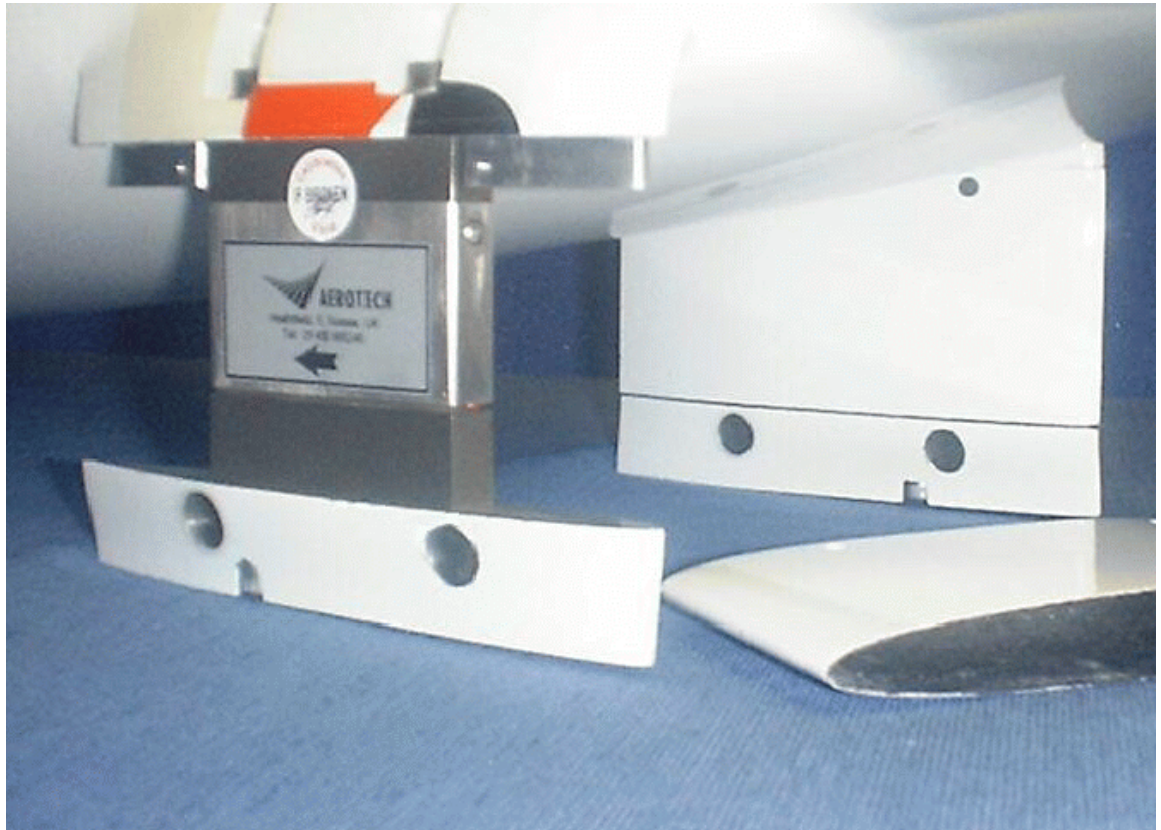


3 ~ COMPONENT PILLAR BALANCE



FEATURES:

- Specifically designed for “on the track” testing
- Measures aerodynamic loads on wing sections
- Track tested and fully proven design
- Allows analysis of 5 aerodynamic components
- Compact device
- Designed to suit existing wing mounting pillars
- High accuracy and repeatability
- Rigid device with low deflection

The AEROTECH 3 ~ Component Pillar Balance is designed specifically for full scale racing cars where the wing section is suspended or supported on pillars. The balance is a rigid strain gauged device of one-piece construction and is narrow in the direction of airflow such that it is suitable for mounting within the pillar profile. The aerodynamic Down Force, Pitch Moment and Drag generated by the front or rear wing sections are measured independently, using separate strain gauged bridges, each dedicated to the measurement of one aerodynamic component alone. Using two Pillar Balances to support the wing section, Yaw and Rolling Moments can also be calculated, thus allowing evaluation of five aerodynamic components. These balances can be used with full scale wing sections in the wind tunnel or can be fitted to the car and tested on the track to verify wind tunnel and CFD data.

Technical Summary:

Component	Load Range
Fx Drag	1000 N
Fz Down Force	7000 N
My Pitch Moment	350 Nm

The above figures are typical only, for each Pillar Balance, and different load ranges can usually be accommodated. Combined maximum error (1 sigma) of each component is expected to be better than $\pm 0.1\%$ fsd and is typically $\pm 0.05\%$ fsd.

Electrical Outputs: Unamplified 1.0 - 1.5mV/V
 Excitation Voltage: 5 to 10V nominal
 Physical Size: 12mm wide x 75mm high x 70mm long
 Component Weight: 0.5kg



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