71 Maint 11/9

16900

ARROW I

CONFIDENTIAL

MAINTENANCE INSTRUCTIONS

ELECTRICS - ENGINE SERVICES

ANALYZED

SECURITY CLASSIFICATION - CONFIDENTIAL

Classification cancelled / Changed to UNCLASS
By authority of AVRS
Date 30 Sept 86
Signature D G Bell
Unit / Rank / Appointment AVRS5

ARROW 1

MAINTENANCE INSTRUCTIONS

ELECTRICS - ENGINE SERVICES

71/MAINT 11/9

12 Nov.57

(This instruction supercedes Maint 105-25-2)

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

15819074

TABLE OF CONTENTS

Table of Contents (continued)

1. DESCRIPTION

1.1 General

The electrical circuits of the engine services include instrument circuits, warning circuits, engine starting control, ignition and re-light circuits. Electrically identical circuits are provided for each engine. Refer to Avro wiring diagrams 7-1100-3 sht 3, Starting and Ignition and 7-1100-3 sht 4 Engine Control and Warning.

1.2 Engine Starting and Ignition

1.2.1 The engines are started by compressed air supplied from an engine starting truck.

1.2.2 The starting cycle is initiated and controlled by electrical circuits which are actuated by switches located in the front cockpit.

1.2.3 Inter-connection between the engine starting truck and the aircraft is by a cable which plugs into a starting receptacle located on the nose landing gear. The starter plug incorporates a lanyard type quick-release to prevent unnecessary delay in take-off after the engines have been started.

1.2.4 The starter cable consists of the starting control circuit wiring for two compressed air control valves, an interphone line and two D-C supply circuits. The interphone line permits inter-communication between the aircrew and the ground crew and the reception of telescramble communications from the operations control centre. The D-C supply circuit is used to supply power to the battery bus in lieu of the aircraft battery.
When the starting cable plug is connected to the starting receptacle and D-C power is supplied from the engine starting truck, the aircraft starting power relay is energized. This action isolates the aircraft battery and transfers the battery bus load onto the external D-C supply. The two starting control circuits provide a means of control to actuate the external air control valves.

1.2.5 The starting circuits permit the engines to be started singly or simultaneously and facilitate a means of interrupting the starting cycle.

1.2.6 The starting cycle is initiated by selecting the engine starting switch to the START position. This completes a supply circuit from the emergency D-C bus to the starting relay. The ground return for the starting relay is completed through a centrifugal switch (starting cut-off) fitted on the engine starter. The starting relay, when energized, completes the following three circuits:

1.2.6.1 A self-holding circuit which is operative until the engines are started or the starting cycle is interrupted.

1.2.6.2 A supply circuit which opens the compressed air control valve on the starter cart.

1.2.6.3 A supply circuit to a centrifugal switch (ignition control) fitted on the engine starter.

1.2.7 When the engine starter switch is released, the supply circuit for the engine starting relay is maintained through the normally closed contacts of a reset relay.

1.2.8 The ignition control centrifugal switch closes when the starter attains a speed of 700 rpm. This action completes the supply circuit from the starting relay to an ignition relay which closes, completing circuits to the igniters.

1.2.9 The starting cut-off centrifugal switch opens when the starter attains a speed of 3020 rpm. This action renders the starting circuits inoperative by interrupting the self-holding ground return circuit of the starting relay which interrupts the supply to ignition control centrifugal switch and to the compressed air control valve.

1.2.10 If the engine fails to start, the starting cycle can be interrupted by selecting the RESET position on the engine starting switch. This selection energizes the reset relay which interrupts the power supply to the starting relay. For ground motoring of the engine, select the starter switch to the RESET position and hold. (maximum 30 seconds)

1.3 Engine Re-Lighting

1.3.1 A push-button re-light switch is fitted on each power lever. When either switch is pressed, a relay is energized and circuits are completed from the emergency D-C bus to the relevant LH or RH engine spark igniters.

1.4 Low Pressure Compressor Over-Speed Indicator

1.4.1 A low pressure compressor over-speed indicator is mounted on the master warning system indicator panel. The low pressure compressor is governed to 7200 $\pm$ 25 rpm. Illumination of a warning light denotes that the low pressure rotor has attained a speed between 7260 and 7330 rpm. The power supply for the right and left low pressure compressor overspeed indicators is derived from the main D-C bus. Refer to Maintenance Instructions Report 71/MAINT 11/3 - Electrics Master Warning System.

1.5 Zone 1 Ejector Control

1.5.1 The zone 1 ejcctor is fitted to assist in engine cooling and to exhaust combustable vapors from zone 1 to atmosphere at low airspeeds and when ground running.

1.5.2 The system eonsists of a differential pressure switch whieh controls an ejector valve actuator. When the pressure in the duct is less than the ambient pressure, the zone 1 ejector pressure switch closes, eompleting a supply eircuit to the ejector valve relay, whieh in turn eompletes a supply circuit to energize the ejeetor valve to the open position. When the pressure in the duct is equal to or greater than the ambient pressure, the zone 1 ejeetor pressure switch should not be actuated, a supply eircuit through normally closed contacts in the ejector relay should energize the zone 1 ejcctor valve to the closed position.

