

www.CETOOLING.com Section 10s

PRESS BRAKE TOOLING

SOURCE CATALOG FOR AMERICAN STYLE

=ISO 9001/2000=

Product of USA

90° Forming Punches and Dies

These punches and dies are the most widely used to form 90° and greater bends. By adjusting the ram, the depth of punch travel can be regulated to produce the desired angle of bend. The U-2 punch is used to form longer return bends; in addition the width of the U-2 punch is narrowed to form a short flange.

- Punches and dies are available from stock.
- Can be used for air bending or bottom bending.
- Can be modified to a special angle or radius.
- Can be sectionalized to fit your needs.

←1→

L-2 22 Gauge

R-1/32-

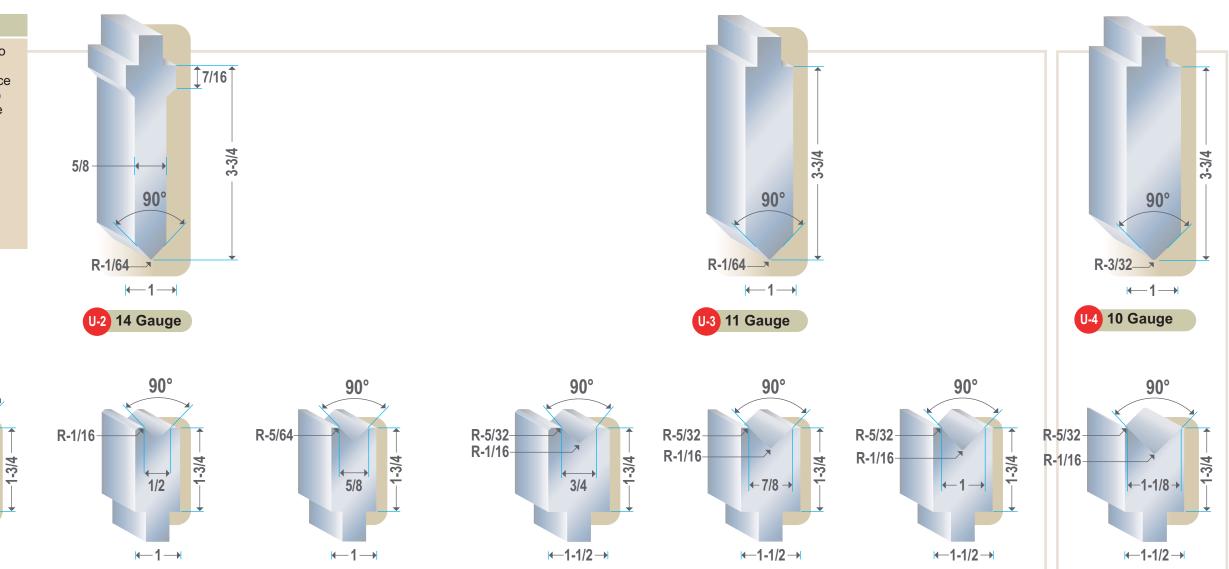
Used for forming 10-gauge and lighter material.

R-3/64-

↔ 3/8

←1→

L-3 18 Gauge



12 Gauge

L-6 13 Gauge





L4 16 Gauge





L-5 14 Gauge

L-9 10 Gauge

L-8 11 Gauge

90° Forming Punches and Dies

These punches and dies are used for air bending heavier gauges of material. Air bending will minimize the press brake load and material fracture.

- Punches and dies are available from stock.
- Can be modified to a special angle or radius.
- Can be sectionalized to fit your needs.
- Used for forming 9-gauge and heavier material.

