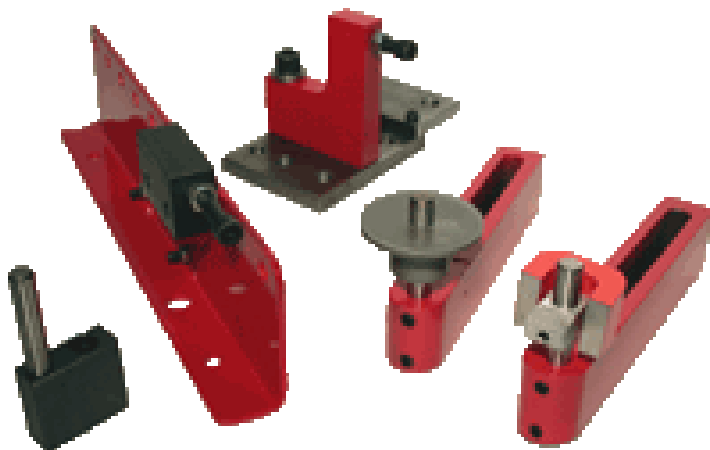
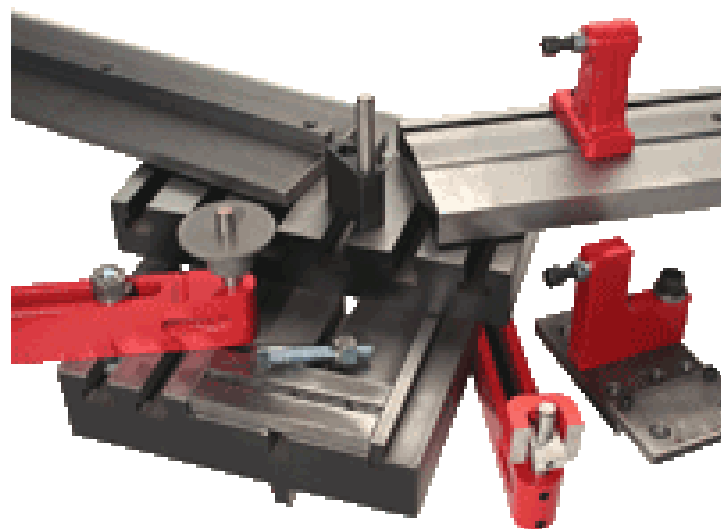
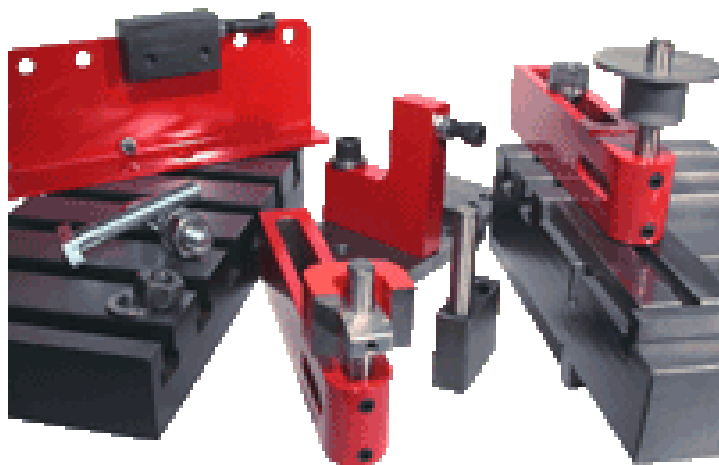




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MOUNTING ACCESSORIES &
ENGINEERING DATA



SOURCE CATALOG

Ram striker plate

RAM STRIKER PLATE PROVIDES ADDITIONAL STRIKING AREA FOR PRESS BRAKE OPERATION

Manufactured in 4, 5 and 6 foot lengths. When multiple lengths are used—ask for squared ends. (Price on application.)

