

**G/LL146 hydrostatic gauge**

September 2010

**Client:**

Various manufacturers of microlight style aircraft

**Scope:**

Design and develop a very lightweight fuel gauge for use on ultra light aircraft in the leisure industry.

**Problem:**

Microlights generally have no fuel gauge and the fuel tank is located immediately behind the pilot's seat. To check the fuel level the pilot uses a hand held mirror to view the tank. Microlight aircraft are categorized by the CAA as Ultra Light Aircraft so any additional items to be fitted also need to be of minimal weight. Additionally, these aircraft have a very light duty electrical system.

**Solution:**

Several years prior to this application being highlighted, Fozmula had designed a hydrostatically powered gauge which requires no external power supply. The hydrostatic principal involves a diaphragm being deflected under varying heights of liquid, and this deflection being translated by a pointer moving across a printed scale. The system requires to be primed before a reading is taken and a small air pump is included in the kit.

The major advantages of using a Fozmula hydrostatic gauge is that its weight of 80g incurs little weight penalty; there is no electrical supply or wiring; the capillary tubing is fed through the tubular structure of the aircraft thereby protecting it and being all plastic the gauge is unaffected by corrosion.

**Fozmula background:**

Fozmula Limited designs, manufactures and markets a wide range of electromechanical, mechanical and electronics sensors, gauges and switches for equipment requiring liquid level, temperature and pressure measurement worldwide. As you can see from this case study our engineers welcome the opportunity to offer solutions to enquiries that are related to hydraulics systems as well as engine, fuel and transmission system applications.