QC/ Auro CF105 RT-08-387

AFHQ TECHNICAL LIBRARY

RT 08-387
FUNCTIONAL & OPERATIONAL
TESTS OF BREADBOARD ELECTRICAL
SYSTEM

ARROW I

J.H. PARKIN BRANCH

MAY 29 1995

ANNEXE J. H. PARKIN CNRC-ICIST

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J. 30		MALTON, ONTARIO		R.T. NO		
D. Co	ala 1 - 1 / 1	TO THE SOLUTION SOLUTION	TOENHAL	SHEET NO OF 4 SHEETS		
	ughton 1	UISITION FOR LUTTE		SHEET NO OFSHEETS		
	TO DEPT. NO. 311	O STRUCTURAL TEST DEPT. M	R. J.W. AMES	DATE 11th January, 1955		
	REQUESTED BY DEPT. NO.	ASSIGNMENT NO. TEST DEP	T. JOB NO.   FUNC			
	2909	X7-0800	Classification			
1/2	~/0/	A, 0000		ANG Elec. System		
4 :	TITLE OF TEST		By authority			
		ELECTRICAL CACADA DINOTANA	Date	mpere OD O		
	(10)	ELECTRICAL SYSTEM FUNCTIONA	Signature Signature	TESTS		
	DATA		Unit / Rank /	Appointment AVRS 3		
	1. General					
	The number	se of these tests is to che	ak the amenation	of the electrical		
	system un	der all ClO5 operational co	nditions. To do	this, it is proposed		
		mplete breadboard system be				
		m and all of the electrical				
		d in a manner simulating ty typical missions. Where p				
		is for the equipment are to		AFHQ TECHNICAL LIBRA		
		•	•	C PENINGAL LIBRA		
	2. Test Prog	ram	ication cancelled/cha	anged to		
	2.1. Alt	ernator & Rus System	COROLI COLLOCOLOGICA	001 11 195/		
	2.1. AIU	ernator & Bus System. by any	pority of	Copy No: /		
~	xx2x 2.1	.1. General: Signat		Rank		
		Provision is to be mad	e to power the a	Itemators through: 7001		
	their constant speed drives at speed similar to those occurring in engine start up, taxi, take-off, climb, cruise,					
				, and the tests are to		
	,	be performed with the	equipment subject	ted to representative		
4	a monapoli, fice	environmental temperat	ure, i.e65° F	F, to +250° F where		
W		applicable.				
£		The purpose of these t	ests is to check	normal operation of .		
		the power units and to				
		system functions on fa and/or a transformer r				
				stem for test purposes		
		in order to simulate t				
		2.1.1.1. Input power		ower for a 201°VA 85% efficient		
	altern	ator and an 8% efficient co				
				say 40 H.P. (It is		
				ment is bought, powers		
		for driving	up to 40 KVA mac	chines be considered.		
				/continued		
		F.H. Brame	FOR TEST DEPT.	ONLY CLASSIFIED		
0	PREPARED BY:		TOR TEST DEPT.			
	APPROVED BY:	F.H. Brame	APPROVED FOR TO	EST:		
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REQUISITION FOR

PROJECT

1100

C-105

COMPONENT Elec. System

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LOUESTED BY DEPT. NO.	A C C C C C C C C C C C C C C C C C C C	YEST DEPT. JOB NO.	AMES VATE	11th January, 1955
2909	X7-0800	Tarita da Ro.	LOCATION	C-105

TITLE OF TEST

C-105 ELECTRICAL SYSTEM FUNCTIONAL & OPERATIONAL TESTS

DATA

### 2. Test Program

- 2.1. Alternator & Bus System.
  - 2.1.1.1. contd. This would give such equipment a much longer useful life). The alternator equipment, ani therefore the test power equipment, must have an output = 150% normal for 5 mins. and 200% normal for 5 secs.
  - 2.1.1.2. Input speed range of the engine = 2500 to 6175 rpm.
  - 2.1.1.3. For reference the moment of inertia of the aircraft engine = 510 lbs. ft.2.
  - 2,1.1.4. Equipment will be required to record input speed, alternator speed, alternator temperature, alternator output, transformer rectifier output, transformer rectifier temperature, and battery Switches and relays will be required to simulate failures of the system.

## 2.1.2. Test Program

During simulation of the operational conditions listed in Para. 2.1.1. all conceivable failure cases are to be checked. These will be described in detail as soon as the system schematic has been established.

/continued .....

PREPARED BY: F.H. Brame	FOR TEST DEPT. DNLY:
APPROVED BY: F.H. Brame	APPROVED FOR TEST:
AUTHORIZED BY:	ASSIGNED TO:
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TARGET DATE:	OURTULENIAL

A.V. R CANADA LIMIT R.T. NO. 08-387 MALTON, ONTARIO REQUISITION SHEET ND. 3 OF 4 SHEETS TO DEPT. NO. 3110 STRUCTURAL TEST DEPT. DATE 11th January, 1955 REQUESTED BY DEPT. NO. ASSIGNMENT NO. C-105 2909 X7-0800 Elec. System TITLE OF TEST C-105 ELECTRICAL SYSTEM FUNCTIONAL & OPERATIONAL TESTS DATA 2.2. Circuits System 2.2.1. General: A breadboard of all the electrical circuits from the main bus system, including all system units, is to be made up. Dummy loads are to be applied to actuators as required, dummy signals to switches are to be applied in their correct sequence, anti-icing and de-icing loads are to be simulated, as are conditions affecting fuel measurement, fuel low level indication, heat exchanger control system operation etc. Where practicable, environmental temperature conditions are to be reproduced. The purpose of these tests is to check the operation of all circuits under simulated flight conditions to check functioning of units, sequence of operation, phase unbalance, effect of short circuits, and operation of emergency systems. If the power system incorporating the system drives and alternators is not available for supplying the power for these tests, another source may be considered. 2.2.1.1. Power requirements: 2.2.1.1.1. Main d.c. bus - 27.5 - 1 volts 2.2.1.1.2. Emergency d.c. bus - 14 to 29 volts 2.2.1.1.3. A.C. buses - phase to ground 110 to 120 volts phase to phase 190 to 210 volts. 2.2.2. Test Program As in 2.1.2. /continued ...... F.H. Brame FOR TEST DEPT. ONLY: PREPARED BY: F.H. Brame APPROVED FOR TEST: APPROVED BY: ASSIGNED TO: . AUTHORIZED BY:

DATE R.T. RECEIVED:

PRIORITY: TARGET DATE: A.V. R. CANADA LIMITED

MALTON, ONTARIO

REQUISITION FOR THE

R. T. NO. \_\_\_\_\_\_\_08-387

SHEET NO. 4 OF 4 SH

TO DEPT. NO. 3110 STRUCTURAL TEST DEPT. MR. J.
HEOUESTED BY DEPT. NO. ASSIGNMENT NO. TEST DEPT. JOS NO.
2909 X7-0800

LOCATION 1100

COMPONENT Elec. System

TITLE OF TEST

C-105 ELECTRICAL SYSTEM FUNCTIONAL & OPERATIONAL TESTS

DATA

#### 2.3. Overall System

The complete system including alternator drive, alternator, bus systems, battery, all switches and relays, cockpit presentation, etc., is to be operated in a manner to simulate its use during all phases of typical missions.

All types of failures are to be investigated, and where practicable ambient temperature conditions are to be reproduced.

- 2.4. The following is a breakdown of the system circuits as they exist at this date:
  - (a) Power System Supply, Control, Warning

(b) Starting & Ignition System

(c) Engine Services - Control, Indication, Warning

- (d) Undercarriage System Actuation, Indication, Warning,
  Nose Steering.
- (e) A/C Fuel Valve, Control, Warning, External Tank, Refeuling
- (f) Fuel Capacitance Indication
- (g) Fire Protection
- (h) Canopy Actuation
- (i) Ice Warning, Control, Heating Supply

(j) Air Conditioning

- (k) Flight Service Instruments, Warning and Controls
- (1) Heat Exchanger Hydraulics and Fuel Systems.
- (m) Interior Lights
- (n) Exterior Lights
- 2.5. The system schematic and descriptive brochure will be issued as soon as possible.

PREPARED BY: . F.H. Brame	FOR TEST DEPT. DNLY:
APPROVED BY: F.H. Brame	APPROVED FOR TEST:
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SHEET NO. 1 DF 1 SHEE

TO DEPT. NO.

REQUESTED BY DEPT.NO.

ASSIGNMENT NO.

TEST DEPT. JOB NO.

FUNCTION
LOCATION
PROJECT
Electrical
COMPONENT Services

TITLE OF TEST

ELECTRICAL SERVICES TEST

DATA

### Description of Test Specimen

A breadboard system of all electrical service circuits in accordance with scheme drawings 7-0111-0022 through 7-0111-0034 is to be set up. Correct prototype wire sizes and lengths are to be used. Where loads are not shown on the schemes they are to be simulated. Electrical loads may be simulated by using resistive or reactive dummy loads. Mechanical loads may be simulated by dash - pots, springs or similar motion restricting devices for the solenoids and prony brakes for the motors. If quantitative data is not avaliable for mechanical loads, a realistic value can be established by loading the equipment to produce rated current at rated voitage. For signals, the actual transducers should be used where practiable. However, if input to the transducer cannot be feasibly sffected, other devices may be used for signal transmitters (switches, relays, sequencing devices, etc.)

#### Method of Test

The test is to be performed at the ambiet temperature and the atmospheric pressure existing at the time of the test. The test procedure is as follows:

- (a) Set the power suppy characteristics to the minimum values specified in MIL-E-7894.
- (b) Simulate a typical fight mission by oppropriate devices in a programmed sequence. During this operation, check that each unit functions properly.
- (c) Set the power suppy characteristics to the maximum values specified in MIL-E-7894.
- (d) Repeat step (b).

#### Data Required

- (a) Report of functioning operations.
- (b) Ampere loads and terminal voltages of each electrical equipment for each of the two power suppy conditions.

C U DROWN	FOR TEST DEPT, ONLY!
PREPARED BY: S.H. BROWN	
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M. Pes	ando 1	UISITION FO LO STRUCTURAL TEST	APPER PROPERTY	MES DATE	Dec. 14th 1955		
27	REQUESTED BY DEPT. NO.	ASSIGNMENT NO.	TEST DEPT. JOR NO.	FUNCTION	PROJECT C105		
	2909	X7-0800		1100	COMPONENT Electrics		
	TITLE OF TEST	ELECTRICAL SERV	VICES TEST				
	DATA	Y	,				
	Introduction	4					
	This test su	persedes the previous	test outlined u	nder this RT	number.		
	actual loads the scope of originally e the tests at to check equ A 27.5 1 v maintained b This provide	livery schedules and dictates that dummy the test such that invisioned equipment to both minimum and maxipment operation with olt reference transform of the all s maximum ac voltage ished for the load ar	loads must be us t becomes a volt test. Thus, it is dimum supply volt in allowable vol ormer - rectifier ternators at 420 drop at supply v	ed extensive age drop test s not necessaring ages since that age and free output voltable of the cost	ly. This limits t in lieu of the ary to perform his feature was quency ranges, age is to be out the test. ely approximating		
	Upon completion of the wiring of each functional circuit, a check is to be made of that circuit only before starting the test. Items to check are:- (a) Proper indication of indicators and indicator lights. (b) Equipment instability such as excessive voltage modulation (MIL-E-7894), feedback, relay "chatter", etc. (c) Voltage drop of each circuit from bus to load, and (d) Suitability of circuit elements in view of ultimate conformance to installation per MIL-E-7080.						
	Test Specime	n			<i>y</i>		
	Breadboard s	et-up of complete ele ad - analysis calibra	ectrical system wated dummy loads	viring to pre where necess	liminary Prod. Drgs.		
	Method of Te	st		•			
		ed of alternators to test as detailed in			ps.		
			• "				
				/conti	nued		
	PREPARED BY:	S.H. Brown	FOR TEST	DEPT. ONLY:			
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## REQUISITION COMPREST

SHEET NO. 2 OF 16 SHEETS

TO OEPT. NO. 3110	STRUCTURAL TEST	DEPT. MR. J.W. AM	ES DATE .	Dec. 14th 1955
REQUESTED BY DEPT. NO.	ASSIGNMENT NO.	TEST DEPT. JOB NO.	FUNCTION	PROJECT C105
2909	X7-0800		1100	COMPONENT Electrics

TITLE OF TEST

ELECTRICAL SERVICES TEST

DATA

#### Data Required

(a) Report of functioning operations

(b) Voltage drops from supply terminals to equipment terminals of all energized loads immediately after performance of steps asterisked, or during times noted after steps asterisked.

Simulated Function	Test Procedure	Functional Check
	1. LOADING & ANCHOR	
Energize aircraft buses from external ground supply	Engage ground energizer plug	
	Operate master switch E16/2 to "On"	Air Conditioning external control relay E3/7 actuates
Normal refuelling	Operate right tank system switch E24/11 & left tank system switch E23/11 to "On"	
	Check that refuelling selector switch E21/3 is set to "hormal refuel"	

PREPARED BY:

S.H. Brown

FOR TEST DEPT. ONLY:

APPROVED BY:

APPROVED FOR TEST:

AUTHORIZED BY:

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DATE R.T. RECEIVED:

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REQUISITION FOR TEST

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TO OEPT. NO. 3110 STR	UCTURAL TEST I	EPT. MR. A. M.	MES I C DATE	Dec. 14th 1955
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2909 X	7-0800		1100	PROJECT
TITLE OF TEST ELE	CTRICAL SERVIC	ES TEST		COMPONENT Electrics
DATA				
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Simulated Function	Pro	Test ocedure	rt	Check .
Without the Control of the Control o				
Normal Refuelli		te refuelling switch E21/2		E5/6, E5/12, E5/14, & E5/24
	to "or	Ju	actuate	e. Refuelling for lights indicate
N.		er re	(assumi	ng tank level
			wired	
	*		indicat	
	Operat	ce refuelling	Felavs	E5/6, E5/12,
		r switch E21/2	E5/13,	E5/14 & E5/24 at. Indicator
	00 0			go out.
	Openat	te right tank		
	system	m switch E24/11		
		t tank system n E23/11 to "Off"		Kalle Law.
D- C 11 t	0	h		
Defuelling	select	te refuelling tor switch E21/3		
	to "de	efuel"		
		te refuelling mas	ster Relays	E5/6, E5/12, E5/14 € actuate.
	\$witch	n E21/2 to "On"	Indicatindicat	tor light E15/3
PREPAREO BY: S.H.	, Brown	FOR TEST	DEPT. DNLY:	
APPROVED BY: F.H.	, Brame	APPROVED	FOR TEST:	1
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SHEET NO. 4 OF 16 SHEETS

TO DEPT. N	0. 3110	STRUCTURAL TEST	DEPT. MR. U.W. A	MES DATE .	Dec.	14th 1955
REQUESTED BY	DEPT. NO.	ASSIGNMENT NO.	TEST DEPT. JOB NO.	FUNCTION LOCATION	PROJECT	C105
2909		X7-0800		1100	COMPONENT	Electrics
TITLE OF T	EST					

ELECTRICAL SERVICES TEST

DATA

Simulated Function	Test Procedure	Functional Check
Defuelling	Operate refuelling master switch E21/2 to "Off"	
	Operate refuelling master switch E21/2 to "On"	Relays E5/6, E5/12, E5/13, E5/14 & actuate Indicator light E15/3 indicates
	Operate refuelling master switch E21/2 to "Off"	E5/6, E5/12, E5/13, E5/14 & drop out E15/3 goes out.
Partial refuelling	Operate refuelling selector switch E21/3 to"partial refuel"	
	Operate refuelling master switch E21/2 to "On"	Relays E5/6, E5/13, E5/14, E5/15 & E5/24 actuate. Indicator light E15/3 indicates.

