16965 8/11 Maint 17

AVRO AIRCRAFT

SECURITY CLASSIFICATION - CONFIDENTIAL

Classification cancelled / Changed to UNCLASS

By authority of AVRS

Date 30 Sept 86

Signature

Unit / Rank / Appointment AVRS

ARROW 1

MAINTENANCE INSTRUCTIONS

ELECTRICS - ENGINE INTAKE DUCT DE-ICING

71/MAINT 11/8

2 Dec. 57

Prepared: For Maintenance and Reliability Section

Approved: For Technical Design Department

Approved: For Equipment Design Department

Authorized: Project Designer

ENGINEERING DIVISION, AVRO AIRCRAFT LIMITED, MALTON, ONTARIO

FORM 1749 A

15799503

TABLE OF CONTENTS

1. DESCRIPTION

1.1 General

1.1.1 A de-icing system is fitted to prevent ice building up on the engine air intake ducts and ramps and on the engine guide vanes. The ducts and ramps are de-iced by electro-thermal boots and the engine guide vanes by hot air from the engine compressor.

1.1.2 A pressure-operated, electrically-controlled ice detection and control system governs the electric power supply to the de-icing boots and the hot air shut-off valve.

1.2 Ice Detection

1.2.1 An ice detection circuit is provided for each engine air intake duct. Included in each circuit is a detector probe and a reference probe, both being mounted on a bracket positioned approximately 12 inches inside the duct. Each probe incorporates a heating element and has a number of holes in its forward and aft faces. The reference probe is continuously heated (thermostatically controlled) from the main DC bus and the detector probe is heated intermittently during icing conditions.

1.2.2 The detector and reference probes are connected to opposite sides of a pressure switch. During ice-free conditions, the airflow through the holes of both probes creates an equal pressure on each side of the pressure switch, which keeps the switch contacts open.

1.2.3 When icing conditions are encountered, formation of ice on the forward holes of the detector probe decreases the pressure on the detector probe side of the pressure switch and the switch contacts close. This action relays 27.5 v DC supply to the heating element in the detector probe and to the de-icing cycling time controller which initiates the operation of the de-icing circuits. The supply circuit to the de-icing cycling time controller is inter-connected with the master warning system. This effects the illumination of the ICE indicator light on the master warning panel and the amber MASTER WARNING indicator light located on the main instrument panel.

1.2.4 When the heating element melts the ice on the detector probe, the pressure switch contacts open and interrupt the supply to the heating element and cycling time controller. The pulse from the RH ice detection circuit to the cycling time controller is routed via the normally closed contacts of a RH ice detector relay.

1.2.5 The pulse from the LH ice detection circuit energizes the LH ice detector relay which has two pairs of normally open contacts. When this relay is energized, one pair of contacts completes the pulse circuit to the cycling time controller. The other pair energizes the RH ice detector relay which prevents pulses from the RH detector being fed to the controller. The controller feeds back a holding supply for this relay so that once it starts operating, the LH detector becomes the master detector.

1.3 Engine Air Intake Ramps and Ducts De-Icing

1.3.1 Two circuits are provided, one for the LH and one for the RH engine air intake duct. These circuits are electrically identical and independent, except for the cycling time controller, which is common to both circuits. The following description, therefore, applies equally to each circuit.

1.3.2 The de-icing boots are manufactured from synthetic rubber and embody electrically heated elements. When the system is operative, some of the elements are intermittently heated and the others are continuously heated. Those which are intermittently heated are arranged in groups, each group constituting a shedding area. The continuously heated elements are arranged to form a system of parting strips which circumscribe the shedding areas and separate them each from the other. The parting strips range in width between one-eight inch and one-half inch. The number of shedding areas and parting strips contained in a particular boot depends upon the dimensions of that boot.

1.3.3 During icing conditions, the parting strips, being continuously heated, prevent the formation of large ice masses. The intermittent operation of the shedding areas melts the undersurface of any ice that forms between parting strips and permits it to be swept off by the airflow.

1.3.4 Seven de-icing boots, with a total of twelve shedding areas and sixteen parting strips, are fitted over an area extending from the leading edge of the ramp to approximately 12 inches inside the air intake duct.

1.3.5 With the exception of boot #1 and shedding area #7 of boot #3, all of the twelve shedding areas are equipped with electro-thermal switches of sensors, each switch being attached to the underside of its shedding area. Two parting strips are also fitted with electro-thermal switches.

1.3.6 The shedding area sensors are connected in series and are in circuit with the supply line to the coil of a control relay in the load distributor. The two strip sensors are likewise connected and they are in circuit with the supply line to the coil of a parting strip power supply relay. The temperature of shedding area or parting strip temperature sensors are designed to open at 75° ± 5°F and close at 60° ± 5°F.

1.3.7 The configuration of each boot is as follows:

Boot #1; ramp leading edge,	1 shedding area 1 parting strip
Boot #2; ramp	4 shedding area 4 shedding area sensors 6 parting strips 2 parting strip sensors
Boot #3; engine air intake duct,	2 shedding areas 4 parting strips 1 shedding area sensor
Boot #4; engine air intake duct,	1 shedding area 1 shedding area sensor 2 parting strip
Boot #5; engine air intake duct,	1 shedding area 1 shedding area sensor 2 parting strips
Boot #6; engine air intake duct,	2 shedding areas 2 shedding area sensors 2 parting strips
Boot #7; ramp, boundary layer bleed area	1 shedding area 1 shedding area sensor

1.3.8 The shedding areas are designed to impose a load demand of 3840 va from the power source of 115 volts AC. To attain this figure, the shedding area of boot #1 is connected in parallel with one shedding area of boot #2. Likewise one shedding area of boot #3 operates in parallel with one shedding area of boot #6. The ten supply circuits for the shedding areas are connected via a terminal strip to a load distributor, the operation of which is controlled by the cycling time controller.

1.3.9 When the first pulse from the ice detection circuit is received by the controller, a supply circuit is completed via the parting strip sensors to the parting strip power supply relay. This relay, when energized, completes supply circuits from theA, B and C phases of the relevant LH

1.3.9 (continued)

or RH main AC bus bars. The parting strip power demand is shared equally by the three phases.

1.3.10 When a pre-selected number of detection circuit pulses have been received by the controller, an enabling pulse circuit is completed to the load distributor. The pulses required by the controller before it supplies the enabling pulse can be adjusted to any number from 4 to 12.

