

Accurpress

TOOLING SYSTEMS





WHY CHOOSE ACCURPRESS TOOLING?

Whether you are looking for general purpose tooling or special application configurations, Accurpress is committed to the highest level of quality and customer satisfaction.



Scott Pettie, Plant Manager
Accurpress Tooling

Accurpress Tooling System's primary purpose is to provide you with cost effective, high quality solutions for your forming needs. Our innovative manufacturing processes and attention to detail ensure you the best possible value with Accurpress Tooling.

Creativity and integrity are the cornerstones of our design process, thus enhancing productivity and flexibility of your press brake utilization.

Accurpress uses only the finest quality materials to deliver long-life and utmost accuracy from all our products. You can rely on our experience and craftsmanship to facilitate your success.

ACCURPRESS GENERAL PURPOSE TOOLING

1 A Full Line

Accurpress produces a full line of value-priced press brake tooling available in lengths up to 24', for coining and air bending applications. All tooling can be provided in either planed or ground finishes.

The line includes:

- Custom designs for your special applications
- 85° and 90° forming punches & dies
- Four-way dies
- Gooseneck punches
- 30° forming punches & dies
- Offset die
- Flattening & hemming die
- Rib Dies
- Channel-lock adjustable die
- Conventional and four-way die holders

2 Service

We offer full technical and applications support to back up our product line. Whatever your forming problem, consult us and will provide you with the cost effective solution.

3 Important Options

We offer options such as flame-hardening and polishing of working radii. We can also produce all tooling with whatever style of holding tang you require to suit your machine. All options are quoted on request.

4 Certified Materials

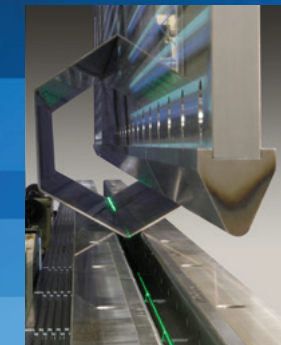
We select only the highest quality pre-hardened brake die material available to manufacture Accurpress Quality Certified Tooling... using 4150 steel with a hardness of 270-300 Brinell, 28-32 HRC.

5 Quality Standards

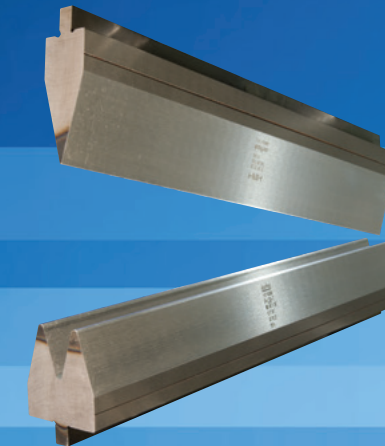
We produce quality tooling. Each tool is carefully machined with fine finishes, straightened and measured with precision gauges to ensure tolerance that exceed industry standards. Prior to shipment, all tools are coated with a durable rust-proofing compound before packing into crates.

6 Fast Delivery

We make it our goal to provide delivery times that are among the fastest in the industry... thanks to our comprehensive, in-depth stocking program.



Accurpress Custom Tooling
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Accurpress Precision Tooling
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Accurpress is North America's #1 selling press brake.

ACCURPRESS TOOLING SYSTEMS

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See the complete Accurpress product line at...
www.accurpress.com

Press Brakes • Shears • Controls
Gauging Systems • Tooling • Clamping Systems
Die Holders • Accessories • Safety Options • Financing

For additional information,
or to locate your nearest Accurpress dealer
please contact us Toll Free at...

877-633-8665
(877-633-TOOL)

ADJUSTABLE CHANNEL-LOCK DIES

Accurpress manufactures the largest and most versatile adjustable die tooling worldwide to satisfy the enormous challenges and demands in the heaviest of forming applications. Adjustable Channel-lock Dies are available in the following configurations:

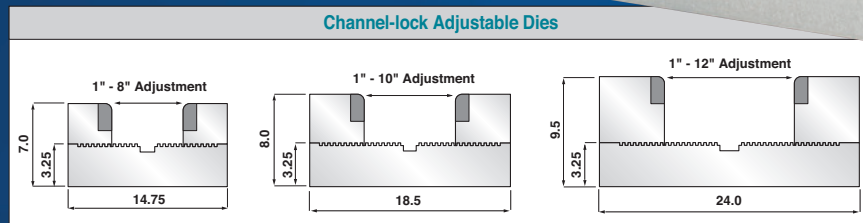
- Non-Crownable Adjustable Channel-lock
- Crownable Adjustable Channel-lock
- Standard Power-lock
- Heavy Duty Power-lock

Channel-lock Dies provide a high level of crowning versatility and quick adjustment of die openings beginning at 1". The addition of crowning capability eliminates the need for shimming which translates into big savings in labour costs as well as reduced scrap rate.

ADJUSTABLE CHANNEL-LOCK DIE

Features include:

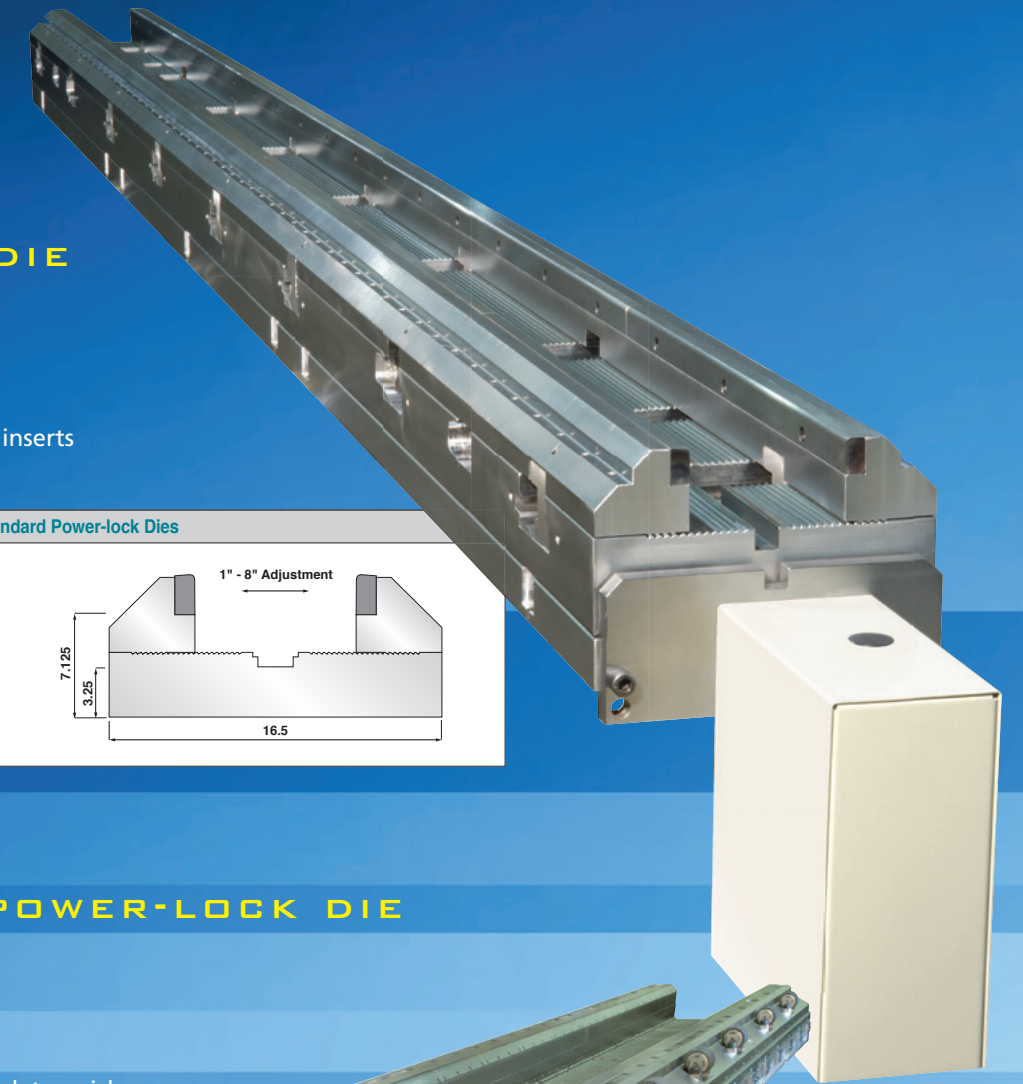
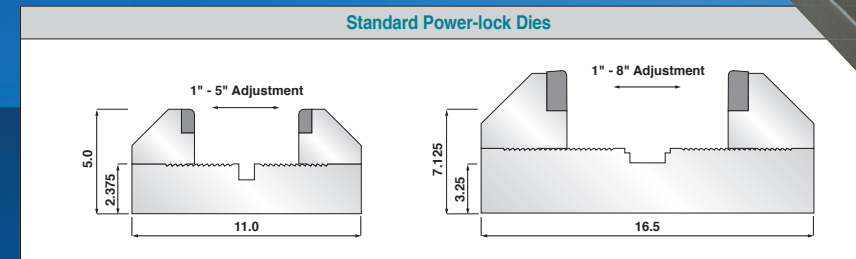
- Crownable or non-crownable options
- Replaceable flame hardened inserts
- Lifting Springs
- T-slots to assist in mounting the riser blocks into the desired die opening channels.
- Optional Adjustment Rack



POWER-LOCK DIE

Features include:

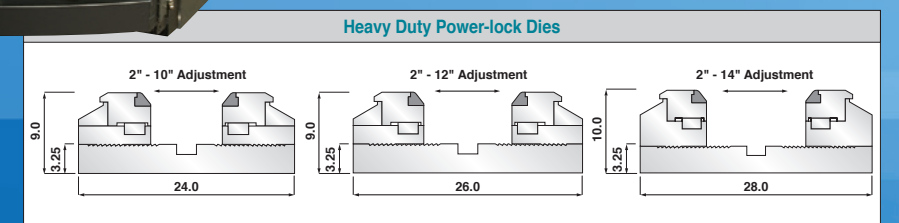
- CNC Crowning Motor
- Replaceable flame hardened inserts



HEAVY DUTY POWER-LOCK DIE

Features include:

- CNC Crowning Motor
- Hydraulic system to accommodate quick and easy die opening adjustments
- Optional Plate Rollers



ACCURPRESS CUSTOM TOOLING...

Accurpress Has Your Custom Tooling Solutions.

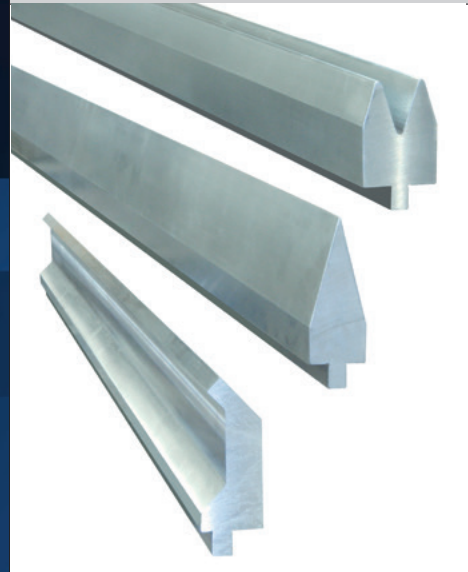
Dedicated Tooling Specialists are Just a Phone Call Away!

We have several dedicated tooling specialists on staff to provide cost effective solutions for your special forming requirements.

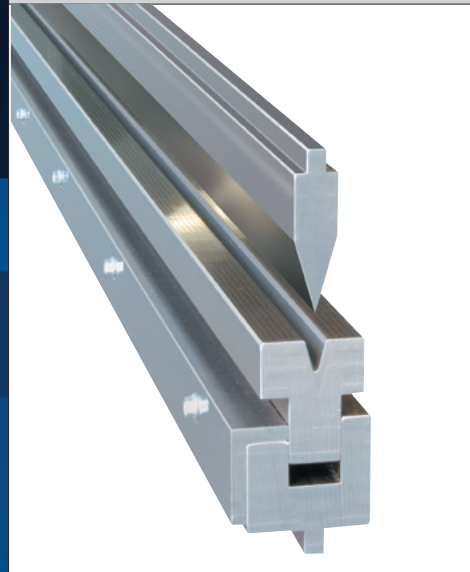
Accurpress offers turnkey applications – tested and proven in our factory. Turn to Accurpress for great service, timely delivery and competitive pricing.

