PT. SMART CAKRAWALA AVIATION

WORK ORDER

Form: SCA/MTC/030

Subject : **Inspection Document 21 (Pitot Static Test) & Document 22 (Transponder Test) Due July 2022**	No.	WO/015/VII/2022
	Date	1 July 2022
	A/C Reg.	PK-SNI C208B-5068
Reference : MP C208B Rev. 12	Prepared By	TS
	Checked By	CI
	Approved By	TM

To : Engineer In Charge

Description :

1. Perform Inspection Document 21 (Pitot Static Test) & Document 22 (Transponder Test) Due July 2022
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
1 July 2022	WO/015-SNI/VII/2022	Inspection Doc. 21 & Doc. 22	

A/C Type	Mfg. Serial Number	A/C Registration
C208B	C208B-5068	PK-SNI

AIRCRAFT DATA

Subject	Pos #	Serial Number (SN)	TTSN/TCSN
Engine	#1	PCE-VA0073	
	#2	-	
Propeller/Rotor	#1	P7785550-01	
	#2	-	
Landing Gear	NLG		
	LH MLG		
	RH MLG		

PACKAGE COVERED

No	Subject	Qty	Remark
1	Non-Routine Card	-	
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					
IC-002					
IC-003					
IC-004					
IC-005					
IC-006					

INSPECTION CARD (IC) LIST (Finding during maintenance)					
No	Taskcard Ref	Subject	Status		Name/ Sign & Stamp
			Open	Close	
IC-007					
IC-008					
IC-009					
IC-010					

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

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

WO Ref: WO/097-SNP/VI/2022

NO.	TASK CARD NO.	DESCRIPTION	DATE	EST MHR	NAME	STAMP
1	CHAPTER 27	INSPECTION DOCUMENT 21 (PITOT/STATIC SYSTEM FUNCTIONAL CHECK)				
2	CHAPTER 28	INSPECTION DOCUMRNT 22 (TRANSPONDER FUNCTIONAL CHECK)				

PT. SMART CAKRAWALA AVIATION

CERTIFICATE RETURN TO SERVICE

SCHEDULED MAINTENANCE INSPECTION
(CRS-SMI)

A/C TYPE	: CESSNA C208B	TTSN	:
A/C REG	: PK-SNI	TCSN	:
MSN	: C208B-5068	DATE	:

TYPE OF INSPECTION : INSPECTION DOC. 21 (PITOT/STATIC) & DOC. 22 (TRANSPONDER)
DUE AT : JULY 2022
REFF : MP C208B REV. 12

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

Reg. Mark	:	PK - SNI	Date	:	
MSN	:	C208B-5068	Station	:	
TSN / CSN	:		WO No.	:	WO/015-SNI/VII/2022

ITEM CODE NO.	ZONE	TASK	SIGNATURE	
			SIGN	STAMP
B341103	AUX	Pitot/Static System Functional Check Task 34-11-00-720		
*** End of Inspection Document 21 Items ***				

PERSONNEL PRTICIPATING 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 : _____ Stamp : _____

Signature : _____ Place/Date : _____

PITOT/STATIC SYSTEM - INSPECTION/CHECK

1. General

A. This section has the inspections and checks necessary to keep the pitot/static system in a serviceable condition.

TASK 34-11-00-720

2. Pitot/Static System Functional Check

A. General

(1) This task provides procedures to perform a functional check of the pitot/static system. Airplanes equipped with Garmin G1000 proceed to Paragraph F. For an alternate method of compliance, (without air data test set) proceed to Paragraph G.

B. Special Tools

NOTE: Equivalent tools and equipment can be used.

(1) Air Data Test Set - (LAVERSAB Model 65000); (Barfield 101-00184)

(2) Pitot/Static Test Adaptor - (Nav-Aids Ltd. PS4769)

(3) External Electrical Power Unit, 28 VDC.

(4) Air Bulb (Optional)

C. Safety Precautions and Preparations

CAUTION: Do not disconnect pitot-static tubes, hoses, or test equipment while test pressures are applied. Connections that are not correct can cause damage to the instruments. Make sure that all of the plumbing connections have been installed correctly.