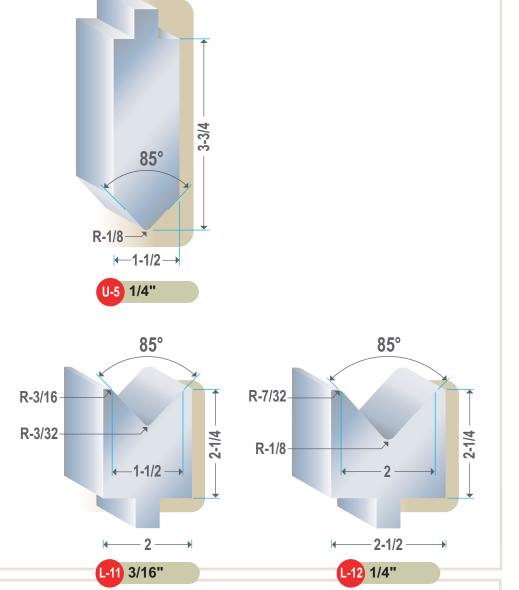
R-3/16

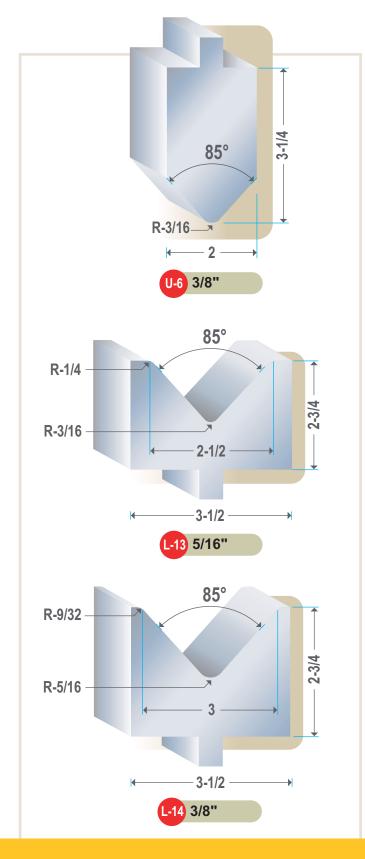
R-3/32

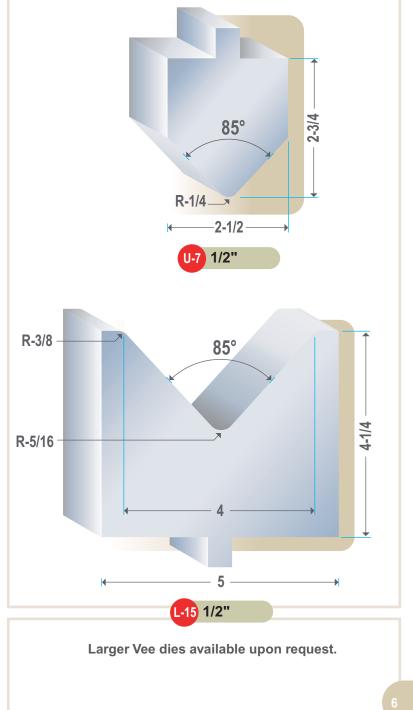
85°

←1-1/4 →

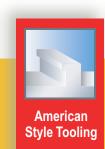
L-10 9 Gauge











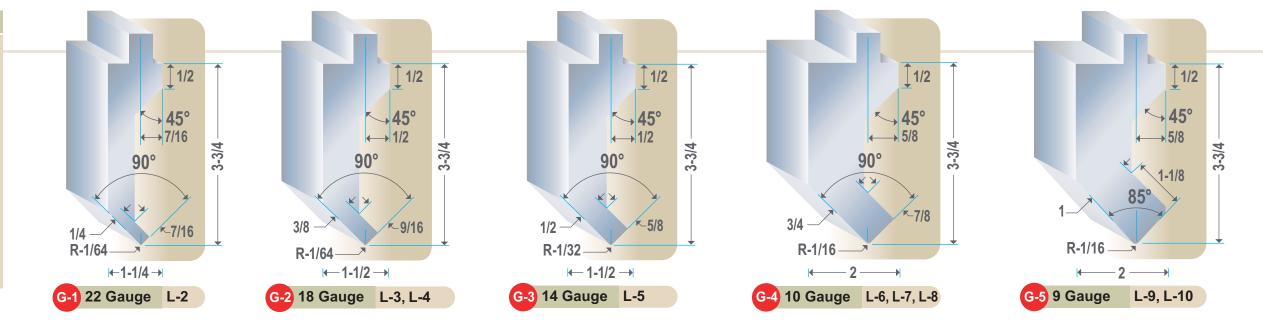


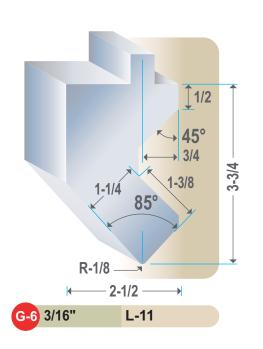


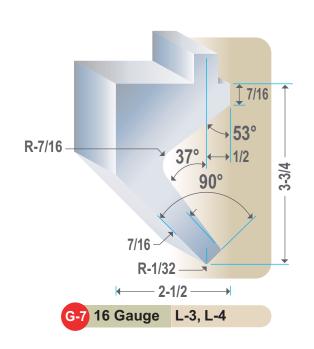
Gooseneck Punches

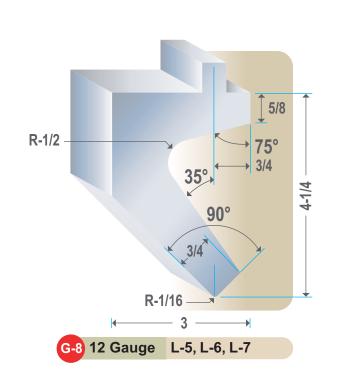
Gooseneck punches are used to form a channel in two strokes of the press brake. In addition special shapes where 90° punch would interfere can also be formed. The Gooseneck punches G-6, G-7, G-8, G-9 are cut back beyond centerline allowing longer return flanges. Because of the taper on the inside of the Gooseneck the width of the channel must be increased.

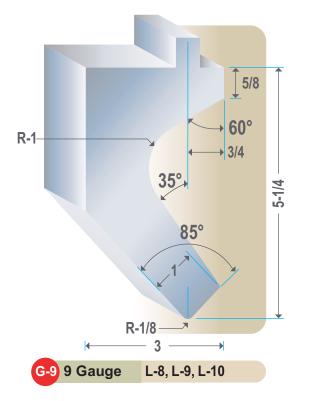
- Punches and dies are available from stock.
- Use to form a channel in two strokes of the press brake.
- Can be used for air bending or bottom bending.
- Can be modified to a special angle or radius.
- Can be sectionalized to fit your needs.

















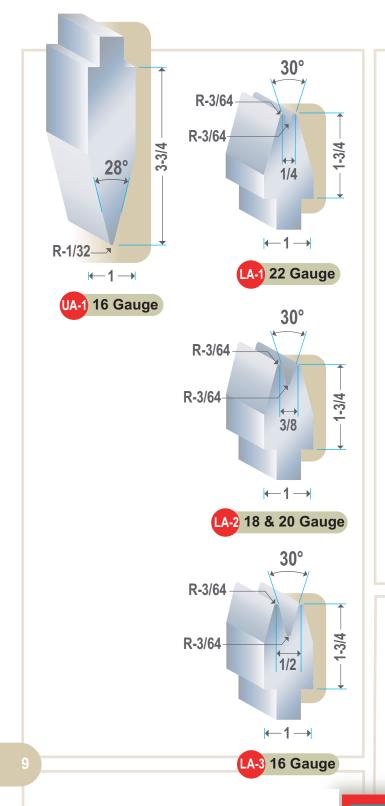


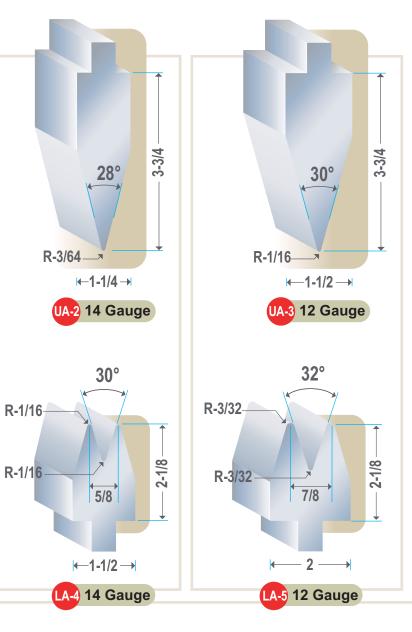
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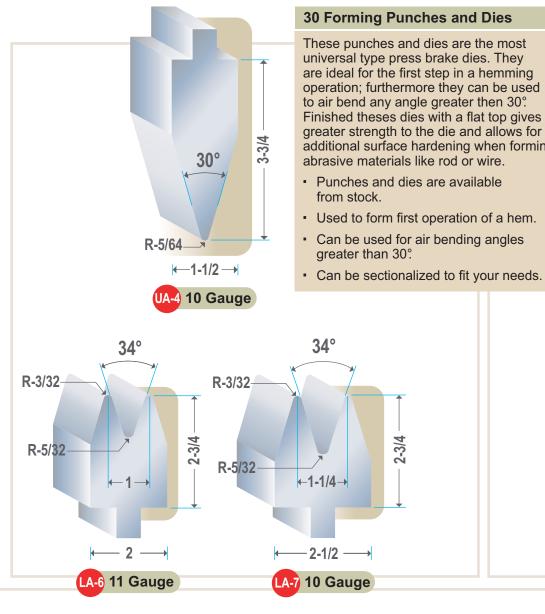


Forming Punches and



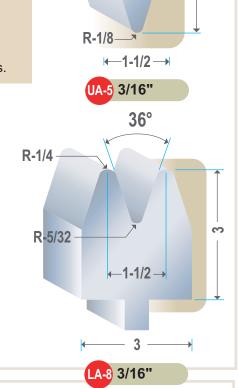






These punches and dies are the most universal type press brake dies. They are ideal for the first step in a hemming operation; furthermore they can be used to air bend any angle greater then 30°. Finished theses dies with a flat top gives greater strength to the die and allows for additional surface hardening when forming abrasive materials like rod or wire.

- Used to form first operation of a hem.
- Can be used for air bending angles



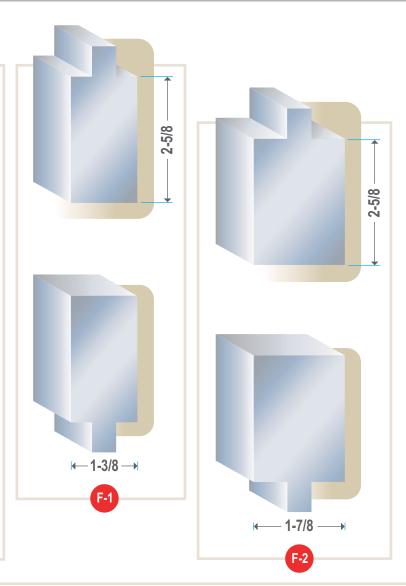
34°

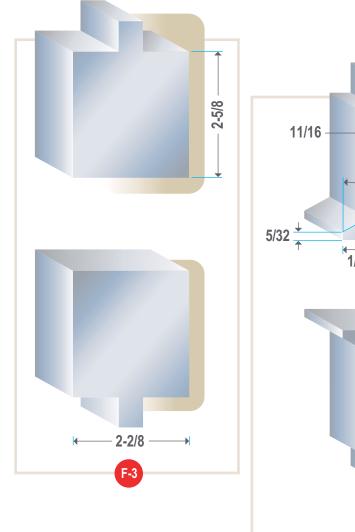


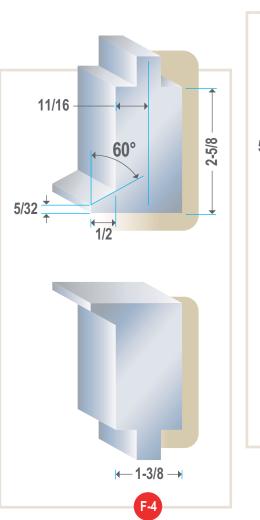
Flattening Dies

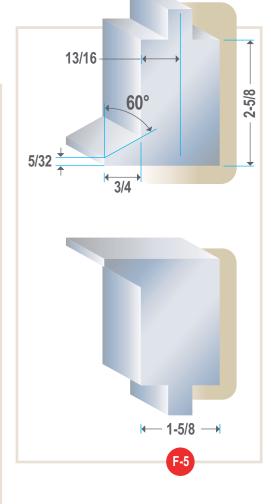
Flattening dies are used in the final operation to close a teardrop hem or a crushed hem.

- Punches and dies are available from stock.
- Used to form an open or closed hem.
- Used to close a standing seam.
- Can be sectionalized to fit your needs.









