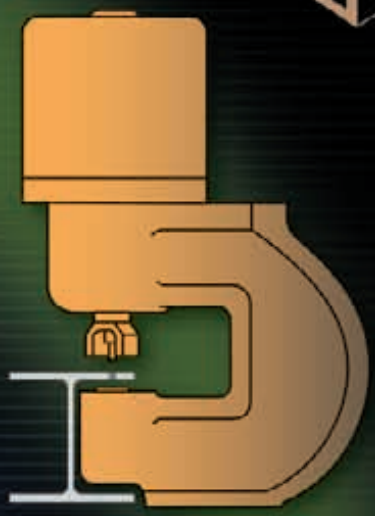
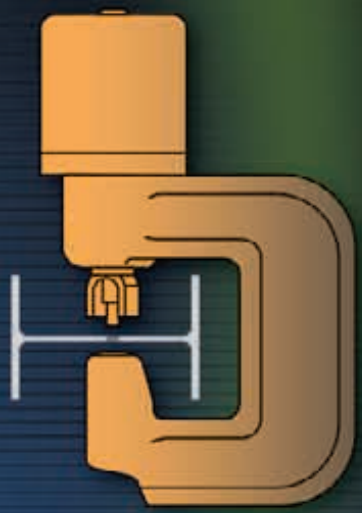
W.A. Whitney Portable Presses

for Structural Fabricating



Flange Presses



Web Presses

Whitney PRO-Series

W.A. WHITNEY — LEADER IN PORTABLE HOLE PUNCHING

PORTABLE PRESSES ARE VERSATILE...

Punching is one of the least expensive ways of making holes in structural shapes. W.A. Whitney portable presses reduce "hole" costs because punching takes only a small fraction of the time required for drilling or burning holes and eliminates clean-up operations. You can make money punching wide flange beams, columns, channel iron, angle iron, I-beams, plate and other materials. The twenty-two press models shown in this catalog have the versatility to meet most on-the-job requirements.

Flange Presses

(For punching flanges of beams, channels and legs of angle)

TAKE THE PRESS TO THE WORK

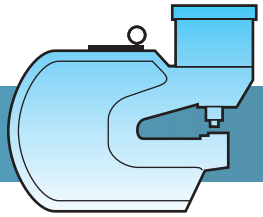
On the Job Site

- Structural Fabrication Plants
- Ship Building
- Rail Car Builders
- Bridge Fabricators
- Tower Fabricators
- Sign Shops
- Miscellaneous Steel Fabrication

MODELS FOR EVERY SHAPE

- Wide Flanges
- Channels
- 'I' Beams
- 'T's
- Angles
- Flats
- Specials

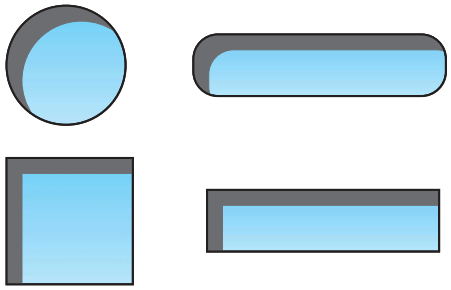
250 TON FLANGE PRESS



W.A. WHITNEY — LEADER IN PORTABLE HOLE PUNCHING

PUNCH HOLES FAST AND CLEAN MANY SHAPES

(See page 19)



(Drills Make Chips & Only Round Holes)

EASILY MOUNT ON STAND

Standard presses have cast flanges for clamping to table... also used to hold large presses when not suspended.
(Customer can easily make clamps.)

PUNCH

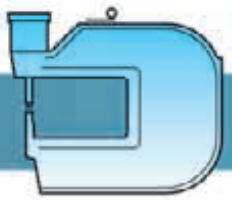
- A-36 Structural Steel
- A-572 Steel
- Cor-Ten
- Stainless Steel
- Aluminum
- Brass, Copper & Many Others

Web Presses

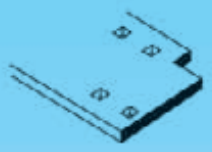
(For punching webs of beams and channels)

(Hand grips optional on standard presses)

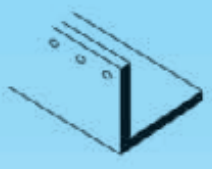
ALL W.A. WHITNEY PRESSES FEATURE...



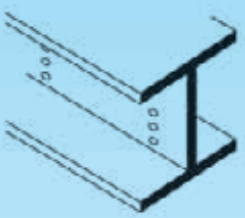
- Brute force; Proven high pressure hydraulics; 5000 P.S.I; Precise control; Smooth-Shock free



- Double-acting hydraulics; No spring stripping
- Rugged cast steel frame construction; Take abuse; Long life

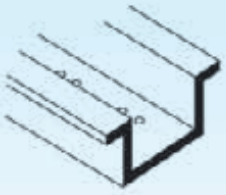


- Quick easy tool change; Change hole size in minutes
- Take presses to the work; Reduce material handling; Don't drag the work to the press

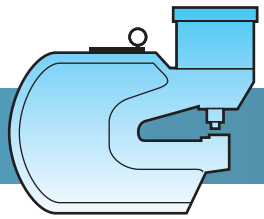


- Complete punch cycle control; Jog punch to layout mark
- Clean punched holes; Any shape; No burrs; Scrap removed as slug without messy chips

- Lowest cost method; Just a few seconds per hole
- Easily maintained; Backed by W.A. Whitney Co. parts and services

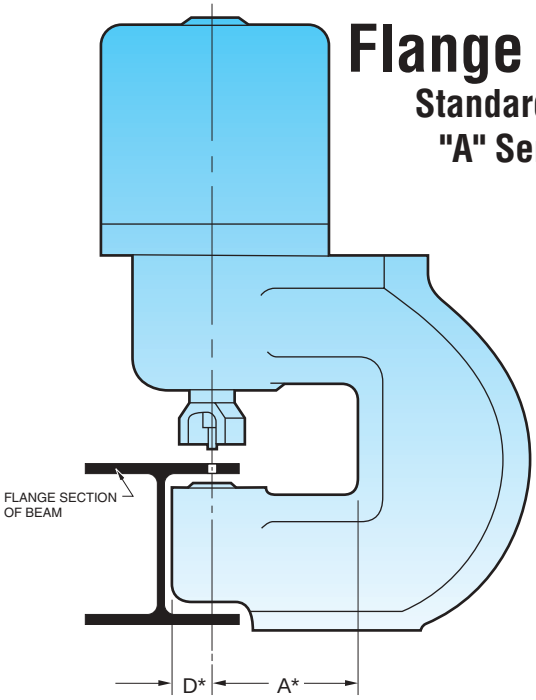


- "A" Series presses offer advanced features to improve production and prolong press life

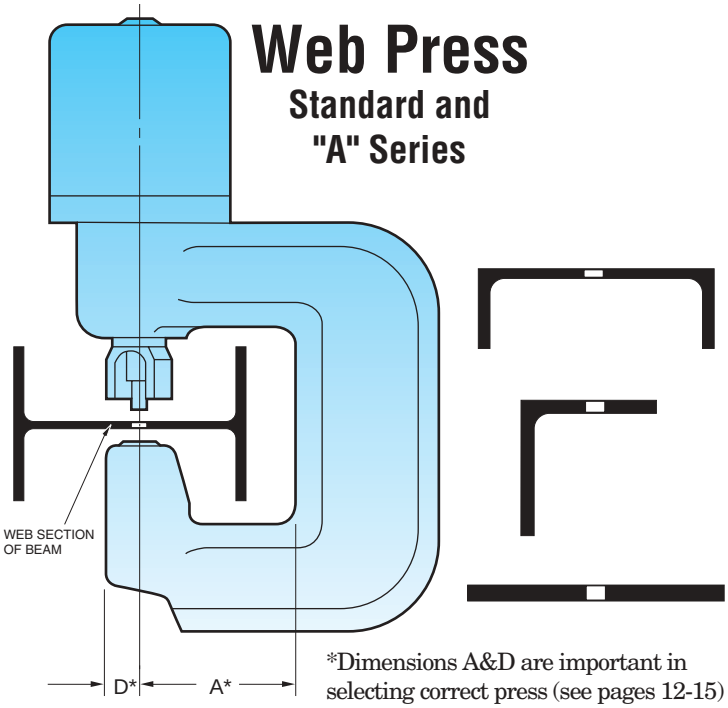


TWO BASIC TYPES OF W.A. WHITNEY PORTABLE PRESSES

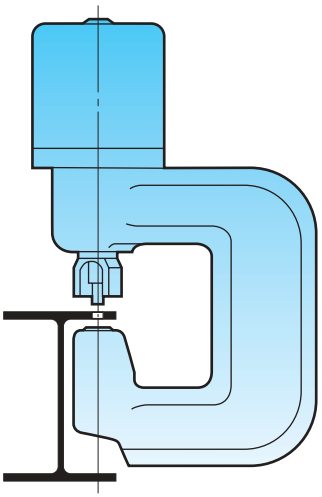
Flange Press
Standard and "A" Series

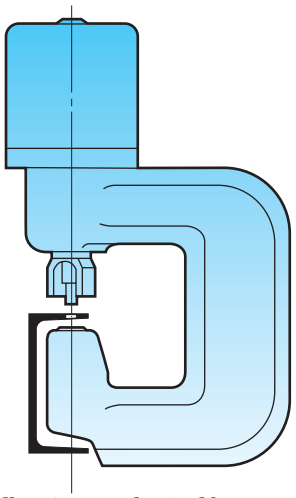


Web Press
Standard and "A" Series



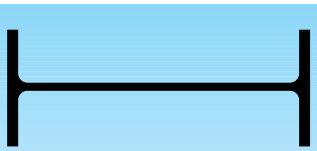
*Dimensions A&D are important in selecting correct press (see pages 12-15)





