

Racecar Front Wing Force Measurement

Customer:

UK based Formula 1 company

Loadcell:

F307-Z0927

Drag 600N

Lift 6000N

Pitch Moment 175Nm

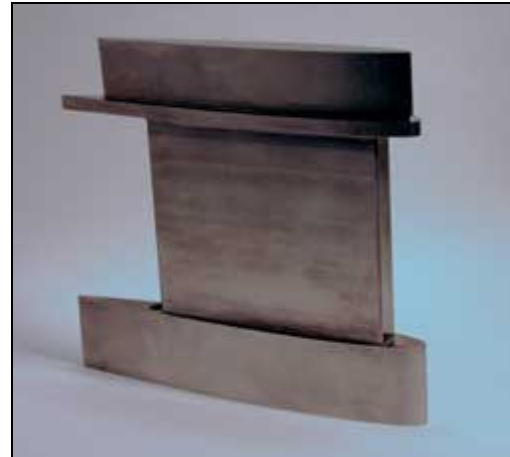
Generic Type:

Multi axis loadcell

Special Features:

2 Axis force and moment measurement

Replacement of existing part



The customer required a loadcell measurement system as a direct replacement for a pair of wing pillars supporting the front wing of a Formula 1 racing car. Values of down force, drag and pitch moment with various wing set-ups would be measured by undertaking straight line tests on a race specification vehicle.

The free issue parts were provided by the customer setting the design constraints for size and form. After the initial design process was complete FEA modelling was used to visualise load paths through the structure and to verify and optimise the design of the flexure arrangement.

Calibration and cross-talk tests were carried out in-house and reports were provided for the customer.

