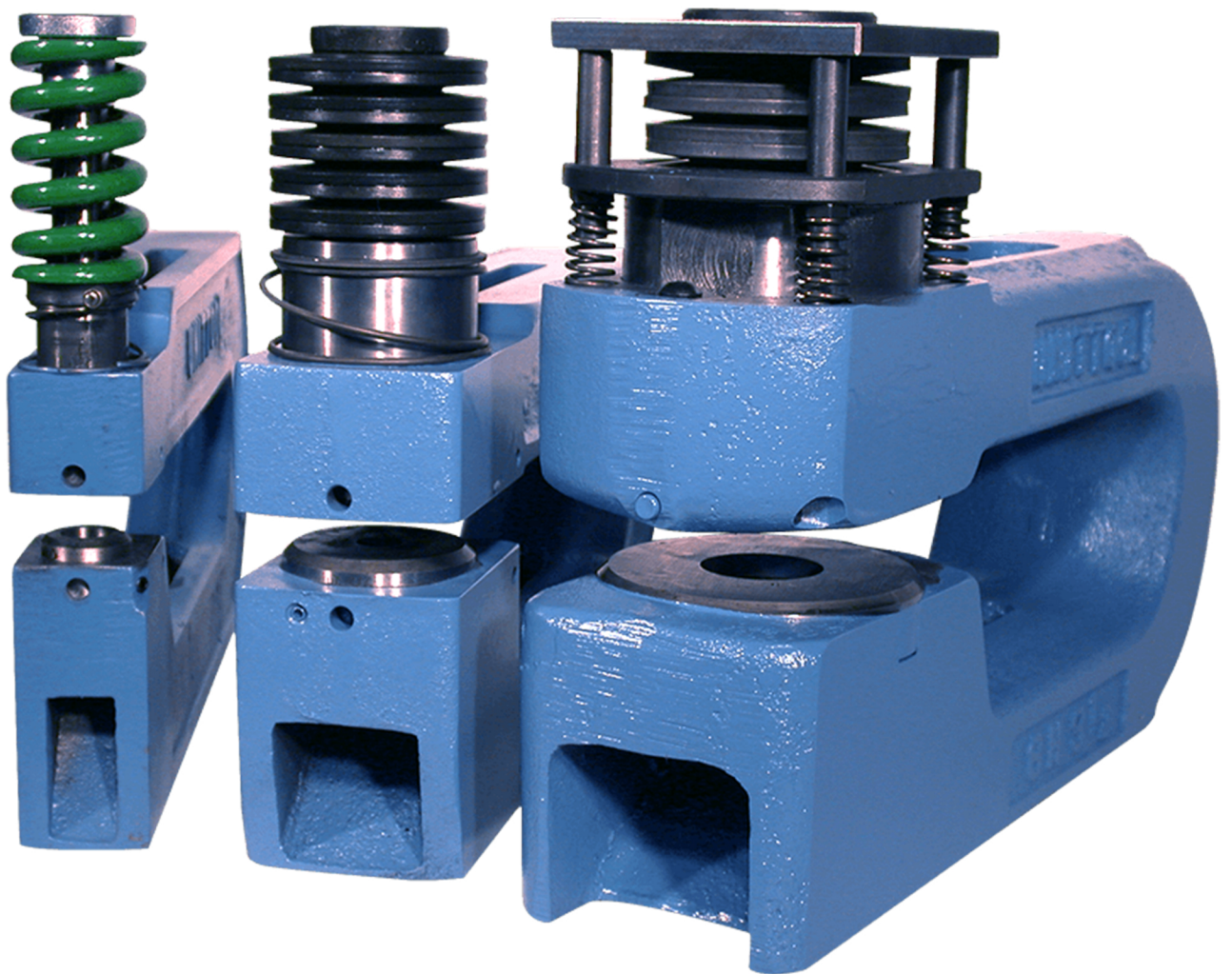


# **UNITTOOL**

## **HEAVY-DUTY** PUNCHING UNITS

**MODEL H • MODEL HP • MODEL HA • MODEL HH**



**UNITTOOL PUNCH AND DIE COMPANY INC.**

311 5th Street NW Clear Lake, WI 54005 | Phone: 1-716-873-8453 | Email: [Info@Unittool.com](mailto:Info@Unittool.com)

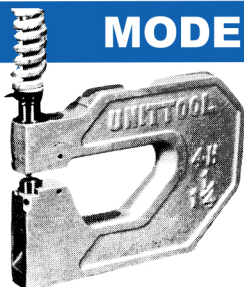
# UNITTOOL “H” SERIES PUNCHING UNITS

*UNITTOOL'S HEAVY-DUTY SERIES PUNCHING UNITS are designed for rugged punching operations. Unittool and Unipunch brands have combined and merged product offerings.*

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### MODEL H

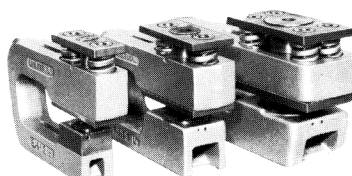
PAGES 3-10



This popular unit will serve most applications. Low in cost with inexpensive die buttons.

### MODEL HH

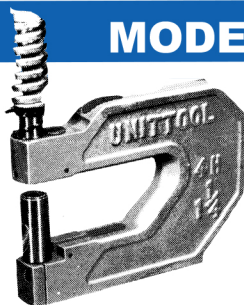
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The HH series of holders are extra heavy-duty in design to handle mild steel up to ½" thick.

### MODEL HP

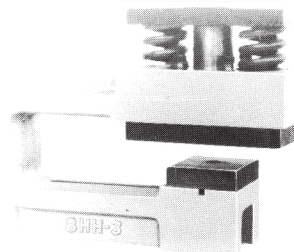
PAGES 11-15



Designed with a pedestal die section to allow die to be "ground away" in order to punch close to an inside leg of an angle or other obstructions the pedestal die can be revolved 360 degrees in order to direct slug ejection chute in any desired direction. (Round hole only)

### MODEL HH-3

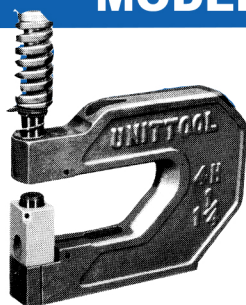
PAGE 18



This unit has the capacity of punching holes in material up to ¾" thick.

### MODEL HA

PAGES 11-14



The "C" frame holder in this model is the same holder used in the Model HP unit. The use of a die button adapter permits the use of inexpensive die button replacements. The adapter can be revolved 360 degrees in order to direct slug ejection chute in any desired direction. (Round hole only)

8 ⅜" SHUT HEIGHT

Punch size range -  
.093 to 5.00 dia.

3 ½" DIE HEIGHT

Capacity up to ¾"  
thick mild steel

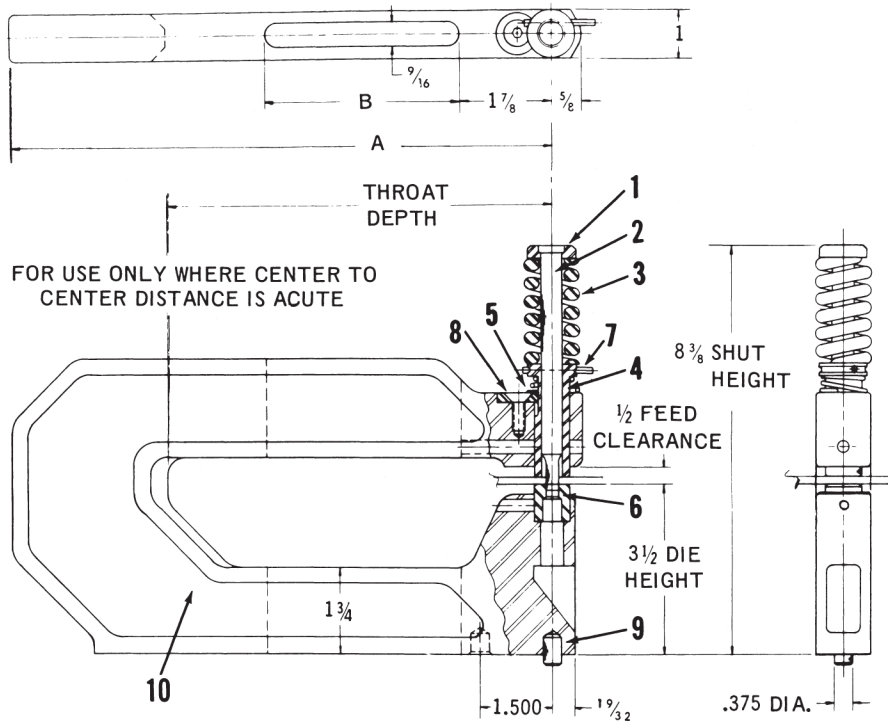
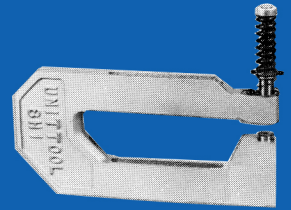


# MODEL H-1"

**8<sup>3</sup>/<sub>8</sub>" SHUT HEIGHT**

**3<sup>1</sup>/<sub>2</sub>" DIE HEIGHT**

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
4H-1	4 <sup>5</sup> / <sub>8</sub>	1"	7 <sup>7</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	—
8H-1	8 <sup>5</sup> / <sub>8</sub>	1"	11 <sup>7</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>	—
12H-1	12 <sup>5</sup> / <sub>8</sub>	1"	15 <sup>7</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	—



5/16" MAX. PUNCH SIZE FOR 1/4" THICK MATERIAL • 7/16" MAX. PUNCH SIZE FOR 1/8" MATERIAL

ITEM NO.	DESCRIPTION	CATALOG NO.	ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch Head	HPH-107	10	(1) Holder 4" Throat	4H 1C
2	Punch (Without Head)	HP-122		(1) Holder 8" Throat	8H 1C
—	Shaped Punch & Head Ass'y.	HPA-102K		(1) Holder 12" Throat	12H 1C
—	Punch & Head Ass'y.	HPA-102A	11	Conversion Kit	HCK-100
3	Stripper Spring	HSS-105		(1) Includes Pilot Pin & Guide Retainer	
4	Guide (Not Keyed)	HG-104			
—	Keyed Guide	HG-104K			
5	Lifter Spring	HLS-106			
6	Die Button	HD-123			
—	Shaped Die	HD-123K			
7	Punch Retainer	PR-100			
8	Guide Retainer	GR-300			
9	Pilot Pin	PP-1000			
—	Pilot Pin (Diamond)	PP-1000K			

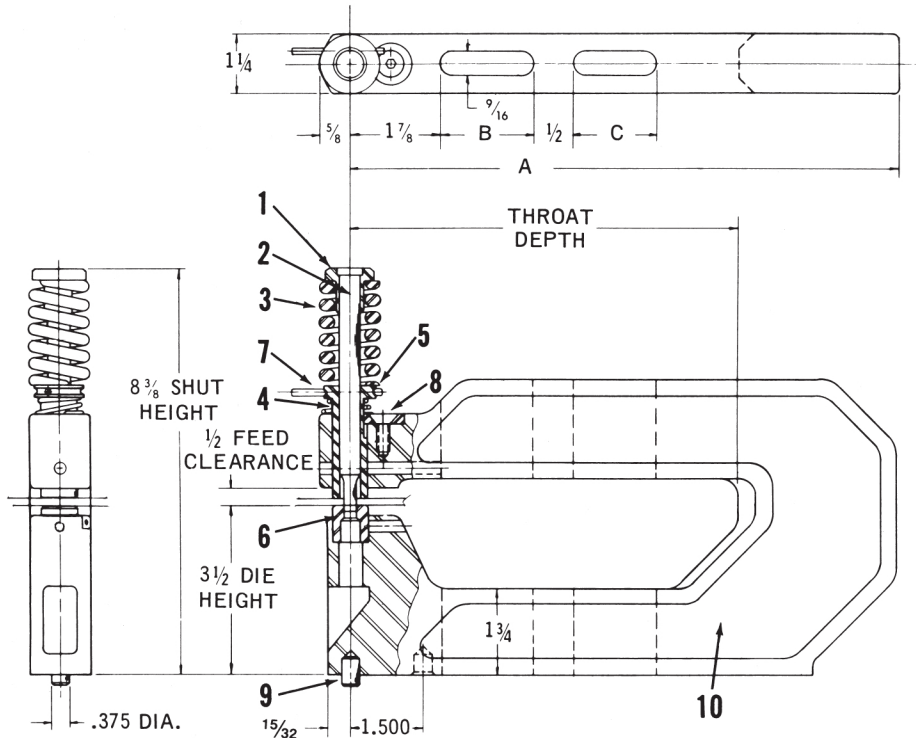
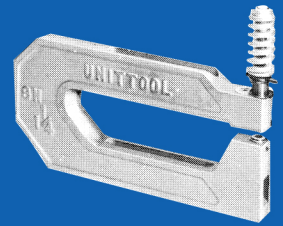
MINIMUM RECOMENDED  
DIE CLEARANCE .006

