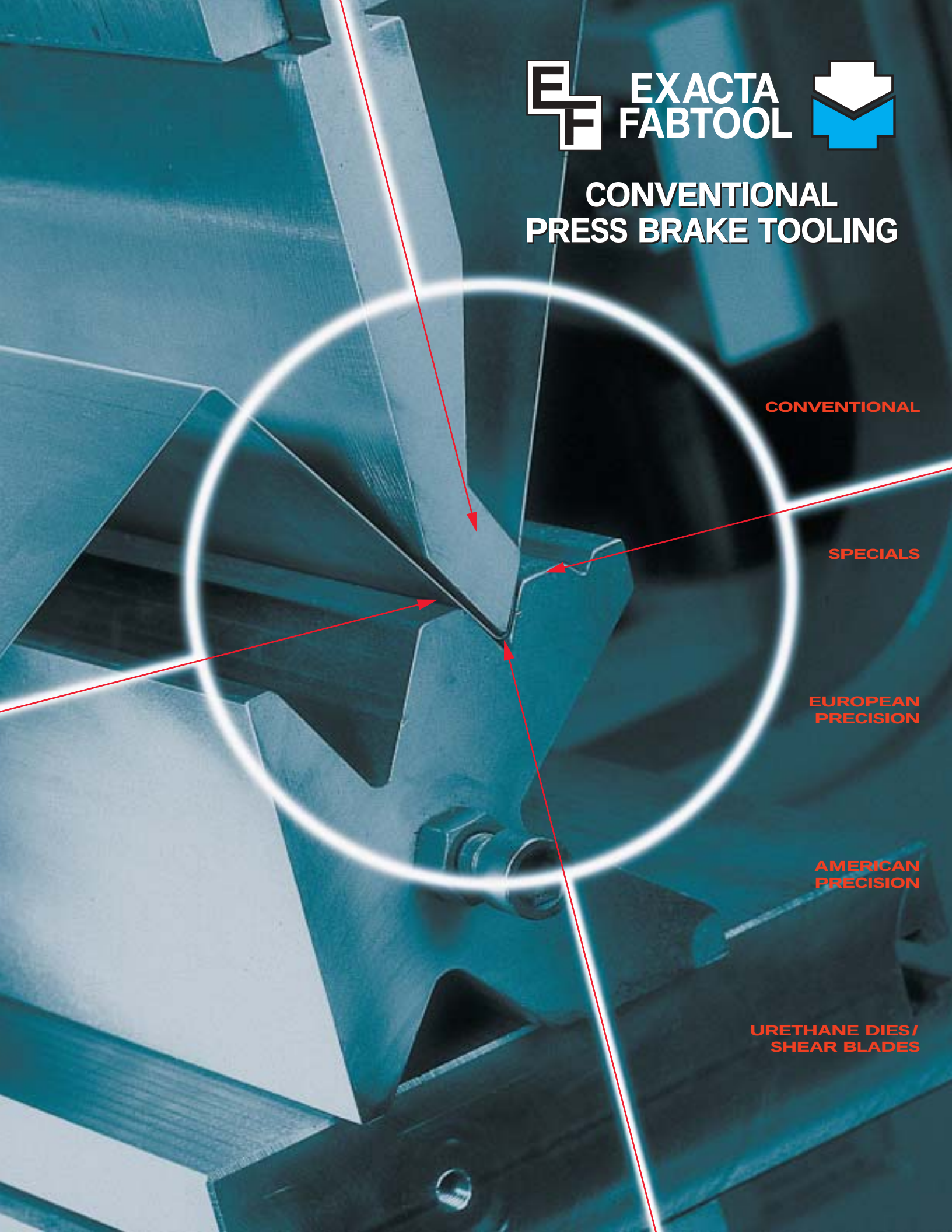
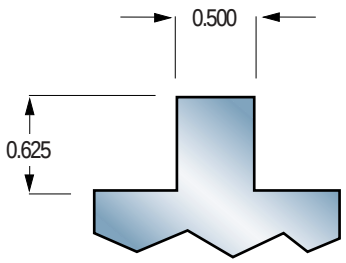

EXACTA
FABTOOL
CONVENTIONAL
PRESS BRAKE TOOLING
CONVENTIONAL
SPECIALS
EUROPEAN
PRECISION
AMERICAN
PRECISION
URETHANE DIES/
SHEAR BLADES

INDEX

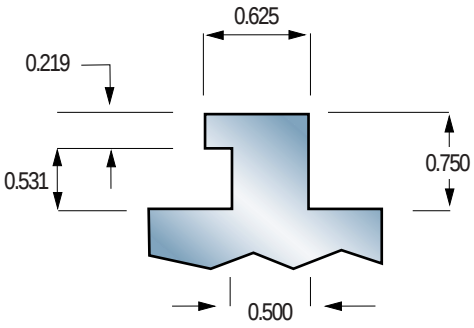
EXACTA FABTOOL

501 AIRPARK CENTER DRIVE
NASHVILLE, TN, U.S.A. 37217
TEL: 615-367-9833
FAX: 615-367-9861
TOLL FREE: 800-688-2801
WEBSITE: exactapunch-tn.com
E-MAIL: info@exactapunch-tn.com

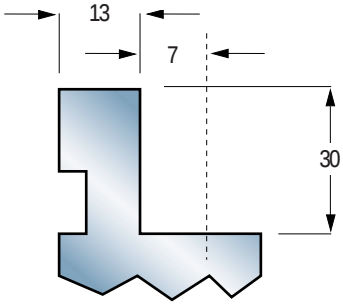
STANDARD TONGUES AVAILABLE



STANDARD TONGUE

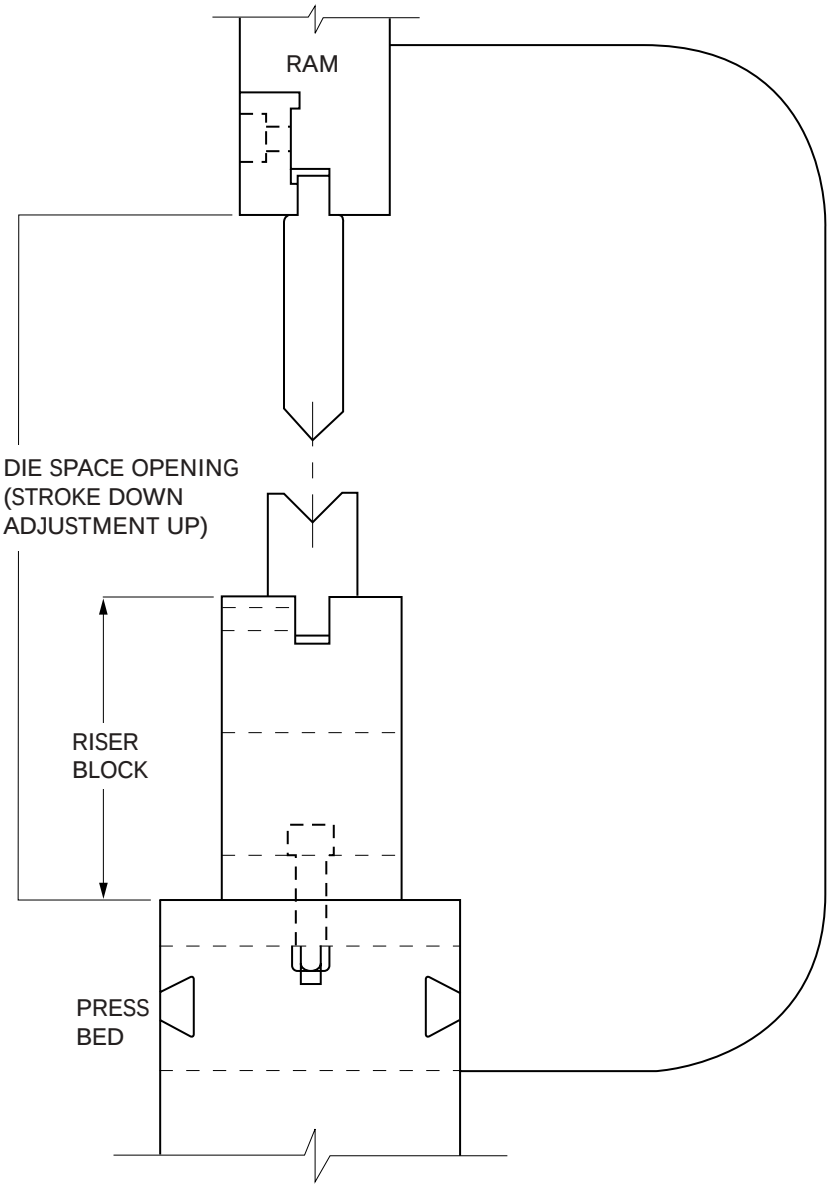


HOOKED TONGUE



EUROPEAN STYLE

TYPICAL PRESS SETUP



PRACTICE SAFETY

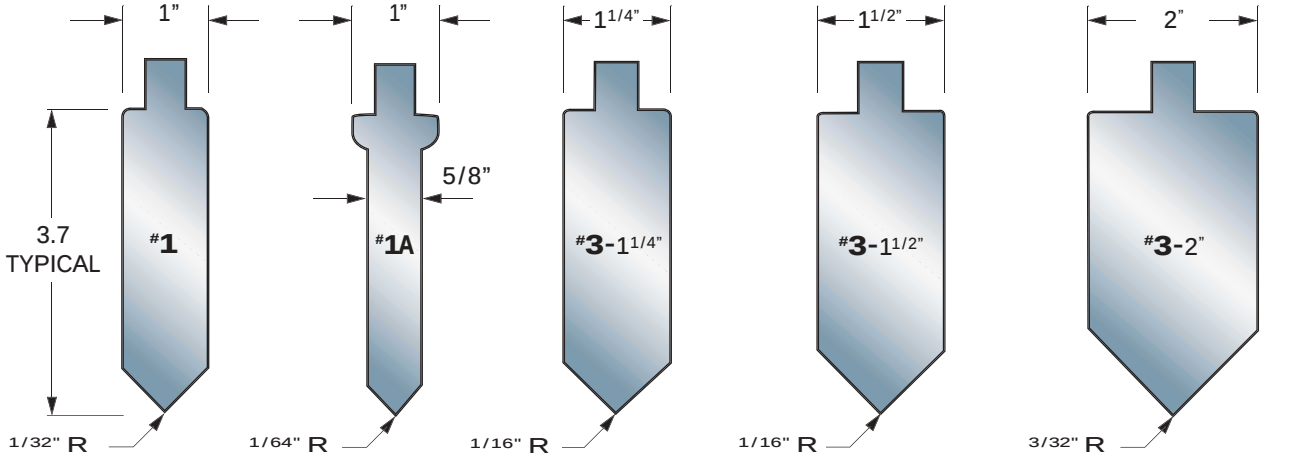
We do all we can to supply Dies that will produce material to your specification. Since we have no control over how the dies are actually put to use, it must be understood that it is the user who has the responsibility of making certain that a proper application with due regard to safety in operation is followed. Safety and industrial standards must be considered to ensure that point of operation protection is effective.

