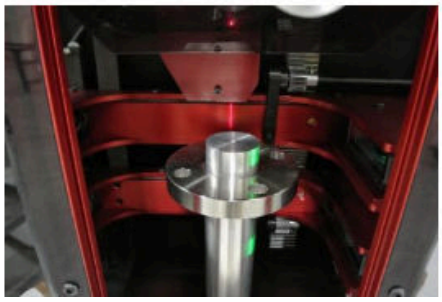
Ring Gear Runout Measurement System



Summary
An automotive manufacturer requiring a high level of alignment in their ring gears requested an easy to use 360 degree measuring tool that could quickly determine the total runout along the circumference of the gear. Prior to using the solution from Cross the part was manually rotated on a stand with a contact probe at one location.

The delivered system uses two profile lasers to monitor the angle of the shaft of the ring gear and one to measure the displacement of the face of the gear. The machine operates at the press of a button, mechanically rotating the gear in 30 seconds and displaying the runout on the attached screen and is adjustable for parts of varying sizes.

Benefit
Mechanically rotating the gear and automatically calculating the runout reduces human error. The lasers can be adjusted to fit gears of various sizes and heights. The two profile lasers monitor any change in the shaft angle as the part rotates and irregularities are accounted for in the final runout calculation. Additionally, the system ignores spikes in the data caused by any materials that may be sitting on the face of the gear.

Engineering & Application Specifications
Material being handled: Differential Ring Gears
System Resolution: ± 0.001 mm