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71 Maint
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Date 30 Sept 96
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Unit / Rank / Appointment AVR35
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ANALYZED

ARROW 1

MAINTENANCE INSTRUCTIONS

INSTRUMENTS - PITOT STATIC SYSTEM

NRC - CISTI
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BRANCH

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ANNEXE
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ENGINEERING DIVISION

AVRO AIRCRAFT LIMITED, MALTON, ONTARIO

15799528



ANNEXED

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ILLUSTRATIONS

FIGURE 1	Pitot Static System (Schematic)
FIGURE 2	Component Location
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COMPONENT DATA

M.D.R. 12-49	Tube - Pitot Static - Nose Boom
M.D.R. 12-50	Tube - Upper Pitot Static - Fin
M.D.R. 12-5	Machmeter and Airspeed Indicator
M.D.R. 12-11	Rate of Climb Indicator
M.D.R. 12-8	Altimeter
M.D.R. 22-19	Controller - Cabin Pressure
M.D.R. 22-32	Controller - Cabin Pressure Safety Valve
M.D.R. 11-E21/16	Switch - Pitot Heater Test
M.D.R. 11-E21/17-18	Indicators - Pitot Heater Test
M.D.R. 11-E21/20-21	Resistors - Pitot Heater Test Indicators



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1. DESCRIPTION

1.1 General

- 1.1.1 The purpose of the pitot static system is to supply pitot and static air pressures to the various instruments, controllers and transducers.
- 1.1.2 Both pitot and static air is supplied by three pressure heads, one mounted on the forward end of the air data probe in the nose, and the other two on masts attached to the leading edge of the fin.
- 1.1.3 The lower pressure head on the fin is for flight test instrumentation purposes only. The supplies from the other two pressure heads are not interconnected.
- 1.1.4 Water traps are fitted at the lower points in the system piping to trap and permit drainage of condensation.
- 1.1.5 Each pressure head is electrically heated to prevent ice formation. (Ref. Dwg. 7-1100-3, Sht. 11)

1.2 Operation

- 1.2.1 The pitot and static pressures from the nose pressure head are transmitted through hoses in the radome to connect with rigid piping in the radar nose. The rigid pipe-lines connect with various components through short lengths of flexible hose.
- 1.2.2 Pitot air from the nose boom pressure head is transmitted to the following components:
 - 1.2.2.1 Front cockpit machmeter and airspeed indicator.
 - 1.2.2.2 Flying control normal damping transducer.
- 1.2.3 Primary static air from the nose boom pressure head is transmitted to the following components:
 - 1.2.3.1 Front cockpit altimeter.
 - 1.2.3.2 Flying control normal damping transducer.
- 1.2.4 Secondary static air from the nose boom pressure head is transmitted to the following components:
 - 1.2.4.1 Front cockpit rate of climb indicator.
 - 1.2.4.2 Front cockpit machmeter and airspeed indicator.



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- 1.2.4.3 Rear cockpit altimeter.
- 1.2.4.4 Cabin pressure safety valve controller.
- 1.2.4.5 Cabin pressure controller.
- 1.2.5 The pitot and static pressures from the fin upper pressure head are transmitted through pipelines enclosed in tubular conduits in the fin leading edge, to the flying control emergency damping transducer in the dorsal fin.
- 1.2.6 The pitot and static pressures from the fin lower pressure head are for instrumentation purposes only.

2. GROUND EQUIPMENT

2.1 Air Conditioner and Generator AC

2.2 MB-I Pitot Static Test Set

- 2.2.1 The MB-I test set provides the means to carry out a system leak test. It is a portable unit enclosed in a metal carrying case and comprised of the following:
 - 2.2.1.1 1 hand-operated vacuum pump.
 - 2.2.1.2 1 hand-operated pressure pump.
 - 2.2.1.3 6 needle-type control valves.
 - 2.2.1.4 1 pressure gauge, 10 to 100 ins. Hg.
 - 2.2.1.5 1 vacuum gauge, 0 to 30 ins. Hg.
 - 2.2.1.6 1 altimeter.
 - 2.2.1.7 1 machmeter.
 - 2.2.1.8 1 temperature gauge.
 - 2.2.1.9 1 circular slide rule type computer.
 - 2.2.1.10 1 pitot test line.
 - 2.2.1.11 1 static test line.
 - 2.2.1.12 various test line connectors.



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3. FUNCTION TESTS

The function testing of this system will be composed of the following:

3.1 Leak Test-Nose Boom Pressure Head

3.1.1 Test Procedure

- 3.1.1.1 Connect the PITOT line of the MB-I test set to the nose boom pressure head.
- 3.1.1.2 Close the L.H. VENT valve, the CROSS BLEED valve and the SHUNT VALVE, and open the PRESSURE SOURCE valve on the MB-I test set.
- 3.1.1.3 Using the PRESSURE PUMP, apply a pitot pressure until the front cockpit machmeter and A.S.I. reads 300 knots. Lightly tap the instrument to avoid frictional error. Hold the pressure for 1 minute. The decrease in air speed indication over this period should not exceed 10 knots.
- 3.1.1.4 Open the L.H. VENT valve.
- 3.1.1.5 Connect the STATIC line of the MB-I test set to the primary static holes on the nose boom pressure head.
- 3.1.1.6 Close the R.H. VENT valve.
- 3.1.1.7 Using the VACUUM PUMP, apply a vacuum sufficient to produce a reading of 1,000 ft. on the front cockpit altimeter. Lightly tap the instrument to avoid frictional error. Hold the vacuum for 1 minute. The altimeter decrease should not exceed 150 ft. over this period.
- 3.1.1.8 Open the R.H. VENT valve.
- 3.1.1.9 Disconnect the STATIC line of the MB-I test set from the primary static holes on the nose boom pressure head.
- 3.1.1.10 Connect the STATIC line of the MB-I test set to the secondary static holes on the nose boom pressure head.
- 3.1.1.11 Close the R.H. VENT valve.
- 3.1.1.12 Using the rear cockpit altimeter as the indicator, operate the VACUUM PUMP to apply a vacuum sufficient



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to produce a reading of 1,000 ft. Lightly tap the instrument to avoid frictional error. Hold the vacuum for 1 minute. The decrease in altitude should not exceed 150 ft. over this period.

