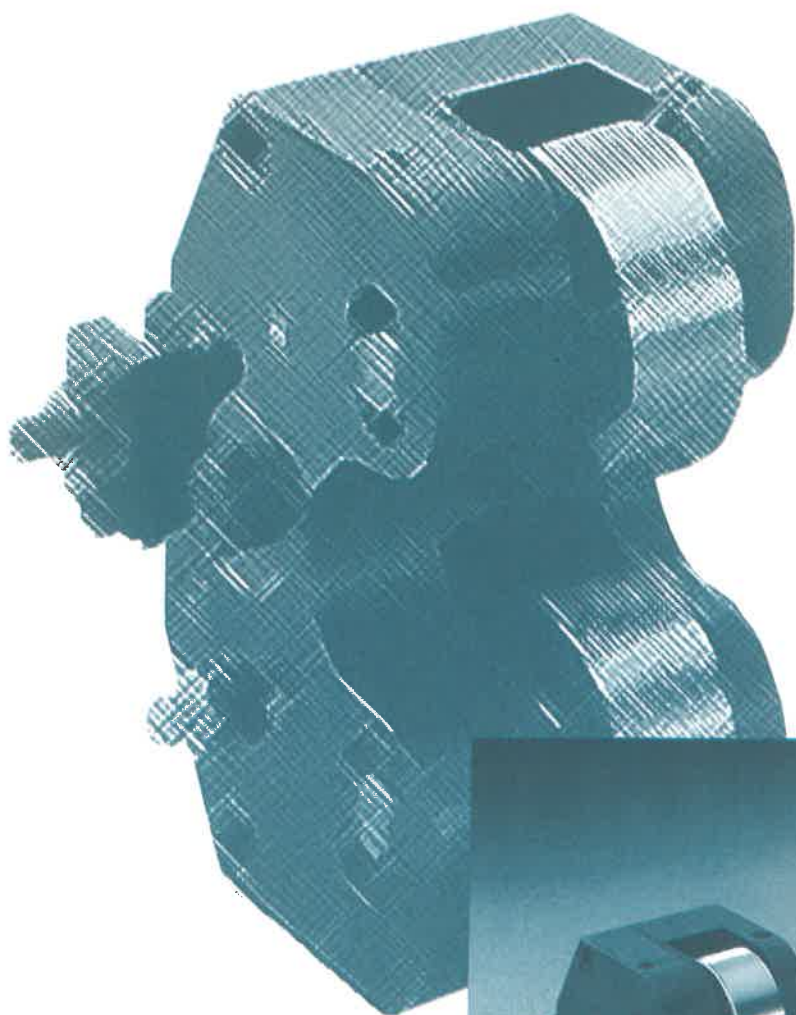
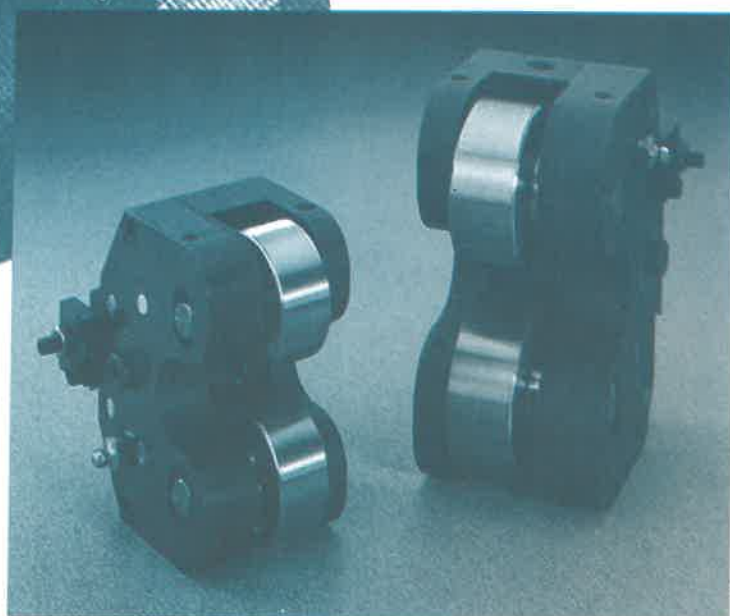


DETROIT-STYLE



**Detroit-Style
Attachments**



C. J. WINTER
MACHINE TECHNOLOGIES, INC.

A BRINKMAN INTERNATIONAL GROUP, INC. COMPANY

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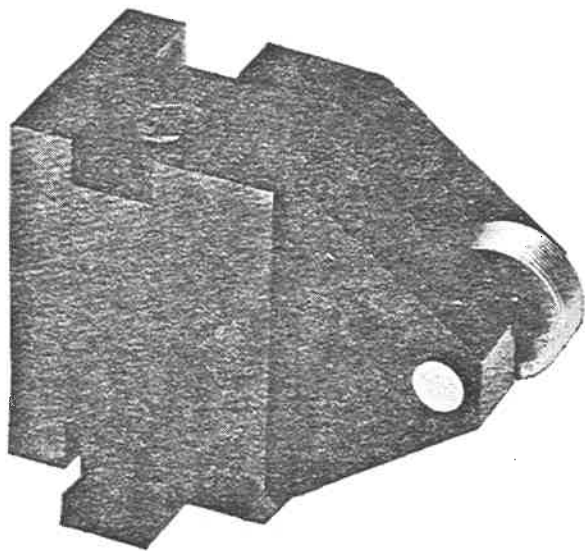
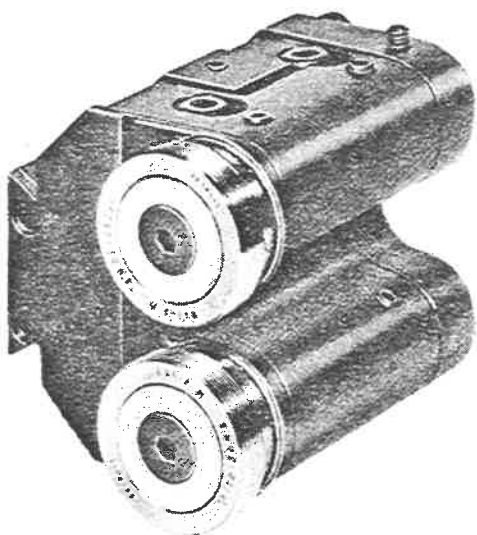
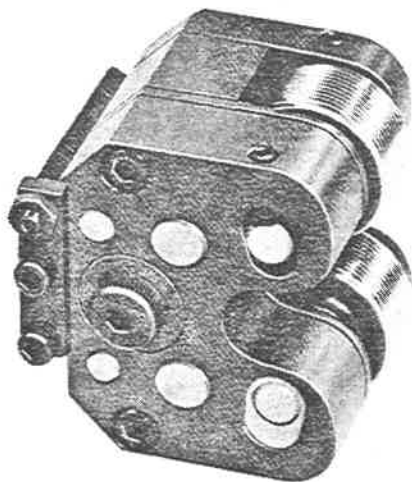
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THE THREAD ROLL HOLDER



