

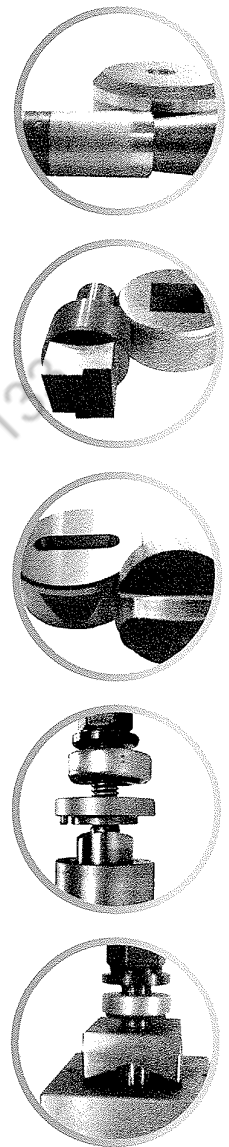


consumer

Punch and Die Catalog

hand tools, large-press tooling and 28XX

Effective August 2, 2004



CINCINNATI PRECISION MACHINERY 513-860-4131





How to Order

WHEN ORDERING PLEASE SPECIFY:

- 1) The type of tool or machine the tooling will be used in, if not a Roper Whitney tool or machine; the manufacturer's name and model number.
- 2) The size and the type of hole to be punched.
- 3) The 9 digit part number for each punch and each die.
- 4) The type of material and the thickness of the material to be punched.
- 5) The clearance required in the die.
- 6) Any special markings or deviations from standard styles or sizes.

If you should have any questions, please consult our sales department.

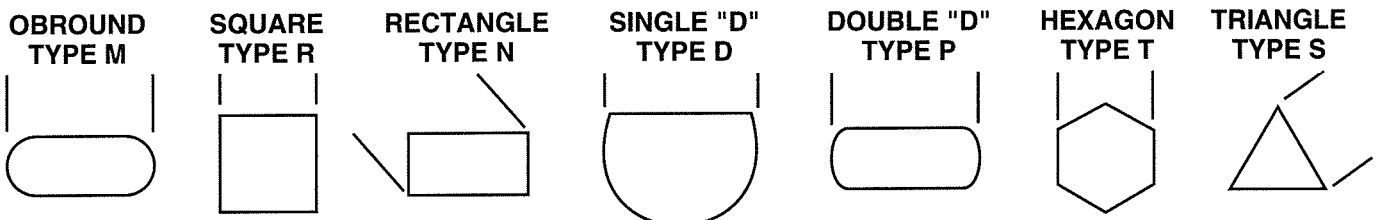
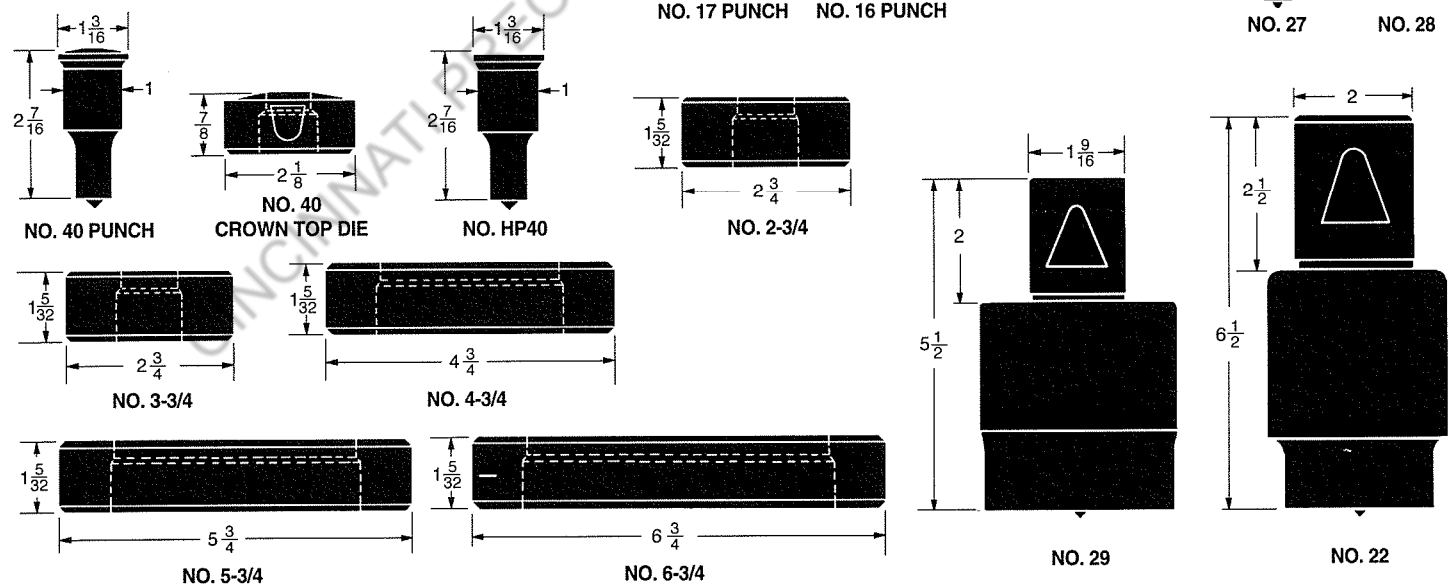
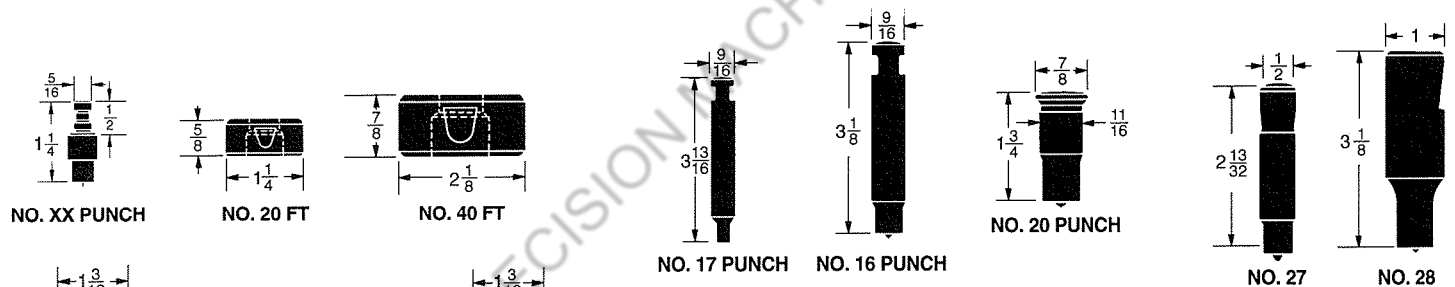
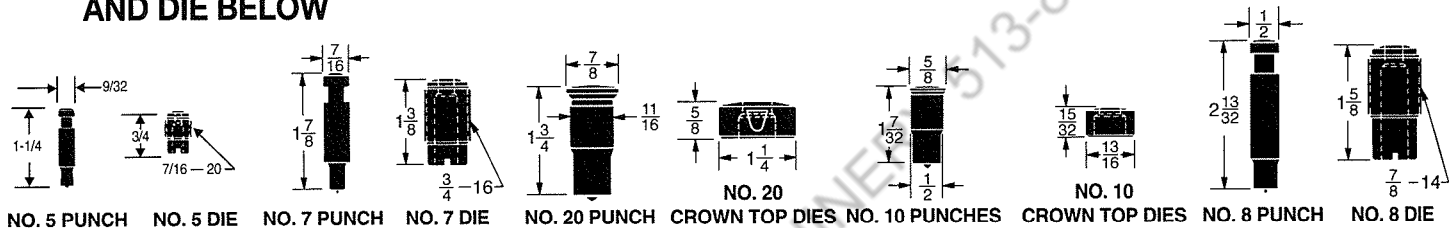
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ROPER WHITNEY PUNCH AND DIE ORDER FORM



1. WHAT PUNCHING UNIT DO YOU HAVE? _____
2. WHAT SHAPE IS NEEDED (CHOOSE ONE: 1=ROUND 2=OBROUND-M 3=RECTANGLE-N 4=DOUBLE "D"-P 5=SINGLE "D" 6=TRIANGLES-S 7=SQUARE-R 8=SPECIAL SHAPE PLEASE GIVE DRAWING OR SKETCH)? _____
3. SIZE OF SHAPE (TWO DIMENSIONS REQUIRED)? _____
4. BLANKING OR NOT BLANKING _____
(BLANKING IS WHEN YOU ARE GOING TO SAVE THE PIECE BEING PUNCHED)
5. MATERIAL BEING PUNCHED?
A-MILD STEEL, STAINLESS STEEL, ETC.? _____
B-THICKNESS OF MATERIAL OR GAUGE? _____
6. IF YOU ARE NOT SURE WHAT UNIT IT IS, CIRCLE ONE THAT MATCHES THE STYLE PUNCH AND DIE BELOW





Notes:

CINCINNATI PRECISION MACHINERY 513-860-4133

Additional Pricing Information

PUNCH AND DIE SETS

Radius corners for rectangular and square shapes:

- Add \$16.00 for each corner for punches.
- Add \$18.00 for each corner for dies.

Pricing for chamfered corners for rectangular and square shapes consult our sales department.

- For punching material other than mild steel, consult our sales department for tooling required.
- For special applications, special shapes, and special sizes, not listed, consult our sales department.
- For tooling made from other than standard material, consult our sales department.

PUNCHES

Blanking Punch:

- No Charge

Heeled Punch:

- For 1/4" heeled add \$41.00
- For over 1/4" heeled add \$59.00

Pilot Pins:

- For replaceable pilot pins add \$88.00
- For non-replaceable pilot pin add \$49.00
- For each consecutive pin add \$28.00

Shanks:

- For 1-9/16" shank add \$134.00 - #29 style
- For 2" shank add \$147.00 - #22 style

SOLID DIES

- For 1-1/4" OD. #20 die add \$24.00
- For 2-1/8" OD. #40 die add \$33.00
- For 2-3/4" OD. die add \$40.00
- For 3-3/4" OD. die add \$51.00
- For 4-3/4" OD. die add \$61.00
- For 5-3/4" OD. die add \$77.00

CLEARANCES

- Add for clearances of .003 and smaller \$35.00 to punch and die set.

28 XX

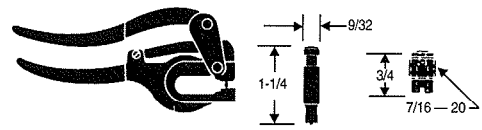
- Add for shape locations other than 90 deg. at 15 deg. increments Add punch \$51.00 Add die \$51.00
- For other shape locations add \$58.00 to punch and \$58.00 to die

NOTE!

For Ordering instructions & sample order form please see page 1



NO. 5 JR. HAND PUNCH



NO. 5 PUNCH NO. 5 DIE

TYPE O Round Punches and Dies
Standard sizes



Fractional, Drill, or Millimeter A	Decimal Equiv. A	Punch Part Number	Die Part Number	Set Part Number	Dealer Code
1/16	.063	300050063	310050063	200050063	T-9
5/64	.078	300050078	310050078	200050078	T-9
3/32-42 DS	.094	300050094	310050094	200050094	T-9
7/64	.109	300050109	310050109	200050109	T-9
1/8	.125	300050125	310050125	200050125	T-9
30 DS	.129	300050129	310050129	200050129	T-9
9/64-28 DS	.141	300050141	310050141	200050141	T-9
5/32	.156	300050156	310050156	200050156	T-9
11/64	.172	300050172	310050172	200050172	T-9
3/16	.188	300050188	310050188	200050188	T-9
13/64	.203	300050203	310050203	200050203	T-9
7/32	.219	300050219	310050219	200050219	T-9
15/64-A DS	.234	300050234	310050234	200050234	T-9
1/4-E DS	.250	300050250	310050250	200050250	T-9
17/64-H DS	.266	300050266	310050266	200050266	T-9
9/32-K DS	.281	300050281	310050281	200050281	T-9

Part Number 235800007

Replacement Package Consists of 1 ea. 3/32, 1/8, 5/32, 3/16, 7/32, 1/4 & 9/32 p&d

Dealer Code T-6

MIN. A: .031
MAX. A: .281



	Size Range	Dealer Code
A	.063 - .109	T-5
A	.110 - .281	T-5

Under .063 add 50% to Non Stock p&d

All round punches with annealed heads.

Dealer Code T-5

All round punches with four eccentric slots.

Dealer Code T-5

TYPE M Obround Punches and Dies
STANDARD SIZES



Fractional Size Ax B	Decimal Equiv. Ax B	Punch Part Number	Die Part Number	Dealer Code
1/8 X 1/4	.125 x .250	301050816	311050816	T-7
1/8 X 9/32	.125 x .281	301050818	311050818	T-7

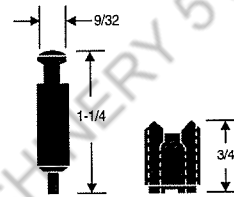


Size Range			Dealer Code
.095 – .281			T-5

Width sizes under .063 add 50% to the punch and die.
Width sizes .063 thru .094 add 30% to the punch & die.

OBROUND TYPE M	SQUARE TYPE R	RECTANGLE TYPE N	SINGLE "D" TYPE D	DOUBLE "D" TYPE P	HEXAGON TYPE T	TRIANGLE TYPE S
MAX .281	MAX .197	MAX .277	MAX .281	MAX .281	MAX .241	MAX .219

SPECIAL PURPOSE PUNCHES AND DIES

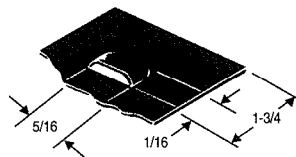


COUNTERSINKING PUNCHES AND DIES STANDARD SIZES

Fractional Size A	Decimal Equiv. A	Punch Part Number	Die Part Number	Dealer Code
3/32	.094	308050506	318050506	T-7
1/8	.125	308050508	318050508	T-7
5/32	.156	308050510	318050510	T-7

For pricing and delivery information on non stock sizes, consult our sales department.

SNAP LOCK PUNCHES AND DIES STANDARD SIZES



Fractional Size AxB	Decimal Equiv. AxB	Punch Part Number	Die Part Number	Dealer Code
5/16 X 1/16	.313 X .063	308052300	318052300	T-7

For pricing and delivery information on non stock sizes, consult our sales department.

BUTTON PUNCHES AND DIES STANDARD SIZES



3 THICKNESS OF
22 GA

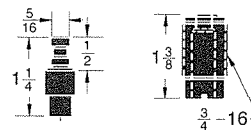
Fractional Size	Decimal Equiv.	Punch Part Number	Die Part Number	Dealer Code
—	—	308050900	318050900	T-7

For pricing and delivery information on non stock sizes, consult our sales department.

FOR PRICING AND DELIVERY INFORMATION ON OTHER SPECIAL CONFIGURATION PUNCHES AND DIES NOT LISTED, CONSULT OUR SALES DEPARTMENT.



NO. XX HAND PUNCH



NO. XX PUNCH NO. 7 DIE
DIES ARE COMMON WITH THE NO. 7 HAND PUNCH

TYPE O Round Punches and Dies STANDARD SIZES



Fractional Drill, or Millimeter A	Decimal Equiv. A	Punch Part Number	Die Part Number	Set Part Number	Dealer Code
1/16	.063	300000063	310070063	200000063	T-7
5/64	.078	300000078	310070078	200000078	T-7
3/32-42 DS	.094	300000094	310070094	200000094	T-7
7/64	.109	300000109	310070109	200000109	T-7
1/8	.125	300000125	310070125	200000125	T-7
9/64-28 DS	.141	300000141	310070141	200000141	T-7
5/32	.156	300000156	310070156	200000156	T-7
11/64	.172	300000172	310070172	200000172	T-7
3/16	.188	300000188	310070188	200000188	T-7
13/64	.203	300000203	310070203	200000203	T-7
7/32	.219	300000219	310070219	200000219	T-7
15/64-A DS	.234	300000234	310070234	200000234	T-7
1/4-E DS	.250	300000250	310070250	200000250	T-7
17/64-H DS	.266	300000266	310070266	200000266	T-7
9/32-K DS	.281	300000281	310070281	200000281	T-7
19/64	.297	300000297	310070297	200000297	T-7
5/16	.313	300000313	310070313	200000313	T-7
21/64	.328	300000328	310070328	200000328	T-7
11/32	.344	300000344	310070344	200000344	T-7
23/64	.359	300000359	310070359	200000359	T-7
3/8	.375	300000375	310070375	200000375	T-7
25/64	.391	300000391	310070391	200000391	T-7
13/32	.406	300000406	310070406	200000406	T-7
27/64	.422	300000422	310070422	200000422	T-7
7/16	.438	300000438	310070438	200000438	T-7
29/64-11.5MM	.453	300000453	310070453	200000453	T-7
15/32	.469	300000469	310070469	200000469	T-7
31/64	.484	300000484	310070484	200000484	T-7
1/2	.500	300000500	310070500	200000500	T-7
33/64	.516	300000516	310070516	200000516	T-7
17/32	.531	300000531	310070531	200000531	T-7

Part Number 235800008

Replacement Package Consists of 1 ea. 5/32, 7/32, 9/32, 11/32, 13/32, 15/32 & 17/32 p&d

Package Price

Dealer Code T-6

PRICING FOR NON STOCK ROUNDS

MIN. A: .031

MAX. A: .531



Prices for non stock sizes (drill, millimeter, or fractional)–
determine the A dimension (diameter)

	Size Range	Dealer Code
A	.063 - .125	T-5
A	.126 - .531	T-5

Sizes under .063 add 50% to Non Stock Sizes.

TYPE M Oround Punches and Dies STANDARD SIZES



Fractional Size Ax B	Decimal Equiv. A	Punch Part Number	Die Part Number	Set Part Number
1/4 X 7/16	.250x.438	301001628	311071628	T-7

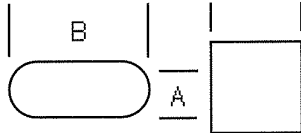


Size Range		Dealer Code
.095 - .531		T-5

Width sizes under .063 add 50% to the punch & die price.

Width sizes .063 thru .094 add 30% to the punch & die price.

**OBOUND
TYPE M**



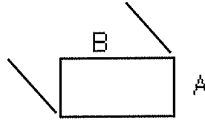
MAX .531

**SQUARE
TYPE R**



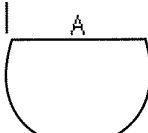
MAX .391

**RECTANGLE
TYPE N**



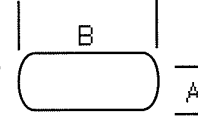
MAX .525

**SINGLE "D"
TYPE D**



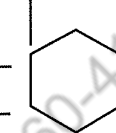
MAX .531

**DOUBLE "D"
TYPE P**



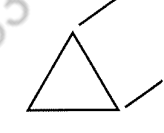
MAX .531

**HEXAGON
TYPE T**



MAX .479

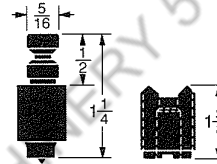
**TRIANGLE
TYPE S**



MAX .483

SPECIAL PURPOSE PUNCHES AND DIES

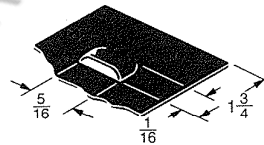
COUNTERSINKING PUNCHES AND DIES STANDARD SIZES



Fractional Size A	Decimal Equiv. A	Punch Part Number	Die Part Number	Dealer Code
3/32	.094	308000506	318070506	T-7
1/8	.125	308000508	318070508	T-7
5/32	.156	308000510	318070510	T-7

For pricing information & delivery on non stock sizes, consult our sales department.

SNAP LOCK PUNCHES AND DIES STANDARD SIZES



Fractional Size AxB	Decimal Equiv. AxB	Punch Part Number	Die Part Number	Dealer Code
7/16x3/32	.438x.094	308002300	318072300	T-7

For pricing information & delivery on non stock sizes, consult our sales department.

BUTTON PUNCHES AND DIES STANDARD SIZES



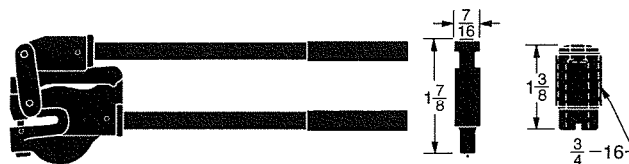
3 THICKNESS OF
22 GA

Fractional Size	Decimal Equiv.	Punch Part Number	Die Part Number	Dealer Code
—	—	308000900	318070900	T-7

For pricing information and delivery on non stock sizes, consult our sales department.

FOR PRICING AND DELIVERY INFORMATION ON OTHER SPECIAL CONFIGURATION PUNCHES AND DIES NOT LISTED, CONSULT OUR SALES DEPARTMENT

NO. 7 (A) HAND PUNCH



NO. 7 PUNCH NO. 7 DIE

TYPE O Round Punches and Dies
STANDARD SIZES



Fractional Drill, or Millimeter A	Decimal Equiv. A	Punch Part Number	Die Part Number	Set Part Number	Dealer Code
1/16	.063	300070063	310070063	200070063	T-7
5/64	.078	300070078	310070078	200070078	T-7
3/32-42 DS	.094	300070094	310070094	200070094	T-7
7/64	.109	300070109	310070109	200070109	T-7
1/8	.125	300070125	310070125	200070125	T-7
9/64-28 DS	.141	300070141	310070141	200070141	T-7
5/32	.156	300070156	310070156	200070156	T-7
11/64	.172	300070172	310070172	200070172	T-7
3/16	.188	300070188	310070188	200070188	T-7
13/64	.203	300070203	310070203	200070203	T-7
7/32	.219	300070219	310070219	200070219	T-7
15/64-A DS	.234	300070234	310070234	200070234	T-7
1/4-E DS	.250	300070250	310070250	200070250	T-7
17/64-H DS	.266	300070266	310070266	200070266	T-7
9/32-K DS	.281	300070281	310070281	200070281	T-7
19/64	.297	300070297	310070297	200070297	T-7
5/16	.313	300070313	310070313	200070313	T-7
21/64	.328	300070328	310070328	200070328	T-7
11/32	.344	300070344	310070344	200070344	T-7
23/64	.359	300070359	310070359	200070359	T-7
3/8	.375	300070375	310070375	200070375	T-7
25/64	.391	300070391	310070391	200070391	T-7
13/32	.406	300070406	310070406	200070406	T-7
27/64	.422	300070422	310070422	200070422	T-7
7/16	.438	300070438	310070438	200070438	T-7

NO. 7 (A) HAND PUNCH

MIN. A: .031
MAX. A: .438

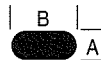


Prices for non stock sizes (drill, millimeter, or fractional)—
determine the A dimension (diameter)

Size Range	Dealer Code
A .031 - .125	T-5
A .126 - .438	T-5

Dealer Code T-5
Dealer Code T-5

TYPE M Obround Punches and Dies
STANDARD SIZES (continued)



Fractional Size AxB	Decimal Equiv. AxB	Punch Part Number	Die Part Number	Dealer Code
1/4 X 7/16	.250x.438	301071628	311071628	T-7



Size Range			Dealer Code
.095 - .438			T-5

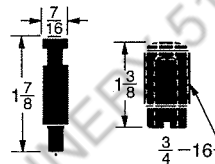
Width sizes under .063 add 50% to the punch & die price.

Width sizes .063 thru .094 add 30% to the punch & die price.

OBROUND TYPE M	SQUARE TYPE R	RECTANGLE TYPE N	SINGLE "D" TYPE D	DOUBLE "D" TYPE P	HEXAGON TYPE T	TRIANGLE TYPE S
MAX .438	MAX .308	MAX .438	MAX .438	MAX .438	MAX .377	MAX .375

SPECIAL PURPOSE PUNCHES AND DIES

COUNTERSINKING PUNCHES AND DIES STANDARD SIZES

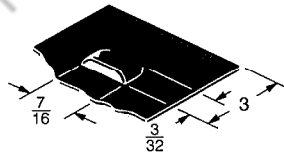


Fractional Size A	Decimal Equiv. A	Punch Part Number	Die Part Number	Dealer Code
3/32	.094	*308070506	318070506	T-5 PUNCH, T-7 DIE
1/8	.125	*308070508	318070508	T-5 PUNCH, T-7 DIE
5/32	.156	*308070510	318070510	T-5 PUNCH, T-7 DIE

*Punches are non stock, dies are standard and common with the No. XX Hand Punch. For delivery information on punches, consult our sales department.

For pricing information and delivery on non stock sizes, consult our sales department.

SNAP LOCK PUNCHES AND DIES STANDARD SIZES



Fractional Size AxB	Decimal Equiv. AxB	Punch Part Number	Die Part Number	Dealer Code
7/16 x 3/32	.438x.094	*308072300	318072300	T-5 PUNCH, T-7 DIE

*Punches are non stock, dies are standard and common with the No. XX Hand Punch. For delivery information on punches, consult our sales department.

For pricing information and delivery on non stock sizes, consult our sales department.

BUTTON PUNCHES AND DIES STANDARD SIZES



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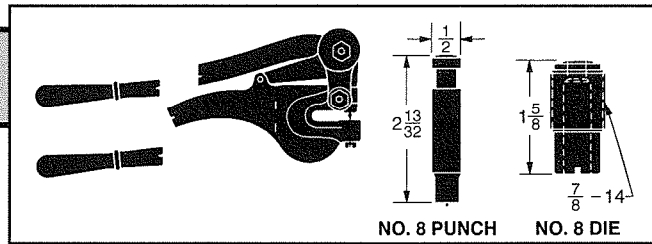
Fractional Size	Decimal Equiv.	Punch Part Number	Die Part Number	Dealer Code
—	—	308070900	318070900	T-7

For pricing information and delivery on non stock sizes, consult our sales department.

FOR PRICING AND DELIVERY INFORMATION ON OTHER SPECIAL CONFIGURATION PUNCHES AND DIES NOT LISTED, CONSULT OUR SALES DEPARTMENT.



NO. 8 HAND PUNCH



TYPE O Round Punches and Dies STANDARD SIZES



Fractional Drill, or Millimeter A	Decimal Equiv. A	Punch Part Number	Die Part Number	Set Number	Dealer Code
1/16	.063	300080063	310080063	200080063	T-7
5/64	.078	300080078	310080078	200080078	T-7
3/32-42 DS	.094	300080094	310080094	200080094	T-7
7/64	.109	300080109	310080109	200080109	T-7
1/8	.125	300080125	310080125	200080125	T-7
9/64-28 DS	.141	300080141	310080141	200080141	T-7
5/32	.156	300080156	310080156	200080156	T-7
11/64	.172	300080172	310080172	200080172	T-7
3/16	.188	300080188	310080188	200080188	T-7
13/64	.203	300080203	310080203	200080203	T-7
7/32	.219	300080219	310080219	200080219	T-7
15/64-A DS	.234	300080234	310080234	200080234	T-7
1/4-E DS	.250	300080250	310080250	200080250	T-7
17/64-H DS	.266	300080266	310080266	200080266	T-7
9/32-K DS	.281	300080281	310080281	200080281	T-7
19/64	.297	300080297	310080297	200080297	T-7
5/16	.313	300080313	310080313	200080313	T-7
21/64	.328	300080328	310080328	200080328	T-7
11/32	.344	300080344	310080344	200080344	T-7
23/64	.359	300080359	310080359	200080359	T-7
3/8	.375	300080375	310080375	200080375	T-7
25/64	.391	300080391	310080391	200080391	T-7
13/32	.406	300080406	310080406	200080406	T-7
27/64	.422	300080422	310080422	200080422	T-7
7/16	.438	300080438	310080438	200080438	T-7
29/64-11.5mm	.453	300080453	310080453	200080453	T-7
15/32	.469	300080469	310080469	200080469	T-7
31/64	.484	300080484	310080484	200080484	T-7
1/2	.500	300080500	310080500	200080500	T-7

NO. 8 HAND PUNCH

MIN. A: .031
MAX. A: .500



Prices for non stock sizes (drill, millimeter, or fractional)—determine the A dimension (diameter)

	Size Range	Dealer Code
A	.031 - .125	T-5
A	.126 - .500	T-5

Punch prices with annealed heads.
Punch prices with four eccentric slots.

Dealer Code T-5
Dealer Code T-5



PRICING FOR NON STOCK SHAPES

Size Range			Dealer Code
.095 - .500			T-5

Width sizes under .063 add 50% to the punch & die price.

Width sizes .063 thru .094 add 30% to the punch & die price.

OBROUND TYPE M	SQUARE TYPE R	RECTANGLE TYPE N	SINGLE "D" TYPE D	DOUBLE "D" TYPE P	HEXAGON TYPE T	TRIANGLE TYPE S
MAX .500	MAX .352	MAX .495	MAX .500	MAX .500	MAX .431	MAX .406

SPECIAL PURPOSE PUNCHES AND DIES

BUTTON PUNCHES AND DIES STANDARD SIZES



3 THICKNESS OF
18 GA

Fractional Size	Decimal Equiv.	Punch Part Number	Die Part Number	Dealer Code
—	—	308080900	318080900	T-7

For pricing information and delivery on non stock sizes, consult our sales department.

Additional information for trouble shooting punch head breakage.

Standard die clearance is .008/.010 and not recommended for material heavier than 12 ga.

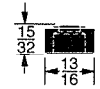
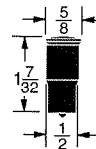
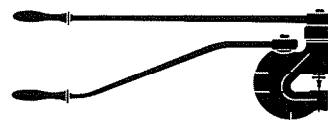
For punching 1/8 or heavier material Roper Whitney recommends punches with the heads being annealed or using punches with four eccentric slots for additional strength of punch head to avoid breakage when stripping.

Suggest die clearance of 15% to 20% of material thickness for best results.

Style 8 Punches and Dies are also used on the 4 in/multi-tool A.K.A. Hang Four Fabricator.