3.1.1.13 Open the R.H. VENT valve.

3.1.1.14 Disconnect the STATIC line of the MB-I test set from the secondary static holes on the nose boom pressure head.

3.1.1.15 Disconnect the PITOT line of the MB-I test set from the nose boom pressure head.

3.2 Leak Test-Fin Upper Pressure Head

3.2.1 Test Procedure

3.2.1.1 Tee an airspeed indicator into the PITOT line of MB-I test set.

3.2.1.2 Connect the PITOT line of the MB-I test set to the fin upper pressure head.

3.2.1.3 Close the L.H. VENT valve.

3.2.1.4 Using the PRESSURE PUMP, apply a pitot pressure until the A.S.I. reads 300 knots. Lightly tap the instrument to avoid frictional error. Hold the pressure for 1 minute. The decrease in air speed indication over this period should not exceed 10 knots.

3.2.1.5 Open the L.H. VENT valve.

3.2.1.6 Connect the STATIC line of the MB-I test set to the static holes on the fin upper pressure head.

3.2.1.7 Close the R.H. VENT valve.

3.2.1.8 Using the VACUUM PUMP, apply a vacuum sufficient to produce a reading of 1,000 ft. on the test set altimeter. Lightly tap the instrument to avoid frictional error. Hold the vacuum for 1 minute. The altimeter decrease should not exceed 150 ft. over this period.

3.2.1.9 Open the R.H. VENT valve.

3.2.1.10 Disconnect the STATIC line of the MB-I test set from the static holes on the fin upper pressure head.



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3.3 Heater Test-Nose Boom Pressure Head

3.3.1 Test Procedure

- 3.3.1.1 Ensure that the circuit breakers FWD. PITOT HEAT and VANE HEAT, on circuit breaker panel E1, are in the closed position.
- 3.3.1.2 Connect the air conditioner and generator AC to the aircraft.
- 3.3.1.3 Select the MASTER ELEC switch to the ON position.
- 3.3.1.4 Check for evidence of heat at the fwd. pitot static heater and the alpha-beta van heaters.
- 3.3.1.5 Because of the high operating temperatures, exercise care when checking for evidence of heat.

3.4 Heater Test - Fin Upper and Lower Pressure Heads

3.4.1 Test Procedure

- 3.4.1.1 Ensure that the circuit breaker PITOT HEAT, on circuit breaker panel E1, is in the closed position.
- 3.4.1.2 Select and hold the PITOT HEATERS test switch on the refuel and test panel E21 to the TEST position, press to test the TOP and BOTTOM PITOT HEATERS test indicators and ensure that the indicators are illuminated.
- 3.4.1.3 Release the TOP and BOTTOM PITOT HEATERS test indicators, and ensure that the indicators are still illuminated.
- 3.4.1.4 Release the PITOT HEATERS test switch to the NORM position, and ensure that the PITOT HEATER test indicators go out.
- 3.4.1.5 Select the MASTER ELEC switch to the OFF position.
- 3.4.1.6 Disconnect the air conditioner and generator AC from the aircraft.

4. CONDENSATION DRAINAGE

- 4.1 Remove the nose boom pressure head water trap drain plugs located at Sta. 120 nose wheel well, between Sta. 228 - 237 lower air



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conditioning access bay and Sta. 485 missile bay, and allow water (if any) to drain off.

4.2 Remove the fin upper pressure head water trap drain plugs, located at the base of the fin in the dorsal fairing, and allow water (if any) to drain off.

4.3 Replace all water trap drain plugs.

4.4 Carry out a leak test as outlined in Paras. 3.1 to 3.2 inclusive.

5. PERIODIC INSPECTIONS

Carry out inspections as outlined in ARROW 1 Maintenance Report 71/MAINT00/2, Preliminary Maintenance Schedule.

