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QCX AUTO CF105 71 Maint 11-8

> J. H. PARKIN BRANCH

JUN 8 1995

ANNEXE J. H. PARKIN CNRC - ICIST AVRO

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By authority of AVES

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MAINTENANCE INSTRUCTIONS ignature

Unit / Rank / Appointment AVES S

ELECTRICS - ENGINE INTAKE DUCT DE-ICING
71/MAINT 11/8

2 Dec. 57

Prepared:

For Maintenance and Reliability

Section

Approved:

Annical Design Department

Approved:

Louipment Design Department

Authorized:

John Me

Project Designer

ENGINEERING DIVISION, AVRO AIRCRAFT LIMITED, MALTON, ONTARIO



TABLE OF CONTENTS

Chapter		Para.	Subject	Page
1			DESCRIPTION	1
		1.1 1.2 1.3	General Ice Detection Engine Air Intake Ramps and Ducts De-	1
		1.4	Icing Engine Guide Vanes De-Icing	2
2			GRO UND EQUIPMENT	5
3			PREPARATION FOR TEST	5
4			FUNCTION TESTS	5
		4.1, 4.2	Air Intake Ramps and Duct Deplicing (Left and Right) Resistance Check-Duct Parting	5
		4.3	Strips (Left and Right) Engine Guide Vanes De-Icing	6
		4.0	(Left and Right)	8
			ILLUSTRATIONS	
		FIGURE 1	Engine De-Icing Schematic	9
		FIGURE 2	Component Location	10
		FIGURE 3	Duct De-Icing Test Panel	11
			COMPONENT DATA	
N	1.D.R.	11-E5/21 11-E107 11-E109	Relay - Engine Anti-Icing Suppressor - Ice Detector Distributor - Ramp and Intake Duct De-Ice	
1	1.D.R. 1.D.R.	11-E111 11-E165 11-E186 11-E276	Controller - Ramp and Intake De-Ice Relay - Ice Detector Ice Detector - Intake Duct Relay - Duct Part Strip	
1 1	1.D.R. 1.D.R. 1.D.R.	11-E1509/1 11-E1511/1 11-E1513/1	Boot 1 - Ramp De-Icing Boot 2 - Ramp De-Icing Boot 3 - Intake De-Icing	
1. 1	LD.R. I.D.R.	11-E1515/1 11-E1517/1 11-E1519/1 11-E1531/1	Boot 4 - Intake De-Icing Boot 5 - Intake De-Icing Boot 6 - Intake De-Icing Boot 7 - Intake De-Icing	





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.



- The shedding area sensors are connected in series and are in 1.3.6 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.
- The configuration of each boot is as follows: 1.3.7

Boot #1; ramp	leading	edge,	l shedding area	*
			1 parting strip	

Boot #2; ramp	4 shedding area
	4 shedding area sensors
	6 parting strips

0	parting	strips	
2	parting	strip	sensors

Boot #3;	engine	air	intake	duct,		shedding areas parting strips
					1	shedding area sensor

Boot #5; engine	air	intake	duct,	1	shedding	area	
				1	shedding	area	sensor
				2	parting s	strips	3

Boot #6; engine air intake duct,	2 shedding areas 2 shedding area sensors
	2 parting strips

- The shedding areas are designed to impose a load demand of 1.3.8 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 electromechanical 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 demicing 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 H75Al4, H77Al4 and H79Al4 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 ELECTY 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	(
HOROK	(continued)

Terminal 15 Boot 5 Parting Strip 10L 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.

B007	L.	PARTING STRIP	RESIS'	PANCE	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.

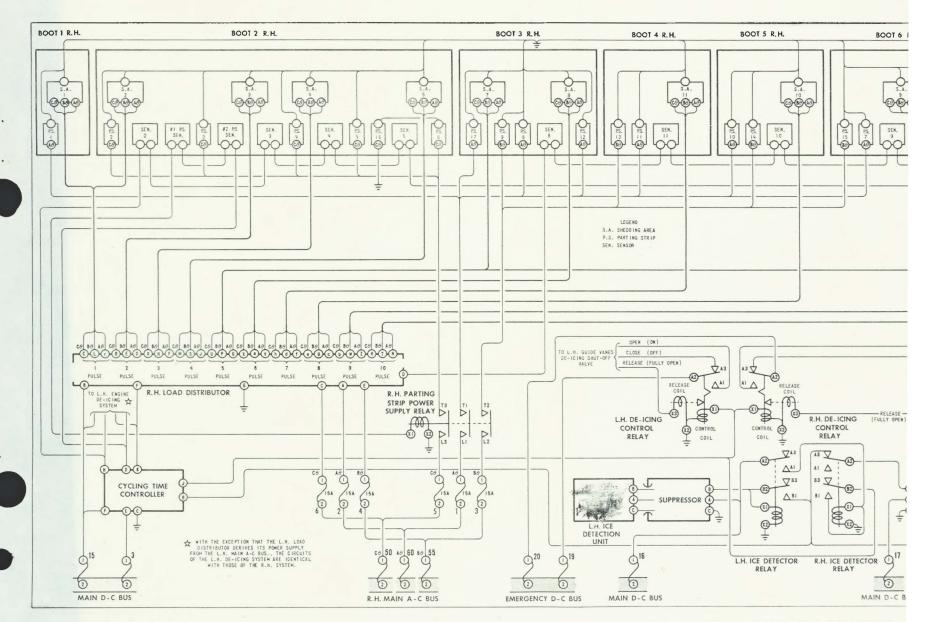
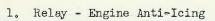
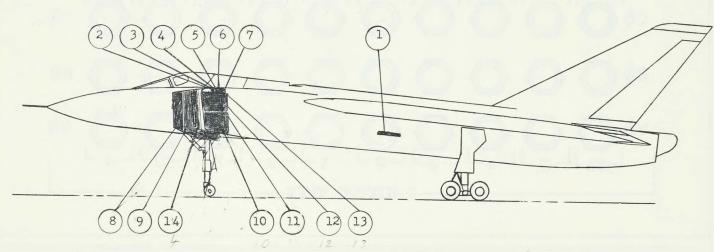