# MODEL H-1 1/4"

8 3/8" SHUT  
HEIGHT

3 1/2" DIE  
HEIGHT

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
4H-1 1/4	4 5/8	1 1/4	7 7/8	1 7/8	—
8H-1 1/4	8 5/8	1 1/4	11 7/8	5 3/8	—
12H-1 1/4	12 5/8	1 1/4	15 7/8	5 7/8	3



MIN. PUNCH SIZE .093

MAX. PUNCH SIZE .437

MAX. MATERIAL THICKNESS 1/4"

ITEM NO.	DESCRIPTION	CATALOG NO.	ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch Head	HPH-127	10	(1) Holder 4" Throat	4H 1 1/4C
2	Punch (Without Head)	HP-122		(1) Holder 8" Throat	8H 1 1/4C
—	Shaped Punch & Head Ass'y.	HPA-122K		(1) Holder 12" Throat	12H 1 1/4C
—	Punch & Head Ass'y.	HPA-122A	11	Conversion Kit	HCK-125
3	Stripper Spring	HSS-125		(1) Includes Pilot Pin & Guide Retainer	
4	Guide (Not Keyed)	HG-124			
—	Keyed Guide	HG-124K			
5	Lifter Spring	HLS-126			
6	Die Button	HD-123			
—	Shaped Die	HD-123K			
7	Punch Retainer	PR-100			
8	Guide Retainer	GR-300			
9	Pilot Pin	PP-1000			
—	Pilot Pin (Diamond)	PP-1000K			

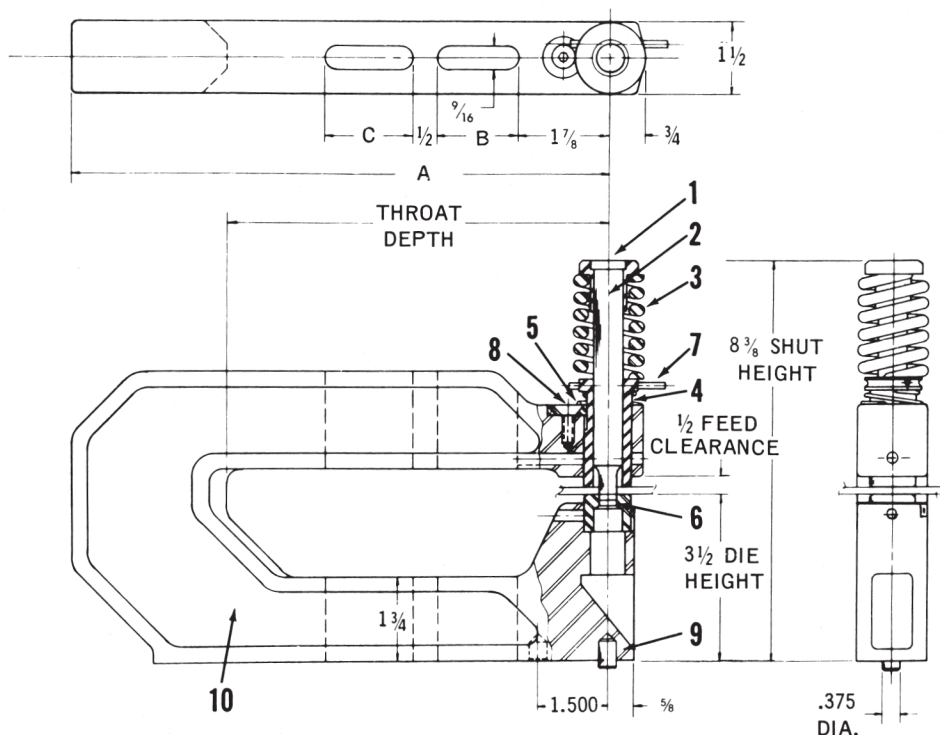
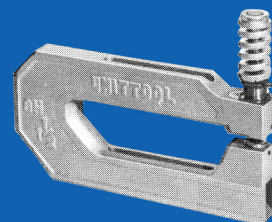
MINIMUM RECOMENDED  
DIE CLEARANCE .006

# MODEL

**8<sup>3</sup>/<sub>8</sub>" SHUT  
HEIGHT**

**3 1/2"** DIE HEIGHT

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
4H-1 <sup>1</sup> / <sub>2</sub>	4 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	7 <sup>7</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	—
8H-1 <sup>1</sup> / <sub>2</sub>	8 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	11 <sup>7</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>	—
12H-1 <sup>1</sup> / <sub>2</sub>	12 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	15 <sup>7</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	3
18H-1 <sup>1</sup> / <sub>2</sub>	18 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	21 <sup>7</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>
24H-1 <sup>1</sup> / <sub>2</sub>	24 <sup>5</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	27 <sup>7</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>



**MIN. PUNCH SIZE .1875**

**MAX. PUNCH SIZE .625**

MAX. MATERIAL THICKNESS 1/4"

ITEM NO.	DESCRIPTION	CATALOG NO.	ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch Head	HPH-157	10	<sup>(1)</sup> Holder 4" Throat	4H 1½C
2	Punch (Without Head)	HP-152		<sup>(1)</sup> Holder 8" Throat	8H 1½C
–	Shaped Punch & Head Ass'y.	HPA-152K		<sup>(1)</sup> Holder 12" Throat	12H 1½C
–	Punch & Head Ass'y.	HPA-152A		<sup>(1)</sup> Holder 18" Throat	18H 1½C
3	Stripper Spring	HSS-155	11	Conversion Kit	HCK-150
4	Guide (Not Keyed)	HG-154		<sup>(1)</sup> Includes Pilot Pin & Guide Retainer	
–	Keyed Guide	HG-154K			
5	Lifter Spring	HLS-156			
6	Die Button	HD-153			
–	Shaped Die	HD-153K			
7	Punch Retainer	PR-100			
8	Guide Retainer	GR-300			
9	Pilot Pin	PP-1000			
–	Pilot Pin (Diamond)	PP-1000K			

MINIMUM RECOMENDED  
DIE CLEARANCE .006

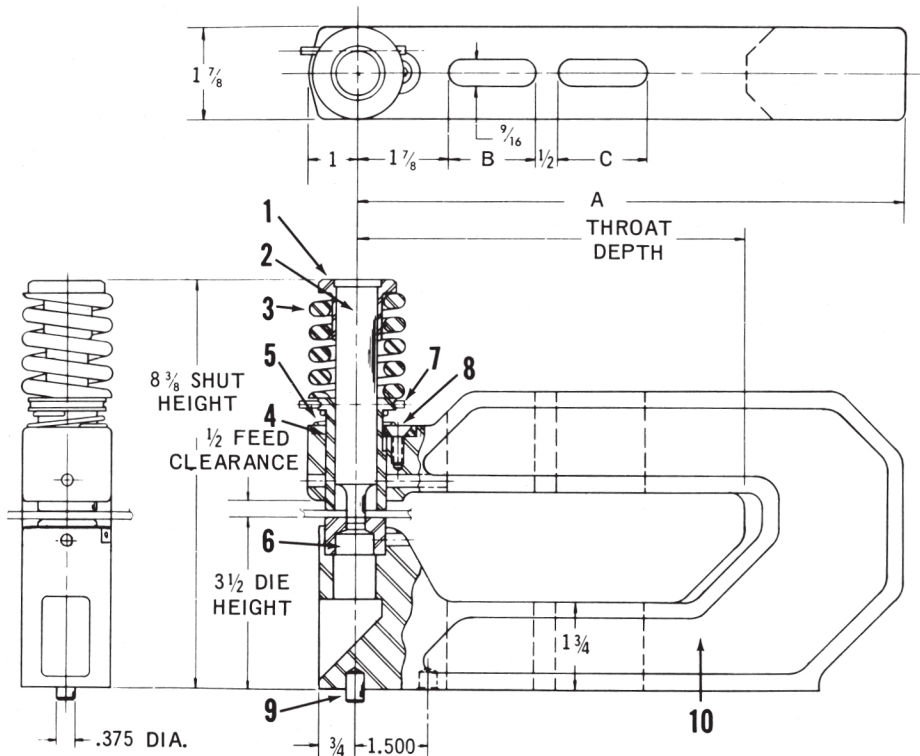
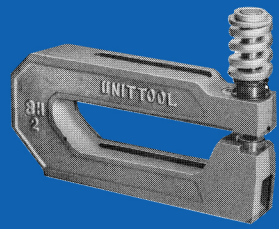


# MODEL H-2"

**8<sup>3</sup>/<sub>8</sub>" SHUT  
HEIGHT**

**3<sup>1</sup>/<sub>2</sub>" DIE  
HEIGHT**

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
4H-2	4 <sup>5</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	7 <sup>7</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	—
8H-2	8 <sup>5</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	11 <sup>7</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>	—
12H-2	12 <sup>5</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	15 <sup>7</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	3
18H-2	18 <sup>5</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	21 <sup>7</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>
24H-2	24 <sup>5</sup> / <sub>8</sub>	2	27 <sup>7</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>8</sub>



**MIN. PUNCH SIZE .250**

**MAX. PUNCH SIZE .875**

**MAX. MATERIAL THICKNESS 1/4"**

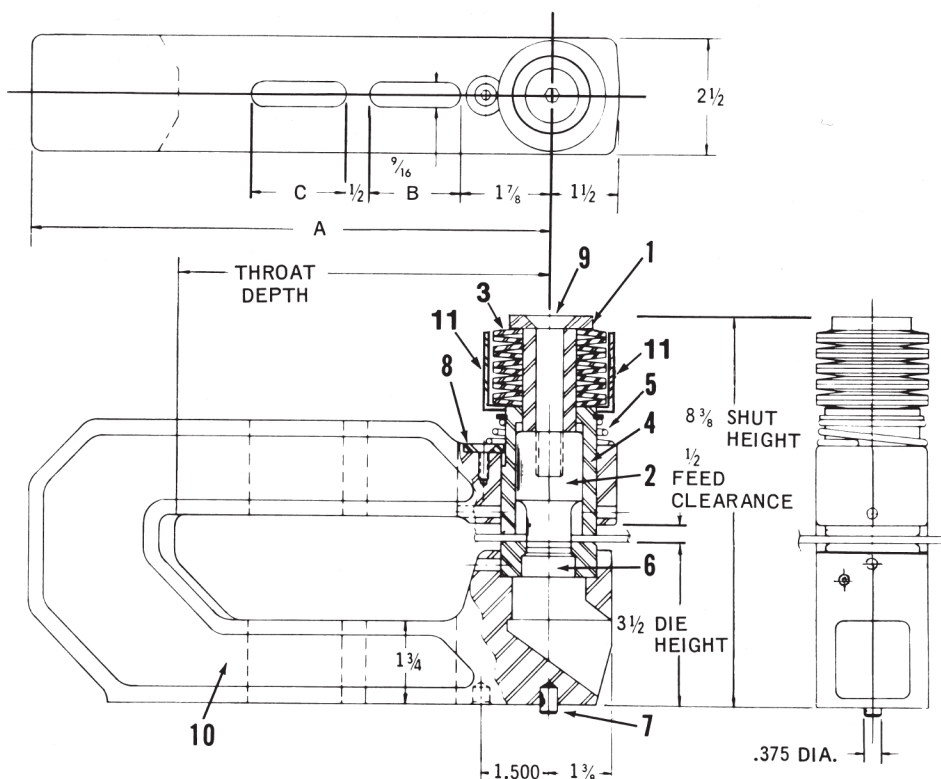
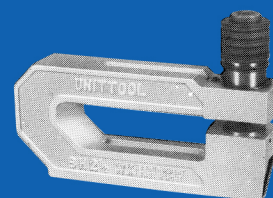
ITEM NO.	DESCRIPTION	CATALOG NO.	ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch Head	HPH-207	10	(1) Holder 4" Throat	4H 2C
2	Punch (Without Head)	HP-202		(1) Holder 8" Throat	8H 2C
—	Shaped Punch & Head Ass'y.	HPA-202K		(1) Holder 12" Throat	12H 2C
—	Punch & Head Ass'y.	HPA-202A		(1) Holder 18" Throat	18H 2C
3	Stripper Spring	HSS-205	11	Conversion Kit	HCK-200
4	Guide (Not Keyed)	HG-204	(1) Includes Pilot Pin & Guide Retainer		
—	Keyed Guide	HG-204K			
5	Lifter Spring	HLS-206	<b>MINIMUM RECOMENDED DIE CLEARANCE .006</b>		
6	Die Button	HD-203			
—	Shaped Die	HD-203K			
7	Punch Retainer	PR-100			
8	Guide Retainer	GR-300			
9	Pilot Pin	PP-1000			
—	Pilot Pin (Diamond)	PP-1000K			