Can also punch the flange section but smaller sizes are limited by pedestal height as shown

STANDARD SHAPES TYPICALLY PUNCHED WITH PORTABLE PRESSES



DESCRIPTION	TYPICAL DESIGNATION
Wide Flange Beam or "W" Beams (Flanges are Straight)	For Example: W 21 x 68 W=Wide Flange 21 =2 1" Wide 68=68#/LIN.FT.

DESCRIPTION	TYPICAL DESIGNATION
Angle	For Example: 6" x 6" x 1/2" Both Legs 6" LG., 1/2" Thick

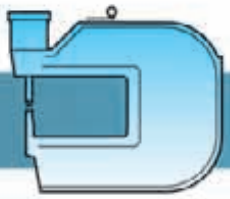
DESCRIPTION	TYPICAL DESIGNATION
American Standard Channel **(Note: Flanges are Tapered)	C8 x 13.75 8" Channel Weighing 13.75#/FT.

DESCRIPTION	TYPICAL DESIGNATION
Ship & Car Channel (Note: Flanges are Straight)	MC 13 x 50 13" Channel Weighing 50#/FT.

DESCRIPTION	TYPICAL DESIGNATION
"I" Beam **(Note: Flanges are Tapered)	S12 x 31.8 12" "I" Beam Weighing 31.8#/ FT.

DESCRIPTION
Flat Bar

SELECTION OF A PORTABLE PRESS FABRICATING CENTER



1) What are you punching...Angle, Flat Bar, Channel, Beams, Plate, Special Shapes?
   Action: Select Flange and/or Web Style Press (see page 5)

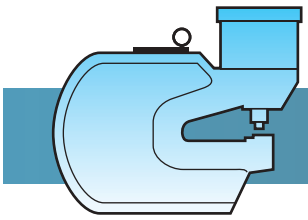
2) What are the materials and hole sizes/shapes required?... Steel, Copper, Aluminum, etc.
   Action: Determine tonnages, use handy chart (page 7) for complete punching information request Technical Paper "Punching & Shearing Science"

3) How fast do you want to punch?
   How many presses are you going to run?
   Action: Select hydraulic power unit; determine proper HP, 1, 2 or 3 valve hookups etc. (see page 16)

4) How far from Power Unit do you want to operate presses?
   Action: Select proper hose & control wire assembly (see page 16)

5) How will the press be mounted or suspended?
   Action: Select proper suspension spring (see page 18) or make stationary mountings

6) What are tooling requirements...Tooling style, shape, die clearances etc.?
   Action: Select proper tool style (see page 19) Use Ironworker and Structural Tooling Catalog



TONS FORCE REQUIRED TO PUNCH ASTM-A36 STRUCTURAL STEEL

(60,000 PSI shear strength) for other materials see chart below for multipliers

	MATERIAL THICKNESS												
HOLE DIA. (inches)	1/16 0.063	1/8 0.125	3/16 0.187	1/4 0.250	5/16 0.312	3/8 0.375	1/2 0.500	5/8 0.625	3/4 0.750	7/8 0.875	1 1.000	1-1/8 1.125	1-1/4 1.250
1/4	1.4	3.0	4.4	5.9	7.3	8.8							
5/16	1.8	3.7	5.5	7.4	9.2	11.0							
3/8	2.1	4.4	6.6	8.8	11.0	13.3	17.7						
7/16	2.5	5.2	7.7	10.3	12.9	15.5	20.6						
1/2	2.8	5.9	8.8	11.8	14.7	17.7	23.6	29.5					
9/16	3.2	6.7	9.9	13.2	16.5	19.9	26.5	33.1					
5/8	3.5	7.4	11.0	14.7	18.4	22.1	29.4	37.0	44.2				
11/16	3.9	8.1	12.1	16.2	20.2	24.3	32.4	40.5	48.6				
3/4	4.2	8.9	13.2	17.7	22.1	26.5	35.3	44.2	53.0	62.0			
13/16	4.6	9.6	14.3	19.1	24.0	28.7	38.3	48.0	57.4	67.0	76.6		
7/8	4.9	10.3	15.4	20.6	25.7	31.0	41.0	51.5	62.0	72.2	82.5		
15/16	5.3	11.1	16.5	22.1	27.6	33.1	44.2	55.2	66.3	77.3	88.3	99.4	
1	5.6	11.8	17.6	23.6	29.4	35.3	47.1	59.0	70.7	82.5	94.3	106.0	
1-1/16	6.0	12.5	18.7	25.0	31.3	37.6	50.0	62.6	75.0	87.7	100.0	113.0	125.2
1-1/8	6.3	13.3	19.8	26.5	33.0	39.7	52.9	66.2	79.4	92.7	106.0	119.0	132.5
1-3/16	6.7	14.0	20.9	28.0	34.9	42.0	55.9	69.9	83.9	97.9	111.9	125.9	139.9
1-1/4	7.1	14.7	22.0	29.5	36.8	44.2	58.9	73.7	88.4	103.2	117.9	132.6	147.3
1-5/16	7.4	15.5	23.1	30.9	38.6	46.3	61.8	77.2	92.7	108.1	123.6	139.0	154.6
1-3/8	7.8	16.2	24.2	32.4	40.4	48.6	64.8	81.0	97.2	113.4	129.6	145.8	162.0
1-1/2	8.5	17.7	26.4	35.3	44.1	53.0	70.6	88.3	106.0	123.6	141.3	159.0	176.7
1-3/4	9.9	20.6	30.9	41.2	51.5	61.9	82.5	103.1	123.7	144.3	164.9	185.6	206.2
2	11.3	23.6	35.3	47.1	58.8	70.7	94.3	117.8	141.4	164.9	188.5	212.1	235.6
2-1/4	12.7	26.5	39.7	53.0	66.2	79.5	106.0	132.5	159.0	185.6	212.1	238.6	
2-1/2	14.2	29.5	44.1	58.9	73.5	88.4	117.8	147.3					
2-3/4	15.6	32.4	48.5	64.8	80.9	97.2	129.6						
3	17.0	35.4	52.9	70.7	88.2	106.0	141.4						

CHART MULTIPLIER for materials other than A-36 structural steel

TYPE OF MATERIAL	SHEAR STRENGTH PSI	CHART MULTIPLIER
Aluminum, 1/2 hard sheet	19,000	.32
Copper, rolled	28,000	.47
Mild Steel - H.R. Plate 1020	50,000	.83
Boiler Plate	55,000	.92
Structural Cor-Ten (ASTM -A242)	66,000	1.10
Structural A572-GR50	70,000	1.17
Steel, 50 Carbon HP Plate	70,000	1.17
Steel, Stainless 302, 304, 316	70,000	1.17
Structural T-1	90,000	1.50

For punching materials with a different shear strength than 60,000 PSI as listed in the tonnage charts, it is necessary to use a multiplier for calculating the proper amount of force required to punch the hole.

NOTE: To promote good punch life, always check material thickness to punch diameter ratio. Request Technical Paper "Punching & Shearing Science" for recommendations and explanation.

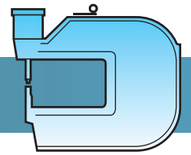
EXAMPLE

To punch a 7/8" diameter hole through 7/8" material, the force required (from the chart) is 72.2 tons. If this material is stainless steel, with a shear strength of 70,000 PSI, the correct multiplier to use is 1.17 — therefore; 72.2 tons x 1.17 = 84.5 tons, actual force required.

PRESS SELECTION...