For further tooling and dealer information, call Accurpress Tooling Systems at 1-877-633-8665

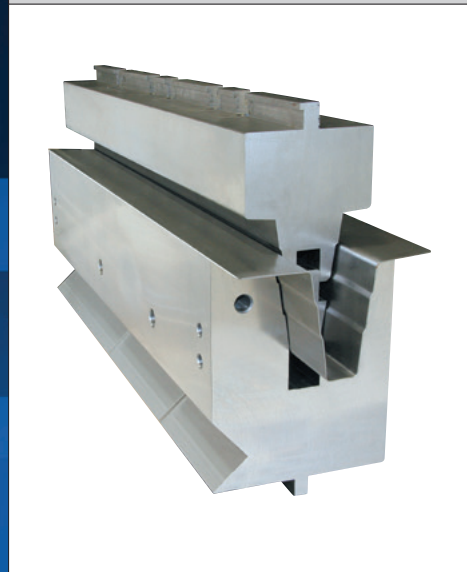
HIGH TOLERANCE TOOLING



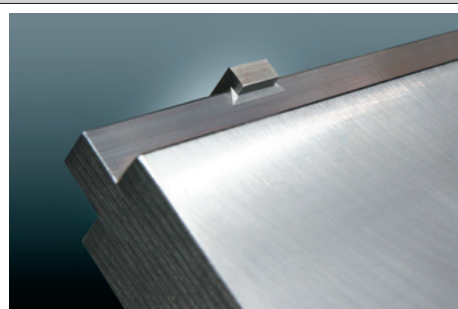
HM-3 HEMMING DIE



RIB DIE

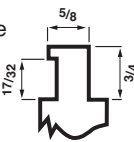


EASY TABS



Easy Tabs are designed to be installed on existing tooling.

- Allows tools to be turned by rotating tab 180°
- Increases safety by preventing larger punches from dropping out when ram clamps are loosened



HM-3 SPECIAL

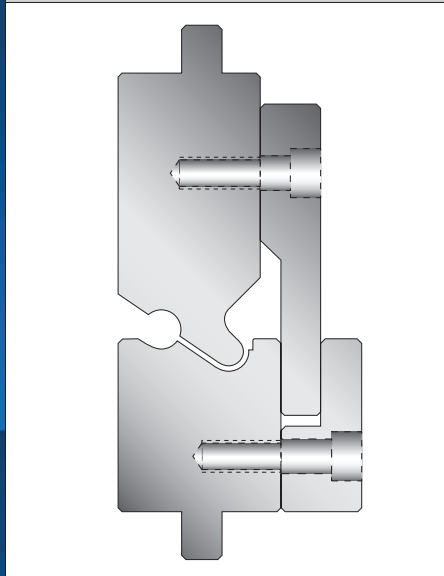


ROTO RIB DIE

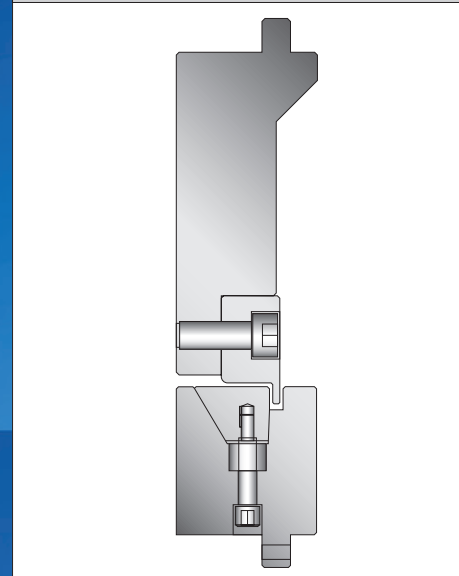


... TO YOUR SPECIFICATIONS

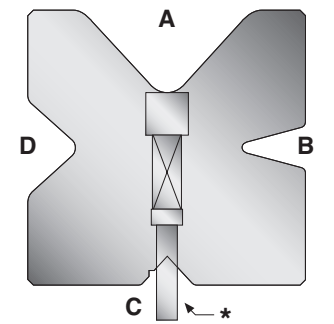
SPECIAL CURLING PUNCH



SPECIAL DOOR FRAME



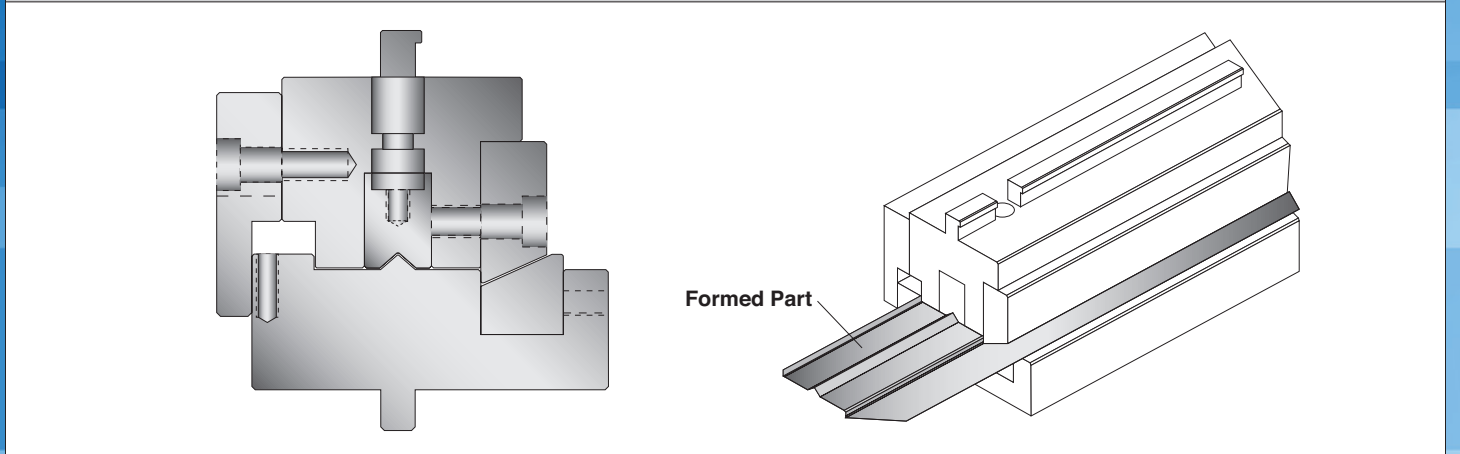
4-WAY 3 – HVAC



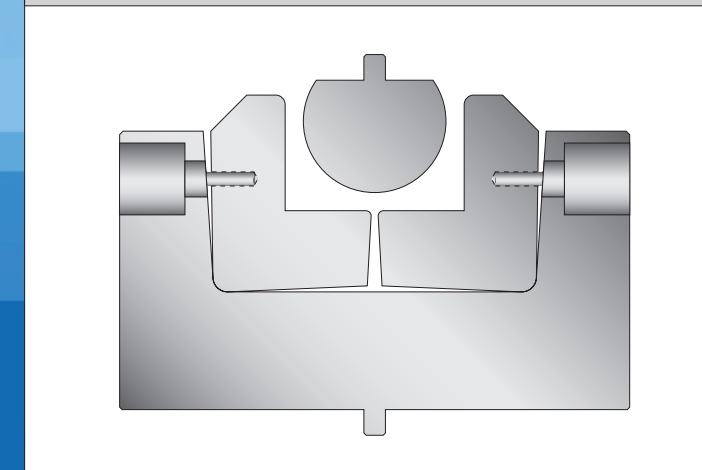
A = 2.000" @ 85°
 B = 0.500" @ 30°
 C = 0.625" @ 85°
 with notch for 1/4" flange
 D = 1.125" @ 85°

* Disappearing Spring Pins for locating sheet metal – 3 total

SPECIAL MULTIPLE HIT FORMING



SPECIAL RADIUS BENDING



DIE POLISHING

As an additional service, we can polish the working surfaces to reduce the risk of galling, dimpling and other markings on your products.

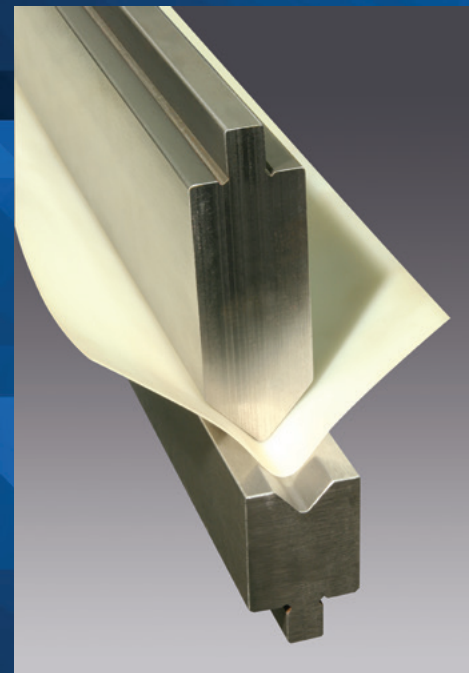
For further protection against marking finished products consider using Urethane Protective Die Film.



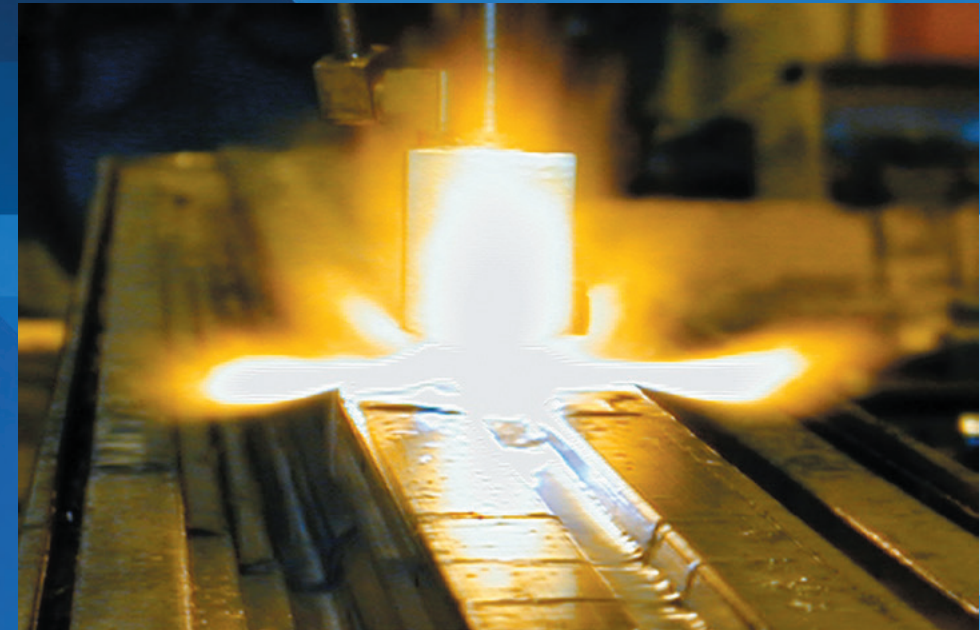
PROTECTIVE DIE FILM

Urethane Protective Die Film is a highly durable material used to act as a barrier against steel on steel rubbing.

This protective film is available in 4" and 6" widths at either .015" or .030" thickness.

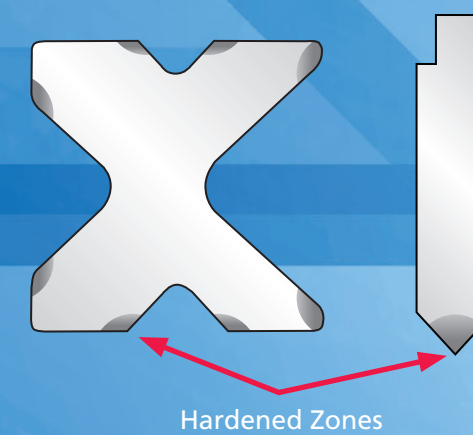


FLAME HARDENING



DOUBLE THE LIFE OF YOUR TOOLS

Get the most from your new tools with factory flame hardening. Flame hardening, a strongly recommended option which increases point of contact hardness to 50-55 HRC, ensures longer tool life – typically upwards of 100% – 300%.