# MODEL H-2 1/2"

8 3/8" SHUT  
HEIGHT

3 1/2" DIE  
HEIGHT

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
4H-2 1/2	4 5/8	2 1/2	7 7/8	1 7/8	—
8H-2 1/2	8 5/8	2 1/2	11 7/8	5 3/8	—
12H-2 1/2	12 5/8	2 1/2	15 7/8	5 7/8	3
18H-2 1/2	18 5/8	2 1/2	21 7/8	5 7/8	5 3/8
24H-2 1/2	24 5/8	2 1/2	27 7/8	5 7/8	5 3/8



MIN. PUNCH SIZE .500

MAX. PUNCH SIZE 1.500

MAX. MATERIAL THICKNESS 1/4"

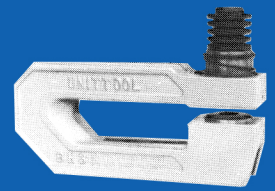
ITEM NO.	DESCRIPTION	CATALOG NO.	ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch Head	HPH-257 A	10	(1) Holder 4" Throat	4H 2 1/2C
2	Punch	HP-252		(1) Holder 8" Throat	8H 2 1/2C
—	Shaped Punch	HP-252K		(1) Holder 12" Throat	12H 2 1/2C
3	Stripper Spring ( 10 per set )	HSS-255		(1) Holder 18" Throat	18H 2 1/2C
4	Guide	HG-254	11	(2) Spring Guard	SG-250
—	Keyed Guide	HG-254K	12	Conversion Kit	HCK-250
5	Lifter Spring	HLS-256	(1) Includes Pilot Pin & Guide Retainer (2) Optional		
6	Die Button	HD-253			
—	Shaped Die	HD-253K	MINIMUM RECOMENDED DIE CLEARANCE .006		
7	Pilot Pin	PP-1000			
—	Pilot Pin (Diamond)	PP-1000K			
8	Guide Retainer	GR-300			
9	Punch Screw	PS-259			

# MODEL H-3"

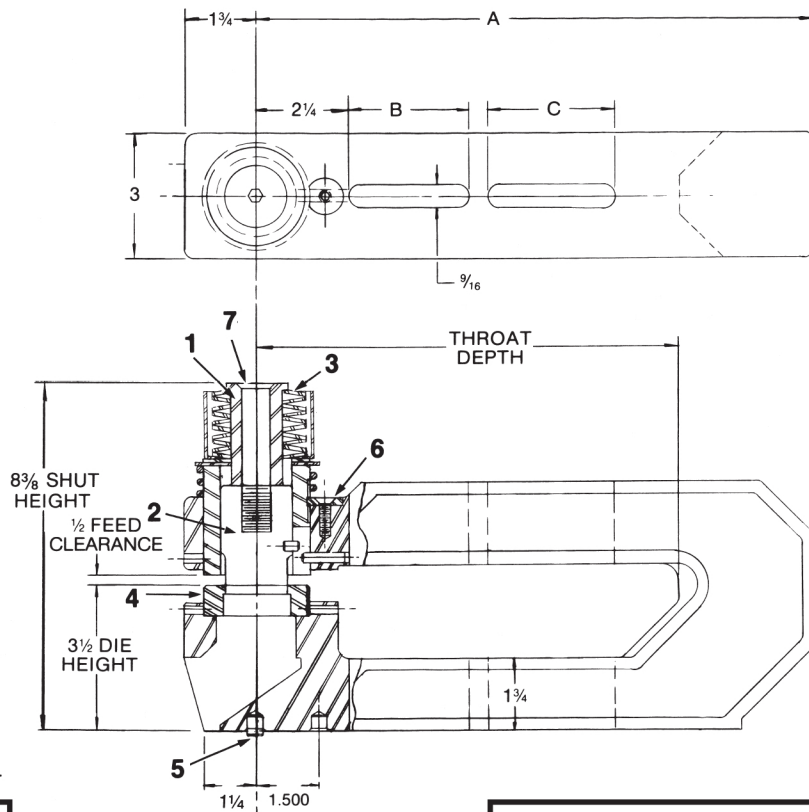
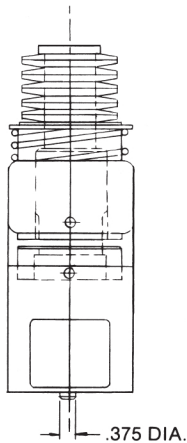
8<sup>3</sup>/<sub>8</sub>" SHUT  
HEIGHT

3<sup>1</sup>/<sub>2</sub>" DIE  
HEIGHT

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
8H-3	8 <sup>5</sup> / <sub>8</sub>	3	11 <sup>7</sup> / <sub>8</sub>	5	—
12H-3	12 <sup>5</sup> / <sub>8</sub>	3	15 <sup>7</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	—
18H-3	18 <sup>5</sup> / <sub>8</sub>	3	21 <sup>7</sup> / <sub>8</sub>	5 <sup>7</sup> / <sub>8</sub>	5



THIS UNIT IS  
KEYED FOR BOTH  
ROUND & SHAPED  
PUNCHES & DIES



MIN. PUNCH SIZE .750

MAX. PUNCH SIZE 1.750

MAX. MATERIAL THICKNESS 1/4"

ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch Head	HPH-257 A
2	Punch	HP-302
—	Shaped Punch	HP-302K
3	Stripper Spring ( 10 per set )	HSS-255
4	Die Button	HD-303
—	Shaped Die	HD-303K
5	Pilot Pin	PP-1000
—	Pilot Pin (Diamond)	PP-1000K
6	Guide Retainer	GR-300
7	Punch Screw	PS-259

MINIMUM RECOMENDED  
DIE CLEARANCE .006

*Complete unit is not available.  
Contact us for replacement components  
or a comparable unit.*

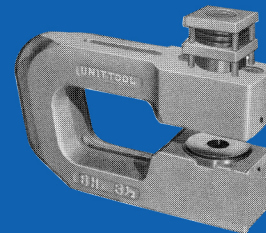


# MODEL H-3 1/2"

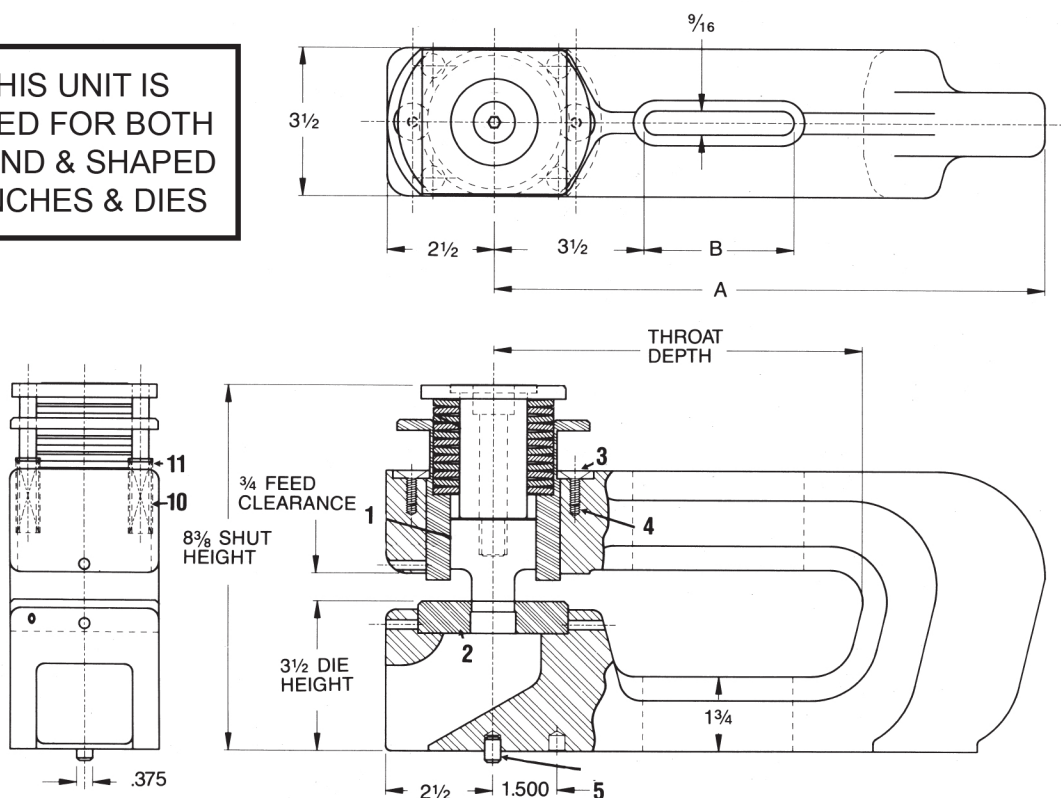
8 3/8" SHUT  
HEIGHT

3 1/2" DIE  
HEIGHT

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
8H-3 1/2	8 5/8	3 1/2	12 1/8	3 1/2	—
12H-3 1/2	12 5/8	3 1/2	16 1/8	5 1/2	—
18H-3 1/2	18 5/8	3 1/2	22 1/8	5 1/2	—
24H-3 1/2	24 5/8	3 1/2	29 1/8	5 1/2	—



THIS UNIT IS  
KEYED FOR BOTH  
ROUND & SHAPED  
PUNCHES & DIES



MAX. PUNCH SIZE & MATERIAL THICKNESS – 2" DIAM. IN 1/4" THICKNESS 1 1/4" DIAM. IN 1/2" THICKNESS  
1 5/8" DIAM. IN 3/8" THICKNESS

ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch	HP-352
—	Shaped Punch	HP-352K
2	Die	HD-353
—	Shaped Die	HD-353K
3	Guide Retainer	GR-300
4	Retainer Plate Screw	91130
5	Pilot Pin	PP-1000
—	Pilot Pin (Diamond)	PP-1000K

MINIMUM RECOMENDED  
DIE CLEARANCE .012

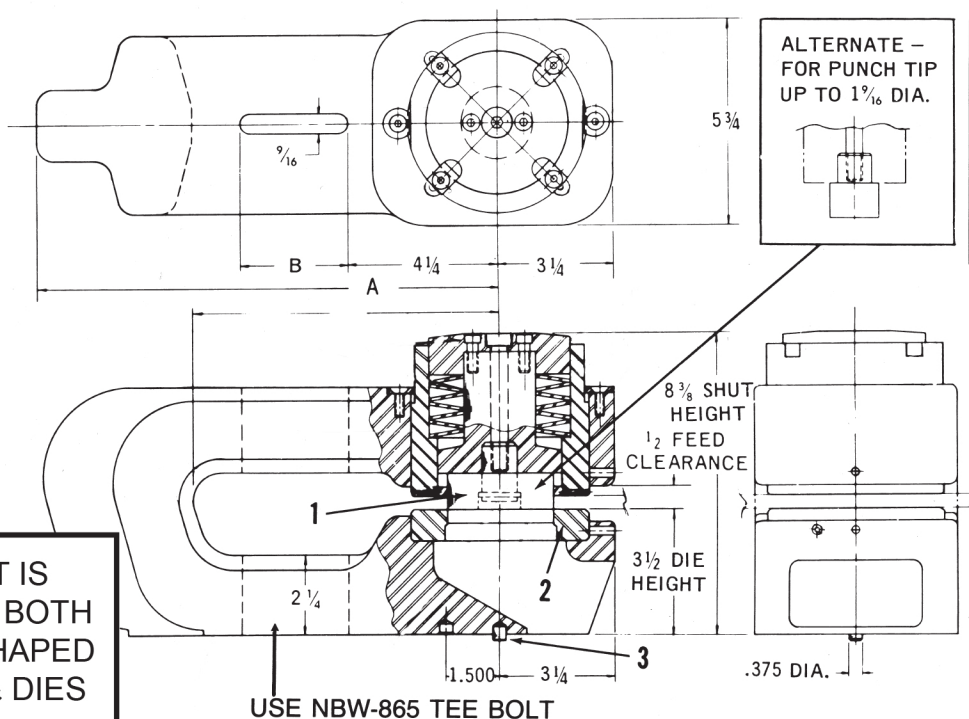
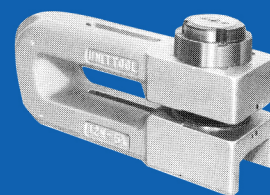
*Complete unit is not available.  
Contact us for replacement components  
or a comparable unit.*

