CONFIDENTIAL

ARROW 1

MAINTENANCE INSTRUCTIONS

INSTRUMENTS - PITOT STATIC SYSTEM

Report NO. 71/MAINT 12/1

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ENGINEERING DIVISION

AVRO AIRCRAFT LIMITED, MALTON, ONTARIO

AVRO AIRCRAFT

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ILLUSTRATIONS

FIGURE 1	Pitot Static System (Schematic)
FIGURE 2	Component Location
FIGURE 3	MB-I Pitot Static Test Set

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

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.

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 computor.

2.2.1.10 1 pitot test line.

2.2.1.11 1 static test line.

2.2.1.12 various test line connectors.

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

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.

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

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.

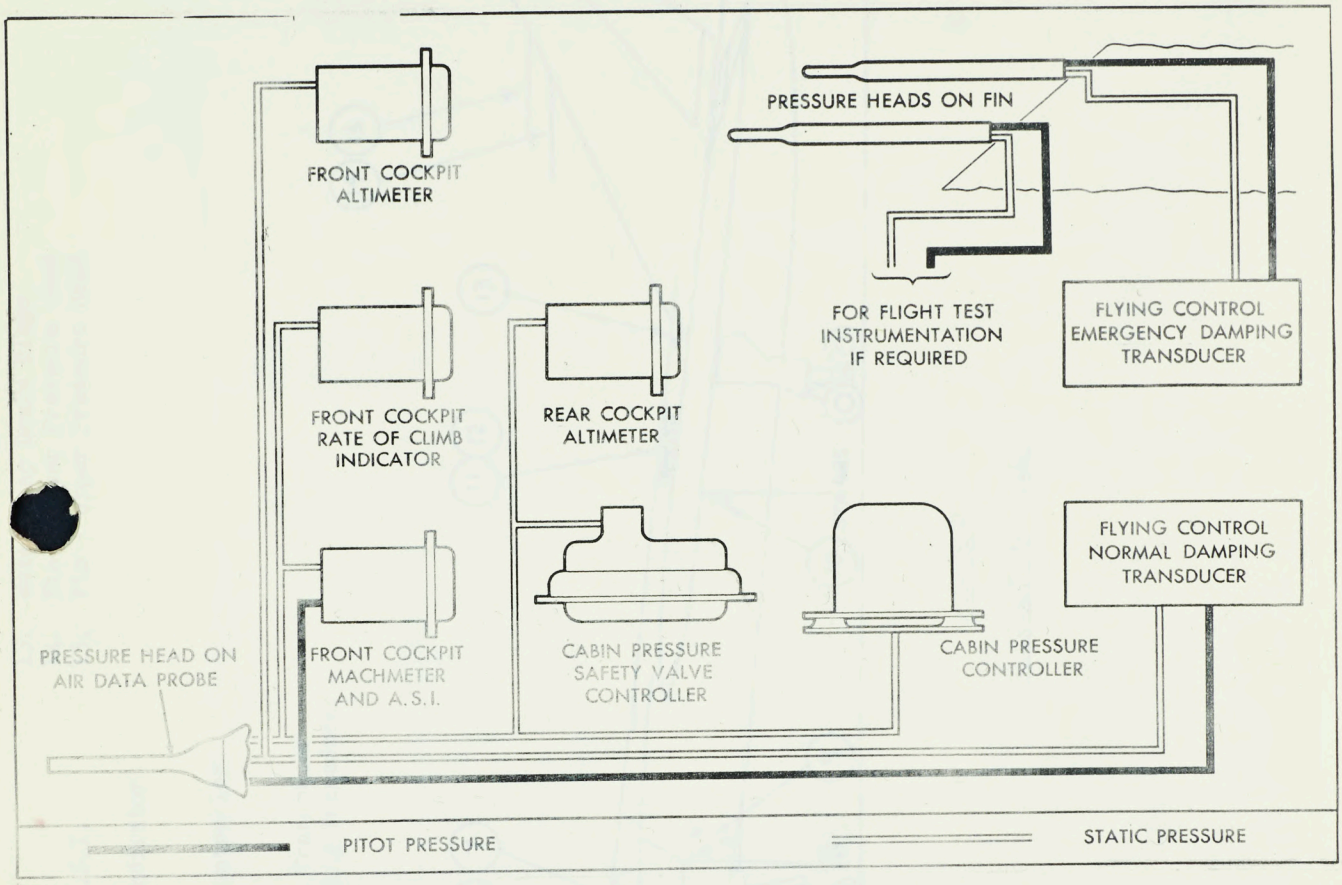

FIGURE 1

PITOT STATIC SYSTEM (SCHEMATIC)