CAUTION: Make sure that the static system pressure is not more than pitot system pressure, or instrument damage can occur. Do not apply pitot pressure to the static system or a vacuum to the pitot system. Do not do a leak test of the pitot and static system with soap and water or other liquids.

CAUTION: Do not apply anti-ice power to pitot probes or static ports when adapters are installed.

D. Access

(1) None

E. Do a Functional Check of the Pitot/Static System.

(1) Examine the pitot tube(s) and the static port(s) for condition, corrosion, and obstructions.

(2) Examine the mast(s) for condition, bends, and damage.

(a) Make sure that the sealant at the mast-to-wing joint is in good condition.

(3) Examine all pitot/static system plumbing for condition and security.

(a) Make sure that there are no low spots in the tubing that would cause water to collect.

(4) Make sure that there is no moisture and/or restrictions caught in the static system.

(5) Make sure that there are no alterations or deformations of the airframe surface that would affect the relationship between the air pressure in the static pressure system and the true ambient static air pressure for any flight configuration.

(6) Examine the drain valve(s) for condition, water in static system, and security of installation.

CAUTION: Do not open the autopilot drain plugs unless moisture is found in the left static system drain valve. If the autopilot static drain plug is removed to drain moisture, you must do a static system check after you install the plug.

(7) Examine the drain valve(s) tubing connections for condition and security.

(8) Connect external electrical power to the airplane.

(9) Set the External Power Switch to BUS.

(10) Set the Battery Switch to ON.

(11) Set the Avionics Switches 1 and 2 to ON.

(12) Do a self-test on the air data test set and record the leak rate for future use.

(13) Connect the air data test set to the left pilot's pitot/static probe in accordance with the manufacturer's instructions.

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(14) Make sure that the altimeter(s) pressure display reads 29.92 IN (1013 HPA).

(15) Use the air data test set, to increase the pressure to the left pitot systems to generate airspeeds of 100, 125, 150, and 175 knots.

(a) Make sure that the airspeed displayed is the same as the input +/-5 knots.

(16) Slowly increase the pressure and make sure that the airspeed warning horn gives an audible sound at 178 KIAS, +3 or -3 KIAS.

(17) Slowly decrease the pressure and make sure that the airspeed warning horn sound stops at 178 KIAS, +3 or -3 KIAS.

(18) With the test set input set at 175 knots, do the leak check on the system.

(a) After 1 minute the maximum allowable loss must not be more than 5 knots.

NOTE: The airplane's leak rate is determined by subtracting the recorded test set's internal leakage.

(19) Set the altitude on the air data test set to 1,500, 10,000, 25,000 feet.

(a) Make sure that the altitude displayed on the altimeter(s) as specified in Table 602.

(20) Slowly apply suction until the altimeter shows a 1000- foot (304.800 m) increase in altitude.

(a) Close the suction source to keep the system closed for one minute.

(b) Make sure that the decrease in altitude is not more than 100 feet as shown on the altimeter.

(c) If the leakage rate is within tolerance, slowly release the suction source.

(d) If the leakage rate is more than the maximum permitted rate, tighten all the connections and do a leakage test.

(e) If the leakage rate is still more than the maximum permitted rate, do the steps that follow:

1 Disconnect the static pressure lines from the airspeed indicator and the vertical speed indicator.

2 Use the correct fittings and connect the pressure lines together so the altimeter is the only instrument connected to the static pressure system.

3 Do a leak test to find whether the static pressure system or the bypassed instruments are the cause of the leakage.

(21) Slowly return the pitot/static system to the field elevation.

(22) If installed, do the test again for the right copilot's pitot/static system.

(23) Remove the air data test set in accordance with the manufacturer's instructions.

(24) Set the PITOT-STATIC HEAT switch to ON for 30 seconds, then OFF.

NOTE: The pitot tubes have two heating elements, one in the front of and one behind the static port compensating ring. Make sure that both elements are operating.

