16901

71 Maint 11/4

ARROW 1

UNCLASSIFIED

MAINTENANCE INSTRUCTIONS

ELECTRICS - LANDING GEAR

71/MAINT 11/4

National Research Council Canada

Canada Institute for Scientific and Technical Information
J.H. Parkin Branch

Conseil national de recherches Canada

Institut canadien de l'information scientifique et technique
Annexe J.H.Parkin

Report No.: QCX Avro CF105 71 maint 11-4

Has been: ☐ Downgraded to: As per letter 1463 (Ac) 95/0043

☑ De-Classified

By; (Name) .....

(Dept) .....

Date: JAN 8 96

B.J. Petzinger
Deputy Coordinator
Access to Information and Privacy

Signature

ARROW 1

MAINTENANCE INSTRUCTIONS

ELECTRICS - LANDING GEAR

71/MAINT 11/4

7 Nov.57

(This instruction supercedes Maint. 105-92-4)

Prepared: _____
For Maintenance and Reliability Section

Approved: _____
For Technical Design Department

Approved: _____
For Equipment Design Department

Authorized: _____
Project Designer

UNLIMITED

TABLE OF CONTENTS

ILLUSTRATIONS

COMPONENT DATA

M.D.R.	11-E15/28	Switch - Master Dim
M.D.R.	11-E15/35	Resistor - Landing Gear Position Warning
M.D.R.	11-E21/22	Drag Chute - Press-To-Test Light
M.D.R.	11-E161	Valve - Brake Control
M.D.R.	11-E168	Valve - Speed Brake
M.D.R.	11-E170	Valve - Landing Gear Selection
M.D.R.	11-E271	Valve - Nose Wheel Steering
M.D.R.	11-E279	Solenoid - Drag Chute Door Light
M.D.R.	11-E1012/1	Switch - Nose Landing Gear Down
M.D.R.	11-E1006/1	Switch - Nose Door Up
M.D.R.	11-E1021/2	Switch - Nose Wheel Scissors
M.D.R.	11-E1061/2	Switch - Telescopic Stay
M.D.R.	11-E1151/1	Switch - Door Up (left)
M.D.R.	11-E1530/1	Switch - Drag Chute Lever Limit
M.D.R.	11-E1153/2	Switch - Scissor (Left)
M.D.R.	11-E1153/4	Switch - Landing Gear Down
M.D.R.	11-E1500/7	Switch - Speed Brake

1. DESCRIPTION

1.1 General

1.1.1 The landing gear electrical system includes the landing gear position indication circuits and the control circuits provided for the hydraulically-operated landing gear actuation, nose wheel steering and retraction wheel braking systems. Included also, is a description of the operation of the arrester gear system safety circuit. (See Avro dwg. No. 7-1100-3 sht 5 and 7-1100-3, sht 11 - Landing Gear Position Indication).

1.1.2 The position of each main and the nose landing gear is indicated individually by three indicators which are controlled by micro-switches operated by the landing gear. The indicators incorporate two circuits, one for up indication and the other for down indication. All circuits derive a common power supply from the emergency D-C bus.

1.1.3 Three micro-switches, actuated by the left and right main and the nose landing gear door locks, close when the landing gear is up and the doors are locked closed. These switches complete the up circuit of the relevant indicators. The word UP is visible in the indicators when the landing gear is up and the doors are locked closed.

1.1.4 The nose gear down indication circuit is completed by a micro-switch actuated by the down lock on the drag strut.

1.1.5 Each main gear down indication circuit is completed by two micro-switches in series. One micro-switch is actuated by the leg shortening mechanism and the other is actuated by a down-lock in the side stay.

1.1.6 A symbolic representation of a wheel is visible in each indicator when the nose and main gears are down and locked.

1.1.7 When the landing gear is unlocked, there is no power supply to the indicator. In this condition, a spring-controlled, between-locks indication, of white diagonal bars on a black background, is given.

1.2 Landing Gear Actuation Circuits

1.2.1 The operation of the actuation circuits is initiated by the landing gear selector lever which is marked UP, DN and EMERGENCY EXTENSION. The actuation circuits control the operation of the landing gear hydraulic selector valve and the anti-spin valves.

1.2.2 Incorporated in the selector lever assembly is an electro - mechanical lock which prevents an UP selection being made when the aircraft weight is on the main wheels. When the aircraft weight is off the main wheels, a lock release solenoid is energized. The supply to the solenoid is completed via two micro-switches connected in series and fitted one on each torque link of the main gear.

1.2.3 Selecting the UP position on the landing gear selector lever completes a supply circuit derived from the main D-C bus via a closed contact of the No. 1 door-up relay, to the up solenoid of the hydraulic selector valve and to the left and right anti-spin solenoids. When each leg of the landing gear is retracted and all three door-up micro-switches are actuated, a D-C supply from the main D-C bus energizes the No. 1 door up relay, interrupting the supply to the up solenoid of the hydraulic selector valve and to the left and right anti-spin solenoids.

1.2.4 When the landing gear selector lever is selected to the DN position, a supply circuit derived from the main D-C bus is completed via the selector switch contacts in the landing gear emergency down limit switch, to the down solenoid of the hydraulic selector valve. In the down position, the supply is maintained on the down solenoid.

1.2.5 When the EMERGENCY EXTENSION position is selected, the landing gear emergency down limit switch opens, the power supply circuit to the hydraulic selector valve is interrupted and a mechanical linkage initiates the operation of the high pressure nitrogen system used for the emergency extension of the landing gear.
To prevent inadvertent selection of the EMERGENCY EXTENSION position, a mechanically operated stop is fitted which must be released be depressing a button fitted adjacent to the selector lever.

1.3 Landing Gear Warning Circuits

1.3.1 Incorporated in the knob of the landing gear selector lever is a warning light which can be operated by either one of two warning circuits. One warning circuit illuminates the selector lever warning light until the landing gear is locked in the position selected on the landing gear selector lever. The other warning circuit illuminates the selector lever warning light if either power lever is set within a range of from one third open to idle, with the landing gear retracted.

