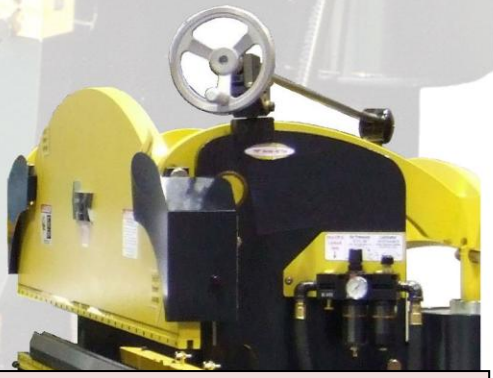
Atek Bantam & PM Series Press Brakes

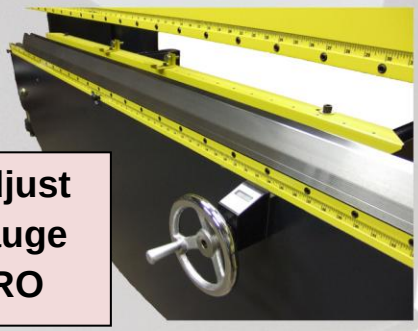
Pneumatic/Mechanical Lever Action
Screw Adjust Ram Stroke Control
3 Sizes: 12, 24, and 42 tons
Bed Lengths: 2 to 10 ft

Model B212 & CNC Back Gauge

Model PM642



Front Adjust Ram Stroke with DRO



Front Adjust Back Gauge with DRO

Model B424

Turnkey Solutions

Special Machine Designs

ATEK CORPORATION

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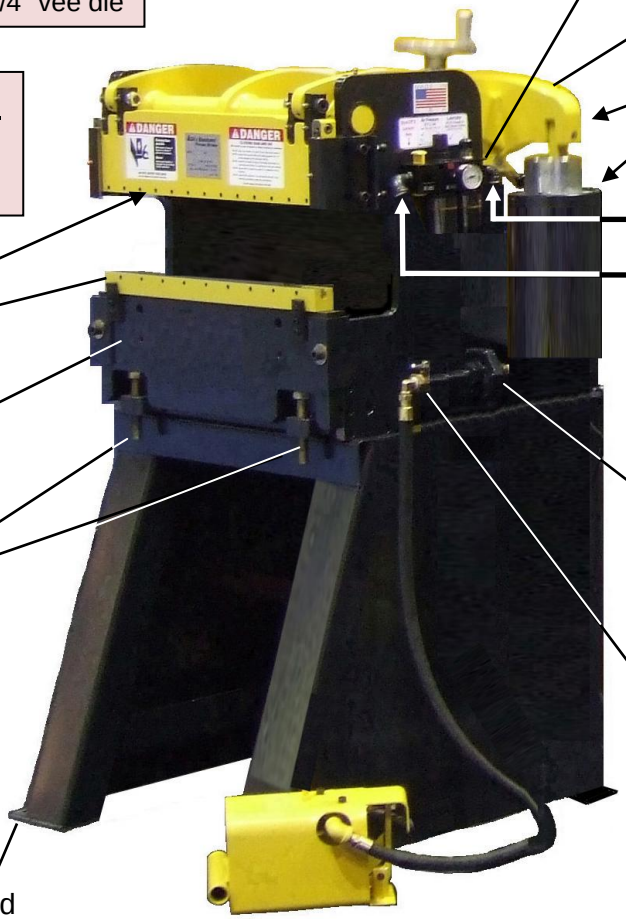
March 2017

Machine Features

Every Atek Press Brake Includes:
rear adjust manual back gauge
rear adjust ram stroke screw
90° punch and 3/4" vee die

Machine Colors
Charcoal
& Yellow



Ram Stroke
Adjusting Screw

Filter/Regulator/Lubricator
with On/Off Valve

Counterbalanced
Lever Weldment

Two Air Cylinders

Left Foot
Pedal Hose

Air
Supply

Ram

Adjustable
Die Holder

Bed

Bed Adjusting
Screws

Model B212 Shown

Quick Exhaust
Valve & Muffler

Ram Speed
Control Valve

Rated Tonnage
@ 90 PSI

Required Floor Stand
for 12 & 24-ton Models.
42-ton Models are
Full-Frame Designs.

Safety Hooded Foot Valve
with Toe Flip Cover

Press Brake Options:
front adjust Y-Axis ram stroke control with DRO
0-4" rear adjust micrometer back gauge
0-18" front adjust ball screw back gauge with DRO
0-12" CNC back gauge
production parts counter
two-hand safety control with front workpiece support table
front workpiece support table
segmented clamp ram for safety tang tooling

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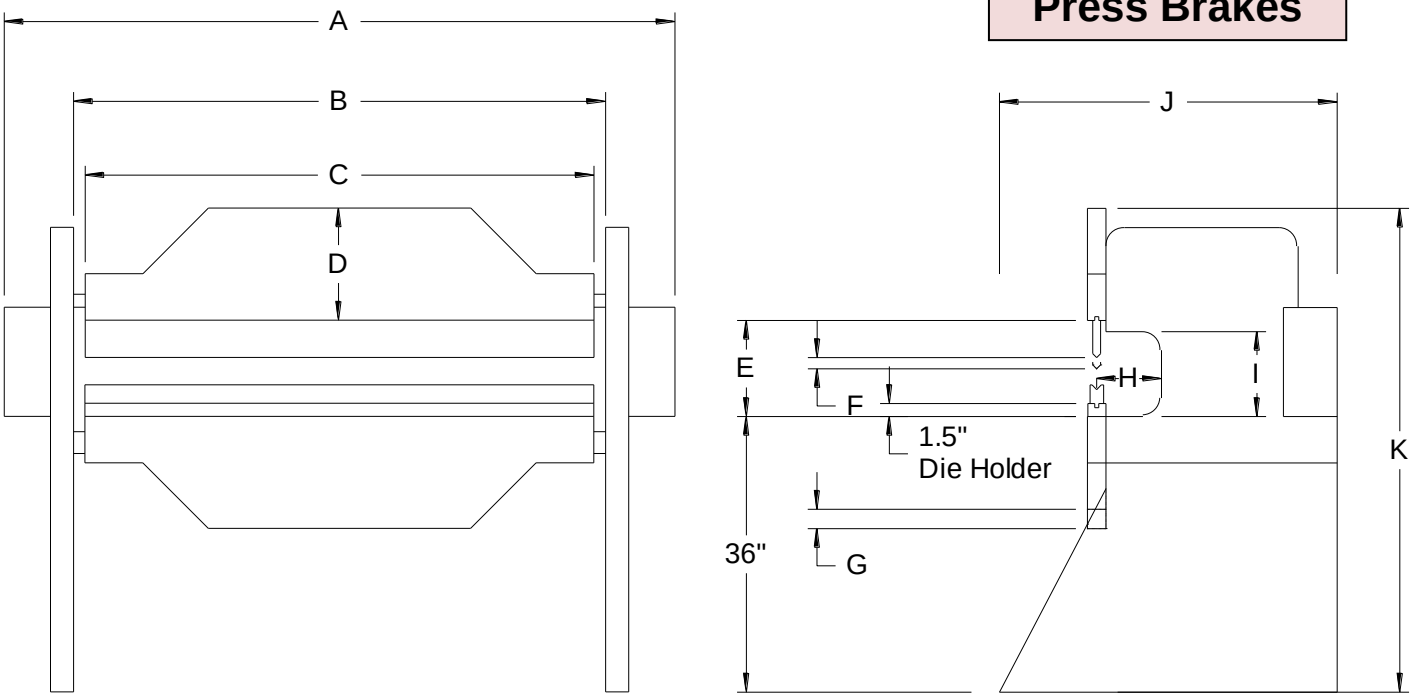
Specifications And Dimensions

Atek Bantam & PM Series Press Brakes



	MODELS	B212	B412	B512	B224	B424	B624	B824	B1024	PM242	PM442	PM642	PM842	PM1042
	Tonnage	12	@ 90	PSI		24	@ 90	PSI			42	@100	PSI	
A	Overall Width	40”	64”	76”	36”	60”	84”	108”	132”	38”	62”	86”	110”	134”
B	Between Frames	24¼”	48¼”	60¼”	24¼”	48¼”	72¼”	96¼”	120¼”	24¼”	48¼”	72¼”	96¼”	120¼”
C	Bed & Ram Width	24”	48”	60”	24”	48”	72”	96”	120”	32”	56”	80”	104”	128”
D	Bed & Ram Height	5⅞”	9⅞”	13⅞”	8”	13”	17½”	21¼”	25”	14½”	16¼”	21”	26”	31”
E	Tooling Space		8⅞”				9½”					9½”		
F	Ram Stroke	Zero	To	1⅞”		Zero	To	2”			Zero	To	2”	
G	Bed Adjustment Up	Zero	To	2”		Zero	To	3”			Zero	To	3”	
H	Window Depth		5¾”				6”					6”		
I	Window Height		7½”				8¾”					9¾”		
J	Overall Depth		32”				36”					38”		
K	Overall Height	53”	55”	58”	61”	61”	66”	69”	73”	61”	63”	67”	72”	77”
	Shipping Wt, lbs.	940	1340	1705	2025	2835	3850	5100	6300	2825	3735	4850	6250	7000
	Full Stroke CFM/stroke	2.2	2.2	2.2	4.4	4.4	4.4	4.4	4.4	7.6	7.6	7.6	7.6	7.6
	Max. Speed, SPM	30	30	30	20	20	20	20	20	20	20	20	20	20

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Sequence Of Operation

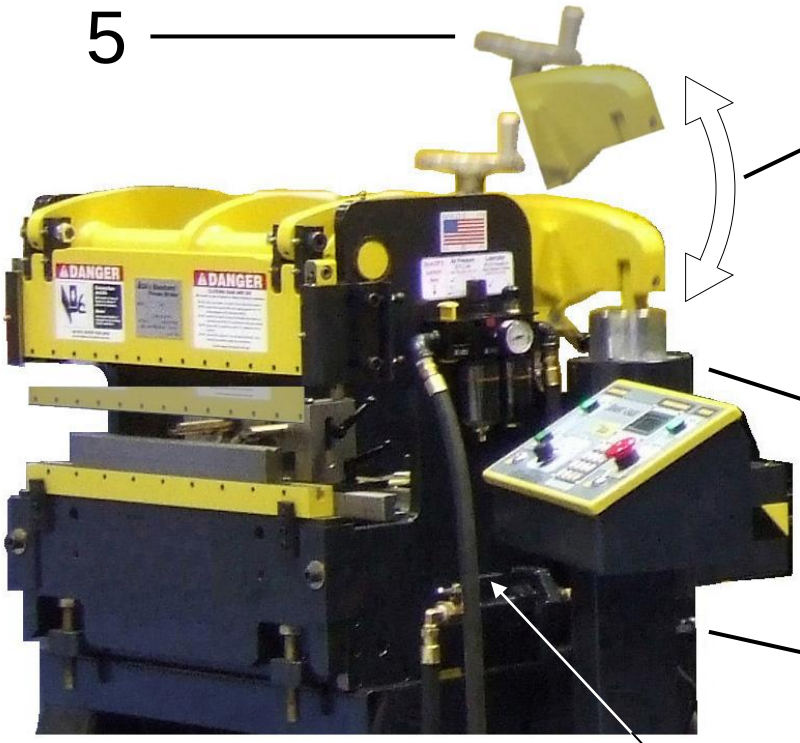
Atek Bantam Model B212 with Smart Gage CNC Back

Why Pneumatic/Mechanical?
A pneumatic/mechanical design is less expensive, faster, simpler to operate, low maintenance, and a superior design for small tonnage press brakes.