1.6 Afterburner and Heat Exchanger Operation

1.6.1 With the enginc running, the afterburncr is brought into operation by advaneing the power lever to the afterburner range and then pressing the lever. This action energizes the afterburner relay which completes circuits to initiate the operation of the afterburner hydro-mechanical unit and open the fuel/oil heat exchanger valve.

1.6.2 The hydro-mechanical unit provides fuel to the afterburner igniters and fuel nozzlcs and opens the afterburner diseharge nozzle. The fuel/oil heat exchanger valve, when open, permits engine oil to pass through the eore of the hcat exchanger. A power supply for both circuits is derived from the main D-C bus.

1.7 Engine Inlet Fuel Pressure Warning

1.7.1 An ENG. FUEL PRESS. warning light for each engine is fitted on the master warning system indicator panel. The lights illuminate if the relevant LH or RH engine inlet fucl pressure drops below 18 psia. Each warning light is controlled by a pressure switeh tapped into the corresponding engine fuel inlet line at station 589 of the fuselage, whieh is downstream from the low pressure coek. Both circuits derive their power supply from the main D-C bus, via the master warning control unit. Refer to Maintenance Instructions Report 71/MAINT 11/3 - Elcetrics - Master Warning System.

1.8 Engine Oil Pressure Warning

1.8.1 An OIL PRESS. warning light for each engine is fitted on the master warning system indieator panel. The lights illuminate if the relevant LH or RH engine oil pressure drops below 25 psi. Eaeh warning light is controlled by a pressure switch

1.8.1 (continued)

mounted on the LH side of the corresponding engine gear box. Both circuits derive their power supply from the main D-C bus via the master warning control unit. Refer to Maintenance Instructions Report 71/MAINT 11/3 - Electrics - Master Warning System.

1.9 Engine Emergency Fuel Control

1.9.1 The emergency fuel control is provided to enable an alternative selection of the fuel control valve to be made.

1.9.2 The control solenoids are electrically actuated but, in addition, the selector valve is hydraulically locked in either position as an additional "fail safe" feature.

1.9.3 Selecting the fuel control switch to the RESET position energizes the normal operation solenoid valve open, causing fuel pressure to equalize across the fuel selector valve.

1.9.4 Selecting the fuel control switch to the EMERG. position opens the emergency solenoid valve and bleeds off the fuel behind the selector valve. A pressure difference across the face of the selector valve will overcome the spring force and shuttle the selector valve to the emergency position. At the extreme end of its travel the selector valve completes the emergency indicator light circuit and the ENG. EMERG. FUEL warning light should illuminate.

1.9.5 Selecting the fuel control switch to the RESET position energizes the normal solenoid and fuel pressure will again equalize across the face of the selector valve. The spring force will shuttle the valve to the normal position. With the valve in this position, the emergency fuel warning light circuit is open. Refer to Maintenance Instructions Report 71/MAINT 11/3 - Electrics - Master Warning System.

1.10 Engine Anti-Icing

1.10.1 Refer to Maintenance Instructions Report 71/MAINT 11/8 - Electrics Duct De-Icing.

2. GROUND HANDLING EQUIPMENT

2.1 A-C Ground Power Unit

2.2 Truck-Engine Starter

3. PREPARATION FOR TESTING

3.1 This test is to ensure that the electrical components of the engine services are functioning correctly. (Refer to Avro Drawings 7-1100-3 sht 3 and 4).

3.2 For all tests the MASTER ELECTRICS switch should be selected to the ON position.

4. ENGINE SERVICES - ACTUATION AND INDICATION FUNCTION TESTS

WARNING

Ignition voltage is deadly. Do not touch the igniter plugs if the ignition is on. Do not test the ignition system when personnel are in contact with the igniter plugs. Do not test the ignition system near inflammables.

4.1 Ignition Test

4.1.1 A satisfactory electrical test of the engine igniters may be accomplished by listening to the audible sparking of the igniters. To ensure that both igniters function, each should be checked separately.

4.1.2 Ensure that the circuit breakers LEFT RELIGHT and L. START, located on panel E1, are in the closed position and the current limiter IGNITION #2, located on panel E20, is serviceable.

4.1.3 Connect the engine starting truck to the aircraft. Ensure that the engine starter is functioning correctly.

4.1.4 Remove the current limiter IGNITION #2, located on panel E20.

4.1.5 Press the left RELIGHT push switch, located on the left power lever, to the closed position. An audible sparking noise should be heard from No. 1 igniter. Release the left RELIGHT push switch and the audible sparking noise from the No. 1 igniter should stop.

4.1.6 Replace the current limiter IGNITION #2 on panel E20.

4.1.7 Select the circuit breaker L. START, located on panel E1, to the open position.

4.1.8 Press the left RELIGHT push switch, located on the left power lever, to the closed position. An audible sparking noise should be heard from No. 2 igniter. Release the left RELIGHT push switch and the audible sparking noise from the No. 2 igniter should stop.

