OXYGEN MASK, TYPE H—INSTRUCTIONS FOR USE AND FITTING

This pamphlet is issued with each oxygen mask, type H, and is a copy of A.P.1275A, Vol. I, Sect. VIII, Chap. 11, Appendix 1. No amendments will be issued to this particular pamphlet, any amendments to the information contained in it will be published in the above Air Publication, if necessary.

AIR MINISTRY
May, 1946

INSTRUCTIONS FOR USE AND FITTING OXYGEN MASK, TYPE H

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INSTRUCTIONS FOR USE AND FITTING OXYGEN MASK, TYPE H

Description

1. The mask is a rubber moulding shaped to make an air-tight fit on the face. Oxygen is led into the mask through paired ducts, which open into the cavity through inlets which face forward and downwards, and are so positioned that condensation collecting in the mask will not run back down the supply tube. Expired air and moisture pass out of the mask through a pair of valves at the bottom. An air inlet valve is fitted on the left side when the mask is used with the standard R.A.F. oxygen system. A small microphone and switch are fitted in a moulded housing on the front of the mask.

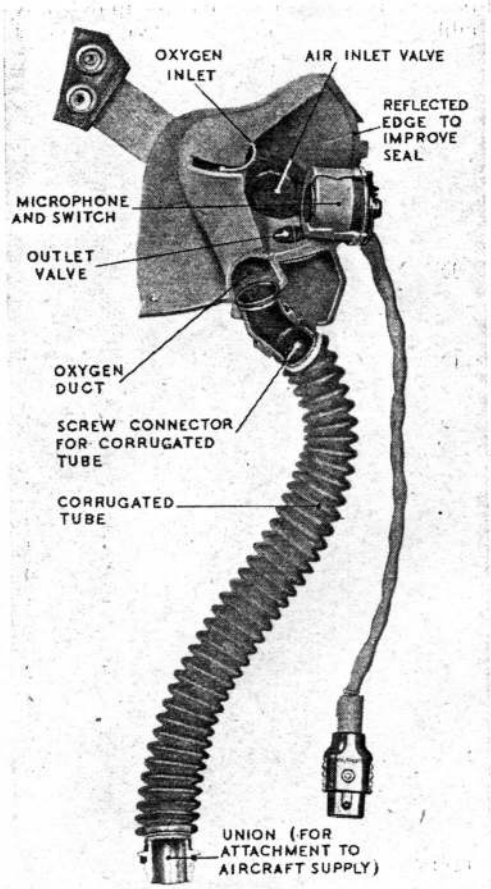

Fig. 1.—Sectioned view of the mask

Note.—The mask itself has been cut completely in half in this illustration

Fig. 2.—Method of fitting the mask

Fitting

Importance of mask fit

2. The correct operation of the standard British oxygen system using economisers, and American system using the Demand regulators, depends on the mask making a good air-tight fit on the face. A badly fitting mask will cause serious oxygen lack, possibly even unconsciousness, as well as discomfort and watering of the eyes due to leakage of oxygen round the nose. When the oxygen mask, type H, is used in conjunction with the Demand regulator, type A.12, it is to be modified in accordance with the instructions given in leaflet A.P.1275A, Vol. II, Part 1, No. H.6.

Sizes available

3. The mask is available in three sizes, and the size is stamped on the mask, on the outside of the part of the mask which fits under the chin. The three sizes are:—

Large	Stores Ref. No. 6D/814
Medium	Stores Ref. No. 6D/815
Small	Stores Ref. No. 6D/816

Fitting the mask

4. As the helmet supports the mask, it is essential when choosing a mask to have a well-fitting helmet available, preferably the helmet that is to be used with the mask.

5. Choose whichever of the three sizes seems to fit most comfortably, holding the mask to the face with the left hand, and place a finger of the other hand over the inlet stub. This is shown in fig. 2. Apply a comfortable pressure with the left hand, and then breathe in and out deeply several times. If air is felt leaking out into the eyes or leaking in around the edge, try re-adjusting the mask to secure a better fit. If this cannot be achieved readily on the mask first chosen, try a different size.

