QCX Avro CF105

71 Maint

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Classification cancelled / Changed to UCLASS

By authority of AVES

Date Science

Unit / Reak & Appointment AVES

UNIT / Reak & Appointment AVESS

CONFIDENTIAL

ANALYTED

ARROW 1

MAINTENANCE INSTRUCTIONS

INSTRUMENTS - PITOT STATIC SYSTEM

J. H. PARKIN BRANCH

JUIN 8 1995

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January 1958

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ENGINEERING DIVISION

AVRO AIRCRAFT LIMITED, MALTON, ONTARIO



> 1

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	FIGURE 2	Component Location	
	FIGURE 3	MB-I Pitot Static Test Set	
		COMPONENT DATA	
	M.D.R. 11-E21/17-1	Tube - Pitot Static - Nose Boom Tube - Upper Pitot Static - Fin Machmeter and Airspeed Indicator Rate of Climb Indicator Altimeter Controller - Cabin Pressure Controller - Cabin Pressure Safety Value Switch - Pitot Heater Test B Indicators - Pitot Heater Test Resistors - Pitot Heater Test Indicator	



1. DESCRIPTION

1.1 General

- 1.1.1 The purpose of the pitot static system is to supply pitot and static air pressures to the various instruments, controllers and transducers.
- 1.1.2 Both pitot and static air is supplied by three pressure heads, one mounted on the forward end of the air data probe in the nose, and the other two on masts attached to the leading edge of the fin.
- 1.1.3 The lower pressure head on the fin is for flight test instrumentation purposes only. The supplies from the other two pressure heads are not interconnected.
- 1.1.4 Water traps are fitted at the lower points in the system piping to trap and permit drainage of condensation.
- 1.1.5 Each pressure head is electrically heated to prevent ice formation. (Ref. Dwg. 7-1100-3, Sht. 11)

1.2 Operation

- 1.2.1 The pitot and static pressures from the nose pressure head are transmitted through hoses in the radome to connect with rigid piping in the radar nose. The rigid pipe-lines connect with various components through short lengths of flexible hose.
- 1.2.2 Pitot air from the nose boom pressure head is transmitted to the following components:
 - 1.2.2.1 Front cockpit machmeter and airspeed indicator.
 - 1.2.2.2 Flying control normal damping transducer.
- 1.2.3 Primary static air from the nose boom pressure head is transmitted to the following components:
 - 1.2.3.1 Front cockpit altimeter.
 - 1.2.3.2 Flying control normal damping transducer.
- 1.2.4 Secondary static air from the nose boom pressure head is transmitted to the following components:
 - 1.2.4.1 Front cockpit rate of climb indicator.
 - 1.2.4.2 Front cockpit machmeter and airspeed indicator.



- 1.2.4.3 Rear cockpit altimeter.
- 1.2.4.4 Cabin pressure safety valve controller.
- 1.2.4.5 Cabin pressure controller.
- 1.2.5 The pitot and static pressures from the fin upper pressure head are transmitted through pipelines enclosed in tubular conduits in the fin leading edge, to the flying control emergency damping transducer in the dorsal fin.
- 1.2.6 The pitot and static pressures from the fin lower pressure head are for instrumentation purposes only.

2. GROUND EQUIPMENT

- 2.1 Air Conditioner and Generator AC
- 2.2 MB-I Pitot Static Test Set
 - 2.2.1 The MB-I test set provides the means to carry out a system leak test. It is a portable unit enclosed in a metal carrying case and comprised of the following:
 - 2.2.1.1 1 hand-operated vacuum pump.
 - 2.2.1.2 1 hand-operated pressure pump.
 - 2.2.1.3 6 needle-type control valves.
 - 2.2.1.4 1 pressure gauge, 10 to 100 ins. Hg.
 - 2.2.1.5 1 vacuum gauge, 0 to 30 ins. Hg.
 - 2.2.1.6 l altimeter.
 - 2.2.1.7 1 machmeter.
 - 2.2.1.8 1 temperature gauge.
 - 2.2.1.9 1 circular slide rule type computor.
 - 2.2.1.10 1 pitot test line.
 - 2.2.1.11 1 static test line.
 - 2.2.1.12 various test line connectors.



3. FUNCTION TESTS

The function testing of this system will be composed of the following:

3.1 Leak Test-Nose Boom Pressure Head

3.1.1 Test Procedure

- 3.1.1.1 Connect the PITOT line of the MB-I test set to the nose boom pressure head.
- 3.1.1.2 Close the L.H. VENT valve, the CROSS BLEED valve and the SHUNT VALVE, and open the PRESSURE SOURCE valve on the MB-I test set.
- 3.1.1.3 Using the PRESSURE PUMP, apply a pitot pressure until the front cockpit machineter and A.S.I. reads 300 knots. Lightly tap the instrument to avoid frictional error. Hold the pressure for 1 minute. The decrease in air speed indication over this period should not exceed 10 knots.
- 3.1.1.4 Open the L.H. VENT valve.
- 3.1.1.5 Connect the STATIC line of the MB-I test set to the primary static holes on the nose boom pressure head.
- 3.1.1.6 Close the R.H. VENT valve.
- 3.1.1.7 Using the VACUUM PUMP, apply a vacuum sufficient to produce a reading of 1,000 ft. on the front cockpit altimeter. Lightly tap the instrument to avoid frictional error. Hold the vacuum for 1 minute. The altimeter decrease should not exceed 150 ft. over this period.
- 3.1.1.8 Open the R.H. VENT valve.
- 3.1.1.9 Disconnect the STATIC line of the MB-I test set from the primary static holes on the nose boom pressure head.
- 3.1.1.10 Connect the STATIC line of the MB-I test set to the secondary static holes on the nose boom pressure head.
- 3.1.1.11 Close the R.H. VENT valve.
- 3.1.1.12 Using the rear cockpit altimeter as the indicator, operate the VACUUM PUMP to apply a vacuum sufficient



to produce a reading of 1,000 ft. Lightly tap the instrument to avoid frictional error. Hold the vacuum for 1 minute. The decrease in altitude should not exceed 150 ft. over this period.