4.1.9 Select the circuit breaker L. START, located on panel E1, to the closed position.

4.1.10 Repeat Paras. 4.1.4 to 4.1.9 for the right engine, substituting the word "right" for "left".

4.2 Starting System Test

4.2.1 A satisfactory engine start should constitute an adequate electrical function test of the starting system.

4.2.2 Connect the engine starting truck to the aircraft. Ensure that the engine starter is functioning correctly.

4.2.3 Ensure that the appropriate circuit breaker START, located on panel E1, is in the closed position.

4.2.4 Select the MASTER ELECTRIC switch to the ON position.

4.2.5 Select the L. ENGINE STARTING SW., located on panel E16, to the START position momentarily.

4.2.6 The external air control valve, located on the engine starting truck should be energized to the open position.

4.2.7 When the engine attains a speed of 700 rpm, a centrifugal switch in the starter assembly should close, energizing the engine ignition. When the engine attains a speed of 3020 rpm, a centrifugal switch in the starter assembly should be actuated to an open selection. The engine starting electrics should be open circuited, the external air control valve should be de-energized to the closed position and the engine ignition should be de-energized.

4.2.8 The engine start sequence may be interrupted at any time by selecting the L. ENGINE STARTING SWITCH to the RESET position.

4.2.9 To motor the engine without ignition, select and hold the L. ENGINE STARTING SWITCH to the RESET position. The external air control valve should be energized to the open position and the engine should then motor without ignition.

4.2.10 Select the MASTER ELECTRIC switch to the OFF position.

4.2.11 To function test the right engine electrics of the starting system, proceed as outlined in Paras. 4.2.2 to 4.2.10, substituting the word "right" for "left".

4.3 Low Pressure Compressor Over-Speed (Left and Right)

4.3.1 The rotor over-speed test should be carried out with the engine running. Refer to Maintenance Instructions Report 71/MAINT 25/3 - J.75 Engine Running.

4.3.2 Ensure that the current limiter L. ENG. WARN., located on panel E20, is serviceable.

4.3.3 Select the MASTER ELECTRIC switch to the ON position.

4.3.4 With the left engine running, move the power lever to the afterburner position. The amber MASTER WARNING and the left ROTOR O'SPEED warning lights may be illuminated momentarily, then go out.

4.3.5 If the ROTOR O'SPEED warning light does not come on, correct functioning of the system may be assumed, but should the warning light come on and remain on for more than 2 seconds, a malfunction is indicated.

4.3.6 For a right rotor-over-speed function check repeat Paras. 4.3.1 to 4.3.5, substituting the "right" for "left".

4.4 Zone 1 Ejector Control (Left and Right)

4.4.1 Ensure that the current limiter L. ZONE #1 EJECT., located on panel E20, is serviceable.

4.4.2 Without the engine running, the left Zone #1 ejector control system may be actuated by applying a 1 psi air pressure to the atmospheric (skin) opening of the differential pressure switch located at the under side of the intake duct at Sta. 550.

4.4.3 The left ejector control valve indicator should move from a normal open indication to a closed indication.

4.4.4 Remove the air pressure to the differential pressure switch.

4.4.5 The ejector control valve indicator should move from the closed indication to the open indication.

4.4.6 With the engine running, the left Zone #1 ejector control system should be evident with the engine idling. Refer to Maintenance Instructions Report 71/MAINT 25/3 - J.75 Engine Running.

4.4.7 To function test the right engine Zone #1 ejector control, repeat Paras. 4.4.1 to 4.4.6, substituting the "right" for "left".

4.5 Afterburner and Heat Exchanger Valve (Left and Right)

4.5.1 The afterburner and heat exchanger valves should be actuated simultaneously when the power lever is selected to the afterburner position.

4.5.2 Ensure that the circuit breaker L. A/B FUEL CONTROL, located on panel E1, is in the closed position.

4.5.3 Check that the left heat exchanger valve indicator, located on the base of the fuel/oil heat exchanger, is in the by-pass position.

4.5.4 Select the left power lever to the AFTERBURNER position.

4.5.5 Ensure that the left heat exchanger valve indicator moves to the core position.

4.5.6 Select the left power lever to the OFF position. The left heat exchanger valve indicator should move to the by-pass position.

4.5.7 A function test of the afterburner valve located on the engine should be carried out with the engine running. Refer to Maintenance Instructions Report 71/MAINT 25/3 - J.75 Engine Running.

4.5.8 For the right afterburner and heat exchanger valves, repeat Paras. 4.5.1 to 4.5.7 substituting the "right" for "left".

4.6 Engine Inlet Fuel Pressure Warning (Left and Right)

4.6.1 This test should be carried out during engine start up. Refer to Maintenance Instructions Report 71/MAINT 25/3 - J.75 Engine Running.

4.6.2 Ensure that the current limiter, L. ENG. WARN., located on panel E20, is serviceable.

4.6.3 Select the MASTER ELECTRIC switch to the ON position.

4.6.4 With the left engine not running, the ENG. FUEL PRESS. and amber MASTER WARNING lights should be illuminated.

4.6.5 Pulse the master RESET switch, located on the master warning panel. The amber MASTER WARNING light should go out.

4.6.6 With the left engine running at idle speed, the warning light ENG. FUEL PRESS. (left) should go out.

4.6.7 Select the MASTER ELECTRICS switch to the OFF position.

4.6.8 For a right engine fuel pressure function test, repeat Paras. 4.6.1 to 4.6.7 substituting the "right" for "left".

4.7 Engine Oil Pressure Warning (Left and Right)

4.7.1 This test should be carried out during engine start up.

4.7.1 (continued)

Refer to Maintenance Instructions Report 71/MAINT 25/3 - J.75 Engine Running.