1

Efficiently Uses Compressed Air!
Compressed air is used for the ram downstroke only. Gravity retracts the counterbalanced lever and ram.

Foot Pedal Control
Flow valve speeds, slows, or reverses the ram.



Rated Tonnage @ 90psi

Ram Speed Control Valve
Sets maximum speed.

Sequence of Operation

1 Step On The Foot Valve Pedal.
2 Air Flows Into The Cylinders.
3 The Cylinders Stroke Up & The Lever Rotates.
4 As The Lever Rotates, The Ram Is Pushed Down.
5 Motion Stops When The Stroke Stop Nut Engages, Setting The Bend Angle.
6 Release The Foot Pedal, Air Exhausts, & Gravity Retracts The Ram.

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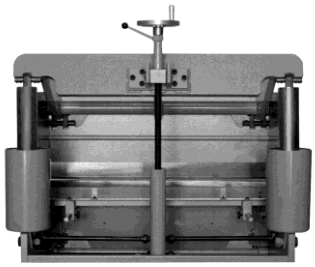
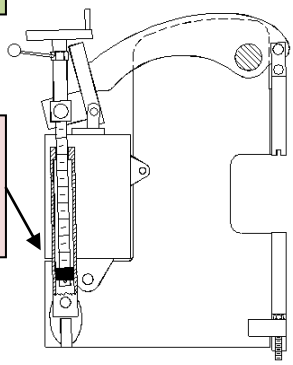
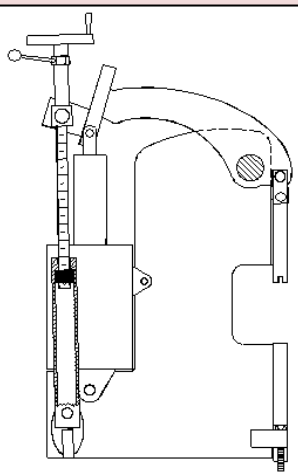
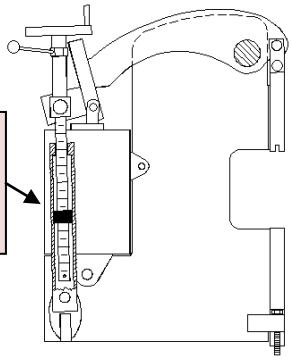
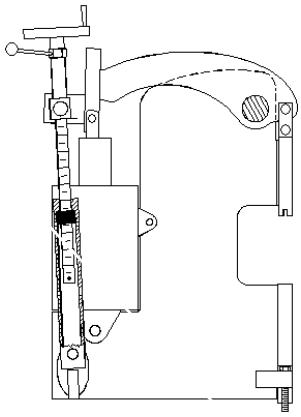
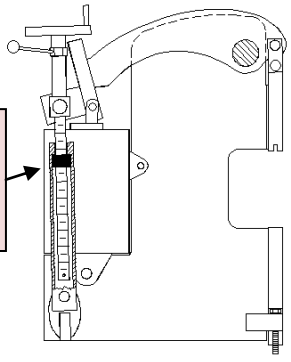
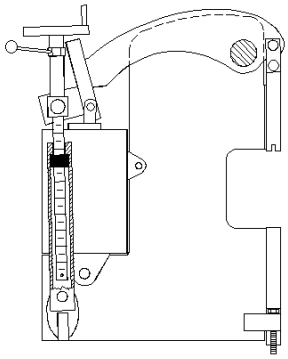
Setting The Ram Stroke & Bend Angle

Turn the handwheel and the nut travels up the screw. When the cylinders stroke, motion occurs until the nut contacts the tube plug for an accurate, positive stop. Tighten the lock lever for accurate, repeatable bends.



REAR VIEW
cylinders fully stroked
lever up
ram down
stroke stop nut engaged

Motion stops when the nut contacts the plug welded in the top of the tube.

MACHINE AT REST		***MACHINE STROKED***
STOP NUT SET FOR FULL STROKE		 ***FULL STROKE***
STOP NUT SET FOR HALF STROKE		 ***HALF STROKE***
STOP NUT SET FOR ZERO STROKE		 ***ZERO STROKE***

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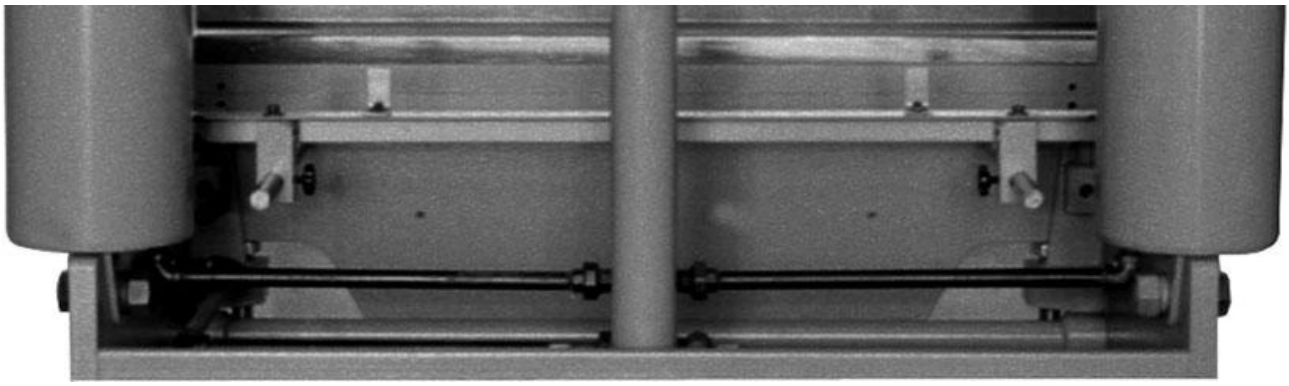
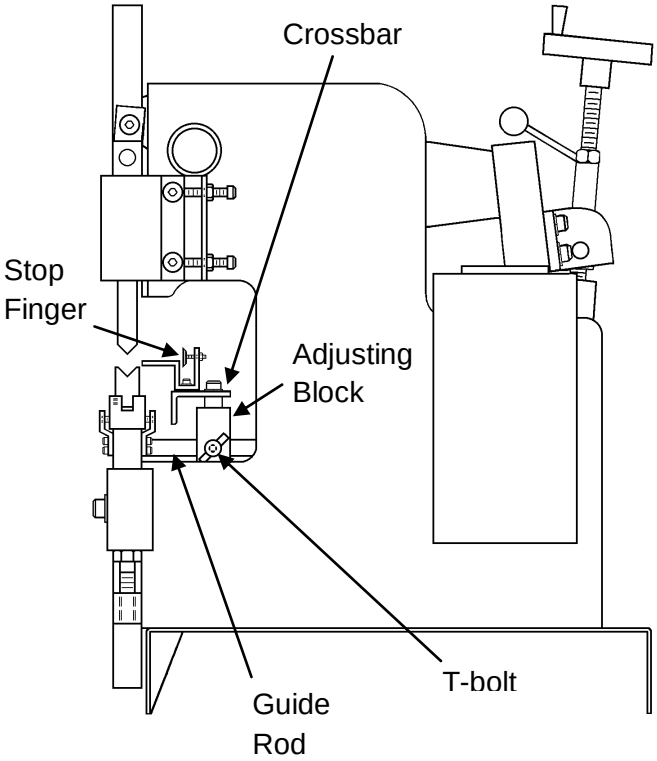
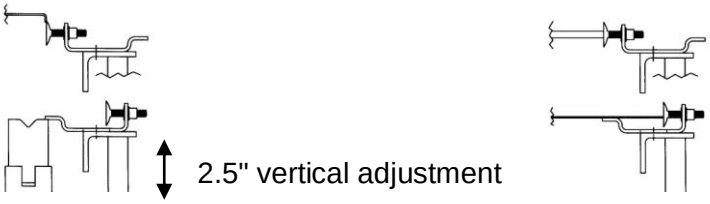
Standard Rear Adjust Manual Back Gauge



Two guide rods protrude out the rear of the bed. Adjusting blocks slide in and out along these rods. A vertically adjustable angle steel crossbar mounts on top of each block. Two stop fingers bolt to the top of the crossbar at multiple locations down its length. T-bolts lock it in place.