Other Holder Types

There are two other basic methods of thread rolling. First is the end rolling method, which employs a holder that approaches the work axially, and for most thread sizes requires a set of three rolls. Rolls of this type are listed on page 113.

Straddle Type

The most widely used form of thread rolling employs what is called a straddle type holder. Two thread rolls are positioned in such a way that they approach the part tangentially and in effect, straddle the part. When the pair of rolls contact the work, they are driven by the rotating stock. Straddle type rolls must be synchronized so that the thread starts will be in proper register. This is accomplished by gearing located within the body of the thread roll holders and rolls, plus the adaptors for mounting this holder on any production machine. See page 15. We also make thread rolls for all other makes of straddle type holders.

Outboard Type

A popular variation of the basic straddle type holder is the outboard type shown. It is particularly useful for performing work behind a cut-off, close to a shoulder, or close to a large collet or other interferences which will not allow a conventional straddle type holder to be used. Detroit Tap and Tool offers a complete line of outboard holders, rolls and adaptors. See page 55.

Bump Type

The simplest type of thread roll holder is called a bump roll holder, in which a single roll is forced or "bumped" directly into the part. It is used typically on single spindle automatics when clearances are such that straddle type holders will not fit on the machine, to roll thread widths equal to or less than one diameter.

Bump type holders require considerably greater operating force than other types of holders and should only be used when tensile strength of the work material is relatively low.

Detroit Tap and Tool Bump Type Holders are cataloged beginning on page 81.

The second method is machine rolling, wherein the rolls drive the work. Detroit Tap and Tool manufactures machine rolls on a special order basis.

BASIC THREAD ROLL STYLES

Styles 1 and 3 thread rolls shown below, have traditionally been considered standard since they employ a simple drive hub design that makes them easy to assemble and to remove from a thread roll holder.

In the product section of this catalog you will find a broad range of thread roll sizes offered for each of these two roll styles.

Styles 2, 4 and 5 employ a recessed drive slot design which provides an extended working face on the roll. These

roll styles are more difficult to install than Styles 1 and 2, since they normally require a partial disassembly of the thread roll holder. This problem is overcome when a Detroit Tap and Tool Thread Roll Holder is selected, since all of our holders can be easily adjusted to accommodate extra wide rolls. Furthermore, once a Detroit Thread Roll Holder has been adjusted for wide rolls, it can still accept standard width rolls by employing a special drive spacer. See page 10.

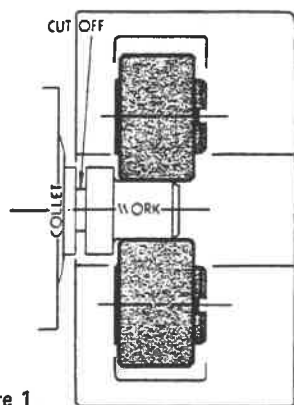


Figure 1

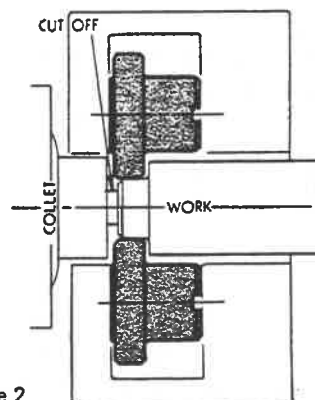


Figure 2

Style 1

This is the basic thread roll design. All other rolls are actually a modification of Style 1.

It is generally used for rolling threads on the outboard end of a part, or when the selected working face is adequate for the desired thread length and collet clearance is not important. When a narrow-faced Style 1 is ordered, it will be furnished as in Figure 2 above, with material removed from the drive-end of the roll. This configuration is useful in rolling threads behind a shoulder at the cut-off end of the work.

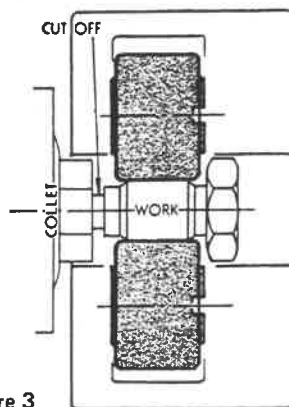


Figure 3

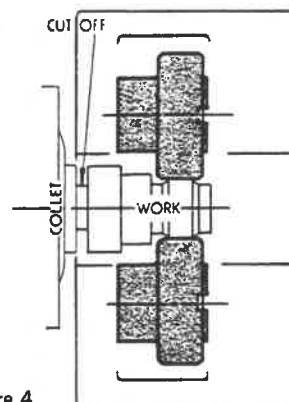


Figure 4

Style 2

Style 2 thread rolls have recessed drive slots and are used where a cross-slide design makes it necessary to place the thread roll holder closer to the Spindle Carriage than is possible using a Style 1 roll. Where a narrow work face Style 2 is selected, it will be furnished as shown in Figure 4 above. Again, this configuration is used where placement of the thread roll holder close to the Spindle Carriage is an advantage and the threaded section is away from the cut-off end.

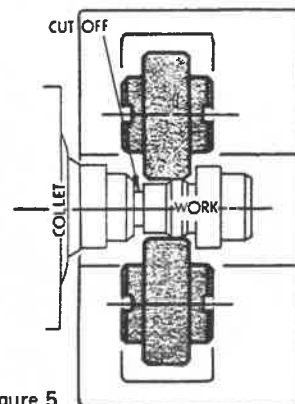


Figure 5

Style 3

These reversible rolls employ two standard drive hubs and are used where thread length is short enough to require less than half of the standard working face. The narrower face width version of Style 3 rolls is used where short thread length and space limitations exist.

