AP 108F-0902-123A

(Formerly AP 108F-0902-12)

OXYGEN MASKS, TYPES P AND Q
(NORMALAIR-GARRETT LIMITED)

GENERAL AND TECHNICAL INFORMATION
GENERAL ORDERS AND MODIFICATIONS
ILLUSTRATED PARTS CATALOGUE

BY COMMAND OF THE DEFENCE COUNCIL

Frank Cooper.

Ministry of Defence

Sponsored for use in the
ROYAL NAVY by DGA (N)
ROYAL AIR FORCE by D Air Eng (RAF)

Prepared by Normalair-Garrett Ltd., Yeovil BA20 2YD
Publications authority : ATP/MOD (PE)

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AMENDMENT RECORD

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MODIFICATION RECORD (Continued)

Mod No	Mask Type	Brief Details	Class
▶ MO 151	P10 and Q10 Series	Conversion of mask, oxygen, Type P10C, P10AC, Q10C and Q10AC to Types P10CL, P10ACL, Q10CL and Q10ACL respectively by the introduction of lengthened chains to the toggle harness assemblies ◀	S 0 0 for Service Trials

LIST OF RELATED PUBLICATIONS

AP Code No	Title
107D-0001-1	General information on aircraft oxygen equipment
108B-0001-1	Aircrew equipment assemblies, general information
108F-0001-1	List of aircrew clothing and associated equipment
108F-0001-5F(R)	Flying clothing and associated survival equipment
108F-0001-5F(N)	Flying clothing and associated survival equipment
108F-0002-12	Aircrew clothing and associated equipment
108F-0202-12	Helmets flying protective (one-piece), Mk 2 and 2A
108F-0203-12	Helmets flying protective (one-piece), Mk 3, 3A, 3B and 3C
108F-0204-12	Helmets, flying G.P. Type G and protective Mk 1A
▶ 108F-0205-12	Aircrew helmets, Mk 4 series ◀
108F-0904-12	Low and high pressure oxygen hose assemblies and P.E.C.
108T-0101-12	Flying clothing test cabinets, Mk 1 and Mk 4
116Z-0420-1	Microphones and telephones for aircrew helmets and masks
117L-0401-13D	Test sets, Types 376 and 376A
117L-0402-1	Avionics headset tester, S G Brown Type 21A/200/1 (6625-99-620-0369)
117L-0403-1	Test set, Headset (6625-99-529-8399) EDL Type 2835

MODIFICATION RECORD

The following record confirms that this publication incorporates all technical changes necessitated by the modifications listed below. Information on modification titles, classification categories and Mark applicabilities is given in Topic 2.

Mod No	Mask Type	Brief Details	Class
MO 116	P1B, P1B (Med) P2B P2B (Med), P4B, P4B (med), P6B P6B (Med), P7 P7 (Med) P7A, P7A (Med)	To introduce mechanical locking by peening over all screws (12 off) on toggle harness assemblies.	C/4
MO 205	Q1A, Q1A (med), Q2A Q2A (Med), Q4, Q4A (Med), Q6, Q6 (Med), Q7, Q7 (Med), Q7A Q7A (Med)	As for Mod MO 116	C/4
MO 121	P1, P1B (Med), P2B, P2B (med), P4B, P4B (Med)	Deletion of mounting plate assemblies Ref No 6D/3436 and 3437	D/4
MO 208	Q1A, Q1A (med), Q2A, Q2A (med) Q4, Q4 (med)	Deletion of mounting plate assemblies.	D/4
▶ MO 128	P2B, P2B (med), P8 series	Introduction of anti-suffocation valve. Masks so modified become P2C, P2C (med), P8C, P8C (med) P8AC and P8AC (med).	Refer to Topic 2 ◀
MO 211	Q1A, Q1A (med) Q2A, Q2A (med)	Introduction of anti-suffocation valve. Masks so modified become Q1C, Q1C (med), Q2C and Q2C (med) See Mod MO 214.	Refer to Topic 2
MO 212	Q8, Q8 (med), Q8A, Q8A (med)	(i) Introduction of anti-suffocation valve. (ii) Introduction of toggle harness assembly with stronger chain links. Masks so modified become Q8C, Q8C (med), Q8AC and Q8AC (med).	Refer to Topic 2
MO 133	P1B (med) P2C (med) P4B (med) P6B (med) P8C (med) P8AC (med)	Introduction of an improved material for the facepieces of 'medical' oxygen masks.	D/4

MODIFICATION RECORD (Continued)

Mod No	Mask Type	Brief Details	Class
MO 213	Q1C (med) Q2C (med) Q4 (med) Q6 (med) Q8C (med) Q8AC (med)	Introduction of an improved material for the facepieces of 'medical' oxygen masks.	D/4
MO 134	P and Q series	Introduction of stepped inspiratory valve, rubber, Part No 1848W014.	D/4
MO 136	P1C, P1C (med)	To introduce masks, Type P1B and P1B (med) in lieu and by conversion of masks, oxygen, Type P1C and P1C (med)	B/2
MO 214	Q1C, Q1C (med)	To introduce masks, oxygen Type Q1B and Q1B (med) in lieu and by conversion of masks oxygen, Type Q1C and Q1C (med)	B/2
MO 137	P8C Series	To introduce masks, oxygen Type P9 by conversion of masks oxygen Type P8 by the introduction of mask microphone lead assembly, Part No B 105573 in lieu of electrical cord assembly Part No WTB 119519/2.	S O O Refer to Topic 2
MO 215	Q8C Series	To introduce oxygen masks, Type Q9 by conversion of masks, oxygen, Type Q8 by the introduction of mask microphone lead assembly, Part No B 105573 in lieu of electrical cord assembly, Part No WTB 119519/2.	S O O
MO 143	P8 and Q8 Series P9 and Q9 Series	To introduce oxygen masks, Type P10 and Q10 Series by conversion of oxygen mask Type P8, Q8, P9 and Q9 Series.	
		Part A Cord, electrical assembly Part No WTB 119519/2 (P8 and Q8 Series) is replaced by microphone lead assembly, Part No A2/500303.	S O O
		Part B Mask microphone lead assembly, Part No B 105573 (P9 and Q9 Series) is replaced by microphone lead assembly, Part No A2/500303.	B/2

LIST OF RELATED PUBLICATIONS

(Completely revised)

AP Code No	Title
107D-0001-1	General information on aircraft oxygen equipment
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108F-0204-12	Helmets, flying G.P. Type G and protective Mk 1A
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117L-0402-1	Avionics headset tester, S G Brown, Type 21A/200/1 (6625-99-529-8399)

Aug 81 (Amdt 41)

Printed for HMSO by NGL, Yeovil. 8233481, 1948, 9/81, 555.

Chapter 1

GENERAL

(Completely revised)

CONTENTS

INTRODUCTION

1 In general, oxygen masks of the Types P and Q series (fig 1) are used with Mk 17, 20 and 21 series panel-mounted, demand oxygen regulators, and also with Types 120 and 517 seat-mounted demand oxygen regulators. The mask variants in the series provide for various aircraft installations and for different types of helmet. The variants in the Types P and Q series are listed in Chap 1-1.

2 Type P masks are standard size, whilst Type Q masks are for personnel having small features or other facial characteristics which render a Type P mask unsuitable.

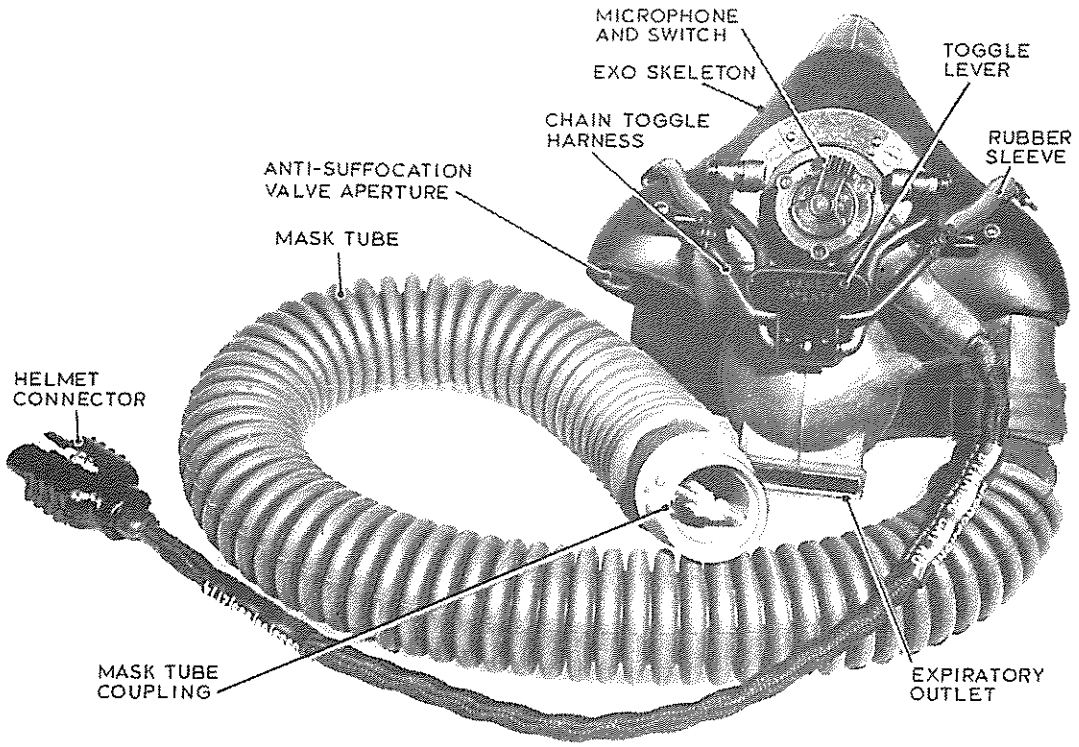


Fig 1 Typical oxygen mask of the Types P and Q series

3 Both types of mask are available with facepieces made either from a standard rubber mix or from silicone rubber to DTD 5614. Masks with facepieces made from silicone rubber are known as 'medical' (med) masks; the facepieces of these masks are either 'off white' or green and the masks are issued, on medical prescription, to personnel who tend to contract dermatitis after wearing masks with facepieces made from the standard rubber mix.

4 Types P6 and Q6 masks are worn with headsets, whilst all other masks of these series are worn with the appropriate helmet which must be correctly fitted and adjusted. Personnel are not permitted to undertake flights where these masks are required until they have been instructed in the method of use by the responsible medical authority. The limits of protection afforded by the masks when used with other pressure clothing and breathing equipment are given in AP 108B-0001-1.

Numerical suffix

5 The variants of Types P and Q masks are identified by a numerical suffix, for example, P1 and Q1, P2 and Q2. The full range of masks is detailed in Chap 1-1.

Letter suffix

6 In addition to the numerical suffix, the letter 'A' suffix is employed

to identify masks with a long mask tube, whilst the suffix 'C' identifies masks which incorporate an anti-suffocation valve.

DESCRIPTION

7 A mask consists of a facepiece which fits over the mouth and nose, but leaves the chin exposed. It is fitted with inspiratory and expiratory valves, a microphone and lead, mask tube or mask tube combined with Mic/Tel cables, and a chain toggle harness assembly. Forming a part of the chain toggle harness assembly is a fibreglass exo skeleton which is moulded to fit snugly to the face so that it exerts an even pressure over the facepiece. The harness is secured to the exo skeleton by spigoted set screws about which the yoke of the harness can rotate from the normal to the pressure breathing position. Apart from the difference in the size of facepiece and a difference in the exo skeleton, Type Q masks are identical to Type P.

8 The facepiece is moulded in soft rubber. It has a reflected edge so that rising pressure within the mask, bearing on the inturned edge, increases the efficiency of the face/mask seal. The valves and microphone are inserted into the facepiece, the inspiratory valve complete with an iceguard in the left cheek, the expiratory valve over the mouth and the microphone immediately above the expiratory valve. The anti-suffocation valve, when fitted, is on the side opposite to that of the inspiratory valve, the passage of air to the anti-suffocation valve being through a hole in the exo skeleton. On the outside of the facepiece, directly over the inspiratory valve, is the inlet connector to which the mask tube is fitted. A stiffening piece in the nose bridge enables the bridge to be shaped to fit the nose to assist in achieving the best face/mask seal.

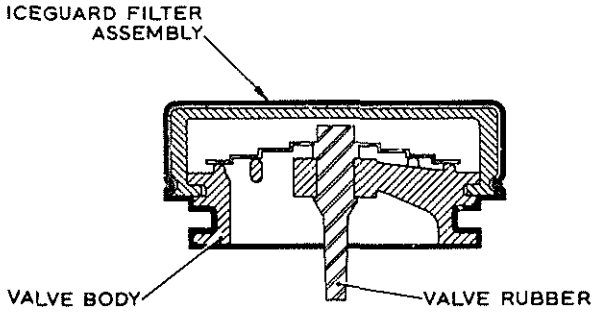


Fig 2 Inspiratory valve

Inspiratory valve (fig 2)

9 The inspiratory valve is a non-return valve consisting of a plastic moulding in which is inserted a mushroom-headed diaphragm; the diaphragm lifts as the wearer breathes in and permits oxygen to pass from the mask tube into the facepiece. The valve is protected by an iceguard in the form of a fine mesh filter.

Compensated expiratory valve (fig 3)

10 The expiratory valve is a compensated, non-return valve in which the mask tube pressure is applied to the underside of a diaphram through a compensation tube whilst the other side is subjected to ambient pressure. When air/oxygen mixture or pure oxygen is being supplied above ambient pressure, the compensating pressure, acting on the underside of the diaphragm, forces a piston against a valve plate and prevents it from lifting under the pressure within the mask. Under normal conditions, the piston is maintained in contact with the valve plate by a conical spring which is fitted between the piston and the valve body. When a heavy demand is made and the piston is drawn into the diaphragm chamber, the valve plate is kept on its seating by a second spring fitted between the piston and the valve plate. The valve plate lifts and allows the exhaled gases to pass through the expiratory duct when the pressure within the mask exceeds the compensating pressure and spring load combined. An orifice connects the compensation tube with the diaphragm chamber and eliminates

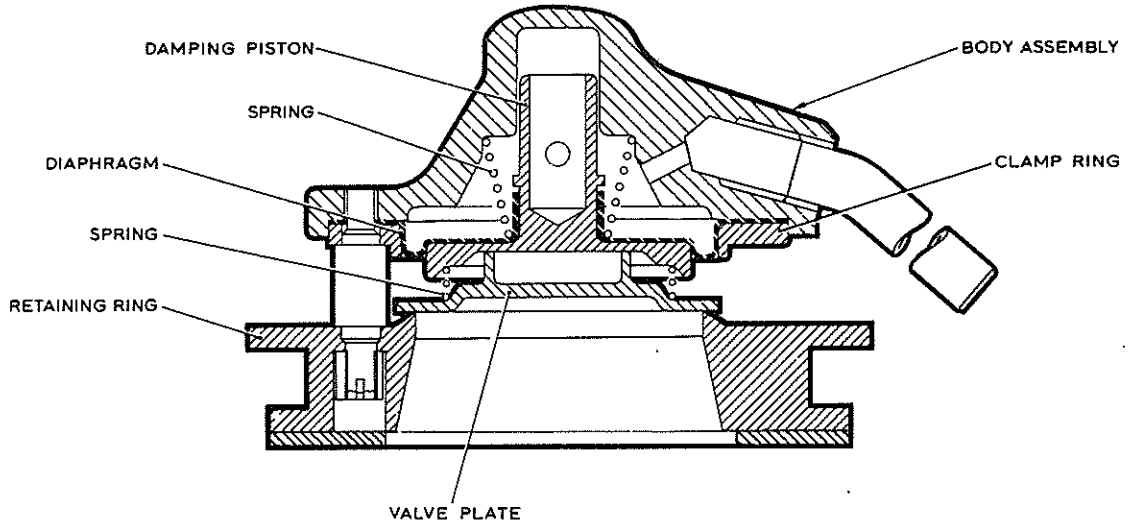


Fig 3 Compensated expiratory valve

transient instability. An alternative type of valve, Part No 1938W000 may be fitted to the mask as a direct replacement for the valve, Part No OP 5480 (fig 3). The two valves are identical in operation and the main components of the valve, Part No 1938W000 are moulded in a plastic material.

Anti-suffocation valve (fig 4)

11 Only those masks whose types include the suffix 'C' are fitted with an anti-suffocation valve. This valve must be incorporated in masks used with a personal hose assembly (AP 108F-0904-12) which incorporates a 'prop' valve in the man portion of the personal equipment connector (P.E.C.).

12 The 'prop' valve is a device which closes the oxygen entry of the personal hose assembly automatically when the hose assembly is detached from the seat; the wearer then breathes air through the mask anti-suffocation valve. Closure of the 'prop' valve prevents water entering the breathing hose, if following an ejection and separation from the seat, the personal hose assembly is immersed.

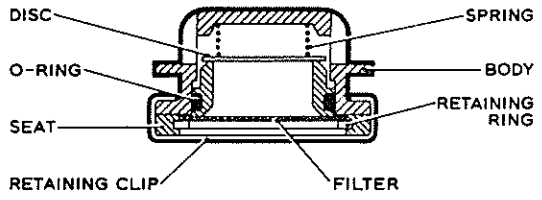


Fig 4 Anti-suffocation valve

13 The anti-suffocation valve is an inwards relief valve which lifts when the pressure within the mask falls to not less than 12.4 or more than 17.4 mbar (5 to 7 in wg) below the ambient pressure. The valve consists of a spring-loaded valve disc bearing against a valve seat which is secured to the valve body by a retaining clip. A filter gauze assembled to the inlet side of the valve is secured to the valve seat by a circlip.

Microphone

14 The miniature dynamic microphone (AP 116Z-0420-1) is located in a housing above the expiratory valve and is secured with wire. The wire is twisted tightly into a channel around the

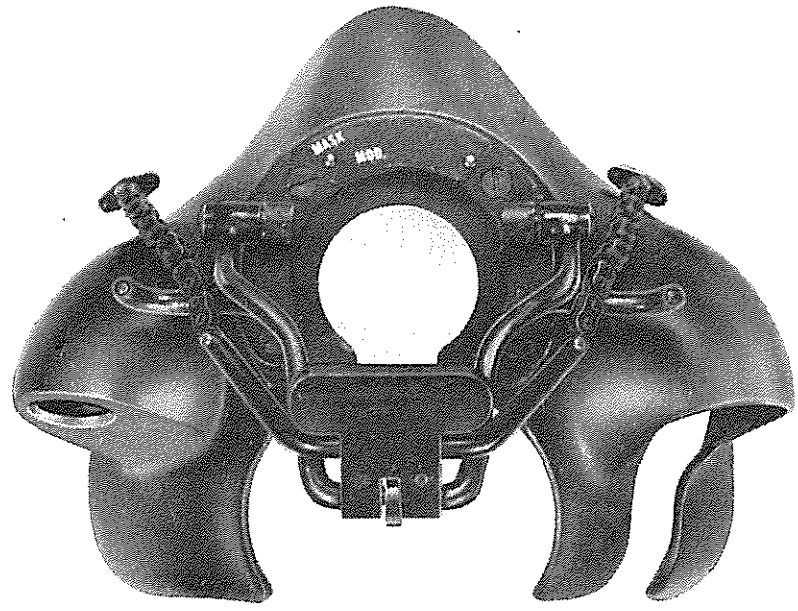


Fig 5 Chain toggle harness assembly

▶ exterior of the housing and is then covered with a rubber sleeve. An ◀ electrical cord assembly, connected to the microphone, terminates in a socket which connects with a plug on the helmet.

Chain toggle harness assembly (fig 5)

15 The chain toggle harness assembly comprises the exo skeleton, a fixing plate, and the components of the chain harness. Screws and nuts secure the fixing plate to the exo skeleton, whilst shoulder screws secure the chain harness to supports on the fixing plate. The chain harness consists of a toggle frame to which a yoke and chain assembly is attached through a toggle clamp and lever.

16 When the mask is fitted, the chains rest upon guides and each chain has a swivel link to prevent the chain twisting whilst being tensioned. The chains may be of the link type or the pin type (similar to a cycle chain). The pin type chains, having greater strength, are incorporated in masks specified for certain high-speed aircraft. To reduce wear, the guides are shrouded in nylon sleeves; in fig 5, the sleeves have been removed.

17 Triangular mounting plates (Ref No 6D/2242575 right hand and 6D/2242574 left hand) are required only if attachment has to be made to a Type G helmet.

FITTING AND ADJUSTING

Note...

The materials listed in Table 1 are necessary only if difficulty is experienced in obtaining a satisfactory face/mask seal (para 25)

TABLE 1 LIST OF MATERIALS

Nomenclature	NATO Ref No	Specification
Neoprene strip or Urethane foam (Neoprene preferred)	32C/4709985 32B/2203339	BS 2752-C2 BS 3379
Methyl-ethyl-ketone	33C/2203584	-
▶ Paper, abrasive, waterproof, 320 silcon carbide	33J/1293939	-
Compound, sealing, Silastic, RTV 731 or Compound, sealing, Silastic, RTV 732	33H/2246158 33H/2246527	AFS 601 APS 648
Adhesive EC 847	33H/2245286	AFS 518
Toluene	33C/2200760	BS 805/1 ◀

FITTING AND ADJUSTING

▶ 18 The importance of a well fitting mask cannot be over-emphasized. Oxygen systems depend for correct functioning on masks that do not leak and unless masks are carefully selected and fitted, they will almost invariably leak. A badly fitting mask is not only a danger to the individual, it may also involve others in accidents which could be avoided.

19 As well as the mask, the helmet must also be a good fit. It is a combination of a well-fitting helmet and mask that produces the best results, hence fitting in the RN must be supervised in accordance with AP 108F-0203-12, Chap 1, Para 3, whilst for the RAF, supervision must comply with the terms of AP 108B-0001-1, Chap 1. ◀

Fitting the mask to a protective helmet

20 The procedure for fitting the mask to the helmet (fig 6) is detailed in the relevant air publication in the AP 108F-0200 series.

Attaching a mask to a Type G helmet

21 In order to attach a mask to a Type G helmet, the triangular mounting plates (para 17) must be fitted to the helmet. The procedure for fitting the mounting plates to the helmet and then attaching the mask is as follows:

21.1 Remove the screws and washers from the triangular attachment plates.

21.2 Attach the appropriate plate to the lower trio of studs on each side of the helmet.

Fig 6 Mask suspended from a protective helmet

21.3 Secure the press studs at the apex of each plate to the helmet with the screw and nut.

21.4 Ensure that the left-hand mounting plate and chain are connected correctly. To attach the mounting plate to the chain harness, pass the PTFE retaining ring over the hook (chamfered end leading) until the ring is just clear of the curved part of the hook. Engage the hook in the swivel link and then lock the swivel link by sliding the retaining ring towards the thread.

21.5 Connect the microphone/helmet connector of the mask to the plug on the helmet. If high 'g' loads are anticipated, or if there is a tendency for the mask to slip when fitted to the lower trio of studs, the attachment should be made to the upper studs.

22 When a P4 or Q4 mask is being fitted, ensure that the appropriate helmet connector (Part No OP 4310) is fitted to the helmet. The procedure for fitting the helmet connector is detailed in AP 108F-0204-12. After the mask has been fitted to the helmet, remove the screw and nut from the mask telephone socket, discard the earthing clip and insert the helmet connector plug. Ensure that the assembly does not fall apart when the screw and nut are removed. Align the hole in the plug clip with that in the socket and secure it with the screw and nut.

Adjusting the harness

23 Before fitting the helmet and mask, unscrew the harness adjusters and ensure that the chains are free from tangles. Put on the helmet and allow the mask to rest on the chest (fig 6); the masks may be allowed to hang by one or both chains.

24 When about to adjust the chain harness, first connect the chains to the helmet, hold the toggle frame away from the facepiece and place the mask on the face. During this operation, the toggle must be in the upper position and the yoke must be pressed outward and downward to maintain tension in the chains (fig 7). This prevents mal-alignment of the links and assists in correct location of the chains on the hooks. Ensure that the chains are resting in the hooks, and then tighten both adjusters until a satisfactory pressure seal and comfortable fit are achieved. Adjust the contour of the nose piece stiffener until the upper portion of the mask conforms to the face.

Fig 7 Lifting the mask to the face

Fig 8 Harness adjusted

25 For normal use (low-pressure position), the toggle lever must point upwards (fig 8). For pressure breathing and in an emergency (high-pressure position) the lever must point downwards. The method of selecting this position is shown in fig 9. Moving the lever downwards increases the tension in the harness and causes the mask to be drawn tighter on to the face. When removing the mask, the toggle lever must be moved to the upright position before the toggle frame is pushed upwards.

Failure to achieve a satisfactory face/mask seal

26 Failure to achieve a satisfactory face/mask seal may be the result of:

26.1 Wearing the wrong size of helmet.

26.2 Incorrect adjustment of the neck strap of the helmet and/or harness.

26.3 Incorrect vertical adjustment.

27 In certain isolated instances, difficulty in obtaining a satisfactory seal can be due to the inability to achieve effective sealing between the wearer's nose and the nose piece stiffener of the mask. Before proceeding ▶ with the procedure detailed in para 28 (standard masks) or para 29 (medical ◀ masks), it must be ensured that the instructions for fitting the mask have been applied correctly.

Fig 9 Tightening the face/mask

Standard oxygen masks

28 The following procedure applies only to standard oxygen masks with non-medical facepieces. Under approved medical supervision:

28.1 Apply the face/mask seal leakage tests (para 30), and establish the extent of the leakage.

28.2 Locate a strip of Neoprene, 10 x 8 mm (3/8 x 0.30 in Ref No 32C/4709985) within the facepiece which forms the nose bridge. The length of Neoprene necessary can be determined by trial and error, but as a general guide, a length extending around the nose bridge should suffice for small leakages. A length which extends to the edge in contact with the cheeks, may be necessary if the leakage is appreciable.

Note...

Urethane foam cut to a thickness of approximately 10 mm (3/8 in), can be used, if necessary, as an alternative. Neoprene strip, however, is preferred.

28.3 Repeat Op 28.1 and 28.2 until a satisfactory face/mask seal is achieved.

28.4 Note carefully the location of the strip (if necessary, the inturned edge should be marked), then remove the strip.

28.5 Using the abrasive paper,abrade the surface to which the strip is to be bonded, then clean thoroughly using methyl-ethyl-ketone; allow to dry.

Note...

EC 847 adhesive (Op 28.6) is to be diluted with methyl-ethyl-ketone in accordance with the instructions contained in AP 107D-0001-1, Chap 2-2.

28.6 Lightly coat the mating surfaces of the strip and the interior of the mask edge with EC 847 and allow to 'touch dry'.

28.7 Locate the strip in the position previously determined and press down firmly.

28.8 Repeat the face/mask seal leak test (Op 28.1).

Note...

Should it be necessary to remove a strip from a facepiece, methyl-ethyl-ketone can be used as a solvent for the EC 847 adhesive.

▶ Medical masks

29

29.1 Proceed as detailed in para 28, Op 28.1 to 28.4. It should be noted, however, that Urethane foam is not an acceptable alternative for use with medical mask facepieces.

29.2 Using the abrasive paper, abrade the surface to which the strip is to be bonded, then using toluene, thoroughly clean the area. Allow approx 15 min for all traces of the solvent to evaporate.

29.3 Apply the sealing compound to one of the surfaces to be bonded; the compound is to be applied as a uniform film approximately 0.5 mm (0.020 in) in thickness.

29.3 Place the bonding surfaces together and apply sufficient pressure to remove any entrapped air by ensuring that a sufficient thickness of sealing compound is retained in the joint. Best results are obtained when the film of sealing compound in the joint is 0.4 mm (0.015 in) thick. ◀

CAUTION...

Ensure that, during the curing time (sub-para 29.4), the Neoprene strip is correctly positioned; once the curing process is complete the strip cannot be removed from the mask facepiece.

29.4 Allow the components to stand for a minimum of 24 h at room temperature. Full bond strength is achieved after 72 h.

30 If a Type P mask cannot be adjusted to hold the specified pressures, the altitude at which the wearer is permitted to fly should be restricted until a suitable Type Q mask is available.

Testing the face/mask seal

31 The correct fitting of the mask is essential if the maximum benefit is to be obtained in an emergency. The face/mask seal is, therefore, to be tested using the universal test cabinet, Mk 1 or Mk 4 during initial fitting; the procedure is detailed in AP 108T-0101-12.

32 When the equipment is correctly adjusted, some discomfort may be experienced if there is a sudden reduction in cabin pressure. To relieve the pressure, short, sharp breaths may be taken or a finger may be inserted between the face and the mask. In normal climbing conditions, the rate of change of pressure is gradual enough for the effect on mask pressure to be tolerable.

Chapter 1-1

OXYGEN MASKS, TYPES P AND Q - VARIANTS

Introduction

1 Variants of masks in the Types P and Q series are indicated by a numerical suffix; in addition, a letter suffix is used to identify masks having a particular feature. The masks are listed in Table 1.

2 Early masks in this series were given the suffix letter 'A' when the chain harness was introduced and subsequently, the suffix 'B' was used for Type P masks when fitted with the miniature dynamic microphone. Since all masks in the series have the chain harness and the miniature dynamic microphone, the suffix letters for these purposes are being discontinued.

3 In the current series of Types P and Q oxygen masks, only the suffix letters 'A' and 'C' are used: the significance of these letters is now as follows:

3.1 Suffix 'A' identifies oxygen masks having a long mask tube (approximately 40 cm (16 in) long); for example, P8A.

3.2 Suffix 'C' is added when the mask incorporates an anti-suffocation valve; for example, P2C.

3.3 Oxygen masks having the long mask tube and an anti-suffocation valve have both suffix letters; for example, P8AC.

P1 and Q1 masks (fig 1 and 2)

4 These masks are used in positions at which there is no personal equipment connector (P.E.C.). They are fitted with Type M.C3/A1 inlet warning

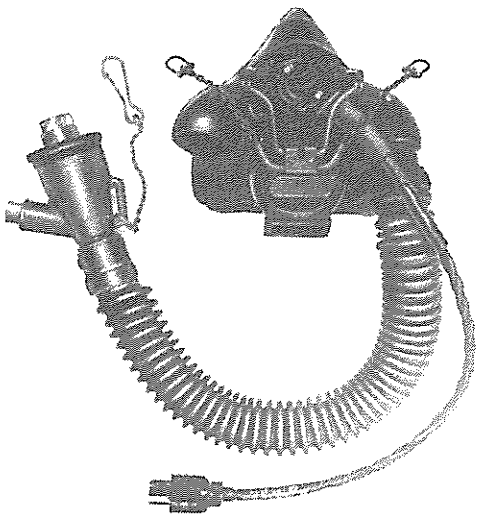


Fig 1 Oxygen mask, Type P1

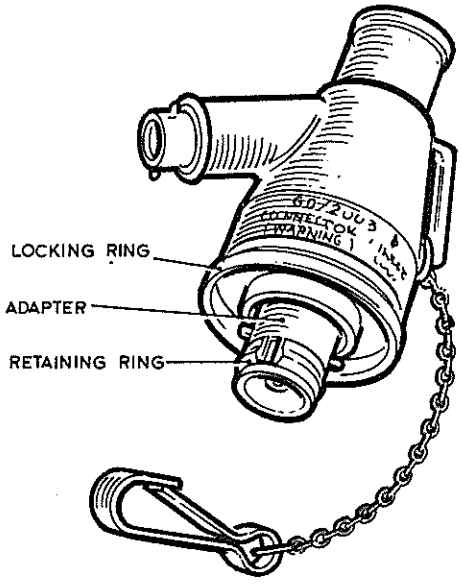


Fig 2 Inlet warning connector

connectors (Ref No 6D/2244055) which enable the mask tubes to be connected to either the main aircraft oxygen supply or a walk-around oxygen set, Mk 4.

P2 and Q2 masks

5 These masks differ from the P1 and Q1 in that the mask tube is fitted with a bayonet union plug, Mk 7 (Ref No 6D/2053). The masks are normally used in certain transport aircraft and, where the aircraft carry walk-around sets, Mk 4, an adapter (Ref No 6D/2244072) is available to enable the mask tube plug to be connected to the socket of the walk-around set.

P4 and Q4 masks

6 P4 and Q4 masks are for use in aircraft fitted with combined oxygen and Mic/Tel systems (AP 108B-0001-1). The mask tube coupling connects with the oxygen and Mic/Tel services so that communication cannot be established until the oxygen mask tube is connected to the low-pressure delivery system. These masks may be used only with protective helmets fitted with a special purpose branch cable assembly (AP 108F-0202/0203-6) or with Type G helmets fitted with a special helmet connector (AP 108F-0204-1).

P6 and Q6 masks

7 These masks are similar to the P2 and Q2 masks. The chain harness incorporates turnbuckle adjusters in the chains and these terminate in rings suitable for connection to the hooks provided on a headset, Airmed Type 5385.

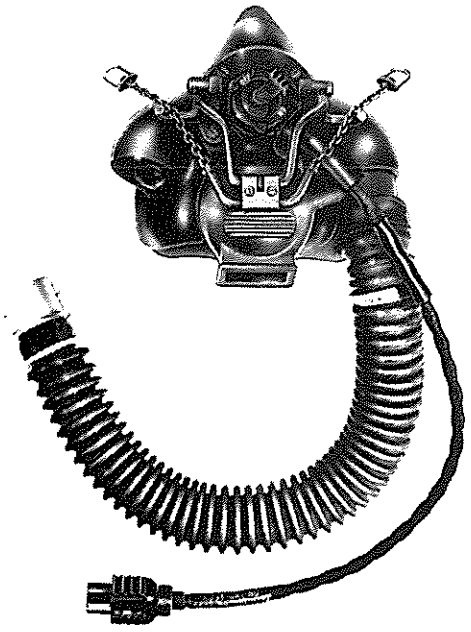


Fig 3 Oxygen mask, Type P2C

P2C and Q2C masks (fig 3)

8 P2C and Q2C masks are used with a P.E.C. and either with, or without, a pressure jerkin as appropriate. They are fitted with the Mk 7 bayonet union plug (Ref No 6D/2053).