- 3.1.1.13 Open the R.H. VENT valve.
- 3.1.1.14 Disconnect the STATIC line of the MB-I test set from the secondary static holes on the nose boom pressure head.
- 3.1.1.15 Disconnect the PITOT line of the MB-I test set from the nose boom pressure head.

3.2 Leak Test-Fin Upper Pressure Head

3.2.1 Test Procedure

- 3.2.1.1 Tee an airspeed indicator into the PITOT line of MB-I test set.
- 3.2.1.2 Connect the PITOT line of the MB-I test set to the fin upper pressure head.
- 3.2.1.3 Close the L.H. VENT valve.
- 3.2.1.4 Using the PRESSURE PUMP, apply a pitot pressure until the A.S.I. reads 300 knots. Lightly tap the instrument to avoid frictional error. Hold the pressure for 1 minute. The decrease in air speed indication over this period should not exceed 10 knots.
- 3.2.1.5 Open the L.H. VENT valve.
- 3.2.1.6 Connect the STATIC line of the MB-I test set to the static holes on the fin upper pressure head.
- 3.2.1.7 Close the R.H. VENT valve.
- 3.2.1.8 Using the VACUUM PUMP, apply a vacuum sufficient to produce a reading of 1,000 ft. on the test set altimeter. Lightly tap the instrument to avoid frictional error. Hold the vacuum for 1 minute. The altimeter decrease should not exceed 150 ft. over this period.
- 3.2.1.9 Open the R.H. VENT valve.
- 3.2.1.10 Disconnect the STATIC line of the MB-I test set from the static holes on the fin upper pressure head.



3.3 Heater Test-Nose Boom Pressure Head

3.3.1 Test Procedure

- 3.3.1.1 Ensure that the circuit breakers FWD. PITOT HEAT and VANE HEAT, on circuit breaker panel El, are in the closed position.
- 3.3.1.2 Connect the air conditioner and generator AC to the aircraft.
- 3.3.1.3 Select the MASTER ELEC switch to the ON position.
- 3.3.1.4 Check for evidence of heat at the fwd. pitot static heater and the alpha-beta van heaters.
- 3.3.1.5 Because of the high operating temperatures, exercise care when checking for evidence of heat.

3.4 Heater Test - Fin Upper and Lower Pressure Heads

3.4.1 Test Procedure

- 3.4.1.1 Ensure that the circuit breaker PITOT HEAT, on circuit breaker panel El, is in the closed position.
- 3.4.1.2 Select and hold the PITOT HEATERS test switch on the refuel and test panel E21 to the TEST position, press to test the TOP and BOTTOM PITOT HEATERS test imdicators and ensure that the indicators are illuminated.
- 3.4.1.3 Release the TOP and BOTTOM PITOT HEALTHS test indicators, and ensure that the indicators are still illuminated.
- 3.4.1.4 Release the PITOT HEATERS test switch to the NORM position, and ensure that the PITOT HEATER test indicators go out.
- 3.4. .5 Select the MASTER ELEC switch to the Orr position.
- 3.4.1.6 Disconnect the air conditioner and generator AC from the aircraft.

4. CONDENSATION DRAINAGE

4.1 Remove the nose boom pressure head water trap drain plugs located at Sta. 120 nose wheel well, between Sta. 228 - 237 lower air



conditioning access bay and Sta. 485 missile bay, and allow water (if any) to drain off.

- 4.2 Remove the fin upper pressure head water trap drain plugs, located at the base of the fin in the dorsal fairing, and allow water (if any) to drain off.
- 4.3 Replace all water trap drain plugs.
- 4.4 Carry out a leak test as outlined in Paras. 3.1 to 3.2 inclusive.

5. PERIODIC INSPECTIONS

Carry out inspections as outlined in ARROW 1 Maintenance Report 71/MAINT00/2, Preliminary Maintenance Schedule.

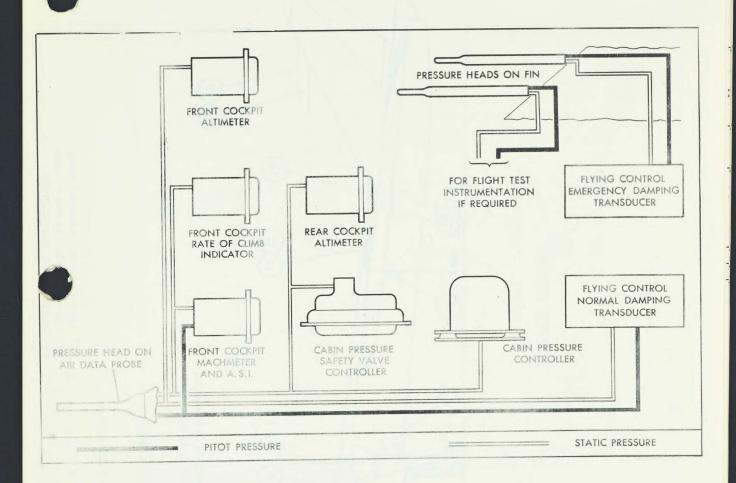
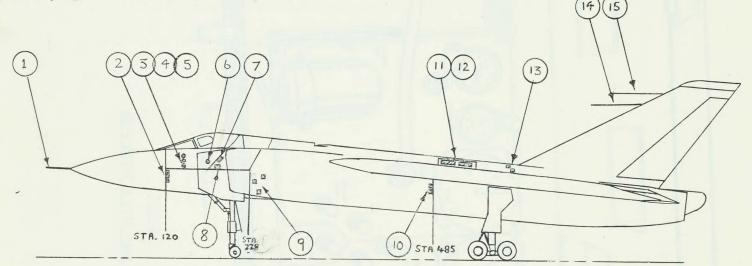


FIGURE 1
PITOT STATIC SYSTEM (SCHEMATIC)

- 1. Nose Boom P sure Head
- 2. Water Trap Plugs
- 3. Front Cockpit achmeter and A.S.I.
- 4. Front Cockpit Altimeter
- 5. Front Cockpit Rate of Climb Indicator
- 6. Rear Cockpit Altimeter
- 7. Cabin Pressure Controller
- 8. Gabin Pressure Safety Valve Controller
- 9. Water Trap Drain Plugs
- 10. Water Trap Drain Plugs
- 11. Flying Control Normal Damping Transducer
- 12. Flying Control Emergency Damping Transducer