WARNING: Use extreme caution when you touch the pitot tube surface with you bare hands. The pitot tube will cause severe burns to skin if it is left on too long.

(25) Carefully make sure that the pitot tube becomes warm when the PITOT-STATIC HEAT switch is at the ON position.

(26) Set the Avionics Switches 1 and 2 to OFF.

(27) Set the Battery Switch to OFF.

(28) Set the External Power Switch to OFF.

(29) Remove the external electrical power from the airplane.

(30) Do the Restore Access.

F. Do a Functional Check of the Pitot/Static Systems (Garmin G1000 Equipped).

(1) Examine the pitot tube(s) and the static port(s) for condition, corrosion, and obstructions.

(2) Examine the mast(s) for condition, bends, and damage.

(a) Make sure that the sealant at the mast-to-wing joint is in good condition.

(3) Examine all pitot/static system plumbing for condition and security.

(a) Make sure there are no low spots in the tubing that would cause water to collect.

(4) Make sure that there is no moisture and/or restrictions caught in the static system.

(5) Make sure that there are no alterations or deformations of the airframe surface that would affect the relationship

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between the air pressure in the static pressure system and the true ambient static air pressure for any flight configuration.

(6) Examine the drain valve(s) for condition, water in static system, and security of installation.

CAUTION: Do not open the autopilot drain plugs unless moisture is found in the left static system drain valve. If the autopilot static drain plug is removed to drain moisture, you must do a static system check after you install the plug.

(7) Examine the drain valve(s) tubing connections for condition and security.

(8) Connect external electrical power to the airplane.

(9) Set the External Power Switch to BUS.

(10) Set the Battery Switch to ON.

(11) Set the Avionics Switches 1 and 2 to ON.

(12) Do a self-test on the air data test set and record the leak rate for future use.

(13) Connect the air data test set to the left pilot's pitot/static probe in accordance with the manufacturer's instructions.

CAUTION: Make sure that the static system pressure is not more than pitot system pressure, or instrument damage can occur. Do not apply pitot pressure to the static system or a vacuum to the pitot system. Do not do a leak test of the pitot and static system with soap and water or other liquids.

CAUTION: Do not apply power to pitot probes when the test adapters are installed.

NOTE: The pressure sensors inside of the GDC 74 are internally heated and must stabilize before the test. The G1000 / Air Data System must be powered on for a minimum of 15 minutes before you take calibration readings.

(14) Push in on the BARO correction knob on PFD1 and make sure that the pressure display reads 29.92 IN (1013 HPA).

(a) Set the barometric setting on the standby altimeter to 29.92 IN.

(15) Use the air data test set to increase the pressure to the left pitot systems to generate the airspeeds (A/S) shown in Table 601. Record the airspeed displayed on the PFD and the standby airspeed indicator.

Table 601. Airspeed Display Check

Input Airspeed	Airspeed Indication Limit on PFD1	Airspeed Indication on PFD1	Airspeed Indication on PFD2	Airspeed Indication Limit on Standby Airspeed Indicator	Airspeed Displayed on Standby Airspeed Indicator
100	100 ± 2 kts			100 ± 4 kts	
125	125 ± 2 kts			125 ± 4 kts	
150	150 ± 2 kts			150 ± 4 kts	
175	175 ± 2 kts			175 ± 4 kts	

NOTE: Airspeed tape changes to RED above 175 KIAS.

(16) Slowly increase the pressure and make sure that the airspeed warning horn gives an audible sound at 178 KIAS, +3 or -3 KIAS.

(17) Slowly decrease the pressure and make sure that the airspeed warning horn sound stops at 178 KIAS, +3 or -3 KIAS.

(18) With the test set input set at 175 knots do the leak check on the system.

(a) After 1 minute the maximum allowable loss must not be more than 5 knots.

NOTE: The aircraft's leak rate is determined by subtracting the recorded test set's internal leakage.

(19) Set the altitude on the test set to the values shown in Table 602.