FIG. 1 ENGINE DE-ICING SCHEMATIC



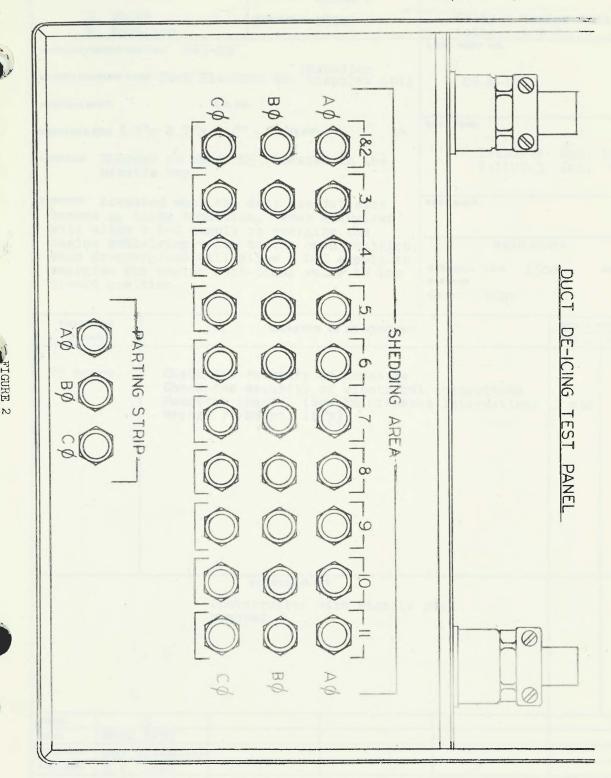


- 2. Suppressor Ice Detector
 3. Distributor Ramp and Intake Duct De-Ice
 4. Controller Ramp Amp Intake Duct De-Ice
- 5. Relay Ice Detector
- 6. Ice Detector Intake Duct
- 7. Relay Duct Part Strip



- 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

CONFIDENTIAL



DISTRIBUTION	AIRCRAFT LTD.	Engineering Div.	ELECTRICS		E5/21 E5/34
	: STANDARD +	A/C TYPE - Arrow 1	COMPONENT		
	Brown Knowlton	EFF. A/C - 25201	Relay - Engicing. L &		ci-
	ER'S PART NO. 645-22	2	AVRO PART NO.		
MANUFACTUR	er's name Cook Elec	ctric Co. (Canadian Diaphlex Ltd)	CS-R-133		
AVROCAN SPE	CC. E.C). NO.			
ENVELOPE SI	ze 3.7"x 2.7"x 3.	O WEIGHT LB.			
LOCATION	Mounted on panel missile bay.	1 E5, located in the	7-1100-2 7-1100-3	Sht.	4
senses	an icing condit	ne duct ice detector tion. When energized ly to energize the	REF. M.D.R.		
		ve to the open position	RELIABIL	ITY	
When de	e-energized wil] ze the engine ar	l allow a D-C supply to nti-icing valve to the			HRS.
crosed	position.		Q.T.R. 3695		
INSPECTI	ON	OPERATION TO BE PERFORM	ED	MEN X I	MINUTES
PERIO		OFERTION TO BE PERFORM		EST.	ACTUA
	neport ('l/Maint. Îl/9)			
				-	
	Un	ACCESSIBILITY Nobstructed With missil	e pack		
		moved.			
				T	
ISSUE	1				
ISSUE DATE	1 Nov _* 5/57				
	Nov _* 5/57 W02 Wentworth K.P. Lowe				

PPLICATION		LUBRICATI	И	
	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS
	Test record	1 6000	1 - 17 - 17 - 17	
Crask sal	es Tales	2000	5 - OLA, FEE	The state of the s
ETAILS:	EFF-RED	Treat Total	des upricell	MOOD MAN PRESTORMAN 1.3000-100
	and the	GROUND SUPPORT		AND STATE OF THE STATE OF THE
SPECIAL	TOOLS FOR AIRCRAFT	USE	SPECIAL TOO	OLS FOR BENCH USE
	Nil	The light of	1	Nil
GROUI	ND TESTING EQUIPMEN	Т	GROUND HA	NDLING EQUIPMENT
A-C	Ground Power I	Jnit	Maintenance 4G/1596	e Platform
TERCHANGEABL	EX	REMOVAL INS	TRUCTIONS	MEN × MINUTES
		7 electrical ounting bolts.	connections	
			connections Remove and Re	eplace 1 x 30
	. Remove 4 mo	ounting bolts.	Remove and Re	eplace 1 x 30
	. Remove 4 mo	ounting bolts.	Remove and Re	eplace 1 x 30
	. Remove 4 mo	ounting bolts.	Remove and Re	eplace 1 x 3C

MAINTENANCE AVRO AIRCRAFT LTD.	DATA RECORD Engineering Div.	SYSTEM DE-ICING (ENGINE INTAKE)	REF. NO. 20-4 11-E107
DISTRIBUTION: STANDARD + K. Knowlton S. Brown I. Graig	A/C TYPE - Arrow 1 EFF. A/C - 25201	COMPONENT Suppressor Ice Dete and Intake De-Icing	
MANUFACTURER'S PART NO. MANUFACTURER'S NAME P.S.C. a AVROCAN SPEC. E213 E.	pplied research	AVRO PART NO. 7-2055-105	
ENVELOPE SIZE 4" x 3" x 2" LOCATION Air intake Sta. 21	weight 3.0 LB. 4 top L & R side	REF. DWGS. 7=2055=1 7=2055=2 7=1100=2 s. 7=1100=3 s.	
FUNCTION Filters radio noise or detector.	iginated by the ice	REF. M.D.R.	
		RELIABILIT	Y
		overhaul Life 1500 wastage o.t.r. Pendin	HRS.

1:1

INSPECT	TION	OPERATION	TO BE PERFORMED		MEN X	MINUTES
PERIC	מס				EST.	ACTUAL
25 Hr. Electri	ics Functi	electrical connecton check. (See Man 11/8)	ctor for security aintenance Instru	ctions Report	1 x 5	
	Remove by rem	access panel fr moving 24 x 3/16"	om top of air in		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	W02Wentworth		
CHECKED	G. Emmerson	WO2 Wentworth	D. Collingwood	K. Lowe		
APPROVED		G. Emmerson	R.F. Reid	R.F. Reid		

		LUBRICAT	ION NIL		
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS	
	INC. and recovery	(C)	- 8577 DIA	Machine 40	a d
DETAILS:					
	or desired		director balleges	recommended by the contract of	
		GROUND SUPPORT	EQUIPMENT	TENTANTO MINI	apair IVv
SPECIAL	TOOLS FOR AIRCRAFT	USE	SPECIAL TOO	LS FOR BENCH USE	
N	IL			NIL	
GROUN	D TESTING EQUIPMEN	Т	GROUND HAN	DLING EQUIPMENT	
A-C Ground pow	er unit		Cockpit access sta Maintenance Platfo	and orm 4G/1596	
INTERCHANGEABLE	x	REMOVAL IN	STRUCTIONS	MEN X N	INUTES
REPLACEABLE		KEMOTAL III		EST.	ACTUAL
Airframe	onnect 1 electr:	ical connector.	Remove and replace		