PREPARED BY: S.H. Brown	FOR TEST DEPT. ONLY:
APPROVED BY: F.H. Brame	APPROVED FOR TEST:
AUTHORIZED BY:	ASSIGNED TO:
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R.T. NO. 08-387 Add.2

REQUISITION

SHEET NO. 5 OF 16 SHEETS

TO DEPT. NO. 3110 STRUCTURAL TEST DE ASSIGNMENT NO. TEST DEPT. JOB NO.

Dec. 14th 1955

DATE FUNCTION LOCATION REQUESTED BY DEPT. NO. PROJECT\_ C105 2909 X7-0800 1100 COMPONENT Electrics

TITLE OF TEST

ELECTRICAL SERVICES TEST

DATA

Simulated Test Functional Function Procedure Check Partial Operate left tank system Refeulling refuelling switch E23/11 & right indicator lights tank system switch E24/11 indicate to "On" Operate refuelling master Relays E5/5, E5/6, E5/13, E5/14, E5/15, & E5/24 drop-out. Indicator switch E21/2 to "Off" lights go out. Operate ground service Relay E3/14 Open front switch E3/10 to "open" canopy actuates and hold in this position Relay E3/16 actuates Operate ground service Open rear canopy rear canopy switch E3/11 to "open" and hold in this position Release canopy switches Relays E3/14 & E3/16 drop-out

S.H. Brown PREPARED BY: FOR TEST DEPT. ONLY: F.H. Brame APPROVED BY: APPROVED FOR TEST: AUTHDRIZED BY: ASSIGNED TO: PRIORITY: DATE R.T. RECEIVED: TARGET DATE:

# AVRO AIRCRAFT LIMITED 1. T. NO. 08-387 Add.2

REQUISITION FOR	SHEET	NO OF	16 SHEETS
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	TO DEPT. NO. 3110	STRUCTURAL TEST	DEPT. MR. J.W. A	MES DATE	Dec. 14th 1955	
-	REQUESTED BY DEPT.NO.	ASSIGNMENT NO.	TEST DEPT. JOB NO.	FUNCTION LOCATION 1100	PROJECT C105  COMPONENT Electrics	
The second second second second	TITLE OF TEST	ELECTRICAL SERVICE	ES TEST		COMPONENT 122001200	

DATA

Simulated Function	Test Procedure	Functional Check
Start engines	Operate left & right engine starting switches E16/3 & E16/4 to "start" & hold in this position	Starting relays E5/19 & E5/20 actuate
	Operate starting switches E16/3 & E16/4 to "reset"	Manual reset relay actuates
	Operate starting switches E16/3 & E16/4 to "start" & hold in this position	Starting relays E5/19 & E5/20 actuates
	Close 700 rpm switches of both engines; then release switches E16/3 & E16/4 while holding 700 rpm switches	
	Open 3020.rpm switches of both engines while still holding 700 rpm switches closed	Relays E5/19 & E5/20 drop-out
	Release 700 nom switches	101 11991

Release 700 rpm switches

S.H. Brown PREPARED BY: FOR TEST DEPT. ONLY: F.H. Brame APPROVED BY: APPROVED FOR TEST: AUTHORIZED BY : ASSIGNED TO: DATE R.T. RECEIVED: PRIORITY: FARGET DATE:



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SHEET NO. 8 OF 16 SHEETS

Dec. 14th 1955 DATE

TO OEPT. NO. 3110 REQUESTED BY DEPT. NO. 2909

ASSIGNMENT NO. X7-0800

TEST DEPT. JOB NO. FUNCTION LOCATION 1100

PROJECT \_\_\_\_C105

COMPONENT Electrics

TITLE OF TEST

ELECTRICAL SERVICES TEST

DATA

Simulated Function	Test Procedure	Functional Check
Check boost pump for normal operation	Operate press-to-test feature of indicator lights E21/9 & E21/10 & hold in this position	Lights indicate
	Release E21/9 & E21/10	Indicator lights E21/9 & E21/10 go out
Reset master warning lights	Operate switch El5/22 to "reset"	Master amber lights go out
Conclude operating condition	De-energize all loads not required for the next operating condition	
	111 MAYT	. 100

#### 111 TAXI

Continuous loads and Energize all loads of emergency loads of amps.

this operating condition less than 1.0 average for which no procedure is given below

PREPARED BY:	S.H. Brown	FOR TEST DEPT. ONLY:
APPROVED BY:	F.H. Brame	APPROVED FOR TEST:
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AUTHORIZED BY:		ASSIGNED TO:
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TARGET DATE:		



# REQUISITION FOR TEST

R.T. No. \_\_ 08-387 Add.2

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REQUESTED BY DEPT. NO.	X7-0800	TEST OEPT. JOB NO.	FUNCTION LOCATION	PROJECT	C105
~,0,	11, 0000			COMPONENT	Electrics

TITLE OF TEST

· ELECTRICAL SERVICES TEST

DATA

Simulated Function	Test Procedure	Functional Check
Release external lanyard-release plugs when A/C starts moving	Remove external power plugs	Air conditioning external control relay E3/7 drops- out
Nose wheel steering	Operate control column steering button and hold	
Conclude operating condition	De-energize all loads not required for the next operating condition	
4	1V TAKE-OFF AND CLIMB	
Continuous loads and emergency loads of less than 1.0 average amps.	Energize all loads of this operating condition for which no procedure is given below	
Landing gear scissors extension on take-off		Up-release solenoi energisers. Relay E6/11 energizer.

S.H. Brown PREPAREO BY: FOR TEST DEPT. ONLY: F.H. Brame APPROVEO FOR TEST: APPROVED BY: AUTHORIZEO BY: ASSIGNED TO: PRIORITY: DATE R.T. RECEIVED: TARGET DATE:



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R.T. No. 08-387 Add.2

REQUISITION FOR TEST TO DEPT. NO. 3110 STRUCTURAL TEST DEPT. MH. J SHEET NO. 12 OF 16 SHEETS

Dec. 14th 1955 DATE

CONFIDENTIAL

REQUESTED BY DEPT. NO. TEST DEPT. JOB NO. FUNCTION ASSIGNMENT NO. C105 1100 2909 X7-0800 COMPONENT Electrics

TITLE OF TEST

ELECTRICAL SERVICES TEST

DATA

4					
	Simulated Function	Test Procedure		Functional Check	
	Engine cooling above Mach. 0.5	Energize zon ejector rela; & E5/16		Relays E5/11 & E5/16 actuate	
	Actuate speed brakes to slow down	Operate pilobrake switch & hold in the	to "out"		
		Return pilot bräke switch			
	Engine cooling below Mach. 0.5	De-energize : E5/16	relays E5/ll &	Relays E5/11 & E5/16 actuate	
	Relight left hand	Operate left to relight a	relight button		.1
		Release reli	ght button		
	right hand engine load is ener compartment of switch El		* Take hile fire bottle gized. Operation 4/6 may be eral times to	Left engine shut-off relay E3/6 locks on. Fire bottle load energizes $2\frac{1}{2} + \frac{1}{2}$ seconds after operating E14/6. $3 + \frac{1}{2}$ seconds later fire bottle load de-energizes	
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DATE R.T. RECEIVED:

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PRIORITY: TARGET DATE:

AUTHORIZED BY:

AVRO AIRCENTY CLANE

No. 08-387 Add.2

REQUISITION FOR TEST

SHEET NO. 14 OF 16 SHEETS

TO DEPT. NO. 3110 STRUCTURAL TEST DEPT. MR. J.W. AMES

DATE \_ Dec. 14th 1955

REQUESTED BY DEPT. NO.

ASSIGNMENT NO. TEST DEPT. JOB NO.

FUNCTION LOCATION PROJECT \_\_\_\_C105

2909

X7-0800

1100

COMPONENT\_ Electrics

TITLE OF TEST

ELECTRICAL SERVICES TEST

DATA

Simulated Function	Test Procedure	Functional Check
Engine cooling above mach.0.5	Energize zone 1 ejector relays E5/11 & E5/16	Relays E5/11 & E5/16 actuate
Afterburner operation	Operate LH & RH afterburner switches E13/4 & E13/5 to "on"	Relays E5/9 & E5/10 actuate
	Release E13/4 & E13/5	Relays E5/9 & E5/10 drœout
Actuate speed brakes to slow down	Operate pilot's speed brake switch to "out" and hold in this position	
	Return pilot's speed brake switch to "hold"	
Engine cooling below Mach. 0.5	De-energize zone 1 ejector relays E5/11 & E5/16	Relays E5/11 & E5/16 drops-out
Discharge fire extinguisher bottle No. 1 into hydraulic bay	Operate indicator- switch E14/7 & hold	Relay E6/9 locks on

PREPARED BY: S.H. Brown

FOR TEST DEPT. ONLY:

DATE R.T. RECEIVED:

APPROVED BY: F.H. Brame

APPROVED FOR TEST:

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REQUESTED BY DEPT. NO. 2909	X7-0800	TEST DEPT. JOB NO.	LOCATION 1100	PROJECT	C105
				COMPONENT	Electrics

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		9.	processor, the second control of the second
	Simulated Function	Test Procedure	Functional Check
	Extend landing gear	Operate nose, left & right door-up switches to "door-unlock" position	Relays E6/5, E6/7 & E6/8 drop-out. Nose, left and right U/C position indicators indicate "unlock"
		Operate nose, left & * right U/C down switches to "down" position	Nose, left & right U/C position indicators indicate "down"
		Operate left & right telescopic stay switches to "down-lock" position	
	Throttle - back to "idle"	Operate throttle switch to "idle" position	U/C position warning light goes out.
	Touch-down	Operate all switches which actuate when A/C weight becomes supported by landing gear	Up-release solenoid de-emergizes. Relay E6/11 drops-out
	Open front canopy from cockpit	Operate switch ElO/2 to "open" & hold in this position	Relay E6/12 actuates
	Open rear canopy from cockpit	Operate switch E19/3 to "open" & hold in this position X	Relay E6/14 actuates
REPAR	EO BY: S.H. Brown	FOR TEST DEPT. ONLY	16211.
PPROV	EO BY: F.H. Brame	APPROVED FOR TEST	WCLHO!
UTHOR	IZED BY:	ASSIGNED TO:	) IV
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R.T. 08 - 387 ADD 4.

This addendum is being issued to cater for further circuit alterations and additional test procedures.

c.c. F. Brame
S. E. Harper
J. K. Scott
J. P. Booth
J. Lynch
S. Brown

CONFIDENTIAL

## A. V. ROE CAMADA LIMITED MALTON, ONTARIPONEIT

REQUISITION FOR TEST SHEET NO. 1 DF 2 SHEETS TO DEPT. NO. 3110 STRUCTURAL TEST DEPT. Mr. J.W. AMESATE REQUESTED BY DEPT. NO. ASSIGNMENT NO. TEST HEPT. JOB NO. PROJECT C-105 2909 X7-0800 2666 1100 COMPONENT ELECTRICS TITLE OF TEST C-105 ELECTRICAL SYSTEM FUNCTIONAL AND OPERATIONAL TESTS DATA SIMULATED TEST PROCEDURE FUNCTION FUNCTIONAL CHECK TERML. Starting & (a) EN Emer D.C. Bus by Relay E6/19 EN Ignition XT Operating Master switch (b) Operate R/starting Switch E16/4 to "Start" Relay E5/19 EN & Locks in X2 R/external Air Valve EN 0 R/engine starter EN (c) Simulate Engine at R/Throttle light E16/7 1c&2c 700r.p.m. Relay E5/32 EN R/engine igniters EN (d) Draw fuse E20/11 (e) Open C.B. E1/60 W&X #2 Igniter DE-EN Relay E5/19 DE-EN Press E1500/3 X2 Light E16/7 Off. Relay E5/32 DE-EN 1c&2c XI #1 Igniter DE-EN (g) System as in "A" (h) Actuate Relight Relay E5/32 EN Switch E1500/3 R/Engine Icniters EN W&X Light E16/7 ON (j) System as in "B" (k) Actuate switch E16/4 Relay E5/22 EN to "Reset" Relay E/19 Drops out X2 : System Returns to normal (1) System as in "A" (m) Operate L/starting switch B16/2 to "Start" Relay 85/20 EN & Locks in X2 L/external air valve EN C L/engine Starter EN (n) Simulate Engine at A L/engine Starter EN B 700rpm Relay E5/18 LN XI Light E16/6 ON FOR TEST DEPT. DNLY: APPROVED FOR TEST:

PREPARED BY: APPROVED BY: AUTHORIZED BY : ASSIGNED TO: PRIORITY: DATE R.T. RECEIVED:

## ROE CAHADA CATADATIAL NO. 08-387 ADD 4 A.V. ROE CAHADA

REQUISITION FOR TEST

SHEET NO. 2 OF 2 SHEETS

TO DEPT. NO.3110	STRUCTURAL TEST	DEPT.Mr. J.W.	. Ames DATE	The second secon
REQUESTED BY DEPT. NO.	DESCRIPTION OF THE PERSON OF T	TEST DEPT. JOB NO.	FUNCTION	PROJECT C-105
2909	X7-0800	2666	1100	COMPONENT ELECTRICS

TITLE OF TEST

C-105 ELECTRICAL SYSTEM FUNCTIONAL AND OPERATIONAL TESTS

3	The same of the sa			
-	SIMULATED FUNCTION	TEST PROCEDURE	TOTAL TOTAL	TERML
		(o) Draw fuse E20/10 (p) Open C.3. E1/59 & Press switch E1500/2	L/Ergine Igniters EN Igniter #2 DE-EN Relay E5/20 DE-EN Light E16/6 Off Ext Air Valve DE-EN Relay E5/18 DE-EN Igniter #1 DE-EN	W&X X X2 C XI W
	The second secon	(q) System as in "M" (r) Operate Switch E16/3 to "Reset"	Relay E5/20 Drops out	X2
		(s) System as in "A" (t) Operate Relight Swite E1500/2	ch Relay E5/18 EN L/Engine igniters EN	XI W&X
		(u) System as in "B" (v) Simulate R/Engine at 3020 RPM	Relay E5/19 Drops out	X2
		<pre>(w) System as in "M" (x) Simulate L/engine at 3020 RPM</pre>		Х2
		(y) Open C.B. E1/23 (z) Open C.B. E6/30	Emer D.C. Bus DE-EN A/C Battery Isolated from Battery Bus.	
		(a) Remove External D.C Supply	Relay E6/20 DE-EN Emer D.C. Bus DE-EN	XI
		(b) System as in "A" (c) Open G.B. El/23	Emer D.C. Bus DE-EN	

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-		FOR TEST DEPT. ONL
	PREPARED BT:	III
-	APPROVED BY:	APPROVED FOR TEST:
		ASSIGNED, TO: CONFIDENTIAL .
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EA	PRIORITY:	DATE R.T. RECEIVED:
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ARRIVATION OF	TATAL STREET,

TO DEPT. NO.