NO. 10 & 12 HAND PUNCHES



NO. 10 PUNCHES CROWN TOP DIES
(IRREGULAR SHAPES ARE FLAT TOP DIES)

TYPE O Round Punches and Dies STANDARD SIZES AND CLEARANCES



Fractional, Drill, or Millimeter A	Decimal Equiv. A	Punch Part Number	Die Part Number	Set Number	Std. Clr.	Coupling Nut Part Number (If Needed)	Dealer Code
1/16	.063	300100063	310100063	200100063	.008	331001011	T-7
5/64	.078	300100078	310100078	200100078	.008	331001011	T-7
3/32-42 DS	.094	300100094	310100094	200100094	.008	331001011	T-7
7/64	.109	300100109	310100109	200100109	.008	331001011	T-7
1/8	.125	300100125	310100125	200100125	.012	331001011	T-7
9/64-28 DS	.141	300100141	310100141	200100141	.012	331001011	T-7
5/32	.156	300100156	310100156	200100156	.012	331001011	T-7
11/64	.172	300100172	310100172	200100172	.012	331001011	T-7
3/16	.188	300100188	310100188	200100188	.016	331001011	T-7
13/64	.203	300100203	310100203	200100203	.016	331001011	T-7
7/32	.219	300100219	310100219	200100219	.016	331001011	T-7
15/64-A DS	.234	300100234	310100234	200100234	.016	331001011	T-7
1/4-E DS	.250	300100250	310100250	200100250	.022	331001011	T-7
17/64-H DS	.266	300100266	310100266	200100266	.022	331001011	T-7
9/32-K DS	.281	300100281	310100281	200100281	.022	331001011	T-7
19/64	.297	300100297	310100297	200100297	.022	331001011	T-7
5/16	.313	300100313	310100313	200100313	.022	331001011	T-7
21/64	.328	300100328	310100328	200100328	.022	331001011	T-7
11/32	.344	300100344	310100344	200100344	.022	331001011	T-7
23/64	.359	300100359	310100359	200100359	.022	331001011	T-7
3/8	.375	300100375	310100375	200100375	.022	331001011	T-7
25/64	.391	300100391	310100391	200100391	.022	331001011	T-7
13/32	.406	300100406	310100406	200100406	.022	331001011	T-7
27/64	.422	300100422	310100422	200100422	.022	331001011	T-7
7/16	.438	300100438	310100438	200100438	.022	331001011	T-7
29/64-11.5MM	.453	300100453	310100453	200100453	.022	331001011	T-7
15/32	.469	300100469	310100469	200100469	.022	331001011	T-7
31/64	.484	300100484	310100484	200100484	.022	331001011	T-7
1/2	.500	300100500	310100500	200100500	.022	331001011	T-7
33/64	.516	300100516	310100516	200100516	.022	331001033	T-7
17/32-13.5MM	.531	300100531	310100531	200100531	.022	331001033	T-7
35/64	.547	300100547	310100547	200100547	.022	331001034	T-7
9/16	.563	300100563	310100563	200100563	.022	331001034	T-7

MIN. A: .063
MAX. A: .563



Prices for non stock sizes (drill, millimeter, or fractional)–
determine the A dimension (diameter)

	Size Range	Coupling Nut Part Number (If Needed)	Dealer Code
A	.063 - .125	331001011	T-5
A	.126 - .500	331001011	T-5
A	.501 - .531	331001033	T-5
A	.532 - .563	331001034	T-5



PRICING FOR NON STOCK SHAPES

Size Range				Dealer Code
.125-.563				T-5

OBROUND TYPE M	SQUARE TYPE R	RECTANGLE TYPE N	SINGLE "D" TYPE D	DOUBLE "D" TYPE P	HEXAGON TYPE T	TRIANGLE TYPE S
MAX .563	MAX .352	MAX .500	MAX .563	MAX .563	MAX .432	MAX .421

SPECIFY POSITION OF THE GUIDE STRIPPER WHEN ORDERING

POSITION A
OPTIONALPOSITION B
STANDARD

NOTE: When ordering irregular shaped punches and dies for these tools, a guide/stripper must also be ordered to maintain the critical alignment of the punch.



NOTE: Check coupling nut size required when ordering shapes

.125 - .500 use 331001011 coupling nut
 .501 - .531 use 331001033 coupling nut
 .532 - .563 use 331001034 coupling nut

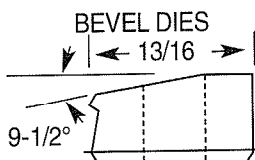
SPECIAL PURPOSE PUNCHES AND DIES

RIVETING PUNCHES AND DIES
STANDARD SIZES

A DIMENSION = WIDTH OF TUBULAR RIVET

Fractional Size A	Decimal Equiv. A	Punch Part Number	Die Part Number	Coupling Nut Part Number (If Needed)	Dealer Code
1/8	.125	308100008	318100008	331001011	T-7
5/32	.156	308100010	318100010	331001011	T-7
3/16	.188	308100012	318100012	331001011	T-7
7/32	.219	308100014	318100014	331001011	T-7
1/4	.250	308100016	318100016	331001011	T-7

FOR PRICING AND DELIVERY INFORMATION ON OTHER SPECIAL CONFIGURATION PUNCHES AND DIES NOT LISTED, CONSULT OUR SALES DEPARTMENT.



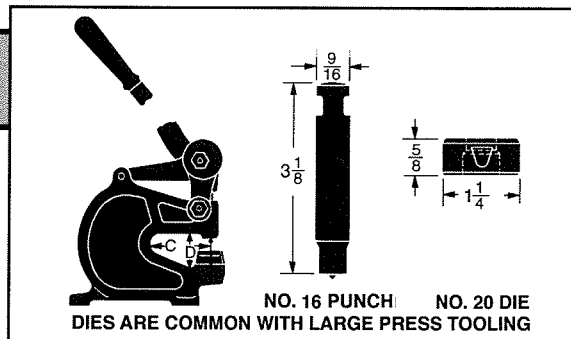
Bevel Dies from
1/4" to 1/2"

For I Beams		Dealer Code
		T-5

NO. 10 & 12 HAND PUNCH



NO. 16 BENCH PUNCH



TYPE O Round Punches and Dies

STANDARD SIZES AND CLEARANCES



Fractional, Drill, or Millimeter A	Decimal Equiv. A	Punch Part Number	Die Part Number	Set Number	Std. Clr.	Dealer Code
1/16	.063	300160063	310210063	200160063	.006	T-7
5/64	.078	300160078	310210078	200160078	.006	T-7
3/32-42 DS	.094	300160094	310210094	200160094	.006	T-7
7/64	.109	300160109	310210109	200160109	.006	T-7
1/8	.125	300160125	310210125	200160125	.006	T-7
9/64-28 DS	.141	300160141	310210141	200160141	.006	T-7
5/32	.156	300160156	310210156	200160156	.006	T-7
11/64	.172	300160172	310210172	200160172	.006	T-7
3/16	.188	300160188	310210188	200160188	.006	T-7
13/64	.203	300160203	310210203	200160203	.006	T-7
7/32	.219	300160219	310210219	200160219	.006	T-7
15/64-A DS	.234	300160234	310210234	200160234	.006	T-7
1/4-E DS	.250	300160250	310210250	200160250	.006	T-7
17/64-H DS	.266	300160266	310210266	200160266	.006	T-7
9/32-K DS	.281	300160281	310210281	200160281	.006	T-7
19/64	.297	300160297	310210297	200160297	.006	T-7
5/16	.313	300160313	310210313	200160313	.006	T-7
21/64	.328	300160328	310210328	200160328	.006	T-7
11/32	.344	300160344	310210344	200160344	.006	T-7
23/64	.359	300160359	310210359	200160359	.006	T-7
3/8	.375	300160375	310210375	200160375	.006	T-7
25/64	.391	300160391	310210391	200160391	.006	T-7
13/32	.406	300160406	310210406	200160406	.006	T-7
27/64	.422	300160422	310210422	200160422	.006	T-7
7/16	.438	300160438	310210438	200160438	.006	T-7
29/64-11.5MM	.453	300160453	310210453	200160453	.006	T-7
15/32	.469	300160469	310210469	200160469	.006	T-7
31/64	.484	300160484	310210484	200160484	.006	T-7
1/2	.500	300160500	310210500	200160500	.006	T-7
33/64	.516	300160516	310210516	200160516	.006	T-7
17/32-13.5MM	.531	300160531	310210531	200160531	.006	T-7
35/64	.547	300160547	310210547	200160547	.006	T-7
9/16	.563	300160563	310210563	200160563	.006	T-7

NON STOCK ROUNDS AND CLEARANCES

MIN. A: .031

MAX. A: .563



	Size Range	Dealer Code
A	.031-.068	T-5
A	.069-.375	T-5
A	.376-.563	T-5

Punch prices for annealed heads.

T-5

Punch prices for four eccentric slots.

T-5



TYPE M STANDARD SIZE AND CLEARANCE

Fractional Size AxB	Decimal Equiv. AxB	Punch Part Number	Die Part Number	Standard Clearance	Dealer Code
1/4 x 1/2	.250x.500	301161632	311211632	.006	T-7

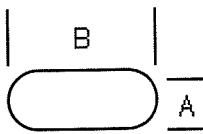
PRICING FOR NON STOCK SHAPES

Size Range	Dealer Code
.094 - .563	T-5

Width sizes under .063 add 50% to the punch & die price.

Width sizes .063 thru .093 add 30% to the punch & die price.

**OBROUND
TYPE M**



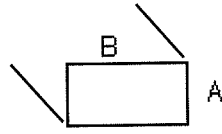
MAX .563

**SQUARE
TYPE R**



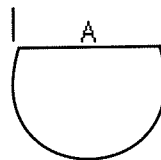
MAX .398

**RECTANGLE
TYPE N**



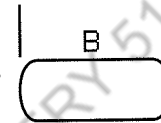
MAX .560

**SINGLE "D"
TYPE D**



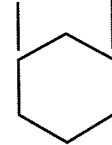
MAX .563

**DOUBLE "D"
TYPE P**



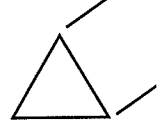
MAX .563

**HEXAGON
TYPE T**



MAX .485

**TRIANGLE
TYPE S**



MAX .469

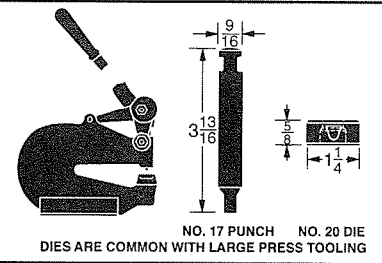
Add \$9.00 to shape punches for annealed heads.

NOTE: To avoid punch head BREAKAGE use proper clearance in die.

Roper Whitney suggests to order punches with annealed heads when punching 1/8 thick material or heavier.



NO. 17 BENCH PUNCH



TYPE O Round Punches and Dies STANDARD SIZES AND CLEARANCES



Fractional, Drill, or Millimeter A	Decimal Equiv. A	Punch Part Number	Die Part Number	Set Number	Std. Clr.	Dealer Code
1/16	.063	300170063	310210063	200170063	.006	T-7
5/64	.078	300170078	310210078	200170078	.006	T-7
3/32-42 DS	.094	300170094	310210094	200170094	.006	T-7
7/64	.109	300170109	310210109	200170109	.006	T-7
1/8	.125	300170125	310210125	200170125	.006	T-7
9/64-28 DS	.141	300170141	310210141	200170141	.006	T-7
5/32	.156	300170156	310210156	200170156	.006	T-7
11/64	.172	300170172	310210172	200170172	.006	T-7
3/16	.188	300170188	310210188	200170188	.006	T-7
13/64	.203	300170203	310210203	200170203	.006	T-7
7/32	.219	300170219	310210219	200170219	.006	T-7
15/64-A DS	.234	300170234	310210234	200170234	.006	T-7
1/4-E DS	.250	300170250	310210250	200170250	.006	T-7
17/64-H DS	.266	300170266	310210266	200170266	.006	T-7
9/32-K DS	.281	300170281	310210281	200170281	.006	T-7
19/64	.297	300170297	310210297	200170297	.006	T-7
5/16	.313	300170313	310210313	200170313	.006	T-7
21/64	.328	300170328	310210328	200170328	.006	T-7
11/32	.344	300170344	310210344	200170344	.006	T-7
23/64	.359	300170359	310210359	200170359	.006	T-7
3/8	.375	300170375	310210375	200170375	.006	T-7
25/64	.391	300170391	310210391	200170391	.006	T-7
13/32	.406	300170406	310210406	200170406	.006	T-7
27/64	.422	300170422	310210422	200170422	.006	T-7
7/16	.438	300170438	310210438	200170438	.006	T-7
29/64-11.5MM	.453	300170453	310210453	200170453	.006	T-7
15/32	.469	300170469	310210469	200170469	.006	T-7
31/64	.484	300170484	310210484	200170484	.006	T-7
1/2	.500	300170500	310210500	200170500	.006	T-7
33/64	.516	300170516	310210516	200170516	.006	T-7
17/32-13.5MM	.531	300170531	310210531	200170531	.006	T-7
35/64	.547	300170547	310210547	200170547	.006	T-7
9/16	.563	300170563	310210563	200170563	.006	T-7

TYPE O

MIN. A: .031 A
MAX. A: .563



Prices for non stock sizes (drill, millimeter, or fractional)—determine the A dimension

	Size Range	Dealer Code
A	.031-.068	T-5
A	.069-.375	T-5
	.376-.563	T-5

TYPE M Obround Punches and Dies STANDARD SIZES AND CLEARANCE



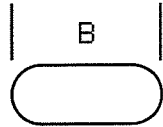
Fractional Size AxB	Decimal Equiv. AxB	Punch Part Number	Die Part Number	Standard Clearance	Dealer Code
1/4 x 1/2	.250x.500	301171632	311211632	.006	T-7

PRICING FOR NON STOCK SHAPES

Size Range			Dealer Code
.094 - .563			T-5

Width sizes under .063 add 50% to the punch & die price
Width sizes .063 thru .093 add 30% to the punch & die price

OBROUND
TYPE M



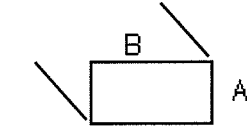
MAX .563

SQUARE
TYPE R



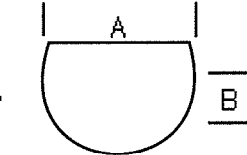
MAX .398

RECTANGLE
TYPE N



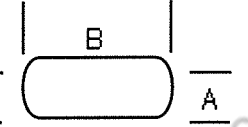
MAX .560

SINGLE "D"
TYPE D



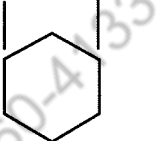
MAX .563

DOUBLE "D"
TYPE P



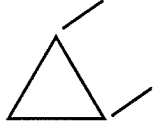
MAX .563

HEXAGON
TYPE T



MAX .485

TRIANGLE
TYPE S



MAX .469

NOTE: To avoid punch head BREAKAGE use proper clearance in die.
Roper Whitney suggests to order punches with annealed heads when punching 1/8 thick material or heavier.

NO. 7-1/2 HAND PUNCH

USE 8 STYLE PUNCHES & 7 STYLE DIES

NO. 6 FABRICATOR

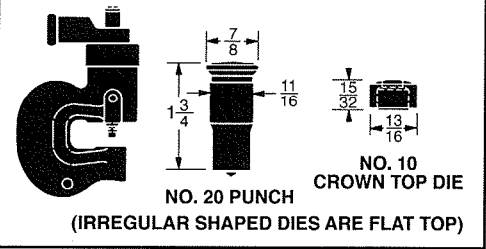
USE 17 STYLE PUNCHES & DIES

NO. 77 DEEP THROAT CHANNEL PUNCH

USES #8 PUNCH AND #10 DIES.



NO. CTL 20 PORTABLE PUNCH



TYPE O Round Punches and Dies STANDARD SIZES AND CLEARANCES



Fractional, Drill, or Millimeter A	Decimal Equiv. A	Punch Part Number	Die Part Number	Die Price	Set Number	Std. Clr.	Coupling Nut Part Number (If Needed)	Dealer Code
1/8	.125	300200125	310100125	12.00	200110125	.012	331002011	T-7
9/64-28 DS	.141	300200141	310100141	12.00	200110141	.012	331002011	T-7
5/32	.156	300200156	310100156	12.00	200110156	.012	331002011	T-7
11/64	.172	300200172	310100172	12.00	200110172	.012	331002011	T-7
3/16	.188	300200188	310100188	12.00	200110188	.016	331002011	T-7
13/64	.203	300200203	310100203	12.00	200110203	.016	331002011	T-7
7/32	.219	300200219	310100219	12.00	200110219	.016	331002011	T-7
15/64-A DS	.234	300200234	310100234	12.00	200110234	.016	331002011	T-7
1/4-E DS	.250	300200250	310100250	12.00	200110250	.022	331002011	T-7
17/64-H DS	.266	300200266	310100266	12.00	200110266	.022	331002011	T-7
9/32-K DS	.281	300200281	310100281	12.00	200110281	.022	331002011	T-7
19/64	.297	300200297	310100297	12.00	200110297	.022	331002011	T-7
5/16	.313	300200313	310100313	12.00	200110313	.022	331002011	T-7
21/64	.328	300200328	310100328	12.00	200110328	.022	331002011	T-7
11/32	.344	300200344	310100344	12.00	200110344	.022	331002011	T-7
23/64	.359	300200359	310100359	12.00	200110359	.022	331002011	T-7
3/8	.375	300200375	310100375	12.00	200110375	.022	331002011	T-7
25/64	.391	300200391	310100391	12.00	200110391	.022	331002011	T-7
13/32	.406	300200406	310100406	12.00	200110406	.022	331002011	T-7
27/64	.422	300200422	310100422	12.00	200110422	.022	331002011	T-7
7/16	.438	300200438	310100438	12.00	200110438	.022	331002011	T-7
29/64-11.5MM	.453	300200453	310100453	12.00	200110453	.022	331002011	T-7
15/32	.469	300200469	310100469	12.00	200110469	.022	331002011	T-7
31/64	.484	300200484	310100484	12.00	200110484	.022	331002011	T-7
1/2	.500	300200500	310100500	12.00	200110500	.022	331002011	T-7
33/64	.516	300200516	310100516	12.00	200110516	.022	331002011	T-7
17/32-13.5MM	.531	300200531	310100531	12.00	200110531	.022	331002011	T-7
35/64	.547	300200547	310100547	12.00	200110547	.022	331002011	T-7
9/16	.563	300200563	310100563	12.00	200110563	.022	331002011	T-7

MIN. A: .125
MAX. A: .563



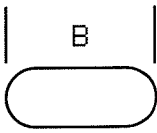
	Size Range	(Specify Clearance) Die Price	Coupling Nut Part Number (If Needed)	Dealer Code
A	.125-.563	14.00	331002011	T-5

NO. CTL 20 PORTABLE PUNCH

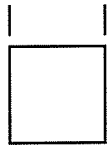


PRICING FOR NON STOCK SHAPES

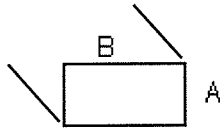
Size Range				Dealer Code
.125 - .563				T-5

OBSROUND
TYPE M

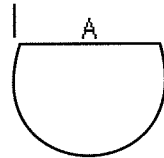
MAX .563

SQUARE
TYPE R

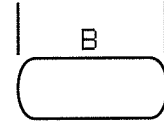
MAX .352

RECTANGLE
TYPE N

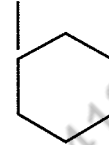
MAX .500

SINGLE "D"
TYPE D

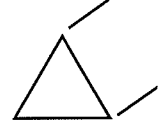
MAX .563

DOUBLE "D"
TYPE P

MAX .563

HEXAGON
TYPE T

MAX .432

TRIANGLE
TYPE S

MAX .421

SPECIFY POSITION OF THE GUIDE STRIPPER WHEN ORDERING

POSITION A
OPTIONALPOSITION B
STANDARD

NOTE: When ordering irregular shaped punches and dies for these tools, a guide/stripper must also be ordered to maintain the critical alignment of the punch.



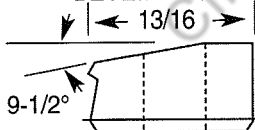
SPECIAL PURPOSE PUNCHES AND DIES

RIVETING PUNCHES AND DIES
STANDARD SIZES

A DIMENSION = WIDTH OF TUBULAR RIVET

Fractional Size A	Decimal Equiv. A	Punch Part Number	Die Part Number	Coupling Nut Part Number (If Needed)	Dealer Code
1/8	.125	308200008	318100008	331002011	T-7
5/32	.156	308200010	318100010	331002011	T-7
3/16	.188	308200012	318100012	331002011	T-7
7/32	.219	308200014	318100014	331002011	T-7
1/4	.250	308200016	318100016	331002011	T-7

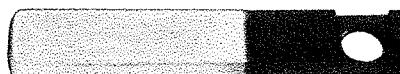
BEVEL DIES



Bevel Dies from
1/4" to 1/2"

For I Beams	Dealer Code
	T-5

NOTE: To avoid damage to coupling nut & spindle use proper wrench size



Left Hand
Threads

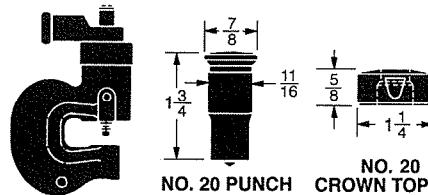
Coupling Nut Wrench	Dealer Code
330000520	T-8

NO. CTL 20 HAND PUNCH



NO. 20 PUNCH

TYPE O Round Punches and Dies
STANDARD SIZES AND CLEARANCES



NO. 20 PUNCH CROWN TOP DIE
(IRREGULAR SHAPED DIES ARE FLAT TOP)

Fractional, Drill, or Millimeter A	Decimal Equiv. A	Punch Part Number	Die Part Number	Set Number	Std. Clr.	Coupling Nut Part Number (If Needed)	Dealer Code
1/8	.125	300200125	310200125	200200125	.026	331002011	T-7
9/64-28 DS	.141	300200141	310200141	200200141	.026	331002011	T-7
5/32	.156	300200156	310200156	200200156	.026	331002011	T-7
11/64	.172	300200172	310200172	200200172	.026	331002011	T-7
3/16	.188	300200188	310200188	200200188	.026	331002011	T-7
13/64	.203	300200203	310200203	200200203	.026	331002011	T-7
7/32	.219	300200219	310200219	200200219	.026	331002011	T-7
15/64-A DS	.234	300200234	310200234	200200234	.026	331002011	T-7
1/4-E DS	.250	300200250	310200250	200200250	.026	331002011	T-7
17/64-H DS	.266	300200266	310200266	200200266	.026	331002011	T-7
9/32	.281	300200281	310200281	200200281	.026	331002011	T-7
19/64	.297	300200297	310200297	200200297	.026	331002011	T-7
5/16	.313	300200313	310200313	200200313	.026	331002011	T-7
21/64	.328	300200328	310200328	200200328	.026	331002011	T-7
11/32	.344	300200344	310200344	200200344	.026	331002011	T-7
23/64	.359	300200359	310200359	200200359	.026	331002011	T-7
3/8	.375	300200375	310200375	200200375	.038	331002011	T-7
25/64	.391	300200391	310200391	200200391	.038	331002011	T-7
13/32	.406	300200406	310200406	200200406	.038	331002011	T-7
27/64	.422	300200422	310200422	200200422	.038	331002011	T-7
7/16	.438	300200438	310200438	200200438	.038	331002011	T-7
29/64-11.5MM	.453	300200453	310200453	200200453	.038	331002011	T-7
15/32	.469	300200469	310200469	200200469	.038	331002011	T-7
31/64	.484	300200484	310200484	200200484	.038	331002011	T-7
1/2	.500	300200500	310200500	200200500	.038	331002011	T-7
33/64	.516	300200516	310200516	200200516	.038	331002011	T-7
17/32-13.5MM	.531	300200531	310200531	200200531	.038	331002011	T-7
35/64	.547	300200547	310200547	200200547	.038	331002011	T-7
9/16	.563	300200563	310200563	200200563	.038	331002011	T-7
37/64	.578	300200578	310200578	200200578	.038	331002011	T-7
19/32	.594	300200594	310200594	200200594	.038	331002011	T-7
39/64	.609	300200609	310200609	200200609	.038	331002011	T-7
5/8	.625	300200625	310200625	200200625	.038	331002011	T-7
41/64	.641	300200641	310200641	200200641	.038	331002011	T-7
21/32	.656	300200656	310200656	200200656	.038	331002011	T-7
43/64	.672	300200672	310200672	200200672	.038	331002011	T-7
11/16	.688	300200688	310200688	200200688	.038	331002011	T-7
45/64	.703	300200703	310200703	200200703	.038	331002025	T-7
23/32	.719	300200719	310200719	200200719	.038	331002025	T-7
47/64	.734	300200734	310200734	200200734	.038	331002025	T-7
3/4	.750	300200750	310200750	200200750	.038	331002025	T-7
49/64	.766	300200766	310200766	200200766	.038	331002035	T-7
25/32	.781	300200781	310200781	200200781	.038	331002035	T-7
51/64	.797	300200797	310200797	200200797	.038	331002035	T-7
13/16	.813	300200813	310200813	200200813	.038	331002035	T-7

PRICING FOR NON STOCK ROUNDS AND CLEARANCES

MIN. A: .125

MAX. A: .813



Prices for non stock sizes (drill, millimeter, or fraction)—determine the A dimension

	Size Range	Coupling Nut Part Number (If Needed)	Dealer Code
A	.125-.563	331002011	T-5
A	.689-.750	331002025	T-5
A	.751-.813	331002035	T-5



PRICING FOR NON STOCK SHAPES

Size Range				Dealer Code
.125 – .813				T-5

Size range .125 thru .688 use coupling nut 331002011.

Size range .689 thru .750 use coupling nut 331002025.

Size range .751 thru .813 use coupling nut 331002035.

OBROUND TYPE M	SQUARE TYPE R	RECTANGLE TYPE N	SINGLE "D" TYPE D	DOUBLE "D" TYPE P	HEXAGON TYPE T	TRIANGLE TYPE S
MAX .813	MAX .574	MAX .810	MAX .813	MAX .813	MAX .703	MAX .688

SPECIFY POSITION OF THE GUIDE STRIPPER WHEN ORDERING

POSITION A
OPTIONALPOSITION B
STANDARD

NOTE: When ordering irregular shaped punches and dies for these tools, a guide/stripper must also be ordered to maintain the critical alignment of the punch.



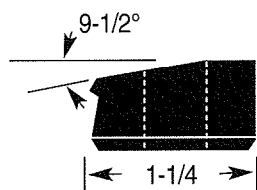
SPECIAL PURPOSE PUNCHES AND DIES

RIVETING PUNCHES AND DIES
STANDARD SIZES

X = WIDTH OF TUBULAR RIVET

Fractional Size A	Decimal Equiv. A	Punch Part Number	Die Part Number	Coupling Nut Part Number (If Needed)	Dealer Code
1/8	.125	308200008	318200008	331002011	T-7
5/32	.156	308200010	318200010	331002011	T-7
3/16	.188	308200012	318200012	331002011	T-7
7/32	.219	308200014	318200014	331002011	T-7
1/4	.250	308200016	318200016	331002011	T-7
9/32	.281	308200018	318200018	331002011	T-7
5/16	.313	308200020	318200020	331002011	T-7
11/32	.344	308200022	318200022	331002011	T-7
3/8	.375	308200024	318200024	331002011	T-7

BEVEL DIES Round



Size Range	Dealer Code
.126-.813	T-5

NOTE: To avoid damage to coupling nut & spindle use proper wrench size



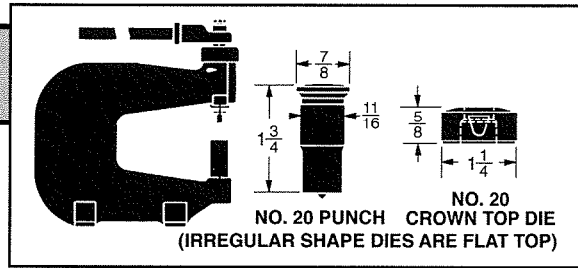
Coupling Nut Wrench	Dealer Code
330000520	T-8

Left Hand
Threads

NO. 20 PUNCH



NO. 24 & 25 PUNCHES

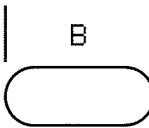


ALL ROUND PUNCHES & DIES, RIVETING PUNCHES & DIES
AND BEVEL DIES USE PRICES FOR NO. 20 PUNCH,
PAGE 20 & 21. COUPLING NUTS PAGE 20.

NON STOCK SIZES SHAPES

Size Range				Dealer Code
.125 - .813				T-5

OBOUND TYPE M



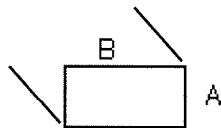
MAX .813

SQUARE TYPE R



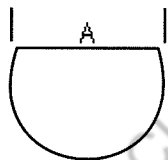
MAX .574

RECTANGLE TYPE N



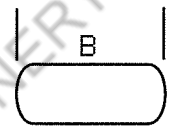
MAX .810

SINGLE "D" TYPE D



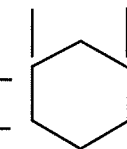
MAX .813

DOUBLE "D" TYPE P



MAX .813

HEXAGON TYPE T



MAX .703

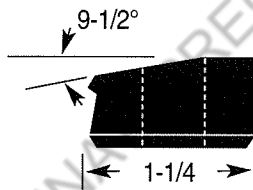
TRIANGLE TYPE S



MAX .688

Size range .125 thru .688 use coupling nut 331002011.
Size range .689 thru .750 use coupling nut 331002025.
Size range .751 thru .813 use coupling nut 331002035.

BEVEL DIES Round



Size Range		Dealer Code
.126-.813		T-5

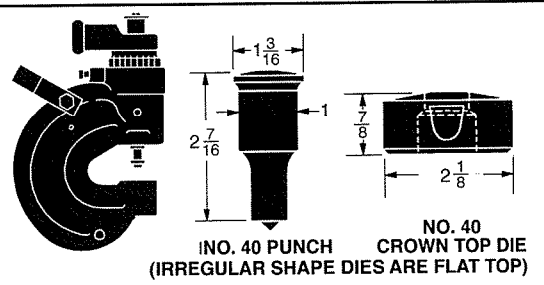
NOTE: To avoid damage to coupling nut & spindle
use proper wrench size



Left Hand
Threads

Coupling Nut Wrench		Dealer Code
330000520		T-8

NO. 40 PORTABLE PUNCH



TYPE O Round Punches and Dies
NON STOCK SIZES AND CLEARANCES

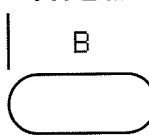


	Size Range		Coupling Nut Part Number (If Needed)	Dealer Code
A	.125-1.000		331004017	T-5

PRICING FOR NON STOCK SHAPES

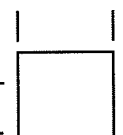
Size Range	Guide Stripper Price	Dealer Code
.125 - 1.000	83.00	T-5

**OBOUND
TYPE M**



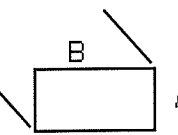
MAX. 1.000

**SQUARE
TYPE R**



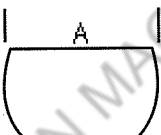
MAX .706

**RECTANGLE
TYPE N**



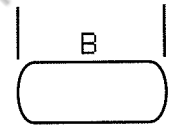
MAX .995

**SINGLE "D"
TYPE D**



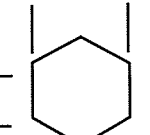
MAX 1.000

**DOUBLE "D"
TYPE P**



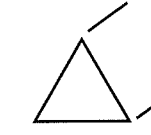
MAX 1.000

**HEXAGON
TYPE T**

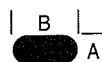


MAX .865

**TRIANGLE
TYPE S**



MAX .844



SPECIFY POSITION OF THE GUIDE STRIPPER WHEN ORDERING



**POSITION A
OPTIONAL**

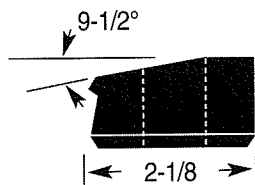


**POSITION B
STANDARD**

NOTE: When ordering irregular shaped punches and dies for these tools, a guide/stripper must also be ordered to maintain the critical alignment of the punch.