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MAINTENANCE AVRO AIRCRAFT LTD.	DATA RECORD Engineering Div.	(Engine IntakeDuct) REF20NO.
DISTRIBUTION: STANDARD + S. Brown K. Knowlton	A/C TYPE - Arrow 1 EFF. A/C - 25201	COMPONENT 11E110 Distributor - Ramp and Intak Duct De-icing.
MANUFACTURER'S PART NO. G-11860 MANUFACTURER'S NAME B.F. GOO AVROCAN SPEC. E-217 E.O		AVRO PART NO. 7-2052-12
ENVELOPE SIZE 7.5"x 4.75" x 5		7-2055-1 7-2055-2 7-2055-2 ht. 14 7-1100-3 ht. 14
runction Cycles power from she area on receipt of s (Ref: 7-205	ignals from controller	REF. M.D.R. RELIABILITY
		OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R. Pending
INSPECTION	OPERATION TO BE PERFORME	MEN X MINUT

INSPECT	TION	OPERATION	N TO BE PERFORMED		MEN X	MINUTES
PERIO	OD				EST.	ACTUAL
25 hour Electri	ics Check e	istributor for se lectrical connect n test. (See mai Maint 11	ors for security	and damage.	2 x30	
		A C C E S S I B I L I	TY			
	Reb	emove access pan y removing 24 x 3	el from top of ai /16" screws.	ir intake Sta. 21 and replage	ц 1 x8	
SSUE	b;	emove access pan	el from top of ai /16" screws.			
	Re by 1 June 7/56	emove access pan y removing 24 x 3	el from top of ai /16" screws. Remove	and replace		
SSUE DATE COMPILED	June 7/56 D. Collingwood	emove access pan y removing 24 x 3	el from top of ai/16" screws. Remove 3 April 8/57 D. Collingwood	and replace		
ATE	b; June 7/56	emove access pan y removing 24 x 3 2 Dec. 17/56	el from top of ai /16" screws. Remove	and replage 4 Nov/8/57		

		LUBRICATI	ON NIL	NAME OF THE	THAT I	
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCES	S	
			- 1411 241		MICHIGAN DE	
DETAILS:	- 1 Marie -	12		The second section is a second	emper Sampakar	7
			Gran	Service Services	Annie Mariena	
		GROUND SUPPORT	EQUIPMENT		NAMES OF THE OWNER.	
SPECIAL	TOOLS FOR AIRCRAF	T USE	SPECIAL TOO	OLS FOR BENCH USE	2	
NIL				NIL		
GROUN	D TESTING EQUIPME	NT	GROUND HAN	NDLING EQUIPMENT		-
A-C	ground power u	nit	Co	ockpit access s	stand	•
NTERCHANGEABLE	x	REMOVAL INS	TRUCTIONS	ME	N × MINUTES	
REPLACEABLE	25	REMOVALINS	IKUCIIONS	ES	T. ACTUAL	
1.	Remove wire lo	lectrical connecto cking from quick i counter clockwi s e Re	Castener.		10	
						1

i

MAINTENANCE AVRO AIRCRAFT LTD.	DATA RECORD 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- Ram De-	p & Intake icing
MANUFACTURER'S PART NO. G-118 MANUFACTURER'S NAME B.F.Good AVROCAN SPECE-214 E		AVRO PART NO. 7-2052-13	
envelope size 7.5" x 4.75" x Location LH Air Intake aft.		REF. DWGS. 7-2055-1 7-2055-2 7-1100-2	
	to parting and dividing cing of shedding cycle.	REF. M.D.R.	
		RELIABIL	ITY
		overhaul life 1500 wastage Q.T.R. Pending.	HRS.

INSPECT	TION	OPERATION	TO BE PERFORMED		MEN X M	MINUTES
PERIO	OD				EST.	ACTUAL
25 h Elec	ctrics Check	controller for section of er out a function of the following the followi	electrical connec	tor	2 x 5	
		A C C E S S I B I L I '	ΤΥ			
		e access panel from	screws.	ke L.H. Sta.	1 x 8	
ISSUE			screws.		1 x 8	
ISSUE DATE	214	by removing 24-3/10	screws. Remove a	ind replace.	1 x 8	
DATE	214	by removing 24-3/10	Remove a	and replace.	1 x 8	
	214 N	2 January 15/57	Remove a	and replace. 4 November 5/57	1 x 8	

		LUBRICATI	ON Nil		
PPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS	
missal a qu	Tellow, and	1 1 1	Side Tole Area		
ETAILS:	and their co		1001 1007550 505 558	LANGE OF THE PART	
		GROUND SUPPORT	EQUIPMENT		
SPECIAL	rools for AIRCRAFT	II.		OLS FOR BENCH USE	
	Nil			Nil	
GROUN	D TESTING EQUIPMEN	T	GROUND HA	NDLING EQUIPMENT	
A	-C Ground Power	Unit.	Cockpit	Access Stand.	
NTERCHANGEABLE	Х		TRUCTIONS	MEN × MINUTES	
EPLACEABLE		REMOVALINS	TRUCTIONS	EST. ACTUAL	
1 2	. Remove wire l		tor. fastener. until unit is free	e. 1 x 10	

	<u> </u>		
MAINTENANCE DA AVRO AIRCRAFT LTD.	TA RECORD Engineering Div.	ELECTRICS	REF. NO. 11-E165 11-E166
DISTRIBUTION: STANDARD + K. Knowlton S. Brown	A/C TYPE - Arrow 1 EFF. A/C - 25201	COMPONENT Rela	ay ector
MANUFACTURER'S PART NO.	1	AVRO PART NO.	1
MANUFACTURER'S NAME		CS_R_122	2
AVROCAN SPEC. NIL E.O. NO			
ENVELOPE SIZE 2.60" x 2.50" x 2.3		7-2055-7	
LOCATION Top of air intake - R.	H. side - Sta. 220	7-1155-1 7-1100-3	1 3 Sht. 14
runction To eliminate the possi detectors introducing signals the same time. (Gives the le	to the controller at	REF. M.D.R.	
preference over the right hand	detector.)	RELIABI	ILITY
		overhaul life 150)O нкs.