Use The Stop Fingers Four Different Ways



← 0 to 18" gauge range, 12 ton models →
0 to 21" gauge range, 24/42 ton models

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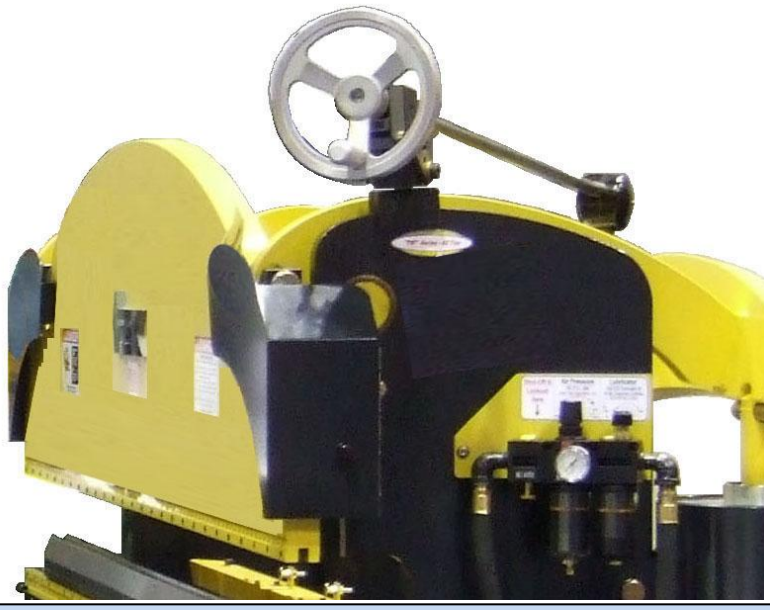
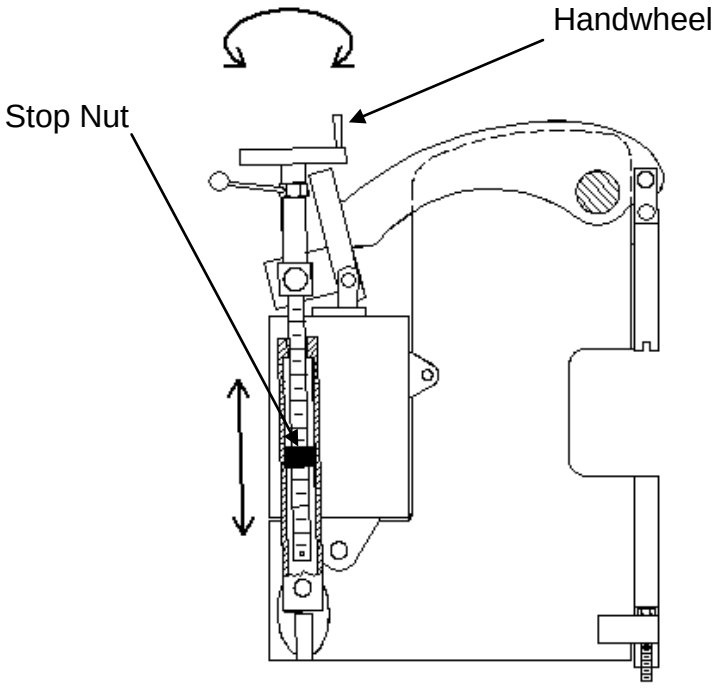
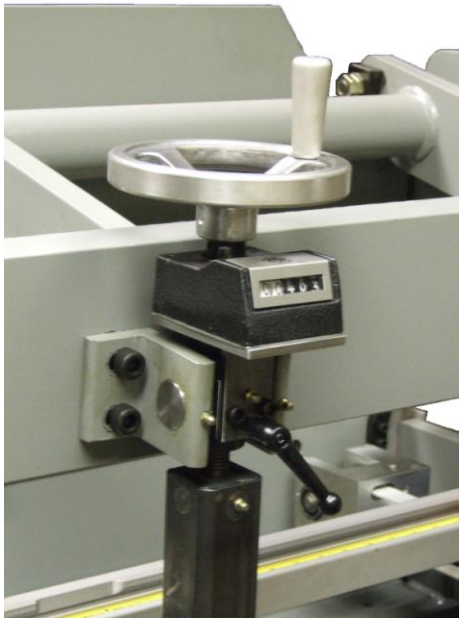
Y-Axis Ram Stroke Control with Digital Readout



Front Adjust Y-Axis Ram Stroke Control with Digital Readout, Part No. YFADRO

Turning the handwheel moves the stop nut up or down the stop screw and changes the ram stroke. Chart the digital readout number corresponding to the given bend angle, material thickness, tooling, and tooling gap to accurately and repeatably change from one bend angle to another and back again.





Digital Readout for Standard Rear Adjust Y-Axis Ram Stroke Control, Part No. YDRO

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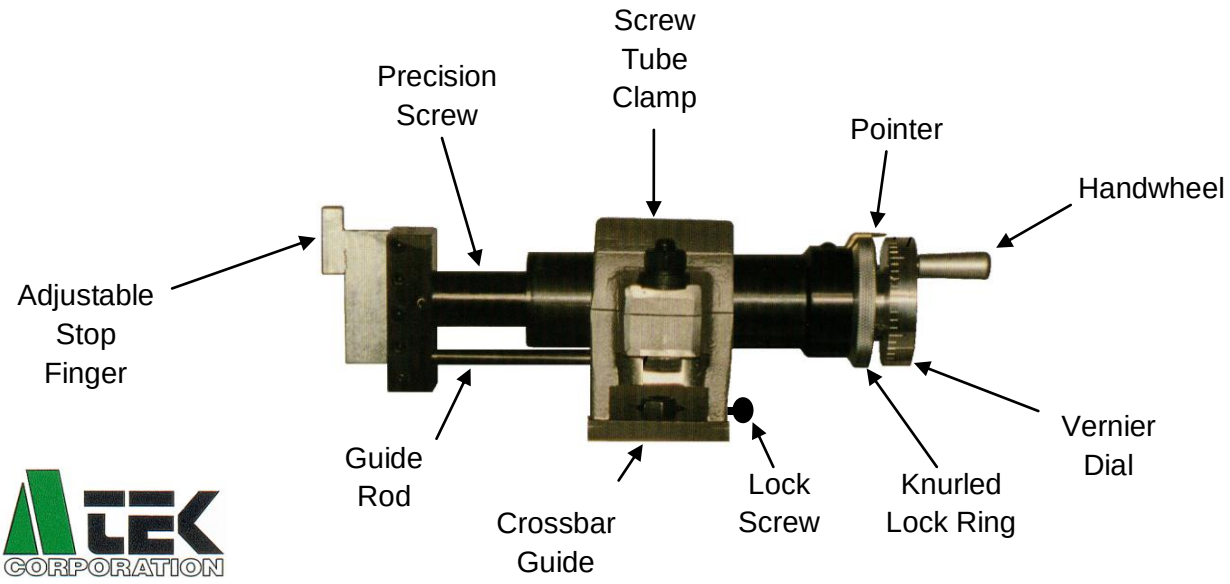
Pro-Gage® Micrometer Back Gauge

Part No. PG24568
Screw Range: 0 to 4"
Gauge Range: 0 to 18"
Vernier Dial Graduations: 0.001"
Graduations/Revolution: 50

Adjusting blocks slide along two guide rods that protrude out of the bed. Vertically adjustable crossbar bolts on top of each block. Two micrometer units slide down its length. Stop finger position locked in place with a knurled lock ring.



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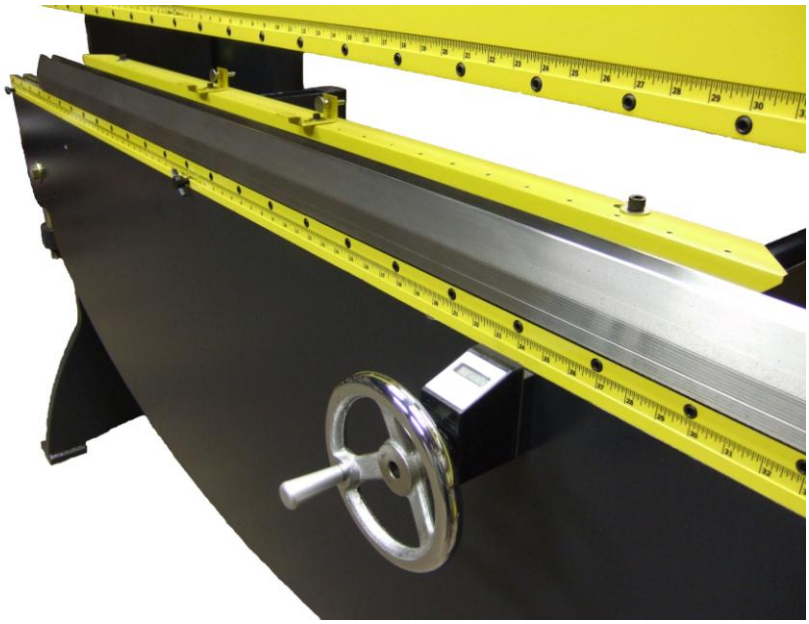
Front Adjust Back Gauge



Precision

Twin Ball Screw

Front Adjust

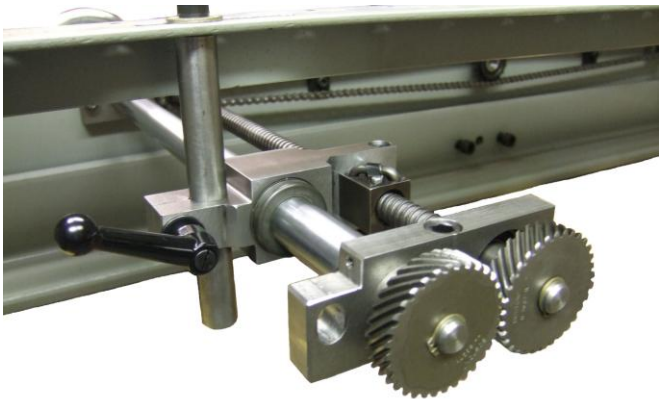
Back Gauge

Part No. FABGDRO

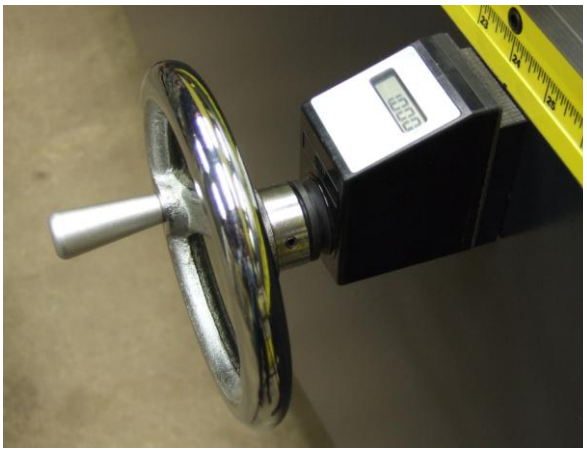
2, 4, 6, 8, or 10 Ft Lengths

Rigid Construction

Accurate & Repeatable



Rear View without Covers:
Shows helical gears, ball screw, guide rod, vertical adjust rod with lock lever, & chain drive.