1. Nose Boom Pressure Head
2. Water Trap [illegible] 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

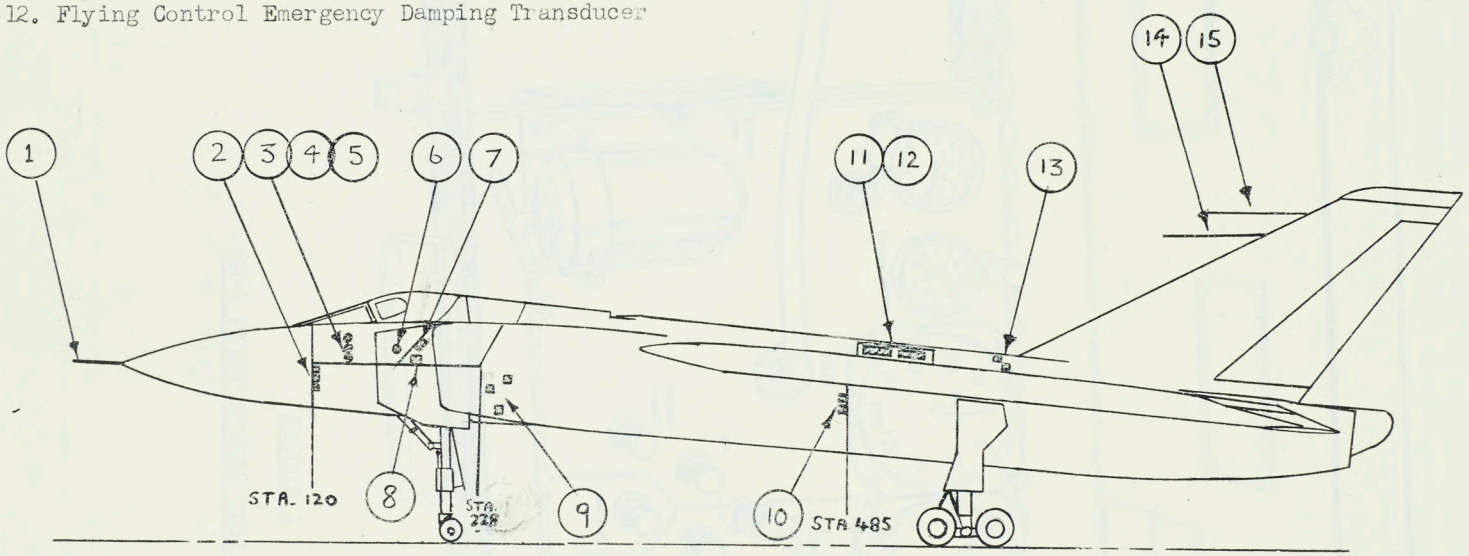

FIGURE 2

COMPONENT LOCATION

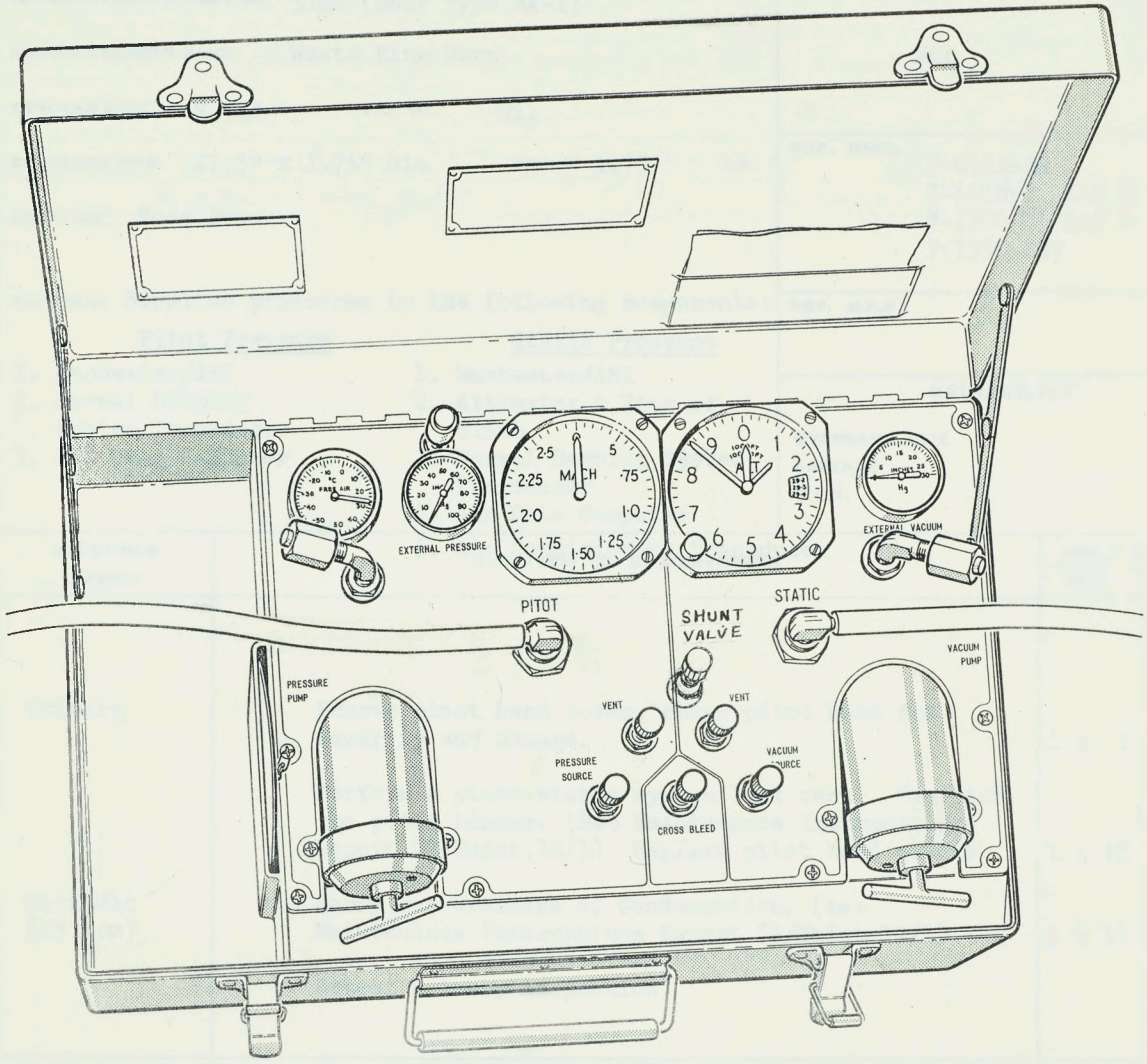

FIGURE 3

MB-1 PITOT STATIC TEST SET

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM	REF. NO.
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)

MANUFACTURER'S NAME Waste King Corp.

AVROCAN SPEC. E-541 E.O. NO. Nil

ENVELOPE SIZE 21.5" x 1.75" dia WEIGHT 1.75 LB.

LOCATION Nose Boom.

AVRO PART NO.

Nil

REF. DWGS.

7-0151-34
7-4618-1 Sht 2
7-1300-2 Sht 1 (wiring
7-1350-149

FUNCTION Supplies pressures to the following components:

Pitot Pressure	Static Pressure
1. Machmeter/ASI	1. Machmeter/ASI
2. Normal Damping System Transducer	2. Altimeter & Rate of Climb
3. Air Data Computer	3. Normal Damping System Transducer
	4. Air Data Computer
	5. Air Conditioning Transducer

REF. M.D.R.

RELIABILITY

OVERHAUL LIFE HRS.
WASTAGE
Q.T.R.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN X MINUTES EST.	MEN X MINUTES 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 × MINUTES	
REPLACEABLE			EST.	ACTUAL

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

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: INSTRUMENTS	REF. NO.: 12 - 50		
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)

MANUFACTURER'S NAME Waste King Corp.

AVROCAN SPEC. E541 E.O. NO. NIL

ENVELOPE SIZE 21.5" x 1.75" dia. WEIGHT 1.75 LB.

