

# ROSS ENGINEERING & MACHINE, INC.



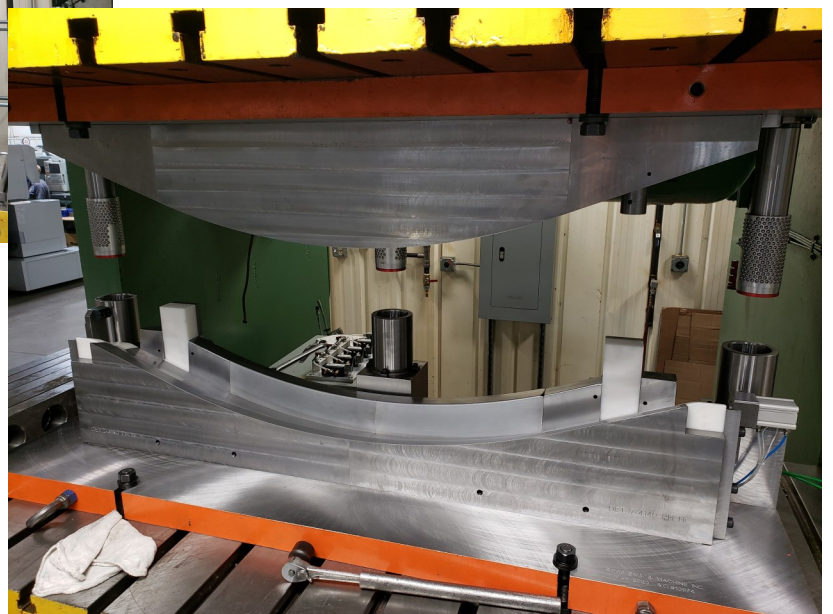
THE ROSS PLEDGE: PROD PRISE IS FAIR QUALITY IS RELIABLE DELIVERY IS TIMELY

## Customer's Problem:

**Purchase a tool to form an automotive bumper using a conventional stamping die and press in order to avoid a more costly hydroforming operation.**

## ROSS E&M Solution:

**Using the mechanical properties for the extrusion material Ross calculated expected over bend requirements to accomplish the end part geometry consistently. In order to minimize the cost of part development ROSS would build a temporary tool to mimic the final tool. The extrusion was then stamped in the wood temporary tool and the tool was repeatedly recut until the required geometry was achieved. As long as the extrusion material composition was held within a reasonably consistent range, the end part geometry was reliably achieved.**



ROSS Engineering & Machine  
Engineering:

- Custom Tools and Dies
- Custom Fabrication Work Cells

Manufacturing:

- Short to Medium Precision Machining
- Short to Medium Production Stamping
- Our Engineering or Build to Print

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