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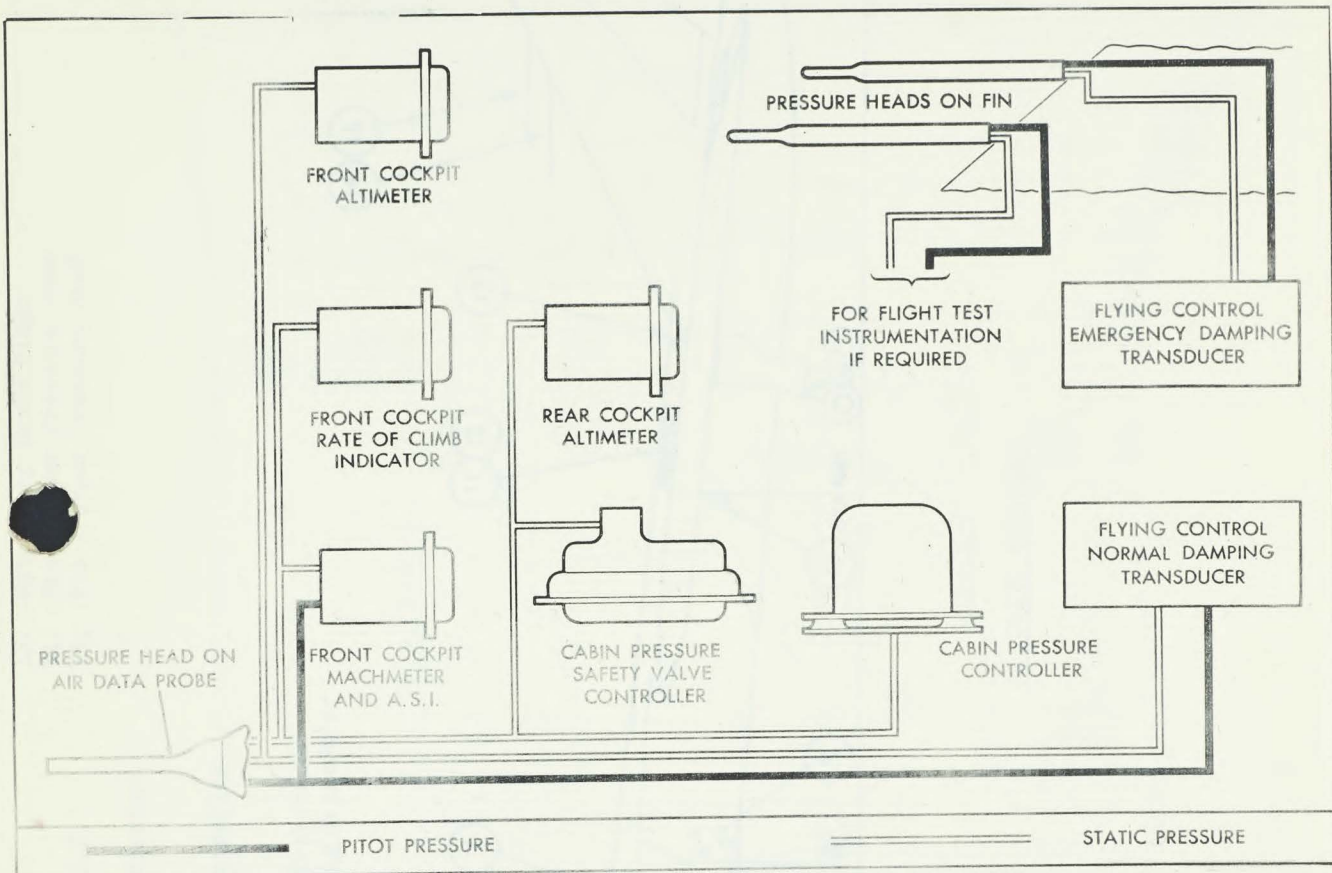


FIGURE 1

PITOT STATIC SYSTEM (SCHEMATIC)

1. Nose Boom Pressure Head
2. Water Trap Drain Plugs
3. Front Cockpit Machmeter and A.S.I.
4. Front Cockpit Altimeter
5. Front Cockpit Rate of Climb Indicator
6. Rear Cockpit Altimeter
7. Cabin Pressure Controller
8. Cabin Pressure Safety Valve Controller
9. Water Trap Drain Plugs
10. Water Trap Drain Plugs
11. Flying Control Normal Damping Transducer
12. Flying Control Emergency Damping Transducer