	TION	OPERATION TO BE PERFORMED	MEN × MI	INUTES
PERI	IOD		EST.	ACTUAL
		200(190(1)21(2)39(3)(6)		
25 hou	r Check r	elay for security.		
		,,,		
		lectrical connections for security.		
	Functio	n test. (See maintenance Instructions Re	-	
		71 Maint 11/18)	1 x 10	
		ACCESSIBILITY		
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Remove	e access panel fr	om top of right hand air intake Sta. 21 $^{\mu}$,	, by	
Remove removi	e access panel fr ng 24-3/16 screw	om top of right hand air intake Sta. 21 $^{\mu}$,	, by	
Remove removi	access panel fr ng 24-3/16 screw	om top of right hand air intake Sta. 21 $^\mu$ s.		
Remove removi	e access panel fr ng 24-3/16 screw	om top of right hand air intake Sta. 21 $^{\mu}$,	, by	
Remove removi	e access panel fr ng 24-3/16 screw	om top of right hand air intake Sta. 21 $^\mu$ s.		
Remove	e access panel fr ng 24-3/16 screw	om top of right hand air intake Sta. 21 $^\mu$ s.		
removi	ng 24-3/16 screw	om top of right hand air intake Sta. 21 ^h , s. Remove and replace		
removi	ng 24-3/16 screw	om top of right hand air intake Sta. 21 ^h , s. Remove and replace		
removi	ng 24-3/16 screw 1 January 10/57	om top of right hand air intake Sta. 21 ¹¹ , s. Remove and replace 2 Nov. 8/57		
Remove removi	ng 24-3/16 screw	om top of right hand air intake Sta. 21 ^h , s. Remove and replace		

		LUBRICATIO	NIL NIL			
PPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS		
		1	20.000			
ETAILS:				alle and	TOATURAN TOATURAN B HADOXFA	
		GROUND SUPPORT				
SPECIAL TOOL NIL			NIL			
GROUND	TESTING EQUIPME	NT	GROUND HA	ANDLING EQUIPMENT		
A_C (Ground Power U	nit	Cockpit Acce Maintenance 4G/1596	ess Stand. Platform		
TERCHANGEABLE	х	REMOVAL INS	TRUCTIONS	MEN X	MEN × MINUTES	
1. 2.	Disconnect 6 electrical connections Remove 2 mounting screws. Remove and replace		1x20			

	INTENANCE AIRCRAFT LTD.		CORD	(RAMP & INTAKE	1 11-	NO.20-2 E186 E187
	N: STANDARD +	A/C TYPE -		COMPONENT	,	
S.Br	rown. owlton.	EFF. A/C -		Ice-Detector in	take duct & R	•
MANUFACTU	RER'S PART NO. 108-	-00142		AVRO PART NO. 7-2055-2	277	nA18a
MANUFACTUI	RER'S NAME P.S.C. A	applied Research	Ltd.	(=20))=.	~ (
AVROCAN SP	EC. E-213	E.O. NO.				
ENVELOPE S	ıze 3.125" x 3.12	25" х 2.78" WEIGH	т 3.0 гв.		-1 sht.2 (-2 sht.2 (-2 sht.14	
LOCATION					-3 sht.4.	
BUNGTION F						
sign	nals its presence	e duct icing cond s to the ice warn er and engine ant	ing light,	REF. M.D.R. 20-5		
		ant smoonin	C ,	RELIA	BILITY	-
				OVERHAUL LIFE 150 WASTAGE Q.T.R. Pendi		HRS.
PARTEC		u sadansanim		Tend		
INSPECT		OPERATION	TO BE PERFORMED		EST.	MINUTES
	trics. (See mai	ntenance instruc			2 x 10	
		ACCESSIBILI	TY			
	Remove accepy removing	eess panel from t ng 24-3/16 screws	op of air intak • Remove and		1 x 8	
			210/110 10 0110			
			·			
	1	2	3			
	l November 28/56	April 8/57	3 November 5/57			
DATE COMPILED	D.Collingwood	April 8/57 D.Collingwood	3 November 5/57 W02.Wentworth			
COMPILED CHECKED		April 8/57	3 November 5/57			

		LUBRICAT	ON Nil	
PPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS
	DAME THE PARTY		0 - 193.398	
DETAILS:	28, 23, 23			The train material reasons and
Y 1 2 2		GROUND SUPPORT	FOUIPMENT	
SPECIA	AL TOOLS FOR AIRCRAF			OLS FOR BENCH USE
SPECI	AL TOOLS FOR AMOUNT	. 002		
	Nil	in a book of	N=	il
GR	OUND TESTING EQUIPMEN	NT	GROUND HA	NDLING EQUIPMENT
Tests	conf the more	92		
	Tester De-Icing	5G/10005	Cockpit acces	es stand
			maintenance p	platform
	A-C ground power	r unit.	4G/1591.	
NTERCHANGEA	ABLE X	REMOVAL IN	STRUCTIONS	MEN × MINUTES
REPLACEABLE				EST. ACTUAL
1 Max		wiring to the s	uppressor	Lan (m2) . In the first in
l nex		t wiring to the someounting bolts.	uppressor	Lan (ad)
			uppressor	LES BRANCO (COLORS)
		mounting bolts.	uppressor	1 x 10
		mounting bolts.		1 x 10
		mounting bolts.		1 x 10
		mounting bolts.		l x 10
		mounting bolts.		1 x 10
		mounting bolts.		1 x 10
		mounting bolts.		1 x 10
		mounting bolts.		1 x 10

MAI	INTENANCE	DATA RECORD	SYSTEM ELECTRICS	REF. NO.	
AVRO	AIRCRAFT LTD.	Engineering Div.		11-E-	
DISTRIBUTION	N: STANDARD +	A/C TYPE - Arrow 1	COMPONENT		
	K. Knowlton S. Brown		Relay	T 0 D	
	5. Drown	EFF. A/C - 25201	Duct part strip	ГФК	
MANUFACTU	RER'S PART NO. N/A		AVRO PART NO.		
MANUFACTUE	RER'S NAME N/A		MS-24143-1		
AVROCAN SP	EC. NIL	E.O. NO.			
ENVELOPE S	SIZE 3:70" x 2.68	37" x 3.20" WEIGHT 1.45		Sht. 14 Sht. 14	
LOCATION	Top of air intal	ke - L.& R Sta. 214.43	7-2055-7	71 & 72	
FUNCTION	On a signal frunit, this rela	rom the deicing temp. control ay controls A-C to parting st	rip.		
			RELIABII	LITY	
			overhaul Life 150 wastage Q.T.R. Pendi		s.
			Q.T.R. Pendi	.ng	
INSPECT	CION	OPERATION TO BE PERFOR	MED	MEN × MIN	UTES
PERIO	DD			EST. A	CTUA
25 hour		elay for security and cleanling Test. (See maintenance ins		1 x 5	
25 hour		elay for security and cleanling Test. (See maintenance ins 71/ Maint 11/8.)		1 x 5	
25 hour		Test. (See maintenance ins		1 x 5	
	access panel fro	ACCESSIBILITY om top of air-intake Sta. 214	tructions report	1 x 5	
Remove	access panel fro	Test. (See maintenance ins 71/ Maint 11/8.)	tructions report	1 x 5	
Remove Screws.	access panel fro	ACCESSIBILITY om top of air-intake Sta. 214 Remove and replace	tructions report		
Remove Screws.	access panel fro	ACCESSIBILITY om top of air-intake Sta. 214 Remove and replace	tructions report		
Remove Screws.	access panel fro	ACCESSIBILITY om top of air-intake Sta. 214 Remove and replace	tructions report		
Remove Screws.	access panel fro	ACCESSIBILITY om top of air-intake Sta. 214 Remove and replace	tructions report		