LOCATION Leading edge of fin

FUNCTION Provides pitot and static pressure to the emergency damping system transducer

AVRO PART NO. NIL

REF. DWGS.

REF. M.D.R.

RELIABILITY

OVERHAUL LIFE HRS.

WASTAGE

Q.T.R.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES 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 × MINUTES	
REPLACEABLE			EST.	ACTUAL

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

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: INSTRUMENTS | REF. NO.: 12-5

DISTRIBUTION: STANDARD +

K. Knowlton

A/C TYPE – Arrow 1

EFF. A/C – 25201

COMPONENT

INDICATOR – MACH/AIRSPEED

MANUFACTURER'S PART NO. ME-4 (RCAF 6A/10186)

MANUFACTURER'S NAME Kollsman Ltd.

AVROCAN SPEC. NIL E.O. NO.

ENVELOPE SIZE 6.0" x 3.25" x 3.25" WEIGHT .8 LB.

LOCATION Pilots' main instrument panel

FUNCTION Provides the pilot with indication of aircraft speed, Mach number, and maximum allowable airspeed at all altitudes.

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 × MINUTES EST.	MEN × MINUTES 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 × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1. Remove 3 mounting screws		
		2. Disconnect 2 flexible hoses		
		Remove and replace	1x5	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: INSTRUMENTS	REF. NO.: 12-11		
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)			AVRO PART NO.: NIL
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.		REF. DWGS.: 7-1252-57 SHT.2
LOCATION Pilots' Main Instrument Panel			
FUNCTION Provides the pilot with an indication of the aircrafts' vertical speed			REF. M.D.R.
			RELIABILITY OVERHAUL LIFE HRS. WASTAGE Q.T.R.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES 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 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 × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1. Remove 3 mounting screws		
		2. Disconnect 1 flexible hose connection.		
		Remove and replace	1x5	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: INSTRUMENTS	REF. NO.: 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 × MINUTES EST.	MEN × MINUTES 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 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 MB1	COCKPIT ACCESS STAND 4G/1596 MAINTENANCE PLATFORM

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

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM	REF. NO.
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.

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.

AVRO PART NO.

7-2252-24

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 × MINUTES EST.	MEN × MINUTES 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	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			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

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM	REF. NO.
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 × MINUTES EST.	MEN × MINUTES ACTUAL
Primary	Check "That Ground Test Handle" is in "Flight" position and locked. (White arrow opposite green block)	1 X 2	
	Carry out a pitot-static system leak test (See Maintenance Instruction Report 71/MAINT 12/1)	1 X 10	
Periodic (25 hours)	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	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1 Disconnect 3 pipe lines 2 Remove 3 holding screws		
		Remove and replace	1 X 10	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: PITOT - STATIC	REF. NO.: 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.			AVRO PART NO.: CS-S-159-6
MANUFACTURER'S NAME			
AVROCAN SPEC.	E.O. NO.		
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 × MINUTES EST.	MEN × MINUTES 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 × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1. Disconnect 6 electrical connections. 2. Remove locking nut and locking washer. Remove and Replace	1 x 5	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM	REF. NO.
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.

MANUFACTURER'S NAME

AVROCAN SPEC. E.O. NO.

AVRO PART NO.

CS-1-107-1

ENVELOPE SIZE 1.750" x .650 dia. WEIGHT 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.

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 × MINUTES EST.	MEN × MINUTES 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 × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1. Disconnect electrical connections. 2. Remove locking nut and locking washer.		
		Remove and Replace	1 x 10	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: PITOT - STATIC	REF. NO.: 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			AVRO PART NO.
MANUFACTURER'S NAME International Resistance Co. Ltd.			
AVROCAN SPEC.	E.O. NO.		
ENVELOPE SIZE 2.5" x 1.5" x .5	WEIGHT	LB.	REF. DWGS. 7-1100-3 Sht. 11; 7-1100-2 Sht. 23
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			REF. M.D.R. 11-E21
			RELIABILITY
			OVERHAUL LIFE 1500 HRS.
			WASTAGE
			Q.T.R.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES 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	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1. Disconnect electrical connections. 2. Remove 2 mounting screws. Remove and Replace	1 x 10	