1.3.11 A stepping contactor, incorporated in the load distributor, is set in motion by the enabling pulse. The stepping contactor provides a sequence of twelve 3-phase, 115 volt AC pulses of a pre-set duration, the supplies being derived from the relevant LH or RH main AC bus bars. Ten of the twelve pulses are used, one to each shedding area, commencing with the ramp leading edge. The duration of the pulses can be adjusted as required between 4 and 12 seconds.

1.3.12 If insufficient detection circuit pulses are received by the controller to start an initial or subsequent cycle, it automatically initiates a clearing cycle of the shedding areas after a pre-selected waiting period. Upon completing this cycle, the system reverts to the off condition. The duration of the waiting period can be adjusted as required between 40 and 160 seconds.

1.4 Engine Guide Vanes De-Icing

1.4.1 Individual, electrically-identical circuits are provided for the LH and RH engine guide vanes de-icing. The following description is applicable to each circuit.

1.4.2 The operation of the engine guide vanes de-icing circuit is initiated by the cycling time controller when the first pulse is received from the ice detection circuit. The controller provides a power supply to energize a guide vanes de-icing control relay. This relay, when energized, transfers a supply circuit from the close field to the open field of a shut-off valve. This action permits hot air, bled from the engine compressor, to be directed onto the guide vanes. The shut-off valve supply is derived from the emergency DC bus.

1.4.3 A characteristic of the shut-off valve is that, once actuated, it must complete its travel before it can reverse direction. To ensure that the valve will open fully, an electro-mechanical locking circuit operates in conjunction with the control relay. This circuit mechanically locks the control relay in the energized position. The lock is released by a latch-release coil energized by a supply circuit which is completed when the shut-off valve is fully open.

1.4.3 (continued)

However, the relay will remain in the energized position as long as the de-icing control signal is applied to the main coil.

2. GROUND EQUIPMENT

2.1 Air Conditioner and Generator AC

2.2 Duct De-Icing Test Unit

2.3 Tester, Volt-Ohm-Milliameter, RCAF Ref. 5G/444.

2.4 Tester, Detector Circuit, RCAF Ref. 5G/10005.

3. PREPARATION FOR TEST

3.1 This functional test is to ensure that the electrical components of the engine de-icing system are functioning correctly. Refer to Avro drawing 7-1100-3 sht. 14 and 7-1100-3 sht. 4.

3.2 Connect the air conditioner and generator AC to the aircraft.

3.3 Ensure that the current limiters, DUCT DE-ICE, L and R ICE DETECT., and DE-ICE CYCLING, located on panel E-20, are serviceable.

3.4 Ensure that the current limiters DISTRIBUTION and PART STRIP L and R, located on panel E20, are serviceable.

CAUTION

With the MASTER ELECTRICS switch selected to the ON position, the reference probe of the duct ice detection is heated (thermostatically protected).

4. FUNCTION TESTS

4.1 Air Intake Ramps and Duct De-Icing (Left and Right)

To simulate an icing condition and acuate the left duct de-icing system, proceed as follows:

4.1.1 Connect the duct de-icing test panel, between the distributor and the terminal strip E35, located in the top of the intake duct.

4.1.2 Remove the wire H75A14, H77A14 and H79A14 from the terminal strip E35/2, terminals 14, 11 and 9 and then connect these three wires to the parting strip wires on the test panel.

4.1.3 Attach the test panel ground lead to an aircraft grounding stud.

4.1.4 Select the MASTER ELECT switch to the ON position.

4.1.5 To simulate an icing condition, attach the tester-detector circuit, RCAF Ref. 5G/10005, to the detector probe.

4.1.5 (continued)

Refer to operating instructions for the ice detector which are mounted in the lid of the tester.

4.1.6 On the first icing signal from the ice detector, the controller should energize the parting strips and commence a count of icing signals.

4.1.7 The parting strip lights located on the test panel should be illuminated. The ICE and amber MASTER WARNING lights should illuminate.

4.1.8 Repeat the simulated icing condition of Para. 4.1.5. When the pre-set number of signals have been received by the controller, a shedding cycle should commence.

4.1.9 Observe the sequence in which the shedding area test lights illuminate on the test panel. (See Figure 1).

4.1.10 On completion of the last shedding cycle, the duct de-icing system should shut off.

4.1.11 Select the MASTER ELECT switch to the OFF position.

4.1.12 Disconnect and remove the test panel and re-connect the connector to the left load distributor.

4.1.13 To function test the right duct de-icing, repeat Paras. 4.1.1, to 4.1.12 substituting Right' for Left . In Para 4.1.2 read wires H 139A14, H141A14 and J143A14 from terminal strip E36/2 terminals 14, 11 and 9.

4.2 Resistance Check-Duct Parting Strips (Left and Right)

4.2.1 To ensure that the parting strips are functioning correctly, the resistances will have to be checked.

4.2.2 For testing the left parting strips, remove the following wires from the terminal strip E35/2:

Terminal 9, 1 lead Boot 2 Parting Strips (6L+16L, 5L, 2L, 4L, 3L)

Terminal 11	Boot 5 Parting Strip 14L Boot 6 Parting Strip 15L
Terminal 12	Boot 3 Parting Strip 9L Boot 4 Parting Strip 13L
Termina 14	Boot 1 Parting Strip 1L Boot 6 Parting Strip 7L Boot 4 Parting Strip 11L

4.2.2 (continued)

Terminal 15 — Boot 5 Parting Strip 10L
1 Lead — Boot 3 Parting Strips (8L,12L,17L)

4.2.3 Terminal 9, 1 lead boot 2 Parting Strips (6R+16R), 5R,2R, 4R,3R)

Terminal 11 — Boot 5 Parting Strip 14R
Boot 6 Parting Strip 15R

Terminal 12 — Boot 3 Parting Strip 9R
Boot 4 Parting Strip 13R

Terminal 14 — Boot 1 Parting Strip 1R
Boot 6 Parting Strip 7R
Boot 4 Parting Strip 11R

Terminal 15 — Boot 5 Parting Strip 10R
1 Lead — Boot 3 Parting Strips (8R,12R,17R)

4.2.4 Using a tester Volt-Ohm-Milliameter RCAF Ref. 56/444, ensure that the resistance of each parting strip is correct.

4.2.5 The following table shows the resistance of the various parting strips.

BOOT		PARTING STRIP	RESISTANCE	RES. OF LEADS	TOTAL RES.
1		1	27.54 ohms	.025 ohms	27.56 ohms
2	✱	2,3,4,5,16,6	10.42 ohms	.025 ohms	10.44 ohms
3		12, 8, 17	48.97 ohms	.025 ohms	49.00 ohms
3		9	56.57 ohms	.025 ohms	56.6 ohms
4		11	131.97 ohms	.025 ohms	132.0 ohms
4		13	4.37 ohms	.025 ohms	4.4 ohms
5		10	131.97 ohms	.025 ohms	132.0 ohms
5		14	4.37 ohms	.025 ohms	4.4 ohms
6		7	107.38 ohms	.025 ohms	107.4 ohms
6		15	50.68 ohms	.025 ohms	50.7 ohms

NOTE

✱ Parting strips 2,3,4,5 and (16 + 6) make up #2 Boot parting strips. 16 and 6 are in series with each other and in parallel with 2,3,4, and 5.