Table 602. Altitude Display Check

Test Set Altitude Input	Altitude Indication Limit	Altitude Indication PFD 1	Altitude Indication PFD 2	Standby Altimeter Reading Indication Limit	Standby Altimeter Reading Indication

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1,500 ft	1,500 ± 25 ft			1,500 ± 25 ft	
10,000 ft	10,000 ± 80 ft			10,000 ± 80 ft	
25,000 ft	25,000 ± 155 ft			25,000 ± 155 ft	

(20) Slowly apply suction until the altimeter shows a 1000- foot (304.800 m) increase in altitude.
  (a) Close the suction source to keep the system closed for one minute.
  (b) Make sure that the decrease in altitude is not more than 100 feet as shown on the altimeter.
  (c) If the leakage rate is within tolerance, slowly release the suction source.
  (d) If the leakage rate is more than the maximum permitted rate, tighten all the connections and do a leakage test.
  (e) If the leakage rate is still more than the maximum permitted rate, do the steps that follow:
    1 Disconnect the static pressure lines from the airspeed indicator and the vertical speed indicator.
    2 Use the correct fittings and connect the pressure lines together so the altimeter is the only instrument connected to the static pressure system.
    3 Do a leak test to find whether the static pressure system or the bypassed instruments are the cause of the leakage.

(21) Do the test again for the right pitot/static system using PFD2. Record the data in Table 601 and Table 602.

NOTE: The standby altimeter and airspeed indicators are not connected to the right system.

(22) Slowly return the pitot/static system to the field elevation.

(23) Remove the air data test set in accordance with the manufacturer's instructions.

(24) Set the PITOT-STATIC HEAT switch to ON for 30 seconds, then OFF.

NOTE: The pitot tubes have two heating elements, one in the front of and one behind the static port compensating ring. Make sure that both elements are operating.

WARNING: Use extreme caution when you touch the pitot tube surface with you bare hands. The pitot tube will cause severe burns to skin if it is left on too long.

(25) Carefully make sure that the pitot tube becomes warm when the PITOT-STATIC HEAT switch is at the ON position.

(26) Set the Avionics Switches 1 and 2 to OFF.

(27) Set the Battery Switch to OFF.

(28) Set the External Power Switch to OFF.

(29) Remove the external electrical power from the airplane.

(30) Do the Restore Access.

G. Do a Functional Check of the Pitot/Static Systems (Alternate Method). Refer to Figure 601.

(1) Examine the pitot tube(s) and the static port(s) for condition, corrosion, and obstructions.

(2) Examine the mast(s) for condition, bends, and damage.
  (a) Make sure that the sealant at the mast-to-wing joint is in good condition.

(3) Examine all pitot/static system plumbing for condition and security.
  (a) Make sure there are no low spots in the tubing that would cause water to collect.

(4) Make sure that there is no moisture and/or restrictions caught in the static system.

(5) Make sure that there are no alterations or deformations of the airframe surface that would affect the relationship between the air pressure in the static pressure system and the true ambient static air pressure for any flight configuration.

(6) Examine the drain valve(s) for condition, water in static system, and security of installation.

CAUTION: Do not open the autopilot drain plugs unless moisture is found in the left static system drain valve. If the autopilot static drain plug is removed to drain moisture, you must do a static system check after you install the plug.

(7) Examine the drain valve(s) tubing connections for condition and security.

(8) Connect external electrical power to the airplane.

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(9) Set the External Power Switch to BUS.

(10) Set the Battery Switch to ON.

(11) Set the Avionics Switches 1 and 2 to ON.

(12) Connect a piece of rubber or plastic tubing over the left pilot's pitot/static probe.

(13) Close the opposite end of the rubber or plastic tubing and slowly roll the tubing up to generate airspeeds of 100, 125, 150, and 175 knots.

(a) Make sure that the airspeed displayed is the same as the input +/-5 knots.

(14) Slowly increase the pressure and make sure that the airspeed warning horn gives an audible sound at 178 KIAS, +3 or -3 KIAS.