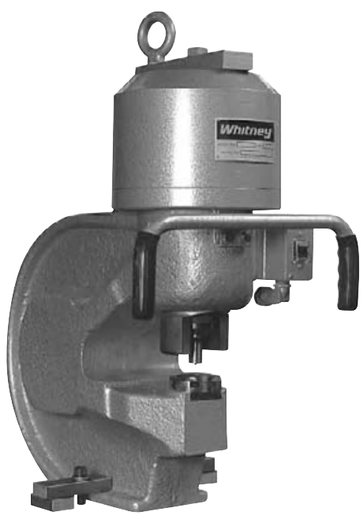
STANDARD FLANGE PRESSES

- 20 to 90 ton capacities
- Handgrips optional on 30 to 90 ton models



	CAPACITY (tons)	MAX. DIA. HOLE*	MAX. MATERIALS THICKNESS*	THROAT DEPTH	STROKE	WEIGHT (lbs.)	PUNCH STYLE	DIE STYLE	RECOMMENDED POWER UNIT	APPROX. PUNCHING CYCLE TIME
720	20	13/16	9/16	2-1/4	7/8	36	720	720	700-SV-1A or 700-SV-3A	5.00 3.00
720X6	20	13/16	9/16	6	7/8	77	720	720	700-SV-1A or 700-SV-3A	5.00 3.00
730	30	1-1/2	5/8	3-1/8	7/8	70	740	740	700-SV-1A or 700-SV-3A	7.00 4.00
730CC	30	13/16	5/8	3-1/8	7/8	70	740	720	700-SV-1A or 700-SV-3A	7.00 4.00
730X8	30	1-1/2	5/8	8	7/8	130	740	740	700-SV-1A or 700-SV-3A	7.00 4.00
750	50	1-1/2	3/4	4-1/4	1-3/8	200	740	740	700-SV-3A or 700-SV-10A	12.00 5.00
770	70	1-3/8	1	4-1/4	1-3/8	240	770	740	700-SV-10A	6.00
790	90	1-1/4	1	4-1/4	1-3/8	275	770	740	700-SV-10A or 700-SV-20A	7.00 4.00
790AX6	100	1-1/2	1-1/8	6-1/4	1-5/8	450	770 790XX	740 790XX	700-SV-10A or 700-SV-20A	8.00 5.00
7150AX6	150	2	1-3/8	6-1/4	2	1100	770/790XX 7501	7502	700-SV-20A	9.00
7150AX12	150	3	1-3/8	12-1/2	2	2100	770/790XX 7501	7602	700-SV-20A	9.00
7250AX12	250	2-3/8	1-3/8	12-1/2	2	4800	7501	7602	700-SV-20A	14.00

* Hole diameter & material thickness capacities are given independent of each other. Maximum diameter of hole punched in a given thickness of material is dependent on press tonnage capacity and material specifications. See charts on Page 7.

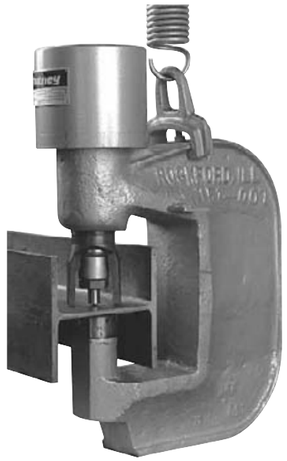


Shows clamps for mounting to bench

"A" SERIES FLANGE PRESSES

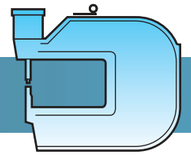
- 100 to 250 ton capacities
- Automatic ram reversal
- Can use keyed punches and dies
- Replaceable die pockets
- Handgrips standard- 100 & 150 ton models only

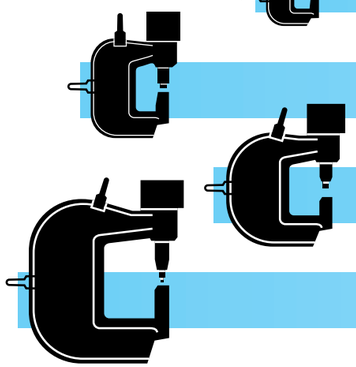
PRESS SELECTION...

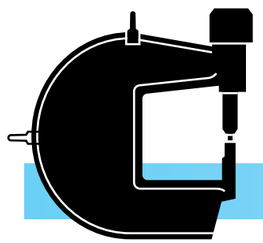


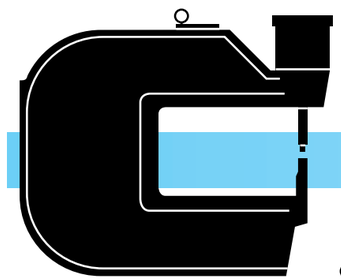
STANDARD WEB PRESSES

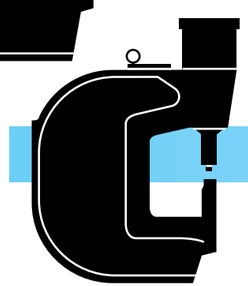
- 20 to 90 ton capacities
- Eye brackets adjustable for horizontal or vertical suspension
- Handgrips optional-all models











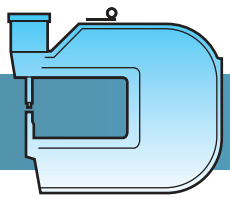
	CAPACITY (tons)	MAX. DIA. HOLE*	MAX. MATERIALS THICKNESS*	THROAT DEPTH	STROKE	WEIGHT (lbs.)	PUNCH STYLE	DIE STYLE	RECOMMENDED POWER UNIT	APPROX. PUNCHING CYCLE TIME
721	20	13/16	9/16	2-3/4	7/8	58	720	720	700-SV-1A or 700-SV-3A	5.00 3.00
731	30	13/16	9/16	4-1/4	7/8	124	740	720	700-SV-1A or 700-SV-3A	7.00 4.00
751	50	1-1/2	3/4	6-1/4	1-3/8	300	740	740	700-SV-3A or 700-SV-10A	12.00 5.00
771	70	1-1/2	1	7-3/4	1-3/8	560	770	740	700-SV-10A	6.00
791	90	1-1/2	1	12-1/2	1-3/8	1200	770	740	700-SV-10A or 700-SV-20A	7.00 4.00
791AX18	100	1-1/2	1-1/8	18-1/2	1-5/8	2000	770 790XX	740 790XX	700-SV-10A or 700-SV-20A	8.00 5.00
791AX30	100	1-1/2	1-1/8	30-1/2	1-5/8	4500	770 790XX	740 790XX	700-SV-10A or 700-SV-20A	8.00 5.00
7151AX12	150	2	1-3/8	12-1/2	2	3600	770/790XX 7501	7502	700-SV-20A	9.00

* Hole diameter & material thickness capacities are given independent of each other. Maximum diameter of hole punched in a given thickness of material is dependent on press tonnage capacity and material specifications. See charts on Page 7.

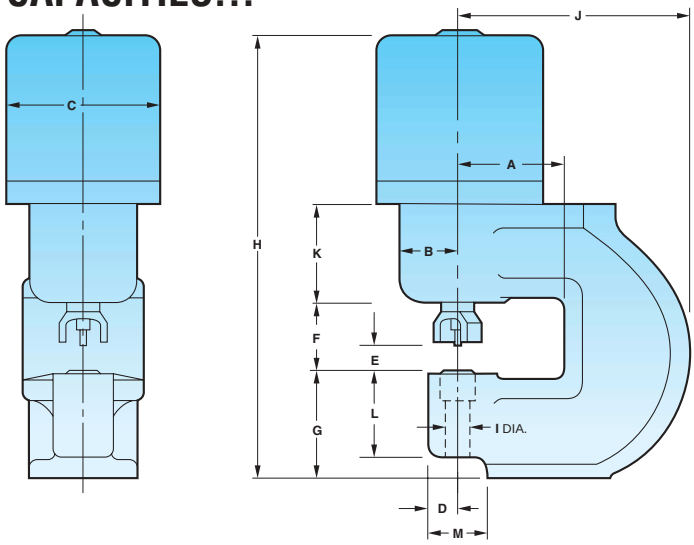
"A" SERIES WEB PRESSES

- 100 to 150 ton capacities
- Can use keyed punches and dies
- Automatic ram reversal
- Replaceable die pocket
- Heavy tonnage capacity
- Hand grips standard on 100-150 ton models
- Eye brackets adjustable for horizontal or vertical suspension