13. Wate

14. Fin

ap Drain Plugs

15. Fin - Upper Pressure Head

wer Pressure Head

FIGURE 2

COMPONEUT LOCATION

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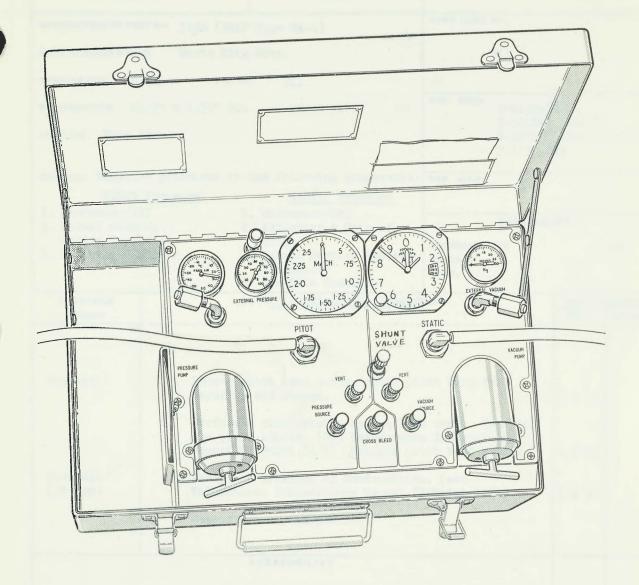


FIGURE 3

MB-1 PITOT STATIC TEST SET

MA	INTENANCE	DATA RECORD	SYSTEM	REF.	NO.
AVRO	AIRCRAFT LTD.	Engineering Div.	INSTRUMENTS	12-	-49
ISTRIBUTIO	N: STANDARD +	A/C TYPE - Arrow 1	COMPONENT		
K	. Knowlton	EFF. A/C - 25201	Tube - Pitot Sta	tic - Nose Boom	
ANUFACTU	RER'S PART NO. 318	6 (USAF Type MA-1)	AVRO PART NO.		DESE
ANUFACTU	RER'S NAME Was	te King Corp.	Nil		
VROCAN SP	E-541	E.O. NO. Nil			
ENVELOPE S	NIZE 21.5" x 1.	75" dia WEIGHT 1.7 5	LB. REF. DWGS. 7-0151	1-34 3-1 Sht 2	
LOCATION	Nose Boom.)-2 Sht 1	(wiri
FUNCTION	Supplies pressu	res to the following compo	nents: REF. M.D.R.		
	Pitot Pressure	MAN program became and			
	eter/ASI	1. Machmeter/ASI	PELIA	BILITY	
. Syste	l Damping m Transducer ata Computer	2. Altimeter & Rate of Climb 3. Normal Damping Sy Transducer	of overhaul life stem wastage Q.T.R.	m 1.22 times) :	HRS.
Diapraca	TON T	4. Air Data Computer 5. Air Conditioning		MEN V	ATMITTER
INSPECT		5. Air Conditioning	RFORMED	MEN X I	ACTU
Primary Remove pitot head cover, check pissecurity and damage. Perform a pitot-static system lead the pitot heater. (See Maintenance Report 71/Maint 12/1) Replace pitologic (25 hrs) Carry out drainage of Condensation Maintenance Instructions Report 7 Repeat primary inspection.			tenance Instructions ace pitot head covers. nsation. (see	1 x 15 1 x 30	
		baon no figure devile an		1	
	a	ACCESSIBILITY nobstructed. Pitot and st nd electrical leads access: adar access door R-1 (10 la	ible through	5, 1	
ISSUE	1	2			
DATE	March 26/57	January 7/58			
21112					
COMPILED	Sgt. McEgan	Sgt. McEgan			
	Sgt. McEgan D. Collingwood R.F. Reid				

		LUBRICATIO	N NIL	
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS
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DETAILS:			Combined TARD	COLD TOWNS ASSESSMENT OF THE PERSON NAMED IN COLD SECTION OF THE P
		GROUND SUPPORT	EQUIPMENT	
SPECIAL	TOOLS FOR AIRCRAFT	USE	SPECIAL TO	OLS FOR BENCH USE
	NIL		N	IL
GROU	ND TESTING EQUIPMEN	Т	GROUND HA	ANDLING EQUIPMENT
	ioner and Genera Static Tester	tor AC	4G/3252 Pito	over Handling Pole t Head Cover tenance Platform
INTERCHANGEABI	E X	REMOVAL INS	TRUCTIONS	MEN × MINUTES
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2.	Disconnect 3 e plug break. Disconnect 2 s radome bulkhea Remove 6 screw boom.	lectrical connect tatic and l pitot	line at the	h

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MAINTENANCE DATA RECORD AVRO AIRCRAFT LTD. Engineering Div.			SYSTEM	REF.	70.71
			INSTRUMENTS	12	- 50
DISTRIBUTION: STANDA	RD +	A/C TYPE - Arrow 1	COMPONENT		
K. Knowl	ton	EFF. A/C - 25201	Tube - Upper Pite	ot Static	- Fin
MANUFACTURER'S PAR	T NO. 3186 (US	AF Type MA-1)	AVRO PART NO.		
MANUFACTURER'S NAM	waste King	Corp.	NIL		
AVROCAN SPEC. E5	41 E.O. N	o. NIL			
ENVELOPE SIZE 21.	5" x 1.75" die	. WEIGHT 1.75 LB.	REF. DWGS.		
LOCATION Leadin	g edge of fin		at saturate the six		
FUNCTION Provid emerge	es pitot and s ncy damping sy	tatic pressure to the stem transducer	REF. M.D.R.	· · · · · · · · · · · · · · · · · · ·	
			RELIAB	ILITY	
			OVERHAUL LIFE WASTAGE		HRS.
			Q.T.R.		
INSPECTION		OPERATION TO BE PERFORME	D	MEN X	MINUTES
PERIOD				EST.	ACTUAL
Primary	Check pito	t head for security and da	amage.	1 x 1	