4.7.2 Ensure that the current limiter L. ENG. WARN., located on panel E20, is serviceable.

4.7.3 Select the MASTER ELECTRICS switch to the ON position.

4.7.4 With the left engine not running, the warning lights OIL PRESS. (left) and amber MASTER WARNING should be illuminated.

4.7.5 Pulse the master RESET switch located on the master warning panel. The amber MASTER WARNING light should go out.

4.7.6 With the left engine running at idle speed, the warning light OIL PRESS. (left) should go out.

4.7.7 Select the MASTER ELECTRICS switch to the OFF position.

4.7.8 For a right engine oil pressure function test, repeat Paras. 4.7.1 to 4.7.5 substituting the "right" for "left".

4.8 Engine Emergency Fuel Control (Left and Right)

4.8.1 This test should be carried out with the left engine running.

4.8.2 Ensure that the circuit breakers L. ENG. and R. ENG. FUEL CONTROL, located on panel E1, are closed.

4.8.3 Select the left FUEL CONTROL switch, located on the pilot's left hand console, to the EMERGENCY position. Leave the switch in this position for 3 seconds. The warning light ENG. EMERG. FUEL should illuminate.

4.8.4 Select the left FUEL CONTROL switch to the RESET position and hold 3 seconds.

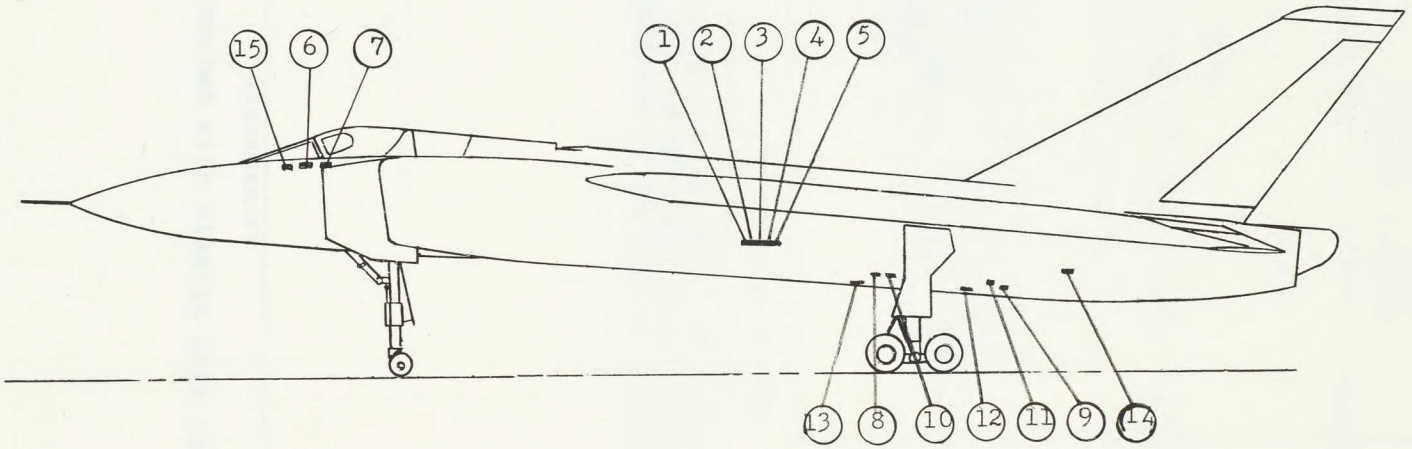
4.8.5 The warning light ENG. EMERG. FUEL should go out.

4.8.6 For a right engine function chec, repeat Paras. 4.8.1 to 4.8.5 substituting the "right" for "left".

4.9 Engine Anti-Icing (Left and Right)

4.9.1 Refer to Maintenance Instructions Report 71/MAINT 11/9 - Electrics - Duct De-Icing.

1. Relay - Zone 1 Ejector
2. Relay - Ignition
3. Relay - Engine Starting
4. Relay - Engine Reset
5. Relay - Afterburner
6. Switch - Fuel Control
7. Switch - Engine Starting
8. Valve - Engine Heat Exchanger
9. Switch - Engine Oil Pressure
10. Switch - Engine Fuel Pressure
11. Switch - Engine Start
12. Engine Junction Box.



13. Switch - Zone 1 Ejector Pressure
14. Valve - Zone 1 Ejector
15. Switch - Afterburner

FIGURE 1

COMPONENT LOCATION

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS

REF. NO. 11-E5/11 11-E5/16

DISTRIBUTION: STANDARD +
S. Brown
K. Knowlton

A/C TYPE - Arrow 1

EFF. A/C - 25201

COMPONENT: Relay - Zone 1 Ejector.

MANUFACTURER'S PART NO.

MANUFACTURER'S NAME

AVROCAN SPEC. E.O. NO.

