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## Welcome

BERU f1systems' is a specialist motorsport engineering company. Trusted by engineers around the world and working at the highest levels of motorsport, it is now extending its range of load cells and strain gauges.

BERU f1systems offers highly accurate solutions for F1, WRC, NASCAR, IRL, LMP, GT and other leading formulae. We believe that we can offer accurate, high resolution solutions for aero, suspension and powertrain measurement.

If you would like further information about our strain gauges or any of our other products such as composites, wiring harnesses or TPMS, then please contact us and we would be delighted to discuss projects.

Regards,  
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## Strain Gauge Issue

Wing Pillar loadcell  
Cornerweights  
NASCAR bump stop  
F1 race loadcells

## Measurement Critical as F1 testing is cut

The dramatic cuts in testing are leading to an increasing requirement for accurate data; either from limited test sessions or wind tunnel work. Equally essential is accuracy, across the temperature range. BERU f1systems can provide this, with excellent resolution through its micro processor calibrated solutions for rod ends, damper, driveshaft and aero components. "Restricted testing means track time must be maximised," explains Simon Roberts, strain gauge manager. "We have already seen in the winter tests how productive accurate data can be."

## Front Wing Pillar Loadcell Assists Aero Design and Car Set Up



The BERU f1systems Front Wing Pillar Loadcell is designed to mount within the standard front wing pillar space envelope to measure front wing aero forces during on track testing. With new regulations banning full scale wind tunnel testing, the loadcell provides invaluable data for front wing aero design and car set-up.

Loadcells are fitted within each of the wing pillars to determine Lift, Drag, Pitching moment and Centre of Pressure. Aero shrouds are fitted to the loadcells to provide protection and ensure the correct aero profile remains. From a supplied space envelope of the current wing pillars, we are able to adapt the design of the loadcells to suit, taking into consideration the customers preferred fixing arrangements for mounting the loadcell in the structure. We can also mount our High Precision Amplifiers (0 to 5V) local to the loadcell thus reducing any signal noises.

## High Accuracy Corner Weights For All Series

The use of high accuracy loadcells to obtain suspension, powertrain and chassis data is increasing in GT and touring cars. Our chassis dyno test rig, proven in NASCAR is now being used by GT and Touring Car teams to ensure repeatability and accuracy. Using four loadcells per corner, the data obtained allow engineers to optimize set up to maximize track time.

BERU f1systems is working on a portable system that could deliver excellent data trackside for WTCC, FIA GT etc. Contact us for your requirements.



## F1 – Data Collection During Racing



Restrictions on testing mean races themselves will contribute significantly to the development programme in 2009. BERU f1systems is producing loadcells for use during races to acquire data during the entire weekend.

“Mileage will be so restricted,” says managing director John Bailey. “The race itself will be valuable data acquisition. We are already developing load cell applications with F1 teams to use in the races.”

For certain applications BERU f1systems will create lightweight loadcells for race chassis. The recently enlarged loadcell manufacturing division, staffed by seven engineers is now capable of producing higher volumes.

For further details of our enlarged facility or for information about race specific loadcells, please contact [simon.roberts@bf1systems.com](mailto:simon.roberts@bf1systems.com) or call +441379646212.

## NASCAR Bump Stop Loadcell For Track And 7 Post Rig

The BERU f1systems Damper Bump Stop Loadcell accurately measures individual bump stop forces on each damper. This allows the bump stop rubbers to be accurately analysed and characteristics obtained during seven post rig and on track testing.

Hardened and ground washers are supplied to evenly distribute the bump stops contact patch over the loading face of the loadcell to improve repeatability.

This part offers previously unseen levels of accuracy for damper bump stop measurement throughout the whole temperature range.