13. Water Trap Drain Plugs
14. Fin Lower Pressure Head
15. Fin Upper Pressure Head

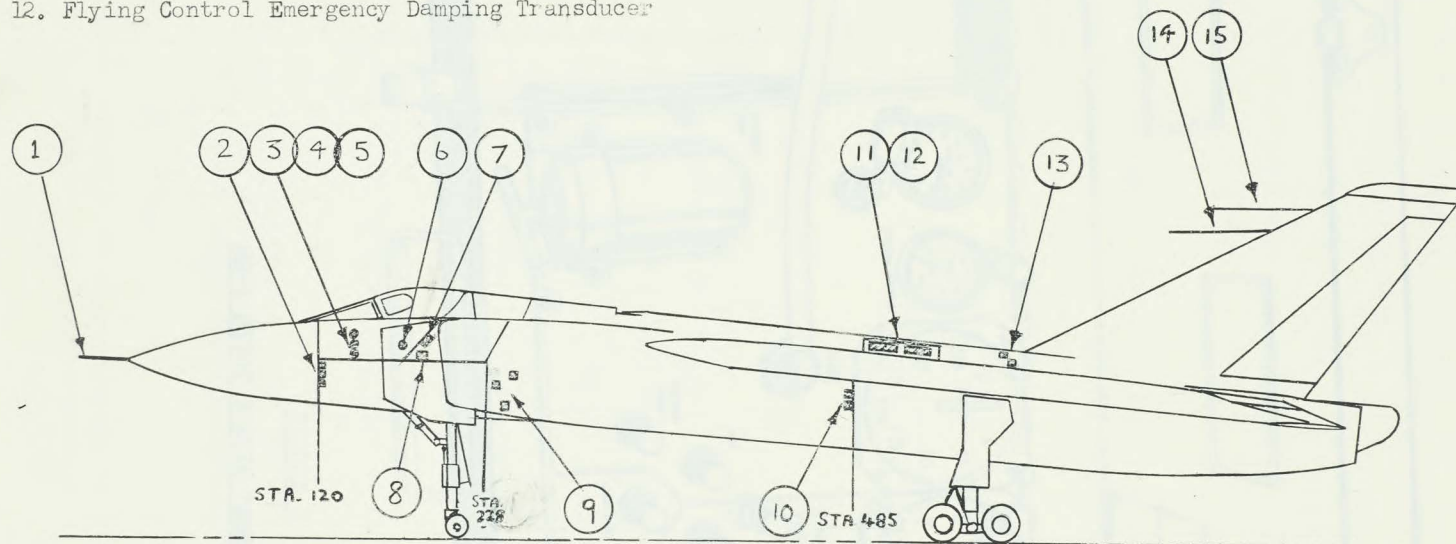


FIGURE 2

COMPONENT LOCATION

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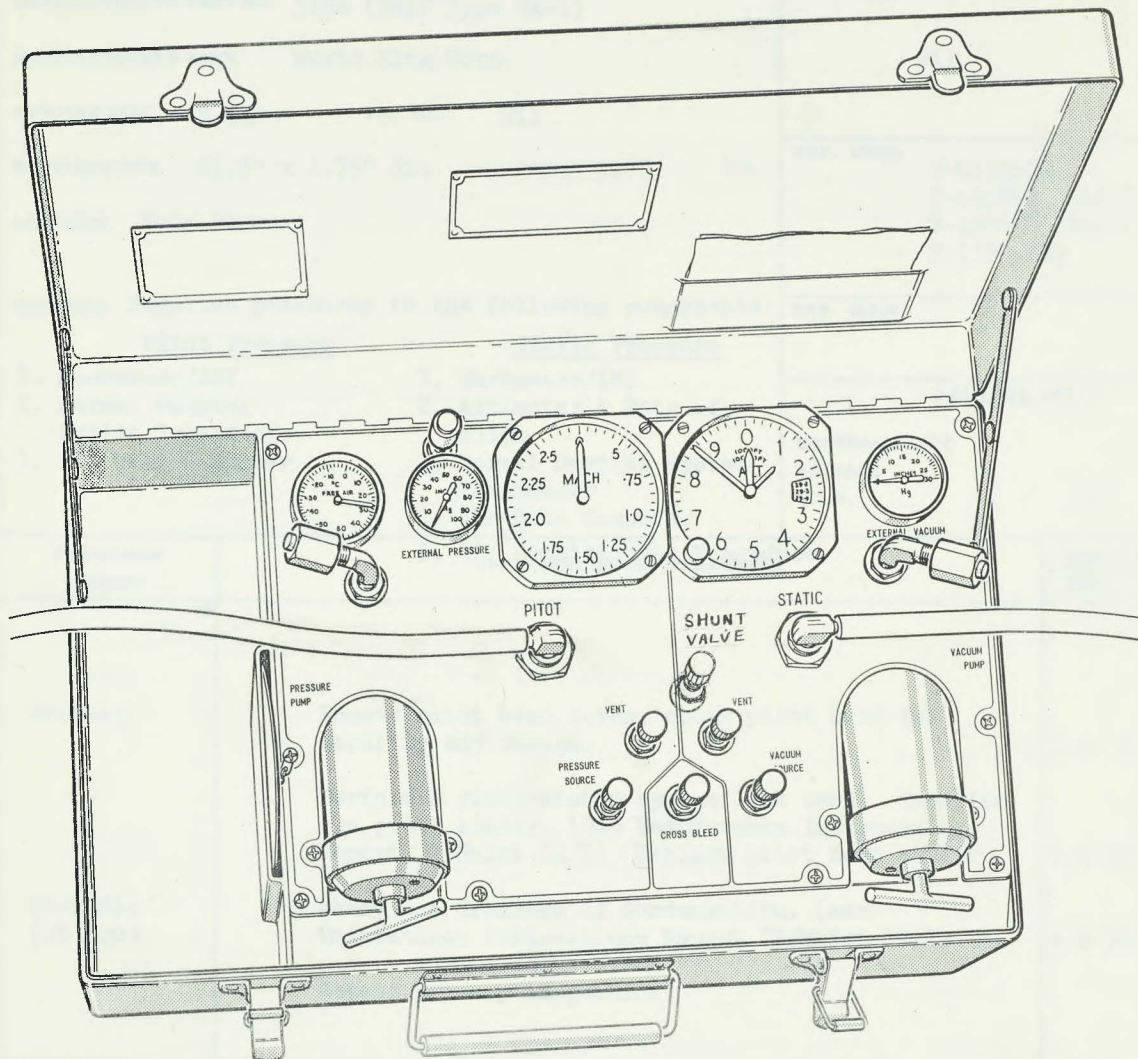


FIGURE 3

MB-1 PITOT STATIC TEST SET

MAINTENANCE DATA RECORD				SYSTEM	REF. NO.
AVRO AIRCRAFT LTD.		Engineering Div.		INSTRUMENTS	12-49
DISTRIBUTION: STANDARD + K. Knowlton		A/C TYPE - Arrow 1 EFF. A/C - 25201		COMPONENT Tube - Pitot Static - Nose Boom	
MANUFACTURER'S PART NO. 3186 (USAF Type MA-1)				AVRO PART NO.	
MANUFACTURER'S NAME Waste King Corp.				Nil	
AVROCAN SPEC. E-541 E.O. NO. Nil					
ENVELOPE SIZE 21.5" x 1.75" dia WEIGHT 1.75 LB.				REF. DWGS.	
LOCATION Nose Boom.				7-0151-34 7-4618-1 Sht 2 7-1300-2 Sht 1 (wiring) 7-1350-149	
FUNCTION Supplies pressures to the following components:				REF. M.D.R.	
<div style="display: flex; justify-content: space-between;"> <div> <u>Pitot Pressure</u> 1. Machmeter/ASI 2. Normal Damping 3. System Transducer 3. Air Data Computer </div> <div> <u>Static Pressure</u> 1. Machmeter/ASI 2. Altimeter & Rate of Climb 3. Normal Damping System Transducer 4. Air Data Computer </div> </div>				RELIABILITY	
				OVERHAUL LIFE HRS. WASTAGE Q.T.R.	
INSPECTION PERIOD		5. Air Conditioning Transducer OPERATION TO BE PERFORMED		MEN x MINUTES	
				EST. ACTUAL	
Primary		Remove pitot head cover, check pitot head for security and damage.		1 x 1	
		Perform a pitot-static system leak test. Function the pitot heater. (See Maintenance Instructions Report 71/Maint 12/1) Replace pitot head covers.		1 x 15	
Periodic (25 hrs)		Carry out drainage of Condensation. (see Maintenance Instructions Report 71/Maint 12/1)		1 x 30	
		Repeat primary inspection.			
ACCESSIBILITY					
Unobstructed. Pitot and static lines and electrical leads accessible through radar access door R-1 (10 latches)					
ISSUE	1	2			
DATE	March 26/57	January 7/58			
COMPILED	Sgt. McEgan	Sgt. McEgan			
CHECKED	D. Collingwood	J. Ferguson			
APPROVED	R.F. Reid	R.F. Reid			

