

## TOOL MAINTENANCE

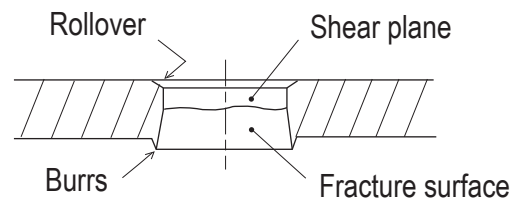
Tool maintenance has a major impact on the quality of the product and tooling life. We summarized the time and method of appropriate maintenance this time.

### GRIND STANDARD TOOL

#### ■ TIMING OF RE-GRINDING

In the case of punching hole, tool and material contact repeatedly, and as the number of hits increases, tool wear progresses and the following phenomenon appears in the processed product.

- ① Increase burrs.
- ② Decreased surface accuracy of the shear surface.
- ③ Decreased punching dimensional accuracy.
- ④ The product warpage.
- ⑤ Increase rollover



Normally, the re-grinding time of punches and dies is determined by the size of burrs. In addition, it is recommended to regularly observe the condition of the cutting edge (sagging, chipping).

As the wear of the cutting edge progresses, it leads to troubles such as,

- ① Hasten an increasingly wear.
- ② Decreased quality of processed products.
- ③ Punch and die will break by increasing of punching load.

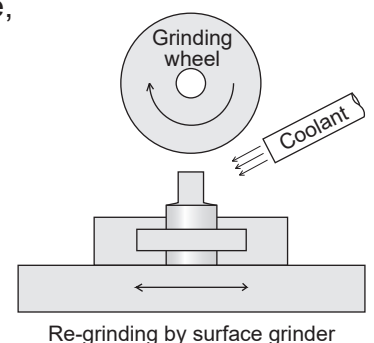
We recommend regrind at an appropriate time to maintain product quality.

#### ■ GRIND METHOD

Please always use coolant when grinding. Grinding with dry or improper coolant may cause cracking or annealing of the cutting edge, which may cause punch and die damage.

After regrinding, remove the polishing burr with a # 600 grinding stone, remove the coolant, and then apply a lubricant when incorporating it, because a polishing burr will occur.

Also, adjust the length of the punch or die by the amount of dimensions ground and the punch head or shim.



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### GENERAL MAINTENANCE

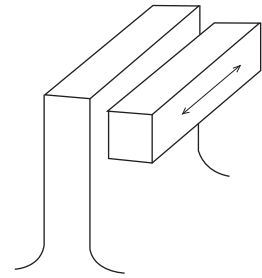
#### REMOVAL OF ADHESION OF CUTTING EDGE

To remove the adhesion of cutting edge, we recommend using an oil stone (#220).

※When you remove the adhesion, please be careful to keep the cutting edge sharp.

For frequently used punch, we recommend CONIC original coating “SDP” which has an astonishing lifespan.

Remove adhesion using oil stone.  
Move parallel to the side surface of punch.



#### LUBRICATION OF THE SLIDE PART

The sliding portion between the punch body and the guide, we recommend lubrication the oil (such as grease) and cleaning on a regular basis.

The iron powder generated during the punching process attached to the inner diameter of the guide may cause seizure.

#### KEY MAINTENANCE

It is recommended to replace it regularly as the wear of the turret key (key groove / key pin) has a great effect on the quality of the processed product and the tooling life.

We will take care of the exchange key for tools.

#### CLEANING UP INSIDE THE TURRET

Even if tool maintenance is carried out sufficiently, if the turret to which the tool is attached contains burrs or foreign substances from slug, it may cause misalignment or galling of the tooling.

When installing the tool, please clean the inside of the turret completely. Attaching a blank die to a turret that is not in use prevents foreign matter from getting inside.

### FORMING TOOLING MAINTENANCE

#### GRIND FORMING TOOLING

Some forming tool has “cutting edge” and it is possible to be sharpened.

※Depending on the product, reshaping may change the tooling shape.

In addition, **HSS tools** and **replaceable tools** are also recommended for frequently used tools.

#### REPLACEMENT OF URETHANE SPRING OR SPRING

Some forming tools have urethane rubber or spring assembled inside tool for an ejector.

It is recommended to replace it early, as deterioration of the force of the urethane rubber or spring may lead to strip errors and damage to the tool.

Proper maintenance is recommended in order to use the tool for a longer time.

For More information,  
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