P8C and Q8C series masks

9 These masks (Chap 1, fig 1) are specified for use in certain high-speed aircraft in which aircraft-mounted oxygen regulators are fitted. The masks differ from their P2C and Q2C counterparts in that they are fitted with a pin-type chain harness, an angled mask tube connector and a straining cord. The cord passes through the mask tube and extends from the bayonet pin of the Mk 7 plug to a ring located in the inlet connector. The stronger chain harness and the straining cord cater for the greater loads imposed upon the mask attachments and the hose when ejection is necessary at high speed. To prevent the chains kinking, a rubber sleeve is located centrally over each chain, the sleeves are to be fitted by the user-unit prior to issuing the mask to the aircrew member and the fitting instructions for the sleeves are detailed in Chap 2 or 2-1 as appropriate. Masks in this series are available with the longer mask tube and these are designated P8AC and Q8AC.

P9C and Q9C series masks

10 The P9C and Q9C series masks are derived from the P8C and Q8C series and were introduced by modifications MO 137 and MO 215. These modifications introduced a mask microphone lead assembly (Part No B 105573) so that the masks can be used with the Mk 4 helmet.

P10C and Q10C series masks

11 These masks were introduced by Mod MO 143 which converts Type P8, Q8, P9 and Q9 series masks by the introduction of the mask microphone lead assembly (switch type), Part No A2/500303. This lead assembly is necessary to make connection with the plocket in the headset assembly of Mk 4 and 4A helmets incorporating helmet Mod RFC 13.

▶ 12 Additional masks were added to the P10C and Q10C series by the introduction of Mod MO 151 which was classified S00 for Service trials. The modification introduces masks, Type P10CL, P10ACL, Q10CL and Q10ACL by the incorporation of a chain toggle harness assembly having lengthened chains. The lengthened chains ensure a satisfactory face/mask seal when the mask is issued to an aircrew member who has an above-average head size. ◀

TABLE 1 OXYGEN MASKS, TYPES P AND Q

Type	Part No	Ref No	Type	Part No	Ref No
P1	0P7670	6D/2244087	Q1	2027W000	6D/2244069
P1 (med)	0P7680	6D/2243465	Q1 (med)	2028W000	6D/2244858
P2	0P7690	6D/2243706	Q2	2031W000	6D/2244068
P2 (med)	0P7700	6D/2243464	Q2 (med)	2032W000	6D/2244859
P2C	1720W000	6D/2246335	Q2C	2033W000	6D/2246362
P2C (med)	1721W000	6D/2246336	Q2C (med)	2034W000	6D/2246363
P4	0P7710	6D/2244088	Q4	2035W000	6D/2244078
P4 (med)	0P7720	6D/2243478	Q4 (med)	2036W000	6D/2244863
P6	0P7730	6D/2243707	Q6	2073W000	6D/2243702
P6 (med)	0P7740	6D/2243477	Q6 (med)	2038W000	6D/2244918
P8C	1724W000	6D/2246337	Q8C	2039W000	6D/2246364
P8C (med)	1725W000	6D/2246338	Q8C (med)	2040W000	6D/2246365
P8AC	1726W000	6D/2246339	Q8AC	2041W000	6D/2246366
P8AC (med)	1727W000	6D/2246340	Q8AC (med)	2042W000	6D/2246367
P9C	1895W000	6D/2250300	Q9C	2043W000	6D/2250304
P9C (med)	1896W000	6D/2250301	Q9C (med)	2044W000	6D/2250305
P9AC	1897W000	6D/2250302	Q9AC	2045W000	6D/2250465
P9AC (med)	1898W000	6D/2250303	Q9AC (med)	2046W000	6D/2250466

(Continued)

TABLE 1 OXYGEN MASKS, TYPES P AND Q (Continued)

Type	Part No	Ref No	Type	Part No	Ref No
P10C	2014W000	6D/2252549	Q10C	2018W000	6D/2252553
P10C (med)	2015W000	6D/2252550	Q10C (med)	2019W000	6D/2252554
P10AC	2016W000	6D/2252551	Q10AC	2020W000	6D/2252555
P10AC (med)	2017W000	6D/2252552	Q10AC (med)	2021W000	6D/2252556
▶ P10CL	2248W000	6D/4895	Q10CL	2252W000	6D/4899
P10CL (med)	2249W000	6D/4896	Q10CL (med)	2253W000	6D/4900
P10ACL	2250W000	6D/4897	Q10ACL	2254W000	6D/4901
P10ACL(med)	2251W000	6D/4898	Q10ACL(med)	2255W000	6D/4902 ◀

MINISTRY OF DEFENCE
April 1988

AP108F-0902-123A
(Formerly AP108F-0902-12)

OXYGEN MASKS, TYPES P AND Q
(NORMALAIR-GARRETT LIMITED)

ADVANCE INFORMATION LEAFLET NUMBER 1/88

Insert this leaflet in the Topic 1 to face Chapter 2 page 1 (ROYAL AIR FORCE) or Chapter 2-1 Page 1 (ROYAL NAVY)

HARNESS TOGGLE CHAIN
MASK TYPES P1 TO P6 AND Q1 to Q6 INCLUSIVE

1. Chain, Loop Link used in the manufacture of the subject assembly has been superseded by Chain, Perry Pin which is an authorised alternative item.

2. Harness Toggle Assemblies will continue to be supplied under existing Nato Stock Numbers, but either chain type may be found fitted.

3. If the Perry Pin Chain is found fitted, it will be necessary to fit a protective rubber sleeve (6D/2253485) to each chain before use. This may be achieved in service in accordance with Paragraph 4 of this leaflet.

Fitment of Rubber Sleeve

4. Apply a thin film of grease, fluorinated Fomblin OT20 (NSN9150-99-761-5671) to each chain assembly and, using a suitable 'Hellermann' sleeve fitting tool fit a sleeve (6D/2253485) to each chain; the sleeves are to be positioned centrally on the chains. Remove any surplus grease.

Servicing

5. Perry Pin Chain Assembly (i) Service in accordance with Chapter 2 Paragraph 21 (Royal Air Force), and Chapter 2-1 Paragraphs 4 and 5 (Royal Navy).

NOTES: 1. The information contained in this leaflet will be incorporated by normal amendment action in due course.

2. If, after receipt of this leaflet, an amendment with a prior date and conflicting information is received, the information in the leaflet is to take precedence.

PSDB/WP/AC/SH/122/2446

Chapter 2

MAINTENANCE

(ROYAL AIR FORCE)

(Completely revised)

CONTENTS

Trade S.E.FITT

SUPPLEMENTARY SERVICING SHEET

OXYGEN MASKS, TYPES P AND Q

Item No	Item	Operation	Applicability

Safety and servicing notes

(1) Safety and servicing notes, the Supplementary Servicing Sheet and other general safety/servicing requirements appropriate to this equipment or the main equipment are to be complied with, where relevant, throughout the work detailed in this chapter.

(2) AP 108F-0001-5F(R) is to be complied with throughout the work detailed in this chapter.

(3) After each mask cleaning operation, the bowl and sable brush are to be washed in a 1 to 30 solution of chlorhexidine gluconate and distilled water.

WARNINGS...

(1) MANY MATERIALS, PARTICULARLY OIL AND GREASE, ARE SUBJECT TO SPONTANEOUS COMBUSTION WHEN EXPOSED TO UNDILUTED OXYGEN UNDER PRESSURE. PRECAUTIONS MUST BE TAKEN, THEREFORE, TO EXCLUDE OIL, GREASE DUST AND METAL PARTICLES FROM THE EQUIPMENT.

(2) CLEANING OF OXYGEN MASKS MUST BE DONE STRICTLY IN ACCORDANCE WITH THE INSTRUCTIONS CONTAINED IN AP 108F-0001-5F(R).

(3) CHLORHEXIDINE GLUCONATE SOLUTION MUST NOT COME INTO CONTACT WITH THE MASK FACEPIECE OR VALVES.

CAUTION...

When securing components by means of thread binding, the standard whipping procedure must be employed. When whipping, it is particularly important to maintain the maximum tension in the thread to make the whipping as tight as possible. The number of turns, treatment and load test, where applicable, are specified in the assembling instructions.

TABLE 1 LIST OF SPECIAL TOOLS AND EQUIPMENT

Nomenclature	Ref No
Brush, camel hair, No 3	1A/9430436
Brush, sable, No 3	1A/9430444
Scales, tubular spring, 0 to 34 lbf	1A/1275138
Socket, Q-R, Mk 9 (Required only for masks, Types P1 and Q1)	6D/2243622
Presser tool complete with insert and guide (fig 1)	Local manufacture
Test cabinet, Mk 4 or Test cabinet, Mk 1	4C/4146 4C/4430473
Bowl, polypropylene, 15 cm (Required for distilled water (Table 2))	6530-99-2107954

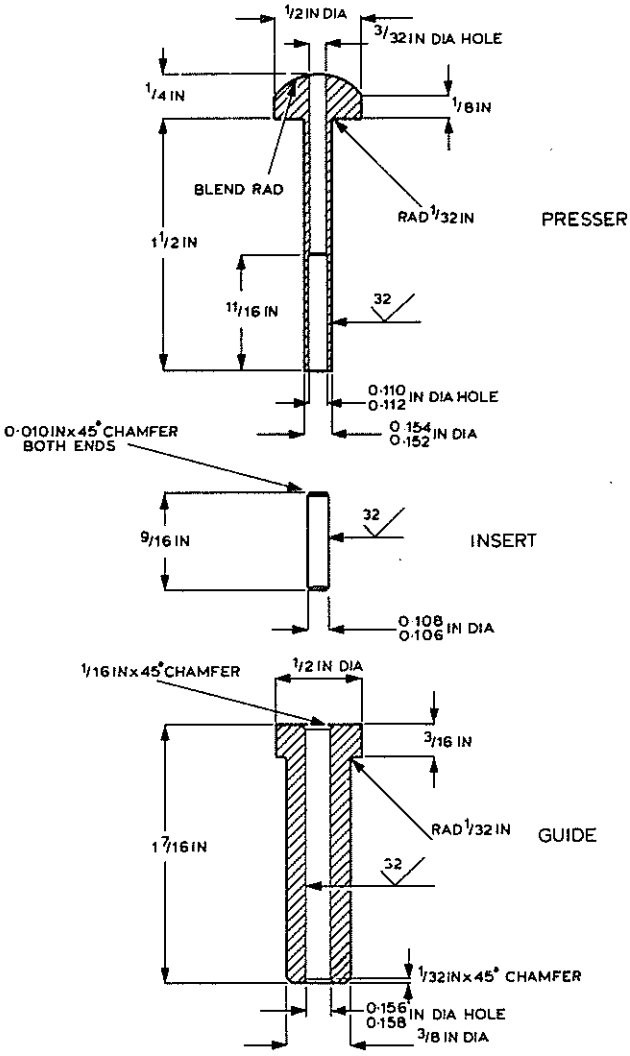


Fig 1 Nylon sleeve presser tool

TABLE 2 LIST OF MATERIALS

Nomenclature	NATO Ref No	Specification
Wire, insulated, enamel, 20 swg	5E/9102391	-
or		
Wire, locking, 20 swg	30A/9140209	DTD 189A
Thread, linen, No 12	32B/1250521	BS5F/34
Paper, absorbent	32B/4663253	TS 409
Varnish, insulating	33B/9433454	DEF 32A
Water, distilled	33C/2244963	-
▶ Trichloroethane	33D/2203782	- ◀
Loctite No 221	33H/2248428	-
Grease, XG-315	34B/2204466	-
Chlorhexidine gluconate	6505-99-2108199	-

(continued)

TABLE 2 LIST OF MATERIALS (continued)

Nomenclature	NATO Ref No	Specification
Wire, locking, 26 swg*	30A/9606750	DTD 189A
Tape, PVC, self-adhesive*	32B/9152131	-
Flux*	33C/9424968	DTD 599A
Solder*	-	BS 441
▶ Sleeve	6D/5131	TH 30 ◀
Thread, linen, No 35*	32B/1250524	BS5F/34

Note...

Materials indicated by an asterisk are required only for Types P4 and Q4 masks

ROUTINE BAY SERVICING

STAGE 1 SERVICING (ALFD)

Preparation

1	Safety and Servicing notes	Read

Examination

2	Facepiece	(i) Clean, using absorbent paper moistened with warm distilled water. (ii) Allow to dry naturally. (iii) Examine for deterioration and surface crazing, particularly in vicinity of fitted components.
3	Mask tube assembly	Examine for deterioration and damage, and for insecurity at facepiece and mask tube connector.
4A	Mask tube plug (all masks except P1 and Q1)	Examine for damage.
4B	Inlet warning connector (P1 and Q1 masks only)	(1) Examine for damage. (ii) Depress and release valve plate several times, using plunger arms projecting from

			side; valve should operate freely.
		(iii)	Using hand pressure, verify that adapter (Chap 1-1, fig 2) cannot be unscrewed from body. If only locking ring rotates, connector is serviceable.
5	Toggle harness assembly		
	5.1 Toggle lever		Examine.
	5.2 Toggle frame		Examine and particularly for insecurity of shoulder screws (para 27).
	5.3 Nylon sleeves		Examine and replace as necessary (para 29).

CAUTION...

After completing any necessary riveting (Item 5.4, Op (iii)) ensure that rotary movement of link is not adversely affected.

	5.4 Chain harness (pin link chains only) (SI/SURVIVAL EQUIPMENT (FLYING CLOTHING)/112)	(i)	Peel back rubber sleeves.
		(ii)	Examine each chain rivet, and end rivets attaching chain to yoke and swivel links.
		(iii)	Suspect chain links are to be locked, using a small chisel and spreading end of rivet by formation of a central V-notch. Chain is to be supported, rivet head downwards, on a flat surface. End rivets to be secured in accordance with standard workshop practice.
		(iv)	Examine rubber sleeves and replace as necessary (para 28).
	5.5 Chain harness (plain link chains only)		Examine for worn and damaged links. Do not attempt to reshape links. The complete assembly must be replaced.
▶	5.6 Chain adjusters (P6 and Q6 masks only)	(i)	Operate. There should be no stiffness. ◀

		(ii)	Unscrew each eyebolt assembly to full extent. Using firm, but not excessive finger-pressure, attempt to further unscrew eyebolt assembly; stop arrangement should retain eyebolt in knurled adjuster.
	5.7 Mounting plates (Type G helmet only)	(i)	Ensure that mask is attached to left side of helmet and that locking ring is present.
		(ii)	Ensure that plates are secure.
6	Inspiratory valve		
	6.1 Ice guard filter	Remove, clean and examine (para 31).	
	6.2 Valve	(i)	Examine.
		(ii)	Ensure correct alignment (fig 4)
	6.3 Ice guard filter	Refit (para 32)	
7	Expiratory valve	(i)	Clean, using distilled water and sable brush.
		(ii)	Allow to dry naturally.
		(iii)	Depress valve diaphragm and ensure that it returns correctly under spring pressure.
8	Anti-suffocation valve (PC and QC series masks)	(i)	Clean gauze, as necessary, using dry sable brush.
		(ii)	Examine.
9	Microphone and lead assembly	Examine.	

Testing

10 Nil

Completion

11 Documentation — Complete

STAGE 2 SERVICING 15 WKLY BAY SERVICING

Preparation

12	Safety and Servicing Notes		Read

Dismantling

13			
	13.1	Ice guard filter	Remove. Refer to relevant para under Repair.
	13.2	Inspiratory valve	
	13.3	Anti-suffocation valve (if fitted)	
	13.4	Expiratory valve	
	13.5	Rubber sleeves (pin link chain harness only)	

Examination

14	Facepiece	(i)	Clean interior using absorbent paper moistened with warm distilled water.
		(ii)	Allow to dry naturally.
		(iii)	Examine and particularly in vicinity of component attachment holes and nose bridge piece.
15	Ice guard filter	Clean and examine (para 31).	
16	Inspiratory valve		
	16.1 Body	(i)	Clean, using sable brush.
		(ii)	Examine.
	16.2 Valve rubber	(i)	Clean, using absorbent paper moistened with warm distilled water.
		(ii)	Allow to dry naturally.
		(iii)	Examine.
17	Expiratory valve		
	17.1 Mating surfaces of valve plate and seating	(i)	Clean, using distilled water and sable brush.
		(ii)	Dry, using clean dry air or oxygen at moderate pressure.

	17.2 Valve plate	Depress, and ensure freedom from foreign matter and smooth operation.
	17.3 Assembly	Test (para 38).
	17.4 Compensation tube	Examine and particularly for insecurity in body. Tube is screwed and locked with Araldite.
▶	17.5 Bar (centre) 17.6 Nameplate	Examine ◀
18	Anti-suffocation valve (PC and QC series masks)	Remove circlip and filter, and discard circlip.
	18.1 Valve disc	(i) Clean, using camel hair brush and distilled water. (ii) Allow to dry naturally. (iii) Depress and ensure freedom from foreign matter.
	18.2 Filter	(i) Clean, using air or oxygen at moderate pressure. (ii) Examine. (iii) Refit using new circlip.
▶ 19	Mask tube	Examine and particularly at facepiece and mask tube attachments. ◀
20A	Mask tube plug (all masks except Types P1 and Q1)	Examine, paying particular attention to locking pins.

▶ 20B	Inlet warning connector (Types P1 and Q1 masks only)	(i)	Examine. ◀
		(ii)	Depress and release valve plate several times, using plunger arms projecting from side; valve should operate freely.
		(iii)	Using hand pressure, verify that adapter (Chap 1-1, fig 2) cannot be unscrewed from body. If only locking ring rotates, connector is serviceable.
		(iv)	Apply disconnect load test (Chap 3).
21	Chain harness assembly		
▶	21.1 Exo skeleton	Examine and particularly nuts and screws.	
	21.2 Toggle frame	Examine. If a shoulder screw is loose, refer to para 27.	
	21.3 Toggle lever	Examine.	
	21.4 Nylon sleeves	Examine and replace as necessary (para 29).	
	21.5 Yoke and chain assembly (all masks)	(i)	Examine links. ◀
		Note... Damaged links must not be restored to shape; the assembly must be replaced.	
		(ii)	Connect spring balance to each chain, in turn and, with arm straight, apply load of 111N (25 lbf). Maintain load for 10 s.
▶		(iii)	Repeat Op (i). ◀

		(iv)	Examine attachment to yoke, and to adjusters or hook plates.

CAUTION...

After completing any necessary riveting (Item 21.6, Op (ii), ensure that rotary movement of links is not adversely affected.

21.6	Chain harness (pin link chains only) (SI/SURVIVAL EQUIPMENT (FLYING CLOTHING)/112)	(i)	Examine each chain rivet, and end rivets attaching chain to yoke and swivel links.
		(ii)	Suspect chain links are to be locked, using a small chisel and spreading end of rivet by formation of a central V-notch. Chain is to be supported, rivet head downwards, on a flat surface. End rivets to be secured in accordance with standard workshop practice.
		(iii)	Lubricate lightly with grease, XG-315.
		(iv)	Replace rubber sleeves (para 28).
▶ 21.7	Chain adjusters (P6 and Q6 masks only)	(i)	Operate. There should be no stiffness.
		(ii)	Unscrew each eyebolt assembly to full extent. Using firm, but not excessive finger-pressure, attempt to further unscrew eyebolt assembly; stop arrangement should retain eyebolt in knurled adjuster. ◀
22	Microphone assembly		
22.1	Cable	Examine	
22.2	Switch	(i)	Examine, paying particular attention to switch stops.
		(ii)	Operate. Movement should be smooth with full travel.

22.3	Plug	(i) Examine. (ii) Ensure correct connection with helmet socket.

Assembling

23		
	23.1 Expiratory valve 23.2 Anti-suffocation valve 23.3 Inspiratory valve 23.4 Ice guard filter	Refit. Refer to relevant para under Repair.

Testing

24	Oxygen mask	Apply the tests detailed in Chap 3.

Completion

25	Documentation	Complete.

REPAIR

26 All components of Types P and Q oxygen masks can be replaced.

CAUTION...

Type MC3/A1 inlet warning connectors and Mk 7 bayonet union plugs must not be interchanged; the diameters of these connectors are different and interchanging them would cause a permanent set in the hose and prevent a gas-tight joint being achieved.

CHAIN TOGGLE HARNESS ASSEMBLY

Loose toggle harness shoulder screws

27 Originally the shoulder screws were locked with Loctite. Peening was introduced on Type P masks by Mod MO 116 and on Type Q series masks by Mod MO 205. These modifications are incorporated in the basic build standard of Types P8 and Q8 series masks and all subsequent series. If a loose screw is found on an unmodified mask, the screw is to be removed, brushed and wiped clean. It is then to be treated with Loctite Grade 221 and refitted; the curing time is 4 h at normal room temperature.

Replacing rubber sleeves (pin link chain harness only)

▶ 28 A suitable hellermann sleeve fitting tool should be used to stretch the sleeves (Ref No 6D/5131) over the U-shackle ends of the chains. Ensure that the sleeves are located centrally. ◀

Replacement of nylon sleeves (fig 2)

29 Should it be necessary to replace the nylon sleeves on the chain guides of the toggle frame assembly, the locally manufactured tool (fig 1) will be required; the procedure is as follows:

29.1 Carefully cut away the worn sleeve from the chain guide.

29.2 Ensure that all traces of the old sleeve are removed, and that

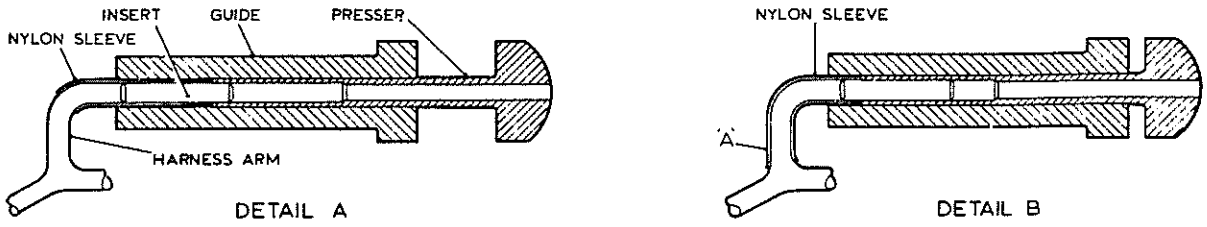


Fig 2 Replacing a nylon sleeve

the guide is clean and free from burrs.

29.3 Dip one end of a new sleeve (Ref No 6D/2772) in grease, XG-315 so that the inner bore contains approx 1 to 2 mm layer of grease. Remove excess grease from the outer surface.

29.4 Manipulate the greased end of the new sleeve over the end of the chain guide and apply an axial load until the sleeve is approx 5 mm over the guide. Ensure that the sleeve is neither bent nor kinked during this operation.

29.5 Press the insert (fig 1) into the nylon sleeve until it touches the guide; the insert tool should now project approx approx 3 mm from the sleeve. Ensure that the sleeve is neither bent nor kinked during this operation.

29.6 Place the guide tool over the nylon sleeve and assemble the pressure tool as shown in fig 2, Detail A; this should automatically locate the insert tool. Ensure that the guide tool does not clamp the sleeve in the corner of the chain guide.

29.7 Operate the presser so that the sleeve slides freely over the chain guide and rests in a position just over the radius (fig 2, Detail B). It may be necessary to apply intermittent loads, easing the guide tool back, during the load application.

29.8 Clean the assembly using trichloroethane and examine the sleeve for kinking and wrinkling.

29.9 Trim the sleeve back to the full diameter of the chain guide.

ICE GUARD FILTER

Removing

30 Rotate the filter until the arrow is in line with the locating

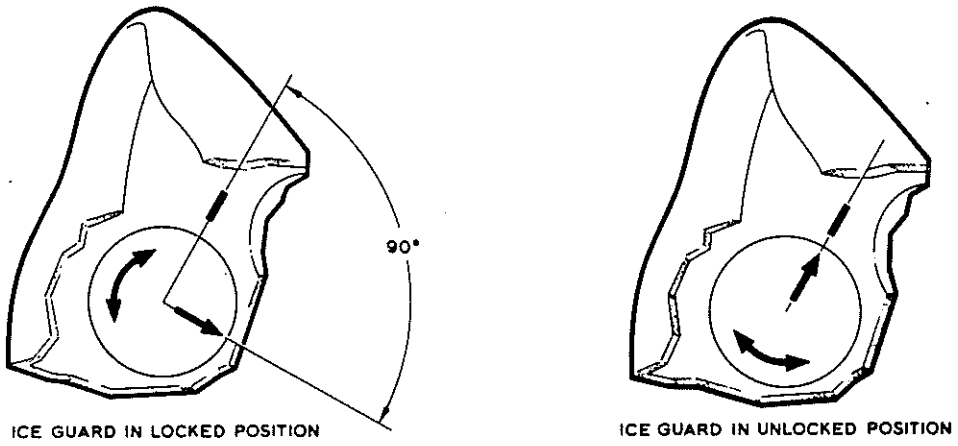


Fig 3 Ice guard filter - locked and unlocked positions

mark on the facepiece and then withdraw the filter.

Cleaning

31 Apply a jet of clean, dry air at moderate pressure to remove any foreign matter and examine before refitting.

Refitting

32

32.1 Align the arrow on the filter with the mark on the facepiece.

32.2 Apply light pressure to the filter and turn clockwise through 90°.

32.3 Ensure that both lugs are engaged with the slots. When the filter is fitted correctly, the arrow on the filter body points towards the expiratory valve.

INSPIRATORY VALVE ASSEMBLY

Removing

33 Remove the ice guard filter (para 30), then ease the valve assembly from the flange which secures it in position and lift it out.

Cleaning

34 Examine the valve rubber for deterioration. If serviceable, clean with absorbent paper moistened with distilled water. Ensure that all traces of foreign matter are removed. The presence of foreign matter will cause leakage back through the inspiratory valve; during exhalation, this will prevent the pressure in the mask facepiece rising above that in the mask tube, and the expiratory valve will not open. The importance of thorough cleaning, therefore, cannot be over-emphasized.

Note...

▶ All components of the valve are repairable by replacement. When fitting a new valve rubber, ensure that the head of the valve lies flat against its seating and that the stem of the rubber is secure in the valve body as shown in Chap 1, fig 2; the valve rubber is delicate and is to be handled with care. ◀

Refitting (fig 4)

35

35.1 Refit the inspiratory valve so that the lug slots are at right angles to the mark on the facepiece.

35.2 Refit the ice guard filter (para 32).

35.3 Apply the leakage tests detailed in Chap 3.

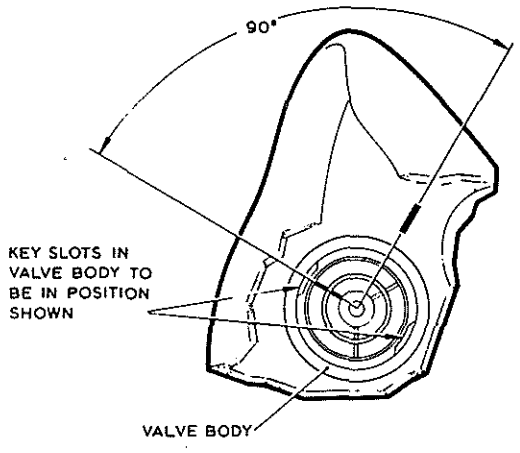


Fig 4 Positioning the inspiratory valve

EXPIRATORY VALVE

Removing

36

36.1 Press on the outside of the expiratory chamber so that the valve can be eased out.

36.2 Gently withdraw the compensation tube from the connecting passage, supporting the passage with the thumb to prevent bending the tube.

36.3 Lift the valve clear.

Cleaning

37

37.1 Clean the mating surfaces of the valve plate and seating with the sable brush dampened with distilled water.

37.2 Dry the treated areas with clean, dry air or oxygen at moderate pressure.

37.3 Depress the valve plate and ensure that the valve is free from foreign matter.

Testing

38

38.1 Depress the valve plate, then seal the end of the compensation tube with a finger.

38.2 Release the valve plate. The damping piston should not return until the compensation tube is unblanked. The sleeve of the damping piston is visible from the side of the assembly.

38.3 Unblank the compensation tube. The sleeve of the damping piston should protrude approx half the distance between the clamp ring and the valve plate.

Note...

The assembly is to be rejected if the sleeve returns before the tube is unblanked or if the sleeve fails to return fully after the tube is unblanked.

Refitting

39 Press the valve into position, avoiding bending the tube or puncturing the rubber passage, at the same time kneading the mask moulding into the flange. After the valve has been inserted, there must be no distortion of the rectangular opening at the bottom of the mask. Test the mask for leakage through the expiratory valve as detailed in Chap 3.

ANTI-SUFFOCATION VALVE

Removing

40 Ease the facepiece away from the exo skeleton and press the valve assembly outwards from the inside of the mask.

Cleaning

41

41.1 Remove the circlip and filter from the valve assembly. Discard the circlip.

41.2 Move the valve disc off the valve seat, and clean the disc and seat using the camel hair brush and distilled water. Dry the parts thoroughly.

41.3 Clean the filter in a jet of clean, dry air or oxygen at moderate pressure.

41.4 Refit the filter and secure with a new circlip.

Refitting

42 Fit the assembly from the outer side of the facepiece, locating the assembly such that its flanges are on either side of the facepiece and so that the facepiece biases the assembly away from the user's face. Test the valve as detailed in Chap 3.

MASK TUBE - MASKS OTHER THAN TYPES P4 AND Q4

Removing

Note...

Sub-para 43.1 is applicable only to those masks having a straining cord passing through the mask tube. Refer to Chap 1-1 for details of variants.

43

43.1 Remove the straining cord as follows:

43.1.1 Remove the inspiratory valve (para 33).

43.1.2 Collapse the mask tube and withdraw the straining cord ring from the inner side of the facepiece.

43.1.3 Loosen the cord looped round the centre bar of the ring until the loop can be passed over the ring, then separate the ring and the cord.

43.1.4 Draw the cord through the mask tube, loosen the loop on the bayonet pin and pass the free end of the cord through the loop; the cord can then be removed.

43.2 Peel back the rubber sleeve covering the binding which secures the mask tube to the inlet connector in the facepiece.

43.3 Carefully sever the binding and remove the mask tube.

Refitting (fig 5, 6 and 7)

44

44.1 Ensure that the inlet connector in the mask is fitted correctly; refer to fig 6.

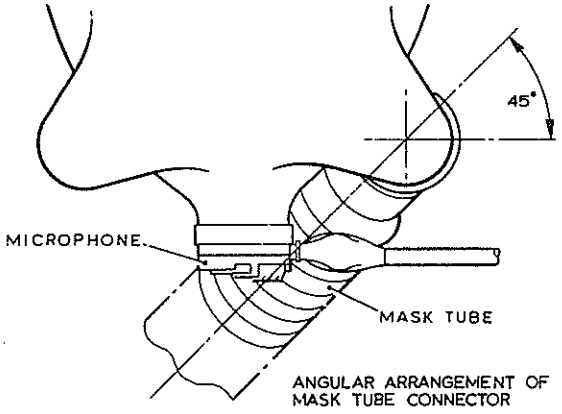


Fig 5 Positioning an angled inlet connector

Notes...

(1) Masks having a straining cord are fitted with an angled inlet connector having a short arm and a long arm; the long arm must be entered in the face-piece. The connector is to be directed forwards and inclined 45° towards the centre line of the mask (fig 5). Inlet connectors of nylon (Part No 1328W076) are superseded by light-alloy connectors (Part No 1328W070).

(2) Before fitting a mask tube to a straight inlet connector, ensure that the connector is located such that the beaded end just protrudes from the mask aperture. When the mask tube is fitted, the end of the tube should register with the inner end of the inlet connector (fig 6).

44.2 Fit the mask tube to the inlet connector, ensuring that the joint is dry. Lubricants must not be used.

▶ 44.3 Secure the hose with 6 to 8 turns of No 12 linen thread, then ◀ coat with varnish, DEF 32A. When the varnish is dry, reposition the sleeve.

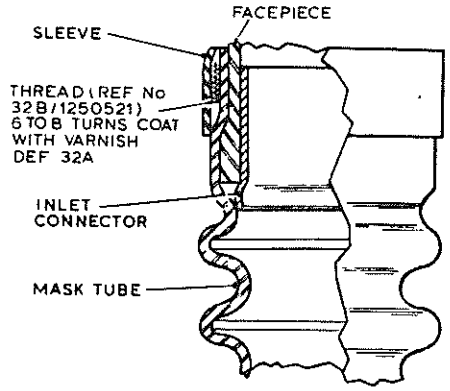
44.4 If applicable, refit the straining cord in accordance with the following instructions which should be read in conjunction with fig 7:

44.4.1 Fold the loop at one end of the cord around the plug bayonet pin, pass the free end through the loop and pull the cord tight. Ensure that the cord is secure at the centre of the pin.

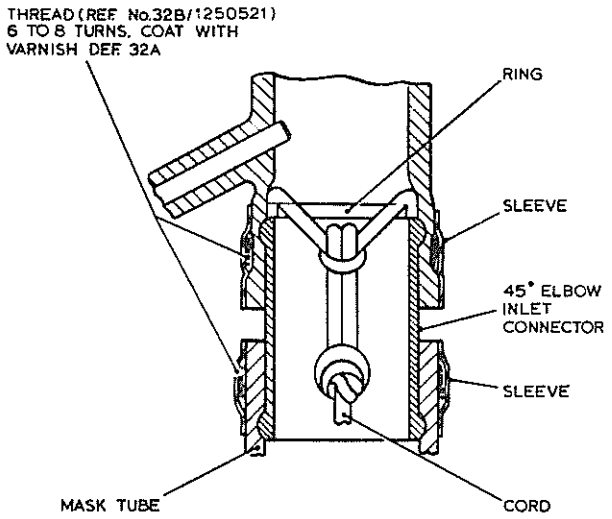
44.4.2 Feed the free end of the cord through the mask tube and the inlet connector, then collapse the tube sufficiently to pull the free end inside the mask and clear of the inspiratory valve housing.

44.4.3 Holding the ring horizontally between the thumb and the fore-finger, feed the looped end behind the centre bar of the ring and bend the loop forward over the bar so that it is directed downwards.