LUBRICATION NIL				
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS
DETAILS:				
GROUND SUPPORT EQUIPMENT				
SPECIAL TOOLS FOR AIRCRAFT USE		SPECIAL TOOLS FOR BENCH USE		
NIL		NIL		
GROUND TESTING EQUIPMENT		GROUND HANDLING EQUIPMENT		
Air Conditioner and Generator AC MBI Pitot Static Tester		Pitot Head Cover Handling Pole 4G/3252 Pitot Head Cover 4G/1596 Maintenance Platform		
INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS		MEN X MINUTES
REPLACEABLE				EST.
1. Open radar access door R-1.				
2. Disconnect 3 electrical connectors on radome plug break.				
3. Disconnect 2 static and 1 pitot line at the radome bulkhead.				
4. Remove 6 screws attaching pitot head to nose boom.				
5. Pull pitot head, lines and leads forward through nose boom.				
Remove and Replace.		1 x 20		

MAINTENANCE DATA RECORD				SYSTEM INSTRUMENTS		REF. NO. 12 - 50	
AVRO AIRCRAFT LTD.		Engineering Div.					
DISTRIBUTION: STANDARD + K. Knowlton		A/C TYPE - Arrow 1 EFF. A/C - 25201		COMPONENT Tube - Upper Pitot Static - Fin			
MANUFACTURER'S PART NO. 3186 (USAF Type MA-1)				AVRO PART NO.			
MANUFACTURER'S NAME Waste King Corp.				NIL			
AVROCAN SPEC. E541 E.O. NO. NIL							
ENVELOPE SIZE 21.5" x 1.75" dia. WEIGHT 1.75 LB.				REF. DWGS.			
LOCATION Leading edge of fin							
FUNCTION Provides pitot and static pressure to the emergency damping system transducer				REF. M.D.R.			
				RELIABILITY			
				OVERHAUL LIFE HRS.			
				WASTAGE			
				Q.T.R.			
INSPECTION PERIOD		OPERATION TO BE PERFORMED		MEN X MINUTES			
				EST.		ACTUAL	
Primary		Check pitot head for security and damage.		1 x 1			
		Perform a pitot-static system leak test.					
		Function the pitot heater (See Maintenance Instructions Report 71/MAINT12/1).		1 x 15			
Periodic (25 hr.)		Carry out drainage of condensation. (See Maintenance Instructions Report 71/MAINT12/1)		1 x 15			
		Repeat Primary Inspection.		1 x 16			
ACCESSIBILITY							
Unobstructed							
ISSUE	1	2					
DATE	26 Mar. '57	16 Jan. '58					
COMPILED	Sgt. McEgan	Sgt. McEgan					
CHECKED	D. Collingwood	D. Collingwood					
APPROVED	R.F. Reid	R.F. Reid					

LUBRICATION NIL				
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS
DETAILS:				
GROUND SUPPORT EQUIPMENT				
SPECIAL TOOLS FOR AIRCRAFT USE		SPECIAL TOOLS FOR BENCH USE		
NIL		NIL		
GROUND TESTING EQUIPMENT		GROUND HANDLING EQUIPMENT		
Air Conditioner and Generator AC MB-I Pitot Static Tester		Pitot Head Cover Handling Pole 4G/3252 Pitot Head Cover 4G/1230 Fin Servicing Stand		
INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS		MEN X MINUTES
REPLACEABLE				EST.
1. Remove 6 mounting screws. 2. Pull pitot head forward. 3. Disconnect 2 pipe connections. 4. Disconnect 1 electrical connector.		Remove and Replace		1 x 15

MAINTENANCE DATA RECORD				SYSTEM INSTRUMENTS		REF. NO. 12-5	
AVRO AIRCRAFT LTD. Engineering Div.							
DISTRIBUTION: STANDARD + K. Knowlton		A/C TYPE - Arrow 1 EFF. A/C - 25201		COMPONENT INDICATOR - MACH/AIRSPED			
MANUFACTURER'S PART NO. ME-4 (RCAF 6A/10186)				AVRO PART NO.			
MANUFACTURER'S NAME Kollsman Ltd.				NIL			
AVROCAN SPEC. NIL E.O. NO.							
ENVELOPE SIZE 6.0" x 3.25" x 3.25" WEIGHT .8 LB.				REF. DWGS. 7-1252-57 sht.2			
LOCATION Pilots' main instrument panel							
FUNCTION Provides the pilot with indication of aircraft speed, Mach number, and maximum allowable airspeed at all altitudes.				REF. M.D.R.			
				RELIABILITY			
				OVERHAUL LIFE HRS.			
				WASTAGE			
				Q.T.R.			
INSPECTION PERIOD		OPERATION TO BE PERFORMED		MEN X MINUTES			
				EST.		ACTUAL	
Primary		Check Indicator for security and condition. Check position of pointer and markers. Carry out a Leak Test (See Maintenance Instruction Report 71/MAINT 12/1)		1x10			
Periodic (25 hour)		Repeat Primary Inspection		1x10			
ACCESSIBILITY							
UNOBSTRUCTED							
ISSUE	1	2					
DATE	10 Jan 57	31 Dec 57					
COMPILED	Sgt. Duhamel	Sgt. McEgan					
CHECKED	O. Collingwood	J. Ferguson					
APPROVED	R.F. Reid	R.F. Reid					

LUBRICATION NIL

APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS

DETAILS:

GROUND SUPPORT EQUIPMENT

SPECIAL TOOLS FOR AIRCRAFT USE	SPECIAL TOOLS FOR BENCH USE
NIL	NIL
GROUND TESTING EQUIPMENT	GROUND HANDLING EQUIPMENT
TESTER - PITOT-STATIC TYPE MB-1	COCKPIT ACCESS STAND 4G/1596 MAINTENANCE PLATFORM