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Standard **Style Tooling**

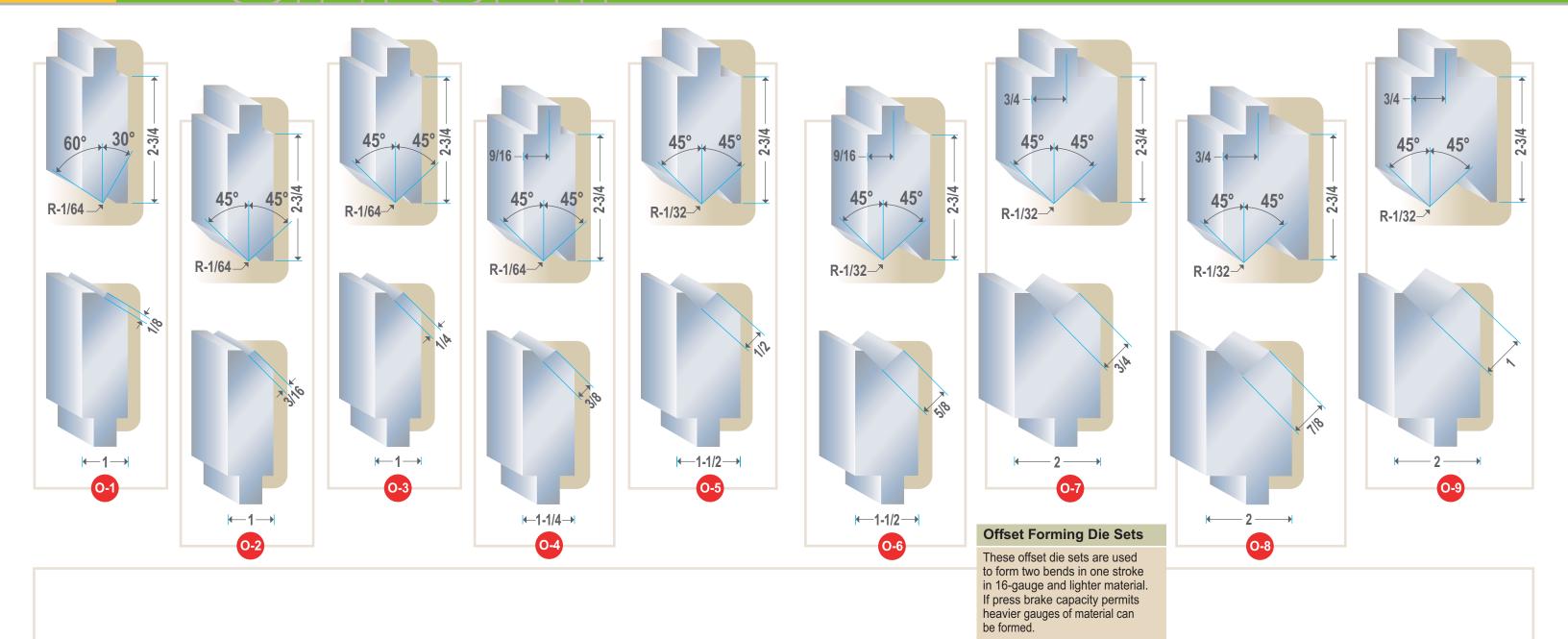








Offset Forming Dies



Die sets available from stock.Can be used for air bending

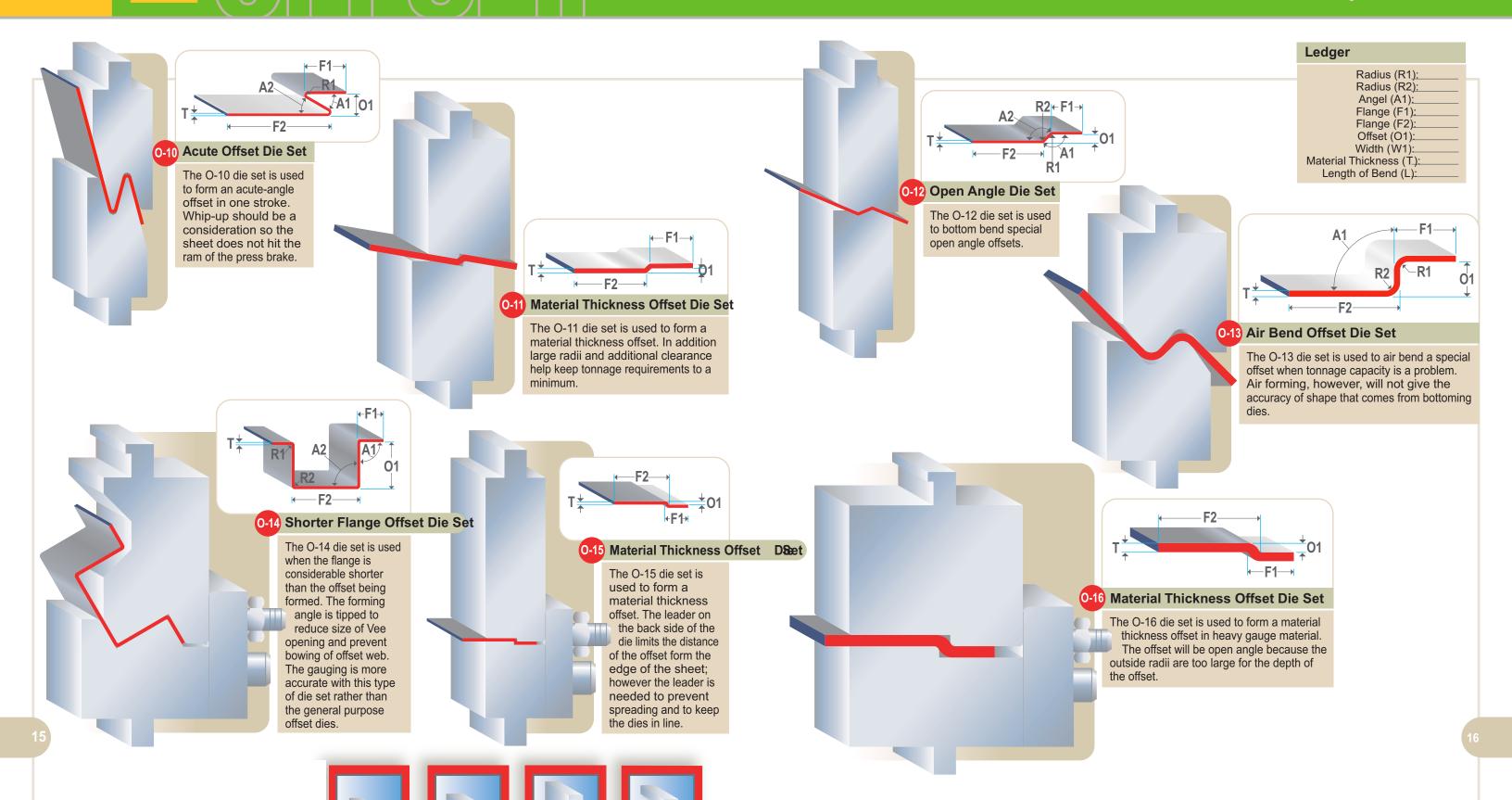
or bottom bending.







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ffset Forming Dies

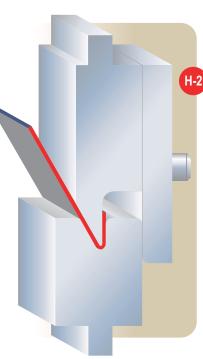
Hemming Dies V/ | | | V | 6

H-1

H-1 Hemming Die Set

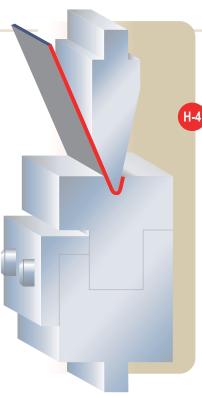
Is a low cost hemming die set that forms a teardrop or an open hem in a single handling without die change or adjustment. The greatest length of fold-over is 2 inches. In the closing operation, the material must be tilted and held high enough in the die to enable the punch point to pass the bend edge formed previously. A slight bow in the length of the sheet can be anticipated.

 Used for 18-gauge and lighter material.



H-2 Hemming Die Set

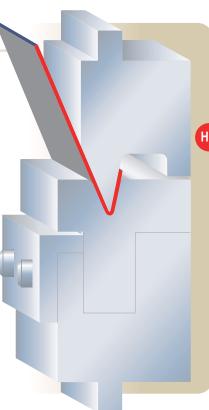
 Used for 16-gauge and heavier material.



