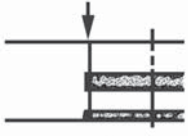
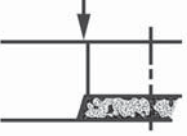
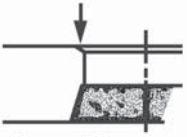
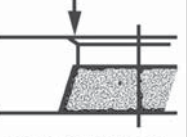
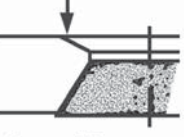


**Recommended Press Fit Limits**

PUNCHES	Nominal Dia.	Press Fit Dia. Limits		SOFT PLATES				HARDENED PLATES			
		Press Fit Dia. Limits		Retainer Hole Limits		Interference		Retainer Hole Limits		Interference	
PILOTS	D	HIGH	LOW	HIGH	LOW	MIN.	MAX.	HIGH	LOW	MIN.	MAX.
DIES	1/4 – 1/2	+0.0005	+0.0002	+0.0000	-0.0005	.0002	.0010	+0.0000	-0.0002	.0002	.0007
GUIDES	5/8 – 1	+0.0005	+0.0002	+0.0000	-0.0014	.0002	.0019	+0.0000	-0.0005	.0002	.0010
	1-1/4 – 1-1/2	+0.0005	+0.0002	+0.0000	-0.0020	.0002	.0025	+0.0000	-0.0008	.0002	.0013

**Punch to Die Clearances**

<p><b>CUTTING EDGES:</b> .002 TO .006 CORNER BREAKDOWN</p> <p>BURR AND BURNISHED LENGTHS INCREASE AS CUTTING EDGES BREAK DOWN</p> <p><b>DURATION OF RUN:</b> LONGER RUNS AS CLEARANCES INCREASE</p>	<p><b>A</b> Burr: Tensile and Compressive Minimum Roll-Over</p>  <p>Double Shear</p>	<p><b>B</b> Burr: Tensile and Compressive Minimum Roll-Over</p>  <p>Secondary Shear</p>	<p><b>C</b> Burr: Tensile Moderate Roll-Over</p>  <p>General Purpose Hole</p>	<p><b>D</b> Burr: Tensile Large Roll-Over</p>  <p>General Purpose Hole</p>	<p><b>E</b> Burr: Tensile and Extrusion Very Large Roll-Over</p>  <p>General Purpose Hole</p>	
	<b>EJECTOR PUNCHES REQUIRED</b>					
	<b>MATERIAL</b>	<b>TOTAL CLEARANCE IN PERCENT OF MATERIAL THICKNESS</b>				
	ALUMINUM – HARD	1 - 2%	10 - 12%	18 - 20%	25 - 28%	40% Max.
	– SOFT	1 - 2%	4 - 8%	12 - 16%	16 - 20%	34% Max.
BRASS – 1/2 HARD	1 - 2%	6 - 10%	12 - 16%	18 - 22%	48% Max.	
– ANNEALED	1 - 3%	4 - 6%	12 - 16%	16 - 20%	42% Max.	
BRONZE, PHOSPHOR	3 - 5%	7 - 10%	20 - 24%	25 - 27%	50% Max.	
COPPER – 1/2 HARD	2 - 4%	6 - 10%	12 - 16%	18 - 22%	50% Max.	
– ANNEALED	1 - 2%	4 - 8%	10-14%	16 - 18%	50% Max.	
LEAD	3 - 5%	8 - 12%	13 - 15%	16 - 20%	44% Max.	
MAGNESIUM	1 - 2%	3 - 5%	7 - 9%	10 - 14%	32% Max.	
STAINLESS STEEL	2 - 4%	6 - 10%	18 - 22%	25 - 27%	46% Max.	
STEEL – CRS (1020)	2 - 4%	10 - 14%	16 - 20%	23 - 25%	42% Max.	
– HIGH CARBON	5 - 10%	22 - 26%	28 - 32%	34 - 38%	50% Max.	