INSPECT	TON	OPERATION TO BE PERFORMED		MINUTES
PERIO	D		EST.	ACTUAL
Primar	y Check	pitot head for security and damage.	1 x 1	
	Functi	m a pitot-static system leak test. on the pitot heater (See Maintenance 71/MAINT12/1).	Instructions 1 x 15	
Period (25 hr	ic Carry	out drainage of condensation. (See Mactions Report 71/MAINT12/1)	aintenance	
	Repeat	Primary Inspection.	1 x 16	
	X-			
		ACCESSIBILITY		
		Unobstructed		
ISSUE	1	2		1
DATE	26 Mar. 157	16 Jan. 158		
COMPILED	Sgt. McEgan	Sgt. McEgan		
CHECKED	D. Collingwood	D. Collingwood		
APPROVED	R.F. Reid	R.F. Reid		

		LUBRICA	TION NIL			
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY		ACCESS	3
	TRANSPORT	PI F I SHE	- 3454 214			
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DETAILS:						
		and the second of the second				
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SPECIAL	TOOLS FOR AIRCRAF	r use	SPECIAL TO	OOLS FOR BEN	CH USE	
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	a1 & & P			Marine and Alberta		
GROU	D TESTING EQUIPMEN	NT .	GROUND H	ANDLING EQUI	PMENT	
			Pitot Head Cove	r Handline	Pole	
Air Condition	er and Generato	r AC	4G/3252 Pitot H	ead Cover		
MB-I Pitot St			4G/1230 Fin Ser	vicing Star	nd	
INTERCHANGEABL	EX	REMOVAL	NSTRUCTIONS		MEN X	ACTUA
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1.	Pull pitot hea	ing screws. d forward. ipe connections lectrical connec	otor.		201	ACTO
1.	Pull pitot hea	d forward.	etor. Remove and R	eplace	1 x 15	200
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1.	Pull pitot hea Disconnect 2 p Disconnect 1 e	d forward.		eplace	930	
1.	Pull pitot hea	d forward.		SHORES	930	
1.	Pull pitot hea Disconnect 2 p Disconnect 1 e	d forward.	Remove and R	SHORES	930	
1.	Pull pitot hea Disconnect 2 p Disconnect 1 e	d forward.		SHORES	930	
1.	Pull pitot hea Disconnect 2 p Disconnect 1 e	d forward.	Remove and R	SHORES	930	
1.	Pull pitot hea Disconnect 2 p Disconnect 1 e	d forward.	Remove and R	SHORES	930	
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1.	Pull pitot hea Disconnect 2 p Disconnect 1 e	d forward. ipe connections lectrical connec	Remove and R	SHORES	930	
1.	Pull pitot hea Disconnect 2 p Disconnect 1 e	d forward. ipe connections lectrical connec	Remove and R	SHORES	930	
1.	Pull pitot hea Disconnect 2 p Disconnect 1 e	d forward. ipe connections lectrical connec	Remove and R	SHORES	930	

	NTENANCE AIRCRAFT LTD.	DATA RECORD Engineering Div.	INSTRUMENTS	REF. 1 12-5	
	: STANDARD +	A/C TYPE - Arrow 1	COMPONENT		
K. Knowl	lton	EFF. A/C - 25201	INDICATOR - N	MACH/AIRSP	EED
MANUFACTUR	er's part no. ME-4	(RCAF 6A/10186)	AVRO PART NO.		
MANUFACTUR	er's name Kollsman	ı Ltd.	NIL		
AVROCAN SPE	c. NIL	E.O. NO.			
envelope su	ze 6.0° x 3.25°	ж 3.25 [®] weight .8 гв.	7-1252-57 sh	nt.2	
LOCATION P	ilots! main instr	nment panel			
FUNCTION I		ot with indication of aircraft ober, and maximum allowable altitudes.	REF. M.D.R.		
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			OVERHAUL LIFE WASTAGE		HRS.
		N STEPPER	Q.T.R.		
INSPECTI	ION	OPERATION TO BE PERFORMED	D	MEN × M	
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Periodic (25 hour				1x10	
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		UNOBSTRUCTED			
ISSUE	1	2			1
DATE	10 Jan 57	31 Dec 57			
COMPILED	Sgt. Duhamel	Sgt. McEgan			
		7 13		1	
CHECKED APPROVED	O. Collingwood R.F. Reid	J. Ferguson R.F. Rei			

		LUBRICATI	ON NIL			
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY		ACCESS	
			- 30000			
DETAILS:				page or n		The street of th
		GROUND SUPPORT	EQUIPMENT			
SPECIAL T	COOLS FOR AIRCRAFT	USE	SPECIAL T	OOLS FOR BEN	CH USE	
NIL			NIL			
GROUNI	TESTING EQUIPMENT		GROUND H	ANDLING EQUIP	MENT	
TEST MB-1	ER - PITOT-STAT	IC TYPE		CCESS STAND AINTENANCE		
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1.		ounting serews 2 flexible hose				
			Remove and	i replace	lx5	
	3 7 1					

MAINTENANC AVRO AIRCRAFT LTD.	E DATA RECORD Engineering Div.	SYSTEM INSTRUMENTS	REF.	no. -11
M.R. Knowlton	A/C TYPE - Arrow 1 EFF. A/C - 25201	COMPONENT INDICATOR-RAT	E OF CL	IMB
MANUFACTURER'S PART NO. A MANUFACTURER'S NAME AVIAT AVROCAN SPEC. NIL	AVRO PART NO.	ŧ		
ENVELOPE SIZE 5.0% x 3.1	REF. DWGS.			
LOCATION Pilots Main I	7-1252-57 SHT.2			
	ilot with an indication () the vertical speed	REF. M.D.R.		
		RELIABIL	-IT Y	
		OVERHAUL LIFE WASTAGE Q.T.R.		HRS.
INSPECTION	OPERATION TO BE PERFORM	ED	MEN X	MINUTES
PERIOD	OPERATION TO BE PERFORME		EST.	ACTUA
Drof morore	Charle indicator for conveit	tr and aspidition	a rata	- 12.00