Resistance of #14 Gauge Lead Wire = .00299 ohms per foot
Resistance of # 8 Gauge Lead Wire = .00070 ohms per foot
Resistance of #16 Gauge Lead Wire = .00476 ohms per foot

4.2.6 Re-connect the wires removed in Paras. 4.2.2.and 4.2.3 to the terminal strips.

4.3 Engine Guide Vanes De-Icing (Left and Right)

4.3.1 The engine guide vanes de-icing control valves should be actuated when an icing condition is sensed by either duct ice detectors.

4.3.2 Ensure that the current limiters ENG. ANTI-ICE L and R, located on panel E20, are serviceable.

4.3.3 On an icing condition as simulated in Para 4.1.5, the anti-icing control valves should be actuated to the open position.

4.3.4 After a pre-determined time, the ice cycling controller should complete a cycle and then shut off.

4.3.5 The de-icing control valve should be de-actuated and move to the closed position.

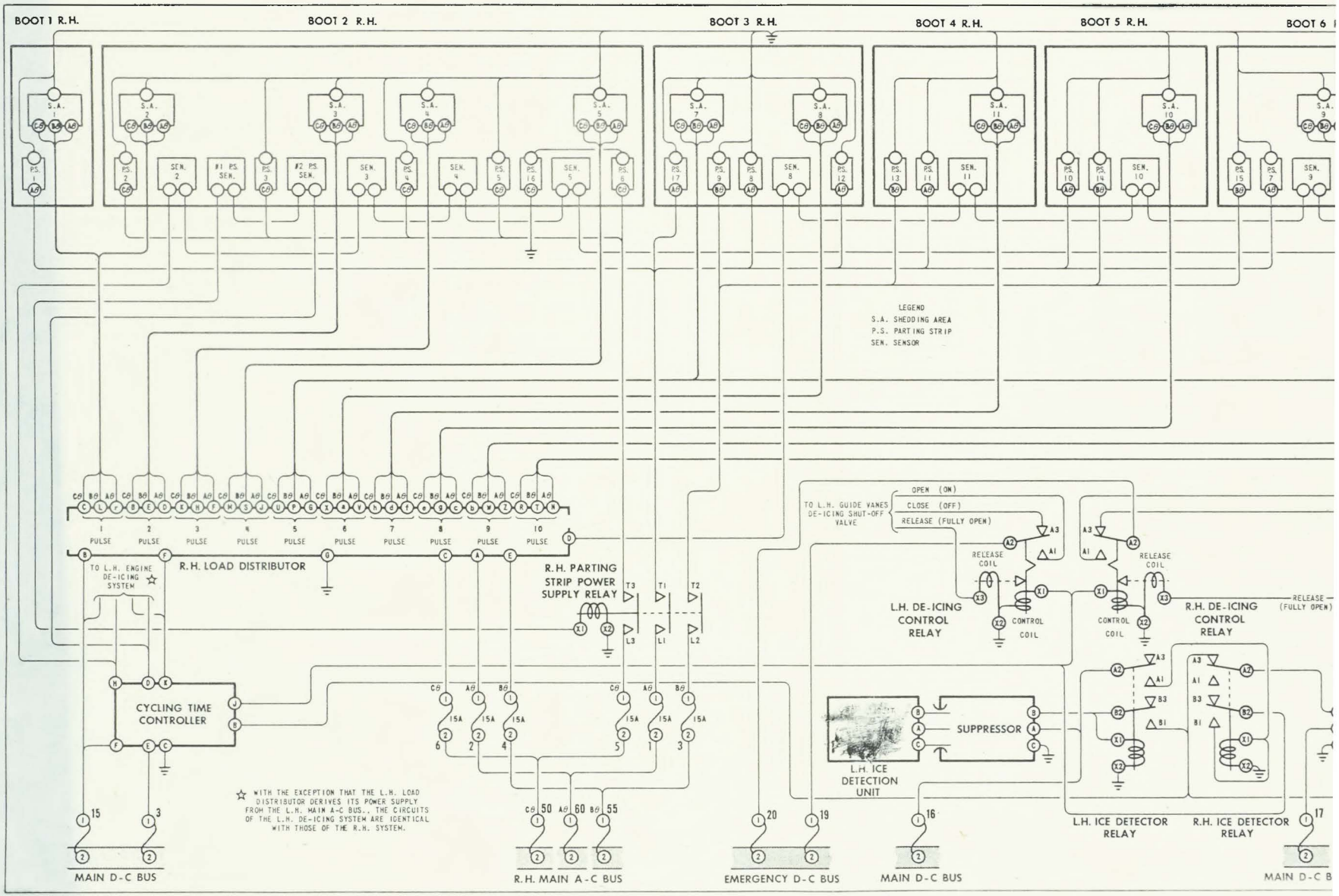
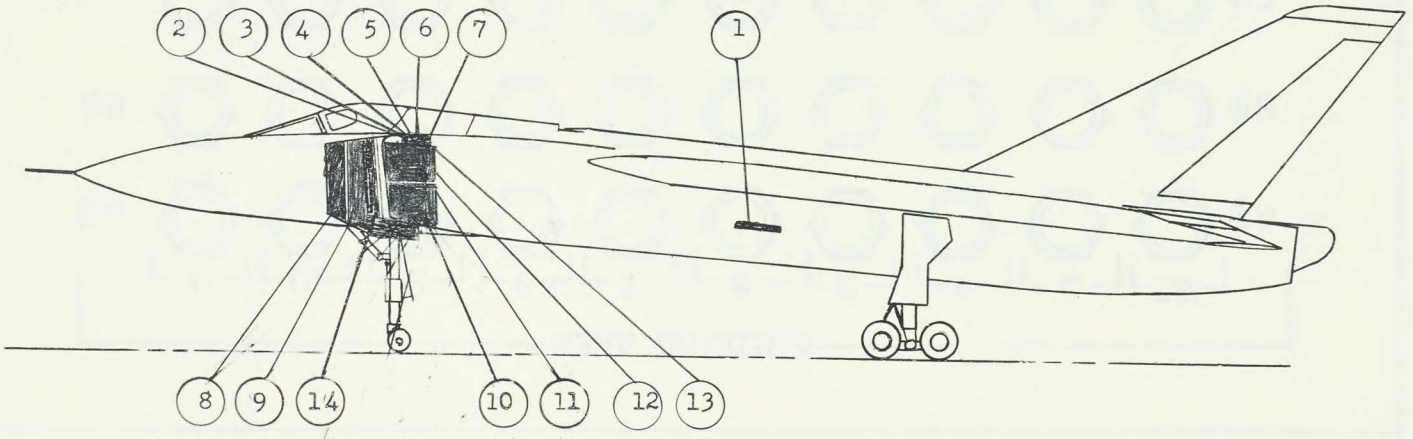