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN X MINUTES	
REPLACEABLE			EST.	ACTUAL
		1. Remove 3 mounting screws 2. Disconnect 2 flexible hoses Remove and replace	1x5	

MAINTENANCE DATA RECORD				SYSTEM INSTRUMENTS		REF. NO. 12-11	
AVRO AIRCRAFT LTD.				Engineering Div.			
DISTRIBUTION: STANDARD + K.R. Knowlton		A/C TYPE - Arrow 1 EFF. A/C - 25201		COMPONENT INDICATOR-RATE OF CLIMB			
MANUFACTURER'S PART NO. AE 342-2-A (RCAF 6A/10170) MANUFACTURER'S NAME Aviation Electric Ltd. AVROCAN SPEC. NIL E.O. NO. ENVELOPE SIZE 5.0" x 3.15" x 3.15" WEIGHT 1.2 LB. LOCATION Pilots' Main Instrument Panel FUNCTION Provides the pilot with an indication of the aircraft's vertical speed				AVRO PART NO. NIL			
				REF. DWGS. 7-1252-57 SHT.2			
				REF. M.D.R.			
				RELIABILITY OVERHAUL LIFE HRS. WASTAGE Q.T.R.			
INSPECTION PERIOD		OPERATION TO BE PERFORMED				MEN X MINUTES	
						EST. ACTUAL	
Primary		Check indicator for security and condition. Check that pointer reads zero. Carry out a Leak Test (See Maintenance Instruction Report 71/MAINT 12/1)				1x10	
Periodic (25 hour)		Repeat Primary Inspection				1x10	
ACCESSIBILITY UNOBSTRUCTED							
ISSUE	1	2					
DATE	18 Jan 57	31 Dec 57					
COMPILED	Sgt. Duhamel	Sgt. McEgan					
CHECKED	D. Collingwood	J. Ferguson					
APPROVED	R.F. Reid	R.F. Reid					

LUBRICATION				
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS
NIL				
DETAILS:				
GROUND SUPPORT EQUIPMENT				
SPECIAL TOOLS FOR AIRCRAFT USE		SPECIAL TOOLS FOR BENCH USE		
NIL		NIL		
GROUND TESTING EQUIPMENT		GROUND HANDLING EQUIPMENT		
TESTER-PITOT STATIC TYPE MB-1		COCKPIT ACCESS STAND 4G/1596 MAINTENANCE PLATFORM		
INTERCHANGEABLE	<input checked="" type="checkbox"/>	REMOVAL INSTRUCTIONS		MEN X MINUTES
REPLACEABLE				EST.
1. Remove 3 mounting screws		Remove and replace		1x5
2. Disconnect 1 flexible hose connection.				

MAINTENANCE DATA RECORD				SYSTEM	REF. NO.
AVRO AIRCRAFT LTD.		Engineering Div.		INSTRUMENTS	12-8
DISTRIBUTION: STANDARD + K. Knowlton		A/C TYPE - Arrow 1 EFF. A/C - 25201		COMPONENT Altimeter - Type MA-1 0-80000 ft.	
MANUFACTURER'S PART NO. D22061-04-004 MANUFACTURER'S NAME Kollsman Ltd. AVROCAN SPEC. NIL E.O. NO. ENVELOPE SIZE 5" x 3.25" dia. WEIGHT 1.31 LB. LOCATION Front and rear main instrument panels FUNCTION Provides both crew members with indication of altitude of the aircraft				AVRO PART NO. NIL	
				REF. DWGS. 7-1252-57 front c/p 7-1252-51 rear c/p	
				REF. M.D.R.	
				RELIABILITY OVERHAUL LIFE HRS. WASTAGE Q.T.R.	
INSPECTION PERIOD	OPERATION TO BE PERFORMED			MEN x MINUTES	
				EST.	ACTUAL
Primary	Check indicator for security and condition. Check altimeter setting. Carry out a leak test. (See Maintenance Instruction Report 71/MAINT 12/1)			1x10	
Periodic (25 hour)	Repeat Primary Inspection			1x10	
ACCESSIBILITY UNOBSTRUCTED IN BOTH COCKPITS					
ISSUE	1	2			
DATE	18 Jan 57	31 Dec. 57			
COMPILED	Sgt. Duhamel	Sgt. McEgan			
CHECKED	D. Collingwood	J. Ferguson			
APPROVED	R.F. Reid	R.F. Reid			

LUBRICATION				
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS
DETAILS:				
GROUND SUPPORT EQUIPMENT				
SPECIAL TOOLS FOR AIRCRAFT USE		SPECIAL TOOLS FOR BENCH USE		
NIL		NIL		
GROUND TESTING EQUIPMENT		GROUND HANDLING EQUIPMENT		
TESTER PITOT STATIC TYPE MB1		COCKPIT ACCESS STAND 4G/1596 MAINTENANCE PLATFORM		
INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS		MEN X MINUTES
REPLACEABLE				EST.
1. Remove 3 mounting screws.				
2. Disconnect 1 flexible hose connection.				
Remove and replace				1x5

