AIR PUBLICATION 101B-0407-1A

(Formerly A.P. 4326G, Vol. 1 and
A.P. 101B-0407-1, Sect. 1, 2, 3 and 4)

CANBERRA PR. MK. 7 AIRCRAFT

GENERAL AND TECHNICAL INFORMATION

BY COMMAND OF THE DEFENCE COUNCIL

Ministry of Defence

Sponsored for use in the

ROYAL AIR FORCE by D.Air.Eng.(RAF)

Prepared by British Aerospace, Aircraft Group, Warton Division

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A.L.196, Sept. 83

A.P.101B-0407-1A
A.L.158, Apr.77

AMENDMENT RECORD SHEET

Incorporation of an Amendment List in this publication is to be recorded by signing in the appropriate column and inserting the date of making the amendments

A.L. No.	Amended by	Date
1-157	INCORPORATED	APR.77
158	DWA	22.6.77
159	DWA	9.8.77
160	DWA	7.9.77
161	[illegible]	3/11/78
162	[illegible]	7/3/78
163	[illegible]	7/3/78
164	DWA	12 9 78
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166	DWA	25 10 78
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169	RCarlisle	11.3.80
170	AWilliams	11-8-80
171	AWilliams	11-8-80
172	AWilliams	24-3-81
173	AWilliams	7-4-81
174	RCarlisle	22.7.81
175	[illegible]	24.12.81
176	[illegible]	24.12.81
177	[illegible]	24.12.81
178	Joan M Wells	15.3.82
179	[illegible]	30.9.82
180	[illegible]	30.9.82

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181	DS Purchase	6.1.83
182	DS Purchase	6.1.83
183	[illegible]	14.7.83
184	[illegible]	14.7.83
185	[illegible]	14.7.83
186	[illegible]	14.7.83
187	[illegible]	14.7.83
188	[illegible]	14.7.83
189	DS Purchase	7/9/83
190	DS Purchase	7/9/83
191	DS Purchase	7/9/83
192	DS Purchase	7/9/83
193	DS Purchase	7/10/83
194	[illegible]	21/11/83
195	[illegible]	24.8.84
196	[illegible]	24.8.84
197	[illegible]	15.2.84
198	[illegible]	17.2.84
199	[illegible]	11.4.84
200	JAW 84	25.7.84
201	Michel	31.1.86
202	Michel	31.1.86
203	Michel	31.1.86
204	Michel	31.1.86

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205	Michel	31.1.86
206	Michel	26.2.86
207	Michel	29.7.86
208	Michel	31086
209	Michel	32.87
210	Michel	12.5.87
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214	Michel	20.9.89
215	P Gittins	11.12.89
216	P Gittins	15.5.90
217	[illegible]	23.3.91
218	[illegible]	23.3.91
219	SmSmith	3.9.91
220	SmSmith	8.11.91
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NOTE TO READERS

Concurrent with the introduction of A.L.158, this publication has been divided into two covers, A.P.101B-0407-1A containing Sections 1, 2, 3 and 4, and A.P.101B-0407-1B containing Sections 5 and 6.

The subject matter of this publication may be affected by Defence Council Instructions, by Servicing schedules or 'General Orders and Modifications' leaflets in this A.P., in the associated publications listed overleaf, or even in some others. If possible, Amendment Lists are issued to correct this publication accordingly, but it is not always practicable to do so. When an Instruction, Servicing schedule or Modification leaflet contradicts any portion of this publication, the Instruction, Servicing schedule or Modification leaflet is to be taken as the overriding authority.

The inclusion of references to items of equipment does not constitute authority for demanding the items.

Each leaf bears the date of issue and the number of the Amendment List with which it was issued. New or amended technical matter will be indicated by triangles positioned in the text thus: ◀ ..... ▶ to show the extent of amended texts, and thus ▶ ◀ to show where text has been deleted. When a Section or Chapter is issued in a completely revised form, the triangles will not appear.

LIST OF ASSOCIATED AIR PUBLICATIONS AND DIAGRAMS

	A.P.
Accessories gearboxes and drives, Rotol	103C-0107-16
Aero engine, Avon Mk.109	102C-1512 to 1517-1
Aircraft painting	119A-0601-1 series
Aircraft wheels, tyres and brakes	104 series and 2337
Aircraft rigid tanks	4117A
Aircraft flexible tanks	106B series
A.R.I.23159/1 (Standby UHF)	116D-0107-1
A.R.I. 23143/1 (V/UHF)	116D-0116-1
A.R.I.18011 (ILS)	116B-0408-1
A.R.I.23023/1 (Radio compass)	116B-0107-1
A.R.I.23090/9 (HF)	116D-0102-1A
A.R.I.23237/2 (VOR)	116B-0447-1
A.R.I.18089 (IC)	116N-0105-1
A.R.I.5972/2 (Decca Doppler)	114E-1600-16
A.R.I.23219/4 (Radar Alt.)	116B-0208-1
A.R.I.23134/1 (IFF/SSR)	114J-0101-16
A.R.I.23238/5 (DME)	114J-1700-16
A.R.I.23329/1	116B-0907-1
Cartridges, power and miscellaneous explosive devices	110N series
Ejection seats, Type 2CA	109B-0107-1
Electrical manual	113D series and 4343 series
E.M. Release Unit Type A, Mk.3	110G-0135-125F
Hydraulic weighing units and ancillary equipment	119W-0301-1
Hydraulic equipment	104B/105B series and 1803 series
Instrument manuals general instruments	112G series and 1275A series
Navigation instruments	112B series and 1275B series
Oxygen equipment	112G series and 1275G series
Prefabricated construction equipment (Basic) — Canberra access structures	119F-2100 series and 4549A Book 3
Pressurizing and air conditioning equipment	107B series and 4340
Principles of aircraft weighing	119W-0001-1
Pyrotechnics	110E series and 1661E
Starting systems for aero engines	103D-0203-13A7

LAYOUT OF A.P.101B-0407

CANBERRA PR MK.7 AIRCRAFT

101B-0407-1A and 1B. . . . . General and Technical Information

101B-0407-2 . . . . . General Orders and Modifications

101B-0407-3A . . . . . Schedule of Spare Parts

101B-0407-3B . . . . . Appendix 'A'

101B-0407-3C . . . . . Scales of Unit Equipment

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101B-0407-12 . . . . . Ground Handling Notes

101B-0400-13 . . . . . Modification Lists

101B-0407-15 . . . . . Pilot's Notes

MODIFICATION STANDARD

◀ This Air Publication has been written to the Canberra PR Mk.7 modification standard 7Y2 listed below. Modifications added subsequent to this standard are listed separately.