1.3.2 Selecting the landing gear selector lever to the UP position completes a supply from the main D-C bus via the landing gear selector switch, landing gear up warning relay and No. 1 door-up relay, to illuminate the warning light in the landing gear selector lever.

1.3.2 (continued)

When the landing gear is retracted and the door-up micro-switch in each wheel well is actuated, the No. 1 door-up relay is energized by a supply from the main D-C bus. The supply to the warning light in the landing gear selector is then interrupted.

1.3.3 Moving the landing gear selector lever to the DN position, completes a supply from the main D-C bus through the landing gear up warning control relay via the nose landing gear down, right landing gear down, right telescopio stay, left landing gear down and left telescopic stay micro-switches, which are in parallel, to illuminate the warning light in the landing gear selector lever. When the landing gear is in the locked down position and all the micro-switches are actuated, the supply to the warning light in the landing gear selector lever is broken.

1.3.4 When the landing gear is selected UP, the power lever warning circuit will be operative. In this condition, if either power lever is set within a range of from one third open to idle, the relevant one of two micro-switches will be closed. Either micro-switch, when closed, completes a supply circuit via the relay closed contacts of the landing gear up warning control relay and a flasher unit to the landing gear warning light. The circuit derives a power supply from the main D-C bus.

1.4 Retraction Wheel Braking Control Circuit

1.4.1 The retraction wheel braking system brakes the main wheels during landing gear retraction. A solenoid, fitted on each main wheel brake control valve, is energized by a circuit which is paralleled with the supply circuit to the up solenoid of the landing gear hydraulic control valve.

1.5 Nose Wheel Steering Control Circuit

1.5.1 Hydraulic power for the nose wheel steering system is controlled by a solenoid-operated valve. The power supply circuit for the solenoid is completed when the nose wheel steering button switch on the control column is pressed and the nose scissors micro-switch is closed. The micro-switch is fitted on the nose wheel torque link and interrupts the supply circuit when the aircraft weight is off the nose wheels.

1.6 Arrester Gear Safety Circuit

1.6.1 A safety look circuit, consisting of a micro-switch located in the drag chute selector lever and a solenoid located on the forward face of the bulkhead (Sta. 803), provides a safety feature to prevent inadvertent opening of the drag chute doors.

1.6.2 With the drag chute selector lever in the stowed gage (fully up) position, a supply is completed from the main D-C bus via the selector lever micro-switch to the locking mechanism solenoid.

1.6.3 With the solenoid energized, the plunger actuates a lever arm to lock the cam follower in the extended position and prevent the drag chute doors from opening.

1.6.4 When the solenoid is energized, a circuit is completed to the PARABRAKE LOCK light located on panel E21. Pressing the light, the lamp should illuminate , indicating that the solenoid is energized and locked.

1.6.5 With the selector lever out of the stowed gate position the solenoid is de-energized and the PARABRAKE LOCK light will not illuminate when pressed.

1.6.6 In the event of an electrical failure, the solenoid is de-energized and the electrical safety lock is then in the release position.

1.7 Speed Brakes

1.7.1 The control for the speed brakes, which are hydraulically actuated, is provided by a double acting electrically operated control valve. A slide operated single pole double throw switch, located in the right hand throttle handle in the pilot's cockpit, is used to control this valve.

1.7.2 The mid position of the speed brake switch is not marked, the positions to either side, are identified IN and OUT.

1.7.3 When the speed brake switch is selected to the IN or OUT position, the corresponding coil of the valve is energized from the Emergency D-C bus, resulting in movement of the speed brake to the extreme position in the selected direction.

1.7.4 Any intermediate position between fully extended or fully retracted should be attained by selecting the switch to the centre position when the speed brakes reach the desired position.

2. GROUND HANDLING EQUIPMENT

2.1 A-C Ground Power Unit

2.2 Hydraulic Test Machine Trailer

2.3 Aircraft Jacks (3)

3. PREPARATION FOR TESTING

3.1 To carry out an actuation and indication check of the landing gear, the aircraft is to be raised and supported so that the landing gear may be retracted.

3.2 The A-C ground power unit is to be attached to the aircraft.

3.3 The hydraulic test machine trailer is to be attached to the aircraft.

4. LANDING GEAR ACTUATION AND INDICATION FUNCTION TEST

4.1 Preparation for Test

4.1.1 Ensure that the circuit breakers U/C ACT. and U/C IND., located on panel E1, are closed.

4.1.2 Raise and support the aircraft so that the landing gear may be retracted.

4.1.3 Check that the landing gear is clear of obstructions and that the ground locks are removed.

4.1.4 Select the MASTER ELECTRICS switch, located in the pilot's cockpit, to the ON position.

4.1.5 To ensure that a landing gear UP selection cannot be made with the aircraft weight on the landing gear, jack up either the left or right main landing gear until the scissor micro-switch is actuated. The landing gear selector up release solenoid should be de-energized and it should not be possible to move the landing gear selector to the UP position.

4.1.6 Remove the jack.

4.1.7 Check that the landing gear selector lever is in the DN position and that the landing gear indicators show a down indication.

4.1.8 Check that the landing gear selector lever warning light is not illuminated.

4.1.9 With the hydraulic test machine trailer connected to the aircraft, have hydraulic power supplied to the aircraft utility hydraulic system and carry out a slow landing gear retraction.

4.2 Test Procedures

4.2.1 Select the left and right engine power levers to the full MILITARY position.

4.2.2 Move the landing gear selector lever to the UP position.

The following sequence of events should occur:

4.2.2.1 The landing gear should start to retract.

4.2.2.2 The landing gear indicators should move from a down indication (wheel showing) to a neutral indication (diagonal bars should be showing on the landing gear position indicator).

4.2.2.3 The landing gear selector lever warning light should illuminate steadily.

4.2.2.4 The landing gear should fully retract and lock in the up position.

4.2.2.5 The landing gear doors should close and lock.

4.2.2.6 The landing gear indicators should move from the neutral (diagonal bars) indication to the UP position.

4.2.2.7 The landing gear selector lever warning light should go out.

4.2.3 Move either the left or right engine power levers to between the IDLE and one third positions. The landing gear selector lever warning light should commence flashing on and off.

4.2.4 Move the engine power lever to below IDLE or to full MILITARY position. The flashing landing gear selector lever warning light should go out.