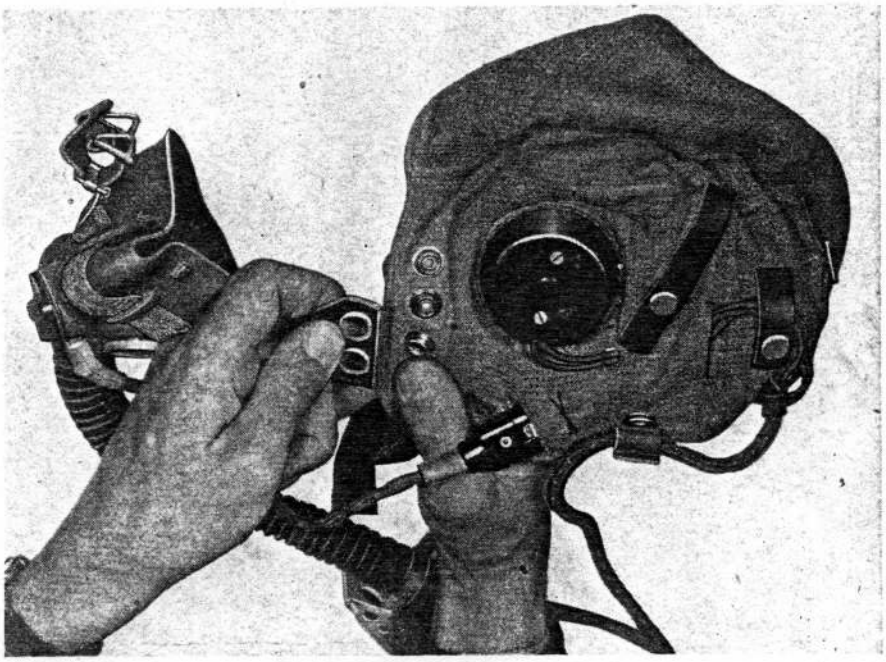

Fig. 3.—Attaching the mask to the helmet

6. Having chosen the best size, attach the mask to the left side of the helmet, using the press-studs provided, as shown in fig. 3, and put on the helmet.

7. With the elastic straps fully slackened, hook the mask on to the right side of the helmet. Gradually draw up the elastics on both sides evenly until the mask is comfortably adjusted. Fig. 4 shows the correct method of holding the ring on the mask. After adjusting, check for leaks as in para. 5.

8. When the mask is correctly adjusted, take off the helmet and mask, and complete the assembly by:—

(i) Sliding the rubber bands over the free ends of the elastics.

(ii) Inserting the socket on the microphone lead on to the plug on the right-hand side of the helmet.

(iii) Screwing the corrugated inlet tube assembly securely on to the mask inlet stub.

Note.—Fitting will be facilitated by the use of the Mask Fit Test Rig, as shown on Air Diagram 2532, which should in any case be used before flights to "oxygen" heights.

Fig. 4.—View showing the hook on the helmet and ring on the mask, and the correct method of holding the ring by the wings

Fitting a nose wire

9. Nose wire pinch is not fitted as standard on the type H mask. However, three lugs are provided, and these are already punched to take a wire if required.

10. It will be found occasionally that an improved fit can be obtained by adding a wire of 16 s.w.g. phosphor-bronze. The method of inserting the wire is shown in fig. 5.

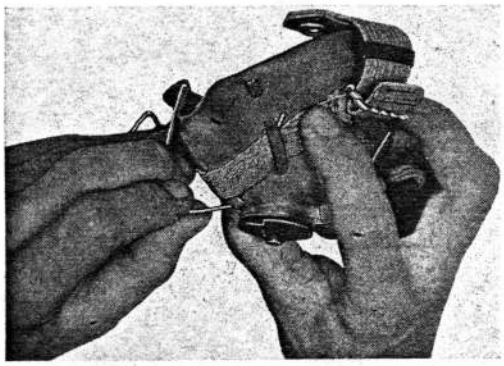

Fig. 5.—Fitting a nose wire

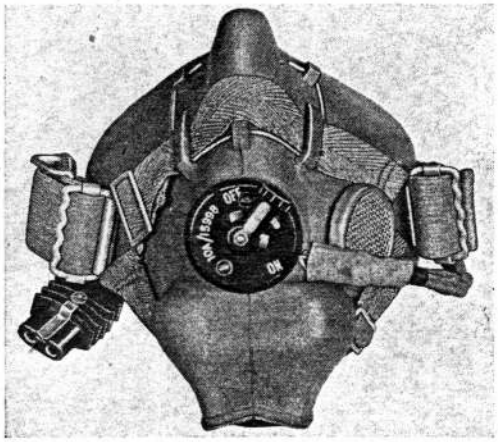

Fig. 6.—Nose wire in position

Minor adjustments to face-piece

11. It will be found that the comfort of the mask is sometimes improved by cutting away very small amounts of the reflected edge where this meets the side of the nose.