REQUESTED BY DEPT. NO.

TARGET DATE:

## AVRO AIA REQUISITION

TEST DEPT. JOB ND.

R			

FUNCTION

SHEET NO. 1

STRUCTURAL TEST DEPT. MR. J.W. AMES

ASSIGNMENT NO.

DATE December 6, 1956

PROJECT.

COMPONENT -TITLE OF TEST DATA Simulated Term'l. Functional Check Test Procedure Function A. EN Main D.C. Bus Oil & Fuel Press. 1R & 2R R/H Press. Switches B. Simulate R/Low Oil Press. Master Wrng. Box " Amber Light On Oil Press. Light E15/10 On Master Amber Light off C. Press. Master Wrng. Reset Light E15/10 off D. Remove low press.signal E. Open C.B. E20/22 & simu-No function late low oil press. F. System as in A & simulate Fuel Press. Light E15/12 On 1n & 2n low fuel pressure Master Amber Light On G. Press. Warning Reset H. Remove low fuel Press. In & 2M Light E15/12 off signal J. Open C.B. E/20/22 & simulate low fuel press. No function L/H Press. Switches K. System as in A & simulate Master amber light on L/Low Oil pressure L/oil press. light E15/11 on 1P & 2P Master amber light off L. Press. Warning Reset Light E15/11 off 1P & 2P M. As in D N. System as in A. Open C.B. E20/21 and test as in K No function O. System as in A & simulate Master amber light on low fuel pressure L/Fuel Press. light E15/13 on 1M & 2M Master amber light off P. Press. Warning Reset Q. Remove low fuel press. 1M & 2M Light E/15/13 off signal R. System as in A. Open C.B. No function E20/21 & test as in 0. A. EN Main D.C. Bus Ejector Valves Relay E5/16 EN B. Simulate engine start. R/H valve Ejector valve EN open Relay E5/16 De-EN L. Shearson FOR TEST DEPT. ONLY: PREPARED BY: APPROVED FOR TEST: APPROVED BY: ASSIGNED TO: AUTHORIZED BY: DATE R.T. RECEIVED: PRIORITY:

# REQUISITION FOR FOR EST SSIFIE

SHEET NO. 2 OF SHEETS

TITLE OF TEST  DATA Binulated Function  Test Procedure  C. Simulate Mach .5 % over D. Open fuse E20/36  E. Simulate engine start  F. Simulate .5 Mach & over G. Open fuse E20/35  Pressure Ratio R/H  L/H Valve  E. Draw Fuse E20/35  Pressure Ratio R/H  L/H C. System as in A D. Draw Fuse E20/33  R/Fngine Discharge Temperature  A. EN Primary A.C. Bus Phase A B. Open fuse E20/33  R/Fngine Discharge Temperature  C. System as in A D. Open fuse E2/20  L/Engine Discharge Temperature  C. System as in A D. Open fuse E2/20  R/Engine Heat Exchanger Oil Cooler Valve  B. Simulate normal flight  Relay E5/51 DE-EN Nocked E DE-EN L/H DE-EN )  Relay E5/51 DE-EN Nocked E DE-EN L/H DE-EN )  Relay E5/51 DE-EN Nocked E DE-EN L/H DE-EN )  Relay E5/51 DE-EN Nocked E DE-EN L/H DE-EN )  Relay E5/51 DE-EN Nocked E DE-EN L/H DE-EN )  Relay E5/51 DE-EN Nocked E DE-EN L/H DE-EN )  Relay E5/51 DE-EN Nocked E DE-EN L/H DE-EN NOCKED DE-		TO DEPT. NO. STRUCT	TURAL TEST DEPT.	MR. J.1	N.AMES		OATE .	Decemb	ber 6, 1	956
TITLE OF TEST  DATA Binulated Function  C. Simulate Mach .5 & over D. Open fuse E20/36  L/H Valve  E. Simulate engine start  Ejector valve EN closed " " DE-EN ABJECT VALVE EN CLOSED " DE-EN ABJECT VALVE EN CLOSED  F. Simulate .5 Mach & over G. Open fuse E20/31  B. Draw Fuse E20/31  L/H C. System as in A D. Draw Fuse E20/33  R/Engine Discharge Temperature  A. EN Primary A.C. Bus Phase AB. Open fuse E1/19  R/Engine Discharge Temperature  C. System as in A D. Open fuse E1/19  R/Engine Heat Exchanger Oil Cooler Valve  B. Simulate normal flight  Relay E5/51 DE-EN  Valve EN closed  B. Open fuse E1/19  R/Engine Heat Exchanger Oil Cooler Valve  C. Simulate afterburner in Relay E5/51 DE-EN  Valve EN closed AB valve EN closed  AB valve EN closed  AB valve EN closed AB valve EN closed  The cooler Valve  C. Simulate afterburner in Relay E5/51 DE-EN  Valve EN closed AB		REQUESTED BY DEPT. NO.	ASSIGNMENT NO.	TEST DE	PT. JOB NO.				E & SCOOL PAGE MANAGEMENT	j
DATA Simulated Function  C. Simulate Mach, 5 & over D. Open fuse E20/36  E. Simulate engine start  F. Simulate engine  F. Elay E. Simulate  F. Elay E. Simulate  F. Simulate engine  F. El				1		1	1104	PROJECT.		
DATA Bimulated Function  C. Simulate Nach .5 & over D. Open fuse E20/36 E. Simulate engine start  F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. System as in A D. Open fuse E20/33 F. Simulate .5 Mach & over C. System as in A D. Open fuse E1/20 F. Simulate .5 Mach & over C. System as in A D. Open fuse E1/20 F. Simulate .5 Mach & over C. System as in A D. Open fuse E1/20 F. Simulate .5 Mach & over C. System as in A D. Open fuse E1/20 F. Simulate .5 Mach & over C. System as in A D. Open fuse E1/20 F. Simulate .5 Mach & over C. Simulate .								COMPONEN	Τ	
DATA Bimulated Function  C. Simulate Nach .5 & over D. Open fuse E20/36 E. Simulate engine start  F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. Open fuse E20/35 F. Simulate .5 Mach & over C. System as in A D. Open fuse E20/33 F. Simulate .5 Mach & over C. System as in A D. Open fuse E1/20 F. Simulate .5 Mach & over C. System as in A D. Open fuse E1/20 F. Simulate .5 Mach & over C. System as in A D. Open fuse E1/20 F. Simulate .5 Mach & over C. System as in A D. Open fuse E1/20 F. Simulate .5 Mach & over C. System as in A D. Open fuse E1/20 F. Simulate .5 Mach & over C. Simulate .		TITLE OF TEST			****	-			-	
Simulated Function  C. Simulate Mach .5 & over D. Open fuse E20/36  L/H Valve  E. Simulate engine start  E. Simulate engine start  E. Simulate engine start  E. Simulate .5 Mach & over G. Open fuse E20/35  F. Simulate .5 Mach & over G. Open fuse E20/35  E. Draw Fuse E20/35  E. Draw Fuse E20/35  E. Draw Fuse E20/34  E. Draw Fuse E20/34  E. Draw Fuse E20/33  E. Draw Fuse E20/34  E. Draw Fuse E20/34  E. Draw Fuse E20/33  E. Draw Fuse E20/34  E. Draw										
Simulated Function  C. Simulate Mach .5 & over D. Open fuse E20/36  L/H Valve  E. Simulate engine start  E. Simulate engine start  E. Simulate engine start  E. Simulate .5 Mach & over G. Open fuse E20/35  F. Simulate .5 Mach & over G. Open fuse E20/35  E. Draw Fuse E20/35  E. Draw Fuse E20/35  E. Draw Fuse E20/34  E. Draw Fuse E20/34  E. Draw Fuse E20/33  E. Draw Fuse E20/34  E. Draw Fuse E20/34  E. Draw Fuse E20/33  E. Draw Fuse E20/34  E. Draw										
Function  Test Procedure  C. Simulate Mach .5 & over D. Open fuse E20/36  E. Simulate engine start  F. Simulate .5 Mach & over G. Open fuse E20/35  F. Simulate .5 Mach & over G. Open fuse E20/35  F. Simulate .5 Mach & over G. Open fuse E20/35  F. Simulate .5 Mach & over G. Open fuse E20/35  F. Simulate .5 Mach & over G. Open fuse E20/35  F. Simulate .5 Mach & over G. Open fuse E20/35  F. Simulate .5 Mach & over G. Open fuse E20/35  F. Simulate .5 Mach & over G. Open fuse E20/35  F. Simulate .5 Mach & over G. Open fuse E20/36  F. Simulate .5 Mach & over G. Open fuse E20/36  F. Simulate .5 Mach & over G. Open fuse E20/36  F. Simulate .5 Mach & over G. Open fuse E20/36  F. Simulate .5 Mach & over G. Open fuse E20/36  F. Simulate .5 Mach & over G. Open fuse E20/36  F. Simulate .5 Mach & over G. Open fuse E20/36  F. Simulate .5 Mach & over G. Open fuse E2/40  F. S		Control of the Contro								
C. Simulate Mach .5 & over D. Open fuse E20/36 E. Simulate engine start Ejector valve EN closed E. Simulate engine start Ejector valve EN open Relay E5/11 EE.EN Ejector valve EN open Relay E5/11 DE.EN Ejector valve EN closed B A.B AB AB AB AB Relay E5/11 EN Ejector valve EN closed B Ejector valve EN clo		Part Control of Control of Control of Control	Test Procedure		1	Cuncti or	al Che	ck		Tarm 13
D. Open fuse E20/36 E. Simulate engine start E. Simulate engine engin		Continuent Nation Madigaria a Southware				***************************************		manufacity.		TOTAL T.
L/H Valve  E. Simulate engine start  F. Simulate .5 Mach & over G. Open fuse E20/35  F. Simulate .5 Mach & over G. Open fuse E20/35  Pressure Ratio R/H  B. Draw Fuse E20/34  L/H C. System as in A D. Draw Fuse E20/33  R/Engine Discharge Temperature  A. EN Primary A.C. Bus Phase A B. Open fuse E1/20  R/Engine Discharge Temperature  C. System as in A D. Open fuse E1/19  R/Engine Heat Exchanger Oil Cooler Valve  A. EN Main D.C. Bus B. Simulate normal flight  C. Simulate afterburner in  Relay E5/11 EN R/Indicator EN Relay E5/51 DE-EN					over l				ed	£15
Ejector valve EN open Relay E5/11 DE-EN  F. Simulate .5 Mach & over G. Open fuse E20/35  Pressure Ratio R/H  A. EN Primary A.C. Bus Phase B. Draw Fuse E20/34  L/H C. System as in A D. Draw Fuse E20/33  R/Engine Discharge Temperature A. EN Primary A.C. Bus Phase A B. Open fuse E1/20  L/Engine Discharge Temperature C. System as in A D. Open fuse E1/19  R/Engine Heat Exchanger Oil Cooler Valve A. EN Main D.C. Bus B. Simulate normal flight C. Simulate afterburner in C. System as in A C. Bus C. Subsemble in DE-EN A & B C. B. A & B C. B. Press. Ratio Trais'r. EN R/H  C. B. A & B C.		L/H Valve			ret. I					14
F. Simulate .5 Mach & over G. Open fuse E20/35  Pressure Ratio R/H A. EN Primary A.C. Bus Phase B. Draw Fuse E20/34 L/H C. System as in A D. Draw Fuse E20/33  R/Engine Discharge Temperature A. EN Primary A.C. Bus Phase A B. Open fuse E1/20 L/Engine Discharge Temperature C. System as in A D. Open fuse E1/19  R/Engine Heat Exchanger Oil Cooler Valve A. EN Main D.C. Bus B. Simulate normal flight C. Simulate afterburner in C. Simulate afterburner in D. Open C.B. E1/55  PREPAREO SY: L. Shearson  ABSIGNED TO:  Relay E5/51 DE-EN AB B. A B A B A B A B B A B B A B B B B			The state of the s	5.2.20						36
Pressure Ratio R/H A. EN Primary A.C. Bus Phase  B. Draw Fuse E20/34  L/H C. System as in A D. Draw Fuse E20/33  R/Engine Discharge Temperature  A. EN Primary A.C. Bus Phase A B. Open fuse E1/20  R/Engine Discharge Temperature  C. System as in A D. Open fuse E1/19  R/Engine Heat Exchanger Oil Cooler Valve  A. EN Main D.C. Bus B. Simulate normal flight  C. Simulate afterburner in C. Substantion C. Substantion C. Substantion C. Substantion C. Bus C. Simulate E20/31 C. De-EN C. Simulate E20/31 C. Substantion C. Substantion C. Bus C. Simulate E20/31 C. De-EN C. Simulate E20/31 C. Simulate E20			B 01 1 1 1		F	Relay E5	/11 DE	-EN	ļ.	
Pressure Ratio R/H A. EN Primary A.C. Bus Phase  B. Draw Fuse E20/34					over 1	jector			ed i	
B. Draw Fuse E20/31  L/H C. System as in A D. Draw Fuse E20/33  R/Engine Discharge Temperature  A. EN Primary A.C. Bus Phase A D. Open fuse E1/20  R/Engine Discharge Temperature  C. System as in A D. Open fuse E1/20  R/Engine Heat Exchanger Oil Cooler Valve  A. EN Main D.C. Bus B. Simulate normal flight  C. Simulate afterburner in Relay E5/51 DE-EN Valve EN closed A/B valve EN closed			os open rade na	-0/ 33				DE-EN	1/4	ACD
B. Draw Fuse E20/31  L/H C. System as in A D. Draw Fuse E20/33  R/Engine Discharge Temperature  A. EN Primary A.C. Bus Phase A D. Open fuse E1/20  R/Engine Discharge Temperature  C. System as in A D. Open fuse E1/20  R/Engine Heat Exchanger Oil Cooler Valve  A. EN Main D.C. Bus B. Simulate normal flight  C. Simulate afterburner in Relay E5/51 DE-EN Valve EN closed A/B valve EN closed										
B. Draw Fuse E20/34  L/H C. System as in A D. Draw Fuse E20/33  R/Engine Discharge Temperature  A. EN Primary A.C. Bus Phase A Phase A Phase A D. Open fuse E1/20  R/Engine Discharge Temperature  C. System as in A D. Open fuse E1/19  R/Engine Heat Exchanger Oil Cooler Valve  A. EN Main D.C. Bus B. Simulate normal flight  Relay E5/51 DE-EN Valve EN closed A/B valve EN closed A/B valve EN closed T. C. Simulate afterburner in Relay E5/51 DE-EN Valve EN open A/B valve DE-EN FOR TEST OPPT. ONLY:  APPROVED BY:  AND APPROVED BY:  APPROV		Pressure Ratio R/H	A. EN Primary A	A.C. Bus		ress. R	atio T	rane! r.	EN R/H	.7
L/H C. System as in A		District Constant	B. Draw Fuse E2	20/34	A			£		
R/Engine Discharge Temperature  A. EN Primary A.C. Bus Phase A B. Open fuse El/20 I		L/H	C. System as in	1 A						
Temperature  A. EN Primary A.C. Bus Phase A B. Open fuse E1/20 B. Open			D. Draw Fuse E2	20/33		11	ti .	n I	E-EN L/I	J
Temperature  A. EN Primary A.C. Bus Phase A B. Open fuse E1/20 B. Open										
Phase A R/indicator EN ) not E B. Open fuse E1/20 " " DE-EN ) hooked E into into Temperature C. System as in A D. Open fuse E1/19 " DE-EN ) rig E E E Exchanger Oil Cooler Valve A. EN Main D.C. Bus B. Simulate normal flight Relay E5/51 DE-EN XI Valve EN closed B A/B valve EN closed T Relay E5/51 EN XI Valve EN open A A/B valve EN open A A/B valve EN open S Relay E5/51 DE-EN XI Valve De-EN S& T Valve DE-EN XI A/B Valve DE-EN S& T Valve DE-EN S& T Valve DE-EN S& T Valve DE-EN S& T APPROVED BY:  APPROVED BY:  Date R.T. Received: Canada A/B Valve DE-EN ASSIGNED TO:										
B. Open fuse El/20 " " DE-EN ) hooked E ) into  L/Engine Discharge  Temperature C. System as in A L/indicator EN ) rig E DE-EN ) hooked E ) into  L/Engine Heat Exchanger Oil Cooler Valve A. EN Main D.C. Bus B. Simulate normal flight Relay E5/51 DE-EN Valve EN closed B A/B valve EN closed B A/B valve EN closed T Relay E5/51 EN X1 Valve EN open A/B valve EN open A/B valve EN open S D. Open C.B. El/55 Relay E5/51 DE-EN X1 A/B Valve DE-EN S & T		Temperature				12 - 22	L T/RT	,		**
L/Engine Discharge Temperature  C. System as in A D. Open fuse El/19  R/Engine Heat Exchanger Oil Cooler Valve  A. EN Main D.C. Bus B. Simulate normal flight Valve EN closed A/B valve EN closed BA/B valve EN closed T C. Simulate afterburner in Relay E5/51 EN Valve EN open A/B valve EN open A/B valve EN open A/B valve EN open BD. Open C.B. El/55 Relay E5/51 EN Valve EN open A/B valve EN open A/B valve DE-EN FOR TEST OFFT. ONLY:  APPROVED BY:  ASSIGNED TO:  DATE R.T. RECEIVED:								The second secon		
D. Open fuse El/19  R/Engine Heat Exchanger Oil Cooler Valve  A. EN Main D.C. Bus B. Simulate normal flight Valve EN closed A/B valve EN closed T. C. Simulate afterburner in Valve EN open A/B valve EN open A/B valve EN open A/B valve EN open S. D. Open C.B. El/55 Relay E5/51 DE-EN A/B Valve DE-EN FOR TEST OPET. ONLY:  APPROVED BY:  ASSIGNED TO:  PRIORITY: DATE R.T. RECEIVED:								)		
R/Engine Heat Exchanger Oil Cooler Valve  A. EN Main D.C. Bus B. Simulate normal flight Valve EN closed A/B valve EN closed T C. Simulate afterburner in Relay E5/51 EN Valve EN open A/B valve EN open A/B valve EN open A/B valve EN open S D. Open G.B. E1/55 Relay E5/51 DE-EN XI A/B Valve DE-EN FOR TEST OEPT. ONLY:  APPROVED BY:  APPROVED BY:  APPROVED FOR TEST:  AUTHORIZED BY:  DATE R.T. RECEIVED:		Temperature			I				rig	
Exchanger Oil Cooler Valve  A. EN Main D.C. Bus B. Simulate normal flight  Valve EN closed  A/B valve EN closed  T  C. Simulate afterburner in  Relay E5/51 DE-EN  Valve EN closed  T  Valve EN closed  T  Valve EN open  A/B valve EN open  A/B valve EN open  A/B valve EN open  S  Relay E5/51 DE-EN  XI  Valve De-EN  S & T  Valve DE-EN  PREPAREO BY:  APPROVED BY:  APPROVED FOR TEST:  AUTHORIZED BY:  DATE R.T. RECEIVED:			D. open rube hi	1/17			DE.	-EN)		E
Exchanger Oil Cooler Valve  A. EN Main D.C. Bus B. Simulate normal flight  Valve EN closed  A/B valve EN closed  T  C. Simulate afterburner in  Relay E5/51 DE-EN  Valve EN closed  T  Valve EN open  A/B valve EN open  A/B valve EN open  A/B valve EN open  S  Relay E5/51 DE-EN  Valve DE-EN  FOR TEST OFPT. ONLY:  APPROVED BY:  ASSIGNED TO:  PRIORITY:  DATE R.T. RECEIVED:		T) /Ti								
Cooler Valve  A. EN Main D.C. Bus B. Simulate normal flight  Valve EN closed  A/B valve EN closed  T C. Simulate afterburner in  Relay E5/51 EN  Valve EN open  A/B valve EN open  A/B valve EN open  A/B valve EN open  A/B valve EN open  S Relay E5/51 DE-EN  XI  Valve DE-EN  Yalve DE-EN  FOR TEST OEPT. ONLY:  APPROVED BY:  AUTHORIZED BY:  DATE R.T. RECEIVED:										
B. Simulate normal flight Relay E5/51 DE-EN X1 Valve EN closed B A/B valve EN closed T Relay E5/51 EN X1 Valve EN open A A/B valve EN open A/B valve EN open S Relay E5/51 DE-EN X1 A/B Valve DE-EN S&T Valve DE-EN S&T Valve DE-EN S&T Valve DE-EN S&T A/B Valve DE-EN S&T A/B VALVE DE-EN S&T VALVE DE-EN S&T VALVE DE-EN S&T VALVE DE-EN S&T APPROVED BY:  ADPROVED BY:  AUTHORIZED BY:  AUTHORIZED BY:  DATE R.T. RECEIVED:			A. EN Main D.C.	Bus						
A/B valve EN closed  C. Simulate afterburner in Relay E5/51 EN XI Valve EN open A A/B valve EN open S D. Open C.B. E1/55 Relay E5/51 DE-EN XI A/B valve DE-EN XI A/B valve DE-EN S&T  Valve DE-EN S&T  Valve DE-EN S&T  Valve DE-EN S&T  APPROVED BY:  APPROVED BY:  ASSIGNED TO:  DATE R.T. RECEIVED:										XI
C. Simulate afterburner in Relay E5/51 EN Valve EN open A A/B valve EN open S Relay E5/51 DE-EN XI A/B Valve DE-EN XI A/B Valve DE-EN S & T APPROVED BY:  APPROVED BY:  AUTHORIZED BY:  DATE R.T. RECEIVED:										
Valve EN open  A/B valve EN open  A/B valve EN open  S/B valve EN open  Relay E5/51 DE-EN  A/B Valve DE-EN  Valve DE-EN  FOR TEST OEPT. ONLY:  APPROVED BY:  AUTHORIZED BY:  DATE R.T. RECEIVED:			C. Simulate aft	erburne						
D. Open C.B. El/55  Relay E5/51 DE-EN  A/B Valve DE-EN  Valve DE-EN  FOR TEST OEPT. ONLY:  APPROVED BY:  APPROVED FOR TEST:  AUTHORIZED BY:  DATE R.T. RECEIVED:			1		V	alve EN	open			A
A/B Valve DE-EN  PREPAREO BY: L. Shearson  APPROVED BY:  APPROVED FOR TEST:  APPROVED BY:  ASSIGNED TO:  PRIORITY:  DATE R.T. RECEIVED:			D Open C B FT	100						
PREPAREO BY: L. Shearson  APPROVED BY:  APPROVED FOR TEST:  AUTHORIZED BY:  PRIORITY:  DATE R.T. RECEIVED:			no open o.n. m	122	A	B Valve	DE-EI	-TPM		
APPROVED BY:  AUTHORIZED BY:  PRIORITY:  DATE R.T. RECEIVED:		Y 61			A	alve DE.	-EN		FIE	
AUTHORIZED BY:  PRIORITY:  DATE R.T. RECEIVED:		PREPAREO BY: L. Shea	irson		FOR TEST	OEPT.	ONLY:	ne	SILIF	
PRIORITY: DATE R.T. RECEIVED:		APPROVED BY:			APPROVEO	FOR TE	ST:	01 190	0-	
PRIORITY: DATE R.T. RECEIVED:							1113	0		
PRIORITY: DATE R.T. RECEIVED:	2588	AUTHORIZED BY:			ASSIGNED	то:		PARITIN	TAPET CO	
	EA	PRIORITY:	. A		DATE R.T	. RECEI	VED:		MIAL	
	AVRO	TARGET DATE:								