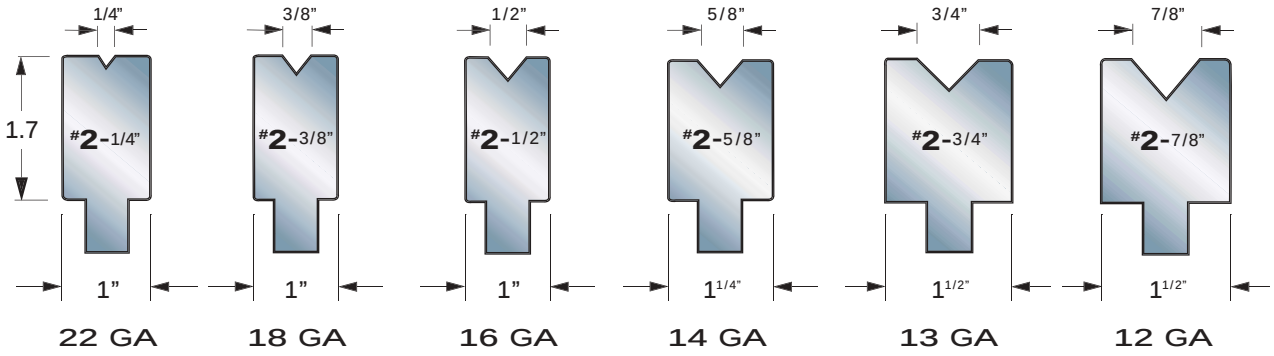
Our Dies are not intended to be used in equipment without means provided for preventing personal injury at any time.

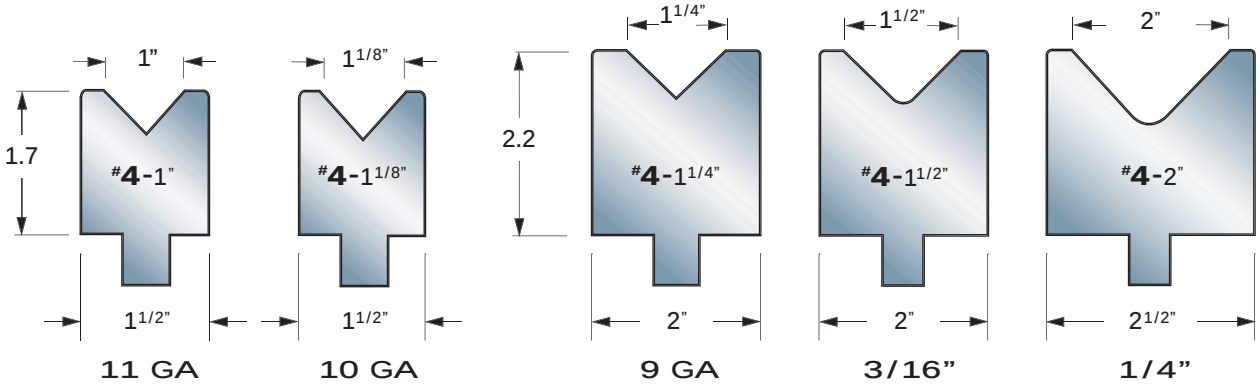
FORMING PUNCHES AND DIES

Up to 1 1/4": Upper Punches 88°/Lower Dies 89°
over 1 1/4": Upper Punches 85°/Lower Dies 85°

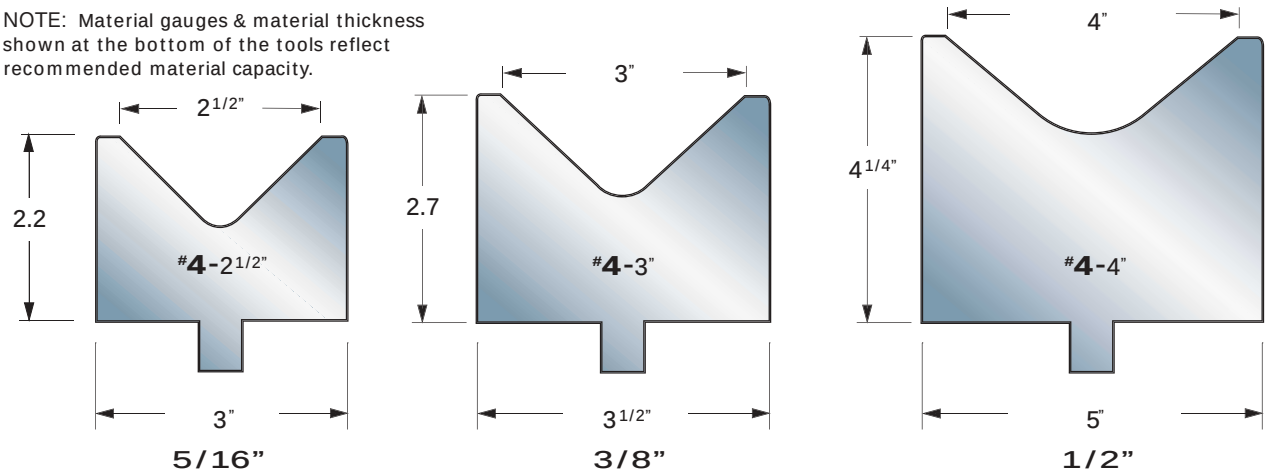
Other angles and radii are available upon request.





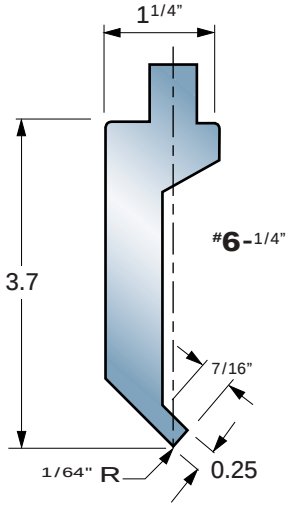


NOTE: Material gauges & material thickness shown at the bottom of the tools reflect recommended material capacity.

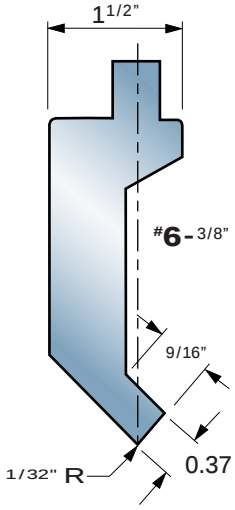


GOOSENECK PUNCHES 88°

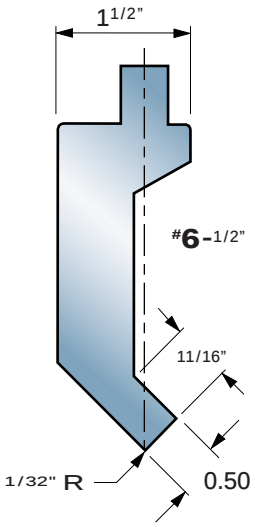
Other angles and radii are available upon request.



22 GA



18 GA



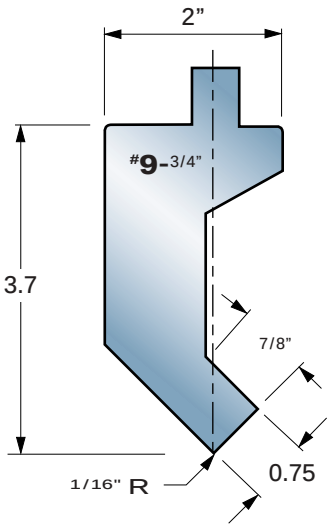
14 GA

PLEASE NOTE:

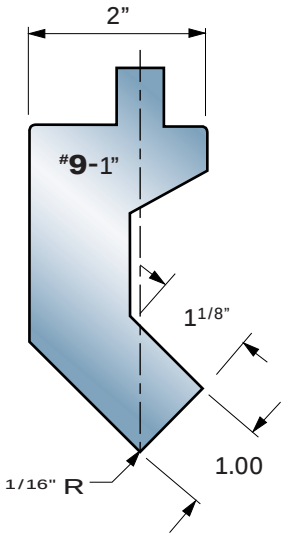
The size of the opening in the lower Die determines the inside radius of the bend. The recommended opening is eight times the material thickness and this will provide an inside radius equal to approximately 15% of the Die opening. This is generally just short of the fracture point of most materials. By increasing the size of the Die opening, the pressure required to make the bend is considerably reduced while the inside radius is proportionately increased.

NOTE: Outside widths shown are Bar Sizes prior to cleanup.

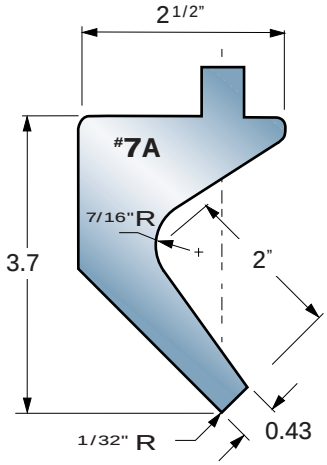
Material gauges & material thickness shown at the bottom of the tools reflect recommended material capacity.