1	96	197	295	344	502	613	726	894	1169	1434	1721	2193	2585	3356	3819	4160	4781	5190
2	97	198	296	345	504	617	727	895	1170	1436	1731	2302	2587	3367	3821	4223	4783	5196
3	98	199	297	347	506	618	728	899	1171	1438	1734	2306	2588	3368	3853	4270	4798	5198
4	99	250	299	349	507	620	730	900	1175	1440	1738	2315	2592	3374	3878	4271	4855	5200
6	150	251	300	401	508	621	732	1002	1176	1445	1739	2316	2594	3391	3881	4280	4925	5202 ▶
8	152	252	303	402	509	622	733	1005	1189	1447	1750	2321	2612	3423	3883	4282	4933	
9	153	253	305	404	510	625	735	1008	1196	1450	1769	2334	2614	3458	3903	4286	4936	
10	154	255	308	405	512	627	737	1010	1200	1454	1773	2335	2619	3487	3906	4287	4949	
11	155	256	309	407	513	628	740	1011	1251	1458	1778	2340	2643	3513	3911	4289	4958	
12	157	258	310	410	514	630	742	1012	1254	1459	1781	2348	2647	3521	3936	4294	4959	
14	159	259	311	412	515	631	745	1013	1258	1462	1782	2353	2656	3523	3937	4301	4960	
15	161	260	312	418	516	632	747	1015	1265	1464	1784	2355	2659	3626	3948	4303	4962	
18	163	261	313	419	519	636	748	1017	1266	1465	1909	2364	2664	3535	3949	4308	5015	
51	164	265	314	421	520	637	749	1021	1270	1466	1928	2379	2670	3556	3955	4333	5022	
53	165	266	315	422	521	638	750	1022	1271	1469	1929	2380	2680	3557	3962	4335	5027	
54	166	267	316	424	523	639	851	1023	1273	1472	1932	2386	2683	3584	3970	4351	5028	
56	170	268	318	425	525	640	852	1024	1274	1473	1934	2391	2690	3588	3995	4412	5035	
57	171	269	319	428	527	641	856	1026	1275	1476	1940	2394	2701	3589	4005	4420	5038	
62	174	270	320	429	528	642	857	1027	1277	1477	1960	2395	2704	3593	4018	4427	5045	
63	175	271	321	430	531	643	859	1028	1283	1479	1973	2399	2705	3701	4044	4435	5050	
66	176	275	322	433	533	644	860	1029	1287	1482	1981	2501	2720	3703	4054	4436	5051	
67	177	276	323	434	535	646	862	1033	1293	1486	2000	2506	2721	3707	4061	4443	5058	
68	178	277	324	437	536	647	863	1034	1294	1488	2114	2511	2722	3715	4063	4448	5061	
69	180	278	325	438	537	649	864	1036	1295	1489	2123	2512	2740	3724	4069	4449	5063	
71	181	279	327	440	538	702	866	1038	1300	1495	2125	2517	3197	3727	4073	4454	5073	
74	182	280	328	441	541	707	867	1041	1402	1498	2127	2535	3225	3730	4077	4465	5080	
78	183	281	330	442	542	708	868	1044	1403	1500	2128	2538	3235	3749	4078	4469	5091	
79	184	283	332	443	543	709	869	1048	1404	1702	2129	2541	3241	3771	4080	4481	5094	
83	185	284	334	444	550	711	874	1049	1408	1703	2134	2559	3258	3773	4081	4489	5096	
85	186	285	335	445	601	712	877	1151	1416	1705	2148	2561	3280	3779	4095	4704	5099	
86	188	286	337	446	603	714	878	1152	1421	1707	2151	2564	3281	3792	4103	4705	5105	
87	189	291	339	448	606	716	880	1160	1422	1709	2154	2567	3297	3798	4107	4707	5111	
89	190	292	340	449	607	717	886	1162	1428	1714	2158	2572	3302	3801	4127	4714	5112	
90	195	293	341	450	610	720	889	1164	1432	1716	2183	2578	3330	3808	4151	4720	5119	
95	196	294	343	501	612	724	891	1165	1433	1720	2189	2584	3333	3814	4152	4726	5182	

MODIFICATIONS INCLUDED SUBSEQUENT TO STANDARD

Modification Number	Effect on Publication	Incorporated by A.L. Number
5439	To make provision for and introduce a banner target towing facility from a centreline station in the flare bay.	180
5118	Amends Sect.3, Chap.6	183
5269	Amends Sect.3, Chap.11	184
5340	Amends Sect.4, Chap.2	185
5430	Amends Sect.1, Chap.1	
5442	Amends Sect.3, Chap.11	
5209	Amends Leading Particulars	190
5224	Amends Sect.2, Chap.4	
	Amends Sect.3, Chap.2	
5238	Amends Sect.3, Chap.8B	
5245	Amends Sect.3, Chap.8A	
5441	Amends Sect.1, Chap.3	195
	Amends Sect.3, Chap.11	
5505	Amends Leading Particulars	206
5500	Amends Introduction Amends Sect.1, Chap.2 Amends Sect.2, Chap.3	210
5536	Amends Sect.3, Chap.3	220

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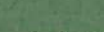
CONTENTS

LUBRICATION – OILS AND GREASES

THE LUBRICATION DIAGRAMS THROUGHOUT THIS PUBLICATION REFER TO OILS AND GREASES BY SYMBOLS. REFERENCE MUST ALWAYS BE MADE TO THIS MARKER CARD FOR INTERPRETATION OF THE LUBRICANT REQUIRED AND THE METHOD OF APPLICATION.

SYMBOL	NOMENCLATURE	REFERENCE NO.	N.A.T.O. CODE NO.
	Oil OEP-71	34B/9100540	O-136
	Oil OM-15	(1 gall.) 34B/9100572 (45 gall.) 34B/2202291	H-515
	Oil OM-150	34B/9100550	O-140
	Oil OX-14	(2 oz) 34B/9100589 (½ pint) 34B/9100590	O-147
	Oil OX-38	(1 gall.) 34B/9100591 (45 gall.) 34B/2201941	O-149
	Grease XG-235	34B/9440585	G-363
	Grease XG-271	34B/9100510	G-382
	Grease XG-273	34B/9423151	G-357
	Grease XG-276	34B/9425139	G-353
	Grease XG-287	(2 oz.) 34B/2241973 (28 lb.) 34B/2241861	G-354
	Grease XG-293	34B/2241797	G-395
	Grease XG-315	(4 oz.) 34B/2201438 (225 grm.) 34B 2204466	G-394
	Grease SP-5	34B/2247686	
	Grease ZX-38	34B/9437518	S-722
	Grease ZX-32	34B/2202430	S-717

