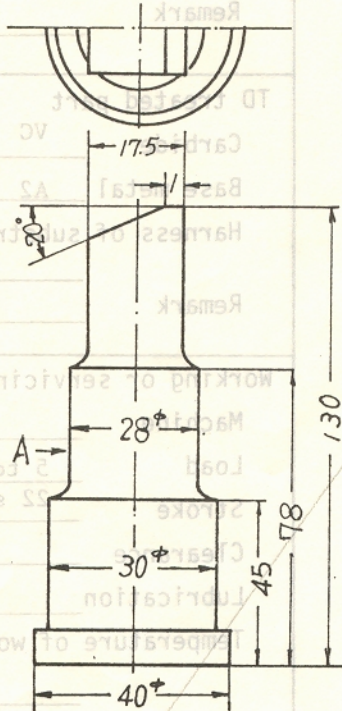


## APPLICATION DATA

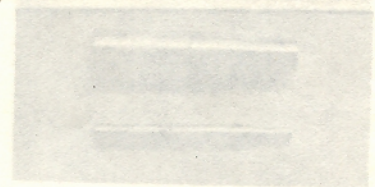
Die or Jig	Name	Piercing punch					
	Category	Die (pressing) cold forging, hot forging, die casting, sand molding, powder compacting, rubber molding, plastic molding, glass casting) Cutting tool, Knife, Guide roller, Others ( )					
Material	Steel Code	SKD11	TD	Coating	NbC	Treating Condition	
	Heat Treatment	hardened		Thickness		Substrate Hardness	HRC

## Sketch of Die



Work	Material	Hot rolled mild steel		
	Dimension	3.2 t	Hardness	

## Sketch of Work



## How It Is Worked

## Evaluation

Hardened : 27,000 - 41,000 s' (Repaired)  
Chipped at the corner

8,000 - 11,000 s' : Chipped  
(Remarkably scored on surface A due to friction with strip plate)

TD : 270,000 s'

One of four punches cracked vertically

All right with the die

## Effect

- Increase of die life
- Reduction of maintenance cost
- Saving of lubricants
- Increase of working rate
- Others

## Working Condition

Machine	Transfer press
Load	140 t
Stroke	45 spm
Speed	3 m/sec
Temperature	°C
Lubrication	Machine oil # 70
Clearance	5 %

No chipped and scored on A