# AVRO AIRCRACONFILETALCELE

REQUISITION FOR TESTERS

TO DEPT. NO. STRUCTURAL TEST DEPT. MR. J.W.AMES

\_ DATE December 6, 1956

ILO DELL' HO.	AL TEST DELT. MILL O . N . C		CTION	
REQUESTED BY DEPT. NO. AS	SIGNMENT NO. TEST DEPT.		ATION PROJECT	
			COMPONENT	
TITLE OF TEST				
DATA	iv.			
Simulated Function	Test Procedure	Functi	onal Check	Term'l.
L/Engine Cooler Valve	F. System as in A F. Simulate Normal Fl:	ight Ralay	E5/50 DE-EN	XI.
	r. Simulate normal il.	Valve	EN closed	В
			lve EN closed	T
	G. Simulate afterburn		E5/50 EN EN open	X1 A
			lve EN open	S
	H. Open C.B. E1/52	Relay	E5/50 DE-EN	XI
		Valve		A * B S * T
		A/B VE	lve DE-EN	2 4 1
R/Rotor Overspeed	A. EN Main D.C. Bus			
Mytotor over speed	B. Simulate L/Rotor o	verspeed Warni	ng Light E15/20 on	1J * 2J
	a D Wandara Para		amber light on off	
	C. Press. Warning Res D. Remove overspeed s		E15/20 off	1J * 2J
	E. Draw Fuse E20/22/	Test		
	as in B	No fur	nction	
,L/Rotor overspeed	F. System as in A G. Simulate L/Rotor C	verspeed Warni	ing Light E15/19 on	1F t 2F
		Master	r amber light on	
	H. Press. Warning Res	300	m m off En5/19 off	1F * 2F
	J. Remove overspeed a K. Draw Fuse E20/21		PT 3/13 OLI	1, 4 ~
	in G	No Fu	nction	
Emergency Fuel Con-	A. EN Emergency D.C.	Bus		
trol L/H	B. Operate switch El	4/8 to Emerg	.Fuel Solenoid EN &	N
	Emerg.		tches on ency Light E15/14 On	10 \$ 20
	C. Open C.B. El/53 *	test	0110)	
	as in B	No fu	nction	d
	D. System as in B, Pr E14/8 to "Rese		ency solenoid unlatche	0
	E14/8 to "Rese	Light	E15/14 off	
Y 01		FOR TEST DEP		n
PREPARED BY: L. Shea	rson	TOR TEST DET	CHI	
APPROVED BY:		APPROVED FOR	TEST:	
			MCFL	
AUTHORIZED BY:		ASSIGNED TO:	000	
FRIORITY:		DATE R.T. RE	CELVED: CONFIDENTIAL	
O C C C C C C C C C C C C C C C C C C C			- " IULNIIAL	100
TARGET DATE:				-

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AND REDICTE	0Z30353886

R.T. ND.	