DIMENSIONS — STANDARD FLANGE PRESSES

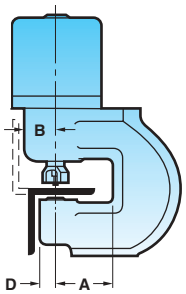


20 TON THRU 90 TON CAPACITIES…

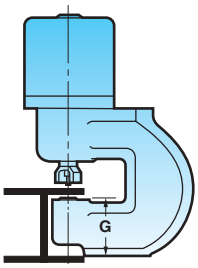


PRESS MODEL NO.	720	720X6	730	730CC	730X8	750	770	790
CAPACITY TONS	20	20	30	30	30	50	70	90
THROAT DEPTH A	2-1/4	6	3-1/8	3-1/8	8	4-1/4	4-1/4	4-1/4
B	1-5/8	1-9/16	1-15/16	1-15/16	2-1/8	2-1/16	2-11/16	3-1/4
C	4-1/2	4-1/2	5-1/2	5-1/2	5-1/2	7-1/4	8-1/4	9-1/2
D	11/16	11/16	1-1/8	11/16	1-1/8	1-1/8	1-1/8	1-1/8
E	5/8	5/8	21/32	21/32	21/32	1-3/32	1-3/32	1-3/32
F	1-7/16	1-7/16	1-7/8	1-7/8	1-7/8	2-5/32	2-5/32	2-1/4
G	2-1/2	3-3/4	3-1/4	3-1/4	5-1/4	4-1/4	4-3/4	5
H	10-5/8	11-7/8	11-7/8	12-11/16	15-3/8	16-1/4	17-3/4	18-5/8
I	7/8	7/8	1-5/8	7/8	1-5/8	1-9/16	1-7/16	1-5/16
J	5	11	7-1/4	7-1/4	13-1/4	9-1/4	9-3/4	10-1/4
K	2-1/4	2-1/4	2-3/4	2-3/4	3-1/2	3-1/2	4	4-1/2
L	1-7/8	2-1/8	2-11/16	2-11/16	3-1/8	3-3/16	3-7/16	3-1/2
M	1-1/4	1-5/8	1-7/8	1-7/16	2-3/16	2	2	2-1/8
R	3	3	4	4	4	5	5	5
PRESS PART NO.	720-000	720-044	730-000	730-020	730-019	750-015	770-015	790-024

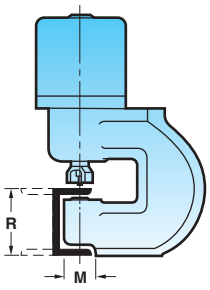
DIMENSIONAL CAPABILITIES



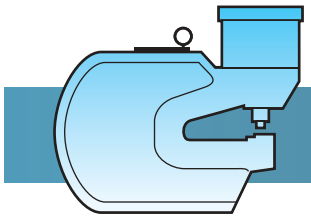
ANGLE IRON AND FLAT STOCK



WIDE FLANGE BEAMS

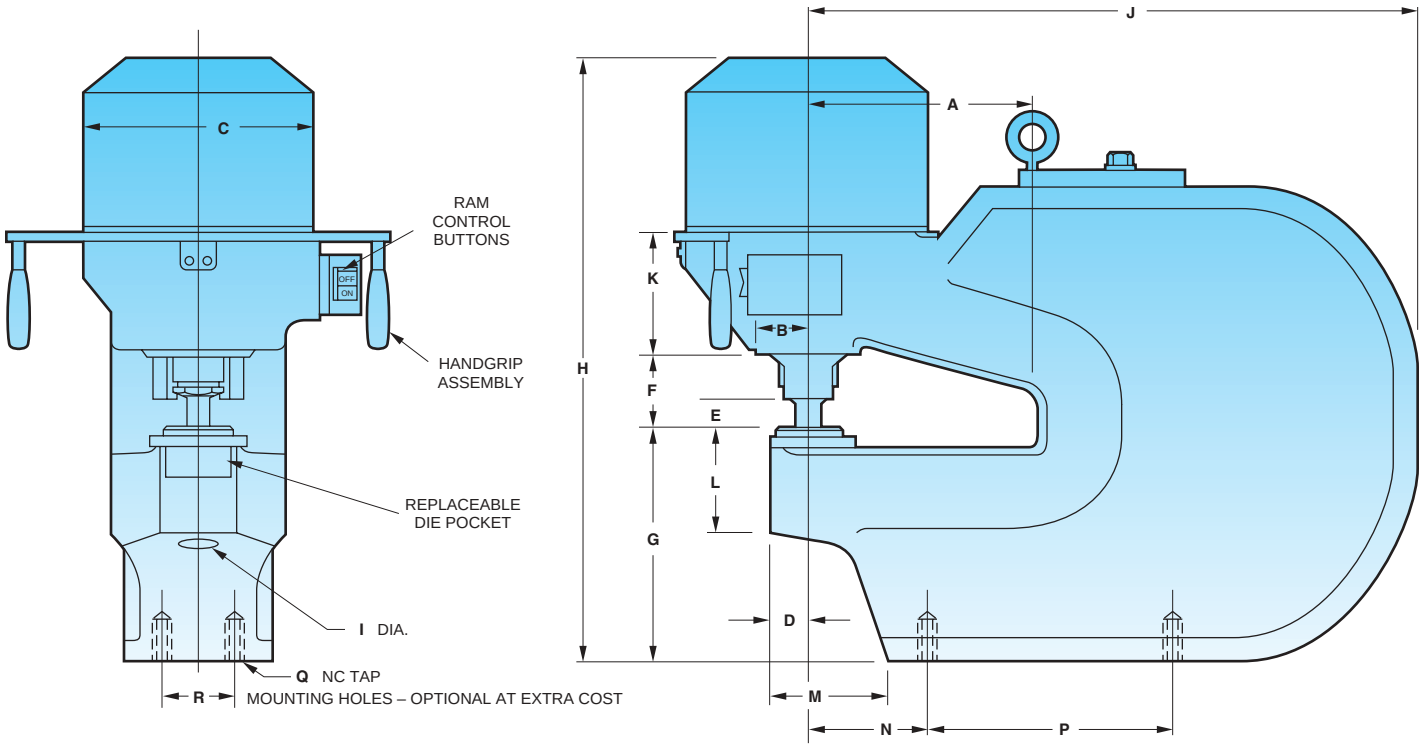


AMERICAN STANDARD "I" BEAMS AND CHANNELS



DIMENSIONS — 'A' SERIES FLANGE PRESSES

100 TON THRU 250 TON CAPACITIES…



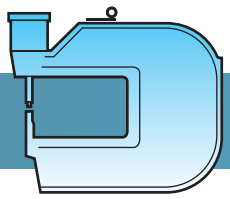
PRESS CAPACITY (Thru ASTM-A36 structural steel)

PRESS MODEL NO.	MAXIMUM HOLE CAPACITY
720 720X6	13/16 thru 1/4 3/8 thru 1/2**
730 730X8	1-1/2 thru 3/16 1/2 thru 5/8**
730CC	13/16 thru 1/4* 1/2 thru 5/8**
750	1-1/2 thru 1/4* 11/16 thru 3/4**
770	1-3/8 thru 1/4* 13/16 thru 7/8**
790	1-1/4 thru 1/4* 15/16 thru 1**
790AX6	1-1/2thru 1/4* 1-1/16 thru 1
7150AX6	2 thru 1/2* 1-1/4 thru 1-1/4
7150AX12	3 thru 1/2* 1-1/4 thru 1-1/4
7250AX12	2-3/8 thru 1 2-1/8 thru 1-1/4