INSPECTI	NSPECTION OPERATION TO BE PERFORMED		MEN × MINUTE	
PERIO	D	OFERTALIAN AS AN ANTI-	EST.	ACTUAL
	31013			
Primary		Check indicator for security and condition. Check that pointer reads zero. Carry out a Leak Test (See Maintenance Instruction Report 71/MAINT 12/1)	lx10	
Periodi	c	Repeat Primary Inspection		
(25 hour		and the same of th	1x10	
	Carl Season 1			
		ACCESSIBILITY		
		UNOBSTRUCTED		
war in	3	2		
ISSUE	18 Jan 57			
DATE	18 Jan 57	31 Dec 57		
DATE COMPILED CHECKED				

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SPECIAL T	COOLS FOR AIRCRAFT	USE	SPECIAL TOO	LS FOR BENCH	H USE	
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201	was annual				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
TEST	TER-PITOT STATIO	C TYPE MB-1.	COCKPIT ACC			
			4G/1596 MAI	NTENANCE P	LATFORM	
		COLUMN TO A				
	The state of the s				247777	
INTERCHANGEABLE REPLACEABLE	×	REMOVAL IN	STRUCTIONS		MEN X	MINUTES
	×	REMOVAL IN	STRUCTIONS			
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REPLACEABLE 1.	Remove 3 m	nounting screws	econnection.	replace	EST.	
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l. 2.	Remove 3 m	nounting screws	econnection.	replace	EST.	
l. 2.	Remove 3 m	nounting screws	Remove and	replace	EST.	
l. 2.	Remove 3 m	nounting screws	Remove and	replace	EST.	
l. 2.	Remove 3 m	nounting screws	Remove and	replase	EST.	
l. 2.	Remove 3 m	nounting screws	Remove and	replace	EST.	
l. 2.	Remove 3 m	nounting screws	Remove and	replase	EST.	
l. 2.	Remove 3 m	nounting screws	Remove and	replace	EST.	

.315.

MAINTENANCE AVRO AIRCRAFT LTD.	DATA RECORD Engineering Div.	SYSTEM INSTRUMENTS	REF. NO.	
DISTRIBUTION: STANDARD + K. Knowlton	A/C TYPE - AFFOW 1 EFF. A/C - 25201	Altimeter - Ty 0-80000 ft.	ype MA-1	
	061-04-004 man Ltd. E.o. No.	AVRO PART NO.		
envelope size 5^{10} x 3.25^{10} d.	ia. WEIGHT 1.31 LB. ain instrument panels	Ref. Dwgs. 7-1252-57 fro 7-1252-51 res	ont c/p ar c/p	
Provides both crew members with indication of altitude of the aircraft		REF. M.D.R.		
		RELIABI	LITY	
		OVERHAUL LIFE WASTAGE Q.T.R.	HRS.	
INSPECTION	OPERATION TO BE PERFORME	D	MEN × MINUTE	
PERIOD			EST. ACTU	

INSPECT	TON	OPERATION TO BE PERFORMED	MEN X N	INUTES
PERIO	D		EST.	ACTUAL
Primary		Check indicator for security and condition. Check altimeter setting. Carry out a leak test. (See Maintenance Instruction Report 71/MAINT 12/1)	lx10	
Periodio (25 hour		Repeat Primary Inspection	lxl0	
	UNOBSTRUCTED IN	ACCESSIBILITY BOTH COCKPITS		
				ē.
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			- 304 008			
CTAILS:						
	2011	GROUND SUPPORT E	EQUIP MENT			NAMES OF TAXABLE PARTY.
SPECIAL T	DOLS FOR AIRCRAFT	USE	SPECIAL TOO	LS FOR BENCE	i USE	
NIL		modelet fall	NIL			
GROUND	TESTING EQUIPMENT		GROUND HA	NDLING EQUIPM	ENT	
TEST	ER PITOT STATIC	TYPE MB1	COCKPIT AC 4G/1596 MA	CESS STAND INTENANCE P	ia tfori	1
ITERCHANGEABLE	X				MEN X	MINUTES
EPLACEABLE	7	REMOVAL INST	RUCTIONS		EST.	ACTUAL
1. 2.	Remove 3 mo	ounting screws.	connection. Remove and	replace	lx5	120
				I details to		
	!					
				700		
				To the second second		
				land in		

MA	INTENANCE	DATA RECORD	AIR CONDITIONING	REF. NO. 22 - 19
AVRO	AIRCRAFT LTD.	Engineering Div.	AIR CONDITIONING	22 - 17
	N: STANDARD +	A/C TYPE - Arrow 1 EFF. A/C - 25201	Controller - Cabin	Pressure
	Shaw JRER'S PART NO. 5117		AVRO PART NO.	1100002
MANUFACTU	urer's name Norm	nalair c.o. no.	7-2252-24	
ENVELOPE S	SIZE 4.82" x 5.5" x	5.5" WEIGHT 1.98 LB.	REF. DWGS.	
LOCATION			7-2250-3 Shts.	1 - 3
	Aft face of navig	gator's bulkhead	7-2252-339	•
FUNCTION			REF. M.D.R.	
	Senses cockpit prand positions the	ressure and static pressure cutflow valve (7-2252-1)	22-5 22-20, 22-3	3
		pressure is maintained to	RELIABILIT	Y
	a given schedule.	AN OWNERS CONTRACTOR	OVERHAUL LIFE 1000 WASTAGE Q.T.R. NS 572	HRS.