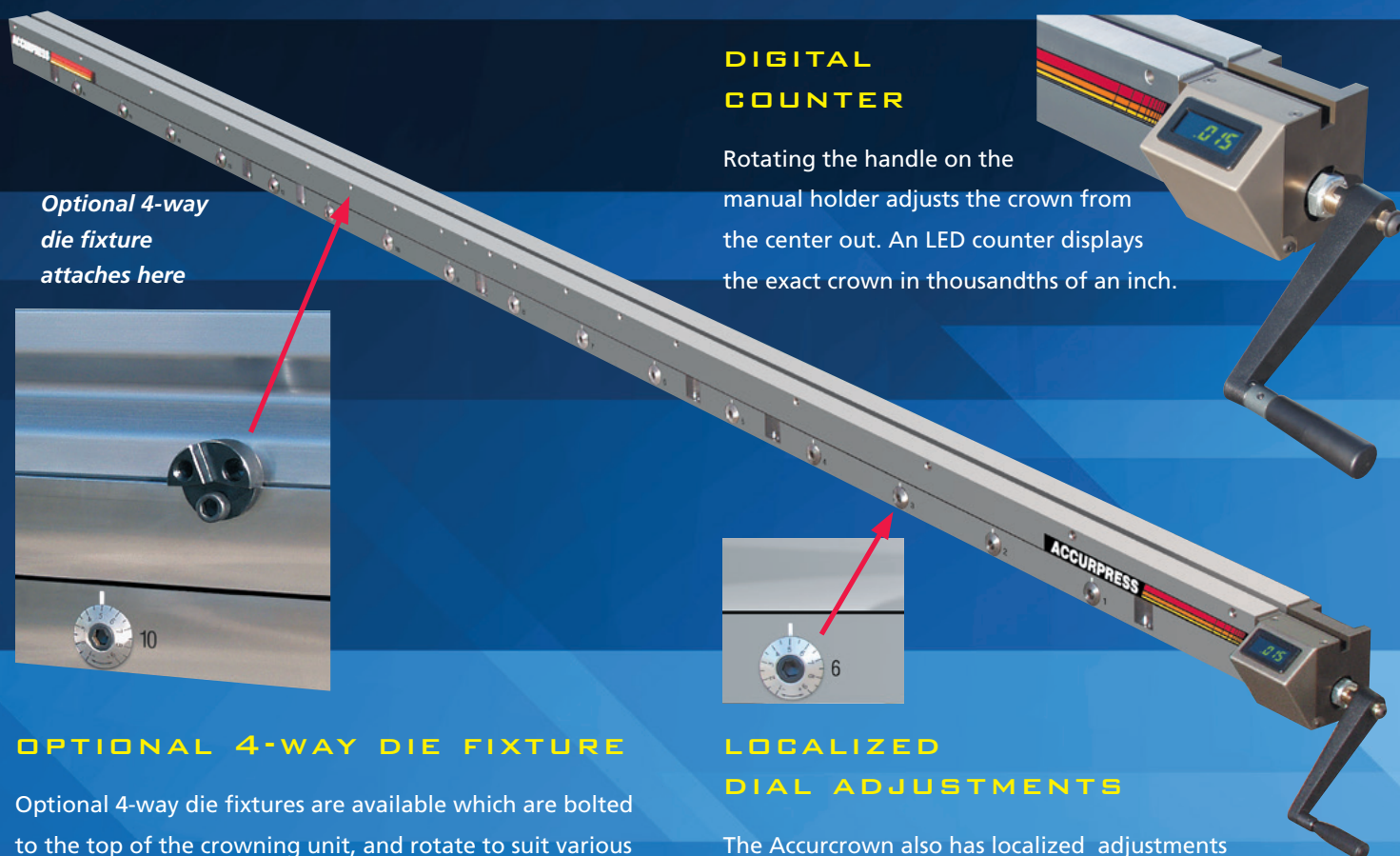
ACCURCROWN... ELIMINATE SHIMMING

REDUCE COSTLY SETUP TIME - INCREASE YOUR PROFITS

Shimming press brake tooling is eliminated when you use an Accurcrown die holder system. The Accurcrown system is manufactured with a series of precision wedges providing a uniform crown, which may be adjusted manually or power interfaced to the Accurpress ETS3000 CNC system.

CROWNING DIE HOLDER SYSTEMS ARE OFFERED IN TWO SIZES

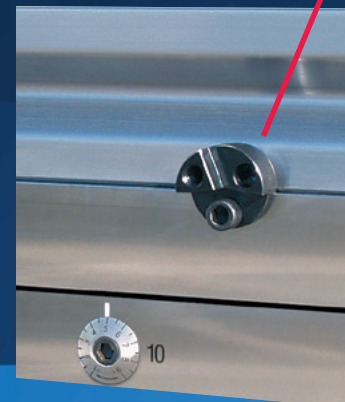
- **3.5" wide x 3.75" high:**
 - Suitable for small to mid-range tonnages
 - Suitable for 4-way block sizes up to 3.25"
- **6.0" wide x 3.75" high:**
 - Suitable for large tonnages
 - Suitable for 4-way block sizes up to 5.75"



DIGITAL COUNTER

Rotating the handle on the manual holder adjusts the crown from the center out. An LED counter displays the exact crown in thousandths of an inch.

Optional 4-way die fixture attaches here



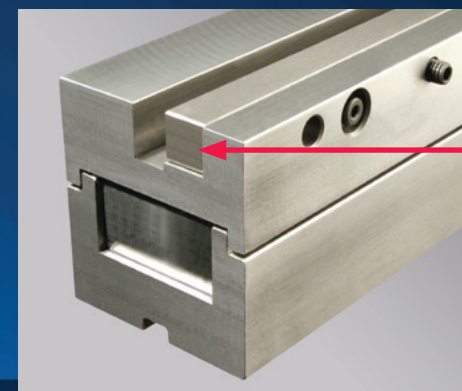
LOCALIZED DIAL ADJUSTMENTS

The Accurcrown also has localized adjustments every 8" – a great feature whereby an operator can adjust for worn tooling or compensate for any tolerances that exist in the press brake bed.

Adjustment is made by simply rotating each dial to raise or lower the crown height at any given point.

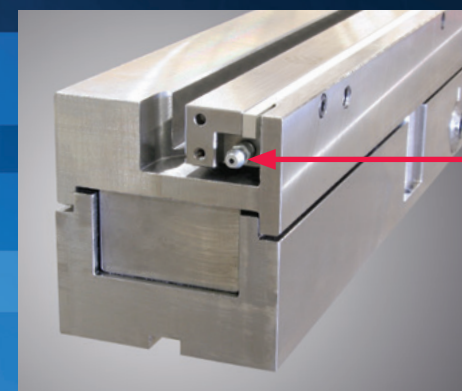
OPTIONAL 4-WAY DIE FIXTURE

Optional 4-way die fixtures are available which are bolted to the top of the crowning unit, and rotate to suit various 4-way tooling sizes.



OPTIONAL CLAMPING BAR CONFIGURATION

The Manual Clamping Bar configuration is a cost effective solution for securing sectionalized lower tooling in the die holder. Clamping Bars are manufactured in 24" lengths.

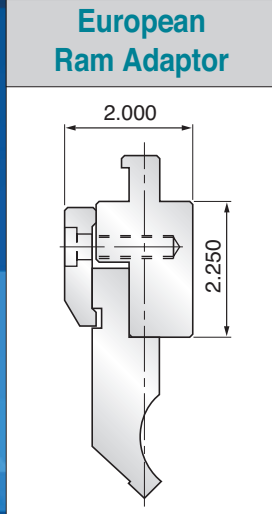


OPTIONAL A-3 HYDRAULIC CLAMPING BAR

The Wila A-3 Hydraulic Clamping Accurcrown features all the items as illustrated and described on page 12 plus... a Wila A-3 Hydraulic Clamping Pin System inserted into the top bar. This unit may be purchased as either manual or CNC crowning.

EUROPEAN RAM ADAPTOR

Accurpress offers the solution for those who wish to utilize their press brake with both American and European style tooling.



This Adaptor, as pictured and illustrated, has an American tang to mount into an American Style ram with the conversion for European style tooling. The advantage of this Adaptor is the short height in order to minimize the loss of ram open/closed height.



GENERAL PURPOSE TOOLING

General Purpose "Planed" Tooling

- Each tool is carefully measured and recorded to ensure our tolerances are the top in its class.
- Available in lengths up to 24'.

General Purpose "Ground" Tooling

- High-end quality for a "General Purpose" price with holding tolerances and finishes that are the best in the industry for this class of tooling.
- Available in lengths up to 20'.

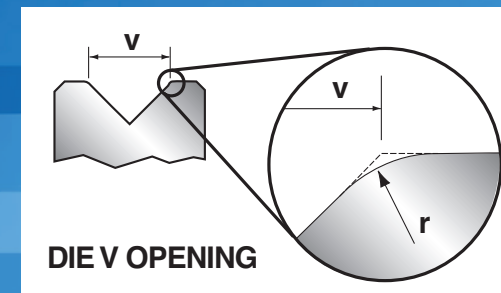
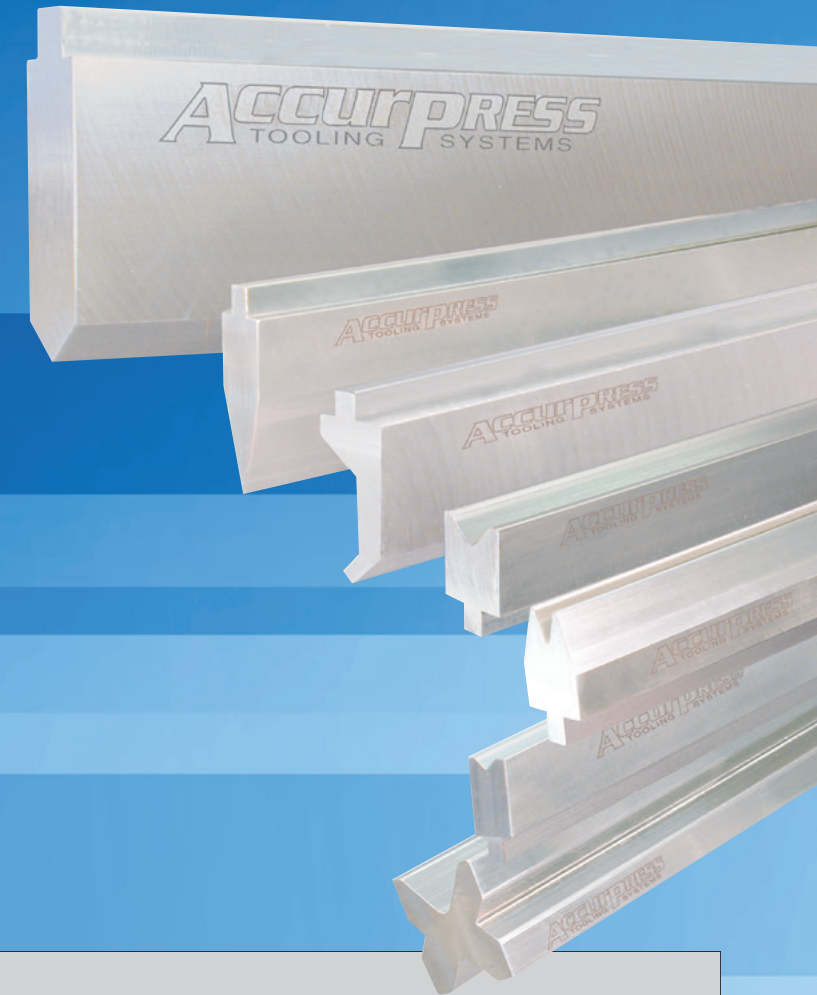
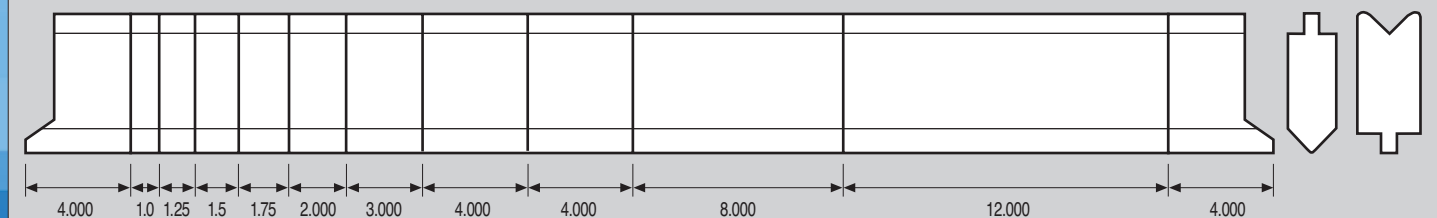


Illustration depicts V opening measurement.