BEVEL DIES Round



	Size Range	Dealer Code
A	.126-.813	T-5



Style #40
 Coupling Nut
 Right Hand Threads

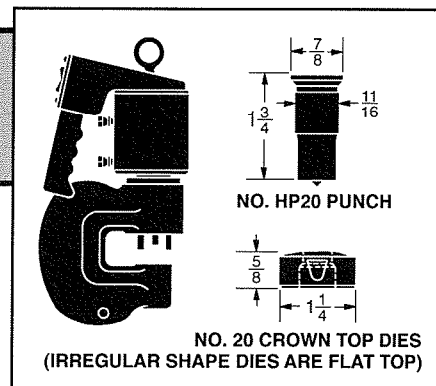
Part No.	
331004017	Use for all size 40 punches

NO. 40 PORTABLE PUNCH



HP512A, HP514/GP308 HP520, GP313 HYDRAULIC PUNCHES

INTERCHANGEABLE WITH
W.A. WHITNEY 720 TOOLING AND
FABRILINE 231 AND 241 TOOLING.
TOOLING FOR HP 515 MODELS CONSULT OUR SALES DEPARTMENT



TYPE O Round Punches and Dies



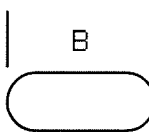
Punch Size	Dealer Code
.125-.813	T-5

Coupling Nuts Required	Dealer Code
.125-.688	331002011
.689-.750	331002025
.751-.813	331002035

PRICING FOR NON STOCK SHAPES

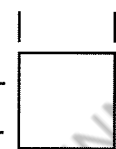
Size Range	Dealer Code
.125-.813	T-5

OBROUND
TYPE M



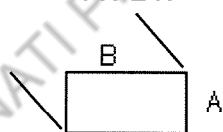
MAX .813

SQUARE
TYPE R



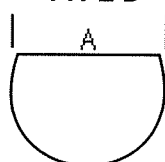
MAX .574

RECTANGLE
TYPE N



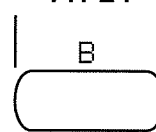
MAX .810

SINGLE "D"
TYPE D



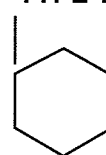
MAX .813

DOUBLE "D"
TYPE P



MAX .813

HEXAGON
TYPE T



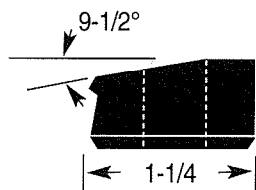
MAX .703

TRIANGLE
TYPE S



MAX .688

BEVEL DIES Round



Size Range	Dealer Code
.126-.813	T-5

NOTE: To avoid damage to coupling nut & piston
use proper wrench size



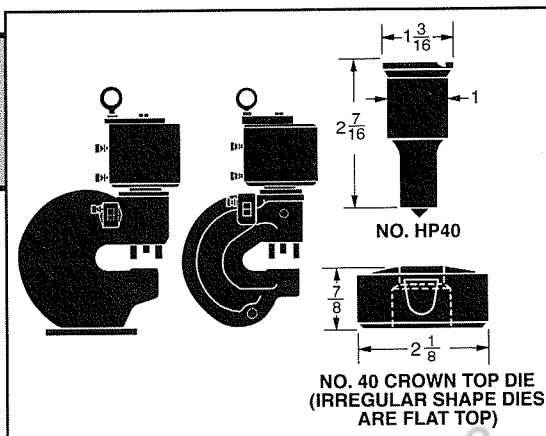
Coupling Nut Wrench	Dealer Code
330000520	T-8



Left Hand
Threads

HP535, GP323, HP550 HYDRAULIC PUNCHES

INTERCHANGEABLE WITH W.A. WHITNEY
740 SERIES TOOLING AND
FABRILINE 252 PUNCHES AND 271 DIES



MIN. A: .125
MAX. A: 1.000



Prices for non stock sizes (drill, millimeter, or fractional—determine the A dimension

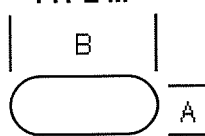
Size Range	Coupling Nut Part Number (If Needed)	Dealer Code
A .125-1.000	331004017	T-5

HP-513 Guard Rail Punch	Part No.	Coupling	Dealer Code
3/4 x 1-7/16 .750x1.438	218450513	331002035	T-4

PRICING FOR NON STOCK SHAPES

Size Range	Dealer Code
.125-1.000	T-5

OBROUND
TYPE M



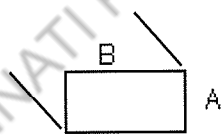
MAX. 1.000

SQUARE
TYPE R



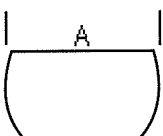
MAX. .706

RECTANGLE
TYPE N



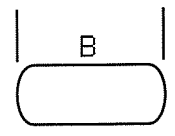
MAX. .995

SINGLE "D"
TYPE D



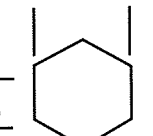
MAX 1.000

DOUBLE "D"
TYPE P



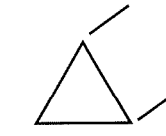
MAX 1.000

HEXAGON
TYPE T



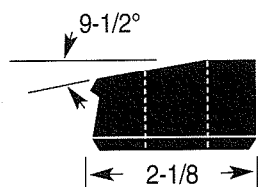
MAX .865

TRIANGLE
TYPE S



MAX .844

BEVEL DIES Round



Size Range	Die Price	Dealer Code
A .126-1.000	64.00	T-5



Style #40
Coupling Nut
Right Hand Threads

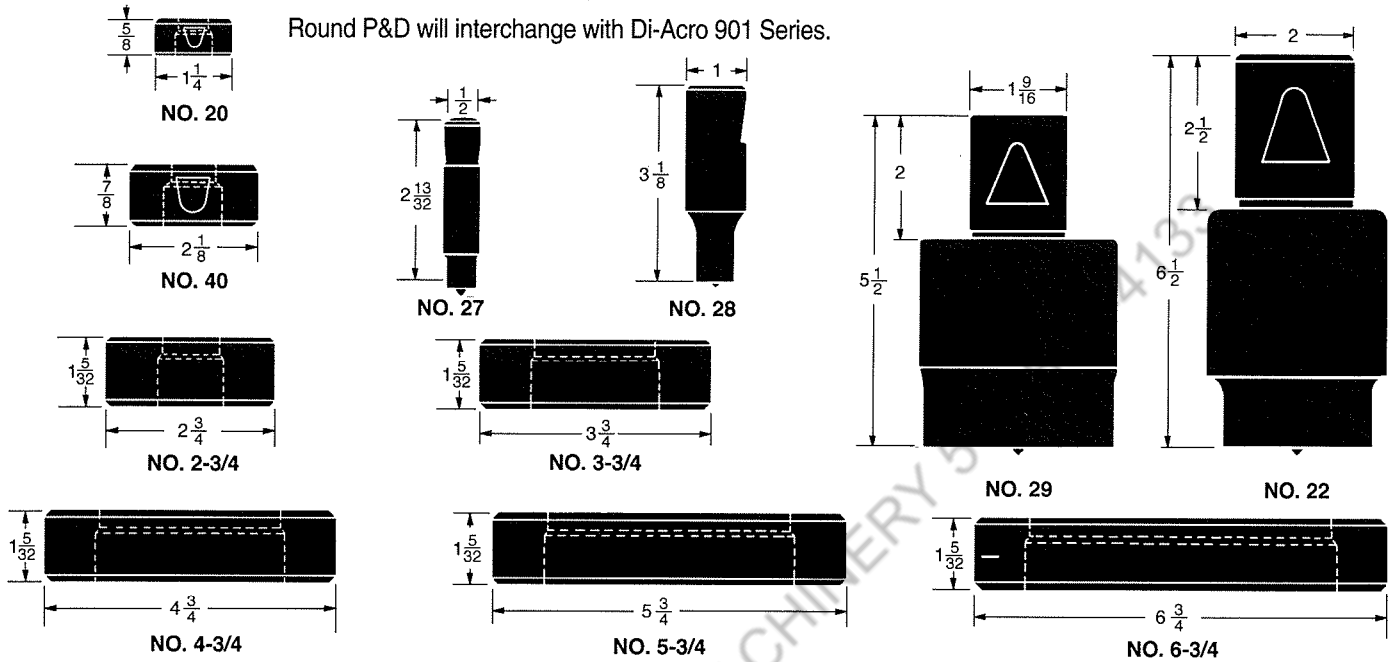
Part No.	
331004017	Use for all size hydraulic punches on this page



LARGE PRESS TOOLING

**PUNCHES AND DIES FOR 127, 129, 130, 150, 230, 231, AND 331 POWER PRESSES
NO. 15, 811, 118, 218, 32, 34, 29, 58, 68 & 134 KICK AND LEVER PRESSES**

Round P&D will interchange with Di-Acro 901 Series.



TYPE O Round Punches and Dies
STANDARD SIZES AND CLEARANCES



Fractional, Drill, or Millimeter A	Decimal Equiv. A	Punch Style	Punch Part Number	Die Outer Diameter	Die Part Number	Std. Clr.	Set Number	Dealer Code
1/16	.063	27	300270063	1-1/4	310210063	.006	200270063	T-7
5/64	.078	27	300270078	1-1/4	310210078	.006	200270078	T-7
3/32	.094	27	300270094	1-1/4	310210094	.006	200270094	T-7
40 DS-2.5MM	.098	27	300270098	1-1/4	310210098	.006	200270098	T-7
7/64	.109	27	300270109	1-1/4	310210109	.006	200270109	T-7
1/8	.125	27	300270125	1-1/4	310210125	.006	200270125	T-7
30 DS	.129	27	300270129	1-1/4	310210129	.006	200270129	T-7
29 DS	.136	27	300270136	1-1/4	310210136	.006	200270136	T-7
9/64-28 DS	.141	27	300270141	1-1/4	310210141	.006	200270141	T-7
5/32	.156	27	300270156	1-1/4	310210156	.006	200270156	T-7
11/64	.172	27	300270172	1-1/4	310210172	.006	200270172	T-7
3/16	.188	27	300270188	1-1/4	310210188	.006	200270188	T-7
10 DS	.194	27	300270194	1-1/4	310210194	.006	200270194	T-7
13/64	.203	27	300270203	1-1/4	310210203	.006	200270203	T-7
7/32	.219	27	300270219	1-1/4	310210219	.006	200270219	T-7
15/64-A DS	.234	27	300270234	1-1/4	310210234	.006	200270234	T-7
1/4-E DS	.250	27	300270250	1-1/4	310210250	.006	200270250	T-7
17/64-H DS	.266	27	300270266	1-1/4	310210266	.006	200270266	T-7
9/32-K DS	.281	27	300270281	1-1/4	310210281	.006	200270281	T-7
19/64	.297	27	300270297	1-1/4	310210297	.006	200270297	T-7
5/16	.313	27	300270313	1-1/4	310210313	.006	200270313	T-7
21/64	.328	27	300270328	1-1/4	310210328	.006	200270328	T-7
11/32	.344	27	300270344	1-1/4	310210344	.006	200270344	T-7
23/64	.359	27	300270359	1-1/4	310210359	.006	200270359	T-7
3/8	.375	27	300270375	1-1/4	310210375	.006	200270375	T-7

(continued on next page)



TYPE O (continued) STANDARD SIZES AND CLEARANCES



Fractional, Drill, or Millimeter A	Decimal Equiv. A	Punch Style	Punch Part Number	Die Outer Diameter	Die Part Number	Std. Clr.	Set Number	Dealer Code
25/64	.391	27	300270391	1-1/4	310210391	.006	200270391	T-7
13/32	.406	27	300270406	1-1/4	310210406	.006	200270406	T-7
27/64	.422	27	300270422	1-1/4	310210422	.006	200270422	T-7
7/16	.438	27	300270438	1-1/4	310210438	.006	200270438	T-7
29/64-11.5MM	.453	27	300270453	1-1/4	310210453	.006	200270453	T-7
15/32	.469	27	300270469	1-1/4	310210469	.006	200270469	T-7
31/64	.484	27	300270484	1-1/4	310210484	.006	200270484	T-7
1/2	.500	27	300270500	1-1/4	310210500	.006	200270500	T-7
33/64	.516	28	300280516	1-1/4	310210516	.006	200280516	T-7
17/32-13.5MM	.531	28	300280531	1-1/4	310210531	.006	200280531	T-7
35/64	.547	28	300280547	1-1/4	310210547	.006	200280547	T-7
9/16	.563	28	300280563	1-1/4	310210563	.006	200280563	T-7
37/64	.578	28	300280578	1-1/4	310210578	.006	200280578	T-7
19/32	.594	28	300280594	1-1/4	310210594	.006	200280594	T-7
39/64	.609	28	300280609	1-1/4	310210609	.006	200280609	T-7
5/8	.625	28	300280625	1-1/4	310210625	.006	200280625	T-7
41/64	.641	28	300280641	1-1/4	310210641	.006	200280641	T-7
21/32	.656	28	300280656	1-1/4	310210656	.006	200280656	T-7
43/64	.672	28	300280672	1-1/4	310210672	.006	200280672	T-7
11/16	.688	28	300280688	1-1/4	310210688	.006	200280688	T-7
45/64	.703	28	300280703	1-1/4	310210703	.006	200280703	T-7
23/32	.719	28	300280719	1-1/4	310210719	.006	200280719	T-7
47/64	.734	28	300280734	1-1/4	310210734	.006	200280734	T-7
3/4	.750	28	300280750	1-1/4	310210750	.006	200280750	T-7
49/64	.766	28	300280766	1-1/4	310210766	.006	200280766	T-7
25/32	.781	28	300280781	1-1/4	310210781	.006	200280781	T-7
51/64	.797	28	300280797	1-1/4	310210797	.006	200280797	T-7
13/16	.813	28	300280813	1-1/4	310210813	.006	200280813	T-7
53/64	.828	28	300280828	2-1/8	310410828	.006	200280828	T-7
27/32	.844	28	300280844	2-1/8	310410844	.006	200280844	T-7
55/64	.859	28	300280859	2-1/8	310410859	.006	200280859	T-7
7/8	.875	28	300280875	2-1/8	310410875	.006	200280875	T-7
57/64	.891	28	300280891	2-1/8	310410891	.006	200280891	T-7
29/32-23MM	.906	28	300380906	2-1/8	310410906	.006	200280906	T-7
59/64	.922	28	300280922	2-1/8	310410922	.006	200280922	T-7
15/16	.938	28	300280938	2-1/8	310410938	.006	200280938	T-7
61/64	.953	28	300280953	2-1/8	310410953	.006	200280953	T-7
31/32	.969	28	300280969	2-1/8	310410969	.006	200280969	T-7
63/64-25MM	.984	28	300280984	2-1/8	310410984	.006	200280984	T-7
1-25.5MM	1.000	28	300281000	2-1/8	310411000	.006	200281000	T-7
1-1/32	1.031	28	300281031	2-1/8	310411031	.006	200281031	T-7
1-1/16	1.063	28	300281063	2-1/8	310411063	.006	200281063	T-7
1-3/32	1.094	28	300281094	2-1/8	310411094	.006	200281094	T-7
1-1/8	1.125	28	300281125	2-1/8	310411125	.006	200281125	T-7
1-5/32	1.156	28	300281156	2-1/8	310411156	.006	200281156	T-7
1-3/16	1.188	28	300281188	2-1/8	310411188	.006	200281188	T-7
1-7/32	1.219	28	300281219	2-1/8	310411219	.006	200281219	T-7
1-1/4	1.250	28	300281250	2-1/8	310411250	.006	200281250	T-7
1-9/32	1.281	28	300281281	2-1/8	310411281	.006	200281281	T-7
1-5/16	1.313	28	300281313	2-1/8	310411313	.006	200281313	T-7
1-11/32	1.344	28	300281344	2-1/8	310411344	.006	200281344	T-7
1-3/8	1.375	28	300281375	2-1/8	310411375	.006	200281375	T-7
1-13/32	1.406	28	300281406	2-1/8	310411406	.006	200281406	T-7
1-7/16	1.438	28	300281438	2-1/8	310411438	.006	200281438	T-7
1-15/32	1.469	28	300281469	2-3/4	310311469	.006	200281469	T-7

(continued on next page)

LARGE PRESS TOOLING-TYPE O


TYPE O Round Punches and Dies
STANDARD SIZES AND CLEARANCES


Fractional, Drill, or Millimeter A	Decimal Equiv. A	Punch Style	Punch Part Number		Die Outer Diameter	Die Part Number		Std. Clr.	Set Number		Dealer Code
1-1/2	1.500	28	300281500		2-3/4	310311500		.006	200281500		T-7
1-17/32	1.531	28	300281531		2-3/4	310311531		.006	200281531		T-7
1-9/16	1.563	28	300281563		2-3/4	310311563		.006	200281563		T-7
1-19/32	1.594	28	300281594		2-3/4	310311594		.006	200281594		T-7
1-5/8	1.625	28	300281625		2-3/4	310311625		.006	200281625		T-7
1-21/32	1.656	28	300281656		2-3/4	310311656		.006	200281656		T-7
1-11/16	1.688	28	300281688		2-3/4	310311688		.006	200281688		T-7
1-23/32	1.719	28	300281719		2-3/4	310311719		.006	200281719		T-7
1-3/4	1.750	28	300281750		2-3/4	310311750		.006	200281750		T-7
1-25/32	1.781	28	300281781		2-3/4	310311781		.006	200281781		T-7
1-13/16	1.813	28	300281813		2-3/4	310311813		.006	200281813		T-7
1-27/32	1.844	28	300281844		2-3/4	310311844		.006	200281844		T-7
1-7/8	1.875	28	300281875		2-3/4	310311875		.006	200281875		T-7
1-29/32	1.906	28	300281906		2-3/4	310311906		.006	200281906		T-7
1-15/16	1.938	28	300281938		2-3/4	310311938		.006	200281938		T-7
1-31/32	1.969	28	300281969		2-3/4	310311969		.006	200281969		T-7
2	2.000	28	300282000		2-3/4	310312000		.006	200282000		T-7
2-1/16	2.063	28	300282063		3-3/4	310512063		.006	200282063		T-7
2-1/8	2.125	28	300282125		3-3/4	310512125		.006	200282125		T-7
2-3/16	2.188	28	300282188		3-3/4	310512188		.006	200282188		T-7
2-1/4	2.250	28	300282250		3-3/4	310512250		.006	200282250		T-7
2-5/16	2.313	28	300282313		3-3/4	310512313		.006	200282313		T-7
2-3/8	2.375	28	300282375		3-3/4	310512375		.006	200282375		T-7
2-7/16	2.438	28	300282438		3-3/4	310512438		.006	200282438		T-7
2-1/2	2.500	28	300282500		3-3/4	310512500		.006	200282500		T-7
2-9/16	2.563	28	300282563		3-3/4	310512563		.006	200282563		T-7
2-5/8	2.625	28	300282625		3-3/4	310512625		.006	200282625		T-7
2-11/16	2.688	28	300282688		3-3/4	310512688		.006	200282688		T-7
2-3/4	2.750	28	300282750		3-3/4	310512750		.006	200282750		T-7
2-13/16	2.813	28	300282813		3-3/4	310512813		.006	200282813		T-7
2-7/8	2.875	28	300282875		3-3/4	310512875		.006	200282875		T-7
2-15/16	2.938	28	300282938		3-3/4	310512938		.006	200282938		T-7
3	3.000	28	300283000		3-3/4	310513000		.006	200283000		T-7
3-1/16	3.063	28	300283063		4-3/4	310613063		.006	200283063		T-7
3-1/8	3.125	28	300283125		4-3/4	310613125		.006	200283125		T-7
3-3/16	3.188	28	300283188		4-3/4	310613188		.006	200283188		T-7
3-1/4	3.250	28	300283250		4-3/4	310613250		.006	200283250		T-7
3-5/16	3.313	28	300283313		4-3/4	310613313		.006	200283313		T-7
3-3/8	3.375	28	300283375		4-3/4	310613375		.006	200283375		T-7
3-7/16	3.438	28	300283438		4-3/4	310613438		.006	200283438		T-7
3-1/2	3.500	28	300283500		4-3/4	310613500		.006	200283500		T-7
3-9/16	3.563	28	300283563		4-3/4	310613563		.006	200283563		T-7
3-5/8	3.625	28	300283625		4-3/4	310613625		.006	200283625		T-7
3-11/16	3.688	28	300283688		4-3/4	310613688		.006	200283688		T-7
3-3/4	3.750	28	300283750		4-3/4	310613750		.006	200283750		T-7
3-13/16	3.813	28	300283813		4-3/4	310613813		.006	200283813		T-7
3-7/8	3.875	28	300283875		4-3/4	310613875		.006	200283875		T-7
3-15/16	3.938	28	300283938		4-3/4	310613938		.006	200283938		T-7
4	4.000	28	300284000		4-3/4	310614000		.006	200284000		T-7
4-1/4	4.250	28	300284250		5-3/4	310714250		.006	200284250		T-7
4-1/2	4.500	28	300284500		5-3/4	310714500		.006	200284500		T-7
4-3/4	4.750	28	300284750		5-3/4	310714750		.006	200284750		T-7

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**TYPE O** (continued)**PRICING FOR NON STOCK ROUNDS AND CLEARANCES**

MIN. A: .031



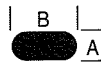
Prices for non stock sizes. Determine the A dimension (diameter)

Punch			Die (Include Clearance)			Dealer Code
Size A	Punch Style		Die Outer Diameter	Max Die Opening		
.031- .062	27		1-1/4	.074		T-5
.063- .375	27		1-1/4	.412		T-5
.376- .500	27		1-1/4	.537		T-5
.501- .813	28		1-1/4	.825		T-5
.814-1.000	28		2-1/8	1.037		T-5
1.001-1.250	28		2-1/8	1.482		T-5
1.251-1.438	28		2-1/8	1.482		T-5
1.439-1.719	28		2-3/4	2.012		T-5
1.720-2.000	28		2-3/4	2.012		T-5
2.001-2.500	28		3-3/4	2.537		T-5
2.501-3.000	28		3-3/4	3.012		T-5
3.001-3.500	28		4-3/4	3.537		T-5
3.501-4.000	28		4-3/4	4.012		T-5
4.001-4.500	28		5-3/4	5.037		T-5
4.501-5.000	28		5-3/4	5.037		T-5

All dies are counterbored.
consult our sales department.

Larger sizes available, for pricing and delivery information,

Note - for clearance of .004 & under refer to page 3

TYPE M Obround Punches and Dies**STANDARD SIZES AND CLEARANCES**

Fractional, Size A & B	Decimal Equiv. A & B	Punch Style	Punch Part Number	Die Outer Diameter	Die Part Number	Std. Clr.	Set Number	Dealer Code
1/16x1/2	.063x.500	27	301270432	1-1/4	311210432	.006	201270432	T-7
1/16x3/4	.063x.750	28	301280448	1-1/4	311210448	.006	201280448	T-7
1/16x1	.063x1.00	28	301280464	2-1/8	311410464	.006	201280464	T-7
1/16x2	.063x2.00	28	301280481	2-3/4	311310481	.006	201280481	T-7
3/32x1/4	.094x.250	27	301270616	1-1/4	311210616	.006	201270616	T-7
3/32x3/8	.094x.375	27	301270624	1-1/4	311210624	.006	201270624	T-7
3/32x1/2	.094x.500	27	301270632	1-1/4	311210632	.006	201270632	T-7
3/32x5/8	.094x.625	28	301280640	1-1/4	311210640	.006	201280640	T-7
3/32x3/4	.094x.750	28	301280648	1-1/4	311210648	.006	201280648	T-7
3/32x7/8	.094x.875	28	301280656	2-1/8	311410656	.006	201280656	T-7
3/32x1	.094x1.000	28	301280664	2-1/8	311410664	.006	201280664	T-7
1/8x3/16	.125x.188	27	301270812	1-1/4	311210812	.006	201270812	T-7
1/8x1/4	.125x.250	27	301270816	1-1/4	311210816	.006	201270816	T-7
1/8x5/16	.125x.313	27	301270820	1-1/4	311210820	.006	201270820	T-7
1/8x3/8	.125x.375	27	301270824	1-1/4	311210824	.006	201270824	T-7
1/8x7/16	.125x.438	27	301270828	1-1/4	311210828	.006	201270828	T-7
1/8x1/2	.125x.500	27	301270832	1-1/4	311210832	.006	201270832	T-7
1/8x9/16	.125x.563	28	301280836	1-1/4	311210836	.006	201280836	T-7
1/8x5/8	.125x.625	28	301280840	1-1/4	311210840	.006	201280840	T-7
1/8x11/16	.125x.680	28	301280844	1-1/4	311210844	.006	201280844	T-7
1/8x3/4	.125x.750	28	301280848	1-1/4	311210848	.006	201280848	T-7
1/8x13/16	.125x.813	28	301280852	2-1/8	311410852	.006	201280852	T-7
1/8x7/8	.125x.875	28	301280856	2-1/8	311410856	.006	201280856	T-7
1/8x15/16	.125x.938	28	301280860	2-1/8	311410860	.006	201280860	T-7
1/8x1	.125x1.000	28	301280864	2-1/8	311410864	.006	201280864	T-7

LARGE PRESS TOOLING - TYPE O & TYPE M



TYPE M (continued)

STANDARD SIZES AND CLEARANCES

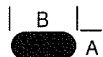


Fractional, Size A & B	Decimal Equiv. A & B	Punch Style	Punch Part Number		Die Outer Diameter	Die Part Number		Std. Clr.	Set Number		Dealer Code
1/8x1-1/4	.125x1.250	28	301280872		2-1/8	311410872		.006	201280872		T-7
1/8x1-1/2	.125x1.500	28	301280876		2-3/4	311310876		.006	201280876		T-7
1/8x1-3/4	.125x1.750	28	301280879		2-3/4	311310879		.006	201280879		T-7
1/8x2	.125x2.000	28	301280881		2-3/4	311310881		.006	201280881		T-7
5/32x1/4	.156x.250	27	301271016		1-1/4	311211016		.006	201271016		T-7
5/32x3/8	.156x.375	27	301271024		1-1/4	311211024		.006	201271024		T-7
5/32x1/2	.156x.500	27	301271032		1-1/4	311211032		.006	201271032		T-7
5/32x5/8	.156x.625	.28	301281040		1-1/4	311211040		.006	201281040		T-7
5/32x3/4	.156x.750	.28	301281048		1-1/4	311211048		.006	201281048		T-7
5/32x7/8	.156x.875	28	301281056		2-1/8	311411056		.006	201281056		T-7
5/32x1	.156x1.000	28	301281064		2-1/8	311411064		.006	201281064		T-7
3/16x1/4	.188x.250	27	301271216		1-1/4	311211216		.006	201271216		T-7
3/16x5/16	.188x.313	27	301271220		1-1/4	311211220		.006	201271220		T-7
3/16x3/8	.188x.375	27	301271224		1-1/4	311211224		.006	201271224		T-7
3/16x7/16	.188x.438	27	301271228		1-1/4	311211228		.006	201271228		T-7
3/16x1/2	.188x.500	27	301271232		1-1/4	311211232		.006	201271232		T-7
3/16x9/16	.188x.563	28	301281236		1-1/4	311211236		.006	201281236		T-7
3/16x5/8	.188x.625	28	301281240		1-1/4	311211240		.006	201281240		T-7
3/16x11/16	.188x.688	28	301281244		1-1/4	311211244		.006	201281244		T-7
3/16x3/4	.188x.750	28	301281248		1-1/4	311211248		.006	201281248		T-7
3/16x13/16	.188x.813	28	301281252		2-1/8	311411252		.006	201281252		T-7
3/16x7/8	.188x.875	28	301281256		2-1/8	311411256		.006	201281256		T-7
3/16x15/16	.188x.938	28	301281260		2-1/8	311411260		.006	201281260		T-7
3/16x1	.188x1.000	28	301281264		2-1/8	311411264		.006	201281264		T-7
3/16x1-1/4	.188x1.250	28	301281272		2-1/8	311411272		.006	201281272		T-7
3/16x1-1/2	.188x1.500	28	301281276		2-3/4	311311276		.006	201281276		T-7
3/16x1-3/4	.188x1.750	28	301281279		2-3/4	311311279		.006	201281279		T-7
3/16x2	.188x2.000	28	301281281		2-3/4	311311281		.006	201281281		T-7
7/32x1/4	.219x.250	27	301271416		1-1/4	311211416		.006	201271416		T-7
7/32x3/8	.219x.375	27	301271424		1-1/4	311211424		.006	201271424		T-7
7/32x1/2	.219x.500	27	301271432		1-1/4	311211432		.006	201271432		T-7
7/32x5/8	.219x.625	28	301281440		1-1/4	311211440		.006	201281440		T-7
7/32x3/4	.219x.750	28	301281448		1-1/4	311211448		.006	201281448		T-7
7/32x7/8	.219x.875	28	301281456		2-1/8	311411456		.006	201281456		T-7
7/32x1	.219x1.000	28	301281464		2-1/8	311411464		.006	201281464		T-7
1/4x5/16	.250x.313	27	301271620		1-1/4	311211620		.006	201271620		T-7
1/4x3/8	.250x.375	27	301271624		1-1/4	311211624		.006	201271624		T-7
1/4x7/16	.250x.438	27	301271628		1-1/4	311211628		.006	201271628		T-7
1/4x1/2	.250x.500	27	301271632		1-1/4	311211632		.006	201271632		T-7
1/4x9/16	.250x.563	28	301281636		1-1/4	311211636		.006	201281636		T-7
1/4x5/8	.250x.625	28	301281640		1-1/4	311211640		.006	201281640		T-7
1/4x11/16	.250x.688	28	301281644		1-1/4	311211644		.006	201281644		T-7
1/4x3/4	.250x.750	28	301281648		1-1/4	311211648		.006	201281648		T-7
1/4x13/16	.250x.813	28	301281652		2-1/8	311411652		.006	201281652		T-7
1/4x7/8	.250x.875	28	301281656		2-1/8	311411656		.006	201281656		T-7
1/4x15/16	.250x.938	28	301281660		2-1/8	311411660		.006	201281660		T-7
1/4x1	.250x1.000	28	301281664		2-1/8	311411664		.006	201281664		T-7
1/4x1-1/4	.250x1.250	28	301281672		2-1/8	311411672		.006	201281672		T-7
1/4x1-1/2	.250x1.500	28	301281676		2-3/4	311311676		.006	201281676		T-7
1/4x1-3/4	.250x1.750	28	301281679		2-3/4	311311679		.006	201281679		T-7
1/4x2	.250x2.000	28	301281681		2-3/4	311311681		.006	201281681		T-7



TYPE M (continued)