(15) Slowly decrease the pressure and make sure that the airspeed warning horn sound stops at 178 KIAS, +3 or -3 KIAS.

(16) With the airspeed set at 175 knots do the leak check on the system.

(a) After 1 minute the maximum allowable loss must not be more than 5 knots.

(17) Slowly unroll the tubing and gradually decrease the pressure.

CAUTION: Make sure that the pressure is gradually decreased to prevent damage to the instrument.

(18) Remove the tubing from the pitot tube.

(19) Close the static pressure alternate source valve.

(20) Set the altimeter to 29.92.

(21) Apply a source of suction to the remaining static pressure source opening. Refer to Figure 601 for one method.

CAUTION: When you apply or release the suction, you must stay less than the range of the vertical speed or airspeed indicator.

(22) Slowly apply suction until the altimeter shows a 1000-foot increase in altitude.

(a) Air Bulb Method

1 Squeeze the air bulb to remove as much air as possible.

2 Hold the suction hose firmly against the static pressure source opening.

3 Slowly release the air bulb to get the necessary suction.

4 Tightly close the hose to trap the suction in the system.

(b) Close the suction source to keep the system closed for one minute.

(c) Make sure that the decrease in altitude is not more than 100 feet as shown on the altimeter.

(d) If the leakage rate is within tolerance, slowly release the suction source.

(e) If the leakage rate is more than the maximum permitted rate, tighten all the connections and do a leakage test.

(f) If the leakage rate is still more than the maximum permitted rate, do the steps that follow:

1 Disconnect the static pressure lines from the airspeed indicator and the vertical speed indicator.

2 Use the correct fittings and connect the pressure lines together so the altimeter is the only instrument connected to the static pressure system.

3 Do a leak test to find whether the static pressure system or the bypassed instruments are the cause of the leakage.

a If the leakage is the result of an instrument failure, the instrument must be repaired by an approved repair station, or it must be replaced.

b If the leakage is the result of the static pressure system, find the leakage as follows.

c Apply a source of positive pressure to the static source opening. Refer to Figure 601 for one method to get a positive pressure.

CAUTION: Make sure that you do not apply a positive pressure when the airspeed indicator or the vertical speed indicator is connected to the static pressure system.

d Slowly apply a positive pressure until the altimeter shows a 500-foot decrease in altitude.

NOTE: For the air bulb method you must hold the pressure hose firmly against the

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static pressure source opening. To apply the desired pressure to the static system you slowly squeeze the air bulb. This will replace any air that is released through the leaks.

e Put leak detector solution or a mixture of mild soap and water on the line connections and the static source flange.

f Apply a positive pressure to keep the altimeter indication and look for bubbles which show the leaks.

g Slowly release the pressure.

NOTE: For the air bulb method you must slowly open the pressure bleed-off screw.

h Remove the test equipment.

i Tighten all the connections that leak.

j Repair or replace the defective parts.

k Do the leak test again.

(g) After the leak test, release the suction slowly. Intermittently let a small amount of air to go into the static system.

1 Air Bulb Method

a Tilt the end of the suction hose away from the opening, then immediately tilt it back against the opening.

b Continue to release a small amount of air intermittently until all of the suction is released.

(23) If installed, do the test again for the right copilot's pitot/static system.

(24) Remove the test equipment.

(25) Set the PITOT-STATIC HEAT switch to ON for 30 seconds, then OFF.

NOTE: The pitot tubes have two heating elements, one in the front of and one behind the static port compensating ring. Make sure that both elements are operating.

WARNING: Use extreme caution when you touch the pitot tube surface with you bare hands. The pitot tube will cause severe burns to skin if it is left on too long.

(26) Carefully, make sure that the pitot/static tube(s) became warm when the PITOT-STATIC HEAT switch was placed in the ON position.

(27) Set the Avionics Switches 1 and 2 to OFF.

(28) Set the Battery Switch to OFF.

(29) Set the External Power Switch to OFF.

(30) Remove the external electrical power from the airplane.