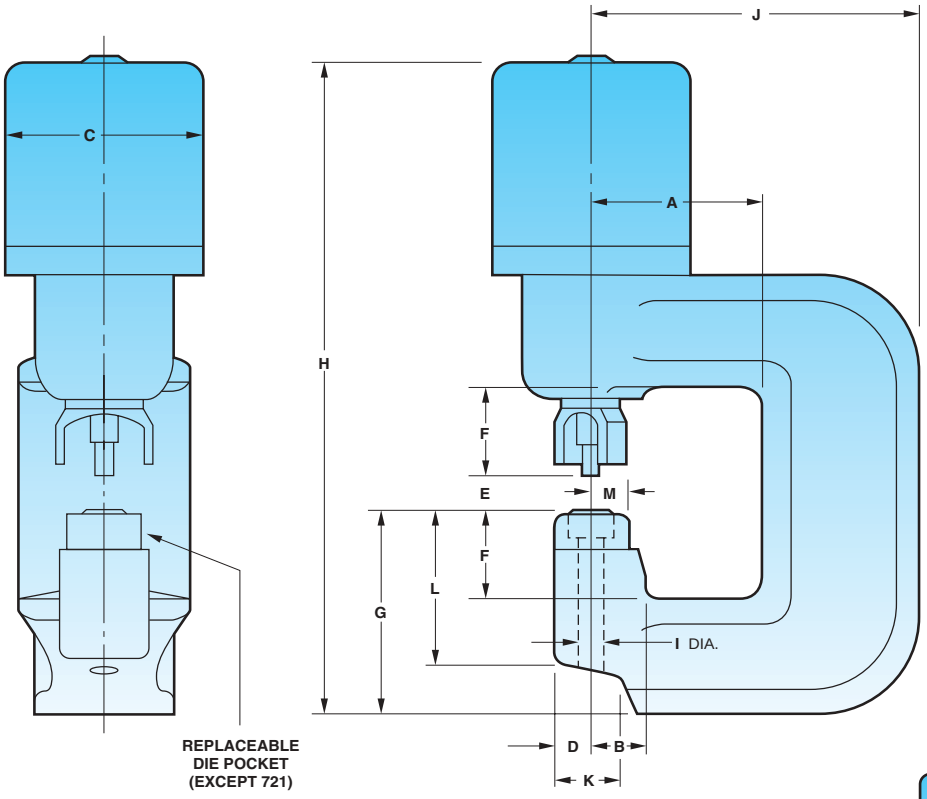
* Due to maximum allowable die size with clearance
**Reduced punch life may be experienced

PRESS MODEL NO.	790AX6	7150AX6	7150AX12	7250AX12
CAPACITY TONS	100	150	150	250
THROAT DEPTH A	6-1/4	6-1/4	12-1/2	12-1/2
B	3-1/4	3	3	5-1/2
C	9-1/2	13-1/2	13-1/2	17
D	1	1-7/16	2	2-1/16
E	1-5/16	1-5/8	1-5/8	1-5/8
F	3-11/16	4-1/8	4-1/8	4-3/16
G	8	10-9/16	13	16
H	24-13/16	32	34-3/8	44-1/4
I	1-9/16	2-1/8	3-1/8	2-5/8
J	17-1/2	23-1/4	33-1/2	38
K	5-5/8	7	7	11
L	4-3/4	5-7/8	5-7/8	9
M	3-1/4	4-1/2	6-1/2	5-1/2
N	3-13/16	4	6	7
P	5	12	16	19
Q	3/4-10	7/8-9	7/8-9	7/8-9
R	on ℄	4-1/2	4-1/2	4-1/2
NO. OF MTG. HOLES	2	4	4	4
PRESS PART NO.	790-084	715-028	715-029	817-333

DIMENSIONS — STANDARD WEB PRESSES

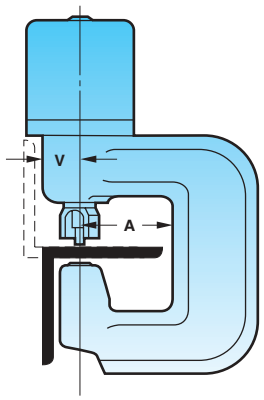


20 TON THRU 90 TON CAPACITIES…

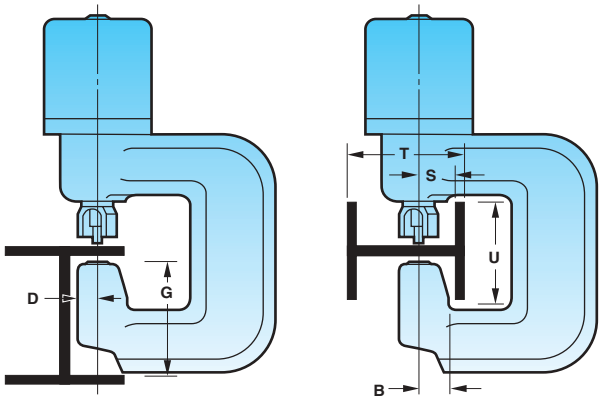


PRESS MODEL NO.	721	731	751	771	791
CAPACITY TONS	20	30	50	70	90
THROAT DEPTH A	2-3/4	4-1/4	6-1/4	7-3/4	12-1/2
B	1	1	1-1/2	1-1/2	1-1/2
C	4-1/2	5-1/2	7-1/4	8-1/4	9-1/2
D	11/16	11/16	1-1/8	1-1/8	1-1/8
E	5/8	5/8	1-3/32	1-3/32	1-3/32
F	1-5/8	2-5/8	4-1/8	5-3/8	7-3/8
G	4-1/2	6-3/8	10	12-1/4	17-3/4
H	13-11/16	18-3/16	26-15/16	31-1/4	40-1/2
I	7/8	7/8	1-9/16	1-9/16	1-9/16
J	5-3/4	10-5/16	15-3/8	20-1/4	28-3/8
K	1-3/8	1-3/4	2-1/2	2-7/8	2-7/8
L	3-3/16	4-3/8	7-3/16	8-3/8	12
M	3/4	3/4	1-3/32	1-3/32	1-3/32
R	4	5	8	10	15
S	1	1-1/2	1-1/2	1-1/2	1-1/2
T	5-1/2	8-1/2	12-1/2	15-1/2	25
U	3-1/2	5-1/2	8-1/2	10-3/4	15-3/4
V	1-5/8	1-15/16	2-3/8	2-11/16	3-1/8
PRESS PART NO.	721-000	731-000	751-000	771-000	791-000

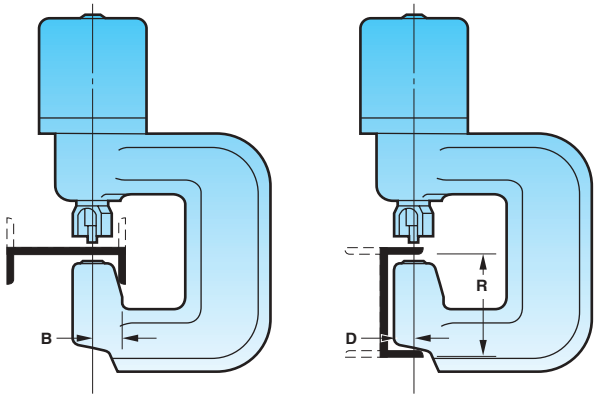
DIMENSIONAL CAPABILITIES



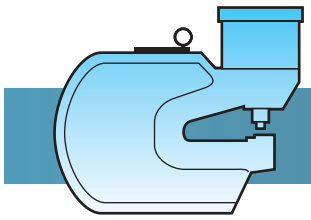
ANGLE IRON/FLAT STOCK



WIDE FLANGE BEAMS

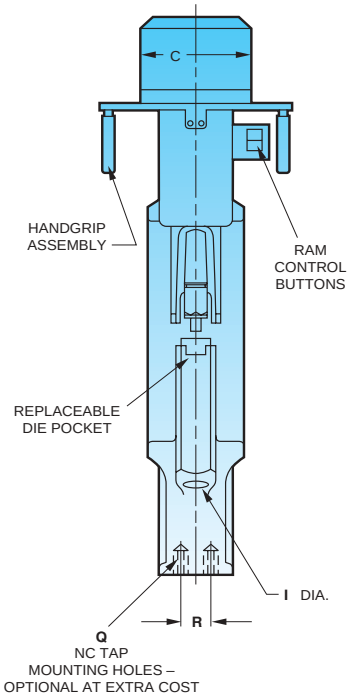


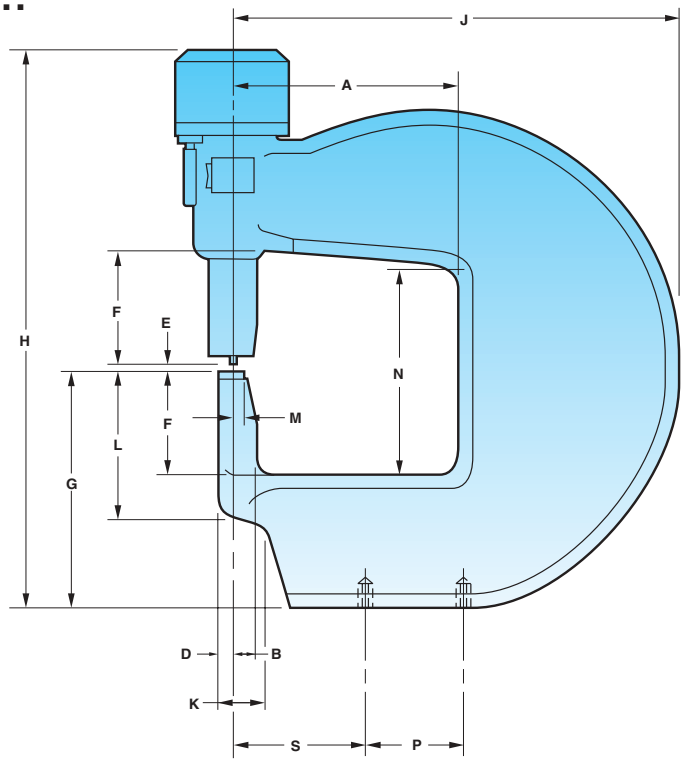
AMERICAN STANDARD "I" BEAMS/CHANNELS



DIMENSIONS — 'A' SERIES WEB PRESSES

100 TON THRU 150 TON CAPACITIES…





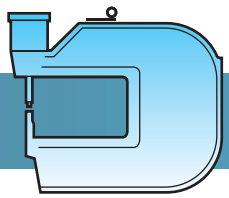
PRESS CAPACITY (Thru ASTM-A36 structural steel)