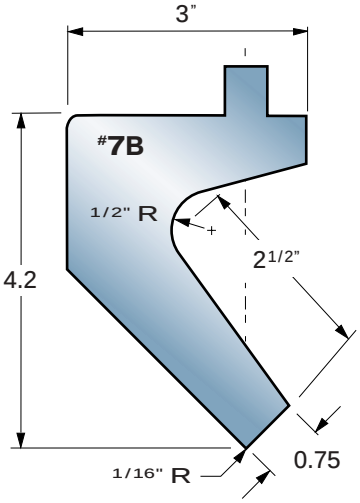
10 GA



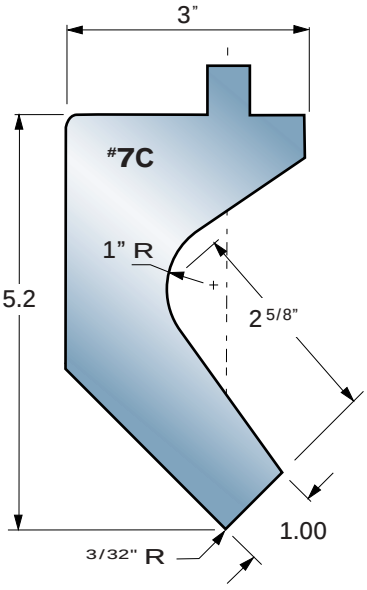
9 GA



16 GA

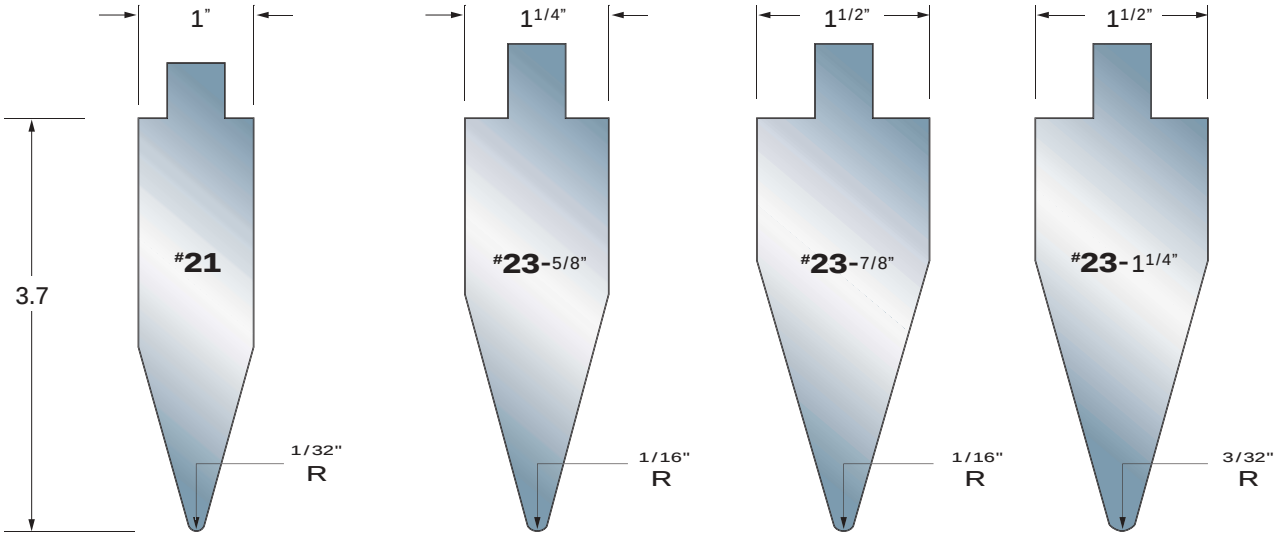


12 GA

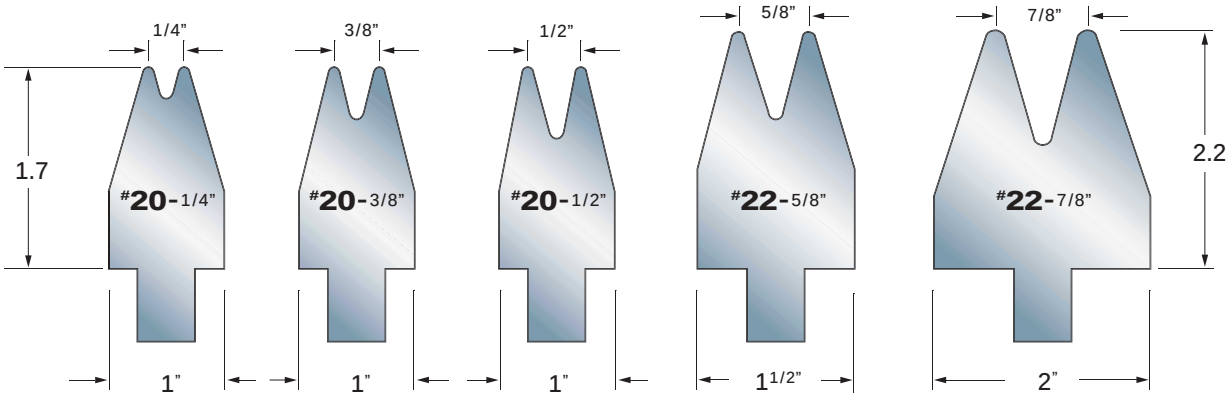


10 GA

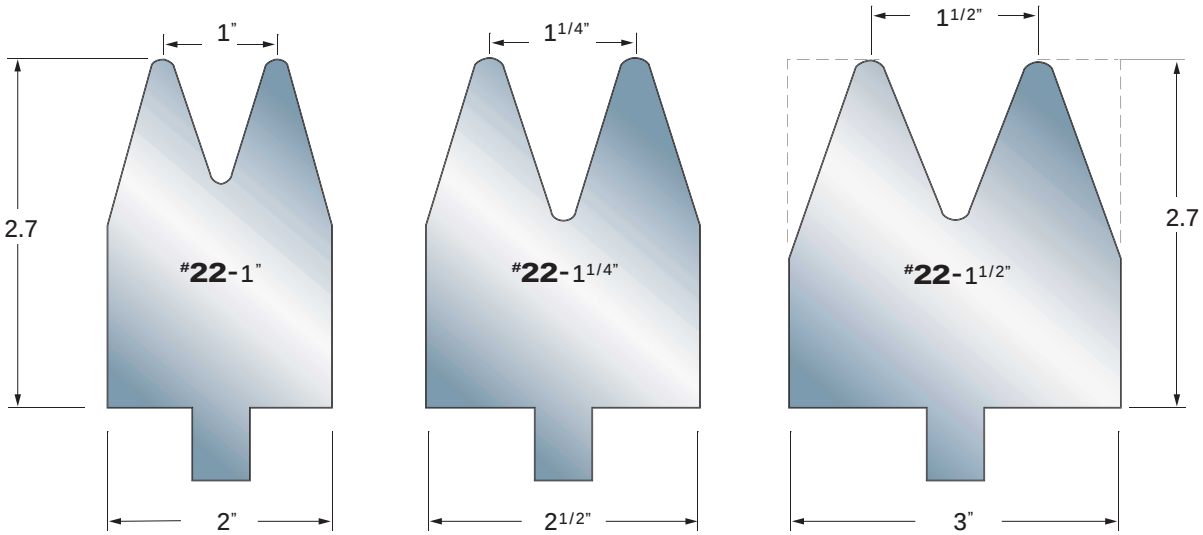
30° FORMING PUNCHES AND DIES



22-16 GA | 14 GA | 12 GA | 11 GA - 7 GA



22 GA | 18 GA | 16 GA | 14 GA | 12 GA



11 GA | 10 GA | 7 GA

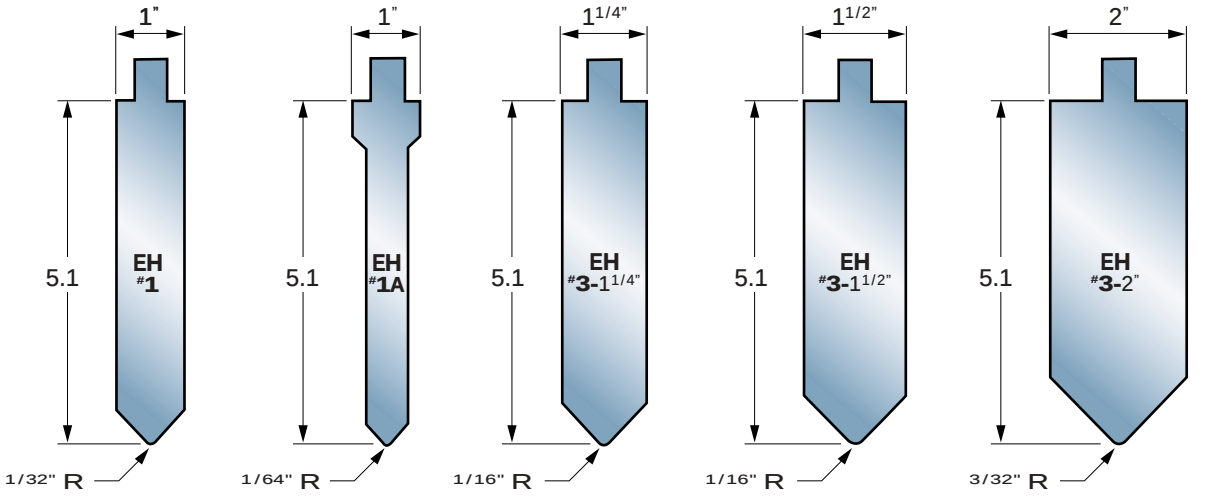
For acute angle forming, from 30° to shallow bends and first operation in hemming. The depth that the Punch enters the Die - regulated by the ram or bed adjustment, determines the degree of angle formed.

