

Oxygen regulator, Mk. VIII series

45. A Mk. VIII C regulator is shown in figure 8. If we follow the oxygen through the regulator (from right to left) we shall find it comprises:—

- (i) A pressure gauge, graduated from FULL to EMPTY, in communication with the oxygen as it enters the regulator from the aircraft cylinders. This gauge tells the operator how much oxygen is available in the aircraft cylinders.
- (ii) A reducing valve, which reduces the varying and high pressure from the aircraft cylinders to a constant and low pressure for feeding to the mask. The valve is not adjustable in the air, and this regulator therefore works at a *fixed* reduced pressure. (The Mk. XA series, to which we are coming shortly, works on a *variable* reduced pressure.)
- (iii) A variable orifice, controlled by the wing nut on the front of the regulator. Bearing in mind that the reduced pressure is fixed, the wider this orifice is opened the more oxygen will flow through to the mask.
- (iv) A flow meter, graduated in thousands of feet height. The principle of the flow meter is simple. A vane is attached to the pointer spindle. The greater the flow of oxygen, the further this vane is blown round a specially shaped channel, and the further the pointer goes round the dial. The position of the pointer is a measure of the quantity of oxygen flowing through the meter. The meter graduations have been so placed on the dial that if the variable orifice is set (by the wing nut) so that the pointer reads the height at which the aircraft is flying, the correct flow of oxygen will be supplied (for an individual at rest).

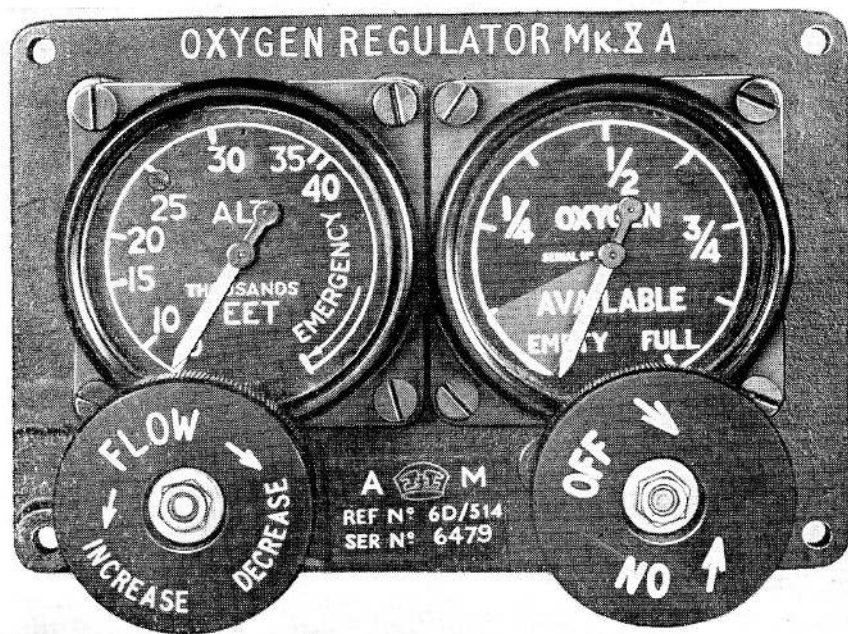


Fig. 9.—Oxygen regulator, Mk. XA

46. Summing up the function of the Mk. VIII then, the route of the oxygen through it is—contents gauge—fixed reducing valve—variable orifice—flow meter.

47. The characteristics of the different members of the Mk. VIII family are as follows:—

Mk. VIIIA*.—Dial calibrated for use without an economiser. Obsolete.

Mk. VIIIB.—Same as Mk. VIIIA*, but no contents gauge. Where an aircraft is fitted with more than one regulator, only the captain needs a contents gauge. Also obsolete because it is for use in "no economiser" installations.

Mk. VIIIC.—Same as A*, but dial calibrated for use with an economiser.

Mk. VIID.—Same as B (no contents gauge), but dial calibrated for use with an economiser.

The Mk. VIII series is described in detail in Chapter 4.



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