Easy-To-Read Digital Readout

Specify English or Metric

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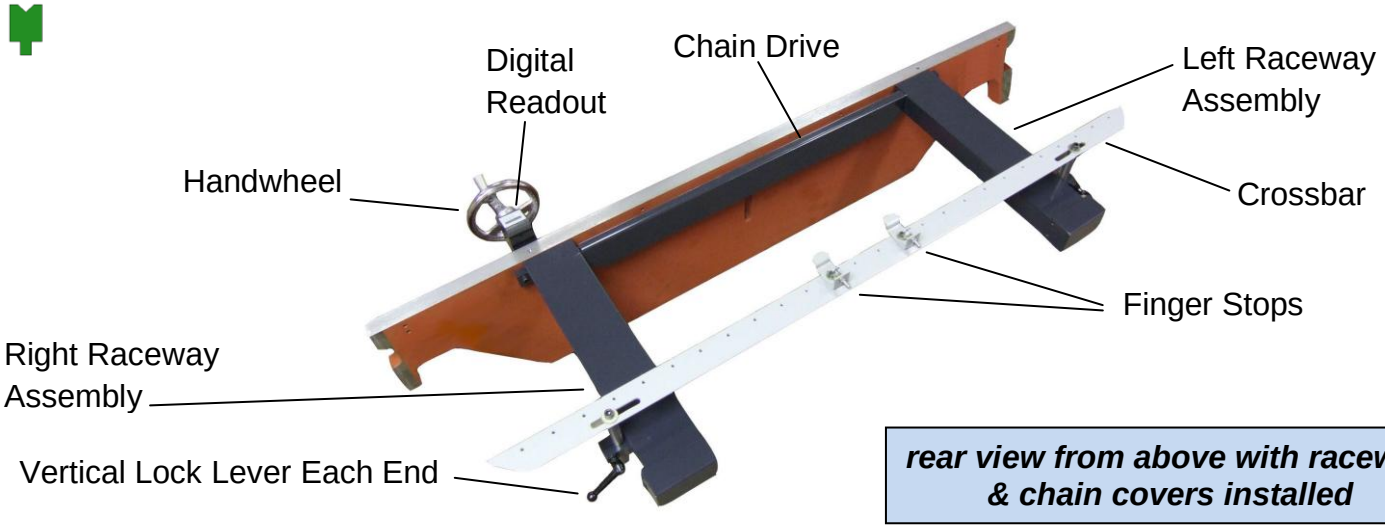
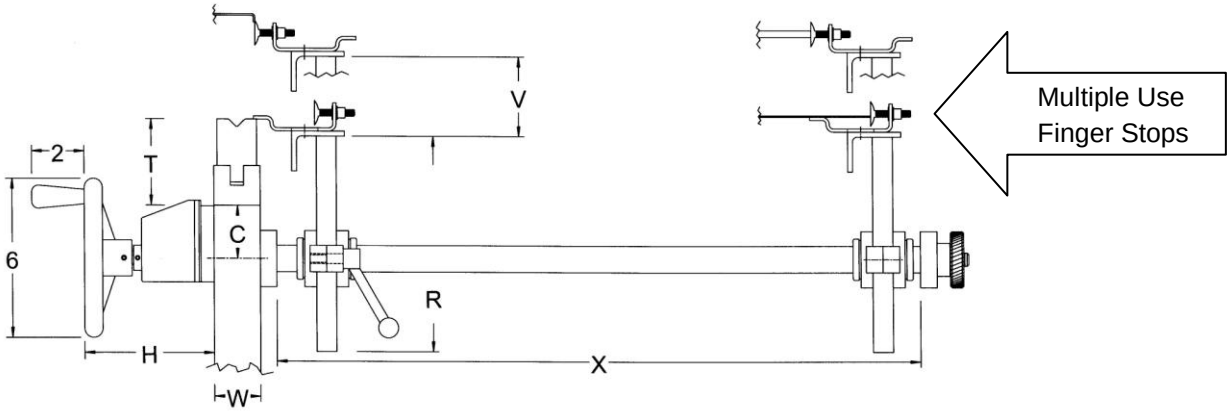
Front Adjust Back Gauge



rear view from above with raceway & chain covers installed



Part Number	***FABGDRO**
Gauge Range, X	12 Ton, 0 to 18"
	24/42 Ton, 0 to 21"
Accuracy	+/- .002 (.05mm)
Vertical Adjustment, V	3"
Vertical Rod Length, R	8-1/8"
Vertical Rod Diameter	3/4"
Die & Die Holder Ht, T	3-1/4"
Top of Bed to Guide Rod Center, C	12 Ton, 1”
	24/42 Ton, 2"
Handwheel Extension, H	5"
Bed Thickness, W	12 Ton, 1-1/4”
	24/42 Ton, 1-3/4"
Guide Rod Diameter	1"
Ball Screw Diameter	5/8"
3v Battery Included	

*** Metric Add Prefix 'M' To Part Number**

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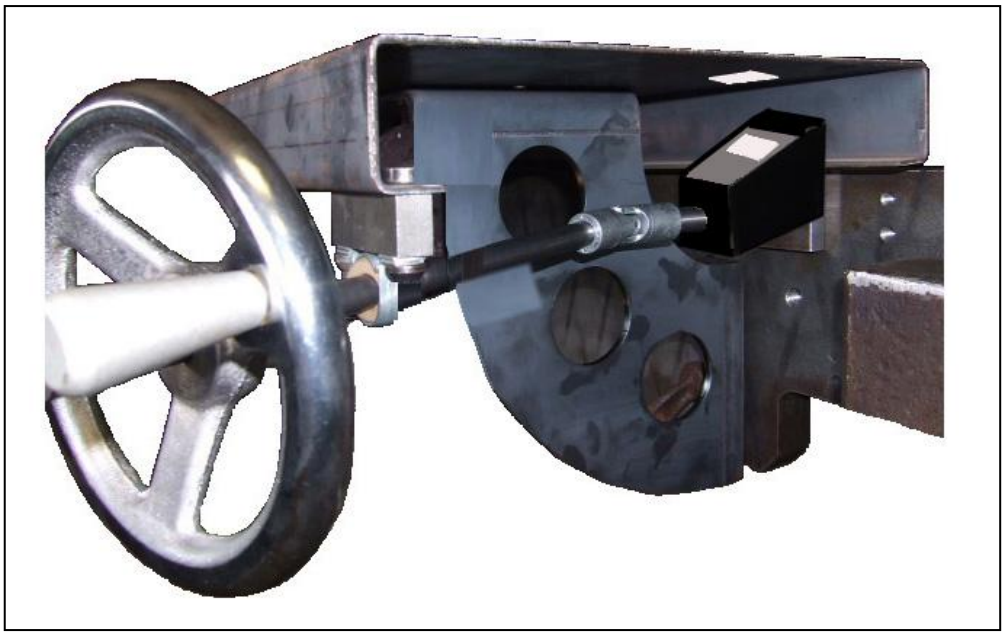
FABGEXT Extension Kit



When a front table or two-hand safety control that includes a front table is installed on a machine, the FABGEXT Extension Kit is required. The kit includes a u-joint, extension rod, spherical bearing, and mounting block to bring the handwheel out from under the table. The table top has a hole cut in it to view the digital readout under it. The table adjusts horizontally and vertically with the extension kit attached.

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Smart-Gage™ CNC Back Gauge

The affordable CNC Back Gauge for Atek Bantam® and PM Series press brakes.

Fast CNC Setups

Simple Programmable 'X' Axis

Accurate Precision Gauging

Rugged, Adjustable Flip Finger Stops

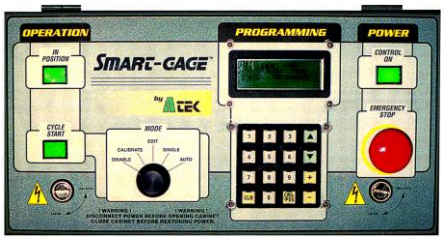
Solid Repeatability & Performance

Easy Retrofit on Atek Press Brakes

Atek Bantam Model B212 & SG12 Smart Gage CNC Back Gauge

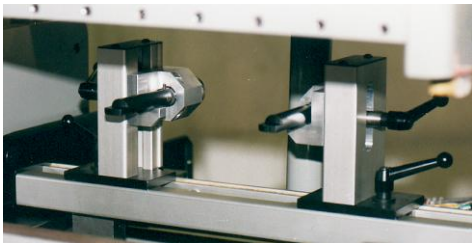
Fast, Easy Programming Via the New Smart-Vue Panel

Rugged, pedestal-mounted. Operates on 110/220 volts AC. Separate operation and programming controls. Capable of storing 99 programs containing up to 9 bends each. Very user friendly requiring minimal operator training. Simply select "Edit" mode, move the cursor to desired line, key in new or over existing data, select "Single" or "Auto" and go!



ACU-RITE® Rotary Encoder Technology

This assures positional accuracy of the servomechanism and repeatability of the gauge bar.

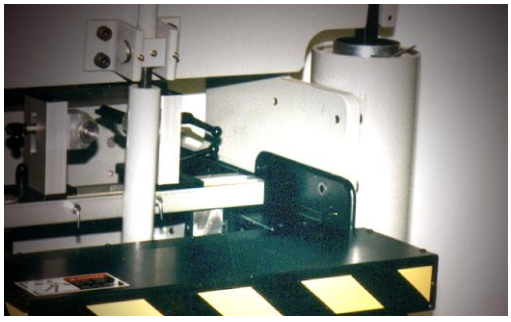


Rugged, Flip Finger Assemblies with Quick Clamp Feature

Two easy-to-position flip finger assemblies. Strong enough to handle the abuse of heavy material forming. Time saving quick clamp feature for hassle free finger adjustments. High visibility scale aids positioning of fingers.

Gauge Frames Mount to Press Brake Housings

The rear of the housings is the most stable mounting area for repeatability and precision. Smart-Gage utilizes existing holes in your Atek press brake for simple and fast in-field installations in less than two hours. Fully assembled in new machines.



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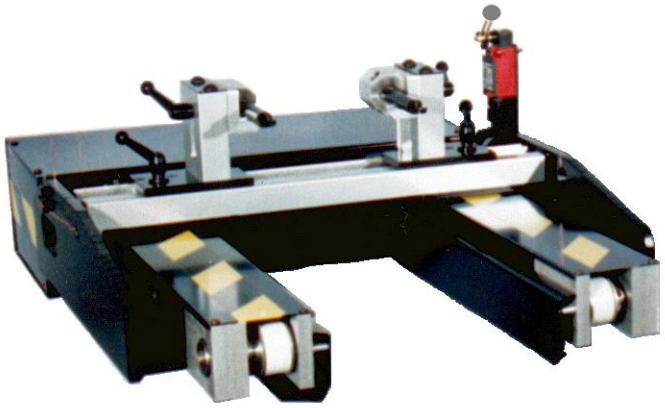
Smart-Gage™ CNC Back Gauge



Models	**Gauge Part No.**
12 Ton	SG12
24/42 Ton	SG2442

Standard Equipment Includes:

Pedestal Mounted Control Panel
Twin Drive Back Gauge Assembly
Two Flip Fingers Adjust Horizontally & Vertically
Ram Micro Switch
One Calibration Tool
Owner's Manual
Specify English or Metric
Specify Input Power: 110VAC, 1 Ph, 60 Hz or
220VAC, 1 Ph, 50 Hz

Specifications

Mechanical

'X' Axis Travel:	12" (304.8mm) Specify English or Metric
Vertical Flip Finger Adjustment:	
12-ton models	2.0" (50mm)
24 & 42-ton models	2.5" (63.5mm)
Maximum Flip Finger Spread:	
12-ton models	bed width minus 5" (127mm)
24 & 42-ton models	bed width minus 10" (254mm)
Maximum Speed:	500 IPM
Accuracy:	+/- 0.002" (0.05mm)
Repeatability:	+/- 0.002" (0.05mm)
Braking Load:	400 lbs. (180 kgs.)