H-4 Hemming Die Set

The H-4 hemming die set bends an acute angle in the upper level and closes the hem in the lower level. The closing operation may be shimmed to form an open or closed hem in 18-gauge and lighter material.

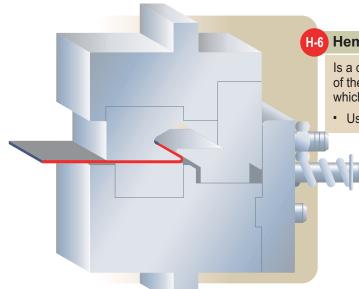
- Used for 18-gauge and lighter material.
- Closing operation is adjustable for forming open or closed hems.



H-5 Hemming Die Set

The H-5 hemming die set bends an acute angle in the upper level and closes the hem in the lower level. The closing operation may be shimmed to form an open or closed hem in 14-gauge and heavier material.

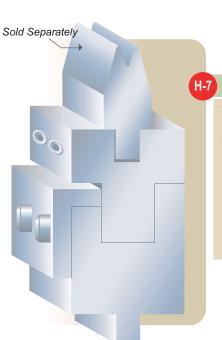
 Used for 14-gauge and heavier material.



H-6 Hemming Die Set

Is a combination set that eliminates whip-up of the material. This curbs operator fatigue which is an important safety factor.

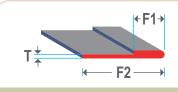
Used for 18-gauge and lighter material.



H-7 Hemming Die Set

The H-7 die set allows for a standard acute die set to be used as shown for hemming; In addition the middle section can be locked in the closed position emulating a standard die holder.

- Closing operation is adjustable for forming open or closed hems.
- The middle section can be locked in the closed position and used as a standard die holder.



Ledger

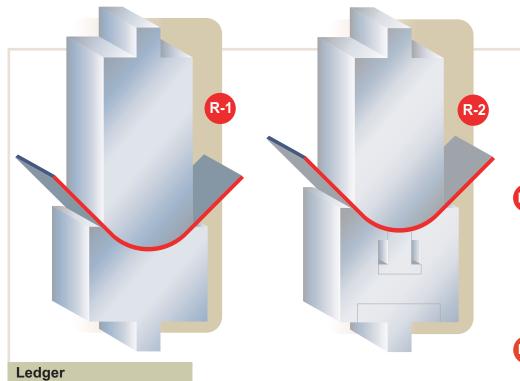
Flange (F1):
Flange (F2):
Material Thickness (T):
Length of Bend (L):











Radius (R1):

Radius (R2):

Angel (A1): Flange (F1): Flange (F2): Offset (O1):

Width (W1):

Material Thickness (T): Length of Bend (L):

A1 R1 F2

R-1 Radius Die Set

Springback will occur and must be compensated for when a radius exceeds four times the thickness of material being formed. As the radius increases more overbend must be made to get the proper formed radius. Radius die sets are typical fitted for one gauge and type of material.

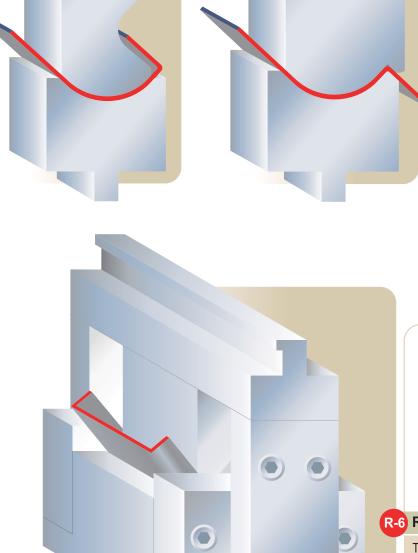
R-2 Radius Die Set

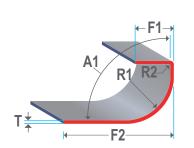
The R-2 contains a spring-pad in the die that keeps kinking to a minimum and offers better results when lighter gauge materials are used.

R1

R-5 Bump Form Radius Die Set

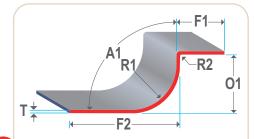
The R-5 die set is used for forming a radius starting lip when a rolling process is required. The R-5 die set can also be used to bump different radii in a range of material. By adjusting to distance between bends lager radii can be bump formed.





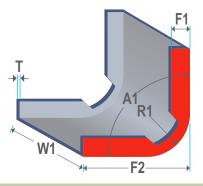
R-3 Radius Die Set

The R-3 die set is used when forming a radius close to a flange. The preformed flange will have to be formed to less than 90°.



R-4 Radius Die Set

The R-4 die set forms an outside flange and radius in one operation.



R-6 Radius Die Set

The R-6 is used when forming a radius with an inturned flange. The lower die has a wiper plate at each end to hold the flange square and limit the wrinkling of the flange.



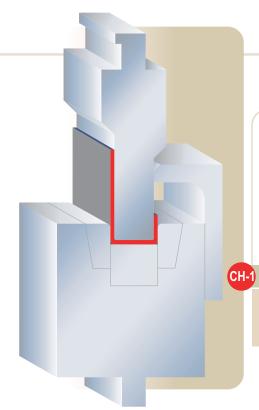


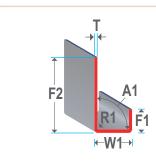






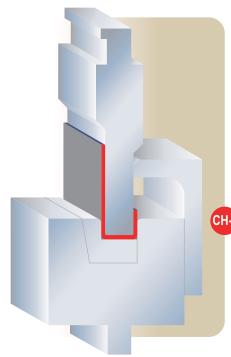
Channel Dies

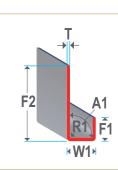




Channel Die Set

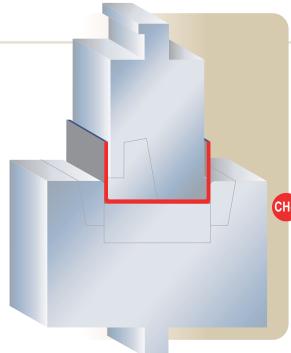
Flatness of channels can be obtained in the CH-1 with constant pressure from a spring-loaded pad.

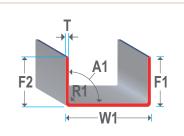




2 Channel Die Set

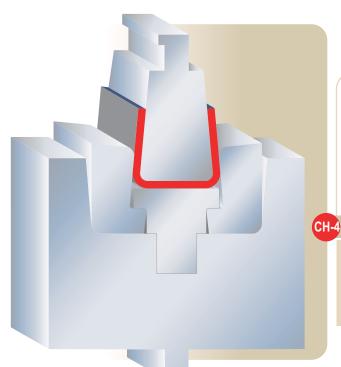
The CH-2 is used when the width of the channel being formed does not permit a spring pad in the die.

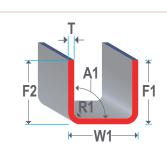




CH-3 Channel Die Set

The CH-3 die set produces an accurate channel with consistency due to a spring pressure pad. Part removal is made easier by release wedges on the punch and die.





CH-4 Channel Die Set

The CH-4 rocker channel die set is utilized when a particular stock or excessive radii are required. This die set produces the given amount of overbend required to make the legs parallel.

Ledger

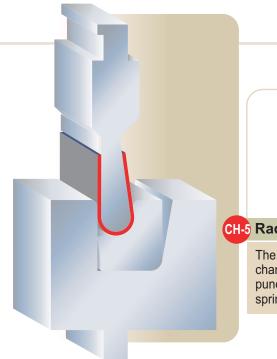
Radius (R1):
Angel (A1):
Flange (F1):
Flange (F2):
Width (W1):
Material Thickness (T):
Length of Bend (L):

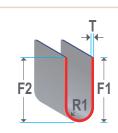






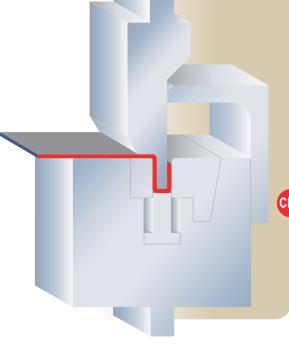


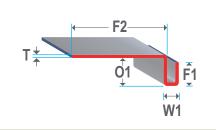




Radius Channel Die Set

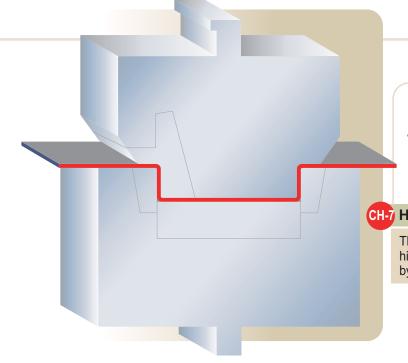
The CH-5 die set is designed for radius channels where overbend is built into the punch and die to compensate for springback.