4.2.5 Move the landing gear selector lever to the DN position. The landing gear doors should open and the landing gear should commence to extend.

4.2.6 The landing gear indicators should move from an UP indication to a neutral (diagonal bars) indication.

4.2.7 The landing gear selector lever warning light should illuminate steadily.

4.2.8 When the landing gear reaches the fully extended locked down position, the landing gear indicators should move from a neutral (diagonal bars) indication to a down indication (wheel showing).

4.2.9 The landing gear selector lever warning light should go out.

4.2.10 Move the left and right engine power levers to the OFF position.

4.2.11 Select the MASTER ELECTRICS switch to the OFF position.

5. NOSE WHEEL STEERING

5.1 Ensure that the NOSE WHEEL STEERING circuit breaker, located on panel E1, is closed.

5.2 Select the MASTER ELECTRICS switch to the ON position.

5.3 With the aircraft jacked up, ensure that the nose wheel steering solenoid is inoperative.

5.4 For a function test of the nose wheel steering, refer to Maintenance Instructions Report 71/MAINT 33/1 - Nose Wheel Steering - Mechanical.

5.5 Select the MASTER ELECTRICS switch to the OFF position.

6. RETRACTION WHEEL BRAKING

The retraction wheel braking function test should be carried out during the landing gear actuation and indication checks.

6.1 Ensure that the circuit breaker U/C UP and U/C DOWN, located on panel E1, is in a closed position.

6.2 Select the MASTER ELECTRICS switch to the ON position.

6.3 Move the landing gear selector lever to the UP position.

6.4 The landing gear up solenoid of the landing gear selector valve, located to the right of the fuel-oil heat exchanger, and the left and right brake control valve located in the armament bay, should be energized and remain energized until the landing gear doors are up and locked.

6.5 Move the landing gear selector lever to the DN position. The down solenoid of the landing gear selector valve only should be energized.

7. ARRESTER GEAR SAFETY CIRCUIT

7.1 Ensure that the current limiter TRIM IND., located on panel E20, is serviceable.

7.2 Select the MASTER ELECTRICS switch to the ON position.

7.3 With the drag chute selector lever in the stowed (gate) position the solenoid should be energized, actuating the locking lever to the locked position.

7.4 Press the PARABRAKE LOCK light, located on panel E21. The light should illuminate, indicating that the solenoid is energized and locked.

7.5 Move the drag chute selector lever to the right, out of the stowed gage (do not move to the stream position). The movement of the selector lever should open the micro-switch and the solenoid should be de-energized.

7.6 Press the PARABRAKE LOCK light. The light should not illuminate, indicating that the solenoid is de-energized.

7.7 Move the drag chute selector lever to the stowed gate position.

7.8 Press the PARABRAKE LOCK light, the light should illuminate, indicating that the solenoid is energized.

7.9 Select the MASTER ELECTRICS switch to the OFF position.

8. ANTI-SKID

To be issued later.

9. SPEED BRAKES

9.1 Ensure that the circuit breaker Speed Brake, located on panel E1, is in the closed position.

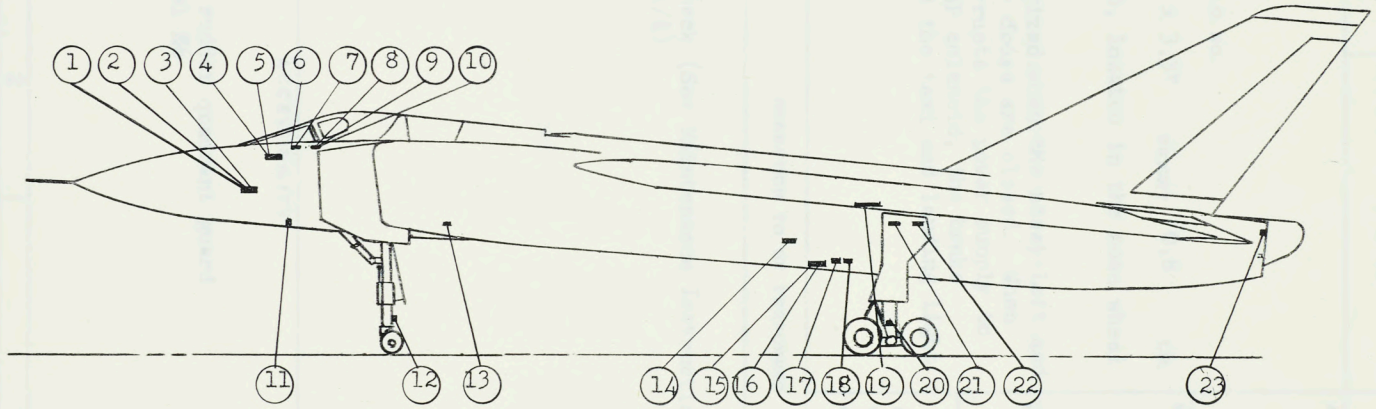
9.2 Select the Master Electrics switch to the ON position.

9.3 For a complete function test of the speed brakes, refer to Maintenance Instructions Report 71/MAINT 19/4 - Utility Hydraulics-Speed Brakes

9.4 Select the Master Electrics switch to the OFF position.

COMPONENT LOCATION

1. Relay - Door Up No. 1
2. Relay - Door Up No. 2
3. Relay - Control Warning
4. Indicator - Landing Gear Warning
5. Switch - Master Dim
6. Resistor - Landing Gear Position Warning
7. Switch - Parabrake Lever
8. Switch - Speed Brakes
9. Actuator - Lever. Landing Gear
10. Flasher - Landing Gear Throttle Warning
11. Switch - Nose Door Up
12. Switch - Nose Wheel Scissor
13. Valve - Nose Wheel Steering



14. Valve - Brake Control
15. Switch - Ground Test Override
16. Parabrake - Press-To-Test Light
17. Valve - Landing Gear Selection
18. Valve - Speed Brake
19. Switch - Door Up
20. Switch - Landing
21. Switch - Telescopic Stay
22. Switch - Main Landing Scissor
23. Solenoid - Parabrake Door Latch

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E6/7		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: Relay - Door up #1

MANUFACTURER'S PART NO.

