

CE TOOLING

Section 7 Tooling Booklet

Reference Section 1 For Technical Information

TRUMPF STYLE TOOLS





CE TOOLING

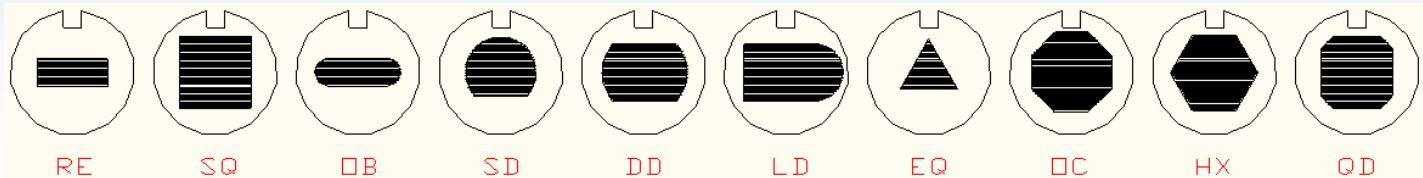
CETooling, started out in 1966 in Chicago as a tool & die shop. In the late 70's we directed our energies exclusively to the manufacturing of tooling for turret, and duplicator presses. Through our use of the highest steel grades, combined with manufacturing processes and procedures developed from over 50 years of producing punches and dies, our quality and value is unbeatable!

Currently CET is supplying all Fabrication: PUNCH, BEND & SHEAR tooling. This is done through our own manufacturing capabilities and relationships we have with other fab tool manufactures.

STANDARD KEYING DIE SIZES I & II

10 Standard Shapes plus Rounds. RT Rectangles • SQ=Square • OB=Obround • SD=Single-D • DD=Double-D • LD=Long-D • EQ=Equilateral • OC=Octagon • HX=Hexagon • QD-Quad-D Add \$10 per set to standard price for LD & EQ

Dies only have 1 key. Shapes shown with Key at 0°._+ 90° or 45° for 15.00



DIES KEYED ON ANGLES OTHER THAN 0° INCREMENTS

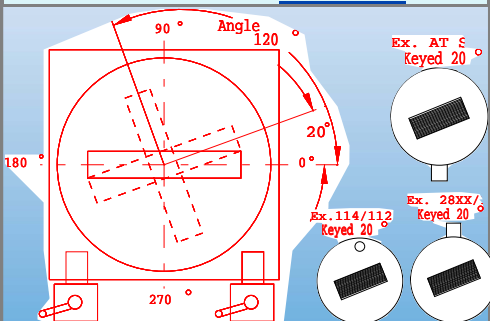
STATION	Of 15° increments	Other Than 15°
I SMALL		
II MEDIUM		
III LARGE		

EXTRA KEY WAY ON DIES

Please Fax a Print Showing Location of Extra Key(s) in Relationship to Shape

STATION	Of 15° increments	Other Than 15°
I SMALL		
II MEDIUM		
III LARGE	Not Available	Not Available

Shapes on Angles or Extra Key Locations. Die View



Visualize location key positioned as tool would load into turret. Start with length of shape horizontal. (Length points to 0°)
Next Rotate shape, not location key.

A sketch accompanying your order ensures keying as required! *Note: Other Manufacturers ordering diagrams may differ from C.E.'s!*

10 STANDARD SHAPES

1 - 6 work day delivery.

RECTANGLE • SQUARE • OBOURD • Single-D
 Double-D • QUAD-D • HEXAGON • OCTAGON
 + \$10 PER SET FOR: LONG-D & EQUILATERAL

Guaranteed Expediting Services

FDS=Firm Delivery Service • Order by 3pm,

1FDS Same or Next day guaranteed

6FDS Guaranteed to ship in 2 days

Tool Styles: TRUMPF Standards:

1 day 1FDS=25% 2 day 6FDS=15%

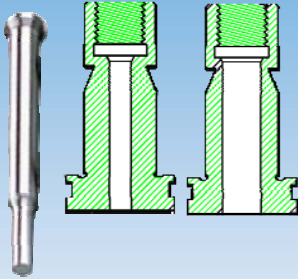


Insertos
de
punzones
⇐ 0a
0b ⇒

TRUMPF PUNCH

PUNCH CHUCKS

0a (TR0aPC)
0b (TR0aPC)



MEDIDA 0a
..039-.236
(1.-6,mm)



MEDIDA 0b
..039-.413
(1.-,10,5mm)



Insertos
de
punzones
⇐ 0a
0b ⇒

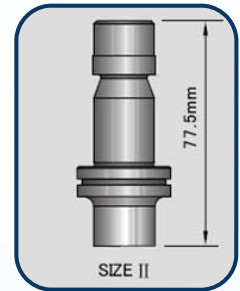
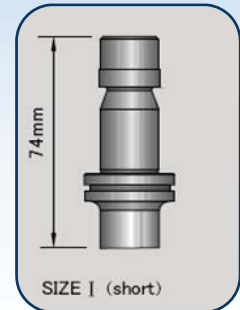
SIZE I
..039-1.181
1 -30mm



SIZE II & II
1.182-4"
30.01-101.6m)

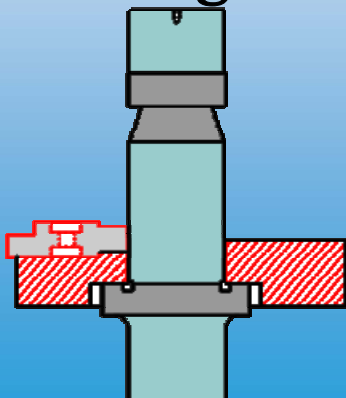


Station	RANGE DIAGONALLY Pricing for Tip Sizes of .093(2,3mm) &>	ROUND Part #	Price	SHAPE Part #	Price Station OB +20%
0a	.039-.236 / ,8-6.0mm	TR0aPr		TR0aPs	
0b	.237 -.413 / 6,0-10,5mm	TR0bPr		TR0bPs	
I 74mm length	.0319-.590 / ,8-15,mm	TR1Pr		TR1Ps	
	.591-1.181 / ,8-30,mm				
II 77mm length	1.182-1.575" /30,-40,mm	TR2aPrW		TR2aPsW	
	1.182-2" / 30,-50,8mm	TR2bPrW		TR2bPsW	
	2.001-2.362" /50,8-60,mm	TR2cPrW		TR2cPsW	
	2.363-3" /60,1-76,2mm	TR2dPrW		TR2dPsW	
III 77mm	3.001-3.5" / 76,2-88,9mm	TR3aPrR		TR3PsR	
	3.501-4" / 88,9-101,6mm	TR3bPrR		TR3PsR	

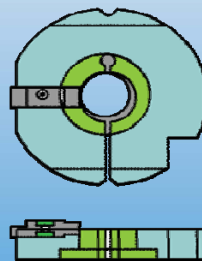


COATING	STA.	SIZE 0	SIZE I	Size IIa&b	Size IIc&d	Size III
TiN Best for Alum.						
TiCN or Alpha						

Alignment Rings



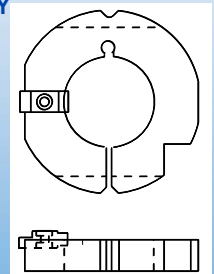
SIZE 0 & 1



SIZE 2 & 3



HEAVY DUTY

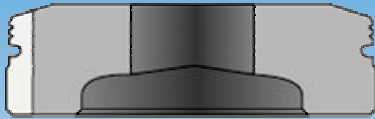


SIZE & TYPE	Trumpf	Cat.	PRICE
SIZE 0 & 1 ATC	7336-OJS/02	TRAR0/2	
SIZE 2 & 3 ATC	7336-1JS/02	TRAR1/2	
Heavy Duty I & II	7336-1JS/04	TRAR1/4	
Special -Bolt On		TRANSPEC	

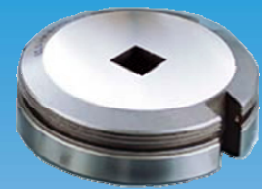


TRUMPF DIE

SIZE 0 & I DIE



SIZE II DIE



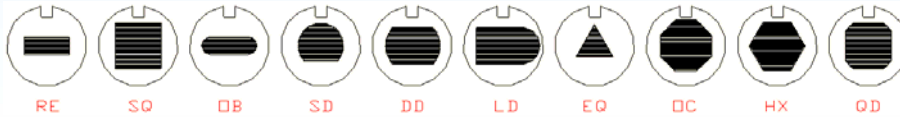
DIE ADAPTER

Converts	PART #	PRICE
1 TO 2	TRDA12	



Station	Size Range - DIAGONALLY	Part# Round	Price	Part# Shaped	Price
I	.093-1.260 2,4-32,mm	TR1Dr		TR1Ds	
	.093-1.528* 2,4-38.8mm*				
	* For Group S Mini-Matic				
II	1.261-3.032 32,-77,mm	TR2Dr		TR2Ds	
III ATC	2.8"-4.134 71,-105,mm	TR3Datcr		TR3DatcS	
III MTC	" "	TR3DmtcR		TR3DmtcS	
Euromach	" "	TR3Debr		TR3DebS	
OMES	" "	TR3Domr		TR3DomS	