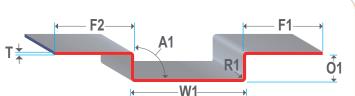




CH-6 Semi-Hat Channel Die Set

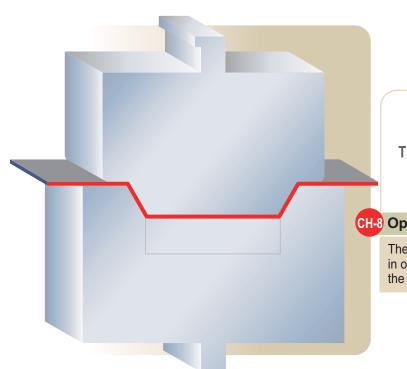
The CH-6 die set forms a semi-hat channel at the edge of a sheet. The release wedge in the die and hook stripper assures positive part removal.

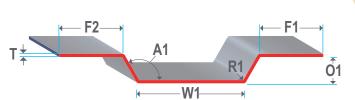




CH-7 Hat Channel Die Set

The CH-7 die set produces consistently square corners in one hit due to a spring pressure pad. Part removal is made easier by release wedges on the punch and die.





CH-8 Open Hat Channel Die Set

The CH-8 open hat channel die set forms an open hat channel in one hit. The pressure pad assures flatness in the bottom of the channel and easy pat removal.

Ledger

Radius (R1):

Angel (A1): Flange (F1): Flange (F2):

Offset (O1):
Width (W1):
Material Thickness (T):
Length of Bend (L):

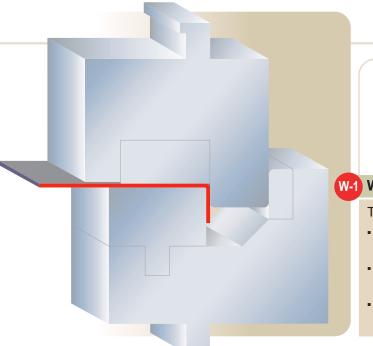


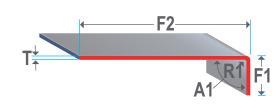








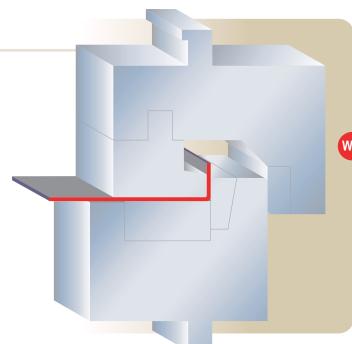


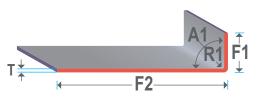


W-1 Wiping Die Set

The W-1 wiping die set produces a flange via a wiping action.

- The sheet is positioned horizontally and eliminates part whip up.
- Shimming an insert at the back of the die will adjust the small variations in material thickness.
- When forming on three or four sides the forming insert can be sectionalized for varying panel lengths.

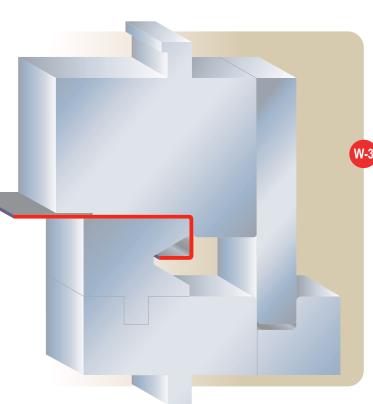


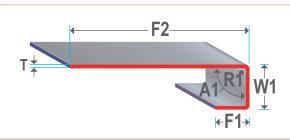


W-2 Wiping Die Set

The W-2 wiping die set produces a flange via a wiping action.

- The sheet is positioned horizontally and eliminates part whip up.
- The spring pressure pad aids in easy part removal.
- Shimming an insert at the back of the die will adjust the small variations material thickness.
- When forming on three or four sides the forming insert can be sectionalized for varying panel lengths.

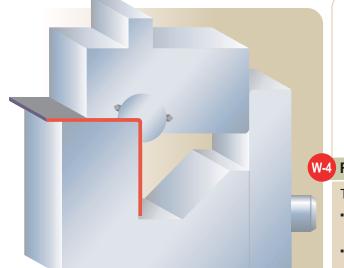


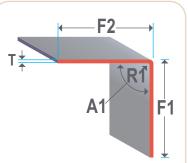


W-3 Wiping Die Set

The die set W-3 produces an edge channel in two strokes. The sheet is positioned horizontally on the die and located against the back gauge for producing the second bend on the following stroke.

- The bends are formed down and eliminating whip up.
- Shimming an insert at the back of the die will adjust the small variations in material thickness.
- When forming on three or four sides the forming insert can be sectionalized for varying panel lengths.
- Over bend can be built into the die set to compensate for spring back in heavier materials.





Ledger

Radius (R1):
Angel (A1):
Flange (F1):
Flange (F2):
Width (W1):
Material Thickness (T):
Length of Bend (L):

W-4 Rotary Die Set

The W-4 wiping die set produces a flange via a rotary wiping action.

- The sheet is positioned horizontally and eliminates part whip up.
- Shimming the leader on the backside of the die will adjust the small variations in material thickness.
- When forming on three or four sides the W-4 can be designed with a sectionalized forming insert for varying panel lengths.
- Requires 30% less tonnage then other wiping dies.
- Over bend can be built into the die set to compensate for spring back in heavier materials.