MANUFACTURER'S NAME

AVROCAN SPEC. E.O. NO.

AVRO PART NO. MS25024-1

ENVELOPE SIZE 2.625" x 2.687" x 3.3" WEIGHT 0.8 LB.

REF. DWGS. 7-1100-2 sht 10, 7-1100-3 sht 5

LOCATION Mounted on panel E6, located in the nose wheel well.

FUNCTION The relay is energized when the nose, Left and Right landing gear doors are closed. When energized it interrupts the power supply to the landing gear UP solenoid, the brake control valves and the taxi and landing light relays.

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 Hrs	Function Check (See Maintenance Instructions Report 71/Maint 11/4)	1 x 2	

ACCESSIBILITY

Remove the rudder quadrant guard
Remove panel E6

ISSUE	1	2			
DATE	18 Sep 57	1 Aug 57			
COMPILED	WO2 Wentworth	WO2 Wentworth			
CHECKED	K. Lowe	K.P. Lowe			
APPROVED	R.F. Reid	R.F. Reid			

LUBRICATION NIL

APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS

DETAILS:

GROUND SUPPORT EQUIPMENT

SPECIAL TOOLS FOR AIRCRAFT USE	SPECIAL TOOLS FOR BENCH USE
NIL	NIL

GROUND TESTING EQUIPMENT	GROUND HANDLING EQUIPMENT
A-C Ground Power Unit	Maintenance Platform 4G/1596

INTERCHANGEABLE	XX
REPLACEABLE	

REMOVAL INSTRUCTIONS

MEN × MINUTES	
EST.	ACTUAL

Remove 10 electrical connections.

Remove 4 mounting bolts.

Remove and Replace — 1 x 20

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E6/8		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: Relay - Door Up #2
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 10, 7-1100-3 sht 5
LOCATION: Mounted on panel E6, located in the nose wheel well.			REF. M.D.R.
FUNCTION: Anti-skid and air conditioning control			RELIABILITY: OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 Hrs	Function Check. (See Maintenance Instructions Report 71/Maint 71/4)	1 x 2	
	ACCESSIBILITY Remove rudder quadrant guard Remove panel E6		

ISSUE	1				
DATE	1 Aug 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 4G/1596

INTERCHANGEABLE	XX	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
Remove 6 electrical connector.				
Remove 2 mounting bolts.		Remove and Replace	1 x 20	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E6/15		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: Relay - Warning Control
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 10, 7-1100-3 sht 5
LOCATION: Mounted on panel E6 located in nose wheel well.			REF. M.D.R.
FUNCTION: This relay is energized on an up selection of the landing gear selector lever switching a supply to illuminate the landing gear warning light.			RELIABILITY: OVERHAUL LIFE HRS. / WASTAGE / Q.T.R.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 Hrs.	Function Check (See Maintenance Instructions Report 71/Maint 11/5)	1 x 2	
	ACCESSIBILITY Remove rudder quadrant guard Remove panel E6	1 x 25	

ISSUE	1				
DATE	2 Oct 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 4G/1596.

INTERCHANGEABLE	XX	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1 Disconnect 4 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-E11/7		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1 EFF. A/C – 25201	COMPONENT: Indicator - Landing Gear Warning	
MANUFACTURER'S PART NO.		AVRO PART NO.: 1CS-1-109	
MANUFACTURER'S NAME: M.J. Johnson Aircraft Eng. Co.			
AVROCAN SPEC. E279 E.O. NO.		REF. DWGS.: 7-1100-2 sht 3, 7-1100-3 sht 5	
ENVELOPE SIZE: 2" dia x .625" WEIGHT LB.			
LOCATION: On landing gear actuation lever.		REF. M.D.R.	
FUNCTION: To give a visual warning when the landing gear is between up-lock and down-lock positions.		RELIABILITY OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R.	

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 Hrs	Function Check. (Ref. Maintenance Instructions Report 71/Maint 11/4)	1 x 5	
	ACCESSIBILITY Unobstructed		

ISSUE	1				
DATE	2 Oct 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	XX	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1 Unscrew 1 knurled nut. 2 Remove the landing gear selector knob. 3 Remove 1 lamp.		
		Remove and Replace	1 x 5	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO. 11-E11/64, 11-E11/8, 11-E11/10		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: Landing Gear position indicator

MANUFACTURER'S PART NO. 303-14L

MANUFACTURER'S NAME Keystone Watch

AVROCAN SPEC. E.O. NO.

ENVELOPE SIZE WEIGHT LB.

LOCATION Mounted on panel E14, located in the front cockpit

FUNCTION To provide an indication when the landing gear is locked down, locked up or between these positions. A wheel is represented for down indication bars represent between up and down and up is indicated by the work UP.

AVRO PART NO. AN5839-1

REF. DWGS. 7-1100-2 sht 3, 7-1100-3 sht 5

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 the landing gear indicators for security and correct indication	1 x 2	
25 Hrs	Function Check (See Maintenance Instructions Report 71/Maint 71/4)	1 x 2	

ACCESSIBILITY

Remove Panel E11

ISSUE	1				
DATE	7 Oct 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	XX
REPLACEABLE	

REMOVAL INSTRUCTIONS

MEN × MINUTES	
EST.	ACTUAL

1 Disconnect 3 electrical connections
2 Remove 2 mounting bolts.

Remove and Replace — 1 x 10

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E12/3		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: Actuation Lever – Landing Gear
MANUFACTURER'S PART NO.			AVRO PART NO.: 7-1152-8
MANUFACTURER'S NAME			
AVROCAN SPEC.: E279	E.O. NO.		
ENVELOPE SIZE: 5.10" x 3.44" x 2.25"	WEIGHT	LB.	REF. DWGS.: 7-1100-2 sht 4; 7-1100-3 sht 5
LOCATION: Front cockpit panel E12			REF. M.D.R.
FUNCTION: To select landing gear position.			RELIABILITY: OVERHAUL LIFE 1500 HRS.; WASTAGE; Q.T.R.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 Hrs	Function Check (See Maintenance Instructions Report 71/Maint 11/4)	1 x 20	

ACCESSIBILITY

Unobstructed

ISSUE	1				
DATE	2 Oct 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	XX	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1. Disconnect 1 electrical connector. 2. Remove 4 mounting bolts Remove and Replace	1 x 15	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM ELECTRICS | REF. NO. 11-E15/28

DISTRIBUTION: STANDARD +
S. Brown
K. Knowlton

A/C TYPE – Arrow 1

EFF. A/C – 25201

COMPONENT: Switch - Master Dim

MANUFACTURER'S PART NO. 8824K8

MANUFACTURER'S NAME Cuttler Hammer

AVROCAN SPEC. E.O. NO.