I & II Dies have only 1 key. Shapes shown with Key at 0°
+ 90° or 45° for 15.00



Size III DIE For ATC dies only 1 key. Specify radial or Tangent Setting
MTC Keyed 0, 90 & 45 except ATC only 1 key

DIE SHIM	Qt per	SIZE 1		SIZE 2	
		Code	Price	Code	Price
.1mm	3	PDPT1XD01		PDPT2XD01	
.3mm	3	PDPT1XD03		PDPT2XD03	
.5mm	3	PDPT1XD05		PDPT2XD05	
3-Ea.	9	PDPT1XD		PDPT2XD	

STRIPPER PLATES

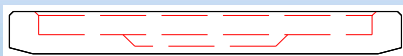
Order Strippers by Punch size + Clearance: If Clearance is not specified .06"/1,5mm will be used. When punching materials >16gauge .06"/1,5mm, .2" 1,5mm is a good clearance. NOTE: .4"10,mm should be the minimum actual width or diameter ordered to prevent punch flange from bottoming out on stripper. This is because punch tips lengths are stubbed for sizes <.4

ATC KEYED TC240/TC260

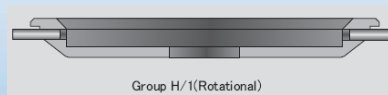


Keyed 0, 90, & 45°. No
additional Key Options Available.

MTC NON KEYED SIZE 0-II



Rotational Group H & I TC500 & Newer



Mini-matic Grp S



				Round	Shaped
0, I, & II	Up to 3.032 77,mm	ATC:KEYED	TR1Sa*		TR1Sas*
		MTC:Non-Keyed	TR1Sm*		TR1Sms*
		Rotation Grp H&I	TR1S5*		TR1S5s*
	Up to 1.528" / 38,8mm	Mini-matic Grp. S	TRMMS*		TRMMSs*
Size III	2.8-4.134" 71-105mm	All Size III are ATC:KEYED	TR3Sar		TR3Sas*



Urethane Stripper Sta. 0 & 1 74mm	ID Hole .25"/ 6.4mm	ID Hole .43"/ 10.9mm	ID Hole .59"/10.9mm	ID Hole .89"/22.6mm	ID Hole .1.07"/27.1mm
Part#.					
Price	ATP0A00US	ATP0B00US	ATP0106US	ATP0109US	ATP01112US

URETHANE
Custom molded available for most sizes



HEAVY DUTY TOOLING

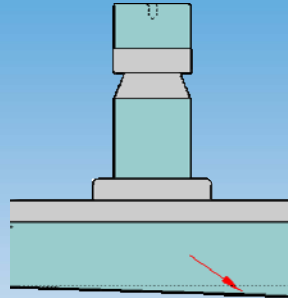
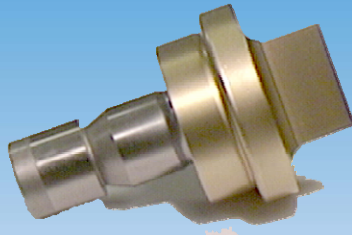
SIZE I

.407-1.181 10,3-30mm

SIZE II

1.182-3.0 30,01-76,2mm

Alignment Ring for Heavy Duty Punch



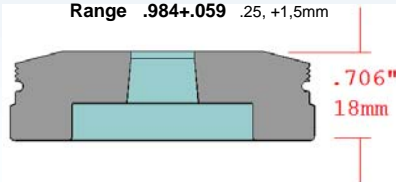
Size & Type	Part#	Price
HEAVY DUTY	TRAR1/4	

PUNCH

STATION	RANGE /DIAGONALLY	ROUND	PRICE	SHAPED	
I	.407-1.181 (10,3-30,mm)	TR1PhdrRD	53.50	TR1Phd**	
II	1.182-2" (30,-50,8mm)	TR2aPhdRD	82.00	TR2aPhd**W	
	2.001-3" (50,8-76,2mm)	TR2bPhdRD	135.00	TR2bPhd**r	

SIZE I

Range .984+.059 .25, +1,5mm



SIZE II DIE Maximum Opening 2.126+.059 54mm + 1,5mm



DIE

0 & I	.Max. .984 +.059	TR1DRD		TR1D**	
II	Max. 2.125 +.125	TR2DhdRD		TR2Dhd**	

TRUMPF TRUMATIC MACHINE MODELS		MAX-IMUM	TOOL CHANGER ATC -AUTOMATIC	SPECIAL TOOLING REQUIREMENTS
A 700•701•900• 901 • A 901E • 902 • 500 B CS75			MTC: Non-Keyed Stripper	Some of these machines can also except std: Size 1 punches & Dies.
	SIZE II		ATC: Keyed Stripper	
C CN1200S/A•CS15•CS20•CS20A•MP25/p•MP25•MP25CNC			MTC: Non-Keyed Stripper	
	SIZE III			
E 150K•151K•152K•TC180K•180LK•180PK•202K•225•300PK•235•300K•300PK•400K			ATC: Keyed Stripper	
F 150W•152W•180W•180LW•180WD•180ELX•180swift•185•240•250•260		SIZE II	ATC: Keyed Stripper	
TC- 20aW•202W•300W•300PW•300top•300lw•350W•400W		SIZE III	Size 0-II=Non-Keyed Size III=Keyed Stripper	Size 0-II Strippers are MTC: Non-Keyed. Size III Strippers are ATC: Keyed
H 190R•200R•500R•600L		Size II	Keyed Rotational Group H & I	This is a new stripper for H Group Mach.
I 1000•2010R•2020R•6000L• 3000•3000L		Size II		
S 100•TC120R•600•TC160R Mini-Matic		Size I	Spec.MiniMatic Stripper & Alignment Rings: Punches 0-38mm Max. Flange 40,6mm Flat Faced unless spec. Die Size 1 available for up to 38mm Diagonal.	
HACO –OMES MODELS				
Model 1 or 2,Omatic 130 DTR, Omatic 212 RH		SIZE II	ATC: Keyed Stripper	Max. Punch Height =74mm and then 73 with 1mm shear As for Stripper Plates up to Size 1 use ATC style =TR1Sa ATC
Model 3... Millennium 3015		SIZE III		
Boschert				
All Machine Models with out Rotation		Size II	MTC: Non-Keyed Stripper	Alignment Rings MTC or ATC can be used
		Size III	MTC: Die & Stripper	
All Machine Models with Rotation		Size II	ATC	
Durma		Size II		



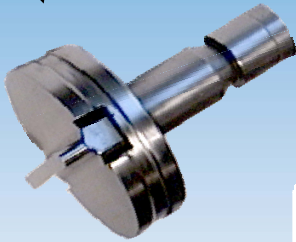
REPLACEMENT INSERT BLADE PUNCH

Reduce costs of common used slotting punches

Size Range Width .125 (3,mm) - .3158 (8,mm) Length 1.5(38,mm) - 3.000(76,2mm)

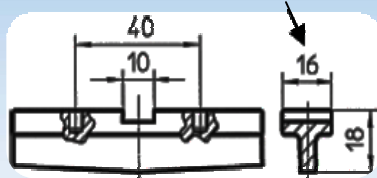
Holder

Part# TR2IH \$160.50



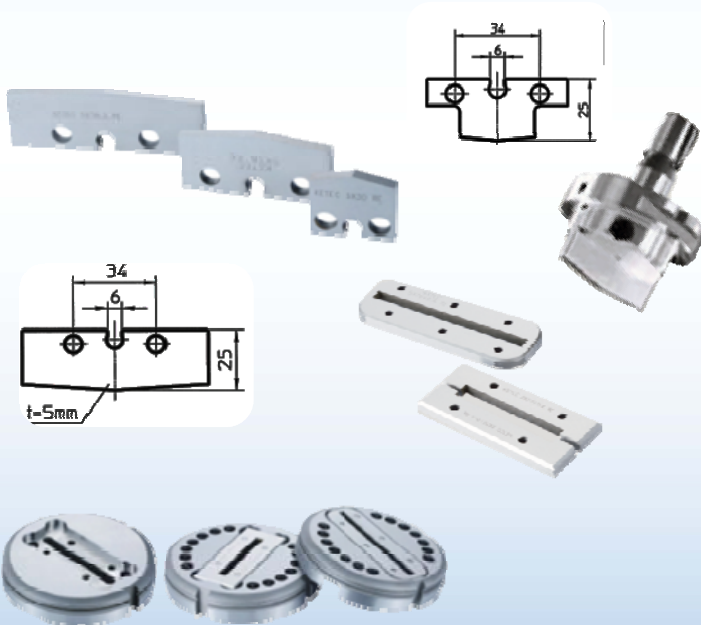
Use with **Stripper Plate** of Actual Size .4"+ X punch length, 2.2"/55,9mm
Holder is relieved to this size to allow extended punch grind life.