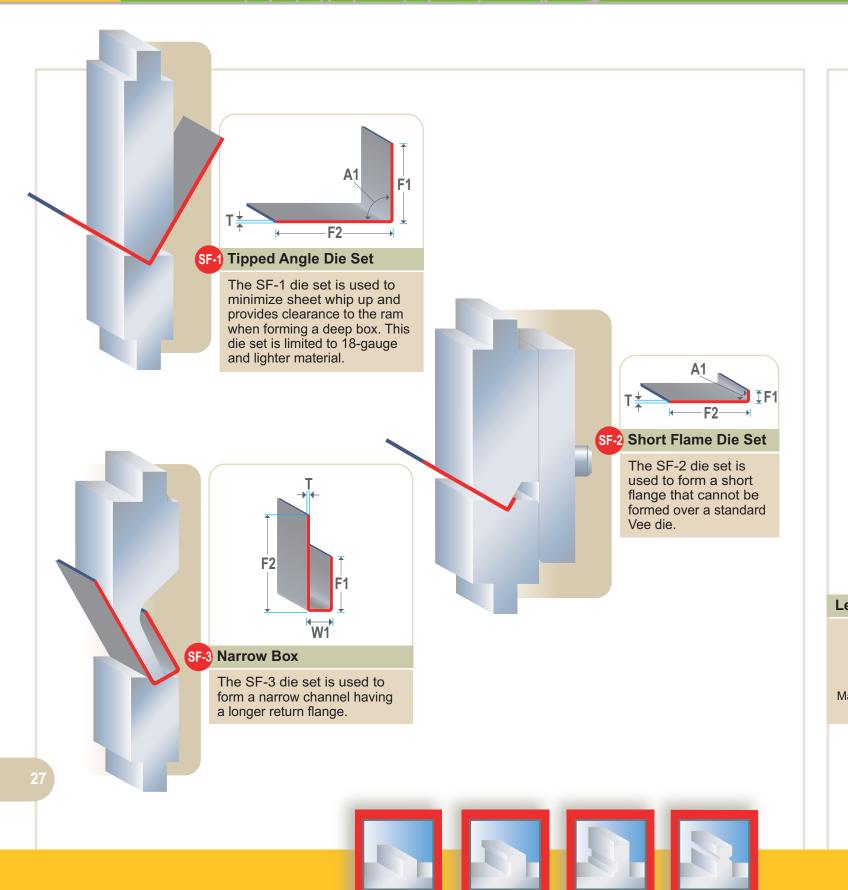




26

Tipped Angle Dies

Rocker Dies // E D



Standard

Style Tooling

European

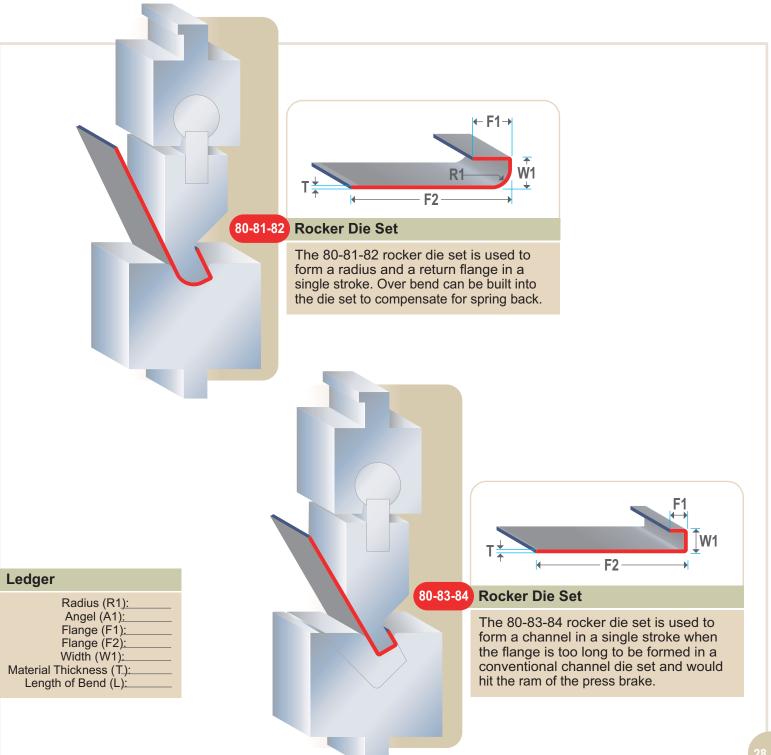
Style Tooling

American

Style Tooling

Wila

Style Tooling

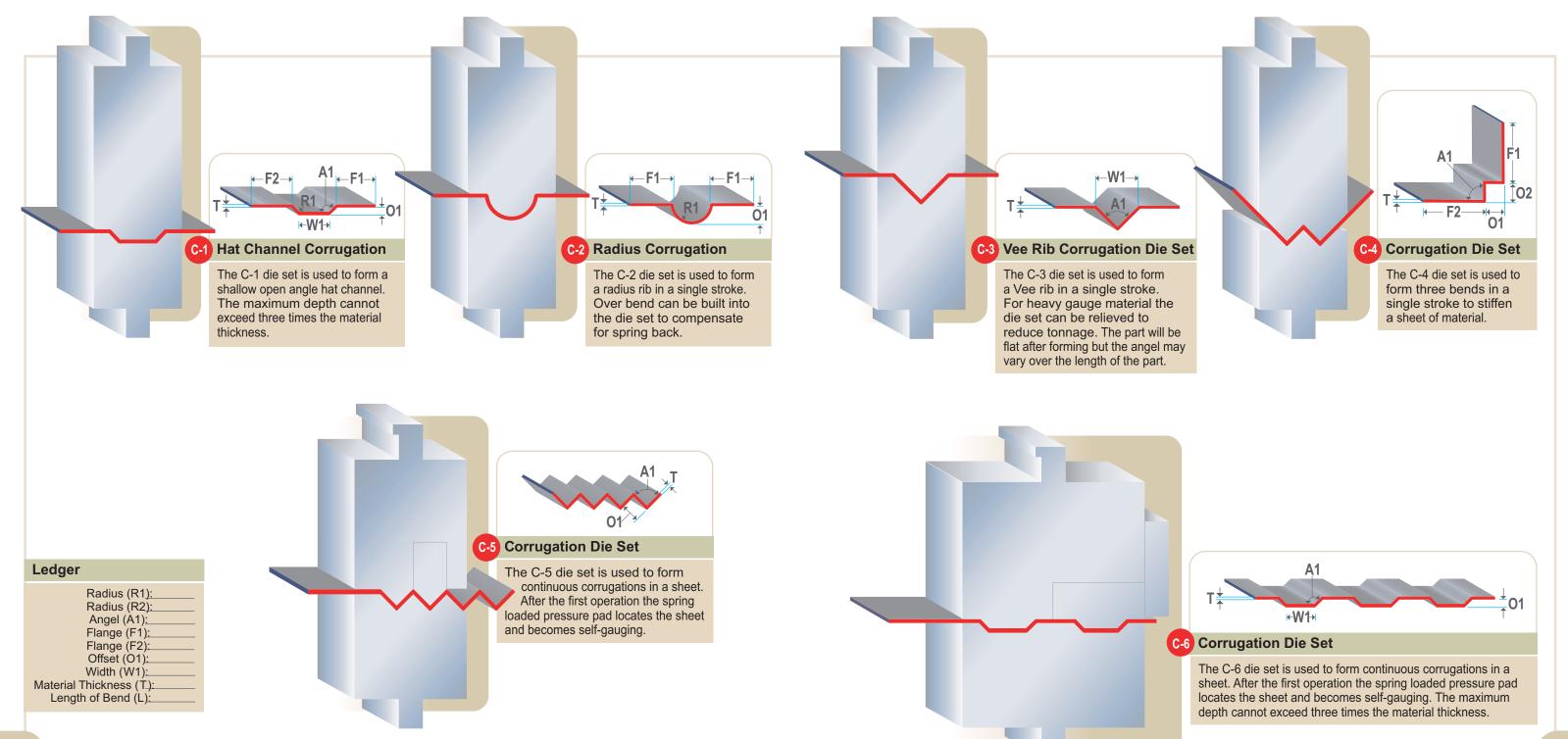


Standard

Style Tooling

American

Style Tooling



Wila

Style Tooling

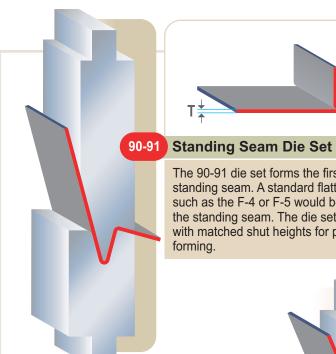
European

Style Tooling

9

30

tanding Seam Dies



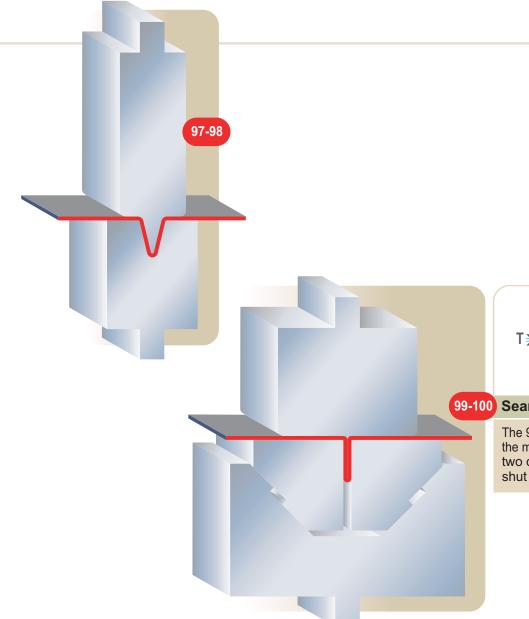
The 90-91 die set forms the first operation of a standing seam. A standard flattening die set such as the F-4 or F-5 would be used to close the standing seam. The die sets can be made with matched shut heights for progressive



-01→ F1

92-93 Standing Seam Die Set

The 92-93 standing seam die set forms a standing seam in two strokes. The first operation forms an acute and 90° bend that is closed in the second operation in the lower section of the die.





99-100 Seam Die Set

The 97-98 and 99-100 die sets form a seam in the middle of a sheet in two operations. These two die sets can be made with matched shut heights for progressive forming.

R-K Press has the perfect form for success with it's quality, price, and service.

