

Take a \$42,000 Bite Out of Operating Costs

Eliminate Nibbling Operations

As fabricators look for ways to improve manufacturing efficiency, some processes are more obvious than others. One of the most inefficient, frequently overlooked fabrication techniques is nibbling large holes with a small punch. While nibbling works, this process causes problems that affect both the machine and the workpiece such as:

- Punching debris that damages turret bores
- Increased production time from the numerous hits
- Excessive tool wear that requires more frequent maintenance and replacement
- Machine wear and tear
- Rough or scalloped edges on the workpiece that require secondary operations.

This last problem—post-punch rework—is a common practice in sheet metal fabrication shops, but it doesn't have to be this way. The rework can be eliminated with a simple change in the punching process and a minor investment in tooling. Mate's Sales Engineers have the ability to identify these opportunities to bring significant savings to your manufacturing process. Let's take a look at the following example.

TRI-RADIUS TOOL = FAR FEWER HITS, CLEAN CIRCLE

A manufacturer in central Mexico was punching large circles with three different diameters using a nibbling process. The resulting parts had a highly rough finish that needed to be manually grinded after the holes were punched. Two workers dedicated their entire work shifts to correct this defect. Observing this during a visit to this customer's plant, David Inzunza, Mate Sales Engineer for central Mexico, spoke to the engineer in charge of this operation.

Most turret presses include an auto-index station

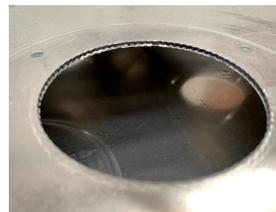


Tri-Radius Punch

that rotates a punch and die to any designated angle dictated by the machine program. David recommended the use of Mate's Tri-Radius tool, which is a punch with three different radii.

Using a D auto-index station in a thick turret machine or Size 2 tooling in a Trumpf press, the tri-radius tool can create three different diameter holes. Mate designs and manufactures this tooling with the three radii the customer specifies. The result is a surprisingly clean circle, and the need for secondary grinding operations is eliminated.

THE RESULTS



Nibbled Hole



Hole Punched with Tri-Radius

The company now benefits from a much lower cost of operation due to this simple change in tooling. By eliminating the grinding operation and moving them to new roles, they added the equivalent of two operators' labor reused for other profitable work.

- Lower cost of labor: since they did not need to hire two additional staff, they saved \$30,240
- Cost of grinding consumables: 8 flaps/day at \$3 each x 2 operators = \$12,096

Total Benefit by Changing to a Tri-Radius Tool: \$42,336