# MODEL H-5<sup>3/4"</sup>

8<sup>3/8"</sup> SHUT  
HEIGHT

3<sup>1/2"</sup> DIE  
HEIGHT

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
8H-5 <sup>3/4</sup>	8 <sup>5</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>4</sub>	13 <sup>1</sup> / <sub>8</sub>	3	—
12H-5 <sup>3/4</sup>	12 <sup>5</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>4</sub>	17 <sup>1</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>	—
18H-5 <sup>3/4</sup>	18 <sup>5</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>4</sub>	23 <sup>1</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>	—
24H-5 <sup>3/4</sup>	24 <sup>5</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>4</sub>	29 <sup>1</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>2</sub>	—



•NEW DESIGN FOR  
SHAPED PUNCHES  
WITH OUTBOARD KEY

THIS UNIT IS  
KEYED FOR BOTH  
ROUND & SHAPED  
PUNCHES & DIES

USE NBW-865 TEE BOLT

MAX. PUNCH SIZE & MATERIAL THICKNESS – 3<sup>1/2</sup>" DIAM. IN 3/16" THICKNESS – 3" DIAM. IN 1/4" THICKNESS

ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch-1 <sup>5</sup> / <sub>16</sub> " thru 1 <sup>9</sup> / <sub>16</sub> "	MP-502A
—	Shaped Punch	MP-502AK
1	Punch-1 <sup>5</sup> / <sub>8</sub> " thru 2 <sup>1</sup> / <sub>4</sub> "	MP-502B
1	Punch-2 <sup>5</sup> / <sub>16</sub> " thru 2 <sup>7</sup> / <sub>8</sub> "	MP-502C
—	Shaped Punch	MP-502CK
1	Punch-2 <sup>15</sup> / <sub>16</sub> " thru 3 <sup>1</sup> / <sub>2</sub> "	MP-502D
—	Shaped Punch	MP-502DK
2	Die	HD-603
—	Shaped Die	HD-603K
3	Pilot Pin	PP-1000
—	Pilot Pin Diamond	PP-1000K

MINIMUM RECOMENDED  
DIE CLEARANCE .012

\* IF USING OLD DESIGN PUNCH DRIVER  
CONTACT FACTORY FOR MODIFICATION DETAILS

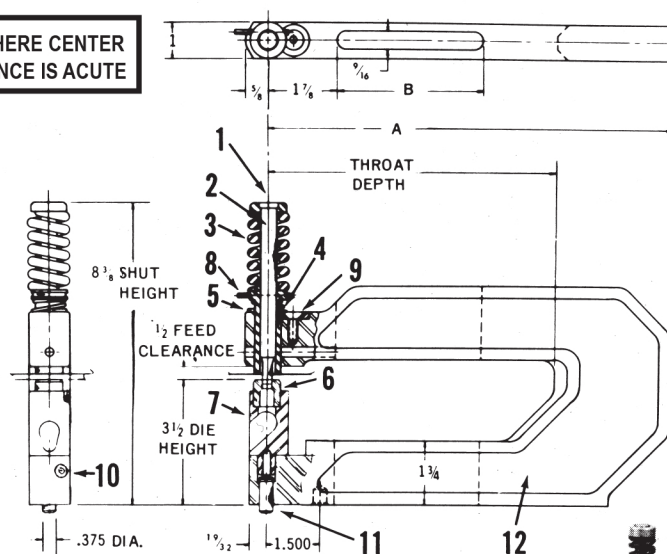
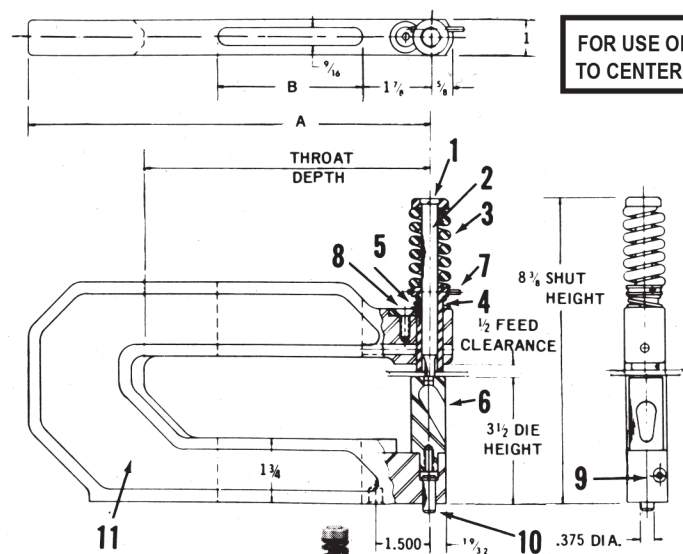
*Complete unit is not available.  
Contact us for replacement components  
or a comparable unit.*

# MODEL HP-1"

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
4HP-1	4 5/8"	1"	7 7/8"	1 7/8"	—
8HP-1	8 5/8"	1"	11 7/8"	5 3/8"	—
12HP-1	12 5/8"	1"	15 7/8"	5 7/8"	—

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
4HA-1	4 5/8"	1"	7 7/8"	1 7/8"	—
8HA-1	8 5/8"	1"	11 7/8"	5 3/8"	—
12HA-1	12 5/8"	1"	15 7/8"	5 7/8"	—

# MODEL HA-1"



5/16" MAX. PUNCH SIZE FOR 1/4" THICK MATERIAL  
7/16" MAX. PUNCH SIZE FOR 1/8" MATERIAL

MINIMUM RECOMENDED  
DIE CLEARANCE .012

## MODEL HP-1"

ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch Head	HPH-107
2	Punch (Without Head)	HP-122
—	Shaped Punch & Head Ass'y.	HPA-102K
—	Punch & Head Ass'y.	HPA-102A
3	Stripper Spring	HSS-105
4	Guide (Not Keyed)	HG-104
—	Keyed Guide	HG-104K
5	Lifter Spring	HLS-106
6	Pedestal Die	HPD-123
—	Shaped Pedestal Die	HPD-123K
7	Punch Retainer	PR-100
8	Guide Retainer	GR-300
9	Die Retainer Screw	10-32x3/4 S.H.C.S.
10	Pilot Pin	PP-1200
—	Pilot Pin (Diamond)	PP-1000K
11	(1) Holder 4" Throat	4HP 1-C
	(1) Holder 8" Throat	8HP 1-C
	(1) Holder 12" Throat	12HP 1-C
12	Conversion Kit	HPCK-100

(1) Includes Pilot Pin & Guide Retainer

## MODEL HA-1"

ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch Head	HPH-107
2	Punch (Without Head)	HP-122
—	Shaped Punch & Head Ass'y.	HPA-102K
—	Punch & Head Ass'y.	HPA-102A
3	Stripper Spring	HSS-105
4	Guide (Not Keyed)	HG-104
—	Keyed Guide	HG-104K
5	Lifter Spring	HLS-106
6	Die Button	HD-123
—	Shaped Die	HD-123K
7	Die Adapter	HDA-108
—	Keyed Die Adapter	HDA-108K
8	Punch Retainer	PR-100
9	Guide Retainer	GR-300
10	Die Retainer Screw	10-32x3/4 S.H.C.S.
11	Pilot Pin	PP-1200
—	Pilot Pin (Diamond)	PP-1000K
12	(1) Holder 4" Throat	4HP 1-C
	(1) Holder 8" Throat	8HP 1-C
	(1) Holder 12" Throat	12HP 1-C
13	Conversion Kit	HPCK-100

(1) Includes Pilot Pin & Guide Retainer

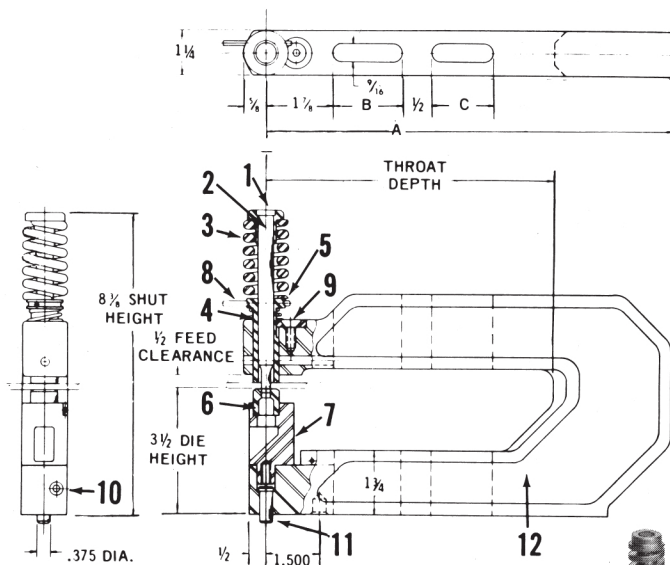
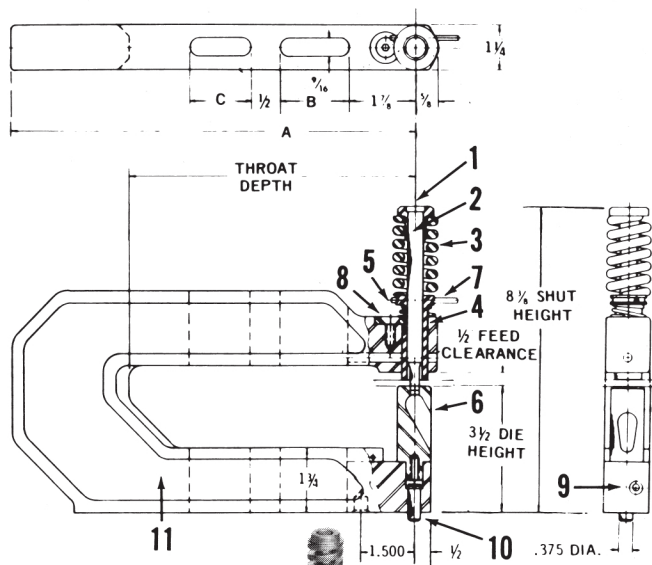


# MODEL HP-1 1/4"

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
4HP-1 1/4	4 5/8"	1 1/4"	7 7/8"	1 7/8"	—
8HP-1 1/4	8 5/8"	1 1/4"	11 7/8"	5 3/8"	—
12HP-1 1/4	12 5/8"	1 1/4"	15 7/8"	5 7/8"	3

# MODEL HA-1 1/4"

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
4HA-1 1/4	4 5/8"	1 1/4"	7 7/8"	1 7/8"	—
8HA-1 1/4	8 5/8"	1 1/4"	11 7/8"	5 3/8"	—
12HA-1 1/4	12 5/8"	1 1/4"	15 7/8"	5 7/8"	3



MAX. MATERIAL THICKNESS 1/4"

MIN. PUNCH SIZE .093

MAX. PUNCH SIZE .4375

MINIMUM RECOMENDED  
DIE CLEARANCE .012

## MODEL HP-1 1/4"

ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch Head	HPH-127
2	Punch (Without Head)	HP-122
—	Shaped Punch & Head Ass'y.	HPA-122K
—	Punch & Head Ass'y.	HPA-122A
3	Stripper Spring	HSS-125
4	Guide (Not Keyed)	HG-124
—	Keyed Guide	HG-124K
5	Lifter Spring	HLS-126
6	Pedestal Die	HPD-123
—	Shaped Pedestal Die	HPD-123K
7	Punch Retainer	PR-100
8	Guide Retainer	GR-300
9	Die Retainer Screw	10-32x3/4 S.H.C.S.
10	Pilot Pin	PP-1200
—	Pilot Pin (Diamond)	PP-1000K
11	(1) Holder 4" Throat	4HP 1 1/4C
	(1) Holder 8" Throat	8HP 1 1/4C
	(1) Holder 12" Throat	12HP 1 1/4C
12	Conversion Kit	HPCK-125

(1) Includes Pilot Pin & Guide Retainer

## MODEL HA-1 1/4"

ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch Head	HPH-127
2	Punch (Without Head)	HP-122
—	Shaped Punch & Head Ass'y.	HPA-122K
—	Punch & Head Ass'y.	HPA-122A
3	Stripper Spring	HSS-125
4	Guide (Not Keyed)	HG-124
—	Keyed Guide	HG-124K
5	Lifter Spring	HLS-126
6	Die Button	HD-123
—	Shaped Die	HD-123K
7	Die Adapter	HDA-128
—	Keyed Die Adapter	HDA-128K
8	Punch Retainer	PR-100
9	Guide Retainer	GR-300
10	Die Retainer Screw	10-32x3/4 S.H.C.S.
11	Pilot Pin	PP-1200
—	Pilot Pin (Diamond)	PP-1000K
12	(1) Holder 4" Throat	4HP 1 1/4C
	(1) Holder 8" Throat	8HP 1 1/4C
	(1) Holder 12" Throat	12HP 1 1/4C
13	Conversion Kit	HPCK-125