INSPECT	TON	OPERATION	TO BE PERFORMED		MEN X	MINUTES
PERIO	D				EST.	ACTUAL
Primary			itot-static syst stenance Instruct nt 12/1		1 x 10	
Periodi (25 hrs		Check for sec Carry out a c	eurity, damage, c ockpit pressuriz	orrosion. ation check.	2 x 25	
* .	111	Repeat primar	y inspection tes	it.	1 x 10	
		A C C E S S I B I L I T	TY			
t	aft of 76 - 3/	access panel on b navigator's bulkh 16 screws and dis d to panel.	nead by removing sconnect antenna	ge and Replace	1 x 40	
ISSUE	1	. 2	3	T		
DATE	April 19/56	November 27/56	January 7/58			
COMPILED	D. Collingwood	D. Collingwood	J. Ferguson			
	G. Emmerson	Sgt. Foster	Sgt. Foster			
CHECKED	G. Emmerson	Dg.v. Toover	D800 100002			

		LUBRICATIO	N NIL	
PPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS
	103 L - 100 C - 100 C		- 208 /89	
ETAILS:			- 100 m	AUDIAC DURBER WANT DO
		GROUND SUPPORT	EQUIPMENT	
SPECIAL	. TOOLS FOR AIRCRAFT	USE	SPECIAL TO	OLS FOR BENCH USE
	NIL		1	VIL
GRO	UND TESTING EQUIPMEN	r	GROUND HA	NDLING EQUIPMENT
Stop watch	ressurization Uni n, pressure & Tem tioner and Genera t-Static test set	p. gauges tor AC	4G/1596 Mair Cockpit Acce	ntenance Platform ess Stand
NTERCHANGEAB	LE X	REMOVAL INST	RUCTIONS	MEN × MINUTES
EPLACEABLE	a t			EST. ACTUA
	1. Disconne 2. Remove 3 3. Remove c	ct 3 hose lines. - 6/32 mounting sontroller.	screws from cont	coller.

MA	INTER	JANCE	DATA RE	CORD	SYSTEM	REF. N	10.
	AIRCRAF			ering Div.	AIR CONDITIONING	22=	32
DISTRIBUTION			A/C TYPE -	Arrow 1	COMPONENT		
G	. Shaw		EFF. A/C -		Controller - Cabi Safety Valve	n Pressi	ure
MANUFACTU	PER'S PAR'	r NO. 1022	220		AVRO PART NO.		
MANUFACTUI			esearch		7-2252-329		
AVROCAN SP	ec. E-5	72	E.O. NO.				
ENVELOPE S	IZE 3.25	" X 5.38"	Dia. WEIGHT	1.74 гв.	REF. DWGS.		
			or at Station 185		7-1852-2		
			ion with the cock 52-328) to protec		REF. M.D.R. 22-18	**	
			essive pressure d		24=40		
					RELIABIL	IT Y	
					overhaul life 1500 wastage o.t.r. Pending		HRS.
INSPECT	TON.					MEN × M	ATMILTER
PERIO			OPERATION	TO BE PERFORMED)	EST.	ACTUAL
Period (25 ho		Carry out (See Mair Check for Check ope ization		system leak to ion Report 71/ e and corrosio	MAINT 12/1) on.	1 X 2 1 X 10 2 X 25 1 X 10	
	rk	Unobstruc	accessibility ated				
ISSUE	1	3	2	3			
DATE	Jan 29		September 6/57	January 7/58			
			September 0/3/				- I
COMPILED	D. Col	Lingwood	Sel roster	Of a Man Propriet			
CHECKED	D. Col		Sgt. Foster D. Cranch	J. Ferguson Sgt. Foster			

		LUBRICA	TION Nil	BORAGS THEAN
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS
			The same and large	
			The second of	
D D D D D D D D D D D D D D D D D D D				
DETAILS:				
			The second	
		GROUND SUPPOR	T EQUIPMENT	et 7 1 1 1 7 minusesio
SPECIAL	TOOLS FOR AIRCRAFT	USE	SPECIAL TO	OLS FOR BENCH USE
	NIL		NIL	
GROU	ND TESTING EQUIPMENT		GROUND HA	NDLING EQUIPMENT
			7 - 9 - 0 4 A	04 a.s. 3
Cockpit Press	surization Rig	AC:	Cockpit Access	
	tatic Test Set	110	4G/1596 Mainten	ance Platform
INTERCHANGEABL	E X		WATER WATER WATER	MEN × MINUT
REPLACEABLE	-	REMOVAL	NSTRUCTIONS	EST. ACT
ock			Co.	
	1 Disconnect 3 p	pipe lines		
	2 Remove 3 holds	ing screws		
		1000		2 25 20
		Kemo	ve and replace	1 X 10
				ng Salamani I
				ng delegation in
			Treasure to a	
			Treasure to a	
	i		Tremera se	
	i		Tricontractor Sale	
			Tricontractor Sale	
			Tricontractor Sale	
			Tricontractor Sale	

.10.

MAINTEN AVRO AIRCRAFT		ATA RECORD Engineering Div.	PITOT - STATIC	REF. NO. 11-E21/16
S. Brown		A/C TYPE - Arrow 1 EFF. A/C - 25201	COMPONENT Switch - Pitot Hea	ter Test
MANUFACTURER'S PART I			AVRO PART NO. CS=S-159-6	
LOCATION Mounted		1.3125 WEIGHT .11 LB.	REF. DWGS. 7-1100-3 Sht. 11 7-1100-2 Sht. 23 7-1156-19	
to the f When sel supply t	in top and bected to the	sition provides a supply pottom pitot heaters. ETEST position provides a pp and bottom pitot heater	REF. M.D.R. 11=E21 RELIABIL OVERHAUL LIFE 150 WASTAGE Q.T.R.	

INSPECTION	ON OPERATION TO BE PERFORMED	MEN X	MINUTES
PERIOD		EST.	ACTUAL
Primary	Check for security. Function test (Ref. Maintenance Instructions Report 71/MAINT12/1).	1 x 2	
Periodi	c Check for security and condition.		
(25 hr.		1 x 5	
	ACCESSIBILITY		
	With panel E21 removed.		
SSUE	1		
DATE	Jan. 16/58		
COMPILED	J. Ferguson		100
CHECKED	K.P. Lowe		
APPROVED	R.F. Reid		