Electrical

Input Power (Select One):	110 VAC, 1 Ph, 60 Hz **OR**
	220 VAC, 1 Ph, 50 Hz
Fuse Size:	2 Amp
Control Voltage:	24 VAC

Control

Display:	4 Lines, Job No., Bend No., Dimension, Delay
Data Entry:	Via 16-key Keypad
Resolution:	+/- 0.001" (0.025mm)
Maximum Part Programs Stored:	99
Maximum Number of Bends per Part:	9
Retract And Delay Time:	0 to 9 seconds
Memory:	Internal Battery Backup

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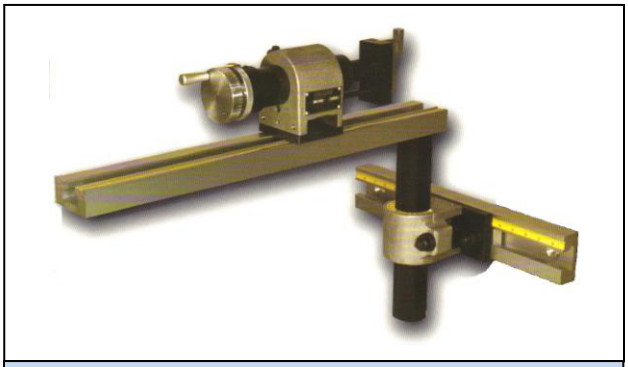
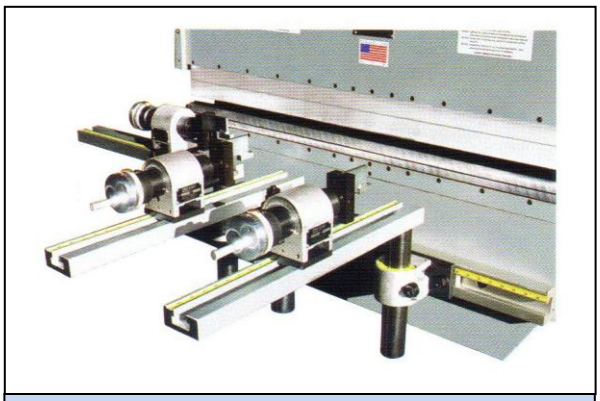
Pro-Gage® Micrometer Front Gauge



Micrometer Front Gauge Part No. PG1224 mounted to optional PGTR bed t-rail.

Each unit includes a 0-4" precision screw clamped in an aluminum housing that mounts on a t-rail for 18" horizontal travel. The t-rail bolts to a tube for 9" vertical travel and 180° rotary motion. The unit bolts directly to the bed or clamps to the optional bed t-rail. Use for front or side gauging.



Two units as front gauges and one unit as a side gauge bolt to the PGTR bed t-rail.

Part No. PG1224
Screw Range: 0 to 4"
Gauge Range: 0 to 18"
Vertical Adjustment: 9"
Vernier Dial Graduations: 0.001"
Graduations/Revolution: 50

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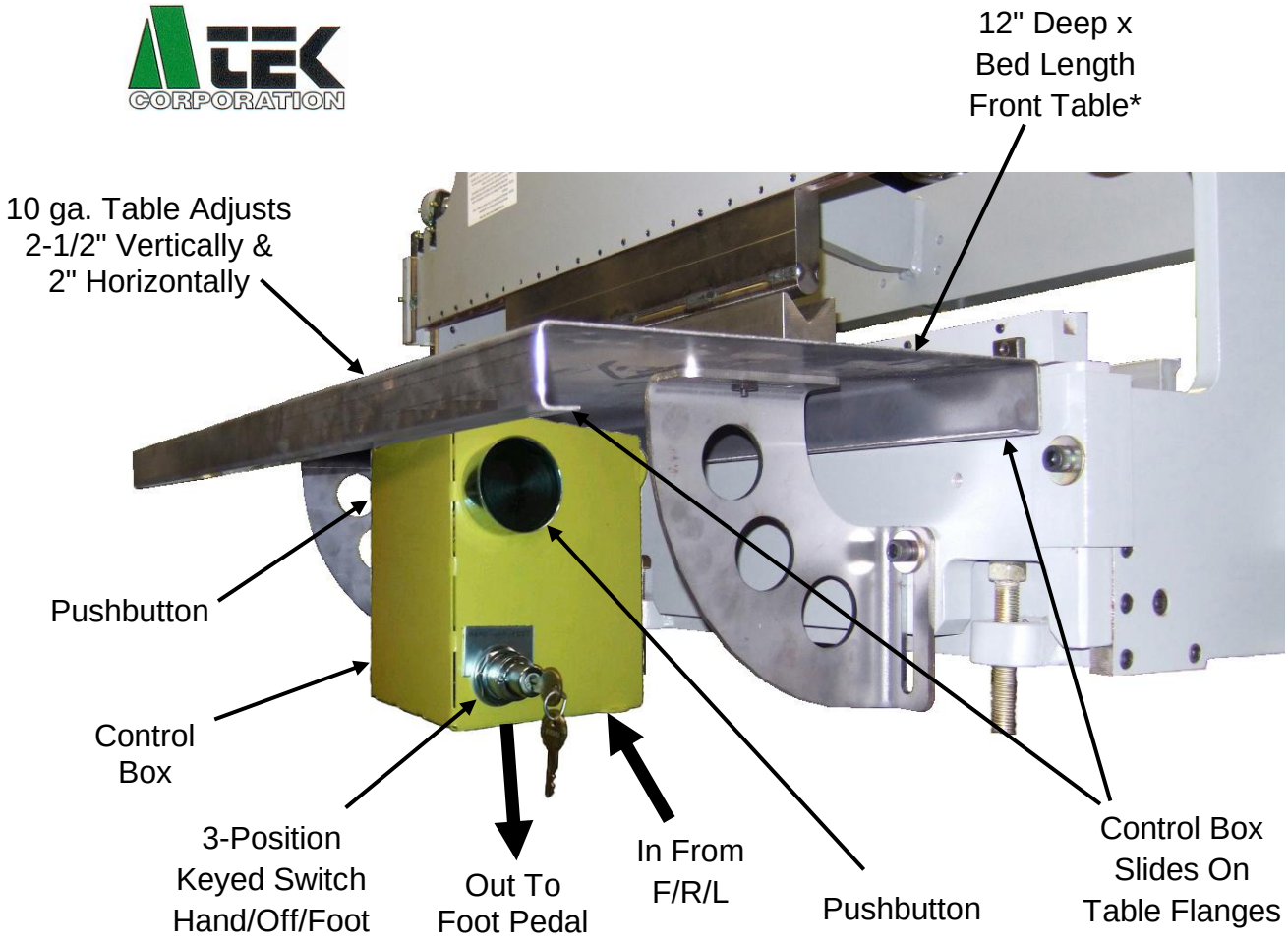
Two-Hand Pushbutton Safety Control



The Two-Hand Pushbutton Safety Control with the front workpiece support table keeps the operator's hands away from the point of operation. In the 'Hand' mode, press and hold both pushbuttons for air to flow to the foot pedal. The foot pedal still controls ram motion. Operated by a 3-position keyed selector switch. The key can be removed in all three positions.

Hand Press and hold both pushbuttons to initiate ram motion with the foot control. If either pushbutton or the foot pedal is released, the ram retracts to the top position.

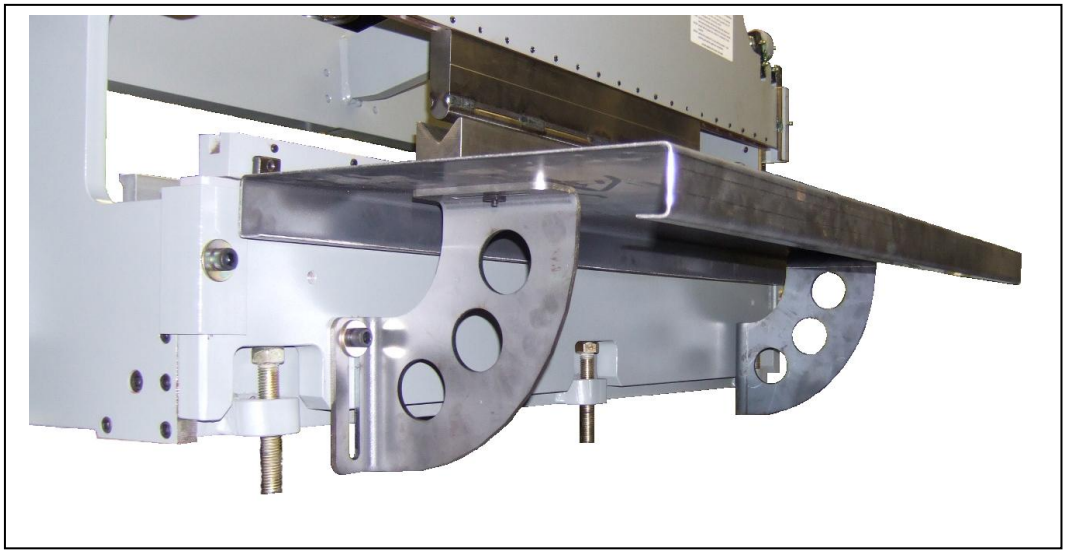
Off The machine will not operate.

Foot Bypasses pushbutton device. The machine can be cycled with the foot pedal only. This mode is for set up or to free the operator's hands when forming large parts.

Part No.	Length*
SA2	2 ft
SA4	4 ft
SA5	5 ft
SA6	6 ft
SA8	8 ft
SA10	10 ft

* 8 and 10-foot bed lengths have (2) 4-foot or (2)5-foot tables.

Front Workpiece Support Table



Horizontal Adjustment: **2"**

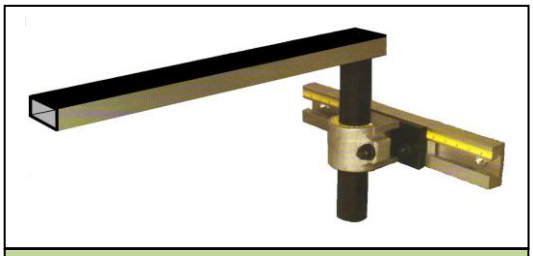
Vertical Adjustment: **2-1/2"**

Table Size:	**Part No.**	**Front-To-Back**	**Left-To-Right**	**Wt, lbs.**
	FT200	12"	2 ft	25
	FT400	12"	4 ft	45
	FT500	12"	5 ft	55
	FT600	12"	6 ft	65
	FT800*	12"	8 ft	90
	FT1000*	12"	10 ft	110

* Two 4-foot or 5-foot wide tables side-by-side.