FIG. 1 ENGINE DE-ICING SCHEMATIC

COMPONENT [illegible]TION

1. Relay - Engine Anti-Icing
2. Suppressor - Ice Detector
3. Distributor - Ramp and Intake Duct De-Ice
4. Controller - Ramp Amp Intake Duct De-Ice
5. Relay - Ice Detector
6. Ice Detector - Intake Duct
7. Relay - Duct Part Strip



8. Boot 1 - Ramp De-Icing
9. Boot 2 - Ramp De-Icing
10 Boot 3 - Intake De-Icing
11 Boot 4 - Intake De-Icing
12 Boot 5 - Intake De-Icing
13 Boot 6 - Intake De-Icing
14 Boot 7 - Intake De-Icing

FIGURE 2

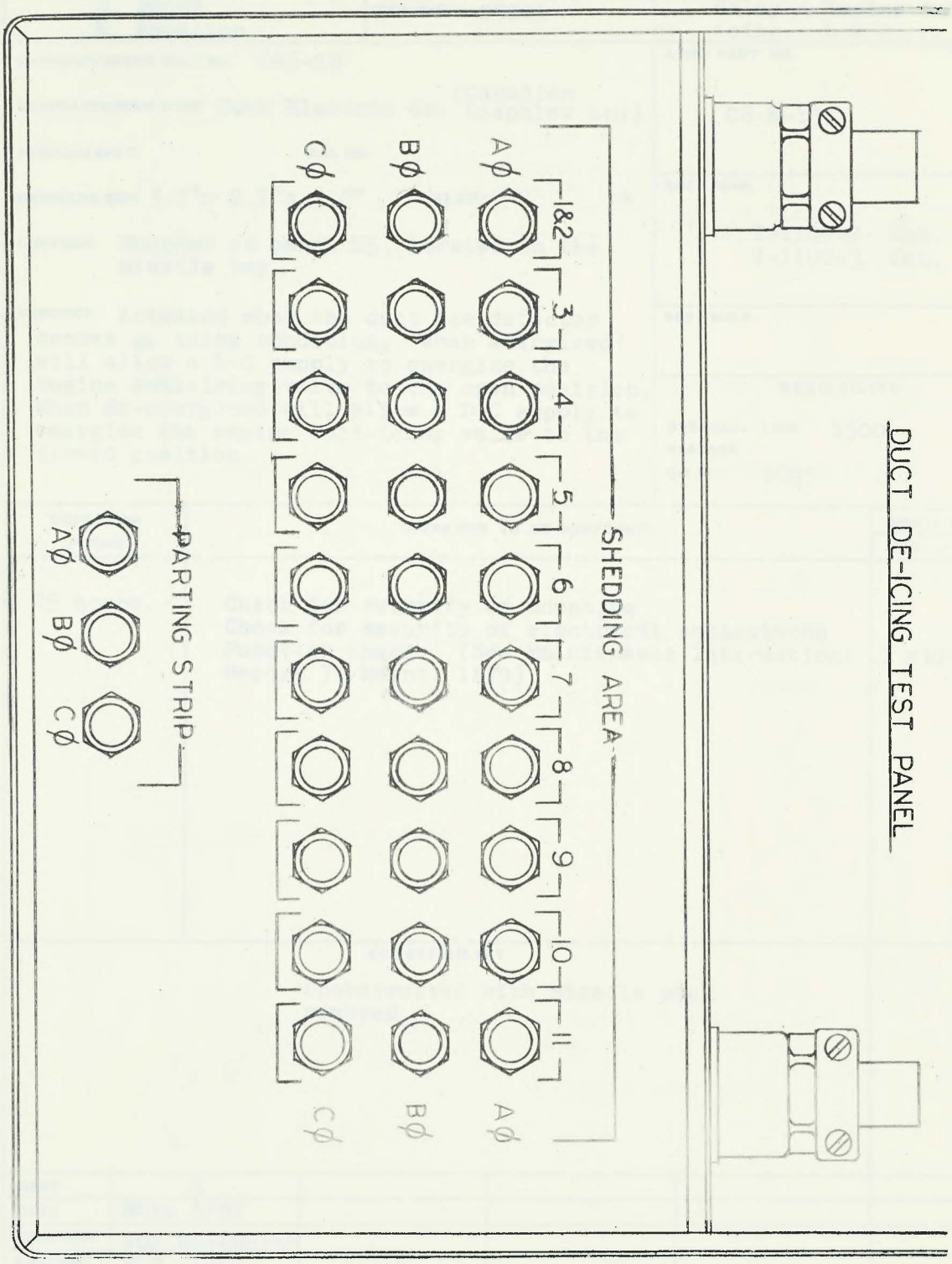

DUCT DE-ICING TEST PANEL
SHEDDING AREA
1&2
3
4
5
6
7
8
9
10
11
Aφ
Bφ
Cφ
PARTING STRIP
Aφ
Bφ
Cφ

FIGURE 2

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO. 11-E5/21, 11-E5/34
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1; EFF. A/C – 25201
COMPONENT: Relay – Engine Anti-icing. L & R.	
MANUFACTURER'S PART NO. 645-22	AVRO PART NO. CS-R-133
MANUFACTURER'S NAME Cook Electric Co. (Canadian Diaphlex Ltd)	
AVROCAN SPEC. E.O. NO.	
ENVELOPE SIZE 3.7"x 2.7"x 3.0" WEIGHT LB.	REF. DWGS. 7-1100-2 Sht. 19; 7-1100-3 Sht. 4
LOCATION Mounted on panel E5, located in the missile bay.	REF. M.D.R.
FUNCTION Actuated when the duct ice detector senses an icing condition. When energized will allow a D-C supply to energize the engine anti-icing valve to the open position. When de-energized will allow a D-C supply to energize the engine anti-icing valve to the closed position.	RELIABILITY: OVERHAUL LIFE 1500 HRS.; WASTAGE; Q.T.R. 3695