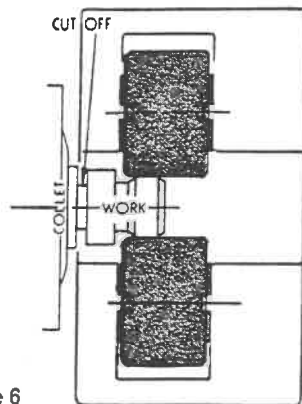


Figure 6

Style 4

Style 4 is essentially the same design as Style 3 except that the drive slots are recessed, thus providing an extended working face. They are employed where greater thread length capacity is required.

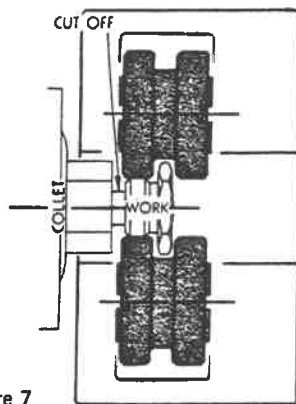


Figure 7

Style 5

These rolls can be used to roll two threads of the same diameter and pitch when the threads are separated by a shoulder. They are also used for short thread length adjacent to a shoulder. See Figure 7.

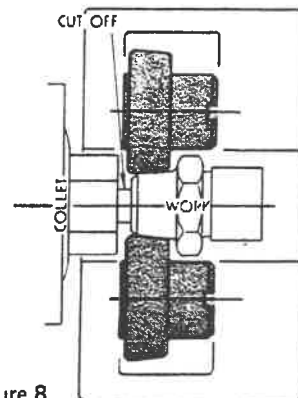


Figure 8

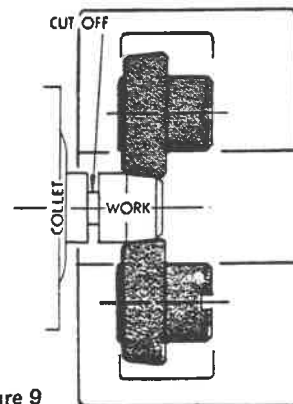


Figure 9

Style P1 and P2

These rolls are designed for rolling taper pipe threads - Style P1 is used as shown in figure 8, when the small end of the taper is toward the collet. Style P2, shown in figure 9, is used when the large end of the taper is toward the collet.

THREAD ROLLING CONSIDERATIONS

The Thread Rolling Paradox

Theoretically, thread rolling is impossible because as a roll enters a blank, the ratio of diameters (roll to blank) is constantly changing. As a result, it would seem that the synchronization of the thread starts cannot be maintained.

How then is thread rolling accomplished? The secret lies in the design of the thread roll holder, the selection of the roll diameter, and the design of the feed control cam on the

machine tool.

Straddle type thread roll holders, for example, have a certain amount of gear wind-up or back-lash built in, that will accommodate corrective synchronization motion of the rolls during in-feed. There is also a small but critical amount of axial float provided for the rolls to further accommodate these self-adjusting motions. Next, the roll diameters are chosen so that the thread starts are in perfect synchronization when the rolls have achieved 50% penetration of the blank, thus minimizing the mis-match in diameters. Obviously, once full penetration of the blank has been achieved, it is important to remove the rolls from the blank as quickly as possible. Otherwise, the small amount of back-