REQUISITION FOOTHERIN ASSIF	SHEEL NO
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REQUISITIO	F CONFIDERIAL AS	SHEED ND. 4 OF SHEETS
TO DEPT. NO. STRUCTURAL TES	T DEPT. MR. J.W.AMES	DATE December 6, 1956
REQUESTED BY DEPT. NO. ASSIGNMEN		FUNCTION LOCATION PROJECT COMPONENT

TITLE OF TEST

Simulated			
Function	Test Procedure	Functional Check	Term'l
Emergency Fuel Control R/H	E. System as in A	/0.4.	
	F. Operate switch El4	latches on	N
	G. Open C.B. El/54 *		lc * 2
	as in F H. System as in F	No function	
4	I. Operate switch EL4	Emergency solenoid unlatched Normal solenoid EN	Q
	<b>\</b>	Light E15/14 off	
Engine Anti-icing	A. EN Main D.C. Bus EN Emerg. D.C. Bus		
	B. Simulate L/engine	icing L/ice det. relay EN Warning light E15/39 on Master amber warn. light on	1d * 2d
•		R/ice det. relay EN * locked Timer controller EN Relay E5/21 EN * latched	on XI B XI
		Relay E5/34 EN t latched L/H anti-icing valve EN R/H anti-icing valve EN	X1 A A
	C. L/H anti-icing val fully open	ve Relay E5/21 unlatched	Х3
		L/Anti-icing valve EN closed	. ^)
	D. R/anti-icing valve open	Relay E5/34 unlatched	
	E. Press. warning res	R/anti icing valve EN closed et Master amber light off	D
	F. Remove L/engine ic	ing	
	signal G. System as in A 2 d	Light E15/39 is off raw	1d * 2d
,	fuse E20/16 H. Test as in B	No function	CIED
	hearson	18	1100

APPROVED FOR TEST: APPROVED BY: ASSIGNED TO: AUTHORIZED BY: DATE R.T. RECEIVED CONFIDENTIAL PRIORITY:

## AVRO AIRCO REQUISITION

NO.	_ 5	OF	SHE	E

STRUCTURAL TEST DEPT MR . I. W. AMES

December 6 1956

ì	TO DEPT. NO.	COLUMN TANK	DATE .	2000,1001 0, 1770
-	REQUESTED BY DEPT. NO.	ASSIGNMENT NO.	NCTION CATION	PROJECT

TITLE OF TEST

DATA	
Simulated	

Function	-
R/Engine	icing

## Test Procedure

J.	System	as	in	A

K.	Remove	R/e	engine	ici	lng
L.	Draw	fuse	signal E20/17		te

M. Draw fuse E20/3

#### Functional Check Term'l.

Fimer control EN	В
Warning Light El5/39 on	1d \$ 2d
Master amber light on	
Relay E5/34 EN * latched	XI
Relay E5/21 EN & latched	XI
R/anti icing valve EN	A
L/anti icing valve EN	Α.

Light	E15/39	off	1	£	ŧ	2d

No function	
Timer Control DE-EN	127

PREPAREO BY: L. Shearson FOR TEST OEPT. ONLY: APPROVED BY: APPROVED FOR TEST: ASSIGNED TO: AUTHORIZED BY: PRIORITY: TARGET DATE:



# REQUISITION FOR DEST

R.T. NO. 08-387 AUD 4

SHEET NO. 1 OF 3 SHEET:

	TO DEPT. NO. 3110	O STRUCTURAL TEST	DEPT	Mr. J.W.	Ames DATE		
	REQUESTED BY DEPT. NO.	ASSIGNMENT NO.	CAS DA	4. JOB NO.	FUNCTION LOCATION	PROJECT C-105	
-	2909	X7-0800	266	6	1100	COMPONENT ELECTI	RICS
1	TITLE OF TEST						
	C-105 ELECT	TRICAL SYSTEM FUN	CTIONA	L AND OF	PERATIONAL	TESTS	
	SIMULATED FUNCTION	TEST PROCE	DURE		FUNCTION	AL CHECK	TERML
	U/C "UP" &	Energize emerge Simulate A/C on Wheels down & L  (b) Open C.B. E  Draw Fuse E20/1 Open C.B. E1/63 (c) System as i Actuate ground switch E21/7 (d) System as i Simulate A/C Ai Select Lever E1  (e) Open C.B. E  (f) Close C.B. U/C Continues t & Locks "UP"  (g) Open C.B. E	ncy D. Groun ocked  1/65 8 n "A" test o n "A" rborne 2/3 to  1/63 1/63 o Retra	O. Bus  d with  Al  Do  Re  Un  In  Ae  Re  Un  In  Ae  Re  Un  In  Ae  Re  Un  In  Ae  Re  Un  In  Re  In  Un  In  Re  In  Un  In  Re  In  Un  In  In  In  In  In  In  In  In	clay E6/11  Cup valve	rs shown down d EN is EN olenoid DE-EN E-EN to is DE-EN d DE-EN is DE-EN Light goes bt will go "ON N N N UP Light goes s DE-EN Light goes s DE-EN Light goes Light goes bt will go "ON N N N Light goes s DE-EN Light goes	C XI MAN A & C XI C XI B A & C XI L&VIS L&VIS L&VIX V'' XI X
	Buses EN	Between idle &	1/3 011.	F)	ashes "ON"	& "OFF"	
	PREPARED BY:			FOR TEST	DEPT. ONLY:	18211	
	APPROVED BY:			APPROVED	FOR TEST	M. Fr.	
2569	AUTHORIZED BY:			ASSIGNED	то:		
M	PRIORITY:			DATE R.	r. RECEIVED:	CONFIDENTIA	
AVRO	TARGET DATE:						_



# ANRO AIRCONFIDENTIMED

REQUISITION FOR

SHEET NO. 2 OF 3 SHEET

TO DEPT. NO.		IINCL	SS DATE	
REQUESTED BY DEPT. NO.	ASSIGNMENT NO.	TEST DEPT. JOB NO.	FUNCTION	PROJECT <u>C-105</u>
2909	X7-0800	2666	1100	COMPONENT ELECTRICS
	TRICAL SYSTEM FU	NCTIONAL AND OF	PERATIONAL	TESTS

DATA SIMULATED FUNCTION	TEST PROCEDURE	FUNCTTONAL CHECK	TERML
	(j) Select U/C "Down"	U/C Down valve is EN Position Light Stops Flashing, & goes "ON" Steadily. Indicators DE-EN to "Neutral"	C L & L A & C
	(k) U/C continues to "Extend" until down and locked	Check as at "A"	
*	(1) Break R/telescopic Stay switch	R/indicator DE-EN to "Neutral"	C
	(m) Break L/telescopic Stay switch	L/indicator DE-EN to "Neutral"	С
	(n) System as in "K" Break Nose down switch	N/indicator DE-EN to "Neutral"	C
	(o) Break L/U/C down switch (p) Break R/U/C Down switch	L/indicator DE-EN to "Neutral" R/indicator DE-EN to "Neutral"	C
	(q) System as in "A" (r) Actuate L&R Scissors Switches	UP release solenoid EN	Н
Automatic Braking	(s) System as in "D" (t) Open C.B. E1/64	Relay E6/11 is DE-EN Anti-spin Solenoids EN Antipspin solenoids DE-EN	XI A&A A&A
	Select U/C Down  (v) Operate emergency	Up relay E6/8 is DE-EN Anti-skid control unit EN	ΧI
	Switch E10/6 to "Off"	Anti-skid control unit DE-EN	E

1	PREPARED BY:	FOR TEST DEPT. ONLY
	APPROVED BY:	APPROVED FOR TEST:
6 8 9	AUTHORIZED BY:	ASSIGNED TO:
94	PRIORITY:	DATE R.T. RECEIVED:
AVRO	TARGET DATE:	

R.T. NO. 08-387 ADD 4

FORCONFIDE REQUISITION

TO DEPT. NO. REQUESTED BY DEPT. NO. ASSIGNMENT NO. FUNCTION LOCATION TEST DEPT. JOB NO. PROJECT\_C-105 2909 X7-0900 2666 1100 COMPONENT ELECTRICS

TITLE OF TEST

DATA SIMULATED FUNCTION	TEST PROCEDURE	FUNCTIONAL CHECK	TERML
Nose Wheel Steering	(w) System as in "U" Open C.B. E1/62  (x) EN Main D.C. Bus system as in "A" (y) Operate control column Steering button (z) Actuate Nose Oleo Switch (a) System as in "Y" & open C.B. E1/61	Anti-skid control unit DE-EN Same as in "A" Nose Wheel steering sol. Steering solenoid DE-EN Steering solenoid DE-EN	E A A A

UNCLASSIFIED

FOR TEST DEPT. ONLY: PREPARED BY: APPROVED FOR TEST: APPROVED BY: ASSIGNED TO: AUTHORIZED BY: DATE R.T. RECEIVED: PRIORITY: TARGET DATE:



TARGET DATE:

# AVRO AIRCRAFT LIMITED

## REQUISITION FOR CONFIDENTIAL

R.T. NO. 08-387 ADD 4

SHEET NO. \_\_\_\_OF\_\_\_SHEET

	STRUCTURAL TEST	DEPT. Mr.	J.W. Ames DATE		
REQUESTED BY DEPT. NO.	ASSIGNMENT NO.	TEST DERT. OB	LOCATION	PROJECT C-10	5
2909	X7-0800	2666	1100	COMPONENT ELECT	RICS
C C-105 ELE	CTRICAL SYSTEM FU	JNCTIONAL A	ND OPERATIONAL	L TESTS	4,
DAJAMULATED FUNCTION	TEST PRO	CEDURE	FUNCTIONAL	CHECK	TERML
Refuelling	(a) Energize Bus (b) Select sv to "Full" (c) Operate A Refuelling Switch E21/2  (d) Switch E21/2  (d) Switch E21/2  (d) Switch E21/2  (e) Switch E2 "ON" (f) Draw fuse (h) System as then simulate	23/11 to 24/11 to E20/14 in "C"	Left F/P by-pa Normal & Parti Relay E5/24 is Air pressure r are EN "Open" Pressure regul are EN "Open" External Tank Off valve DE-E 7 Left level s	contact on actuated actuated actuated actuated as actuated as EN "Open" all refuelling actuated relief valves actuated a	l l XI XI XI A A A X2 A A A I XI X
PREPARED BY:		FOR	TEST DEPT, ONLY:	CIEIE	
APPROVED BY:		APPR	OVED FOR TEST	1823.	
AUTHORIZED BY:		ASSI	GNED TO:	Andreas right in Annes and the Contract of the	
PRIORITY:		DATE	R.T. RECEIVED:	CONFIDENTIAL	

R.T. NO. 08-387 ADD 4

#### REQUISITION FOR TEST

SHEET NO. \_\_\_\_OF\_\_\_SHEET:

-	TO DEPT. NO. 311	O STRUCTURAL TEST	DEFT. I.	CADOSTAPE	
Name of Address of the Owner,	REQUESTED BY DEPT. NO.	ASSIGNMENT NO.	TES DAPE . MO. V	LOCATION	PROJECT C-105
of the latest of	2909	X7-0800	2666	1100	COMPONENT ELECTRICS

TITLE OF TEST

C-105 ELECTRICAL SYSTEM FUNCTIONAL AND OPERATIONAL TESTS

DASAMULATED FUNCTION	TEST PROCEDURE	FUNCTIONAL CHECK	TERML
Partial refuelling	(j)Open switch E21/2 mg (a) EN main D.C. Bus	Refuelling lights off	. 1
	selector switch to "Partial"	Refuelling ind lights on	i
		El5/2 warning light on Refuelling ind lights off Relay E5/6 EN Relay E5/24 EN	IXI
		Relay E5/40 EN RF/P by-pass EN closed L F/P by-pass EN closed Relay E5/15 EN	XI B B XI
	(b) switch E23/11 to "ON"	L/Tank level sensing valves EN	A h ab
	(c) Switch E 24/11 to "ON"	R/Tank level sensing valves EN	
Partial # 2	(d) Draw fuse E20/13 Same as Partial # 1	Relay E5/15 DE-EN	XI
De-Fuel	SW E21/2 to De-Fuel	Relays E5/24 & E5/15 DE-EN Relays E5/6 & E5/40 DE-EN R & L F/P valves EN Closed Relief overide Sws DE-EN Tank level sensing valves DE-EN Shut off valves DE-EN Refuelling indicator lts Off	XI XI B

ACLASSIFIED FOR TEST DEPT. DNLY: PREPARED BY: APPROVED BY: APPROVED FOR TEST: AUTHORIZED BY: ASSIGNED TO: FRIDRITY: DATE R.T. RECEIVED: TARGET DATE:

# MALTON, GHTAR CONFIDENTIAL

REQUISITION FOR TE	ME	155 St. 1	NO. OF SHEET
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. KEQUI	STILON FOR TH	BN	FHOR	SHEET	NOOF	SHEETS
TO DEPT. NO.		-		DATE		
REQUESTED BY CEPTING.	ASSIGNMENT NO. TEST DEP	T. JOB		CTION		
					PROJECT	
					COMPONENT	
TITLE OF TEST	*,		7			
	monthfoliologic process accomplishers to the production of the process of the pro			Patrona productions - 1 mg/2/10	1.00	
DAJAMULATED						
FUNCTION	TEST PROCEDURE		FU.	NCTION	VAL CHECK	TERML
Fire Protection	(a) EN Emergency D.C	. Bu	S			
	& Battery Bus. Simulate Fire in L/engine Red fire warning light A/C master switch is "ON" will to "ON"					
			"ON"	neu v	warning Light	
	121000000000000000000000000000000000000	1. 1	D - 1	70 /r 1		70.7
all de la	(b) Operate extinguis Button E14/5	SULI	locks		iccuates &	XI
					re EN closed	В
	*		After 2	secs	relay EN &	
			supplie	s powe	er to "A" of	13
	(c) At this point, or	pen	Power w	ill be	bottle #1 removed	A conn 1
	C.B. E1/45		from co	nnecto	or #1, bottle	1
	(d) Close C.B. E1/45		#1.			A conn 1
	system as in "B"				applied	Design the second
					nector #1 will remain	
3	*		there f	or an	elapsed time	
			time th	e time	sec at which delay relay	will
	å		remove		ower from the	
	(e)Remove L/engine f:	ire	Red war	ning 1	ight "Off"	A conn I
	signal Press master		master		erning light	
	warning "reset". Open A/C master swite	ch	"off" Relay E	3/5 DE	E-EN & system	XI
	E16/2 close E16/2	,	returns			n
	Close E16/2 (f) Simulate fire sign	gnal	Fire wa	rning	light E14/6	(19/2)
	from R/engine		11 ON 11		at Ha	) 2n
			Master:	red wa	erning light	
	and the second s					Harana
PREPARED BY:		FOR	TEST DEPT	. ONLY:		
APPROVED BY:	4.	APPE	ROVED FOR	TEST:		
AUTHODITED DV		ASSI	GNED TO:			
AUTHORIZED BY:			113		CUNFIDEN	TILL
PRIORITY:		DATE	R.T. REC	FIAED:		
2		1 1				

AVRO AIRCR 08-387 Add.4 REQUISITION TO GEPT. NO. 3110 STRUCTURAL TEST DEPT. MR. J.W. AMES REQUESTED BY DEPT. NO. ASSIGNMENT NO. TEST DEPT. JOB NO. FUNCTION LOCATION 2909 X7-0800 0-105 1100 Electrics COMPONENT TITLE OF TEST C-105 ELECTRICAL SYSTEM FUNCTIONAL & OPERATIONAL TESTS DATA SIMULATED FUNCTION TEST PROCEDURE FUNCTIONAL CHECK TERML Fire Protection (g) Operate extinguishing button Relay E3/6 actuates & E14/6 locks in Xl Right L/P lock is enclosed В R/time delay EN & after  $2\frac{1}{2}$  secs  $\pm \frac{1}{2}$  sec. it applies Power to "A" connector No. 1 "A" Conn.1 Bottle No. 2 (h) At this point open C.B. Power will be removed from E1/46 E1/26 "A" of Connector No. 1 Bottle No. 2 (j) Close C.B. El/46 & El/26 "A" Conn.l System as in "G" When power is applied to "A" Conn. No. 1 Bottle No. 2 it will remain there for an elapsed time of 3 Secs. 1 1 SES at which time the time delay will remove the power from the bottle (k) Remove R/engine fire signal. "A" Conn.l Red warning light is off Press Master warning "reset" 2n Master " is off Open A/C master switch E16/2 Relay E3/6 is de-en & system returns to normal Xl Close E16/2 (1) Simulate hydraulic bay Fire Signal Fire warning light El4/7 "on" 2u Master red warning light "on" (m) Operate Extinguishing button Relay E6/9 EN & Locks in. E14/7 Xl Power is applied to "A" of connector No. 3 Bottle No.1 "A" Conn.3