Also available width of 8 width

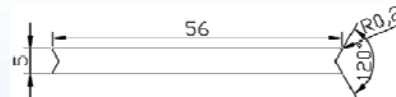


LENGTH	OBOUND		RECTANGLE	
	Part#	PRICE	Part#	
1.500 - 2.000" 38,1 - 57,1mm	TR2IBaOB		TR2IBaRT	
2.001-3.000" 57,1,-76,2mm	TR2IBbOB		TR2IBbRT	

CUCHILLAS ESTÁNDARES



PUNCH-COMPONENTS	Part#	PRICE
PUNCH BLADE HOLDER	TRTOQ500	
KEY	TRTOQ510	
Screw for Punch Blade	TRTOQ520	
Punch Blade 5 X 30	TRTOQ530	
Punch Blade 5 x 56mm	TRTOQ540	
Punch Blade 5 X 76.2mm	TRTOQ550	

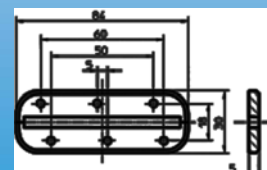
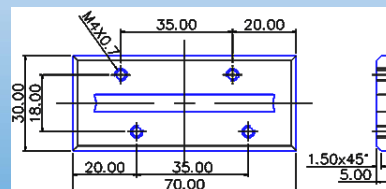


SP-50 Micro Joint
+25 to Punch or Die Blades

	DIE BLADE	Part#	PRICE
RE = Rectangle	5 x 30mm Solid	TRTOQ560	
	5 X 30mm Assembly	TRTOQ570	
	5 x 56mm Solid	TRTOQ580	
	5 X 56mm Assembly	TRTOQ590	
OB = Obround	5 x 76.2mm Solid	TRTOQ600	
	5 X 76.2mm Assembly	TRTOQ610	

DIE HOLDER	Part#	PRICE
DIE HOLDER 1 No brush for RE blade	TRTOQ620	
DIE HOLDER 2 with brush for RE blade	TRTOQ630	
DIE HOLDER 3 No brush for OB blade	TRTOQ640	
DIE HOLDER 4 with brush for OB blade	TRTOQ650	

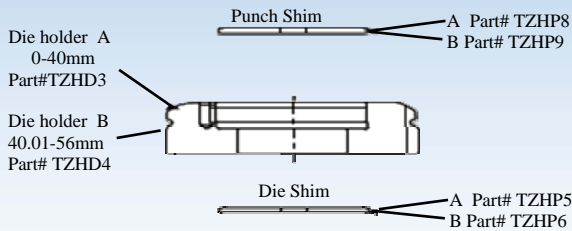
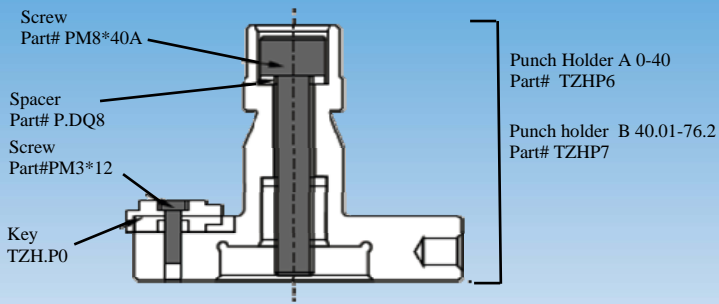
Note: For thickness below 3.0mm; 1.0mm grind life for blade





RP: 2•4•1™/ Next™ Style Tools

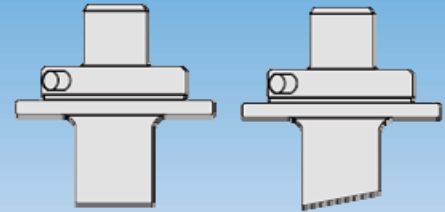
2•4•1 is registered trade mark of Wilson Tool International Next is registered trade mark of Mate Precision Tooling



+Cost for Coatings TiCN, TiN, Alpha \$12.00



Punch Inserts



Die Insert

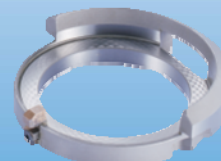


Description	Part#	Round	Shape
Punch Insert Holder 0-40mm	TR4aPH		
Punch Shim 1-40mm	TZH.P8		
Punch Insert Holder 40.1-56mm	TR4bPH		
Punch Shim 40.1-56mm	TZH.P9		
Die Holder 0-40mm	TR4aDH		
Die Shim 0-40mm	TZH.D5		
Die Holder 40.1-56mm	TR4bDH		
Die Shim -56mm	TZH.D6		
Punch Insert 2.36-30	TR4aPI**		
Punch Insert -40mm	TR4bPI**		
Punch Insert -56mm	TR4cPI**		
Punch Insert -66mm	TR4dPI**		
Punch Insert -76.2mm	TR4ePI**		
Die Insert Plate -40mm	TR4aDI		
Die Insert Plate -56mm	TR4bDI		

CARTRIDGE & ACCESSORIES



DIE PLATE



C RING



Description	Part Code	Price
Cartridge	TRCART1	
Die Plate	TRDP	
C Ring	TRCrng	



BOSCHERT-REVO MULTI-TOOL (MT)

4 Station

CE style N

Range.030-.984" ,8-25,mm

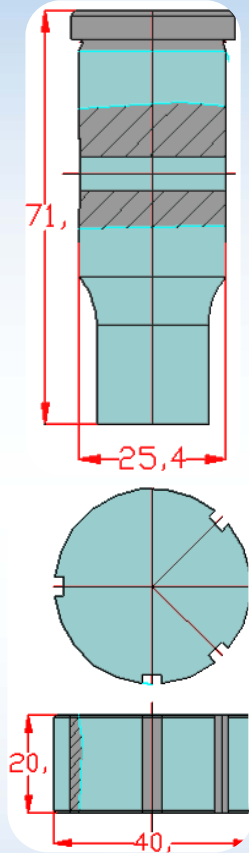
PUNCH Grind Life: .060"/1,5mm

Minimum length 2.795/71mm

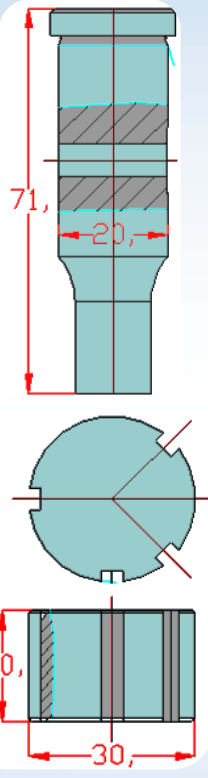
DIE Grind Life: .06"/1,5MM

Minimum length=.728/18,5mm

MTB



MTO



6 Station

CE style O

Range.030-0.787" 8-20,mm

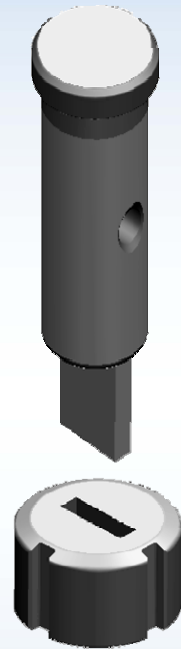
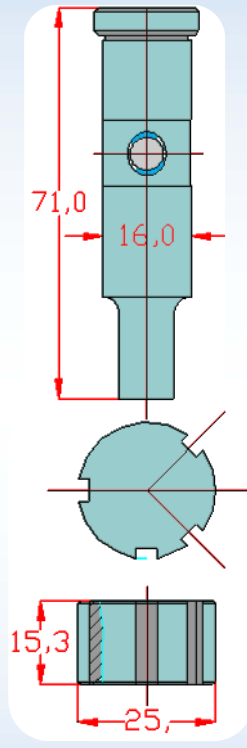
PUNCH Grind Life: .060"/1,5mm

Minimum length 2.795/71mm

DIE Grind Life: .06"/1,5MM

Minimum length=.7282/18,5mm

MTP



STYLE	Shape	Punch M2 Steel CATALOG CODE	PRICE Dia. or Width >.093/2,3mm	Die A2 Steel Slug Trap™ CATALOG CODE	PRICE Dia. or Width >.093/2,3mm
N 4 Sta.	Round	MTNPr		MTNDr	
	Shape	MTNPs		MTNDs	
O 6 Sta.	Round	MTOPr		MTODr	
	Shape	MTOPs		MTODs	
P 7 or 8 Sta.	Round	MTPPr		MTPDr	
	Shape	MTPPs		MTPDs	

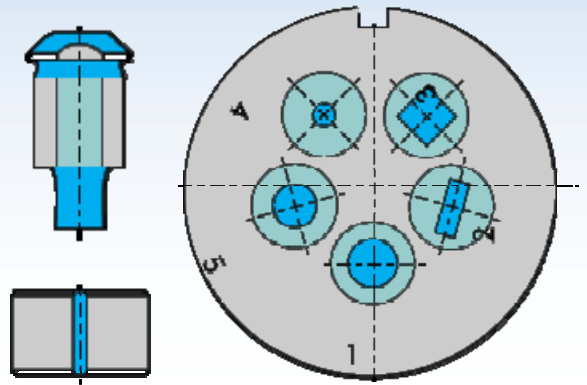
Shaped Dies have two (2) key slots keyed 0, 90 or for Squares 0 & 45 For shapes on other angles \$18 to Punch and \$18 to Die