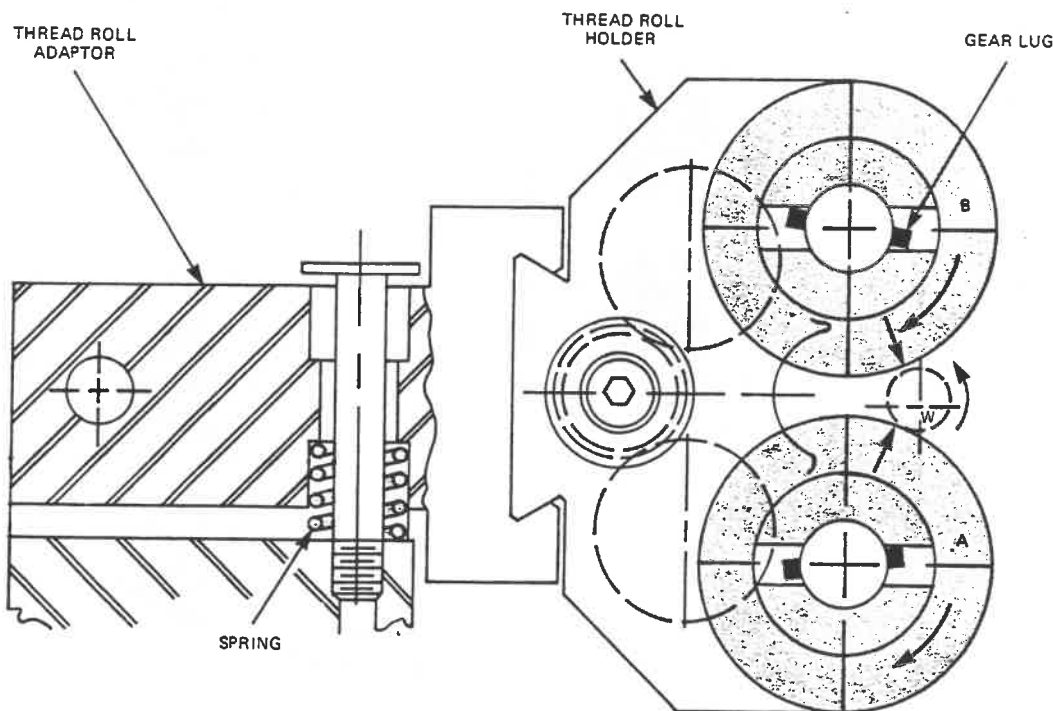


FIGURE 1

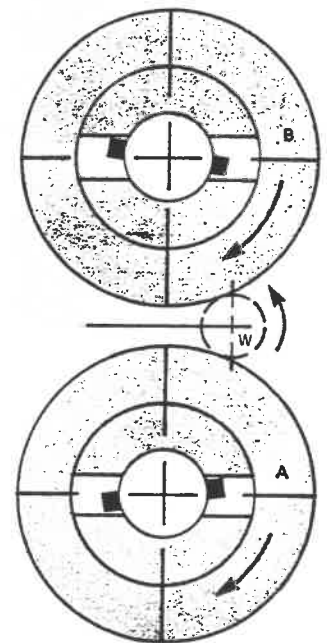


FIGURE 2

THE IMPORTANCE OF ROLL SYNCHRONIZATION GEARTRAIN WIND-UP AND END PLAY

When a pair of thread rolls are installed in a Straddle type holder, the thread crests of one roll must be aligned with the thread root of the second roll. This is accomplished by aligning timing marks on the rolls during installation. See page 118 . Above is a schematic outline of a thread rolling attachment when it is approaching a workpiece "W". This workpiece is rotating counter-clockwise. Thread roll "A" is forced by a spring in the adaptor to

contact the workpiece. The work drives roll "A" which winds up the gear train to drive roll "B". This "wind-up" of the gear train is absolutely necessary, because the rolls must rotate a part of a turn towards each other during the rolling cycle.

As the rolls are fed across the workpiece, they are driven, more or less independently of each other, by the workpiece. The real function of the gears is to make sure that both rolls are in the proper relation to start with so that they will be in proper register at the end of the cycle.

lash provided by the holder will be consumed and the roll will start to strip the threads from the blank. That is where proper cam design comes in.

How Threads Are Formed

As the face of a thread die is forced against a rotating stock, the crest of the threads on the roll die begin to compress the work material. These initial points of contact will become the base or root of the rolled thread. As material is displaced by the penetration it is forced upward and outward from the side of the die thread flank, thus forming the crest of the roll thread on the blank. The nature of this flow of material must be taken into consideration.

The 3 to 1 Ratio

When a thread roll has almost reached its maximum penetration, the work on the outside diameter of the part will grow three times for every increment of additional penetration. In other words, if it is determined that a part is being made .003 inches under size, it will only require .001 inches additional die penetration to bring the diameter of the threaded part up to size. This is a very critical adjustment, for if a die penetration is too great, the root area of the roll die threads will be rapidly filled up, causing rapid wear or breakage of the thread roll. The most effective way to control the diameter on the finished part is through careful preparation of the blank.

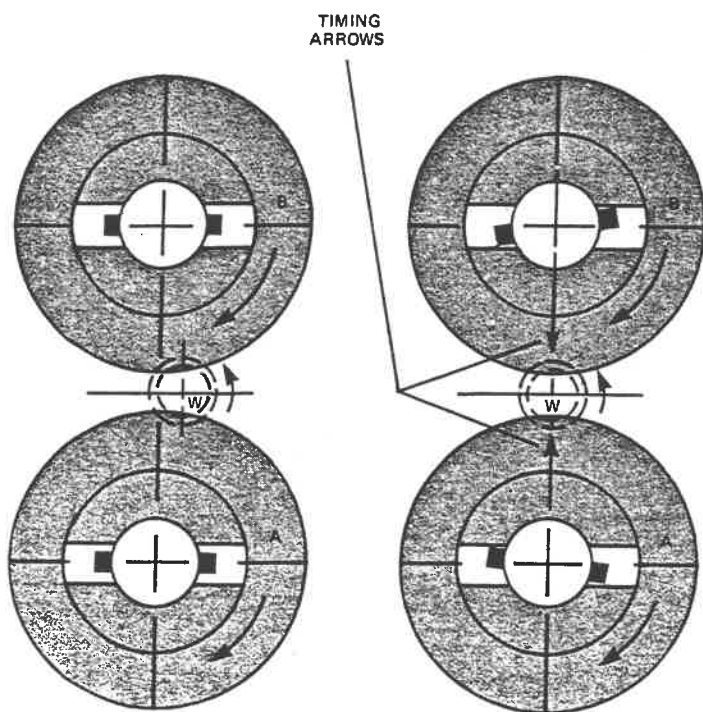


FIGURE 3

FIGURE 4

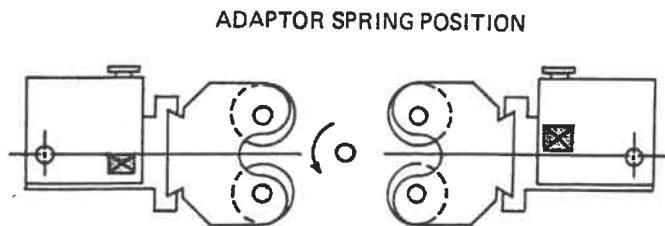


FIGURE 5

At the time both rolls contact the work, Figure 2, Roll "A" has marked the work. Roll "B" has a small amount of end play so that it will fall into these marks.

While the rolls are feeding onto the work, Figure 3, the gears are no longer positively driven; they are merely idling until the rolls are centered on the work, Figure 4, at which point they should be retracted from the work as quickly as possible.

It is necessary to have the proper roll engage the work first, so that the gear train winds up as shown above, before

both rolls are engaged. This sequence of roll engagement can be determined by referring to Figure 5. Note that the position of the adaptor spring controls which roll engages the work first. The rule to follow is "Whichever roll rotates away from the holder pocket should engage the work first".

The vast majority of thread roll problems are caused by failure to apply this rule properly.

THREAD ROLLING CONSIDERATIONS

Thread Roll Life

Thread roll life expectancy depends on a number of factors; primarily the quality and design of the roll which is the manufacturers responsibility. Quality and design include accuracy of dimensions, finish, and the metallurgical properties of the tool, combined with complete knowledge of the specific application.

Other factors are care and maintenance of thread roll and holder and the proper use of the thread roll.

Roll Maintenance

The care of the thread roll is an operator function and consists of the normal good maintenance provided for any

precision tool. Cleanliness and proper adjustment, cooling and lubrication are the keynotes.