METHOD OF APPLICATION SYMBOLS

 GUN  OILCAN  HAND ♦ LUBRICATED ON ASSEMBLY ONLY

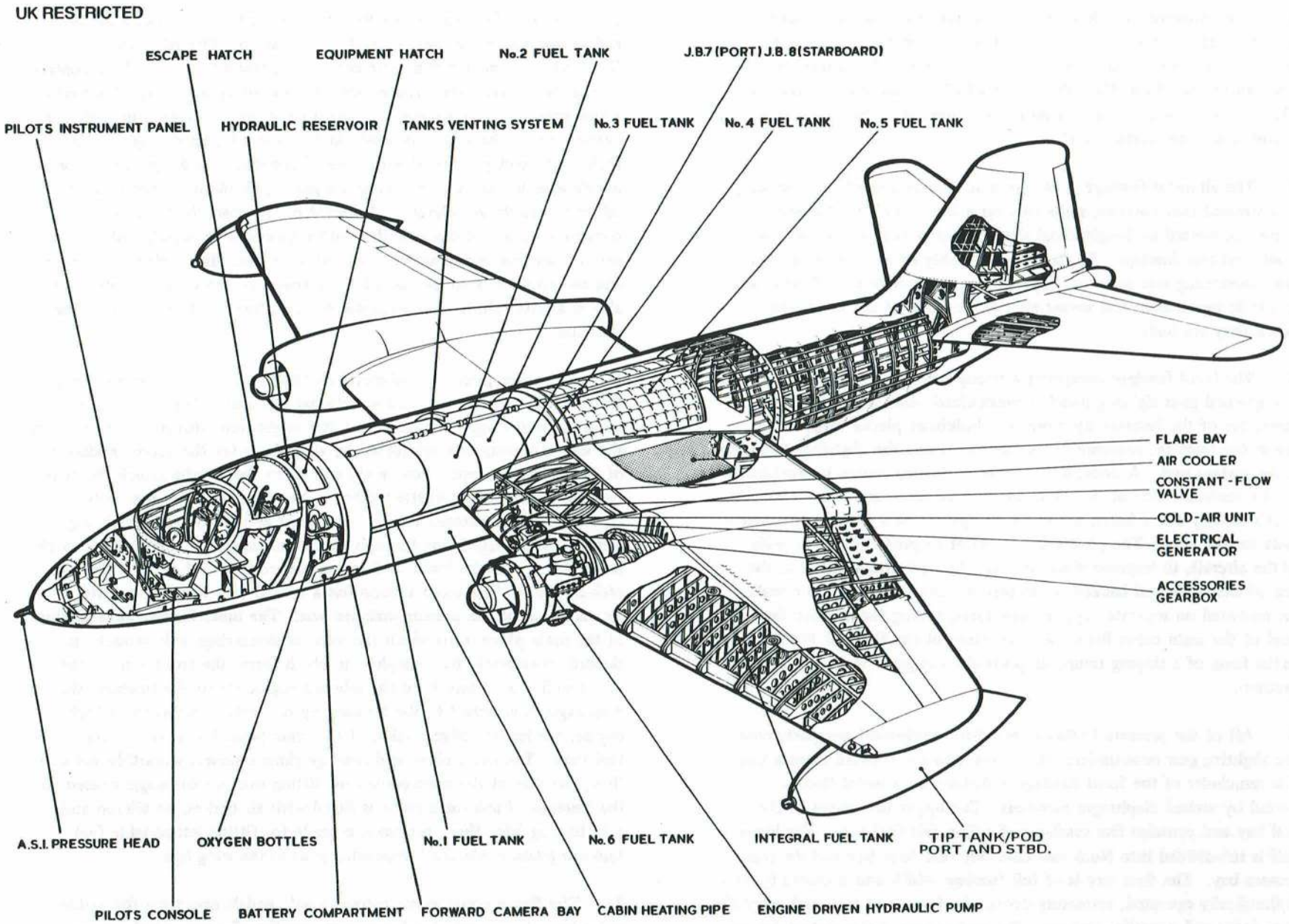


FIG. 1. CANBERRA PR. Mk. 7

◀TITLE AMENDED▶

INTRODUCTION

1. The Canberra PR Mk.7 aircraft is a twin engined jet propelled mid-wing aircraft fitted with a retractable tricycle alighting gear and is employed in the photographic reconnaissance role. The aircraft is powered by two Avon Mk.109 engines which are mounted in the main planes. The crew consists of a pilot and a navigator, each of whom is provided with an ejection seat.

2. The all-metal fuselage is of a monocoque construction, consisting of a stressed skin covering supported on a framework of transverse frames connected by longitudinal stringers; it is built in two sections - front, and rear fuselage. To facilitate assembly of the complete aircraft and dismantling into main units, junctions are provided in all controls, hydraulic pipes, electrical wiring etc., at the ends of the units into which they are built.

3. The front fuselage comprises a transparent nose fairing, fitted with a toughened glass sighting panel, a pressurized cabin sealed off from the remainder of the fuselage by a pressure bulkhead placed diagonally across the fuselage, equipment compartments and the alighting gear nose undercarriage unit. A door, jettisonable in an emergency, is provided on the starboard side of the cabin for normal entry and exit. The pilot's canopy and a hatch above the navigator's seat provide emergency exits for the crew. The pilot's seat is offset to port of the centre-line of the aircraft, to improve visibility, and the navigator's seat is at the rear of the cabin and backed on to the pressure bulkhead. The seats are mounted on separate support structures, raising them above the level of the main cabin floor. An extension of the floor, in the nose, in the form of a sloping ramp, supports the navigator in the prone position.

4. Aft of the pressure bulkhead are three equipment compartments, the alighting gear nose-undercarriage unit, and the forward camera bay. The remainder of the front fuselage is divided by a metal floor supported by arched diaphragm members. The upper half serves as the fuel bay and contains five crash-proof collapsible fuel bags. The lower half is sub-divided into No.6 fuel tank bay, the flare bay and the rear camera bay. The flare bay is of full fuselage width and is closed by two hydraulically operated, retracting doors. Bulkheads at each end carry the door jacks and operating linkage. The main plane centre-section frame is an integral part of the fuselage.

5. The rear fuselage carries the tail unit, which comprises a metal rudder and tail plane, and a wood-and-metal fin. The tail plane is fitted with an incidence adjustment unit designed to give positive control at high Mach numbers. The incidence is varied by an electrical actuator which ensures irreversibility of control under any condition of flight and enables quick changes to be made in fore-and-aft trim during take-off, flight and landing. The elevators are of conventional design and incorporate a spring tab in the port and a geared, fixed-movement balance tab in the starboard elevator. Forward of the spar, the fin is of wooden construction, aft of the spar the rudder shroud is of metal, with the aerofoil section maintained by flanged plate ribs. The rudder is all-metal and incorporates a spring tab which, through an electrical actuator, acts also as a trim tab; it is so arranged that full travel is available for either function.

6. The main planes are all-metal cantilever structures of symmetrical section, with a main spar and a sectional rear wall. The power units are mounted mid-wing. The main spar is a single web with machined booms, the web cut away and reinforced by ring plates for the accommodation of the engine jet pipe. Four main and seven shear bolts attach the spar root to the main spar centre-section in the fuselage. The rear wall consists of three pressed sections, the inner and centre sections being attached to a forged ring through which the engine jet pipe passes; at the main plane root, the inner section is attached by one bolt to a fuselage pick-up point. The outer section has a curved web which forms the forward wall of the pressure-balance box. The inner leading-edge section of the main plane, into which the main undercarriage unit retracts, is divided transversely by a diaphragm which forms the front wall of the wheel well; extending from the inboard engine-rib to the fuselage, the diaphragm is attached to the fuselage by one bolt. Outboard of each engine, the leading edge section of the main plane forms an integral fuel tank. The main plane and fuselage skins intersect smoothly without fillet, the skin at the main-plane root fitting over a joint angle riveted to the fuselage. Each main plane is fitted with air brakes, an aileron and split trailing edge flaps, provision is made for fitting jettisonable fuel tanks or jettisonable chaff dispensing pods to the wing tips.

7. The flying controls are conventional; pedals operating the rudder, and a horn type control column operating the ailerons and elevators. All control runs consist of push-pull tubes and levers.

8. The retractable tricycle alighting gear is operated hydraulically, the main undercarriage units retracting inwards into the main planes and the nose undercarriage unit retracting rearward into the front fuselage. The main unit struts are oleo-pneumatic single cantilever-mounted wheels, and with hydraulic disc-type brakes. The nose undercarriage is liquid-sprung; the unit is fully castering and self-centring with twin wheels keyed together to eliminate shimmy.

9. The engines are mounted on engine ribs just forward of the main spar. Each is slung on four attachments, all but one of which are designed to take up expansion. All auxiliaries are mounted on gearboxes inboard of the engines. Turbo-starters are fitted, the units being faired into the engine air intakes. Oil is carried in the engine sumps only and is fuel-cooled.

10. Fuel is delivered from No.1, 2, 3, 4 and 6 tanks into a collector box at the rear of No.6 tank. No.5 tank and the collector box are each fitted with two submerged fuel pumps and are connected to galleries delivering fuel to the engines. A submerged fuel pump is fitted in each integral wing-tank and low-pressure cocks permit fuel from these tanks to be fed direct to the engines or transferred to No.5 tank. Separate switches operate the fuel pumps and low-pressure cocks. Electrostatic fuel contents gauges are fitted in all fuselage tanks and the integral wing tanks. Individual vent pipes are installed for the integral tanks, while all fuselage tanks vent into a common gallery.

11. The fire protection system comprises five extinguishers serving the flare bay, fuselage fuel tank bays and the engines; flame detectors are utilized in the engine bays only.

12. All electrical power is drawn from two 24 volt, 9 kilowatt generators and from one 24 volt battery with appropriate inverters for radio and radar equipment. A 2.4 volt battery is installed for emergency instrument panel lighting; and two 12 volt batteries situated in the pilot's console, supply emergency power for the detonator circuits and the turn and slip indicator. One 24 volt battery, situated in the upper equipment compartment, provides the emergency power for operating the standby U.H.F. radio.