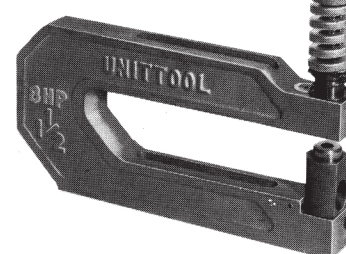
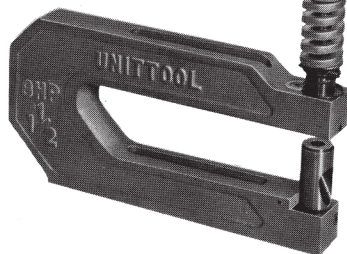
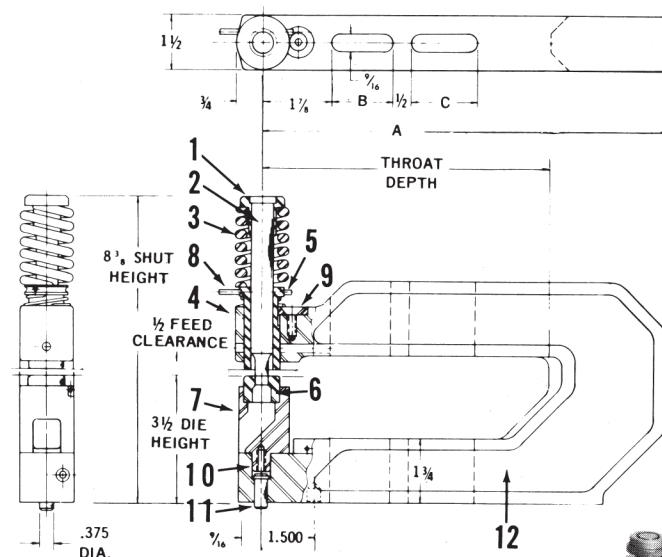
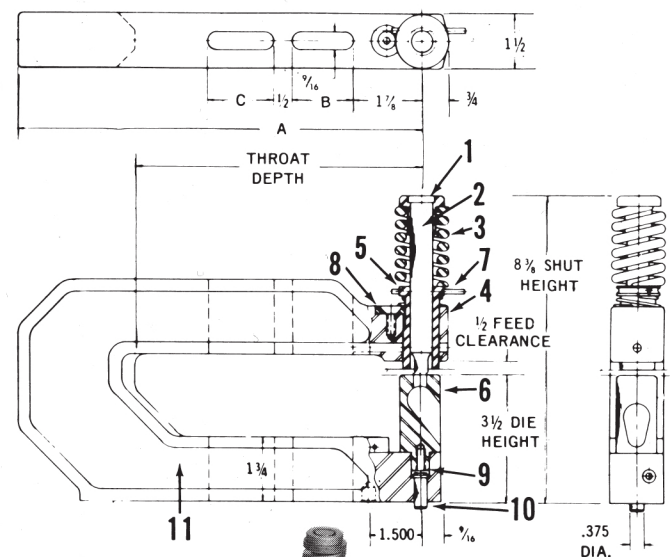
(1) Includes Pilot Pin & Guide Retainer

# MODEL HP-1 1/2"

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
4HP-1 1/2	4 5/8"	1 1/2"	7 7/8"	1 7/8"	—
8HP-1 1/2	8 5/8"	1 1/2"	11 7/8"	5 3/8"	—
12HP-1 1/2	12 5/8"	1 1/2"	15 7/8"	5 7/8"	3
18HP-1 1/2	18 5/8"	1 1/2"	21 7/8"	5 7/8"	5 3/8
24HP-1 1/2	24 5/8"	1 1/2"	27 7/8"	5 7/8"	5 3/8

# MODEL HA-1 1/2"

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
4HA-1 1/2	4 5/8"	1 1/2"	7 7/8"	1 7/8"	—
8HA-1 1/2	8 5/8"	1 1/2"	11 7/8"	5 3/8"	—
12HA-1 1/2	12 5/8"	1 1/2"	15 7/8"	5 7/8"	3
18HA-1 1/2	18 5/8"	1 1/2"	21 7/8"	5 7/8"	5 3/8
24HA-1 1/2	24 5/8"	1 1/2"	27 7/8"	5 7/8"	5 3/8



MAX. MATERIAL THICKNESS 1/4"  
MIN. PUNCH SIZE .1875  
MAX. PUNCH SIZE .625

MINIMUM RECOMENDED  
DIE CLEARANCE .012

## MODEL HP-1 1/2"

## MODEL HA-1 1/2"

ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch Head	HPH-157
2	Punch (Without Head)	HP-152
—	Shaped Punch & Head Ass'y.	HPA-152K
—	Punch & Head Ass'y.	HPA-152A
3	Stripper Spring	HSS-155
4	Guide (Not Keyed)	HG-154
—	Keyed Guide	HG-154K
5	Lifter Spring	HLS-156
6	Pedestal Die	HPD-153
—	Shaped Pedestal Die	HPD-153K
7	Punch Retainer	PR-100
8	Guide Retainer	GR-300
9	Die Retainer Screw	1/4-20x3/4 S.H.C.S.
10	Pilot Pin	PP-1200
—	Pilot Pin (Diamond)	PP-1000K
11	(1) Holder 4" Throat	4HP 1 1/2C
	(1) Holder 8" Throat	8HP 1 1/2C
	(1) Holder 12" Throat	12HP 1 1/2C
	(1) Holder 18" Throat	18HP 1 1/2C
12	Conversion Kit	HPCK-150

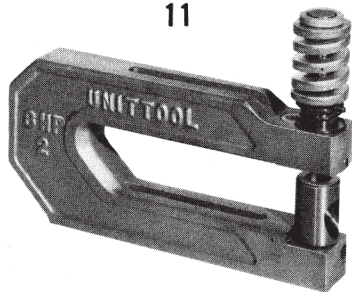
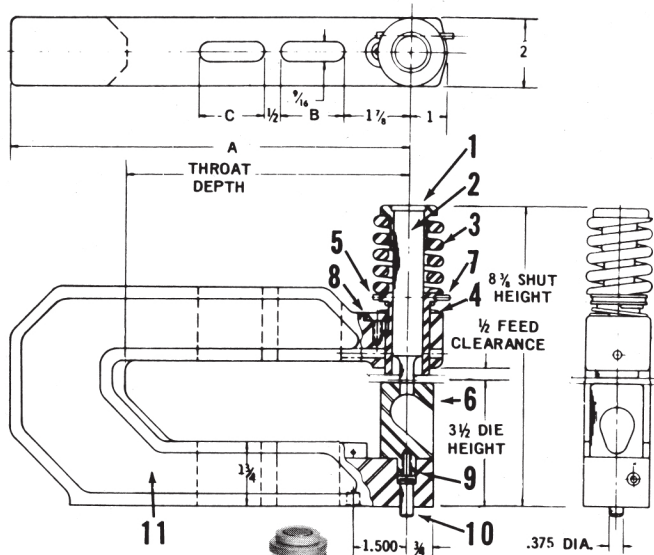
(1) Includes Pilot Pin & Guide Retainer

ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch Head	HPH-157
2	Punch (Without Head)	HP-152
—	Shaped Punch & Head Ass'y.	HPA-152K
—	Punch & Head Ass'y.	HPA-152A
3	Stripper Spring	HSS-155
4	Guide (Not Keyed)	HG-154
—	Keyed Guide	HG-154K
5	Lifter Spring	HLS-156
6	Die Button	HD-153
—	Shaped Die	HD-153K
7	Die Adapter	HDA-158
—	Keyed Die Adapter	HDA-158K
8	Punch Retainer	PR-100
9	Guide Retainer	GR-300
10	Die Retainer Screw	1/4-20x3/4 S.H.C.S.
11	Pilot Pin	PP-1200
—	Pilot Pin (Diamond)	PP-1000K
12	(1) Holder 4" Throat	4HP 1 1/2C
	(1) Holder 8" Throat	8HP 1 1/2C
	(1) Holder 12" Throat	12HP 1 1/2C
	(1) Holder 18" Throat	18HP 1 1/2C
13	Conversion Kit	HPCK-150

(1) Includes Pilot Pin & Guide Retainer

# MODEL HP-2"

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
4HP-2	4 5/8"	1 7/8"	7 7/8"	1 7/8"	—
8HP-2	8 5/8"	1 7/8"	11 7/8"	5 3/8"	—
12HP-2	12 5/8"	1 7/8"	15 7/8"	5 7/8"	3
18HP-2	18 5/8"	1 7/8"	21 7/8"	5 7/8"	5 3/8"
24HP-2	24 5/8"	2	27 7/8"	5 7/8"	5 3/8"



MAX. MATERIAL THICKNESS 1/4"  
MIN. PUNCH SIZE .250  
MAX. PUNCH SIZE .875

MINIMUM RECOMENDED  
DIE CLEARANCE .012

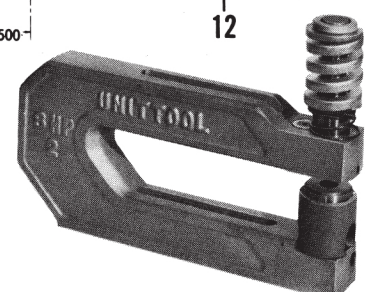
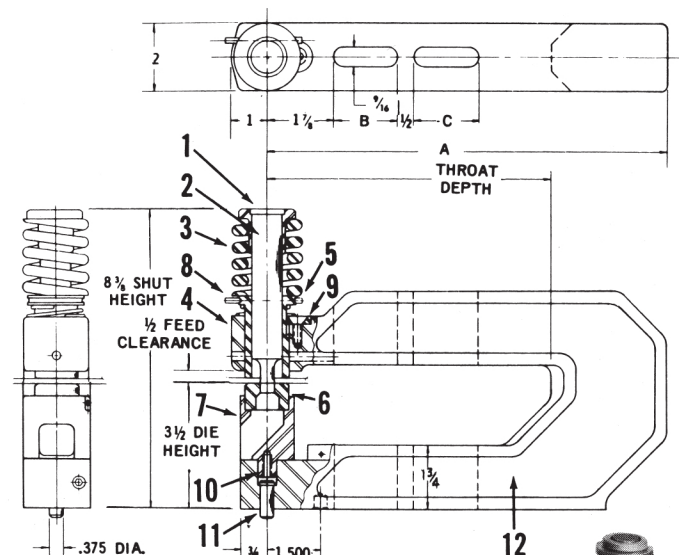
## MODEL HP-2"

ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch Head	HPH-207
2	Punch (Without Head)	HP-202
—	Shaped Punch & Head Ass'y.	HPA-202K
—	Punch & Head Ass'y.	HPA-202A
3	Stripper Spring	HSS-205
4	Guide (Not Keyed)	HG-204
—	Keyed Guide	HG-204K
5	Lifter Spring	HLS-206
6	Pedestal Die	HPD-203
—	Shaped Pedestal Die	HPD-203K
7	Punch Retainer	PR-100
8	Guide Retainer	GR-300
9	Die Retainer Screw	5/16-18x1" S.H.C.S.
10	Pilot Pin	PP-1200
—	Pilot Pin (Diamond)	PP-1000K
11	(1) Holder 4" Throat	4HP 2C
	(1) Holder 8" Throat	8HP 2C
	(1) Holder 12" Throat	12HP 2C
	(1) Holder 18" Throat	18HP 2C
12	Conversion Kit	HPCK-200

(1) Includes Pilot Pin & Guide Retainer

# MODEL HA-2"

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
4HA-2	4 5/8"	1 7/8"	7 7/8"	1 7/8"	—
8HA-2	8 5/8"	1 7/8"	11 7/8"	5 3/8"	—
12HA-2	12 5/8"	1 7/8"	15 7/8"	5 7/8"	3
18HA-2	18 5/8"	1 7/8"	21 7/8"	5 7/8"	5 3/8"
24HA-2	24 5/8"	2	27 7/8"	5 7/8"	5 3/8"



## MODEL HA-2"

ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch Head	HPH-207
2	Punch (Without Head)	HP-202
—	Shaped Punch & Head Ass'y.	HPA-202K
—	Punch & Head Ass'y.	HPA-202A
3	Stripper Spring	HSS-205
4	Guide (Not Keyed)	HG-204
—	Keyed Guide	HG-204K
5	Lifter Spring	HLS-206
6	Die Button	HD-203
—	Shaped Die	HD-203K
7	Die Adapter	HDA-208
—	Keyed Die Adapter	HDA-208K
8	Punch Retainer	PR-100
9	Guide Retainer	GR-300
10	Die Retainer Screw	5/16-18x1" S.H.C.S.
11	Pilot Pin	PP-1200
—	Pilot Pin (Diamond)	PP-1000K
12	(1) Holder 4" Throat	4HP 2C
	(1) Holder 8" Throat	8HP 2C
	(1) Holder 12" Throat	12HP 2C
	(1) Holder 18" Throat	18HP 2C
13	Conversion Kit	HPCK-200