Proper Roll Usage

The proper use of the roll constitutes proper matching of the rolls, which prevents side pressures and prolongs thread roll life. Life can be prolonged by selecting blank dimensions that run to the minimum tolerances of the specified thread, and by setting up so that a full depth thread is not rolled. This practice compensates for the occasional oversize blank and provides highly burnished thread crests, in addition to reducing the thread roll load. For more details on blank preparation see page

The characteristics of the material used for the blank are usually a specification of the finished product. Less life expectation can be anticipated when hard materials are specified.

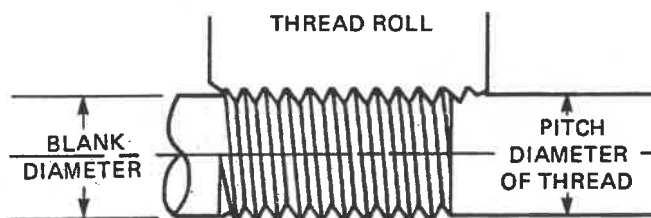


FIGURE 1

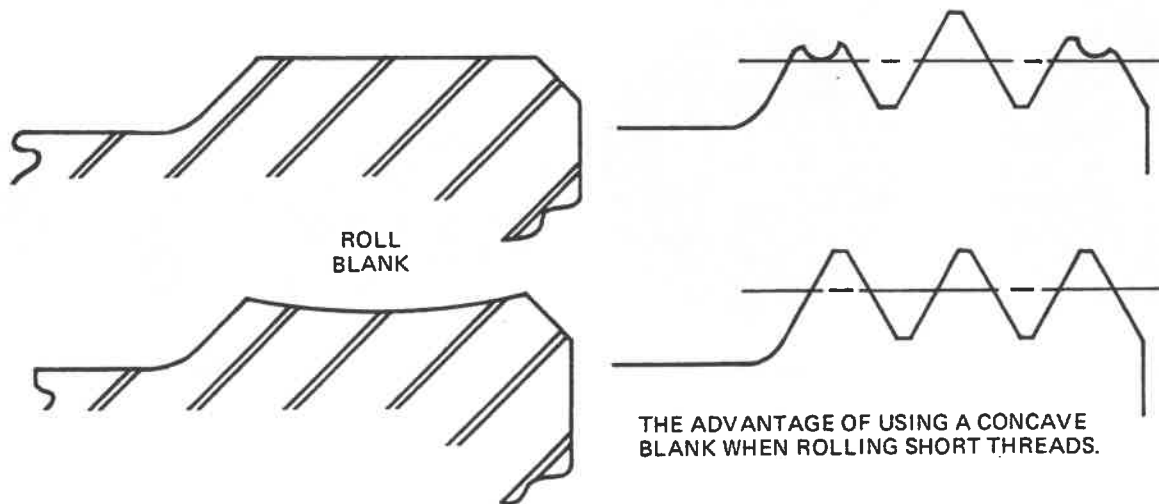


FIGURE 2

BLANK PREPARATION

The diameter of the blank must be carefully controlled in order to produce a thread of precisely the correct length and diameter. As seen in Figure 1, the blank diameter approximates the pitch diameter of the finished thread. Blanks that vary in diameter or linearity will result in an uneven distribution of pressure on the thread rolls, reducing the life-span of the die. Undersize blanks produce undersize thread crests. Tapered blanks produce tapered threads. Out-of-round blanks produce out-of-round threads.

As a general rule, the blank diameter should be slightly smaller than the thread pitch diameter desired. This dimension should be held with ± 0.0005 inches, since variations in blank diameter will produce a three fold change in diameter. See page 7. With very soft and ductile materials it may be necessary to increase the blank diameter slightly to compensate for axial stretching of the blank during rolling.

When rolling short threads, it is sometimes helpful to make the blank slightly concave in order to compensate for axial extrusion of metal during the rolling process. See Figure 2.

Blank Diameter Limits

Table A contains a range of percentages that may be used to determine minimum blank diameters for various materials. To obtain the suggested minimum blank diameter, add a percentage of pitch diameter tolerance to the minimum pitch diameter of the desired thread.

Maximum Blank Diameter

The maximum blank can be obtained by adding the minimum blank diameter to the blank diameter tolerance selected from table B.

On short thread lengths the blank diameter limits are generally increased to compensate for elongation, or stretch. Short lengths combined with coarse pitch threads require the largest compensation.

MINIMUM BLANK DIAMETER GUIDE

TABLE A

MATERIAL	HARDNESS	PERCENTAGE OF PITCH DIAMETER TOLERANCE TO BE ADDED TO MIN. BLANK DIA.
Aluminum Alloy	Soft	30 - 50
	Hard	20 - 40
Brass and Bronze		20 - 40
Steel:		
10 - 15 Carbon	Soft	0 - 20
30 - 50 Carbon	Soft	20 - 40
30 - 50 Carbon or Alloy	15 - 25 Rock. C	30 - 50
30 - 50 Carbon or Alloy	26 - 32 Rock. C	40 - 60
30 - 50 Carbon or Alloy	33 - 40 Rock. C	50 - 70
Stainless, Chrome-Nickel Alloy (300 Series)		60 - 80
Stainless, Chrome Alloy (400 Series)		40 - 60

TABLE B

APPROXIMATE BLANK TOLERANCES

THREAD TOLERANCES (IN INCHES)		THREAD DIAMETER IN INCHES					
MAJOR DIAM.	PITCH DIAM.	UP TO 1/2	1/2 - 1	1 - 1 1/2	1 1/2 - 2	2 - 2 1/2	2 1/2 - 5
.0020	.0010	.0003	.0003	.0002			
.0024	.0012	.0004	.0003	.0003			
.0028	.0014	.0005	.0004	.0003			
.0032	.0016	.0005	.0005	.0004			
.0036	.0018	.0006	.0006	.0005			
.0040	.0020	.0007	.0007	.0006	.0005		
.0050	.0025	.0008	.0008	.0008	.0005		
.0060	.0030	.0010	.0010	.0010	.0008	.0008	
.0070	.0035	.0013	.0013	.0010	.0010	.0008	
.0080	.0040	.0013	.0013	.0013	.0013	.0010	.0010
.0090	.0045	.0015	.0015	.0015	.0015	.0013	.0010
.0010	.0050	.0018	.0018	.0018	.0018	.0015	.0015
.0120	.0060	.0020	.0020	.0020	.0020	.0020	.0015
.0140	.0070	.0025	.0025	.0025	.0025	.0020	.0020
.0160	.0080		.0030	.0030	.0030	.0025	.0025
.0180	.0090		.0030	.0030	.0030	.0030	.0030
.0200	.0100		.0035	.0035	.0035	.0035	.0035
.0220	.0110			.0040	.0040	.0040	.0040
.0240	.0120			.0040	.0040	.0040	.0040
.0280	.0140				.0045	.0045	.0045
.0320	.0160				.0050	.0050	.0050