PREPARED BY:

APPROVED BY:

APPROVED FOR TEST:

AUTHORIZED BY:

PRIORITY:

DATE R.T. RECEIVEO:

AVRO EA 2589

TARGET DATE:

REQUISITION FOR TESTICA

l	R.T.	NO.	08-387	Add.4	
B41140103	FIF	n	08-387		

1			0110-			State of the little
ТО	DEPT. ND. 3110	STRUCTURAL TEST I	DEPT. MR. J.W. AM	ES DATE		
	ESTED BY DEPT. NO.	ASSIGNMENT NO.	TEST DEPT. JOB NO.	FUNCTION	PROJECT C-10	5
	2909	X7-0800		1100	COMPONENT ELEC	trics
TIT	LE OF TEST C-	-105 ELECTRICAL SYST	rem functional & or	PERATIONAL	TESTS	
	SIMULATED FUNCTION TEST PROCEDURE			FUNCTIO	NAL CHECK	TERML
Fire Protection (n) Open C.B. El/47  (o) Remove Hyd. Bay fin Press master warning (p) Open master switch			ay fire signal.	"A" Conn Bottle M Red Warn Master w "Off" Relay E	uing light "off" varning light	"A" Conn.3 2u
		(q) System as at t	termination of		eturns to norma	1
		- 1	not switch Elh/10	Relay Ed Power ap	/5 locked in /21 EN plied to "AQ of or No. 2 Bottle	X1 X1
		(r) Open C.B. El/A (s) Remove L/engin Press master v		Power is Of Conn Red warm Red Mast	A n	
		Open A/C maste (t) With system as of "G", operat	er switch El6/2 s at termination	Relay E3	X1	
	*	Switch E14/10		Relay Ed Power is	6/6 En & locked 6/21 EN applied to "A" 2 Bottle No.1	Xl
		(u) Open C.B. El/9	50	Power is	removed from No. 2	
				Bottle N Relay E	6/21 De-en.	"A" Conn.2
						WHIP'S
PRE	EPARED BY		FDR TEST	DEPT. DNLY	MCLA	
APF	PROVED BY:		APPROVED	FOR TEST:		
TUA 72	THORIZED BY:	p'	ASSIGNED	TD:		
-	IDRITY:		DATE R.T.	RECEIVED:	CONFIDERTY	1 4

# REQUISITION FOR

R.T.	NO.	08-387	Add.4	
SHEET	TNO	4	OF 5	SHEETS

TO	DEPT. NO. 311	O STI	RUCTURAL TEST D	EPT. M	R. J.W. AM	ES		
RE	QUESTED BY DEPT. NO.	A	SSIGNMENT NO.	TEST DE	OB NO I	FUNCTION D	PROJECT C-105	
	2909	1	K7-0800			1100		
					;		COMPONENT Electr	ics
T	ITLE OF TEST	OS ELI	ECTRICAL SYSTEM	FUNCTI	ONAT. & OPE	RATTOMAT, TEST	ng	
	0-1		SOILLOAD CICIL	10110111	JIMI & OIL	MATIONAL TEST		
D.	ATA							
	SIMULATED FUNCTION		TEST	PROCEDU:	RE	FUNCTION	L CHECK	TERML
-								
F	ire Protection	. (v)					light "off"	
			Press master w Open A/C maste	arning r switch	n El6/2	Relay E3/6	ing light "off" is De-en.	Xl
		(W)	With system as	at ter	mination	Relacostation of	diboloxication distribution	粒
			of "M" operate	2nd she	ot switch	Relay F6/9	EN & locked in	XI
	*					Relay E6/21	EN EN	Xl
							plied to "A" of Bottle No. 2	"A" Conn.
		(x)	Open C.B. El/4	9			emoved from "A"	A. COIDI.
		(37)	Remove hydraul	ie her	P4 m o	Conn. No. 3	Bottle No. 2	п п
		(3)	signal		TIE	Red warning	light "Off"	
			Press master w			Master red	warning light	
			Open master A/	C switc	n E16/2		is de-en. &	
		(z)	While operatin switch Elh/10,			Relay E6/21	is de-en. &	XI
			SWITCH DAILY 10,	open o	00 000		ed from bottle	AL.
		(2)	EN battery bus			valves		· All
			A/C master swi					
		(b)	Simulate opera switch	tion of	inertia	Relay E5/39	FN	Xl
		1.6	SWI COII				ock EN closed	В
							ck EN closed	В
						Relay E3/6 Relay E3/5		X1 X1
						Power is ap	plied to "A" of	
					Bottle No. 1 plied to "A"	"A" Conn.3		
				of Conn.#2	Bottle #2	11 11 2		
P	PREPARED BY:		FOR TEST	DEPT. ONLY:		TA DE		
A	PPROVED BY:				PPROVED	FOR TEST:	1222	ELEN
en A	UTHORIZED BY:		- 4	(3)	ASSIGNED	то:	ONTHERMAN	
25	RIORITY:					RECEIVED:	UNTIVENTIAL	
AVRO EA	ARGET DATE:							

AVRO AIRCA

PRIORITY: TARGET DATE: R.T. No. \_\_\_\_08-387 Add.4

#### REQUISITION TO DEPT. NO. 3110 STRUCTURAL TEST DEPT. DATE FUNCTION TEST DEPT. JOB NO. ASSIGNMENT NO. REQUESTED BY DEPT. NO. 1100 X7-0800 COMPONENT Electrics 2909 C-105 ELECTRICAL SYSTEM FUNCTIONAL & OPERATIONAL TESTS TITLE OF TEST DATA SIMULATED TERML . FUNCTIONAL CHECK TEST PROCEDURE FUNCTION Power is applied to "A" Fire Protection "A" Conn. 1 of Conn. #1 Bottle # 2 (c) Open C.B. El/47 & Open Power removed from "A" SW E16/2 Conn. # 3 Bottle # 1 "A" Conn. 3 Power is removed from (d) Open C.B. E1/45 "A" of Conn. # 2 "A" Conn. 2 Bottle # 2 Power is removed from (e) Open C.B. E1/46 "A" of Conn. # 1 "A" Conn. 1 Bottle No. 2 System returns to (f) Open inertia switch normal Open C.B. El/45 & Press No function switch El4/5 Open C.B. E1/46 & Press switch E1/46 No function Open C.B. El/47 & press No function switch El/47 Draw fuses E20/37 & E20/38 & C.B. E1/51. Operate ground No warning lights test switch E21/8 L/Engine & Hydraulic Press El4/5 & hold & then Bay Fire Relay E3/5 EN & locks in Press E14/7 Relay E6/9 " " " " Xl (No timer available for Connector # 3 Bottle # 2 EN A this check) # 2 " # 2 EN \* Check desirability FOR TEST DEPT. ONL PREPARED BY: APPROVED FOR TEST: APPROVED BY: ASSIGNED TO: AUTHORIZED BY:

DATE R.T. RECEIVED:



REQUISITION FOR TEST

R.T. NO. 08-387 ADD 4

SHEET NO. 1 OF 2 SHEET

TO DEPT. NO. 311	O STRUCTURAL TEST	PAM CTEBOL	AMESDATE		
REQUESTED BY DEPT. NO.	ASSIGNMENT NO.	TEST OFF TO A	LOCATION	PROJECT C	-105
2909	X7-0800	2666	1100	COMPONENT E	LECTRICS
C-105 ELECTRI	CAL SYSTEM FUNCTI	ONAL AND OP	ERATIONAL TES	TS	
DATA SIMULATED FUNCTION	* TEST PROCE	DURE	FUNCTIONAL	CHECK	TERML
	ion Battery Bus & D.C. Buses EN Canopies in ope Pilots switch E "Close" Open C.B. E1/76 Open C.B. E1/77 Open C.B. E1/77 Open C.B. E1/77 Simulate closing front & Rear calatches Open C.B. E1/77 Close C.B. E1/77 operate Front canopy switches E10/2 & E19/13 or "Close"	en rosition 110/2 to Ref From Rela Rela Rea Rea Rela Rela Rela Rela Re	nt Canopy Act to Canopy Act ay E6/12 is Day E6/14 is E canopy actured Canopy Actu	uator EN uator DE-EN E-EN N ator EN ator DE-EN -EN -EN	XI XI B
	Open front & Relatches. Pilots switch B "Open". Open C.B. El/76 Open C.B. El/77 Rear C/P canopy E19/13 to "Open Open C.B. E1/75 Open C.B. E1/75 Open C.B. E1/75 Circuit Back to & Both Canopies	C10/2 to Rei	lay E6/12 is nt canopy act nt Canopy act EN ay E6/12 is Day E6/14 is E	EN uator is EN uator is E-EN N ator EN ator DE-EN	A XI A A XI XI A A XI XI A A XI
PREPARED BY: APPROVED BY:			EST DEPT. ONLY!	ASSII"	
AUTHORIZED BY:		ASSIG	NED TO: -		

TARGET DATE:



## AVRO AIRCRAFT REQUISITION

R.T. NO. 08-387 ADD 4

TO DEPT. NO. 3110 STRUCTURAL TEST DEPT

REQUESTED BY DEPT. NO.

ASSIGNMENT NO.

TEST DEPT. JOB NO.

PROJECT C-105

2909

X7-0800

2666

1100

COMPONENT\_ELECTRICS

TITLE OF TEST

C-105 ELECTRICAL SYSTEM FUNCTIONAL AND OPERATIONAL TESTS

DATA SIMULATED FUNCTION	TEST PROCEDURE	FUNCTIONAL CHECK	TERML
Canopy Actuation Continued	Front Ground Service Switch to "Close" Open C.B. El/76 Open G.B. El/77 Close C.B.s & operat	Relay E3/14 DE-EN	XI B B XI
	Front Ground Service switc to "Open"		XI
	Rear Canopy Open	Front Canopy Actuator EN	A
	Operate Rear Ground Service Switc	Rear Canopy Actuator EN Rear Canopy Actuator DE-EN Relay E3/16 is DE-EN	XI B B XI
	Ground Service Switch	h Relay E3/16 is EN Rear Canopy Actuator EN	XI
	With Canopies Closed & Latches closed operate both ground Service Switches	4 Yu	
	To "Open" of "Close"	Sealing valve EN No Canopy Function	A

PREPARED BY:	FOR TEST DEPT. ONLY				
APPROVEO BY:	APPROVED FOR TEST:				
AUTHORIZEO BY:	ASSIGNED TO:				
PRIORITY:	DATE R.T. RECEIVED:				
TARGET OATE:	, CONFIDENTIAL				

A.V. ROE CARADA LIMITED HALTON, CHT CONFIDENTAL

R.T. NO. 08-387 ADD 4

REQUISITION FOR UTECLASSIFIES

TO DEPT. NO 3110 STRUCTURAL TEST DEPT.Mr.J.W. Ames TEST DEPT. JOB NO. FUNCTION LOCATION ASSIGNMENT NO. REQUESTED BY DEPT. NO. C-105 COMPONENT ELECTRICS TITLE OF TEST DAJ MULATED FUNCTIONAL CHECK TERML TEST PROCEDURE FUNCTION Air conditioning (a) EN Main D.C Bus A/C Airborne U/C EN emergency D.C. Bus EN Primary A.C. Buses
All breakers & Fuses Made Relay E3/4 EN
(b) Switch E18/3 at Relay E6/22 DE-EN "Normal" L/ram Air Inlet EN closed B R/Ham Air inlet EN closed B Radar Nose Inlet EN Open A Relay E6/8 EN XI XI Relay E3/13 BE-EN C/P S/O valve EN Open Flow augmentor DE-EN open A Main Control Valve EN open A Main Control Valve EN B. (c) Simulate Modulator Closed Control Main Control Valve DE-EN (d) Open C.B. E1/57 Modulator DE-EN (e) Open C.B. E1/12-(g) System as in "A" Switch E18/3 to "Emergency" Relay E6/22 EN Relay E3/4 DE-EN XI L/Ram Air Inlet EN Open A R/Ram Air Inlet EN Open A Radar Nose Inlet EN closed B Main Control Valve DE-EN E.B.F. Modulator DE-EN L/Ram Air Inlet DE-EN R/Ram Air Inlet DE-EN A&B (h) Open C.B. E1/33 A&B Radar Nose Inlet Valve A&B DE-EN Main Control Valve DE-EN A&B C/P S/O Valve DE-EN A&B Relay E6/22 DE-EN XI XI Flow Augmentor Valve DE- A FOR TEST DEPT. ONLY PREPARED BY:

PREPARED BY:

APPROVED BY:

APPROVED FOR TEST:

APPROVED FOR TEST:

CONFIDENTIAL

PRIORITY:

DATE R.T. RECEIVED:

# MALTON, ONT CONFIDENTIAL REQUISITION FOR TEST

R.T. NO. 08-387 ADD 4

TO DEPT. NO. 3110 STRUCTURAL TEST DEET. Me. J. REQUESTED BY DEPT. NO. ] ASSIGNMENT HO. C-105 COMPONENT ELECTRICS 2909 X7-0800 2666 1100 TITLE OF TEST C-105 ELECTRICAL SYSTEM FUNCTIONAL AND OPERATIONAL TESTS DASTMULATED TEST PROCEDURE FUNCTIONAL CHECK TERML FUNCTION (j) System as in "A" Switch E18/3 to "OFF" Relay E6/22 DE-EN Relay E3/4 DE-EN L/Ram Air Inlet BN Closed B R Ram Air Inlet EN Closed B Radar Nose Inlet EN Closed Main Control Valve DE-EN Relay E6/8 EN
Relay E3/13 DE-EN
C/P7Valve EN Open XT XI A Flow Augmentor DE-EN Open Modulator DE-EN E.B.F. ir Conditioning /C on Ground (k) Adapter switch closed switch E18/3 to Relay E3/4 DE-EN IX "Normal" Relay E3/7 EN XI L/Ram Air inlet EN Closed B R/Ram Air inlet EN Closed B Radar Nose inlet EN Open Maih Control Valve DE-EN A&B Relay E6/8 DE-EN XI Relay E3/13 EN XI C/P shut off Valve EN В Closed Flow augmentor EN Closed Relay E3/13 DE-EN (1) Operate Test Switch E3/10 (m) System as in "K" Open C.B. E1/33 Relay E3/13 DE-EN IX C/P \$/O Valve DE-EN A&B Flow augmentor DE-EN EN Main D.C. Bus Visor Heaters EN Visor Heaters Open C.B. E1/78 Visor heaters DE-EN Close C.B. E1/78 dabin Pressure Short B&C of Aneroid SW Warning light PREPARED BY: APPROVED FOR TEST: APPROVED BY: ASSIGNED TO AUTHORIZED BY: PRIORITY:

