BETENBENDER
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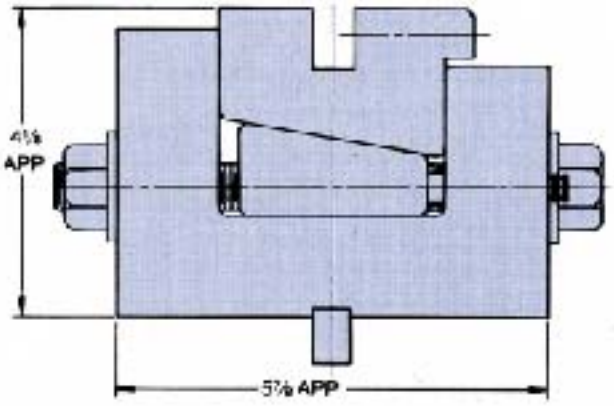
PRESS BED DEFLECTION COMPENSATOR



POWER BRAKE DIES, Inc. patented line of *press brake bed deflection compensators* serve to eliminate the need for shimming. It's simple...merely dial in the amount of crown required to compensate for the bed and ram deflection.

Crown indicators make it possible for your operator to 'eyeball' the amount of crown necessary. Each turn of the adjusting screw creates .010 crown which is represented by one ring on the crown indicator.

PRESS BRAKE MULTIPLE BEND ALLOWANCES

RULE OF THUMB

Formula for making multiple bends on press brake. For shape as shown, in mild steel with radii equal the metal thickness unless otherwise noted.

Multiply Metal Thickness By Factor = Tons Per Ft.

SHAPE	DESCRIPTION	AIRFORM.	BOTTOMING
	VEE DIE	60	150
	WIPING	-	250
	OFFSET	150	300/400
	MTL. THK. OFFSET	300	600
	CHANNEL	225	300
	VEE RIB	200	600
	W DIE	300	600
	OPEN HAT CHANNEL	300	450
	SQ. HAT CHANNEL	-	600
	PREFORM CURL	-	300
	PREFORM CURL	-	200
	CLOSE CURL	-	300
	RADIUS	-	150/300
SHAPE CONSIDERATIONS		Large Radii Angle Variation Concerns or Service Cases	Mat'l. Thk. Tools Min. Angle Variation Materials Hardness

Stainless Steel	(18-8 Annealed) Type 304	1.55
Aluminum	3003-H14 (1/2 Hard)	.35
	5052-H34 (1/2 Hard)	.55
	6061-T6	.75
Brass	260-H (1/2 Hard)	1.10

TONNAGE CHART

Pressure in Tons Per Linear Foot Required to Make 90° Air Bend in Mild Steel

THICKNESS OF METAL		WIDTH OF FEMALE DIE OPENING																						
GAUGE	INCHES	1/4	5/16	3/8	1/2	5/8	3/4	7/8	1	1-1/8	1-1/4	1-1/2	2	2-1/2	3	3-1/2	4	5	6	7	8	10	12
20	.036	2.5	2.2	1.7	1.2	1.0																	
18	.048		4.0	2.9	2.2	1.5	1.3																
16	.059			6.5	3.6	2.7	2.2	1.7															
14	.075				6.0	4.3	3.4	3.0	2.5	2.1													
13	.090					6.1	5.4	4.0	3.7	3.0	2.9												
12	.105					8.1	7.4	6.3	5.4	4.6	4.0	3.2											
11	.120						12.5	8.8	7.2	6.2	5.4	4.3	3.2										
10	.135							11.3	9.3	8.4	7.0	5.8	4.1										
8	.180								13.1	11.3	9.8	8.2	5.8	3.5									
7	.188									16.8	14.0	11.9	7.6	5.9	4.5								
1/4	.250										26.6	22.0	15.8	11.0	9.1	7.3	6.2						
3/16	.187											38.0	26.0	19.2	16.0	12.5	10.6	7.6					
3/8	.375												41.0	29.9	24.3	19.4	16.0	12.3	9.3				
7/16	.437													45.2	35.3	28.1	23.8	17.2	14.6	11.1			
1/2	.500														47.9	38.0	33.1	24.2	19.0	15.3	12.7		
5/8	.625															49.7	39.8	42.2	32.4	26.0	23.0	19.5	
3/4	.750																42.8	69.2	52.2	45.2	36.0	27.0	21.3
3/8	.375																	121.0	80.0	63.0	53.8	39.4	31.2
1	1.00																		112.2	85.0	76.1	53.8	44.0
AIR FORM RADIUS		3/32	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1	1 1/8	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	3	3 1/2
MIN. FLGE HT. DIM.		3/16	1/4	3/8	7/16	9/16	5/8	3/4	7/8	1 1/8	1 3/8	1 5/8	1 7/8	2 1/8	2 3/8	2 5/8	2 7/8	3 1/2	4	4 1/2	5 1/2	6 1/2	7 1/2

WE THEREFORE CONSIDER THE IDEAL PRACTICE TO USE INSIDE OPENING AT LEAST 8 X METAL THICKNESS

Pressures shaded are for dies with female openings approximately 8 x metal thickness, with radius, on male die equal to metal thickness, and are considered ideal for right angle bending.

Bending Pressures Required for Other Metals as Compared to 60,000 P.S.I. Tensile Mild Steel on Chart.

Soft Brass	50% of Pressure Listed
Soft Aluminum	50% of Pressure Listed
Aluminum Alloys (Heat Treated)	Same As Steel
Stainless Steel	50% More Than Steel
Chrome Molybdenum	100% More Than Steel