44.4.4 Spread the loop, then pass it upwards over the ring. Arrange the loop centrally on the centre bar and pull tight.



P AND Q SERIES MASKS
(EXCLUDING P8,Q8,P9 AND Q9 SERIES)



P8,Q8,P9 AND Q9 SERIES MASKS

Fig 6 Mask tube attachments - masks other than Types P4 and Q4

44.4.5 Extend the mask tube and locate the ring in the recess above the connector.

44.4.6 Refit the inspiratory valve (para 35).

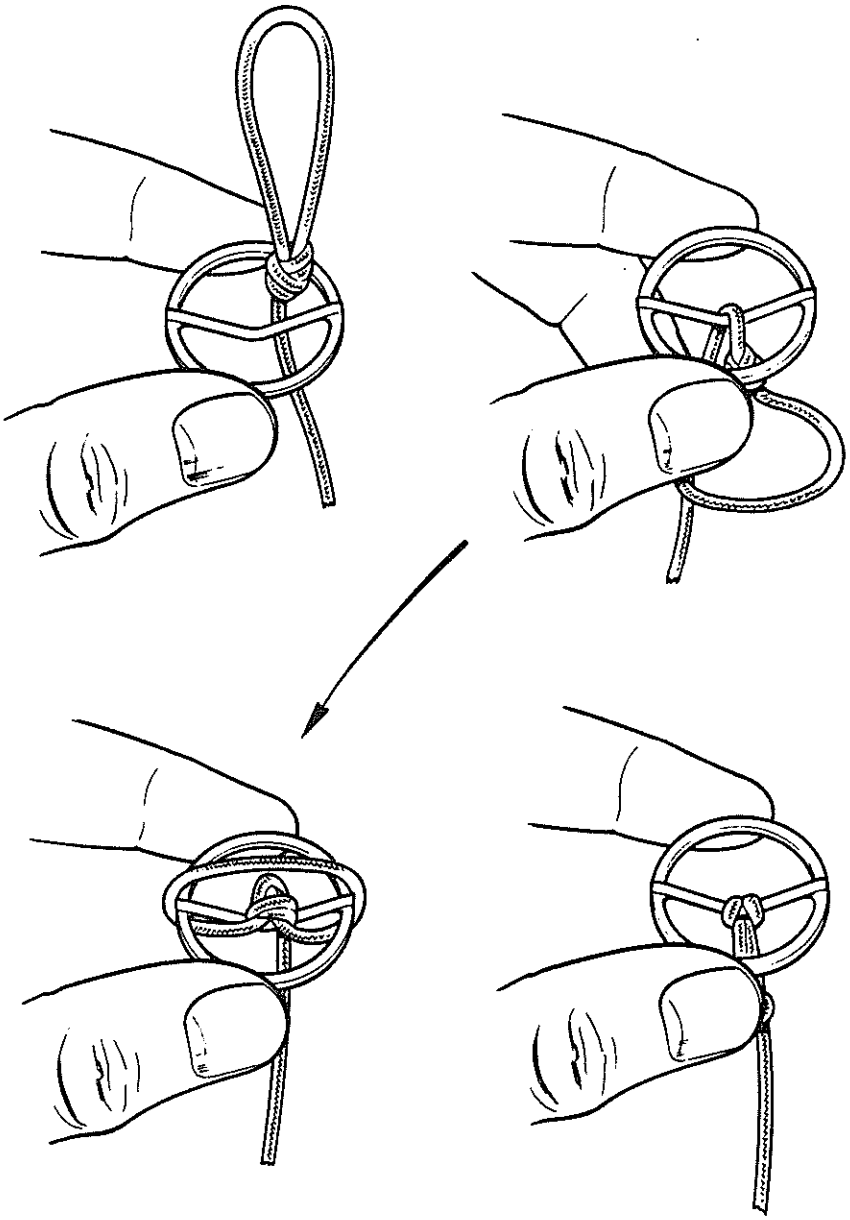


Fig 7 Attaching a straining cord

Testing

45 After a mask tube has been fitted, the following test is to be applied:

45.1 Attach a spring balance to the exo skeleton.

45.2 Grasp the mask tube at a point just below the binding and exert a pull of 111 N (25 lbf); maintain this pull for 5 s.

45.3 After the test, examine the connection for evidence of failure and movement, and test the mask on the flying clothing test cabinet.

MASK TUBE COUPLING - MASKS OTHER THAN TYPES P4 AND Q4

Removing

46

46.1 If the mask tube is fitted with a straining cord, remove the cord as detailed in sub-para 43.1.

46.2 Peel back the rubber sleeve covering the binding which secures the coupling.

46.3 Carefully sever the binding and remove the coupling.

Refitting

47

47.1 Ensure that the sleeve which normally covers the thread binding is undamaged, then fit the new mask tube coupling, ensuring that the coupling is pushed fully in so that the end of the mask tube abuts the flange or shoulder on the coupling. Lubricants must not be used.

▶ 47.2 Secure the coupling with 6 to 8 turns of No 12 linen thread, then coat the thread with varnish DEF 32A. Refer to the CAUTION following para 3. ◀

47.3 Refit the rubber sleeve.

47.4 If a straining cord has to be refitted, refer to sub-para 44.4.

Testing

48 Apply the test detailed in para 45, but with the spring balance attached to a cord looped around the body of the coupling to achieve an axial pull on the centre line. Apply the tests detailed in Chap 3, para 2.

MASK TUBE - TYPES P4 AND Q4 MASKS ONLY (fig 8)

49 The mask tubes assembled to P4 and Q4 masks are fitted with an Oxy/Mic/Tel plug, and the associated loom is bonded to the tube.

Removing

50

50.1 Disconnect the cable loom from the microphone. Disconnection is effected by rolling back the rubber sleeve clear of the switch terminals, removing the two terminal screws and washers, and carefully severing the thread which binds the cable loom to the switch housing.

50.2 Slide the rubber sleeve clear of the tube/mask inlet connection, then sever the thread and release the plug assembly from the mask.

Refitting

51

51.1 Examine the sleeve and replace if damaged.

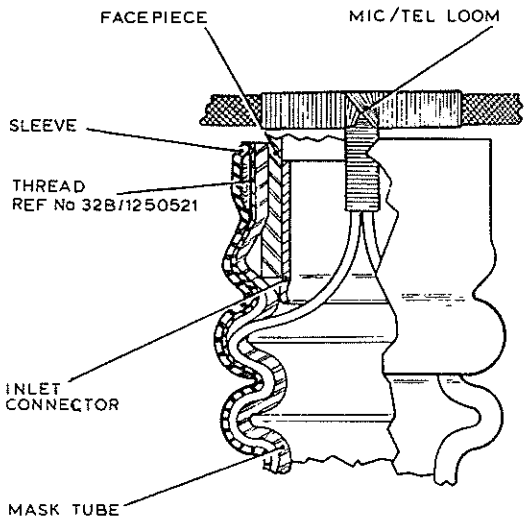


Fig 8 Mask tube attachment - Types P4 and Q4 masks

51.2 Assemble the mask tube and plug assembly to the mask inlet and secure with 6 to 8 turns of No 12 linen thread, which must pass underneath the cable loom. Refer to CAUTION (page 5). Coat the binding with Varnish DEF 32A.

51.3 Reposition the sleeve.

51.4 Connect the leads to the switch terminals. The leads are secured by means of the two 8 BA screws and washers. The yellow lead must be connected to the lower terminal (nearest the expiratory valve) and the green lead to the upper terminal. Bind the cable loom to the switch housing using No 35 linen thread.

51.5 Ensure that the lower portion of the sleeve is bonded (Bostik 252) securely to the cable, then reposition the upper portion over the lead terminals.

Testing

52 Apply the tests (para 45) and the electrical tests detailed in Chap 3.

MASK TUBE PLUG - TYPES P4 AND Q4 MASKS ONLY (fig 9)

Removing

53

53.1 Remove the shroud and the split insulation ring, and discard.

53.2 Unsolder the electrical terminations from the plug terminals.

53.3 Sever the binding and separate the plug from the mask tube.

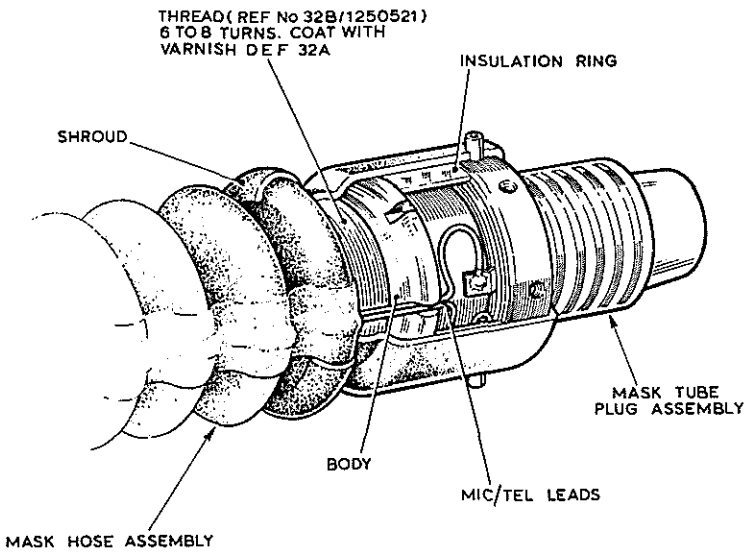


Fig 9 Details of Oxy/Mic/Tel plug assembly

53.4 Ensure that the lead tags are free of solder, clean and securely crimped.

Refitting

54

54.1 Assemble the plug to the mask tube, and arrange the plug so that the red and blue conductors of the tube are aligned with the slot (between the red and blue terminals) in the plug body.

▶ 54.2 Secure the plug to the tube with 6 to 8 turns of No 12 linen thread. Refer to CAUTION (page 5). The thread must pass under the conductors and is to be coated with varnish DEF 32A. ◀

54.3 Using solder to BS 441 and flux to DTD 599, solder the lead tags to the plug terminals bearing the corresponding colour marking; the black lead is to be soldered to the blue terminal. A suitable heat sink must be used to prevent heat reaching the PVC insulation of the leads.

54.4 Apply three coats of varnish DEF 32A, Type 2 to all soldered joints and surfaces normally covered by the insulation ring.

54.5 Refit the insulation ring and the shroud.

Testing

55 Apply the test detailed in para 45, but with the spring balance attached to a cord looped around the body of the coupling to achieve an axial pull on the centre line. Test the mask as detailed in Chap 3.

MICROPHONE (fig 10 and 11)

Notes...

(1) The microphone retains the chain harness assembly and must, therefore, be removed before detaching the harness assembly.

(2) Permitted repairs for the microphone assembly are detailed in AP 116Z-0420-1.

Removing

56 Remove the rubber sleeve over the securing wire, unfasten the wire and push the microphone out gently from the inside of the facepiece.

Refitting

57 Place the microphone in position and press it into the facepiece. Wire it into position using 20 swg, black oxidized copper wire or corrosion ▶ resistant wire, then reposition the sleeve. ◀

Testing

58 Test the mask as detailed in Chap 3.

FACEPIECE

Removing

59

59.1 Remove the inspiratory valve (para 33), expiratory valve (para 36) and, where applicable, the anti-suffocation valve (para 40).

59.2 Remove the microphone and electrical cable assembly (para 56).

59.3 Separate the chain toggle harness assembly from the facepiece (fig 12).

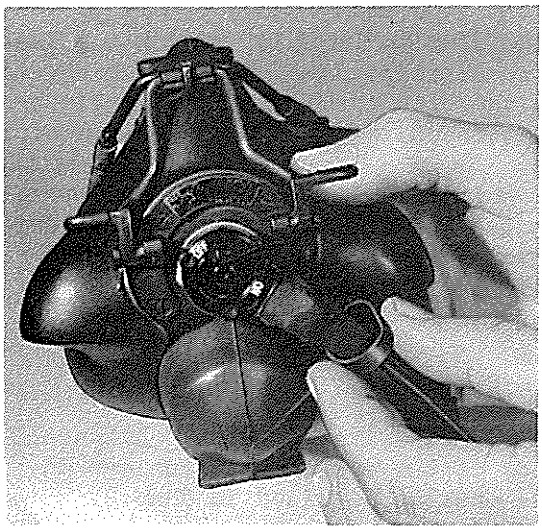


Fig 10 Removing a microphone - rubber sleeve detached

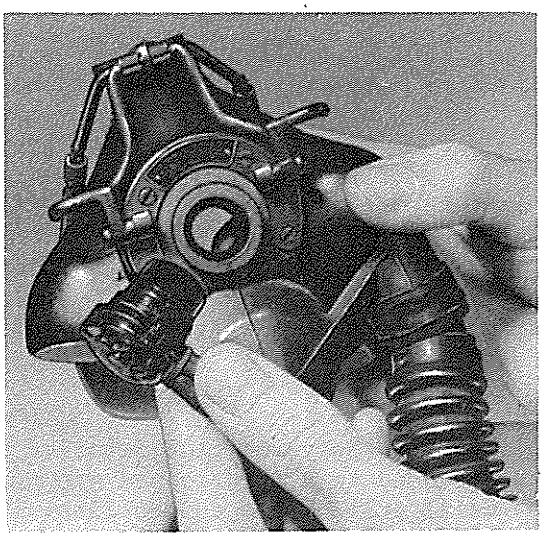


Fig 11 Microphone detached from facepiece

▶ 59.4 Remove the mask tube and plug assembly (para 43 or 50 as appropriate). ◀

59.5 Peel back the sleeve, carefully sever the binding and then remove the inlet connector from the facepiece.

Refitting

60

60.1 Assemble the inlet connector to the facepiece and secure with 6 to 8 turns of No 12 linen thread. Refer to CAUTION (page 5) and Notes 1 and 2 following sub-para 44.1. Coat the binding with varnish DEF 32A.

60.2 Refit the mask tube to the inlet connector (para 44 or 51 as appropriate).

60.3 Position the chain harness assembly on the facepiece, then fit the microphone and lead assembly (para 57).

60.4 Refit the expiratory valve (para 39), the inspiratory valve (para 35) and, if applicable, the anti-suffocation valve (para 42).

Testing

61 Apply the test (para 45) and the tests detailed in Chap 3.

MASK LIFE

62 The facepieces of both P and Q type masks, whether of standard rubber mix or silicone rubber (med) have no stated 'life'. The facepieces and the other components remain in use so long as they satisfy the examination and test requirements, or can be made to do so by the renewal of their components.

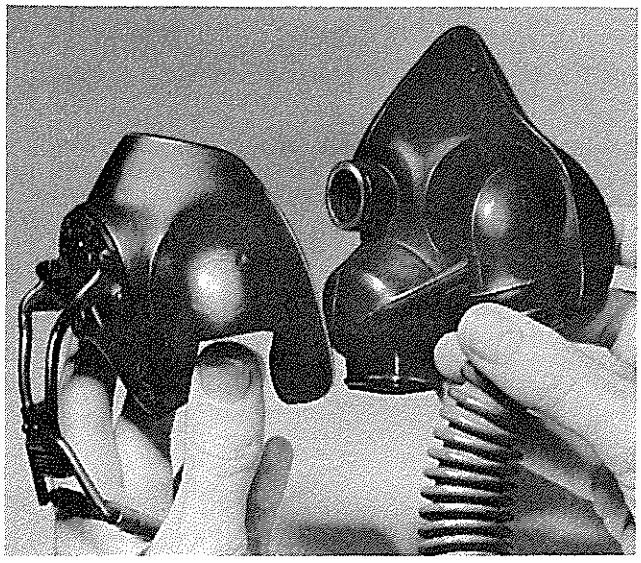


Fig 12 Removing a chain toggle harness assembly

Chapter 2-1

MAINTENANCE
(ROYAL NAVY)

CONTENTS

Safety and servicing notes

(1) AP 108F-0001-5F(N) Safety and Servicing Notes and other general safety/servicing requirements appropriate to this equipment or the main equipment are to be complied with, where relevant, throughout the work detailed in this Chapter. Personnel in charge of the maintenance of Survival Equipment and Flying Clothing are responsible for ensuring that adequate safety precautions are taken during Bay Servicing and associated work. NAMM, Chap 41 details the precautions to be taken to avoid accidents to personnel and damage to materials.

(2) Quick release couplings are to be tested by coupling a male and female portion together and carrying out a functional test.

(3) The anti-suffocation valve (Ref No 6D/2203471) fitted to Types PC and QC masks is similar, in appearance, to the inspiratory valve (Ref No 6D/616) fitted to non-medical, Type H masks; the operating

characteristics, however, differ and the valves, therefore, must not be confused. The anti-suffocation valve can be readily identified as follows:

(i) The Reference Number (6D/2203471) is marked on the body.

(ii) A circlip is employed to retain the filter gauze.

WARNING...

MANY MATERIALS, PARTICULARLY OIL AND GREASE, ARE SUBJECT TO SPONTANEOUS COMBUSTION WHEN EXPOSED TO UNDILUTED OXYGEN UNDER PRESSURE. PRECAUTIONS MUST BE TAKEN, THEREFORE, TO EXCLUDE OIL, GREASE, DUST AND METAL PARTICLES FROM THE MASKS.

CAUTION...

When securing components by thread binding, the standard whipping procedure must be employed. When whipping, it is particularly important to maintain the maximum tension in the thread to make the whipping as tight as possible. The number of turns, treatment and load test, where applicable, are specified in the assembling instructions.

TABLE 1 LIST OF SPECIAL TOOLS AND EQUIPMENT

Nomenclature	Ref No
Test cabinet, Mk 4	4C/4146
or	
Test cabinet, Mk 1	4C/4430473
Brush, camel hair, No 3	1A/9430436
Brush, sable, No 3	1A/9430444
Scales, tubular, spring, 0 to 30 lbf	1A/1275138
Socket, Q-R, Mk 9 (Required only for masks, Types P1 and Q1)	6D/2243622
or	
Socket, Q-R, Mk 10A	6D/1817

TABLE 2 LIST OF MATERIALS

Nomenclature	NATO Ref No	Specification
Wire, insulated, enamel, 20 swg	5E/9102391	-
or		
Wire, locking 20 swg	30A/9140209	DTD 189A
Paper, absorbent	32B/4663253	-
Varnish, insulating	33B/9433454	DEF 32A
Water, distilled	33C/2244963	-

(Continued..)

TABLE 2 LIST OF MATERIALS (Continued)

Nomenclature	NATO Ref No	Specification
Loctite No 221	33H/2248428	-
Grease, XG-315	34B/2204466	-
▶ Sleeve	6D/5131	TH 30 ◀

ROUTINE BAY SERVICING

PREPARATION

1 Read the safety and servicing notes.

DISMANTLING

Ice guard filter and inspiratory valve assembly

2

2.1 Rotate the ice-guard filter until the arrow on the filter registers with the line in the facepiece and then withdraw the filter.

2.2 Ease the body of the inspiratory valve assembly from the flange which secures it and lift it out.

Anti-suffocation valve (Types PC and QC masks only)

3 Ease the facepiece away from the exo skeleton, press the anti-suffocation valve outwards from inside the mask and detach from the facepiece.

Toggle harness assembly (pin link chains only)

4 Remove the rubber sleeves from the harness chains and discard the sleeves.

EXAMINATION

Toggle harness assembly

5 The only permissible repair to the chain harness assembly is detailed in Op 5.2.

5.1 Examine the chains for loose rivets, and worn and damaged links.

CAUTION...

After completing any necessary riveting (OP 5.2), ensure that the rotary movement of the links is not adversely affected.

5.2 Pin-link chains only: Examine for security each chain rivet, also the end rivets which attach the chain to the yoke and swivel links. Suspect chain links are to be locked by placing the chain rivet head downwards, on a suitable flat surface, and using a small chisel, spreading the end of the rivet by the formation of a central V-notch. End rivets are to be secured in accordance with standard workshop practice (SI/SURVIVAL EQUIPMENT (AIRCREW CLOTHING)/112).

5.3 Connect the spring balance to each chain, in turn, and with the arm straight, apply a load of 111N (25 lbf). Maintain the load for 10 s, then examine the links for distortion.

5.4 Examine the chains for insecurity of attachment to the yoke and the hook plates.

5.5 Examine the exo skeleton, toggle lever frame for damage; pay particular attention to the nylon sleeves on the chain guides.

5.6 Examine the shoulder screws of the toggle frame for insecurity. Originally, the shoulder screws were locked with Loctite. Peening was introduced on Type P masks by Mod MO 116 and on Type Q series masks by Mod MO 205. These modifications are incorporated in the basic build standard of Types P8 and Q8 series masks and all subsequent series. If a loose screw is found on an unmodified mask, the screw is to be removed, brushed and wiped clean. It is then to be treated with Loctite Grade 221 and refitted; the curing time is 4 h at normal room temperature.

5.7 Lightly lubricate pin link chains with grease, XG-315 then fit ▶ new rubber sleeves (Ref No 6D/5131). A suitable Hellermann sleeve ◀ fitting tool should be used to stretch the sleeve over the U-shackle end of the chain and ensure that the sleeve is located centrally.

Facepiece

6

▶ 6.1 Clean the facepiece using absorbent paper moistened with distilled water. Allow to dry naturally. ◀

6.2 Examine the facepieces for deterioration and surface crazing, particularly in the vicinity of fitted components and the nose bridge piece.

Mask tube assembly

7 Examine the mask tube for damage and deterioration, and for insecurity at the facepiece and mask tube connector.

Inlet warning connector (Types P1 and Q1 masks only)

8

8.1 Examine the connector for damage, paying particular attention to the sealing washer (Ref No 6D/2356).

8.2 Depress and release the valve plate several times, using the plunger arms projecting from the side; the valve should operate freely.

8.3 Using hand pressure, verify that the adapter (Chap 1-1, fig 2) cannot be unscrewed from the body. If the locking ring rotates without movement of the body, the connector is serviceable.

8.4 Apply the disconnect load test (Chap 3, para 3).

Bayonet plug, Mk 7 (All masks other than Types P1 and Q1).

9 Examine the bayonet plug for damage, paying particular attention to the locking pins.

Inspiratory valve assembly

10

10.1 Clean the valve body with the sable brush and distilled water, and the valve rubber with absorbent paper moistened with distilled water. Allow the parts to dry naturally.

10.2 Examine the inspiratory valve assembly for damage and deterioration of the valve rubber.

Note...

▶ All components of the valve are repairable by replacement. When fitting a new valve rubber, ensure that the head of the valve lies flat against its seating and that the stem of the rubber is secure in the valve body as shown in Chap 1, fig 2; the valve rubber is delicate and is to be handled with care. ◀

Expiratory valve

11

11.1 Clean the mating surfaces of the valve plate and the valve seating with the sable brush and distilled water. Clean, dry air may be used to accelerate drying, or the parts may be allowed to dry naturally.

11.2 Depress the valve plate and ensure that it is free from foreign matter and returns correctly under spring pressure.

Anti-suffocation valve (Types PC and QC masks only)

12

12.1 Remove the circlip and filter, and discard the circlip.

12.2 Move the valve disc off the valve seat, and clean the disc and seat using the camel hair brush and distilled water. Dry the parts

thoroughly.

12.3 Clean the filter in a jet of clean, dry air or oxygen at moderate pressure.

12.4 Refit the filter and secure with a new circlip.

Microphone assembly

13 Examine the microphone for damage and insecurity of attachment, and the cable for deterioration and damage.

ASSEMBLING

Anti-suffocation valve

14 Refit the anti-suffocation valve from the outer side of the facepiece, locating the assembly such that its flanges are on either side of the face-piece and so that the facepiece biases the assembly away from the user's face.

Inspiratory valve assembly and ice guard filter

15

15.1 Refit the inspiratory valve assembly to the facepiece so that the slots in the body are at right angles to the mark on the face-piece. Refer to Chap 2, fig 4.

15.2 To refit the ice guard filter, align the arrow on the filter with the mark on the facpiece and, with light pressure applied, turn the filter through 90° clockwise; ensure that both lugs are engaged with the slots. When the filter is fitted correctly, the arrow on the filter body points towards the expiratory valve.

TESTING

16 Apply the tests detailed in Chap 3.

REPAIR

17 The procedures for replacing defective parts are detailed in Chap 2, whilst a list of spares for each type of mask will be found in Topic 3.

PRESERVATION AND STORAGE

18 When not in use, oxygen masks must be protected against contamination and stored in conditions which are not detrimental to the rubber facepiece. It is particularly important, therefore, to ensure that Command and/or Unit instructions concerning the care of oxygen masks are strictly adhered to.

Chapter 3

TESTING

CONTENTS

TABLE 1 LIST OF SPECIAL TOOLS AND EQUIPMENT

Nomenclature	Ref No	Remarks
Test cabinet, Mk 1 or Test cabinet, Mk 4 (AP 108F-0101-1)	4C/4430473 or 4C/4146	
Quick-release socket, Mk 9 or Quick-release socket, Mk 10A	6D/1652 or 6D/1817	Required only for Types P1 and Q1 masks
GO NO-GO gauge	6C/4360638	Required only for Types P1 and Q1 masks
Scales, tubular spring, 0 to 30 lbf	1A/1275138	Required only for Types P1 and Q1 masks
▶ Test cabinet 63K/20	-	Required only for masks issued to RN embarked aircrew ◀
Test set, EDL, Type 2835	-	Required only for masks issued to RN embarked aircrew ◀

Introduction

1 The tests detailed in this chapter are to be applied after the replacement of components and at such periodicities as may be specified in AP 108F-0001-5F(N) or AP 108F-0001-5F(R); masks issued to RN embarked aircrew are to be tested as described in para 6 to 12. The tests are to be applied in conjunction with the aircrew member to whom the mask has been issued.

WARNING...

MANY MATERIALS, PARTICULARLY OIL AND GREASE ARE SUBJECT TO SPONTANEOUS COMBUSTION WHEN EXPOSED TO UNDILUTED OXYGEN UNDER PRESSURE. PRECAUTIONS MUST BE TAKEN, THEREFORE, TO EXCLUDE OIL, GREASE, DUST AND METAL PARTICLES FROM THE EQUIPMENT.

TEST PROCEDURE

Inspiratory valve test

2 Blank the mask tube connector and then collapse the convolutions of the mask tube, concertina fashion. The maximum acceptable extension over a period of 10 s is 12 mm (0.5 in). Remove the blank from the connector. Any extension in excess of the stipulated value indicates that the inspiratory valve is suspect; verify that the valve is correctly fitted in the facepiece and/or fit a new valve rubber (Chap 2).

Disconnect load test (Types P1 and Q1 masks only)

3

3.1 Check the test socket (Mk 9 or 10A) for wear using the GO-NO-GO plug gauge.

3.2 Attach a length of cord to the socket and connect the socket to the inlet warning connector.

3.3 Attach the spring balance to the cord and, grasping the inlet warning connector firmly, apply an axial load on the spring balance to effect separation. The average load, determined from the mean of six consecutive tests, should be not less than 62 or greater than 107 N (14 to 24 lbf).

Tests using the test cabinet, Mk 1 or Mk 4

4 Request the aircrew member, to whom the mask has been issued, to don the mask and associated headgear, and to apply the tests detailed in AP 108T-0101-12, Chap 2-2. These tests comprise the face/mask seal test, expiratory valve test and the anti-suffocation valve test; the latter test is applicable only to Types PC and QC masks.

Electrical tests

5 Apply the tests detailed in AP 117L-0401-13D, Chap 1, para 18 to 20, 23 and 24 (Type 376 test set) or AP 117L-0402-1 (S.G. Brown headset tester).

TEST PROCEDURE (RN EMBARKED AIRCREW ONLY)

6 The tests are to be combined with those for the associated Aircrew Equipment and are to be applied using the test cabinet, 63K/20 (Pt No AL49900) and the test set EDL, Type 2835. The mask is to be tested as specified in the current instructions promulgated by the Royal Navy; testing is to be undertaken in conjunction with the aircrew member to whom the mask has been issued, if available. The item numbers or letters appearing in brackets in the test instructions relate to fig 1.

Preparation (fig 1 and 2)

7

7.1 Ensure that the oxygen storage cylinder is connected to the oxygen supply inlet on the cabinet (item A).

7.2 Set the oxygen regulator,Type 517, to the AM position.

7.3 Open the oxygen valve at the oxygen storage cylinder and the oxygen master valve (item 1) on the cabinet front.

7.4 Check that the pressure available is adequate as shown on the contents gauge (item 2).

7.5 Insert the hand-held, headset tester (inverted) into the stowage (item 6) ensuring the rocker switch and the LED indicators are accessible.

7.6 Fit the plug (Type 671) of the PEC aircraft portion into the headset tester.

7.7 Remove the dust cover from the PEC seat portion and fit the man portion of the PEC.

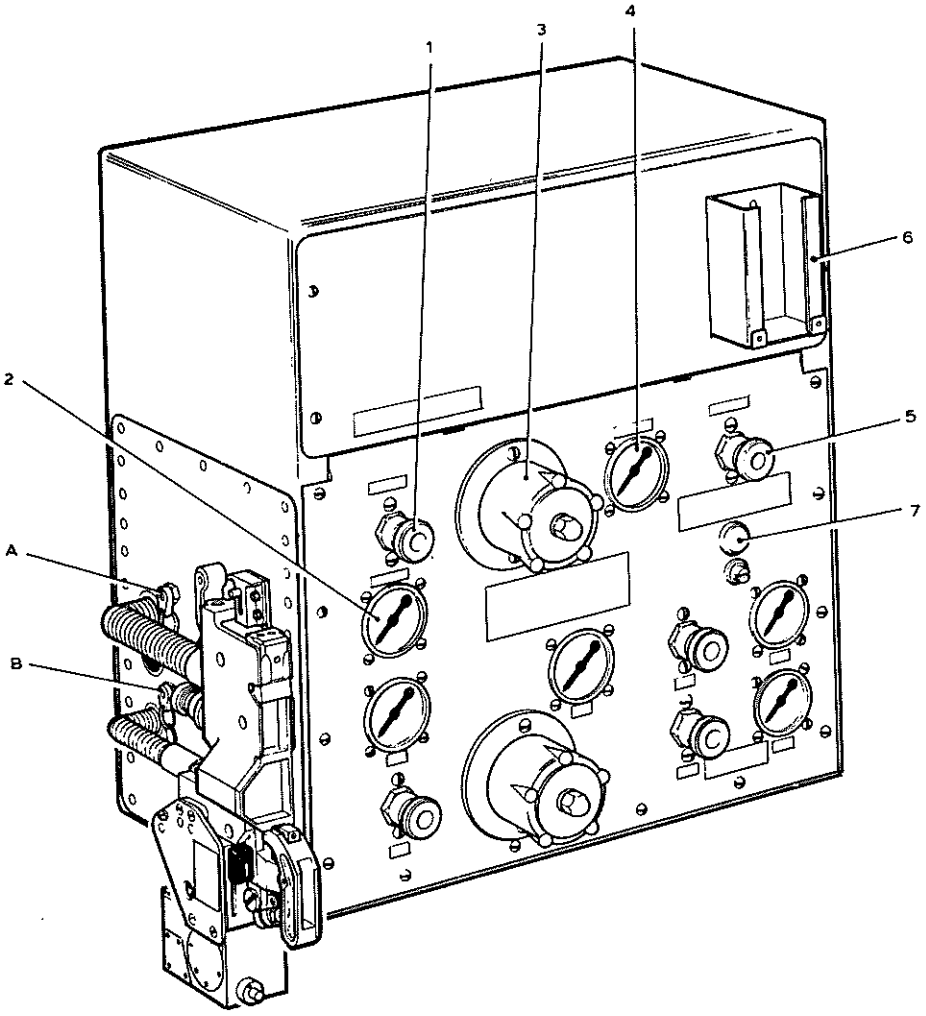
7.8 Adjust the setting of the oxygen controller (item 3) until a reading of more than 5 is indicated on the oxygen pressure gauge (item 4) and fully open the oxygen valve (item 5).

7.9 Ensure that the mask ice guard filter is correctly positioned (arrow pointing towards the expiratory valve).

7.10 Don the mask and headgear, ensuring that the harness is correctly located in the hooks. Set the mask toggle to the normal (up) position.

Note...

If the aircrew member is not available,the harness adjustment is not to be altered but the mask held in position by hand to provide an adequate seal.



A	Oxygen supply
B	Air supply (not to be used until notified)
1	Valve, oxygen master
2	Gauge, oxygen contents
3	Controller, oxygen
4	Gauge, pressure (oxygen) 0 - 100 lbf/in^2
5	Valve, oxygen
6	Test set headset stowage (hand-held 6625-99-529-8399)
7	Electromagnetic indicator

Fig 1 Test cabinet, 63K/20

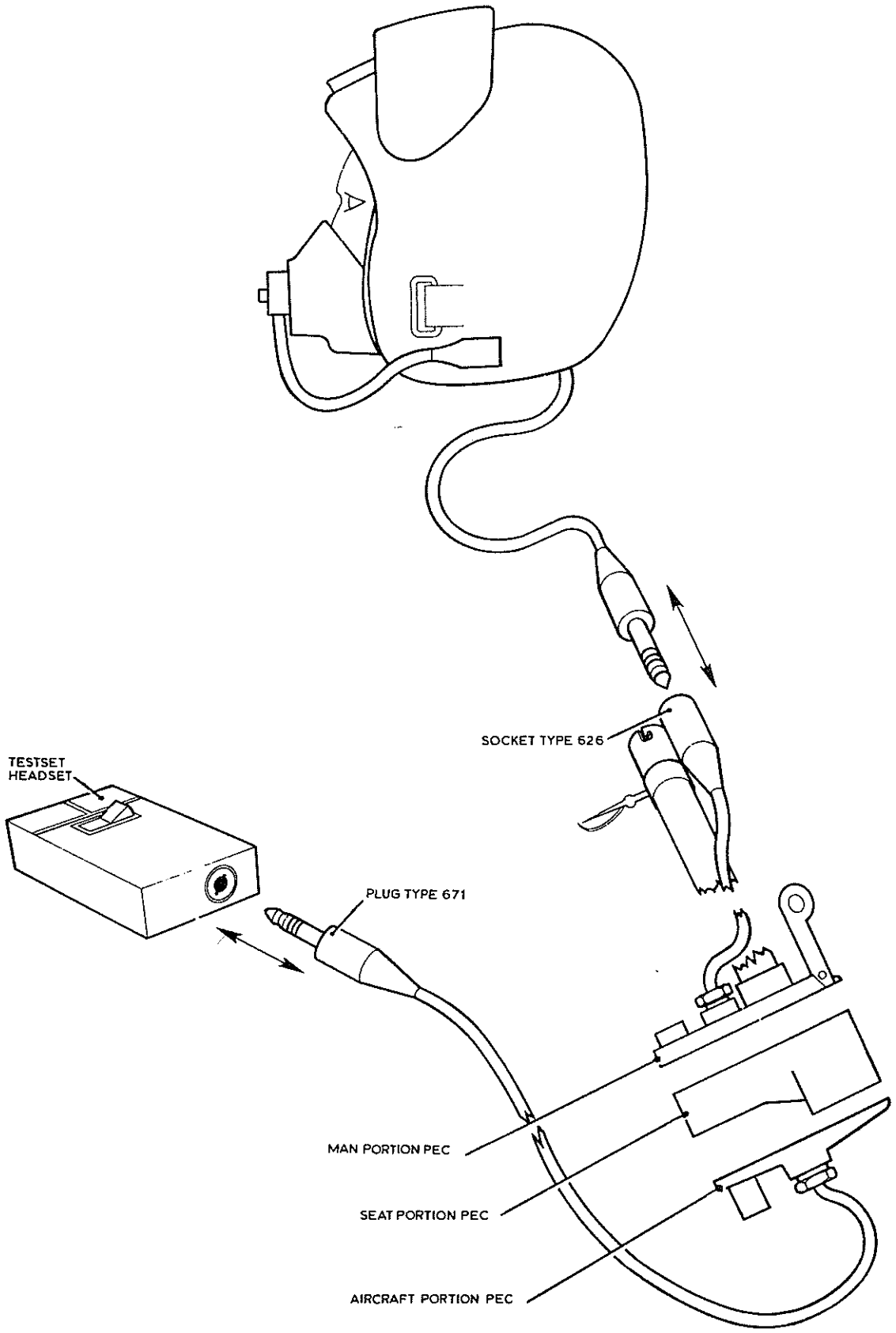


Fig 2 Test Layout

7.11 Breathe in deeply, blank the end of the mask tube and then breathe out. There should be no resistance to expiration. Remove the blank and connect the mask tube to the PEC.