APPLICATION	MATERIAL	L UBRICATI SPECIFICATION	FREQUENCY	A	CCESS		
			- 24 11 1	10 DE2G2	ATE MINIT	E DETERM	
DETAILS:	and the Contraction of			7/6 pm	a mediants	AT STEAM	
		GROUND SUPPORT	EQUIPMENT				
SPECIAL	TOOLS FOR AIRCRAFT			OOLS FOR BENCE	H USE		
NIL			NIL				
GROUN	D TESTING EQUIPMEN	T	GROUND H	ANDLING EQUIPM	ENT		
AC	Ground Power Ur	nit	Cockp	it Access Sta	and		
INTERCHANGEABLE	X	REMOVAL INS	TRUCTIONS		MEN × M	INUTES	AC
REPLACEABLE			 		EST.	ACTUAL	1
1. 2.	Remove 4 mounti Remove 8 electr	ng screws. rical connections.	Remove and rep	lace	lx15		
				MAC THE			
				mark fine			

M A I N T I		ATA RECORD Engineering Div.	SYSTEM DE-ICING (Engine Intake)	REF. 1 E 150 E 151	09/1 12/1
DISTRIBUTION: STAN	IDARD +	A/C TYPE - Arrow 1 EFF. A/C - 25201	COMPONENT Boot 1 Ramp De-ic	ing	- 14
MANUFACTURER'S NA	ART NO. G-11901- AME B.F. Goodric		7-2055-91-LH 7-2055-92-RH		
		07" WEIGHT 2.64 LB.	7-1100-3 Sht. 1 7-2055-1 7-2055-2 7-2055-2 Sht. 1		
function For i	ce removal.		REF. M.D.R.		
			OVERHAUL LIFE 1500 WASTAGE Q.T.R. Pending		HRS.
INSPECTION		OPERATION TO BE PERFORMED)	MEN X M	INUTES
Primary	Charle he t-		2.01.	2 -	
	oneck boots	for signs of overheating are ecurity of boot and wiring	na Iliting	1 x 5	

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	

PPLICATION	MATERIAL	SPECIFICATION	FREQUENCY		CESS	
FEICATION	MATERIAL	SPECIFICATION	PREQUENCY	Acc		rudiert spil
TAILS:						
)		GROUND SUPPORT	EQUIPMENT			127251101
SPECIAL 7	TOOLS FOR AIRCRAFT	USE	SPECIAL TO	OOLS FOR BENCH	USE	
Pend	ding			Pending		
GROUN	D TESTING EQUIPMEN	T	GROUND H	ANDLING EQUIPME	NT	
NA ARCH						
	el De-ice test Ground Power Un	ni t	Mainter 4G/1596	nance Platfor	m	
		110				
			Cockpit	Access Stand		MINUTES
NTERCHANGEABLE EPLACEABLE	X	REMOVAL IN:	Cockpit	Access Stand		MINUTES
NTERCHANGEABLE EPLACEABLE	X	REMOVAL IN:	Cockpit	Access Stand	MEN X	1
TERCHANGEABLE	X Remove and repl	REMOVAL IN:	Cockpit	Access Stand	MEN X	1
TERCHANGEABLE EPLACEABLE	X Remove and repl	REMOVAL IN:	Cockpit STRUCTIONS e with Avro Proce	Access Stand	MEN X	1
TERCHANGEABLE EPLACEABLE	X Remove and repl	REMOVAL IN:	Cockpit STRUCTIONS e with Avro Proce	Access Stand	MEN X	1
TERCHANGEABLE EPLACEABLE	X Remove and repl	REMOVAL IN:	Cockpit STRUCTIONS e with Avro Proce	Access Stand	MEN X	1

MAINTENANCE D AVRO AIRCRAFT LTD.	ATA RECORD Engineering Div.	SYSTEM DE-ICING (Engine Intake)	E-1511/1
DISTRIBUTION: STANDARD + K. Knowlton	A/C TYPE - Arrow 1 EFF. A/C - 25201	COMPONENT Boot No. 2 Ran	mp De-Icing
S. Brown MANUFACTURER'S PART NO. G-11902 MANUFACTURER'S NAME B.F. Goodric	-13 L.H. G-11902 - 14 R.H.	AVRO PART NO. 7-2055-93- 7-2055-94-	
AVROCAN SPEC. E-218 E.O. ENVELOPE SIZE 52.17" x 36.00" LOCATION Engine air intaké ra	approx. WEIGHT 10.86 LB.	REF. DWGS. 7-1100-3 Sht. 1/7-1100-2 Sht: 1/7-2055-1 7-2055-2	
FUNCTION For ice removal		REF. M.D.R.	·Y
INSPECTION	OPERATION TO BE PERFORM	overhaul life 150 wastage q.t.r. Pending	OO HRS.

