



## OPPORTUNITIES TO REDUCE SHEET MARKING

### THE PROBLEM:

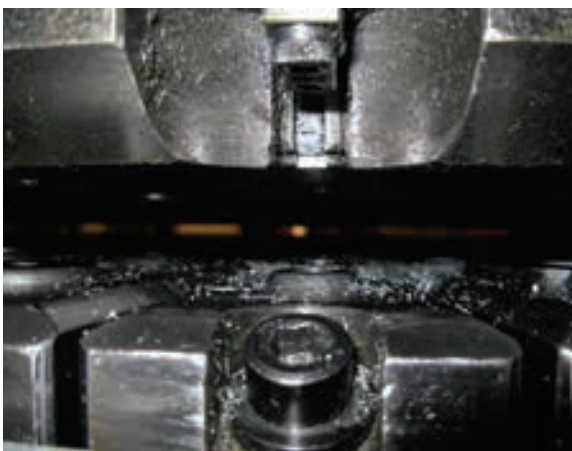
In punch press manufacturing, there are a variety of processes that can cause undesirable markings or scratches on the finished product. Naturally, superior piece part quality is the goal for successful punching, so is it possible to eliminate or reduce unintentional sheet marking?

### THE MATE SOLUTION:

There are often many overlooked opportunities available to prevent or reduce unwanted sheet marking. Many of these opportunities involve keeping the punch press and tooling clean and in good working order. The following opportunities are divided into press related and tooling related suggestions. The photos are examples showing areas of opportunities for improvement.

#### 1. Press Related Opportunities :

- a. Exhibit good housekeeping and keep press clear of punching debris, such as slugs and metal dust, which can cause sheet scratching
- b. Keep the work surface of the press in good condition and clean from debris
- c. Use adjustable height work tables to keep sheet metal at press height when moving material onto and off the press
- d. Use a light spray of lubricant on top AND bottom of sheet metal
- e. Move material slowly over taller forming dies
- f. Program a sheet move to pull the sheet out of the press before tool change
- g. Avoid punching in stations adjacent to forming tools. When possible, keep taller forming tools away from one another and on separate side of turret from piercing tools
- h. Avoid punching near workholders
- i. Remove forming dies from turret when not in use



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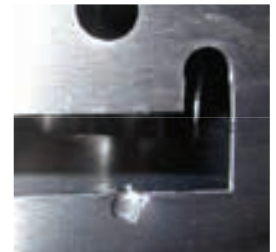
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## 2. Tooling Related Opportunities:

- a. Avoid slug pulling
- b. Avoid excessive “nibbling”
- c. Use shims to ensure all dies are at an equal height
- d. Demagnetize punches and dies
- e. Remove sharp edge around die created by sharpening and demagnetize
- f. Install brush or roller dies in open stations or in infrequently used stations
- g. Use light pressure spring packs on soft/delicate material
- h. Add soft face adhesive urethane pads to strippers
- i. Replace strippers, piercing or lower forming strippers, when they become marked or damaged



## Tooling to consider:

- Mate Thick Turret brush dies: Available in A through E stations
- Mate Soft Face Urethane Stripper Pads
- Mate Die Shims
- Mate Slug Free® dies
- Mate Slug Free Light™ thick turret dies
- Slug ejectors
- Replacement strippers
- Valugrind™ High Precision Grinder
- Premia™ Sharpening System

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