(1) Includes Pilot Pin & Guide Retainer

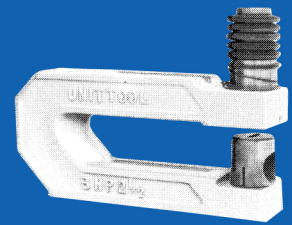


# MODEL HP-2 1/2"

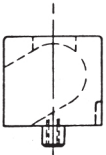
8 3/8" SHUT  
HEIGHT

3 1/2" DIE  
HEIGHT

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
4HP-2 1/2	4 5/8	2 1/2	7 7/8	1 7/8	—
8HP-2 1/2	8 5/8	2 1/2	11 7/8	5 3/8	—
12HP-2 1/2	12 5/8	2 1/2	15 7/8	5 7/8	3

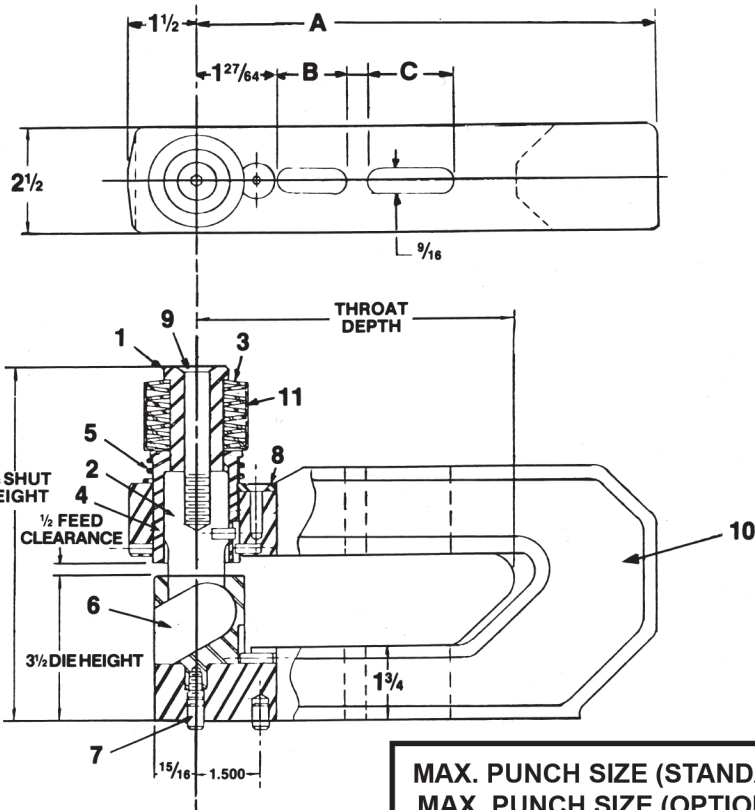
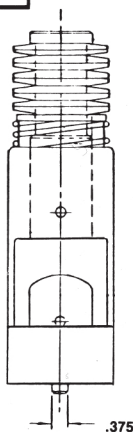


## OPTIONAL HPD-253-1



Special Oversized  
Pedestal Die - to be used  
with Punches over  
1.250 Dia.

PRICE ON APPLICATION



MIN. PUNCH SIZE .500

MAX. PUNCH SIZE (STANDARD) 1.250  
MAX. PUNCH SIZE (OPTIONAL) 1.500

MAX. MATERIAL THICKNESS 1/4"

ITEM NO.	DESCRIPTION	CATALOG NO.	ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch Head	HPH-257 A	9	Punch Screw	PS-259
2	Punch	HP-252	10	(1) Holder 4" Throat	4HP-2 1/2C
—	Shaped Punch	HP-252K		(1) Holder 8" Throat	8HP-2 1/2C
3	Stripper Spring ( 10 per set )	HSS-255		(1) Holder 12" Throat	12HP-2 1/2C
4	Guide	HG-254	11	(2) Spring Guard	SG-250
—	Keyed Guide	HG-254K		(1) Includes Pilot Pin & Guide Retainer	
5	Lifter Spring	HLS-256		(2) Optional	
6	Pedestal Die	HPD-253			
	Pedestal Die (Optional)	HPD-253-1			
—	Shaped Pedestal Die	HPD-253K			
7	Pilot Pin	PP-1000			
—	Pilot Pin (Diamond)	PP-1000K			
8	Guide Retainer	GR-300			

MINIMUM RECOMENDED  
DIE CLEARANCE .012



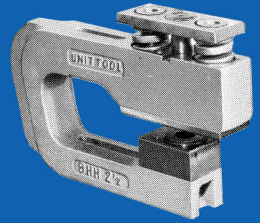
**PUNCH RANGE – .250 THRU 1.000 DIA.  
MAX. MAT'L THICKNESS – 1/2" MILD STEEL**

MODEL  
**HH-2 1/2"**

**8 3/8" SHUT  
HEIGHT**

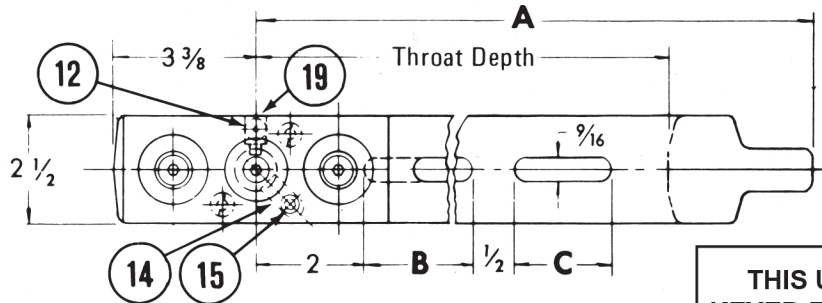
**3 1/2" DIE  
HEIGHT**

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
8HH-2 1/2	8 5/8	2 1/2	12 1/8	3 1/2	—
12HH-2 1/2	12 5/8	2 1/2	16 1/8	5 1/2	—
18HH-2 1/2	18 5/8	2 1/2	22 1/8	5 1/2	5 1/2
24HH-2 1/2	24 1/8	2 1/2	27 5/8	5 1/2	5 1/2

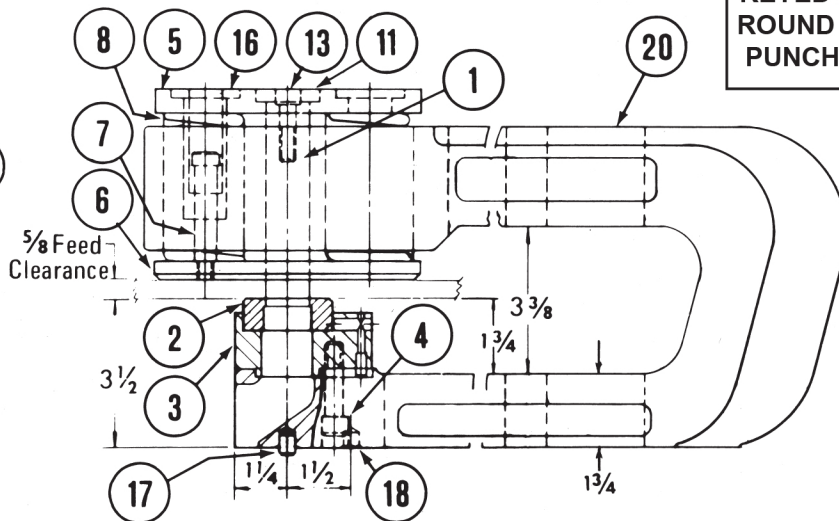
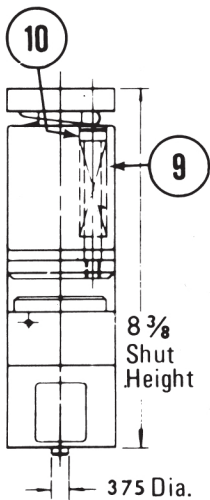


**RECOMMENDED DIE CLEARANCE**

Upto 1/16" Thick Material	— .008 Total
Over 1/16" thru 1/8" Thick Material	— .018 Total
Over 1/8" thru 3/16" Thick Material	— .028 Total
Over 3/16" thru 1/4" Thick Material	— .043 Total
Over 1/4" thru 3/8" Thick Material	— .075 Total
Over 3/8" thru 1/2" Thick Material	— .100 Total



**THIS UNIT IS  
KEYED FOR BOTH  
ROUND & SHAPED  
PUNCHES & DIES**



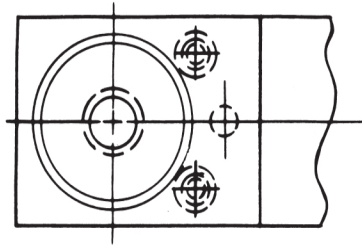
**MINIMUM RECOMENDED DIE CLEARANCE .018**

ITEM NO.	DESCRIPTION	CATALOG NO.	ITEM NO.	DESCRIPTION	CATALOG NO.
1	Round Punch & Head Ass'y	HHPA-252A	10	Stripper Bolt (Lifter)	3/8x2 1/2" Lg.
—	Round Punch Only	HHP-252	11	Punch Head	HHPH-257
—	Shaped Punch & Head Ass'y	HHPA-252K	12	Punch Key Screw	1/4-20x3/4" B.H.S.
—	Shaped Punch Only	HHP-252K	13	Punch Screw	3/8-24x1 S.H.C.S.
2	Die (Round Hole)	HHD-253	14	Punch Retainer	HHPR-100
—	Die Block (Round)	HHDB-253	15	Punch Ret. Screw & Washer	10-32x1/2 F.H.S.S.
—	Die (Shaped Hole)	HHD-253K	16	Spring Retainer (2 req.)	HHSR-100
—	Die Block (Shaped)	HHDB-253K	17	Pilot Pin – Round	PP-1000
3	Die Holder	HHDH-258K	18	Pilot Pin – Shaped	PP-1000K
4	Bolts for Die Holder	3/8-16x2 S.H.C.S.	19	Punch Key (Old Style)	HHPK-100-1 HHPK-100
5	Punch Plate	HHPP-250	20	** Holder-8" Throat	8HH-2-1/2 CK
6	Stripper Plate	HHSP-259		** Holder-12" Throat	12HH-2-1/2 CK
7	Stripper Bolt (2 req.)	1/2x2-1/4" Lg.		** Holder-18" Throat	18HH-2-1/2 CK
8	Stripper Spring (2 req.)	HHSS-255		** Holder-24" Throat	24HH-2-1/2 CK
9	Lifter Spring (2 req.)	HHLS-256	21	Die Key	GK-100

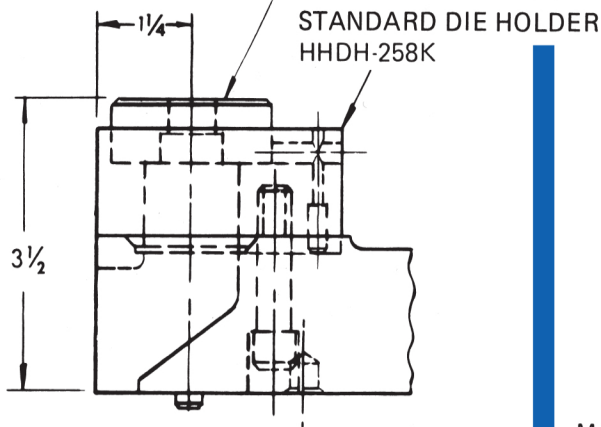
\*\* Includes PP-1000 and PP-1000K Pilot Pins

# ALTERATION TO HH-2½" UNIT FOR PUNCHING CLOSE TO INSIDE LEG OF ANGLE

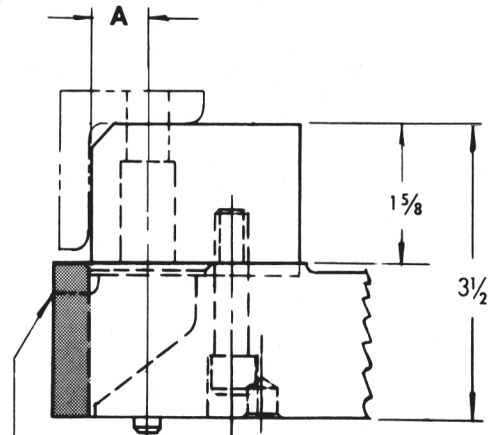
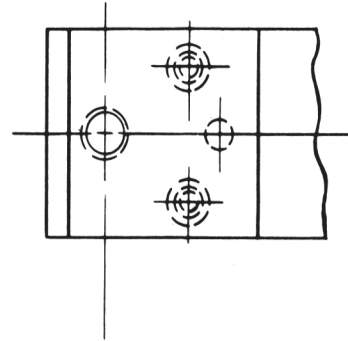
## HH-2½" Standard



STANDARD DIE  
HHD-253 or HHD-253K



## HH-2½" Altered



MACHINE FRONT FACE  
OF CASTING, IF NECESSARY,  
TO CLEAR WORK PIECE

### DIE BLOCK

	CATALOG NO.	DIMENSION "A"
ROUND HOLE	HHDB-253	Specify
SHAPED HOLE*	HHDB-253K	Specify

\*Note: Shapes are keyed for one position only. Provide sketch to show relation of shaped hole to front of die block.