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 hours.	Check for security of mounting Check for security of electrical connections Function check. (See Maintenance Instructions Report 71/Maint. 11/9)	1 x 10	
	ACCESSIBILITY Unobstructed with missile pack removed.		

ISSUE	1				
DATE	Nov. 5/57				
COMPILED	WO2 Wentworth				
CHECKED	K.P. Lowe				
APPROVED	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
A-C Ground Power Unit	Maintenance Platform 4G/1596

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL

1. Disconnect 7 electrical connections
2. Remove 4 mounting bolts.

Remove and Replace	1 x 30	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM DE-ICING (ENGINE INTAKE)

REF. NO. 20-4 11-E107

DISTRIBUTION: STANDARD +
K. Knowlton
S. Brown
I. Craig

A/C TYPE - Arrow 1

EFF. A/C - 25201

COMPONENT 11-E108
Suppressor Ice Detector - Ramp and Intake De-Icing

MANUFACTURER'S PART NO.

MANUFACTURER'S NAME P.S.C. applied research

AVROCAN SPEC. E213 E.O. NO.

ENVELOPE SIZE 4" x 3" x 2" WEIGHT 3.0 LB.

LOCATION Air intake Sta. 214 top L & R side

FUNCTION
Filters radio noise originated by the ice detector.

AVRO PART NO.
7-2055-105

REF. DWGS. 7-2055-1
7-2055-2
7-1100-2 sht 14
7-1100-3 sht 14

REF. M.D.R.

RELIABILITY

OVERHAUL LIFE 1500 HRS.

WASTAGE

Q.T.R. Pending

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 Hr. Electrics	Check electrical connector for security. Function check. (See Maintenance Instructions Report 71/MAINT 11/8)	1 x 5	
	ACCESSIBILITY Remove access panel from top of air intake Sta. 214 by removing 24 x 3/16" screws.		
	Remove and replace	1 x 8	

ISSUE	1	2	3	4	
DATE	16 Mar. 56	1 Nov. 56	19 Dec. 56	4 Oct. 57	
COMPILED	D. Collingwood	D. Collingwood	WO2 Wentworth	WO2Wentworth	
CHECKED	G. Emmerson	WO2 Wentworth	D. Collingwood	K. Lowe	
APPROVED		G. Emmerson	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
A-C Ground power unit	Cockpit access stand Maintenance Platform 4G/1596

INTERCHANGEABLE	x	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		Electrics Disconnect 1 electrical connector. Remove and replace	1 x 2	
		Airframe Remove 3 mounting bolts. Remove and replace	1 x 5	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM DE ICING (Engine Intake Duct) REF. NO. 20-5 11 E109 11E110

DISTRIBUTION: STANDARD +
S. Brown
K. Knowlton

A/C TYPE – Arrow 1

EFF. A/C – 25201

COMPONENT
Distributor - Ramp and Intake Duct De-icing.

MANUFACTURER'S PART NO. G-11860

MANUFACTURER'S NAME B.F. Goodrich Co.

AVROCAN SPEC. E-217 E.O. NO.

ENVELOPE SIZE 7.5"x 4.75" x 5.625" WEIGHT 9.0 LB.

LOCATION Air intake aft sta. 214 top L & R hand

FUNCTION Cycles power from shedding area to shedding area on receipt of signals from controller (Ref: 7-2052-14)

AVRO PART NO.
7-2052-12

REF. DWGS.
7-2055-1
7-2055-2
7-2055-2 Sht. 14
7-1100-3 Sht. 14

REF. M.D.R.

RELIABILITY

OVERHAUL LIFE 1500 HRS.

WASTAGE

Q.T.R. Pending

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN X MINUTES EST.	MEN X MINUTES ACTUAL
25 hours Electrics	Check distributor for security and damge. Check electrical connectors for security and damage. Function test. (See maintenance Instruction Report 71/ Maint 11/8).	2 x30	
	ACCESSIBILITY Remove access panel from top of air intake Sta. 214 by removing 24 x 3/16" screws. Remove and replace	1 x8	

ISSUE	1	2	3	4	
DATE	June 7/56	Dec. 17/56	April 8/57	Nov/8/57	
COMPILED	D. Collingwood	WO2 Wentworth	D. Collingwood	WO2 Wentworth	
CHECKED	WO2 Wentworth	D. Collingwood	WO2 Wentworth	R.F. Lowe	
APPROVED	G. Emmerson	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
A-C ground power unit	Cockpit access stand

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		Electrics 1. Disconnect 2 electrical connectors. 2. Remove wire locking from quick fastener. 3. Turn fastener counter clockwise until unit is free. Remove and replace	1x10	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM DE-ICING (ENGINE INTAKE)

REF. NO. 20-3 11-E-111

DISTRIBUTION: STANDARD +
S.Brown.
K.Knowlton.

A/C TYPE – Arrow 1.

EFF. A/C – 25201

COMPONENT
Controller- Ramp & Intake De-icing

MANUFACTURER'S PART NO. G-11861

MANUFACTURER'S NAME B.F.Goodrich.

AVROCAN SPEC E-214 E.O. NO.

ENVELOPE SIZE 7.5" x 4.75" x 6.63" WEIGHT 9.0 LB.

LOCATION
LH Air Intake aft. Sta. 214 top.

FUNCTION Control of power to parting and dividing strips, and the commencing of shedding cycle.

AVRO PART NO.
7-2052-13

REF. DWGS. 7-2055-1
7-2055-2
7-1100-2 sht.14

REF. M.D.R.