13. Radio and radar equipment, suitable to the role of the aircraft, is installed; the controls and associated equipment being located at positions convenient to the crew member concerned.

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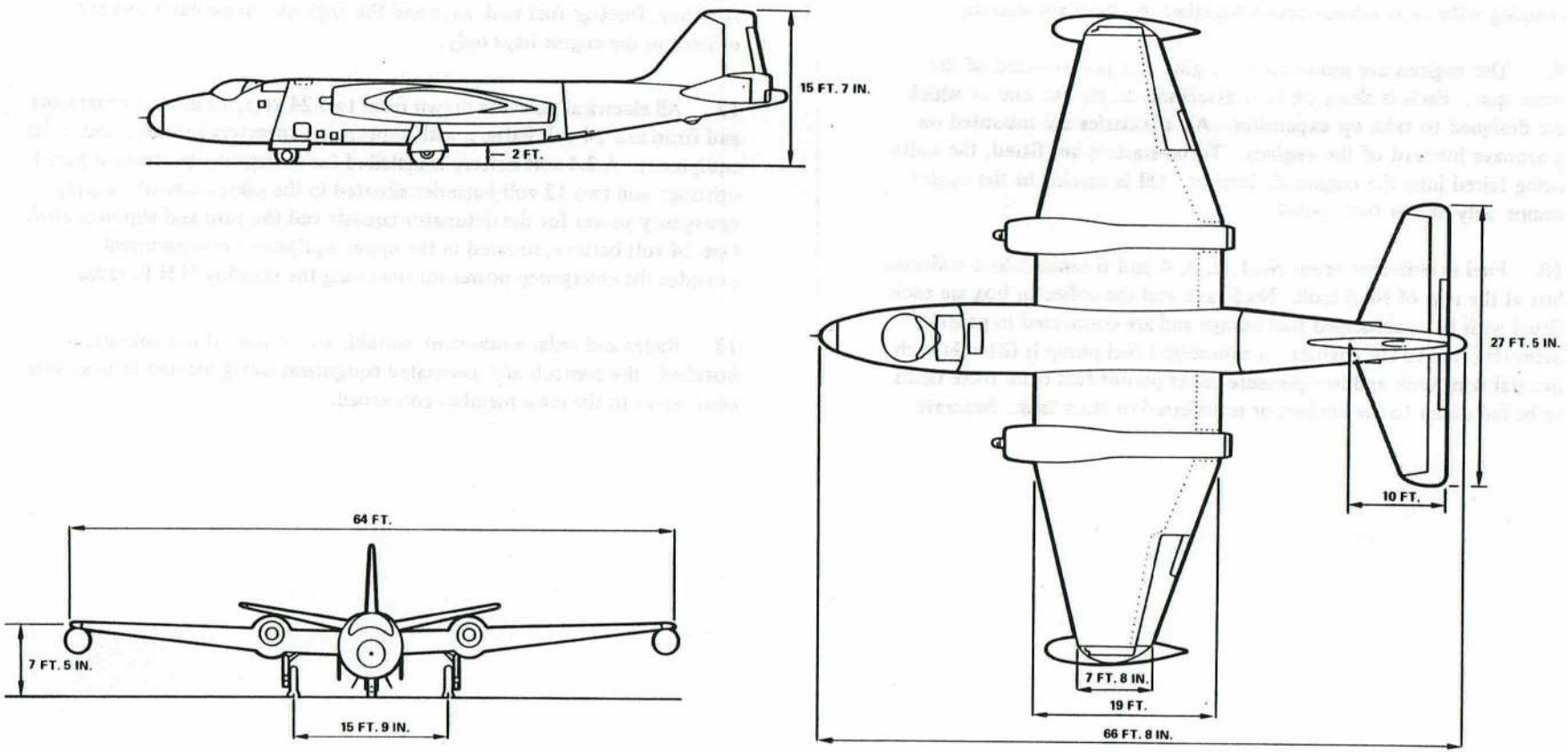