Die block shown above is designed for punching close to inside leg of angle. The Die Block will fit all Standard HH-2½ units. It may be necessary in some cases, to machine the front face of the holder to clear the workpiece, if the extension of the flange is greater than 1⅝". The Die Blocks are manufactured to suit application. For price quotation, please specify dimension "A" or send sketch or drawing of workpiece.

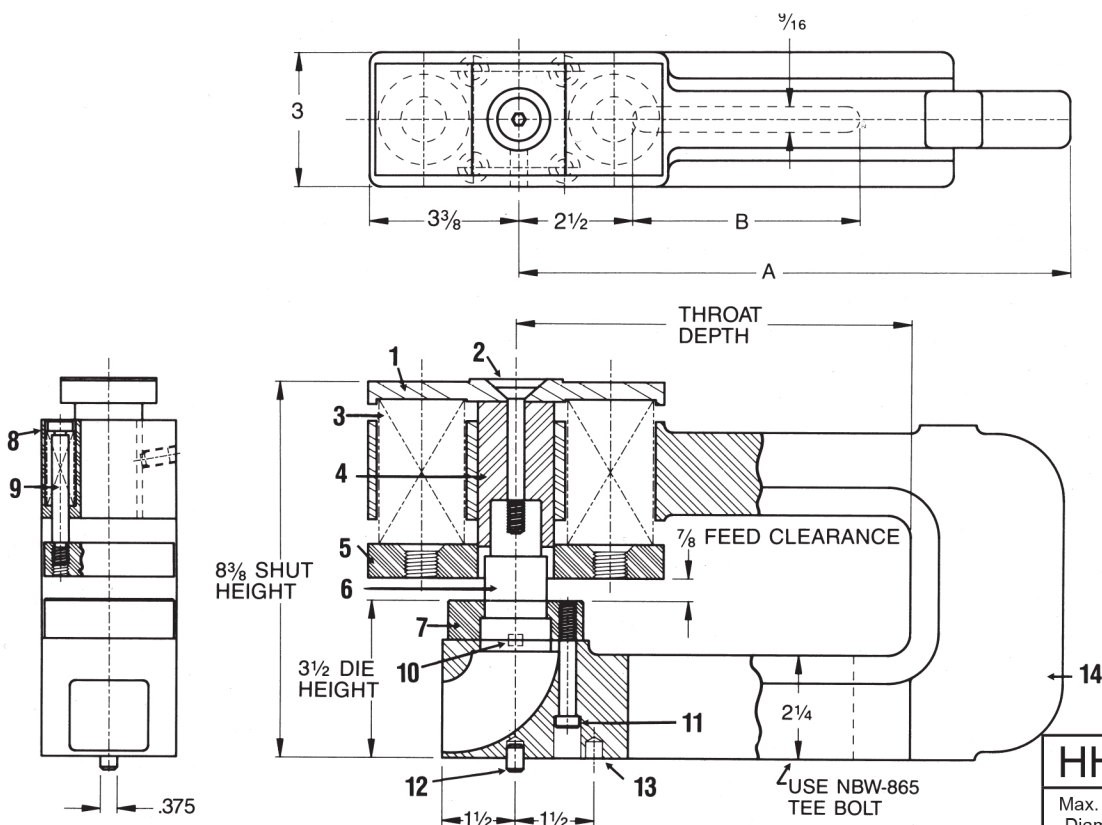
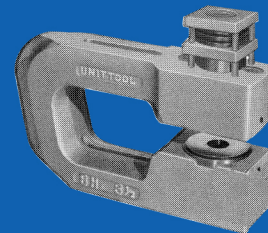
WARNING: Operating setup should be guarded to comply with applicable standards for operator safety.

# MODEL HH-3"

8<sup>3</sup>/<sub>8</sub>" SHUT  
HEIGHT

3<sup>1</sup>/<sub>2</sub>" DIE  
HEIGHT

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
8HH-3	8 <sup>5</sup> / <sub>8</sub>	3"	11 <sup>3</sup> / <sub>4</sub>	4 <sup>3</sup> / <sub>4</sub>	—
12HH-3	12 <sup>5</sup> / <sub>8</sub>	3"	15 <sup>3</sup> / <sub>4</sub>	4 <sup>3</sup> / <sub>4</sub>	—
18HH-3	18 <sup>5</sup> / <sub>8</sub>	3"	21 <sup>3</sup> / <sub>4</sub>	4 <sup>3</sup> / <sub>4</sub>	—



## HH-3 UNIT

Max. Punch Diameter	Max. Material Thickness
1.375	<sup>3</sup> / <sub>8</sub> "
1.250	<sup>1</sup> / <sub>2</sub> "
1.125	<sup>5</sup> / <sub>8</sub> "
1.000	<sup>3</sup> / <sub>4</sub> "

\* When punching material <sup>5</sup>/<sub>8</sub>" thick and over, Unittool recommends the use of liquid springs to increase Stripping pressure.

MIN. PUNCH SIZE - .406" DIA.

MAX. PUNCH SIZE - 1.375" DIA.

ITEM NO.	DESCRIPTION	CATALOG NO.	ITEM NO.	DESCRIPTION	CATALOG NO.
1	Punch Plate	HHPP-307	14	(1) Holder 8" Throat	8 HH3-CK
2	Punch Screw	<sup>5</sup> / <sub>8</sub> -11x3 F.H.C.S.		(1) Holder 12" Throat	12 HH3-CK
3	Stripper Spring	HHSS-305		(1) Holder 18" Throat	18 HH3-CK
4	Punch Driver	HHD-309	15	Punch Key	HPK-302
5	Stripper Plate	HHSP-308		(1) Includes PP-1000 and PP-1000K Pilot Pins	
6	Punch Tip From 1 <sup>1</sup> / <sub>8</sub> to 1 <sup>3</sup> / <sub>8</sub>	HHP-302-1			
—	Shaped Punch (1.125 to 1.375)	HHP-302-1K			
—	Punch Tip Under 1.125	HHP-302-2			
—	Shaped Punch (under 1.125)	HHP-302-2K			
7	Die	HHD-303			
—	Shaped Die	HHD-303K			
8	Stripper Bolt (Lifter)	<sup>3</sup> / <sub>8</sub> x2 <sup>1</sup> / <sub>4</sub> Lg.			
9	Lifter Spring	HHLS-306			
10	Die Key	HHDK-303-1			
11	Die Screws	<sup>5</sup> / <sub>16</sub> -18x2 <sup>1</sup> / <sub>2</sub> " S.H.C.S.			
12	Pilot Pin	PP-1000			
	Pilot Pin (Diamond)	PP-1000K			
13	Pilot Pin (Shaped)	PP-1000K			

MINIMUM RECOMENDED  
DIE CLEARANCE .018

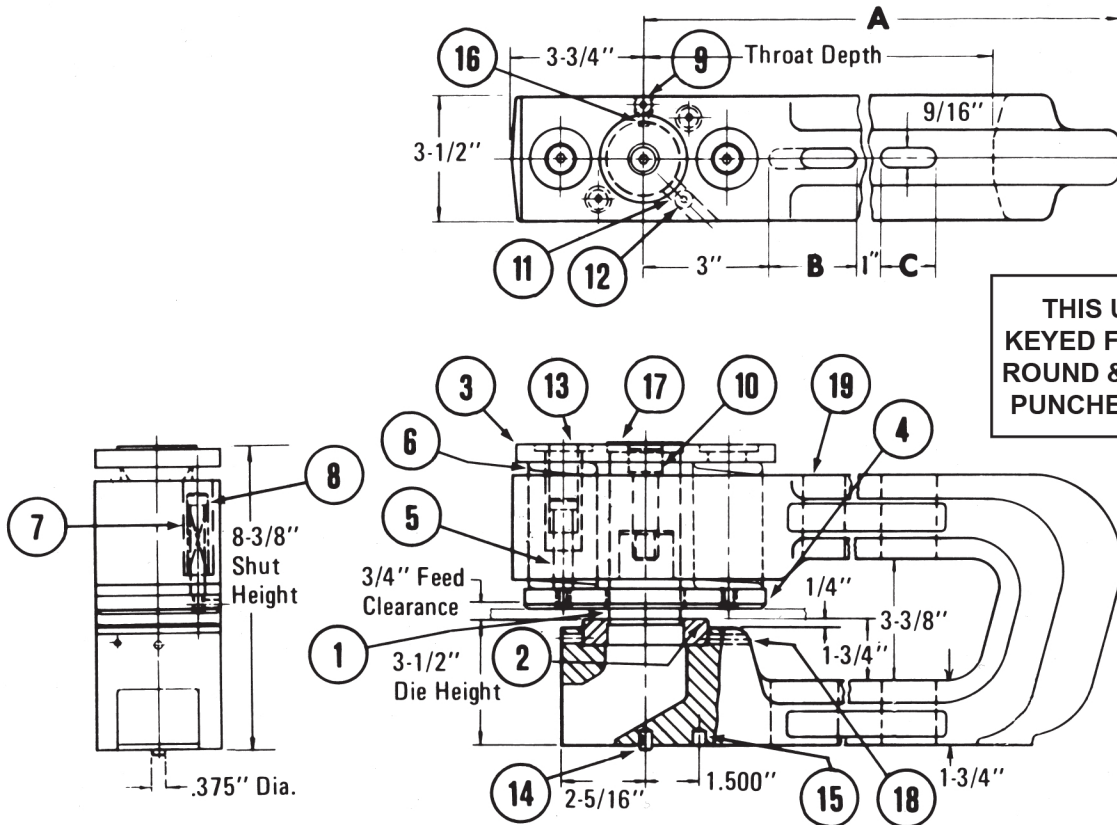
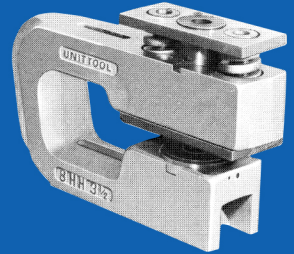
# MODEL HH-3 1/2"

**PUNCH RANGE - .375 THRU 2.000 DIA.  
CAPACITY: 1.250 DIA. IN 1/2" MILD STEEL  
2.000 DIA. IN 1/4" MILD STEEL**

**8 3/8" SHUT  
HEIGHT**

**3 1/2" DIE  
HEIGHT**

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A	LENGTH B	LENGTH C
8HH-3 1/2	8 5/8	3 1/2	12 1/8	3 1/2	—
12HH-3 1/2	12 5/8	3 1/2	16 1/8	5 1/2	—
18HH-3 1/2	18 5/8	3 1/2	22 1/8	5 1/2	5 1/2
24HH-3 1/2	24 1/8	3 1/2	27 5/8	5 1/2	5 1/2



**THIS UNIT IS  
KEYED FOR BOTH  
ROUND & SHAPED  
PUNCHES & DIES**

## MINIMUM RECOMENDED DIE CLEARANCE .018

ITEM NO.	DESCRIPTION	CATALOG NO.	ITEM NO.	DESCRIPTION	CATALOG NO.
1	Round Punch	HHP-352	11	Punch Retainer	HHPR-100
—	Shaped Punch	HHP-352K	12	Punch Ret. Screw & Washer	10-32x1 1/2 F.H.S.S.
2	Die (Round Hole)	HHD-353	13	Spring Retainer	HHSR-100
—	Die (Shaped Hole)	HHD-353K	14	Pilot Pin - Round	PP-1000
3	Punch Plate	HHPP-350	15	Pilot Pin - Shaped	PP-1000K
4	Stripper Plate	HHSP-359	16	Punch Key	HHPK-100
				(Old Style)	HHPK-100-1
5	Stripper Bolt (2 req.)	1/2x2-1/4" Lg.	17	Punch Driver	HHPD-354K
6	Stripper Spring (2 req.)	HHSS-255	18	Die Key	GK-100
7	Lifter Spring (2 req.)	HHLS-256	19	** Holder - 8" Throat	8 HH-3-1/2 CK
8	Stripper Bolt	3/8x2-1/2" Lg.		** Holder - 12" Throat	12 HH-3-1/2 CK
9	Punch Key Screw	1/4-20x3/4" B.H.S.		** Holder - 18" Throat	18 HH-3-1/2 CK
10	Punch Screw	5/8-18x2 1/2 S.H.C.S.		** Holder - 24" Throat	24 HH-3-1/2 CK