RELIABILITY

OVERHAUL LIFE 1500 HRS.

WASTAGE

Q.T.R. Pending.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 hrs. Electrics	Check controller for security and damage Check for security of electrical connector Carry out a function check (See maintenance Instruction report 71/maint 11/8)	2 x 5	
	ACCESSIBILITY Remove access panel from top of air intake L.H. Sta. 214 by removing 24-3/16 screws.		
	Remove and replace.	1 x 8	

ISSUE	1	2	3	4	
DATE	March 14/56	January 15/57	April 8/57	November 5/57	
COMPILED	D.Collingwood	WO2.Wentworth	D.Collingwood	WO2.Wentworth.	
CHECKED	G.Emmerson	D.Collingwood	WO2.Wentworth	K.P.Lowe	
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
A-C Ground Power Unit.	Cockpit Access Stand.

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL

Electrics

1. Disconnect 1 electrical connector.
2. Remove wire locking from quick fastener.
3. Turn fastener conterclockwise until unit is free.

Remove and replace	1 x 10	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E165, 11-E166		
DISTRIBUTION: STANDARD + K. Knowlton, S. Brown	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: Relay, Ice Detector, L & R
MANUFACTURER'S PART NO.			AVRO PART NO.: CS-R-122
MANUFACTURER'S NAME			
AVROCAN SPEC. NIL	E.O. NO.		
ENVELOPE SIZE 2.60" x 2.50" x 2.125"	WEIGHT 0.44 LB.		REF. DWGS.: 7-1100-2 Sht. 14, 7-2055-71 & 72, 7-1155-1, 7-1100-3 Sht. 14
LOCATION: Top of air intake – R.H. side – Sta. 220			REF. M.D.R.
FUNCTION: To eliminate the possibility of both ice detectors introducing signals to the controller at the same time. (Gives the left hand detector preference over the right hand detector.)			RELIABILITY: OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R. Pending

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 hour	Check relay for security. Check electrical connections for security. Function test. (See maintenance Instructions Report 71 Maint 11/18)	1 x 10	
	ACCESSIBILITY Remove access panel from top of right hand air intake Sta. 214, by removing 24-3/16 screws. Remove and replace	1 x 8	

ISSUE	1	2			
DATE	January 10/57	Nov. 8/57			
COMPILED	WO2 Wentworth	WO2 Wentworth			
CHECKED	D. Collingwood	K.A. Lowe			
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
A-C Ground Power Unit	Cockpit Access Stand. Maintenance Platform 4G/1596

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1. Disconnect 6 electrical connections 2. Remove 2 mounting screws. Remove and replace	1x20	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM DE-ICING (RAMP & INTAKE)

REF. NO. 20-25 11-E186 11-E187

DISTRIBUTION: STANDARD +

S.Brown.
K.Knowlton.

A/C TYPE – Arrow 1.

EFF. A/C – 25201

COMPONENT

Ice-Detector intake duct. L & R

MANUFACTURER'S PART NO. 108-00142

MANUFACTURER'S NAME P.S.C. Applied Research Ltd.

AVROCAN SPEC. E-213 E.O. NO.

AVRO PART NO. 7-2055-27

ENVELOPE SIZE 3.125" x 3.125" x 2.78" WEIGHT 3.0 LB.

LOCATION

REF. DWGS. 7-2055-1 sht.2 & 3
7-2055-2 sht.2 & 3
7-1100-2 sht.14
7-1100-3 sht.4.

FUNCTION Detects an intake duct icing condition and signals its presence to the ice warning light, ice cycling controller and engine anti-icing relays

REF. M.D.R. 20-5

RELIABILITY

OVERHAUL LIFE 1500 HRS.

WASTAGE

Q.T.R. Pending

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 hrs. Electrics.	Check for security and damage. (See maintenance instruction report 71/maint 11/8)	2 x 10	
	ACCESSIBILITY		
	Remove access panel from top of air intake sta.214 by removing 24-3/16 screws.		
	Remove and replace	1 x 8	

ISSUE	1	2	3		
DATE	November 28/56	April 8/57	November 5/57		
COMPILED	D.Collingwood	D.Collingwood	WO2.Wentworth.		
CHECKED	WO2.Wentworth	WO2.Wentworth.	K.P.Lowe		
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
Tester De-Icing 5G/10005 A-C ground power unit.	Cockpit access stand maintenance platform 4G/1591.

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1.Disconnect wiring to the suppressor 2.Remove 4 mounting bolts.		
		Remove and replace	1 x 10	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. — Engineering Div.

SYSTEM: ELECTRICS

REF. NO.: 11-E-276, 11-E-277

DISTRIBUTION: STANDARD + K. Knowlton, S. Brown

A/C TYPE – Arrow 1

EFF. A/C – 25201

COMPONENT: Relay, Duct part strip L & R

MANUFACTURER'S PART NO. N/A

MANUFACTURER'S NAME N/A

AVRO PART NO. MS-24143-1

AVROCAN SPEC. NIL E.O. NO.

ENVELOPE SIZE 3.70" x 2.687" x 3.20" WEIGHT 1.45 LB.

LOCATION Top of air intake - L.& R Sta. 214.43

REF. DWGS. 7-1100-2 Sht. 14, 7-1100-3 Sht. 14, 7-2055-71 & 72

FUNCTION On a signal from the deicing temp. control unit, this relay controls A-C to parting strip.

REF. M.D.R.

RELIABILITY

OVERHAUL LIFE 1500 HRS.

WASTAGE

Q.T.R. Pending

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 hour	Check relay for security and cleanliness. Function Test. (See maintenance instructions report 71/ Maint 11/8.)	1 x 5	
	ACCESSIBILITY Remove access panel from top of air-intake Sta. 214 by removing 24-3/16 Screws.		
	Remove and replace	1 x 8	

ISSUE	1	2			
DATE	January 10/57	Nov. 8/57			
COMPILED	WO2 Wentworth	WO2 Wentworth			
CHECKED	D. Collingwood	K.P Lowe			
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
A-C Ground Power Unit	Cockpit Access Stand

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1. Remove 4 mounting screws. 2. Remove 8 electrical connections. Remove and replace	1x15	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM DE-ICING (Engine Intake)

REF. NO. E 1509/1 E 1512/1 20-14

DISTRIBUTION: STANDARD +
S. Brown
K. Knowlton

A/C TYPE – Arrow 1

EFF. A/C – 25201

COMPONENT
Boot 1 Ramp De-icing

MANUFACTURER'S PART NO. G-11901-11-L.H. G-11901-12- R.H.