STANDARD SIZES AND CLEARANCES



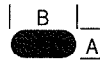
Fractional, Size A & B	Decimal Equiv. A & B	Punch Style	Punch Part Number		Die Outer Diameter	Die Part Number		Std. Clr.	Set Number		Dealer Code
9/32x3/8	.281x.375	27	301271824		1-1/4	311211824		.006	201271824		T-7
9/32x1/2	.281x.500	27	301271832		1-1/4	311211832		.006	201271832		T-7
9/32x5/8	.281x.625	28	301281840		1-1/4	311211840		.006	201281840		T-7
9/32x3/4	.281x.750	28	301281848		1-1/4	311211848		.006	201281848		T-7
9/32x7/8	.281x.875	28	301281856		2-1/8	311411856		.006	201281856		T-7
9/32x1	.281x1.000	28	301281864		2-1/8	311411864		.006	201281864		T-7
5/16x3/8	.313x.375	27	301272024		1-1/4	311212024		.006	201272024		T-7
5/16x7/16	.313x.438	27	301272028		1-1/4	311212028		.006	201272028		T-7
5/16x1/2	.313x.500	27	301272032		1-1/4	311212032		.006	201272032		T-7
5/16x9/16	.313x.563	28	301282036		1-1/4	311212036		.006	201282036		T-7
5/16x5/8	.313x.625	28	301282040		1-1/4	311212040		.006	201282040		T-7
5/16x11/16	.313x.688	28	301282044		1-1/4	311212044		.006	201282044		T-7
5/16x3/4	.313x.750	28	301282048		1-1/4	311212048		.006	201282048		T-7
5/16x13/16	.313x.813	28	301282052		2-1/8	311412052		.006	201282052		T-7
5/16x7/8	.313x.875	28	301282056		2-1/8	311412056		.006	201282056		T-7
5/16x15/16	.313x.938	28	301282060		2-1/8	311412060		.006	201282060		T-7
5/16x1	.313x1.000	28	301282064		2-1/8	311412064		.006	201282064		T-7
5/16x1-1/4	.313x1.250	28	301282072		2-1/8	311412072		.006	201282072		T-7
5/16x1-1/2	.313x1.500	28	301282076		2-3/4	311312076		.006	201282076		T-7
5/16x1-3/4	.313x1.750	28	301282079		2-3/4	311312079		.006	201282079		T-7
5/16x2	.313x2.000	28	301282081		2-3/4	311312081		.006	201282081		T-7
11/32x3/8	.344x.375	27	301272224		1-1/4	311212224		.006	201272224		T-7
11/32x1/2	.344x.500	27	301272232		1-1/4	311212232		.006	201272232		T-7
11/32x5/8	.344x.625	28	301282240		1-1/4	311212240		.006	201282240		T-7
11/32x3/4	.344x.750	28	301282248		1-1/4	311212248		.006	201282248		T-7
11/32x7/8	.344x.875	28	301282256		2-1/8	311412256		.006	201282256		T-7
11/32x1	.344x1.000	28	301282264		2-1/8	311412264		.006	201282264		T-7
3/8x7/16	.375x.438	27	301272428		1-1/4	311212428		.006	201272428		T-7
3/8x1/2	.375x.500	28	301282432		1-1/4	311212432		.006	201282432		T-7
3/8x9/16	.375x.563	28	301282436		1-1/4	311212436		.006	201282436		T-7
3/8x5/8	.375x.625	28	301282440		1-1/4	311212440		.006	201282440		T-7
3/8x11/16	.375x.688	28	301282444		1-1/4	311212444		.006	201282444		T-7
3/8x3/4	.375x.750	28	301282448		1-1/4	311212448		.006	201282448		T-7
3/8x13/16	.375x.813	28	301282452		2-1/8	311412452		.006	201282452		T-7
3/8x7/8	.375x.875	28	301282456		2-1/8	311412456		.006	201282456		T-7
3/8x15/16	.375x.938	28	301282460		2-1/8	311412460		.006	201282460		T-7
3/8x1	.375x1.000	28	301282464		2-1/8	311412464		.006	201282464		T-7
3/8x1-1/4	.375x1.250	28	301282472		2-1/8	311412472		.006	201282472		T-7
3/8x1-1/2	.375x1.500	28	301282476		2-3/4	311312476		.006	201282476		T-7
3/8x1-3/4	.375x1.750	28	301282479		2-3/4	311312479		.006	201282479		T-7
3/8x2	.375x2.000	28	301282481		2-3/4	311312481		.006	201282481		T-7
13/32x3/4	.406x.750	28	301282648		1-1/4	311212648		.006	201282648		T-7
13/32x13/16	.406x.813	28	301282652		2-1/8	311412652		.006	201282652		T-7
13/32x7/8	.406x.875	28	301282656		2-1/8	311412656		.006	201282656		T-7
13/32x1	.406x1.000	28	301282664		2-1/8	311412664		.006	201282664		T-7
7/16x1/2	.438x.500	28	301282832		1-1/4	311212832		.006	201282832		T-7
7/16x9/16	.438x.563	28	301282836		1-1/4	311212836		.006	201282836		T-7
7/16x5/8	.438x.625	28	301282840		1-1/4	311212840		.006	201282840		T-7
7/16x11/16	.438x.688	28	301282844		1-1/4	311212844		.006	201282844		T-7
7/16x3/4	.438x.750	28	301282848		1-1/4	311212848		.006	201282848		T-7
7/16x13/16	.438x.813	28	301282852		2-1/8	311412852		.006	201282852		T-7
7/16x7/8	.438x.875	28	301282856		2-1/8	311412856		.006	201282856		T-7

LARGE PRESS TOOLING-TYPE M



TYPE M (continued)

STANDARD SIZES AND CLEARANCES



Fractional, Size A & B	Decimal Equiv. A X B	Punch Style	Punch Part Number		Die Outer Diameter	Die Part Number		Std. Clr.	Set Number		Dealer Code
7/16x15/16	.438x.938	28	301282860		2-1/8	311412860		.006	201282860		T-7
7/16x1	.438x1.000	28	301282864		2-1/8	311412864		.006	201282864		T-7
7/16x1-1/4	.438x1.250	28	301282872		2-1/8	311412872		.006	201282872		T-7
7/16x1-1/2	.438x1.500	28	301282876		2-3/4	311312876		.006	201282876		T-7
7/16x1-3/4	.438x1.750	28	301282879		2-3/4	311312879		.006	201282879		T-7
7/16x2	.438x2.000	28	301282881		2-3/4	311312881		.006	201282881		T-7
1/2x9/16	.500x.563	28	301283236		1-1/4	311213236		.006	201283236		T-7
1/2x5/8	.500x.625	28	301283240		1-1/4	311213240		.006	201283240		T-7
1/2x11/16	.500x.688	28	301283244		1-1/4	311213244		.006	201283244		T-7
12/x3/4	.500x.750	28	301283248		1-1/4	311213248		.006	201283248		T-7
1/2x13/16	.500x.813	28	301283252		2-1/8	311413252		.006	201283252		T-7
1/2x7/8	.500x.875	28	301283256		2-1/8	311413256		.006	201283256		T-7
1/2x15/16	.500x.913	28	301283260		2-1/8	311413260		.006	201283260		T-7
1/2x1	.500x1.000	28	301283264		2-1/8	311413264		.006	201283264		T-7
1/2x1-1/4	.500x1.250	28	301283272		2-1/8	311413272		.006	201283272		T-7
1/2x1-1/2	.500x1.500	28	301283276		2-3/4	311313276		.006	201283276		T-7
1/2x1-3/4	.500x1.750	28	301283279		2-3/4	311313279		.006	201283279		T-7
1/2x2	.500x2.000	28	301283281		2-3/4	311313281		.006	201283281		T-7
17/32x3/4	.531x.750	28	301283448		1-1/4	311213448		.006	201283448		T-7
17/32x7/8	.531x.875	28	301283456		2-1/8	311413456		.006	201283456		T-7
17/32x1	.531x1.000	28	301283464		2-1/8	311413464		.006	201283464		T-7
17/32x1-1/4	.531x1.250	28	301283472		2-1/8	311413472		.006	201283472		T-7
17/32x1-1/2	.531x1.500	28	301283476		2-3/4	311313476		.006	201283476		T-7
17/32x1-3/4	.531x1.750	28	301283479		2-3/4	311313479		.006	201283479		T-7
17/32x2	.531x2.000	28	301283481		2-3/4	311313481		.006	201283481		T-7
9/16x5/8	.563x.625	28	301283640		1-1/4	311213640		.006	201283640		T-7
9/16x11/16	.563x.688	28	301283644		1-1/4	311213644		.006	201283644		T-7
9/16x3/4	.563x.750	28	301283648		1-1/4	311213648		.006	201283648		T-7
9/16x13/16	.563x.813	28	301283652		2-1/8	311413652		.006	201283652		T-7
9/16x7/8	.563x.875	28	301283656		2-1/8	311413656		.006	201283656		T-7
9/16x15/16	.563x.913	28	301283660		2-1/8	311413660		.006	201283660		T-7
9/16x1	.563x1.000	28	301283664		2-1/8	311413664		.006	201283664		T-7
9/16x1-1/4	.563x1.250	28	301283672		2-1/8	311413672		.006	201283672		T-7
9/16x1-1/2	.563x1.500	28	301283676		2-3/4	311313676		.006	201283676		T-7
9/16x1-3/4	.563x1.750	28	301283679		2-3/4	311313679		.006	201283679		T-7
9/16x2	.563x2.000	28	301283681		2-3/4	311313681		.006	201283681		T-7
5/8x11/16	.625x.688	28	301284044		1-1/4	311214044		.006	201284044		T-7
5/8x3/4	.625x.750	28	301284048		1-1/4	311214048		.006	201284048		T-7
5/8x13/16	.625x.813	28	301284052		2-1/8	311414052		.006	201284052		T-7
5/8x7/8	.625x.875	28	301284056		2-1/8	311414056		.006	201284056		T-7
5/8x15/16	.625x.938	28	301284060		2-1/8	311414060		.006	201284060		T-7
5/8x1	.625x1.000	28	301284064		2-1/8	311414064		.006	201284064		T-7
5/8x1-1/4	.625x1.250	28	301284072		2-1/8	311414072		.006	201284072		T-7
5/8x1-1/2	.625x1.500	28	301284076		2-3/4	311314076		.006	201284076		T-7
5/8x1-3/4	.625x1.750	28	301284079		2-3/4	311314079		.006	201284079		T-7
5/8x2	.625x2.000	28	301284081		2-3/4	311314081		.006	201284081		T-7
11/16x3/4	.688x.750	28	301284448		1-1/4	311214448		.006	201284448		T-7
11/16x13/16	.688x.813	28	301284452		2-1/8	311414452		.006	201284452		T-7
11/16x7/8	.688x.875	28	301284456		2-1/8	311414456		.006	201284456		T-7
11/16x15/16	.688x.938	28	301284460		2-1/8	311414460		.006	201284460		T-7
11/16x1	.688x1.000	28	301284464		2-1/8	311414464		.006	201284464		T-7
11/16x1-1/4	.688x1.250	28	301284472		2-1/8	311414472		.006	201284472		T-7



TYPE M (continued)

STANDARD SIZES AND CLEARANCES



Fractional, Size A & B	Decimal Equiv. A X B	Punch Style	Punch Part Number		Die Outer Diameter	Die Part Number		Std. Clr.	Set Number		Dealer Code
11/16x1-1/2	.688x1.500	28	301284476		2-3/4	311314476		.006	201284476		T-7
11/16x1-3/4	.688x1.750	28	301284479		2-3/4	311314479		.006	201284479		T-7
11/16x2	.688x2.000	28	301284481		2-3/4	311314481		.006	201284481		T-7
3/4x13/16	.750x.813	28	301284852		2-1/8	311414852		.006	201284852		T-7
3/4x7/8	.750x.875	28	301284856		2-1/8	311414856		.006	201284856		T-7
3/4x15/16	.750x.938	28	301284860		2-1/8	311414860		.006	201284860		T-7
3/4x1	.750x1.000	28	301284864		2-1/8	311414864		.006	201284864		T-7
3/4x1-1/4	.750x1.250	28	301284872		2-1/8	311414872		.006	201284872		T-7
3/4x1-1/2	.750x1.500	28	301284876		2-3/4	311314876		.006	201284876		T-7
3/4x1-3/4	.750x1.750	28	301284879		2-3/4	311314879		.006	201284879		T-7
3/4x2	.750x2.000	28	301284881		2-3/4	311314881		.006	201284881		T-7
13/16x7/8	.813x.875	28	301285256		2-1/8	311415256		.006	201285256		T-7
13/16x15/16	.813x.938	28	201285260		2-1/8	311415260		.006	201285260		T-7
13/16x1	.813x1.000	28	301285264		2-1/8	311415264		.006	201285264		T-7
13/16x1-1/4	.813x1.250	28	301285272		2-1/8	311415272		.006	201285272		T-7
13/16x1-1/2	.813x1.500	28	301285276		2-3/4	311315276		.006	201285276		T-7
13/16x1-3/4	.813x1.750	28	301285279		2-3/4	311315279		.006	201285279		T-7
13/16x2	.813x2.000	28	301285281		2-3/4	311315281		.006	201285281		T-7
7/8x15/16	.875x.938	28	301285660		2-1/8	311415660		.006	201285660		T-7
7/8x1	.875x1.000	28	301285664		2-1/8	311415664		.006	201285664		T-7
7/8x1-1/4	.875x1.250	28	301285672		2-1/8	311415672		.006	201285672		T-7
7/8x1-1/2	.875x1.500	28	301285676		2-3/4	311315676		.006	201285676		T-7
7/8x1-3/4	.875x1.750	28	301285679		2-3/4	311315679		.006	201285679		T-7
7/8x2	.875x2.000	28	301285681		2-3/4	311315681		.006	201285681		T-7
15/16x1	.938x1.000	28	301286064		2-1/8	311416064		.006	201286064		T-7
15/16x1-1/4	.938x1.250	28	301286072		2-1/8	311416072		.006	201286072		T-7
15/16x1-1/2	.938x1.500	28	301286076		2-3/4	311316076		.006	201286076		T-7
15/16x1-3/4	.938x1.750	28	301286079		2-3/4	311316079		.006	201286079		T-7
15/16x2	.938x2.000	28	301286081		2-3/4	311316081		.006	201286081		T-7
1x1-1/8	1.000x1.125	28	301286468		2-3/4	311316468		.006	201286468		T-7
1x1-3/16	1.000x1.188	28	301286470		2-3/4	311316470		.006	201286470		T-7
1x1-1/4	1.000x1.250	28	301286472		2-3/4	311316472		.006	201286472		T-7
1x1-3/8	1.000x1.375	28	301286474		2-3/4	311316474		.006	201286474		T-7
1x1-1/2	1.000x1.500	28	301286476		2-3/4	311316476		.006	201286476		T-7
1x1-5/8	1.000x1.625	28	301286478		2-3/4	311316478		.006	201286478		T-7
1X1-3/4	1.000x1.750	28	301286479		2-3/4	311316479		.006	201286479		T-7
1x1-7/8	1.000x1.875	28	301286480		2-3/4	311316480		.006	201286480		T-7
1x2	1.000x2.000	28	301286481		2-3/4	311316481		.006	201286481		T-7
1-1/8x2-1/8	1.125x2.125	28	301286882		3-3/4	311516882		.006	201286882		T-7

MIN. A: .046 Determine the B dimension (length)

Punch			Die (Include Clearance)			Dealer Code
Size Range B	Punch Style		Die Outer Diameter	Max Die Opening		
.094-.500	27		1-1/4	.537		T-5
.501-.750	28		1-1/4	.762		T-5
.751-1.000	28		2-1/8	1.037		T-5



TYPE M (continued)



Punch			Die (Include Clearance)			Dealer Code
Size Range B	Punch Style		Die Outer Diameter	Max Die Opening		
1.001-1.438	28		2-1/8	1.450		T-5
1.439-2.000	28		2-3/4	2.012		T-5
2.001-2.500	28		3-3/4	2.537		T-5
2.501-2.750	28		3-3/4	2.782		T-5
2.751-3.500	28		4-3/4	3.537		T-5
3.501-3.750	28		4-3/4	4.012		T-5

Width sizes under .063 add 50% to the price:

Width sizes .063 thru .094 add 30% to the price.

All dies are counterbored.
consult our sales department.

Larger sizes available, for pricing and delivery information,

TYPE N Rectangular Punches and Dies
STANDARD SIZES AND CLEARANCES

Fractional, Size A & B	Decimal Equiv. A X B	Punch Style	Punch Part Number		Die Outer Diameter	Die Part Number		Std. Clr.	Set Number		Dealer Code
1/16x1/2	.063x.500	28	302280432		1-1/4	312210432		.006	202280432		T-7
1/16x3/4	.063x.750	28	302280448		1-1/4	312210448		.006	202280448		T-7
1/16x1	.063x1.000	28	302280464		2-1/8	312410464		.006	202280464		T-7
1/16x2	.063x2.000	28	302280481		2-3/4	312310481		.006	202280481		T-7
3/32x1/4	.094x.250	27	302270616		1-1/4	312210616		.006	202270616		T-7
3/32x3/8	.094x.375	27	302270624		1-1/4	312210624		.006	202270624		T-7
3/32x1/2	.094x.500	28	302280632		1-1/4	312210632		.006	202280632		T-7
3/32x5/8	.094x.625	28	302280640		1-1/4	312210640		.006	202280640		T-7
3/32x3/4	.094x.750	28	302280648		1-1/4	312210648		.006	202280648		T-7
3/32x7/8	.094x.875	28	302280656		2-1/8	312410656		.006	202280656		T-7
3/32x1	.094x1.000	28	302280664		2-1/8	312410664		.006	202280664		T-6
1/8x3/16	.125x.188	27	302270812		1-1/4	312210812		.006	202270812		T-6
1/8x1/4	.125x.250	27	302270816		1-1/4	312210816		.006	202270816		T-7
1/8x5/16	.125x.313	27	302270820		1-1/4	312210820		.006	202270820		T-7
1/8x3/8	.125x.375	27	302270824		1-1/4	312210824		.006	202270824		T-7
1/8x7/16	.125x.438	27	302270828		1-1/4	312210828		.006	200270828		T-7
1/8x1/2	.125x.500	28	302280832		1-1/4	312210832		.006	202280832		T-7
1/8x9/16	.125x.563	28	302280836		1-1/4	312210836		.006	202280836		T-7
1/8x5/8	.125x.625	28	302280840		1-1/4	312210840		.006	202280840		T-7
1/8x11/16	.125x.688	28	302280844		1-1/4	312210844		.006	202280844		T-7
1/8x3/4	.125x.750	28	302280848		2-1/8	312410848		.006	202280848		T-7
1/8x13/16	.125x.813	28	302280852		2-1/8	312410852		.006	202280852		T-7
1/8x7/8	.125x.875	28	302280856		2-1/8	312410856		.006	202280856		T-7
1/8x15/16	.125x.938	28	302280860		2-1/8	312410860		.006	202280860		T-7
1/8x1	.125x1.000	28	302280864		2-1/8	312410864		.006	202280864		T-7
1/8x1-1/4	.125x1.250	28	302280872		2-1/8	312410872		.006	202280872		T-7
1/8x1-1/2	.125x1.500	28	302280876		2-3/4	312310876		.006	202280876		T-7
1/8x1-3/4	.125x1.750	28	302280879		2-3/4	312310879		.006	202280879		T-7
1/8x2	.125x2.000	28	302280881		2-3/4	312310881		.006	202280881		T-7
5/32x1/4	.156x.250	27	302271016		1-1/4	312211016		.006	202271016		T-7
5/32x3/8	.156x.375	27	302271024		1-1/4	312211024		.006	202271024		T-7
5/32x1/2	.156x.500	28	302281032		1-1/4	312211032		.006	202281032		T-7
5/32x5/8	.156x.625	28	302281040		1-1/4	312211040		.006	202281040		T-7
5/32x3/4	.156x.750	28	302281048		2-1/8	312411048		.006	202281048		T-7
5/32x7/8	.156x.875	28	302281056		2-1/8	312411056		.006	202281056		T-7


TYPE N Rectangular Punches and Dies
STANDARD SIZES AND CLEARANCES

| B |

A

Fractional, Size A & B	Decimal Equiv. A X B	Punch Style	Punch Part Number		Die Outer Diameter	Die Part Number		Std. Clr.	Set Number		Dealer Code
5/32x1	.156x1.000	28	302281064		2-1/8	312411064		.006	202281064		T-7
3/16x1/4	.188x.250	27	302271216		1-1/4	312211216		.006	202271216		T-7
3/16x5/16	.188x.313	27	302271220		1-1/4	312211220		.006	202271220		T-7
3/16x3/8	.188x.375	27	302271224		1-1/4	312211224		.006	202271224		T-7
3/16x7/16	.188x.438	27	302271228		1-1/4	312211228		.006	202271228		T-7
3/16x1/2	.188x.500	28	302281232		1-1/4	312211232		.006	202281232		T-7
3/16x9/16	.188x.563	28	302281236		1-1/4	312211236		.006	202281236		T-7
3/16x5/8	.188x.625	28	302281240		1-1/4	312211240		.006	202281240		T-7
3/16x11/16	.188x.688	28	302281244		1-1/4	312211244		.006	202281244		T-7
3/16x3/4	.188x.750	28	302281248		2-1/8	312411248		.006	202281248		T-7
3/16x13/16	.188x.813	28	302281252		2-1/8	312411252		.006	202281252		T-7
3/16x7/8	.188x.875	28	302281256		2-1/8	312411256		.006	202281256		T-7
3/16x15/16	.188x.938	28	302281260		2-1/8	312411260		.006	202281260		T-7
3/16x1	.188x1.000	28	302281264		2-1/8	312411264		.006	202281264		T-7
3/16x1-1/4	.188x1.250	28	302281272		2-1/8	312411272		.006	202281272		T-7
3/16x1-1/2	.188x1.500	28	302281276		2-3/4	312311276		.006	202281276		T-7
3/16x1-3/4	.188x1.750	28	302281279		2-3/4	312311279		.006	202281279		T-7
3/16x2	.188x2.000	28	302281281		2-3/4	312311281		.006	202281281		T-7
7/32x1/4	.219x.250	27	302271416		1-1/4	312211416		.006	202271416		T-7
7/32x3/8	.219x.375	27	302271424		1-1/4	312211424		.006	202271424		T-7
7/32x1/2	.219x.500	28	302281432		1-1/4	312211432		.006	202281432		T-7
7/32x5/8	.219x.625	28	302281440		1-1/4	312211440		.006	202281440		T-7
7/32x3/4	.219x.750	28	302281448		2-1/8	312411448		.006	202281448		T-7
7/32x7/8	.219x.875	28	302281456		2-1/8	312411456		.006	202281456		T-7
7/32x1	.219x1.000	28	302281464		2-1/8	312411464		.006	202281464		T-7
1/4x5/16	.250x.313	27	302271620		1-1/4	312211620		.006	202271620		T-7
1/4x3/8	.250x.375	27	302271624		1-1/4	312211624		.006	202271624		T-7
1/4x7/16	.250x.438	28	302281628		1-1/4	312211628		.006	202281628		T-7
1/4x1/2	.250x.500	28	302281632		1-1/4	312211632		.006	202281632		T-7
1/4x9/16	.250x.563	28	302281636		1-1/4	312211636		.006	202281636		T-7
1/4x5/8	.250x.625	28	302281640		1-1/4	312211640		.006	202281640		T-7
1/4x11/16	.250x.688	28	302281644		1-1/4	312211644		.006	202281644		T-7
1/4x3/4	.250x.750	28	302281648		2-1/8	312411648		.006	202281648		T-7
1/4x13/16	.250x.813	28	302281652		2-1/8	312411652		.006	202281652		T-7
1/4x7/8	.250x.875	28	302281656		2-1/8	312411656		.006	202281656		T-7
1/4x15/16	.250x.938	28	302281660		2-1/8	312411660		.006	202281660		T-7
1/4x1	.250x1.000	28	302281664		2-1/8	312411664		.006	202281664		T-7
1/4x1-1/4	.250x1.250	28	302281672		2-1/8	312411672		.006	202281672		T-7
1/4x1-1/2	.250x1.500	28	302281676		2-3/4	312311676		.006	202281676		T-7
1/4x1-3/4	.250x1.750	28	302281679		2-3/4	312311679		.006	202281679		T-7
1/4x2	.250x2.000	28	302281681		2-3/4	312311681		.006	202281681		T-7
9/32x3/8	.281x.375	27	302271824		1-1/4	312211824		.006	202271824		T-7
9/32x1/2	.281x.500	28	302281832		1-1/4	312211832		.006	202281832		T-7
9/32x5/8	.281x.625	28	302281840		1-1/4	312211840		.006	202281840		T-7
9/32x3/4	.281x.750	28	302281848		2-1/8	312411848		.006	202281848		T-7
9/32x7/8	.281x.875	28	302281856		2-1/8	312411856		.006	202281856		T-7
9/32x1	.281x1.000	28	302281864		2-1/8	312411864		.006	202281864		T-7
5/16x3/8	.313x.375	27	302272024		1-1/4	312212024		.006	202272024		T-7
5/16x7/16	.313x.438	28	302282028		1-1/4	312212028		.006	202282028		T-7
5/16x1/2	.313x.500	28	302282032		1-1/4	312212032		.006	202282032		T-7
5/16x9/16	.313x.563	28	302282036		1-1/4	312212036		.006	202282036		T-7
5/16x5/8	.313x.625	28	302282040		1-1/4	312212040		.006	202282040		T-7
5/16x11/16	.313x.688	28	302282044		2-1/8	312412044		.006	202282044		T-7

LARGE PRESS TOOLING-TYPE N



TYPE N (continued)

STANDARD SIZES AND CLEARANCES

| B |
A

Fractional, Size Ax B	Decimal Equiv. Ax B	Punch Style	Punch Part Number		Die Outer Diameter	Die Part Number		Std. Clr.	Set Number		Dealer Code
5/16x3/4	.313x.750	28	302282048		2-1/8	312412048		.006	202282048		T-7
5/16x13/16	.313x.813	28	302282052		2-1/8	312412052		.006	202282052		T-7
5/16x7/8	.313x.875	28	302282056		2-1/8	312412056		.006	202282056		T-7
5/16x15/16	.313x.938	28	302282060		2-1/8	312412060		.006	202282060		T-7
5/16x1	.313x1.000	28	302282064		2-1/8	312412064		.006	202282064		T-7
5/16x1-1/4	.313x1.250	28	302282072		2-1/8	312412072		.006	202282072		T-7
5/16x1-1/2	.313x1.500	28	302282076		2-3/4	312312076		.006	202282076		T-7
5/16x1-3/4	.313x1.750	28	302282079		2-3/4	312312079		.006	202282079		T-7
5/16x2	.313x2.000	28	302282081		2-3/4	312312081		.006	202282081		T-7
11/32x3/8	.344x.375	28	302282224		1-1/4	312212224		.006	202282224		T-7
11/32x1/2	.344x.500	28	302282232		1-1/4	312212232		.006	202282232		T-7
11/32x5/8	.344x.625	28	302282240		1-1/4	312212240		.006	202282240		T-7
11/32x3/4	.344x.750	28	302282248		2-1/8	312412248		.006	202282248		T-7
11/32x7/8	.344x.875	28	302282256		2-1/8	312412256		.006	202282256		T-7
11/32x1	.344x1.000	28	302282264		2-1/8	312412264		.006	202282264		T-7
3/8x7/16	.375x.438	28	302282428		1-1/4	312212428		.006	202282428		T-7
3/8x1/2	.375x.500	28	302282432		1-1/4	312212432		.006	202282432		T-7
3/8x9/16	.375x.563	28	302282436		1-1/4	312212436		.006	202282436		T-7
3/8x5/8	.375x.625	28	302282440		1-1/4	312212440		.006	202282440		T-7
3/8x11/16	.375x.688	28	302282444		2-1/8	312412444		.006	202282444		T-7
3/8x3/4	.375x.750	28	302282448		2-1/8	312412448		.006	202282448		T-7
3/8x13/16	.375x.813	28	302282452		2-1/8	312412452		.006	202282452		T-7
3/8x7/8	.375x.875	28	302282456		2-1/8	312412456		.006	202282456		T-7
3/8x15/16	.375x.938	28	302282460		2-1/8	312412460		.006	202282460		T-7
3/8x1	.375x1.000	28	302282464		2-1/8	312412464		.006	202282464		T-7
3/8x1-1/4	.375x1.250	28	302282472		2-1/8	312412472		.006	202282472		T-7
3/8x1-1/2	.375x1.500	28	302282476		2-3/4	312312476		.006	202282476		T-7
3/8x1-3/4	.375x1.750	28	302282479		2-3/4	312312479		.006	202282479		T-7
3/8x2	.375x2.000	28	302282481		3-3/4	312512481		.006	202282481		T-7
13/32x3/4	.406x.750	28	302282648		2-1/8	312412648		.006	202282648		T-7
13/32x13/16	.406x.813	28	302282652		2-1/8	312412652		.006	202282652		T-7
13/32x7/8	.406x.875	28	302282656		2-1/8	312412656		.006	202282656		T-7
13/32x1	.406x1.000	28	302282664		2-1/8	312412664		.006	202282664		T-7
7/16x1/2	.438x.500	28	302282832		1-1/4	312212832		.006	202282832		T-7
7/16x9/16	.438x.563	28	302282836		1-1/4	312212836		.006	202282836		T-7
7/16x5/8	.438x.625	28	302282840		2-1/8	312412840		.006	202282840		T-7
7/16x11/16	.438x.688	28	302282844		2-1/8	312412844		.006	202282844		T-7
7/16x3/4	.438x.750	28	302282848		2-1/8	312412848		.006	202282848		T-7
7/16x13/16	.438x.813	28	302282852		2-1/8	312412852		.006	202282852		T-7
7/16x7/8	.438x.875	28	302282856		2-1/8	312412856		.006	202282856		T-7
7/16x15/16	.438x.938	28	302282860		2-1/8	312412860		.006	202282860		T-7
7/16x1	.438x1.000	28	302282864		2-1/8	312412864		.006	202282864		T-7
7/16x1-1/4	.438x1.250	28	302282872		2-1/8	312412872		.006	202282872		T-7
7/16x1-1/2	.438x1.500	28	302282876		2-3/4	312312876		.006	202282876		T-7
7/16x1-3/4	.438x1.750	28	302282879		2-3/4	312312879		.006	202282879		T-7
7/16x2	.438x2.000	28	302282881		3-3/4	312512881		.006	202282881		T-7
1/2x9/16	.500x.563	28	302283236		2-1/8	312213236		.006	202283236		T-7
1/2x5/8	.500x.625	28	302283240		2-1/8	312413240		.006	202283240		T-7
1/2x11/16	.500x.688	28	302283244		2-1/8	312413244		.006	202283244		T-7
1/2x3/4	.500x.750	28	302283248		2-1/8	312413248		.006	202283248		T-7
1/2x13/16	.500x.813	28	302283252		2-1/8	312413252		.006	202283252		T-7
1/2x7/8	.500x.875	28	302283256		2-1/8	312413256		.006	202283256		T-7