PRESS MODEL NO.	MAXIMUM HOLE CAPACITY
721	13/16 thru 1/4 3/8 thru 1/2**
731	13/16 thru 1/4* 1/2 thru 5/8**
751	1-1/2 thru 1/4* 11/16 thru 3/4**
771	1-1/2 thru 1/4* 13/16 thru 7/8**
791	1-1/2 thru 1/4* 15/16 thru 1**
791AX18 791AX30	1-1/2 thru 1/4* 1-1/16 thru 1
7151AX12	2 thru 1/4* 1-1/4 thru 1-1/4

PRESS MODEL NO.	791AX18	791AX30	7151AX12
CAPACITY TONS	100	100	150
THROAT DEPTH A	18-1/2	30-1/2	12-1/2
B	1-1/2	1-1/2	1-9/16
C	9-1/2	11	13-1/2
D	1-3/32	1-3/32	1-7/16
E	1-5/16	1-5/16	2
F	8-1/2	8-1/2	8-1/2
G	21-1/2	26-1/2	23-1/4
H	49-3/8	56-5/8	57-1/4
I	1-9/16	1-9/16	2-1/8
J	41-1/2	60-1/2	37-1/2
K	2-7/8	2-7/8	3-1/4
L	13	15-1/4	17
M	1-3/32	1-3/32	1-9/16
N	18	18-1/4	17
P	14	6-1/2	16
Q	3/4-10	1/2-13	7/8-9
R	2-1/2	4	4-1/2
NO. OF MTG. HOLES	4	4	4
S	6	29-3/4	5
PRESS PART NO.	791-019	791-020	715-112

* Due to maximum allowable die size with clearance
**Reduced punch life may be experienced

POWER UNIT SELECTION...



DETERMINING THE CORRECT POWER UNIT

All of the structural presses shown in this catalog operate from a hydraulic Power Unit. These power units have an operating pressure of 5000 psi and are available in four different sizes. The basic difference between these models is the volume of oil each is capable of delivering to the press. This is further determined by the size of the pump motor. As a basic rule of thumb, the more horse power—the faster the press cycle time.

The 1-1/2 HP hydraulic power unit is a two-stage type that delivers maximum flow at low pressures up to 1,000 psi and reduced flow up to 5,000 psi. The 3, 10 and 20 HP hydraulic power units shown in this catalog are all fixed displacement, or single stage, types. Fixed displacement power units are considered to be ideal for single hole punching where it is necessary to jog or inch the punch down for locating to a center punch mark. With this type of power unit, the oil is delivered at a fixed rate regardless of the operating pressure. This means that the ram on the press will travel at the same speed throughout the entire punching cycle. (The return cycle will be slightly faster due to the cylinder displacement differential.)

The size of the power unit required for any given application is determined by how fast you want the unit or units to cycle. The recommended power unit for each portable press shown in the catalog is listed with the specifications for that press. The cycle time is shown using a full stroke of the press (see pages 8 to 11). When punching thinner material, it is not necessary to use the full stroke of the press, therefore, the cycle time will be faster.

More than one structural press, or another piece of hydraulic equipment such as a shear, can be operated from one 3, 10 or 20 HP hydraulic power unit by adding optional control valves. To determine the proper power unit to use, refer to the chart below. On these pages (16 & 17), each power unit is listed along with the various types of controls which are available for operating one, two, or more presses from the same common power unit.

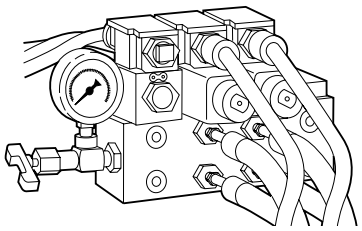


Illustration shows two valve hook-up for operating two presses from a single 3, 10 or 20 HP power unit. Up to three valves can be added.

CYCLE TIME CHART

PUNCH UNIT		APPROX. CYCLE TIME (in seconds)			
PRESS MODEL NO.	STROKE	POWER UNIT 700-SV-1A	700-SV-3A	700-SV-10A	700-SV-20A
720	7/8	5.0	3.0	2.0	1.4
720X6	7/8	5.0	3.0	2.0	1.4
730	7/8	7.0	4.0	2.0	1.6
730CC	7/8	7.0	4.0	2.0	1.6
730X8	7/8	7.0	4.0	2.0	1.6
750	1-3/8	15.0*	12.0	5.0	3.0
770	1-3/8	–	16.0*	6.0	3.7
790	1-3/8	–	19.0*	7.0	4.0
790AX6	1-5/8	–	–	8.0	5.0
7150AX6	2	–	–	16.0*	9.0
7150AX12	2	–	–	16.0*	9.0
7250AX12	2	–	–	25.0*	14.0
721	7/8	5.0	3.0	2.0	1.4
731	7/8	7.0	4.0	2.0	1.6
751	1-3/8	15.0*	12.0	5.0	3.0
771	1-3/8	–	16.0*	6.0	3.7
791	1-3/8	–	19.0*	7.0	4.0
791AX18	1-5/8	–	–	8.0	5.0
791AX30	1-5/8	–	–	8.0	5.0
7151AX12	2	–	–	16.0*	9.0

* Cycle time may be slow for some applications
For gang punch application consult factory

The cycle times listed in the chart are for a single press operating off a standard power unit with a 60 hertz electric motor. All cycle times are based upon using presses, hoses and power units as described in this catalog. If 50 hertz operation is used cycle times will be slower.

Cycle times will be slower on 2 and 3 valve (2v & 3v) power units if more than one press is operated at the same time. Operators have independent control of the presses, but may have delays in punch movement as the oil is shared between presses.

PRESSURE SWITCH CYCLE CONTROL (OPTIONAL) STANDARD PRESSES

A pressure switch cycle control is available for the 3, 10, & 20 HP Power Units. The control allows a semi-automatic cycle. Standard operation is normally a jog-only control. Using a pressure switch cycle control will reverse the ram when proper preset pressure is sensed. Consult W.A. Whitney to discuss application.

"A" SERIES PRESSES

"A" Series Presses do not require a pressure switch cycle control. "A" Series Presses have a built in limit switch to reverse the ram at the bottom of the press stroke.

HOSE AND CONTROL WIRE ASSEMBLIES

Available Lengths

...for 700-SV-1A Power Unit — 12' & 20'
...700-SV-3A Power Unit — 12', 20' & 40'
...700-SV-10A Power Unit — 12', 20' & 40'
...700-SV-20A-1V, 2V & 3V — 12', 20' & 40'
Hoses and control wires are wrapped as a unit.

HYDRAULIC POWER UNITS

W.A. Whitney Co. utilizes the proven efficiency of hydraulics to actuate its fabricating equipment.

Portable Press power units are available in 1-1/2, 3, 10 and 20 horsepower models. Power Unit selection depends on the customer requirement with regard to capacity and cycle time needed for the specific operation.

Model 700-SV-1A Power Unit

This power unit offers 1-1/2 horsepower for operation of presses requiring greater portability than afforded with some of the larger model power units. It weighs only 65 pounds and operates at 5000 psi on 115 volt, 60 hz single phase.

Model 700-SV-3A, 700-SV-10A and 700-SV-20A Power Units

These power units use a pump, reservoir and valving assembly sized for either 3, 10 or 20 horsepower electric motors. This line of power units is available in single (1V), double (2V), and three valve (3V) models and operate also at 5000 psi.

Your W.A. Whitney sales engineer will be happy to assist you in the proper selection of a power unit and hydraulic components.