AVRO PART NO.

ENVELOPE SIZE 1 5/16" x 1 1/8" x 3/4" WEIGHT .10 LB.

LOCATION Mounted on panel E15 located in the front cockpit.

FUNCTION To switch a dimming circuit for the master warning lights.

REF. DWGS.
7-1100-2 sht
7-1100-3 sht 5

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	Function Check (See Maintenance Instructions Report 71/Maint 11/4)	1 x 2	

ACCESSIBILITY

Remove panel E15

ISSUE	1				
DATE	7 Oct 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	XX	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1 Remove 6 electrical connections. 2 Remove 1 mounting nut. Remove and Replace	1 x 10	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E15/35		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: Resistor - landing gear position warning
MANUFACTURER'S PART NO.			AVRO PART NO.: R.C.42BF-300J
MANUFACTURER'S NAME			
AVROCAN SPEC.	E.O. NO.		REF. DWGS.: 7-1100-2 sht 6, 7-1100-3 sht 5, 7-1252-68
ENVELOPE SIZE .7" x 5/16" dia	WEIGHT	LB.	
LOCATION: Mounted on panel 15 located in armament bay.			REF. M.D.R.
FUNCTION: To provide dimming for the landing gear position warning light.			RELIABILITY OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
Primary	Function check. (See Maintenance Instructions Report 71/Maint 11/4)		

ACCESSIBILITY

Remove panel E15

ISSUE	1				
DATE	8 Oct 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	XX	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1 Disconnect 2 electrical connections. 2 Remove from spring clip. Remove and Replace	1 x 4	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E21/22		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: Parabrake Press-to-test Light
MANUFACTURER'S PART NO.			AVRO PART NO.: CS-1-107-1
MANUFACTURER'S NAME			
AVROCAN SPEC.	E.O. NO.		
ENVELOPE SIZE	WEIGHT LB.		REF. DWGS.: 7-1100-2 sht 23, 7-1100-3 sht 11
LOCATION: Mounted on Panel E21, located forward of the L.H. Speed Brake.			REF. M.D.R.
FUNCTION: Should illuminate when pressed when the parabrake solenoid is energized. and locked.			RELIABILITY: OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
Primary	Function Check. (See Maintenance Instructions Report 71/Maint 11/4)	1 x 2	
25 Hrs.	Check electrical connections for security	1 x 5	
	Check mounting for security.		
	ACCESSIBILITY		
	With panel E21 removed		

ISSUE	1				
DATE	15 Oct 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	XX	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1 Remove 3 electrical connections. 2 Remove 1 mounting nut Remove and Replace	1 x 10	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM HYDRAULICS - UTILITY

REF. NO. 19-7 11-E161 11-E162

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

A/C TYPE - Arrow 1

EFF. A/C - 25201

COMPONENT Valve - Brake Control

MANUFACTURER'S PART NO. HP402100

MANUFACTURER'S NAME Hydra Power

AVROCAN SPEC. E314 E.O. NO.

AVRO PART NO. 7-1954-11

ENVELOPE SIZE 12" x 8" x 4" WEIGHT 4.5 LB.

LOCATION Armament Bay Sta. 469 L & R

FUNCTION To apply hydraulic pressure to wheel brakes

REF. DWGS.
7-0119-55
7-1100-3 sht 5
7-1100-2 sht 20

REF. M.D.R.

RELIABILITY

OVERHAUL LIFE 1500 HRS.

WASTAGE

Q.T.R. Pending

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
Primary Electrics	Check electrical connector for security and damage.	1 x 1	
Primary Airframe	Visual	1 x 1	
25 hrs. Airframe	Check for security, damage, cracks, corrosion and leaks.	1 x 5	
50 hrs. Airframe	Carry out functional check.	1 x 10	
50 hrs. Electrics	Carry out a functional check. (See Maintenance Instructions Report 71/Maint 11/4)	2 x 5	

ACCESSIBILITY

Unobstructed when missile pack is removed.

ISSUE	1	2	3	4	5
DATE	June 29/55	November 14/55	March 26/56	January 3/57	Oct 8/57
COMPILED	E. Burn	E. Burn	C. Beanland	C. Beanland	WO2 Wentworth
CHECKED	G. Emmerson	G. Emmerson	G. Emmerson	WO2 Wentworth	K.P. Lowe
APPROVED				R.F. Reid	R.F. Reid

LUBRICATION NIL

APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS

DETAILS:

GROUND SUPPORT EQUIPMENT

SPECIAL TOOLS FOR AIRCRAFT USE	SPECIAL TOOLS FOR BENCH USE
NIL	NIL

GROUND TESTING EQUIPMENT	GROUND HANDLING EQUIPMENT
Hydraulic Power Unit A-C Ground Power Unit	Maintenance Platform 4G/1596 Cockpit Access Stand

INTERCHANGEABLE	XX
REPLACEABLE	

REMOVAL INSTRUCTIONS

MEN × MINUTES	
EST.	ACTUAL

To Remove:

Airframe:
1 Disconnect 7 hydraulic lines.
2 Disconnect cable from rudder pedal.
3 Remove attachment bolts.

Remove and Replace — 1 x 20

Electrics:
Disconnect 1 Electrical connector.