AVRO PART NO. CS-R-122

ENVELOPE SIZE 2.125"x 2.6"x 2.34" WEIGHT 0.44 LB.

LOCATION Mounted on panel E5, located in missile bay.

REF. DWGS. 7-1100-2 Sht. 19
7-1100-3 Sht. 4

FUNCTION Through normal closed contacts allows a D-C supply to energize the zone/ ejector valve to the open position. When energized by the zone/ ejector pressure switch allows a D-C supply to energize the zone/ ejector valve to the closed position.

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
25 Hours	Check relay for security of mounting check electrical connections for security. (See Maintenance Instructions Report 71/Maint. 11/9).	2 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	Nil

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		(1) Disconnect 5 electrical connections (2) Remove 2 mounting bolts.		
		Remove and Replace	1 x 20	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS

REF. NO. 11-E5/18, 11-E5/32

DISTRIBUTION: STANDARD +

S. Brown
K. Knowlton

A/C TYPE – Arrow 1

EFF. A/C – 25201

COMPONENT: Relay - Ignition

MANUFACTURER'S PART NO. 645-22

MANUFACTURER'S NAME Cook Electric Co. (Canadian Diaphlex Ltd)

AVRO PART NO. CS-R-122

AVROCAN SPEC. E.O. NO.

ENVELOPE SIZE 3.7"x 2.7"x 3.0" WEIGHT LB.

LOCATION Mounted on panel E5, located in the missile bay.

FUNCTION When energized, by a selection of the engine start or relight switch, complete a D-C supply to the ignition.

REF. DWGS.
7-1100-2 Sht. 19
7-1100-3 Sht. 3

REF. M.D.R.

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 electrical connection for security check for security of mounting, Function check. (See Maintenance Instructions Report 71/Maint. 11/9)	1 x 2 2 x 5	

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

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL

1. Disconnect 9 electrical connection
2. Remove 4 mounting bolts.

Remove and Replace	1 x 30	

ACTUAL

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E5/20, 11-E5/19		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: Relay Engine Starting
MANUFACTURER'S PART NO.			AVRO PART NO.: MS25024-1
MANUFACTURER'S NAME			
AVROCAN SPEC.	E.O. NO.		
ENVELOPE SIZE 2.625"x 2.68"x 3.3"	WEIGHT 0.8 LB.		REF. DWGS.: 7-1100-2 Sht. 19; 7-1100-3 Sht. 3
LOCATION: Mounted on panel E5 - located in the missile bay.			REF. M.D.R.
FUNCTION: When energized completes a d-c supply to actuate the starter air control valves and to the N.O., 700 rpm switch on the starter			RELIABILITY: OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
Engine Start	A function check will be carried out on an engine start, refer to Maintenance Instruction Report 71/Maint. 25/3.	1 x 2	
	ACCESSIBILITY Unobstructed with missile pack removed.		

ISSUE	1				
DATE	Nov. 5/57				
COMPILED	WO2 Wentworth				
CHECKED	K.P. Lowe				
APPROVED					

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		REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL

1. Remove - 11 electrical connections.
2. Remove - 4 mounting bolts

Remove and Replace — 1 x 25

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS

REF. NO. 11-E5/23 11-E5/22

DISTRIBUTION: STANDARD +

S. Brown
K. Knowlton

A/C TYPE - Arrow 1

EFF. A/C - 25201

COMPONENT: Relay - Engine Reset

MANUFACTURER'S PART NO.

MANUFACTURER'S NAME

AVRO PART NO. CS-R-122

AVROCAN SPEC. E.O. NO.

ENVELOPE SIZE WEIGHT LB.

REF. DWGS.
7-1100-2 Sht. 19
7-1100-3 Sht. 3

LOCATION Mounted on panel E5, located in the missile bay.

FUNCTION When energized, open circuits the engine starting relay holding supply. Completes a d-c supply to the starter air control valve.

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
Engine Motor or Engine Reset.	Function check - refer to maintenance Instruction report 71/Maint. 25/3	1 x 10	

ACCESSIBILITY

Unobstructed, with missile pack removed.

ISSUE	1				
DATE	Nov. 5/57				
COMPILED	WO2 Wentworth				
CHECKED	K.P. Lowe				
APPROVED					

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 connectors 2. Remove 2 mounting bolts.		
		Remove and Replace	1 x 20	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E5/50, 11-E5/51		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: Relay - Afterburner
MANUFACTURER'S PART NO.			AVRO PART NO.: CS-R-122
MANUFACTURER'S NAME			
AVROCAN SPEC.	E.O. NO.		
ENVELOPE SIZE 2.125"x 2.6"x 2.34"	WEIGHT 0.44 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: When de-energized, completes a D-C supply to the Heat exchanger actuator and the afterburner valve, moving both to the closed position. When energized, completes a D-C supply to energize the Heat exchanger actuator and afterburner valve to the open position.			RELIABILITY: OVERHAUL LIFE 1500 HRS.; WASTAGE; Q.T.R.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 hours and engine run	Function check. (See Maintenance Instructions Report 71/Maint. 11/9).	1 x 5	