SEGMENTED PUNCH AND DIE

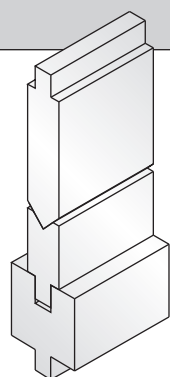


- The tooling segments above will yield tool length combinations starting from 1.0"
- Segmented tooling can be cut and milled to your specifications
- Optional left and right horns available
- Optional 'Easy Tabs' can be added for safety

TOOL SET BUILD GUIDE

DIE HOLDERS & 4-WAY DIES

1 Tool Set Closed Height



Accurpress Tooling Systems offers special, fully customized tooling to fulfill your fabrication requirements. The following guidelines are designed to assist you in the determination of tooling dimensions.

MODEL NUMBER	STROKE	OPEN HEIGHT	CLOSED HEIGHT (T)
725	6"	12"	6"
760 - 7175	8"	14"	6"
7250	8"	16"	8"
7320 - 7500	10"	18"	8"
7600 - 7750	12"	20"	8"
71000	14"	22"	8"

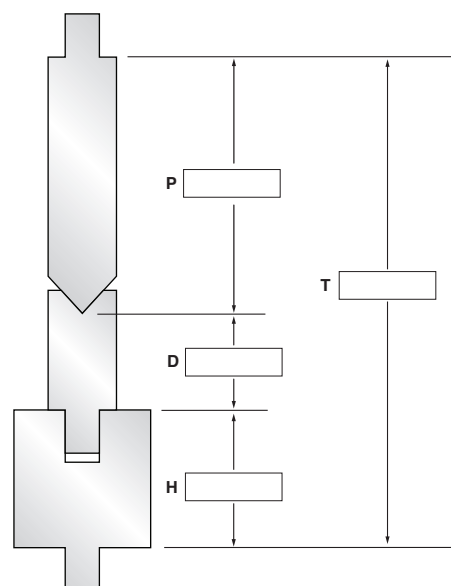
2 Closed Height Formulas

Use the tool set diagram below to determine suitable appropriate tooling sizes. The "T" value in the table above is the closed height of your press brake.

- (H) Die Holder Height $H = T - (P + D)$
- (P) Punch Height $P = T - (D + H)$
- (D) Die Height* $D = T - (P + H)$

*Note: D value on 4-way dies refers to the largest V-opening.

3 Closed Height Diagram

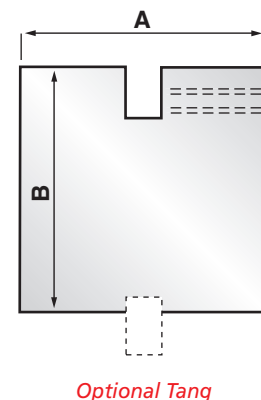


Die Height (D) for Tool Build-up Calculations

Order #	(D)	Order #	(D)	Order #	(D)
L1	1.60"	4W1	1.50"	L30-1	1.45"
L2	1.50"	4W2	1.75"	L30-2	1.25"
L3	1.45"	4W3	2.00"	L30-3	1.05"
L4	1.40"	4W4	2.25"	L30-4	1.35"
L5	1.35"	4W5	2.50"	L30-5	1.15"
L6	1.30"	4W6	2.75"	L30-6	1.50"
L7	1.25"	4W7	3.25"	L30-7	1.45"
L8	1.15"	4W8	3.25"	L30-8	1.50"
L9	1.60"	4W9	4.25"	L30-9	1.35"
L10	1.50"	4W10	4.75"		
L11	1.25"	4W11	6.00"		
L12	1.00"	4W12	7.00"		
L13	1.25"				
L14	2.25"				
L15	2.80"				

Order #	(D)
OS1	2.65"
OS2	2.60"
OS3	2.55"
OS4	2.50"
OS5	2.40"
OS6	2.30"
OS7	2.20"
OS8	2.10"
OS9	2.00"

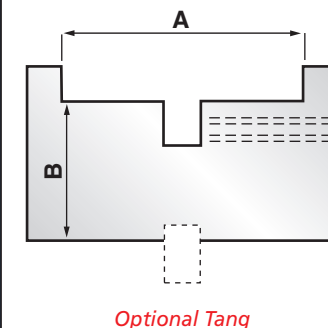
Conventional Die Holders



Order #	A	B
DH2 - 11/2	2"1	1/2"
DH2 - 2	2"	2"
DH2 - 3	2"	3"
DH2 - 4	2"	4"
DH2 - 5	2"	5"
DH3 - 11/2	3"	11/2"
DH3 - 2	3"	2"
DH3 - 3	3"	3"
DH3 - 4	3"	4"
DH3 - 5	3"	5"
DH4 - 2	4"	2"
DH4 - 3	4"	3"
DH4 - 4	4"	4"
DH4 - 5	4"	5"
DH5 - 2	5"	2"
DH5 - 3	5"	3"
DH5 - 4	5"	4"
DH5 - 5	5"	5"
DH6 - 6	6"	6"

Other Sizes on Request

4-Way Holders



These holders fit pictured 4-way dies, plus special sizes listed below right.

Order #	A	B
4WH1 - 2	21/4"	2"
4WH1 - 3	21/4"	3"
4WH2 - 2	23/4"	2"
4WH2 - 3	23/4"	3"
4WH3 - 2	31/4"	2"
4WH3 - 3	31/4"	3"
4WH4 - 2	33/4"	2"
4WH4 - 3	33/4"	3"
4WH5 - 2	41/4"	2"
4WH5 - 3	41/4"	3"
4WH5 - 4	41/4"	4"
4WH6 - 2	43/4"	2"
4WH6 - 3	43/4"	3"
4WH6 - 4	43/4"	4"
4WH7 - 2	51/4"	2"
4WH7 - 3	51/4"	3"
4WH7 - 4	51/4"	4"
4WH8 - 2	53/4"	2"
4WH8 - 3	53/4"	3"
4WH8 - 4	53/4"	4"
4WH9 - 2	63/4"	2"
4WH9 - 3	63/4"	3"
4WH10 - 3	73/4"	3"
4WH11 - 3	10"	3"
4WH12 - 3	12"	3"

Other Sizes on Request

4-Way Dies

Block sizes and openings on 4-way dies can be made to customer specifications, including more than four openings. All openings are 85° unless otherwise specified.

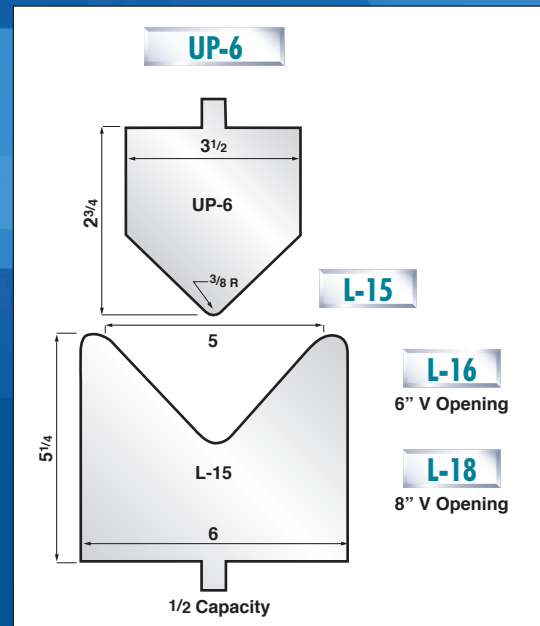
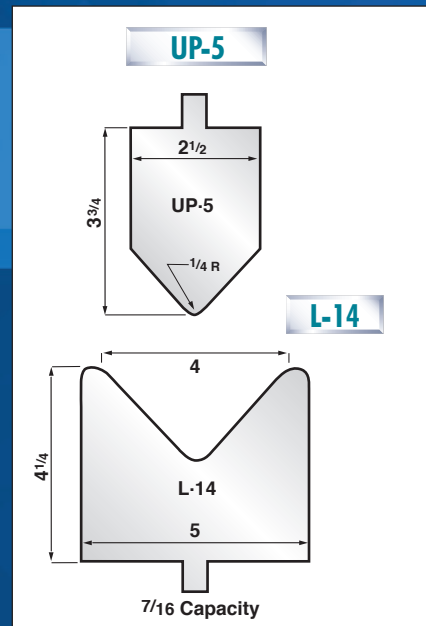
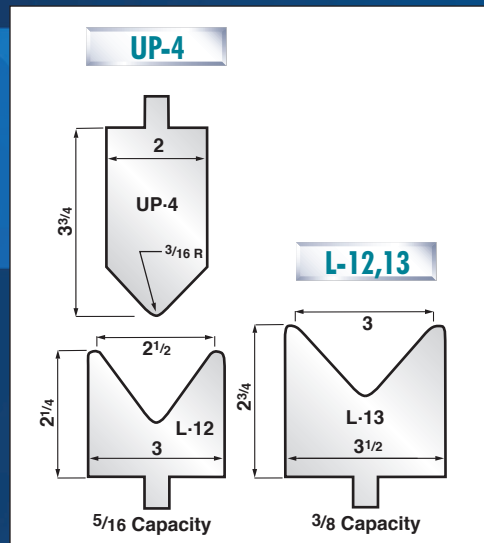
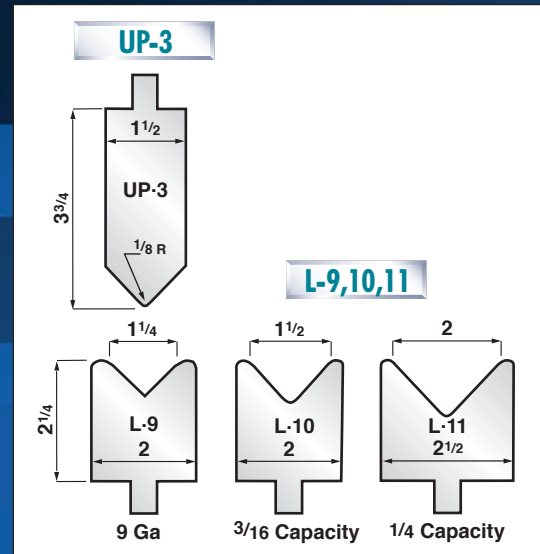
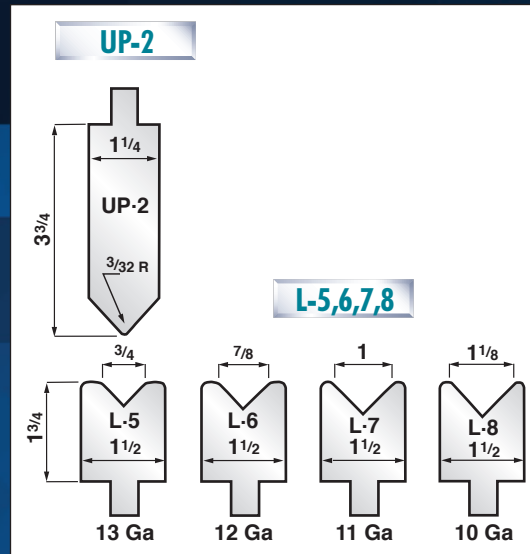
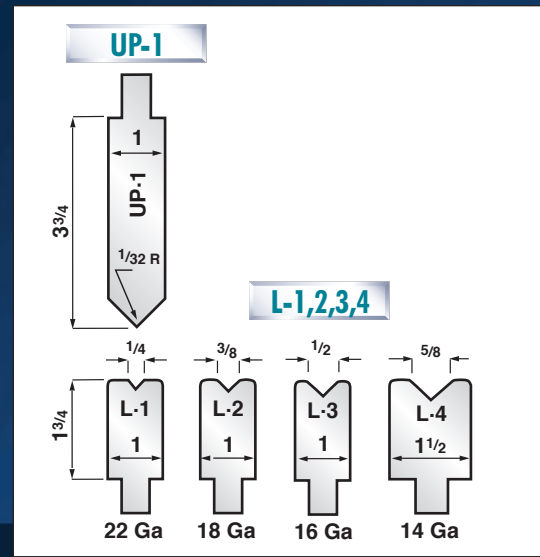
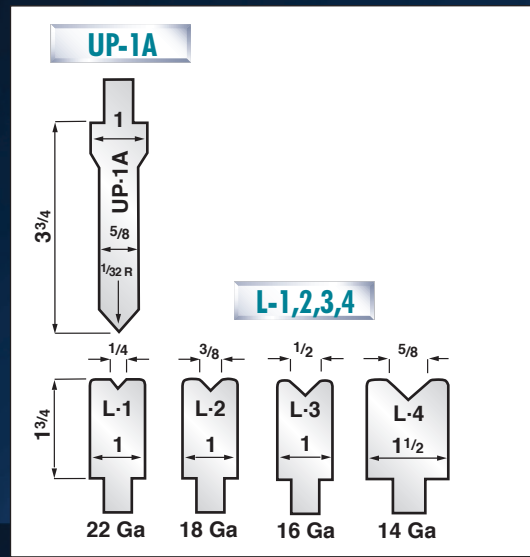
Order #	Dimensions
4W-1	2.25, 1.25, 1.50, 1.00, .75
4W-2	2.75, 1.50, 2.00, 1.00, .75
4W-3	3.25, 2.00, 2.50, 1.50, 1.00
4W-4	3.75, 2.00, 3.00, 1.50, 1.00
4W-5	4.25, 2.50, 3.00, 1.50, 1.00
4W-6	4.75, 3.00, 3.50, 2.00, 1.00
4W-7	5.25, 3.00, 4.00, 2.00, 1.50
4W-8	5.75, 3.50, 5.00, 2.00, 1.50
4W-9	6.75, 3.00, 2.00, 4.00, 5.00
4W-10	7.75, 3.00, 2.00, 4.00, 6.00
4W-11	10.00, 4.00, 2.00, 6.00, 8.00
4W-12	12.00, 4.00, 3.00, 6.00, 10.00