FIG. 2. GENERAL ARRANGEMENT–CANBERRA PR. Mk. 7

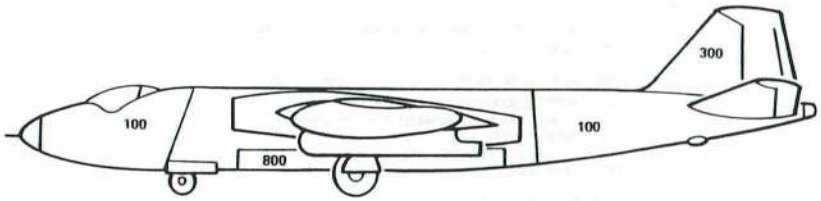
◀TITLE AMENDED▶

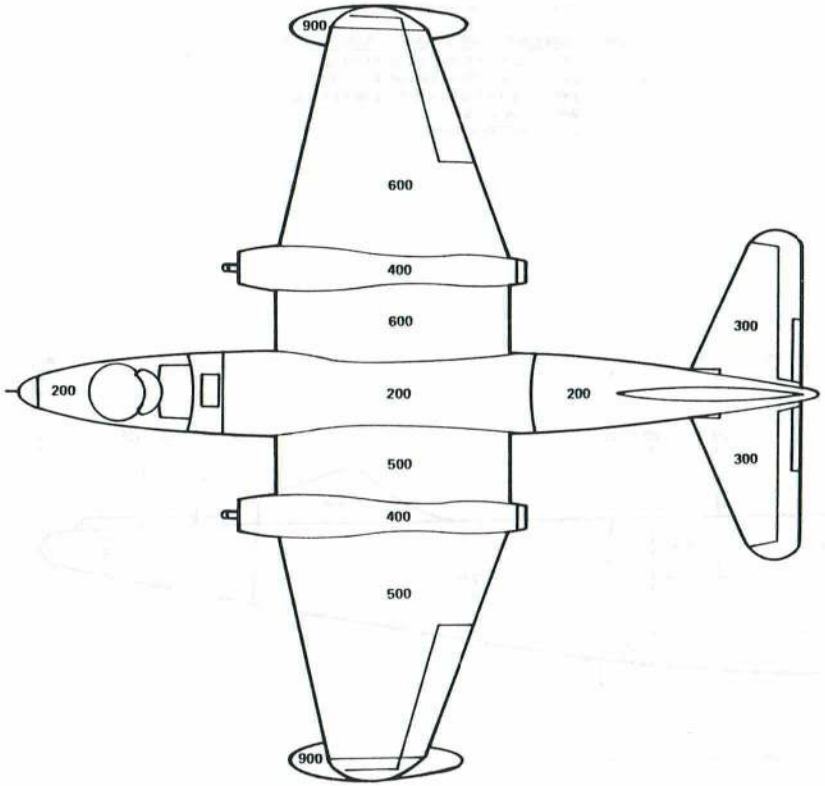
A.P.101B-0407-1A
A.L.218,Aug.90

CANBERRA-PR. Mk.7
ZONES

◀ *(New Section)* ▶

UK RESTRICTED





MAJOR ZONES

100 – LOWER FUSELAGE

200 – UPPER FUSELAGE

300 – TAIL UNIT

400 – ENGINE AND JET PIPE BAY

500 – PORT WING

600 – STBD. WING

700 – LANDING GEAR AND DOORS

800 – DOORS

900 – SPECIAL FIT EQUIPMENT

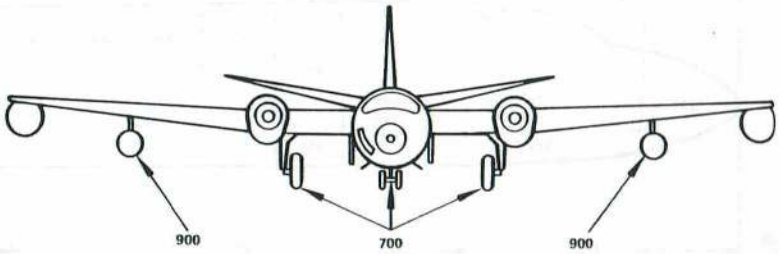


FIG. 3. GENERAL ARRANGEMENT OF MAJOR ZONES

UK RESTRICTED

MAJOR ZONES 100 AND 200 – LOWER AND UPPER FUSELAGE

MAJOR ZONE 100 – LOWER FUSELAGE

SUB-MAJOR ZONES

110 – FUSELAGE FORWARD OF THE PRESSURE BULKHEAD
- 111 BENEATH CABIN FLOOR

120 – FUSELAGE FROM PRESSURE BULKHEAD TO FRAME 21
- 121 PORT EQUIPMENT COMPARTMENT
- 122 STARBOARD EQUIPMENT COMPARTMENT
- 123 NOSE WHEEL BAY
- 124 FORWARD CAMERA BAY
- 125 No.6 FUEL TANK COMPARTMENT

130 – FUSELAGE FROM FRAME 21 TO 36
- 131 FLARE BAY
- 132 CENTRE CAMERA BAY

MAJOR ZONE 200 – UPPER FUSELAGE

SUB-MAJOR ZONES

210 – FUSELAGE FORWARD OF THE PRESSURE BULKHEAD
- 211 NOSE SECTION FORWARD OF FRAME 1
- 212 CABIN

220 – FUSELAGE FROM PRESSURE BULKHEAD TO FRAME 21
- 221 MAIN EQUIPMENT COMPARTMENT
- 222 AREA BETWEEN FRAME 12 & 13 AND ABOVE FORWARD CAMERA BAY
- 223 No.1 FUEL TANK COMPARTMENT
- 224 No.2 FUEL TANK COMPARTMENT
- 225 No.3 FUEL TANK COMPARTMENT
- 226 No.4 FUEL TANK COMPARTMENT

230 – FUSELAGE FROM FRAME 21 TO 31
- 231 No.5 FUEL TANK COMPARTMENT
- 232 AREA BETWEEN FRAME 27 & 29
- 233 AREA BETWEEN FRAME 29 & 31

240 – FUSELAGE FROM FRAME 31 REARWARDS
- 241 AREA FROM FRAME 31 TO 42
- 242 AREA FROM FRAME 42 TO 46
- 243 REAR FAIRINGS (FRAME 46 TO 42F)
- 244 FIN STUB
- 245 RUDDER STUB