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		REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1. Disconnect 7 electrical connections 2. Remove 2 mounting bolts. Remove and Replace	1 x 20	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E14/8, 11-E14/9		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: Switch - Fuel Control
MANUFACTURER'S PART NO. 8809K13			AVRO PART NO. 8809K13
MANUFACTURER'S NAME Cuttler Hammer			
AVROCAN SPEC.	E.O. NO.		
ENVELOPE SIZE 1 3/64⅛ x 1 1/8" x 5/8"	WEIGHT .08	LB.	REF. DWGS. 7-1100-2 sht 5, 7-1100-3 sht 3
LOCATION Mounted on panel E14, located in the front cockpit.			
FUNCTION To provide switching for emergency fuel or normal fuel.			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
Engine Run	Function Test (See Maintenance Instructions Report 71/MAINT 11/9)	1 x 2	
	ACCESSIBILITY Unobstructed.		

ISSUE	1				
DATE	13 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
NIL	Cockpit access stand.

INTERCHANGEABLE	x	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1. Disconnect 3 electrical connections. 2. Remove 1 mounting nut.		
		Remove and replace	1 x 5	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E16/3, 11-E16/4		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: Switch - Engine Starting

MANUFACTURER'S PART NO. 8812K13

MANUFACTURER'S NAME Cuttler Hammer

AVROCAN SPEC. E.O. NO.

ENVELOPE SIZE 1 3/64" x 1 1/8" x 5/8" WEIGHT 0.08 LB.

LOCATION Mounted on panel E16, located in the front cockpit.

FUNCTION When selected to the start position, energizes a relay which supplies D.C. for engine starting and ignition. When selected to the reset position, supplies D-C for the engine reset relay and engine starter control valves.

AVRO PART NO.

REF. DWGS. 7-1100-2 sht 6

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 switch for security.	1 x 2	
Engine Start	Function, (See Maintenance Instructions Report 71/MAINT 11/9	1 x 2	
	ACCESSIBILITY		
	Unobstructed.		

ISSUE	1				
DATE	Nov. 5/57				
COMPILED	WO2 Wentworth				
CHECKED	K.P. Lowe				
APPROVED	R.F. Reid				

LUBRICATION				
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS
			Nil	

DETAILS:

GROUND SUPPORT EQUIPMENT	
SPECIAL TOOLS FOR AIRCRAFT USE	SPECIAL TOOLS FOR BENCH USE
Nil	Nil
GROUND TESTING EQUIPMENT	GROUND HANDLING EQUIPMENT
A-C ground platform unit	Cockpit access stand.

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1. Remove 3 electrical connectors 2. Remove 1 mounting nut. Remove and Replace	1 X 15	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO. 11-E173, 11-E174		
DISTRIBUTION: STANDARD + S.Brown. K.Knowlton.	A/C TYPE – Arrow 1. EFF. A/C – 25201	COMPONENT: Value- Engine Heat Exchanger	
MANUFACTURER'S PART NO.		AVRO PART NO. 7-3256-5-6	
MANUFACTURER'S NAME			
AVROCAN SPEC.	E.O. NO.		
ENVELOPE SIZE	WEIGHT LB.	REF. DWGS. 7-1100-2 sht. 24, 7-1100-3 sht.4	
LOCATION on base of fuel / oil heat exchanger L & R			
FUNCTION normally in the closed indicated position actuated on an afterburner selector to the core indicated position.		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
25 hours	Function check. (See maintenance instruction report 71/Maint 11/9)	2 x 2	

ACCESSIBILITY

unobstructed.

ISSUE	1.				
DATE	November 5/57				
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
A-C Ground Power Unit	Maintenance Platform

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1. Remove 1 electrical connector.		
		Remove and replace	1 x 5	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELCETRICS.	REF. NO.: 11-E193		
DISTRIBUTION: STANDARD + S.Brown. K.Knowlton.	A/C TYPE – Arrow.1. EFF. A/C – 25201	COMPONENT: Switch engine oil pressure warning.	
MANUFACTURER'S PART NO.		AVRO PART NO. 7-1195-13	
MANUFACTURER'S NAME: Century Electronics (C/O Garrett)			
AVROCAN SPEC. E-274 E.O. NO.			
ENVELOPE SIZE 5.25" x 1.75" x 2.22" WEIGHT 1.5 LB.		REF. DWGS. 7-1100-2 Sht 27. 7-1100-3 sht.4	
LOCATION: Mounted on engine gear box-adjacent to oil pressure relief valve. L & R			
FUNCTION: To sense a loss of engine oil pressure, and transmit a warning to the pilot. Switch should actuate at a differential oil pressure of 25 psi ± 2 psi.		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
Engine Run	Operation of the switch will be indicated by a warning light in pilot's cockpit on starting and shut down of engine.		
25 hrs. Aero Engine	Check switch for security, leakage, corrosion or damage	1 x 3	
25 hrs. Electrics.	Check electrical connector for security and damage	1 x 1	
	ACCESSIBILITY Accessible through front engine access door. (7 latches and 30 camlocs)		
	Estimated- Remove and replace	1 x 4	

ISSUE	1	2	3		
DATE	June 25/56	January 8/57	November 5/57		
COMPILED	D.Collingwood	D.Collingwood	WO2.Wentworth.		
CHECKED	WO2.Wentworth	WO2.Wentworth	K.P.Lowe.		
APPROVED	G.Emmerson	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

Aero-Engine.