\*\* Includes PP-1000 and PP-1000K Pilot Pins



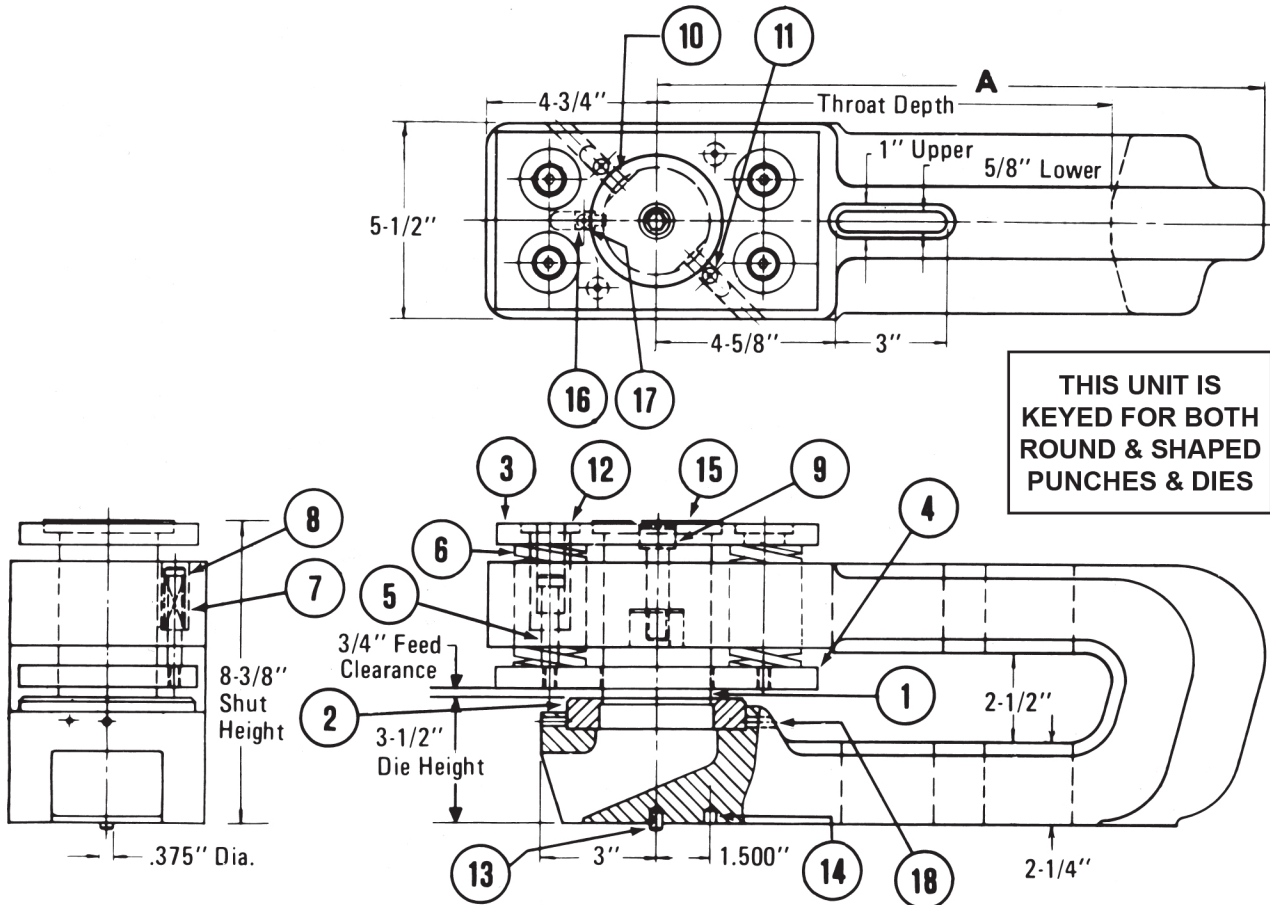
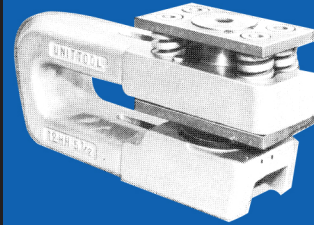
**PUNCH RANGE – 1.312 THRU 3.000 DIA.  
CAPACITY: 1.500 DIA. IN 1/2" MILD STEEL  
3.000 DIA. IN 1/4" MILD STEEL**

MODEL  
**HH-5 1/2"**

**8 3/8"** SHUT  
HEIGHT

**3 1/2"** DIE  
HEIGHT

CAT. NO.	THROAT DEPTH	HOLDER WIDTH	LENGTH A		
8HH-5 1/2	8 1/2	5 1/2	13		
12HH-5 1/2	12 1/2	5 1/2	17		
18HH-5 1/2	18 1/2	5 1/2	23		
24HH-5 1/2	24 1/2	5 1/2	28 5/8		



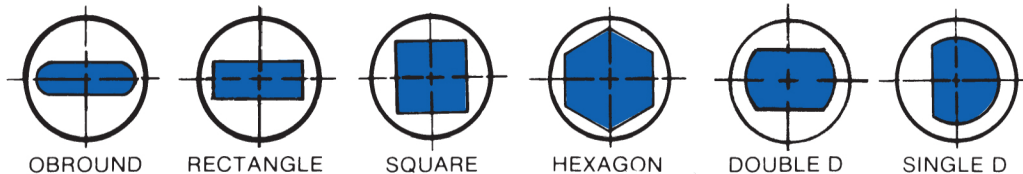
**MINIMUM RECOMENDED DIE CLEARANCE .012**

ITEM NO.	DESCRIPTION	CATALOG NO.	ITEM NO.	DESCRIPTION	CATALOG NO.
1	Round Punch	HHP-552	11	Punch Ret. Screw & Washer (2 req.)	10-32x1/2 F.H.S.S
–	Shaped Punch	HHP-552K	12	Spring Retainer (4 req.)	HHSR-100
2	Die – Round	HHD-553	13	Pilot Pin	PP-1000
–	Die – Shaped	HHD-553K	14	Pilot Pin - Shaped	PP-1000K
3	Punch Plate	HHPP-550	15	Punch Driver	HHPD-554K
4	Stripper Plate	HHSP-559	16	Punch Key	HHPK-100
5	Stripper Bolt (4 req.)	1/2x2-1/2 Lg.	17	Punch Key Screw	1/4-20x3/4 B.H.S.
6	Stripper Spring (4 req.)	HHSS-255	18	Die Key	GK-100
7	Lifter Spring (2 req.)	HHLS-256	19	** Holder - 8" Throat	8HH-5-1/2 CK
8	Stripper Bolt (2 req.)	3/8x2 1/2" Lg.		** Holder - 12" Throat	12HH-5-1/2 CK
9	Punch Screw	5/8-18x2 1/2 S.H.C.S.		** Holder - 18" Throat	18HH-5-1/2 CK
10	Punch Retainer (2 req.)	HHP-100		** Holder - 24" Throat	24HH-5-1/2 CK

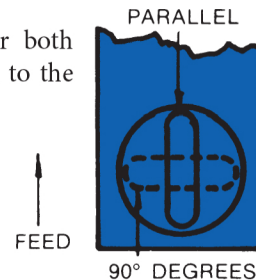
\*\* Includes PP-1000 and PP-1000K Pilot Pins

# SHAPED HOLE PUNCHING DATA

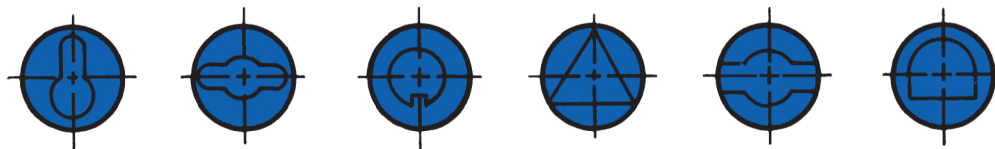
## Standard Shapes



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

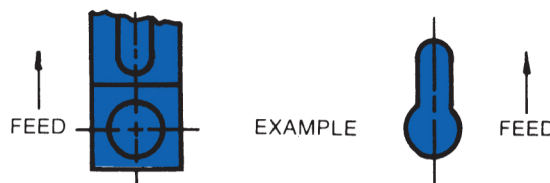


## Semi standard and special shapes



SEND SKETCH FOR PRICE QUOTATION

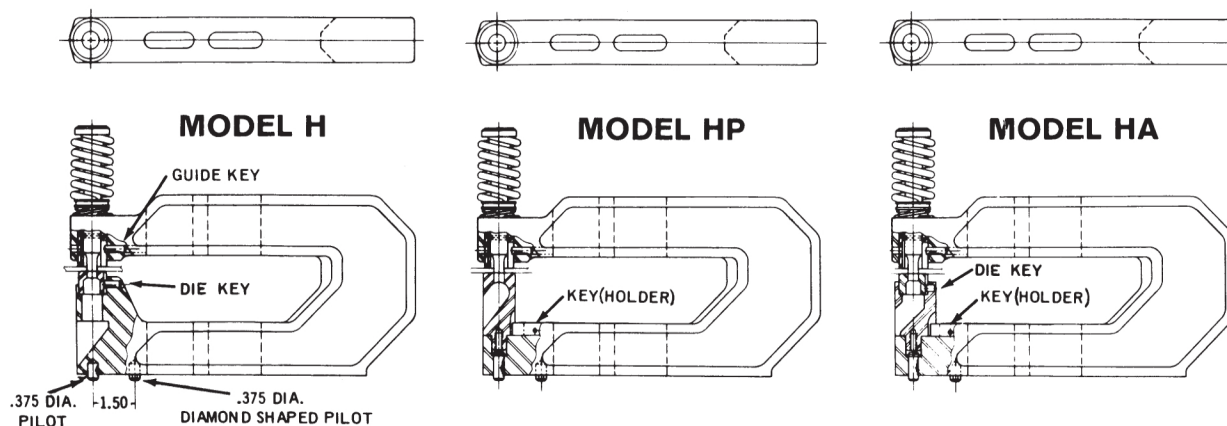
NOTE: For Shapes that are not symmetrical – specify location of shape in relation to center line of holder so that punches and dies can be properly keyed. Listed below are examples of common special shapes. When ordering, please submit a sketch with dimensions as shown. Also specify material thickness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



KEYHOLE	HEELED OBRD.	DOUBLE KEYHOLE	SINGLE "D"	KEYWAY
<p>A-DIA. D C B-DIA. POINT X</p>	<p>HEEL B A POINT X</p>	<p>C B-DIA. A-DIA. POINT X</p>	<p>A B POINT X</p>	<p>A-DIA. C B POINT X</p>

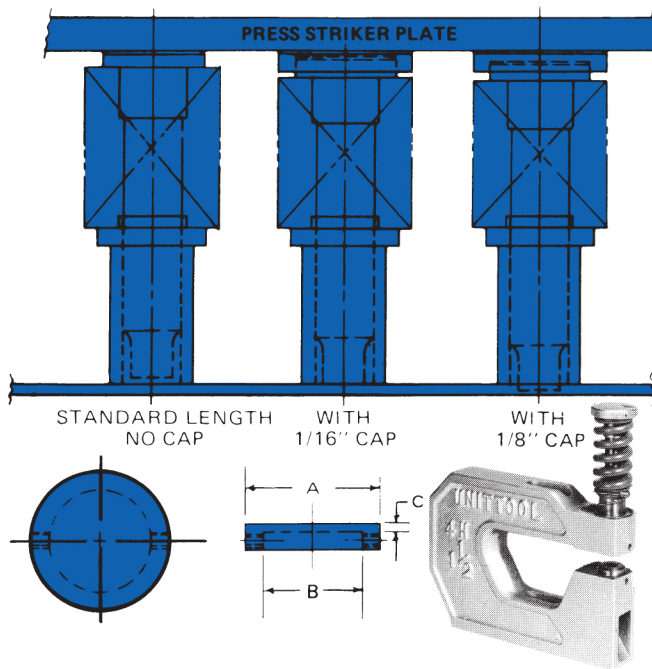
## Keying arrangements

For converting round hole unit for shaped hole punching – See conversion kit listed at bottom of price list.



## Compensator caps for H1, H1<sup>1</sup>/<sub>4</sub>, H1<sup>1</sup>/<sub>2</sub> & 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 <sup>1</sup> / <sub>4</sub>	1-1/2	1-1/32	1/16 1/8	CC-125-062 CC-125-125
H1 <sup>1</sup> / <sub>2</sub>	1-3/4	1-9/32	1/16 1/8	CC-150-062 CC-150-125
H2	2	1-17/31	1/16 1/8	CC-200-062 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
*Use extreme caution on 1/4" material.			