Characteristics of Blank Material

Blank materials can pose some interesting problems, because materials that are easier to roll are difficult to machine, and materials that are easy to machine are difficult to roll. If you understand why this is so, you can avoid costly mistakes when determining which method of thread production is best for a particular job. Basically, soft, ductile materials are easy to roll and produce smooth finished threads. Hard materials are difficult to roll and you should avoid, as a general rule, attempts to roll materials harder than 25 Rockwell C. Should you be required to replace a soft, easily rolled material with a good, stiff machinable

material, the increased forces required may be so great that:

1. The roll life will be drastically reduced
2. The tensile yield strength of the material will be exceeded, destroying the blank
3. The machine tool will not be capable of forcing the rolls into the work.

For example, some stainless steels have good rolling properties, while a free-cutting stainless in the same group does not, because it is less ductile. Always check material specifications before you decide to roll a thread. When in doubt, contact your material supplier.

HOW TO SELECT THE PROPER THREAD ROLL HOLDER

Thread Diameter

Holder selection is based primarily upon the thread diameter to be rolled and the machine to be used. The thread diameter capacity for Detroit Thread Roll Holders are listed below. Consult the product pages for complete information on holders, rolls, adaptors and machine positions. If a thread diameter can be rolled by more than one size holder it is recommended that the larger size holder be selected.

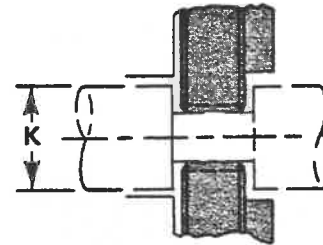
In general, threads can be rolled in lengths up to approximately 1/4-inch shorter than the spacer width. (e.g. Using a 1 1/2-inch spacer with appropriate thread rolls permits rolling threads up to 1 1/4-inch in length.)

THREAD ROLL HOLDER CAPACITIES

HOLDER EDP NUMBER	CAPACITY
STRADDLE TYPE	
76000	0 - 80 UNF through 3/8" - 32 UNEF
76100	5 - 40 NC through 5/8" - 18 NF, 1/8" & 1/4" Straight & Taper Pipe
76200	10 - 24 UNC through 3/4" - 20 UNEF, 1/8", 1/4", 3/8" & 1/2" Straight & Taper Pipe
76300	1/4" - 20 UNC through 1" - 14 NS, 1/8", 1/4", 3/8" & 1/2" Straight & Taper Pipe
76400	1/4 - 20 UNC through 1 1/8" - 18 UNEF, 1/8", 1/4", 3/8", 1/2" & 3/4" Straight & Taper Pipe
OUTBOARD TYPE	
77000	5 - 40 UNC through 5/8" - 18 UNF, 1/8" & 1/4" Straight & Taper Pipe
77150	10 - 24 UNC through 3/4" - 20 UNEF, Straight & Taper Pipe
77200	1/4" - 20 UNC through 1" - 14 NS, 1/8" & 1/4" Straight and Taper Pipe
77300	1/4" - 20 UNC through 1 1/8 - 18 UNEF, 1/8" & 1/4" Straight & Taper Pipe
BUMP TYPE	
77500	0 - 80 NF through 3/8" - 32 NEF
77600	10 - 24 NC through 1/2" - 20 UNEF, 1/16" & 1/8" Taper Pipe
77700	3/8" - 16 UNC through 3/4" - 20 UNEF, 1/16" & 1/8" Taper Pipe

Shoulder Clearance

Shoulder clearance is another consideration in determining the proper head size to use. Maximum stock diameters that can be accommodated within the capacities of Detroit Tap and Tool thread roll holders are indicated on each of the product pages of this catalog relating to rolls. This "K" Dimension has been calculated to leave a 1/32-inch clearance between the Thread Roll holder throat and the blank O.D.



Thread Length

Detroit Thread Roll Holders can be adjusted to accept a wide range of thread roll widths, by means of interchangeable spacers. Thread length will determine whether a basic holder or an expanded width holder is required. Standard spacer widths, available for each holder, are indicated in the product section of this catalog on all pages relating to holder parts.

Non-standard width spacers are also available on special order.

Expanded width holders can accept standard width rolls by incorporating special drive spacers. See below.

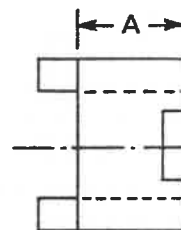


TABLE C
SPECIAL DRIVE SPACERS TO ACCOMMODATE STANDARD WIDTH ROLLS IN EXTENDED WIDTH HOLDERS

HOLDER NUMBER	"A" DIMENSION	QUANTITY REQUIRED	DRIVE SPACER EDP NUMBER
76001	.125	2	76060
76002	.250	2	76061
76101	.220	2	76160
76102	.470	2	76161
76201	.250	2	76291
76202	.500	2	76293
76203	.750	2	76295
76301	.250	2	76391
76302	.500	2	76393
76303	.750	2	76395
76401	.250	2	76480
76402	.500	2	76482
76403	.750	2	76484

THREAD ROLL SELECTION

A complete listing of standard thread roll styles and sizes for each thread roll holder type will be found in the product section of this catalog. Part diameter, thread pitch and part configuration will determine which thread roll style will be appropriate for a particular job. Refer to pages 4 and 5 for an explanation of how the basic thread roll styles may be applied.

Once a particular style roll has been selected, the next step is to choose the widest roll width listed in this catalogue that can be accommodated by the geometry of the part. Production economy dictates that we manufacture

all our rolls to a standard width, then grind them down to size as required. Therefore, narrow face width rolls cost a little more than wider rolls. If you are in doubt about whether a particular thread roll width will produce the thread length required, refer to the paragraphs titled How to Calculate Minimum Working Face.