Remove and Replace — 1 x 2

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: HYDRAULICS -UTILITY	REF. NO. 19-25 11-E168
DISTRIBUTION: STANDARD + K. Knowlton D. Royston S. Brown	A/C TYPE – Arrow 1 EFF. A/C – 25201
COMPONENT: Valve - Speed Brake Selector	
MANUFACTURER'S PART NO. 14130	AVRO PART NO. 7-1956-13
MANUFACTURER'S NAME Weston Hydraulics	
AVROCAN SPEC. E-359 E.O. NO.	REF. DWGS. 7-1100-2 sht 24, 7-1100-3 sht 5, 7-1956-1
ENVELOPE SIZE $6\frac{1}{2}$" x 5" x 4" WEIGHT 3 LB.	REF. M.D.R.
LOCATION Sta. 538 inside fuselage - left hand side	RELIABILITY
FUNCTION To direct flow of hydraulic fluid to speed brake jacks	OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R. Pending

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
Primary Electrics	Check electrical connector for security and damage.	1 x 1	
Primary Airframe	Visual	1 x $\frac{1}{2}$	
25 Hrs. Airframe	Check for security, damage, cracks, corrosion and leaks. Carry out function checks (See Maintenance Instructions Report 105-19-8)	1 x 5	
25 Hrs. Electrics	Function Test. See Maintenance Instructions Report 71/MAINT 11/4		
	ACCESSIBILITY		
	Through hydraulic equipment door - 52 camlocs Remove and replace	1 x $5\frac{1}{2}$	
	And Electrical Equipment panels - 74 camlocs Remove and replace	1 x $7\frac{1}{2}$	
	Displace ground fault relay - 4 bolts Remove and replace	1 x 20	

ISSUE	5	6			
DATE	January 3/56	15 Nov. 57			
COMPILED	C. Beanland	W02 Wentworth			
CHECKED	W02 Wentworth	C. Beanland			
APPROVED	R.F. Reid	R.F. Reid			

LUBRICATION NIL				
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS

DETAILS:

GROUND SUPPORT EQUIPMENT	
SPECIAL TOOLS FOR AIRCRAFT USE	SPECIAL TOOLS FOR BENCH USE
NIL	NIL
GROUND TESTING EQUIPMENT	**GROUND HANDLING EQUIPMENT**
Hydraulic Test Machine Trailer Air Conditioner and Generator A-C	Maintenance Platform 4G/1596 Cockpit Access Stand

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL

Airframe:
1. Relieve pressure from system.
2. Disconnect 6 hydraulic lines.
3. Remove 2 fairleads on forward side of Fuel/oil heat exchanger in order to remove 4 of these lines.
4. Remove 4 attachment bolts.

Remove and replace — 2 x 60

Electrics:
1. Disconnect 1 Electrical Connector.

Remove and replace — 1 x 2

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E170		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: Valve – Landing Gear Selection

MANUFACTURER'S PART NO. 13670

MANUFACTURER'S NAME Weston Hyd.

AVROCAN SPEC. E292 E.O. NO.

ENVELOPE SIZE 6" x 5" x 5" WEIGHT 4.55 LB.

LOCATION Sta. 538 inside fuselage right of heat exchanger

FUNCTION To direct the flow of hydraulics fluid for landing gear operation.

AVRO PART NO. 7-1956-12

REF. DWGS. 7-1100-3 sht 5, 7-1100-2 sht 24

REF. M.D.R. 19-17

RELIABILITY

OVERHAUL LIFE 500 HRS.

WASTAGE

Q.T.R. Pending

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
Daily	Visual		
25 hrs.	Check security of electrical connector.	1 x 1	
50 hrs.	Carry out functional check. (See Maintenance Instructions Report 71/Maint 11/4)		

ACCESSIBILITY

Through hydraulics equipment access door - 52 camlocs.

Remove and Replace 1 x 5

ISSUE	1	2			
DATE	Apr 4/56	8 Oct 57			
COMPILED	D.Collingwood	WO2 Wentworth			
CHECKED	G. Emmerson	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 Supply Unit	Maintenance Platform 4G/1596

INTERCHANGEABLE	XX	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
1 Disconnect one electrical connector.		Remove and Replace	1 x 2	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: HYDRAULICS - UTILITY

REF. NO. 19-21 11-E-271

DISTRIBUTION: STANDARD +
S. Brown
K. Knowlton

A/C TYPE - Arrow 1

EFF. A/C - 25201

COMPONENT: Selector Valve - Nose Wheel Steering

MANUFACTURER'S PART NO. AE418

MANUFACTURER'S NAME: Aviation Electric

AVROCAN SPEC. E354 E.O. NO.

ENVELOPE SIZE 7" x 3" x 2" WEIGHT 1.7 (est) LB.

LOCATION: Sta. 215 behind navigator's bulkhead

FUNCTION: To direct supply of hydraulic fluid for nose wheel steering.

AVRO PART NO. 7-1952-23

REF. DWGS.
7-1900-5
7-1100-2 sht 12
7-1100-3 sht 5

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 hrs. Electrics	Check electrical connector for security and damage.	1 x 1	
25 hrs. Airframe	Check for security, damage, cracks, corrosion and leaks	1 x 5	
50 hrs. Airframe & Electrics	Carry out functional check. (See Maintenance Instructions Reports 71/Maint 11/4 and 71/Maint 19/5)	2 x 4	
	ACCESSIBILITY Through air conditioning bay access panel. 76 screws and 1 antenna connection.		
	Remove and Replace	1 x 40	

ISSUE	1	2	3	4	5
DATE	October 6/55	November 16/55	June 26/56	January 3/57	Oct 4/57
COMPILED	E. Burn	E. Burn	C. Beanland	C. Beanland	WO2 Wentworth
CHECKED	G. Emmerson	G. Emmerson	WO1 Rossell	WO2 Wentworth	C. Beanland
APPROVED	G. Emmerson	G. Emmerson	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
Hydraulic Test Machine Trailer A-C Ground Power Unit.	Maintenance Platform 4G/1596