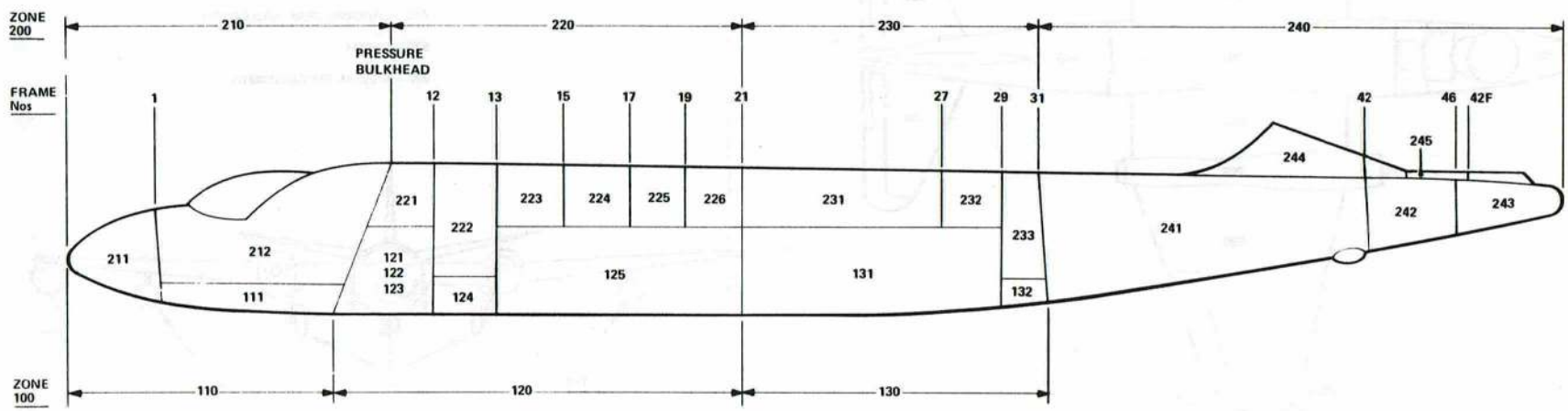


FIG. 4. MAJOR ZONES - LOWER AND UPPER FUSELAGE

UK RESTRICTED

MAJOR ZONE 300 – TAIL UNIT

SUB–MAJOR ZONES

310 – PORT TAILPLANE

320 – STARBOARD TAILPLANE

330 – FIN AND RUDDER

310 – PORT TAILPLANE AND CENTRE SECTION

311 TAILPLANE

312 ELEVATOR

313 TAB

314 CENTRE SECTION

320 – STARBOARD TAILPLANE

321 TAILPLANE

322 ELEVATOR

323 TAB

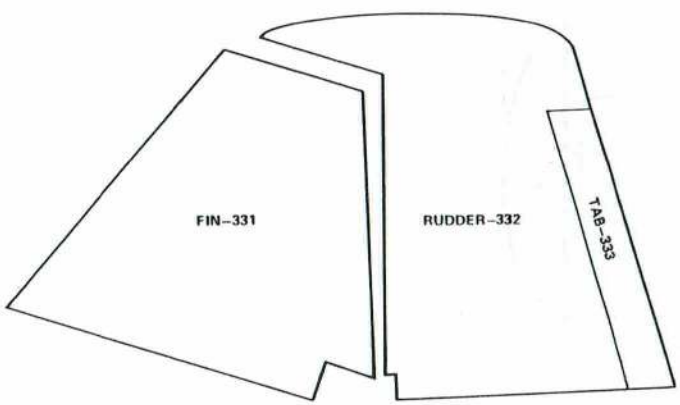
330 – FIN AND RUDDER

331 FIN

332 RUDDER

333 TAB

ZONE – 330



ZONES –310 AND 320

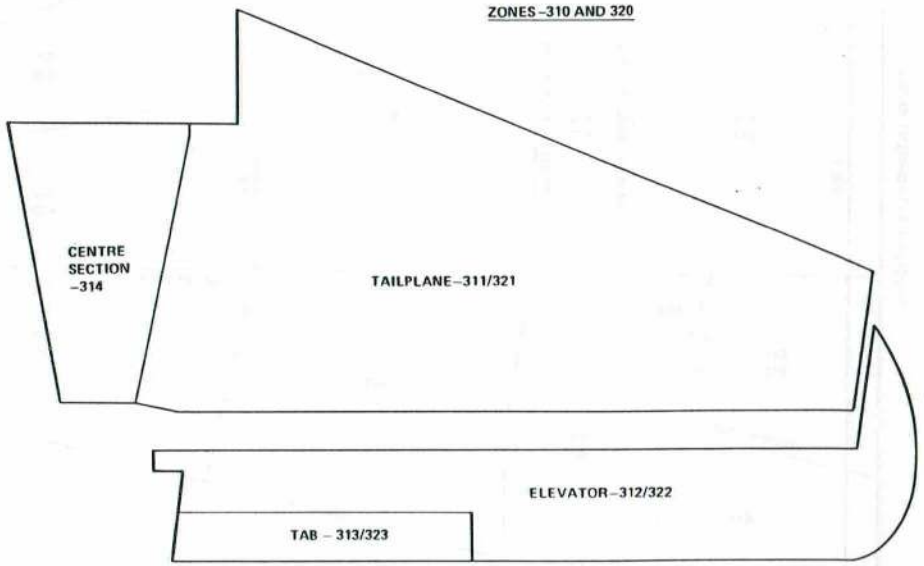


FIG. 5. MAJOR ZONES - TAIL UNIT

UK RESTRICTED

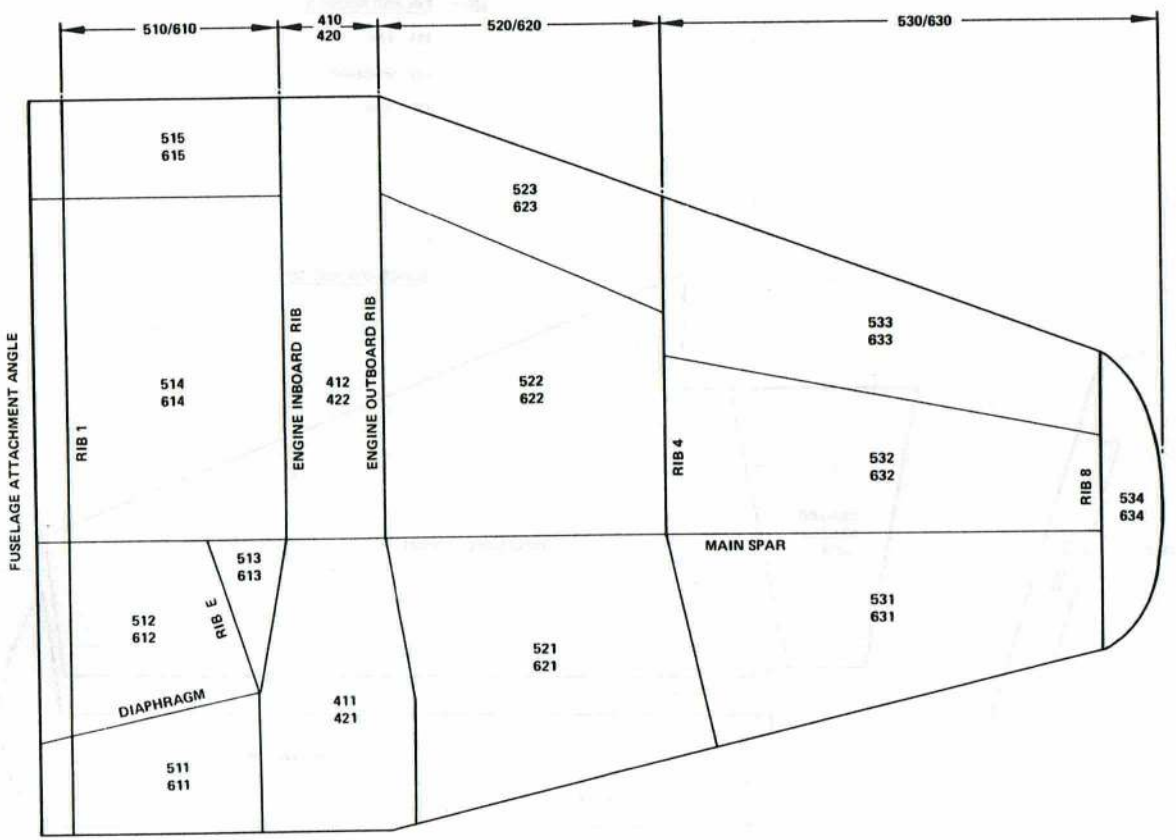
MAJOR ZONES – 400,500 AND 600 - PORT AND STARBOARD ENGINE/JET PIPE BAYS; PORT AND STARBOARD WINGS