7.12 Whilst breathing through the mask, adjust the harness tension for comfort; there should be no undue resistance to normal and deep breathing, and the indicator (item 7) should display white on inspiration and black on expiration.

Notes...

(1) During inhalation, the oxygen pressure gauge (item 4) needle will fluctuate to the right when oxygen flows and remain steady when flow ceases.

(2) If the indicator (item 7) fails to display white, check the power supply and the fuse; the fuse is positioned directly below the indicator.

Anti-suffocation valve test (Types PC and QC masks only)

8

8.1 Set the oxygen valve (item 5) to OFF.

8.2 Breathe through the mask, after initial resistance, the mask anti-suffocation valve should open. Ensure that resistance is felt with each inspiration indicating that the valve is closing correctly.

8.3 Set the oxygen valve (item 5) to ON.

Face/mask seal test and expiratory valve test

9

9.1 Set the mask toggle to the pressure-breathing position (down).

WARNING...

DURING THE PROCEDURE DETAILED IN SUB-PARA 9.2, IF EXCESSIVE PRESSURE IS FELT, IMMEDIATELY RELEASE THE 'PRESS-TO-TEST' BUTTON.

9.2 Operate the oxygen regulator 'press-to-test' button; an increase in pressure should be felt within the mask.

9.3 With the 'press-to-test' button depressed, hold the breath, verify that there is no leakage from the face/mask seal, and that the indicator (item 7) displays black and that the needle of the gauge (item 4) remains steady. If the mask is correctly fitted and oxygen continues to flow, the expiratory valve is suspect or the mask is punctured.

9.4 Release the 'press-to-test' button; take three or four breaths to reduce the pressure in the mask then return the mask toggle to the normal position (up).

▶ 9.5 Set the oxygen regulator airmix selector to 100 , an increase in pressure should be felt in the mask together with a slight resistance to expiration, but not inspiration. While breath is held momentarily, verify that there is no evidence of leakage at the face/mask seal and that the indicator (item 7) displays black (item 4, needle remains steady). Return the selector to the AM position.

9.6 Take three or four breaths to reduce the pressure in the mask then return the mask toggle to the normal position (up).

10 If there is leakage from the face/mask seal which cannot be rectified by adjustment, proceed as follows:

10.1 Examine the following:

10.1.1 The adjustment of the harness.

10.1.2 The helmet and mask for correct size.

10.1.3 The adjustment of the helmet webbing neck-strap.

10.1.4 The face/mask seal for defects.

10.2 Repeat the procedure detailed in sub-para 9.1 to 9,4 only once; if the leak has not been rectified, refer to AP 108F-0902-1, Chap 2-1.

Microphone test

11 If required, apply the microphone tests as detailed in AP 117L-0403-1.

Test completion

12

12.1 Disconnect the mask and headgear from the PEC.

12.2 Shut the oxygen valve on the oxygen storage cylinder and set the oxygen regulator airmix selector to 100 .

12.3 Close all valves and the controller (items 1, 3 and 5).

12.4 Set the oxygen regulator airmix selector to AM then remove the PEC; fit the blank and dust cover. Fit the dust cover to the PEC seat portion. ◀

GENERAL ORDERS AND MODIFICATIONS (-2)

PREFACE

1 Material issued for inclusion in this Topic 2 should be filed in the following order:

1.1 Preface (this page)

1.2 General orders. These leaflets are identified by the prefix 'GO' and should be filed in numerical order.

1.3 Equipment modification list. This list shows all approved MOD modifications affecting the subject of this Topic 2, including those for which leaflets will not be issued. The list will be reissued periodically. As modification leaflets are inserted, suitable entries should be recorded in the applicable columns of this list.

1.4 Modification leaflets. Leaflets bear numbers allotted in sequence as the leaflets are sent to press and should be filed in numerical order.

2 When a complete leaflet or individual leaf is reissued in amended form the alterations are indicated by triangles thus ▶ ----- ◀ to show where text has been changed.

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EQUIPMENT MODIFICATION LIST

OXYGEN MASKS TYPES P AND Q

Contractor's or Service Mod No	Mod Plate Strike No	Title and Purpose	Class	Remarks	Leaflet No
MO 116		Oxygen Masks Type P1B, P1B (med), P2B, P2B (med) P4B, P4B (med), P6B, P6B (med), P7, P7 (med), P7A, P7A (med). To introduce mechanical locking by peening over all screws (12 off) on Toggle harness assemblies. It will be necessary to lengthen shoulder screws by 1/32 in, and countersink toggle levers on the outside to allow peening of the clamping screws.	C/4		None
MO 205		Oxygen Masks, Type Q1A, Q1A (med), Q2A, Q2A (med) Q4, Q4 (med), Q6, Q6 (med), Q7, Q7 (med), Q7A, Q7A (med) As for Mod MO 116			None
▶ MO 128		Oxygen Masks Type P2B, P2B (med), P8, P8 (med) P8A and P8A (med) To introduce anti-suffocation valve Part No 1328X020 (Ref No 6D/2203471) together with associated changes to mask facepiece and toggle harness assembly	C/3 S 0 0	On replacement of mask facepiece for P8 and P8A units On replacement of mask face-piece of P2B units except for Hercules Aircrew	1 ◀

EQUIPMENT MODIFICATION LIST

OXYGEN MASKS, TYPES P AND Q

Contractor's or Service Mod No	Mod Plate Strike No	Title and Purpose	Class	Remarks	Leaflet No
▶ MO 211		Oxygen masks Type Q1A, Q1A (med) Q2A and Q2A (med) ◀ To introduce anti-suffocation valve Part No 807646 (Ref No 6D/2203471) together with associated changes to mask facepiece and toggle harness assembly. Masks so modified become Type Q1C, Q1C (med), Q2C and Q2C (med)	C/3	Refer to leaflet	2
▶ MO 212		Oxygen Masks Type Q8, Q8 (med) Q8A and Q8A (med) Part 1 To introduce an anti-suffocation valve (Ref No 6D/2203471), together with associated changes to mask facepiece. Part 2 To introduce toggle harness assembly with stronger chain links Part No 812581 (Ref No 6D/2244941) Masks so modified become Type Q8C, Q8C (med), Q8AC and Q8AC (med)	C/3	On replacement of facepiece or on embodiment of Mod PE 37	3
▶ MO 134		P and Q Series Inspiratory valve, Part No OP 5490 (Ref No 6D/2705). Introduction of stepped inspiratory valve rubber, Part No 1848W014, in lieu of valve rubber Part No OP16277 or Part No 1150X015	D/4	-	None

EQUIPMENT MODIFICATION LIST

OXYGEN MASKS, TYPES P AND Q

Contractor's or Service Mod No	Mod Plate Strike No	Title and Purpose	Class	Remarks	Leaflet No
MO 133		P (med) masks Introduction of an improved material for the facepieces of P series 'medical' oxygen masks.	D/4	-	None
MO 213		Q (med) masks Introduction of an improved material for the facepieces of Q series 'medical' oxygen masks	D/4	-	None
MO 136		P1C and P1C (med) masks To introduce masks, oxygen, Type P1B and P1B (med) in lieu and by conversion of masks oxygen, Type P1C (Ref No 6D/2246333) and Type P1C (med) (Ref No 6D/2246334), respectively by deleting anti-suffocation valve (Ref No 6D/2203471) with associated changes to the mask facepiece and toggle harness assembly.	B/2	-	4
MO 214		Q1C and Q1C (med) masks To introduce masks, oxygen, Type Q1B and Q1B (med) in lieu and by conversion of masks, oxygen, Type Q1C (Ref No 6D/2246360) and, Q1C (med) (Ref No 6D/2246361) respectively by deleting anti-suffocation valve (Ref No 6D/2203471) with associated changes to the mask facepiece and toggle harness assembly.	B/2	-	5

EQUIPMENT MODIFICATION LIST

OXYGEN MASKS, TYPES P AND Q

Contractor's or Service Mod No	Mod Plate Strike No	Title and Purpose	Class	Remarks	Leaflet No
MO 137		P8C, P8C (med), P8AC and P8AC (med) To introduce masks, oxygen, Type P9 series by conversion of oxygen masks, Type P8 series by the introduction of mask microphone lead assembly Part No B 105573 in lieu of electrical cord assembly Part No WTB 119519/2.	S 0 0 for Hawk Aircraft S 0 0 for Service trials for Buccaneer aircraft		6
MO 215		Q8C, Q8C (med), Q8AC and Q8AC (med) To introduce masks, oxygen Type Q9 series by conversion of oxygen masks, Type Q8 series, by the introduction of mask microphone lead assembly Part No B 105573 in lieu of electrical cord assembly, Part No WTB 119519/2.	As for Mod MO 137		7
MO 143		To introduce masks, oxygen Type P10 and Q10 series by conversion of masks, oxygen Type P8, Q8, P9 and Q9 series, by the introduction of mask microphone lead assembly (snatch type), Racal Acoustics Ltd, Part No A2/500303 in lieu of:			8
		Part A: Cord electrical assembly, Part No WTB 119519/2 on masks, oxygen, Type P8 and Q8 series (superseding Mods MO 137 and MO 215)	S 0 0		
		Part B: Mask microphone lead assembly Part No B 105573 on masks, oxygen, Type P9 and Q9 series	B/2		

Oxygen Masks Type P2B		-	0P7690	(Ref No 6D/3042)
P2B	(med)	-	0P7700	(Ref No 6D/3043)
P8		-	1577W000	(Ref No 6D/2240508)
P8	(med)	-	1578W000	(Ref No 6D/2240509)
P8A		-	1579W000	(Ref No 6D/2240510)
P8A	(med)	-	1580W000	(Ref No 6D/2240511)

To introduce Anti-Suffocation Valve Part No 1328X020 (Ref No 6D/2203471) together with associated changes to mask facepiece and toggle harness assembly. Masks so modified become respectively:

Type P2C		-	1720W000	(Ref No 6D/2246335)
P2C	(med)	-	1721W000	(Ref No 6D/2246336)
P8C		-	1724W000	(Ref No 6D/2246337)
P8C	(med)	-	1725W000	(Ref No 6D/2246338)
P8AC		-	1726W000	(Ref No 6D/2246339)
P8AC	(med)	-	1727W000	(Ref No 6D/2246340)

(Mod No M0128)

(Class C/3 on replacement of mask facepiece for Type P8 and P8A)
(Class S00 on replacement of mask facepiece for Type P2B except for Hercules Aircrew)

(ADSM 25/D/8288)
(ADP No XNG01280)

1 INTRODUCTION

In order to comply with Air Staff requirement for assisted sea survival, an anti-suffocation valve is introduced to the Type 'P' oxygen masks listed above to prevent water entering the mask cavity, provided that the wearer's head is not submerged.

(1) This modification does not supersede, partially supersede or satisfy the work called for by any Modification, Service Modification, STI, SI NTI or SRIM.

2 EMBODIMENT

RAF: This modification is to be embodied as directed by Command Headquarters

RN: Class C/3 embodiment - This modification is to be embodied in accordance with the procedure for Class 3 (on replacement) modifications laid down in NAMM (AP(N)140) Class S00 embodiment - Sets for this modification are to be demanded for the limited equipment specified, to meet the operational requirements of the Aircraft and Aircrew.

3 APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 4 man hours.

4 DRAWINGS REQUIRED

Drawing No AP 108F-0902-2/128/76, one sheet is incorporated in this leaflet.

5 PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

(a) The Modification spares which consist of the following Service Supply items will be stocked by No 14 Maintenance Unit, and should be demanded as required, as separate items through SCC, RAF or RNSDC, Llangennech (RN) endorsed "for use in conjunction with Mod MO 128".

Ref No	Part No	Nomenclature	Qty	Class of Equipment
Part A - to convert OP 7690 to 1720W000				
6D/3813	1000S429	Label	1	C
6D/2203472	1422W010	Facepiece	1	C
6D/2203471	1328X020	Anti-suffocation valve	1	C
6D/1923	15003	Clip	1	C
5K/6037	N 220	Sleeve Helaprene	1	C
5K/6038	N 250	Sleeve Helaprene	1	C
6D/3799	1000S386	Nameplate	1	C
28Q/9487032	SP68/202	Rivet	2	C
Part B - to convert OP 7700 to 1721W000				
6D/3814	1000S433	Label	1	C
6D/2203473	1422W020	Facepiece	1	C
6D/2203471	1328X020	Anti-suffocation valve	1	C
6D/1923	15003	Clip	1	C
5K/6037	N 220	Sleeve Helaprene	1	C
5K/6038	N 250	Sleeve Helaprene	1	C
6D/3799	1000S386	Nameplate	1	C
28Q/9487032	SP68/202	Rivet	2	C
Part C - to convert 1577W000 to 1724W000				
6D/3815	1000S423	Label	1	C
6D/2203472	1422W010	Facepiece	1	C
6D/2203471	1428X020	Anti-suffocation valve	1	C
5K/6037	N 220	Sleeve Helaprene	1	C
5K/6039	N 175	Sleeve Helaprene	1	C
6D/3799	1000S386	Nameplate	1	C
28Q/9487032	SP68/202	Rivet	2	C

Ref No	Part No	Nomenclature	Qty	Class of Equipment
Part D - to convert 1578W000 to 1725W000				
6D/3816	1000S424	Label	1	C
6D/2203473	1422W020	Facepiece	1	C
6D/2203471	1328X020	Anti-suffocation valve	1	C
5K/6037	N 220	Sleeve Helaprene	1	C
5K/6039	N 175	Sleeve Helaprene	1	C
6D/3799	1000S386	Nameplate	1	C
28Q/9487032	SP68/202	Rivet	2	C
Part E - to convert 1579W000 to 1726W000				
6D/3817	1000S425	Label	1	C
6D/2203472	1422W010	Facepiece	1	C
6D/2203471	1328X020	Anti-suffocation valve	1	C
5K/6037	N 220	Sleeve Helaprene	1	C
5K/6039	N 175	Sleeve Helaprene	1	C
6D/3799	1000S386	Nameplate	1	C
28Q/9487032	SP68/202	Rivet	2	C
Part F - to convert 1580W000 to 1727W000				
6D/3818	1000S426	Label	1	C
6D/2203473	1422W020	Facepiece	1	C
6D/2203471	1328X020	Anti-suffocation valve	1	C
5K/6037	N 220	Sleeve Helaprene	1	C
5K/6039	N 175	Sleeve Helaprene	1	C
6D/3799	1000S386	Nameplate	1	C
28Q/9487032	SP68/202	Rivet	2	C

(b) The following materials are to be provided under Unit arrangements:

Ref No	Part No	Nomenclature	Qty	Class of Equipment
33B/9433454	N D	Varnish (Spec DEF 32A)	A/R	
32B/656	N D	Thread black linen	A/R	
33H/9129434	N D	Bostik 1410	A/R	
5E/9102391	N D	20 swg Black oxidised copper wire	A/R	
	N D	Industrial methylated spirit	A/R	
	N D	Varnish fungicidal (DTD 899)	A/R	

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6 MODIFICATION OF SPARES

No spares are affected by this modification.

7 CHANGE OF REFERENCE, PART OR ASSEMBLY NUMBERS

OLD			NEW	
Ref No	Part/Assy No	Nomenclature	Ref No	Part/Assy No
6D/3068	OP 1917900	Facepiece (Part A C and E)	6D/2203472	1422W010
6D/3069	OP 1918000	Facepiece (Part B D and F)	6D/2203473	1422W020
6D/3742	16130	Chain toggle harness assy (Part A and B)	6D/2246379	1451W020
-	1580W010	Chain toggle harness assy (Part C D E and F)	6D/2244942	1422W200
-	15608	Exo skeleton (Part A and B)	-	1422W453
-	1580W013	Exo skeleton (Part C D, E and F)	-	

8 SEQUENCE OF OPERATIONS

The following is the sequence of operations:

(1) Remove the inspiratory valve, the expiratory valve and the microphone and switch assembly as detailed in AP 108F-0902-1.

(2) Remove the facepiece from the chain toggle harness assembly.

(3) (a) Type P2 masks - Remove the mask tube and the inlet connector from the facepiece, and assemble to the appropriate new facepiece as detailed in AP 108F-0902-1, fitting a new clip Part No 15003 and sleeve Part No N250 or 1718W015.

(b) Type P8 masks - Carefully cut away the sleeve from the facepiece at the inlet connector, sever the binding thread and remove the facepiece from the inlet connector. Fit a new sleeve Part No N 175 or 1718W017 over the inlet connection on the new facepiece, insert the inlet connector, complete with ring assembly and mask tube, into the new facepiece. Align and secure the assembled parts as detailed in AP 108F-0902-1.

(4) Cut a hole in the exo skeleton in the location and to the dimensions indicated in fig 1. Obliterate the part number stamped on the inside face of the skeleton and substitute the appropriate new part number as listed in para 7.

(5) Remove the toggle harness assembly identification plate from the exo skeleton. Mark the appropriate stores reference number on the new plate Part No 1000S386, and secure with the two new rivets.

(6) Remove the mask identification label, secured by two hammerdrive screws, from the fixing plate, degrease the label contact area on the fixing plate with industrial methylated spirit. Secure the appropriate new label as follows:

(a) Immerse label in clean, warm water (22-40°C) for 40-60 seconds; remove and dry off excess moisture between sheets of blotting paper.

(b) Peel off the backing strip, being careful not to contaminate the adhesive surface of the label, and apply the label immediately to the prepared surface on the fixing plate, ensuring that no air bubbles are trapped under the label. Press on firmly with hand roller or iron, preferably heated approximately 140 °C.

(c) Seal edge of the label, 1/8 in in from edge of label and 1/8 in over the edge, with fungicidal varnish to DTD 899.

(7) Assemble the toggle harness assembly and the facepiece. Fit the microphone and switch assembly, the inspiratory valve, the iceguard, the expiratory valve and the new anti-suffocation valve, as detailed in AP 108F-0902-1.

(8) Apply the Anti-suffocation valve tests, leakage tests, load test and electrical tests as detailed in AP 108F-0902-1.

9 SPECIAL TESTS AFTER EMBODIMENT

No special testing is required after the embodiment of this modification, but any other appropriate and associated testing is to be carried out.

10 RECORDING ACTION

When this modification has been embodied and inspected in accordance with current procedure, the relevant entries are to be made in the appropriate servicing records.

11 DISPOSAL OF REDUNDANT PARTS

The undermentioned parts rendered redundant by the embodiment of this modification are to be disposed of thus:-

(a) For items held in main stores the following parts are to be disposed of under current local procedures:

Ref No	Part No	Nomenclature	Qty	Class of Equipment
	N220 or 1718W013	Sleeve	1	C
	N175 or 1718W017	Sleeve (Parts C, D, E and F)	1	C
	N250 or 1718W015	Sleeve (Parts A and B)	1	C
	OP17110/15	Label (Part A)	1	C
	OP17110/16	Label (Part B)	1	C
	1000S403	Label (Part C)	1	C
	1000S404	Label (Part D)	1	C
	1000S405	Label (Part E)	1	C
	1000S406	Label (Part F)	1	C
	16086	Nameplate (Parts A and B)	1	C
	1000S386	Nameplate (Parts C, D, E and F)	1	C

(b) For items held in main stores the following parts are to be returned to No 14 MU RAF Carlisle:

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/3068	OP1917900	Facepiece (Parts A, C and E)	1	C
6D/3069	OP1918000	Facepiece (Parts B, D and F)	1	C

(c) For items held other than in main stores the following parts are to be disposed of under local procedures.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/1923	15003	Clip (Parts A and B)	1	C

12 EFFECT ON WEIGHT OR MOMENT

This modification has no effect on weight.

13 EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION OR HANDLING

The embodiment of this modification ensures that air can be breathed following cessation of oxygen supply upon ditching, provided the wearer's head is not submurged.

14 EFFECT ON SERVICING AND ON GROUND SUPPORT EQUIPMENT

Full servicing instructions for the Anti-Suffocation valve are now contained in AP 108F-0902-12.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/2343	2027W000	Mask, oxygen, Type Q1	1	
6D/2359	2028W000	Mask, oxygen, Type Q1 (medical)	1	
6D/3042	OP 7690	Mask, oxygen, Type P2	1	
6D/2043	OP 7700	Mask, oxygen, Type P2 (medical)	1	
6D/2309	2031W000	Mask, oxygen, Type Q2	1	
6D/2360	2032W000	Mask, oxygen, Type Q2 (medical)	1	
6D/2246335	1720W000	Mask, oxygen, Type P2C	1	
6D/2246336	1721W000	Mask, oxygen, Type P2C (medical)	1	
6D/2246362	2033W000	Mask, oxygen, Type Q2C	1	
6D/2246363	2034W000	Mask, oxygen, Type Q2C (medical)	1	
Parts required				
6D/7713975	1809W120	Yoke and chain assembly	1	
28S/9487 697	A36Z8	Screw	2	

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of reference, part or assembly numbers as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:

WARNING:

BEFORE ANY ELECTRICAL CIRCUIT IS DISTURBED OR DISCONNECTED, ALL ELECTRICAL POWER SUPPLIES IN, TO OR FROM THE OXYGEN MASK ARE TO BE DISCONNECTED. POWER SUPPLIES ARE TO BE RECONNECTED ONLY WHEN THE PERSON RESPONSIBLE FOR EMBODYING OR INSPECTING THE MODIFICATION IS SATISFIED THAT ALL ACTION HAS BEEN TAKEN TO MAKE THE OXYGEN MASK SAFE FOR RECONNECTION.

(1) Carefully drill out the tail of each of the two screws (they are peened into countersunk recesses in the toggle lever).

(2) Soften the adhesive on the screw threads using methyl ethyl ketone.

(3) Remove both screws.

(4) Separate toggle lever and toggle clamp. Remove yoke and chain assembly.

(5) Locate new yoke and chain assembly, Part No 1809W120 and the toggle frame between the toggle lever and toggle clamp. Retain with two new screws, Part No A36Z8 treated with EC 847 adhesive.

(6) Peen tails of screws into countersunk recesses in the toggle lever.

(7) Using white Tintalite ink, mark the modification number MO 158 on the inside surface of the exo skeleton and allow to dry.

9. SPECIAL TESTS AFTER EMBODIMENT

No special testing is required after the embodiment of this modification but any other appropriate and associated testing is to be done.

10. RECORDING ACTION

When this modification has been embodied and inspected in accordance with current authorised procedures, enter embodiment of modification in the appropriate records.

11. DISPOSAL OF REDUNDANT PARTS

The undermentioned parts rendered redundant by the embodiment of this modification will be disposed of locally in accordance with current instructions.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
-	1809W100	Yoke and chain assembly	1	
28S/9487697	A36Z8	Screw	2	

12. EFFECT ON MASS AND MOMENT

This modification has no effect on mass or moment.

13. EFFECT ON EQUIPMENT OPERATION AND HANDLING

This modification does not affect equipment operation or handling.

14. EFFECT ON SERVICING AND GROUND SUPPORT EQUIPMENT

(1) This modification has no effect on servicing or ground support equipment.

(2) All relevant publications will be considered for amendment action to take account of the changes introduced by this modification.

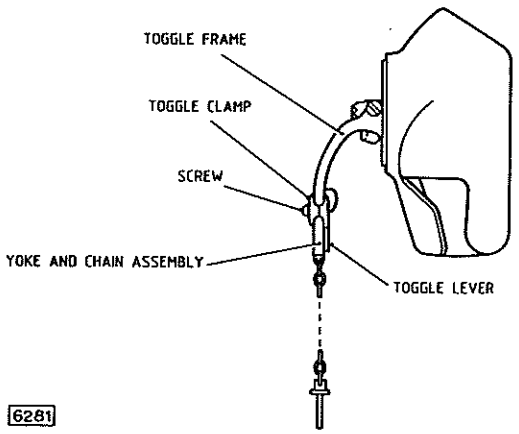

Figure 1 Yoke and chain, assembly details
Drg No AP 108F-0902-2/11/86
Sheet 1

ILLUSTRATED PARTS CATALOGUE (3A)

PREFACE

Demands

1 1.1 The demand must quote the appropriate Vocabulary Section and Reference/Stock Number for each item. Unreferenced parts are not normally provisioned as spares and demands for such items must quote the Vocabulary Section, Makers Part Number, and the name and type of equipment. The location of each part within the equipment should be clearly indicated.

1.2 Demands are to be prepared in accordance with the procedure laid down in AP 830 Volume 1 or BR4.

Local manufacture

2 Parts annotated "LM" are to be manufactured from local resources. If the manufacture of such items is beyond the capacity of the Unit, the demand is to be endorsed "Unable to manufacture locally".

Major repair

3 "MR" indicates that an item is required for major repair purposes only and will not normally be held in store by Units other than those authorised to undertake major repair of the equipment.

Units per assembly

4 The number quoted is the quantity required per next higher assembly in the position shown except "attaching parts" which quote the quantity required to attach one item. The letters "AR" in the "Units per Assy" column indicate that the quantity is "as required". Where applicable the quantity normally fitted is shown as a nominal figure, e.g. (Nom 3). Where an item is listed only for reference purposes the letters "RF" are quoted.

Classification of equipment

5 The Class of Store is indicated by a single letter as laid down in AP 830 Volume 1 or BR4.

Conditions of supply (Interchangeability Code)

6 Condition of Supply is indicated by one of the following letters and is only quoted against parts which are not directly interchangeable:

V Open up holes on assembly

W Partially assembled

X Ream or machine on assembly

Y Drill or drill and tap on assembly

Z Trim on assembly

Obsolescent stock

7 An asterisk in the "Part No" column indicates that no further purchases of the item will be made but the part is to be used until stocks are exhausted.

Modification

8 When items are affected by a modification the "Mod No" is quoted in the Nomenclature. Modifications incorporated in the catalogue are listed in the Modification Record.

INDEX OF NATO STOCK NUMBERS

Vocab Sect.	NATO Stock No.	Part Number	Chap. No.	Fig./ Index No.	ICY/MR	C of S /LM.
6D	99-220-3471	1328X020	3	1-17		C
			8	1-22		
6D	99-220-3472	1422W010	1	1-19		C
			3	1-18		
			6	1-22		
			7	1-21		
			8	1-23		
6D	99-220-3475	1422W030	6	1-24		C
			8	1-25		
6D	99-220-3628	1452W013	6	1-8		C
			7	1-7		
6D	1660-99-924-3463	OP 15926	1	1-17A		C
			2	1-16A		
			3	1-16A		
			4	1-13A		
			5	1-15A		
			6	1-19A		
			7	1-18A		
			8	1-21A		
6D	1660-99-224-3464	OP 7700	2	1-		B
6D	1660-99-224-3465	OP 7680	1	1-		B
6D	1660-99-224-3470	OP 13385	1	1-14		C
			2	1-13		
			3	1-13		
			4	1-10		

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6D	1660-99-224-3477	OP 7740	5	1-		B
6D	1660-99-224-3478	OP 7720	4	1-		B
6D	99-224-3702	2037W000	5	1-		B
6D	99-224-3706	OP 7690	2	1-		B
6D	99-224-3707	OP 7730	5	1-		B
6D	1660-99-224-4067	OP 5480	1	1-15		C
			2	1-14		
			3	1-14		
			4	1-11		
			5	1-13		
			6	1-17		
			7	1-16		
			8	1-19		
6D	99-224-4068	2031W000	2	1-		B
6D	99-224-4069	2027W000	1	1-		B
6D	99-224-4078	2035W000	4	1-		B
6D	1660-99-224-4079	OP17652	1	1-17C		C
			2	1-16C		
			3	1-16C		
			4	1-13C		
			5	1-15C		
			6	1-19C		
			7	1-18C		
			8	1-21C		
6D	1660-99-224-4087	OP 7670	1	1-		B
6D	1660-99-224-4088	OP 7710	4	1-		B
6D	99-224-4858	2028W000	1	1-		B
6D	99-224-4859	2032W000	2	1-		B
6D	99-224-4863	2036W000	4	1-		B
6D	99-224-4918	2038W000	5	1-		B
6D	1660-99-224-4941	1422W201	6	1-16		C
			7	1-15		
			8	1-18		

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6D	1220	IN4358	1	1-9		C
			2	1-8		
			3	1-9		
			5	1-7		
			6	1-13		
			7	1-11		
			8	1-15		
6D	2053	GA1152	2	1-6		C
			3	1-7		
			5	1-5		
			6	1-6		
			7	1-5		
			8	1-8		
6D	2705	OP5490	1	1-17		C
			2	1-16		
			3	1-16		
			4	1-13		
			5	1-15		
			6	1-19		
			7	1-18		
			8	1-21		
6D	3042	OP7690	2	1-		B
6D	3068	OP1917900	1	1-18		C
			2	1-17		
			4	1-14		
6D	3719	1452W015	6	1-14		C
			7	1-12		
			8	1-16		
6D	4683	2014W000	8	1-		B
6D	4684	2015W000	8	1-		B
6D	4685	2016W000	8	1-		B
6D	4686	2017W000	8	1-		B
6D	4687	2018W000	8	1-		B
6D	4688	2019W000	8	1-		B
6D	4689	2020W000	8	1-		B
	4690	2021W000				

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6D	4718	1848W014	1	1-17B		C
			2	1-16B		
			3	1-16B		
			4	1-13B		
			5	1-15B		
			6	1-19B		
			7	1-18B		
			8	1-21B		

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			8	1-18		
6D	1660-99-224-4942	1422W200	6	1-15		C
			7	1-13		
			8	1-17		
6D	1660-99-224-6338	1725W000	6	1-		B
6D	99-224-6362	2033W000	3	1-		B
6D	99-224-6363	2034W000	3	1-		B
6D	99-224-6364	2039W000	6	1-		B
6D	99-224-6365	2040W000	6	1-		B
6D	99-224-6366	2041W000	6	1-		B
6D	99-224-6367	2042W000	6	1-		B
6D	1660-99-224-6397	1451W020	1	1-11		C
6D	99-225-0300	1895W000	7	1-		B
6D	99-225-0301	1896W000	7	1-		B
6D	99-225-0302	1897W000	7	1-		B
6D	99-225-0303	1898W000	7	1-		B
6D	99-225-0304	2043W000	7	1-		B
6D	99-225-0305	2044W000	7	1-		B
6D	99-225-0465	2045W000	7	1-		B
6D	99-225-0466	2046W000	7	1-		B
6D	99-225-2549	2014W000	8	1-		B
6D	99-225-2550	2015W000	8	1-		B
6D	99-225-2551	2016W000	8	1-		B
6D	99-225-2552	2017W000	8	1-		B
6D	99-225-2553	2018W000	8	1-		B
6D	99-225-2554	2019W000	8	1-		B
6D	99-225-2555	2020W000	8	1-		B
6D	99-225-2556	2021W000	2	1-10		B
			3	1-10		
			4	1-10		
			8	1-		
10AH	5965-99-951-3811	951-3811	5	3-1		C

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10AH	5965-99-953-1137	953-1137	1	1-5		C
			2	1-4		
			3	1-5		
			6	1-4		
10AH	5965-99-999-2773	999-2773	1	1-4		C
			2	1-3		
			3	1-4		
			6	1-3		
6D	1660-99-224-6397	1451W020	1	1-11		C
			2	1-10		
			3	1-10		C
			4	1-7		
10AH	5965-99-951-2811	951-2811	5	3-1		C
10AH	5965-99-953-1137	953-1137	1	1-5		C
			2	1-4		
			3	1-5		
			6	1-4		
10AH	5965-99-999-2773	999-2773	1	1-4		C
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			3	1-4		
			6	1-3		

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GA1152	6D	2053	2	1-6
			3	1-7
			5	1-5
			6	1-6
			7	1-5
			8	1-8
HT200X1-2IN			1	1-3
			1	1-6
			1	1-8
			2	1-5
			2	1-7
			3	1-3
			3	1-6
			3	1-8
			4	1-4
			5	1-4
			5	1-6
			6	1-5
			6	1-7
			7	1-4
			7	1-6
HT200X3-16IN			1	1-2
			2	1-2
			3	1-2
			4	1-2
			5	1-2
			6	1-2
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IN4358	6D	1220	1	1-9
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				1-9
N220X3-16IN			8	1-2
OP13385	6D	1660-99-224-3470	1	1-14
			2	1-13
			3	1-13
			4	1-10
			5	1-12
OP15926	6D	1660-99-224-3463	1	1-17A
			2	1-16A
			3	1-16A
			4	1-13A
			5	1-15A
			6	1-19A
			7	1-18A
			8	1-21A
OP17652	6D	1660-99-224-4079	1	1-17C
			2	1-16C
			3	1-16C
			4	1-13C
			5	1-15C
			6	1-19C
			7	1-18C
			8	1-21C
OP1917900	6D	3068	1	1-18
				1-17
			4	1-14
			5	1-16
OP19378	6D	1660-99-224-4095	4	1-5
OP5480	6D	1660-99-224-4067	1	1-15