A.V. ROE CAHADA LIMITED

MALTON, CHTACONFIDENTA

REQUISITION FOR

R.T. NO. 08-387 ADD 4

TO DEPT. NO 3110 STRUCTURAL TEST DEPT.Mr. J. C. Ang SATE

REQUESTED BY DEPT.NO. ASSIGNMENT NO. TEST DEPT. JOB NO. FUNCTION COCATION PROJECT G-105

2909 X7-0800 2666 1100 COMPONENT ELECTRICS

TITLE OF TEST

TARGET DATE:

C-105 ELECTRICAL SYSTEM FUNCTIONAL AND OPERATIONAL TESTS

STATE OF THE STATE					
_	Simulated FUNCTION	TEST PROCEDURE		. FUNCTIONAL CHECK	TERML
Λ	r Cond Honning	Remove Short Open C.B. E1/78 Short B&C of Aneroid	SW	Master amber light on E15/38 goes OFF.	1
11	Air Cond Warning EN Emergency D.C. Bus Short Air Cond Thermo			Warning Light E5/37 ON	1
		Remove short Open C.B. E1/80 & Sh	ort	Master amber light on E5/37 Goes off	1
C	abin Press Dump	Air cond thermostat EN emergency D.C. Bu Operate Dump SW to "	SOMM	No function	
0.	kygen Indicatio	Open C.B. El/80 on EN Main D.C. Bus EN A.C. Primary Bus		Jump Solenoid DE-EN	A A M
E	ectronics Temp	Mer. will supply equ ment to test this.			
eı	tature Control	EN Primary A.C. Bus Phase A		Temp. Controller EN	AtoB
Co	ckpit Temp- ature Control	Open C.B. £1/12 EN Primary A.C. Bus		Temp. Controller DE-EN	AtoB
		Phase A Open C.B. E1/12		Temp Controller EN Temp Controller DE-EN	AtoB AtoB AtoB
Ai Va	Air Cond s/o Valves  (a) Main D.C. Bus (b) Short Any R/duct thermostats or pressu			Relay E5/55 EN & Locks in	XI
		(c) Remove Shorts as B & Press Annunciator	in	to /12 • / •• •	A E
	PREPARED BY:	,		TEST DEPT. ONLY:	
	APPROVED BY:		APPR	NOVED FOR TEST:	
25.89	AUTHORIZED BY:		ASSI	GNED TO:	P
RO EA	PRIORITY:		DATE	R.T. RECEIVED: OUNT	II/L

#### A.V. ROE CANADA LUMITED

HALTOR, ONTARCONFIDENTIAL

SHEET NO. 4 OF 5 SHEET

	SITION FOI				NO	
TO OEPT. NO.3110		'DEPT.Mr.J.	W. Ames	DATE		-
EQUESTED BY DEPT. NO.	ASSIGNMENT NO.	TEST DEPT. JOB N		TION	PROJECT C-105	
2909	X7-0800	2666	11	100	COMPONENT_ELECTI	RICS
C-105 ELECT	TRICAL SYSTEM F	UNCTIONAL A	ND OPERA	TIONA	AL TESTS	
SIMULATED FUNCTION	TEST PROC	EDUKE	FU	NCTIO	NAL TEST	TERML
	Reset Switch		Relay E Annunci	5/55	Unlatched Clears	X3 E
	(d) System as, (e) Draw fuse amply test as (f) System as & shortaany L	in "B" in A&B	No fund	13	913419	
	thermostats o		No fund	tion		
	(g) system as short any L/D mostat or pre	uct ther-	Relay F	55/12	EN & Locks	XT
	(h) Remove sh	onte as in	L/engir	ne s/c ciator	valve EN r indicates	A D
	"G" & Fress A reset switch	nnunciator	Relay Annunc	E5/12	Unlatched Clears	X3 D
	(j) System as Draw Fuse E2 apply test as	0/22 & in "G"	No Fun	ction		
	(k) System as & apply test	as in "B"	Relay E5/55 EN & Locks in R/Engine s/o Valve DE-EN Annunciator indiaates			XI A E
Electronics Ov Temp.	ver(a) EN main I (b) Simulate by shorting (	OAGL Temb	Annunc	iator	indicates	F
	ostats (c) System as Open C.B. El Test as in "	/32 & apply	No Fun	ction		
	(d) System a Press annunc Switch	s-in "B",	Annunc	iator	clears	F
PREPARED BY:		FOR	TEST DEP	T. ONL	Y: ASSI	
APPROVED BY:	THE REAL PROPERTY.	APP	ROVED FOR	TEST:	CAC HO	
PAUTUODITED BY:		ASS	GNED TO:		CONCIDENT	
PRIORITY:	State of the state	DA	TE R.T. RE	CELVED	CUNTIVENTIA	<u> </u>
TARGET DATE:		180 1	are to the			

# A.V. ROE CAHADA HALTED

R.T. NO. 08-387 ADD 4

IEETS

REQUISITION FOR

TO DEPT. No.3110 STRUCTURAL TEST DEPT.Mr.J.W. Ames FUNCTION LOCATION PROJECT C-105 ASSIGNMENT NO. REQUESTED BY DEPT. NO. COMPONENT ELECTRICS 1100 2666 X7-0800 2909

TITLE OF TEST .

C-105 ELECTRICAL SYSTEM FUNCTIONAL AND OPERATIONAL TESTS

-	DAJAMULATED	TEST PROCEDURE FUNCTIONAL CHECK		TERML	
		(a) EN main D.C. Bus (b) Pilots switch E18/5 to "OFF" (c) Pilots switch E18/5 to "ON" Air Valve EN Open to "ON" Simulate over Terperature Air Valve EN Closed Open C.B. E1/32 Air Valve DE-EN Closed	A-F	B A B A&B	

FOR TEST DEPT, ONLY PREPARED BY: APPROVED FOR TEST: APPROVED BY: ASSIGNED, TO: AUTHORIZED BY: PRIORITY: THINL TARGET DATE:



# REQUISITION

R.T. NO. \_ 08-387 ADD 4 SHEET NO. 1

DATE .

STRUCTURAL TEST DEPT. MR.J.W.AMES December 7, 1956 TO DEPT. NO. REQUESTED BY DEPT. NO. TEST DEPT. JOB NO. ASSIGNMENT NO. FUNCTION COMPONENT.

TITLE OF TEST

DATA	FLICH	T	5E	RV	10	E	5

Simulated	
Function	

Fin pitot heaters

Artificial horizon

Main D.C. bus EN Switch E21/16 normal pos. Switch E21/16 to "momentary" Open C.B. E1/79

Test Procedure

Switch E21/16 to normal Switch E21/16 in normal position, press indicator lights to test.

Primary A.C. bus energized Battery bus energized Connect A.C.V.M. in secondary of star to delta trans. V.M. should read 115V A.C.

Open C.B.s E1/9, E1/10, E1/8

Close C.B.s and simulate R and L power failure

Connect A.C.V.M. from phases to ground at indicator Open C.B.s E1/71 and E1/72 Open C.B.s E1/69 and E1/70

Rear C-P Bail out Warning

Emergency D.C. Bus EN Simulate navigator still in R/Cockpit

Functional Check Term'l.

Pitot heaters go "ON" 1

Lights E21/17 t E21/18 go ON Ind. Lights will go "OUT"

position t C.B. K1/79 open. Pitot heaters will not go "ON" 1

Lights will go "ON" 2

phase to phase or phase to gnd.

V.M. will not register

Relay E3/15 EN Transformer will be fed from emergency A.C. supply

V.M. will register V.M. will not register No power to T4 compass

Close Bail out switch E14/13 Navigators buzzer will operate and red warning lights will go "ON", and pilot's two green prebail out signal lights will go HONH

L. Shearson PREPARED BY: FOR TEST DEPT. ONLY: APPROVED BY: APPROVED FOR TEST: AUTHORIZED BY: ASSIGNED TO: DATE R.T. RECEIVED: CONFIDENTIAL PRIORITY:

TARGET DATE:



R.T. NO. 08-387 ADD 4

REQUISITION FEONFOLIA

TO OEPT. NO.		RUCTURAL TEST I			FUNCTION		
REQUESTED BY DE	THE RESERVE TO SHARE THE PARTY OF THE PARTY	SIGNMENT NO.	TEST DEPT.	JOB NO.	LOCATION	PROJECT	
						COMPONENT	
	0.7						
TITLE OF TE	31						
DATA						1	
Simulated		Test Procedu	70		Functional	Check	Term'l.
Function							
		Simulate "Na	vigator Ba	iled			ν.
		Out by open	ing Naviga	rcor, s	All above w	ill go "OFF"	
Brake Para	chute	EN main D.C.	bus				Α
Drake rara	CHU 00	actuate leve	r limit sv	vitch	Door releas	e solenoid EN  m DE-EN	A A
		Open C.B. El	./67			54 2.	
la . D. Ja		EN Emergency	D.C. Bus				
Speed Brak	0	Speed brake	switch			O 2 42 DE / TREE	A & C
		E13/7 to "ho	old".		Speed Brake	Solenoids DE/EN EN	A
		Operate E13,	n nolly	н	п н	n EN	C
		Open C.B. E	1/67		Speed Brake	Solenoids DE-EN	A & C
		Ar pen d	*		when El3/7 a	actuated	A & O
		EN Emergenc	r D.C. bug		T and S Indicator EN		
Turn and s	slip	Open C.B. E	1/73		T and S Indi	lcator DE-EN	A
				A	c/m indicate	→ EN	E
Skin Tempe	erature	EN Primary	A.C. Bus p	nase a	S/T indicate	J. 1241	
Hydraulic	Pracquire	EN Main D.C	. Bus			ress, Switch "A"	EN A
nyaraulic	11 655416						EN A
				,	Emergency B	OTTTO	EN A
		Simulate Pr	ess. fail	ire			
		at switch 1	"A" only		Warning lig	ht E15/9 on	1 1
		n n		m = /00	Master ambe	r light Ell/9 ON	F 1
		Press. Res	et Switch	DL 7/22	Light E15/9	stays ON	1
		Press. Pai	lure at "B	m only	Warn'g. lig	tht 115/8 ON	1
					Master Ambe	r Light ON OFF	1
		Press. Res Press. Fai	et Switch	и е иви	E15/8 11ght	goes ON	1
		II oss. rai	TUI O GO		1075/9 H	88 99	. 1
					Master Red Master Ambe	Light Ell/7 ON	eni
						016	IEn
PREPARED	BY: L. Sh	earson		FOR TE	ST OEPT. ONLY	CI RESUL	
	e e			APPROV	EO FOR TEST	MCFine	
APPROVED	APPROVED BY:			N. NOV		Ola	
AUTHORIZE	ED BY:			ASSIGN	EO TO:		
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# AVRO AIRCAMFIDENTAL

R.T. NO. 08-387 ADD 4

All warning lights will dim except fire warning lights All dimmed lights go out.

HEET NO. 3 OF 4 SHEET

## REQUISITION FOR TEST

TO DEPT. NO. 3110	J BIROGIGRAD IEST DI	MI I . MIN. O . W. HAMES	DATE .	26662061 7, 1770
REQUESTED BY DEPT. NO.	ASSIGNMENT NO.	TEST GEPT, JOB NO.	FUNCTION LOCATION	PROJECT

TITLE OF TEST

DATA			
Simulated			
Function	Test Procedure	Functional Check	Termi
	Press. Reset Switch .	Master Red Light off	1
The same of the sa		Master amber light off	1
	Open C.B. E1/66	All other warnig. lights off	1 A
	Draw Fuse E20/23	Press. switch "A" DE-EN	A
		u u uBu DE-EN	A
	Draw Fuse E20/24	Utility Press. switch DE-EN Emergency Brake Press. Switch	A
		DE-EN	A
Trim Indicator	EN Main D.C. Bus	Common of Pots EN	A
		Indicator EN	3
	Draw Fuse E20/12	Potentiometers DE-EN	. A
The state of the s		Indicator DE-EN	3
Master Dimming	EN Main D.C. Bus		
	EN Emergency D.C. Bus		
	Actuate Master Test Switch		
	K15/23	All master warning panel	
		lights plus bail out and U/C	
		position warning light, will	
		go on at full brilliance	
	0 1 11		

Operate master dimming switch to "night"

Draw fuse E1/68

PREPARED BY: L. Shearson	FOR TEST DEPT, ONLY:
APPROVED BY:	APPROVED FOR TEST:
AUTHORIZED BY:	ASSIGNED TO:
PRIORITY:	DATE R.T. RECEIVED:
TARGET DATE:	CONFIDENTIAL



# AVRO AIRCONFIDENTADO

R.T. NO. 08-387 ADD 4

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20	1	4 .			-									-		- 4	-

TO DEPT. NO. 311	O STRUCTURAL TEST	DEPT. NR. J. N. AMES	DATE .	December 7.	1956
REQUESTED BY OFFT. NO.		TEST GEPT. JOB NO.	FUNCTION LOCATION	PROJECT	

ATA			
Simulated Function	Test Procedure	Functional Check	Term 1
Ground Check	4 971.7		
Signal Box	A. Main D.C. Bus is EN B. Simulate overheating in R/air duct	Indicator at "E", will show. Relay E5/55 will be "EN"	E X2
	C. Draw Fuse E20/22 D. Draw Fuse E20/21	R/Engine S/O valve will close R/Engine S/O valve will open Relays E5/55 will be DE-EN	A A X2
	E. Return system to normal as in "A" and apply test		
	as in "B" F. Press, reset button	Indicator disappears at RR Relay E5/55 is unlatched system returns to normal	E X3
	G. Simulate overheating in L/air duct	Indicator at "D" will show. Relay E5/12 will be EN	D X2
	H.Draw Fuse E20/22	L/Engine S/O Valve will close L/Engine S/O valve will open	A
	J. Draw Fuse E20/21  K. Return System to normal as in "A" and apply test	Relay E5/12 will be DE-EN	12
	as in "G" L. Press. Reset button	Indicator at "D" disappears Relay E5/12 is unlatched System returns to normal	D X3
	M. Simulate electronics System overtemperature by pulsing D.C. to "F"		
	of signal box N. Press. reset button O. Simulate operation of	Indicator at "F" will show Indicator at "F" will disappea	r F
	Radar nose de-icing by pulsing D.C. to term. "C" of signal box. P. Press. re-set button	Indicator at "C" will show " disappear	CC