INTERCHANGEABLE	XX	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		Airframe 1 Relieve pressure from system. 2 Disconnect 4 hydraulic lines. 3 Remove 3 attachment bolts. Estimated - Remove and Replace	1 x 30	
		Electrics Disconnect 1 Electrical connector. Remove and Replace	1 x 2	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E279		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1; EFF. A/C – 25201	COMPONENT: Solenoid Dragchute Door Latch.	
MANUFACTURER'S PART NO.		AVRO PART NO. 7-1159-11	
MANUFACTURER'S NAME: Cannon Electric Ltd.			
AVROCAN SPEC. E-511 E.O. NO.			
ENVELOPE SIZE: 6.04" x 2.51" WEIGHT: 1.5 Est LB.		REF. DWGS. 7-1159-1, 7-3159-1, 7-1100-2 Sht. 24, 7-1100-3 Sht. 11	
LOCATION: FWD of stinger - STA. 798 to 803		REF. M.D.R.	
FUNCTION: For actuating the dragchute door latch electrical locking advice.		RELIABILITY: OVERHAUL LIFE Pending HRS. WASTAGE Q.T.R. Pending	

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
Primary	Functional check. (See Maintenance Instructions Report 71/Maint. 11/4)	2 x 2	
25 hours	Check solenoid for security Check electrical connector for security	1 x 7	
	ACCESSIBILITY Release dragchute from locking device Remove stinger from aircraft by releasing 4 locking clamps Solenoid accessible through openings in former Sta. 803		
	Remove and Replace	2 x 15	

ISSUE	1	2			
DATE	9 Jan '57	Nov. 5/57			
COMPILED	WO2 Wentworth	WO2 Wentworth			
CHECKED	D. Collingwood	K.P. Lowe			
APPROVED	R.F. Reid	R.F. Reid			

LUBRICATION				
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS

DETAILS:

GROUND SUPPORT EQUIPMENT	
SPECIAL TOOLS FOR AIRCRAFT USE	SPECIAL TOOLS FOR BENCH USE
Nil	Nil
GROUND TESTING EQUIPMENT	GROUND HANDLING EQUIPMENT
A-C Ground Power Unit	Maintenance Platform 45/1596

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL

The dragchute solenoid and linkage is mounted as a unit.

1. Remove 2 # 10 bolts and nuts attaching mounting on a bracket at Sta. 803.
2. Remove 2 # 10 bolts and nuts attaching mounting on a bracket at Sta. 798.
3. Remove one electrical connector.

Remove and Replace — 1 x 15

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E1006/1		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: Switch - Nose Door - Up
MANUFACTURER'S PART NO.			AVRO PART NO.: MS25040-3
MANUFACTURER'S NAME			
AVROCAN SPEC.	E.O. NO.		
ENVELOPE SIZE 2.56" x 1.56" x 1.2"	WEIGHT 0.5 LB.		REF. DWGS.: 7-1100-2 sht 12, 7-1100-3 sht 5
LOCATION: Nose wheel well LH side			REF. M.D.R.
FUNCTION: To give an indication when the nose door is up an locked.			RELIABILITY: OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 Hrs	Function Check (See Maintenance Instructions Report 71/Maint 11/5)	1 x 2	
	ACCESSIBILITY: Unobstructed		

ISSUE	1				
DATE	2 Oct 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 4G/1596

INTERCHANGEABLE	XX	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		Remove 3 Mounting Bolts. Unsolder 3 electrical connections. Remove and Replace	1 x 30	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E1012/1		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: SWITCH - NOSE Landing Gear Down

MANUFACTURER'S PART NO.

MANUFACTURER'S NAME

AVROCAN SPEC. E.O. NO.

ENVELOPE SIZE 2.56" x 1.56" x 1.2 WEIGHT 0.5 LB.

LOCATION Mounted on front landing gear

FUNCTION On a down selection completes a supply to the landing gear warning light until the front landing gear is locked down. In a landing gear down lock position, completes a supply to the front landing gear position indicator "down position"

AVRO PART NO.: MS-25040-3

REF. DWGS.: 7-1100-2 sht 12, 7-1100-3 sht 5

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 Hrs.	Function Check. (See Maintenance Instructions Report 71/Maint 11/4)	1 x 2	

ACCESSIBILITY

Unobstructed

ISSUE	1				
DATE	7 Oct 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 4G/1596

INTERCHANGEABLE	XX	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1 Remove 3 mounting bolts 2 Unsolder 4 electrical connections.		
		Remove and Replace	1 x 45	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E1021/2		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	EFF. A/C – 25201	COMPONENT: SWITCH - Nose Wheel Scissor
MANUFACTURER'S PART NO.			AVRO PART NO.: MS25040-3
MANUFACTURER'S NAME			
AVROCAN SPEC.	E.O. NO.		
ENVELOPE SIZE 2.56" x 1.56" x 1.2"	WEIGHT 0.5 LB.		REF. DWGS.: 7-1100-2 sht 12, 7-1100-3 sht 5
LOCATION: Mounted in the nose landing gear.			
FUNCTION: When actuated by weight of A/C on scissors, the switch is closed to the nose wheel steering circuit.			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 Hrs.	Function Check (See Maintenance Instructions Report 71/Maint 11/4)	1 x 5	

ACCESSIBILITY

Mounted inside the nose landing gear suspension lever.

ISSUE	1				
DATE	8 Oct 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	XX	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL

1 Remove the jacking point bar 2 bolts
2 Remove the cir-clip.
3 Remove the roll pin (method pending)
4 Withdraw the micro switch and mounting from the suspension lever
5 Unsolder 4 electrical connections
6 Remove 3 mounting bolts.

Remove and Replace 1 x

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS

REF. NO.: 11-E1061/2 11-E1086/2

DISTRIBUTION: STANDARD +
S. Brown
K. Knowlton

A/C TYPE – Arrow 1

EFF. A/C – 25201

COMPONENT: Switch - Telescopic stay Left & Right

MANUFACTURER'S PART NO.

MANUFACTURER'S NAME

AVROCAN SPEC. E.O. NO.

AVRO PART NO.: MS25040-3

ENVELOPE SIZE 2.56" x 1.56" x 1.2" WEIGHT 0.5 LB.

REF. DWGS. 7-1100-2 sht 30
7-1100-3 sht 5

LOCATION Mounted on the left telescopic stay. L & R

FUNCTION Actuated when A/C is on the ground. Completing a supply circuit to the landing gear down indicator.

REF. M.D.R.

RELIABILITY

OVERHAUL LIFE HRS.