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OP5490	6D	2705	1	1-17
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			4	1-13
			5	1-15
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			7	1-18
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OP7670	6D	1660-99-224-4087	1	1-
OP7680	6D	1660-99-224-3465	1	1-
OP7690	6D	99-224-3706	2	1-
OP7700	6D	1660-99-224-3464	2	1-
OP7710	6D	1660-99-224-4088	4	1-
OP7720	6D	1660-99-224-3478	4	1-
OP7730	6D	99-224-3707	5	1-
OP7740	6D	1660-99-224-3477	5	1-
1276X020			1	1-21
			2	1-18
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			5	1-17
13125			4	1-3
			7	1-3
			8	1-4
1328X020	6D	99-220-3471	3	1-17
			6	1-20

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			8	1-22
1328X070	6D	99-220-3630	6	1-10
			7	1-9
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1338W000			1	1-16
			2	1-15
1422W010	6D	99-220-3472	1	1-19
			3	1-18
			6	1-22
			7	1-21
1422W030	6D	99-220-3475	6	1-24
			8	1-25
1422W050			6	16A
			7	15A
			8	18A
1422W060			6	15A
			7	13A
			8	17A
1422W200	6D	1660-99-224-4942	6	1-15
			7	1-13
			8	1-17
1422W210	6D	1660-99-224-4941	6	1-16
			7	1-15
			8	1-18
1451W020	6D	1660-99-224-6379	1	1-11
			2	1-10
			3	1-10
			4	1-7
1451W030			1	1-13
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1452W014			6	1-12
1452W015	6D	3719	6	1-14
			7	1-12
1452W020			6	1-11
			7	1-10
			8	1-14
1500W010			5	1-9
1500W040			5	1-11B
1500W050			5	1-9A
16085			5	1-8
16130			1	1-10
			2	1-9
			4	1-6
1718W013			8	1-3
1718W017			8	1-7
				1-10
1718W019			1	1-20
1720W000	6D	1660-99-224-6335	2	1-
1721W000	6D	1660-99-224-6336	2	1-
1724W000	6D	1660-99-224-6337	6	1-
1725W000	6D	1660-99-224-6338	6	1-
1726W000	6D	1660-99-224-6339	6	1-
1727W000	6D	1660-99-224-6340	6	1-
1821W010			3	1-19
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			8	1-24
1812W020			6	1-23
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			2	1-16B
			3	1-16B
			4	1-13B
			5	1-15B
			6	1-19B
			7	1-18B
			8	1-21B
1892W020			5	11A
1895W000	6D	99-225-0300	7	1-
1896W000	6D	99-225-0301	7	1-
1897W000	6D	99-335-0302	7	1-
1898W000		99-225-0303	7	1-
1898W013			6	1-8
			7	1-7
			8	1-11
1898W014			6	1-9
			7	1-8
			8	1-12
1938W000			1	1-16
			2	1-15
			3	1-15
			4	1-12
			5	1-14
			6	1-18
			7	1-17
			8	1-20
2014W000	6D	99-224-2549	8	1-
2015W000		99-225-2550	8	1-
2016W000		99-225-2551	8	1-
2017W000		99-225-2552	8	1-

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2019W000		99-225-2554	8	1-
2020W000		99-225-2555	8	1-
2021W000		99-225-2556	8	1-
027W000	6D	99-224-4069	1	1-
2028W000	6D	99-224-4858	1	1-
2031W000	6D	99-224-4068	2	1-
2032W000	6D	99-224-4859	2	1-
2033W000	6D	99-224-6362	3	1-
2034W000	6D	99-224-6363	3	1-
2035W000	6D	99-224-4078	4	1-
2036W000	6D	99-224-4863	4	1-
2037W000	6D	99-224-3702	5	1-
2038W000	6D	99-224-4918	5	1-
2039W000	6D	99-224-6364	6	1-
2040W000	6D	99-224-6365	6	1-
2041W000	6D	99-224-6366	6	1-
2042W000	6D	99-224-6367	6	1-
2043W000	6D	99-225-0304	7	1-
2044W000	6D	99-225-0305	7	1-
2045W000	6D	99-225-0465	7	1-
2046W000	6D	99-225-0466	7	1-

Chapter 1
DETAILED PARTS LIST
OXYGEN MASKS TYPE P1 AND Q1

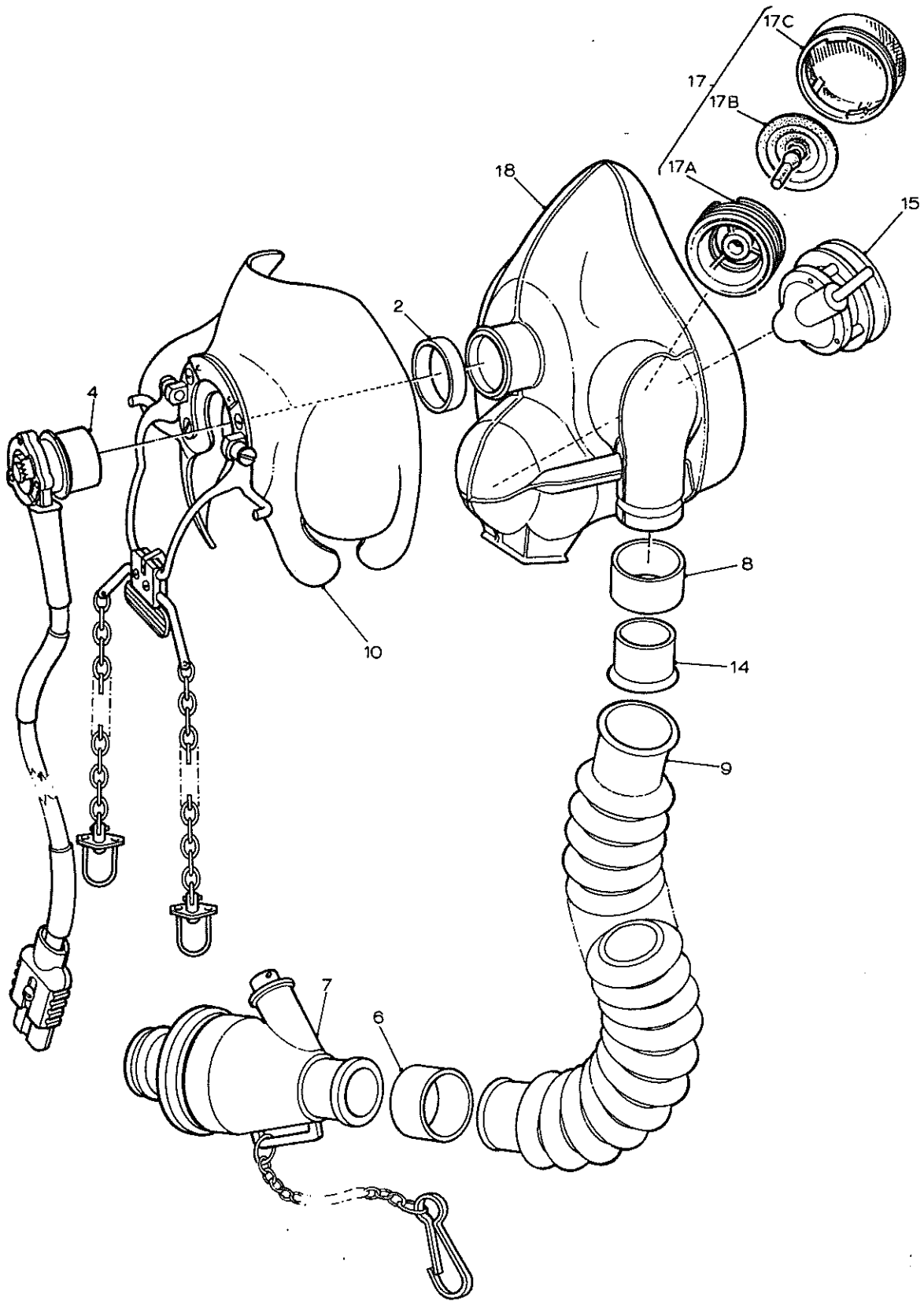


Fig 1 Oxygen masks Type P1 and Q1

Fig/ Index No	Part No	123456 Nomenclature	Usage Code	Units per Assy
1	OP7670	Mask Oxygen Type P1	A	RF
1	OP7680	Mask Oxygen Type P1 Med	B	RF
1	2027W000	Mask Oxygen Type Q1	C	RF
1	2028W000	Mask Oxygen Type Q1 Med	D	RF
2	HT200x3-16IN	.Sleeve rubber black	AB	1
3+	HT200x1-2IN	.Sleeve rubber black	CD	1
4	999-2773	.Microphone dynamic] Alternatives		1
5+	953-1137	.Microphone dynamic] Alternatives		1
6	HT200x1-2IN	.Sleeve rubber black		1
7	B2626	.Connector Oxygen inlet type MSA Mc31		1
8	HT200x1-2IN	.Sleeve rubber black		1
9	IN 4358	.Tube Mk 4		1
10	16130	.Harness toggle chain type] Alternative	AB	1
11+	1451W020	.Harness toggle chain type] Alternative	AB	A
12+	809682	.Harness toggle chain type] Alternative	CD	1
13+	1451W030	.Harness toggle chain type] Alternative	CD	1
14	OP13385	.Connector Inlet		1
15	OP5480	.Valve expiratory] Alternatives		1
16+	1938W000	.Valve expiratory] Alternatives		1
17+	OP5490	.Valve inspiratory		1
17A	OP15926	..Body, Valve		1
17B	1848W014	..Rubber, Inspiratory Valve		1
17C	OP17652	..Filter Assembly, Ice Guard		1
18	OP1917900	.Facepiece Type P1] Alternatives	A	1
19+	1422W010	.Facepiece P1] Alternatives	A	1
20+	1718W019	.Blank (for use with item 19 only)	A	1
21+	1276X020	.Facepiece P1 Med	B	1
22+	815655	.Facepiece Q1	C	1
23+	815656	.Facepiece Q1 Med	D	1

+ Item not illustrated

Chapter 2
DETAILED PARTS LIST
OXYGEN MASKS TYPE P2 AND Q2

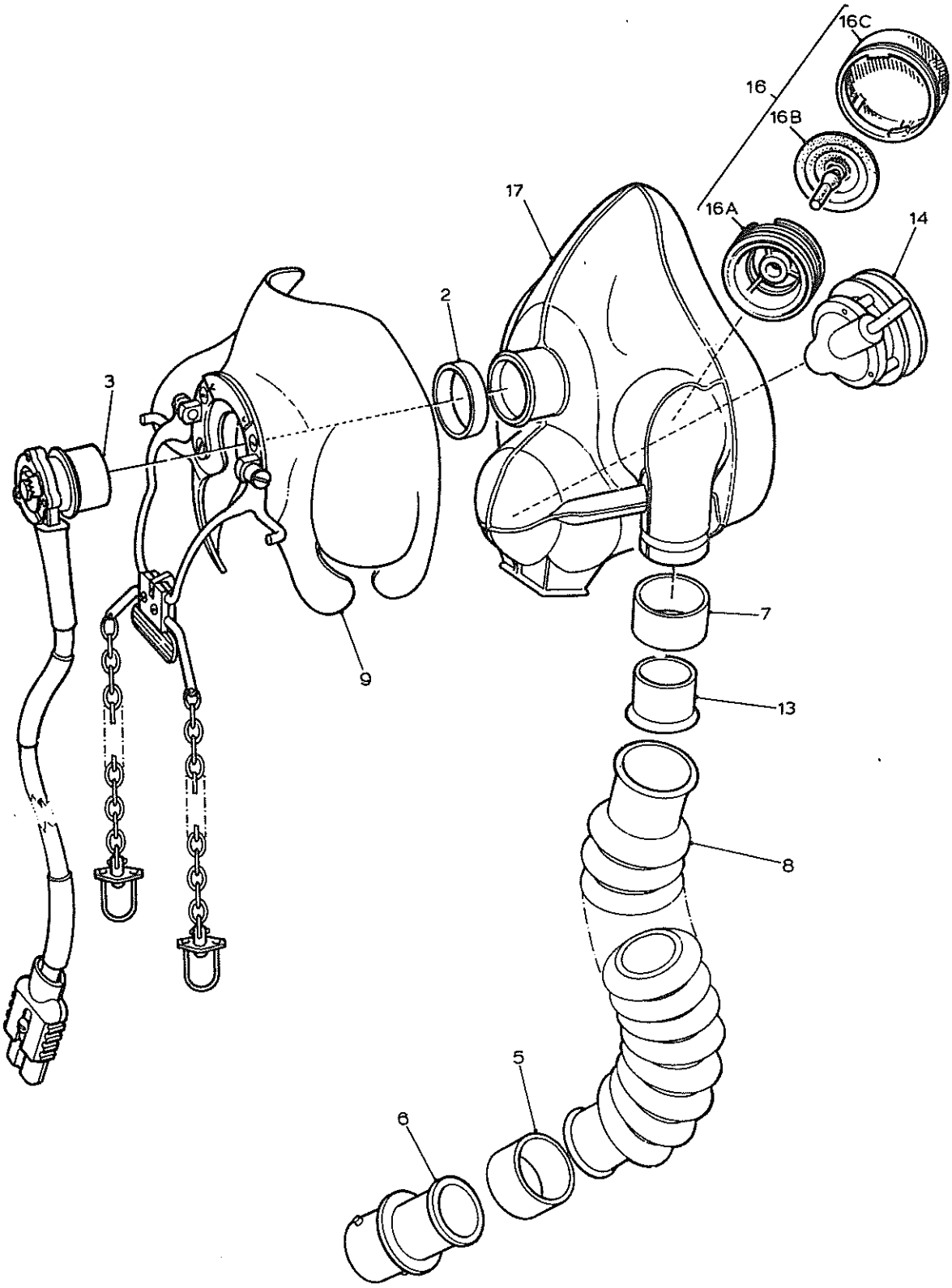


Fig 1 Oxygen Masks Type P2 and Q2

Fig/ Index No	Part No	123456 Nomenclature	Usage Code	Units per Assy
1	OP7690	Mask Oxygen Type P2	A	RF
1	OP7700	Mask Oxygen Type P2 Med	B	RF
1	2031W000	Mask Oxygen Type Q2	C	RF
1	2032W000	Mask Oxygen Type Q2 Med	D	RF
2	HT200x3-16IN	.Sleeve rubber black		1
3	999-2773	.Microphone dynamic (Alternative)		1
4+	953-1137	.Microphone dynamic (Alternative)		1
5	HT200x1-2IN	.Sleeve rubber black		1
6	GA1152	.Plug bayonet Mk 7		1
7	HT200x1-2IN	.Sleeve rubber black		1
8	IN4358	.Tube Mk 4		1
9	16130	.Harness toggle chain type (Alternative)	AB	1
10+	1451W020	.Harness toggle chain type (Alternative)	AB	1
11+	809682	.Harness toggle chain type (Alternative)	CD	1
12+	1451W030	.Harness toggle chain type (Alternative)	CD	1
13	OP13385	.Connector Inlet		1
14	OP5480	.Valve expiratory (Alternative)		1
15+	1938W000	.Valve expiratory (Alternative)		1
16+	OP5490	.Valve assembly inspiratory		1
16A	OP15926	..Body, Valve		1
16B	1848W014	..Rubber, Inspiratory Valve		1
16C	OP17652	..Filter Assembly, Iceguard		1
17	OP1917900	.Facepiece Type P2	A	1
18+	1276X020	.Facepiece Type P2 Med	B	1
19+	815657	.Facepiece Type Q2	C	1
20+	815658	.Facepiece Type Q2 Med	D	1

+ Item not illustrated

Chapter 3
DETAILED PARTS LIST
OXYGEN MASKS TYPE P2C AND Q2C

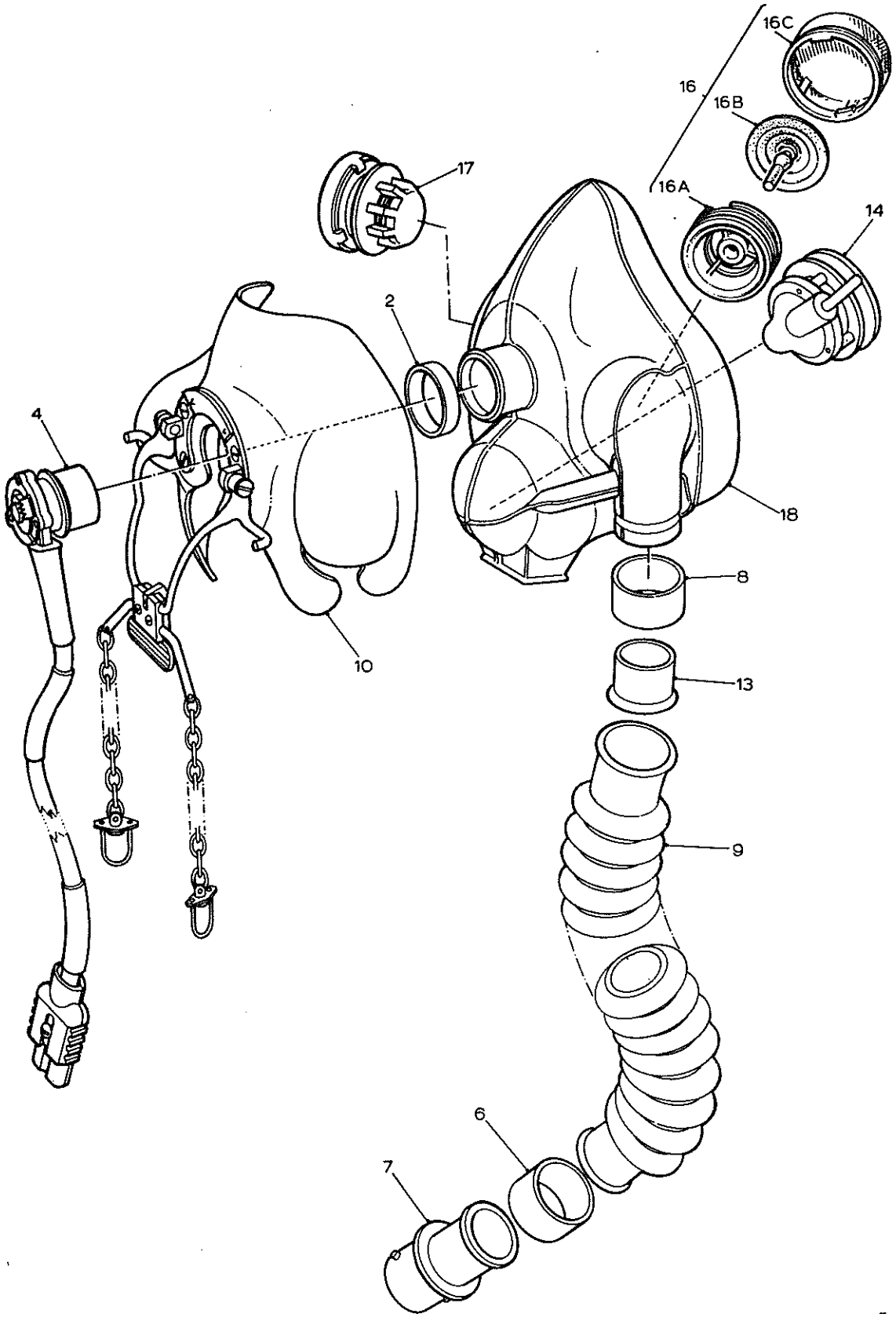


Fig 1 Oxygen Masks Type P2C and Q2C

Chapter 6
DETAILED PARTS LIST
OXYGEN MASKS TYPE P8C P8CA Q8C AND Q8AC

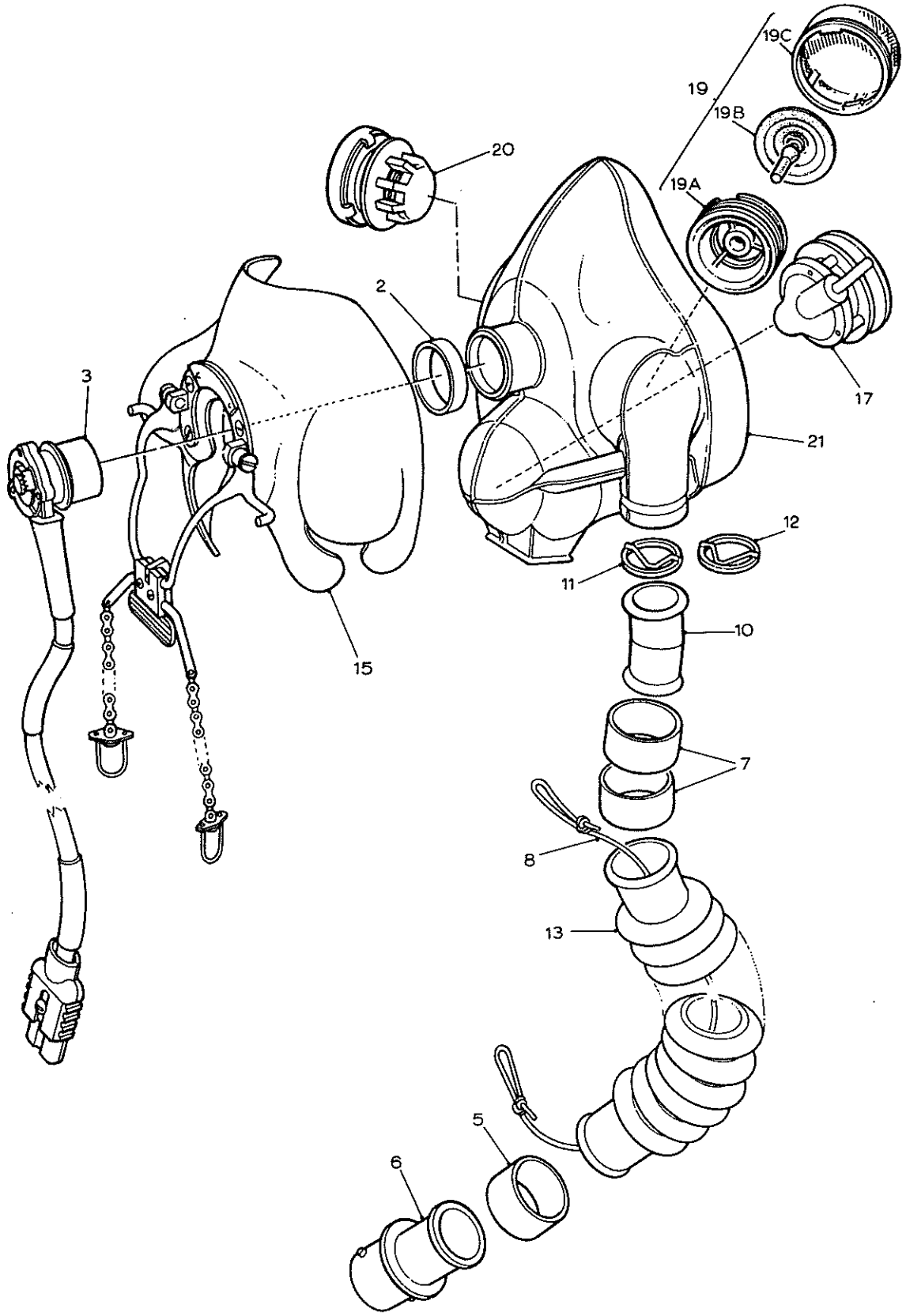


Fig 1 Oxygen masks Type P8C Q8C and Q8AC

Fig/ Index No	Part No	123456 Nomenclature	Usage Code	Units per Assy
1	1724W000	Mask Oxygen Type P8C	A	RF
1	1725W000	Mask Oxygen Type P8C Med	B	RF
1	1726W000	Mask Oxygen Type P8AC	C	RF
1	1727W000	Mask Oxygen Type P8AC Med	D	RF
1	2039W000	Mask Oxygen Type Q8C	E	RF
1	2040W000	Mask Oxygen Type Q8C Med	F	RF
1	2041W000	Mask Oxygen Type Q8AC	G	RF
1	2042W000	Mask Oxygen Type Q8AC Med	H	RF
2	HT200x3-16IN	.Sleeve rubber black		1
3	999-2773	.Microphone dynamic]		1
4+	953-1137	.Microphone dynamic] Alternative		1
5	HT200x1-2IN	.Sleeve rubber black		1
6	GA1152	.Plug Bayonet		1
7	HT200x1-2IN	.Sleeve rubber black		2
8	1898W013	.Cord	ABEF	1
9+	1898W014	.Cord	CDGH	1
10	1328X070	.Connector inlet		1
11	1452W020	.Ring	ABCD	1
12	1452W014	.Spider	EFGH	1
13	IN4358	.Tube	ABEF	1
14+	1452W015	.Tube	CDGH	1
15	1422W200	.Harness toggle chain type (alternative to item 15A)	ABCD	1
15A+	1422W060	.Harness toggle chain type (alternative to item 15)	ABCD	
16+	1422W210	.Harness toggle chain type (alternative to item 16A)	EFGH	1
16A+	1422W050	.Harness toggle type (alternative to item 16)	EFGH	1
17	OP5480	.Valve expiratory]		1
18+	1938W000	.Valve expiratory] Alternatives		1

+ Item not illustrated

Fig/ Index No	Part No	123456 Nomenclature	Usage Code	Units per Assy
19+	OP5490	.Valve Assembly, inspiratory		1
19A	OP15926	..Body Valve		1
19B	1848W014	..Rubber, Inspiratory Valve		1
19C	OP17652	..Filter Assembly, Iceguard		1
20	1328X020	.Valve anti-suffocation		1
21	1812W010	.Facepiece type P8C Med and P8AC Med	BD	1
22+	1422W010	.Facepiece type P8C and P8AC	AC	1
23+	1812W020	.Facepiece type Q8C Med and Q8AC Med	FH	1
24+	1422W030	.Facepiece type Q8C and Q8AC	EG	1

+ Item not illustrated

Chapter 7
DETAILED PARTS LIST
OXYGEN MASKS TYPE P9C P9AC Q9C AND Q9AC

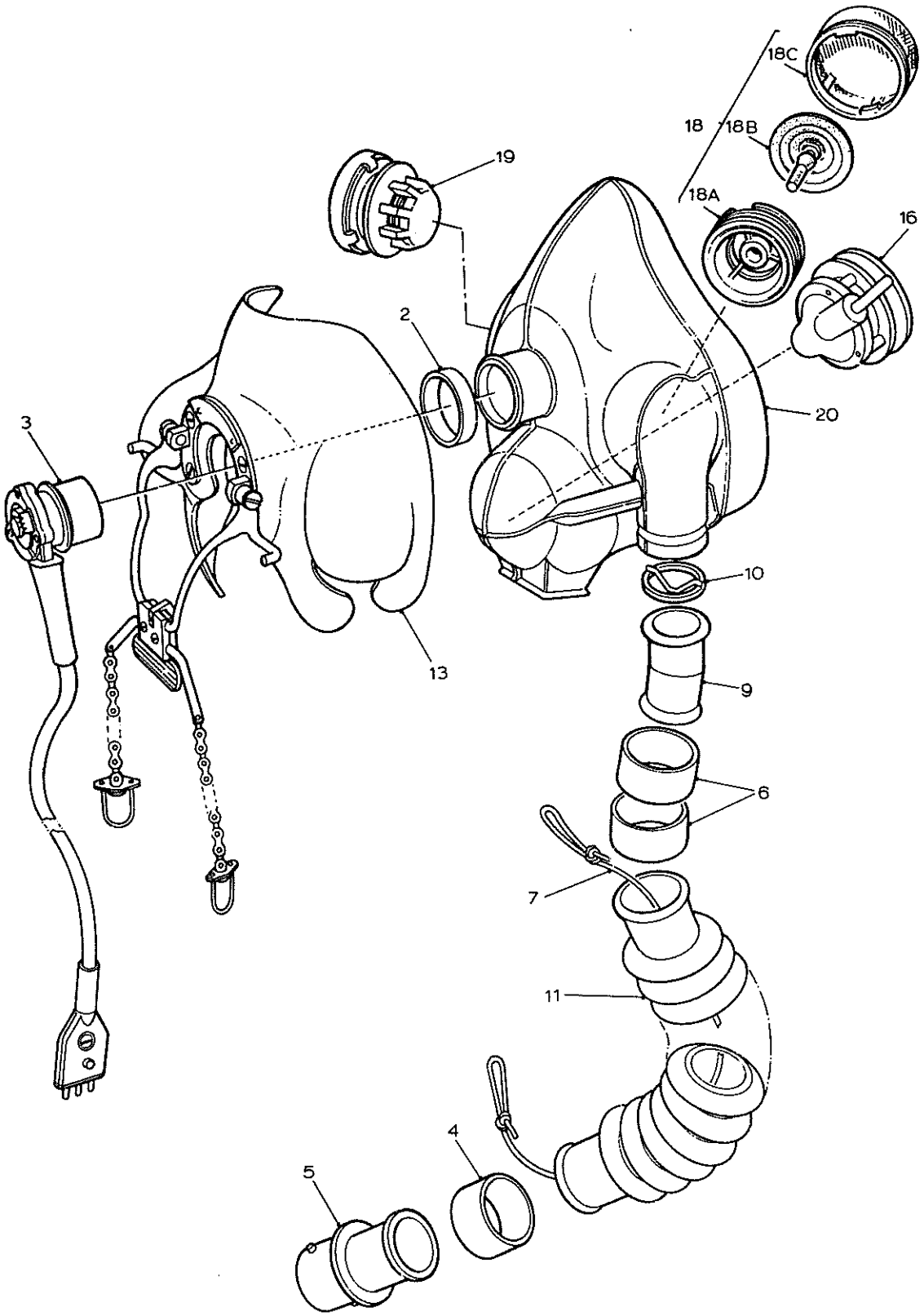


Fig 1 Oxygen masks Type P9C P9AC Q9C and Q9AC

Fig/ Index No	Part No	123456 Nomenclature	Usage Code	Units per Assy
1	1895W000	Mask Oxygen Type P9C	A	RF
1	1896W000	Mask Oxygen Type P9C Med	B	RF
1	1897W000	Mask Oxygen Type P9AC	C	RF
1	1898W000	Mask Oxygen Type P9AC Med	D	RF
1	2043W000	Mask Oxygen Type Q9C	E	RF
1	2044W000	Mask Oxygen Type Q9C Med	F	RF
1	2045W000	Mask Oxygen Type Q9AC	G	RF
1	2046W000	Mask Oxygen Type Q9AC Med	H	RF
2	HT200x3-16IN	.Sleeve rubber black		1
3	13125	.Microphone amplivox		1
4	HT200x1-2IN	.Sleeve rubber black		1
5	GA1152	.Plug bayonet		1
6	HT200x1-2IN	.Sleeve rubber black		2
7	1898W013	.Cord	ABEF	1
8+	1898W014	.Cord	CDGH	1
9	1328X070	.Connector inlet		1
10	1452W020	.Ring		1
11	IN4358	.Tube	ABEF	1
12+	1452W015	.Tube	CDGH	1
13	1422W200	.Harness toggle chain type (alternative to item 13A)	ABCD	1
13A	1422060	.Harness toggle chain type (alternative to item 13)	ABCD	1
14+	812581	.Harness toggle chain type (alternative to items 15 & 15A)	EFGH	1
15+	1422W210	.Harness toggle chain type (alternative to items 14 & 15A)	EFGH	1
15A+	1422W050	.Harness toggle chain type (alternative to items 14 & 15)	EFGH	1
16	OP5480	.Valve expiratory] Alternatives		1
17+	1938W000	.Valve expiratory]		1

+ Item not illustrated

Fig/ Index No	Part No	123456 Nomenclature	Usage Code	Units per Assy
18+	OP5490	.Valve Assembly, expiratory		1
18A	OP15926	..Body Valve		1
18B	1848W014	..Rubber, inspiratory Valve		1
18C	OP17652	..Filter Assembly, Iceguard		1
19	1328X020	.Valve anti-suffocation		1
20	1812W010	.Facepiece type P9C Med and P9AC Med	BD	1
21+	1422W010	.Facepiece type P9C and P9AC	AC	1
22+	1812W020	.Facepiece type Q9C Med and Q9AC Med	FH	1
23+	1812W030	.Facepiece type Q9C and Q9AC	EG	1