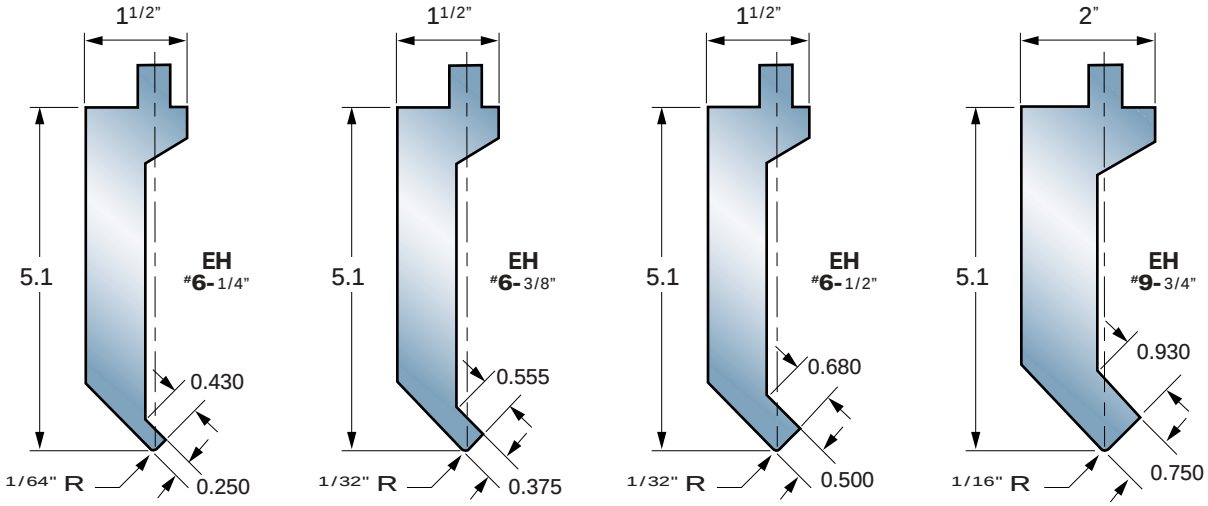
30° bottom dies can be ordered either sloping sides or flat top. Sloping sides are standard.

NOTE: Outside widths shown are Bar Sizes prior to cleanup.
Material gauges & material thickness shown at the bottom of the tools reflect recommended material capacity.

EXTRA HIGH PUNCHES - 88° / 30°

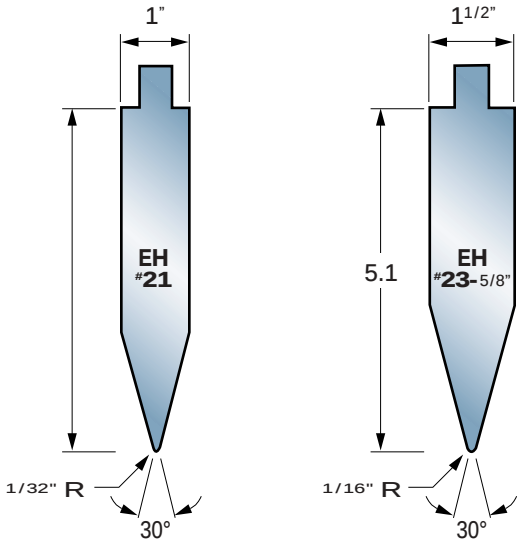
Shoulder to tip dimension = approx. 5.125”





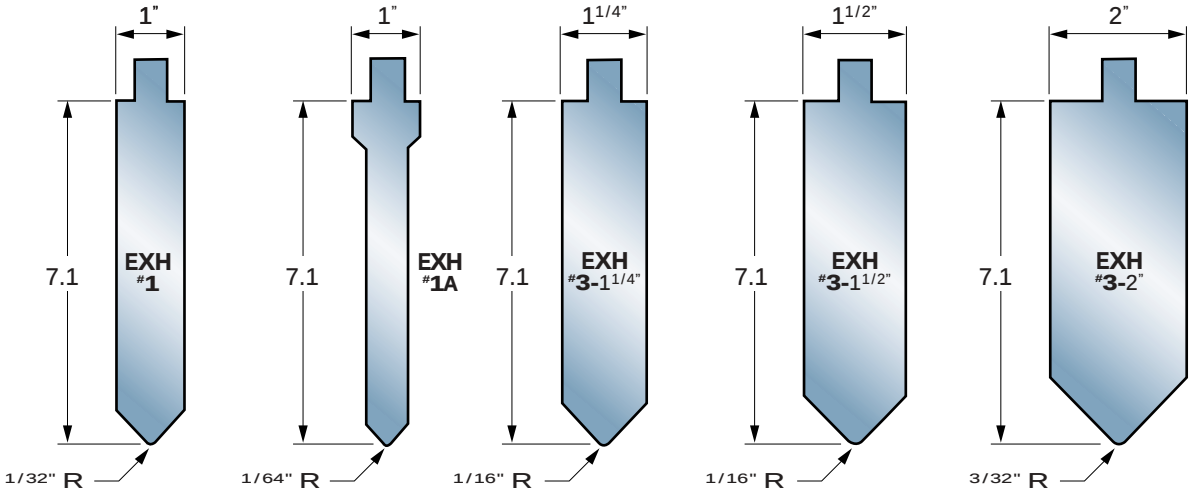
NOTE: Outside widths shown are Bar Sizes prior to cleanup.

Material gauges & material thickness shown at the bottom of the tools reflect recommended material capacity.

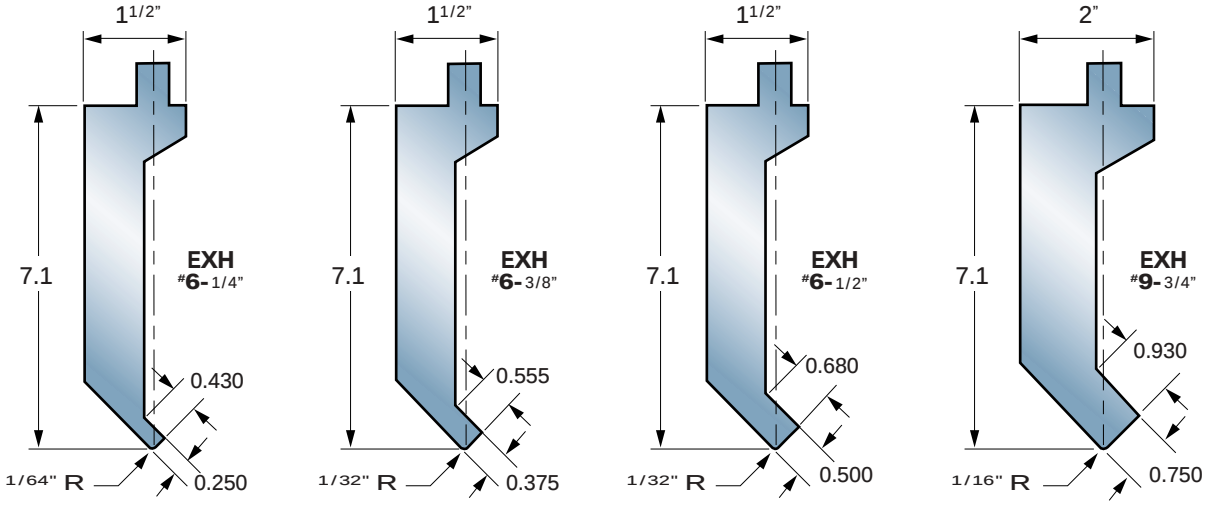


EXTRA HIGH PUNCHES - 88° / 30°

Shoulder to tip dimension = approx. 7.125”



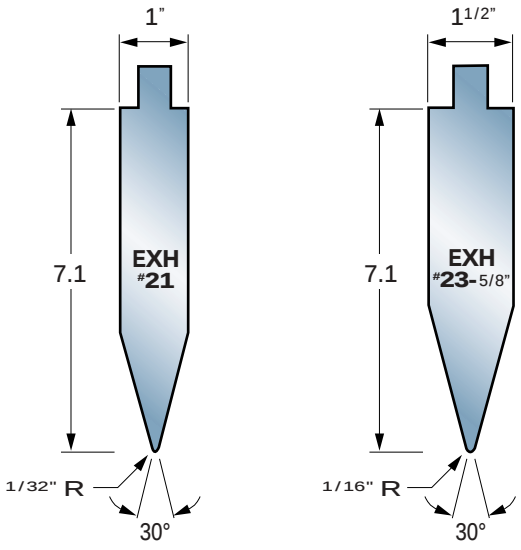
22-11 GA | 22-11 GA | 10 GA | 9 GA | 8 GA + UP



22 GA | 18 GA | 14 GA | 10 GA

NOTE: Outside widths shown are Bar Sizes prior to cleanup.

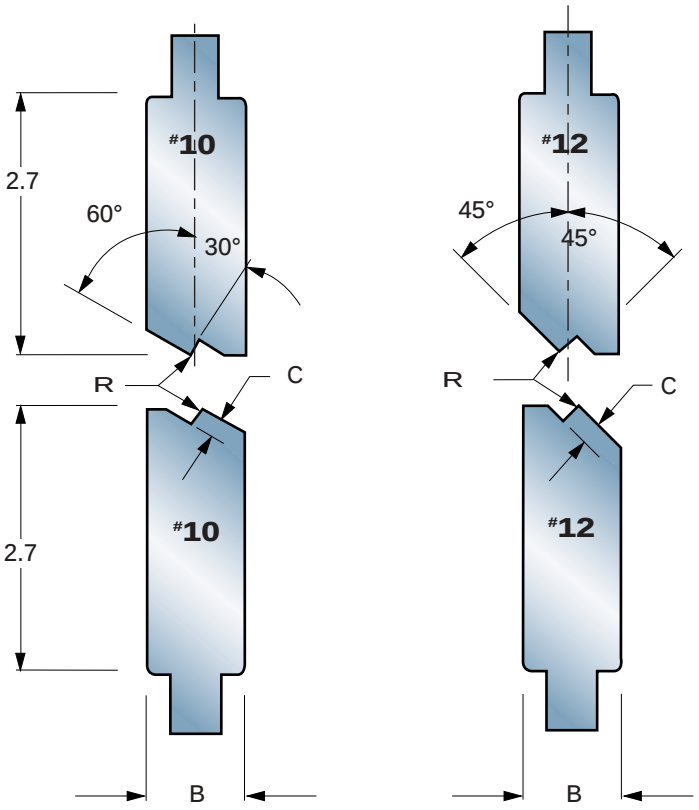
Material gauges & material thickness shown at the bottom of the tools reflect recommended material capacity.