CAT. NO.	A	B	WT.PER FT.
RP-802	$\frac{3}{4}$	6	16
RP-803	$\frac{3}{4}$	5	14
RP-804	$\frac{1}{2}$	5	9
RP-805	2	4	29

Bedrail

FOR USE WITH STRIP TEMPLATE OR BEDRAIL SPACERS.

Any template width up to 6" may be used. For template wider than $4\frac{3}{4}$ ", remove $\frac{3}{8}$ " wide bedrail space bar. Bedrails are manufactured in 4, 6, 8, 10 & 12 foot lengths. When multiple lengths are used, ask for ends to be machined for butting. (Price on application.) "C" Frame units with 8" depth or greater are recommended for use with bedrail.

**CAT. NO. BR-800
WEIGHT 36# PER FT.**

Bedrail

FOR USE WITH FORMING DIE, TEMPLATE OR BEDRAIL SPACERS.

Eliminates need to remove bedrail for forming operations. Any template up to 6" may be used. For template wider than $4\frac{3}{4}$ ", remove $\frac{3}{8}$ " wide bedrail spacer bar. Manufactured in 4, 6, 8, 10 & 12 foot lengths. When multiple lengths are used, ask for ends to be machines for butting. (Price on application.) "C" Frame units with 8" or greater are recommended for use with bedrail.

**CAT. NO. BR-801
WEIGHT 63# PER FT.**

Bedrail spacers

CAT. NO.	WIDTH	FOR USE WITH
BRS-807	1"	Heavy & Medium Duty Units up to $1\frac{1}{4}$ " width.
BRS-808	$1\frac{1}{2}$ "	Heavy & Medium Duty Units from $1\frac{1}{4}$ " to 2" width.
BRS-809	2"	Heavy & Medium Duty Units from 2" to 3" width.
BRS-810	$3\frac{1}{2}$ "	Heavy & Medium Duty Units from 3" to $3\frac{1}{2}$ " width.
BRS-813	5"	Heavy & Medium Duty Units from $3\frac{1}{2}$ " to $5\frac{3}{4}$ " width.
BRS-817	8"	Heavy & Medium Duty Units from $5\frac{3}{4}$ " to 8" width.
BRS-811	$3\frac{1}{2}$ "	Adjustable End Stop - Cat. No. 828 & 829.
BRS-812	8"	All Series 200 Corner & Edge Notching Units.
BRS-815	$4\frac{1}{2}$ "	All Series 100 - 3x3 & 5x5 Corner Notching Units.

For convenient mounting of units on bed rail when template is not used. Spacers can be adjusted along the rail to suit any particular hole pattern.

Adjustable Work stop

Adjustable work stop sits on plate for template or tee slotted plates. The vertical pin can be removed and the screw can be adjusted for variations in stock dimensions.

A = 1¹/₄" CAT. NO. WS-818
A = 1" CAT. NO. WS-819

Dowel pin stop

CAT. NO. WS-820

For popular use for fixed stop on mounting template

Disappearing pin stop

For progressive piercing when using edge of sheet for gauging.

FOR "H" SERIES CAT. NO. HWS-822
FOR "M" SERIES CAT. NO. MWS-823

TRAVEL



Fixed pick-up pin

For locating from holes previously punched when performing pass along operations.

FOR "H" SERIES CAT. NO. HWS-826
FOR "M" SERIES CAT. NO. MWS-827

Feed rail and adjustable stop

FOR "H" SERIES A = 3¹/₂" CAT. NO. HFR-830
FOR "M" SERIES A = 2⁹/₃₂" CAT. NO. MFR-831

Feed Rail Only

FOR "H" SERIES A = 3¹/₂" CAT. NO. HFR-832
FOR "M" SERIES A = 2⁹/₃₂" CAT. NO. MFR-833

Feed rails are used to support work piece over large spans between punching units.

Adjustable Stop Only

CAT. NO. FRS-834

General purpose stop

For use on templates or Tee slotted plates.

CAT. NO. WS-821

Spring loaded pick-up pin

For relocating from previous pierced hole.

