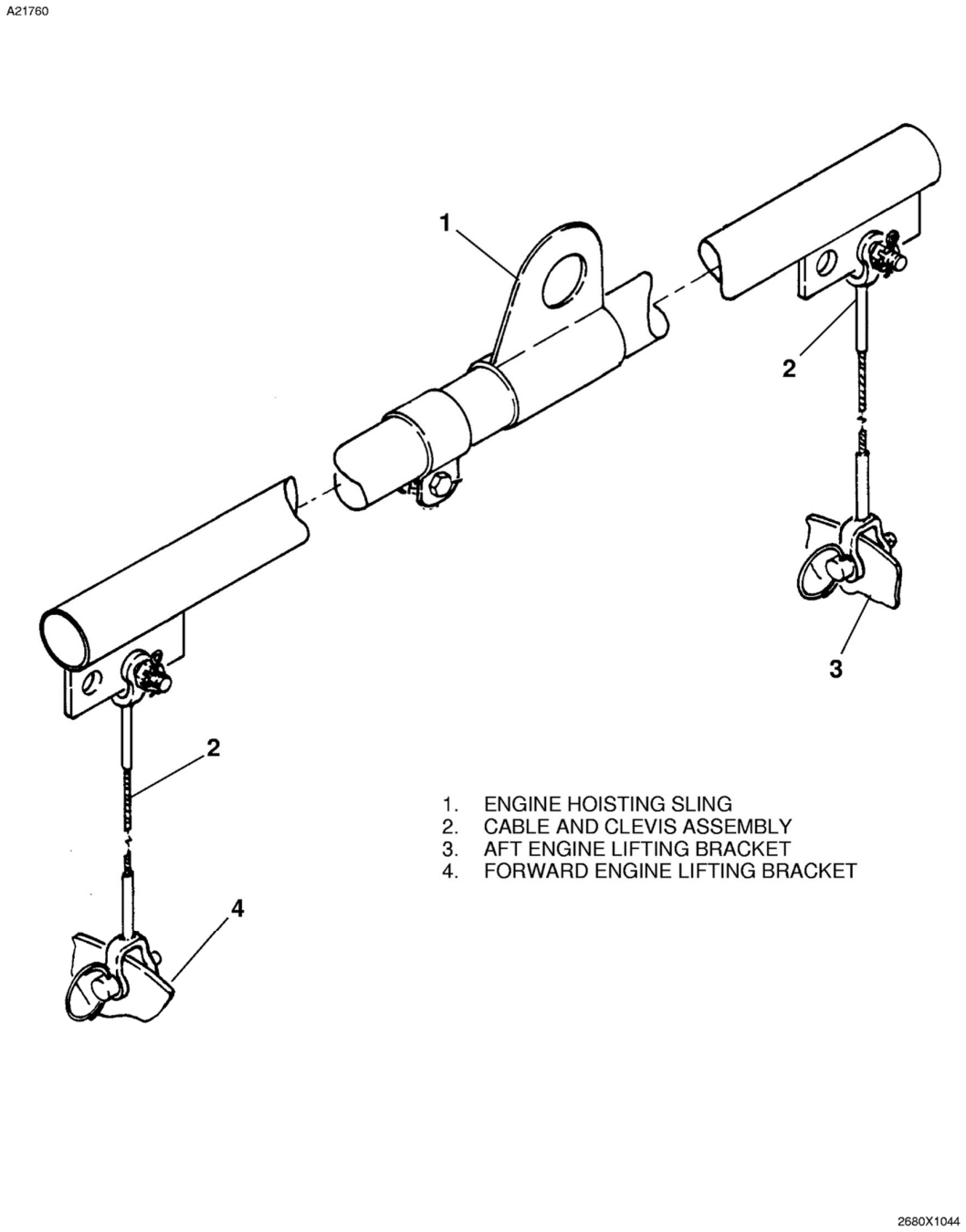


Figure 02

SMART AVIATION

ENGINEERING ORDER

C208B ENGINE INSTALLATION

Date	:_____	Work Number	: **WO/078-SNK/V/2022**
Part No. Engine	: PT6A-114A	A/C Total Hours	:_____
Ser. No. Engine	:_____	A/C Total Landings	:_____
Engine Time	TSN:_____ TSO:_____		
	CSN:_____ CSO:_____		

Installed on A/C Reg. : PK-SNK

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 : _____ Stamp : _____

Signature : _____ Place/Date : _____

ENGINE CHANGE - Major Component Inventory Record			
Registration	**: PK-SNK**	**Work Order Number**	**: WO/078-SNK/V/2022**
Airframe Time	**:**	**Airframe Landings**	**:**
Engine Time	**:**	**Engine Cycle**	**:**

	Engine OFF			**Engine ON**		
Description	**Part Number**	**Serial Number**	**Time Remaining**	**Part Number**	**Serial Number**	**Time Remaining**
Engine Assembly						
Propeller Assembly						
Compressor Bleed Valve						
Fuel Control Unit						
Oil Fuel Heater						
Igniter Exciter						
Flow Divider						
Oil Cooler						
Starter Generator						
Alternator						
Fuel Pump						
Propeller Governor						
Propeller Overspeed Governor						
Fuel Nozzle						

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