1. Disconnect 1 oil line.
2. Loosen locknut and unscrew switch from engine adapter.

Estimated - Remove and Replace — 1 x 18

Electrics.

Disconnect 1 electrical connector.

Remove and replace — 1 x 2

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: FUEL SYSTEM

REF. NO. 16-24 11-E195

DISTRIBUTION: STANDARD +
F. Bradshaw
A. Cornish
S. Brown

A/C TYPE - Arrow 1

EFF. A/C - 26201

COMPONENT: Switch, Fuel - Low Pressure Warning

MANUFACTURER'S PART NO. 20004

MANUFACTURER'S NAME Hydra-Electric

AVROCAN SPEC. E-422 E.O. NO.

ENVELOPE SIZE 3.80"x 3.54" x 3.125" WEIGHT .88 LB.

LOCATION Duct Bay - Sta. 550 mounted on heat exchanger base L & R.

FUNCTION Operates a warning light in the pilot's cockpit which indicates that the fuel pressure at the inlet to the engine fuel pump has fallen below a safe value.
(17.3 + 0 p.s.i.a)
-.5

AVRO PART NO. 7-1656-51

REF. DWGS.
7-1656-205
7-1100-2 Sht. 24
7-1100-3 Sht. 4

REF. M.D.R.

RELIABILITY

OVERHAUL LIFE 500 HRS.

WASTAGE

Q.T.R. Pending

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
Primary	Check for security and leakage. Function check refer to maintenance Instruction Report 71/Maint. 11/9.	1 x 1	
25 hour Engine	Check for security, damage, corrosion and leakage.	1 x 2	
Electrics	Check electrical connector for security and damage.	1 x 2	
	ACCESSIBILITY Through hydraulics access panel - 52 camlocs		
	Estimated - Remove and Replace	1 x 5½	

ISSUE	1	2	3	4	5
DATE	February 14/56	October 25/56	January 30/57	May 10/57	Nov. 5/57
COMPILED	G. Emmerson	Sgt. Bell	Sgt. Bell	Sgt. Bell	WO2 Wentworth
CHECKED	G. Emmerson	C. Beanland	C. Beanland	C. Beanland	K.P. Lowe
APPROVED		G. Emmerson	R.F. Reid	R.F. Reid	

LUBRICATION				
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS

DETAILS:

GROUND SUPPORT EQUIPMENT	
SPECIAL TOOLS FOR AIRCRAFT USE	SPECIAL TOOLS FOR BENCH USE
Nil	Nil
GROUND TESTING EQUIPMENT	GROUND HANDLING EQUIPMENT
AC Ground Power Unit Starter Vehicle	Cockpit Access Stand Work Stand

INTERCHANGEABLE		REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE	X		EST.	ACTUAL

To remove:

Engine

1. Close L.P. cock.
2. Disconnect pressure sensing line #7-1600-47.
3. Remove 3 attachment nuts. — 1 x 18

Electrics

1. Disconnect electrical connector. — 1 x 2

NOTE:

Ensure that trapped air is removed when reconnecting pressure sensing line.

Estimated - Remove and Replace — 1 x 20

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM	REF. NO.
ELECTRICS	11-E 197

DISTRIBUTION: STANDARD +

S.Brown.
K.Knowlton.

A/C TYPE – Arrow 1

EFF. A/C – 25201

COMPONENT: Switch box - Engine Starter

MANUFACTURER'S PART NO.

MANUFACTURER'S NAME

AVRO PART NO. 7-2995-6

AVROCAN SPEC. E378 E.O. NO.

ENVELOPE SIZE WEIGHT LB.

REF. DWGS. 7-1100-2 Sht 27
7-1100-3 sht. 3

LOCATION Mounted on engine starter

FUNCTION S.1. switch closes at 700 ± 100 r.p.m engine speed
S.2. switch opens at 3020 ± 180 r.p.m. engine 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
Engine start	A satisfactory function should be evident on an engine start refer to maintenance instruction report 71 Maint 25/3	1 X 2	

ACCESSIBILITY

Unobstructed
with engine removed.

ISSUE	1				
DATE	November 4/57				
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**
A-C Ground Power Unit	Nil

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		Pending.		

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E-199		
DISTRIBUTION: STANDARD + S.Brown. K.Knowlton.	A/C TYPE – Arrow 1. EFF. A/C – 25201	COMPONENT: Engine-Junction Box.	
MANUFACTURER'S PART NO.		AVRO PART NO.	
MANUFACTURER'S NAME			
AVROCAN SPEC.	E.O. NO.		
ENVELOPE SIZE	WEIGHT LB.	REF. DWGS. 7-1100-2 Sht 27, 7-1100-3 Sht.4	
LOCATION: Mounted on engine L & R.			
FUNCTION: Provides a junction box and disconnects for, emergency fuel, rotor overspeed, afterburner, anti-icing and ignition electrics.		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 25 hrs.	Check electrical connectors for security	1 x 2	
	Check junction box for security	1 x 2	
	ACCESSIBILITY		
	unobstructed		

ISSUE	1				
DATE	November 5/57				
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
Nil	Nil

INTERCHANGEABLE		REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		Pending.		