FOR "H" SERIES CAT. NO. HWS-824
FOR "M" SERIES CAT. NO. MWS-825



Adjustable stop

For a positive stop location with adjustment feature to compensate for variations in size of work piece.

FOR "H" SERIES CAT. NO. HWS-824
FOR "M" SERIES CAT. NO. MWS-825

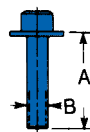
Disc edge stop

For end gauging the work piece within the 'C' frame holder.

CAT. NO. WS-873

Disc only:
Cat. No. Ws-874

Bolt and washer set



A = 3"-B = 1¹/₂"-13 CAT. NO. BW 863 -FOR MODEL H5¹/₄ & H8 UNITS
A = 2¹/₄"-B = 1¹/₂"-13 CAT. NO. BW 842 - FOR MODEL M & H UNITS
EXCEPT H-5³/₄, H-8, HH-5¹/₂ & M-3³/₄
A = 2¹/₄"-B = 5¹/₁₆"-18 CAT. NO. BW 864 - FOR MODEL M3³/₄ UNIT

For template mounting

Tee bolt, nut and washer set

A = 3¹/₂"-B = 1¹/₂" CAT. NO. NBW 865 - FOR MODEL H5³/₄ & H8 UNITS
A = 3"-B = 1¹/₂" CAT. NO. NBW 843 - FOR MODEL M & H UNITS
EXCEPT H-5³/₄, H-8, HH-5¹/₂ & M-3³/₄
A = 2¹/₂"-B = 5¹/₁₆" CAT. NO. NBW 866 - FOR MODEL M-3³/₄ UNITS
A = 3¹/₂"-B = 1¹/₂" CAT. NO. NBW 872 SQ. HEAD TEE BOLT SET

The base of the tee bolt is designed so it can be dropped into the tee slot at any location. When the nut is tightened, the base of the bolt automatically swings into place for tightening. NBW-872 square head tee bolt must slide in from end of the tee slot.

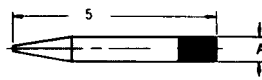
Tee slotted plate

Unittool's tee slotted plates are used for mounting units in press brakes or stamping presses. When multiple lengths are used – ask for ends to be “squared.” Price on application.

Width	No. of Slots	LENGTH AND CATALOG NO.								Approx. Pounds per Foot of Length
		18	24	30	36	48	60	72	144	
12	6	TSP-1218	TSP-1224	TSP-1230	TSP-1236	TSP-1248	TSP-1260	TSP-1272	TSP-12144	57
18	9	TSP-1818	TSP-1824	TSP-1830	TSP-1836	TSP-1848	TSP-1860	TSP-1872	TSP-18144	85
24	12	-	TSP-2424	TSP-2430	TSP-2436	TSP-2448	TSP-2460	TSP-2472	-	113
30	15	-	-	TSP-3030	TSP-3036	TSP-3048	TSP-3060	TSP-3072	-	142
36	18	-	-	-	TSP-3636	TSP-3648	TSP-3660	TSP-3672	-	170

Locator pins

Cat. No.	A	For Use with model
LP 835	.312	L - series, M ³ / ₄
LP 836	.375	M 1 ¹ / ₄
LP 837	.4375	H-1, HP 1, HA 1
		H 1 ¹ / ₄ , HP 1 ¹ / ₄ , HA 1 ¹ / ₄
LP 838	.500	M-1 ³ / ₄
LP 839	.625	H 1 ¹ / ₂ - HP 1 ¹ / ₂ - HA 1 ¹ / ₂
LP 840	.875	H 2, HP 2, HA 2, H
LP 841	1.000	M 2 ¹ / ₄



Locator pins are used to set up units on a tee slotter plate or bolster. A sheet metal template is placed on the die section of the unit. The locator is dropped down through the guide to pick up the hole in the template. The unit is then bolted in position. The locator pin is removed and the punch is replaced in the guide.