TYPE N (continued)
STANDARD SIZES AND CLEARANCES

 B
 A

Fractional, Size A & B	Decimal Equiv. A X B	Punch Style	Punch Part Number	Die Outer Diameter	Die Part Number	Std. Clr.	Set Number	Dealer Code
1/2x15/16	.500x.938	28	302283260	2-1/8	312413260	.006	202283260	T-7
1/2x1	.500x1.000	28	302283264	2-1/8	312413264	.006	202283264	T-7
1/2x1-1/4	.500x1.250	28	302283272	2-3/4	312313272	.006	202283272	T-7
1/2x1-1/2	.500x1.500	28	302283276	2-3/4	312313276	.006	202283276	T-7
1/2x1-3/4	.500x1.750	28	302283279	2-3/4	312313279	.006	202283279	T-7
1/2x2	.500x2.000	28	302283281	3-3/4	312513281	.006	202283281	T-7
17/32x3/4	.531x.750	28	302283448	2-1/8	312413448	.006	202283448	T-7
17/32x7/8	.531x.875	28	302283456	2-1/8	312413456	.006	202283456	T-7
17/32x1	.531x1.000	28	302283464	2-1/8	312413464	.006	202283464	T-7
17/32x1-1/4	.531x1.250	28	302283472	2-3/4	312313472	.006	202283472	T-7
17/32x1-1/2	.531x1.500	28	302283476	2-3/4	312313476	.006	202283476	T-7
17/32x1-3/4	.531x1.750	28	302283479	2-3/4	312313479	.006	202283479	T-7
17/32x2	.531x2.000	28	302283481	3-3/4	312513481	.006	202283481	T-7
9/16x5/8	.563x.625	28	302283640	2-1/8	312413640	.006	202283640	T-7
9/16x11/16	.563x.688	28	302283644	2-1/8	312413644	.006	202283644	T-7
9/16x3/4	.563x.750	28	302283648	2-1/8	312413648	.006	202283648	T-7
9/16x13/16	.563x.813	28	302283652	2-1/8	312413652	.006	202283652	T-7
9/16x7/8	.563x.875	28	302283656	2-1/8	312413656	.006	202283656	T-7
9/16x15/16	.563x.938	28	302283660	2-1/8	312413660	.006	202283660	T-7
9/16x1	.563x1.000	28	302283664	2-1/8	312413664	.006	202283664	T-7
9/16x1-1/4	.563x1.250	28	302283672	2-3/4	312313672	.006	202283672	T-7
9/16x1-1/2	.563x1.500	28	302283676	2-3/4	312313676	.006	202283676	T-7
9/16x1-3/4	.563x1.750	28	302283679	2-3/4	312313679	.006	202283679	T-7
9/16x2	.563x2.000	28	302283681	3-3/4	312513681	.006	202283681	T-7
5/8x11/16	.625x.688	28	302284044	2-1/8	312414044	.006	202284044	T-7
5/8x3/4	.625x.750	28	302284048	2-1/8	312414048	.006	202284048	T-7
5/8x13/16	.625x.813	28	302284052	2-1/8	312414052	.006	202284052	T-7
5/8x7/8	.625x.875	28	302284056	2-1/8	312414056	.006	202284056	T-7
5/8x15/16	.625x.938	28	302284060	2-1/8	312414060	.006	202284060	T-7
5/8x1	.625x1.000	28	302284064	2-1/8	312414064	.006	202284064	T-7
5/8x1-1/4	.625x1.250	28	302284072	2-3/4	312314072	.006	202284072	T-7
5/8x1-1/2	.625x1.500	28	302284076	2-3/4	312314076	.006	202284076	T-7
5/8x1-3/4	.625x1.750	28	302284079	2-3/4	312314079	.006	202284079	T-7
5/8x2	.625x2.000	28	302284081	3-3/4	312514081	.006	202284081	T-7
11/16x3/4	.688x.750	28	302284448	2-1/8	312414448	.006	202284448	T-7
11/16x13/16	.688x.813	28	302284452	2-1/8	312414452	.006	202284452	T-7
11/16x7/8	.688x.875	28	302284456	2-1/8	312414456	.006	202284456	T-7
11/16x15/16	.688x.938	28	302284460	2-1/8	312414460	.006	202284460	T-7
11/16x1	.688x1.000	28	302284464	2-1/8	312414464	.006	202284464	T-7
11/16x1-1/4	.688x1.250	28	302284472	2-3/4	312314472	.006	202284472	T-7
11/16x1-1/2	.688x1.500	28	302284476	2-3/4	312314476	.006	202284476	T-7
11/16x1-3/4	.688x1.750	28	302284479	2-3/4	312314479	.006	202284479	T-7
11/16x2	.688x2.000	28	302284481	3-3/4	312514481	.006	202284481	T-7
3/4x13/16	.750x.813	28	302284852	2-1/8	312414852	.006	202284852	T-7
3/4x7/8	.750x.875	28	302284856	2-1/8	312414856	.006	202284856	T-7
3/4x15/16	.750x.938	28	302284860	2-1/8	312414860	.006	202284860	T-7
3/4x1	.750x1.000	28	302284864	2-1/8	312414864	.006	202284864	T-7
3/4x1-1/4	.750x1.250	28	302284872	2-3/4	312314872	.006	202284872	T-7
3/4x1-1/2	.750x1.500	28	302284876	2-3/4	312314876	.006	202284876	T-7
3/4x1-3/4	.750x1.750	28	302284879	2-3/4	312314879	.006	202284879	T-7
3/4x2	.750x2.000	28	302284881	3-3/4	312514881	.006	202284881	T-7
13/16x7/8	.813x.875	28	302285256	2-1/8	312415256	.006	202285256	T-7
13/16x15/16	.813x.938	28	302285260	2-1/8	312415260	.006	202285260	T-7
13/16x1	.813x1.000	28	302285264	2-1/8	312415264	.006	202285264	T-7

LARGE PRESS TOOLING-TYPE N



TYPE N (continued)

STANDARD SIZES AND CLEARANCES



Fractional, Size AxB	Decimal Equiv. AxB	Punch Style	Punch Part Number		Die Outer Diameter	Die Part Number		Std. Clr.	Set Number		Dealer Code
13/16x1-1/4	.813x1.250	28	302285272		2-3/4	312315272		.006	202285272		T-7
13/16x1-1/2	.813x1.500	28	302285276		2-3/4	312315276		.006	202285276		T-7
13/16x1-3/4	.813x1.750	28	302285279		2-3/4	312315279		.006	202285279		T-7
13/16x2	.813x2.000	28	302285281		3-3/4	312515281		.006	202285281		T-7
7/8x15/16	.875x.938	28	302285660		2-1/8	312415660		.006	202285660		T-7
7/8x1	.875x1.000	28	302285664		2-1/8	312415664		.006	202285664		T-7
7/8x 1-1/4	.875x1.250	28	302285672		2-3/4	312315672		.006	202285672		T-7
7/8x1-1/2	.875x1.500	28	302285676		2-3/4	312315676		.006	202285676		T-7
7/8x1-3/4	.875x1.750	28	302285679		2-3/4	312315679		.006	202285679		T-7
7/8x2	.875x2.000	28	302285681		3-3/4	312515681		.006	202285681		T-7
15/16x1	.938x1.000	28	302286064		2-1/8	312416064		.006	202286064		T-7
15/16x1-1/4	.938x1.250	28	302286072		2-3/4	312316072		.006	202286072		T-7
15/16x1-1/2	.938x1.500	28	302286076		2-3/4	312316076		.006	202286076		T-7
15/16x1-3/4	.938x1.750	28	302286079		2-3/4	312316079		.006	202286079		T-7
15/16x2	.938x2.000	28	302286081		3-3/4	312516081		.006	202286081		T-7
1x1-1/8	1.000x1.125	28	302286468		2-3/4	312316468		.006	202286468		T-7
1x1-3/16	1.000x1.188	28	302286470		2-3/4	312316470		.006	202286470		T-7
1x1-1/4	1.000x1.250	28	302286472		2-3/4	312316472		.006	202286472		T-7
1X1-3/8	1.000x1.375	28	302286474		2-3/4	312316474		.006	202286474		T-7
1x1-1/2	1.000x1.500	28	302286476		2-3/4	312316476		.006	202286476		T-7
1x1-5/8	1.000x1.625	28	302286478		2-3/4	312316478		.006	202286478		T-7
1x1-3/4	1.000x1.750	28	302286479		3-3/4	312516479		.006	202286479		T-7
1x1-7/8	1.000x1.875	28	302286480		3-3/4	312516480		.006	202286480		T-7
1x2	1.000x2.000	28	302286481		3-3/4	312516481		.006	202286481		T-7

PRICING FOR NON STOCK SHAPES AND CLEARANCES

MIN. A: .046
MIN. B: .094



$$\sqrt{A^2 + B^2} \text{ (cross corner dimension)}$$

MIN. b (cross corner dimension): .098

Determine the b dimension (cross corner) price as follows:

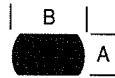
Punch			Die (Include Clearance)			Dealer Code
Size Range b	Punch Style		Die Outer Diameter	Max Die Opening		
Up to .500	27		1-1/4	.537		T-5
.501-.750	28		1-1/4	.762		T-5
.751-1.000	28		2-1/8	1.037		T-5
1.001-1.438	28		2-1/8	1.450		T-5
1.439-2.000	28		2-3/4	2.012		T-5
2.001-2.500	28		3-3/4	2.537		T-5
2.501-2.750	28		3-3/4	2.782		T-5
2.751-3.500	28		4-3/4	3.537		T-5
3.501-3.750	28		4-3/4	4.012		T-5

Width sizes under .063 add 50% to the price.

Width sizes .063 thru .094 add 30% to the price.

Larger sizes available, for pricing and delivery information, consult our sales department.

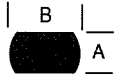
All dies are counterbored.


TYPE P Style Double D Punches and Dies
STANDARD SIZES AND CLEARANCES


Fractional Size A x B	Decimal Equiv. A x B	Punch Style	Punch Part Number	Die Outer Diameter	Die Part Number	Std. Clr.	Dealer Code.
11/32x38	.344x.375	27	307272224	1-1/4	317212224	.006	T-7
13/32x7/16	.406x.438	27	307272826	1-1/4	317212826	.006	T-7
15/32x1/2	.469x.500	27	307273032	1-1/4	317213032	.006	T-7
15/32x33/64	.469x.516	28	307283033	1-1/4	317213033	.006	T-7
17/32x9/16	.531x.563	28	307283436	1-1/4	317213436	.006	T-7
9/16x5/8	.563x.625	28	307283640	1-1/4	317213640	.006	T-7
9/16x21/32	.563x.656	28	307283642	1-1/4	317213642	.006	T-7
9/16x11/16	.563x.688	28	307283644	1-1/4	317213644	.006	T-7
5/8x11/16	.625x.688	28	307284044	1-1/4	317214044	.006	T-7
43/64x3/4	.672x.750	28	307284348	1-1/4	317214348	.006	T-7
13/16x7/8	.813x.875	28	307285256	2-1/8	317415256	.006	T-7
27/32x7/8	.844x.875	28	307285456	2-1/8	317415456	.006	T-7
1-1/32x1-3/32	1.031x1.094	28	307286567	2-1/8	317416567	.006	T-7

PRICING FOR NON STOCK SHAPES AND CLEARANCES

MIN. A: .046



Determine the B dimension (length) and price as follows:

Punch			Die (Include Clearance)			Dealer Code
Size B	Punch Style		Die Outer Diameter	Max Die Opening		
.094-.500	27		1-1/4	.537		T-5
.501-.750	28		1-1/4	.762		T-5
.751-1.000	28		2-1/8	1.037		T-5
1.001-1.438	28		2-1/8	1.450		T-5
1.439-2.000	28		2-3/4	2.012		T-5
2.001-2.500	28		3-3/4	2.537		T-5
2.501-3.000	28		3-3/4	3.012		T-5
3.001-3.500	28		4-3/4	3.537		T-5
3.501-3.750	28		4-3/4	4.012		T-5

Width sizes under .063 add 50% to the price.

Width sizes .063 thru .094 add 30% to the price.

Larger sizes available, for pricing and delivery information, consult our sales department.

All dies are counterbored.

TYPE R Square Punches and Dies
STANDARD SIZES AND CLEARANCES


Fractional Size A	Decimal Equiv. A	Punch Style	Punch Part Number	Die Outer Diameter	Die Part Number	Std. Clr.	Set Number	Dealer Code
1/8	.125	27	304270125	1-1/4	314210125	.006	204270125	T-7
5/32	.156	27	304270156	1-1/4	314210156	.006	204270156	T-7
3/16	.188	27	304270188	1-1/4	314210188	.006	204270188	T-7
7/32	.219	27	304270219	1-1/4	314210219	.006	204270219	T-7
1/4	.250	27	304270250	1-1/4	314210250	.006	204270250	T-7
9/32	.281	27	304270281	1-1/4	314210281	.006	204270281	T-7
5/16	.313	27	304270313	1-1/4	314210313	.006	204270313	T-7

(continued on next page)

LARGE PRESS TOOLING-TYPE P and TYPE R



LARGE PRESS TOOLING

TYPE R (continued)

STANDARD SIZES AND CLEARANCES

A

Fractional, Size A	Decimal Equiv. A	Punch Style	Punch Part Number	Die Outer Diameter	Die Part Number	Std. Clr.	Set Number	Dealer Code
11/32	.344	28	304280344	1-1/4	314210344	.006	204280344	T-7
3/8	.375	28	304280375	1-1/4	314210375	.006	204280375	T-7
13/32	.406	28	304280406	1-1/4	314210406	.006	204280406	T-7
7/16	.438	28	304280438	1-1/4	314210438	.006	204280438	T-7
15/32	.469	28	304280469	1-1/4	314210469	.006	204280469	T-7
1/2	.500	28	304280500	1-1/4	314210500	.006	204280500	T-7
17/32	.531	28	304280531	1-1/4	314210531	.006	204280531	T-7
9/16	.563	28	304280563	2-1/8	314410563	.006	204280563	T-7
19/32	.594	28	304280594	2-1/8	314410594	.006	204280594	T-7
5/8	.625	28	304280625	2-1/8	314410625	.006	204280625	T-7
21/32	.656	28	304280656	2-1/8	314410656	.006	204280656	T-7
11/16	.688	28	304280688	2-1/8	314410688	.006	204280688	T-7
23/32	.719	28	304280719	2-1/8	314410719	.006	204280719	T-7
3/4	.750	28	304280750	2-1/8	314410750	.006	204280750	T-7
25/32	.781	28	304280781	2-1/8	314410781	.006	204280781	T-7
13/16	.813	28	304280813	2-1/8	314410813	.006	204280813	T-7
27/32	.844	28	304280844	2-1/8	314410844	.006	204280844	T-7
7/8	.875	28	304280875	2-1/8	314410875	.006	204280875	T-7
29/32	.906	28	304280906	2-1/8	314410906	.006	204280906	T-7
15/16	.938	28	304280938	2-1/8	314410938	.006	204280938	T-7
31/32	.969	28	304280969	2-1/8	314410969	.006	204280969	T-7
1	1.000	28	304281000	2-1/8	314411000	.006	204281000	T-7
1-1/16	1.063	28	304281063	2-3/4	314311063	.006	204281063	T-7
1-1/8	1.125	28	304281125	2-3/4	314311125	.006	204281125	T-7
1-3/16	1.188	28	304281188	2-3/4	314311188	.006	204281188	T-7
1-1/4	1.250	28	304281250	2-3/4	314311250	.006	204281250	T-7
1-5/16	1.313	28	304281313	2-3/4	314311313	.006	204281313	T-7
1-3/8	1.375	28	304281375	3-3/4	314511375	.006	204281375	T-7
1-7/16	1.438	28	304281438	3-3/4	314511438	.006	204281438	T-7
1-1/2	1.500	28	304281500	3-3/4	314511500	.006	204281500	T-7
1-9/16	1.563	28	304281563	3-3/4	314511563	.006	204281563	T-7
1-5/8	1.625	28	304281625	3-3/4	314511625	.006	204281625	T-7
1-11/16	1.688	28	304281688	3-3/4	314511688	.006	204281688	T-7
1-3/4	1.750	28	304281750	3-3/4	314511750	.006	204281750	T-7
1-13/16	1.813	28	304281813	3-3/4	314511813	.006	204281813	T-7
1-7/8	1.875	28	304281875	3-3/4	314511875	.006	204281875	T-7
1-15/16	1.938	28	304281938	3-3/4	314511938	.006	204281938	T-7
2	2.000	28	304282000	3-3/4	314512000	.006	204282000	T-7

MIN. A: .046



Ax1.414 = b (cross corner dimension)

MIN. b (cross corner dimension): .044

Determine the b dimension (cross corner)

Punch		Die (Include Clearance)			Dealer Code
Size Range b	Punch Style	Die Outer Diameter	Max Die Opening		
Up to .450	27	1-1/4	.537		T-5
.451-.687	28	1-1/4	.720		T-5
.688-1.000	28	2-1/8	1.037		T-5
1.001-1.438	28	2-1/8	1.450		T-5
1.439-2.000	28	2-3/4	2.012		T-5
2.001-2.500	28	3-3/4	2.537		T-5
2.501-3.000	28	3-3/4	3.012		T-5
3.001-3.500	28	4-3/4	3.537		T-5
3.501-3.750	28	4-3/4	4.012		T-5

Width sizes under .063 add 50% to the price.

Width sizes .063 thru .094 add 30% to the price.

Larger sizes available, for pricing and delivery information, consult our sales department.

All dies are counterbored.

LARGE PRESS TOOLING-TYPE R

**TYPE T** Hexagon Punches and Dies

MIN. A: .046



Ax1.155 = b (cross corner dimension)
 MIN. b (cross corner dimension): .035
 Determine the b dimension (cross corner)

Punch			Die (Include Clearance)			Dealer Code
Size Range b	Punch Style	Price	Die Outer Diameter	Max. Die Opening	Price	
Up to .500	27		1-1/4	.537		T-5
.501-.687	28		1-1/4	.720		T-5
.688-1.000	28		2-1/8	1.037		T-5
1.001-1.438	28		2-1/8	1.450		T-5
1.439-2.000	28		2-3/4	2.012		T-5
2.001-2.500	28		3-3/4	2.537		T-5
2.501-3.000	28		3-3/4	3.012		T-5
3.001-3.500	28		4-3/4	3.537		T-5
3.501-3.750	28		4-3/4	4.012		T-5

Width sizes under .063 add 50% to the price.

Width sizes .063 thru .094 add 30% to the price.

Larger sizes available, for pricing and delivery information, consult our sales department.

All dies are counterbored.

TYPE D Style D Punches and Dies**STANDARD SIZES AND CLEARANCES**

Fractional Size A x B	Decimal Equiv. A x B	Punch Style	Punch Part Number	Die Outer Diameter	Die Part Number	Std. Clr.	Dealer Code.
—	.375x.350	27	305272422	1-1/4	315212422	.006	T-7
—	.406x.359	27	305272623	1-1/4	315212623	.006	T-7
—	.501x.469	28	305283230	1-1/4	315213230	.006	T-7
—	.562x.541	28	305283635	1-1/4	315213635	.006	T-7
—	.626x.596	28	305284038	1-1/4	315214038	.006	T-7
—	1.004x.963	28	305286462	2-1/8	315416462	.006	T-7
—	1.031x.825	28	305286553	2-1/8	315416553	.006	T-7
—	1.032x.875	28	305286556	2-1/8	315416556	.006	T-7

PRICING FOR NON STOCK SHAPES AND CLEARANCES

MIN. A: .046



Determine the A dimension (dimension) and price as follows:

Punch			Die (Include Clearance)			Dealer Code
Size Range A	Punch Style		Die Outer Diameter	Max. Die Opening		
Up to .500	27		1-1/4	.537		T-5
.501-.687	28		1-1/4	.720		T-5
.688-1.000	28		2-1/8	1.037		T-5
1.001-1.438	28		2-1/8	1.450		T-5
1.439-2.000	28		2-3/4	2.012		T-5
2.001-2.500	28		3-3/4	2.537		T-5
2.501-3.000	38		3-3/4	3.012		T-5
3.001-3.500	28		4-3/4	3.537		T-5
3.501-3.750	28		4-3/4	4.012		T-5

Height sizes under .063 add 50% to the price.

Height sizes .063 thru .094 add 30% to the price.

Larger sizes available, for pricing and delivery information, consult our sales department.

All dies are counterbored.



LARGE PRESS TOOLING

TYPE S Triangular Punches and Dies NON STOCK SIZES AND CLEARANCES

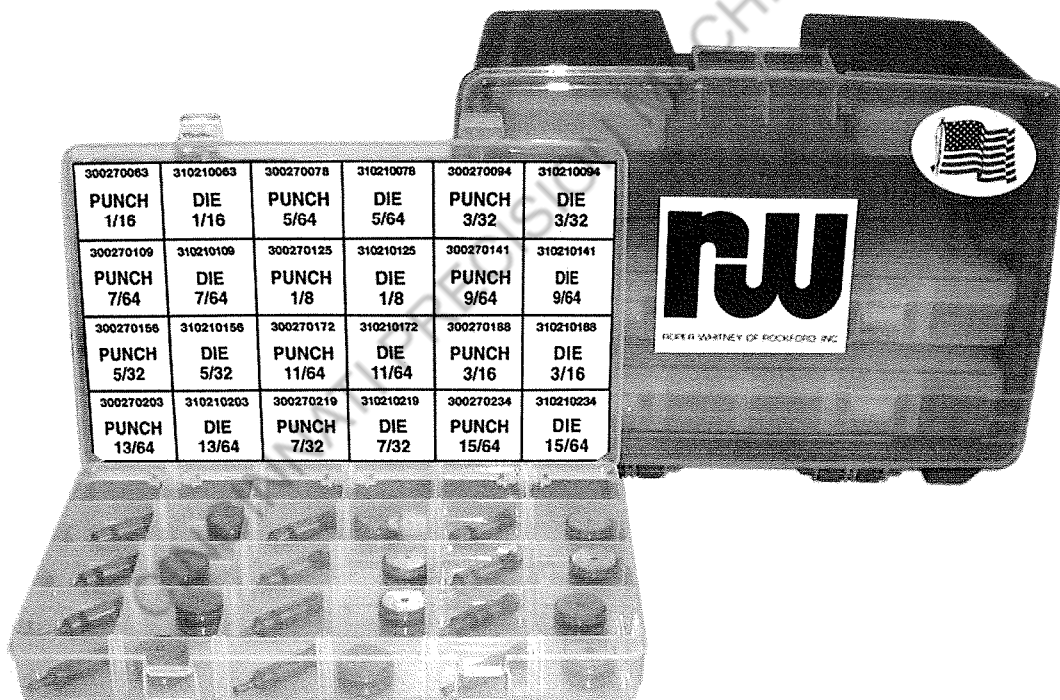
MIN. A: .094



Determine the A dimension (longest leg)

Punch			Die (Include Clearance)			Dealer Code
Size Range A	Punch Style		Die Outer Diameter	Max. Die Opening		
.094-.406	27		1-1/4	.537		T-5
.407-.687	28		1-1/4	.720		T-5
.688-1.000	28		2-1/4	1.037		T-5
1.001-1.438	28		2-1/4	1.450		T-5
1.439-2.000	28		2-3/4	2.012		T-5
2.001-2.500	28		3-3/4	2.537		T-5
2.501-3.000	28		4-3/4	3.012		T-5
3.001-3.500	28		4-3/4	3.537		T-5
3.501-3.750	28		4-3/4	4.012		T-5

Larger sizes available, for pricing and delivery information consult, our sales department.
All dies are counterbored.



LARGE PRESS TOOLING-SHEAR

PUNCH AND DIE PACKS—ROUND PUNCHES AND DIES ONLY

Part Number	Description		Weight	Dealer Code
135000821	820 Punch and Die Pack Sizes 1/16 thru 1/2 (1/64" Increments)		15 LB	T-8

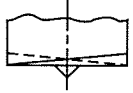
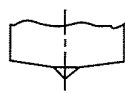
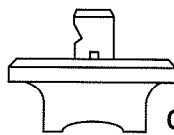
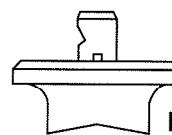
BOXES ONLY Note: Additional 5% discount given on standard orders for punch packs.

Part Number	Description		Weight	Dealer Code
235000821	820 Box		8 LB	T-4

**SHEAR**

Round Punches 5/8" diameter and larger, and Square Punches 1 1/16" and larger have crisscross shear.
 Rectangular and Obround Punches with 1" major dimension and larger have housetop shear.
 Standard shear depth is 1/8". For other types of shears see below.

Single and double concave shear (punches only, round and square shapes)

**CRISSCROSS****HOUSETOP****CONCAVE****INVERTED HOUSETOP**

Major Dimension or Diameter for Rounds Sizes	Single Concave				Double Concave				Dealer Code
	3-1/8 Punch Length		3-7/16 Punch Length		3-1/8 Punch Length		3-7/16 Punch Length		
	Shear Depth								
	1/16"	1/8"	1/4"	7/16"	1/16"	1/8"	1/4"	7/16"	
Up to 1.219				NA			NA	NA	T-5
1.220 to 1.453				NA			NA	NA	T-5
1.454 to 1.749				NA				NA	T-5
1.750 to 1.969								NA	T-5
1.970 to 2.219								NA	T-5
2.220 to 2.469								NA	T-5
2.470 to 2.969									T-5
2.970 to 3.469									T-5
3.470 to 3.969									T-5
3.970 to 4.469									T-5

To determine the price for increased shear for housetop and shear for inverted housetop (Obround and Rectangular shapes only), and shear for crisscross shear (Square and Round shapes)

Major Dimension for Diameter for Rounds	3-1/8 Punch Length		Dealer Code
	Shear Depth		
	1/4"	7/16"	
Up to 1.219		NA	T-5
1.220-1.453		NA	T-5
1.454-1.749		NA	T-5
1.750-1.969			T-5
1.970-2.219			T-5
2.220-2.469			T-5
2.470-2.969			T-5
2.970-3.469			T-5
3.470-3.969			T-5
3.970-4.469			T-5

SPECIAL PUPOSE PUNCHES AND DIES

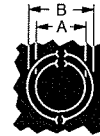
SINGLE ELECTRICAL KNOCKOUT PUNCHES AND DIES
 STANDARD SIZES TO PUNCH 16 GAUGE
 SOLD IN SETS ONLY



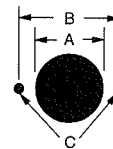
Pipe Size	Hole Size	Set Part Number	Punch Style	Die Outer Diameter		Dealer Code
1/8	7/16	108272113	27	1-1/4		T-4
3/8	11/16	108282233	28	1-1/4		T-4
1/2	7/8	108281307	28	2-3/4		T-4
3/4	1-1/8	108282234	28	2-3/4		T-4
1	1-3/8	108281958	28	2-3/4		T-4
1-1/4	1-11/16	108284118	28	2-3/4		T-4



DOUBLE ELECTRICAL KNOCKOUT PUNCHES AND DIES
STANDARD SIZES TO PUNCH 16 GAUGE
SOLD IN SETS ONLY



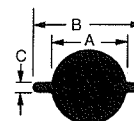
Pipe			Hole			Set Part Number	Punch Style	Die Outer Diameter	Dealer Code
A	AND	Size B	A	AND	Size B				
1/2	AND	3/4	7/8	AND	1-1/8	108284308	28	2-3/4	T-4
3/4	AND	1	1-1/8	AND	1-3/8	108287918	28	2-3/4	T-4
1	AND	1-1/4	1-3/8	AND	1-11/16	108284218	28	2-3/4	T-4



RECEPTACLE-STYLE A PUNCHES AND DIES
STANDARD SIZES TO PUNCH 24 GAUGE UP TO 14 GAUGE
SOLD IN SETS ONLY

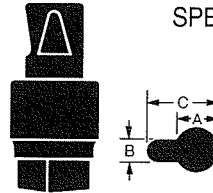
Center point is spring loaded.