AUTHORIZED BY:

TARGET DATE:

APPROVED BY:

ASSIGNED TO:

DATE R.T. RECEIVEDI

APPROVED FOR TEST:



TARGET DATE:

# AVRO AIRCRAFT LIMITED

R.T. NO. 08-387 ADD 4

# REQUISITION FOR TEST

TO DEPT. NO. 3110	STRUCTURAL TEST	DEFT. M	J.1	. Amesoate	U	
REQUESTED BY DEPT. NO.	EPT. NO. ASSIGNMENT NO.		TEST DEPT. JOB NO.		PROJECT_C-105	
2909 X	7-0800	2666		1100	COMPONENT ELE	CTRICS
C-105 ELECTRICA	L SYSTEM FUNCTI	CONAL AND	OPERA	ATIONAL TES		
DASAMULATED FUNCTION	TEST PRO	OCEDURE		FUNCTIONAL	CHECK	TERML
Interior Lights	(a) Energize Bus EN emergency EN Frimary A Phase "A" (b) Front C/ E17/3 to "Br  (c) Operate "Dim" (d) Draw Fus (e) Replace (f) Open C.3 (g) System a Operate Cont "Bright" (h) Operate "Dim" (j) Draw Fus (k) Replace (l) Open C.8 (m) System Operate Cont "Bright" (n) Operate "Dim" (o) Draw Fus (p) Replace (q) Open C.8 (r) System a Close Switch  (s) Close Sw	D.C. Bus  (P control ight"  Control E E17/6 Fuse E17, E E1/15 S in "A" Fuse E17, E17/4 to E E17/7 fuse E17, E17/5 to E E17/8 fuse E17, E1/16 S in "A" rol E17/8 fuse E17, E1/16 S in "A" E17/9	I Eco Or At	n M.I.P. go ove Lights ove Lights ove Lights I.P. Considered to the constant of the constant o	go "Dim" go "Off" go "Off" go "Off" ol Edge Ligh go "Dim" go "Off" go "Off" console flood all On" go "Off" go "Altitude h Lights go	nts
PREPARED BY:		FO	R TEST	DEPT. ONLY:	CHELL	D
APPROVED BY:	MAN AND THE PROPERTY OF THE PARTY OF THE PAR	AP	PROVED	FOR TEST:	TVZZIE	1/2/2/2
AUTHDRIZED BY:		AS	SIGNED	то:		
PRIORITY:	PRIORITY:			RECEIVED:		



#### REQUISITION

R.T. No. \_\_ 08-387-ADD 4

SHEET NO. \_

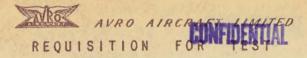
TO DEPT. NO 3110 STRUCTURAL TEST DEPT. Mr. J.W. Ames DATE TEST DEPT. JOO NO. REQUESTED BY DEPT. NO. ASSIGNMENT NO. FUNCTION LOCATION PROJECT\_ C-105 X7-0800 2909 COMPONENT ELECTRICS

TITLE OF TEST

C-105 ELEUTRICAL SYSTEM FUNCTIONAL AND OPERATIONAL TESTS

DASTMULATED TEST PROCEDURE FUNCTIONAL CHECK TERML FUNCTION Interior Lights (t) Open C.B. E1/37 All above Lights to "Off" Continued (u) System as in "A" & Operate Control E26/5 Rear C/P Console Flood to "Bright" Lights will go "Full On" (v) Operate E26/5 to Above Lights go "Dim" "Dim" Draw fuse E26/8 Above Lights go "Off" Above Lights go "ON" Replace Fuse E26/8 Open C.B. E1/18 Above Lights go "Uff" (w) System as in "A" & Operate Control E26/4 Rear C/P Electronics Edge to "Bright" & Instrument Light "Full Operate E26/h to "Dim" Draw Fuse E26/7 Above Lights go "Dim" Above Lights go "Off" Replace Fuse E26/7 Above Lights go "ON" Open C.B. E1/17 Above Lights go "Off" (x) System as in "A" Operate Front & Rear Emergency Flood Lights Emergency Flood Lights to "ON" go "ON" Open C.B. E1/36 Above Lights go "Off"

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	PREPARED BY:	FOR TEST DEPT. ONLY:
	APPROVED BY:	APPROVED FOR TESTANDE 185
	AUTHORIZED BY:	ASSIGNED TO:
EA 25	PRIORITY:	DATE R.T. RECEIVE
AVRO	TARGET DATE:	CUNFIDENTIAL



SHEET NO. 1 OF 1 SHEETS

TO DEPT. NO. ST	RUCTURAL TEST DEPT.	MR. J.W.AMES	DATE December 7, 1956
REQUESTED BY DEPT. NO.	ASSIGNMENT NO.		SSF COMPONENT

TITLE OF TEST

onal Check Term!1.
26/7 DE-EN X1
36/13 EN X1
E6/10 EN XI light on x light on
06/13 DE-EN X1
g light off 26/10 DE-EN XI
gire off
t taxi lights off 66/13 DE-EN XI 86/10 DE-EN XI
O/ 10 DB-BR
ring tip lights on in tip light on in tip light on
rigation lights off
EN B p lights t lower fin
tht goes on for ,75 secs. off for .75 secs. while
fin tip light goes on secs., this sequence es as long as the switch
on is at "Flash"
unit is DE-EN B igation lights off
THE PARTY OF THE P

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P	REPARED BY: L. Shearson	FOR TEST DEPT, ONLY:
A	PPROVED BY:	APPROVED FOR TEST:
0 A	UTHORIZED BY:	ASSIGNED TO:
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AVRO	ARGET DATE:	The state of the s



R.T. NO. 08-387 ADD 4

REQ	UISITION FO	mutine 4114	SHEET	NO OF	2shi
TO DEPT. NO 3110	STRUCTURAL TEST	DEPT.Mr. J.W	. Ames DATE		
REQUESTED BY DEPT. NO.	ASSIGNMENT NO.	TEST DEPT. JOB NO.	FUNCTION	PROJECT C-10	25
2909	X7-0800	2666	1100	COMPONENT ELECT	PRICS
TITLE OF TEST	TOAT AMOUNT DID OF	27 (58) 3 T A 25/5 (577)	ADTANA OT	2000	
	CICAL SYSTEM FUNCT	TONAL AND OP	MARI AW	100inim	
SIMULATED FUNCTION	TEST PROCEDU	ire .	FUNCTIONA	The state of the s	TERML
Buct de-icing	(a) EN Main D.C. EN Main A.C. Buse		&R Distribut	ors EN A.C.	A.E.C
Simulate L/Duc	t(5) Short A & B		&R Distribut /ice det rel	ors EN D.C. ay EN & Locks	B s XI
	detector	i	n <sub>.</sub>	ay EN & Locks	
		i	n	ight E15/39	
		M	aster amber	light on	
		. T	imer is EN		É
			imer is EN		J B
		P.	erting strip	s EN h Q/H thermo-	-
		S	tate coils of P		XI
	redetermined No.	of icing L	kA distribut		AI
Pulse	:5	р		thermostats	
		P	losed - redetermined	overhang tim	ne
			kR distribut ore	ors cycle ond	e
(d) D	raw fuse E20/15 &	Test.	Then system	shuts down	
as ir	3,C & D	D	istributors	will not fun-	- B
	77.2.40	P	/S relays DE	-EN	XIXI
E33/6	raw fuses E33/2,			butor DE-EN	
E34/6	raw fuses E34/2,			butor DE-EN '	
(g) E33/5	raw Fuses E33/1,	E33/3 L E	/parting str V	ip relay DE-	L1, L2,
			111	DIRECIE	FD
PREPARED BY:		FOR TES	T DEPT. ONLY	CLASSIA	
APPROVED BY:		APPROVE	D FOR TEST:		
AUTHORIZED BY:		ASSIGNE	о то:		
PRIORITY: .		DATE R	T. RECEIVED:	CONFIDENTI	AI
TARGET DATE:	· ·				6.7mg
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SHEET NO. 2 OF 2 SHEET

TO OEPT. NO. 3110 STRUCTURAL TEST DEFT. Mr. J.W. Ames DATE REQUESTED BY DEPT. NO. ASSIGNMENT NO.

2909

X7 0800

2666

COMPONENT ELECTRICS

TITLE OF TEST

C-105 ELECTRICAL SYSTEM FUNCTIONAL AND OPERATIONAL TESTS

-	PATSIMULATED FUNCTION	Test Procedure	FUNCTIONAL CHECK	TERML
	The state of the s	(h) Draw Fuses E34/1 E34/3, E34/5	R/Parting strip relay Ll.	, L2, L3
	Simulate R/duct Icing	(j) Short A&B of R/ice detector	Warning light E15/39 on	2D
The second second second second			Timer is EN L&R distributors EN A.C. L&R distributors EN D.C.	E F J B
-		(k) Test as in C (l) Initiate icing cycle	P/strips EN as in B Check as in C	D
The Part of the Pa		& immediately initiate another	Distributor will cycle twice Predetermined hang on time.	
	Actuation of		Distributor cycles once More & system shuts down	
-		These are simulated on the electrical test	Annuariate Niches will as	
The second secon		rig by Lights & switches	Appropriate lights will go on as distributor cycles & the switches when open will de-energize D of distributors removing the A.C. from the boots	

	- Contrict
PREPARED BY:	FOR TEST DEPT. DNLY: WGLASSIFIED
APPROVED BY:	APPROVED FOR TEST:
AUTHORIZED BY:	ASSIGNED TO: CONFIDENTIAL
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TARGET DATE:	



R.T. NO. 08-387 ADD 4

SHEET NO. 1 OF 2 SHE

TO DEPT. NO. STRUCTURAL TEST DEPT. MR.J.W.AMES

December 7, 1956 DATE \_

No A.C. voltages at Control Units A

Xl

The appropriate relay DE-EN

REQUESTED BY DEPT. NO. ASSIGNMENT NO. TEST DEPT. JOB NO. FUNCTION LOCATION COMPONENT.

TITLE OF TEST

DATA			
Simulated			
Function	Test Procedure	Functional check Te	erm'l.
Radar Nose and Canopy De-icing	A. Primary A.C. buses t main D.C. bus is energized	D.C. on four control units Contactors E40/7, E40/8, E40/9 t E40/10 are EN A.C. Voltage is impressed on "A" of four control units. A.C. voltage through transforme	
	B. Open C.B. El/22 Open C.B. El/42 Open C.B.s El/2, El/3,	E40/6, to buses on L & R canopy & L & R Windscreen R/WS & L/C contactors DE-EN L/WS & R/C contactors DE-EN	
	En/4	No A.C. voltage at contactors No A.C. voltage on controllers	2 A
	C. System as in A Open C.B.s E40/11,/12,/13, /14	No A.C. on relays E40/7,/8,/9,	
		A.C. Voltage still on Trans Sec	
	Open C.B.s El/2, El/5,	79 10 E0 E0	5
	E1/4,	No voltage at trans. Primary	1 2 3

De-icing (Radar Nose) A. A-C in flight U/C up Main D.C. bus is energized Simulate icing by shorting Signal to annunciator box C (CONT)

System as in A t simulate. overheat at each canopy

\* windscreen

PREPARED BY: L. Shearson	FOR TEST DEPT. ONLY: UNGLASSIFIED
APPROVED BY:	APPROVED FOR TEST:
AUTHORIZED BY:	ASSIGNED TO:
PRIORITY:	DATE R.T. RECEIVED:
TARGET DATE:	· · · · · · · · · · · · · · · · · · ·



#### REQUISITION

CORTONIDAT WEEK DEEM HO

R.T. No. 08-387 ADD 4

SHEET NO. 2 OF 2 SHEETS

TO DEPT. NO. DIRECTORED TEST DETT. MR. J. W. RINES	DATE December 7, 1956
REQUESTED BY DEPT. NO. ASSIGNMENT NO. TEST DEPT. TO NO.	ATION PROJECT

TITLE OF TEST

#### DATA

Simulated Function

#### Test Procedure

A. Continued "A" and "B" of fwd. ice detector

Functional check

Termil.

X

D.C. fed to time delay relay and feeds out of ter. 4 to EN de-icing solenoid De-icing solenoid is EN for 1 second and then DE-EN D.C. is then fed from term. 5 of time delay relay to EN air valve relay. X Air valve as EN, open for approx. 23 seconds. Time delay relay then returns to normal. 3 Air valve DE-EN A No power at timer

B. Open C.B E1/21

C. Open C.B. El/41 & simulate icing again

D. Simulate A/C on ground

No function as above Relay E6/11 is EN No power to time delay motor

L. Shearson PREPARED BY: FOR TEST DEPT. ONLY: APPROVED FOR TEST: APPROVED BY: AUTHORIZED BY: ASSIGNED TO: DATE R.T. RECEIVED: PRIDRITY: TARGET DATE:

A.V. ROE CANADA CONFIDENTIAL.

REQUISITION FOR TE

R.T. NO. 08-387 ADD 4

SHEET	NO. OF	SHEET

TO DEPT. NO.			DATE	
REQUESTED BY DEPT. NO.	ASSIGNMENT NO.	TEST DEPT. JOB NO.	FUNCTION LOCATION	PROJECT CF-105
2921	X7-0800		1100	COMPONENT_Electrics

TEST

TITLE OF TEST

CF-105 ELECTRICAL SYSTEM FUNCTIONAL AND OPERATIONAL TESTS

Transfer of Power from Normal to Emergency A.C.

One Power Failure Detector to be installed normally on the "Rig", but the line from terminal "F" of the P.F.D. will be tied into both "G" and "H" terminals at the Master Failure Warning Box.

Failure of the alternator will be simulated by opening the appropriate C.S.D. centrifugal switch.

Instrumentation will be set up to record:-

- (a) The time lapse between the failure of the normal A.C. power (D.C. interruption at pin "E" of power failure detector) and pick up of signal at transfer relay coil and valve solenoid.
- (b) The time lapse between normal A.C. failure (D.C. interruption at pin "E" of power failure detector) and pick up of emergency A.C. at emergency bus.

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