MANUFACTURER'S NAME B.F. Goodrich Co

AVROCAN SPEC. E-218 E.O. NO.

ENVELOPE SIZE 49.8" x 6.72" x .07" WEIGHT 2.64 LB.

LOCATION Engine air intake ramp - fwd edge L & R

FUNCTION For ice removal.

AVRO PART NO.
7-2055-91-LH
7-2055-92-RH

REF. DWGS.
7-1100-3 Sht. 14
7-2055-1
7-2055-2
7-2055-2 Sht. 15

REF. M.D.R.

RELIABILITY

OVERHAUL LIFE 1500 HRS.

WASTAGE

Q.T.R. Pending

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
Primary	Check boots for signs of overheating and lifting	1 x 5	
25 hour	Check for security of boot and wiring	2 x 30	
	Function Test. (See Maintenance Instructions Report 71/Maint 11/8.)		

ACCESSIBILITY

Unobstructed

ISSUE	1	2	3		
DATE	September 10/56	January 14/57	November 8/57		
COMPILED	D. Collingwood	D. Collingwood	WO2 Wentworth		
CHECKED	WO2 Wentworth	WO2 Wentworth	K.P. Lowe		
APPROVED	G. Emmerson	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
Pending	Pending
GROUND TESTING EQUIPMENT	GROUND HANDLING EQUIPMENT
Panel De-ice test A-C Ground Power Unit	Maintenance Platform 4G/1596 Cockpit Access Stand

INTERCHANGEABLE		REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE	X		EST.	ACTUAL

1. Remove and replace in accordance with Avro Process Standard 81.

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM DE-ICING (Engine Intake) | REF. NO. 20-15 E-1511/1 E-1514/1

DISTRIBUTION: STANDARD +
K. Knowlton
S. Brown

A/C TYPE – Arrow 1

EFF. A/C – 25201

COMPONENT
Boot No. 2 Ramp De-Icing

MANUFACTURER'S PART NO. G-11902-13 L.H. G-11902 - 14 R.H.

MANUFACTURER'S NAME B.F. Goodrich Co.

AVROCAN SPEC. E-218 E.O. NO.

ENVELOPE SIZE 52.17" x 36.00" approx. WEIGHT 10.86 LB.

LOCATION Engine air intake ramp - L. & R.

FUNCTION For ice removal

AVRO PART NO.
7-2055-93-L.H.
7-2055-94-R.H.

REF. DWGS.
7-1100-3 Sht. 14
7-1100-2 Sht: 15
7-2055-1
7-2055-2

REF. M.D.R.

RELIABILITY

OVERHAUL LIFE 1500 HRS.

WASTAGE

Q.T.R. Pending

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
Primary 25 hours	Check boots for signs of overheating and lifting.	1 x5	
	Check for security of boot and wiring	2 x 30	
	Function Test. (See Maintenance Instructions Report 71/ Maint 11/8).		

ACCESSIBILITY

Unobstructed

ISSUE	1	2	3		
DATE	Sept. 10/56	Jan. 7/57	Nov. 8/57		
COMPILED	D. Collingwood	D. Collingwood	WO 2 Wentworth		
CHECKED	WO 2 Wentworth	WO 2 Wentworth	K.P. Lowe		
APPROVED	G. Emmerson	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
Pending	Pending
GROUND TESTING EQUIPMENT	GROUND HANDLING EQUIPMENT
Panel De-ice test. A-C Electrical Ground Power Unit.	Cockpit Access stand Maintenance Platform 4G/1596

INTERCHANGEABLE		REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE	X		EST.	ACTUAL
		Remove and replace in accordance with Avro Process Standard 81.		

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM DE-ICING (Engine Intake)

REF. NO. 20-16 E 1513/1 E 1516/1

DISTRIBUTION: STANDARD +
S.Brown.
K.Knowlton.

A/C TYPE - Arrow 1

EFF. A/C - 25201

COMPONENT
Boot No.3 - intake de-icing

MANUFACTURER'S PART NO. G-11903-17 L.H G-11903-18 R.H.

MANUFACTURER'S NAME B.F.Goodrich Co.

AVROCAN SPEC. E 218 E.O. NO.

ENVELOPE SIZE 30.4" x 19.0" approx. WEIGHT 4.11 LB.

LOCATION Engine air intake- lower front- L.&.R

FUNCTION Ice removal.

AVRO PART NO.
7-2055-95 L.H.
7-2055-96 R.H.

REF. DWGS.
7-1100-3 Sht 14
7-1100-2 Sht.15
7-2055-1
7-2055-2

REF. M.D.R.

RELIABILITY

OVERHAUL LIFE 1500 HRS.

WASTAGE

Q.T.R. Pending.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
Primary 25 hrs.	Check boots for signs of overheating and lifting	1 x 5	
	Check for security of boot and wiring(See Maintenance Instructions Report 71/Maint 11/8)	2 x 30	

ACCESSIBILITY

Unobstructed

ISSUE	1	2	3		
DATE	Sept. 10/56	Jan. 7/57	November 8/57		
COMPILED	D.Collingwood	D.Collingwood	WO2.Wentworth		
CHECKED	WO2.Wentworth	WO2.Wentworth	K.P.Lowe.		
APPROVED	G.Emmerson	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
Pending	Pending
GROUND TESTING EQUIPMENT	GROUND HANDLING EQUIPMENT
Panel - De-icing Test	Maintenance Platform 4G/1596

INTERCHANGEABLE		REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE	X		EST.	ACTUAL
		Remove and replace in accordance with Avro Process Standard 81.		

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM DE-ICING (Engine - Intake)

REF. NO. 20-17
E 1515/1
E 1518/1

DISTRIBUTION: STANDARD +
S.Brown.
K.Knowlton.

A/C TYPE - Arrow 1

EFF. A/C - 25201

COMPONENT
Boot No.4 Intake De-icing

MANUFACTURER'S PART NO. G-11904-21 L.H. G-11904-22-R.H.

MANUFACTURER'S NAME B.F.Goodrich Co.

AVROCAN SPEC. E 218 E.O. NO.

ENVELOPE SIZE 27.37" x 27.0" approx. WEIGHT 3.18 LB.