Fractional Size			Set Part Number	Punch Style	Die Outer Diameter	Dealer Code
A	B	C				
1-1/8	1-1/2	3/16	108284561	28	2-3/4	T-4
1-1/4	1-5/8	3/16	108284560	28	2-3/4	T-4
1-3/8	1-13/16	3/16	108284119	28	2-3/4	T-4



RECEPTACLE-STYLE B PUNCHES AND DIES
STANDARD SIZES TO PUNCH 24 GAUGE UP TO 14 GAUGE
SOLD IN SETS ONLY

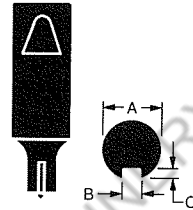
Fractional Size			Set Part Number	Punch Style	Die Outer Diameter	Std. Clr.	Dealer Code
A	B	C					
1-1/8	1-11/16	3/16	108284563	28	2-3/4	.006	T-4
1-1/4	1-13/16	3/16	108284562	28	2-3/4	.006	T-4
1-3/8	2-1/8	3/16	108286295	28	2-3/4	.006	T-4



KEYHOLE PUNCHES AND DIES

STANDARD SIZES TO PUNCH 24 GAUGE UP TO 14 GAUGE
SOLD IN SETS ONLY

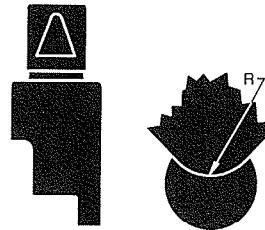
Fractional Size			Decimal Equivalent			Punch Style	Punch Part Number	Die Outer Diameter	Die Part Number	Dealer Code
A	B	C	A	B	C					
1/4	1/8	7/16	.250	.125	.438	28	308282771	1-1/4	318212771	T-4
3/8	3/16	5/8	.375	.188	.625	28	308282772	1-1/4	318212772	T-4
1/2	1/4	7/8	.500	.250	.875	28	308282773	2-1/8	318412773	T-4
5/8	5/16	1	.625	.313	1.000	28	308282774	2-1/8	318412774	T-4
3/4	3/8	1-1/4	.750	.375	1.250	28	308282775	2-1/8	318412775	T-4
7/8	7/16	1-1/2	.875	.438	1.500	28	308282776	2-3/4	318312776	T-4
1	1/2	1-5/8	1.000	.500	1.625	28	308282777	2-3/4	318312777	T-4



TOGGLE SWITCH PUNCHES AND DIES

STANDARD SIZES TO PUNCH 24 GAUGE UP TO 14 GAUGE
SOLD IN SETS ONLY

Fractional Size			Decimal Equivalent			Set Part Number	Punch Style	Die Outer Diameter	Dealer Code
A	B	C	A	B	C				
15/32	1/16	1/32	.469	.063	.031	108284790	28	1-1/4	T-4
1/2	1/16	1/32	.500	.063	.031	108288655	28	1-1/4	T-4



CORNER TRIMMING PUNCHES AND DIES

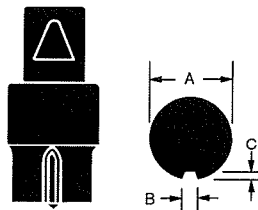
STANDARD SIZES TO PUNCH 24 GAUGE UP TO 14 GAUGE
SOLD IN SETS ONLY

Radius Size	Decimal Equiv.	Set Part Number	Punch Style	Die Outer Diameter	Dealer Code
1/16	.063	108272251	27	1-1/4	T-5
1/8	.125	108272227	27	1-1/4	T-5
3/16	.188	108272250	27	1-1/4	T-5
1/4	.250	108282084	28	2-3/4	T-5
5/16	.313	108284141	28	2-3/4	T-5
3/8	.375	108282202	28	2-3/4	T-5
7/16	.438	108289298	28	2-3/4	T-5
1/2	.500	108281269	28	2-3/4	T-5
5/8	.625	108284136	28	2-3/4	T-5
3/4	.750	108281292	28	2-3/4	T-5
7/8	.875	108285341	28	2-3/4	T-5
1	1.000	108281759	28	2-3/4	T-5
1-1/4	1.250	108282269	28	3-3/4	T-5
1-1/2	1.500	108282201	28	3-3/4	T-5
2	2.000	108286150	28	4-3/4	T-5



KEYED RECEPTACLE PUNCHES AND DIES

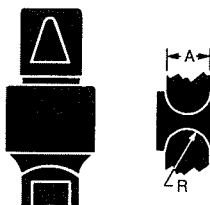
STANDARD SIZES FOR PUNCHING 24 GAUGE UP TO 14 GAUGE
SOLD IN SETS ONLY



Size			Set Part Number	Punch Style	Die Outer Diameter		Dealer Code
A	B	C					
1.172	3/16	3/32	108281934	28	2-3/4		T-4
1.327	3/16	3/32	108282150	28	2-3/4		T-4

TRIMMING AND CUTOFF PUNCHES AND DIES

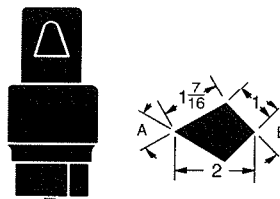
STANDARD SIZES FOR PUNCHING 24 GAUGE UP TO 14 GAUGE
SOLD IN SETS ONLY



Fractional Size		Decimal Equivalent		Set Part Number	Punch Style	Die Outer Diameter		Dealer Code
A	Radius	A	Radius					
1/4	1/8	.250	.125	108282181	28	2-1/8		T-5
3/8	3/16	.375	.188	108282203	28	2-1/8		T-5
1/2	1/4	.500	.250	108282182	28	2-1/8		T-5
5/8	5/16	.625	.313	108282226	28	2-1/8		T-5
3/4	3/8	.750	.375	108282151	28	2-3/4		T-5
7/8	7/16	.875	.438	108283631	28	3-3/4		T-5
1	1/2	1.000	.500	108282197	28	3-3/4		T-5
1-1/4	5/8	1.250	.625	108284188	28	3-3/4		T-5
1-1/2	3/4	1.500	.750	108284113	28	4-3/4		T-5

DOUBLE ANGLE NOTCHING PUNCHES & DIES

STANDARD SIZES FOR PUNCHING 24 GAUGE UP TO 14 GAUGE

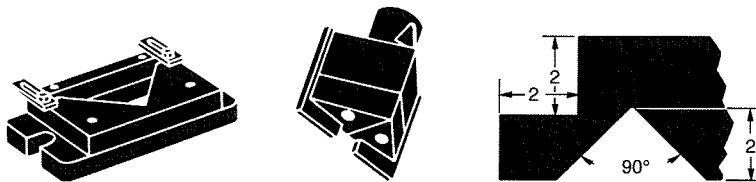


Size		Punch Style	Punch Part Number		Die Outer Diameter	Die Part Number		Dealer Code
A	B							
60°	90°	28	308286090		2-3/4	318316090		T-4

COMBINATION NOTCHING

FOR PUNCHING 24 GAUGE UP TO 14 GAUGE
SOLD IN SETS ONLY

MADE TO ORDER



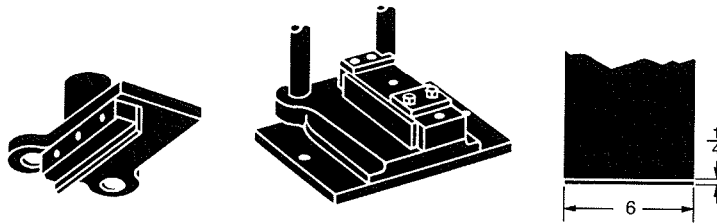
Shut Height	Set Part Number	Punch Style	Die Style		Dealer Code
4-3/4	108284702	28	Base Unit		T-4
5-1/2	108294701	29 (1-9/16 Shank)	Base Unit		T-4
5-1/2	108224701	22 (2 Shank)	Base Unit		T-4

REPLACEMENT BLADES

Description	Part Number		Dealer Code
Upper Blade	350470104		T-4
Lower Front Die Segment	350470101		T-4
Lower Rear Die Segment	350470102		T-4



FLAT STANDARD CUT-OFF
FOR SHEARING 16 GAUGE UP TO 1/4"
MADE TO ORDER

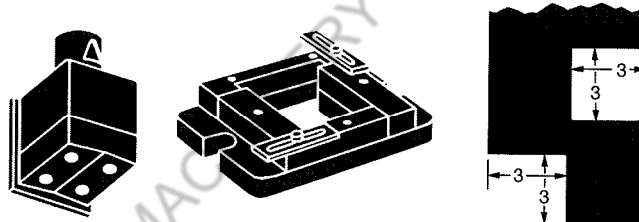


Shut Height	Set Part Number	Punch Style	Die Style		Dealer Code
5-3/4	108293363	29 (1-9/16 Shank)	Die Set w/2 Posts		T-4
6-5/8	108223364	22 (2 Shank)	Die Set w/2 Posts		T-4

REPLACEMENT BLADES

Description	Part Number	Dealer Code
Upper Blade	350336301	T-4
Lower Blade	350336302	T-4

COMBINATION NOTCHING AND COPING
FOR PUNCHING 24 GAUGE UP TO 14 GAUGE
MADE TO ORDER

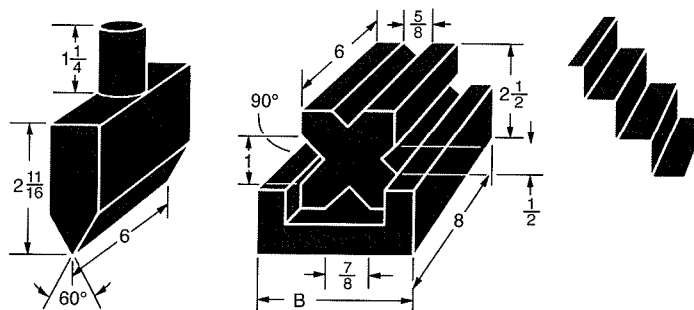


Shut Height	Set Part Number	Punch Style	Die Style		Dealer Code
4-3/4	108282559	28	Die Base Unit		T-4
5-1/2	108292562	29 (1-9/16 Shank)	Die Base Unit		T-4
5-1/2	108222562	22 (2 Shank)	Die Base Unit		T-4

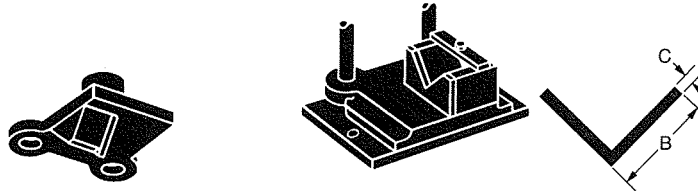
REPLACEMENT BLADES

Description	Part Number	Dealer Code
Upper Blade	350256202	T-4
Lower Front Die Segment	350256204	T-4
Lower Rear Die Segments (2) required	350256206	T-4

VEE 6" BENDING DIE
MADE TO ORDER



Base Size	Base Part Number		Punch Style	Punch Part Number		Die Style	Die Part Number		Dealer Code
3"	340002800		28	208282800		Die Block	318002800		T-4
5"	340002829		29 (1-9/16 Shank)	208292800		Die Block	318002800		T-4
5"	340002829		22 (2 Shank)	208222800		Die Block	318002800		T-4

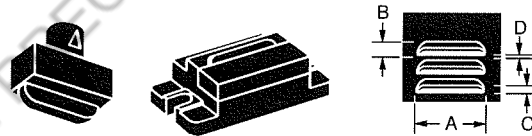


**ANGLE IRON CUT-OFF
MADE TO ORDER**

Fractional Size		Set Part Number	Punch Style	Die Style		Dealer Code
B	C					
2	1/4	108293362	29 (1-9/16 Shank)	Base Unit		T-4
3	1/4	108223572	22 (2 Shank)	Base Unit		T-4

REPLACEMENT BLADES

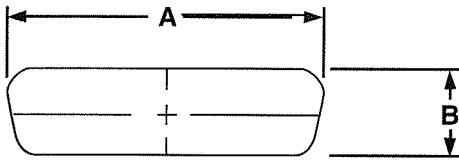
Description	Part Number		Dealer Code
2x2x1/4 Upper Blade	350336201		T-4
2x2x1/4 Lower Blade	350336202		T-4
3x3x1/4 Upper Blade	350357201		T-4
3x3x1/4 Lower Blade (2 reg.)	350357202		T-4



**LOUVRE
MADE TO ORDER**

Size (inches)				Punch Style	Die Style	Punch Die Set		Dealer Code
A	B	C	D					
2	1/2	3/16	1/4	28	Base Unit	108282161		T-4
3	5/8	1/4	1/4	28	Base Unit	108282267		T-4
4	3/4	1/4	3/8	28	Base Unit	108282284		T-4
5	3/4	5/16	3/8	28	Base Unit	108282315		T-4
6	3/4	5/16	3/8	28	Base Unit	108282314		T-4
2	1/2	3/16	1/4	29	Base Unit	108292397		T-4
3	5/8	1/4	1/4	29	Base Unit	108292398		T-4
4	3/4	1/4	3/8	29	Base Unit	108292399		T-4
5	3/4	5/16	3/8	29	Base Unit	108292313		T-4
6	3/4	5/16	3/8	29	Base Unit	108292400		T-4
2	1/2	3/16	1/4	22	Base Unit	108222397		T-4
3	5/8	1/4	1/4	22	Base Unit	108222398		T-4
4	3/4	1/4	3/8	22	Base Unit	108222399		T-4
5	3/4	5/16	3/8	22	Base Unit	108222313		T-4
6	3/4	5/16	3/8	22	Base Unit	108222400		T-4

D = SUBMINIATURE SHAPED PUNCHES & DIES FOR LARGE PRESS TOOLING

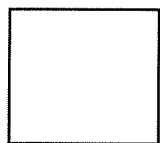
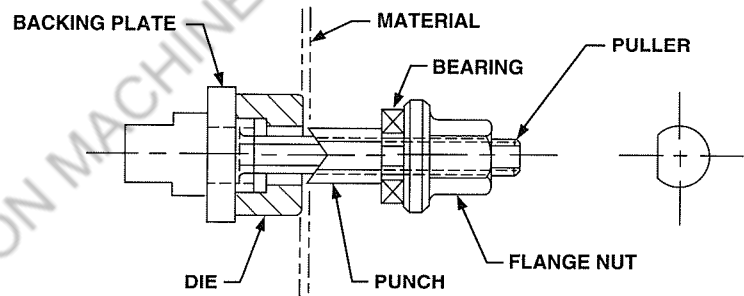


Part Number	Description	A	B	Punch Style	Die O.D.		Dealer Code
S-10960	9 Pin	.806	.449	28	2-1/8		T-5
S-11161	15 Pin	1.135	.449	28	2-1/8		T-5
S-11076	25 Pin	1.674	.449	28	2-3/4		T-5
S-10958	37 Pin	2.326	.449	28	3-3/4		T-5
S-10954	50 Pin	2.218	.559	28	3-3/4		T-5

Contact Roper Whitney for prices on other sizes not shown.

(WRENCH OPERATED)

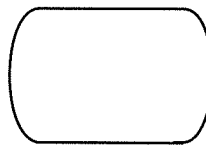
Shapes shown below are wrench operated chassis punches & dies that consist of punch, die, puller shaft, backing plate, flange bearing and flange nut.
PRICED UPON REQUEST.



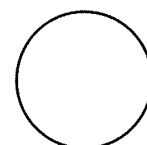
SQUARE



SINGLE
D

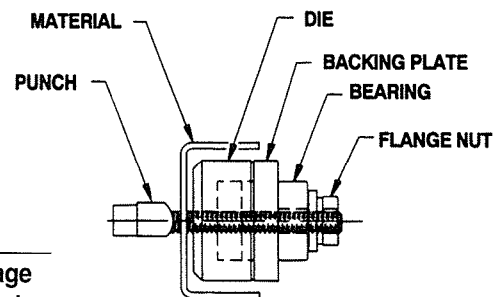


DOUBLE
D



ROUND

STRAIN RELIEF PUNCH & DIES SET



Part Number	Style	Size	O.D.		Maximum Gage For Mild Steel
205022422	Single "D"	.375 x .350	1-1/4"		18 ga

Other Sizes Contact Sales Department

Please see next page for additional wrench operated chassis punches and dies.



PANEL PUNCHES

FOR *Patented* D-Subminiature Shaped Connector Holes

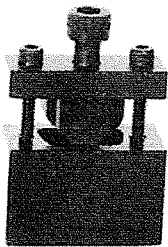
For use with Amphenol, T & B Ansley, ITT Cannon, TRW Cinch, 3M and other connectors.
For Rear mounting of sockets or plugs, metal or plastic.

- ☐ Accurate punch-out conforms to plug or receptacle
- ☐ Burr free on panel front
- ☐ Supply of adhesive backed templates included with kit
- ☐ Quality built punch/die set can be re-ground to sharpen
- ☐ Mounting holes accurately located and center-punched
- ☐ Minimal burr on rear panel
- ☐ All necessary screws and wrenches provided with kit
- ☐ All repair parts available direct from factory

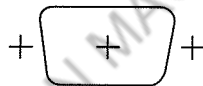
Service and Laboratory Personnel cannot be without this tool because of the time and labor savings it will afford! Drill three holes and follow assembly steps to quickly obtain the perfect opening in panel material 22 to 16 gauge.

For D-Subminiature Connectors

ACTUAL HOLE SIZES:



MK-9P

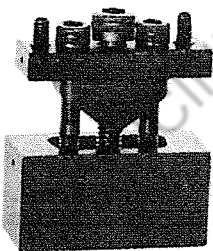


MODEL MK-9P

For 9 pin,
RS449 Standard
Part No. 130990004

Special Model MK-15P

for 15 pin connectors
Part No. 130990010.



MK-15P

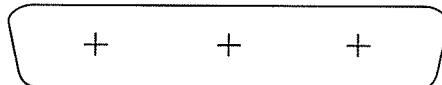
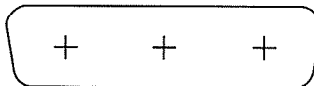


Model MK-25P

for 25 pin
RS232 Standard
Part No. 130990011

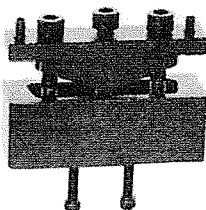
Model MK-25PS

for Front Panel Mounting
of Metal Connector
Part No. 130990016



Model MK-37P

for 37 pin,
RS449 Standard
Part No. 130990012



**MK-25P, MK-37P, MK-50P,
and MK-50-3M**



Special Model MK-50P

for 50 pin connectors
Part No. 130990013.

LARGE PRESS TOOLING ACCESSORIES

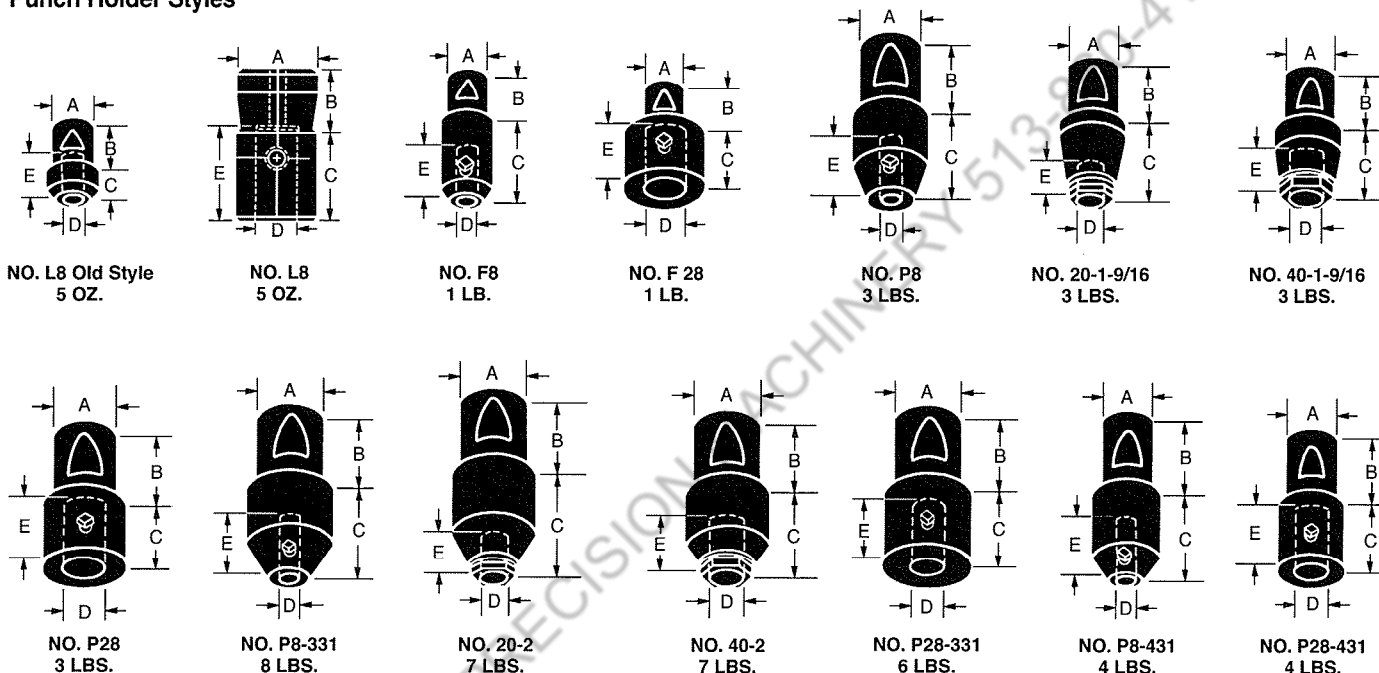
The following accessories are offered to accommodate the use of Roper Whitney punches and dies in Roper Whitney presses and other equipment of similar construction.

Punch holders are used to adapt smaller diameter punches to the larger shank hole diameter of the press ram. (Some punches are large enough to be inserted in the ram without a punch holder). Punch holders such as the F-28 with the same hole and shank diameter are used

primarily as an extension to the punch length to reduce large shut heights when punching thin materials.

Likewise, die adaptors are used to adapt smaller diameter dies to the standard die shoes which mount to the bolster plate. A choice of die shoes parallels the total range of die sizes offered in this catalog. In the largest sizes, both round and square, complete die/die shoe units are provided as an assembly ordered under a single catalog number.

Punch Holder Styles

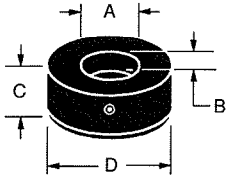


ORDERING GUIDE

Equipment Used on:	Style	Accepts Punch Style	Catalog Number	Dimensions (Inches)					Dealer Code
				A	B	C	D	E	
127 power press, 32 & 34 lever, 811, 118, 218 presses and 29, 58 & 68 foot presses, others with 1" dia. shank hole. 129, 130, 150, 230 & 231 power presses; others with 1-9/16" dia. shank hole. 331 & 336 power press; others with 2" dia. shank hole.	L-8 Old Style	27	S-11569	1	1-1/4	3/4	1/2	1-1/4	T-8
	L8	27	136112808	1	13/16	1-1/8	1/2	1-1/4	T-8
	F8	27	136122808	1	1-1/4	2-1/4	1/2	1-1/4	T-8
	F28	28	136132828	1	1-1/4	1-1/2	1	1-1/4	T-8
	P8	27	136142908	1-9/16	2	2-5/16	1/2	1-1/4	T-8
	20 1-9/16	20	236202920	1-9/16	2	2-1/4	11/16	1/2	T-8
	40 1-9/16	40	236222940	1-9/16	2	2	1	7/8	T-8
	P28	28	136152928	1-9/16	2	1-3/4	1	1-1/4	T-8
	P8-331	27	136182208	2	2-1/2	3	1/2	1-1/4	T-8
	20-2	20	236212220	2	2-1/2	3-1/8	11/16	1/2	T-8
431 power press, others with 1-9/16" dia. shank hole.	40-2	40	236232240	2	2-1/2	2-1/2	1	7/8	T-8
	P28-331	28	136192228	2	2-1/2	2-1/2	1	1-1/4	T-8
	P8-431	27	136162908	1-9/16	2-1/2	3	1/2	1-1/4	T-8
	P28-431	28	136172928	1-9/16	2-1/4	2-1/4	1	1-1/4	T-8



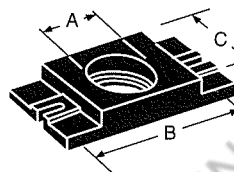
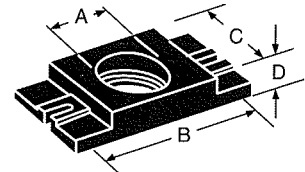
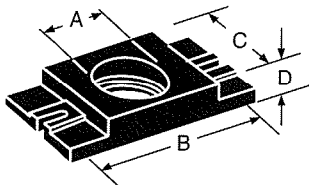
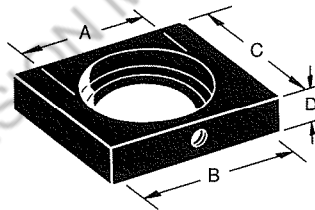
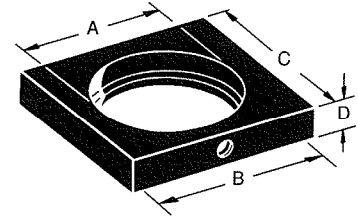
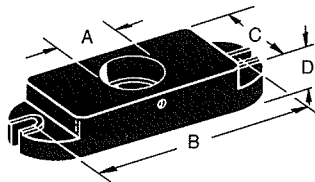
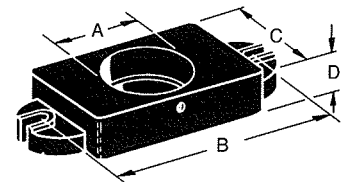
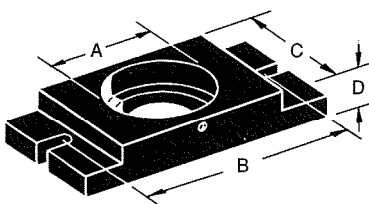
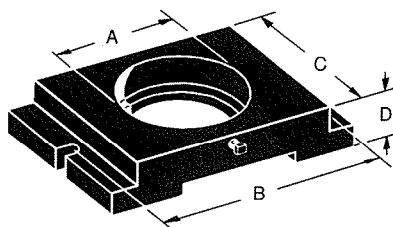
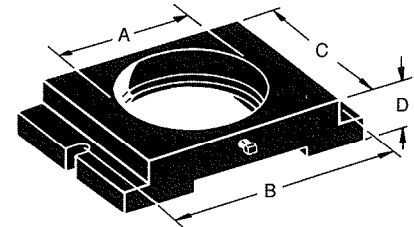
DIE ADAPTORS

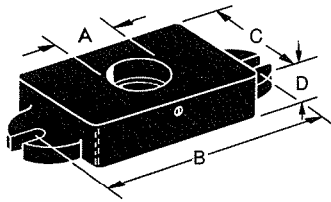


Ordering Guide

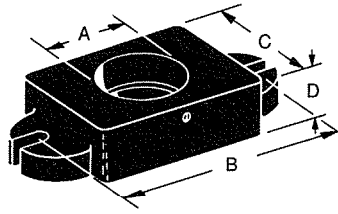
Style	Used with Die Style	Catalog Number	Dimensions (Inches)				Dealer Code
			A	B	C	D	
10	10	136303010	13/16	15/32	1-1/8	2-3/4	T-8
20	20	136313020	1-1/4	19/32	1-1/8	2-3/4	T-8
40	40	136323040	2-1/8	27/32	1-1/8	2-3/4	T-8

DIE SHOES

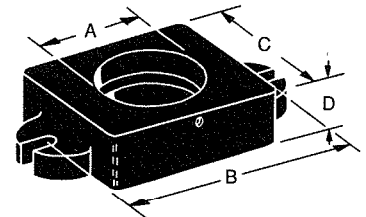
NO. F-2-3/4
8 LBS.NO. F-3-3/4
9 LBS.NO. F-4-3/4
9 LBS.NO. F-5-3/4
14 LBS.NO. F-6-3/4
14 LBS.NO. P-2-3/4
11 LBS.NO. P-3-3/4
14 LBS.NO. P-4-3/4
20 LBS.NO. P-5-3/4
26 LBS.NO. P-6-3/4
27 LBS.



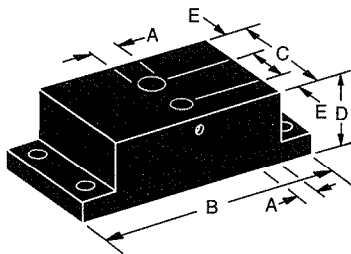
NO. P-2-3/4-331
31 LBS.



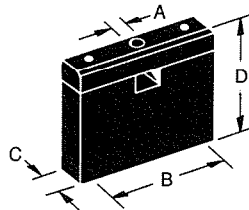
NO. P-3-3/4-331
32 LBS.



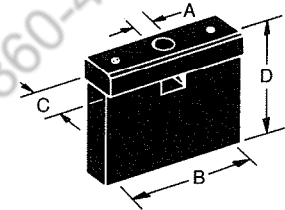
NO. P-4-3/4-331
32 LBS.



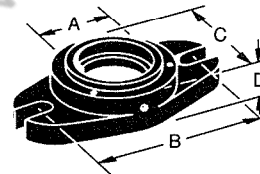
COMB. NO. 10 & 20-331
31 LBS.



NO. 10
15 LBS.



NO. 20
16 LBS.



NO. 118-2-3/4
4 LBS.

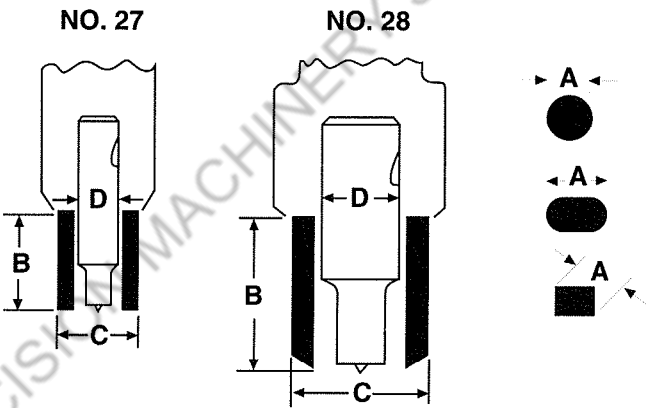
ORDERING GUIDE

Equipment used on:	Style	Accepts Die Style	Catalog Number	Dimensions (Inches)					Dealer Code
				A	B	C	D	E	
32 & 34 lever presses. 29, 58 & 68 foot presses.	F2-3/4	28 2-3/4*	139404030	2-3/4	6-3/4	4	1-1/2	—	T-8
	F3-3/4	28 3-3/4	139415050	3-3/4	6-3/4	5	1-1/2	—	T-8
	F4-3/4	28 4-3/4	139426060	4-3/4	6-3/4	6	1-1/2	—	T-8
	F5-3/4	28 5-3/4	139437070	5-3/4	8-1/4	7	1-1/2	—	T-8
	F6-3/4	28 6-3/4	139448080	6-3/4	8-1/2	8	1-1/2	—	T-8
	10**	10	139541010	13/16	8	1-1/4	5-1/2	—	T-8
	20**	20	139552020	1-1/4	8	1-1/2	5-1/2	—	T-8
127, 129, 130, 150, 230 & 231 presses.	P2-3/4	28 2-3/4*	139454030	2-3/4	10	4	2	—	T-8
	P3-3/4	28 3-3/4	139465050	3-3/4	10	5	2	—	T-8
	P4-3/4	28 4-3/4	139476060	4-3/4	10	6	2	—	T-8
	P5-3/4	28 5-3/4	139487070	5-3/4	10-1/2	8	2-1/4	—	T-8
	P6-3/4	28 6-3/4	139498080	6-3/4	10-1/2	8	2-1/4	—	T-8
331, 336 & 431 presses	P2-3/4-331	28 2-3/4*	139505530	2-3/4	10	5-1/2	2-1/2	—	T-8
	P3-3/4-331	28 3-3/4	139516050	3-3/4	10	6	2-1/2	—	T-8
	P4-3/4-331	28 4-3/4	139527060	4-3/4	10	7	2-1/2	—	T-8
	10/20-311**	10 & 20	139531020	13/16	10-1/2	5-1/2	4-1/4	5/8 & 7/8	T-8
				& 1-1/4					
118, 218 & 811 bench punches	118	28 2-3/4*	139571180	2-3/4	5-1/2	4-1/8	1-1/2	—	T-8



Urethane Strippers

Urethane strippers may be used in place of stripper plates or steel die springs to reduce the possibility of marring delicate surfaces and to quiet the punching operation. They eliminate breakage experienced with springs, and install quickly by merely slipping them onto the punch. Two sizes are offered: the #27 to fit 1/2" diameter punches and #28 for 1" diameter punches. Both are recommended for use with materials of 14 gauge and lighter. Other configurations are available upon request.



Style	Use With:		Catalog Number	Dimensions			Dealer Code
	Shank Dia.	Max. "A" Dim.		B	C	D	
27	1/2"	1/2"	320000833	1-1/4	1	1/2	T-8
28	1"	63/64"	320000284	1-31/32	1-3/4	1	T-8

TECHNICAL DATA

Selecting a Punch or Press

The following information, while not totally applicable to all manually operated tools included in this catalog, is provided as a convenient general reference for metal punching operations up to and including large power presses. Specific questions not answered by this data may be directed to Roper Whitney, without obligation.

Hole Size vs. Material Thickness

Punching holes in metal is the fast, economical way to get precise hole size, smoothness and minimum burr. Compressive strength of the punch steel determines that the thickness of the metal being punched must not exceed the diameter of the punch. This relationship varies with the type of material. For example: the minimum hole diameter will be 1/4" in 1/4" mild steel, 1/4" in 3/16" stainless steel, and 1/4" in 5/16" aluminum.

Maximum Rated Capacity

All punching tools have their maximum capacities for safe, dependable operation over a long life span. Tools listed in this catalog have a "rated capacity" based on their design strength. Before selecting a tool, use the following charts to determine the specific tonnage required to punch the size and shape holes through the type and gauge metal considered. These figures are for flat punch points. Shear on the punches (explained later) will reduce the tonnage required.

Determining Tonnages

For Round Holes

To determine tonnages for hot rolled mild steel (typically used in bar size angle iron, channels, tees and zeos) with a 50,000 psi shear strength, read direct from chart #1.

Example: To punch a 4" diameter hole thru 20 gauge mild steel, the chart shows 11.3 tons are required.

For ASTM A-36 steel (typically used for structural size wide flange, H and I beams, tees and zeos) with a 60,000 psi shear strength, read direct from chart # 2.

Example: To punch a 1/4" round hole in No. 10 gauge A-36 steel, the chart shows 3.2 tons pressure is needed.

For other metals select the proper multiplier from chart #3, and apply it to the tonnage figure for mild steel shown in chart #1.

Example: To punch a 4" diameter hole thru 20 gauge #303 stainless steel with a 1.5 multiplier, calculate as follows: $11.3 \times 1.5 = 17$ tons required.