+ Item not illustrated

Chapter 8
DETAILED PARTS LIST
OXYGEN MASKS TYPE P10C P10AC Q10C AND Q10AC

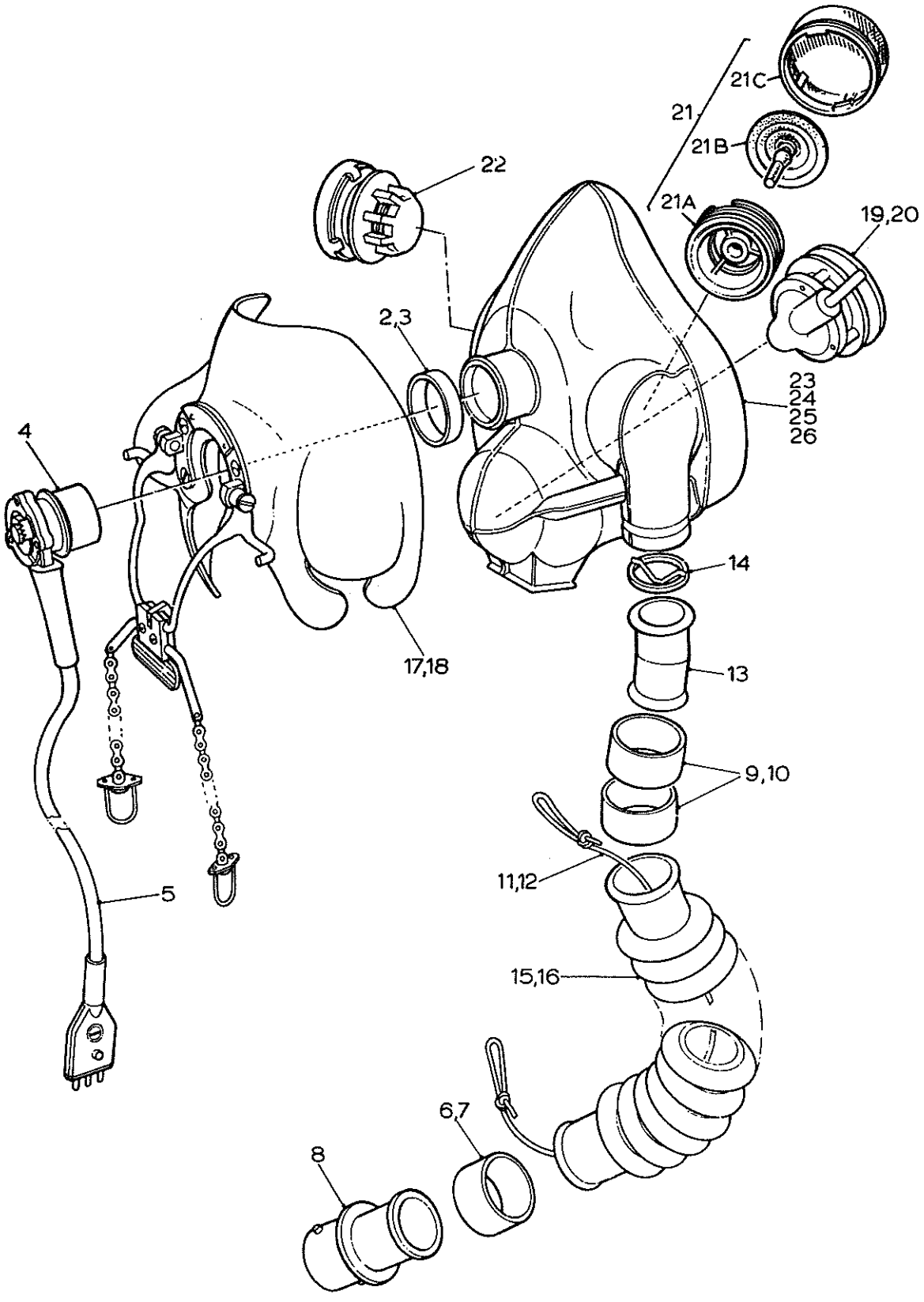


Fig 1 Oxygen masks Type P10C P10AC Q10C and Q10AC

Fig/ Index No	Part No	123456 Nomenclature	Usage Code	Units per Assy
1	1720W000	Mask Oxygen Type P2C	A	RF
1	1721W000	Mask Oxygen Type P2C Med	B	RF
1	2033W000	Mask Oxygen Type Q2C	C	RF
1	2034W000	Mask Oxygen Type Q2C Med	D	RF
2	HT200x3-16IN	.Sleeve rubber black	AB	1
3+	HT200x1-2IN	.Sleeve rubber black	CD	1
4	999-2773	.Microphone dynamic (Alternatives)		1
5+	953-1137	.Microphone dynamic (Alternatives)		1
6	HT200x1-2IN	.Sleeve rubber black		1
7	GA1152	.Plug bayonet Mk 7		1
8	HT200x1-2IN	.Sleeve rubber black		1
9	IN4358	.Tube Mk 4		1
10	1451W020	.Harness toggle chain type	AB	1
11+	809682	.Harness toggle chain type (Alternatives)	CD	1
12+	1451W030	.Harness toggle chain type (Alternatives)	CD	1
13	OP13385	.Connector Inlet	1	
14	OP5480	.Valve expiratory (Alternatives)		1
15+	1938W000	.Valve expiratory (Alternatives)		1
16+	OP5490	.Valve, assembly inspiratory		1
16A	OP15926	..Body, Valve		1
16B	1848W014	..Rubber, Inspiratory, Valve		1
16C	OP17652	..Filter Assembly, Iceguard		1
17	1328X020	.Valve anti-suffocation		1
18	1422W010	.Facepiece Type P2C	A	1
19+	1812W010	.Facepiece Type P2C Med	B	1
20+	807651	.Facepiece Type Q2C	C	1
21+	807652	.Facepiece Type Q2C Med	D	1

+ Item not illustrated

Chapter 4
DETAILED PARTS LIST
OXYGEN MASKS TYPE P4 AND Q4

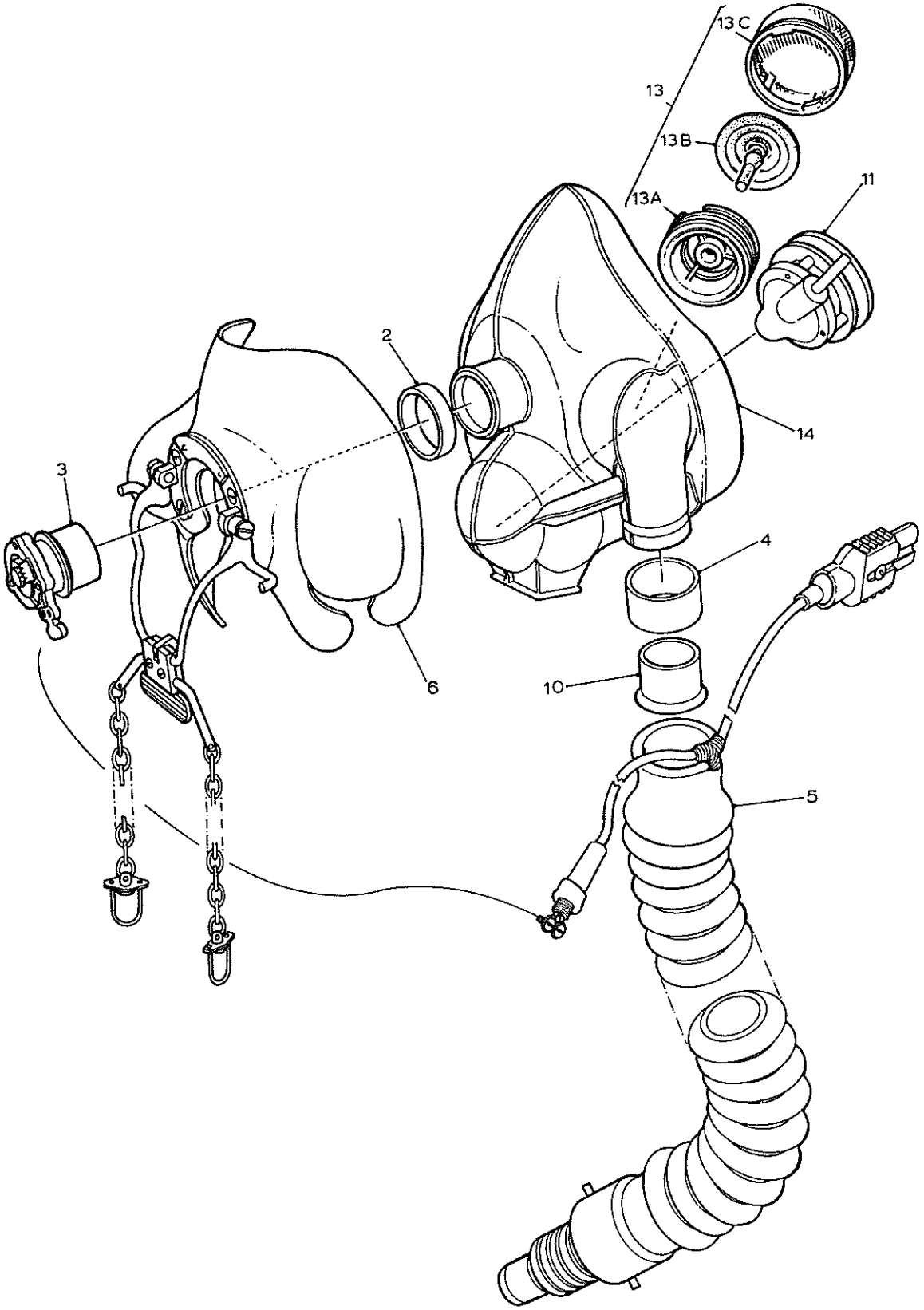


Fig 1 Oxygen masks Type P4 and Q4

Fig/ Index No	Part No	123456 Nomenclature	Usage Code	Units per Assy
1	OP7710	Mask Oxygen Type P4	A	RF
1	OP7720	Mask Oxygen Type P4 Med	B	RF
1	2035W000	Mask Oxygen Type Q4	C	RF
1	2036W000	Mask Oxygen Type Q4 Med	D	RF
2	HT200x3-16IN	.Sleeve rubber black		1
3	13125	.Microphone amplivox		1
4	HT200x1-2IN	.Sleeve rubber black		1
5	OP19378	.Tube and plug		1
6	16130	.Harness toggle chain type] Alternative	AB	1
7+	1451W020	.Harness toggle chain type]	AB	1
8+	809682	.Harness toggle chain type] Alternative	CD	1
9+	1451W030	.Harness toggle chain type]	CD	1
10	OP13385	.Connector Inlet		1
11	OP5480	.Valve expiratory] Alternative		1
12+	1938W000	.Valve expiratory]		1
13+	OP5490	.Valve inspiratory		1
13A	OP15926	..Body Valve		1
13B	1848W014	..Rubber inspiratory Valve		1
13C	OP17652	..Filter Assembly Iceguard		1
14+	OP1917900	.Facepiece Type P4	A	1
15+	1276X020	.Facepiece Type P4 Med	B	1
16+	801681	.Facepiece Type Q4	C	1
17+	814287	.Facepiece Type Q4 Med	D	1

+ Item not illustrated

Chapter 5
DETAILED PARTS LIST
OXYGEN MASKS TYPE P6 AND Q6

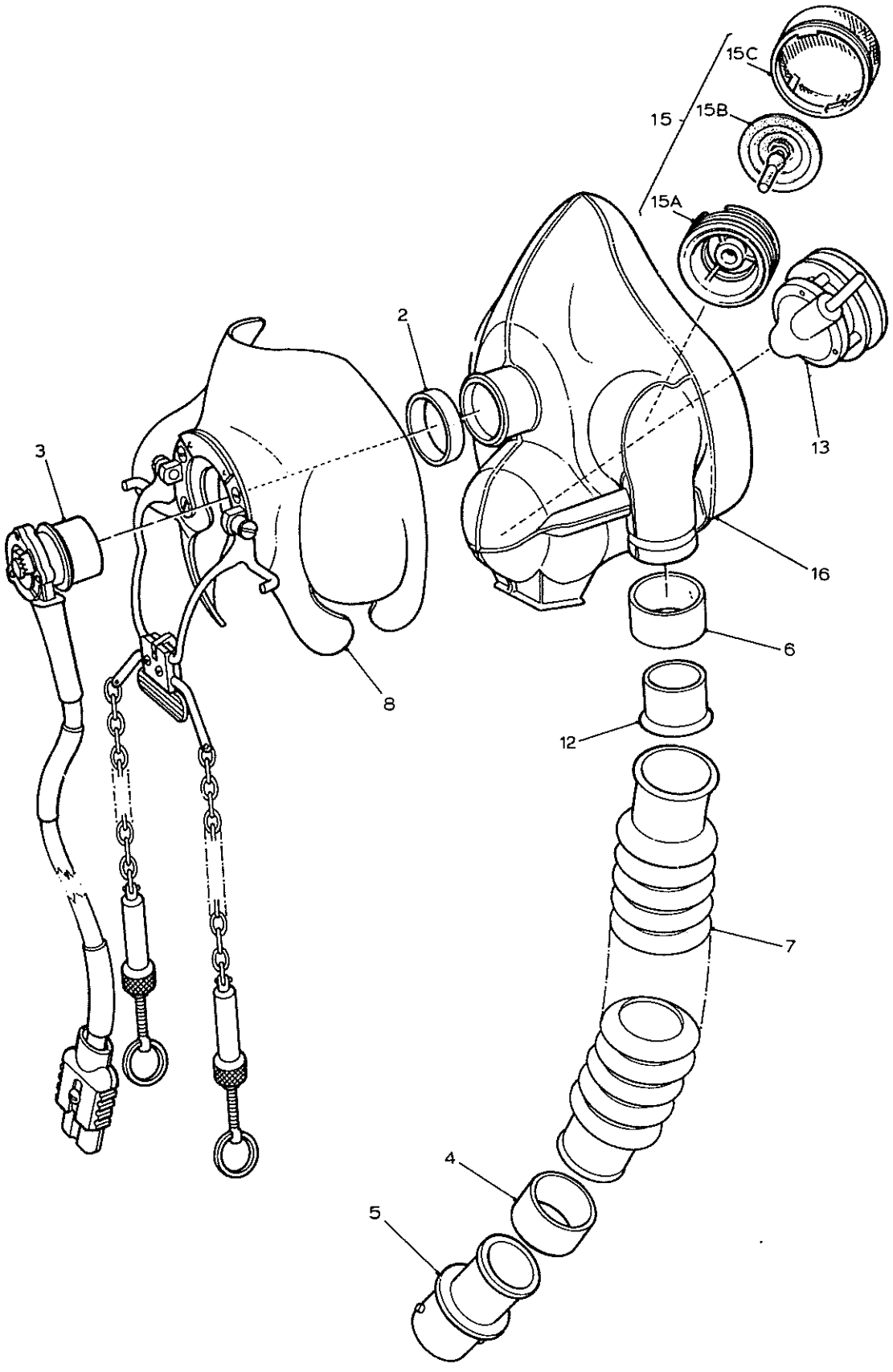


Fig 1 Oxygen masks Type P6 and Q6

Fig/ Index No	Part No	123456 Nomenclature	Usage Code	Units per Assy
1	OP7730	Mask Oxygen Type P6	A	RF
1	OP7740	Mask Oxygen Type P6 Med	B	RF
1	2037W000	Mask Oxygen Type Q6	C	RF
1	2038W000	Mask Oxygen Type Q6 Med	D	RF
2	HT200x3-16IN	.Sleeve rubber black		1
3	951-3811	.Microphone		1
4	HT200x1-2IN	.Sleeve rubber black		1
5	GA1152	.Plug bayonet Mk 7		1
6	HT200x1-2IN	.Sleeve rubber black		1
7	IN4358	.Tube Mk 4		1
8	16085	.Harness toggle chain type	AB	1
9+	1500W010	.Harness toggle chain type	AB	1
9A+	1500W050	.Harness, toggle chain type Alternatives	AB	1
10+	803916	.Harness toggle chain type	CD	1
11+	1500W020	.Harness toggle chain type	CD	1
11A+	1892W020	.Harness, toggle chain type Alternatives	CD	1
11B+	1500W040	.Harness, toggle chain type	CD	1
12	OP13385	.Connector Inlet		1
13	OP5480	.Valve expiratory		1
14+	1938W000	.Valve expiratory Alternative		1
15	OP5490	.Valve Assembly, inspiratory		1
15A	OP15926	..Body Valve		1
15B	1848W014	..Rubber inspiratory Valve		1
15C	OP17652	..Filter Assembly, Iceguard		1
16	OP1917900	.Facepiece Type P6	A	1
17+	1276X020	.Facepiece Type P6 Med	B	1
18+	810681	.Facepiece Type Q6	C	1
19+	814287	.Facepiece Type Q6 Med	D	1

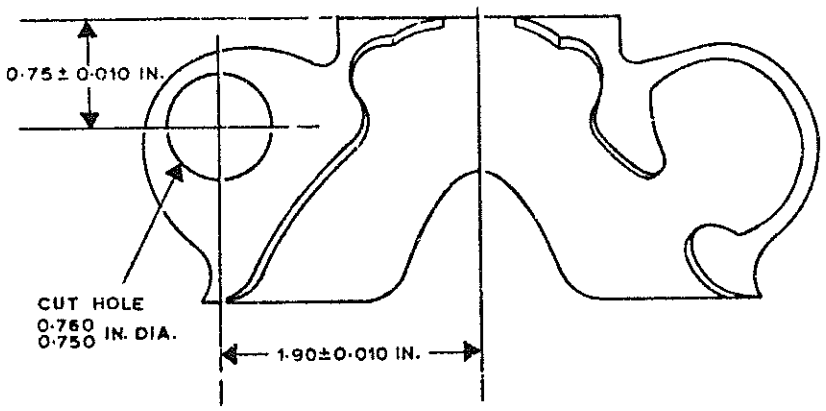
+ Item not illustrated

Fig/ Index No	Part No	123456 Nomenclature	Usage Code	Units per Assy
1	2014W000	Mask, Oxygen Type P10C	A	RF
1	2015W000	Mask, Oxygen Type P10C Med	B	RF
1	2016W000	Mask, Oxygen Type P10AC	C	RF
1	2017W000	Mask, Oxygen Type P10AC Med	D	RF
1	2018W000	Mask, Oxygen Type Q10C	E	RF
1	2019W000	Mask, Oxygen Type Q10C Med	F	RF
1	2020W000	Mask, Oxygen Type Q10AC	G	RF
1	2021W000	Mask, Oxygen Type Q10AC Med	H	RF
2	H220x316IN	.Sleeve, Rubber Black		1
3	1718W013	.Sleeve, Rubber Black Alternative		1
4	13125	.Microphone, Amplivox		1
5	A2-500303	.Lead, Mask Microphone		1
6	N175X1-2IN	.Sleeve, Rubber Black		1
7	1718W017	.Sleeve, Rubber Black Alternative		1
8	GA1152	.Plug, Bayonet		1
9	N175X1-2IN	.Sleeve, Rubber Black		2
10	1718W017	.Sleeve, Rubber Black Alternative		2
11	1898W013	.Cord	ABEF	1
12	1898W014	.Cord	CDGH	1
13	1328X070	.Connector, Inlet		1
14	1452W020	.Ring		1
15	IN4358	.Tube	ABEF	1
16	1452W015	.Tube	CDGH	1
17	1422W200	.Harness, Toggle Chain Type (alternative to item 17A	ABCD	1

+ Item not illustrated

Fig/ Index No	Part No	123456 Nomenclature	Usage Code	Units per Assy
17A+	1422W060	.Harness toggle chain type (alternative to item 17)	ABCD	1
18+	1422W210	.Harness, Toggle Chain Type (alternative to item 18A)	EFGH	1
18A+	1422W050	.Harness toggle chain type (alternative to item 18)	EFGH	1
19	OP5480	.Valve, Expiratory		1
20	1938W000	.Valve, Expiratory Alternative		1
21+	OP5490	.Valve Assembly, Inspiratory		1
21A	OP15926	..Body Valve		1
21B	1848W014	..Rubber, Inspiratory Valve		1
21C	OP17652	..Filter Assembly, Iceguard		1
22	1328X020	.Valve, Anti-suffocation		1
23	1422W010	.Facepiece Type P10C and P10AC	AC	1
24	1812W010	.Facepiece Type P10C Med and P10AC Med	BD	1
25	1422W030	.Facepiece Type Q10C and Q10AC	EG	1
26	1812W020	.Facepiece Type Q10C Med and Q10AC Med	FH	1

+ Item not illustrated



REWORK OF EXO SKELETON

(TOGGLE HARNESS REMOVED FOR CLARITY)

FIGURE 1

Drg No AP 108F-0902-2/128/76
SHEET 1

Mask Oxygen Type Q2 - Part No 2031W000 (Ref No 6D/2309)
Q2 (Medical) - Part No 2032W000 (Ref No 6D/2360)

To introduce Anti-Suffocation Valve Part No 1328X020 (Ref No 6D/2203471) together with associated changes to mask facepiece and togggle harness assembly. Masks so modified become respectively:

Mask Oxygen Type Q2C Part No 2033W000(Ref No 6D/2246362)
Q2C (Medical) - Part No 2034W000 (Ref No 6D/2246363)

(Mod No MO 211)

(Class S00 for all Q2 Oxygen Masks except those used by DOMINIE and HERCULES aircrew)

(ADSM 25/D/8349)
(ADP No XNG02110)

1. INTRODUCTION

In order to comply with Air Staff requirements for assisted sea survival an anti-suffocation valve will be introduced to prevent water entering the mask cavity of the Type Q oxygen masks listed above, provided that the wearer's head is not submerged.

(1) This modification does not supersede, partially supersede or satisfy the work called for by any Modification, Naval Service Modification, Service Engineered Modification, SRIM or Special Instruction (Technical)

2. EMBODIMENT

RAF: This modification is to be embodied as directed by Command Headquarters.

RN: This modification is to be embodied in accordance with the procedure for Class 5, O. O. modifications laid down in NAMM AP 100N-0140, Chapter 10, only to those equipments specified in the title above.

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 4½ man-hours.

4. DRAWINGS REQUIRED

Drawing No AP 108F-0902-2/ 2 /82, Sheet 1, is incorporated in this leaflet.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials (RAF & RN)

(a) A Modification Kit will not be assembled.

(b) The following Service Supply items are required.

Part 'A' - to convert Mask Oxygen Type, Q2 (Ref No 6D/2309) to Q2C (Ref No 6D/2246362)

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/2203475	1422W030	Facepiece	1	C
6D/3824	812639	Label	1	C
6D/2203471	1328X020	Valve, Anti-suffocation	1	C
	HT200 x 1/2 in	Sleeve, Rubber, Black	1	C
	HT200 x 3/16 in	Sleeve, Rubber, Black	1	C

Part 'B' - to convert Mask Oxygen Type Q2 (Medical)(Ref No 6D/2360) to Q2C (Medical) (Ref No 6D/2246363)

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/2248525	1812W020	Facepiece	1	C
6D/3825	812640	Label	1	C
6D/2203471	1328X020	Valve, Anti-suffocation	1	C
	HT200 x 1/2 in	Sleeve, Rubber, Black	1	C
	HT200 x 3/16 in	Sleeve, Rubber, Black	1	C

All the above items will be issued on demand to RAF units at home and those overseas on direct supply, with the authority of the respective Command Headquarters. Other RAF units abroad and all other users are to demand separately their requirements for parts as listed above.

(c) The following materials are to be provided under unit arrangements:

Ref No	Nomenclature	Qty	Class of Equipment
32B/1250521	Thread, linen, No 12	A/R	C
33D/2203782	Trichloroethane	A/R	C
30A/9140209 or 5E/9102391	Wire, locking, 20 swg Wire, insulated, enamel, 20 swg	A/R A/R	C C
33B/9433454	Varnish (spec DEF 32 A)	A/R	C

(2) Special Tools and Test Equipment.

No special tools or test equipment are required.

6. MODIFICATION OF SPARES

No spares are affected by this modification.

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

The embodiment of this modification changes Reference, Part and Assembly Numbers as follows:

Ref No	Part/ Assy No	Nomenclature	Ref No	Part/ Assy No
6D/2244065	801681	Facepiece (Part A)	6D/2203475	1422W030
6D/2248527	814287	Facepiece (Part B)	6D/2248525	1812W020
6D/4691312	809390	Harness Toggle (Part A and B)	6D/2240741	1451W030

8. SEQUENCE OF OPERATIONS

(1) Remove the inspiratory valve, the expiratory valve and the microphone and switch assembly as detailed in AP 108F-0902-1, Chap 2 or 2-1.

(2) Remove the facepiece.

(3) On earlier masks, carefully cut away the sleeve from the facepiece at the inlet connector, then remove the clip. Remove the mask tube from the facepiece. On later masks, remove the mask tube as detailed in AP 108F-0902-1, Chap 2 or 2-1.

(4) Fit the mask tube to the new facepiece as detailed in AP 108F-0902-1, Chap 2 or 2-1.

(5) Cut a hole in the exo skeleton as indicated in fig 1, obliterate the part number stamped on the inside face of the skeleton and substitute the appropriate new number as listed in para 7.

(6) Note the serial number on the mask identification label, then remove the label and discard. Degrease the label contact area on the fixing plate with trichloroethane. Secure the appropriate new label as follows:

(a) Immerse label in clean, warm water (22-40 °C) for 40-60 seconds; remove and dry off excess moisture between sheets of blotting paper.

(b) Peel off the backing strip, being careful not to contaminate the adhesive surface of the label, apply the label immediately to the prepared surface on the fixing plate, ensuring that no air bubbles are trapped under the label. Press on firmly with hand roller or suitable tool.

(c) Using a scriber or suitable sharp tool, transfer the serial number of the pre-modified mask to the new label.

(d) Seal the edge of the label 3 mm (0.125 in) in from the edge of the label and 3 mm (0.125 in) over the edge with varnish DEF 32A, Ref No 33B/9433454.

► (7) Assemble the toggle harness assembly and the new facepiece. Fit the microphone and switch assembly, inspiratory valve, iceguard, expiratory valve and the new anti-suffocation valve as detailed in AP 108F-0902-1, Chap 2 or 2-1.

(8) Apply the anti-suffocation valve tests, leakage tests, load test and electrical tests as detailed in AP 108F-0902-1, Chap 3. ◄

9. SPECIAL TESTS AFTER EMBODIMENT

No special testing is required after the embodiment of this modification but any appropriate and associated testing is to be carried out.

10. RECORDING ACTION

When this modification has been embodied and inspected in accordance with current authorised procedure, the relevant entries are to be made in the appropriate servicing records.

11. DISPOSAL OF REDUNDANT PARTS

The undermentioned parts rendered redundant by the embodiment of this modification are to be disposed of as scrap:

Ref No	Part No	Nomenclature	Qty	Class Of Equipment
6D/2244065	801681	Facepiece (Part A)	1	C
6D/2248527	814287	Facepiece (Part B)	1	C
6D/2244924	801523	Sleeve Rubber	1	C
6D/2244925	802550	Sleeve Rubber	1	C
6D/NIV	802181	Label	1	C
6D/NIV	802800	Label	1	C
6D/NIV	802189	Label	1	C
6D/NIV	802801	Label	1	C

12. EFFECT ON MASS AND MOMENT

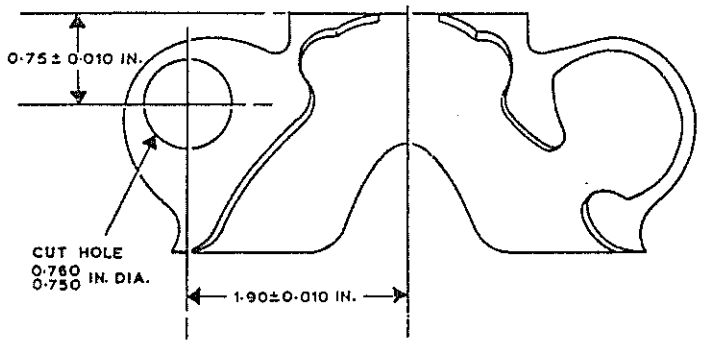
This modification has no effect on mass.

13. EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION AND HANDLING

The embodiment of this modification ensures that air can be breathed following cessation of oxygen supply upon ditching, provided that the wearer's head is not submerged.

14. EFFECT ON SERVICING AND ON GROUND EQUIPMENT

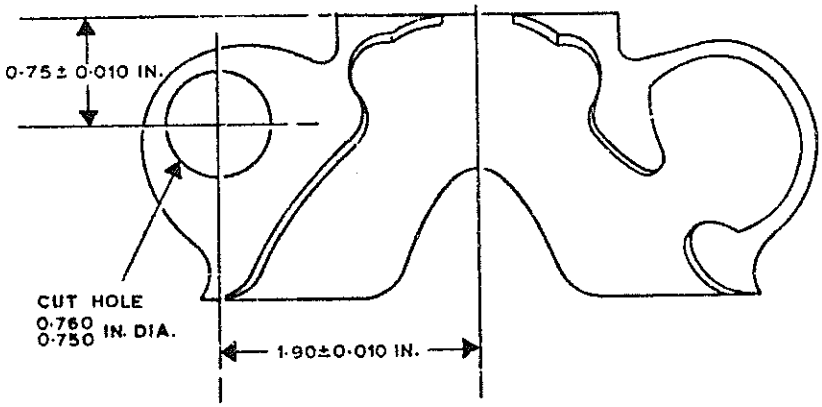
Servicing instructions for the Anti-Suffocation valve are contained in AP 108F-0902-1, Chap 2 or 2-1.



REWORK OF EXO SKELETON

(TOGGLE HARNESS REMOVED FOR CLARITY)

FIGURE 1



REWORK OF EXO SKELETON

(TOGGLE HARNESS REMOVED FOR CLARITY)

FIGURE 1

Drg. No. AP 108F-0902-2/M0211/74

(Masks Type Q - Anti-suffocation Valves-intro)

Mask Oxygen Type Q8 ..... - Part No 809335 (Ref No 6D/2240512)
Q8 (Medical) - Part No 809336 (Ref No 6D/2240513)
Q8A..... - Part No 809337 (Ref No 6D/2240514)
Q8A(Medical) - Part No 809338 (Ref No 6D/2240515)

This is a two part Mod:

Part 1 - To introduce an anti-suffocation valve (Ref No 6D/2203471), together with associated changes to mask facepiece.

Part 2 - To introduce toggle harness assembly with stronger chain links Pt No 812851 (Ref No 6D/2244941) in lieu of 809390 (Ref No 6D/3738). Masks so modified become respectively:

Mask Oxygen Type Q8C..... - Part No 812633 (Ref No 6D/2246364)
Q8C (Medical) - Part No 812634 (Ref No 6D/2246365)
Q8AC..... - Part No 812635 (Ref No 6D/2246366)
Q8AC(Medical) - Part No 812636 (Ref No 6D/2246367)

(Mod No MO 212) (Class C/3 on replacement of facepiece or on embodiment of MOD PE37 AP 108F-0001-2(R), (Leaflet D53) refers).

(ADSM 25/D8350)
(ADP No XNG 02120)
(ADP No XNG 02121 Pt 1)
(ADP No XNG 02122 Pt 2)

1 INTRODUCTION

Part 1: In order to comply with Air Staff requirements for assisted sea survival, an anti-suffocation valve is introduced to prevent water entering the mask cavity of the Type 'Q' masks listed above, provided that the wearer's head is not submerged.

Part 2: Due to higher loads imposed on the mask harness chains and attachments, when ejecting at high speeds, the toggle chains will be strengthened by fitting a Perry type chain, as used on the P8 series of masks.

(1) This modification does not supersede, partially supersede or satisfy the work called for by any Modification, Service Modification, STI, SI, NTI or SRIM.

2 EMBODIMENT

RAF: This Modification is to be embodied as directed by Command Headquarters.

RN: This Modification is to be embodied in accordance with the procedure for Class 3 (on replacement) modifications laid down in NAMM (AP(N)140).

3 APPROPRIATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 4½ man hours.

4 DRAWINGS REQUIRED

No drawings are required for the embodiment of this modification.

5 PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

(a) A Modification Kit will not be assembled.

(b) The following Service Supply items are required.

Part 'A' to convert Mask Oxygen Type Q8, Ref No 6D/2240512 to Q8C Ref No 6D/2246364

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/3826	812641	Label	1	C
6D/2203475	807651	Facepiece	1	C
6D/2203471	807646	Anti-suffocation valve	1	C
6D/2304	801523	Sleeve Rubber	1	C
6D/2939	802550	Sleeve Rubber	1	C
6D/2244941	812581	Harness Toggle	1	C

Part 'B' to convert Mask Oxygen Type Q8 (Medical) Ref No 6D/220513 to Q8C (Medical) Ref No 6D/2246365.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/3827	812642	Label	1	C
6D/2203474	807652	Facepiece	1	C
6D/2203471	807646	Anti-suffocation valve	1	C
6D/2304	801523	Sleeve Rubber	1	C

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/2939	802550	Sleeve Rubber	1	C
6D/2244941	812581	Harness Toggle	1	C

All the above items will be issued on demand to RAF Units at home and those overseas on direct re-supply with the authority of the respective Cmd Hqtrs. Other RAF units abroad and all other users are to demand separately their requirements for parts as listed in sub-para (a) above, in accordance with current regulations.

(c) The following materials are to be provided under unit arrangements:

Ref No	Part No	Nomenclature	Qty	Class of Equipment
32B/656		Thread Linen No 12	A/R	C
33B/9433454		Varnish	A/R	C
30A/3319		Wire Locking	A/R	C
33D/2201949		Trichloroethane	A/R	C
33B/9433454		Varnish (spec DEF 32A)	A/R	C

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6 MODIFICATION OF SPARES

No spares are affected by this modification.

7 CHANGE OF REFERENCE, PART OR ASSEMBLY NUMBERS

The embodiment of this modification changes Reference, Part and Assembly Numbers as follows:

OLD Ref No	Part/Assy No	Nomenclature	NEW Ref No	Part/Assy No
6D/2272	801681	Facepiece (Parts A and C)	6D/2203475	807651
6D/2460	802799	Facepiece (Parts B and D)	6D/2203474	807652
6D/3738	809390	Harness Toggle	6D/2244941	812581

8 SEQUENCE OF OPERATIONS

(1) Remove the inspiratory valve, the expiratory valve and the microphone and switch assembly as detailed in AP 108F-0902-1.

(2) Remove the facepiece from the chain toggle harness assembly. Note the chain toggle harness assembly serial number and Section/ Reference number.

(3) Carefully cut away the sleeve from the facepiece at the inlet connector. Sever the binding thread and remove the facepiece from the inlet connector. Fit a new sleeve Pt No 801523 over the inlet connection of the new facepiece, insert the inlet connector, complete with ring assembly and mask tube, into the new facepiece. Align and secure the assembled parts as detailed in AP 108F-0902-1.

(4) Secure the appropriate new label to the new toggle harness assembly as follows:

(a) Degrease the label contact area on the fixing plate with trichloroethane.

(b) Immerse the label in clean, warm water (22-40 ^{o}C) for 40-60 seconds; remove and dry off all excess moisture between sheets of blotting paper.

(c) Peel off the backing strip, being careful not to contaminate the adhesive surface of the label, apply the label immediately to the prepared surface on the fixing plate, ensuring that no air bubbles are trapped under the label. Press firmly with hand roller or suitable tool.

(d) Using a scriber or suitable sharp tool, transfer the serial number of the pre-modified mask to the new mask label.

(e) Seal the edge of the label, 1/8 inch in from the edge of the label and 1/8 inch over the edge with Varnish (Spec DEF 32A) (33B/9433454).

(5) Assemble the toggle harness assembly and the new facepiece. Fit the microphone and switch assembly, inspiratory valve, iceguard, expiratory valve and the new anti-suffocation valve as detailed in AP 108F-0902-1.

(6) Apply the anti-suffocation valve tests, leakage tests, hose lead test and electrical tests as detailed in AP 108F-0902-1.

9 SPECIAL TESTS AFTER EMBODIMENT

No special testing is required after the embodiment of this modification but any appropriate and associated testing is to be carried out.