Ledger

Flange (F1): Offset (O1): Material Thickness (T<u>):</u> Length of Bend (L):



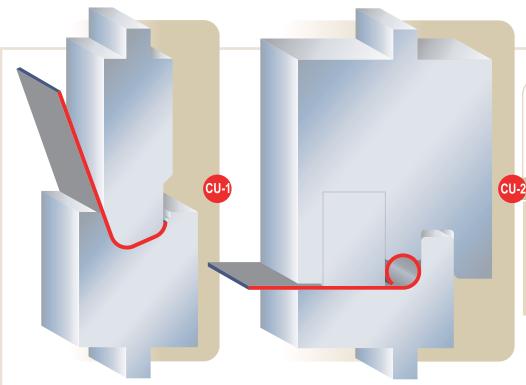


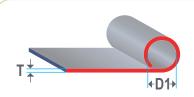




You can be assured that you are getting precision die design and tooling each and every time. Let us prove our claim!

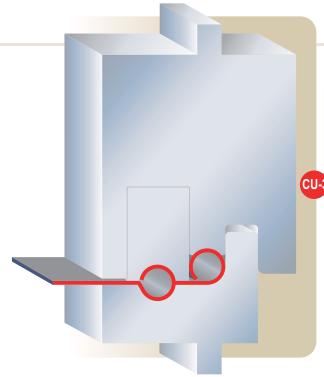
urling

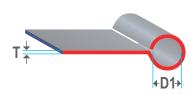




CU-2 Curling Die Set

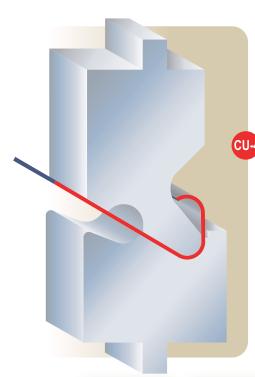
The CU-1and CU-2 curling dies sets when used in combination with each other form the tightest, most accurate off-center curl available in two press strokes. For progressive forming the die sets can be made with matched shut heights.

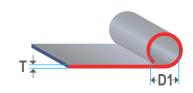




CU-3 Curling Die Set

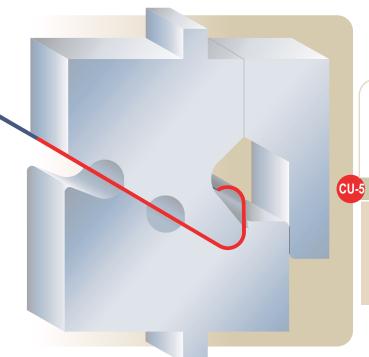
The CU-1 and CU-3 curling die sets form an off-center curl in three stokes or an on-center curl in three strokes. To maintain the diameter of the curl the part should be closed over a mandrel in the third operation.

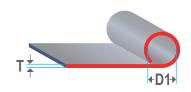




CU-4 Curling Die Set

The CU-4 curling die set forms a complete off-center curl in three operations. Whip-up is kept to minimum because of the small angle involved as the material travels through the first two operations. When forming heavier materials, a leader can be added to the backside of the punch which keeps the punch and die form spreading.





CU-5 Curling Die Set

The CU-5 curling die set forms a complete off-center curl in three operations or an on-center curl in four operations. To maintain the diameter of the curl the part should be closed over a mandrel in the third operation. A leader is added to the backside of the punch which keeps the punch and die form spreading.

Ledger

Diameter (D1): Material Thickness (T): Length of Bend (L):





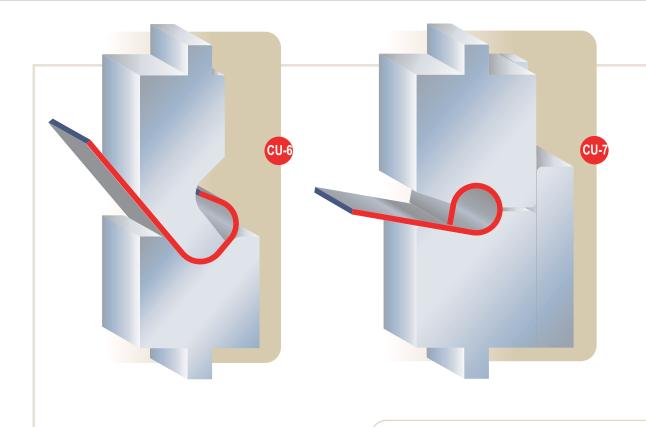




urling

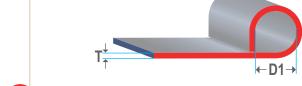


Forming Dies



Ledger

Diameter (D1): Material Thickness (T): Length of Bend (L):

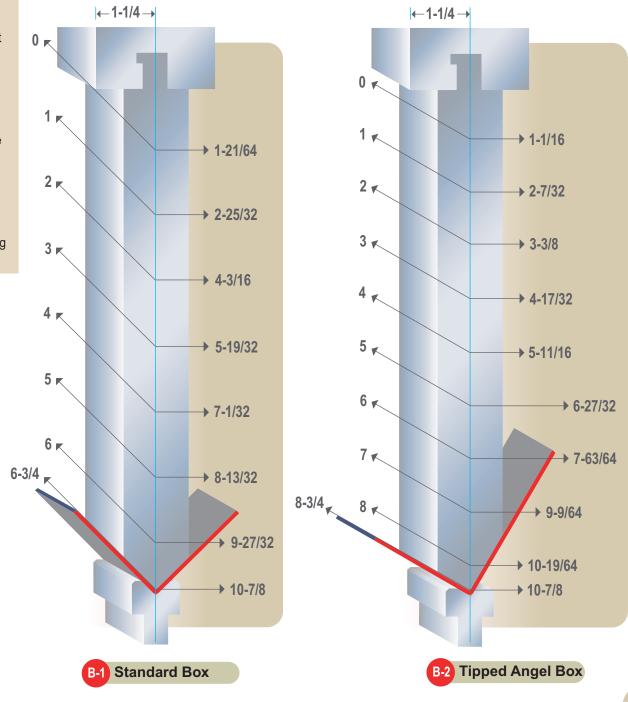


CU-6 CU-7 Large Curl Die Set

The CU-6 and CU-7 curling die sets are useful in forming larger diameter curls in three stokes. Three operations used in conjunction with both die sets will produce a closed curl, while an open curl up to 180° can be formed with just CU-6. Both dies may be placed next to each other for progressive forming.

90 Bends

Box forming die sets are used to form a pan, box, or similar part that requires the four sides to be bent up. The punch must be high enough so that when the last two bends are made the preformed sides will not hit the ram. The minimum punch height is shown for various box depths for forming 90° bends.









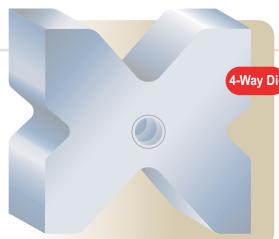






ay and 4-Way

Adjustable



4-Way Die 3-Way & 4-Way Dies

The 3-way die can be used as a flattening die as well as for general forming purposes.

The 4-way die as well as the 3-way die can be made up with Vee openings suitable to your forming needs. The charts below suggest the Vee-openings that can be used with a certain size square.



Block Size	Three V	Vay Die	Opening
2-1/4"	1/2"	3/4"	1"
2-3/4"	3/4"	1-1/8"	1-1/2"
3-1/4"	1"	1-1/2"	2"
3-3/4"	1-1/8"	2"	2-1/2"
4-1/4"	1"	2"	3"
4-3/4"	1-1/4"	2"	3"
5-1/4"	1-1/2"	2-1/2"	3-1/2"
5-3/4"	1-1/2"	2-1/2"	4"
6-3/4"	1-1/2"	2-1/2"	5"
7-3/4"	2"	3"	6"
10"	2-1/2"	4"	8"
12"	3"	6"	10"
	2-1/4" 2-3/4" 3-1/4" 3-3/4" 4-1/4" 4-3/4" 5-1/4" 5-3/4" 7-3/4" 10"	2-1/4" 1/2" 2-3/4" 3/4" 3-1/4" 1" 3-3/4" 1-1/8" 4-1/4" 1" 4-3/4" 1-1/2" 5-3/4" 1-1/2" 6-3/4" 1-1/2" 7-3/4" 2" 10" 2-1/2"	2-1/4" 1/2" 3/4" 2-3/4" 3/4" 1-1/8" 3-1/4" 1" 1-1/2" 3-3/4" 1-1/8" 2" 4-1/4" 1" 2" 4-3/4" 1-1/4" 2" 5-1/4" 1-1/2" 2-1/2" 5-3/4" 1-1/2" 2-1/2" 6-3/4" 1-1/2" 2-1/2" 7-3/4" 2" 3" 10" 2-1/2" 4"

