

Appendix 1

FLYING CLOTHING

Introduction

1. The following is the range of flying clothing available for the use of aircrew in Vulcan B Mk. 2 aircraft; it is also scaled in A.P.830, Vol. 1, Sect. C, to which reference is to be made, as necessary.

Ref. No.	Description
<i>The following items are used by all members of the crew :-</i>	
22C/1475 to 1478	Drawers, cotton, short, aircrew
22C/1161 to 1164	Vests, string, aircrew
22C/9421244 to 9421250 and 9424959	Socks, woollen, knitted, plain
22C/9421251 to 9421258	Socks, woollen, knitted, ribbed
22C/1597 to 1606 or 22C/1657 to 1666	Shirts, cotton, aircrew or Shirts, aircrew, N.P.
22C/1527 to 1542	Boots, flying, 1952 pattern
22C/1121 to 1126	Gloves, cape, leather, N.P.
22C/1904 to 1911	Suits, flying, Mk. 2
22C/1725 to 1728	Helmets, flying, Type G
22C/2100 to 2124	Helmets, protective, Mk. 1A c/w visor attachment
22C/1650 to 1651	Screens, anti-glare, Medium/Large
22C/1877	Jackets, life-saving, Mk. 4A
Suits, flying dress, Mk. 2, consisting of:-	
22C/1801 to 1814	Blouse
22C/1815 to 1828	Trousers
22C/1856 to 1861	Suits, air-ventilated, Mk. 2A
22C/1841 to 1844	Suits, anti-G, Mk. 5A
6D/2170	Connector, anti-G suit, special
6D/2307	Mask, oxygen, Type P2A
6D/2309	Mask, oxygen, Type Q2A

The following items are used by pilots only :-

22C/2024	Garters, leg restraint Q.R. (for attachment to flying suit Mk. 2)
22C/1713 to 1718	Jerkins pressure, Mk. 1
6D/2169	Oxygen mask hose assembly Mk. 2 (c/w P.E.C. personal component)
6D/2168	Pressure jerkin hose assembly Mk. 3 (c/w P.E.C. personal component)
6D/2171	A.V.S. hose assembly Mk. 1

The following items are used by rear crew members only :-

22C/2007 to 2014	Pressure jerkin Mk. 3
6D/2173	Oxygen mask hose assembly Mk. 3 (c/w P.E.C. personal component)
6D/2172	Pressure jerkin hose assembly Mk. 4 (c/w P.E.C. personal component)
6D/2174	A.V.S. hose assembly Mk. 2

2. A brief description of the items of clothing, including the chief technical reasons for their use, is given in the appropriate chapter of Sect. 1; more detailed information, including servicing and modifications, is contained in A.P.1182E, Vol. 1, 2 and 4.

3. The range of items available includes those required for both high and low altitude flying, as well as those items, such as boots, vests, etc., which are used in both types of sorties. For the purposes of this appendix, the functional items of clothing are grouped together as assemblies giving adequate protection up to the heights indicated.

4. It is to be noted that the anti-G suit in the Type B assembly is required as a garment to

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assist pressure breathing, in the event of loss of cabin pressure at high altitude, and has no anti-G function whatever in this aircraft. It is inflated with oxygen from the main supply and not, as is normal, with air. The suit is provided with a bayonet end fitting on its supply hose which, during dressing, is connected to the Y-fitting on the pressure jerkin hose assembly (between the personal component of the P.E.C. and the jerkin valve).

FLYING CLOTHING ASSEMBLIES

Type 'A' assembly (Mk. 21 oxygen regulator)

5. This is a LOW ALTITUDE clothing assembly and provides protection for the following conditions :-

- (1) It provides full protection up to an aircraft altitude of 40,000 ft. This allows for a cabin depression of 5,000 ft. on loss of part of the cabin structure.
- (2) Upon loss of cabin pressure for any reason, the aircraft must be brought down to a cabin altitude of 40,000 ft. within two minutes. Because of aerodynamic suction on the hole in the cabin structure, this may mean a descent to 35,000 ft. aircraft altitude.

6. The assembly consists of the following items :-

Used by all crew members :-

Type P or Q mask (according to size of face)
Flying helmet, Type G
Protective helmet, Mk. 1A
Jacket, life saving, Mk. 4A
Suit, air-ventilated, Mk. 2A
c/w hose assembly as required (see below)
(Optional wear. Suit hose to be cut to length required to give a neat 'run' with the rest of the A.E.A. when sitting in either an ejection or static seat).

