



## Hydraulic & Mechanical Equipment Manufacturer

78% Reduction in Production Time

A global manufacturer of hydraulic and mechanical equipment serving a wide array of industries wanted to reduce the amount of time to make two 4.5-inch (114.3 mm) holes in 400 sheets per month. The company contacted Mate Sales Engineer Bob Baranoski to help them improve their production process.

### A More Effective Approach

Bob reviewed the company's production methods and saw that they used nibbling to make the holes. While it's a common technique, nibbling large holes with a small punch is one of the most inefficient fabricating techniques. What's more, nibbling can cause additional problems such as excess machine wear and tear, or excessive tool wear. Upon watching the process, Bob saw that it took 500 hits per hole at 90 seconds each to complete one panel.

Knowing that there was a more efficient way, Bob first recommended using the auto-index station in the punch press. Most turret presses include an auto-index station that rotates the punch and die to any angle defined by the programming. Auto-index stations are perfect for using special shapes to improve efficiency and quality. Bob then suggested using a tri-radius tool in the station that allows one to punch 3 different size large openings with a single tool.

### Dramatic Decrease in Production Time

After Bob trained the operators on the use of the auto-index station and tri-radius tool, the company began production using the new tooling and process. The results were dramatic:

- To produce one panel with two holes, it took the company 1,000 hits and 180 seconds using the inefficient nibbling process. At the required 400 sheets per month, it took 400,000 hits at 72,000 seconds (180 seconds x 400 sheets) or 20 hours (72,000 seconds / 60 seconds / 60 minutes).
- With the auto-index station and tri-radius punch, the production time was reduced to 15 hits per hole at 20 seconds each, or 30 hits and 40 seconds per panel. At the required 400 sheets per month, it took 12,000 hits at 16,000 seconds (40 seconds x 400 sheets), or 4 total hours (16,000 seconds / 60 seconds / 60 minutes).

The new process delivered a 78% decrease in production time, freeing up 16 hours of production time for other projects. In addition, the number of hits required to produce a panel decreased 97%, which will reduce machine wear and tear, along with the associated maintenance costs.