Includes:
(1) 10 ga. Reverse Flanged Table Top
(2) Support Brackets
(2) Socket Head Cap Screws with Washers
(2) Flat Head Cap Screw
(2) T-Nuts

Large Sheet Support

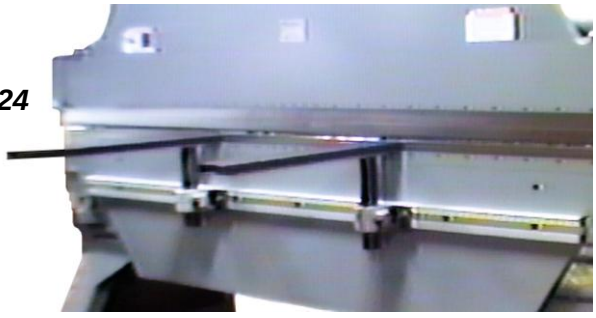


Large Sheet Support Part No. LSS with optional PGTR bed t-rail

Part No. LSS
Support Size: 3" wide x 30" long
Vertical Adjustment: 9"
Rotary Motion: 180°

Use a Large Sheet Support when bending large, thin, floppy sheets that are difficult for the operator to support, hold against the back gauge, and keep square for accurate, repeatable bends. Each unit bolts directly to the front of the bed or clamps anywhere down the length of the optional bed t-rail.

Atek Bantam Press Brake Model B824
with ***LSS800 Large Sheet Support***
Includes: Two LSS Units
8 ft of PGTR bed t-rail



A unique Large Sheet Support part no. LSSFT is used on a machine with an Atek Front Workpiece Support Table attached. Each 18" unit clamps to the return flange under the table anywhere down its length.

Bottom View: Shows the support extending under the table for added rigidity.

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Segmented Safety Tang Clamp Ram

The clamp ram can hold a straight or safety, hook tang punch and short tool segments. The flip lever opens the spring-loaded clamp. A safety tang punch hooks into the clamps. When the clamps loosen, the safety tang punch can't drop out of the ram, eliminating a safety hazard and preventing tooling damage. Tighten two button head cap screws on each clamp before use.

Clamp Length: 5-1/2"
Clamp Centers: 6"
Holds: Straight or Hook Tang Punch

Part No.	Bed Length	No. of Clamps
CR2	2 ft	4
CR4	4 ft	8
CR5	5 ft	10
CR6	6 ft	12
CR8	8 ft	16
CR10	10 ft	20

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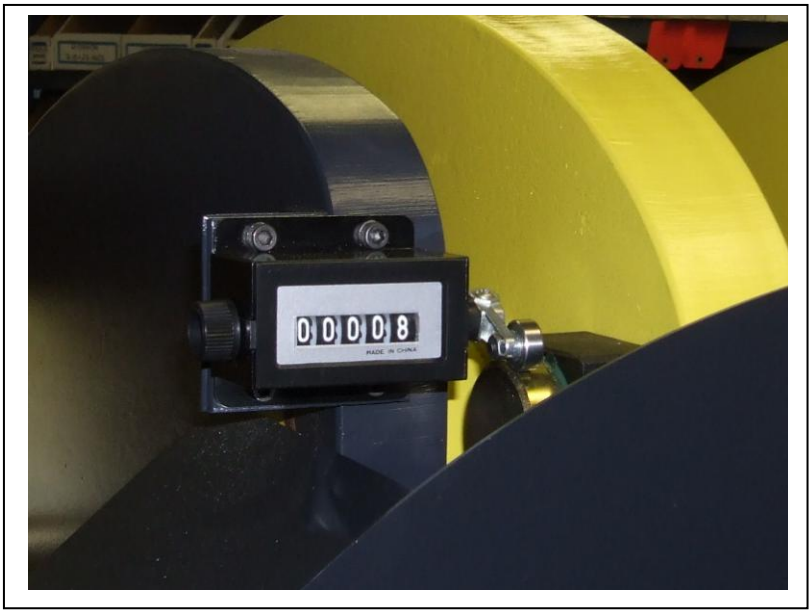
Production Parts Counter



Production Parts Counter, Part No. PPC

A handy addition to keep track of the number of parts bent. The five digit counter mounts on the front, left side frame at eye level and is tripped on each ram upstroke. Rotate knob to zero out.

Turnkey Bending & Punching Machine

Atek Bantam Model B424, 4 ft bed, 24-ton capacity

APPLICATION: Bend thin steel into u-channels of various lengths and punch holes at varying distances.

To bend, the die holder is clamped on top of the bed and adjusts the vee die to align with the punch.

To punch, the c-shaped punch units mount to a thick steel plate directly bolted to the top surface of the bed.

A series of tapped and dowel pin holes stamped with part numbers hold and locate the punching units.

A striker plate mounts in the ram.

Part mounting blocks attach to the punch units on each end to hold and accurately align the part.

The right mounting block has a two-position stop to vary the distance from edge to hole.

To absorb breakthrough shock, the ram stop is set to engage when the punches break through.

Slide a part in from the left or curl it over the top and push it to the right up against the stop.

Cylinders, rotary lever, & punch units at rest.

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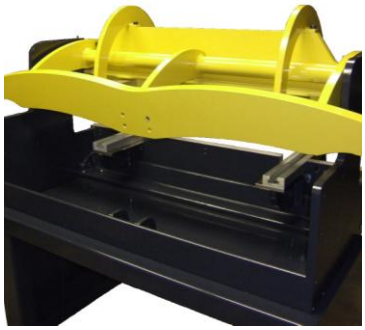
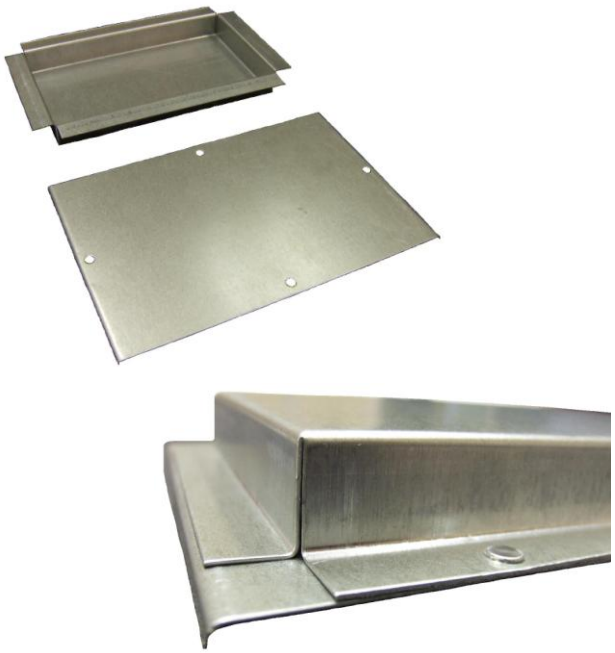
Special Machines

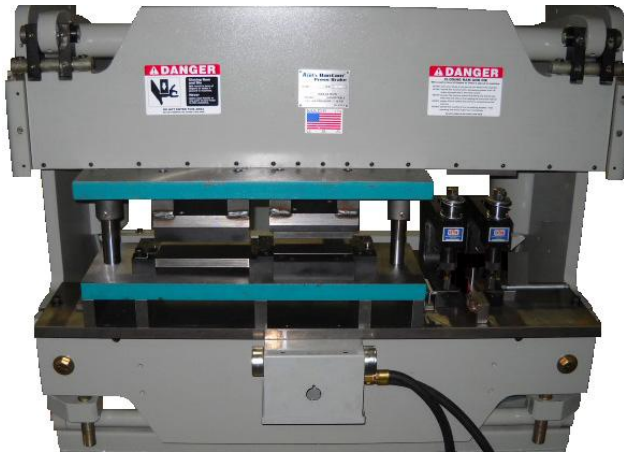
Forming Press



A special door forming press with arched supports and quick die change system holds various sizes of off-the-shelf stamping die sets.

Form & Clinch





Model B424 with three stations:

1. Double hat channel forming die.
2. Short flange u-channel forming die.
3. Twin clinching units join parts.

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Special Machines

Bend & Punch

Dual purpose bending/punching machine. Bend u-channel and punch holes down its length.

More Tooling Space

A standard side frame and three taller versions that provide additional tooling space.

Box Forming

This machine with extra tooling space holds a tall box forming punch.

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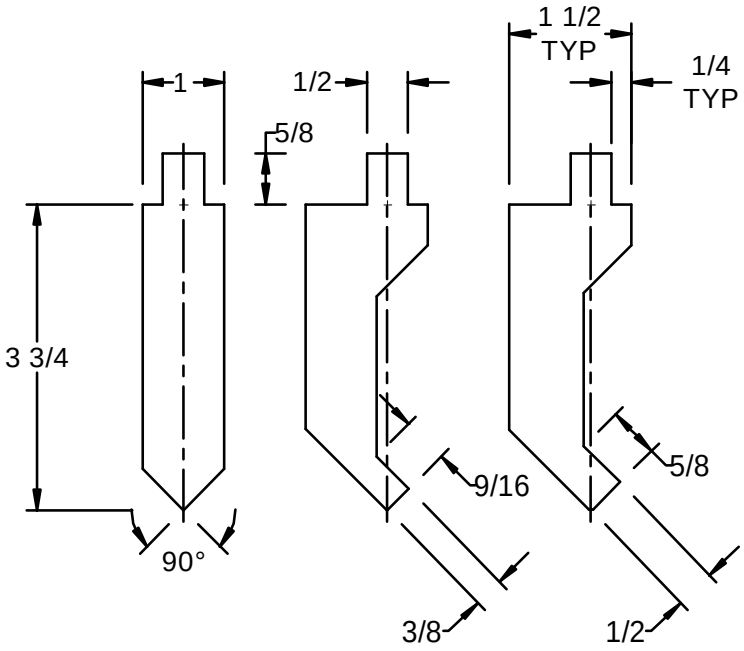
Stock Tooling