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: L/P PNEUMATICS	REF. NO.: 18-9 11-E203		
DISTRIBUTION: STANDARD + S.Brown. K.Knowlton.	A/C TYPE – Arrow 1. EFF. A/C – 25201	COMPONENT: Switch - Differential Pressure (Air) L & R	
MANUFACTURER'S PART NO.		AVRO PART NO. 7-1856-11	
MANUFACTURER'S NAME Paramatic Engineering			
AVROCAN SPEC. E-391 E.O. NO.			
ENVELOPE SIZE 3.94" X 3.56" X4.10" WEIGHT est.1.5 LB.		REF. DWGS. 7-1100-3 Sht.4 7-1856-13 left 7-1856-14 right 7-1100-2 Sht.24	
LOCATION Duct Bay Sta. 548 - 553 - L & R Hand.			
FUNCTION To sense the difference between atmospheric and the pressure in the engine duct and control the operation of the zone #1 ejector valve (Ref.7-1895-41)		REF. M.D.R. 18-8 11-E204	
		RELIABILITY OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R. Pending.	

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 hrs. Airframe	Check switch for security and damage. Check pipe line to switch for security and damage.	1 X 8	
25 hrs. Electrics	Check electrical connector for security and damge. Function check (See maintenance instruction report 71/maint 11/9)	2 X 5	
	ACCESSIBILITY Remove hydraulic equipment. Remove Access panel (52 camlocs)		
	Remove and Replace	1 x 5½	

ISSUE	1	2	3		
DATE	July 25/56	January 16/57	November 5/57		
COMPILED	D.Collingwood	D.Collingwood	WO2.Wentworth		
CHECKED	WO2.Wentworth	Sgt.Foster	Sgt.Foster		
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.	Maintenance Platform.

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		Airframe. 1. Disconnect 1 pipe line. 2. Remove 4 mounting bolts. Remove and replace	1 x 18	
		Electrics Disconnect 1 electrical connector. Remove and replace	1 x 2	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM	L/P PNEUMATICS
REF. NO.	18-8 11-E205

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

A/C TYPE – Arrow 1
EFF. A/C – 25201

COMPONENT
Valve - Ejector Control

MANUFACTURER'S PART NO.

MANUFACTURER'S NAME Barber Coleman (c/o Rosseua)

AVRO PART NO.
7-1895-41

AVROCAN SPEC. E-390 E.O. NO.

ENVELOPE SIZE 6.09" x 6.56" x 3.44" WEIGHT 2.0 LB.

REF. DWGS.
7-1800-1
7-1100-2 sht 27
7-1100-3 sht 4

LOCATION On engine air bleed line, Sta. 538-7 L & R hand.

FUNCTION
To assist in engine cooling and to exhaust combustable vapors from zone, to atmosphere at low airspeeds and when ground running.

REF. M.D.R.
18-9

RELIABILITY

OVERHAUL LIFE 500 HRS.
WASTAGE
Q.T.R. Pending

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 Hrs. Airframe	Check valve for security, damage and corrosion.	1 x 5	
	Check electrical connector for security and damage		
	Function Chec. (See Maintenance Instruction Report 71/MAINT 11/9)	2 x 5	

ACCESSIBILITY

Unobstructed with engine removed from aircraft.

ISSUE	1	2	3		
DATE	August 30/56	January 15/57	November 4/57		
COMPILED	WO2 Wentworth	D. Collingwood	WO2 Wentworth		
CHECKED	D. Collingwood	Sgt Foster	Sgt Foster		
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	Engine Removal Stand

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL

Airframe

1. Disconnect 2 duct clamps.
2. Remove nuts from 2 hold down studs.

Remove and replace 1 x 18

Electrics

Disconnect 1 electrical connector

Remove and replace 1 x 2

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E1500/4, 11-E1500/5		
DISTRIBUTION: STANDARD + S.Brown. K.Knowlton.	A/C TYPE – Arrow.1. EFF. A/C – 25201	COMPONENT: Switch-afterburner	
MANUFACTURER'S PART NO.		AVRO PART NO.: CS- S- 152	
MANUFACTURER'S NAME			
AVROCAN SPEC.	E.O. NO.	REF. DWGS.: 7-1100-2 Sht.5, 7-1100-3 Sht.4	
ENVELOPE SIZE .937" x 180" x .356"	WEIGHT 0.30 LB.		
LOCATION: Mounted in the power lever assembly.		REF. M.D.R.	
FUNCTION: When actuated, a D-C supply should energize the afterburner relay.		RELIABILITY: OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R.	

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 hrs. and engine run.	Function check. (See maintenance Instruction report 71/Maint 11/9)	1 x 5	
	ACCESSIBILITY Accessible with the throttle box removed		

ISSUE	1				
DATE	November 5/57				
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
A-C Ground Power Unit.	Cockpit access stand.

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL

1. Disconnect 2 electrical connectors.
2. Remove 2 mounting bolts.

Remove and replace. 1 x 15