(continued on next page)

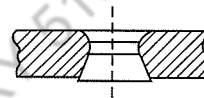
Die Clearance

The relationship of the large die hole size to the punch size is die clearance and is stated as a percentage of the thickness of the material being punched. The range of clearances varies from 10% for thin materials to 20% for thicker materials. For 3/4" material the total die clearance is .150". Clearance should always be specified when there is any reason for doubt.

Die Clearance has the following effects:

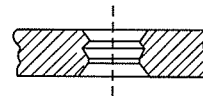
Too much clearance

1. Extra roll-in at top of the hole.
2. Too much burr at bottom of the hole.



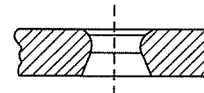
Too little clearance

1. More punching pressure needed. Can reduce tool life.
2. High stripping force causes part distortion and extra punch wear.



Correct clearance

1. Straighter hole thru material.
2. Minimum distortion at top of hole.
3. Minimum burr at bottom of hole.



Effects of die clearance are more noticeable in thicker materials (such as 1/4 ") than in thinner materials (such as 16 gauge). Roper Whitney stocks #28 style dies with .006" clearance. For punching 24 gauge thru 14 gauge mild steel or most grades of aluminum, we recommend that you order the #28 style dies for generally satisfactory holes and fast delivery. For other gauges and material thicknesses and minimum burr, specify the type and thickness of material being punched.

Shear (continued)

Shear may be added to most any punch (1/2" or larger) to reduce the shock load on machine components and the punch and die, and increase their life expectancy. Shear, in essence, proportions the force through part of the stroke length of the ram . . . much less material is being cut at any one time than would be with a punch without shear.

There is no advantage of adding shear to smaller than 1/2".

Two types of shear are added to most Roper Whitney punches.

Round punches 5/8" diameter and larger, and square punches 11/16" and larger have the "criss-cross" shear. Rectangular and obround punches with 1" major dimension and larger have the "housetop" shear.

Shear is most effective when punching 14 gauge or lighter materials. It can reduce the punching force by as much as 50%.

Example: Chart #1 shows that 11.3 tons are needed to punch a 4" diameter hole thru 20 gauge mild steel. A punch with shear reduces the force to 5.7 tons.

CRISSCROSS



HOUSETOP

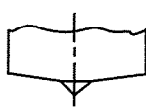


CHART #3

METAL TYPE	MULTIPLIER
Aluminum (2024-0)	.36
Brass (1/4 Hard)	.70
Copper (1/2 Hard)	.52
Steel (.50% Carbon)	1.60
Steel, Cold Drawn (1018)	1.24
Steel, ASTM-A36	1.20
Steel, Stainless (303)	1.50

EXAMPLE:
1" Round Hole thru 20 gauge
Aluminum (2024-0)
2.8 x .36 = 1.01 tons

CHART #1 TONS OF PRESSURE REQUIRED TO PUNCH MILD STEEL

Round Hole Diameter	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	11/16"	3/4"	13/16"	7/8"	15/16"	1"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"
Ga. In.																					
20 .036	.4	.5	.7	.9	1.1	1.2	1.4	1.6	1.8	1.9	2.1	2.3	2.5	2.6	2.8	4.2	5.6	7.0	8.5	9.9	11.3
18 .048	.5	.7	.9	1.2	1.4	1.6	1.9	2.1	2.4	2.6	2.8	3.1	3.3	3.5	3.8	5.5	7.5	9.4	11.3	13.0	15.0
16 .062	.6	.9	1.2	1.5	1.8	2.1	2.3	2.6	2.9	3.2	3.5	3.8	4.1	4.4	4.7	7.0	9.5	11.7	14.0	16.5	18.8
14 .075	.7	1.1	1.5	1.8	2.2	2.6	2.9	3.3	3.7	4.0	4.4	4.8	5.1	5.5	5.9	8.8	11.7	14.7	17.6	20.5	23.5
12 .105	1.0	1.5	2.1	2.6	3.1	3.6	4.1	4.6	5.1	5.7	6.2	6.7	7.2	7.7	8.2	12.3	16.4	20.5	24.5	28.8	32.8
11 .120	1.2	1.8	2.4	2.9	3.5	4.1	4.7	5.1	5.9	6.2	7.1	7.6	8.3	8.8	9.4	14.0	18.8	23.5	28.2	32.7	37.6
10 .135	1.3	2.0	2.6	3.3	4.0	4.6	5.3	5.9	6.6	7.3	7.9	8.6	9.2	9.9	10.6	15.9	21.0	26.5	31.7	37.0	42.2
3/16" .188	—	2.8	3.7	4.6	5.5	6.4	7.4	8.3	9.2	10.1	11.0	12.0	12.9	13.8	14.8	22.0	29.5	36.8	44.2	51.5	60.0
1/4" .250	—	—	4.9	6.1	7.4	8.6	9.8	11.1	12.3	13.5	14.7	16.0	17.2	18.4	19.7	34.4	39.3	49.0	60.0	68.7	78.5
5/16" .312	—	—	—	7.8	9.2	10.7	12.3	13.9	15.4	17.0	18.5	20.0	21.5	23.0	24.6	43.0	49.0	61.5	73.5	86.0	98.0
3/8" .375	—	—	—	—	11.1	12.8	14.8	16.5	18.5	20.2	22.1	23.8	25.8	27.5	29.5	51.5	59.0	73.6	88.4	103.0	118.0
1/2" .500	—	—	—	—	—	—	19.7	22.0	24.6	26.9	29.5	31.8	34.4	36.8	39.4	68.8	78.5	98.2	118.0	137.0	157.0

CHART #2 TONS OF PRESSURE REQUIRED TO PUNCH ASTM-A36 STRUCTURAL STEEL

Round Hole Diameter	1/8"	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	11/16"	3/4"	13/16"	7/8"	15/16"	1"	1-1/16"	1-1/8"	1-3/16"
Ga. In.																		
12 .105	1.2	1.9	2.5	3.1	3.7	4.3	4.9	5.6	6.2	6.8	7.4	8.0	8.7	9.3	9.9	10.5	11.1	11.7
11 .120	1.4	2.1	2.8	3.5	4.2	4.9	5.7	6.4	7.1	7.8	8.5	9.2	9.9	10.6	11.3	12.0	12.7	13.4
10 .135	—	2.4	3.2	4.0	4.8	5.6	6.4	7.2	7.9	8.7	9.5	10.3	11.1	12.0	12.7	13.5	14.3	15.1
3/16" .187	—	3.3	4.4	5.5	6.6	7.7	8.8	9.9	11.0	12.1	13.2	14.3	15.4	16.5	17.6	18.7	19.8	20.9
1/4" .250	—	4.4	5.9	7.4	8.6	10.3	11.8	13.2	14.7	16.2	17.7	19.1	20.6	22.1	23.6	25.0	26.5	28.0
5/16" .312	—	—	7.4	9.2	11.0	12.9	14.7	16.5	18.4	20.2	22.0	24.0	25.7	27.6	29.4	31.3	33.0	34.9
3/8" .375	—	—	8.8	11.0	13.3	15.5	17.7	19.9	22.1	24.3	26.5	28.7	31.0	33.1	35.3	37.6	39.7	42.0
1/2" .500	—	—	—	—	—	—	23.6	26.5	29.4	32.4	35.3	38.3	41.2	44.2	47.1	50.0	52.9	55.9
5/8" .625	—	—	—	—	—	—	—	—	37.0	40.5	44.2	48.0	51.5	55.2	58.9	62.7	66.3	70.0
3/4" .750	—	—	—	—	—	—	—	—	—	—	53.0	57.5	61.8	66.3	70.8	75.0	79.4	83.9

DECIMAL EQUIVALENTS

Fraction	Decimal	Drill Size	Sheet Metal Gauge	Fraction	Decimal	Drill Size	Sheet Metal Gauge	Fraction	Decimal	Drill Size	Sheet Metal Gauge	Fraction	Decimal	Drill Size	Sheet Metal Gauge
1/64	.01563				.1015	38			.201	7			.386	W	
	.0164		27		.104	37		13/64	.20313			25/64	.39063		
	.0179		26		.1046		12		.204	6			.397	X	
	.0209		25		.1065	36			.2055	5			.404	Y	
	.0239		24	7/64	.10938				.2092		5	13/32	.40625	Z	0000
	.0269		23		.110	35			.209	4			.413		
	.0299		22		.111	34			.213	3		27/64	.42188		
1/32	.03125				.113	33		7/32	.21875			7/16	.4375		00000
	.0329		21		.116	32			.221	2		29/64	.45313		
	.0359		20		.1196		11		.2242		4	15/32	.46875		000000
	.040	60			.120	31			.228	1		31/64	.48438		
	.041	59		1/8	.125				.234	A		1/2	.500		0000000
	.0418		19		.1285	30		15/64	.23438			33/64	.51563		
	.042	58			.1345		10		.238	B		17/32	.53125		
	.043	57			.136	29			.2391		3	35/64	.54688		
	.0465	56			.1405	28			.242	C		9/16	.5625		
3/64	.04688			9/64	.14063				.246	D		37/64	.56813		
	.0478		18		.144	27		1/4	.250	E		19/32	.59375		
	.052	55			.147	26			.257	F		39/64	.60938		
	.0538		17		.1495	25	9		.261	G		5/8	.625		
	.055	54			.152	24		17/64	.26563		2	41/64	.64063		
	.0595	53			.154	23			.266	H		21/32	.65625		
	.0598		16	5/32	.15625				.272	I		43/64	.67188		
1/16	.0625				.157	22			.277	J		11/16	.6875		
	.0635	52			.159	21			.281	K		45/64	.70313		
	.067	51			.161	20		9/32	.28125		1	23/32	.71875		
	.0673		15		.1644		8		.290	L		47/64	.73438		
	.070	50			.166	19			.295	M		3/4	.750		
	.073	49			.1695	18		19/64	.29688			49/64	.76563		
	.0747		14	11/64	.17188				.302	N		25/32	.78125		
	.076	48			.173	17		5/16	.3125		0	51/64	.79688		
5/64	.07813				.177	16			.316	O		13/64	.8125		
	.0785	47			.1793		7		.323	P		53/64	.82813		
	.081	46			.180	15		21/64	.32813			27/32	.84375		
	.082	45			.182	14			.332	Q		55/64	.85938		
	.086	44			.185	13			.339	R		7/8	.875		
	.089	43		3/16	.1875			11/32	.34375		00	57/64	.890625		
	.0897		13		.189	12			.348	S		29/32	.90625		
	.0935	42			.191	11			.358	T		59/64	.921875		
3/32	.09375				.1935	10		23/64	.35938			15/16	.9375		
	.096	41			.1943		6		.368	U		61/64	.953125		
	.098	40			.196	9		3/8	.375		000	31/32	.96875		
	.0995	39			.199	8			.377	V		63/64	.984375		



CROSS REFERENCE GUIDE

to

Roper Whitney Single Station Press Tooling

... designed for Roper Whitney and many other manufacturers' presses.

This Cross Reference Guide is provided as a convenient sales aid in determining basic *styles* of accessories applicable to various manufacturers' presses. For specific information on accessories and tooling, consult Roper Whitney Catalog T.

PRESS MANUFACTURER	MFR. MODEL	USE ROPER WHITNEY DIE SHOE	USE ROPER WHITNEY DIE ADAPTER	USE ROPER WHITNEY DIE STYLE	USE ROPER WHITNEY PUNCH HOLDER	USE ROPER WHITNEY PUNCH STYLE
ALVA ALLEN	BT-12	#P 2-3/4	#20, #40	#28 2-3/4	#P 28	#28-1
	BT-25	#P 2-3/4	#20, #40	#28 2-3/4	#P 28	#28-1
BENCH MASTER	5-Ton-171E*	#F 2-3/4	#20, #40	#28 2-3/4	#F 28	#28-1
	5-Ton-154E*	#F 2-3/4	#20	#20	#F 8	8
	2-Ton-132E*	118	#20	#20	#L 8	8
	10-Ton	#P 2-3/4-331	#20, #40	#28 2-3/4	#P 28-431	#28-1
	15-Ton	#P 2-3/4-331	#20, #40	#28 2-3/4	#P 28-431	#28-1
DIAMOND	#9B	#P 2-3/4	#20, #40	#28 2-3/4	#P 28	#28-1
	#14A	#P 2-3/4	#20, #40	#28 2-3/4	#P 28	#28-1
	#14B	#P 2-3/4-331	#20, #40	#28 2-3/4	#P 28-431	#28-1
	#30	#P 2-3/4-331	#20, #40	#28 2-3/4	#P 28-331	#28-1
DI-ACRO**	#1 & #2	#F 2-3/4	#20, #40	#28 2-3/4	#F 28	#28-1
FAMCO	#50 1/2	#F 2-3/4	#20, #40	#28 2-3/4	#F 28	#28-1
	#52	#P 2-3/4-331	#20, #40	#28 2-3/4	#F 28	#28-1
	#55	#P 2-3/4	#20, #40	#28 2-3/4	#F 28	#28-1
	#51	#F 2-3/4	#20, #40	#28 2-3/4	#F 8 #F 28	#28-1
FEDERAL	#1	#P 2-3/4	#20, #40	#28 2-3/4	#P 28	#28-1
	#2	#P 2-3/4	#20, #40	#28 2-3/4	#P 28-431	#28-1
	#3	#P 2-3/4-331	#20, #40	#28 2-3/4	#P 28-431	#28-1
	#4	#P 2-3/4-331	#20, #40	#28 2-3/4	#P 28-431	#28-1
KENCO	(Consult factory for recommendations)					
PRESS RITE	#1-10 Ton	#P 2-3/4	#20, #40	#28 2-3/4	#P 28-431	#28-1
	#1-1/2-15 Ton	#P 2-3/4-331	#20, #40	#28 2-3/4	#P 28-431	#28-1
ROUSELLE	#0A	#P 2-3/4	#20, #40	#28 2-3/4	None	#28-1
	#1A	#F 2-3/4	#20, #40	#28 2-3/4	#P 28	#28-1
	#2	#P 2-3/4-331	#20, #40	#28 2-3/4	#P 28	#28-1
W. A. WHITNEY	612, 613	#P 2-3/4	#20	#20	#L 8	#27, #28
	614, 615	#P 2-3/4	#20	#20	#P 8, #P 28	#27, #28
	625A, 626A	#P 2-3/4	#20	#20	#P 8, #P 28	#27, #28
	627	#P 2-3/4	#20	#20	#P 8, #P 28	#27, #28
	651A, 652	#P 2-3/4-331	#20	#20	#P 8-331, #P 28-331	#27, #28
	653, 655	#P 2-3/4-331	#20	#20	#P 8-331, #P 28-331	#27, #28
WHITNEY-JENSEN	(WHITNEY-JENSEN PRESSES ARE THE SAME AS ROPER WHITNEY PRESSES)					

** Roper Whitney Large Press Tooling is interchangeable with Di-Acro 901 Series Tooling.

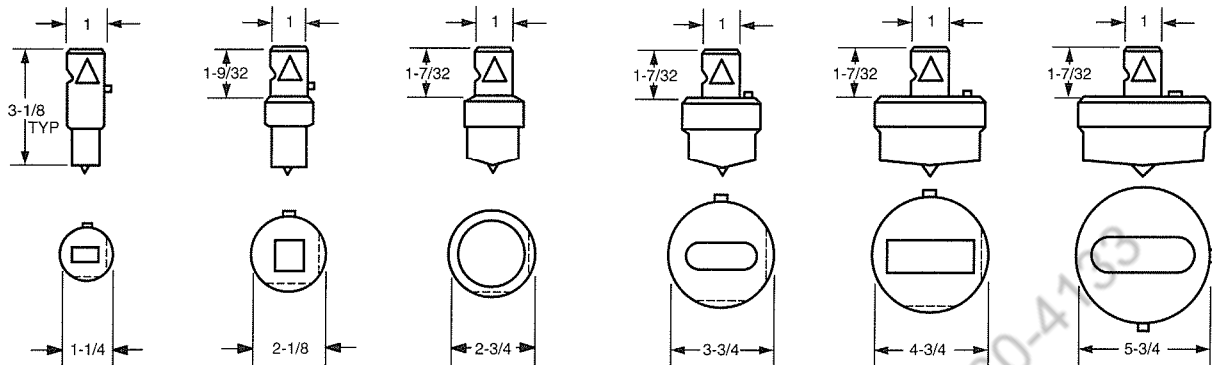
* Must use 2" Filler Plate.

28XX
QUICK CHANGE TOOLING
FOLLOWS

CINCINNATI PRECISION MACHINERY 513-860-4133



28 XX TOOLING



TYPE O Round Punches and Dies
STANDARD SIZES AND CLEARANCES



Fractional, Drill, or Millimeter A	Decimal Equiv. A	Punch Part Number	Die Outer Diameter	Die Part Number	Std. Clr.	Set Number	Dealer Code
1/16	.063	300580063	1-1/4	310210063	.006	200580063	T-7
5/64	.078	300580078	1-1/4	310210078	.006	200580078	T-7
3/32	.094	300580094	1-1/4	310210094	.006	200580094	T-7
7/64	.109	300580109	1-1/4	310210109	.006	200580109	T-7
1/8	.125	300580125	1-1/4	310210125	.006	200580125	T-7
9/64	.141	300580141	1-1/4	310210141	.006	200580141	T-7
5/32	.156	300580156	1-1/4	310210156	.006	200580156	T-7
11/64	.172	300580172	1-1/4	310210172	.006	200580172	T-7
3/16	.188	300580188	1-1/4	310210188	.006	200580188	T-7
13/64	.203	300580203	1-1/4	310210203	.006	200580203	T-7
7/32	.219	300580219	1-1/4	310210219	.006	200580219	T-7
15/64	.234	300580234	1-1/4	310210234	.006	200580234	T-7
1/4	.250	300580250	1-1/4	310210250	.006	200580250	T-7
17/64	.266	300580266	1-1/4	310210266	.006	200580266	T-7
9/32	.281	300580281	1-1/4	310210281	.006	200580281	T-7
19/64	.297	300580297	1-1/4	310210297	.006	200580297	T-7
5/16	.313	300580313	1-1/4	310210313	.006	200580313	T-7
21/64	.328	300580328	1-1/4	310210328	.006	200580328	T-7
11/32	.344	300580344	1-1/4	310210344	.006	200580344	T-7
23/64	.359	300580359	1-1/4	310210359	.006	200580359	T-7
3/8	.375	300580375	1-1/4	310210375	.006	200580375	T-7
25/64	.391	300580391	1-1/4	310210391	.006	200580391	T-7
13/32	.406	300580406	1-1/4	310210406	.006	200580406	T-7
27/64	.422	300580422	1-1/4	310210422	.006	200580422	T-7
7/16	.438	300580438	1-1/4	310210438	.006	200580438	T-7
29/64-11.5MM	.453	300580453	1-1/4	310210453	.006	200580453	T-7
15/32	.469	300580469	1-1/4	310210469	.006	200580469	T-7
31/64	.484	300580484	1-1/4	310210484	.006	200580484	T-7
1/2	.500	300580500	1-1/4	310210500	.006	200580500	T-7
33/64	.516	300280516	1-1/4	310210516	.006	200280516	T-7
17/32-13.5MM	.531	300280531	1-1/4	310210531	.006	200280531	T-7
35/64	.547	300280547	1-1/4	310210547	.006	200280547	T-7
9/16	.563	300280563	1-1/4	310210563	.006	200280563	T-7
37/64	.578	300280578	1-1/4	310210578	.006	200280578	T-7
19/32	.594	300280594	1-1/4	310210594	.006	200280594	T-7

TYPE O



TYPE O (continued)
STANDARD SIZES AND CLEARANCES

Fractional, Drill, or Millimeter A	Decimal Equiv. A	Punch Part Number	Die Outer Diameter	Die Part Number	Std. Clr.	Set Number	Dealer Code
39/64	.609	300280609	1-1/4	310210609	.006	200280609	T-7
5/8	.625	300280625	1-1/4	310210625	.006	200280625	T-7
41/64	.641	300280641	1-1/4	310210641	.006	200280641	T-7
21/32	.656	300280656	1-1/4	310210656	.006	200280656	T-7
43/64	.672	300280672	1-1/4	310210672	.006	200280672	T-7
11/16	.688	300280688	1-1/4	310210688	.006	200280688	T-7
45/64	.703	300280703	1-1/4	310210703	.006	200280703	T-7
23/32	.719	300280719	1-1/4	310210719	.006	200280719	T-7
47/64	.734	300280734	1-1/4	310210734	.006	200280734	T-7
3/4	.750	300280750	1-1/4	310210750	.006	200280750	T-7
49/64	.766	300280766	1-1/4	310210766	.006	200280766	T-7
25/32	.781	300280781	1-1/4	310210781	.006	200280781	T-7
51/64	.797	300280797	1-1/4	310210797	.006	200280797	T-7
13/16	.813	300280813	1-1/4	310210813	.006	200280813	T-7
53/64	.828	300280828	2-1/8	310410828	.006	200280828	T-7
27/32	.844	300280844	2-1/8	310410844	.006	200280844	T-7
55/64	.859	300280859	2-1/8	310410859	.006	200280859	T-7
7/8	.875	300280875	2-1/8	310410875	.006	200280875	T-7
57/64	.891	300280891	2-1/8	310410891	.006	200280891	T-7
29/32-23MM	.906	300280906	2-1/8	310410906	.006	200280906	T-7
59/64	.922	300280922	2-1/8	310410922	.006	200280922	T-7
15/16	.938	300280938	2-1/8	310410938	.006	200280938	T-7
61/64	.953	300280953	2-1/8	310410953	.006	200280953	T-7
31/32	.969	300280969	2-1/8	310410969	.006	200280969	T-7
63/64-25MM	.984	300280984	2-1/8	310410984	.006	200280984	T-7
1-25.5MM	1.000	300281000	2-1/8	310411000	.006	200281000	T-7
1-1/32	1.031	300281031	2-1/8	310411031	.006	200281031	T-7
1-1/16	1.063	300281063	2-1/8	310411063	.006	200281063	T-7
1-3/32	1.094	300281094	2-1/8	310411094	.006	200281094	T-7
1-1/8	1.125	300281125	2-1/8	310411125	.006	200281125	T-7
1-5/32	1.156	300281156	2-1/8	310411156	.006	200281156	T-7
1-3/16	1.188	300281188	2-1/8	310411188	.006	200281188	T-7
1-7/32	1.219	300281219	2-1/8	310411219	.006	200281219	T-7
1-1/4	1.250	300281250	2-1/8	310411250	.006	200281250	T-7
1-9/32	1.281	300281281	2-1/8	310411281	.006	200281281	T-7
1-5/16	1.313	300281313	2-1/8	310411313	.006	200281313	T-7
1-11/32	1.344	300281344	2-1/8	310411344	.006	200281344	T-7
1-3/8	1.375	300281375	2-1/8	310411375	.006	200281375	T-7
1-13/32	1.406	300281406	2-1/8	310411406	.006	200281406	T-7
1-7/16	1.438	300281438	2-1/8	310411438	.006	200281438	T-7
1-15/32	1.469	300281469	2-3/4	310311469	.006	200281469	T-7
1-1/2	1.500	300281500	2-3/4	310311500	.006	200281500	T-7
1-17/32	1.531	300281531	2-3/4	310311531	.006	200281531	T-7
1-9/16	1.563	300281563	2-3/4	310311563	.006	200281563	T-7
1-19/32	1.594	300281594	2-3/4	310311594	.006	200281594	T-7
1-5/8	1.625	300281625	2-3/4	310311625	.006	200281625	T-7
1-21/32	1.656	300281656	2-3/4	310311656	.006	200281656	T-7
1-11/16	1.688	300281688	2-3/4	310311688	.006	200281688	T-7
1-23/32	1.719	300281719	2-3/4	310311719	.006	200281719	T-7
1-3/4	1.750	300281750	2-3/4	310311750	.006	200281750	T-7
1-25/32	1.781	300281781	2-3/4	310311781	.006	200281781	T-7
1-13/16	1.813	300281813	2-3/4	310311813	.006	200281813	T-7
1-27/32	1.844	300281844	2-3/4	310311844	.006	200281844	T-7

(continued on next page)

For clearance in dies other than standard, use non-stock on page 62.

TYPE O



TYPE O (continued)

STANDARD SIZES AND CLEARANCES



Fractional, Drill, or Millimeter A	Decimal Equiv. A	Punch Part Number	Die Outer Diameter	Die Part Number	Std. Clr.	Set Number	Dealer Code
1-7/8	1.875	300281875	2-3/4	310311875	.006	200281875	T-7
1-29/32	1.906	300281906	2-3/4	310311906	.006	200281906	T-7
1-15/16	1.938	300281938	2-3/4	310311938	.006	200281938	T-7
1-31/32	1.969	300281969	2-3/4	310311969	.006	200281969	T-7
2	2.000	300282000	2-3/4	310312000	.006	200282000	T-7
2-1/16	2.063	300282063	3-3/4	310512063	.006	200282063	T-7
2-1/8	2.125	300282125	3-3/4	310512125	.006	200282125	T-7
2-3/16	2.188	300282188	3-3/4	310512188	.006	200282188	T-7
2-1/4	2.250	300282250	3-3/4	310512250	.006	200282250	T-7
2-5/16	2.313	300282313	3-3/4	310512313	.006	200282313	T-7
2-3/8	2.375	300282375	3-3/4	310512375	.006	200282375	T-7
2-7/16	2.438	300282438	3-3/4	310512438	.006	200282438	T-7
2-1/2	2.500	300282500	3-3/4	310512500	.006	200282500	T-7
2-9/16	2.563	300282563	3-3/4	310512563	.006	200282563	T-7
2-5/8	2.625	300282625	3-3/4	310512625	.006	200282625	T-7
2-11/16	2.688	300282688	3-3/4	310512688	.006	200282688	T-7
2-3/4	2.750	300282750	3-3/4	310512750	.006	200282750	T-7
2-13/16	2.813	300282813	3-3/4	310512813	.006	200282813	T-7
2-7/8	2.875	300282875	3-3/4	310512875	.006	200282875	T-7
2-15/16	2.938	300282938	3-3/4	310512938	.006	200282938	T-7
3	3.000	300283000	3-3/4	310513000	.006	200283000	T-7
3-1/16	3.063	300283063	4-3/4	310613063	.006	200283063	T-7
3-1/8	3.125	300283125	4-3/4	310613125	.006	200283125	T-7
3-3/16	3.188	300283188	4-3/4	310613188	.006	200283188	T-7
3-1/4	3.250	300283250	4-3/4	310613250	.006	200283250	T-7
3-5/16	3.313	300283313	4-3/4	310613313	.006	200283313	T-7
3-3/8	3.375	300283375	4-3/4	310613375	.006	200283375	T-7
3-7/16	3.438	300283438	4-3/4	310613438	.006	200283438	T-7
3-1/2	3.500	300283500	4-3/4	310613500	.006	200283500	T-7
3-9/16	3.563	300283563	4-3/4	310613563	.006	200283563	T-7
3-5/8	3.625	300283625	4-3/4	310613625	.006	200283625	T-7
3-11/16	3.688	300283688	4-3/4	310613688	.006	200283688	T-7
3-3/4	3.750	300283750	4-3/4	310613750	.006	200283750	T-7
3-13/16	3.813	300283813	4-3/4	310613813	.006	200283813	T-7
3-7/8	3.875	300283875	4-3/4	310613875	.006	200283875	T-7
3-15/16	3.938	300283938	4-3/4	310613938	.006	200283938	T-7
4	4.000	300284000	4-3/4	310614000	.006	200284000	T-7
4-1/4	4.250	300284250	5-3/4	310714250	.006	200284250	T-7
4-1/2	4.500	300284500	5-3/4	310714500	.006	200284500	T-7
4-3/4	4.750	300284750	5-3/4	310714750	.006	200284750	T-7

For clearance in dies other than standard, use non-stock on page 63.

MIN. A: .031



Prices for non stock sizes (drill, millimeter, or fractional)—determine the A dimension (diameter) :

Punch		Die (Include Clearance)			Dealer Code
Size Range A		Die Outer Diameter	Max. Die Opening		
.031 - .062		1-1/4	.074		T-5
.063 - .375		1-1/4	.412		T-5
.376 - .500		1-1/4	.537		T-5
.501 - .813		1-1/4	.825		T-5
.814 - 1.000		2-1/8	1.037		T-5

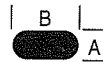


TYPE O (continued)

Punch		Die (Include Clearance)			Dealer Code
Size Range A		Die Outer Diameter	Max. Die Opening		
1.001 - 1.250		2-1/8	1.450		T-5
1.251 - 1.438		2-1/8	1.450		T-5
1.439 - 1.719		2-3/4	2.012		T-5
1.720 - 2.000		2-3/4	2.012		T-5
2.001 - 2.500		3-3/4	2.537		T-5
2.501 - 3.000		3-3/4	3.012		T-5
3.001 - 3.500		4-3/4	3.537		T-5
3.501 - 4.000		4-3/4	4.012		T-5
4.001 - 4.500		5-3/4	5.037		T-5
4.501 - 5.000		5-3/4	5.037		T-5

LARGER SIZES AVAILABLE, FOR PRICING AND DELIVERY INFORMATION, CONSULT OUR SALES DEPARTMENT.

