

With the greatest technology we attain,
 With the best quality we achieve,
 MTL supports your manufacturing.



Questions & Answers

Q : While used in nibbling, the blade loses smoothness within a relatively shorter period of time and thus the cut line is badly burred. Is there any solution?

A : Yes, try the followings.

1. Apply a coating to the punch
2. Use a lubricant, i.e. a grease or a felt pad
3. Recheck the die clearance
4. Sharpen the punch blade constantly
5. Raise a punching speed

1. Coatings

| COATINGS | METAL SHEET | | | FEATURES |
|-------------------|-------------|-----|----|---|
| | STEEL | SUS | AL | |
| ULTRA HARD (UHP) | △ | ○ | ○ | Makes HSS PUNCH harder and stronger. Build-up edge will be prevented. |
| ULTRA GUARD (UGP) | ○ | ◎ | ○ | Makes HSS PUNCH harder and stronger than UHP does. Build-up edge will be prevented. |
| TIN | ○ | - | ○ | Finalized in gold. Punch durability will improve. |
| TICN | ◎ | ◎ | ◎ | Finalized in dull silver. Titanium carbide coating is created over titanium nitride coating. Durability improves. |

2. Use a grease or/and a felt pad

2-1 MURATA recommended greases.

EP GREASE (Brown)

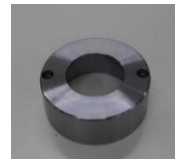
MOLY CREASE (White) : Highly recommendable

- Less abrasive and smoother performance
- Prevents built-up edge.



2.2 Felt pad (VULCAN only) : To be set between the punch and the stripper after soaked in a designated oil.

- Tool's durability improves.
- Stripping failure reduces.
- Metal sheet is less oiled.
- Intrusion of foreign objects will be prevented.
- Process accuracy will last longer.



※Note that a special stripper is needed for the first shot with a felt pad.

Feed oil to a pad every 30,000 hits.

The grease and the felt pad could be used along with the aforementioned coatings. The combination will be more effective in making punch more durable. Why don't you try them together?

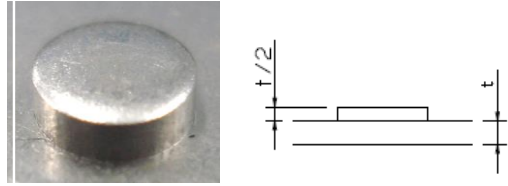
Forming Application

LOCATER POINT - STANDARD

LOCATER POINT, typically used for a positioning purpose, is a shape pushed up on the metal sheet. The height has to be half the object thickness or less because otherwise the projection could be cut off.

Examples of positioning with LOCATER POINT

- Coupling $\Phi 3.0$ LOCATER POINT and $\Phi 3.1$ hole.



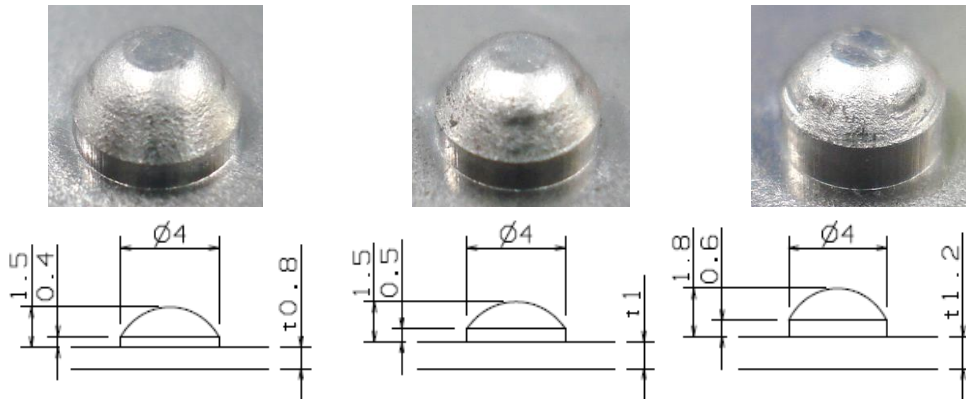
TIPS:

UPWARD LOCATER POINT is created by 114 upper part and lower part. The lower part could be either retractable or non-retractable. DOWNWARD LOCATER POINT can be produced by either 114 or Vulcantool. DOWNWARD has more risk of scratching than UPWARD when a sheet traverses.

LOCATER POINT - SPECIAL

LOCATER POINT can be taller than half the workpiece thickness - even higher than the thickness with our new tool! The surface is rounded in order to extend height while the side remains half the thickness to ensure strength. With that height and the stability, this unique LOCATER POINT could handle a thicker object for positioning purposes.

This new tool is only available for: LOCATER POINT size $\Phi 3.0 \sim \Phi 6.0$, soft steel, and with servo-driven or hydraulic system machines (not mechanical model).



OTHER SHAPES

OBLIQUE



SPCC/t1.6
 $\phi 4$ h=0.8

SQUARE



SPCC/t2.3
5X5 h=1.8

RECTANGULAR



SPCC/t1.6
2X5 h=0.8

THICK SHEET



SS/t4.5
 $\phi 5$ h=3.0

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Certification