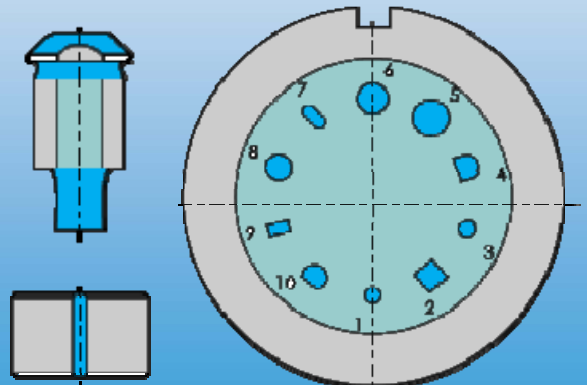
Multi-Tool for Trumpf Press



	4 STATION		5 STATION	
Description	Part#	Price	Part#	Price
Punch Holder		N/A	TRTM5500	
Die Holder		N/A	TRTM5510	
Stripper Die 17.,2	TRTM4300	N/A	TRTM5300	
PUNCH -Round	TRTM4100		TRTM5100	
PUNCH -Shaped	TRTM4110		TRTM5110	
DIE -Round	TRTM4400		TRTM5400	
DIE -Shaped	TRTM4410		TRTM5410	



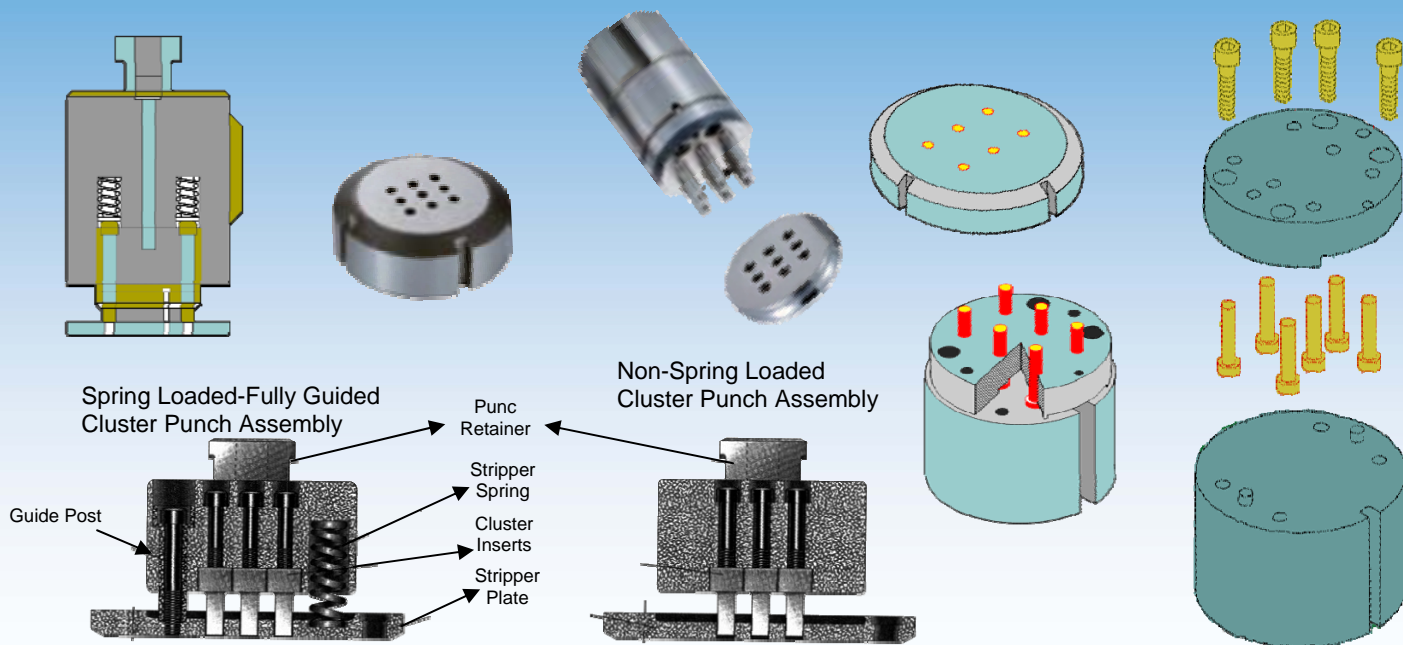
	6 STATION		10 STATION	
Description	Part#	Price	Part#	Price
Punch Holder		N/A	TRTM6500	
Die Holder W/Brush		N/A	TRDMOD8	
Stripper Die 17.,2	TRTM6300	N/A	TRTM6300	
PUNCH -Round	TRTM6100		TRTM6100	
PUNCH -Shaped	TRTM6110		TRTM6110	
DIE -Round	TRTM6400		TRTM6400	
DIE -Shaped	TRTM6410		TRTM6410	





CLUSTER / GANG PUNCHING

Cluster Tools reduce hits required but most importantly reduce sheet war page, common problem of multiple single hits in close proximity.



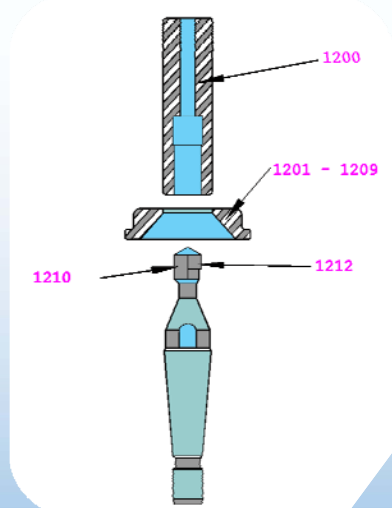
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CN

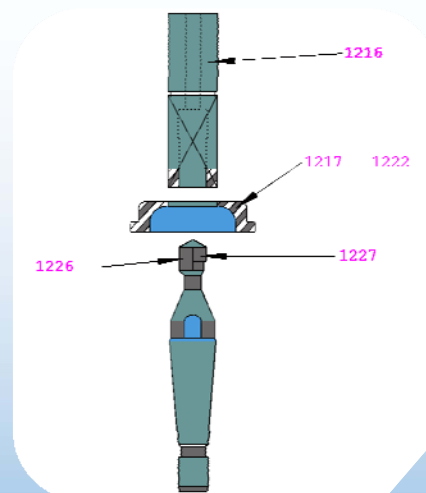
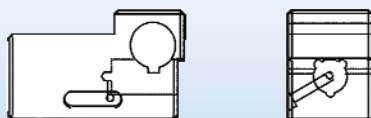
CN500 • CN700 • CN701 • CN900 • CN901 • CN902 • CN1200 • SUNIMAT 400 • CS75 • CS20

12mm Diameter ROUND Ø
(HOLLOW PUNCH, CUTTING ALL-ROUND)

12mm QUAD-D
(HOLLOW PUNCH, CUTTING ALL-ROUND)



PUNCH HOLDER Part# CNPH



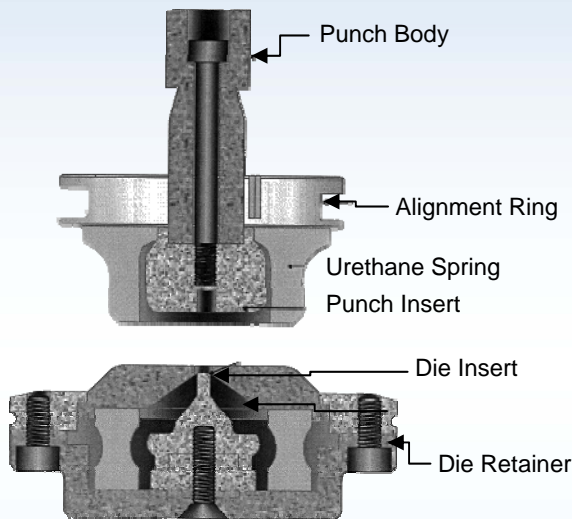
ITEM	DESCRIPTION	CAT. CODE	PRICE	ITEM	DESCRIPTION	CAT. CODE	PRICE
1200	HOLLOW PUNCH	TRCN72831		1216	QUAD-D PUNCH	TRCN72845	
1201	DIE 12,1mm	TRCN72833		1217	DIE 12,1mm	TRCN72849	
1202	DIE 12,2mm	TRCN72834		1218	DIE 12,2mm	TRCN72846	
1204	DIE 12,4mm	TRCN72835		1220	DIE 12,4mm	TRCN72847	
1206	DIE 12,6mm	TRCN72836		1222	DIE 12,6mm	TRCN72848	
1208	DIE 12,8mm	TRCN72837		1225	DIE 13,0mm	TRCN728526	
1209	DIE 13,2mm	TRCN728488					
Item 1210	GUIDE PIN for Steel(ST)	TRCN72856		1212	GUIDE PIN for Aluminum(AL)	TRCN72856	