4W-9/10/11/12 not shown to scale

85° TO 90° FORMING PUNCHES & DIES

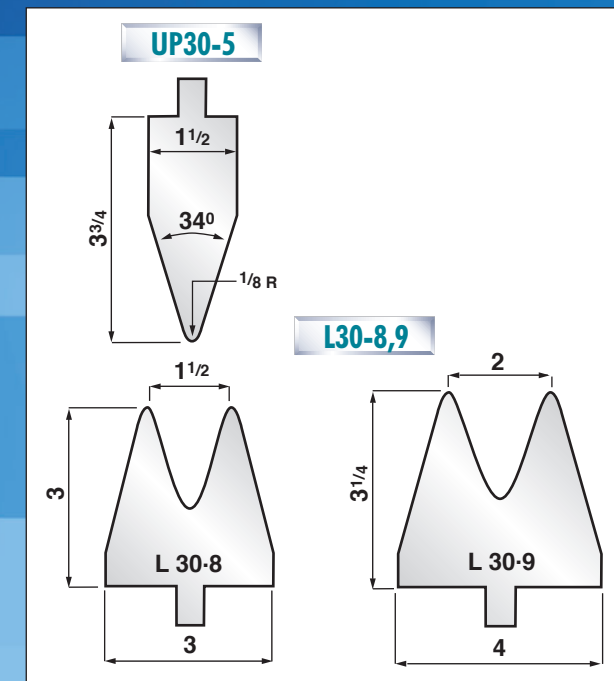
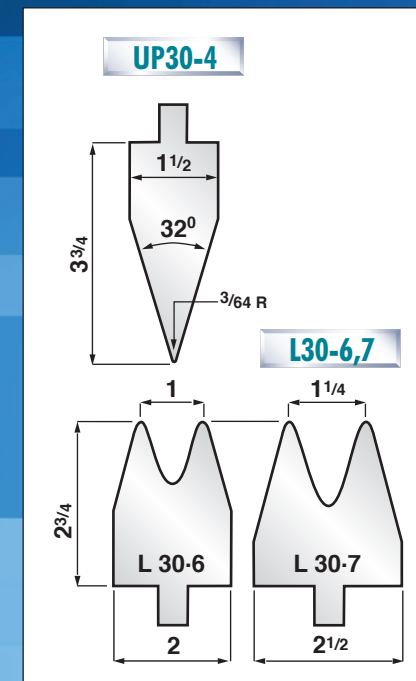
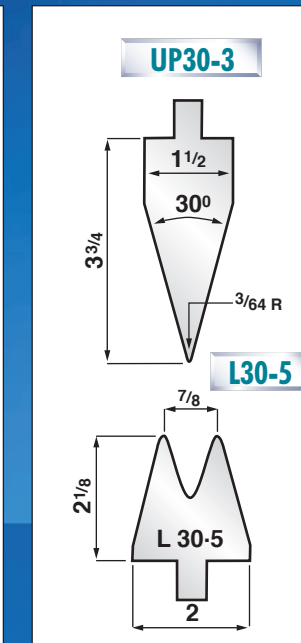
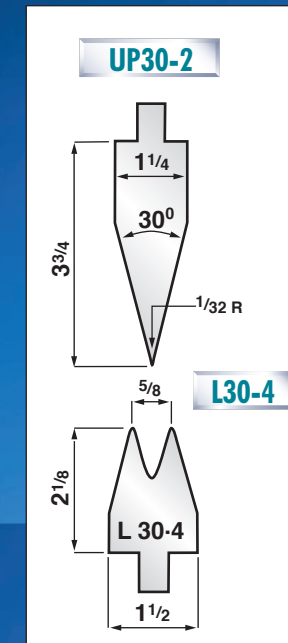
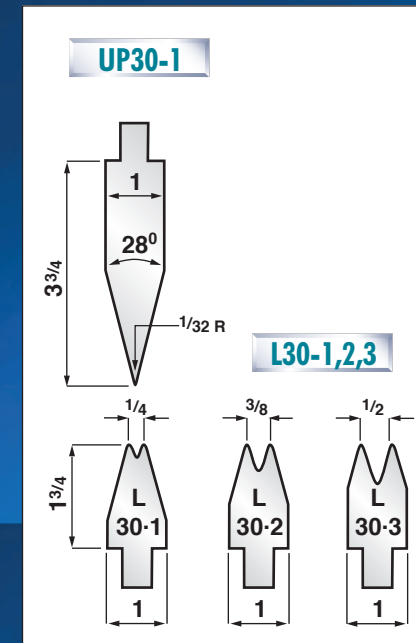
These 85° punch and die combinations are used for air bending techniques.

To produce sharp, close-tolerance bends in light gauges, 90° punch and die combinations must be specified.



30° FORMING PUNCHES & DIES

These dies are used for forming acute angle bends in 22 gauge through to 3/16".

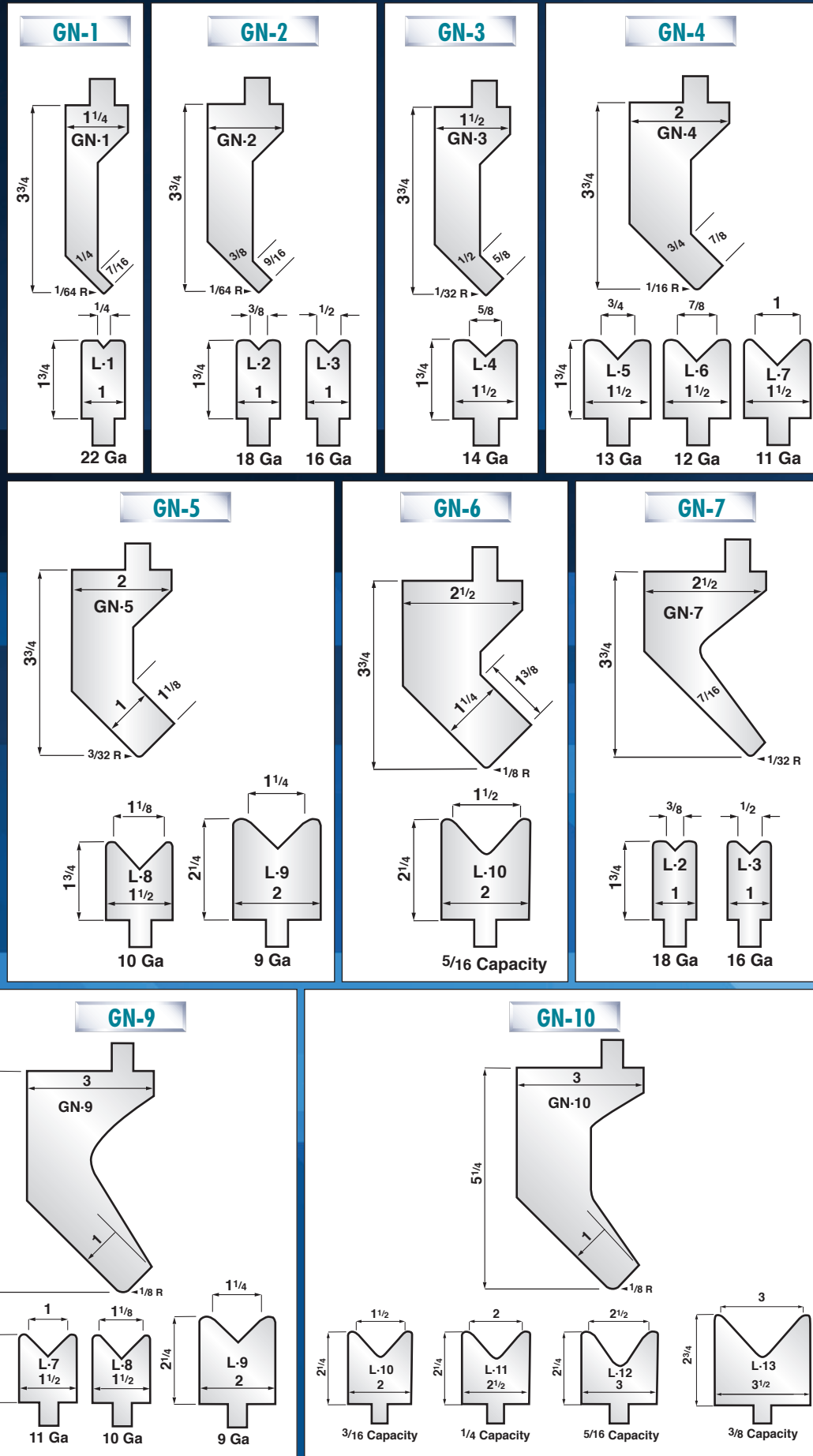


GOOSENECK PUNCHES & DIES

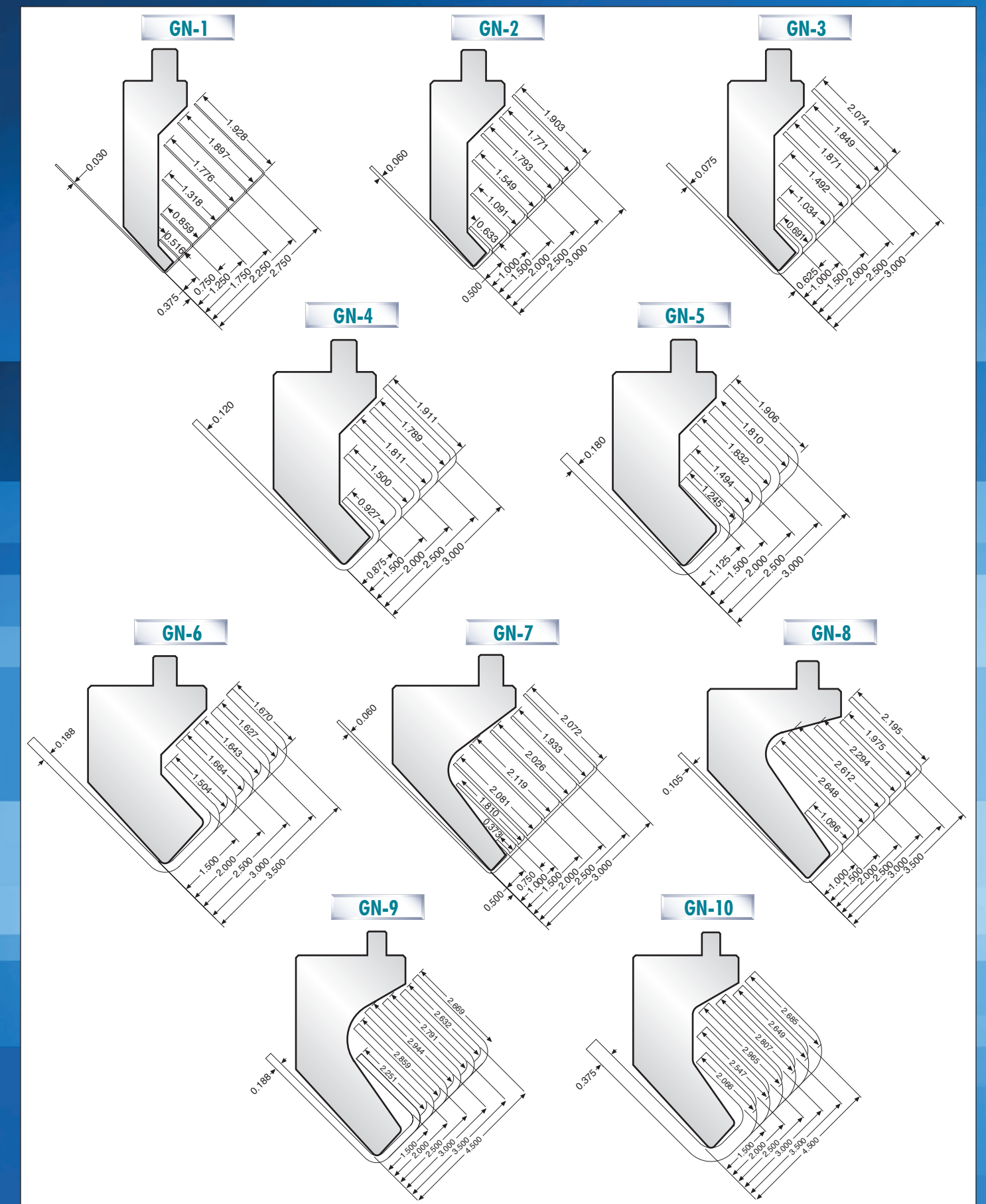
All gooseneck punches and die combinations are machined at 85° for air bend techniques unless otherwise specified.