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MAINTENANCE DATA RECORD				SYSTEM	REF. NO.
AVRO AIRCRAFT LTD. Engineering Div.				AIR CONDITIONING	22 - 19
DISTRIBUTION: STANDARD + G. Shaw		A/C TYPE - Arrow 1 EFF. A/C - 25201		COMPONENT Controller - Cabin Pressure	
MANUFACTURER'S PART NO. 51170 MANUFACTURER'S NAME Normalair AVROCAN SPEC. E-298 E.O. NO.				AVRO PART NO. 7-2252-24	
ENVELOPE SIZE 4.82" x 5.5" x 5.5" WEIGHT 1.98 LB. LOCATION Aft face of navigator's bulkhead FUNCTION Senses cockpit pressure and static pressure and positions the outflow valve (7-2252-1) so that cockpit pressure is maintained to a given schedule.				REF. DWGS. 7-2250-3 Shts. 1 - 3 7-2252-339	
				REF. M.D.R. 22-5 22-20, 22-33	
				RELIABILITY OVERHAUL LIFE 1000 HRS. WASTAGE Q.T.R. NS 572	
INSPECTION PERIOD		OPERATION TO BE PERFORMED		MEN X MINUTES	
				EST.	ACTUAL
Primary		Carry out a pitot-static system leak test see Maintenance Instructions Report 71/Maint 12/1		1 x 10	
Periodic (25 hrs)		Check for security, damage, corrosion. Carry out a cockpit pressurization check.		2 x 25	
		Repeat primary inspection test.		1 x 10	
ACCESSIBILITY					
Remove access panel on bottom of fuselage aft of navigator's bulkhead by removing 76 - 3/16 screws and disconnect antenna attached to panel.					
Remove and Replace				1 x 40	
ISSUE	1	2	3		
DATE	April 19/56	November 27/58	January 7/58		
COMPILED	D. Collingwood	D. Collingwood	J. Ferguson		
CHECKED	G. Emmerson	Sgt. Foster	Sgt. Foster		
APPROVED		R.F. Reid	R.F. Reid		

LUBRICATION NIL					
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS	
DETAILS:					
GROUND SUPPORT EQUIPMENT					
SPECIAL TOOLS FOR AIRCRAFT USE		SPECIAL TOOLS FOR BENCH USE			
NIL		NIL			
GROUND TESTING EQUIPMENT		GROUND HANDLING EQUIPMENT			
Cockpit Pressurization Unit Stop watch, pressure & Temp. gauges Air Conditioner and Generator AC MB-1 Pitot-Static test set		4G/1596 Maintenance Platform Cockpit Access Stand			
INTERCHANGEABLE	<input checked="" type="checkbox"/>	REMOVAL INSTRUCTIONS		MEN X MINUTES	
REPLACEABLE	<input checked="" type="checkbox"/>			EST.	ACTUAL
1. Disconnect 3 hose lines. 2. Remove 3 - 6/32 mounting screws from controller. 3. Remove controller.					
Remove and Replace				1 x 20	

MAINTENANCE DATA RECORD				SYSTEM	REF. NO.
AVRO AIRCRAFT LTD.		Engineering Div.		AIR CONDITIONING	22-32
DISTRIBUTION: STANDARD + G. Shaw		A/C TYPE - Arrow 1 EFF. A/C - 25201		COMPONENT Controller - Cabin Pressure Safety Valve	
MANUFACTURER'S PART NO. 102220 MANUFACTURER'S NAME AiResearch AVROCAN SPEC. E-572 E.O. NO. ENVELOPE SIZE 3.25" X 5.38" Dia. WEIGHT 1.74 LB. LOCATION Rear Cockpit Floor at Station 185.03 FUNCTION Used in conjunction with the cockpit safety valve (Ref. 7-2252-328) to protect the cockpit from excessive pressure differential				AVRO PART NO. 7-2252-329 REF. DWGS. 7-1852-2 REF. M.D.R. 22-18 RELIABILITY OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R. Pending	
INSPECTION PERIOD	OPERATION TO BE PERFORMED			MEN X MINUTES	
				EST.	ACTUAL
Primary	Check "That Ground Test Handle" is in "Flight" position and locked. (White arrow opposite green block)			1 X 2	
Periodic (25 hours)	Carry out a pitot-static system leak test (See Maintenance Instruction Report 71/MAINT 12/1)			1 X 10	
	Check for security, damage and corrosion. Check operation of controller during cockpit pressurization test			2 X 25	
	Repeat primary inspection pitot-static system leak test			1 X 10	
ACCESSIBILITY Unobstructed					
ISSUE	1	2	3		
DATE	Jan 29/57	September 6/57	January 7/58		
COMPILED	D. Collingwood	Sgt. Foster	J. Ferguson		
CHECKED	Sgt. Foster	D. Cranch	Sgt. Foster		
APPROVED	R.F. Reid	R.F. Reid	R.F. Reid		

LUBRICATION Nil					
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS	
DETAILS:					
GROUND SUPPORT EQUIPMENT					
SPECIAL TOOLS FOR AIRCRAFT USE		SPECIAL TOOLS FOR BENCH USE			
NIL		NIL			
GROUND TESTING EQUIPMENT		GROUND HANDLING EQUIPMENT			
Cockpit Pressurization Rig Air Conditioner and Generator AC MB-1 Pitot-Static Test Set		Cockpit Access Stand 4G/1596 Maintenance Platform			
INTERCHANGEABLE	<input checked="" type="checkbox"/>	REMOVAL INSTRUCTIONS		MEN X MINUTES	
REPLACEABLE				EST.	ACTUAL
1 Disconnect 3 pipe lines 2 Remove 3 holding screws		Remove and replace		1 X 10	

MAINTENANCE DATA RECORD				SYSTEM		REF. NO.	
AVRO AIRCRAFT LTD. Engineering Div.				PITOT - STATIC		11-E21/16	
DISTRIBUTION: STANDARD + S. Brown		A/C TYPE - Arrow 1 EFF. A/C - 25201		COMPONENT Switch - Pitot Heater Test			
MANUFACTURER'S PART NO. MANUFACTURER'S NAME AVROCAN SPEC. E.O. NO.				AVRO PART NO. CS-S-159-6			
ENVELOPE SIZE 1.9375" x .75" x 1.3125 WEIGHT .11 LB.				REF. DWGS. 7-1100-3 Sht. 11 7-1100-2 Sht. 23 7-1156-19			
LOCATION		Mounted on panel E21, located forward of the L.H. speed brake.		REF. M.D.R. 11-E21			
FUNCTION		When in the NORM position provides a supply to the fin top and bottom pitot heaters. When selected to the TEST position provides a supply to the fin top and bottom pitot heater test indicators.		RELIABILITY OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R.			
INSPECTION PERIOD		OPERATION TO BE PERFORMED				MEN X MINUTES	
						EST. ACTUAL	
Primary		Check for security. Function test (Ref. Maintenance Instructions Report 71/MAINT12/1).				1 x 2	
Periodic (25 hr.)		Check for security and condition. Function Test (Ref. Maintenance Instructions Report 71/MAINT12/1).				1 x 5	
ACCESSIBILITY							
With panel E21 removed.							
ISSUE	1						
DATE	Jan. 16/58						
COMPILED	J. Ferguson						
CHECKED	K.P. Lowe						
APPROVED	R.F. Reid						

