

Chapter 4

(Completely revised)

ALTITUDE COMPENSATOR, TYPE A.L.C. SERIES

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Introduction

1. The altitude compensator works in conjunction with the combined control unit (Sect. 13 Chap. 8), and is a spill flow device compensating for increases in altitude, by increasing the spill from the delivery line to

the C.C.U. governor and returning it to the inlet side of the pump.

2. The types of compensator included in this chapter are similar in construction and

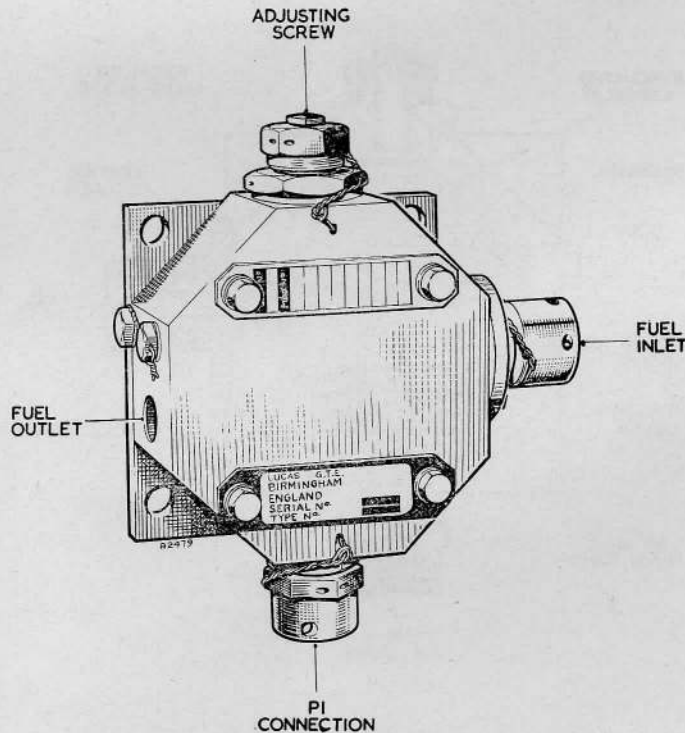


Fig. 1. Exterior view of unit

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operation, differences being listed in Table 1 at the end of this chapter.

Description

3. The unit body is of a light alloy, and houses a lever hinged to one wall. The free end of the lever terminates in a profiled valve plate which controls the fuel flow from an orifice within a connection fitted in the opposite wall. The lever is carried on a beam in a stirrup which is positioned centrally between an evacuated capsule and a bellows which is open to air intake pressure (P_1). An adjusting screw is fitted to the capsule end of the body for test rig calibration and for any permitted adjustment in service.

Operation

4. At sea level conditions, the valve plate permits a pre-determined spill from the inlet orifice, and the interconnected combined control unit operates normally.

5. As altitude increases, so the P_1 air pressure decreases, this causes the bellows to contract, and conversely, the evacuated capsule to expand. This moves the lever and its valve plate across the end of the fuel inlet orifice to allow excess fuel to flow through the orifice and return to the inlet side of the fuel pump. When altitude decreases, the opposite action takes place resulting in a decrease in spill from the orifice.

Installation and servicing

6. The flanged portion of the body with four holes provides the mounting to the engine. Connections are made as detailed in the engine Air Publication. This publication must be referred to also for normal ground running checks and any permitted adjustment.

7. For inhibiting instructions refer to A.P. 4471A.

TABLE 1
Types of A.L.C.

Type	Remarks
A.L.C.101	Unit as described, natural finish on body.
A.L.C.102	As A.L.C.101 with grey enamel finish on body and chromate treated fittings.

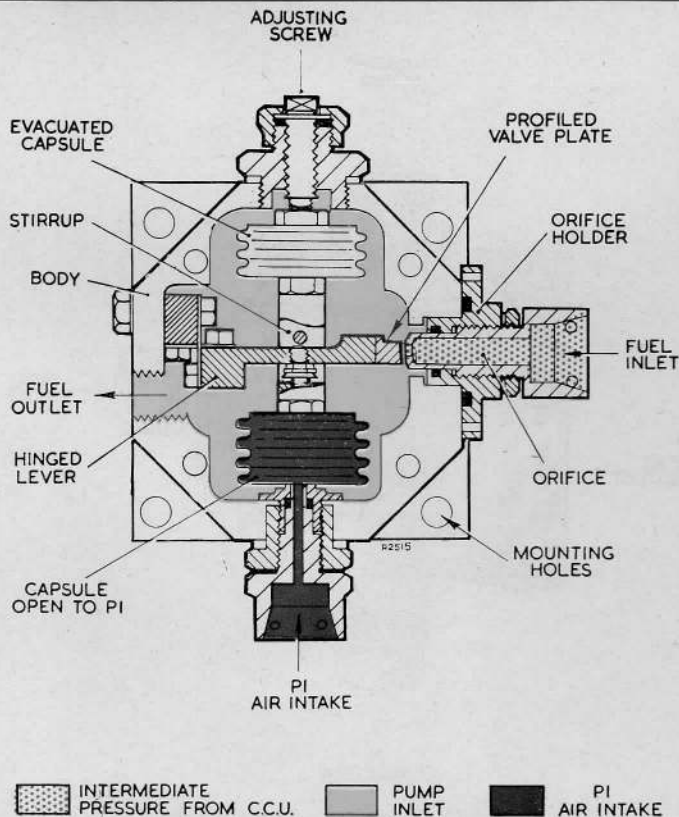


Fig. 2. Functional Diagram

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