These punches are used for forming right angle bends, channels, or other special bends where a straight 90° punch would interfere.

GN #7, 8 and 9 punches are cut back further beyond the centerline for a greater flange.



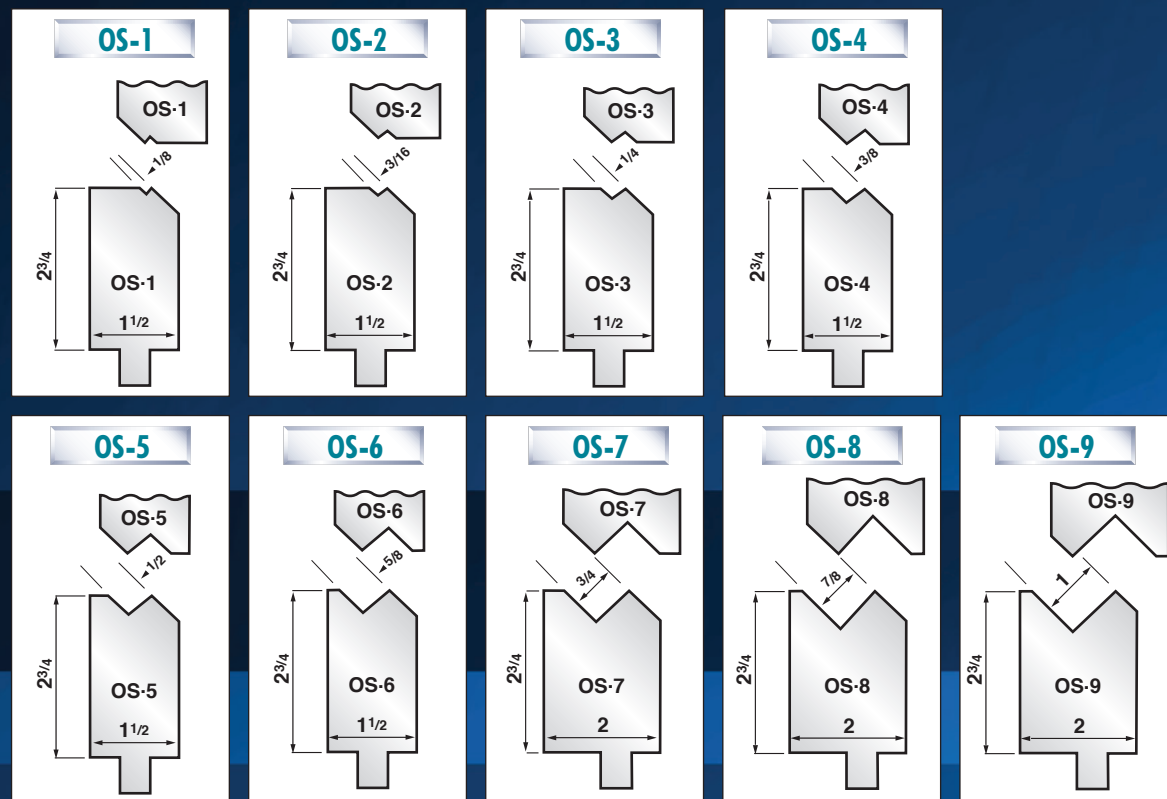
ALLOWABLE RETURN FLANGES



OFFSET DIES

Offset dies are sold in sets.

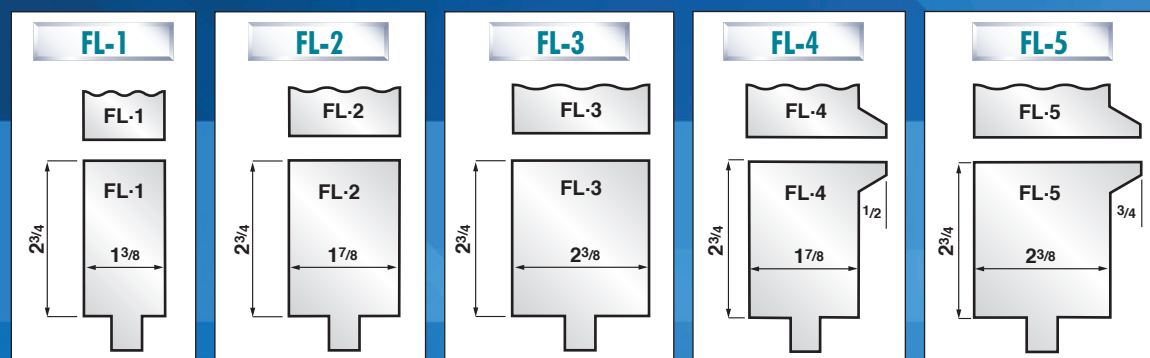
General purpose offset dies form two 90° bends in one stroke.



FLATTENING DIES

Flattening dies are sold in sets.

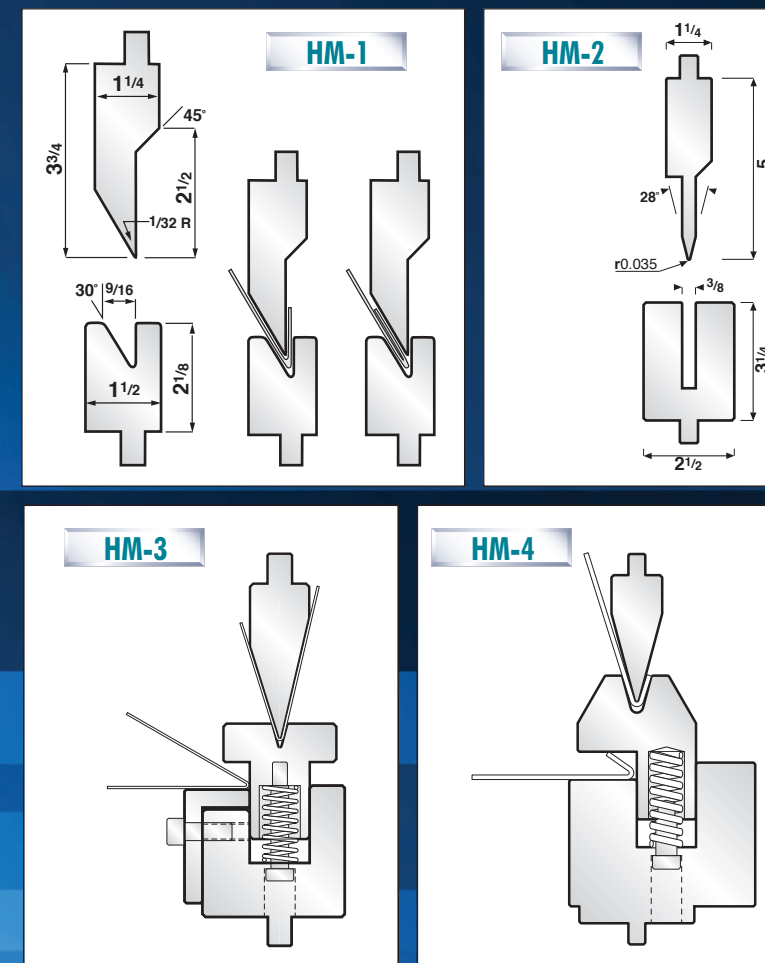
They are used to complete hems, or to close a previously formed angle to a given degree.



HEMMING DIES

These combinations are used for hemming on a two-stroke operation.

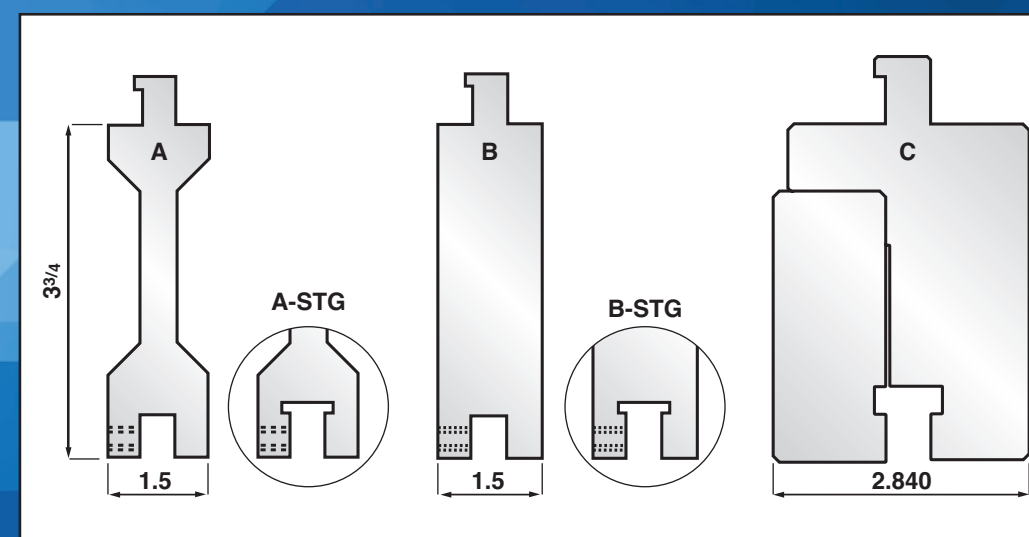
- HM-1 is used to hem 18 gauge or lighter.
- HM-2 is capable of both air-bending and hemming light gauge material.
- HM-3 is for hemming material heavier than 18 gauge.
- HM-4 can be customized to suit individual applications.



RAM ADAPTORS

Ram adaptors may be necessary to fill up die space if ram adjustment is insufficient, or to suit conditions for box forming.

The three styles shown are in 3 3/4" but are available in all heights. They have safety tangs, and are manufactured from 4150 material.





PRECISION TOOLING

The Accurpress Precision Tooling line has been designed and manufactured to fill a void in the current North American tooling market between "general purpose +/- 0.003" and "high-end precision +/- 0.0004" tooling.

Accurpress Precision Tooling is precision grade, holding tolerances at +/- .0008", and sold at very cost effective pricing. These tools come in a maximum length of 515mm (20.28") and are produced on top-of-the-line creep feed grinding machines. Each section is laser etched with a full description of the tool as well as its maximum tonnage/ft rating.

In addition, each section of Precision Tooling comes standard with the working radii induction hardened to a minimum of 50 HRC to ensure long-term performance.

Quality Control

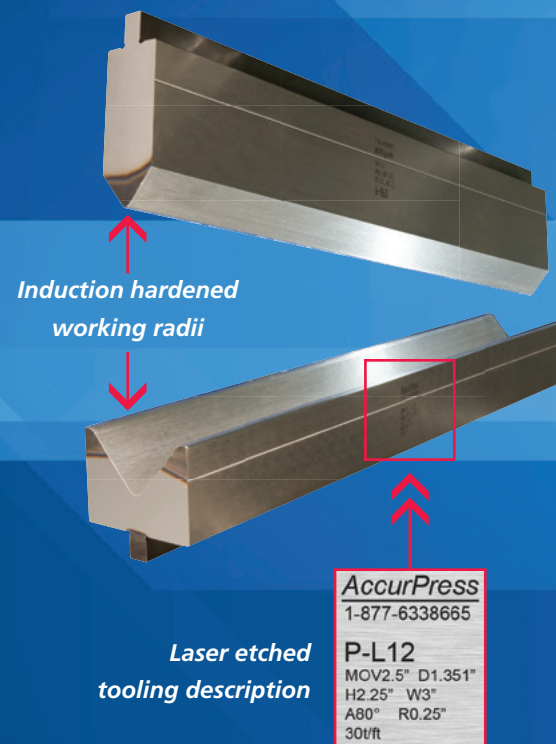
Each section is measured against a master before it is shipped to ensure tolerances are maintained.