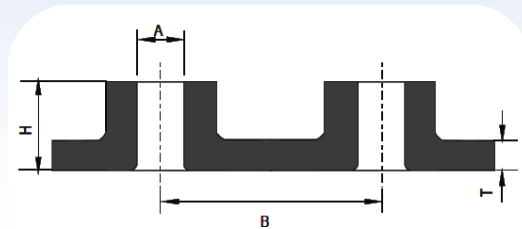
SPECIAL APPLICATION FORMING TOOLS

HIGHER PRODUCTIVITY THROUGH SUPERIOR ENGINEERING

EXTRUSION

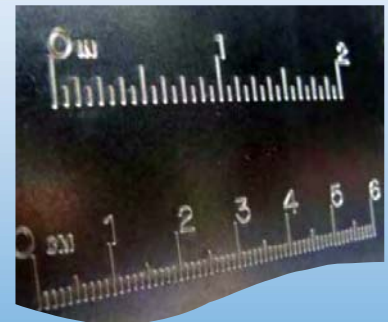


- Replaceable insert design on extrusion Dia. Less 6.35mm
- B station, Max. thickness: 2mm for mild steel or aluminum, 1mm for SST.
- Max. Height $2.5 \times T$ = material thickness
- Need Pre-pierce hole
- Available as Form UP or Form Down
- Please fill in the above form.



Machine type: _____ A: _____ T: _____
 Sheetmetal: _____ B: _____
 H: _____

Multi-SCRIBE



Require different punch pressure for letter sizes and depth

Material Type: _____
 Espesor: _____
 # or Letter Size : _____



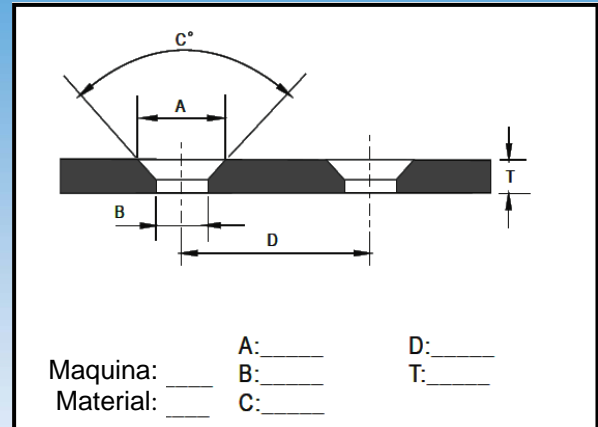
SPECIAL APPLICATION FORMING TOOLS

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Coin



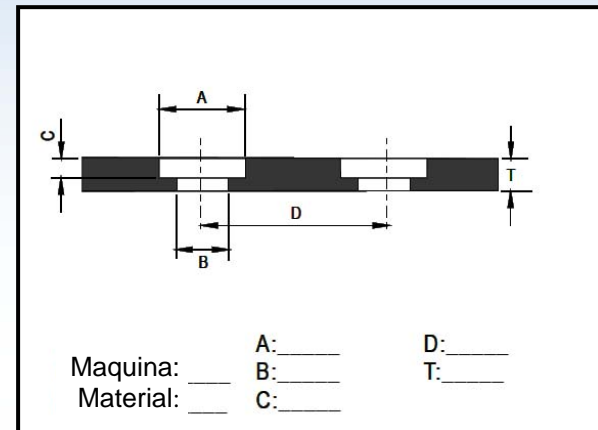
- Pre Pierce hole required.
- Available as Form Up or Down



Coin 2 Step



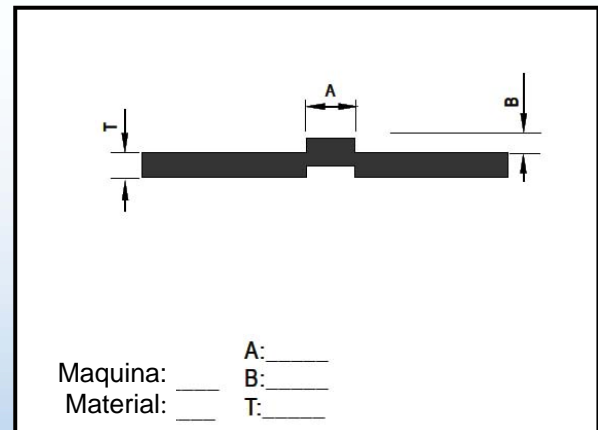
- Pre Pierce hole required.
- Available as Form Up or Down



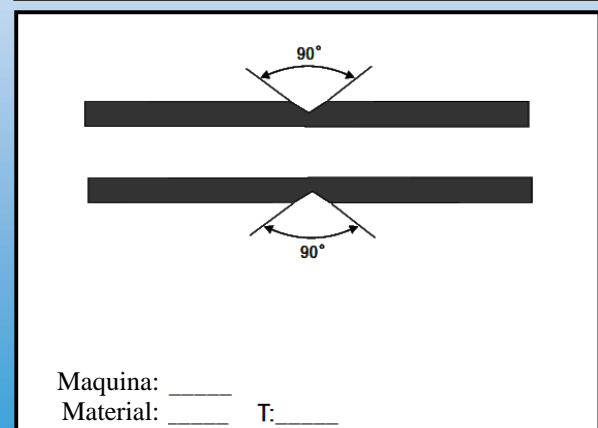
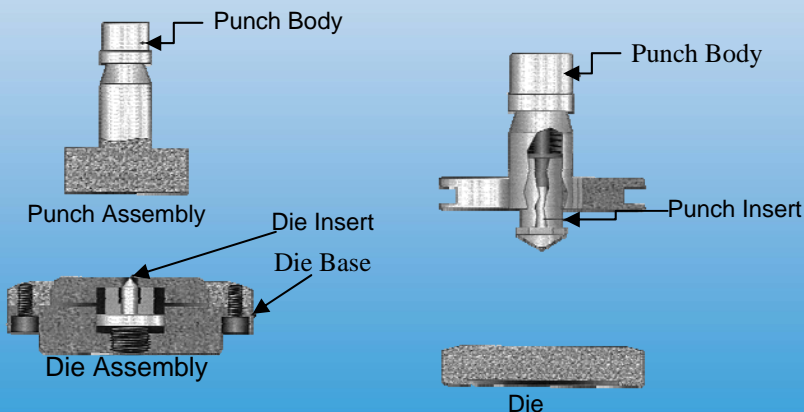
Half Shear



- Maximum B size .6 X thickness
- Available as Form Up or Down
- Suggest slow stroke of machine or set dwell so too has enough time to strip.



Center Point





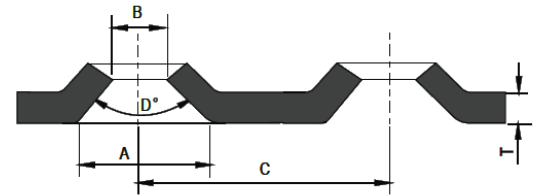
SPECIAL APPLICATION FORMING TOOLS

HIGHER PRODUCTIVITY THROUGH SUPERIOR ENGINEERING

COIN



- Pre-Punch Hole Required
- Available as Form Up or Down

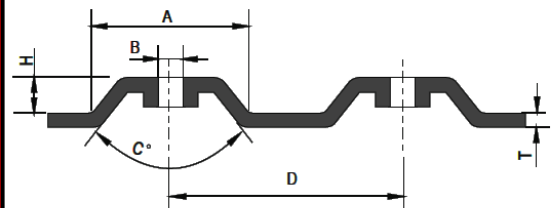


Maquina: _____ A: _____ R: _____
Material: _____ B: _____ H: _____
C: _____ T: _____

PIERCE & EXTRUDE



- Pierce & Emboss in One Hit
- Available as Form Up or Down

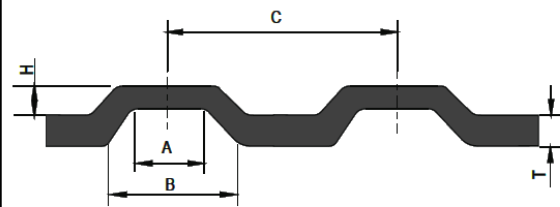


Maquina: _____ A: _____ D: _____
Material: _____ B: _____ H: _____
C: _____ T: _____

EMBOSS



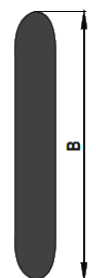
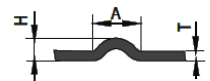
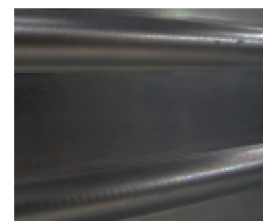
- Available as Form Up or Down
- Maximum Hieght 2-3 X T, not to be over 6.4mm=.25"
- Round Or Shapes