22-16 GA | 14 GA

OFFSET DIES

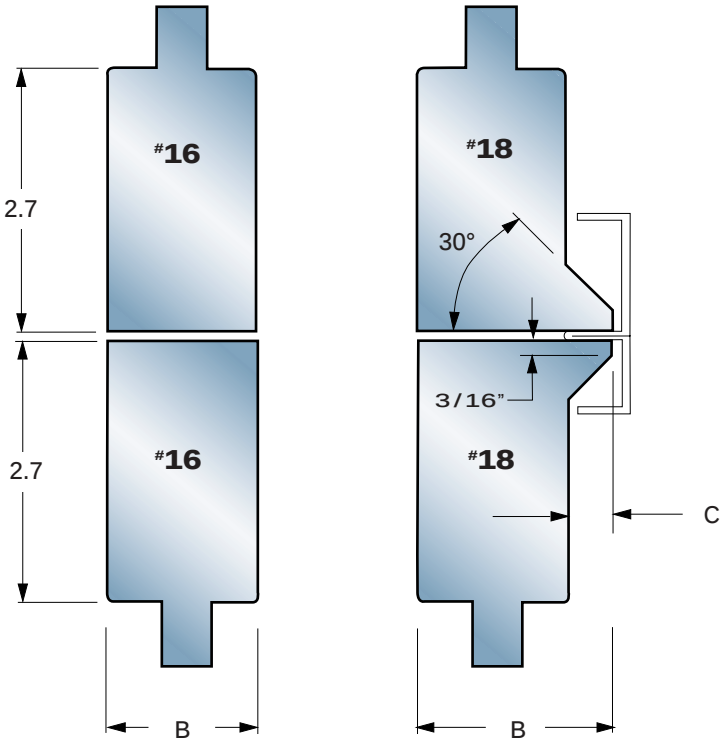
For producing two 90° bends simultaneously.



SET #	B	C	R
#10 3/16"	1"	3/16"	1/64"
#12 1/4"	1"	1/4"	1/64"
#12 5/16"	1"	5/16"	1/64"
#12 3/8"	1 1/4"	3/8"	1/32"
#12 1/2"	1 1/4"	1/2"	1/32"
#12 5/8"	1 1/2"	5/8"	1/32"
#12 3/4"	2"	3/4"	1/32"
#12 7/8"	2"	7/8"	1/32"
#12 1"	2"	1"	1/32"

A set consists of Top & Bottom.

FLATTENING DIES

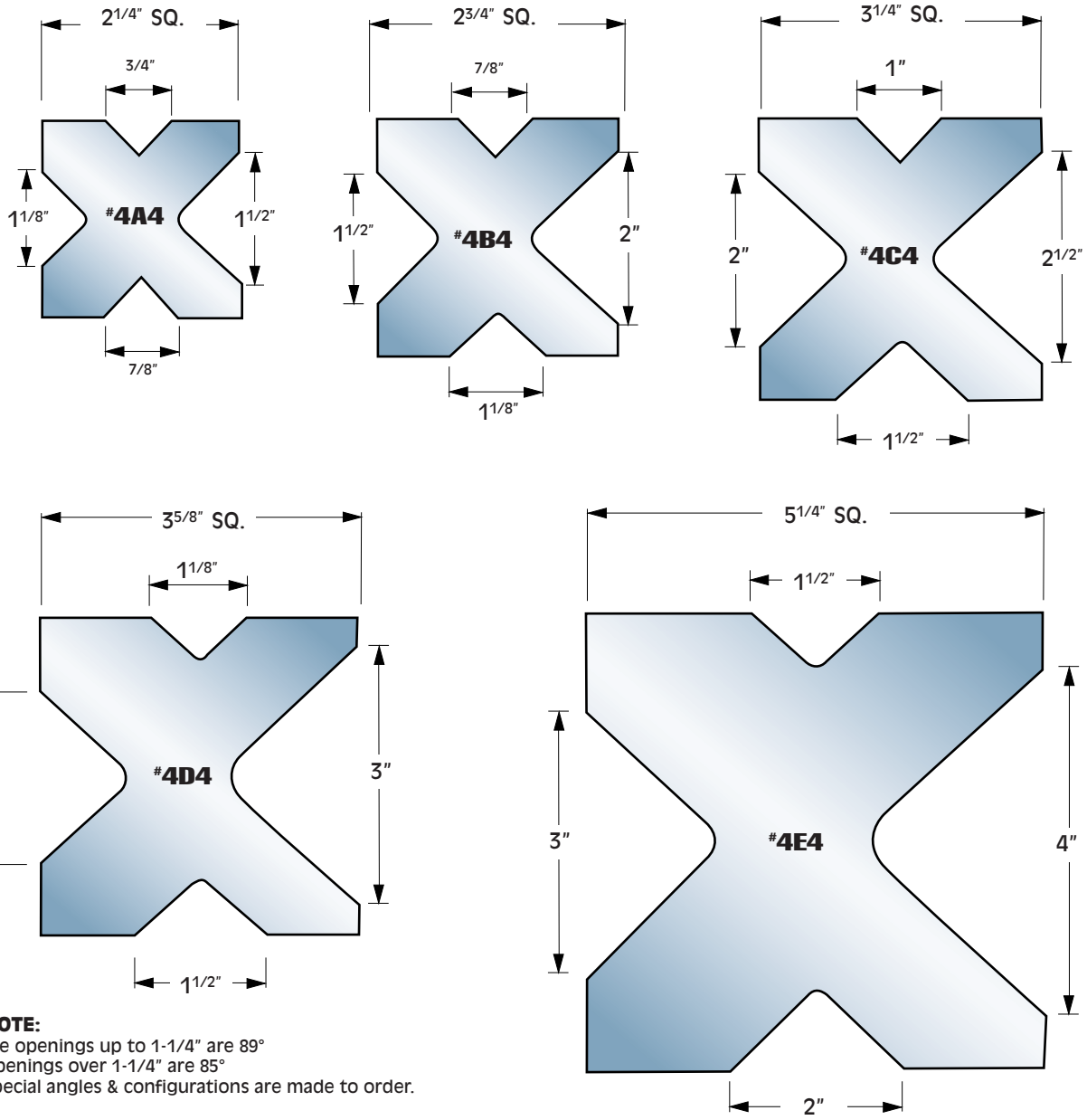


SET #	B	C
#16 1 1/2"	1 1/2"	
#16 2"	2"	
#16 2 1/2"	2 1/2"	
#18 2"	1 7/8"	1/2"
#18 2 1/2"	2 3/8"	3/4"

A set consists of Top & Bottom.

NOTE: Outside widths shown are Bar Sizes prior to cleanup.

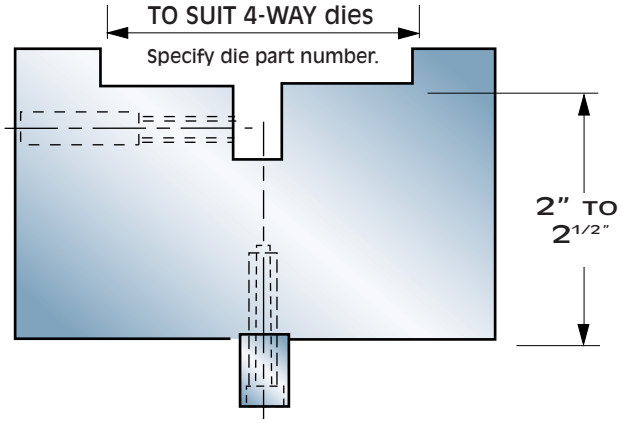
4-WAY DIES



NOTE:
Die openings up to 1-1/4" are 89°
Openings over 1-1/4" are 85°
Special angles & configurations are made to order.

For quick die changes where multiple bends are required.
All are supplied with tapped holes on each end for lifting.

4-WAY DIE ADAPTERS

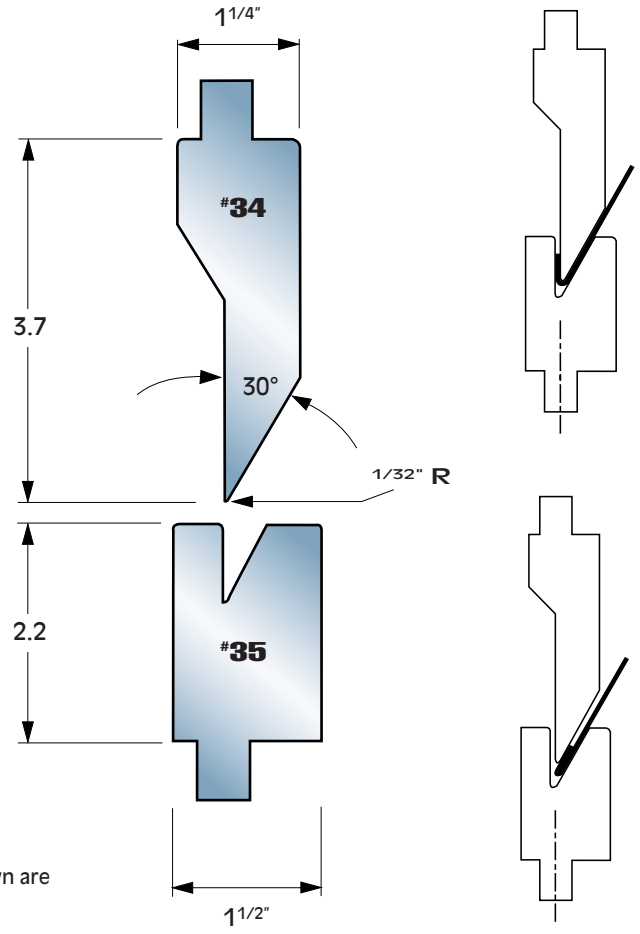


Screw Holes in 4 Way Adapters are 3/8" 16 on 12" centres.

Specify if tongue required.

HEMMING DIES

For bending and crimping the edge of a sheet 18 GA. or lighter.