Grind life

Punch and die grind life must not exceed the dimension shown. The stripper springs and holder can be severely damaged if punches and dies are used without shims beyond the recommended grind life. See below for shim information.

HEAVY-DUTY

MODEL NO.	A	B	C
H1 thru H2	4 ⁷ / ₈	3 ¹ / ₄	—
HP-1 thru HP-2	4 ⁷ / ₈	—	2 ¹ / ₈
HA-1 thru HA-2	4 ⁷ / ₈	3 ¹ / ₄	—
H-2 ¹ / ₂	2 ¹³ / ₃₂	3 ¹ / ₄	—
HP-2 ¹ / ₂	2 ¹³ / ₃₂	—	2 ¹ / ₈
H-3, H-3 ¹ / ₂	2 ¹³ / ₃₂	3 ¹ / ₄	—
H-5 ³ / ₄	1 ⁷ / ₈	2 ⁷ / ₃₂	—
H-8	1 ²¹ / ₃₂	1 ¹ / ₄	—

MEDIUM DUTY

MODEL	A Punch Ass'y Length with Head	B Punch Length w/o Head	C Die Height
M-3 ¹ / ₄	2.906	2.687	.500
M-1	2.906	2.625	.380
M-1 ¹ / ₄ , 1 ³ / ₄ , 2 ¹ / ₄	2.906	2.625	.593
M2 ¹ / ₂ , M-3	2.906	2.656	.750
M-4	2.906	2.343	.750
M-5	2.906	1.875	.844
M-8	2.906	1.000	1.250

Punch and die shims 1/16" THICKNESS

Punch and die life can be extended greatly by use of shims to bring parts up to “new” length. (For punch and die length when new, see charts above). Punch shims can also be used to lengthen punches in event it is desirable to stagger punching load.

(“M” series only).

PUNCH

DIE

CATALOG NUMBER	FOR MODEL	PUNCH NUMBER
PS-845	M 3/4	MP 072
PS 846	M 1-1/4	MP 122
PS 847	M 1-3/4	MP 172
PS 848	M 2-1/4	MP 222
PS 849	M 3	MP 302-1
(FOR PUNCH TIP SIZE UNDER 1.125)		
PS 850	M 3	MP 302
(FOR PUNCH TIP SIZE OVER 1.125)		
PS 851	M 5 & H 5-3/4	MP 502 ABC&D
PS 852	M 2-1/2	HP 252
PS 853	H 3-1/2	HP 352
CATALOG NUMBER	FOR MODEL	DIE NUMBER
DS 854	M 3/4	MD 073
DS 849	M 1-1/4	MD 123
DS 848	M 1-3/4	MD 173
DS 855	M 2-1/4	MD 223
DS 856	M 3	HD 303
DS 857	M 5 & H 5-3/4	HD 603
DS 858	H 1 & H 1-1/4	HD 123
DS 859	H 1-1/2	HD 153
DS 860	H 2	HD 203
DS 861	H 2-1/2	HD 253
DS 862	H 3-1/2	HD 253

Magnetic work stop

FULLY
ADJUSTABLE
RADIALLY &
VERTICALLY

CAT. NO. MWS 868

Magnetic Work Stops help to insure accurate gauging by eliminating "bounce back." Also eliminates the need for the operator to hold work piece against stop during press cycle. Recommended by OSHA.

**SUITABLE FOR 3-1/2" DIE HEIGHT (Heavy-Duty) or
2-19/32 DIE HEIGHT (Medium Duty).**

Special wrench

A Special Wrench designed to drop through slot in upper section of holder for easy access to hex nut on the tee slot bolt when units are on close centers.

WRENCH – CAT. NO. W. 869

Magnetic Feed Rails

Catalog No.	Description
HFRM-870	Magnetic Feed Rail (Heavy Duty)
MFRM-871	Magnetic Feed Rail (Medium Duty)

Magnetic work supporting feed rails are now available for use with heavy and medium duty punching and notching systems. This rail virtually eliminates template location and set up time. To release the magnetic force simply lift the magnetic feed rail away from the template or tee slot plate.