H. Restore Access

(1) None

END OF TASK

TASK 34-11-00-710

3. Pitot Tube Heaters Operational Check

A. General

(1) This task gives the information needed to operational check of the pitot tube heaters.

B. Special Tools

(1) External Electrical Power Unit

C. Access

(1) None

D. Do the Pitot Tube Heater Operational Check.

NOTE: The pitot tubes have two heating elements, one in the front and one behind the static port compensating ring. Make sure that both elements operate.

(1) Make sure that the covers are not installed on the pitot tubes.

(2) Connect the external electrical power unit to the airplane.

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(3) Set the BATT switch to the ON position.

(4) Set the PITOT-STATIC HEAT switch to the ON position for 30 seconds, then to the OFF position.

WARNING: Use extreme caution when you touch the pitot tube surface with you bare hands. The pitot tube will cause severe burns to skin if it is left on too long.

(5) Carefully make sure that the pitot tube becomes warm when the PITOT-STATIC HEAT switch is at the ON position.

(6) Set the BATT switch to the OFF position.

(7) Remove the electrical power from the airplane.

E. Restore Access

(1) None

END OF TASK

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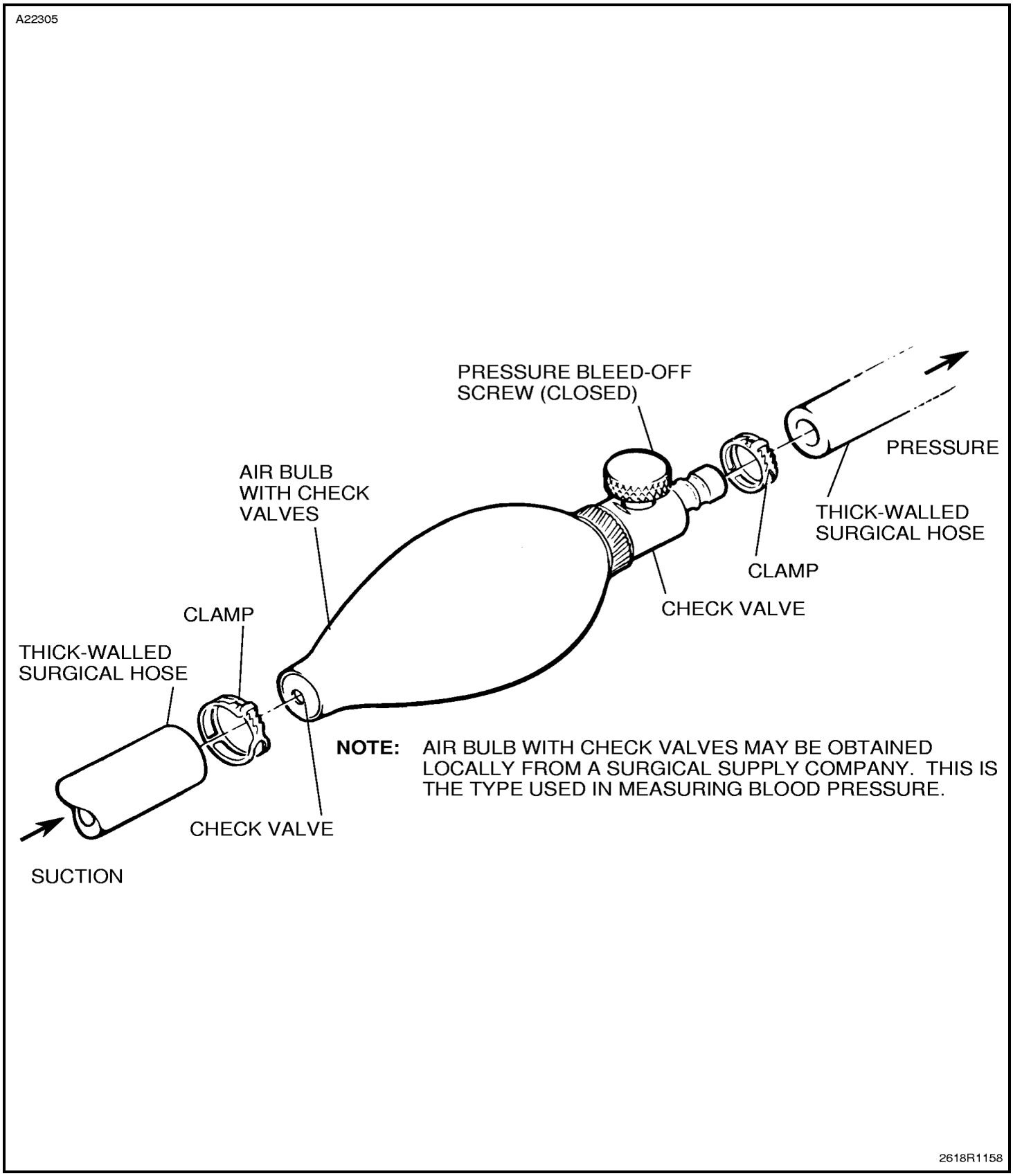
Figure 601 : Sheet 1 : Static System Test Equipment Fabrication