MAJOR ZONE 400 – PORT AND STBD. ENGINE/JET PIPE BAYS

MAJOR ZONE 500 – PORT WING

MAJOR ZONE 600 – STBD. WING

ZONES–400/500/600



SUB–MAJOR ZONES

410/420 - JET PIPE REAR CONE

411/421 - ENGINE BAY

412/422 - JET PIPE BAY

510/610 - INBOARD WING SECTION BETWEEN FUSELAGE ATTACHMENT ANGLE AND ENGINE INBOARD RIB

520/620 - CENTRE SECTION WING BETWEEN ENGINE OUTBOARD RIB AND RIB 4

530/630 - OUTBOARD WING SECTION BETWEEN RIB 4 AND WING TIP

FIG. 6. MAJOR ZONES - ENGINE AND JET PIPE BAYS AND PORT AND STBD. WINGS

UK RESTRICTED

MAJOR ZONE 700 – LANDING GEAR AND DOORS

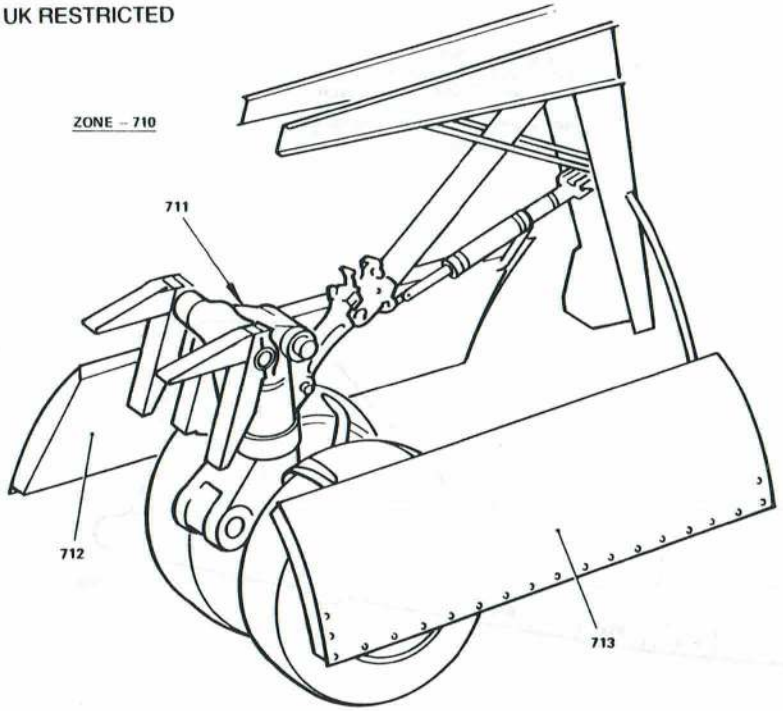
SUB–MAJOR ZONES

710 – NOSE LANDING GEAR AND GEAR DOORS

720 – STBD.MAIN LANDING GEAR AND GEAR DOORS

730 – PORT MAIN LANDING GEAR AND GEAR DOORS

ZONE – 710



710 – NOSE LANDING GEAR AND GEAR DOORS

- 711 NOSE LANDING GEAR
- 712 NOSE LANDING GEAR DOOR RIGHT
- 713 NOSE LANDING GEAR DOOR LEFT

720 – STBD.MAIN LANDING GEAR AND GEAR DOORS

- 721 MAIN LANDING GEAR
- 722 MAIN LANDING GEAR SPAT AND FLAP
- 723 MAIN LANDING GEAR DOOR

730 – PORT MAIN LANDING GEAR AND GEAR DOORS

- 731 MAIN LANDING GEAR
- 732 MAIN LANDING GEAR SPAT AND FLAP
- 733 MAIN LANDING GEAR DOOR

ZONE – 720 / 730

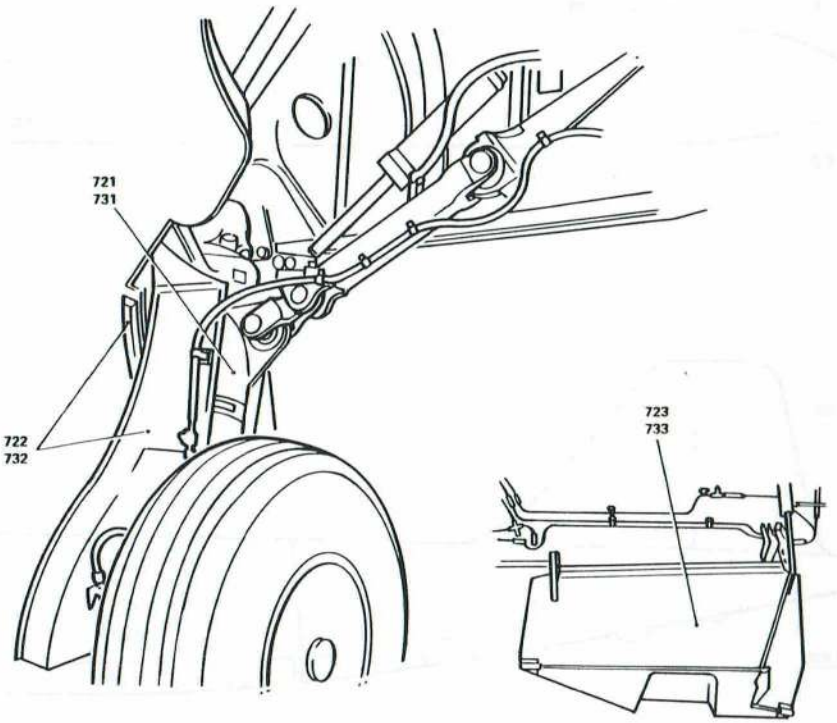


FIG. 7. MAJOR ZONES - LANDING GEAR AND DOORS

UK RESTRICTED

MAJOR ZONE 800 – DOORS

SUB-MAJOR ZONES

810 – LOWER FUSELAGE PORT
- 811 FORWARD CAMERA BAY DOORS
- 812 FLARE BAY DOOR
- 813 CENTRE CAMERA BAY DOOR
- 814 REAR DOOR
- 815 REAR CAMERA BAY DOOR

820 – LOWER FUSELAGE STARBOARD
- 821 CREW ENTRANCE DOOR
- 822 FLARE BAY DOOR

SUB-MAJOR ZONES

830 UPPER FUSELAGE PORT
- 831 CREW ESCAPE HATCH

840 – UPPER FUSELAGE STARBOARD
- NOT USED

FIG. 8. MAJOR ZONES - DOORS

UK RESTRICTED

MAJOR ZONE 900 – SPECIAL FIT

910–PORT WING TIP TANK (OR CHAFF DISPENSER)
920–NOT USED
930–NOT USED
940–NOT USED
950–NOT USED
960–STARBOARD WING TIP TANK (OR CHAFF DISPENSER)

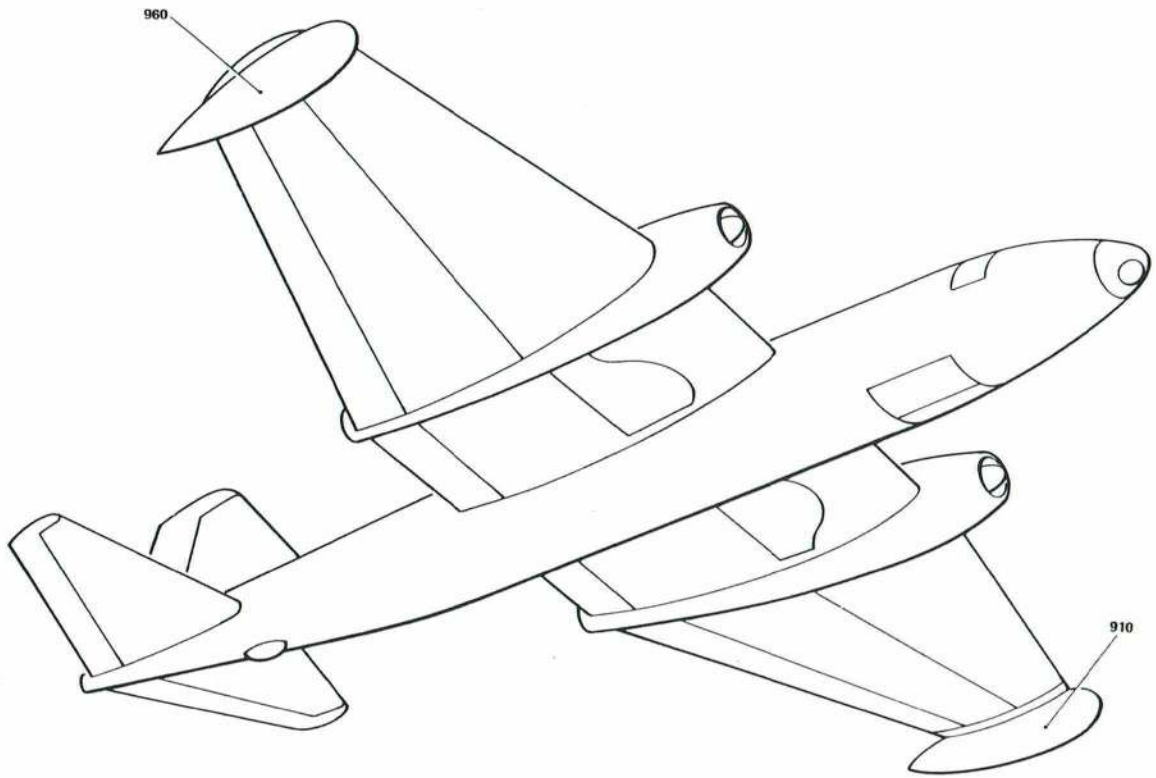


FIG. 9. MAJOR ZONES - SPECIAL FIT

LEADING PARTICULARS

NAME . . . . . .CANBERRA PR MK.7
TYPE. . . . . TWIN-ENGINED, JET-PROPELLED
MID-WING MONOPLANE
DUTY . . . . . .PHOTOGRAPHIC RECONNAISSANCE
CREW . . . . . .TWO

PRINCIPAL DIMENSIONS

Note . . .

For the main dimensions of the aircraft refer to the General Arrangement illustration. For the settings and ranges of movement of the main control surfaces refer to Section 3, Chapter 4.

MAIN PLANE

Aerofoil section . . . . . *R.A.E./D*
Chord
At root . . . . . *.19 ft*
At tip . . . . . *.7 ft 8 in.*
Incidence . . . . . *.2 deg*
Dihedral (measured on top surface of wing . . . . . *.2 deg ± 10 min*
Sweep back (at leading edge) . . . . . *13 deg 33 min*
Sweep forward (at trailing edge). . . . . . *19 deg 53 min*

TAIL PLANE

Aerofoil section . . . . . *.R.A.E./D*
Chord
At root (leading edge extended to aircraft centre line). . . . . . *10 ft*
At tip . . . . . *4 ft*
Incidence (measured at starboard inboard rigging gauge position)
Take-off position . . . . . *.3 deg 15 min ± 2 min*
Range between electrical stops . . . . . *2 deg 12 min. +14 –13 min. to 3 deg 59 min. +13 –14 min.*
Dihedral (measured at inboard rigging gauge position at max. incidence) . . . . . *.7 deg 57 min ± 15 min*
Tail plane stub incidence . . . . . *.1 deg*

FIN AND RUDDER

Aerofoil section . . . . . *R.A.E./D*
Chord
At root . . . . . *11 ft 8½ in.*
At tip . . . . . *5 ft 0½ in.*