10 RECORDING ACTION

When this modification has been embodied and inspected in accordance with current authorised procedure, the relevant entries are to be made in the appropriate servicing records.

11 DISPOSAL OF REDUNDANT PARTS

The undermentioned parts rendered redundant by the embodiment of this modification are to be disposed of as scrap:

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/3738	809390	Harness Toggle	1	C
6D/2272	801681	Facepiece (Parts A and C)	1	C
6D/2304	801523	Sleeve Rubber	1	C
6D/2939	802550	Sleeve Rubber	1	C
6D/2460	802799	Facepiece (Parts B and D)	1	C

12 EFFECT ON WEIGHT AND MOMENT

This modification has no effect on weight.

13 EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION OR HANDLING

The embodiment of this modification ensures that air can be breathed following cessation of oxygen supply upon ditching, providing the wearer's head is not submerged. The stronger chain harness provides for greater loads imposed upon the mask attachment, when ejection is necessary at high speed.

14 EFFECT ON SERVICING AND ON GROUND EQUIPMENT

Pending the issue of an amendment to AP 108F-0902-1, the Servicing instructions for the anti-suffocation valve fitted to Type P7 and Q7 masks, contained in AP 108F-0902-1, may be referred to.

Anti-suffocation Valve Deleted

Oxygen Masks Type P1C - Pt No 1718W000 (6D/2246333) P1C (Med) - Pt No 1719W000 (6D/2246334). To introduce Oxygen Masks Type P1B Pt No OP 7670 (6D/3040) and Type P1B (Med) Pt No OP 7680 (6D/3041) in lieu and by conversion of Oxygen Masks Type P1C Pt No 1718W000 (6D/2246333) and Type P1C (Med) Pt No 1719W000 (6D/2246334) respectively, by deleting Anti-suffocation Valve Pt No 1328X020 (6D/2203471), with associated changes to Mask Facepiece and Toggle Harness Assembly to suit.

(Mod No MO 136)

(Class B/2)

(D/ADSM25/10/23/63)
(ADP No XNG 01360)
(ADP No XNG 0136A)
(ADP No XNG 0136B)

1 INTRODUCTION

Modification No MO 128 converted Type P1B Oxygen Masks to Type P1C by the introduction of an anti-suffocation valve. It has now been decided that there is no requirement for Type P1C masks. This modification reverts Type P1C masks to Type P1B by removal of the anti-suffocation valve.

(1) This modification supersedes the requirement for the modification of Type P1B masks under Mod No MO 128.

2 EMBODIMENT

RAF: This modification is to be embodied as directed by Command Headquarters.

RN: This modification is to be embodied in accordance with the procedure for Class 2 modifications laid down in NAMM (AP(N) 140).

3 APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 2 man-hours.

4 DRAWINGS REQUIRED

No drawings are required for the embodiment of this modification.

5 PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

(a) The Modification spares which consist of the following Service Supply items will be stocked by No 14 MU, and should be demanded as required, as separate items through SCC RAF or RNSDC Llangennech (RN) endorsed "for use in conjunction with MOD MO136".

Ref No	Part No	Nomenclature	Qty	Class of Equipment
PART A - TO CONVERT 1718W000 TO 0P7670				
6D/4210	0P17110/13	Label	1	C
6D/3820	ART 4530-00 x 3/32 in	Screw, Hammerdrive Type U	2	C
6D/3068	0P1917900	Facepiece	1	C
6D/1923	15003	Clip	1	C
5K/6038	N250	Sleeve, Helaprene	1	C
5K/6037	N220	Sleeve, Helaprene	1	C
PART B - TO CONVERT 1719W000 TO 0P7680				
6D/4211	0P17110/14	Label	1	C
6D/3820	ART 4530-00 x 3/32 in	Screw, Hammerdrive Type U	2	C
6D/3069	0P191800	Facepiece	1	C
6D/1923	15003	Clip	1	C
5K/6038	N250	Sleeve, Helaprene	1	C
5K/6037	N220	Sleeve, Helaprene	1	C

NOTE: CHAIN TOGGLE HARNESS PART NO 1451W020 (6D/2246379) IS RETAINED ON CONVERTED MASKS.

All the above items will be issued as demanded to RAF units at home and overseas. Demands are to be submitted in accordance with Para 5(1)(a) and to be endorsed "Required for use in conjunction with MOD MO 136".

(b) The following materials are to be provided under Unit arrangements:

Ref No	Part No	Nomenclature	Qty	Class of Equipment
33H/9129434	ND	Bostik 1410	A/R	C
5E/9102391	ND	20 swg Black Oxydised Copper Wire	A/R	C

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6 MODIFICATION OF SPARES

No spares are affected by this modification

7 CHANGE OF REFERENCE, PART OR ASSEMBLY NUMBERS

The embodiment of this modification changes Reference, Part and Assembly Numbers as follows:

OLD Ref No	Part/Assy No	Nomenclature	NEW Ref No	Part/Assy No
6D/2203472	1422W010	Facepiece (Part A)	6D/3068	OP 1017900
6D/2203473	1422W020	Facepiece (Part B)	6D/3069	OP 1018000
6D/3811	1000S427	Label (Part A)	6D/4210	OP 17110/13
6D/3812	1000S428	Label (Part B)	6D/4211	OP 17110/14
-	-	Screw, hammerdrive Type 'U'		ART 4530-00 x 3/32 in

8 SEQUENCE OF OPERATIONS

The following is the sequence of operations:

(1) Remove the inspiratory valve, the expiratory valve, the anti-suffocation valve and the microphone and switch assembly as detailed in AP 108F-0902-1. Discard the anti-suffocation valve.

(2) Withdraw the facepiece from the chain toggle harness assembly.

(3) Remove the mask tube and the inlet connector from the facepiece, and assemble to the appropriate new facepiece as detailed in AP 108F-0902-1, fitting a new clip Part No 15003 (6D/1923) and a new sleeve Part No N 250 (5K/6038).

(4) Remove the self adhesive mask identification label from the fixing plate. Secure the appropriate new label by inserting the new hammerdrive screws through the existing holes.

(5) Assemble existing toggle harness assembly and new facepiece. Fit the microphone and switch assembly, the inspiratory valve, the iceguard and the expiratory valve as detailed in AP 108F-0902-1.

(6) Apply leakage tests, load test and electrical tests as detailed in AP 108F-0902-1.

9 SPECIAL TESTS AFTER EMBODIMENT

No special testing is required after the embodiment of this modification, but any other appropriate and associated testing is to be carried out.

10 RECORDING ACTION

When this modification has been embodied and inspected in accordance with current procedure, the relevant entries are to be made in the appropriate servicing records.

11 DISPOSAL OF REDUNDANT PARTS

The undermentioned parts rendered redundant by the embodiment of this modification are to be disposed of thus:

(a) For items held in main stores the following parts are to be disposed of under current local procedures:

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/3811	1000S427	Label (Part A)	1	C
6D/3812	1000S428	Label (Part B)	1	C
6D/1923	15003	Clip	1	C
5K/6038	N250	Sleeve	1	C
5K/6037	N220	Sleeve	1	C

(b) For items held in main stores the following parts are to be returned to No 14 MU RAF Carlisle.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/2203471	1328X020	Anti-suffocation valve	1	C
6D/2203472	1422W010	Facepiece (Part A)	1	C
6D/2203473	1422W020	Facepiece (Part B)	1	C

(c) For items held other than in main stores the following parts are to be disposed of under current local procedure.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/2203472	1422W010	Facepiece (Part A)	1	C
6D/2203473	1422W020	Facepiece (Part B)	1	C
6D/3811	1000S427	Label (Part A)	1	C
6D/3812	1000S428	Label (Part B)	1	C
6D/1923	15003	Clip	1	C
5K/6038	N250	Sleeve	1	C
5K/6037	N220	Sleeve	1	C

(d) For items held other than in main stores the following parts are to be returned to No 14 MU RAF Carlisle.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/2203471	1328X020	Anti-suffocation valve	1	C

12 EFFECT ON WEIGHT OR MOMENT

This modification has no effect on weight or moment.

13 EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION OR HANDLING

Deletion of the anti-suffocation valve removes the facility which enabled air to be breathed following cessation of oxygen supply upon ditching.

14 EFFECT ON SERVICING AND ON GROUND SUPPORT EQUIPMENT

Servicing and testing of the anti-suffocation valve is no longer required.

Masks Type Q1C and Q1C (med) -
Deletion of Anti-Suffocation Valve

Oxygen Masks Type Q1C - Part No 812629 (6D/2246360) and Type Q1C (medical) - Part No 812630 (6D/2246361). To introduce Masks, Oxygen Type Q1B - Part No 815655 (6D/2343) and Type Q1B (Medical) - Part No 815656 (6D/2359) in lieu of and by conversion of Masks Type Q1C - Part No 812629 (6D/2246360) and Type Q1C (Medical) - Part No 812630 (6D/2246361) respectively, by deleting the Anti-suffocation Valve - Part No (6D/2203471), with associated changes to the Toggle Harness Assembly and Mask Facepiece to suit.

(Mod No MO 214)

(Class B/2)

(D/ADSM25/10/23/460)
(ADP No XNG02140)

1 INTRODUCTION

Modification No MO 211 introduced Masks Type Q1C and Q1C (Med) complete with an Anti-Suffocation valve.

It has now been decided by the Mod Staff Ref OR 36, Minute SF/CT 1474/72 (10-7-75) that there is no requirement for Type Q1C masks in respect of aircraft without PEC Assemblies. This means that there is no requirement whatsoever for Masks Type Q1C and Q1C (Med). This modification converts Masks, Type Q1C and Q1C (Med) to Type Q1B and Q1B (Med).

(1) This modification supersedes the requirement for the modification of Masks Type Q1A and Q1A (Med) under Mod No MO 211.

2 EMBODIMENT

RAF: This modification is to be embodied as directed by Command Headquarters.

RN: This modification is to be embodied in accordance with the procedure for Class 2 modifications laid down in AP 100N-0140, Chapter 10.

3 APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately $2\frac{1}{2}$ man hours.

4 DRAWINGS REQUIRED

No drawings are required for the embodiment of this modification.

5 PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

(a) The modification spares consisting of the following Service Supply items, will be stocked by No 14 MU, and should be demanded as required, as separate items through SCC RAF, or RNASDC Llangennech (RN) and endorsed "for use in conjunction with Mod MO 214".

PART A - To convert 812629 to 815655 (Type Q1C to Q1B)

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/2272	801681	Facepiece	1	C
6D/2304	801523	Rubber sleeve	1	C
6D/2939	802550	Rubber sleeve	1	C
	815659	Label Q1B	1	C
*6D/3738	809390	Chain, Toggle Harness Assy	1	C

*This item is only to be demanded if the pre-modification Chain Toggle Harness Assembly is unserviceable.

PART B - To convert 812630 to 815656 (Type Q1C (Med) to Q1B (Med)

6D/2248527	814287	Facepiece (Medical)	1	C
6D/2304	801523	Rubber Sleeve	1	C
6D/2939	802550	Rubber Sleeve	1	C
	815660	Label Q1B (Medical)	1	C
*6D/3738	809390	Chain Toggle Harness Assy	1	C

*This item is only to be demanded if the pre-modification Chain Toggle Harness Assembly is unserviceable.

Note: When converting both the Type Q1C and Q1C (med) mask to Type Q1B and Q1B (med) the Chain Toggle Harness Assembly, Part No 809682 (6D/2246741) may be retained if in a serviceable and satisfactory condition. (The hole in the Exo Skeleton will be effectively sealed by the new facepiece).

All the above parts will be issued as demanded to RAF units at home and overseas. Demands are to be submitted in accordance with Para 5 (1) (a) and are to be endorsed "Required for use in conjunction with MOD MO 214".

(b) The following materials are to be provided under unit arrangements:-

Ref No	Part No	Nomenclature	Qty	Class of Equipment
30A/3319	811234	Lock Wire 0.018 in stainless steel	A/R	C
32B/1250521	811238	Thread	A/R	C
33B/9433454	814164	Varnish (to Spec DEF 32A)	A/R	C
33D/2201949	-	Trichloroethane	A/R	C

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6 MODIFICATION OF SPARES

No spares are affected by this modification.

7 CHANGE OF REFERENCE, PART OR ASSEMBLY NUMBERS

The embodiment of this modification changes Reference, Part and Assembly Numbers as follows:-

Pre-Mod			Post Mod	
Ref No	Part No	Nomenclature	Ref No	Part No
6D/2203475	807651	Facepiece	6D/2272	801681
6D/2203474	807652	Facepiece (Med)	6D/2248527	814287
6D/3822	812637	Label	6D/TBA	815659
6D/3823	812638	Label (Med)	6D/TBA	815660
*6D/2246741	809682	Chain Toggle Harness Assy	6D/3738	809390

*This item applies only where the Chain Toggle Harness Assembly is changed (See also Para 5 (1), Note)

8 SEQUENCE OF OPERATIONS

The following is the sequence of operations:-

(1) Remove the iceguard filter, the inspiratory valve, the expiratory valve, the anti-suffocation valve and the microphone and switch assembly as detailed in AP 108F-0902-1, Chap 2. Set aside the anti-suffocation valve.

(2) Separate the chain toggle harness assembly from the facepiece.

(3) Carefully cut the rubber sleeve away from the breathing hose/mask inlet connection to expose the clip. Remove the clip and then separate the hose from the facepiece.

(4) Assemble the breathing hose to the inlet connection of the new facepiece, ensure that the rubber sleeve (Part No 801523) (6D/2304) is positioned on the hose before assembly.

(5) Secure the breathing hose to the inlet connection of the facepiece by whipping with 6 or 8 turns of thread (Part No 811238) (32B/1250521) and then coat with varnish (Part No 814164) (33B/9433454) to DEF SPEC 32A, as detailed in AP 108F-0902-12, Chap 2. When the varnish is dry, roll back the rubber sleeve to cover the whipping.

(6) Remove the self-adhesive mask identification label from the microphone fixing plate. Attach the appropriate new adhesive identification label as follows:-

(a) Degrease the label contact area on the microphone fixing plate with trichloroethane.

(b) Etch the serial number of the pre-modified mask on the appropriate new label.

(c) Immerse the label in clean, warm water (22 to 40 °C) for 40-60 seconds, remove and dry off surplus water between sheets of blotting paper.

(d) Remove the backing from the label, taking care not to touch the exposed adhesive.

(e) Immediately, position the label on the fixing plate, and using a small rounded tool with a rolling action, expel any trapped air working from the centre of the label toward each edge in turn. Allow 24 hours before attempting to test the adhesion of the label.

(f) Seal the edge of the label (1/8 inch in from the edge) with varnish (DEF Spec 32A) (33B/9433454).

(7) Assemble the existing chain toggle harness assembly (if serviceable) to the new facepiece. Fit the microphone and switch (using new rubber sleeve - Part No 8022550 to cover lockwire), the inspiratory valve, the iceguard filter and the expiratory valve as detailed in AP 108F-0902-1, Chap 2.

(8) Apply the load test, leakage and electrical tests as detailed in AP 108F-0902-1, Chap 3.

9 SPECIAL TESTS AFTER EMBODIMENT

No special testing is required after the embodiment of this modification, but any other appropriate and associated testing is to be carried out.

10 RECORDING ACTION

When this modification has been embodied and inspected in accordance with the current authorised procedure, the relevant entries are to be made in the appropriate servicing records.

11 DISPOSAL OF REDUNDANT PARTS

(1) The undermentioned parts rendered redundant by the embodiment of this modification are to be returned to No 14 MU RAF Carlisle:-

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/2203471	807646	Anti-suffocation valve	1	C
*6D/2203475	807651	Facepiece	1	C
*6D/2203474	807652	Facepiece (Medical)	1	C

*New, unused items held in main stores only

(2) The undermentioned parts rendered redundant by the embodiment this modification are to be disposed of locally in accordance with current instructions.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/2203475	807651	Facepiece	1	C
6D/2203474	807652	Facepiece (Medical)	1	C
6D/3822	812637	Label	1	C
6D/3823	812638	Label (Med)	1	C
*6D/2246471	809682	Chain toggle Harness assy	1	C
6D/1816	807759	Tube Clip	1	C
6D/2304	801523	Rubber Sleeve	1	C
6D/2939	802550	Rubber Sleeve	1	C

*These items will be only the unserviceable assemblies which are replaced by new assemblies during embodiment of the modification.

12 EFFECT ON MASS AND MOMENT

This modification has no effect on mass.

13 EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION AND HANDLING

Removal of the anti-suffocation valve removes the facility which enabled air to be breathed following cessation of the oxygen supply after ditching. This facility is not required by aircraft not using PEC assemblies.

14 EFFECT ON SERVICING AND ON GROUND SUPPORT EQUIPMENT

(1) Servicing and testing of the anti-suffocation valve is no longer required.

(2) All relevant APs will be considered for amendment action to take account of changes introduced by this modification.

Oxygen Masks Type P9 Intro

Oxygen Masks Type	P8C	-	Pt No 1724W000 (6D/2246337)
	P8C (Med)	-	Pt No 1725W000 (6D/2246338)
	P8AC	-	Pt No 1726W000 (6D/2246339)
	P8AC (Med)	-	Pt No 1727W000 (6D/2246340)

To introduce Oxygen Masks Type P9 by conversion of Oxygen Masks Type P8 by the introduction of Mask Microphone Lead Assembly Pt No B105573 in lieu of Cord Electrical Assembly Pt No WTB119519/2 Masks so modified become respectively:

Type	P9C	-	Pt No 1895W000 (6D/TBA)
	P9C (Med)	-	Pt No 1896W000 (6D/TBA)
	P9AC	-	Pt No 1897W000 (6D/TBA)
	P9AC (Med)	-	Pt No 1898W000 (6D/TBA)

(Mod No M0137)

(Class SOO for Hawk Aircraft)
(Class SOO for Service Trials of the Mk 4 Helmet in Buccaneer Aircraft)

(D/ADSM 25/10/23/201)
(ADP No XNG01370)

1 INTRODUCTION

The introduction into service of the Mark 4 helmet necessitates replacement of the existing mask microphone lead assembly by a new assembly which will connect with the plocket in the headset assembly in the new helmet.

(1) This modification does not supersede, partially supersede or satisfy the work called for by any Modification, Service Modification, STI, SI, NTI or SRIM.

2 EMBODIMENT

This modification is to be embodied to Special Order Only.

3 APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately $\frac{3}{4}$ man hour.

4 DRAWINGS REQUIRED

Drawing No AP 108F-0902-2/M0137/77 Sheet 1 is incorporated in this leaflet.

5 PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

(a) The modification kit which consists of the following items supplied by the contractor will be assembled by No 14 Maintenance Unit under Reference No 6D/4265.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
-	B105573	Mask Microphone Lead Assembly	1	-

(b) The following materials are to be provided under Unit arrangements:

Ref No	Part No	Nomenclature	Qty	Class of Equipment
32B/656	-	Thread, black linen No 35	A/R	C
-	-	Bostik 252	A/R	C
33C/2202840	-	Ink, Tintalite white	A/R	C

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the incorporation of this modification.

6 MODIFICATION OF SPARES

The following list shows the spares affected by this modification and the parts required to modify them:

Ref No	Part No	Nomenclature	Qty	Class of Equipment
*10AH/9992773 *10AH/9531137		Microphone, switch and Lead Assembly	1	-

*Alternatives

Parts required:

B100573	Mask microphone lead assembly	1	-

Spares will be modified by user units as required.

7 CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

The embodiment of this modification changes Reference, Part and Assembly Numbers as follows:

OLD			NEW		
Ref No	Part/Assy No	Nomenclature	Ref No	Part/Assy No	Nomenclature
*10AH/9992773		Microphone switch and lead assy	-	13125	Microphone and switch assy
*10AH/9531137			-	B105573	Microphone lead assy

*Alternatives

8 SEQUENCE OF OPERATIONS

The following is the sequence of operations:

NOTE 1: Before any electrical circuit is disturbed or disconnected, all electrical power supplies in, to or from the aircraft, are to be disconnected. Power supplies are to be reconnected only when the person responsible for embodying or inspecting the modification is satisfied that all action has been taken to make the aircraft safe for reconnection.

NOTE 2: This modification is to be embodied as directed in this leaflet without any deviation, and the prescribed routeing of electric cables is to be strictly followed.

(1) Remove the existing microphone lead by rolling back the rubber sleeve to expose the switch terminals, remove the two 8BA screws and washers securing the leads to the terminals, then sever the thread binding the lead to the lug on the switch housing. Remove and discard the lead.

(2) Attach the new lead, Pt No B105573, to the switch terminals by aligning the yellow sleeved lead on the lowermost terminal (adjacent to the expiratory valve), and the green sleeved lead on the uppermost terminal. Secure both leads with the washers and 8BA screws. Bind the leads to the lug on the switch housing with No 35 black linen thread.

(3) Position the sleeve, fitted to the new lead, over the switch terminals, then bond the lowermost end of the sleeve securely to the lead using Bostik 252.

(4) Apply the standard electrical tests as follows:

(a) With the microphone switch in the 'OFF' position, there should be an open circuit between terminals X and Y of the connector (Fig 1).

(b) With the microphone switch 'ON' the resistance between terminals X and Y of the connector should not exceed 400 ohms or be less than 50 ohms.

(c) Insulation resistance between terminals X and Y and the screen socket (Fig 1) should be not less than 0.5 megohm when tested with a supply of 250 V d.c. applied for 15 seconds.

(5) Mark the new Type and Part Numbers on the bridge piece of the exo skeleton, immediately above the existing nameplate, using white tintalite ink (33C/2202840). New identities are as follows:

Type P8C	Pt No 1724W000 (6D/2246337) becomes	Type P9	Pt No 1895W000 (6D/TBA)
Type P8C (Med)	Pt No 1725W000 (6D/2246338) becomes	Type P9 (Med)	Pt No 1896W000 (6D/TBA)
Type P8AC	Pt No 1726W000 (6D/2246339) becomes	Type P9A	Pt No 1897W000 (6D/TBA)
Type P8AC (Med)	Pt No 1727W000 (6D/2246340) becomes	Type P9A (Med)	Pt No 1898W000 (6D/TBA)

9 SPECIAL TESTS AFTER EMBODIMENT

No special testing is required after the embodiment of this modification but any appropriate or associated testing is to be carried out.

10 RECORDING ACTION

When this modification has been embodied and inspected in accordance with current authorised procedure, the relevant entries are to be made in the appropriate servicing records.

11 DISPOSAL OF REDUNDANT PARTS

The undermentioned part rendered redundant by the embodiment of this modification is to be disposed of locally in accordance with current instructions:

Ref No	Part No	Nomenclature	Qty	Class of Equipment
-	WTB119519/2	Cord electrical assy	1	-

12 EFFECT ON WEIGHT AND MOMENT

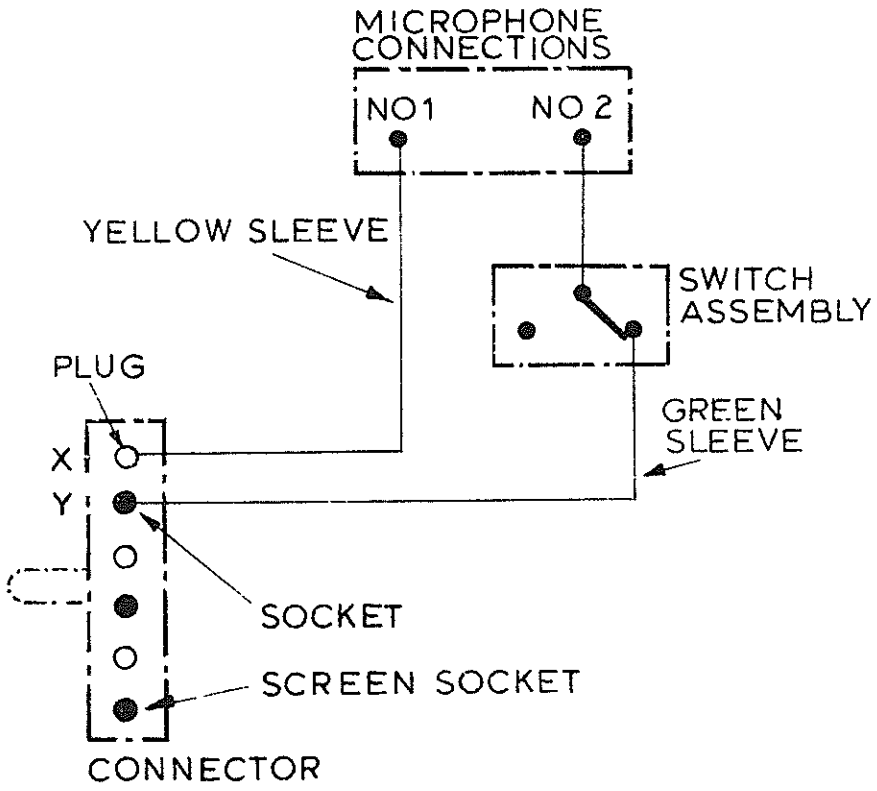
This modification has no effect on weight and moment.

13 EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION AND HANDLING

The incorporation of this modification enables the oxygen mask to be used with the Mark 4 helmet.

14 EFFECT ON SERVICING AND ON GROUND SUPPORT EQUIPMENT

This modification has no effect on servicing or ground support equipment.



Circuit diagram
Figure 1

Drg No AP 108F-0902-2/M0137 /77
Sheet 1

(Masks Type Q -
Microphone Lead)

Mask Oxygen Type	Q8C	-	Pt No 812633 (Ref No 6D/2246364)
	Q8C (Medical)	-	Pt No 812634 (Ref No 6D/2246365)
	Q8AC	-	Pt No 812635 (Ref No 6D/2246366)
	Q8AC (Medical)	-	Pt No 812636 (Ref No 6D/2246367)

To introduce Masks Oxygen Type Q9 Series by conversion of Masks Oxygen Type Q8 Series with the introduction of Mask Microphone Lead Assembly Part No B105573 (Ref No 6D/4265) in lieu of Cord Electrical Assembly Part No WTB 119519/2. Masks so modified then become respectively:

Mask Oxygen Type	Q9C	-	Pt No 815330 (Ref No 6D/TBA)
	Q9C (Medical)	-	Pt No 815331 (Ref No 6D/TBA)
	Q9AC	-	Pt No 815332 (Ref No 6D/TBA)
	Q9AC (Medical)	-	Pt No 815333 (Ref No 6D/TBA)

(Mod No M0215)

(Class S00 for use in the Mk 4 Helmet
(Ref No's 22C/1304901
and 22C/1304904))

(D/ADSM 25/10/23/263)
(ADP No XNG020150)

1 INTRODUCTION

The introduction into service of the Mark 4 helmet necessitates replacement of the existing mask microphone lead assembly by a new assembly which will connect with the plocket in the headset assembly of the new Mk 4 helmet.

(1) This modification does not supersede, partially supersede or satisfy the work called for by any Modification, Service Modification ATI, SI, NTI or SRIM.

2 EMBODIMENT

RAF: This modification is to be embodied to Special Order only.

RN: This modification is to be embodied in accordance with the procedure for Class S00 modifications, to the specified equipment shown in the classification (NAMM AP(N) 140), Article 1009 (2c) refers).

3 APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately $\frac{3}{4}$ man-hour.

4 DRAWINGS REQUIRED

Drawing No AP 108F-0902-2/M0215/77 is incorporated in this leaflet.

5 PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

(a) The modification kit which consists of the following service supply items will be assembled by No 14 Maintenance Unit under Reference No 6D/4265.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
-	B105573 (BOC 815338)	Mask Microphone Lead Assembly	1	-

All the above items will be issued on Issue Order to RAF units at home and those overseas units on direct re-supply; no demands are to be submitted. Other RAF units abroad and all other users are to demand separately their requirements of kits, as listed in sub-para (a) above, in accordance with current regulations.

(b) The following materials are to be provided under unit arrangements (RAF), and if not available in the RN are to be demanded on the RNASDC Llangennech.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
32B/656	-	Thread, black linen No 35	A/R	C
LP0	-	Bostik 252	A/R	C
33C/2202840	-	Ink, Tintalite White	A/R	C

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the incorporation of this modification.

6 MODIFICATION OF SPARES

No spares are affected by this modification.

7 CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

The embodiment of this modification changes Reference, Part and Assembly Numbers as follows:

OLD			NEW		
Ref No	Part/Assy No	Nomenclature	Ref No	Part/assy No	Nomenclature
10AH/ 9992773	BOC 810232 or	Microphone switch and lead assy	-	-	Microphone and switch assy
10AH/ 9531137			-	B105573 (BOC 815338)	Microphone and lead assy

8 SEQUENCE OF OPERATIONS

The following is the sequence of operations:

NOTE 1: Before any electrical circuit is disturbed or disconnected, the electrical power supplies in, to or from the aircraft are to be disconnected. Power supplies are to be reconnected only when the person responsible for embodying or inspecting the modification is satisfied that all action has been taken to make the aircraft safe for reconnection.

NOTE 2: This modification is to be embodied as directed in this leaflet without any deviation, and the prescribed routeing of electric cables is to be strictly followed.

NOTE 3: All work is to be performed in 'Clean Room' conditions as detailed in AP 107D-0001-1, Chap 2-2.

WARNING (1) MANY MATERIALS, PARTICULARLY OIL AND GREASE, ARE SUBJECT TO SPONTANEOUS COMBUSTION WHEN EXPOSED TO UNDILUTED OXYGEN UNDER PRESSURE. PRECAUTIONS MUST BE TAKEN, THEREFORE, TO EXCLUDE OIL, DUST AND METAL PARTICLES FROM THE EQUIPMENT.

WARNING (2) WHEN NOT IN USE,OXYGEN SYSTEM COMPONENTS MUST HAVE ALL OPEN BORES SEALED WITH A BLANKING CAP OR OTHER SUITABLE METHOD. (i.e. TAPED ON POLYTHENE BAG OR SHEET) AND KEPT IN A TIED POLYTHENE BAG WHERE PRACTICABLE.

(1) Remove the existing microphone lead by rolling back the rubber sleeve to expose the switch terminals, remove the two 8BA screws and washers securing the leads to the terminals, then sever the thread binding the lead to the lug on the switch housing. Remove and discard the lead.

(2) Attach the new lead, Part No B105573 (BOC Pt No 815338) to the switch terminals by aligning the yellow sleeved lead on the lowermost terminal (adjacent to the expiratory valve), and the green sleeved lead on the uppermost terminal. Secure both leads with the washers and 8BA screws. Bind the leads to the lug on the switch housing with No 35 black linen thread.

(3) Position the black rubber sleeve, fitted to the new lead, over the terminals and lug on the switch housing, then bond the opposite end of the rubber sleeve securely to the lead braiding, using the Bostik 252.

(4) Apply the standard electrical tests as follows:

(a) With the microphone switch in the 'OFF' position, there should be an open circuit between terminals X and Y of the connector (Fig 1).

(b) With the microphone switch in the 'ON' position, the resistance between terminals X and Y of the connector should not be more than 400 ohms, or less than 50 ohms.

(c) The insulation resistance between terminals X and Y of the connector and the screen socket (Fig 1) should be not less than 0.5 megohm when tested with a supply of 250 V d.c. applied for a period of 15 seconds.

(5) Mark the new Type and Part Numbers on the bridge piece of the exo-skeleton, immediately above the existing nameplate, using the white tintalite ink. The new identities are as follows:

Type Q8C Part No 812633 becomes Type Q9 Part No 815330
(Ref No 6D/2246364) (Ref No 6D/TBA)

Type Q8C Part No 812634 becomes Type Q9 Part No 815331
(Med) (Ref No 6D/2246365) (Med) (Ref No 6D/TBA)

Type Q8AC Part No 812635 becomes Type Q9A Part No 815332
(Ref No 6D/2246366) (Ref No 6D/TBA)

Type Q8AC Part No 812636 becomes Type Q9A Part No 815333
(Med) (Ref No 6D/2246367) (Med) (Ref No 6D/TBA)

9 SPECIAL TESTS AFTER EMBODIMENT

No special testing is required after the embodiment of this modification, but any appropriate or associated testing is to be carried out.

10 RECORDING ACTION

When this modification has been embodied and inspected in accordance with the current authorised procedure, the relevant entries are to be made in the appropriate servicing records.

11 DISPOSAL OF REDUNDANT PARTS

The undermentioned part rendered redundant by the embodiment of this modification is to be disposed of under current local procedures:

Ref No	Part No	Nomenclature	Qty	Class of Equipment
-	WTB 119519/2	Cord electrical assy	1	-

12 EFFECT ON WEIGHT AND MOMENT

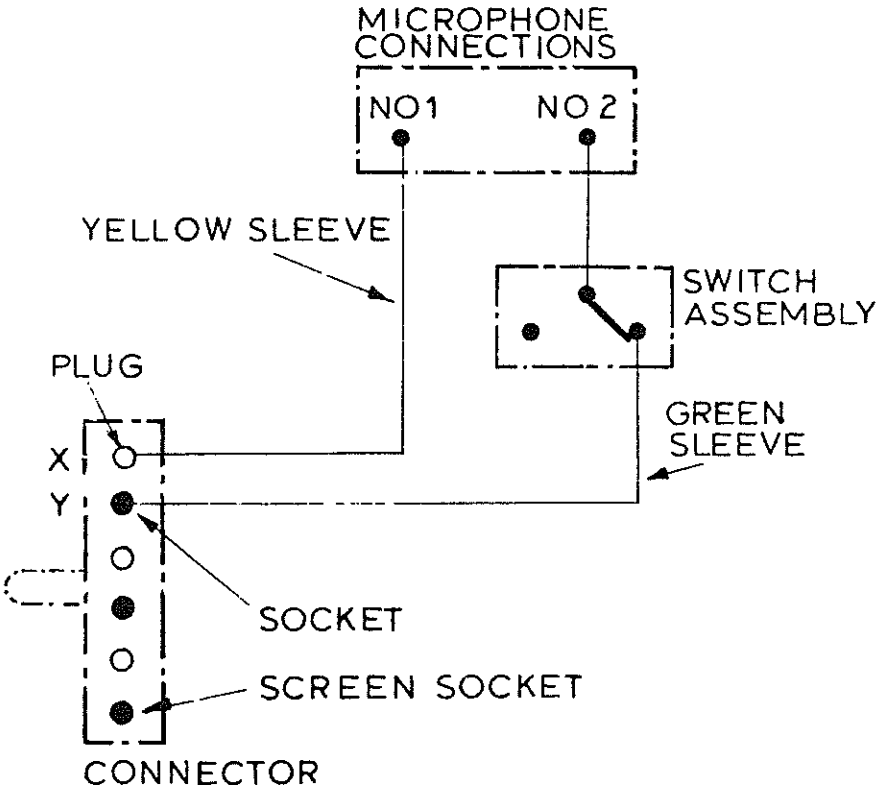
This modification has no effect on weight or moment.