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Reg. Mark : PK - SNI
Date :
MSN : C208B-5068
Station :
TSN / CSN :
WO No. : WO/015-SNI/VII/2022

ITEM CODE NO.	ZONE	TASK	SIGNATURE	
			SIGN	STAMP
B345001	AUX	Transponder Functional Check Task 34-50-00-720		
*** End of Inspection Document 22 Items ***				

PERSONNEL PRTICIPATING 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 : _____ Stamp : _____

Signature : _____ Place/Date : _____

DEPENDENT POSITION DETERMINING - INSPECTION/CHECK

1. General

A. This section has the inspections and checks necessary to keep the dependent position determining components in a serviceable condition.

TASK 34-50-00-720

2. Transponder Functional Check

CAUTION: When you set a transponder code, make sure that you do not radiate any of the following codes unintentionally: Code 7777 - Military Intercept Code, Code 7500 - Hijack Code, Code 7600 - VHF Com Receiver Failure Code, or Code 7700 - Emergency Code.

NOTE: It is necessary to calibrate the transponders at intervals in accordance with 14 CFR Part 91.413. You must calibrate the transponders in an approved altimeter repair facility by approved personnel with approved equipment and documentation established in 14 CFR Part 91.413. It is necessary to do an altitude reporting check after the transponder is certified and installed in the airplane.

A. General

(1) This task gives the procedures to do a functional check of the transponder.

B. Special Tools

NOTE: Equivalent tools and equipment can be used.

(1) ATC-601 Ramp Test Set

(2) Air Data Test set - LAVERSAB Model 65000 or Barfield 101-00184

(3) Pitot Static Test Adaptor - (Nav-Aids Ltd. PS4769)

(4) External Electrical Power Unit

C. Access

(1) None

D. ATC-601 Ramp Test Set Setup.

(1) Connect the coaxial cable supplied with the ATC-601 Ramp Test Set (antenna connector) to the flat plate antenna, which is also supplied with the test set.

(2) Put the antenna in a position so that no large metal objects are between the tester antenna and the aircraft transponder antenna.

(3) Apply power to the ATC-601 Ramp Test Set.

(a) Push the Setup button.

(4) Measure the horizontal distance in feet along the shop floor or ramp between the antennas.

(5) Use the Select and Slew buttons to put that value in the Range field.

(6) Measure the vertical distance between the aircraft transponder antenna and the ATC-601 Ramp Test Set antenna.

(7) Use the Select and Slew buttons to put that value in the Height field.

(8) Use the gains from the ATC-601 Ramp Test Set flat plate antenna label and put the values in the Gain 1030= and Gain 1090= fields.

(9) Use the value from the sleeve on the coax cable and put in the value in the Loss= field.

(10) Make the bottom antenna the selection for the test.

(a) If an upper transponder antenna is installed, it is necessary to do the test again for that antenna. This test will apply only to the Mode S configured airplane.