AREAS

Main plane, including aileron (gross) . . . . . *960 ft²*
Main plane, including aileron (nett) . . . . . *836.5 ft²*
Ailerons (total) . . . . . *72 ft²*
Aileron trim tabs (total) aft of hinge . . . . . *3.65 ft²*
Flaps (total) . . . . . *64.2 ft²*
Tail plane, including elevators (gross), projected . . . . . *190.8 ft²*
Tail plane, including elevators (nett), projected . . . . . *166.8 ft²*
Elevators, including horn . . . . . *56.8 ft²*
Elevator trim tabs (total), aft of hinge . . . . . *5.44 ft²*
Fin, including rudder and tab (nett) . . . . . *66.53 ft²*
Rudder, including horn. . . . . . *28.06 ft²*
Rudder, trim tab, aft of hinge . . . . . *2.577 ft²*

EXTERNAL FINISH

Acrylic finishing scheme (matt) (Mod.5111) *D.T.D.5599A*

INTERNAL FINISHES

Gloss white *DT.D.899A*
Gloss white *D.T.D.5555A*
Silver *D.T.D.5580A*
Matt black *BSX28*

ALIGHTING GEAR

MAIN UNDERCARRIAGE

Type . . . . . *.Two single-wheel units, inwards retracting*
Shock absorber
Type . . . . . *Oleo pneumatic*
Nitrogen pressure (with wheels off ground)
A.U.W. below 42,500 lb . . . . . *450 ±25 lb/in²*
A.U.W. 42,500 lb to 51,000 lb . . . . . *545 ±25 lb/in²*
A.U.W. 51,000 lb to 60,000 lb . . . . . *640 ±25 lb/in²*
Fluid . . . . . *.OM-15*
Capacity - fluid . . . . . *.12 pints (approx.)*

MAIN UNDERCARRIAGE – *continued*

Wheels
- *Type* . . . . . *Dunlop AH.52692*
- *Tyres* . . . . . *Dunlop DF.1621*
- *Tubes* . . . . . *Dunlop DT.1609*
- *Tyre pressure* . . . . . *Refer to A.P.101B-0400-5A2*

Brakes . . . . . *Dunlop hydraulic with Maxaret units*

NOSE UNDERCARRIAGE

Type . . . . . *Twin wheel, non-steerable, castering, rearward retracting, Dowty 2.0039.6040 (pre Mod.5505) or 2.0039.6041 (post Mod.5505)*

Shock absorber . . . . . *Levered suspension, liquid spring, Dowty*
- *Pressure (with wheels off ground)* . . . . . *1500 lb/in²*
- *Fluid* *OM-15*
- *Capacity - fluid* . . . . . *1.5 pints*

Wheels
- *Type* . . . . . *Dunlop AH.9590*
- *Tyres* . . . . . *Dunlop K.K.E.N.14N*
- *Tubes* . . . . . *Dunlop K.K.2*
- *Tyre pressure* . . . . . *Refer to A.P.101B-0400-5A2*

HYDRAULIC SYSTEM

Pumps . . . . . *Lockheed Mk.9*

Fluid *OM-15*

Capacity of system . . . . . *33 pints (approx.)*

Pressure settings
- *Cut-out valve* . . . . . *cut out, 2700 $^{+50}_{-0}$ lb/in²*
  cut in, 2200 lb/in²
- *Thermal relief valves* . . . . . *open, 3350 to 3550 lb/in²*
  re-seat 3100 lb/in²
- *Flaps relief valve* . . . . . *open, 2850 ± 50 lb/in²*
- *Reservoir pressure relief valve* . . . . . *open, 12-17 lb/in²*
  re-seat, 8 lb/in²

Accumulator inflation pressure
- *(main and wheel brakes)* . . . . . *1350 $^{+50}_{-0}$ lb/in² at +5 deg C and 1400 $^{+50}_{-0}$ lb/in² at +15 deg C when exhausted of hydraulic pressure*

ELECTRICAL SYSTEM

Wiring . . . . . *Plessey*

Voltage . . . . . *28V d.c.*

Generators . . . . . *Two 9kW, Type 519*

Batteries . . . . . *One 24V, 40A/h, Type K*

Voltage regulators . . . . . *Type 114*

Emergency batteries . . . . . *Two 12V, 4Ah*

ENGINES

Name . . . . . *Avon Mk.109 (E.C.U. Mk.10901)*

Type . . . . . *Pure jet gas turbine*

Starter . . . . . *B.T.H. turbo starter, Type T.B.S.720, Mk.3*

Cartridge . . . . . *No.10, Mk.3 (720 grammes)*

Fuel . . . . . *Avtur with F.S.I.I. D.E.R.D. 2453 (Ref.No.34A/2201036) - N.A.T.O. Code F-34*
Avtag with F.S.I.I. D.E.R.D. 2454 (Ref.No.34A/2201037) - N.A.T.O. Code F-40
In case of emergency, only the following alternative fuels may be used
** Avtur without F.S.I.I. D.E.R.D. 2494 (Ref.No.34A/9431771) - N.A.T.O. Code F-35*
** Avcat without F.S.I.I. D.E.R.D. 2498 (Ref.No.0722/2202148) - N.A.T.O. Code F-43*
Avcat with F.S.I.I. D.E.R.D. 2452 NATO Code F-44
French Navy Fuel A.I.R. 3404A similar to Avcat D.E.R.D. 2498 with F.S.I.I.
**If these fuels are used FSII must be added in concentrations of between 0.10 and 0.15 per cent by volume*
F.S.I.I. AL31 D.Eng.R.D. 2451 NATO Code S748

Fuel pressure warning lamps . . . . . *Illuminated when pressure falls below 6 $^{+0.50}_{-0.00}$ lb/in²*

Oil *OX-38*

Accessories gearbox
- *No.1 engine* . . . . . *Rotol Type P.T.G.3/25 (Ref.No.37L/189)*
- *No.2 engine* . . . . . *Rotol Type P.T.G.3/26 (Ref.No.37L/190)*
- *Oil* *OX-38*

Note . . .

Should oil other than OX-38 have been used, the gearbox must be flushed out with oil OX-38, emptied, and then refilled with new oil OX-38.

PRESSURE HEAD SETTING

Position . . . . . *On nose tip*
Type *Mk.8W*
Angular setting . . . . . *Parallel with aircraft centre line ±1 deg*

TANK CAPACITIES

Fuel tanks		*Weight (lb)*	
		Avtur	*Avtag*
No.1	*260 gal*	*2080*	*2028*
No.2 Forward	*260 gal*	*2080*	*2028*
No.3 Group	*220 gal*	*1760*	*1716*
No.4	*220 gal*	*1760*	*1716*
No.5 (aft)	*540 gal*	*4320*	*4212*
No.6 (belly) (including collector box – 45 gal NOT including 30 gal unusable)	*417 gal*	*3336*	*3223*
Main plane integral tanks (port and starboard)	*856 gal*	*6848*	*6677*
Wing tip jettisonable tanks (two)	*488 gal*	*3904*	*3806*
Total fuel (usable)	*3261 gal*	*26088*	*25016*

◀ *Oil*

In engine sumps (each engine) . . . . . *16 pints*
Total oil (each engine) . . . . . *19 pints*
Accessories gearboxes (each gearbox) . . . . . *3.125 pints*
Hydraulic tank . . . . . *16 pints*
2-speed accessories gearbox (each gearbox) . . . . . *0.875 pints*

Note . . .

The lubricant Reference and N.A.T.O. code numbers are printed on the reverse of the List of Contents marker card.

OXYGEN SYSTEM

Cylinders

One . . . . . *2250 litres (Ref.No.6D/9429900)*
Six . . . . . *750 litres (Ref.No.6D/9429896)*

Emergency oxygen

Forward station . . . . . *One Mk.2A set*
Ejection seats . . . . . *One Mk.7J set each* ▶