Certified Materials

We use only the finest pre-hardened brake die material available to manufacture the Precision line. Base hardness 270 – 300 Brinell, 28 – 32 HRC.

Warranty

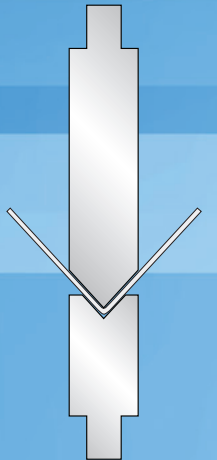
One year on material defect.
 NOTE: The warranty does not cover operator error/misuse (i.e.; Over tonnage situations).



PRECISION 80° FORMING PUNCHES

These 80° punch and die combinations are used for air bending techniques. To produce sharp, close-tolerance bends in light gauges, 90° punch and die combinations must be specified.

Model#	Angle (μ∞)	Radius (r) mm(in)
P-UP1A	80	0.9(0.035)
P-UP1	80	0.9(0.035)
P-UP2	80	2.4(0.093)
P-UP3	80	3.2(0.125)
P-UP4	80	4.7(0.187)
P-UP5-2.75	80	6.3(0.25)
P-UP5-3.75	80	6.3(0.25)
P-UP6-2.75	80	9.4(0.375)
P-UP6-3.75	80	9.4(0.375)



PRECISION 80° DIES

PRECISION 80° DIES

P-L1			P-L2			P-L3			P-L4		
Max Tons: 40/m. 12/ft.			Max Tons: 40/m. 12/ft.			Max Tons: 50/m. 15/ft.			Max Tons: 65/m. 20/ft.		
22 Ga			18 Ga			16 Ga			14 Ga		
Model#	Angle (μ∞)	Radius (r) mm(in)	Model#	Angle (μ∞)	Radius (r) mm(in)	Model#	Angle (μ∞)	Radius (r) mm(in)	Model#	Angle (μ∞)	Radius (r) mm(in)
P-L1	80	0.8(0.035)	P-L2	80	0.8(0.035)	P-L3	80	0.8(0.035)	P-L4	80	1.6(0.065)

P-L9			P-L10			P-L11		
Max Tons: 100/m. 30/ft.			Max Tons: 100/m. 30/ft.			Max Tons: 100/m. 30/ft.		
9 Ga			3/16 Capacity			1/4 Capacity		
Model#	Angle (μ∞)	Radius (r) mm(in)	Model#	Angle (μ∞)	Radius (r) mm(in)	Model#	Angle (μ∞)	Radius (r) mm(in)
P-L9	80	3.2(0.125)	P-L10	80	6.3(0.25)	P-L11	80	6.3(0.25)

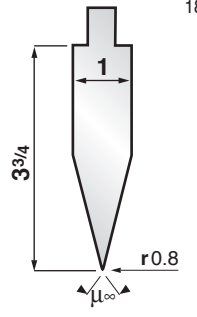
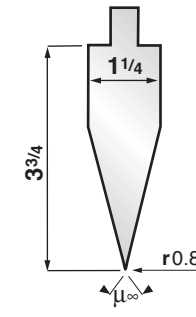
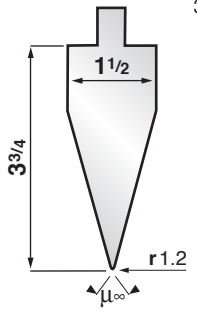
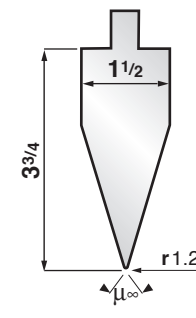
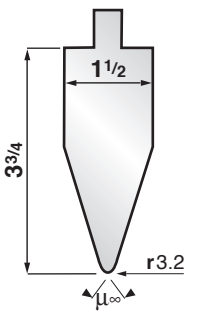
P-L5			P-L6			P-L7			P-L8		
Max Tons: 65/m. 20/ft.			Max Tons: 82/m. 25/ft.			Max Tons: 82/m. 25/ft.			Max Tons: 88/m. 27/ft.		
13 Ga			12 Ga			11 Ga			10 Ga		
Model#	Angle (μ∞)	Radius (r) mm(in)	Model#	Angle (μ∞)	Radius (r) mm(in)	Model#	Angle (μ∞)	Radius (r) mm(in)	Model#	Angle (μ∞)	Radius (r) mm(in)
P-L5	80	3.2(0.125)	P-L6	80	3.2(0.125)	P-L7	80	3.2(0.125)	P-L8	80	3.2(0.125)

P-L12			P-L13			P-L14		
Max Tons: 100/m. 30/ft.			Max Tons: 115/m. 35/ft.			Max Tons: 150/m. 45/ft.		
5/16 Capacity			3/8 Capacity			7/16 Capacity		
Model#	Angle (μ∞)	Radius (r) mm(in)	Model#	Angle (μ∞)	Radius (r) mm(in)	Model#	Angle (μ∞)	Radius (r) mm(in)
P-L12	80	6.3(0.25)	P-L13	80	9.4(0.375)	P-L14	80	1.27(0.50)

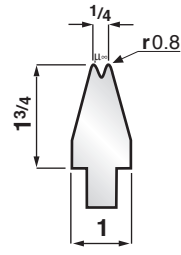
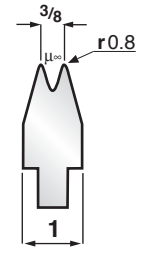
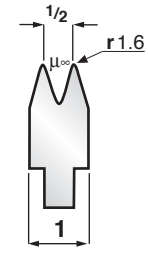
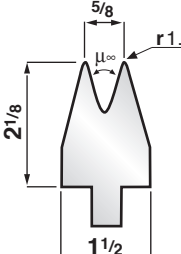
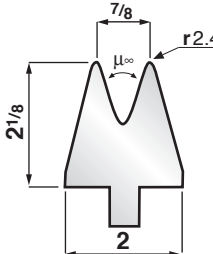
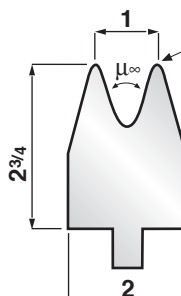
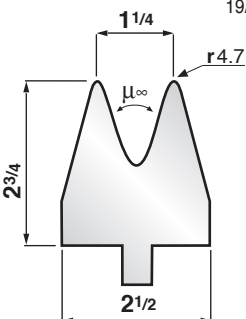
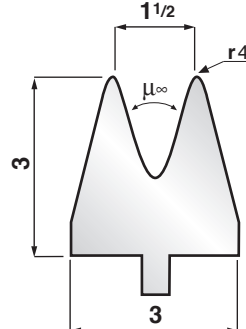
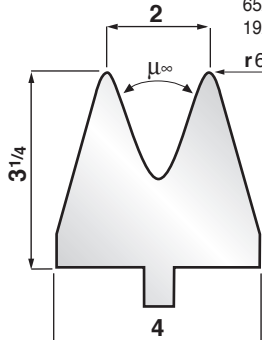
P-L15		
Max Tons: 165/m. 50/ft.		
1/2 Capacity		
Model#	Angle (μ∞)	Radius (r) mm(in)
P-L15	80	1.59(0.625)

PRECISION 30° FORMING PUNCHES

These dies are used for forming acute angle bends in 22 gauge through to 3/16".

P-UP30-1  Max Tons: 60/m. 18/ft.			P-UP30-2  Max Tons: 82/m. 25/ft.			P-UP30-3  Max Tons: 100/m. 30/ft.														
<table border="1"> <thead> <tr> <th>Model#</th> <th>Angle (μ∞)</th> <th>Radius (r) mm(in)</th> </tr> </thead> <tbody> <tr> <td>P-UP30-1</td> <td>28</td> <td>0.8(0.035)</td> </tr> </tbody> </table>	Model#	Angle (μ∞)	Radius (r) mm(in)	P-UP30-1	28	0.8(0.035)	<table border="1"> <thead> <tr> <th>Model#</th> <th>Angle (μ∞)</th> <th>Radius (r) mm(in)</th> </tr> </thead> <tbody> <tr> <td>P-UP30-2</td> <td>30</td> <td>0.8(0.035)</td> </tr> </tbody> </table>	Model#	Angle (μ∞)	Radius (r) mm(in)	P-UP30-2	30	0.8(0.035)	<table border="1"> <thead> <tr> <th>Model#</th> <th>Angle (μ∞)</th> <th>Radius (r) mm(in)</th> </tr> </thead> <tbody> <tr> <td>P-UP30-3</td> <td>30</td> <td>1.2(0.047)</td> </tr> </tbody> </table>	Model#	Angle (μ∞)	Radius (r) mm(in)	P-UP30-3	30	1.2(0.047)
Model#	Angle (μ∞)	Radius (r) mm(in)																		
P-UP30-1	28	0.8(0.035)																		
Model#	Angle (μ∞)	Radius (r) mm(in)																		
P-UP30-2	30	0.8(0.035)																		
Model#	Angle (μ∞)	Radius (r) mm(in)																		
P-UP30-3	30	1.2(0.047)																		
P-UP30-4  Max Tons: 100/m. 30/ft.			P-UP30-5  Max Tons: 150/m. 45/ft.																	
<table border="1"> <thead> <tr> <th>Model#</th> <th>Angle (μ∞)</th> <th>Radius (r) mm(in)</th> </tr> </thead> <tbody> <tr> <td>P-UP30-4</td> <td>32</td> <td>1.2(0.047)</td> </tr> </tbody> </table>	Model#	Angle (μ∞)	Radius (r) mm(in)	P-UP30-4	32	1.2(0.047)	<table border="1"> <thead> <tr> <th>Model#</th> <th>Angle (μ∞)</th> <th>Radius (r) mm(in)</th> </tr> </thead> <tbody> <tr> <td>P-UP30-5</td> <td>34</td> <td>3.2(0.125)</td> </tr> </tbody> </table>	Model#	Angle (μ∞)	Radius (r) mm(in)	P-UP30-5	34	3.2(0.125)							
Model#	Angle (μ∞)	Radius (r) mm(in)																		
P-UP30-4	32	1.2(0.047)																		
Model#	Angle (μ∞)	Radius (r) mm(in)																		
P-UP30-5	34	3.2(0.125)																		

