

Project Title: [Bend Gauge for Non-90° Bends](#)

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Area: [Mechanical Engineering](#)

Sponsor: [Triton Metal Products, LLC.](#)

Triton Metal Products (TMP), located in Hamilton, Indiana, is a fully service-based metal fabrication shop. This company needs assistance in developing a gauge that will allow their press brake operators to perform routine checks to ensure the proper part specification is reached. This gauge will improve manufacturing efficiency, safety procedures, and measurement reliability. Currently the press brake operators must take the parts to the quality center that is located on the other side of the facility which can incur up to 30 minutes of downtime. Since TMP is a fully service-based operation any downtime results in a loss of revenue.

TMP is in need of a gauge that measures both flange length and bend angle of their non-90-degree bends. The solution must accurately measure flange length for parts up to 24" that have .030" tolerances, and it must be able to accurately measure all non-90-degree bends from 0° to 360° for parts that have .1° tolerances. The design must provide an easy-to-read digital display and the apparatus must be simple enough for entry-level operators to use. The budget set out for this project is \$10,000.