13 EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION AND HANDLING

The incorporation of this modification enables the oxygen mask to be used with the Mark 4 helmet.

14 EFFECT ON SERVICING AND ON GROUND SUPPORT EQUIPMENT

This modification has no effect on servicing or ground support equipment.



Circuit diagram
Figure 1

Drg No AP 108F-0902-2/M0215/77

Masks Type P & Q -
Microphone Lead for
Mk 4 Helmet

Oxygen Masks:-

Part A	Type P 8C	-	Part No 1724W000	(6D/2246337)
	" P 8C (Med)	-	" 1725W000	(6D/2246338)
	" P 8AC	-	" 1726W000	(6D/2246339)
	" P 8AC (Med)	-	" 1727W000	(6D/2246340)
	" Q 8C	-	" 812633	(6D/2246364)
	" Q 8C (Med)	-	" 812634	(6D/2246365)
	" Q 8AC	-	" 812635	(6D/2246366)
	" Q 8AC (Med)	-	" 812636	(6D/2246367)
Part B	Type P 9C	-	Part No 1895W000	(6D/2250300)
	" P 9C (Med)	-	" 1896W000	(6D/2250301)
	" P 9AC	-	" 1897W000	(6D/2250302)
	" P 9AC (Med)	-	" 1898W000	(6D/2250303)
	" Q 9C	-	" 815330	(6D/2250304)
	" Q 9C (Med)	-	" 815331	(6D/2250305)
	" Q 9AC	-	" 815332	(6D/2250465)
	" Q 9AC (Med)	-	" 815333	(6D/2250466)

To introduce Oxygen Masks Types P 10 and Q 10 by conversion of Oxygen Masks Types P 8, P 9, Q 8 and Q 9 by the introduction of Mask Microphone Lead Assembly (Snatch Type) Racal Accoustics Ltd, Part No A2/500303 in lieu of:-

Part A - Cord Electrical Assembly Part No WTB 119519/2 on Oxygen Masks Type P 8 and Q 8.

Part B - Mask Microphone Lead Assembly Part No B 105573 on Oxygen Masks Type P 9 and Q 9.

Masks so modified become respectively:

Type P 10C	-	Part No 2014W000	(6D/4683)
" P 10C (Med)	-	" 2015W000	(6D/4684)
" P 10AC	-	" 2016W000	(6D/4685)
" P 10AC(Med)	-	" 2017W000	(6D/4686)
" Q 10C	-	" 2018W000	(6D/4687)
" Q 10C (Med)	-	" 2019W000	(6D/4688)
" Q 10AC	-	" 2020W000	(6D/4689)
" Q 10AC(Med)	-	" 2021W000	(6D/4690)

Type P 10C	-	Part No 2014W000	(6D/4683)
" P 10C (Med)	-	" 2015W000	(6D/4684)
" P 10AC	-	" 2016W000	(6D/4685)
" P 10AC(Med)	-	" 2017W000	(6D/4686)
" Q 10C	-	" 2018W000	(6D/4687)
" Q 10C (Med)	-	" 2019W000	(6D/4688)
" Q 10AC	-	" 2020W000	(6D/4689)
" Q 10AC(Med)	-	" 2021W000	(6D/4690)

(Mod No MO 143)

(Class: (Part A - S00 for use with Mk 4 Helmet))
(Part B - B/2)

(D/ADSM 25/10/23/895)

(ADP No XNG0143A)
(ADP No XNG0143B)
(ADP No XNG01430)

1 INTRODUCTION

The introduction into service of the Mark 4 helmet necessitates replacement of the existing microphone lead assembly by a new assembly which will connect with the plocket in the headset assembly in the new helmet. Modification RFC 13 must be embodied on the helmet before, or concurrent with, this modification.

(1) This modification supersedes the work called for by Mod No MO 137 because of damage resulting in service when aircrew pulled on the microphone lead to disconnect it from the helmet. Mod No MO 143 introduces a modified microphone connector having a detent ramp in lieu of a locking spigot, an extended cable entry channel with lashing posts, a more robust cable and improved cable attachment at the microphone.

2 EMBODIMENT

RAF

(Part A - The modification is to be embodied when Masks Types P 8 or Q 8 are required to be used with a Mk 4 Helmet post modification RFC 13.

(Part B - The modification is to be embodied concurrently with Modification RFC 13 on the Mk 4 Helmet.

RN

(Part A - of this modification is to be embodied in accordance with the procedure for Class S00 modifications laid down in NAMM AP 100N-0140, Chapter 10; to the limited equipments specified in the title for Part A, when required for use with the Mk 4 helmet.

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RN (Part B of this modification is to be embodied in accordance with the procedure for Class 2 modifications laid down in NAMM AP 100N-0140, Chapter 10, only to those equipments specified in the title for Part B.

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately ¾ man-hour for either Part.

4. DRAWINGS REQUIRED

Drawing No AP 108F-0902-2/MO 143/80, is incorporated in this leaflet.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and materials

(a) The modification kit which consists of the following item will be assembled by No 14 Maintenance Unit under Reference No 6D/4678 .

(i) Items supplied by the contractor:

Reference No	Part No	Nomenclature	Qty	Class of Equipment
10HA/5995-99-6523790	A2/500303	Mask Microphone Lead Assembly	1	

All the above items will be issued on Issue Order to RAF units at home and those overseas units on direct re-supply. No demands are to be submitted. Other RAF units abroad and all other users are to demand separately their requirements of kits as listed in sub-para (a) above in accordance with current regulations.

(b) The following materials are to be provided under Unit arrangements:-

Reference No	Part No	Nomenclature	Qty	Class of Equipment
32B/656	-	Thread, black linen No 35	A/R	C
-	-	Bostik 252	A/R	C
33C/7510-99-2202840	-	Ink, Tintalite white	A/R	C
33B/5970-99-9433454	-	Varnish (Spec DEF 32A)	A/R	C
►33H/2246527		Compound Sealing, Silastic,RTV 732	A/R	C ◄

(2) Special Tools and Test Equipment
No special tools or test equipment are required for the incorporation of this modification.

6. MODIFICATION OF SPARES

The following list shows the spares affected by this modification and the spares required to modify them:-

Reference No	Part No	Nomenclature	Qty	Class of Equipment
*10AH/5965-99-9992773 *10AH/5965-99-9531137		Microphone, switch and lead assembly	1	

*Alternatives

Part required:-

10HA/5995-99-6523790	A2/500303	Mask microphone lead assembly	1	

Spares will be modified by user units as required.

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

The embodiment of this modification changes Reference, Part and Assembly Numbers as follows:-

OLD			NEW		
Reference No	Part/Assy No	Nomenclature	Reference No	Part/Assy No	Nomenclature
Part A					
*10AH/5965-99-9992773 *10AH/5965-99-9531137		)Microphone,)switch and)lead assembly))	TBA 10HA/5995-99-6523790	13125 A2/500303	Microphone and switch assembly

*Alternatives

Part B					
10AH/5965-99-1304927	B105573	Microphone lead assembly	10HA/5995-99-6523790	A2/500303	Microphone lead assembly

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:-

Note 1: Before any electrical circuit is disturbed or disconnected, the electrical power supplies in, to or from the aircraft, are to be disconnected. Power supplies are to be reconnected only when the person responsible for embodying or inspecting the modification is satisfied that all action has been taken to make the aircraft safe for reconnection.

Note 2: This modification is to be embodied as directed in this leaflet without any deviation, and the prescribed routing of electrical cables is to be strictly followed.

(1) Remove the existing microphone lead by rolling back the rubber sleeve to expose the switch terminals, remove the two 8BA screws and washers securing the leads to the terminals, then sever the thread binding the lead to the lug on the switch housing. Remove and discard the lead.

Refer to Figure 1

(2) Locate the new lead assembly, Part No A2/500303, on the lug on the switch housing, so that the yellow sleeved lead is aligned with the lowermost terminal (adjacent to the expiratory valve). Whip the lead assembly to the lug with 14 to 16 turns of No 35 black linen thread, then coat the whipping with varnish to Spec. DEF 32A. Secure both leads to the terminals with the washers and 8BA screws.

(3) Position the sleeve, fitted to the new lead, over the switch terminals. Earlier sleeves of rectangular cross section are to be bonded to the lead using Silastic Sealing Compound RTV 732.

(4) Apply the standard electrical tests as follows:-

(a) With the microphone switch in the 'OFF' position, there should be an open circuit between terminals X and Y of the connector (Ref Fig 1).

(b) With the microphone switch 'ON' the resistance between terminals X and Y of the connector should not exceed 400 ohms or be less than 50 ohms.

(c) Insulation resistance between terminals X and Y and the screen socket (Ref Fig 1), should be not less than 0.5 megohm when tested with a supply of 500V dc applied for 15 seconds.

(5) Obliterate the existing Type, Part and Stores Reference numbers on the nameplate. Refer to the modification application on page 1, and mark the new identities on the bridge piece of the exo-skeleton, immediately above the existing nameplate, using white Tintalite ink (33C/7510-99-2202840).

9 SPECIAL TESTS AFTER EMBODIMENT

No special testing is required after the embodiment of this modification but any appropriate or associated testing is to be carried out.

10. RECORDING ACTION

When this modification has been embodied and inspected in accordance with current authorised procedure, the relevant entries are to be made in the appropriate aircraft records.

11. DISPOSAL OF REDUNDANT PARTS

The undermentioned parts rendered redundant by the embodiment of this modification are to be returned to 14 MU RAF Carlisle:-

Reference No	Part No	Nomenclature	Qty	Class of Equipment
Part A				
10HB/5965-99-9992774	WTB119519-2	Cord electrical assy	1	
Part B				
10AH/5965-99-1304927	B105573	Mask microphone lead assy	1	

12. EFFECT ON WEIGHT AND MOMENT

This modification has no effect on weight or moment.

13. EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION AND HANDLING

The incorporation of this modification enables the oxygen mask to be used with the Mark 4 helmet post modification RFC 13.

14. EFFECT OF SERVICING AND ON GROUND SUPPORT EQUIPMENT

(a) This modification has no effect on servicing or ground support equipment.

(b) All relevant AP's will be considered for amendment action to take account of changes introduced by this modification.

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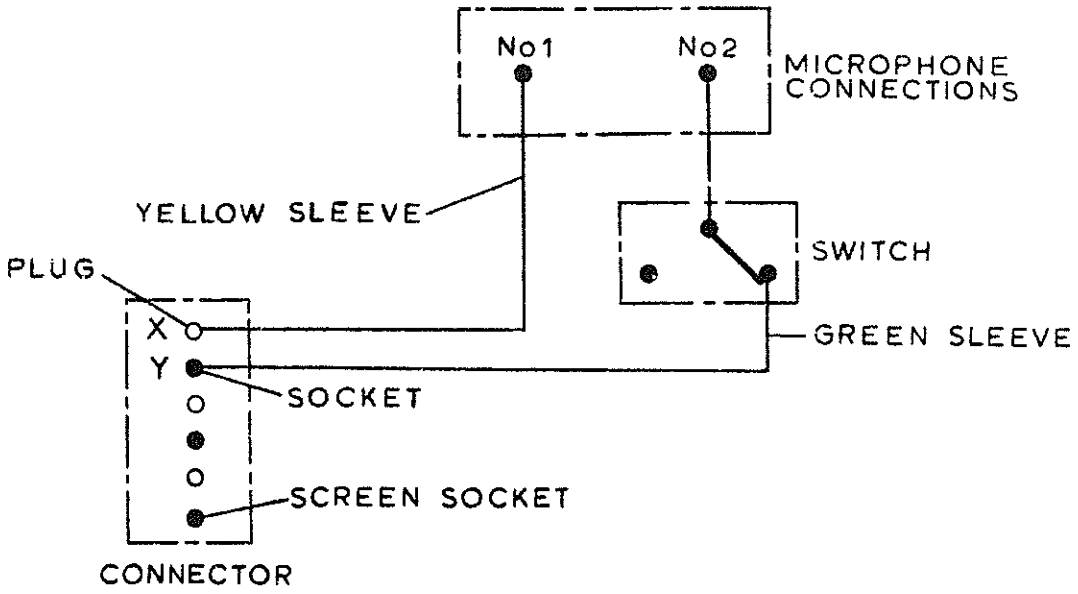
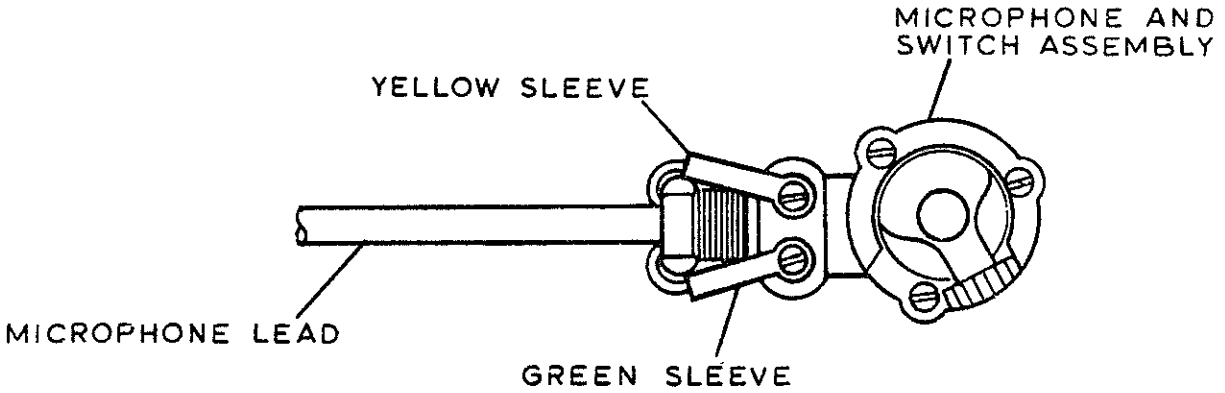
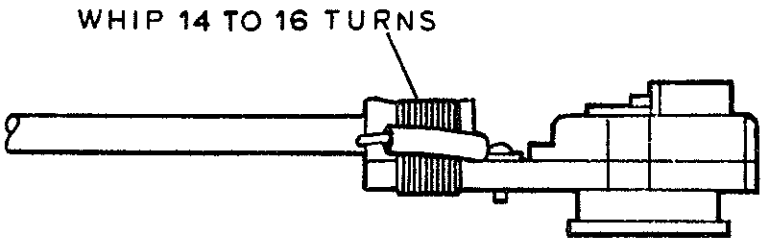


CIRCUIT DIAGRAM





ASSEMBLY OF MICROPHONE AND LEAD

Figure 1

Drg No AP 108F-0902-2/MO 143/80
Sheet 1

Printed for HMSO by NGL, Yeovil. 8233481, 1948, 4/81, 494.

Oxygen Masks, Types P and Q.

Mod No MO 151 (Class S00 for nominated aircrew for use with Mk 4a and Mk 4b helmets).

File Ref D/SM 25/10/23/1398
ADP No XNG 01510

To introduce longer chain to the Chain toggle harness assembly to Masks, Oxygen, Type P10C, P10AC, Q10C and Q10AC. ◄

1. INTRODUCTION

During the introduction of the Mk 4a and Mk 4b helmets it has been found at the Institute of Aviation Medicine that wearers with above-average head sizes require a mask assembly with a longer suspension to ensure a satisfactory mask fit. Tests have indicated that the toggle harness assembly should be lengthened by not less than 8 or more than 11 mm (0.3 to 0.4 in). To fulfil this requirement, two links are added to each chain, increasing the length by 8.28 mm (0.325 in).

► (1) This modification does not supersede, partially supersede or satisfy the work called for by any other modification, Service Modification or Special Instruction (Technical).

2. EMBODIMENT

RAF: The modification is to be embodied on Special Order Only for nominated aircrew for use with Mk 4a and Mk 4b helmets.

RN: This modification is to be embodied in accordance with the procedure for S00 modifications laid down in NAMM (AP(N)140). ◄

3. APPROPRIATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 3 man hours.

4. DRAWINGS REQUIRED

No drawings are required for the embodiment of this modification.

5. PARTS AND TOOLS REQUIRED

(1) Parts and Materials

(a) A modification kit will not be assembled.

(b) The following items are required but are not assembled as a kit.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/7951878	2236W033	Chain, Perri pin	2	C
28Q/9710803	SP76/203	Rivet, steel, snap 0.0625 in dia x 0.1875 in long	2	C
28Q/1221196	SP76/204	Rivet, steel, snap 0.0625 in dia x 0.250 in long	2	C
6D/4939	1031S019	Rivet, stainless steel, snap, 0.046 in dia x 0.1875 in long	2	C
6D/4940	1031S023	Rivet, stainless steel, snap, 0.046 in dia x 0.225 in long	2	C

Supply arrangements. RAF units are to forward their demands for the individual referenced items direct to the appropriate ESD for non SCC items (quoting the modification number) and through SCC for SCC-controlled items. Other users are to demand their requirements in accordance with current instructions. RN users should demand as follows:

Ships - demand through RNASDC Yeovilton.

Shore establishments - on line to RAF 4-72 computer i.e. NARO's and Naval Air Stations should demand through this system.

(c) The following materials are to be provided under Unit arrangements:

Ref No	Part No	Nomenclature	Qty	Class of Equipment
9150-99-761 5671	-	Grease, fluorinated Fomblin OT 20	A/R	C
34B/2204466	-	Grease, XG-315	A/R	C

Ref No	Part No	Nomenclature	Qty	Class of Equipment
32B/4663253	-	Paper, absorbent	A/R	C
33H/2246527	-	Silicone adhesive RTV 732	A/R	C
5K/6428047	-	Sleeve, 2 mm i/d/, 0.7 mm wall thickness x 40 mm long	2	C
5K/6746	-	Sleeve, HT200 x 0.1875 in	1	C
33D/2203782	-	Trichloroethane	A/R	C
33C/2202840	-	Ink, white Tintalite	A/R	C
► 5E/9102391	-	Wire, insulated, enamel, 20 swg	A/R	C ◄
		or		
30A/9140209	-	Wire-locking, 20 swg DTD 189A	A/R	C

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6. MODIFICATION OF SPARES

► The following list shows the spares affected by this modification and the parts required to modify them:

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/2252549	2014W000	Mask, Oxygen, Type P10C	1	A
6D/2252550	2015W000	Mask, Oxygen, Type P10C (Medical)	1	A
6D/2252551	2016W000	Mask, Oxygen, Type P10AC	1	A
6D/2252552	2017W000	Mask, Oxygen, Type P10AC (Medical)	1	A
6D/2252553	2018W000	Mask, Oxygen, Type Q10C	1	A
6D/2252554	2019W000	Mask, Oxygen, Type Q10C (Medical)	1	A ◄

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/2252555	2020W000	Mask, Oxygen, Type Q10AC	1	A
6D/2252556	2021W000	Mask, Oxygen, Type Q10AC (Medical)	1	A

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of reference, part or assembly numbers as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:-

WARNINGS:

1. BEFORE ANY ELECTRICAL CIRCUIT IS DISTURBED OR DISCONNECTED, ALL ELECTRICAL POWER SUPPLIES IN, TO OR FROM THE OXYGEN MASK, ARE TO BE DISCONNECTED. POWER SUPPLIES ARE TO BE RECONNECTED ONLY WHEN THE PERSON RESPONSIBLE FOR EMBODYING OR INSPECTING THE MODIFICATION IS SATISFIED THAT ALL ACTION HAS BEEN TAKEN TO MAKE THE OXYGEN MASK SAFE FOR RECONNECTION.

2. THIS MODIFICATION IS TO BE EMBODIED AS DIRECTED IN THIS LEAFLET WITHOUT ANY DEVIATION, AND THE PRESCRIBED ROUTEING OF ELECTRICAL CABLES IS TO BE STRICTLY FOLLOWED.

NOTE: *In some versions of the chain toggle harness assemblies, the chains and swivel links are secured by 0.046 in dia, brass rivets whilst in other versions of the assemblies, the chains and swivel links are secured by 0.0625 in dia, steel rivets. When fitting the new chains, the brass rivets are replaced by stainless steel rivets and to cater for both types of chain toggle harnesses, both diameters of rivets are provided together with the new chains.*

Caution: Throughout the modification procedure, care must be taken to prevent the ingress of metallic swarf into the components of the mask.

(1) Rotate the ice guard filter until the arrow is in line with the locating mark on the facepiece and then withdraw the filter.

(2) Ease the inspiratory valve assembly from the flange which secures it in position and then lift out the valve.

(3) Remove the rubber sleeve from the wire which secures the microphone. Remove the wire and then gently push out the microphone from inside the facepiece.

(4) Separate the chain toggle harness assembly from the facepiece.

Caution: When removing the rivets (Operation (5) and (6)) ensure that only the correct size drift is used; do not attempt to remove rivets by using an oversize drill as this action will weaken the yoke.

(5) Carefully file off the heads of the rivets which secure the chain assemblies to the yoke (note the colour of the filings; brass filings indicate 0.046 in dia rivets and steel filings indicate 0.0625 in dia rivets). Using the correct size drift, remove the rivets.

(6) Remove the rivets which secure the chains to the swivel links; use the technique described in Operation (5). Discard the chains and sleeves.

(7) Using trichloroethane and absorbent paper, clean the components of the chain toggle harness; do not allow the cleaning fluid to come into contact with the nylon sleeves on the toggle.

(8) Using 0.1875 in long rivets of the correct diameter, neatly rivet the new chains (Part No 2236W033) to the swivel links. Verify that the links are free to rotate about the rivets.

(9) Using 0.0625 in dia x 0.250 in long, or 0.046 in dia x 0.225 in long rivets as appropriate, neatly rivet the chain assemblies to the yoke. Verify that each chain assembly is free to rotate about its securing rivet.

(10) Hold the yoke securely and, using a spring balance, apply a load of 111 N (25 lbf) to one swivel link; the load is to be applied along the axis of the chain and the leg of the yoke. Maintain the load for 10 s; release the load then examine the chain and rivets, verify that the rivets are secure and that there is no distortion of the components. Apply the test to the other chain assembly.

(11) Apply a thin film of Fomblin OT 20 fluorinated grease to each chain assembly and, using sleeving pliers, fit a sleeve, (Ref No 5K/6428047) to each chain; the sleeves are to be positioned centrally on the chains. Remove any surplus grease.

(12) Using white Tintalite ink, mark the modification number MO 151 on the inside of the exo skeleton and allow to dry.

(13) Assemble the chain toggle harness to the facepiece, then fit the microphone as detailed in AP 108F-0902-1, Chap 2, para 57.

(14) Clean and refit the inspiratory valve and ice guard filter as detailed in AP 107F-0902-1, Chap 2, para 31, 34 and 35.

(15) Test the mask as detailed in AP 108F-0902-1, Chap 3.

9. SPECIAL TESTS AFTER EMBODIMENT

No special tests are required after the embodiment of this modification but any appropriate or associated testing is to be carried out.

10. RECORDING ACTION

When this modification has been embodied and inspected in accordance with current authorized procedure, the relevant entries are to be made in the appropriate records.

11. DISPOSAL OF REDUNDANT PARTS

The undermentioned parts rendered redundant by the embodiment of this modification are to be disposed of in accordance with local procedures.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
-	1422W573	Chain	2	C

12. EFFECT ON MASS OR MOMENT

This modification has no effect on mass.

13. EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION AND HANDLING

This modification does not affect euipment operation or handling.

14. EFFECT ON SERVICING AND ON GROUND SUPPORT EQUIPMENT

(a) This modification has no effect on servicing or ground support equipment.

(b) All relevant APs will be considered for amendment action to take account of changes introduces by this modification.

Oxygen Masks Type P and Q for use with Mk 4a and Mk 4b helmets

Mod No MO 157 (Class SOO)

D/SM 25/10/23/2340
ADP No XNG 01570 Mod Complete
XNG 0157A Pt A
XNG 0157B Pt B

To introduce Mask Microphone lead assembly (Snatch type) Racal Acoustics Limited Part No A2/500303 in lieu of cord electrical assembly, Part No WTB/119519/2 on Masks Oxygen type P1, Q1, P2, Q2, P2C and Q2C.

1. INTRODUCTION

To support the introduction into Service of Mk 4a and Mk 4b helmets, it is necessary to replace the existing microphone leads on oxygen mask assemblies with one which will connect with the plocket on the headset assemblies fitted to Mk 4a and Mk 4b helmets.

(1) This modification does not supersede, partially supersede, or satisfy the work called for by any Modification, Service Engineering Modification, SRIM or Special Instruction (Technical).

2. EMBODIMENT

RAF This modification is to be embodied to Special Order Only.

Royal Navy This modification is to be embodied in accordance with the procedure in NAMM(AP(N)140).

3. APPROXIMATE TIME FOR EMBODIMENT

The work will take approximately 0.75 manhour.

4. DRAWINGS REQUIRED

Drawing No AP 108F-0902-2/10/86, Sheet 1, is incorporated in this leaflet.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

(a) A modification kit will not be assembled.

(b) The following items are required but are not assembled as a kit.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
10HA/6523790	A2/500303	Mask microphone lead assembly	1	C

Supply arrangements. RAF units are to forward their demands for the individual referenced items direct to the appropriate ESD for non SCC items (quoting the modification number) and through SCC for SCC-controlled items. Other users are to demand their requirements in accordance with current instructions. RN users should demand as follows:

Ships - demand through RNASDC Yeovilton

Shore establishments - on line to the RAF 4-72 computer ie NARO's and Naval Air Stations should demand through this system.

(c) The following materials are to be provided under Unit arrangements:

Ref No	Part No	Nomenclature	Qty	Class of Equipment
33H/2246527	-	Adhesive, Silicone RTV 732	A/R	C
32B/4663253	-	Paper, absorbent	A/R	C
34D/2200985	-	Spirit, methylated	A/R	C
	BS5F-34	No 12 Thread, black linen	A/R	C
33B/9433454	-	Varnish (Spec DEF32A)	A/R	C
33C/2202840	-	Ink, Tintalite, white	A/R	C

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification

6. MODIFICATION OF SPARES

The following list shows the spares affected by this modification and the parts required to modify them.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/2244087	OP7670	Mask, oxygen, type P1	1	A
6D/2243465	OP7680	Mask, oxygen, type P1 (medical)	1	A
6D/2244069	2027W000	Mask, oxygen, type Q1	1	A
6D/2244858	2028W000	Mask, oxygen, type Q1 (medical)	1	A

Ref No	Part No	Nomenclature	Qty	Class of Equipment
6D/2243706	OP7690	Mask, oxygen, type P2	1	A
6D/2243464	OP7700	Mask, oxygen, type P2 (medical)	1	A
6D/2244068	2031W000	Mask, oxygen, type Q2	1	A
6D/2244859	2032W000	Mask, oxygen, type Q2 (medical)	1	B
6D/2246335	1720W000	Mask, oxygen, type P2C	1	A
6D/2246336	1721W000	Mask, oxygen, type P2C (medical)	1	A
6D/2246362	2033W000	Mask, oxygen, type Q2C	1	A
6D/2246363	2034W000	Mask, oxygen, type Q2C (medical)	1	A

Part required:

10HA/6523790	A2/500303	Mask microphone lead assembly	1

Spares will be modified by units as required.

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of reference, part or assembly numbers as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:

WARNING:

BEFORE ANY ELECTRICAL CIRCUIT IS DISTURBED OR DISCONNECTED, ALL ELECTRICAL SUPPLIES IN, TO OR FROM THE OXYGEN MASK ARE TO BE DISCONNECTED. POWER SUPPLIES ARE TO BE RECONNECTED ONLY WHEN THE PERSON RESPONSIBLE FOR EMBODYING OR INSPECTING THE MODIFICATION IS SATISFIED THAT ALL ACTION HAS BEEN TAKEN TO MAKE THE OXYGEN MASK SAFE FOR RECONNECTION.

(See Figure 1).

(1) Remove the existing microphone lead by rolling back the rubber sleeve to expose the switch terminals. Remove the two 8 BA screws and washers securing the leads to the terminals and cut the thread binding the lead to the lug on the switch housing. Discard the lead. Retain the rubber sleeve.

(2) Fit the retained rubber sleeve to the new lead assembly. Locate the new lead assembly, Part No A2/500303, so that the yellow sleeved lead is aligned with the lowermost terminal (adjacent to the expiratory valve). Whip the lead assembly to the lug with 14 to 16 turns of black line thread, then coat the whipping with varnish to Spec DEF 32A. Secure both leads to the terminals with washers and 8 BA screws.

(3) Position the rubber sleeve over the switch terminals, then bond the lowermost end of the sleeve to the lead with RTV 732 silicone adhesive.

(4) Apply the standard electrical tests as follows:

(a) With the microphone switch in the OFF position, there should be an open circuit between terminals X and Y of the connector.

(b) With the microphone switch in the ON position, the resistance between terminals X and Y of the connector should not exceed 400 ohms or be less than 50 ohms.

(c) With the microphone switch in the On position, the insulation resistance between terminals X and Y and the screen socket, should be not less than 0.5 megohm when tested with a supply of 500 V dc applied for 15 seconds.

(5) Using white Tintalite ink (33C/2202840), mark the modification number MO 157 on the interior of the exo skeleton. Allow to dry.

9. SPECIAL TESTS AFTER EMBODIMENT

No special testing is required after this modification but any other appropriate or associated testing is to be done.

10. RECORDING ACTION

When this modification has been embodied and inspected in accordance with current authorized procedure, the relevant entries are to be made in the appropriate records.

11. DISPOSAL OF REDUNDANT PARTS

The undermentioned parts rendered redundant by the embodiment of this modification are to be returned to No 14 MU.

Ref No	Part No	Nomenclature	Qty	Class of Equipment
10HB/9992774	WTB/119519/2	Cord, electrical lead assembly	1	C

12. EFFECT ON MASS AND MOMENT

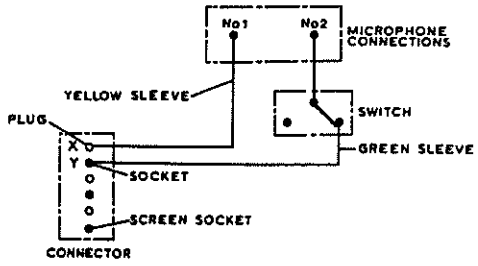
This modification has no effect on mass.

13. EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION AND HANDLING

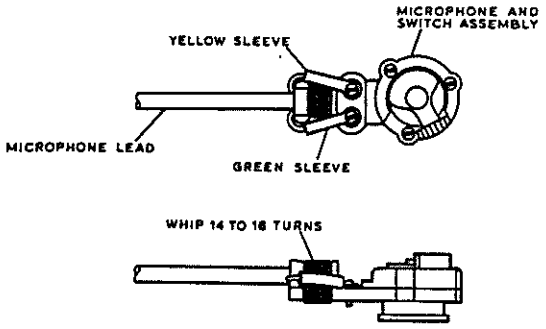
This modification does not affect equipment operation or handling.

14. EFFECT ON SERVICING AND ON GROUND SUPPORT EQUIPMENT

All relevant APs will be considered for amendment action to take account of changes introduced by this modification.



CIRCUIT DIAGRAM



ASSEMBLY OF MICROPHONE AND LEAD

FIGURE 1

Oxygen Masks, Types P and Q

Mod No MO158 (Class SOO for use with MK 4A and 4B Helmets)

D/SM 25/10/23/2341
ADP No XNG01580

To introduce longer chain to the chain toggle harness assembly to Masks, Oxygen, types P1, P1 (Medical), Q1, Q1 (medical), P2, P2 (medical), Q2, Q2 (medical), P2C, P2C (medical), Q2C and Q2C (medical).

1. INTRODUCTION

The Institute of Aviation Medicine has discovered that with the introduction of the Mk 4A and Mk 4B helmets a problem has arisen with aircrew having above average head sizes; in that to obtain a satisfactory mask fit it is necessary to lengthen the existing harness chain by 3 additional links, thus increasing the chain length from a nominal 2.56 in to 2.98 in.

(1) This modification does not supersede, partially supersede or satisfy the work called for by any other modification, Service modification, or Special Instruction (Technical).

2. EMBODIMENT

RAF: This modification is to be embodied to Special Order only.

RN: This modification is to be embodied in accordance with the procedure for Class SOO modifications, laid down in NAMM AP 100N-0140, Chapter 10; when required for use with the MK 4A and 4B helmets.

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 2.0 manhours.

4. DRAWINGS REQUIRED

Drawing No AP 108F-0902-2/11/86, Sheet 1 is incorporated in this leaflet.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

(a) A modification kit will not be assembled.

(b) The following items are required but are not assembled as a kit:

Ref No	Part No	Nomenclature	Qty	Class of Equipt
6D/7713975	1809W120	Yoke and chain assembly	1	C
28S/9487697	A36Z8	Screw	2	

Supply arrangements. RAF units are to forward their demands for the individual referenced items direct to the appropriate ESD for non SCC items (quoting the modification number) and through SCC for SCC-controlled items. Other users are to demand their requirements in accordance with current instructions. RN users should demand as follows:

Ships - demand through RNASDC Yeovilton.
Shore establishments - on line to the RAF 4-72 computer ie NARO's and Naval Air Stations should demand through this system.

(c) The following materials are to be supplied under unit arrangements.

Ref No	Part No	Nomenclature	Qty	Class of Equipt
34D/2200985	-	Spirit, methylated	A/R	
33H/2245286	-	Adhesive, EC 847	A/R	
33C/2203548	-	Methyl ethyl ketone	A/R	
33C/2202840	-	Ink, Tintalite, white	A/R	

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6. MODIFICATION OF SPARES

The following list shows the spares affected by this modification and the parts required to modify them:

Ref No	Part No	Nomenclature	Qty	Class of Equipt
6D/3040	0P7670	Mask, Type P1	1	
6D/3041	0P7680	Mask, oxygen, Type P1 (medical)	1	