Used by pilots only :-

Hose assembly, oxygen mask, Mk. 2
Hose assembly, A.V.S., Mk. 1

Used by rear crew members only :-

Hose assembly, oxygen mask, Mk. 3
Hose assembly, A.V.S., Mk. 2

Type 'B' assembly (Mk. 21 oxygen regulator)

7. This is a HIGH ALTITUDE clothing assembly and provides protection for the following conditions :-

- (1) It provides full protection up to an altitude of 51,000 ft. This allows for a cabin depression of 5,000 ft. on loss of part of the cabin structure.
- (2) Upon loss of cabin pressure for any reasons, the aircraft must be brought down to a cabin altitude of 40,000 ft. within two minutes. Because of aerodynamic suction on the hole in the cabin structure, this may mean a descent to 35,000 ft. aircraft altitude.

8. The assembly consists of the following items :-

Used by all crew members :-

Type P or Q mask (according to size of face)
Flying helmet, Type G
Protective helmet Mk. 1A
Suit, air ventilated, Mk. 2A
c/w hose assembly as required (see below)
(Optional wear. Suit hose to be cut to length required to give a neat 'run' with the rest of the A.E.A. when sitting in either the ejection or static seat).
Anti-G suit Mk. 5A
c/w connector 6D/2170; suit hose to be cut to required length.

Used by pilots only :-

Pressure jerkin Mk. 1
c/w pressure jerkin hose assembly, Mk. 3
Hose assembly, A.V.S., Mk. 1

Used by rear crew members only :-

Pressure jerkin Mk. 3
c/w pressure jerkin hose assembly, Mk. 4
Hose assembly, A.V.S., Mk. 2

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Note . . .

It is essential that the fit of the oxygen mask, jerkin and anti-G suit is approved and that a thorough indoctrination and checking of a subject in a decompression chamber is carried out by the approved authority.

9. The limitations in para. 7 take into account the suction which would develop in the cabin from loss of its canopy. These altitude limitations are, therefore, lower than those which may be given in other references for the equipment, since these other references are of a general nature and cannot take into account the suction due to loss of the canopy, peculiar to a particular aircraft.

DRESSING AND OXYGEN CHECKS IN CREW ROOM

10. The recommended order of dressing for high altitude clothing assemblies is as follows:-

Note . . .

A Flying Clothing Worker, or other suitably qualified tradesman, is to be in attendance during dressing to render assistance where necessary.

- (1) Vest, pants and socks.
- (2) Air-ventilated suit (A.V.S.) if required.

Note . . .

This garment is donned with the slit at the back. It has two pairs of tapes with colour coded ends; the top pair is marked RED and should be tied behind the neck, the lower pair is marked BLUE and should be brought round the waist and tied in front. In warm weather an air supply should be connected immediately to the suit and maintained in action until take-off. This is important, since in warm climates or warm climatic conditions the more critical risks of heat exhaustion may well occur during this period, rather than after becoming airborne.

- (3) Shirt.

- (4) Trousers of flying dress, if required.
- (5) Anti-G suit.
- (6) Boots.
- (7) Jacket of flying dress (if required).
- (8) Flying suit (with fitted garters for pilots only).

Pass the A.V.S. and anti-G hoses through the slits provided on the right side of these garments.

- (9) Pressure jerkin. Before closing the slide fastener, pass the A.V.S. and anti-G hoses through the slit provided on the right leg.

Note . . .

A better run of the hoses may be obtained by ignoring the slit and passing them through the leg opening itself. It is, therefore, recommended that each individual determines the most suitable configuration by sitting in the seat in the aircraft with the P.E.C. components connected and, bearing in mind that the hoses are supplied longer than is normally required, route them to provide the most convenient 'run' so that they can be cut to the required length.

- (10) Connect the anti-G suit to the Y-piece on the jerkin hose assembly (leaving the A.V.S. connected to the air supply).
- (11) Don the flying helmet and oxygen mask.
- (12) Fit the mask tube into the jerkin hose assembly and connect the Mic/Tel plug to the socket attached to the jerkin hose assembly.
- (13) Conduct a functional test of the clothing assembly, using the test rig cabinet in the crew room (or flying clothing cloakroom). Instructions for conducting these tests, or checks, are contained on the test rig cabinet.

(14) Don the protective helmet.

(15) Put on the gloves and proceed to the aircraft. Just before entering the

aircraft, disconnect the A.V.S. from the air supply and connect the hose to the personal component of the P.E.C. on the jerkin hose assembly.

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