Maquina: _____ A: _____ H: _____
Material: _____ B: _____ T: _____
C: _____

RIB TOOL

- Maximum Hieght 3.5 X material thickness.
- Two Types, Specific length or Progressive nibbling .5-2mm steps.
- El incremento de la nervadura debe de ser de 0.5~2.0mm
- Maximum material: 2.7mm Mild Steel or 2.3mm Stainless



Maquina: _____ A: _____
Material: _____ B: _____
H: _____
T: _____



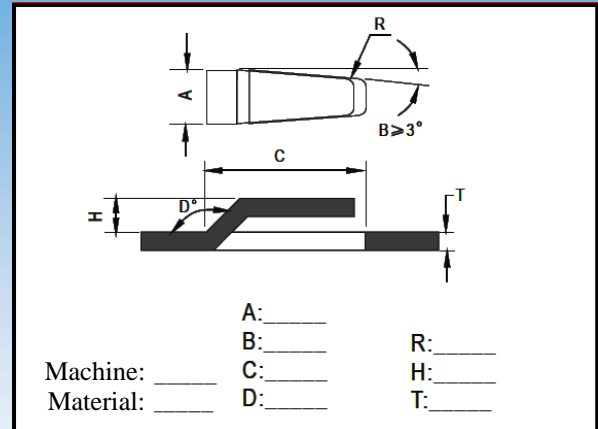
SPECIAL APPLICATION FORMING TOOLS

HIGHER PRODUCTIVITY THROUGH SUPERIOR ENGINEERING

Lance & Form



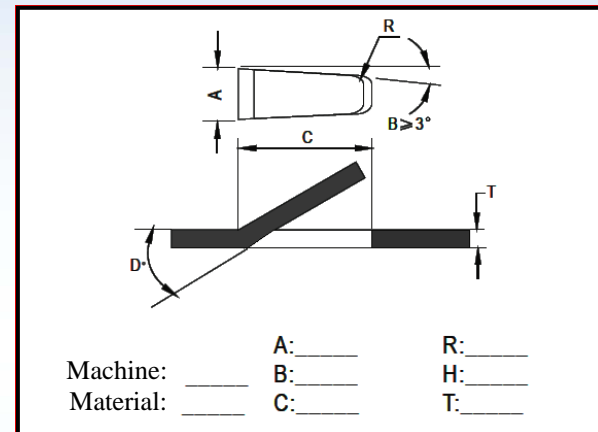
- Tool made for specific sheet material type and thickness



Lance and Form



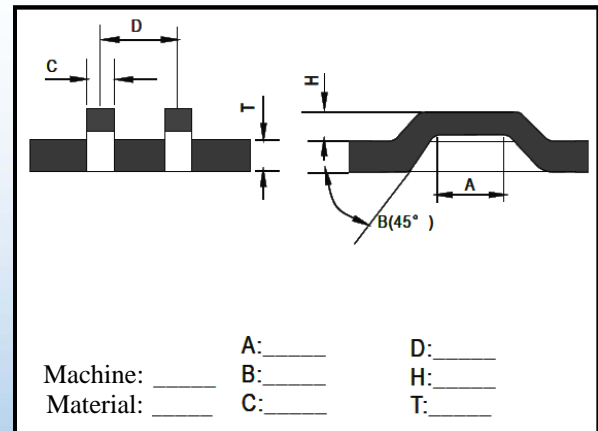
- Tool made for specific sheet material type and thickness
- Height of lance should not exceed 6.4mm/.25"



Bridge Tool



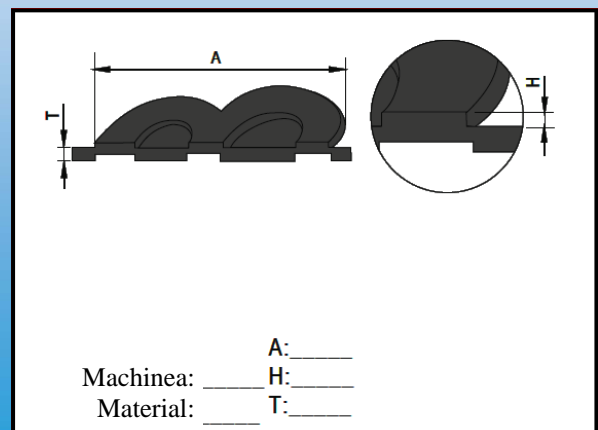
- Available as Single or Double (shown)
- Bidge width "C" > 1.5X T for Mild Steel or Aluminum



Emboss Stamp



- Available as Form Up or Down

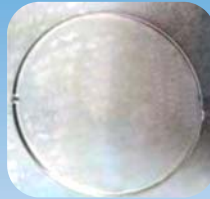




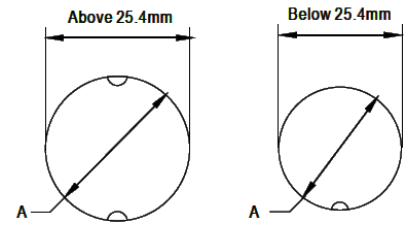
SPECIAL APPLICATION FORMING TOOLS

HIGHER PRODUCTIVITY THROUGH SUPERIOR ENGINEERING

Electrical Knockout Single



- Available as Form Up or Down

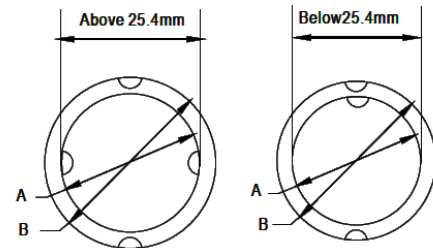


Machine: _____ A: _____
Material: _____ T: _____

Electrical Knockout Double



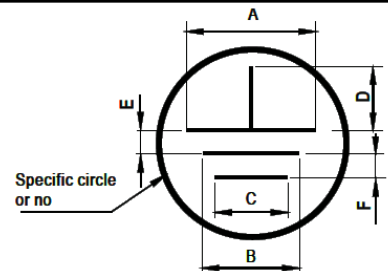
- Available as Form Up or Down



Machine: _____ A: _____
Material: _____ B: _____
T: _____

Sharp Face Stamp

- Available as Form Up or Down
- Ground Symbol Shown. Can make words logos, etc...

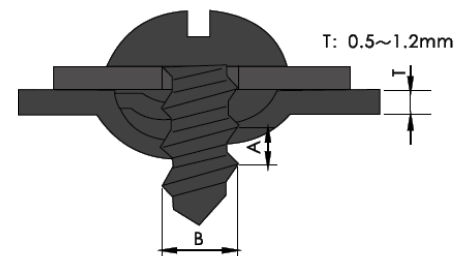


Machine: _____ A: _____ D: _____
Material: _____ B: _____ E: _____ G(width): _____
C: _____ F: _____ H(depth): _____

Thread Form



- Available as Form Up or Down



Machine: _____ A: _____ D: _____
Material: _____ B: _____ T: _____
C: _____



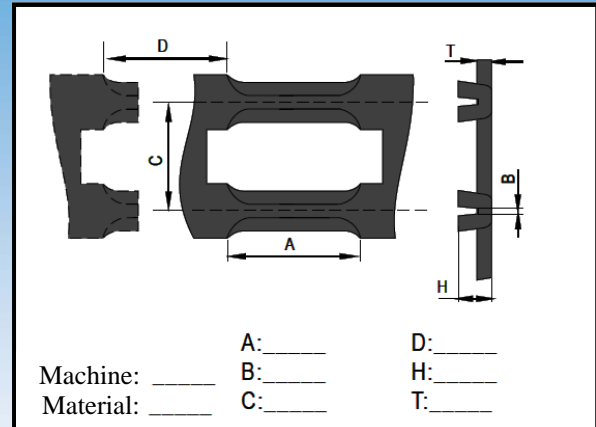
SPECIAL APPLICATION FORMING TOOLS

HIGHER PRODUCTIVITY THROUGH SUPERIOR ENGINEERING

Card Guide



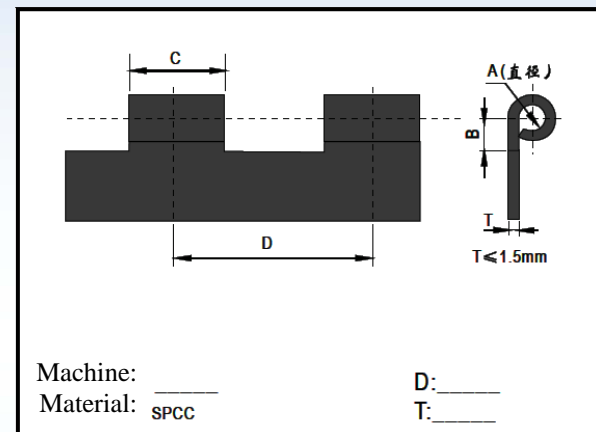
- Forming height Max. $H=2 \times T$, exceed this may cause sheet distortion.



