



IMPROVE SMALL HOLE QUALITY & PUNCH LIFE IN TRUMPF MACHINES WITH SIZE 0-A FULLY GUIDED

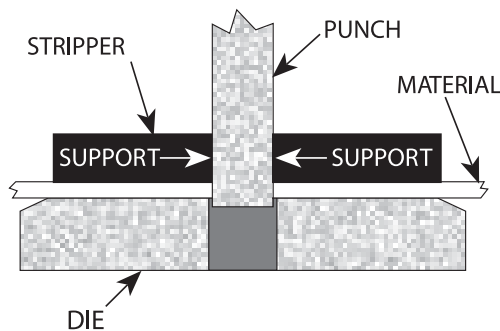
THE PROBLEM:

Punches narrower than the material thickness are vulnerable to lateral forces that bend the tip. This often occurs when punching small diameter holes where the material thickness is close to the diameter of the punch. The tight punch-to-die clearance where the punch is bending causes punches to dull quickly. If severely misused, the punch bends far enough to shave the die, damaging both tools. Since this issue occurs frequently in nibbling operations, Mate recommends nibbling strips at least 2-1/2 times the material thickness. Yet the damage and poor hole quality can occur even in normal operations.

THE MATE SOLUTION:

Fully Guided Explained

To eliminate this issue, narrow punches benefit from support at the punch tip. Mate recommends *fully guided tooling* to provide the support in close stripper-to-punch clearance situation. The stripper clamps material to the die during the entire working part of the stroke so that it can support the punch as near to the tip as physically possible. (See image, lower left)



The punch guide assembly holds the stripper rigidly. The fully guided stripper guides the tip of the punch to prevent lateral movement of the punch point to assure accurate hole punching and long tool life. The result is truly exceptional fully guided punching performance. Quality of production consistently improves and tools last three or more times longer than without guiding. Mate's fully guided tooling allows narrow punch widths to be punched.

The following table shows Mate's minimum recommended *punch width to material thickness ratio*:

Material	Conventional Tooling	Fully Guided Tooling
Aluminum	0.75 to 1	0.5 to 1
Mild Steel	1 to 1	0.75 to 1
Stainless Steel	2 to 1	1 to 1

MATE'S TRUMPF STYLE SIZE 0-A FULLY GUIDED ASSEMBLY:

The Only Trumpf Style Fully Guided Solution!

Mate's Trumpf Style Size 0-A fully guided assembly is the only Trumpf Style fully guided solution available today. It is equipped with five guided surfaces for punching thick material with a small diameter punch or diagonal.

SOLUTION BULLETIN



Mate's Trumpf Style Size 0-A fully guided assembly allows fabricators to obtain:

- Better punching accuracy and hole quality
- Better stripping
- Longer tool life
- Flatter piece parts
- Reduce punch breakage
- Uses standard Trumpf Style die

As an added benefit, the Trumpf Style Size 0-A punches are made from **high speed M4PM™ tool steel**, a powdered metal that provides superior wear resistance and increased toughness.

HOW CUSTOMERS USE TRUMPF SIZE 0-A FULLY GUIDED:

- Ideal for small extrusion pre-pierces close to material thickness
- As a single hit to finish a cluster pattern
- Any time where hole quality is a concern.
- When the hole size to material thickness ratio is close to 1
- Starter holes for laser cutting in combi machines because piercing with the laser itself wears nozzles and lenses

AVAILABLE TOOLING STYLES AND STATION SIZES

- Trumpf Size 0-A only

MATERIAL AND OTHER RESTRICTIONS:

- Maximum material thickness: up to .157" (4.00mm) in mild steel
- Limited to the size of the punch insert

TONNAGE RESTRICTIONS:

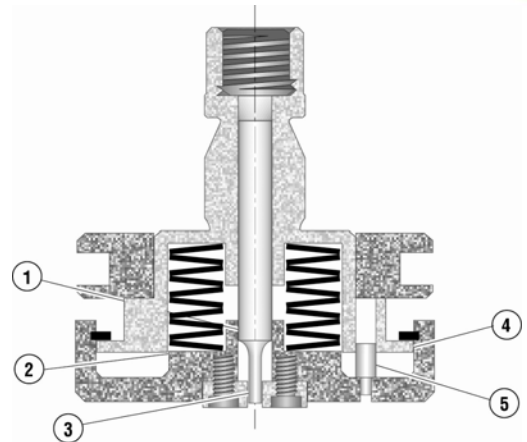
- None known

HOW TO ORDER:

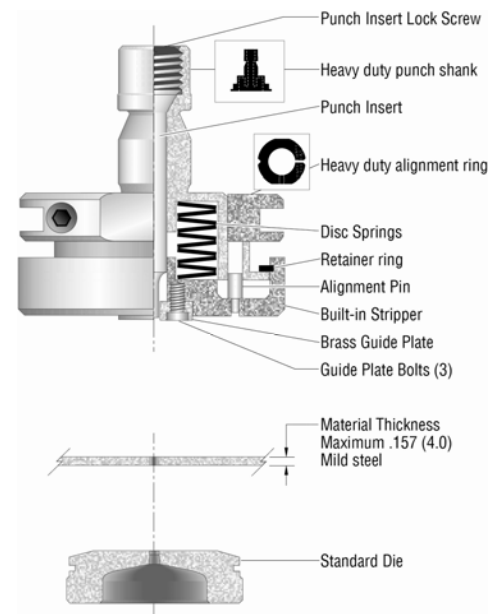
- XTT1D0GA (round) or XTT1D0GB (shape)

OTHER MATE PRODUCTS TO CONSIDER:

- Maxima® coating for enhanced punch tip lubricity
- For Trumpf Style users, Mate Trumpf Style Standard, NEXT™ and QuickLock™ tooling; Mate Trumpf Style Special Applications tooling
- If you use other tooling styles in addition to Trumpf Style:
 - For Thick Turret users, Mate Ultra TEC® fully guided tooling
 - For Murata Wiedemann users, Mate Marathon® and Marathon Plus™ tooling



Above illustration shows the five guided surfaces of Mate's Trumpf Style Size 0-A fully guided solution.



Above illustration shows the complete upper and lower assembly of Mate's Trumpf Style Size 0-A fully guided solution