		LUBRICA	TION NIL		
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	ACCESS	
			The store of the	THE RESERVANT SECTIONS	
- Miner and		NO.			
DETAILS:		9.6		THE PART PRODUCTION	
C					
		The state of the s			
		GROUND SUPPOR	TEQUIPMENT	and the second	197
SPECIAL '	TOOLS FOR AIRCRAFT	USE	SPECIAL TOOLS	FOR BENCH USE	
			And the same of the		
	NIL		NIL		
			The second second		
GROUN	D TESTING EQUIPMEN	T	GROUND HANDL	ING EQUIPMENT	
	10000				
Air Conditio	oner and Generat	or AC	Cockpit Ac	cess Stand	
INTERCHANGEABLE			and the same of th	and the second s	
	36			MEN × MINU	TES
REPLACEABLE	2 X	REMOVALI	NSTRUCTIONS	MEN × MINU	
REPLACEABLE	Disconnect 6 e	lectrical conne	ctions.		
REPLACEABLE	Disconnect 6 e	lectrical conne	ctions.		
REPLACEABLE	Disconnect 6 e	lectrical conne	ctions. g washer.	EST, ACT	
REPLACEABLE	Disconnect 6 e	lectrical conne	ctions.		
REPLACEABLE	Disconnect 6 e	lectrical conne	ctions. g washer.	EST, ACT	
REPLACEABLE	Disconnect 6 e Remove Locking	lectrical conne	ctions. g washer.	EST, ACT	
1. 2.	Disconnect 6 e	lectrical conne	ctions. g washer.	EST, ACT	
REPLACEABLE	Disconnect 6 e Remove Locking	lectrical conne	ctions. g washer.	EST, ACT	
1. 2.	Disconnect 6 e Remove Locking	lectrical conne	ctions. g washer. Remove and Replace	EST, ACT	
1. 2.	Disconnect 6 e Remove Locking	lectrical conne	ctions. g washer. Remove and Replace	EST, ACT	
1. 2.	Disconnect 6 e Remove Locking	lectrical conne nut and lockin	ctions. g washer. Remove and Replace	EST, ACT	
1. 2.	Disconnect 6 e Remove Locking	lectrical conne nut and lockin	ctions. g washer. Remove and Replace	EST, ACT	
1. 2.	Disconnect 6 e Remove Locking	lectrical conne nut and lockin	ctions. g washer. Remove and Replace	l x 5	
1. 2.	Disconnect 6 e Remove Locking	lectrical conne nut and lockin	ctions. g washer. Remove and Replace	l x 5	
1. 2.	Disconnect 6 e Remove Locking	lectrical conne nut and lockin	ctions. g washer. Remove and Replace	l x 5	
1. 2.	Disconnect 6 e Remove Locking	lectrical conne nut and lockin	ctions. g washer. Remove and Replace	l x 5	
1. 2.	Disconnect 6 e Remove Locking	lectrical conne nut and lockin	ctions. g washer. Remove and Replace	l x 5	
1. 2.	Disconnect 6 e Remove Locking	lectrical conne nut and lockin	ctions. g washer. Remove and Replace	l x 5	
1. 2.	Disconnect 6 e Remove Locking	lectrical conne nut and lockin	ctions. g washer. Remove and Replace	l x 5	
1. 2.	Disconnect 6 e Remove Locking	lectrical conne nut and lockin	ctions. g washer. Remove and Replace	l x 5	

ACTUM

		ATA RECORD	SYSTEM PITOT - STATIC	REF. 11-E2	no. 1/17=1
AVRO AIRCRAF		Engineering Div.	COMPONENT		•
	Brown	EFF. A/C - 25201	Indicators - Pito	ot Heater	Test
MANUFACTURER'S PAF	RT NO.		AVRO PART NO.		
MANUFACTURER'S NAM	ME.		CS-1-10	07-1	
AVROCAN SPEC.	E.O. N	10.			
ENVELOPE SIZE 1.	750" x .650 dia	t. WEIGHT LB.	REF. DWGS.		
L.H. s	peed brake.	, located forward of the	7-1100-3 Sht 7-1100-2 Sht 7-1156-19		
contin		tion for test purposes of a top and bottom pitot	REF. M.D.R. 11-E21		
			RELIABI	LITY	
			OVERHAUL LIFE 12 WASTAGE Q.T.R.	500	HRS.
INSPECTION		OPERATION TO BE PERFORME	D	MEN X	MINUTES
PERIOD				EST.	ACTUA
AUTON 742				8,000.00	1810
Primary	Check for a Function to 71/MAINT12/	est (Ref. Maintenance Inst:	ructions Report	1 x 2	
Periodic (25 hr.)		security and condition. est (Ref. Maintenance Inst. /1).	ructions Report	1 x 5	
		ACCESSIBILITY			