90° Punches & Vee Dies

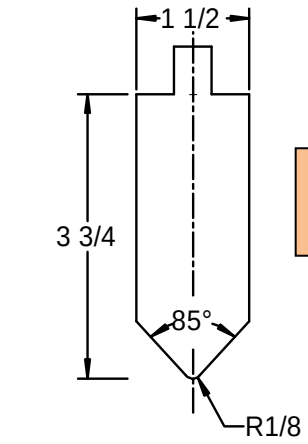
Gooseneck Punches

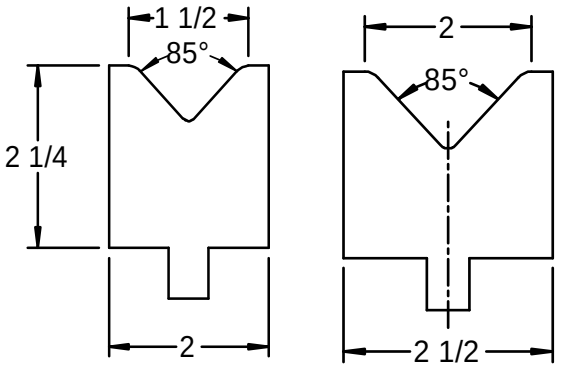
90P100 | 90GP375 | 90GP625



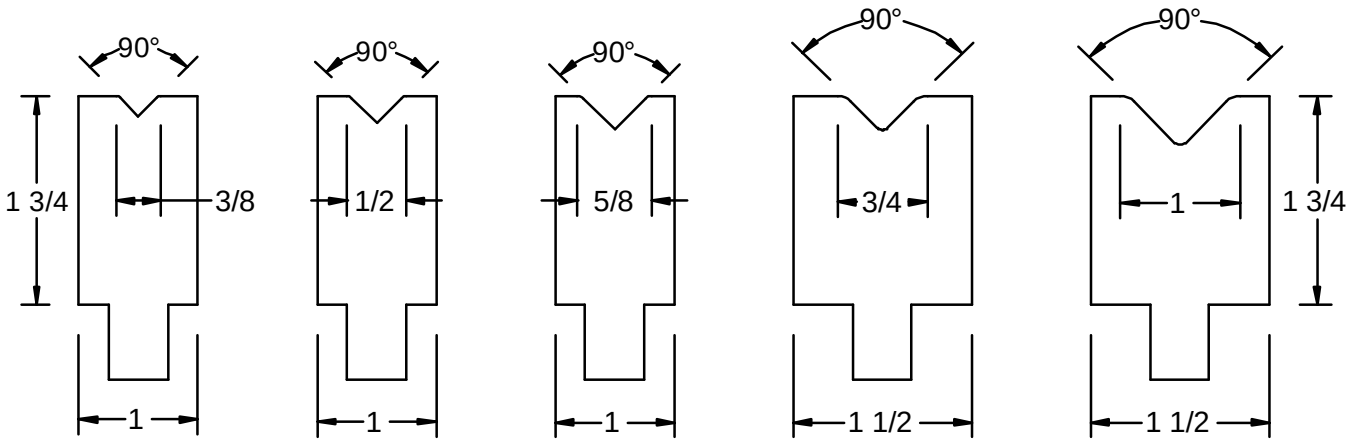
85° Punch & Vee Dies

85P150





85D150 | 85D200



90D375 | 90D500 | 90D625 | 90D750 | 90D100

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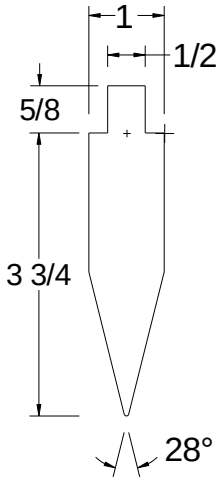
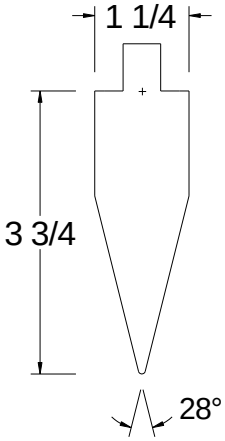
Stock Tooling

30° Punches & Vee Dies

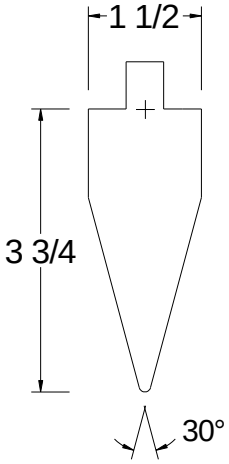
30P100

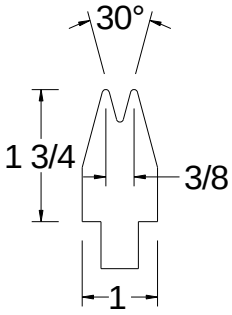


30P125

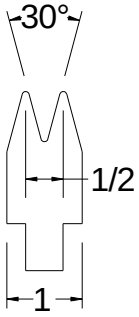


30P150

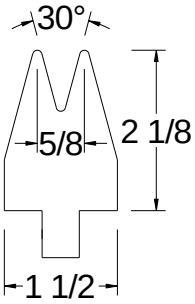




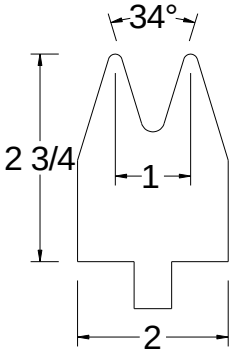
30D375



30D500



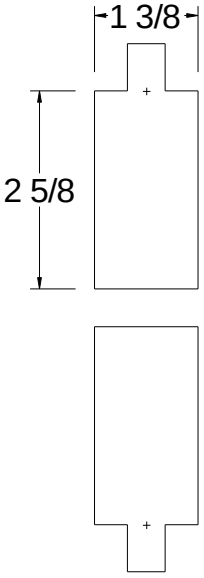
30D625



30D100

Flattening Punch

FP137



FD137

Flattening Die

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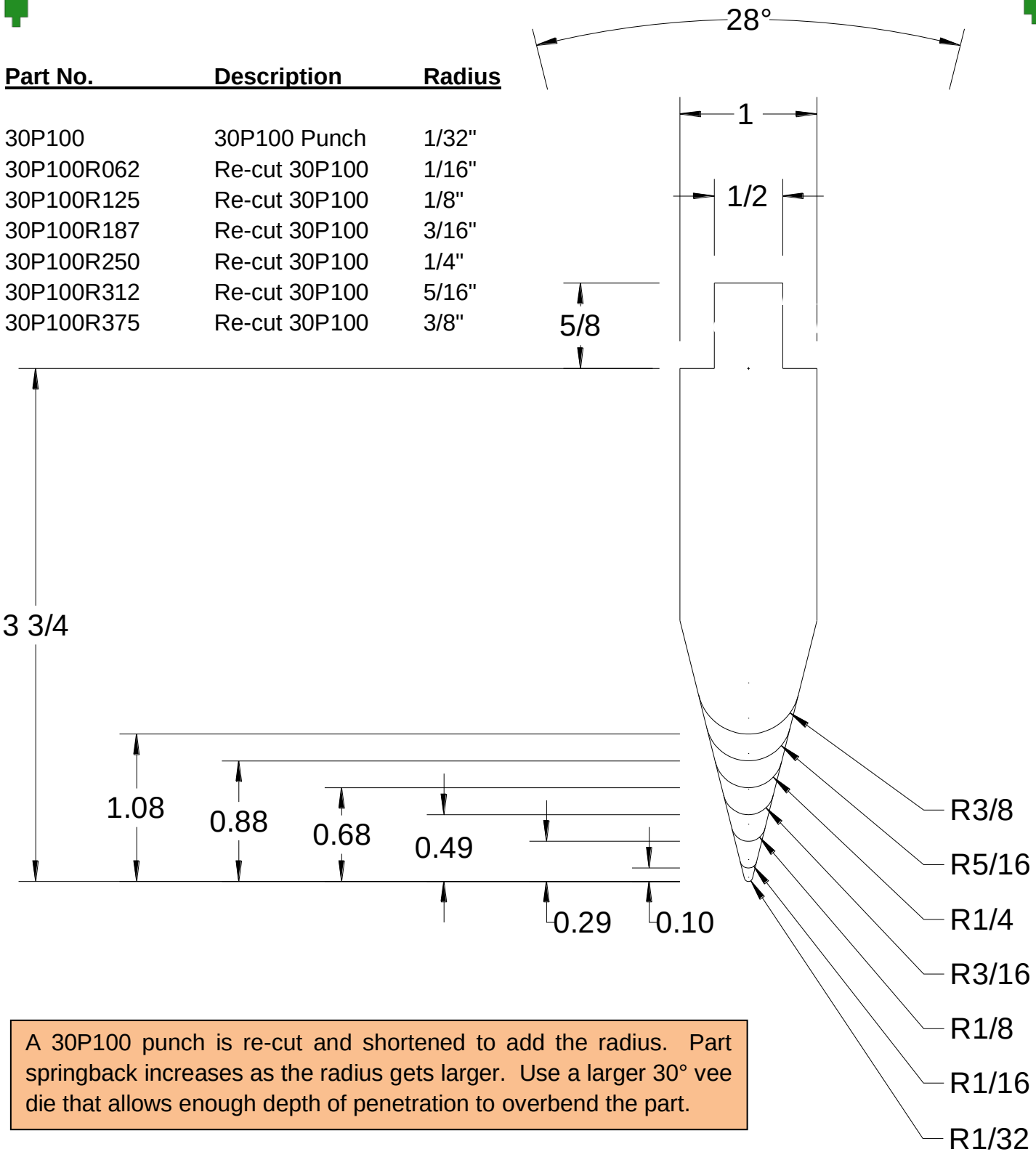
Large Radius Punches

Part No.	Description	Radius
30P100	30P100 Punch	1/32"
30P100R062	Re-cut 30P100	1/16"
30P100R125	Re-cut 30P100	1/8"
30P100R187	Re-cut 30P100	3/16"
30P100R250	Re-cut 30P100	1/4"
30P100R312	Re-cut 30P100	5/16"
30P100R375	Re-cut 30P100	3/8"



A 30P100 punch is re-cut and shortened to add the radius. Part springback increases as the radius gets larger. Use a larger 30° vee die that allows enough depth of penetration to overbend the part.

