

height of the upper part of the fabric of the ballonets or upon the degree of their inflations, upon the lift coefficient of the gas, and upon the fabric weight which reacts on the air.

Curve in Fig. VII shows the relation between this difference in pressure and the inflation of the ballonets at standard lift coefficient. It will be noted that the difference of pressure is about 0.50 inches at full inflation and nearly zero when the ballonets are fully deflated.

Since the automatic air valves are operated by the air pressure in the ballonets and not by the gas pressure, it will be obvious that the system will tend to regulate for a higher gas pressure when the ballonets are empty than when they are inflated.

(c) Pressure Regulation

Under normal flight condition a gas pressure of about 1.5 inches of water should be maintained with a maximum variation of 1.25 to 2.00 inches.

CAUTION: Under no condition should the pressure be allowed to go lower than 0.5 inch or higher than 3.0 inches of water, the lower pressure being permissible only in landing operations or in the hangar when there is little or no forward speed.

It is particularly essential to maintain an adequate internal pressure when the ship is operated at high speed or when moored at the mast during high winds.