INSPECT	ION	OPERATION	TO BE PERFORMED		MEN X M	INUTES
PERIO	DD				EST.	ACTUAL
Primary	Check bo	oots for signs of	overheating and 1	lifting.	1 x5	
25 hour	check fo	or security of bo	ot and wiring		2 x 30	
	Function	n Test。 (See Mai 71/ Mai	ntenance Instructi nt 11/8).	Lons Report		
		A C C E S S I B I L I	T.Y.		TX TI	
		ACCESSIBILI	1 1			
		Unobstruc	ted			
SSUE	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			

		LUBRICATIO	NIL NIL		
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS	N/A
		1 10000	S-OUADERS SIGNATURE		
DETAILS:	OF TRUT OF	78 July 41 - 1991	no solutero chem	an entities	CONTRACTOR
		GROUND SUPPORT	FOUIPMENT		
SPECIAL T	COOLS FOR AIRCRAF		SPECIAL TOOLS FOR BENG	CH USE	
Pen	ding		Pending		
GROUNE	TESTING EQUIPMEN	NT	GROUND HANDLING EQUIP	MENT	
Pane A-C Unit	l De-ice test. Electrical Gro	und Power	Cockpit Access sta Maintenance Platfo 4G/1596	orm	
NTERCHANGEABLE		REMOVAL INST		MEN X	MINUTES
	80	REMOVALING	RUCTIONS	POT	ACTUAL
REPLACEABLE	X and replace	1,000,000 130 0	25 Januar 1992 allow Jeonia	EST.	ACTUAL
\$ \$ \$ A		in accordance wit	h Avro Process Standard 81.		ACTUAL
34		in accordance wit	h Avro Process Standard 81		ACTUAL
34		in accordance wit	h Avro Process Standard 81.		ACTUAL

			CORD	SYSTEM DL-ICING (Engine Intake)	E 151	3/1 3/1
	AIRCRAFT LTD.		neering Div.		E 151	0/1
	N: STANDARD +	A/C TYPE -	Arrow 1	COMPONENT		
	.Brown. .Knowlton.	EFF. A/C -	25201	Boot No.3 - int	ake de-i	cing
MANUFACTU	RER'S PART NO. G-119	903-17 L.H G-119	903-18 R.H.	AVRO PART NO. 7-2055-	95 TH.	
	RER'S NAME B.F. GOOD	drich Co.		7-2055-		
AVROCAN SP	PEC. E 218	E.O. NO.				
	SIZE 30.4" x 19.0"			7-1100-3 7-1100-2	Sht.15	
LOCATION	Engine air intak	ce- lower front-	L.&.K	7-2055-1 7-2055-2		
FUNCTION .	Ice removal.			REF. M.D.R.		
-				RELIABIL	ITY	
				overhaul Life 1500 wastage q.t.r. Pending.		HRS.
INSPECT	TION	ODERA MOI	V TO DE DEPENDENT		MEN × M	INUTES
PERIO)D	OPERATION	N TO BE PERFORMED		EST.	ACTUA
					R	
Primar	y Check	boots for signs	of overheating	and lifting	1 x 5	
25 hrs	. Check Instr	for security of actions Report 7	boot and wiring 1/Maint 11/8)	(See Maintenance	2 x 30	
		A C C E S S I B I L I	ΤΥ			
		ACCESSIBILI	ΤΥ			
		ACCESSIBILI Unobstructed	тү			
			ТҮ			
ISSUE		Unobstructed				
ISSUE	1	Unobstructed 2	3			
DATE	Sept. 10/56	Unobstructed 2 Jan. 7/57	3 November 8/57			
		Unobstructed 2	3			

		LUBRICA	rion Nil	
PPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS
*				
			n delegate	
DETAILS:				
		GROUND SUPPOR	T EQUIPMENT	10,7 1-2 1, incores
SPECIAL T	COOLS FOR AIRCRAFT	r use	SPECIAL TO	OLS FOR BENCH USE
P	Pending		Pendin	g
GROUNI	TESTING EQUIPMEN	T	GROUND HA	NDLING EQUIPMENT
P	Panel - De-icin	g Test	Maintenanc	e Platform 4G/1596
NTERCHANGEABLE		DEHOVAL II	NSTRUCTIONS	MEN × MINUTES
REPLACEABLE	X	REMOVALI	ASTRUCTIONS	EST. ACTUA
	Remove and rep	lace in accordan	ce with Avro Proce	ss

DISTRIBUTION: STANDARD + S.Brown. K.Knowlton. 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 LOCATION Engine air intake lower outboard - L&R FUNCTION For ice / removal INSPECTION PERIOD OPERATION TO BE PERFORMED OPERATION TO BE PERFORMED Primary Component Boot No.4 Intake De-icing 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. DWGS. 7-2055-97 7-2055-98 REF. M.D.R. RELIABILITY OVERHAUL LIFE 1500 WASTAGE Q.T.R. Pending. MEN X MINUTES EST. ACTIVE Primary Check boots for signs of overheating and lifting. 1 x 5	AVRO AIRCRAF		DATA RECORD Engineering Div.	SYSTEM DE-ICING (Engine - Intake)	E 1515/1 E 1518/1
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 LOCATION Engine air intake lower outboard - L&R FUNCTION For ice/ removal INSPECTION PERIOD OPERATION TO BE PERFORMED ACCESSIBILITY	S.Brown.				
ENVELOPE SIZE 27.37" x 27.0" approx. WERHT 3.18 LB. LOCATION Engine air intake lower outboard - L&R FUNCTION FOr ice/ removal REF. M.D.R. REF. M	MANUFACTURER'S NAM	MEB.F.Goodrich	ı Co.	7-1100- 7-2055-	-3 Sht 14 -97 - L.H.
OVERHAUL LIFE 1500 WASTAGE O.T.R. Pending. MEN X MINUTES EST. ACTIV Primary Check boots for signs of overheating and lifting. Check for security of boot and wiring. (See Maintenance Instructions Report 71/Maint 11/8) ACCESSIBILITY OVERHAUL LIFE 1500 HRS. MEN X MINUTES EST. ACTIV 2 x 30	LOCATION Engine a	air intake low	Letonia	7-2055-98	
INSPECTION OPERATION TO BE PERFORMED OPERATION TO BE PERFORMED MEN X MINUTES EST. ACTUAL Primary 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) ACCESSIBILITY				RELIABILIT	Y
Primary Check boots for signs of overheating and lifting. Check for security of boot and wiring. (See Maintenance Instructions Report 71/Maint 11/8) ACCESSIBILITY				WASTAGE	HRS.
Check for security of boot and wiring. (See Maintenance Instructions Report 71/Maint 11/8) 2 x 30 ACCESSIBILITY			OPERATION TO BE PERFORME	D	MEN × MINUTES EST. ACTUAL
(See Maintenance Instructions Report 71/Maint 11/8) 2 x 30	Primary	Check boots	s for signs of overheating	and lifting.	1 x 5
	25.Hours	Check for s (See Mainte	security of boot and wiring enance Instructions Report	71/Maint 11/8)	2 x 30
Unobstructed.			ACCESSIBILITY		
Unobstructed。					
		Unobst	tructed.		

2

January 7/57

D.Collingwood

WO2.Wentworth

R.F.Reid

November 8/57

WO2.Wentworth.

K.P.Lowe.

