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# Variable Plain Plug Gauge

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**Abstract**: *The purpose of this project is to offer an improved option over the fixed size plug gauges with a 'cost effective' measuring solution that addresses the measurers intended dimensions, while still offering accuracy in all diameters. The final prototype allows for an easy vertically adjusting meld component system to replace the cam. This will vertically raise the followers to accommodate the change in measuring range. The project was made by a distribrute of mild steel components common in fabrications, makes it available and affordable for smaller industries and schools. The paper focuses on the mechanical design, working principle, materials, and manufacturing processes of the final version. This research has occupations value in providing a usable gauge head for a calibration tool used in construction and industry for quality control and inspection. In addition, it has been a useful training mechanism for considering future designs, even showing its potential uses as a research gauge. This innovation contributes to the better use of dimensional inspection.*

**Keywords**: Variable gauge



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