Compensator caps for H1, H1^{1/4}, H1^{1/2} & H2 units.

Compensator Caps are used to stagger punching load when available press tonnage is marginal. The caps alter the punch assembly length and cause the punch tips to enter the material at different intervals, thereby reducing the required tonnage accordingly. The disadvantage of using compensator caps is that it overworks the stripping springs because of additional punch assembly length. Caution must be exercised to prevent "bottoming." New or full length punches and dies are recommended when using compensator caps in order to keep the press shut height at a maximum.

MODEL	A	B	C	PART NO.
H1, H1 ^{1/4}	1-1/2	1-1/32	1/16	CC-125-062
			1/8	CC-125-125
H1 ^{1/2}	1-3/4	1-9/32	1/16	CC-150-062
			1/8	CC-150-125
H2	2	1-17/31	1/16	CC-200-062
			1/8	CC-200-125

CHART TO SHOW HOW DIFFERENT COMBINATIONS CAN BE USED:

Material Thickness To Be Punched	Compensator Cap Thickness	Approx. % of Full Tonnage Req'd	Number of Punches Capped
1/16	1/16	50	1/2 (50%)
1/8	1/16	50	1/2 (50%)
1/8	1/8	50	1/2 (50%)
1/8	1/16 & 1/8	33-1/3	2/3 (66.6%)
			1/3 w 1/16" Cap
			1/3 w 1/8" Cap
3/16	1/16	50	1/2 (50%)
3/16	1/8	50	1/2 (50%)
3/16	1/16 & 1/8	33-1/3	2/3 (66.6%)
			1/3 w 1/16" Cap
			1/3 w 1/8" Cap
1/4*	1/8	50	1/2 (50%)
1/4*	1/16 & 1/8	40	2/3 (66.6%)
			1/3 w 1/16" Cap
			1/3 w 1/8" Cap
			Cap
* Use extreme caution on 1/4" material			Cap

Punch adapter guides for H-series

Punch Adapter Guides are used to convert a larger unit for use with smaller and less expensive punches. For example:- the HPA-122A punch assembly for the H1¼ unit can be used in the H1½ or H2 unit for punching hole sizes of 7/16" and smaller – the HPA-152A punch can be used in the H2 unit for punching hole sizes 5/8" and smaller – a savings of 10% to 50% can be realized with this method.

The Punch Adapter Guides are available for round or shaped hole punches. The only components required to convert a larger unit for use of smaller punches are: Punch Adapter Guide, Punch and Head Assembly and Stripper Spring.

	Punch Adapter Guide Number	Adapts Punch Assembly Number	For Use with Punch Assembly	Max. Punch Tip Dimension	Use Stripper Spring Number
FOR ROUND HOLE UNIT	SHG-122-154	HPA-122A from H1¼ Holder to H1½ Holder	HPA-122A	.4375	HSS-125
	SHG-122-204	HPA-122A from H1¼ Holder to H2 Holder	HPA-122A	.4375	HSS-125
	SHG-152-204	HPA-152A from H1½ Holder to H2 Holder	HPA-152A	.625	HSS-155
FOR SHAPED HOLE UNIT	SHG-122-154K	HPA-122K from H1¼K Holder to H1½K Holder	HPA-122K	.4375	HSS-125
	SHG-122-204K	HPA-122K from H1¼K Holder to H2K Holder	HPA-122K	.4375	HSS-125
	SHG-152-204K	HPA-152K from H1½K Holder to H2K Holder	HPA-152K	.625	HSS-155

Increased stripping pressure for Heavy-Duty 1", 1¼" & 1½" units

FOR MODEL NUMBER	Width of Holder	Outside Diameter of Regular Spring	Outside Diameter of Oversize Spring	Percentage of Increased Pressure	Oversize Spring Number	Spring Price	Oversize Punch Head Number
H-1, HA-1 & HP-1	1	1	1¼	50%	HSS-125	See Heavy Duty Price Sheet under H-1¼, H-1½ & H-2	HPH-127
H-1, HA-1 & HP-1	1	1	1½	170%	HSS-155		SPH-122-157
H-1¼, HA-1¼ & HP-1¼	1¼	1¼	1½	80%	HSS-155		SPH-122-157
H-1½, HA-1½ & HP-1½	1½	1½	2	65%	HSS-205		SPH-152-207

Illustration shows Model H1½" with HSS-205 Spring and SPH-152-207 Punch Head.

