



Gap and Flush Automotive Interior



Inspection Problem

Interior components of a vehicle, such as the instrument panel and trim, are inspected for fit by the manufacturer and inspected after they are assembled in vehicles. Measuring gap and flush on these parts is difficult because of the unusual surface contours and nominally small gaps. Mechanical tools are almost impossible to use because of the flowing contours and the small to non-existent gaps. Manual tools like feeler gauges depend too much on the operator's individual abilities.



Requirements

Measurements - Interior gaps can be as large as 6.0 or 7.0 millimeters and as small as no gap at all. The gap design can have square-edges or very large radii and the panels can be flat, curved or at a 90° angle to each other. Flush measurements are difficult because of the complex surfaces at the joints. The measurement instrument must be flexible in its methodologies to accommodate all of these features.

Instrument - Inspection of the entire instrument panel or all assemblies in interior needs to be done at one time for efficiency. One inspection routine should contain all of the measurements required, and the operator should be able to follow the routine without confusing the locations of the measurement points. Each measurement must be tracked to a unique identifier or label and recorded in a data file.

LaserGauge® Solution

Measurements - Flexible Virtual Gauges allow features to be measured according to a number of different methodologies. Once each point's appropriate methodology is identified, it is incorporated in the inspection routine and runs automatically when the point is inspected.