E. Do the Transponder Functional Check.

NOTE: This functional check is applicable to all Model 208 Mode A , C, & S transponders to include Honeywell KT-70 series transponder systems, Garmin GTX 327, 330, & 33 series transponder systems, and the Sperry RT 459 transponder system.

NOTE: If airplane is Mode A & C only, it will have a failure for all Mode S functions. The display will show Modes that are satisfactory. Disregard Mode S failures.

(1) Apply external electrical power to the airplane.

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(2) Set the external power switch to BUS.

(3) Set the battery switch to ON.

(4) Set the avionics switches 1 and 2 to ON.

(5) Make sure that the transponder circuit breakers XPDR 1 and XPDR 2 on the lower left circuit breaker panel are engaged.

(6) If applicable, make sure that the XPDR 1 or XPDR 2 switch is set to the correct position for the test.

(7) Tune and make sure that the transponder code is 0600 on the transponder to be tested.

(8) Select the transponder being tested to the ON position and let it warm-up for fifteen minutes.

(9) Select the ALT position on the transponder being tested.

(10) Push the Auto Test button on the ATC-601 Ramp Test Set.

(a) Push the Run/Stop button to start the test.

1 Make sure that the transponder passes all of the tests.

2 During the test, make sure that the reply annunciator on the front panel shows R.

(11) Use the Select button on the ATC-601 to display the Squitter test selection.

(a) Make sure that the United States tail number or foreign registration code is shown correctly.

(12) Push the Select button on the ATC-601 Ramp Test Set.

CAUTION: Make sure that the ATC-601 Ramp Test Set altitude is shown in 100's to agree with the transponder.

(a) Make sure that the ALT= field agrees with the pilot's encoding altimeter.

(b) Make sure that the CODE= field agrees with the squawk code on the face of the transponder.

(c) The transmitting power specification (Spec) is from 125 watts minimum to 500 watts maximum.

(d) The receiver MTL Spec for Mode S transponders is -74 dbm +3 or -3 dbm.

1 The receiver MTL Spec for all other transponders is -73 dbm +4 or -4 dbm.

(e) The frequency Spec for Mode S transponders is 1090 MHz +1 or -1 MHz.

1 The frequency MTL Spec for all other transponders is 1090 MHz +3 or -3 MHz.

(13) Connect the air data tester to the airplane pitot/static system.

(14) Adjust the Baro on the encoding altimeter to show a barometric setting of 29.92 inches of Mercury.

(15) Use the air data test set and increase the altitude to 25,000 feet.

(a) Continuously make sure that the altitude displays on the encoding altimeter, transponder, and the ATC-601 Ramp Test Set show the same altitude, +125 or -125 feet, as the altitude increases to 25,000 feet.

(16) Use the air data test set and slowly decrease the altitude to the field elevation.

(17) Push the XPDR IDENT switch on the pilot's control wheel.

(a) Make sure that the R (Reply) annunciator shows to the right of the digits of the transponder code in the window.

NOTE: The IDT annunciator comes on for 18 seconds, +1 or - 1 second, after the start of an IDENT.

(18) If applicable, do this test again for the upper antenna.

(19) If applicable, do this test again for the second transponder system.

(20) After the tests are complete, select the OFF position on the transponder.

(21) Set the avionics switches 1 and 2 to OFF.

(22) Set the battery switch to OFF.

(23) Set the external power switch to OFF.

(24) Remove the air data tester from the airplane.

(25) Remove the external electrical power from the airplane.

(26) Remove the power from the ATC-601 Ramp Test Set.

END OF TASK

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Aircraft Registration: **PK-SNI**

WO# Nr: **WO/015-SNI/VII/2022**

Additional Work Sheet
Inspection Doc. 21 & Doc. 22

Parts Used Sheet

Special Tool Used

No.	Description	Due Date	Engineer

Additional Work Sheet
Inspection Doc. 21 & Doc. 22

Aircraft Registration: **PK-SNI**

WO# Nr: **WO/015-SNI/VII/2022**

Parts Used Sheet

Part Used

Date	Part Nr.	Serial Nr.	Description	Quantity	Engineer