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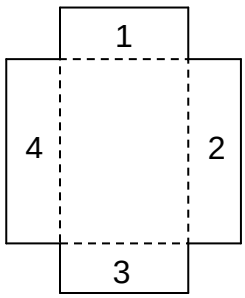
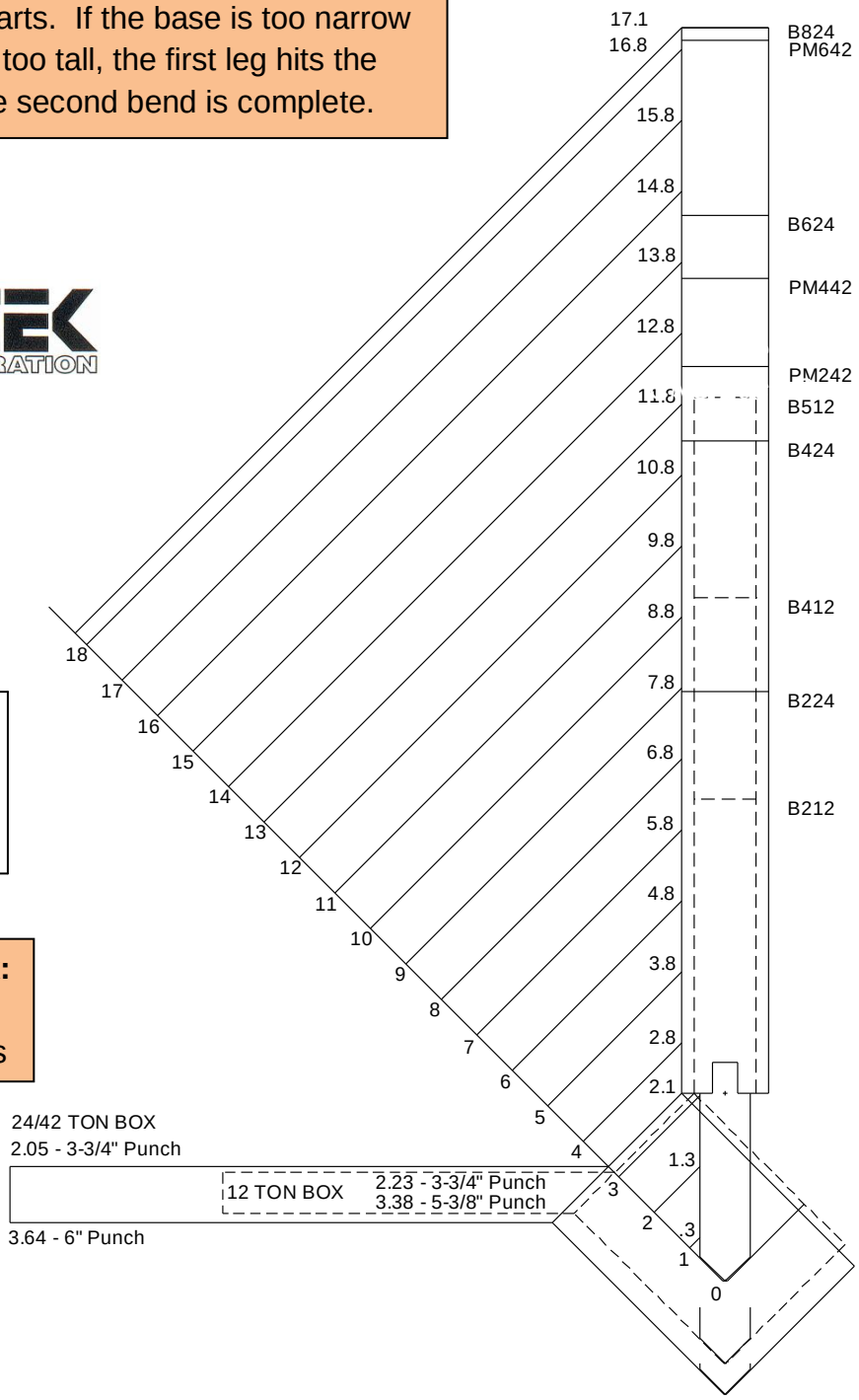
U-Shapes & One-Piece Box Forming

This drawing shows the maximum leg length of u-shaped parts. If the base is too narrow or the first leg too tall, the first leg hits the ram before the second bend is complete.



One-Piece Box: flat blank with notched corners



Punch height and ram thickness determine the maximum depth of a one-piece box. Both the tallest punch and a 3-3/4" punch is shown for 12 and 24/42 ton models. A deeper box needs a taller punch and extra tooling space machine side frames.

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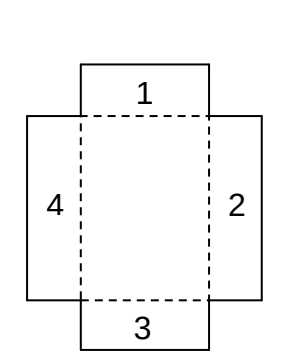
Extra-Tall Box Forming Punch

Application: Make a one-piece box from a sheet with four corners notched out. Bend sides one and three. The punch must be tall enough and cut to length 'B' to reach down into the box far enough to bend sides two and four before sides one and three whip up and hit the bottom of the ram.



flat blank with notched corners

Punch Description	***Punch Height 'A'***	***Maximum Box Depth****
Standard 90° Punch	3-3/4"	2"
Maximum 'A', 12 Ton Models	5-3/8"	3-3/8"
Maximum 'A', 24/42 Ton Models	6"	3-5/8"
Add'l Tooling Space Side Frames	2" increments	add 1.4" to max.

* Using 3/8" to 1" wide x 90° vee dies and a 1/4" tooling gap at rest.

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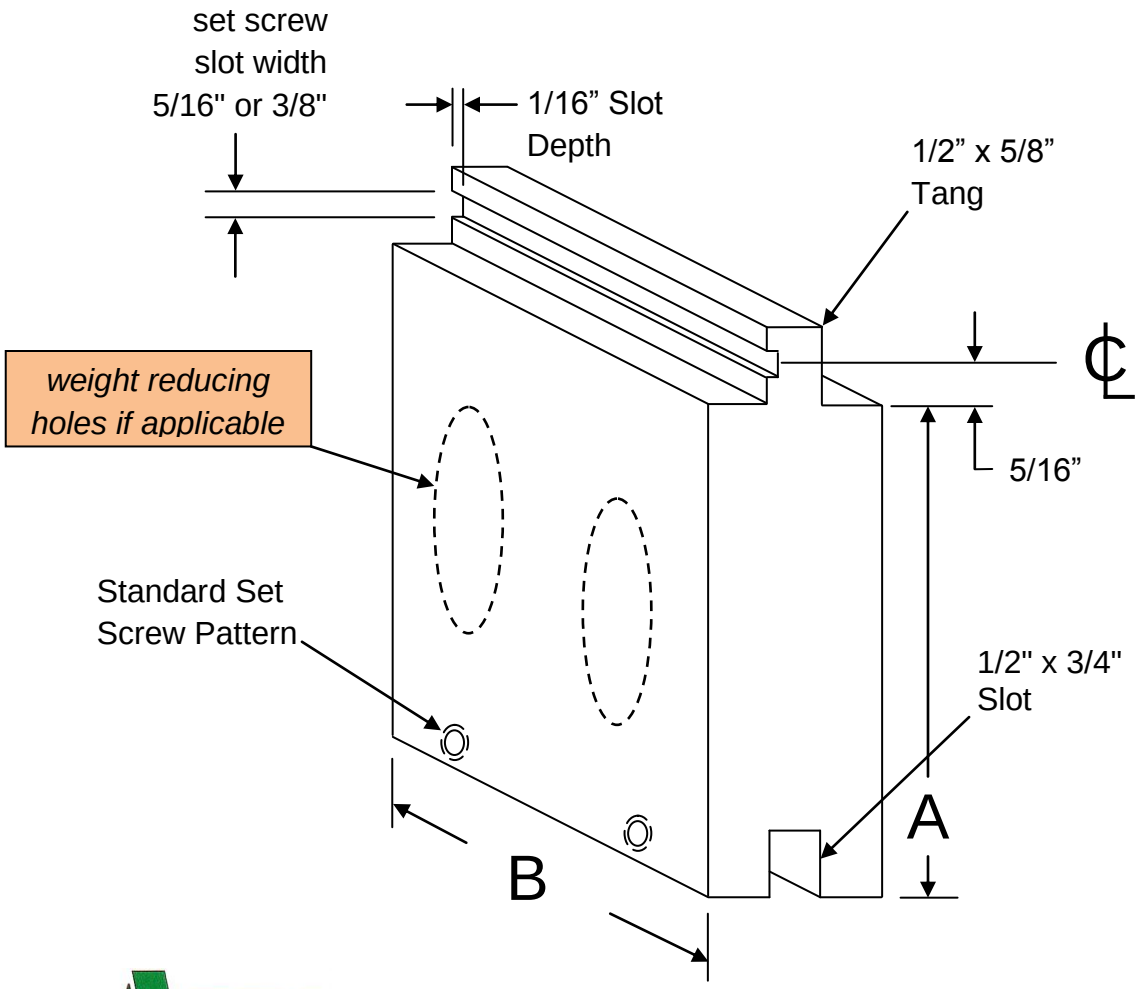
Ram Spacer

A press brake with additional tooling space side frames for box forming punches or an extra tall die set might need a ram spacer before shorter stock tools can be used.



Made from one solid piece of steel or a three-piece weldment.

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Tonnage Chart

Force required in tons per foot to air bend 60,000 PSI tensile strength mild steel.
Adjust proportionally for tensile strength of other materials or bend type.

Tensile Strength Multiplier:	Soft Aluminum & Brass - .50 1/2 Hard Brass - 1.25	Aluminum Alloys - .75 Stainless Steel - 1.50

METAL THICKNESS		**WIDTH (IN.) OF FEMALE VEE DIE OPENING** *Shaded area denotes recommended vee die, where the width is 8 times the metal thickness.*															
Ga.	**In.**	**1/4**	**5/16**	**3/8**	**1/2**	**5/8**	**3/4**	**7/8**	**1**	**1-1/8**	**1-1/4**	**1-1/2**	**2**	**2-1/2**	**3**	**3-1/2**	**4**
22	.030	1.8	1.4	1.0	.8												
20	.036	2.9	2.1	1.7	1.2	1.0											
18	.048		4.0	3.0	2.2	1.6	1.3										
16	.060			5.6	3.7	2.7	2.2	1.7									
14	.075				6.0	4.6	3.4	3.0	2.5	2.1							
13	.090					6.8	5.5	4.3	3.7	3.3	2.9						
12	.105					10.1	7.4	6.4	5.4	4.4	4.0	3.2					
11	.120						10.5	8.8	7.4	6.2	5.4	4.3	3.2				
10	.135							11.3	9.6	8.3	7.0	5.6	4.1				
9	.150								13.1	11.9	9.2	6.7	5.2	3.5			
7	.188									16.4	14.0	12.0	7.6	5.8	4.5		
1/4	.250										28.8	22.0	16.0	11.5	9.1	7.5	6.2
5/16	.312											38.0	26.0	20.0	16.0	12.5	10.6
3/8	.375												41.0	29.9	24.0	19.4	16.0
7/16	.437													45.2	35.0	28.0	24.0
1/2	.500														47.9	39.0	32.0
5/8	.625															65.5	57.9
3/4	.750																92.3
Bend	**Radii**	1/32	3/64	1/16	5/64	3/32	1/8	9/64	5/32	11/64	3/16	15/64	5/16	25/64	15/32	35/64	5/8

Bend Multiplier

Bend Type	**Multiplier**	**Bend Type**	**Multiplier**
Bottom Bend	2.5	Material Thickness Offset	5 to 10
Large Radius	3 to 5	Large Offset	2.5 to 10
Teardrop Hem	3.75	3-Bend '**W**' Die	5 to 10
Flat Hem	5	3-Bend ' **V** ' Vee	3.5 to 10
2-Bend U-Channel	5	Half Round Rib	6
4-Bend Hat Channel	5 to 10		

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