LOCATION Engine air intake lower outboard - L&R

FUNCTION For ice removal

AVRO PART NO. 7-1100-2 Sht.15
7-1100-3 Sht 14
7-2055-97 - L.H.
7-2055-98 - R.H.

REF. DWGS. 7-2055-97
7-2055-98

REF. M.D.R.

RELIABILITY

OVERHAUL LIFE 1500 HRS.

WASTAGE

Q.T.R. Pending.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
Primary	Check boots for signs of overheating and lifting.	1 x 5	
25.Hours	Check for security of boot and wiring. (See Maintenance Instructions Report 71/Maint 11/8)	2 x 30	

ACCESSIBILITY

Unobstructed.

ISSUE	1	2	3		
DATE	Sept. 10/56	January 7/57	November 8/57		
COMPILED	D.Collingwood	D.Collingwood	WO2.Wentworth.		
CHECKED	WO2.Wentworth	WO2.Wentworth	K.P.Lowe.		
APPROVED	G.Emmerson	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
Pending	Pending
GROUND TESTING EQUIPMENT	GROUND HANDLING EQUIPMENT
Panel - De-icing Test A.-C ground power unit.	Maintenance Platform 46/1596 Cockpit access stand.

INTERCHANGEABLE		REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE	X		EST.	ACTUAL
		Remove and replace in accordance with Avro Process Standard 81.		

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: DE ICING (Engine Intake)

REF. NO. 20-18 E-1517/1 E-1520/1

DISTRIBUTION: STANDARD +
S. Brown
K. Knowlton

A/C TYPE – Arrow 1

EFF. A/C – 25201

COMPONENT: Boot No. 5 - Intake De-icing

MANUFACTURER'S PART NO. G 11905-23-L.H. G 11905-24-R.H.

MANUFACTURER'S NAME B.F. Goodrich Co.

AVROCAN SPEC. E-218 E.O. NO.

ENVELOPE SIZE 27.37" X 25.5" approx. WEIGHT 3.02 LB.

LOCATION Engine air intake upper outboard - L&R

FUNCTION Ice removal

AVRO PART NO.
7-2055-101 L.H.
7-2055-102 R.H.

REF. DWGS.
7-1100-2 Sht. 15
7-2055-1
7-2055-2
7-1100-3 Sht. 14

REF. M.D.R.

RELIABILITY

OVERHAUL LIFE 1500 HRS.

WASTAGE

Q.T.R. Pending

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
Primary 25 hours	Check boots for signs of overheating and lifting.	1 x 5	
	Chec k for security of boot and wiring	2 x30	
	Function test (see maintenance instruction report 71/Maint 11/8).		

ACCESSIBILITY

Unobstructed

ISSUE	1	2	3		
DATE	September 10/56	January 17/57	November 8/57		
COMPILED	D. Collingwood	D. Collingwood	WO2 Wentworth		
CHECKED	WO 2 Wentworth	WO2 Wentworth	KP Lowe		
APPROVED	G. Emmerson	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
Pending	Pending
GROUND TESTING EQUIPMENT	GROUND HANDLING EQUIPMENT
Panel De-icing test A-C Ground Power Supply	Maintenance Platform 4G/1596 Cockpit access stand.

INTERCHANGEABLE		REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE	X		EST.	ACTUAL
		Remove and replace in accordance with Avro Process Standard 81.		

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E-1519/1, 11-E-1522/1		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: 20-19 Boot No. 6 - Intake De-icing
MANUFACTURER'S PART NO.			AVRO PART NO.: 7-2055-103
MANUFACTURER'S NAME: B.F. Goodrich Co.			
AVROCAN SPEC.: E-218	E.O. NO.		
ENVELOPE SIZE	WEIGHT LB.		REF. DWGS.: 7-1100-2 Sht. 15, 7-1100-3 Sht. 14
LOCATION: Engine Air Intake			
FUNCTION: For ice removal.			REF. M.D.R.
			RELIABILITY: OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
Primary	Check boot for signs of overheating and lifting.	1 x 5	
25 Hrs.	Function test (See Maintenance Instructions Report 71/Maint 11/8)	2 x 30	

ACCESSIBILITY

Unobstructed.

ISSUE	1				
DATE	22 Nov 57				
COMPILED	WO2 Wentworth				
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
Panel De-icing test Air Conditioner and Generator AC	Maintenance Platform 4G/1596 Cockpit Access Stand

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		Remove and replace in accordance with Avro Process Standard 81.		

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM DE ICING (Engine Intake) | REF NO. 20-20 E-1531/1 E-1532/1

DISTRIBUTION: STANDARD +
K. Knowlton
S. Brown

A/C TYPE – Arrow 1
EFF. A/C – 25201

COMPONENT
Boot # 7 Intake DeIcing

MANUFACTURER'S PART NO. G-12384-117 L/H G-12384-118 R/H.

MANUFACTURER'S NAME B.F. Goodrich Co.

AVRO PART NO.
7-2055-117- L.H.
7-2055-118- R.H.

AVROCAN SPEC. E-218 E.O. NO.

ENVELOPE SIZE 49.5" x 27.0" WEIGHT LB.

LOCATION Between ramp and engine intake L.& R.

FUNCTION For ice removal

REF. DWGS.
7-1100-2 Sht. 15
7-1100-3 Sht. 14
7-2055-1 7-2055-2

REF. M.D.R.

RELIABILITY

OVERHAUL LIFE 1500 HRS.
WASTAGE
Q.T.R. pending

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
Primary 25 hours	Check boots for signs of overheating and lifting.	1 x 5	
	Check for security of boot and wiring	2 x 30	
	Function Test (See Maintenance Instruction Report 71/Maint 11/8).		

ACCESSIBILITY

Unobstructed

ISSUE	1	2	3	4	
DATE	Nov 22/56	Jan 7/57	April 8/57	Nov. 8/57	
COMPILED	D. Collingwood	D. Collingwood	D. Collingwood	WO2 Wentworth	
CHECKED	WO2 Wentworth	WO2 Wentworth	WO2 Wentworth	K.P. Lowe	
APPROVED	R.F. Reid	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
Pending	Pending
GROUND TESTING EQUIPMENT	GROUND HANDLING EQUIPMENT
Panel De-icing test Ground power unit	Maintenance Platform 4G/1596 Cockpit Access Stand

INTERCHANGEABLE		REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE	X		EST.	ACTUAL

Remove and replace in accordance with Avro Process Standard 81.