

## HOW TO GUIDE

How to Measure Gap / Flush around  
Translucent Headlights & Taillights

Fundamentally, surface profile measuring systems rely on a light source. A red laser line illuminates a feature of interest (scratch, step, gap, etc.), then the optics system captures the line and digitizes the coordinates of the feature to be measured. An advanced algorithm is then applied to the digitized scan extracting numerical values of those features, such as gap and flush. A problem that has always existed is that the scan cannot be acquired if the laser cannot trace the surface feature. A red laser penetrates transparent or translucent surfaces..... windshields, headlights, etc., so features around these types of surfaces are difficult to measure.

***LaserGauge® Blue Laser Technology fixes this problem.***

**Why blue laser?** The optics principle of Rayleigh scattering shows that the amplitude of light scattered from any transparent dielectric is proportional to the 4<sup>th</sup> power of the oscillation frequency of the light. By this principle, the blue laser (450nm) is scattered as much as 4x more than the red laser (670nm), thereby giving a much better chance of obtaining a scan off of transparent or translucent surfaces.

This Blue Laser Technology is now available in the HS702 and HS703 hand held sensors allowing gap/flush measurements to be taken around split taillights, windshields, clear headlights, red and amber lenses, chrome, glass, or any combination. Coupled with Origin's accurate Virtual Gauges, high speed processing and portability, inspecting these types of features on transparent or opaque surfaces is now possible.