Hindge Tool



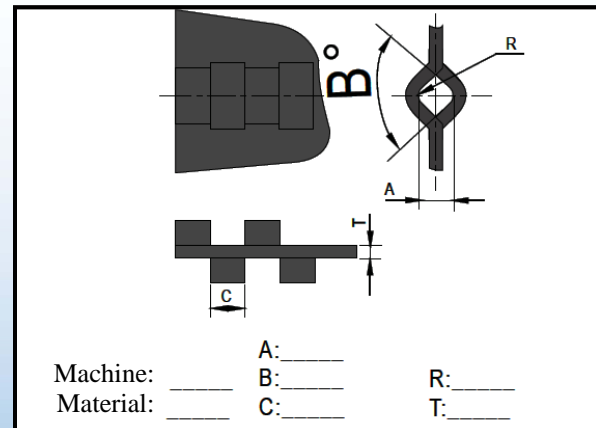
- Fully curled knuckle need 2 sets of tools. 1st makes form, 2nd makes curl..
- Maximum Material 2mm Min. A = _____



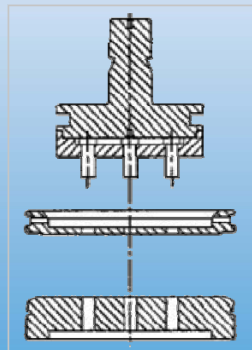
Thread Loop



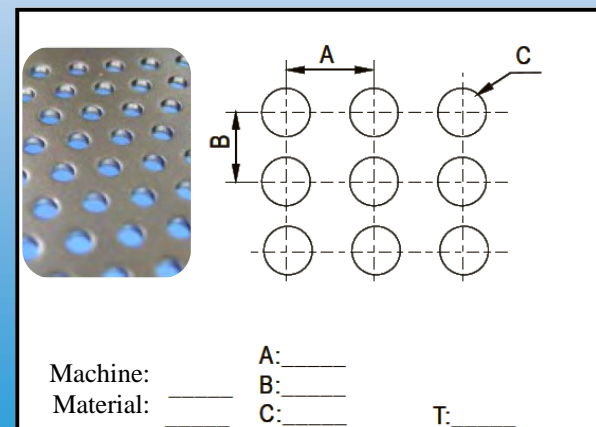
- Angle "C" 90°



Cluster Tools

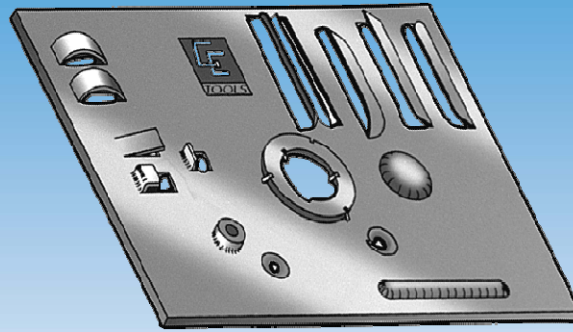


- Hole Spacing should be $2 \times T$





SPECIAL APPLICATION FORMING



SET UP INSTRUCTIONS

To use a form tool in a punch press, close attention must be made in setting the exact depth the punch comes down forming the steel, and spanking the material tightly between the form punch and die. This is accomplished by adjusting the penetration depth of stroke.

1. Set the machines punch stroke to its shortest depth.
2. Inspect the material to be punched and make sure it is within the thickness range the tool was built for.
3. Place the tool into the machine making sure the punch and die are aligned to each other. Form dies are usually higher than a standard die. *Turret Style Presses Only:* Lifter dies placed on either side of the form die is always recommended as they assist in smoothly lifting up the sheet to the form dies height.
4. Perform a single stroke of the press and check the results. Increase punch penetration depth by a small increment of .02 (.5mm) or less. Depending on the machine, this is either done through a programmable control, or mechanical adjustment of key or sharpening pin. Patiently repeat this procedure of making single hits and adjusting the tools stroke, until the correct form depth is achieved.

Further recommendations: To prevent poor form quality or damage to the form tool, use forming tools only on material thickness which tool was ordered, and designed for. Further, never attempt to exceed the forming height which the tool was designed for.

If critical to the tools design, "F.H.=(form height)", and "Mat.=(material thickness)" for which the tool was designed to perform under is etched on the tool.

FORM TOOL PROGRAMMING SUGGESTIONS

- Form tools should be the last operation performed on a sheet.
- Because a forming die is generally higher than a standard die, on turrets don't program the use of either station adjacent to the form tool.
- With today's fast CNC presses, it is helpful to program a pause or dwell after each hit from a form tool his gives extra time for the sheet to be stripped off tool. Further, if available program slow stroke speed.

TOOL MAINTENANCE • CET offers sharpening, or refinish of form tools at very low rates, and usually 1-3 day turn around.

Look to the form tools Use & Maintenance Sheet received with the form tool to help with the understanding of the disassembly of a form tool. The most damaging effect to form tools is galling. Insist that operators use a sheet lubricant to help lessen galling and improve cutting edge life. If you have any questions about sharpening a particular cutting edge of a form, with tool in hand, ccontact our engineering department 702 736-2958 or eng@cetooling.com for guidance. All specials have a S-number etched on the tools. This number will allow our tool engineers to pull all information about your tool to help you.

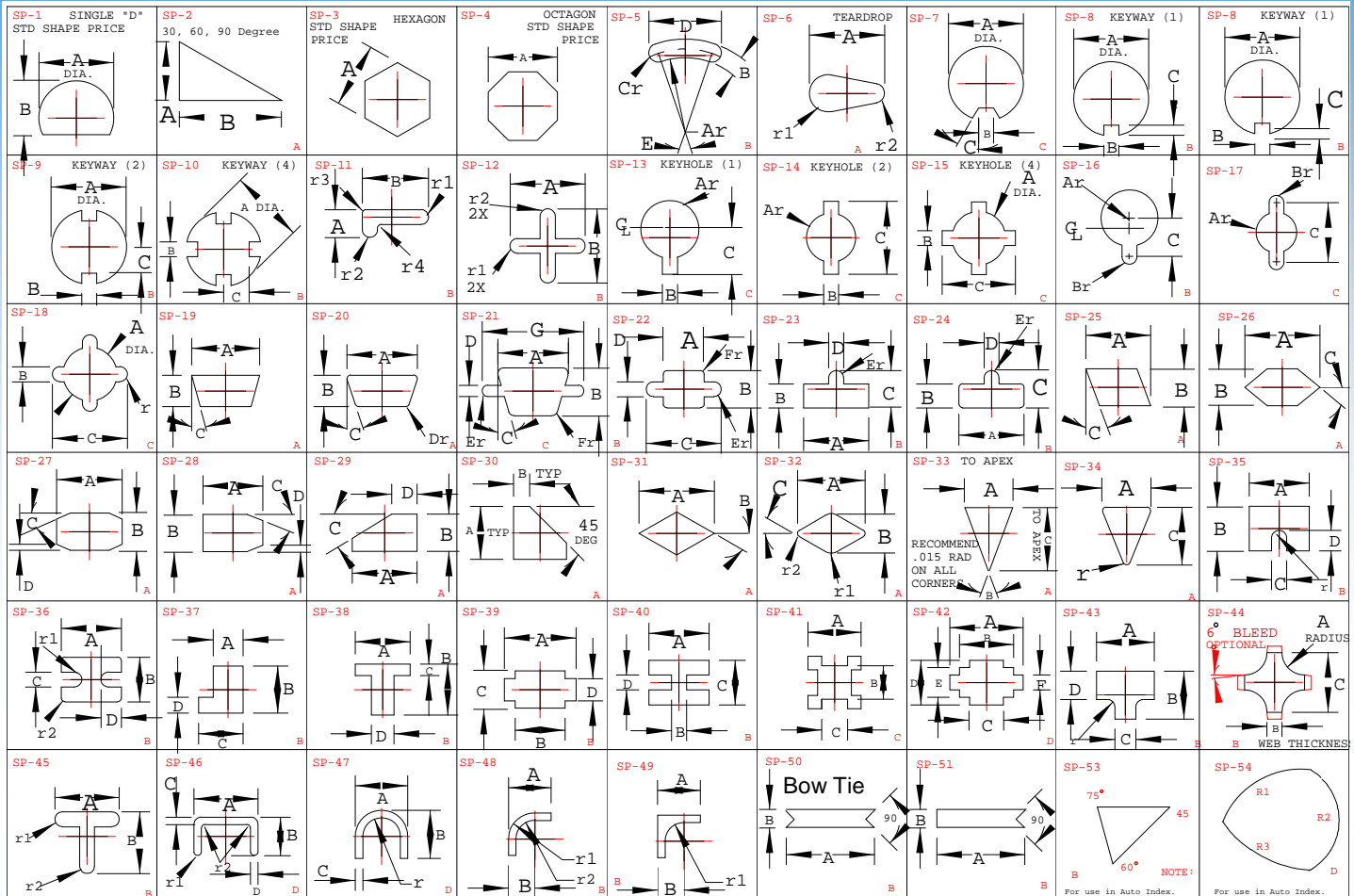


SPECIAL SHAPED TOOLS SHIPPED IN 3-10 DAYS

FDS "FIRM DELIVERY SERVICE" (EXPEDITING SERVICE) Guaranteed Delivery in 5-days + 10%, 4-days

+ 20%, 3-Days + 30%, 2-days + 40%, 1-day + 50%

NOTE: Ar, Br, Cr, means a radius value is requested. Further, a .015" Radius is always recommended on corners less than 90





LOUVER CLOSED END STYLE TOOLS

CE TOOLING OFFERS BOTH
STD=Dedicated "A"
Or Progressive
STYLE LOUVERS AND CARD-GUIDES.