Note.—Only very small strips $\frac{1}{16}$ in. wide should be cut off at a time and the main edge of the mask must not be damaged. Fig. 7 shows how this should be done.

Care of mask when in use

Need for care

12. Masks and helmets inevitably receive hard wear and their maintenance is the responsibility of the owner. Occasions occur in the air when the safety of the aircraft and crew depend on the perfect functioning of the mask and the microphone telephone assembly. The importance of periodic inspection and testing is, therefore, clear.

13. Inspection is best carried out methodically, starting with the union for attachment to the aircraft supply and ending with the face-piece. Fig. 8 shows the method and points to look for.

Cleaning and disinfection

14. The oxygen mask and corrugated flexible tubing will become soiled, due to breath condensation and perspiration, and should be cleaned when it becomes necessary. The mask tube assembly should be disconnected by unscrewing the inlet connector. The inside of the face-piece should then be

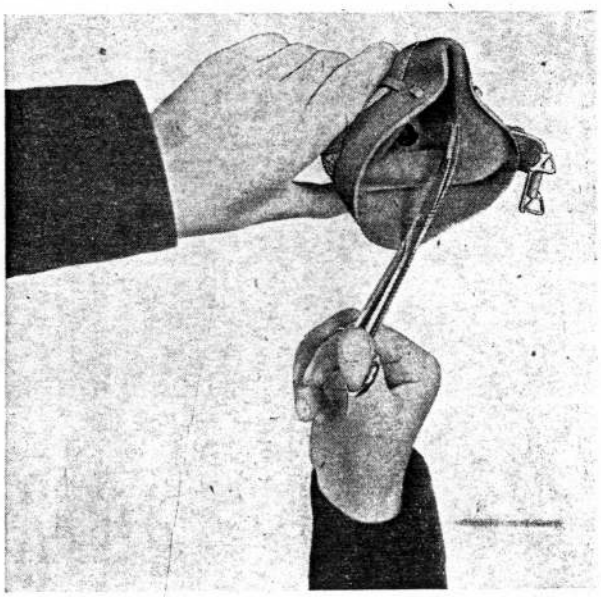

Fig. 7.—Cutting away the edge on a large-size mask

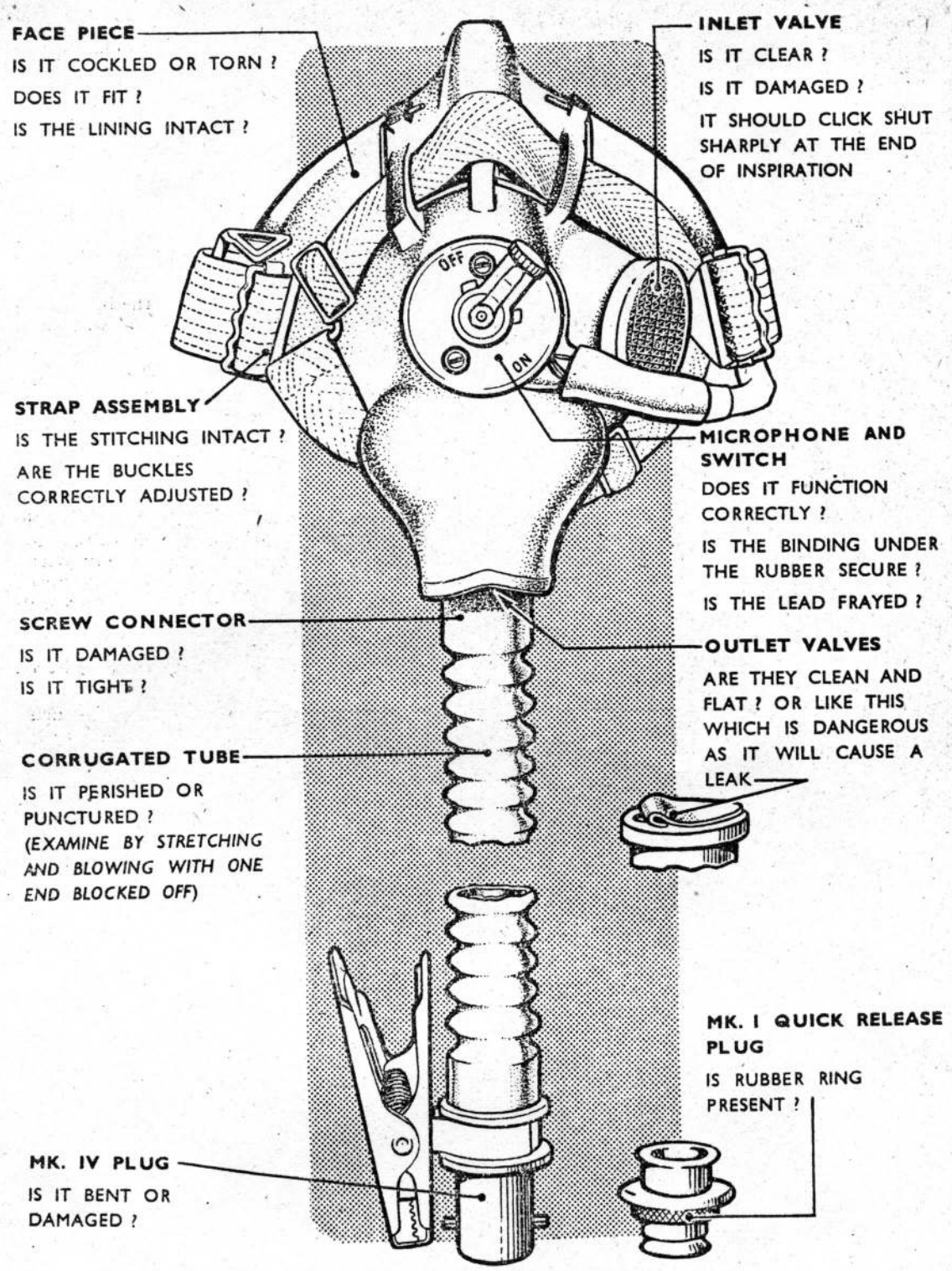

Fig. 8.—Inspection of the mask

If in doubt, take the mask to the Safety Equipment Section for further inspection and replacement if necessary

thoroughly sponged with a solution of warm water and a suitable disinfectant, such as Steph (Stores Ref. No. 33F/376), one part in 80. The tubing should be immersed in the solution and gently stretched to permit cleaning of the corrugations.

15. The mask and tubing should be dried in air, care being taken that the excess moisture is shaken and blown out of the valves. The expiratory and inspiratory valves should be subjected to a thorough inspection after washing, to ensure that no moisture remains.

Note on the use of the mask at very low temperatures

16. The mask is designed to be free from freezing troubles under exceptionally cold conditions. The following precautions should be taken:—