Although we have attempted to catalog as many standard rolls as possible, there will still be many applications when a special design roll will be required. Detroit Tap & Tool can produce special thread rolls to your specifications.

The Importance of Roll Chamfer

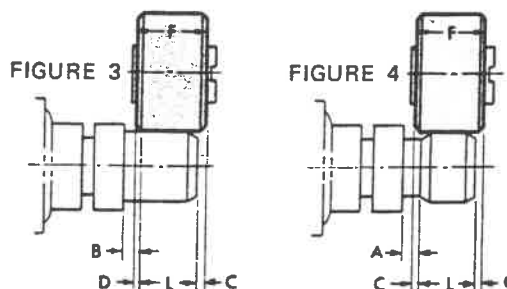
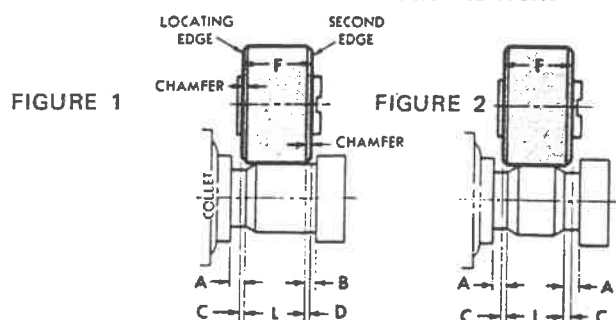
The chamfer on each edge of the thread roll has an important bearing on the effective working face of the roll, and consequently determines the maximum thread length that can be produced by a particular roll.

The standard chamfer angle for all rolls listed in the product section of this catalog is 45 degrees. This chamfer angle can be altered to a long 30 degree in order to provide additional support for the threads on the end of the roll, if damage in this area should prove a problem. A 30 degree

chamfer, however, will reduce the length of thread produced by the roll.

When threads must be rolled very close to a collet and clearances are otherwise restricted, it may be necessary to special order rolls with a 60 degree chamfer, in order to extend the working face as far as possible. 60 degree chamfer angles should be avoided if at all possible, since they will reduce the ability of the roll to withstand axial forces at the edge of the thread roll.

How to Position Thread Rolls in Relation to Work



Figures 1 through 4 are intended to help you calculate the minimum working face for various thread rolling applications, determine the amount of chamfer or machine breakout required, and how to position the thread roll properly.

- A - Minimum permissible width of cut-off tool or neck adjacent to shoulder.
- B - Minimum distance from shoulder to first complete thread on straight blanks.
- C - Minimum distance from end of thread roll to end of work.
- D - Distance from thread roll edge to first complete thread.
- L - Length of full thread on work.
- F - Roll working face width.

Chamfers on the thread roll edges are determined by A or B and are based on the minimum width of cut-off tool or neck, or on the minimum distance from the shoulder to the first complete thread.

As shown in Figure 1, the edge of the thread roll nearest the collet is considered the locating surface of the roll. The position of this edge with respect to the work is determined

by the size of the chamfer (or machined breakout) on the edge of the roll. Table D tabulates the dimensions as indicated in Figure 5 for various chamfer angles (30°, 45° and 60°) and for machined breakouts.

HOW TO CALCULATE MINIMUM WORKING FACE

The working face, or F dimension, on a thread roll must always be greater than the length of the thread to be generated on the part. The general rule is to allow the thread roll to overhang each end of the blank by at least one full thread pitch. When it is necessary to keep the width of the roll to an absolute minimum because of restricted clearance, the following formulae should be used, with reference to Figure 1 through 4 and Tables D & E.

FIGURE NO.	WORKING FACE OF ROLL	
	NON-REVERSIBLE ROLL	REVERSIBLE ROLL
1	$F = C + L + D$	$F = 2(D + L) + P$
2	$F = 2C + L$	$F = 2(C + L) + P$
3	$F = D + L + C$	$F = 2(D + L) + P$
4	$F = 2C + L$	$F = 2(C + L) + P$

P = THREAD PITCH (SEE TABLE E, PAGE 12)

THREAD ROLL SELECTION CONT.

TABLE D VALUES OF A, B, C AND D

Threads per inch	30° Chamfer				45° Chamfer				60° Chamfer				Machine Breakouts			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
8	.234	.203	.172	.141	.175	.144	.112	.081	.141	.109	.078	.047	.141	.109	.078	.047
9	.208	.181	.153	.125	.155	.128	.100	.072	.125	.097	.069	.042	.125	.097	.069	.042
10	.188	.163	.138	.113	.140	.115	.090	.065	.113	.088	.063	.038	.113	.088	.063	.038
11	.170	.148	.125	.102	.127	.105	.082	.059	.102	.080	.057	.034	.102	.080	.057	.034
11½	.163	.141	.119	.098	.122	.100	.078	.056	.098	.076	.054	.033	.098	.076	.054	.033
12	.156	.135	.115	.094	.117	.096	.078	.054	.094	.073	.052	.031	.094	.073	.052	.031
13	.144	.125	.106	.087	.108	.088	.069	.050	.087	.067	.048	.029	.087	.067	.048	.029
14	.134	.116	.098	.080	.100	.082	.064	.046	.080	.063	.045	.027	.080	.063	.045	.027
16	.117	.102	.086	.070	.088	.072	.056	.041	.070	.055	.039	.023	.070	.055	.039	.023
18	.104	.090	.076	.062	.078	.064	.050	.036	.063	.049	.035	.021	.063	.049	.035	.021
20	.094	.081	.069	.056	.070	.058	.045	.033	.056	.044	.031	.019	.056	.044	.031	.019
24	.078	.068	.057	.047	.058	.048	.038	.027	.047	.036	.026	.016	NOT RECOMMENDED			
27	.069	.061	.051	.042	.052	.043	.033	.024	.042	.032	.023	.014				
28	.067	.058	.049	.040	.050	.041	.032	.023	.040	.031	.022	.013				
32	.059	.051	.043	.035	.044	.036	.028	.020	.035	.027	.020	.012				
36	.052	.045	.038	.031	.039	.032	.025	.018	.031	.024	.017	.010				
40	.047	.041	.034	.028	.035	.029	.022	.016	.028	.022	.016	.009				
44	.043	.037	.031	.026	.032	.026	.020	.015	.026	.020	.014	.009				
48	.039	.034	.029	.023	.029	.024	.019	.014	.024	.018	.013	.008				
56	.033	.029	.025	.020	.025	.021	.016	.012	.020	.016	.011	.007				
64	.029	.025	.021	.018	.022	.018	.014	.010	.018	.014	.010	.006				
72	.026	.023	.019	.016	.019	.016	.012	.009	.016	.012	.009	.005				
80	.023	.020	.017	.014	.018	.014	.011	.008	.014	.011	.008	.005				

*30° chamfers preferred on rolling edge.