PRECISION 30° DIES

P-L30-1  Max Tons: 26/m. 8/ft.			P-L30-2  Max Tons: 33/m. 10/ft.			P-L30-3  Max Tons: 40/m. 12/ft.														
<table border="1"> <thead> <tr> <th>Model#</th> <th>Angle (μ∞)</th> <th>Radius (r) mm(in)</th> </tr> </thead> <tbody> <tr> <td>P-L30-1</td> <td>28</td> <td>0.8(0.035)</td> </tr> </tbody> </table>	Model#	Angle (μ∞)	Radius (r) mm(in)	P-L30-1	28	0.8(0.035)	<table border="1"> <thead> <tr> <th>Model#</th> <th>Angle (μ∞)</th> <th>Radius (r) mm(in)</th> </tr> </thead> <tbody> <tr> <td>P-L30-2</td> <td>28</td> <td>0.8(0.035)</td> </tr> </tbody> </table>	Model#	Angle (μ∞)	Radius (r) mm(in)	P-L30-2	28	0.8(0.035)	<table border="1"> <thead> <tr> <th>Model#</th> <th>Angle (μ∞)</th> <th>Radius (r) mm(in)</th> </tr> </thead> <tbody> <tr> <td>P-L30-3</td> <td>30</td> <td>1.6(0.065)</td> </tr> </tbody> </table>	Model#	Angle (μ∞)	Radius (r) mm(in)	P-L30-3	30	1.6(0.065)
Model#	Angle (μ∞)	Radius (r) mm(in)																		
P-L30-1	28	0.8(0.035)																		
Model#	Angle (μ∞)	Radius (r) mm(in)																		
P-L30-2	28	0.8(0.035)																		
Model#	Angle (μ∞)	Radius (r) mm(in)																		
P-L30-3	30	1.6(0.065)																		
P-L30-4  Max Tons: 50/m. 15/ft.			P-L30-5  Max Tons: 50/m. 15/ft.			P-L30-6  Max Tons: 65/m. 20/ft.														
<table border="1"> <thead> <tr> <th>Model#</th> <th>Angle (μ∞)</th> <th>Radius (r) mm(in)</th> </tr> </thead> <tbody> <tr> <td>P-L30-4</td> <td>30</td> <td>1.6(0.065)</td> </tr> </tbody> </table>	Model#	Angle (μ∞)	Radius (r) mm(in)	P-L30-4	30	1.6(0.065)	<table border="1"> <thead> <tr> <th>Model#</th> <th>Angle (μ∞)</th> <th>Radius (r) mm(in)</th> </tr> </thead> <tbody> <tr> <td>P-L30-5</td> <td>32</td> <td>2.4(0.093)</td> </tr> </tbody> </table>	Model#	Angle (μ∞)	Radius (r) mm(in)	P-L30-5	32	2.4(0.093)	<table border="1"> <thead> <tr> <th>Model#</th> <th>Angle (μ∞)</th> <th>Radius (r) mm(in)</th> </tr> </thead> <tbody> <tr> <td>P-L30-6</td> <td>32</td> <td>3.2(0.125)</td> </tr> </tbody> </table>	Model#	Angle (μ∞)	Radius (r) mm(in)	P-L30-6	32	3.2(0.125)
Model#	Angle (μ∞)	Radius (r) mm(in)																		
P-L30-4	30	1.6(0.065)																		
Model#	Angle (μ∞)	Radius (r) mm(in)																		
P-L30-5	32	2.4(0.093)																		
Model#	Angle (μ∞)	Radius (r) mm(in)																		
P-L30-6	32	3.2(0.125)																		
P-L30-7  Max Tons: 65/m. 19/ft.			P-L30-8  Max Tons: 65/m. 19/ft.			P-L30-9  Max Tons: 65/m. 19/ft.														
<table border="1"> <thead> <tr> <th>Model#</th> <th>Angle (μ∞)</th> <th>Radius (r) mm(in)</th> </tr> </thead> <tbody> <tr> <td>P-L30-7</td> <td>34</td> <td>4.7(0.187)</td> </tr> </tbody> </table>	Model#	Angle (μ∞)	Radius (r) mm(in)	P-L30-7	34	4.7(0.187)	<table border="1"> <thead> <tr> <th>Model#</th> <th>Angle (μ∞)</th> <th>Radius (r) mm(in)</th> </tr> </thead> <tbody> <tr> <td>P-L30-8</td> <td>36</td> <td>4.7(0.187)</td> </tr> </tbody> </table>	Model#	Angle (μ∞)	Radius (r) mm(in)	P-L30-8	36	4.7(0.187)	<table border="1"> <thead> <tr> <th>Model#</th> <th>Angle (μ∞)</th> <th>Radius (r) mm(in)</th> </tr> </thead> <tbody> <tr> <td>P-L30-9</td> <td>38</td> <td>6.3(0.250)</td> </tr> </tbody> </table>	Model#	Angle (μ∞)	Radius (r) mm(in)	P-L30-9	38	6.3(0.250)
Model#	Angle (μ∞)	Radius (r) mm(in)																		
P-L30-7	34	4.7(0.187)																		
Model#	Angle (μ∞)	Radius (r) mm(in)																		
P-L30-8	36	4.7(0.187)																		
Model#	Angle (μ∞)	Radius (r) mm(in)																		
P-L30-9	38	6.3(0.250)																		

PRECISION GOOSENECK PUNCHES

All gooseneck punches and die combinations are machined at 80° for air bend techniques unless otherwise specified. These punches are used for forming right angle bends, channels, or other special bends where a straight 90° punch would interfere.

PRECISION GOOSENECK PUNCHES

P-GN7, P-GN8 and P-GN9 punches are cut back further beyond the centerline for a greater flange.

P-GN1

Max Tons:
33/m.
10/ft.

Model#	Angle (μ∞)	Radius (r) mm(in)
P-GN1	80	0.4(0.016)

P-GN2

Max Tons:
40/m.
12/ft.

Model#	Angle (μ∞)	Radius (r) mm(in)
P-GN2	80	0.4(0.016)

P-GN6

Max Tons:
150/m.
45/ft.

Model#	Angle (μ∞)	Radius (r) mm(in)
P-GN6	80	3.2(0.125)

P-GN7

Max Tons:
50/m.
15/ft.

Model#	Angle (μ∞)	Radius (r) mm(in)
P-GN7	80	0.8(0.035)

P-GN3

Max Tons:
60/m.
18/ft.

Model#	Angle (μ∞)	Radius (r) mm(in)
P-GN3	80	0.8(0.035)

P-GN4

Max Tons:
82/m.
25/ft.

Model#	Angle (μ∞)	Radius (r) mm(in)
P-GN4	80	1.6(0.065)

P-GN8

Max Tons:
60/m.
18/ft.

Model#	Angle (μ∞)	Radius (r) mm(in)
P-GN8	80	1.6(0.065)

P-GN9

Max Tons:
115/m.
35/ft.

Model#	Angle (μ∞)	Radius (r) mm(in)
P-GN9	80	3.2(0.125)

P-GN5

Max Tons:
115/m.
35/ft.

Model#	Angle (μ∞)	Radius (r) mm(in)
P-GN5	80	2.4(0.093)

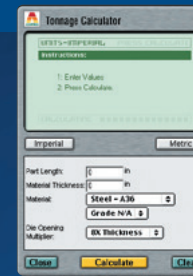
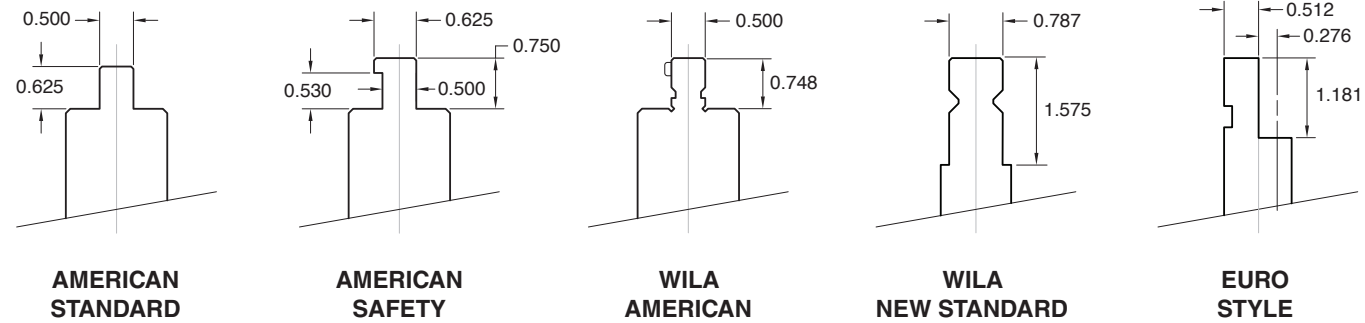
P-GN10

Max Tons:
130/m.
40/ft.

Model#	Angle (μ∞)	Radius (r) mm(in)
P-GN10	80	3.2(0.125)



TANG CONFIGURATIONS



TONNAGE CHART

Accurate tonnage requirements and recommended model selections, based on a wide range of materials, can be determined by using the Accurpress Tonnage Calculator, which can be accessed online, at www.accurpress.com

MILD STEEL BENDING TONNAGES

The chart below illustrates the appropriate tonnages to air bend mild steel with 60,000 p.s.i. tensile properties. It must be noted that most North American steel mills are producing harder metals with typical mechanical properties of 44,000 p.s.i. yield and up to 80,000 p.s.i. tensile strengths. The tonnages required to form these metals are substantially higher and must be taken into consideration in the selection of a press brake. With an eight-to-one die ratio, the inside radius of a right angle bend is approximately equal to the thickness of the metal. The bending forces for mild steel are shown on the chart below.

The tonnages required to form these metals are substantially higher and must be taken into consideration in the selection of a press brake. With an eight

BENDING FORCES FOR OTHER METALS

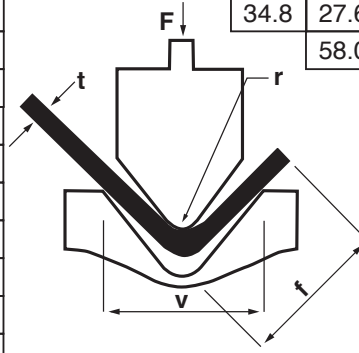
Soft brass, soft aluminum 50% of Force Shown
 Aluminum alloys heat treated Same as Mild Steel
 Stainless 50% more than Steel

BENDING FORCES FOR OTHER METALS

Tonnage requirements are three to five times greater than for air bending. Coining is normally done in very high precision environments and on light gauge materials only.

Force to Air-Bend Mild Steel (60,000 PSI)
 F = U.S. tons/lineal ft. of workpiece
 All Dimensions in Inches

t ga.	v in.	1/4	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	v																													
		f	3/16	9/32	11/32	7/16	9/16	11/16	7/8	1 1/8	1 3/8	1 3/4	2 3/16	2 13/16	3 1/2	4 1/2	5 1/2	6 7/8	f																												
r	1/32	1/16	5/64	7/64	9/64	5/32	13/64	1/4	5/16	13/32	33/64	5/8	3/4	1 1/32	15/16	15/8	ga.																														
20	0.036	3.1	1.75	1.2	For steel of different tensile strength, F value differs in proportion to strength ratio. Inside radius r for mild steel, is about 5/32 of female die opening v, for any t. Shaded F values are for v = 8t, common for average 90° bending. For t = 1/2 inch or more, use v = 10t.														20																												
18	0.048	5.4	3.1	2.1															1.55	1.3	F Values														18												
16	0.060	9.6	5.5	3.8															2.8	2.2	1.45															16											
14	0.075		9.3	6.4															4.7	3.8	2.5	1.85															14										
12	0.105		20.5	14.0															10.4	8.1	5.6	4.1	3.2	2.2															12								
11	0.120			18.5															13.9	10.9	7.4	5.6	4.3	2.9	2.15															11							
10	0.135			25.2															17.2	14.5	9.9	7.3	5.7	3.8	2.85	2.23															10						
3/16	0.188																		34.8	27.6	19.1	13.9	11.0	7.5	5.6	4.3															3/16						
1/4	0.250																			58.0	39.5	29.0	22.8	15.5	11.4	8.9	6.1	4.5															1/4				
5/16	0.313																				69.5	51.0	40.0	27.0	20.0	15.6	10.5	7.8	6.1															5/16			
3/8	0.375																					75.0	59.0	40.0	29.5	23.4	15.8	11.7	9.2	6.2	4.6															3/8	
7/16	0.438																						115.0	90.0	61.0	45.5	35.2	24.0	17.8	13.9	9.4	6.9															7/16
1/2	0.500																							85.0	62.0	44.3	33.0	24.5	19.1	13.0	9.8															1/2	
5/8	0.625																								86.0	58.0	43.0	34.0	23.2	17.5															5/8		
3/4	0.750																									91.0	67.0	53.0	36.4	26.7															3/4		
7/8	0.875																										136.0	101.0	79.0	54.0	40.0															7/8	
1	1.000													146.0	115.0	68.0	58.0															1															



t = Workpiece thickness
 r = Inside radius of formed part
 v = Vee-die opening
 f = Minimum flange

SAFETY WARNING

Press brake tooling is used in combination with sophisticated machinery and high hydraulic pressure, a situation in which misuse may lead to serious personal injury.

To prevent injury:

- Never use our dies in equipment which lacks the proper safeguards to prevent the user's hands or body parts from entering or remaining in the die space while the equipment is in motion.
- Fully familiarize the die setter with the press brake or machine manual.
- Ensure all points of operation guards are operational and in place, preventing users from exposing any part of their person to the closing on the machine or press brake.
- Supply hand tools for inserting, holding, or removing material, keeping hands at a safe distance.
- Provide users with training in safety practices and procedures. Insist these be followed. Monitor for compliance.
- Ensure dies are being installed and operated per the instruction manual for the brand and make of machine used.

It is our responsibility to produce tooling and dies from quality materials to high standards of manufacturing performance.

It is the user's responsibility to employ them in proper application with due regard to safety.



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