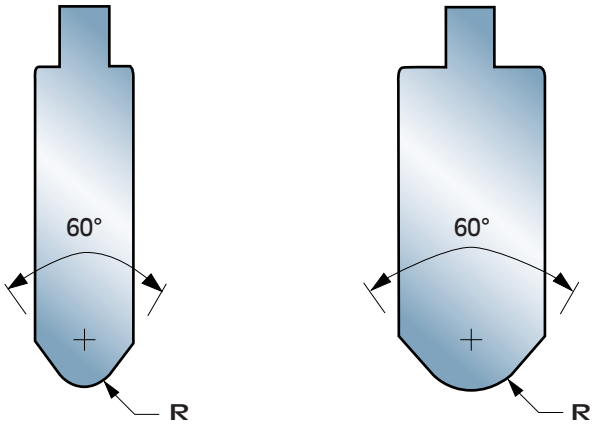
For hemming material heavier than 18 gauge refer to Page 12 # 3TD.

Two strokes produce a Flattened Hem.

NOTE: Outside widths shown are Bar Sizes prior to cleanup.

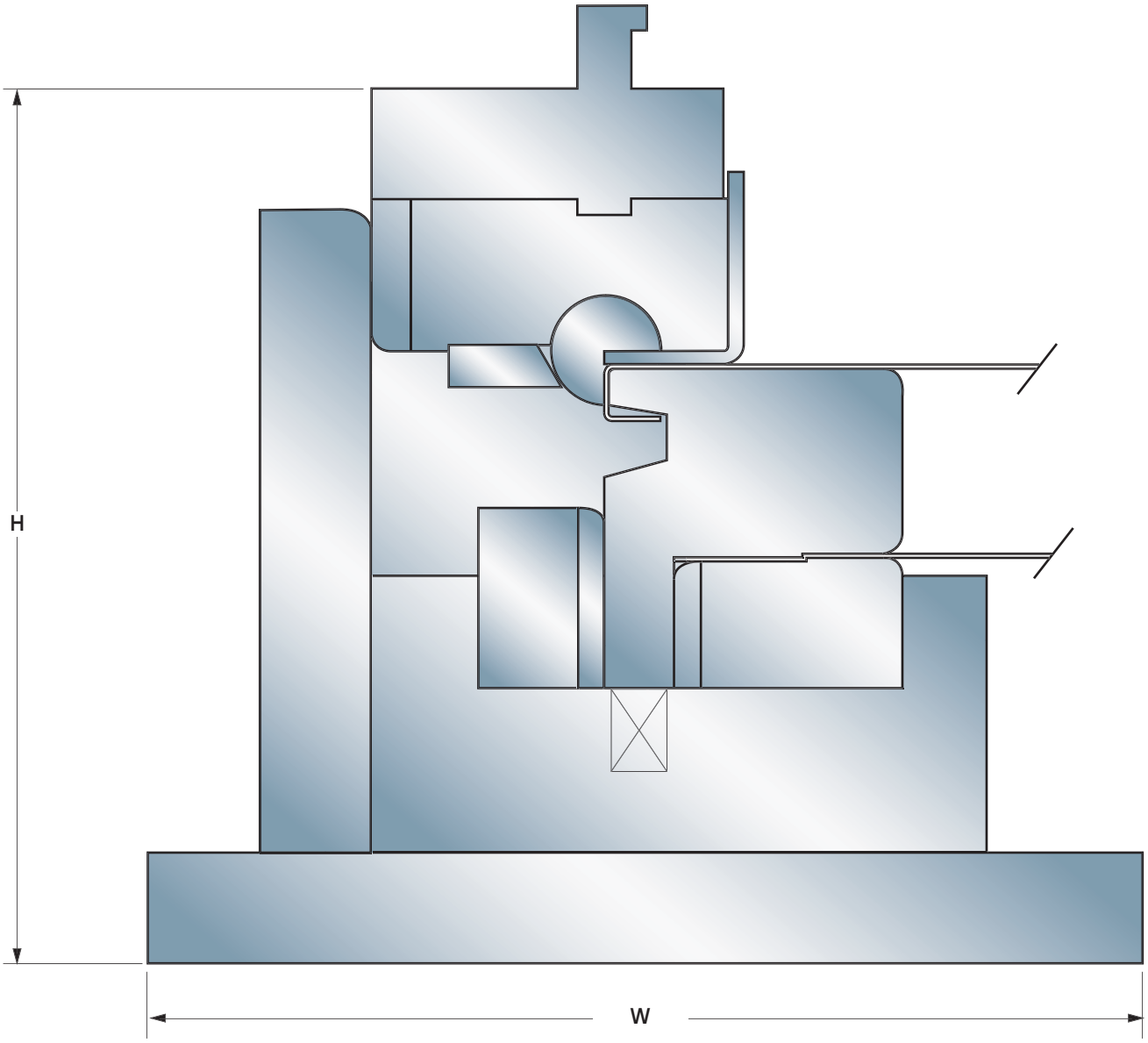
RADIUS PUNCHES

Normally used with standard Lower Dies. Radius (R) to be specified.



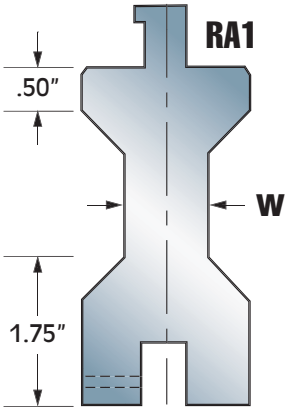
ROTARY BENDERS

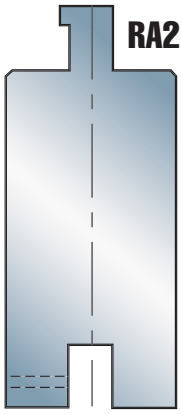
Exacta Fabtool has gained an enviable position within the industry to be recognized for our ability to manufacture Precision Rotary benders. We can meet the challenge on the most complicated of requirements through to the simplest of designs. Let our engineers work with you to achieve your part size dimensions and required tolerances. Simply send us your part print requirements for quotation.

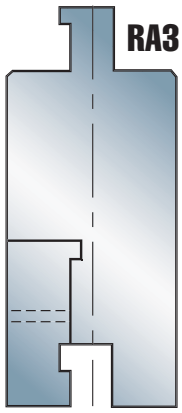


RAM ADAPTERS

Standard Ram Adapter Dimensions







NOTE: Any Ram Adapter with a width of 2" or greater can be made to accept a Hook/Safety Tang.

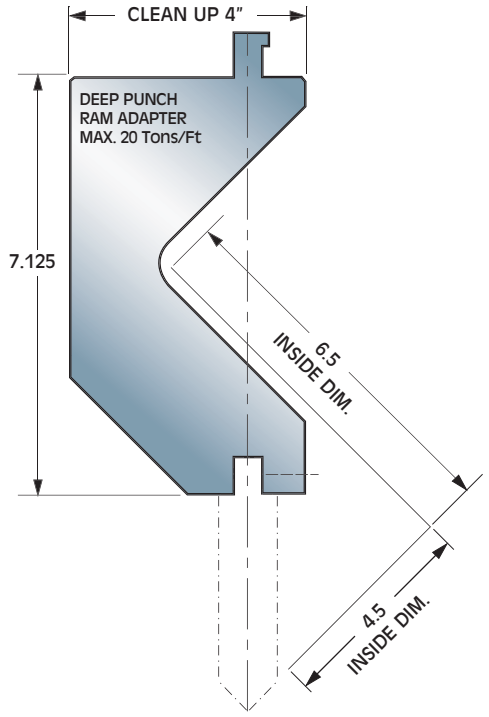
PART #	"W"	Width	Available Height		
RA1	.62"	1 1/2"	3 5/8"	4 1/8"	5 1/8"
RA1	1"	2"	3 5/8"	4 1/8"	5 1/8"
RA1	1 1/4"	2 1/2"	3 5/8"	4 1/8"	5 1/8"

PART #	Width	Available Height			
RA2	1 1/2"	3 1/8"	3 5/8"	4 1/8"	5 1/8"
RA2	2"	3 1/8"	3 5/8"	4 1/8"	5 1/8"
RA2	2 1/2"	3 1/8"	3 5/8"	4 1/8"	5 1/8"
RA2	3"	3 1/8"	4 1/8"	5 1/8"	

PART #	Width	Available Height			
RA3	2"	3 1/8"	3 5/8"	4 1/8"	5 1/8"
RA3	2 1/2"	3 1/8"	3 5/8"	4 1/8"	5 1/8"
RA3	3"	3 1/8"	3 3/4"	4 1/8"	5 1/8"

EXTRA HIGH RAM ADAPTER

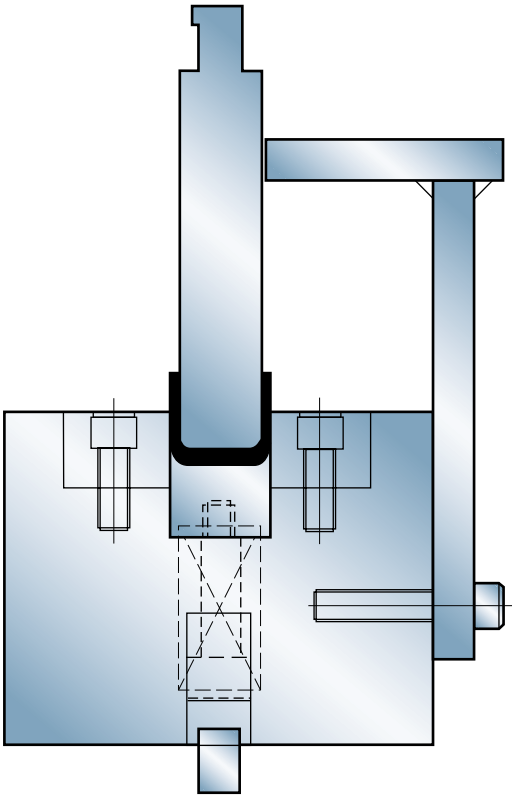
NOTE: Extra High Ram Adapters can be manufactured to accept insert style punches - this allows for a larger inside dimension to be formed.