(i) Take special care to see that the mask fit is good; a badly-fitting mask will cause heat to be lost and the expiratory valves will be more likely to freeze.

(ii) Periodically remove any icicles which form below the expiratory valves at the base of the mask. An occasional deep breath will blow away any ice on this valve and will warm the valve housing.

(iii) Freezing of the inspiratory valve, in the cheek of the mask, may be detected by restriction to breathing; the first part of the breath will be easy, with the oxygen coming from the economiser, after which some extra "drag" occurs, as the air is drawn in through the partly-restricted valve. Should this occur, it can be cured by increasing the setting of the regulator, e.g., if the aircraft is at 20,000 ft., turn the oxygen up to "30" or "35"; when enough oxygen will be obtained from the regulator to complete the whole of the breath. Holding an electrically-heated glove to the outside of the mask will assist in clearing it.

(iv) Check that there are no leaks in the corrugated mask tube or in the Mk. V flexible supply tube from the economiser. Leaks here will cause warm damp air to pass down the tube and ice will collect on the walls. Make doubly sure in flight by occasionally gently squeezing the mask end of the corrugated tube where ice will collect first. If ice is present, break it by squeezing the tube; then disconnect the Mk. IV bayonet plug and socket, or quick-release connection, and shake out the ice.

Note.—In order to avoid damaging the valve disc and/or breaking the pressure plate by stopping the flow out of the economiser, the corrugated tube should not be squeezed too tightly when the bayonet union is connected.

(v) Wearing a Balaclava (Stores Ref. No. 22C/1027) and/or scarf, will help to keep the mask warm and will improve comfort.

Further information

17. Further information on this mask, type H, is given in:—

A.P.1275A, Vol. I, Sect. 8, Chap. 11.
A.P.2876A, Vol. I, Sect. 3, Chap. 1.
A.M.O. N.1193/45.

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