Increased stripping pressure can be made available by adapting the unit with oversize springs that are larger than standard springs on the outside diameter. Special oversize punch heads are also required to properly center the spring around the punch shank. (The spring and punch head exceed the width of the "C" frame holder.)

Electrical push button punches & dies

Dimensions shown are standards listed by Push Button manufacturers.

Cutler-Hammer

Allen-Bradley
Clark
General Electric
Westinghouse

Square-D
Westinghouse

General Electric

Allis Chalmers
Furnas Electric

General Electric Miniature

SHAPED HOLE PUNCHES, DIES & GUIDES

Standard Shapes

Standard shapes are keyed for both parallel and 90 degree position to the center line of the holder.

Semi standard and special shapes

SEND SKETCH
FOR PRICE QUOTATION

NOTE: For Shapes that are not symmetrical – specify location of shape in relation to center line of holder so that punches and dies can be properly keyed. Listed below are examples of common special shapes. When ordering, please submit a sketch with dimensions as shown. Also specify material thickness being punched and keying information by (point-X) in relation to the front of the machine.



When ordering shaped punches and dies for any keyed holder, specify by placing su翻 x “K” after the round hole catalog number. Also forward description and/ or sketch with complete dimensions of shape – type and thickness of material to be punched or die size.

When ordering keyed punch guides, required for shaped hole missing punching – specify by placing the su翻 x “K” after the round hole catalog number.

EXAMPLE:	HP 152	PUNCH (ROUND HOLE
	HPA 152K	SHAPED PUNCH ASS'Y .1875 x .375 RECTANGLE
EXAMPLE:	HP 153	DIE (ROUND HOLE)
	HPA 153K	SHAPED DIE .194 x .381 RECTANGLE
EXAMPLE:	HP 154	GUIDE (FOR ROUND HOLE
	HPA 154K	PUNCHING) KEYED GUIDE (FOR ROUND &

Press brake mounting information

Shown below are various mounting arrangements that may be helpful in determining the best method for your application.

See Fig. 1

This method requires a template that matches the hole pattern of the part to be punched. The template is placed in the 4-7/8" wide recess of the Bed Rail. Bolting or securing the template to the Bed Rail is not required. The template material is .500" thick cold rolled steel. Any width template from 1" to 4-3/4" may be used to suit the requirement. For template width from 4-3/4" to 6" – remove the 3/8" wide keeper bar. The purpose of the 3/8" keeper bar is to provide a 4-7/8" wide retainer space when using Bed Rail Spacer as shown in Figure 2. (See page 1 for Bed Rail Spacers.) The template is produced by drilling and reaming a .375 diameter pilot pin hole for each round hole to be punched in the part. (Pilot pin is on the centerline of each "C" frame unit.) For shaped hole locations – drill and ream for 2 - .375" diameter pilot pins on 1.500" center. For economy reasons – a template may be provided with the hole pattern layout of more than one part. In this case the holes are generally color coded or stenciled for easy identification.

FIG. 1

(See Fig. 1 for Bed Rail Dimensions)

Illustration to show Template or Base Plate setup with medium duty Punching and Notching units.

FIG. 2

Illustration to show Bed Rail No. BR800 or BR801 with Bed Rail Spacer that can be used instead of a template. Spacer can be adjusted along the rail to suit a particular hole pattern. When using this method, we recommend the use of 8" throat units or greater, for maximum front to back adjustment.