		_			
No.	Block Size	Fo	ur Way D)ie Open	ing
L4W225	2-1/4"	1/2"	3/4"	1"	1-1/4"
L4W275	2-3/4"	5/8"	7/8"	1-1/8"	1-1/2"
L4W325	3-1/4"	3/4"	1"	1-1/2"	2"
L4W375	3-3/4"	7/8"	1-1/8"	2"	2-1/2"
L4W425	4-1/4"	1"	1-1/2"	2"	3"
L4W475	4-3/4"	1"	1-1/4"	2-1/2"	3"
L4W525	5-1/4"	1-1/8"	1-1/2"	3"	3-1/2"
L4W575	5-3/4"	1-1/4"	2"	3"	4"
L4W675	6-3/4"	1-1/2"	2-1/2"	3-1/2"	5"
L4W775	7-3/4"	2"	3"	3-1/2"	6"
L4W10	10"	2-1/2"	3-1/2"	4"	8"
L4W12	12"	3"	4"	5"	10"



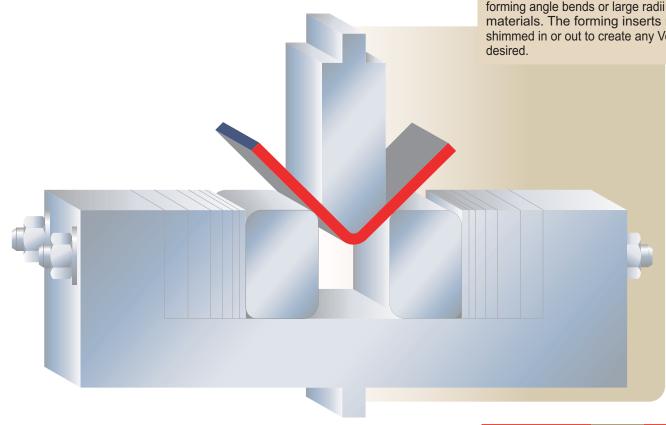






AG-1 Adjustable Vee Die

The AG-1 adjustable Vee die can be used for forming angle bends or large radii in various materials. The forming inserts may be shimmed in or out to create any Vee opening desired.



Vee Opening	Width	Height
3-8	16.25	5.75
4-10	19.5	7
5-12	20.5	10
8-15	28	10.5



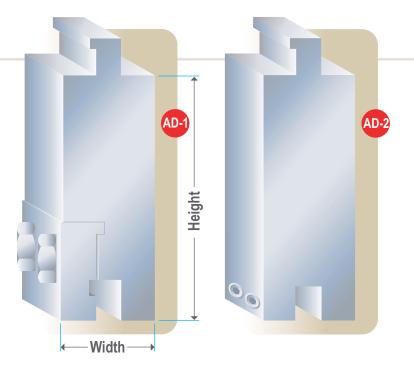


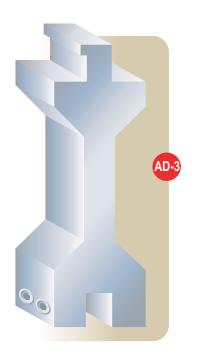
pecial Ram Adapters

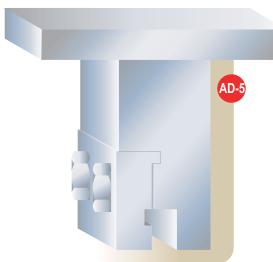
e Holders

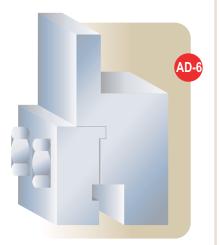
Ram Adapters

Often when there is not enough ram adjustment for a certain die set a space occurs. The ram adapters AD-1 through AD-6 are used to fill this die space. When using a ram adapter the die set can be mounted directly to the press bed. The adapter can be used to increase the height of a standard type forming punch to form a tube or box. Adapters can be manufactured in any height or width depending on the particular application.



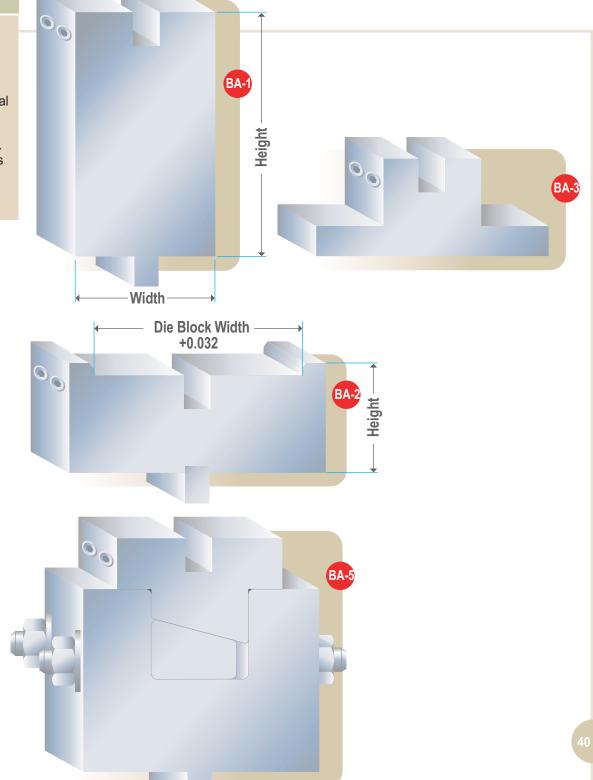






Die Holders

Die holders are used to hold the lower die to the bed of the press brake.
The flat top die holder are used with standard and special dies sets. Universal die holders such as the BA-2 are used to hold a three-way or four-way die.
The BA-5 die holder offers
adjustment every 6" to
compensate for deflection in the press brake.











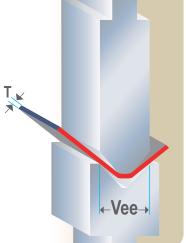






Tonnage Chart

Mate Thick																													
Gauge	Dec.	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	.036	2.5	2	1.6	1.1	1.2																							
18	.0478		3.5	2.8	2.1	1.7	1.3																						
16	.0598			5.3	5.3	3.7	2.8	2.2	1.7																				
14	.0747					5.5	4.6	3.5	3.0	2.5	2.1																		
13	.0897						6.4	5.5	4.3	3.6	3.2	2.8																	
12	.046						9.2	6.9	6.0	5.0	4.3	3.9	3.1																
11	.1196							10.1	8.0	7.0	6.1	5.3	4.3	2.9															
10	.1345								10.3	8.7	7.8	6.9	5.7	3.9															
9	.1495									11.9	9.8	8.8	7.0	5.0	3.7														
3/16"	.187										16.9	13.9	11.2	8.3	6.7	4.9													
1/4"	.250											27.5	22.1	15.0	11.6	9.6	7.9	6.7											
5/16"	.312												39.2	26.5	19.3	15.0	12.5	10.4	7.7										
3/8"	.375													42.7	31.2	23.8	19.5	16.3	12.4	9.6									
7/16"	.438														45.5	35.2	28.5	24.4	17.4	15.0	11.5								
1/2"	.500															48.5	39.5	33.2	24.6	19.5	16.1	13.4							
5/8"	.625																65.5	57.9	42.8	33.1	27.3	23.3	17.0						
3/4"	.750															138	110	93	68.7	53.2	43.6	36.5	27.1	21.0					
7/8"	.875																165	137	103.5	81	64	53	39.5	31.4					
1"	1.00																	197	143	112.5	91	76	56	44					
1-1/4"	1.25																					131	98	76	62	51	38		
1-1/2"	1.50																						153	118.5	97.5	81	60	47	
1-3/4"	1.75																							175	144	119	88	69	51
2"	2.0																								199	165	122	97	71
2-1/2"	2.5																									290	215	169	125
3"	3.0			T																							338	266	197



- Approximate tons per lineal foot of Forming (based on air bending 90° bend in mild steel).
- Red type areas are recommend VEE opening where customer has ample tonnage.
- When using material 5/8" and thicker, it is usual practice to have die opening 10 x metal thickness.









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