R.F.Reid.

1

Sept. 10/56

D.Collingwood

WO2.Wentworth

G.Emmerson

ISSUE

DATE

CHECKED

APPROVED

PLICATION	MATERIAL	LUBRICATI	ON Nil.	ACCESS
220000	MA DAME	or Deli Text Text		
ETAILS:				The second second second
		GROUND SUPPORT	EQUIPMENT	
SPECIAL	TOOLS FOR AIRCRAF	r use	SPECIAL TO	OLS FOR BENCH USE
	Pending		Pending	g
GROU	ND TESTING EQUIPMEN	TT	GROUND HA	NDLING EQUIPMENT
Panel - De- AC ground	icing Test power unit.		Maintenand Cockpit ac	ce Platform 46/1596 ccess stand.
NTERCHANGEABI	Æ			MEN × MINUTES
		REMOVALING	TRUCTIONS	
REPLACEABLE	X		***************************************	EST. ACTUAL
REPLACEABLE		eplace in accorda		EST. ACTUAL
REPLACEABLE	Remove and r	eplace in accorda		EST. ACTUAL
REPLACEABLE	Remove and r	eplace in accorda		EST. ACTUAL

	TENANCE	DATA RE	CORD	SYSTEM DE ICING (Engine Intake)	REF. NO. 20-18 E-1517/1
DISTRIBUTION:	STANDARD + S. Brown K. Knowlton	A/C TYPE - EFF. A/C -		COMPONENT	5 - Intake
	R'S NAME B.F. GO	05-23-L.H. G 1190 podrich Co.	5-24-R.H.	AVRO PART NO. 7-2055-101 7-2055-102	
		approx. werent		7-1100-2 7-2055-1 7-2055-2 7-1100-3 REF. M.D.R.	
				RELIABI	1 177
					500 н rs .
INSPECTION PERIOD	N	OPERA TION	TO BE PERFORMED		MEN × MINUTES
Primary 25 hou	rs Chec k f	oots for signs of For security of b test (see maint 71/Maint 11/8)	oot and wiring		1 x 5 2 x30
	Unc	ACCESSIBILIT	TY		
ISSUE	1		3		

WO2 Wentworth KP Lowe

R.F. Reid

CHECKED

APPROVED

D. Collingwood D. Collingwood WO 2 Wentworth WO2 Wentworth

R.F. Reid

G. Emmerson

		LUBRICATIO	NIL NIL	
PPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS
				The same of the sa
DETAILS:				
				The state of the s
		GROUND SUPPORT		
SPECIAL T	OOLS FOR AIRCRAF	T USE	SPECIAL TOOL	S FOR BENCH USE
				detail out and
P	ending		Pe	ending
GROUNI	TESTING EQUIPME	NT	GROUND HAND	DLING EQUIPMENT
			- 1	
	De-icing test	7	Maintenan	ce Platform 4G/1596
A=O GI	ound Power Sup	bra	Cockpit a	ccess stand.
NTERCHANGEABLE EPLACEABLE	X	REMOVAL INS	TRUCTIONS	MEN × MINUTES EST. ACTUAL
PLACEABLE	A		The same and the	EST. ACTUAL
				The second secon
	Remove an	d replace in accor	dance with Avro Pr	ocess
	Remove an	d replace in accor 31.	dance with Avro Pr	ocess
	Remove an Standard	d replace in accor 81.	dance with Avro Pr	ocess
	Remove an Standard	d repl ac e in accor 81.	dance with Avro Pr	ocess
	Remove an Standard	d replace in accor 81.	dance with Avro Pr	ocess
	Remove an Standard	d replace in accor 81.	dance with Avro Pr	ocess
	Remove an Standard	d replace in accor 81.	dance with Avro Pr	ocess
	Remove an Standard	d replace in accor 81.	dance with Avro Pr	ocess
	Remove an Standard	d replace in accor	dance with Avro Pr	ocess
	Remove an Standard	d replace in accor	dance with Avro Pr	ocess
	Remove an Standard	d replace in accor	dance with Avro Pr	ocess
	Standard	d replace in accor	dance with Avro Pr	ocess
	Standard	d replace in accor	dance with Avro Pr	ocess
	Standard	d replace in accor	dance with Avro Pr	ocess
	Standard	d replace in accor	dance with Avro Pr	ocess
	Standard	d replace in accor	dance with Avro Pr	ocess
	Standard	d replace in accor	dance with Avro Pr	ocess
	Standard	d replace in accor	dance with Avro Pr	ocess
	Standard	d replace in accor	dance with Avro Pr	ocess

AVRO AIRCRAFT LTD. DISTRIBUTION: STANDARD + S. Brown K. Knowlton MANUFACTURER'S PART NO. MANUFACTURER'S NAME B.F. Goodrich Co. AVROCAN SPEC. E-218 E.O. NO. ENVELOPE SIZE WEIGHT LOCATION Engine Air Intake	rrow 1 5201 Boot No. 6 - Intake De-icing AVRO PART NO. 7-2055-103 REF. DWGS.
MANUFACTURER'S NAME B.F. Goodrich Co. AVROCAN SPEC. E-218 E.O. NO. ENVELOPE SIZE WEIGHT LOCATION Engine Air Intake	7-2055-103 REF. DWGS. 7-1100-2 Sht. 15
LOCATION Engine Air Intake	7-1100-2 Sht. 15
FUNCTION	
	REF. M.D.R.
For ice removal.	RELIABILITY
District Process of the Control of t	OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R.
INSPECTION OPERATION PERIOD	TO BE PERFORMED MEN × MINUTES EST. ACTUA
	EST. ACTUA

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25 Hrs. Function test (See Maintenance	1 x 5	ACTUAL
and lifting. 25 Hrs. Function test (See Maintenance Instructions Report 71/Maint 11/8)		
and lifting. 25 Hrs. Function test (See Maintenance Instructions Report 71/Maint 11/8)		
Instructions Report 71/Maint 11/8)	2 x 30	
The beatleast a second over the second of the second over the		
ACCESSIBILITY		
ACCESSIBILITY		
ACCESSIBILITY		
Unobstructed.		5-
SSUE		
SSUE 1 DATE 22 Nov 57		
COMPILED WO2 Wentworth		
APPROVED R.F. Reid		