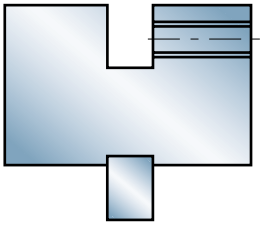
NOTE: Exacta Fabtool is capable of manufacturing almost any size of Ram Adapter - contact our engineering department.

SPECIALS

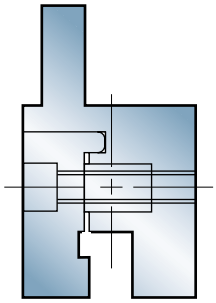
When a Standard Die won't do the job, EXACTA'S engineers are ready to help you in the correct selection of tools for your particular application. Shown below are just a few of the custom Dies EXACTA has designed and manufactured for satisfied customers.



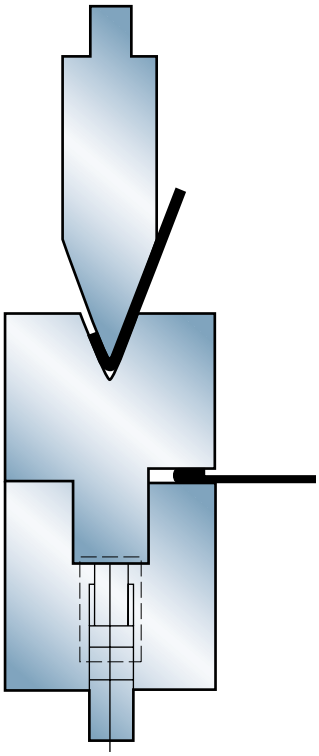
UCD



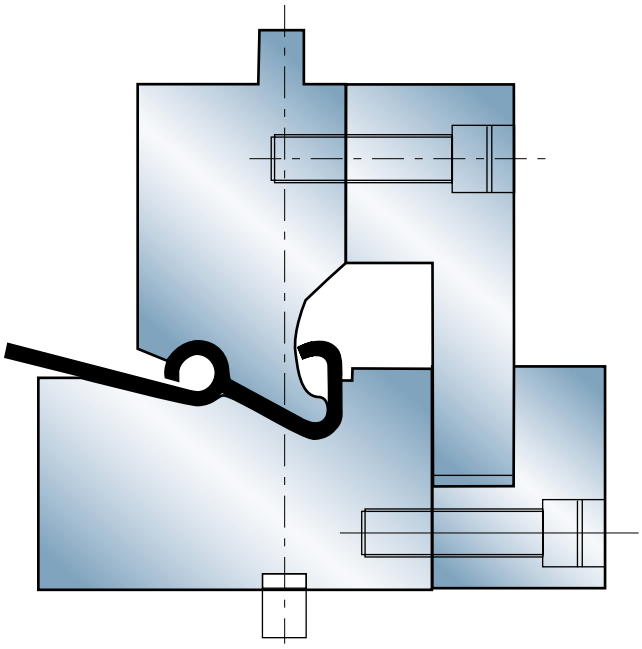
DH



AEH



3TD



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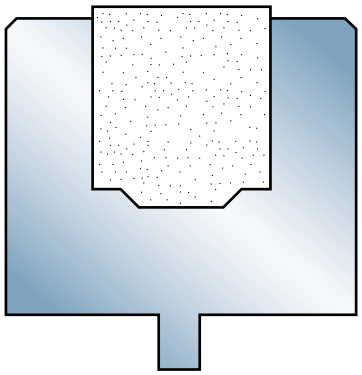
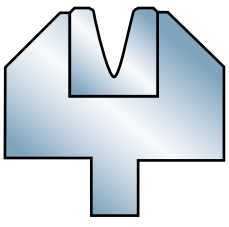
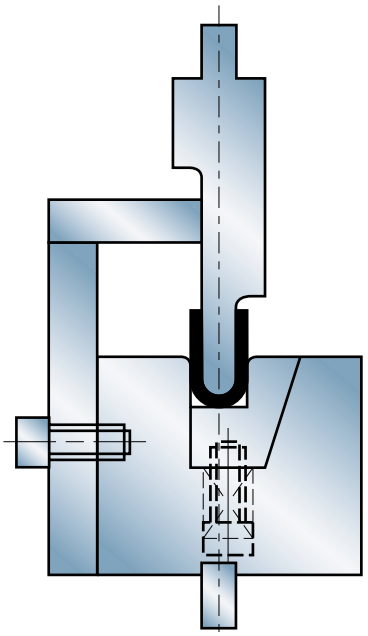


UDH

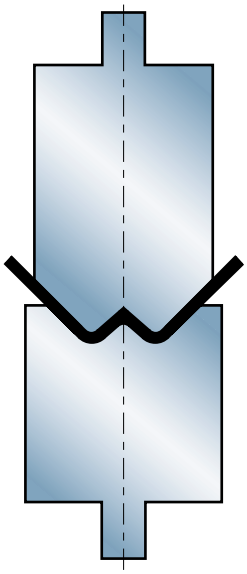


UD

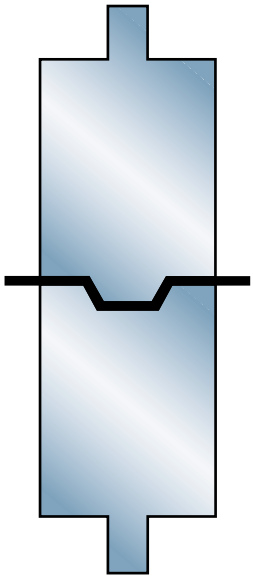
SPECIALS



WUD



WD



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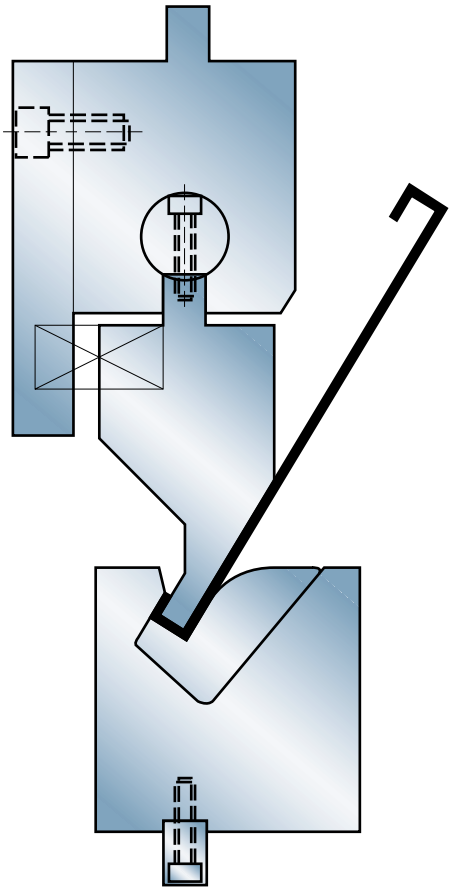

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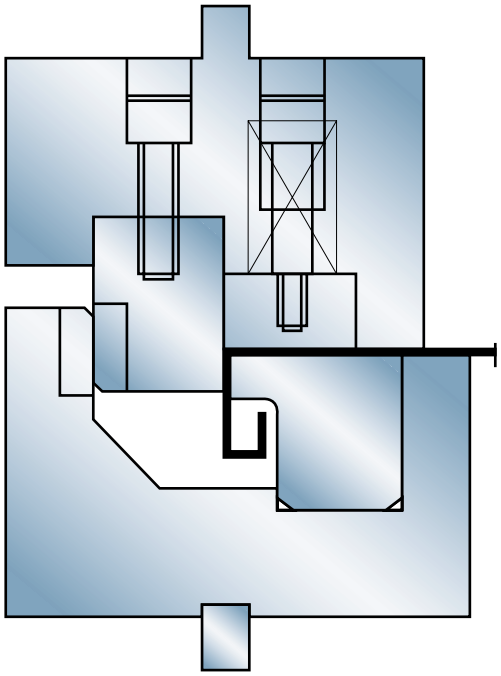
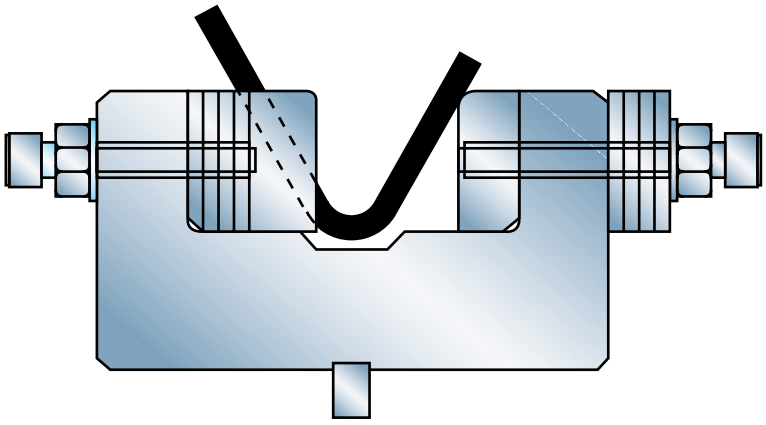