	700-SV-1A	700-SV-3A	700-SV-10A	700-SV-20A
HORSEPOWER	1-1/2 HP	3 HP	10 HP	20 HP
OPERATING PRESSURE	5000 PSI	5000 PSI	5000 PSI	5000 PSI
PUMP OUTPUT @ "0" PSI 5000 PSI	 400 CU. IN./ MIN. 70 CU. IN / MIN	 1.5 GPM 1.4 GPM	 4.6 GPM 4.1 GPM	 8.3 GPM 7.5 GPM
RESERVOIR CAPACITY IN GALLONS	1	14	14	30
HYDRAULIC OIL	ISO GRADE 32 AW	ISO GRADE 32 AW 155 SSU @ 100° F	ISO GRADE 32 AW 155 SSU @ 100° F	ISO GRADE 32 AW 155 SSU @ 100° F
OIL FILTER		CARTRIDGE TYPE	CARTRIDGE TYPE	CARTRIDGE TYPE
MOTOR	115 VOLT 60 HZ SINGLE PHASE	230/460 VOLT 60 HZ 3 PHASE T.E.F.C.	230/460 VOLT 60 HZ 3 PHASE* T.E.F.C.	230/460 VOLT 60 HZ 3 PHASE T.E.F.C.
HOSE SIZE	1/4" I.D. 1/4" NPT	1/4" I.D. 1/4" NPT	3/8" I.D. 1/4" NPT	3/8" I.D. 1/4" NPT
DIMENSIONS-WIDTH DEPTH-HEIGHT	12-1/2" X 8" X 19" OVER HANDLE	29-3/8" X 16" X 33-7/8"	29-3/8" X 16" X 33-7/8"	29-3/8" X 16" X 46"
WEIGHT (with oil)	65 lbs.	358 lbs.	414 lbs.	670 lbs.
CASTERS	NO	OPTIONAL	OPTIONAL	OPTIONAL

Ambient temperature range is 50 to 105°F. For other operation consult factory for specific applications.
*230 volt single phase also available

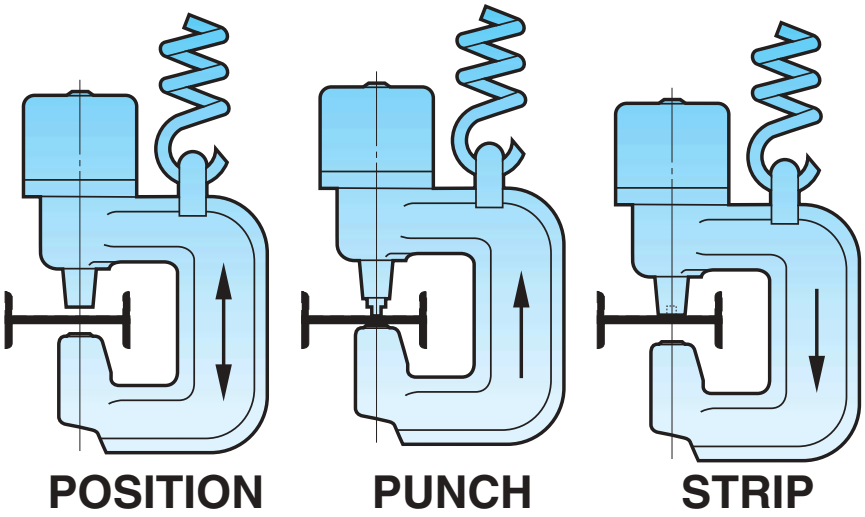
PORTABLE PRESS INSTALLATION METHODS...

SPRINGS

Suspension springs

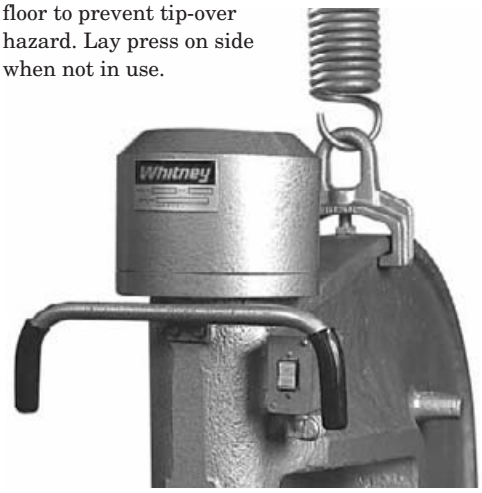
Suspension springs allow the operator to easily and quickly "float" the press when locating the hole to be punched. These springs are available in different sizes. The spring capacity is determined by the weight of the press to be suspended. A spring may be fastened to an overhead crane, or other movable support, to obtain greater portability of the press.

PRESS MODEL NO.	Spring Capacity (Min. & Max. lbs)	L Free Length (in.)	M Length (in.) at Max. Load (approx.)	Spring Rate lb./in.	D Outside Dia (in.)	SPRING NO.
721 730 730CC 730X8 731 750 770	0-240	17	28	20	2-1/2	700-377
751 790 790AX6	75-450	24	39	50	3	700-353
771 791	275-1200	36	55	50	3-1/2	700-352
791AX18 7150AX6 7150AX12	550-2400	41	60	100	Two Springs 3-1/2 ea.	806-134
791AX30 7151AX12	3000-5000	45-1/4	53-1/4	250	9-1/2	791-040

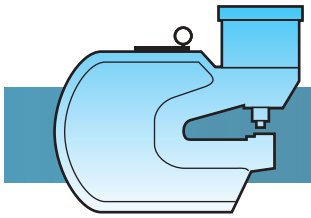


Note the vertical movement of the press relative to the material at a fixed position during the punching cycle.

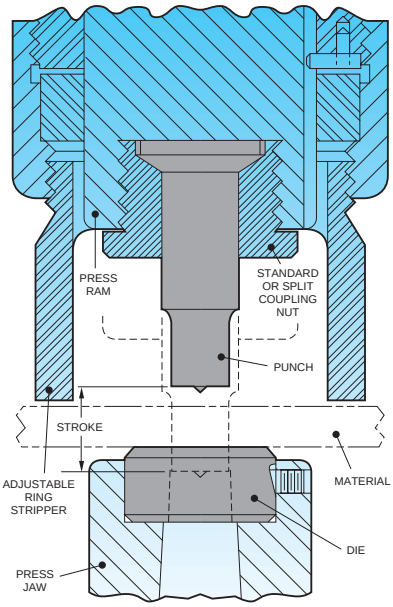
Note: Always keep press supported when setting on floor to prevent tip-over hazard. Lay press on side when not in use.



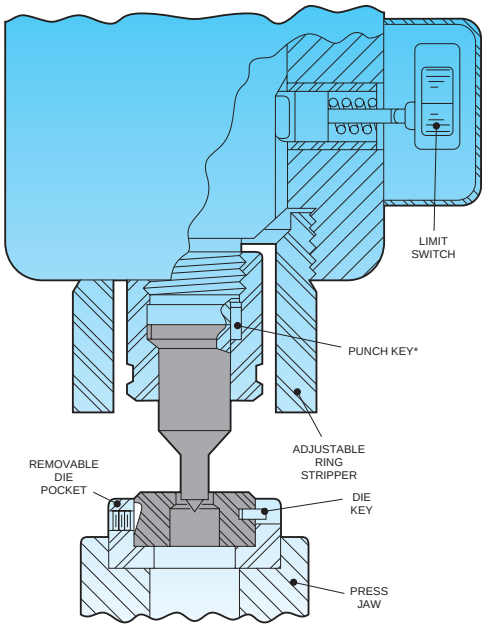
Optional handlebars are available on many models, for convenience in positioning presses.



STANDARD PRESSES

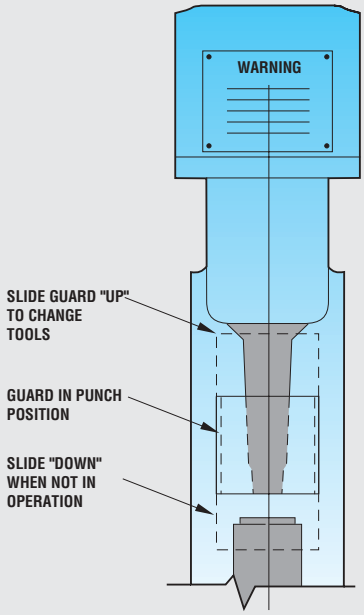


'A' SERIES PRESSES



"A" SERIES PRESSES ARE KEYED FOR USING SHAPED TOOLS

OPTIONAL SEE THROUGH GUARD

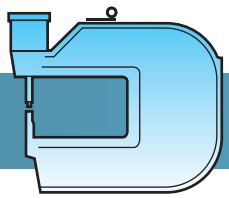


TOOLING FOR PORTABLE PRESSES...(No guards shown)