WASTAGE

Q.T.R.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 Hrs	Function Check (See Maintenance Instructions Report 71/Maint 11/5)	1 x 2	

ACCESSIBILITY

Unobstructed

ISSUE	1				
DATE	3 Oct 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 4G/1596

INTERCHANGEABLE	XX	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1 Unsolder 4 electrical connections. 2 Remove 3 mounting bolts. Remove and Replace	1 x 45	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO. 11-E1151/1, 11-E1152/1		
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE - Arrow 1	EFF. A/C - 25201	COMPONENT: Switch - Door up L & R
MANUFACTURER'S PART NO.			AVRO PART NO. MS25040-3
MANUFACTURER'S NAME			
AVROCAN SPEC.	E.O. NO.		
ENVELOPE SIZE 2.56" x 1.56" x 1.2"	WEIGHT 0.5 LB.		REF. DWGS. 7-1100-2 sht 31, 7-1100-3 sht 5
LOCATION Mounted in the L & R landing gear well.			REF. M.D.R.
FUNCTION When actuated by the door up lock, completes the up circuit to the landing gear position indicator, landing gear door up warning.			RELIABILITY: OVERHAUL LIFE 1500 HRS. WASTAGE Q.T.R.

INSPECTION PERIOD	OPERATION TO BE PERFORMED	MEN × MINUTES EST.	MEN × MINUTES ACTUAL
25 Hrs.	Function Check. (See Maintenance Instructions Report 71/MAINT 11/4.	1 x 2	

ACCESSIBILITY

Unobstructed

ISSUE	1				
DATE	8 Oct. 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 4G/1596

INTERCHANGEABLE	XXX	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1 Unsolder 4 electrical connections. 2 Remove 3 mounting bolts. Remove and Replace	1 x 45	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E1153/2, 11-E1154/2	
DISTRIBUTION: STANDARD + S. Brown, K. Knowlton	A/C TYPE – Arrow 1	COMPONENT: Switch - Scissor Left
	EFF. A/C – 25201	

MANUFACTURER'S PART NO.

MANUFACTURER'S NAME

AVROCAN SPEC. E.O. NO.

AVRO PART NO. MS25040-3

ENVELOPE SIZE 2.56" x 1.56" x 1.2" WEIGHT 0.5 LB.

LOCATION Mounted on left main landing gear.

FUNCTION When actuated closes a switch in the landing gear up release solenoid circuit.

REF. DWGS. 7-1100-2 sht 30, 7-1100-3 sht 5

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 Hrs.	Function Check. (See Maintenance Instructions Report 71/Maint 11/5)	1 x 2	

ACCESSIBILITY

Unobstructed

ISSUE	1				
DATE	3 Oct 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	XX	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1 Remove 3 mounting bolts. 2 Unsolder 6 electrical connections. Remove and Replace	1 x 45	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E1153/4		
DISTRIBUTION: STANDARD + S. Brown K. Knowlton	A/C TYPE – Arrow 1	COMPONENT: Switch - Landing gear down Left	11-E1154/4
	EFF. A/C – 25201		
MANUFACTURER'S PART NO.		AVRO PART NO.: MS25040-3	
MANUFACTURER'S NAME			
AVROCAN SPEC.	E.O. NO.		
ENVELOPE SIZE 2.56" x 1.56" x 1.2"	WEIGHT 0.5 LB.	REF. DWGS. 7-1100-2 sht 30 7-1100-3 sht 5	
LOCATION: Mounted on the left main landing gear.			
FUNCTION: Actuated closed when the left landing gear is in a locked down 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 Hrs.	Function Check. (See Maintenance Instructions Report 71/Maint 11/5)	1 x 2	

ACCESSIBILITY

Unobstructed

ISSUE	1				
DATE	4 Oct 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 4G/1596

INTERCHANGEABLE	XX	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL
		1 Unsolder 4 electrical connections. 2 Remove 3 mounting bolts. Remove and Replace	1 x 45	

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS

REF. NO.: 11-E1500/7

DISTRIBUTION: STANDARD +
S. Brown
K. Knowlton

A/C TYPE – Arrow 1

EFF. A/C – 25201

COMPONENT: Switch - Speed Brake

MANUFACTURER'S PART NO.

MANUFACTURER'S NAME

AVRO PART NO.: CS-S-153

AVROCAN SPEC. E.O. NO.

ENVELOPE SIZE WEIGHT LB.

REF. DWGS.: 7-1100-2 sht 5
7-1100-3 sht 11

LOCATION: Mounted in the RH power lever handle.

FUNCTION: To control the speed brake 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
25 Hrs.	Function Test. (See Maintenance Instructions Report 71/MAINT 11/4	1 x 5	

ACCESSIBILITY

Unobstructed

ISSUE	1				
DATE	15 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
Air Conditioner and Generator A-C	Cockpit Access Stand

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

MAINTENANCE DATA RECORD

AVRO AIRCRAFT LTD. Engineering Div.

SYSTEM: ELECTRICS	REF. NO.: 11-E1530/1		
DISTRIBUTION: STANDARD + S.Brown K.Knowlton.	A/C TYPE – Arrow 1. EFF. A/C – 25201	COMPONENT: Switch Drag Chute Lever Limit.	
MANUFACTURER'S PART NO.		AVRO PART NO.: CS - S - 152	
MANUFACTURER'S NAME			
AVROCAN SPEC.	E.O. NO.		
ENVELOPE SIZE .937" X 180" x .356"	WEIGHT .30 LB.	REF. DWGS.: 7-1100-2 Sht 5, 7-1100-3 Sht 11	
LOCATION Mounted in the Drag Chute control lever assembly.			
FUNCTION when actuated to the closed position, completes a circuit to the drag chute solenoid.		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	Function check (See maintenance instruction report 71/Maint 11/4)	1 X 2	
	ACCESSIBILITY Remove the drag chute control lever assembly.		

ISSUE	1				
DATE	November 4/57				
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 Power Unit	Cockpit Access Stand

INTERCHANGEABLE	X	REMOVAL INSTRUCTIONS	MEN × MINUTES	
REPLACEABLE			EST.	ACTUAL

Electrics
1. Remove 2 electrical connections
2. Remove 2 mounting bolts

Remove and replace — 1 X 10