WDD

BED RAIL

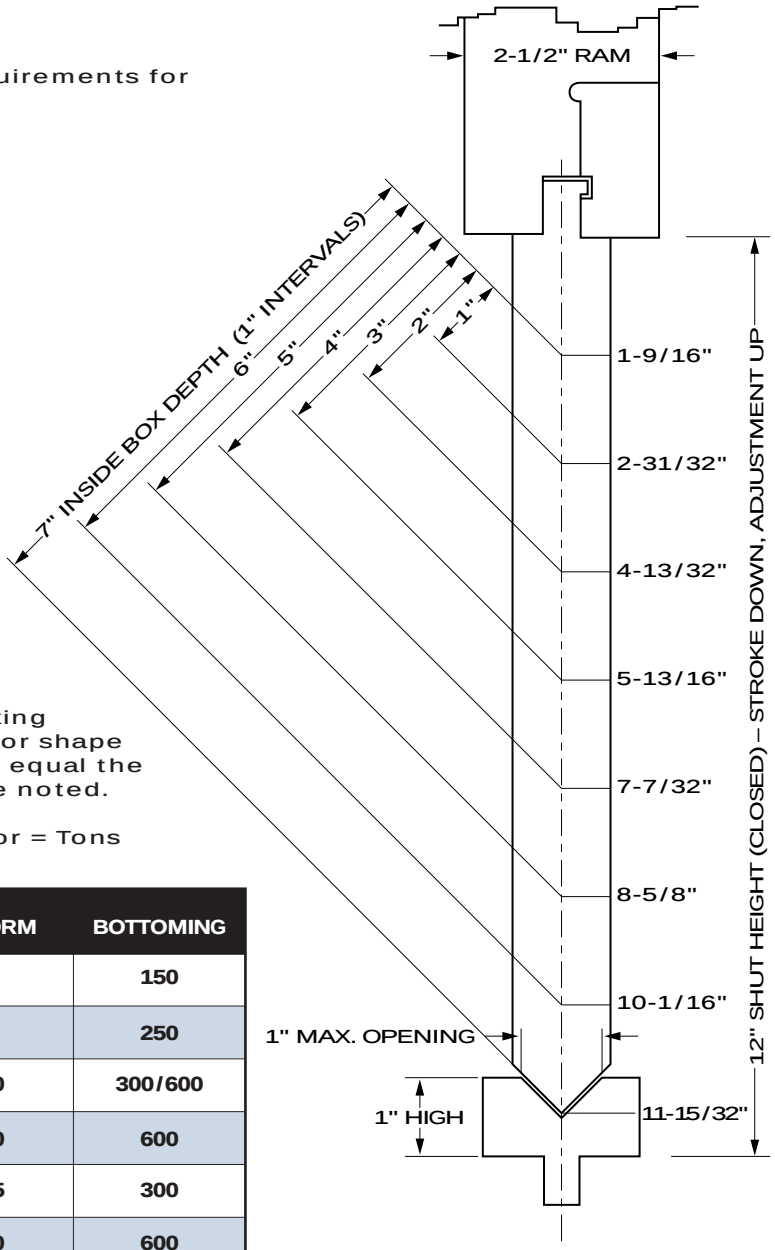


ADJ DIE

PRESS BRAKE DIES

BOX FORMING

Punch & Die showing height requirements for different depths of box forming



PRESS BRAKE MULTIPLE BEND CHART

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. (Mild Steel)

SHAPE	DESCRIPTION	AIRFORM	BOTTOMING
	VEE DIE	60	150
	WIPING	–	250
	OFFSET	150	300/600
	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	–	180/300
SHAPE CONSIDERATIONS		Large Radi Angle Variation Concave or Convex Slides	Mat'l. Thk. Radi Min. Angle Variation Maintain Flatness

Tons per Ft. X Material Factor

Stainless Steel..	(18-8 Annealed)Type 304...	1.55
Aluminum.....	3303-HI4 (1/2 Hard).....	.35
	5052-H34 (1/2 Hard).....	.65
	6061-T64	.75
Brass.....	70/30 (1/2 Hard).....	1.10

PRESS BRAKE DIES

Exacta Conventional Press Brake Dies are quality, heat treated alloy Brake Die steel that is through hardened and heat treated at approximately 285-300 Brinell (30-Rockwell "C").

Exacta Conventional Dies do not have to be annealed before machining or re-hardened afterward.

The Tongue dimensions of all upper and lower Dies are 1/2" W X 5/8" H. A hooked retainer Tongue is available on special order when multiple Die sections are required. The average Die set's working shut height is 5 - 1/4" and can be used in any Standard Press Brake with bed or ram adjustment.

AIR BENDING

Air bending dies are made at a more acute angle than the angle to be formed. The only contact is between the Dies and material occurring at the tip of the Upper Punch and the inside edges of the Lower Die. The material is formed rather than "coined" or "bottomed".
Most Exacta air bending Dies are made with an included angle of 85°; when forming 90° Flanges in mild steel, the material's natural springback achieves the 90° angle. To form angles greater than the Die's included angle, the Ram is adjusted for less Die penetration.

BOTTOMING

Bottoming is used when high accuracy and sharp corners are needed. This process requires three to five times the pressure used in air bending. Since more tonnage is needed, Bottoming Dies are seldom used on steel heavier than 12 gauge. Exacta Bottoming Dies have an included angle of 90°, and Lower Die capacities are based on eight times the material thickness. For tighter radii and less springback, the Die opening is five times the material thickness.

TONNAGES REQUIRED FOR AIR BENDING MILD STEEL (with tensile strength of 60,000 lbs. psi)

CHART 1 for wider or narrower openings in same stock, refer to the numbers left or right of the recommended tonnage.

Thickness of Metal		Tons Required Per Linear Foot Using Air Bend Dies with these "V" Die Openings [Figures in bold type are tonnages required for average work]																											
Gage or Fraction	Decimal Inches	1/4"	5/16"	3/8"	7/16"	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"	14"	16"	20"	24"	30"
20	0.036	3.1	2.6	1.75	1.45	1.2																							
18	0.048	5.4	4.0	3.1	2.5	2.1	1.55	1.3																					
16	0.060	9.6	7.1	5.5	4.5	3.8	2.8	2.2	1.8	1.45																			
14	0.075		11.9	9.3	7.7	6.4	4.7	3.8	3.1	2.5	2.1	1.85																	
12	0.105			20.5	16.7	14.0	10.4	8.1	6.6	5.6	4.7	4.1	3.2	2.2															
11	0.120				22.6	18.5	13.9	10.9	8.8	7.4	6.3	5.6	4.3	2.9	2.15														
10	0.135					25.2	17.2	14.5	11.9	9.9	8.3	7.3	5.7	3.8	2.85	2.23													
3/16"	0.188						34.8	27.6	22.5	19.1	16.0	13.9	11.0	7.5	5.6	4.3	3.5												
1/4"	0.250							58.0	47.0	39.5	33.3	29.0	22.8	15.5	11.4	8.9	7.6	6.1	4.5										
5/16"	0.313									69.5	59.0	51.0	40.0	27.0	20.0	15.6	12.7	10.5	7.8	6.1	4.95								
3/8"	0.375										87.0	75.0	59.0	40.0	29.5	23.4	19.0	15.8	11.7	9.2	7.5	6.2	4.6						
7/16"	0.438											115.0	90.0	61.0	45.5	35.2	28.8	24.0	17.8	13.9	11.2	9.4	6.9	5.4					
1/2"	0.500													85.0	62.0	44.3	39.5	33.0	24.5	19.1	15.4	13.0	9.8	7.5	6.1				

Tonnages shown in Chart 1 are for airbends. The tonnages shown in bold print are for Die Opening eight times the thickness of the metal (inside radius is determined by the Die Opening). These are used for average work and the inside radius formed is approximately equal to the thickness of the material and roughly 15% of the die opening. This is just short of the fracture point of most materials. Required bending tonnage varies directly with the tensile strength of the material.

GENERAL NOTE

Exacta is a manufacturer of high quality and precision prehardened and through hardened Press Brake Dies.

The most common Brake Dies are stocked for fast service. Induction Hardened Dies can be supplied for scaly stock or similar severe conditions at additional cost. Where Dies are to be used in forming aluminum, stainless steel or painted surfaces, a super fine polished finish is required & must be specified when ordering due to additional cost.

Reconditioning or reworking of customers' existing Brake Dies is available at a nominal charge.

SCRATCH-FREE BENDING

URETHANE V-PADS

Urethane V-Pads are triangular inserts that fit in the standard 1" & 2" opening steel V-Dies, to enable scratch-free bends economically. Lengths available up to 4 ft.

SOLID URETHANE DIES

Solid Urethane Dies are also available for scratch-free bending. 90° dies available in: 1/4";3/8";1/2";5/8";3/4";7/8"; and 1" v-openings. 30° Dies available in: 3/8" and 1/2" v-openings. Lengths available up to 8 ft. These Dies are the same shape and cross section as conventional steel Dies.

BRAKE FILM ROLLS

Tuff brake film rolls are used with steel Dies when mark-free bending is a concern. It is a thin urethane strip (0.015" thick) placed directly over the v-opening of the steel die.

Available in: 4" wide X 100 ft. roll
6" wide X 100 ft. roll

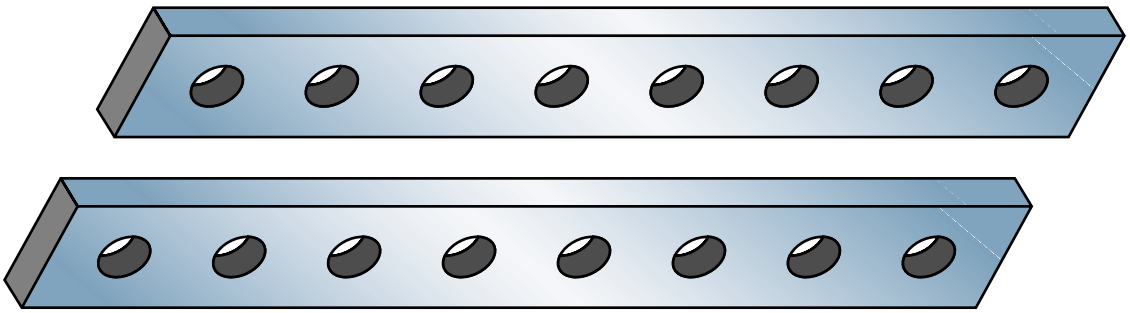
SHEAR BLADES

WE STOCK BLADES FOR THE FOLLOWING POPULAR SHEARS:

- Accushear
- Allsteel
- Cincinnati
- Elga
- Haco
- Keetona
- Niagara
- Pacific
- Pearson
- Promecam
- Wysong

- **Other non-stock blades made to order**

EXACTA ALSO RESHARPENS & REPAIRS BRAKE DIES & SHEAR BLADES



EUROPEAN PRECISION/AMERICAN PRECISION

Exacta Fabtool manufactures and stocks the finest **European Style Precision Press Brake Tooling, American Style Precision Press Brake Tooling** and related **Accessories**.

For more Information ask for the **Precision Press Brake Tooling** catalogue.

Exacta Fabtool's ability to manufacture any style of **Precision Press Brake Tooling, Conventional Planed Press Brake Tooling** and **Specials** is unparalleled in the industry.

EXACTA FABTOOL

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