FIG. 3

Illustration to show how flanges can be added to the Press Ram to accommodate a wider striking area.

FIG. 4

Illustration to show angle supports to adapt low shut height presses to accommodate Heavy Duty "C" Frame Units. Not suitable for Medium Duty "C" Frame Units.

FIG. 5

Illustration to show Light Duty Units being mounted on BR100 Bed Rail. See Light Duty Catalog.

Extruded hole data for #6, #8 and #10 sheet metal screws or machine screws

FOR #6 SHEET METAL OR MACHINE SCREW	METAL THICKNESS	B DIA.	CAN BE TAPPED FOR MACH. SCREWS
	24 Ga. .0239	.169	No
	22 Ga. .0299	.181	No
	20 Ga. .0359	.193	No
	18 Ga. .0478	.217	Yes
	16 Ga. .0598	.241	Yes

FOR #8 SHEET METAL OR MACHINE SCREW	METAL THICKNESS	B DIA.	CAN BE TAPPED FOR MACH. SCREWS
	24 Ga. .0239	.199	No
	22 Ga. .0299	.211	No
	20 Ga. .0359	.223	No
	18 Ga. .0478	.247	Yes
	16 Ga. .0598	.271	Yes

FOR #10 SHEET METAL OR MACHINE SCREW	METAL THICKNESS	B DIA.	CAN BE TAPPED FOR MACH. SCREWS
	24 Ga. .0239	.220	No
	22 Ga. .0299	.232	No
	20 Ga. .0359	.244	No
	18 Ga. .0478	.268	Yes
	16 Ga. .0598	.292	Yes

ELECTRICAL KNOCKOUT CONDUIT HOLES

SINGLE KNOCKOUT

Knockout punches and dies can be furnished in standard units or for fabricating type machines. The dies are furnished with a 'kicker' to force the slug out of the die for easy removal of the material.

PRICE
ON
APPLICATION

DOUBLE KNOCKOUT

CONDUIT SIZE	PUNCH SIZE FOR SLIP FIT HOLE	
3/8	11/16	USE STANDARD UNITS
1/2	7/8	
3/4	1 1/8	
1	1 3/8	
1 1/4	1 3/4	
1 1/2	2	
2	2 1/2	REQUIRE SPECIAL UNITS
2 1/2	3	
3	3 5/8	
3 1/2	4 1/8	
4	4 5/8	
5	5 5/8	
6	6 3/4	

COUNTERSINK HOLES FOR FLAT HEAD SCREWS	SCREW SIZE	NO. 6		NO. 8		NO. 10		1/4"		5/16"		3/8"	
	M SERIES UNIT	M-1 1/4		M-1 3/4		M-1 3/4		M-1 3/4		M-2 1/4		M-2 1/4	
	H SERIES UNIT	H-1 1/4		H-1 1/4		H-1 1/2		H-1 1/2		H-2		H-2	
	METAL THICKNESS	Punch A	Die Dia.	Punch A	Die Dia.	Punch A	Die Dia.	Punch A	Die Dia.	Punch A	Die Dia.	Punch A	Die Dia.
24 ga. .0239		.120	.296	.146	.352	.157	.405	.183	.530	.213	.660	.238	.789
22 ga. .0299		.125	.306	.153	.357	.165	.410	.190	.535	.219	.666	.245	.794
20 ga. .0359		.142	.313	.167	.369	.171	.416	.197	.541	.226	.671	.252	.800
18 ga. .0478		.148	.318	.174	.373	.185	.427	.211	.552	.240	.682	.266	.810
16 ga. .0598		.157	.329	.188	.385	.200	.438	.227	.563	.253	.693	.281	.822
14 ga. .0747		.165	.343	.206	.398	.217	.452	.239	.570	.270	.707	.292	.835
12 ga. .1046		.144	.360	.175	.426	.200	.480	.278	.604	.304	.734	.332	.863
10 ga. .1345		.150	.397	.200	.454	.200	.507	.288	.625	.341	.761	.369	.890