ISSUE

DATE
COMPILED
CHECKED

APPROVED

l Jan. 16/58 J. Ferguson

K.P. Lowe R.F. Reid

GROUND SUPPORT EQUIPMENT SPECIAL TOOLS FOR AIRCRAFT USE SPECIAL TOOLS FOR BENCH USE NIL GROUND TESTING EQUIPMENT GROUND TESTING EQUIPMENT Air Conditioner and Generator AC Cockpit Access Stand INTERCHANGEABLE X REMOVAL INSTRUCTIONS			LUBRICATIO	N NIL			
SPECIAL TOOLS FOR AIRCRAFT USE SPECIAL TOOLS FOR AIRCRAFT USE NIL NIL OROUND TESTING EQUIPMENT Air Conditioner and Generator AC Cockpit Access Stand INTERCHANGEABLE X REMOVALINSTRUCTIONS MEN X MINUTE EST. ACTU 1. Disconnect electrical connections. 2. Remove locking nut and locking washer. Remove and Replace 1 x 10	APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	A	CCESS	MA.
SPECIAL TOOLS FOR AIRCRAFT USE SPECIAL TOOLS FOR AIRCRAFT USE NIL NIL OROUND TESTING EQUIPMENT Air Conditioner and Generator AC Cockpit Access Stand INTERCHANGEABLE X REMOVALINSTRUCTIONS MEN X MINUTE EST. ACTU 1. Disconnect electrical connections. 2. Remove locking nut and locking washer. Remove and Replace 1 x 10		TOTAL CONTROL	a word	- 5-997 D A	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	MATE NOT	BENETI
SPECIAL TOOLS FOR AIRCRAFT USE SPECIAL TOOLS FOR AIRCRAFT USE NIL NIL NIL OROUND TESTING EQUIPMENT GROUND HANDLING EQUIPMENT Air Conditioner and Generator AC Cockpit Access Stand INTERCHANGEABLE X REMOVAL INSTRUCTIONS 1. Disconnect electrical connections. 2. Remove locking nut and locking washer. Remove and Replace 1 x 10	SOL MARKET TO	diff - Brodesile	20828		mond		
SPECIAL TOOLS FOR AIRCRAFT USE SPECIAL TOOLS FOR AIRCRAFT USE NIL NIL NIL OROUND TESTING EQUIPMENT GROUND HANDLING EQUIPMENT Air Conditioner and Generator AC Cockpit Access Stand INTERCHANGEABLE X REMOVAL INSTRUCTIONS 1. Disconnect electrical connections. 2. Remove locking nut and locking washer. Remove and Replace 1 x 10	DEMAN C						
SPECIAL TOOLS FOR AIRCRAFT USE NIL NIL GROUND TESTING EQUIPMENT GROUND HANDLING EQUIPMENT Air Conditioner and Generator AC Cockpit Access Stand INTERCHANGEABLE X REMOVAL INSTRUCTIONS 1. Disconnect electrical connections, 2. Remove locking nut and locking washer. Remove and Replace 1 x 10	DETAILS.						
Air Conditioner and Generator AC Cockpit Access Stand INTERCHANGEABLE X REMOVAL INSTRUCTIONS MEN X MINUTE EST. ACTU 1. Disconnect electrical connections. 2. Remove locking nut and locking washer. Remove and Replace 1 x 10		allet in	GROUND SUPPORT	EQUIPMENT	078. x 30e5	I smrs	TOURN
Air Conditioner and Generator AC Cockpit Access Stand	SPECIAL T	TOOLS FOR AIRCRAFT	USE	SPECIAL T	COOLS FOR BENC	H USE	
Air Conditioner and Generator AC Cockpit Access Stand INTERCHANGEABLE X REMOVAL INSTRUCTIONS MEN X MINUTE EST. ACTU. 1. Disconnect electrical connections. 2. Remove locking nut and locking washer. Remove and Replace 1 x 10		NIL	In second of a				
Air Conditioner and Generator AC Cockpit Access Stand MEN X MINUTE EST. ACTU/	GROUNI	TESTING EQUIPMENT		GROUND F	HANDLING EQUIP	MENT	
REPLACEABLE 1. Disconnect electrical connections. 2. Remove locking nut and locking washer. Remove and Replace 1 x 10	STURBLE NOW		or AC	Cockpit	Access Stan	odomao	e de la constante de la consta
1. Disconnect electrical connections. 2. Remove locking nut and locking washer. Remove and Replace 1 x 10		x	REMOVAL INST	RUCTIONS		MEN X M	MINUTE
Develors Its Louis delle	ELI	Progen and	husteni woonolei	egglysmen so Markel doet n	Cremero midapella MIANATA	EST.	ACTU
	1. 2.	Disconnect elec Remove locking	trical connection nut and locking w	s. asher.	place	0.500 1-30	ACTUA
	1. 2.	Remove locking	nut and locking w	s. asher. Remove and Re	place	0.500 1-30	ACTUA
in the second se	1. 2.	Remove locking	nut and locking w	s. asher. Remove and Re	place	0.500 1-30	ACTUA
	1., 2.	Remove locking	nut and locking w	s. asher. Remove and Re		0.500 1-30	ACTU

ACTUAL

M A I N T E AVRO AIRCRAF		ATA RECORD Engineering Div.	SYSTEM PITOT - STATIC	REF. 11—E2	ио. 1/20-2
STRIBUTION: STAND	ARD +	A/C TYPE - Arrow 1	COMPONENT		
S. Brown		EFF. A/C - 25201	Resistors - Pitot Heater Test Indicators		
ANUFACTURER'S PAR	RT NO. RW20V222		AVRO PART NO.		
ANUFACTURER'S NAM	ME Internation	nal Resistance Co. Ltd.			
VROCAN SPEC.	E.O. 1	NO.			
NVELOPE SIZE 2.	5" x 1.5" x .5	WEIGHT LB.	REF. DWGS.		
ocation Mounted the L.	d on panel E21, H. speed brake	, located forward of	7-1100-3 Sht. 7-1100-2 Sht.		
runction To provide a voltage drop from 115v to 28v when the pitot heater test switch is selected			REF. M.D.R. 11∞E21		
to the	test position		RELIABI	LITY	······
				00	HRS.
INSPECTION OPERATION TO BE PERFORMED PERIOD			MEN X	MINUTES	
		OPERATION TO BE PERFORMED		EST.	ACTUA
Primary	71/Maint12/1	t (Ref. Maintenance Instr .).	uccions Report	1 x 2	
Periodic (25 hr.)		ecurity and condition. t (Ref. Maintenance Instr .).	uctions Report	1 x 5	
		A C C E S S I B I L I T Y			
Wä	ith panel E21 r	emoved.			
TOCHE	1	1			1
DATE Jan.	1 16/58				
	erguson				
CHECKED K.P. APPROVED R.F.	Love				

		LUBRICATI	ON NIL				
APPLICATION	MATERIAL	SPECIFICATION	FREQUENCY	Ac	CCESS		
DETAILS:	atti, tu minerati i ki				A comment		
	***	GROUND SUPPORT	EQUIPMENT				
SPECIAL TOOLS FOR AIRCRAFT USE			SPECIAL TO	OLS FOR BENCH	H USE		
NIL			NIL				
GROUNI	D TESTING EQUIPMEN	T	GROUND HA	NDLING EQUIPM	ENT		
Air Conditioner and Generator AC		AU	Cockpit Access Stand MEN × MIN				
INTERCHANGEABLE	*	DEHOVAL ING	TRUCTIONS		MEN × 1	MINUTES	
INTERCHANGEABLE REPLACEABLE	*	REMOVALINS	TRUCTIONS		MEN X I		
REPLACEABLE 1. 2.		etrical connection					
REPLACEABLE 1. 2.	Disconnect ele Remove 2 mount	etrical connection	ns.		EST.	ACTUAL	

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