GROUND SUPPORT EQUIPMENT SPECIAL TOOLS FOR AIRCRAFT USE NIL NIL GROUND TESTING EQUIPMENT Panel De-icing test Air Conditioner and Generator AC NTERCHANGEABLE X REMOVAL INSTRUCTIONS SPECIAL TOOLS FOR BENCH USE NIL NIL MAINTENANCE Platform 4G/1596 Cockpit Access Stand MEN × MINUTES			LUBRICATI	ON NIL	SOM SOME STATE OF STA
SPECIAL TOOLS FOR AIRCRAFT USE NIL NIL OROUND TESTING EQUIPMENT Panel De-icing test Air Conditioner and Generator AC NTERCHANGEABLE X REMOVAL INSTRUCTIONS Remove and replace in accordance with Avro Process Standard 81.	PPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS
SPECIAL TOOLS FOR AMCRAFT USE NIL NIL GROUND TESTING EQUIPMENT Panel De-icing test Air Conditioner and Generator AC NTERCHANGEABLE REMOVAL INSTRUCTIONS REMOVAL INSTRUCTIONS REMOVE and replace in accordance with Avro Process Standard 81.					
NIL REPLACEABLE NIL NIL NIL REMOVE AND TESTING EQUIPMENT REMOVE AND TESTING EQUIPMENT Maintenance Platform 4G/1596 Cockpit Access Stand MEN × MINUTES EST. ACTUAL Remove and replace in accordance with Avro Process Standard 81.					
NIL REPLACEABLE NIL NIL REMOVE and replace in accordance with Avro Process Standard 81.	DETAILS:				
NIL REPLACEABLE NIL NIL NIL REMOVAL INSTRUCTIONS SPECIAL TOOLS FOR BENCH USE NIL NIL NIL REMOVAL INSTRUCTIONS Remove and replace in accordance with Avro Process Standard 81.					
NIL REPLACEABLE NIL NIL NIL REMOVE AND TESTING EQUIPMENT REMOVE AND TESTING EQUIPMENT Maintenance Platform 4G/1596 Cockpit Access Stand MEN × MINUTES EST. ACTUAL Remove and replace in accordance with Avro Process Standard 81.					
NIL REPLACEABLE NIL NIL REMOVAL INSTRUCTIONS SPECIAL TOOLS FOR BENCH USE NIL NIL NIL RECOUND HANDLING EQUIPMENT Maintenance Platform 4G/1596 Cockpit Access Stand MEN × MINUTES EST. ACTUAL Remove and replace in accordance with Avro Process Standard 81.					
NIL GROUND TESTING EQUIPMENT Panel De-icing test Air Conditioner and Generator AC Maintenance Platform 4G/1596 Cockpit Access Stand INTERCHANGEABLE X REMOVAL INSTRUCTIONS REPLACEABLE Remove and replace in accordance with Avro Process Standard 81.	enecial 7	COLS FOR AIRCRAF			S EUD DENCU HEE
Panel De-icing test Air Conditioner and Generator AC Maintenance Platform 4G/1596	SPECIAL	OOLS FOR AIRCRAF	I USE	SPECIAL TOOL	S FOR BENCH USE
Panel De-icing test Air Conditioner and Generator AC Maintenance Platform 4G/1596					
Panel De-icing test Air Conditioner and Generator AC Maintenance Platform 4G/1596		NIL		NI	L
Panel De-icing test Air Conditioner and Generator AC Maintenance Platform 4G/1596					
Air Conditioner and Generator AC REMOVAL INSTRUCTIONS REPLACEABLE Remove and replace in accordance with Avro Process Standard 81.	GROUNI	TESTING EQUIPMEN	TY	GROUND HAND	LING EQUIPMENT
Air Conditioner and Generator AC REMOVAL INSTRUCTIONS REPLACEABLE Remove and replace in accordance with Avro Process Standard 81.	Panel Desicio	ng test		Maintenance Pla	atform 4G/1596
REMOVAL INSTRUCTIONS EST. ACTUAL Remove and replace in accordance with Avro Process Standard 81.	Air Condition	ner and Generat	or AC	Cockpit Access	Stand Stand
REMOVAL INSTRUCTIONS EST. ACTUAL Remove and replace in accordance with Avro Process Standard 81.					
Remove and replace in accordance with Avro Process Standard 81.	NTERCHANGEABLE	x	REMOVALINS	TRUCTIONS	MEN × MINUTES
with Avro Process Standard 81.	EPLACEABLE		KEMOTAL INS	1800110113	EST. ACTUAL
		with Av	ro Process Standa	rd 81.	
		with Av	ro Process Standa	rd 81.	
		with Av	ro Process Standa	rd 81.	
		with Av	ro Process Standa	rd 81.	
		with Av	ro Process Standa	rd 81.	

M A I N T E	ENANCE D	ATA RECORD Engineering Div.	SYSTEM DE ICING (Engine Intake	1 1-1//1/
	DARD + Knowlton Brown	A/C TYPE - Arrow 1 EFF. A/C - 25201	COMPONENT Boot # 7 Inta	E=15327 ke DeIcing
MANUFACTURER'S PA MANUFACTURER'S NA AVROCAN SPEC.	ME B.F. Goodri		AVRO PART NO. 7-2055-117- 7-2055-118-	
envelope size 49		werent LB.	7-1100-2 7-1100-3 7-2055-1	
FUNCTION FO	or ice removal		REF. M.D.R.	
			RELIABILI OVERHAUL LIFE 15 WASTAGE Q.T.R. pending	
INSPECTION PERIOD		OPERATION TO BE PERFORME	D	MEN X MINUTES
Primary	Check boots:	for signs of overheating a	no lifting.	1 x 5

INSPECT	TON	OPERATION	TO BE PERFORMED		MEN X M	INUTES
PERIO	D				EST.	ACTUAL
Primar	Check b	oots for signs of	overheating and	lifting.	1 x 5	
25 hou	rs Check f	or security of bo	oot and wiring		2 x 30	
	Function	on Test (See Main 71/Maint	tenance Instructi	on Report		
						-44
						4.1
		ACCESSIBILI	TY			
		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		

		LUBRICATIO	NIL NIL		
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS	
DETAILS:					
		GROUND SUPPORT	EQUIPMENT		
SPECIAL	TOOLS FOR AIRCRAF	П		OLS FOR BENCH USE	
Per	nding			Pending	
GROUI	ND TESTING EQUIPME	NT	GROUND HA	NDLING EQUIPMENT	
	nel De-icing tes ound power unit	3t	Maintenance Cockpit Acc	Platform 4G/1596 ess Stand	
NTERCHANGEABL		REMOVAL INS	TRUCTIONS	MEN × MINUTE	cs
REPLACEABLE	X	39	2 1/2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	EST. ACTU	AL
	Rémove Process	and replace in acc Standard 81.	cordance with Avr	0	

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