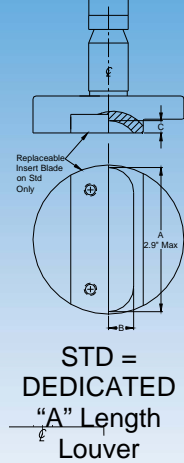
STANDARD SIZES

"A" LENGTH	"B"	"C"	"D"
1.25" 30mm	1/2"	3/16"	3/4"
2" 50mm			
2-	5/8"	1/4"	15/16"

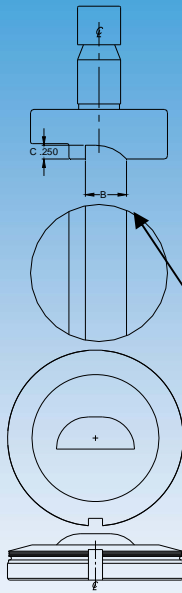
Other size available.

Max "A" Length Sta. 1:1 1/4 /30mm
Sta. II:2.9" 60mm

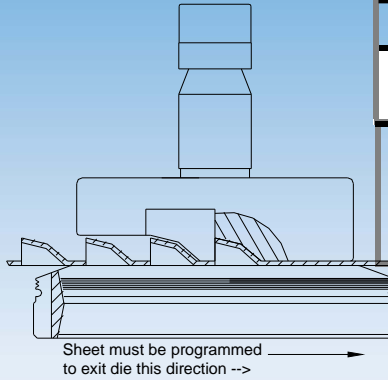
Progressive "A" is unlimited.



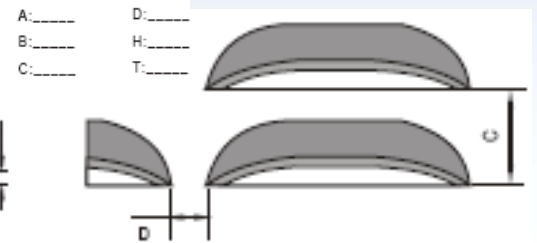
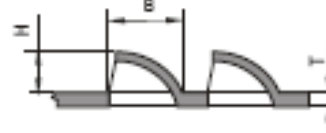
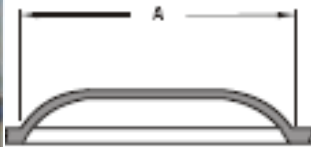
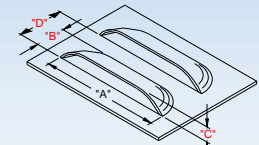
STD =
DEDICATED
"A" Length
Louver



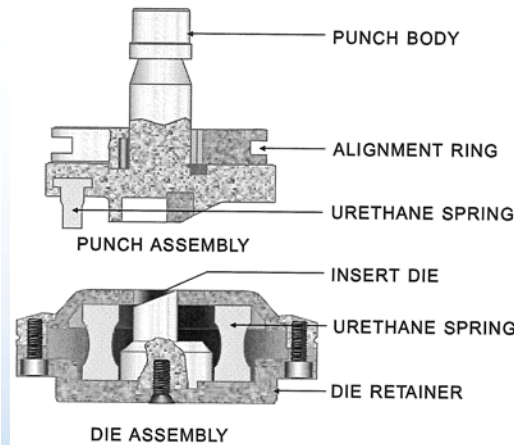
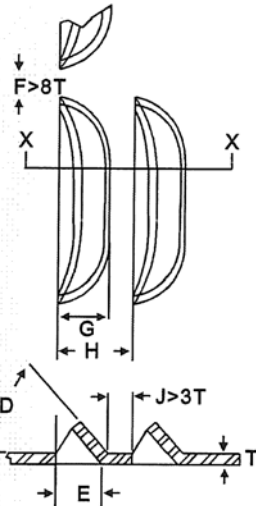
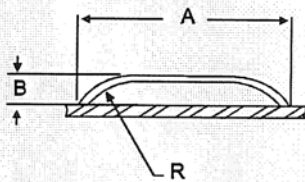
Progressive/Nibbled Louver, "A" is unlimited. Requires more gentle radius than Dedicated. Further, Punch is made to set material thickness. See Section 1 page 16 for Further Info.



Sheet must be programmed to exit die this direction -->



LOUVER CLOSED END, STRAIGHT BACK



GENERAL INFO

Machine Type:

Machine Model:

Material Type:

Tool Component:

TOOL INFO

A

B

C(Angle):

D(Angle):

E:

F:

G:

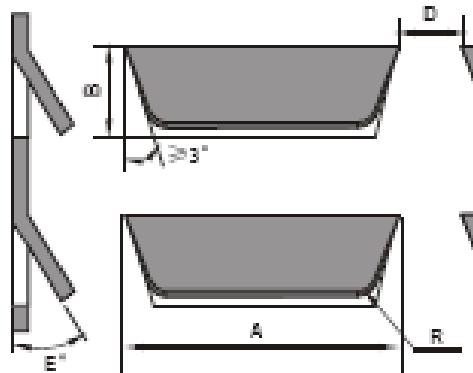
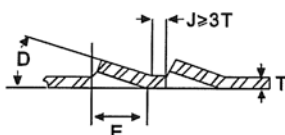
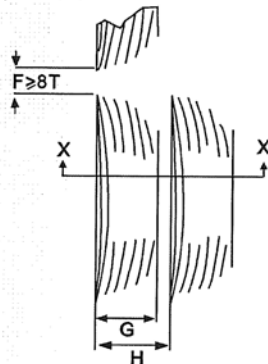
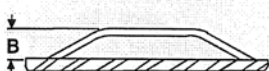
H:

J:

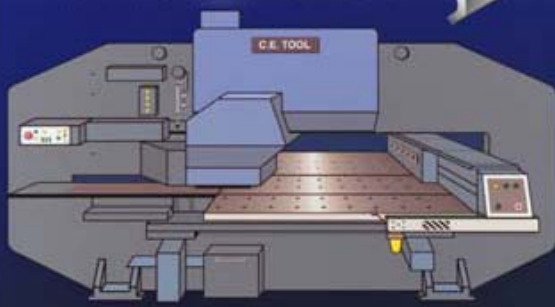
R:

T(Thickness):

LOUVER CONTINUOUSLY PROGRESSIVE



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and Accessories for most
Punching, Bending and
Shearing Equipment**



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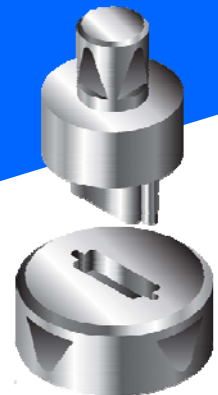
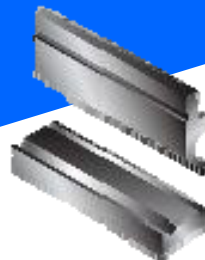
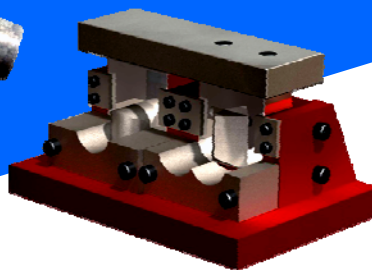
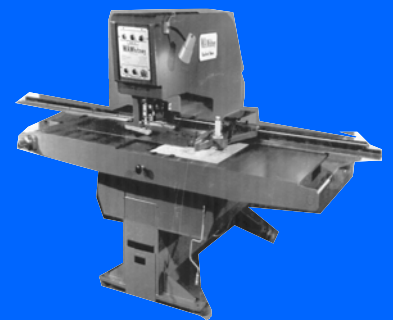
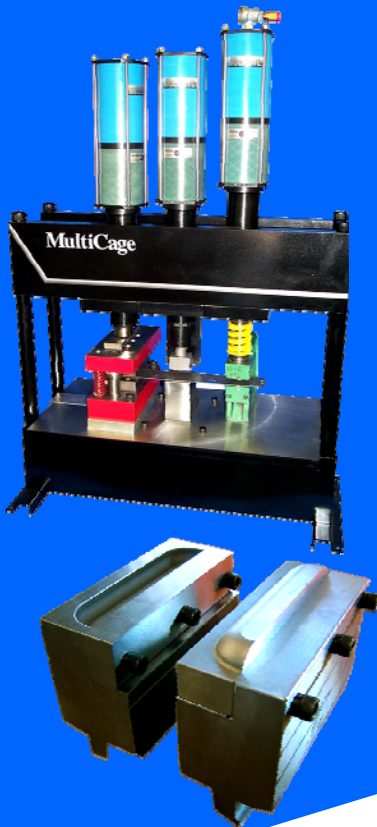
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