TYPE M Obround Punches and Dies
STANDARD SIZES AND CLEARANCES



Fractional Size AxB	Decimal Equiv. A	Punch Part Number	Die Outer Diameter	Die Part Number	Std. Clr.	Set Part Number	Dealer Code
3/32x1/2	.094x .500	301580632	1-1/4	311240632	.006	201580632	T-7
3/32x1	.094x1.000	301580664	2-1/8	311440664	.006	201580664	T-7
1/8x3/16	.125x .188	301580812	1-1/4	311240812	.006	201580812	T-7
1/8x1/4	.125x .250	301580816	1-1/4	311240816	.006	201580816	T-7
1/8x1/2	.125x .500	301580832	1-1/4	311240832	.006	201580832	T-7
1/8x1	.125x1.000	301580864	2-1/8	311440864	.006	201580864	T-7
1/8x1-1/2	.125x1.500	301580876	2-3/4	311340876	.006	201580876	T-7
1/8x2	.125x2.000	301580881	2-3/4	311340881	.006	201580881	T-7
5/32x1/4	.156x .250	301581016	1-1/4	311241016	.006	201581016	T-7
5/32x3/8	.156x .375	301581024	1-1/4	311241024	.006	201581024	T-7
5/32x1/2	.156x .500	301581032	1-1/4	311241032	.006	201581032	T-7
3/16x1/4	.188x .250	301581216	1-1/4	311241216	.006	201581216	T-7
3/16x5/16	.188x .313	301581220	1-1/4	311241220	.006	201581220	T-7
3/16x3/8	.188x .375	301581224	1-1/4	311241224	.006	201581224	T-7
3/16x7/16	.188x .438	301581228	1-1/4	311241228	.006	201581228	T-7
3/16x1/2	.188x .500	301581232	1-1/4	311241232	.006	201581232	T-7
3/16x5/8	.188x .625	301581240	1-1/4	311241240	.006	201581240	T-7
3/16x3/4	.188x .750	301581248	1-1/4	311241248	.006	201581248	T-7
3/16x1-1/4	.188x1.250	301581272	2-1/8	311441272	.006	201581272	T-7
3/16x1-1/2	.188x1.500	301581276	2-3/4	311341276	.006	201581276	T-7
7/32x3/8	.219x .375	301581424	1-1/4	311241424	.006	201581424	T-7
7/32x1/2	.219x .500	301581432	1-1/4	311241432	.006	201581432	T-7
1/4x5/16	.250x .313	301581620	1-1/4	311241620	.006	201581620	T-7
1/4x3/8	.250x .375	301581624	1-1/4	311241624	.006	201581624	T-7
1/4x1/2	.250x .500	301581632	1-1/4	311241632	.006	201581632	T-7
1/4x9/16	.250x .563	301581636	1-1/4	311241636	.006	201581636	T-7
1/4x5/8	.250x .625	301581640	1-1/4	311241640	.006	201581640	T-7
1/4x3/4	.250x .750	301581648	1-1/4	311241648	.006	201581648	T-7
1/4x1	.250x1.000	301581664	2-1/8	311441664	.006	201581664	T-7
1/4x1-1/4	.250x1.250	301581672	2-3/4	311341672	.006	201581672	T-7
1/4x1-1/2	.250x1.500	301581676	2-3/4	311341676	.006	201581676	T-7
1/4x2	.250x2.000	301581681	2-3/4	311341681	.006	201581681	T-7
9/32x3/8	.281x.375	301581824	1-1/4	311241824	.006	201581824	T-7
9/32x1/2	.281x .500	301581832	1-1/4	311241832	.006	201581832	T-7
9/32x3/4	.281x .750	301581848	1-1/4	311241848	.006	201581848	T-7

(continued on next page)

TYPE M



TYPE M (continued) STANDARD SIZES AND CLEARANCES

Fractional Size AxB	Decimal Equiv. AxB	Punch Part Number	Die Outer Diameter	Die Part Number	Std. Clr.	Set Part Number	Dealer Code
9/32x1	.281x1.000	301581864	2-1/8	311441864	.006	201581864	T-7
5/16x3/8	.313x .375	301582024	1-1/4	311242024	.006	201582024	T-7
5/16x7/16	.313x .438	301582028	1-1/4	311242028	.006	201582028	T-7
5/16x1/2	.313x .500	301582032	1-1/4	311242032	.006	201582032	T-7
5/16x9/16	.313x .563	301582036	1-1/4	311242036	.006	201582036	T-7
5/16x3/4	.313x .750	301582048	1-1/4	311242048	.006	201582048	T-7
5/16x1	.313x1.000	301582064	2-1/8	311442064	.006	201582064	T-7
5/16x1-1/4	.313x1.250	301582072	2-1/8	311442072	.006	201582072	T-7
3/8x1/2	.375x .500	301582432	1-1/4	311242432	.006	201582432	T-7
3/8x9/16	.375x .563	301582436	1-1/4	311242436	.006	201582436	T-7
3/8x3/4	.375x .750	301582448	1-1/4	311242448	.006	201582448	T-7
3/8x1	.375x1.000	301582464	2-1/8	311442464	.006	201582464	T-7
3/8x1-1/2	.375x1.500	301582476	2-3/4	311342476	.006	201582476	T-7
13/32x3/4	.406x .750	301582648	1-1/4	311242648	.006	201582648	T-7
7/16x1/2	.438x .500	301582832	1-1/4	311242832	.006	201582832	T-7
7/16x5/8	.438x .625	301582840	1-1/4	311242840	.006	201582840	T-7
7/16x3/4	.438x .750	301582848	1-1/4	311242848	.006	201582848	T-7
7/16x13/16	.438x .813	301582852	2-1/8	311442852	.006	201582852	T-7
7/16x1	.438x1.000	301582864	2-1/8	311442864	.006	201582864	T-7
7/16x1-1/4	.438x1.250	301582872	2-1/8	311442872	.006	201582872	T-7
7/16x1-1/2	.438x1.500	301582876	2-3/4	311342876	.006	201582876	T-7
1/2x1	.500x1.000	301583264	2-1/8	311443264	.006	201583264	T-7
1/2x1-1/2	.500x1.500	301583276	2-3/4	311343276	.006	201583276	T-7
1/2x2	.500x2.000	301583281	2-3/4	311343281	.006	201583281	T-7
9/16x3/4	.563x .750	301583648	1-1/4	311243648	.006	201583648	T-7
9/16x1	.563x1.000	301583664	2-1/8	311443664	.006	201583664	T-7
9/16x2	.563x2.000	301583681	2-3/4	311343681	.006	201583681	T-7
5/8x13/16	.625x .813	301584052	2-1/8	311444052	.006	201584052	T-7
5/8x1	.625x1.000	301584064	2-1/8	311444064	.006	201584064	T-7
11/16x1	.688x1.000	301584464	2-1/8	311444464	.006	201584464	T-7
3/4x1	.750x1.000	301584864	2-1/8	311444864	.006	201584864	T-7
3/4x1-1/2	.750x1.500	301584876	2-3/4	311344876	.006	201584876	T-7
3/4x2	.750x2.000	301584881	2-3/4	311344881	.006	201584881	T-7
7/8x2	.875x2.000	301585681	3-3/4	311545681	.006	201585681	T-7
1x2	1.000x2.000	301586481	3-3/4	311546481	.006	201586481	T-7

For clearances and dies other than standard, use chart below.

PRICING FOR NON STOCK SIZES AND CLEARANCES

MIN. A: .063

Determine the B dimension (length) and price as follows:

Punch		Die (Include Clearance)		Dealer Code
Size Range B		Die Outer Diameter	Max. Die Opening	
.125 - .750		1-1/4	.762	T-5
.751 - .999		2-1/8	1.037	T-5
1.000 - 1.438		2-1/8	1.450	T-5
1.439 - 2.000		2-3/4	2.012	T-5
2.001 - 2.500		3-3/4	2.537	T-5
2.501 - 3.000		3-3/4	3.012	T-5
3.001 - 3.500		4-3/4	3.537	T-5
3.501 - 4.000		4-3/4	4.012	T-5
4.001 - 4.500		5-3/4	4.720	T-5

Width sizes .063 thru .094 add 30% to the price.


TYPE N Rectangular Punches and Dies
STANDARD SIZES AND CLEARANCES


Fractional Size AxB	Decimal Equiv. AxB	Punch Part Number	Die Outer Diameter	Die Part Number	Std. Clr.	Set Part Number	Dealer Code
1/16x1/2	.063x .500	302580432	1-1/4	312240432	.006	202580432	T-7
1/16x3/4	.063x .750	302580448	2-1/8	312240448	.006	202580448	T-7
1/16x1	.063x1.000	302580464	2-1/8	312440464	.006	202580464	T-7
3/32x1	.094x1.000	302580664	2-1/8	312440664	.006	202580664	T-7
1/8x1/2	.125x .500	302580832	1-1/4	312240832	.006	202580832	T-7
1/8x3/4	.125x .750	302580848	2-1/8	312440848	.006	202580848	T-7
1/8x1	.125x1.000	302580864	2-1/8	312440864	.006	202580864	T-7
1/8x2	.125x2.000	302580881	2-3/4	312340881	.006	202580881	T-7
3/16x3/8	.188x .375	302581224	1-1/4	312241224	.006	202581224	T-7
3/16x1/2	.188x .500	302581232	1-1/4	312241232	.006	202581232	T-7
1/4x1/2	.250x .500	302581632	1-1/4	312241632	.006	202581632	T-7
1/4x3/4	.250x .750	302581648	2-1/8	312441648	.006	202581648	T-7
1/4x1	.250x1.000	302581664	2-1/8	312441664	.006	202581664	T-7
1/4x1-1/4	.250x1.250	302581672	2-1/8	312441672	.006	202581672	T-7
1/4x1-1/2	.250x1.500	302581676	2-3/4	312341676	.006	202581676	T-7
1/4x2	.250x2.000	302581681	2-3/4	312341681	.006	202581681	T-7
3/8x3/4	.375x .750	302582448	2-1/8	312442448	.006	202582448	T-7
3/8x1	.375x1.000	302582464	2-1/8	312442464	.006	202582464	T-7
3/8x2	.375x2.000	302582481	3-3/4	312542481	.006	202582481	T-7
1/2x5/8	.500x .625	302583240	2-1/8	312443240	.006	202583240	T-7
1/2x1	.500x1.000	302583264	2-1/8	312443264	.006	202583264	T-7
5/8x1-1/4	.625x1.250	302584072	2-3/4	312344072	.006	202584072	T-7
11/16x1-1/2	.688x1.500	302584476	2-3/4	312344476	.006	202584476	T-7
3/4x1	.750x1.000	302584864	2-1/8	312444864	.006	202584864	T-7
3/4x1-1/2	.750x1.500	302584876	2-3/4	312344876	.006	202584876	T-7
1x1-1/8	1.000x1.125	302586468	2-3/4	312346468	.006	202586468	T-7
1x1-1/2	1.000x1.500	302586476	2-3/4	312346476	.006	202586476	T-7

For clearances and dies other than standard, use chart below.

MIN. A: .063



$$\sqrt{A^2 + B^2} = b \text{ (cross corner dimension)}$$

MIN. b (cross corner dimension): .098

Determine the b dimension (cross corner)

Punch		Die (Include Clearance)			Dealer Code
Size Range b		Die Outer Diameter	Max. Die Opening		
Up to - .750		1-1/4	.762		T-5
.751 - .999		2-1/8	1.037		T-5
1.000 - 1.438		2-1/8	1.450		T-5
1.439 - 2.000		2-3/4	2.012		T-5
2.001 - 2.500		3-3/4	2.537		T-5
2.501 - 3.000		3-3/4	3.012		T-5
3.001 - 3.500		4-3/4	3.537		T-5
3.501 - 4.000		4-3/4	4.012		T-5
4.001 - 4.500		5-3/4	4.720		T-5

Width sizes .063 thru .094 add 30% to the price.

LARGER SIZES AVAILABLE, FOR PRICING AND DELIVERY INFORMATION, CONSULT OUR SALES DEPARTMENT.



TYPE R Square Punches and Dies
 REFERENCE PAGE 62 IN THIS CATALOG
STANDARD SIZES AND CLEARANCES



Fractional Size A	Decimal Equiv. A	Punch Part Number		Die Outer Diameter	Die Part Number		Std. Clr.	Set Part Number		Dealer Code
3/16	.188	304580188		1-1/4	314240188		.006	204580188		T-7
1/4	.250	304580250		1-1/4	314240250		.006	204580250		T-7
5/16	.313	304580313		1-1/4	314240313		.006	204580313		T-7
3/8	.375	304580375		1-1/4	314240375		.006	204580375		T-7
1/2	.500	304580500		1-1/4	314240500		.006	204580500		T-7
9/16	.563	304580563		2-1/8	314440563		.006	204580563		T-7
5/8	.625	304580625		2-1/8	314440625		.006	204580625		T-7
11/16	.688	304580688		2-1/8	314440688		.006	204580688		T-7
3/4	.750	304580750		2-1/8	314440750		.006	204580750		T-7
25/32	.781	304580781		2-1/8	314440781		.006	204580781		T-7
1	1.000	304581000		2-1/8	314441000		.006	204581000		T-7
1-1/8	1.125	304581125		2-3/4	314341125		.006	204581125		T-7
1-1/4	1.250	304581250		2-3/4	314341250		.006	204581250		T-7
1-1/2	1.500	304581500		3-3/4	314541500		.006	204581500		T-7
1-3/4	1.750	304581750		3-3/4	314541750		.006	204581750		T-7
2	2.000	304582000		3-3/4	314542000		.006	204582000		T-7
3	3.000	304583000		5-3/4	314743000		.006	204583000		T-7

For clearance in dies other than standard, use chart below.

MIN. A: .063



Punch		Die (Include Clearance)			Dealer Code
Size Range A		Die Outer Diameter	Max. Die Opening		
Up to - .500		1-1/4	.512		T-5
.501 - .750		2-1/8	.762		T-5
.751 - 1.000		2-1/8	1.012		T-5
1.001 - 1.406		2-3/4	1.418		T-5
1.407 - 1.750		3-3/4	1.782		T-5
1.751 - 2.125		3-3/4	2.137		T-5
2.126 - 2.500		4-3/4	2.512		T-5
2.501 - 2.813		4-3/4	2.825		T-5
2.814 - 3.156		5-3/4	3.168		T-5
3.157 - 3.500		5-3/4	3.512		T-5

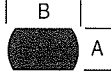
Width sizes .063 thru .094 add 30% to the price.

NON STOCK SHAPES FOR TYPE D, TYPE P (DOUBLE D) TYPE T AND TYPE S**TYPE D** Style D Punches and Dies

MIN. A: .063 | A | Determine the A dimension (diameter)

**TYPE P** Double D Punches and Dies

MIN. A: .063 | B | Determine the B dimension (length)

**TYPE T** Hexagon Punches and Dies

MIN. A: .063 | B | $B = A \times 1.155$ (cross corner dimension)
 MIN. B: .063 (cross corner dimension)
 Determine the B dimension (cross corner)



Punch		Die (Include Clearance)			Dealer Code
A or B Size Range		Die Outer Diameter	Max. Die Opening		
Up to - .700		1-1/4	.720		T-5
.701 - 1.000		2-1/8	1.037		T-5
1.001 - 1.438		2-1/8	1.450		T-5
1.439 - 2.000		2-3/4	2.012		T-5
2.001 - 2.500		3-3/4	2.537		T-5
2.501 - 3.000		3-3/4	3.012		T-5
3.001 - 3.500		4-3/4	3.537		T-5
3.501 - 4.000		4-3/4	4.012		T-5
4.001 - 4.500		5-3/4	4.720		T-5

Sizes .063 thru .094 add 30% to the price.

LARGER SIZES AVAILABLE, FOR PRICING AND DELIVERY INFORMATION, CONSULT OUR SALES DEPARTMENT.**TYPE S** Triangular Punches and Dies

MIN. A: .094 | A | Determine the A dimension (longest leg)



Punch		Die (Include Clearance)			Dealer Code
A Size Range		Die Outer Diameter	Max. Die Opening		
Up to - .700		1-1/4	.720		T-5
.701 - 1.000		2-1/8	1.037		T-5
1.001 - 1.438		2-1/8	1.450		T-5
1.439 - 2.000		2-3/4	2.012		T-5
2.001 - 2.500		3-3/4	2.537		T-5
2.501 - 3.000		3-3/4	3.012		T-5
3.001 - 3.500		4-3/4	3.537		T-5
3.501 - 4.000		4-3/4	4.012		T-5
4.001 - 4.500		5-3/4	4.720		T-5

Sizes .094 thru .125 add 30% to the price.

LARGER SIZES AVAILABLE, FOR PRICING AND DELIVERY INFORMATION, CONSULT OUR SALES DEPARTMENT.



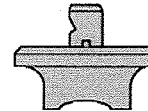
28XX TOOLING—SHEAR



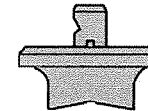
CRISSCROSS



HOusetop



CONCAVE



INVERTED HOusetop

SHEAR REFERENCE PAGE 60 IN THIS CATALOG

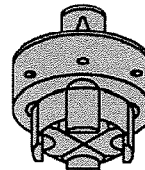
Round punches 5/8" diameter and larger, and square punches 11/16" and larger have crisscross shear. Rectangular and Obround Punches with 1" major dimension and larger have housetop shear. Standard shear depth is 1/8". for other types of shears see below:

Major Dimension or Diameter Rounds Sizes	Single Concave				Double Concave				Dealer Code
	3-1/8 Punch Length		3-7/16 Punch Length		3-1/8 Punch Length		3-7/16 Length		
	1/16"	1/8"	1/4"	Shear Depth 7/16"	1/16"	1/8"	1/4"	7/16"	
Up to 1.219			NA	NA			NA	NA	T-5
1.220 to 1.453			NA	NA			NA	NA	T-5
1.454 to 1.749				NA				NA	T-5
1.750 to 1.969								NA	T-5
1.970 to 2.219								NA	T-5
2.220 to 2.469								NA	T-5
2.470 to 2.969									T-5
2.970 to 3.469									T-5
3.470 to 3.969									T-5
3.970 to 4.469									T-5

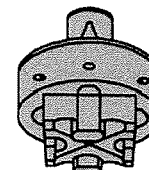
Major Dimensions or Diameter for Rounds Sizes	3-1/8 Punch Length		Dealer Code
	Shear Depth		
	1/4"	7/16"	
Up to 1.219			T-5
1.220 - 1.453			T-5
1.454 - 1.749			T-5
1.750 - 1.969			T-5
1.970 - 2.219			T-5
2.220 - 2.469			T-5
2.470 - 2.969			T-5
2.970 - 3.469			T-5
3.470 - 3.969			T-5
3.970 - 4.469			T-5

SPECIAL PURPOSE PUNCHES AND DIES

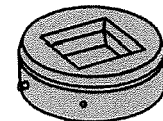
SHEARPROOF PUNCHES AND DIES Round and Square
REFERENCE PAGE 63 IN THIS CATALOG
MADE TO ORDER



ROUND



SQUARE



SQUARE INDEXABLE DIE

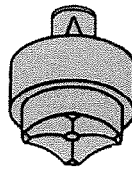
Fractional Size	Decimal Equiv.	Punch Part Number	Die Outer Diameter	Die Part Number	Clearance				Dealer Code
					.006	.012	.021	.037	
1" Round	1.000	309580000	2-1/8	310411000					T-5
2" Round	2.000	309580001	2-3/4	310312000					T-5
3" Round	3.000	309580002	3-3/4	310513000		3-3/4 O.D.	3-3/4 O.D.	3-3/4 O.D.	T-5
1" Square	1.000	309580011	2-1/8	319440001		4-3/4 O.D.	4-3/4 O.D.	4-3/4 O.D.	T-5
2" Square	2.000	309580013	3-3/4	319540005			2-3/4 O.D.	2-3/4 O.D.	T-5
							4-3/4 O.D.	4-3/4 O.D.	

Square shear proof punches and dies are indexable 90° and 45°. For 0° and 90° only, use standard 28XX square dies.

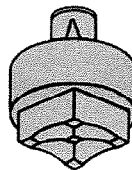
Note: Die clearance to be 20% of material thickness.

NIBBLING PUNCHES AND DIES ROUND AND SQUARE

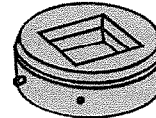
REFERENCE PAGE 63 IN THIS CATALOG



ROUND



SQUARE



SQUARE INDEXABLE DIE

Fractional Size	Decimal Equiv.	Punch Part Number	Die Outer Diameter	Die Part Number	Clearance				Dealer Code
					.006	.012	.021	.037	
1" Round	1.000	309580035	2-1/8	310411000	22.00	24.00	24.00	24.00	T-5
2" Round	2.000	309580036	2-3/4	310312000	41.00	44.00	44.00	44.00	T-5
1" Square	1.000	309580025	2-1/8	319440001	187.00	3-3/4 O.D.	3-3/4 O.D.	3-3/4 O.D.	T-5
2" Square	2.000	309580026	3-3/4	319540005	266.00	266.00	2-3/4 O.D.	2-3/4 O.D.	T-5
							4-3/4 O.D.	4-3/4 O.D.	T-5

Square nibbling punches and dies are indexable 90° and 45°. When only 0° and 90° indexing are required, a standard size 28XX square die can be ordered.

Note: Die clearance to be 20% of material thickness.

HOLLOW GROUND PUNCHES AND DIES Round and Square

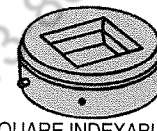
REFERENCE PAGE 63 IN THIS CATALOG



ROUND



SQUARE



SQUARE INDEXABLE DIE

Fractional Size	Decimal Equiv.	Punch Part Number	Die Outer Diameter	Die Part Number	.006 Clearance	Dealer Code
3/4" Round	.750	309580050	1-1/4	310210750	11.00	T-5
7/8" Round	.875	309580051	2-1/8	310410875	22.00	T-5
1" Round	1.000	309580052	2-1/8	310411000	22.00	T-5
1-1/2" Round	1.500	309580053	2-3/4	310311500	41.00	T-5
2" Round	2.000	309580055	3-3/4	310312000	41.00	T-5
1" Square	1.000	309580061	2-1/8	319440001	187.00	T-5
1-1/4" Square	1.250	309580062	2-3/4	319340002	209.00	T-5
1-1/2" Square	1.500	309580063	3-3/4	319540003	209.00	T-5
2" Square	2.000	309580064	3-3/4	319540005	266.00	T-5

Square hollow ground punches and dies are indexable 90° and 45°. For 0° and 90° only, use standard 28XX square dies.

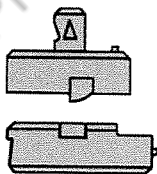
Note: Die clearance to be 20% of material thickness.

LOUVRE PUNCH AND DIE SETS

AVAILABLE IN SETS ONLY

REFERENCE PAGE 64 IN THIS CATALOG

MADE TO ORDER



Fractional Size	Set Part Number	Dealer Code
2" Form Down Style	209580375	T-5
3" Form Down Style	209580376	T-5
4" Form Down Style	209580377	T-5
5" Form Down Style	209580378	T-5
6" Form Down Style	209580379	T-5

SINGLE ELECTRICAL KNOCK-OUT

Form Down Style Only

REFERENCE PAGE 64 IN THIS CATALOG

MADE TO ORDER



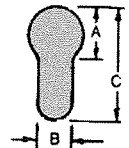
Pipe Size	Hole Size	Dealer Code
1/8 to under 1/2	7/16 to under 7/8	T-5
1/2 to 3/4	7/8 to 1-1/8	T-5
1 to 1-1/4	1-1/8 to 1-11/16	T-5

KEYHOLE PUNCH AND DIE SETS

Radius Corner Only

REFERENCE PAGE 64 IN THIS CATALOG

MADE TO ORDER



A (Length)	Die Outer Diameter	Dealer Code
Under 1/2	1-1/4	T-5
1/2 to 3/4	2-1/8	T-5
Over 3/4 to 1-1/4	2-1/8	T-5
Over 1-1/4 to 2	2-3/4	T-5

For prices on sharp corners add 15% to set price.

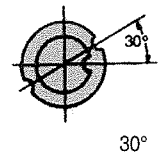
For sizes not listed, consult factory.

DOUBLE ELECTRICAL KNOCK-OUT

Form Down Style Only

REFERENCE PAGE 64 IN THIS CATALOG

MADE TO ORDER



Pipe Size		Hole Size		Dealer Code
Min	Max	Min	Max	
1/2	3/4	7/8	1-1/8	T-5
3/4	1-31/32	Over 1-1/8	1-1/2	T-5

Pricing for form up style and or sizes not listed, consult our sales department.



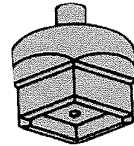
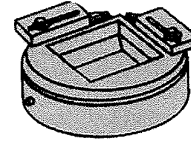
28XX TOOLING—SPECIAL PURPOSE

TRIMMING AND CUTOFF

1/4" Heel

REFERENCE PAGE 64 IN THIS CATALOG

MADE TO ORDER



Radius Size	Die Outer Diameter	Set Price	Dealer Code
3/32	2-1/8	648.00	T-5
1/8	2-1/8	648.00	T-5
5/32	2-1/8	648.00	T-5
3/16	2-1/8	648.00	T-5
1/4	2-1/8	648.00	T-5
5/16	2-1/8	648.00	T-5
3/8	2-3/4	877.00	T-5
7/16	2-3/4	877.00	T-5
1/2	2-3/4	877.00	T-5
9/16	3-3/4	1,085.00	T-5
5/8	3-3/4	1,085.00	T-5
11/16	3-3/4	1,085.00	T-5
3/4	3-3/4	1,085.00	T-5
7/8	4-3/4	1,495.00	T-5
1	4-3/4	1,495.00	T-5
1-1/8	4-3/4	1,495.00	T-5
1-1/4	4-3/4	1,495.00	T-5

CORNER NOTCHING

REFERENCE PAGE 65 IN THIS CATALOG

MADE TO ORDER

Size	Die Outer Diameter	Dealer Code
Max. 2 x 2	4-3/4	T-5
	4-3/4	T-5

CORNER TRIMMING

REFERENCE PAGE 65 IN THIS CATALOG

MADE TO ORDER



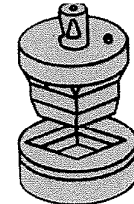
Radius Size	Die Outer Diameter	Dealer Code
1/16 to 3/16	2-1/8	T-5
Over 3/16 to 1/2	2-1/8	T-5
Over 1/2 to 1	2-3/4	T-5
Over 1 to 1-1/2	3-3/4	T-5

Prices for other sizes, consult sales department.

ALIGNING TOOL

REFERENCE PAGE 66 IN THIS CATALOG

MADE TO ORDER



Fractional Size	Die Outer Diameter	Dealer Code
2 x 2	3-3/4	T-5

Pricing on triple electrical knock-outs, multiple radius toggle switch, B receptacle, piercing, countersinking and forming tools, urethane strippers, other special function/purpose punches and dies, consult our sales department.

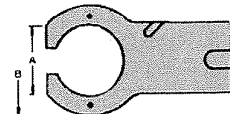
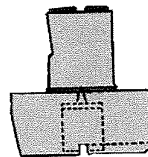
QUICK CHANGE TOOLING ACCESSORIES FOR ROPER WHITNEY PRESSES

MODEL ARLT-231

REFERENCE PAGE 66 IN THIS CATALOG

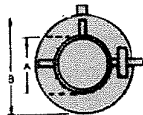
PUNCH HOLDER

Part Number	Price	Dealer Code
274750001	1,020.00	T-5



DIE ADAPTERS

Part Number	Style	Size	Dealer Code
274750012	QC-2	1-1/4	T-5
274750013	QC-3	2-1/8	T-5
274750014	QC-4	2-3/4	T-5
274750015	QC-5	3-3/4	T-5
274750016	QC-6	4-3/4	T-5



STRIPPER BRACKET ASSEMBLY

Part Number	Style	Size	Dealer Code
274750006	QC-9	1-1/4	T-5
274750007	QC-10	2-1/8	T-5
274750008	QC-11	2-3/4	T-5
274750009	QC-12	3-3/4	T-5
274750010	QC-13	4-3/4	T-5

Notes:

CINCINNATI PRECISION MACHINERY 513-860-4133



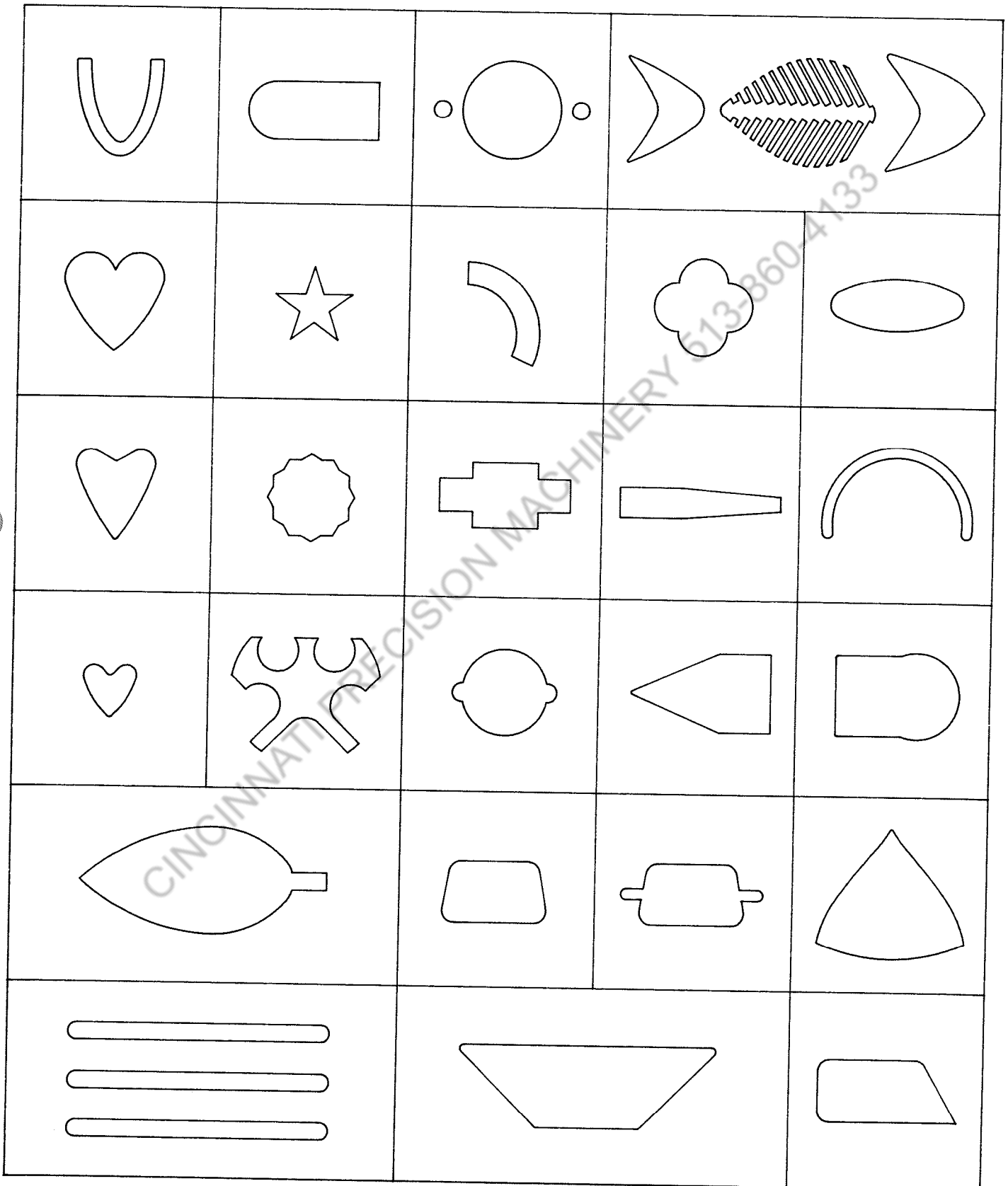
**ROPER WHITNEY
PUNCH AND DIE ORDER FORM**

1. WHAT PUNCHING UNIT DO YOU HAVE? _____
2. WHAT SHAPE IS NEEDED (CHOOSE ONE: 1=ROUND 2=OBROUND-M 3=RECTANGLE-N 4=DOUBLE "D"-P 5=SINGLE "D" 6=TRIANGLES-S 7=SQUARE-R 8=SPECIAL SHAPE PLEASE GIVE DRAWING OR SKETCH)? _____
3. SIZE OF SHAPE (TWO DIMENSIONS REQUIRED)? _____
4. BLANKING OR NOT BLANKING _____
(BLANKING IS WHEN YOU ARE GOING TO SAVE THE PIECE BEING PUNCHED)
5. MATERIAL BEING PUNCHED?
A-MILD STEEL, STAINLESS STEEL, ETC.? _____
B-THICKNESS OF MATERIAL OR GAUGE? _____
6. _____

CINCINNATI PRECISION MACHINERY 513-860-4133

**IF YOU'RE STILL NOT SURE, CALL OUR SALES DEPARTMENT
AT 815-962-3011**

Samples



CINCINNATI PRECISION MACHINERY 513-860-4133



Roper Whitney of Rockford, INC.
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