LUBRICATION					NIL
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS	
DETAILS:					
GROUND SUPPORT EQUIPMENT					
SPECIAL TOOLS FOR AIRCRAFT USE			SPECIAL TOOLS FOR BENCH USE		
NIL			NIL		
GROUND TESTING EQUIPMENT			GROUND HANDLING EQUIPMENT		
Air Conditioner and Generator AC			Cockpit Access Stand		
INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS		MEN X MINUTES	
REPLACEABLE				EST.	ACTUAL
1. Disconnect 6 electrical connections. 2. Remove locking nut and locking washer. Remove and Replace				1 x 5	

ACTUAL

MAINTENANCE DATA RECORD				SYSTEM	REF. NO.
AVRO AIRCRAFT LTD.		Engineering Div.		PITOT - STATIC	11-E21/17-18
DISTRIBUTION: STANDARD + S. Brown		A/C TYPE - Arrow 1 EFF. A/C - 25201		COMPONENT Indicators - Pitot Heater Test	
MANUFACTURER'S PART NO.				AVRO PART NO.	
MANUFACTURER'S NAME				CS-1-107-1	
AVROCAN SPEC.		E.O. NO.		REF. DWGS.	
ENVELOPE SIZE 1.750" x .650 dia.		WEIGHT LB.		7-1100-3 Sht. 11 7-1100-2 Sht. 23 7-1156-19	
LOCATION Mounted on panel E21, located forward of the L.H. speed brake.		FUNCTION To provide an indication for test purposes of continuity of the fin top and bottom pitot heating circuits.		REF. M.D.R. 11-E21	
				RELIABILITY	
				OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R.	
INSPECTION PERIOD		OPERATION TO BE PERFORMED		MEN X MINUTES	
				EST.	ACTUAL
Primary	Check for security. Function test (Ref. Maintenance Instructions Report 71/MAINT12/1).			1 x 2	
Periodic (25 hr.)	Check for security and condition. Function test (Ref. Maintenance Instructions Report 71/MAINT12/1).			1 x 5	
ACCESSIBILITY					
With panel E21 removed.					
ISSUE	1				
DATE	Jan. 16/58				
COMPILED	J. Ferguson				
CHECKED	K.P. Lowe				
APPROVED	R.F. Reid				

LUBRICATION				
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS
NIL				
DETAILS:				
GROUND SUPPORT EQUIPMENT				
SPECIAL TOOLS FOR AIRCRAFT USE		SPECIAL TOOLS FOR BENCH USE		
NIL		NIL		
GROUND TESTING EQUIPMENT		GROUND HANDLING EQUIPMENT		
Air Conditioner and Generator AC		Cockpit Access Stand		
INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS		MEN X MINUTES
REPLACEABLE				EST.
1. Disconnect electrical connections. 2. Remove locking nut and locking washer. Remove and Replace		1 x 10		

ACTUAL

MAINTENANCE DATA RECORD				SYSTEM		REF. NO.	
AVRO AIRCRAFT LTD. Engineering Div.				PITOT - STATIC		11-E21/20-21	
DISTRIBUTION: STANDARD + S. Brown		A/C TYPE - Arrow 1 EFF. A/C - 25201		COMPONENT Resistors - Pitot Heater Test Indicators			
MANUFACTURER'S PART NO. RW20V222 MANUFACTURER'S NAME International Resistance Co. Ltd. AVROCAN SPEC. E.O. NO. ENVELOPE SIZE 2.5" x 1.5" x .5 WEIGHT LB. LOCATION Mounted on panel E21, located forward of the L.H. speed brake FUNCTION To provide a voltage drop from 115v to 28v when the pitot heater test switch is selected to the test position				AVRO PART NO. REF. DWGS. 7-1100-3 Sht. 11 7-1100-2 Sht. 23 REF. M.D.R. 11-E21 RELIABILITY OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R.			
INSPECTION PERIOD		OPERATION TO BE PERFORMED			MEN X MINUTES		
					EST.		ACTUAL
Primary		Function Test (Ref. Maintenance Instructions Report 71/Maint12/1).			1 x 2		
Periodic (25 hr.)		Check for security and condition. Function test (Ref. Maintenance Instructions Report 71/MAINT12/1).			1 x 5		
ACCESSIBILITY							
With panel E21 removed.							
ISSUE	1						
DATE	Jan. 16/58						
COMPILED	J. Ferguson						
CHECKED	K.P. Lowe						
APPROVED	R.F. Reid						

LUBRICATION					NIL	
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS		
DETAILS:						
GROUND SUPPORT EQUIPMENT						
SPECIAL TOOLS FOR AIRCRAFT USE			SPECIAL TOOLS FOR BENCH USE			
NIL			NIL			
GROUND TESTING EQUIPMENT			GROUND HANDLING EQUIPMENT			
Air Conditioner and Generator AC			Cockpit Access Stand			
INTERCHANGEABLE	<input checked="" type="checkbox"/>	REMOVAL INSTRUCTIONS			MEN X MINUTES	
REPLACEABLE	<input type="checkbox"/>				EST.	ACTUAL
1. Disconnect electrical connections. 2. Remove 2 mounting screws. Remove and Replace					1 x 10	