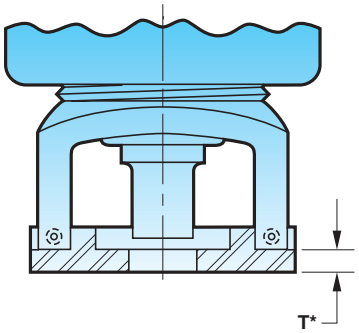
FOR COMPLETE PUNCH AND DIE SELECTION - REQUEST IRONWORKER & STRUCTURAL TOOLING CATALOG

PRESS MODEL NO.	USE WITH PUNCH STYLE	USE WITH DIE STYLE	PUNCH & DIE SIZE (In 1/32" Increments)							
			ROUND		SQUARE		OBROUND (1/8 MIN., A)		RECTANGLE (1/8 MIN., A)	
			FROM	THRU	FROM	THRU	FROM	THRU	FROM	THRU
720 720X6 721	720	720	1/8	13/16	3/16	9/16	3/16	13/16	3/16	13/16
730CC 731	740	720	7/32	13/16	3/16	9/16	3/16	13/16	3/16	13/16
730 730X8 750 751	740	740	7/32	1-1/2	1/4	1	1/4	1-1/2	1/4	1-1/2
770 771 790 791	770	740	7/32	1-1/2	1/4	1	1/4	1-1/2	1/4	1-1/2
790AX6 791AX18 791AX30	*770 or *790XX	*740 or *790XX	7/32	1-1/2	1/4	1	1/4	1-1/2	1/4	1-1/2
7150AX6 7151AX12	*770/*790XX 7501	7502	7/32	2	1/4	1-13/32	1/4	2	1/4	2
7150AX12	*770/*790XX 7501	7602	7/32	3	1/4	2-1/16	1/4	3	1/4	3
7250AX12	7501	7602	7/32	2-3/8	1/4	1-5/8	1/4	2-3/8	1/4	2-3/8

* Interchangeable within obtainable size range - but limited to a maximum of 100 tons punching force. #770 punches can only be used for punching round holes. For shaped holes use of keyed alignment feature is recommended. Presses with keyed feature are available at additional cost.



OPTIONAL BRIDGE STRIPPERS



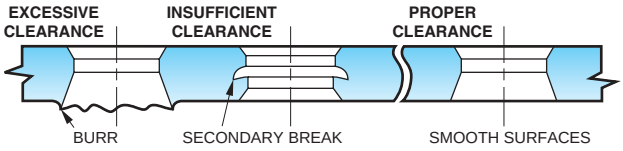
If a hole to be punched is near the edge of the part and both legs of the standard adjustable ring stripper cannot contact the material, it is necessary to use a bridge stripper. This stripper should also be used for thin materials that could become deformed by the stripping force. It can be easily attached to the bottom of a ring stripper with set screws.

PRESS MODEL NO.	USE WITH BRIDGE STRIPPER NO.	T* (thickness of bridge)
720 720X6	721-004	1/4
730 730CC 730X8	731-010	1/4
750 770	751-013	1/4
790	791-008	5/16
790AX6 7150AX6 7150AX12	- 825-242	- 5/16
7250AX12		
721	721-004	1/4
731	731-010	1/4
751	751-013	1/4
771	751-013	1/4
791	791-008	5/16
791AX18 791AX30	-	-
7151AX12	-	-

* Caution: The use of a bridge stripper will reduce the thickness of the material that can be punched by the amount "T" as shown in the chart. For further application information, please contact W.A. Whitney Co.

Die Clearance

(ASTM-A36 Structural Steel)

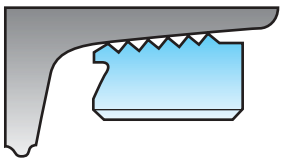


Be sure to allow for proper die clearance. The standard clearance of the die styles used with our presses and die diameter should be approximately 15% of the material thickness. Consult factory for recommended die clearances for other materials.

MATERIAL THICKNESS (in.)	DIE CLEARANCE (in.)
1/8 thru 1/4	.020 over nominal (.020)
1/4 thru 1/2	1/32 over nominal (.051)
7/16 thru 13/16	1/16 over nominal (.082)
5/8 thru 1-1/16	3/32 over nominal (.111)
1 thru 1-1/4	1/8 over nominal (.145)

Bevel Serrated Dies

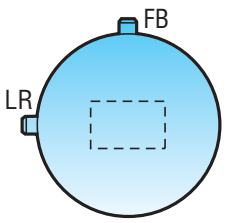
Required for Punching Tapered Flanges



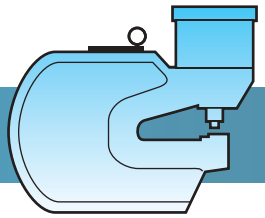
These dies should be used when punching is required on a tapered surface, such as flanges of I Beams ("S" shapes) or American Standard channels ("C" shapes). (9° bevel angle)

Pin Location

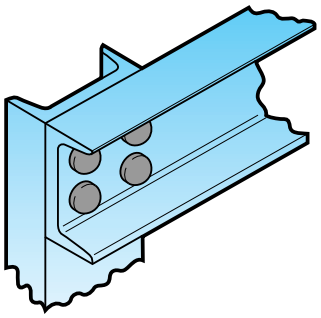
(790XX, 7502, 7602 keyed dies)

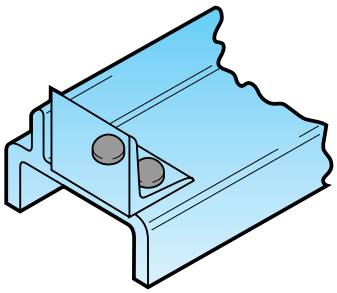


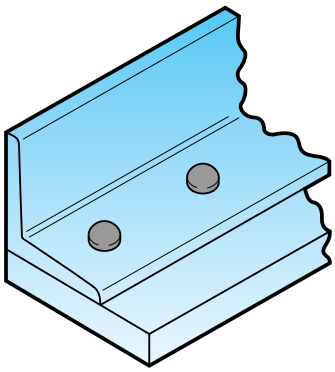
When ordering shaped dies, specify LR (left to right) or FB (front to back) placement. If not specified, LR location will be shipped.



RIVETING WITH PORTABLE PRESSES

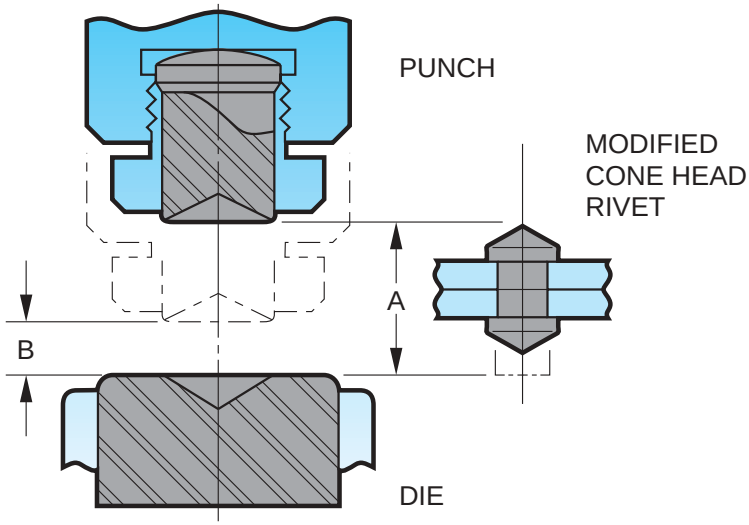






Portable hydraulic flange and web presses can be used for placing rivets. No special adapters or strippers are necessary when using standard rivet punches and dies. A modified cone head rivet, which is produced with this tooling, offers several advantages. The rivet centers itself in the punch and die producing a neat appearing concentric head. The modified cone head rivet requires less force than other rivet styles and does not buckle or bulge the sheet or plate being riveted.

Standard mild steel round head rivets are used to produce the modified cone head rivet. The required length, measured from under the head, can be determined by adding the material thickness (grip) to 1.5 times the rivet diameter. Since the stroke on portable presses is quite short, be sure that the overall length of the rivet (including head) does not exceed the “A” opening.



PRESS MODEL NO.	STANDARD PRESSES					
	STROKE	PUNCH STYLE NO.	DIE STYLE NO.	MAX. RIVET DIA.	'A' MAX O.A LENGTH	'B' MIN GRIP
720	7/8	720RMC	720RMC	3/8	1	1/8
730	7/8	740RMC	740RMC	1/2	1-1/8	1/4
730CC 731	7/8	740RMC	720RMC	1/2	1-1/8	1/4
750 751	1-3/8	740RMC	740RMC	5/8	1-5/8	1/4
770 771	1-3/8	770RMC	740RMC	3/4	1-3/4	3/8
790 791	1-3/8	770RMC	740RMC	7/8	1-3/4	3/8

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