

Advantages of Stellar Technology's Bump Stop Load Cell

Product Highlights



Bump stops control the vertical travel of racecar suspension.

In NASCAR a soft suspension is desirable because it allows the car to hug the road as down force is created by the aerodynamics of the car. However, in order to prevent the car from bottoming out and making contact with the pavement when navigating through turns or when encountering dips or bumps in the road, a rubber spacer is placed on the shock absorber shaft to limit the travel and prevent contact. This spacer, called a bump stop, is available in varying degrees of stiffness and can be adjusted up or down to accommodate changing track conditions between and during races.

Engineers at Stellar Technology created a modified thru-hole load cell to measure the amount of down force the bump stops are experiencing. These Bump Stop Load Cells are not permitted during an actual race, but are used extensively in testing to identify the amount of down force each shock absorber is experiencing, and when contact is made with the bump stop. This data can be used to adjust any number of things from the firmness of the shocks, to the type, size and make of the bump stop itself, to chassis and suspension adjustments, and even the tires used. A small change to any of these things can make a big difference in the car's performance and handling as it is going around the track at 200+ mph. These load cells allow them to quantify and record the results of their adjustments. This customized Model DTH920 has to endure high temperatures, considerable shock and vibration, and wet conditions while measuring compression forces up to 5,000 lbf.

Other Special Features include:

- Low profile case height of 0.5"
- Lower "S" dimension (hub)
- Standard ID of 0.628" to 0.630" meant to fit on a common 5/8" shock absorber shaft
- Extended compensated temperature range of 70°F to 250°F
- Integral Teflon cable with special shrink wrap for heat and weather resistance

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