**If narrow cut-off tools are required, chamfers may be used at cut-off end.

TABLE E THREAD PITCH VALUES (P)

THREADS PER INCH	PITCH	THREADS PER INCH	PITCH
4	.25000	22	.04545
4½	.22222	24	.04167
5	.20000	27	.03704
5½	.18182	28	.03571
6	.16667	30	.03333
7	.14286	32	.03125
8	.12500	34	.02941
9	.11111	36	.02778
10	.10000	40	.02500
11	.09091	44	.02273
11½	.08696	48	.02083
12	.08333	50	.02000
13	.07692	56	.01786
14	.07143	60	.01667
16	.06250	64	.01562
18	.05556	72	.01389
20	.05000	80	.01250

CAM DESIGN CONSIDERATIONS

It is important that the proper cam design be used with the Detroit Holder. The cam should move the center of the rolls to the centerline of the work at a predetermined feed per revolution of the work. Instant return should follow with no dwell at the work centerline. The basic elements of the cam design are presented schematically in Figure 1

Thread rolling cams may be ordered directly from either the machine manufacturer or any reputable cam manufacturer. When ordering a cam, the following information is necessary:

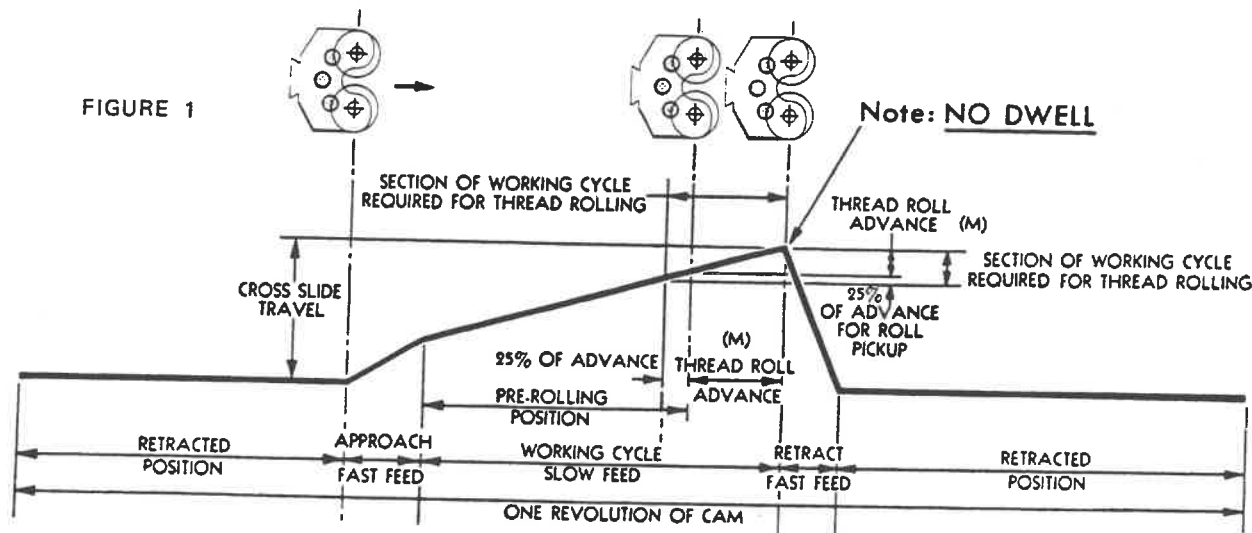
1. Machine model, size and serial number.
2. Thread rolling position.
3. Thread size.

4. Work revolutions required.*
5. Total advance required.*
6. Feed change gears to be used (if applicable)
7. Feed range (fine or coarse, if applicable).

Note:

Always specify that cams are to be used for thread rolling since it is important that they be designed with no dwell and full travel or extended travel where possible.

*Methods for determining work revolutions and total advance required (which together determine feed rate) are presented below and on page 14.



HOW TO CALCULATE THREAD ROLL FEED RATE

Feed rate for thread rolling is expressed in terms of inches per work revolution. For the vast majority of materials, the feed rate will be somewhere between .015 and .020 inches per revolution. To calculate thread rolling feed rate for a particular application, follow the simple three step procedure.

FIRST: Determine Required Work Revolutions

Recommended work revolutions using mild steel or screw stocks are presented in Table F, based on thread diameter and threads per inch. Although only two pitches are given for each size, revolutions required for intermediate pitches may be estimated by interpolation. For brass or soft-temper aluminum, 10-20% fewer revolutions may be used. For high-carbon steels and stainless steels, it is imperative that the thread be rolled in as few turns as possible. Note that these recommendations apply to actual rolling revolutions, and the cam should provide for 25-100% additional revolutions for approach and safety.

SECOND: Determine Thread Roll Advance

Thread roll advance is defined as the distance from initial

contact with the work to the full thread rolling position at the work centerline as shown in Figure 1, page 14.

The thread roll advance and number of roll starts required for most standard thread sizes (including straight and taper pipe threads) between No. 0 and 1 1/8" are presented in Table G, page 14 (The values tabulated are rounded off to the nearest .01 inch which is sufficiently accurate for most applications).

TABLE F RECOMMENDED WORK REVOLUTIONS (N)

Thread Size	N	Thread Size	N	Thread Size	N	Thread Size	N	Thread Size	N
10 x 32	9	5/16 x 18	12	9/16 x 18	13	3/4 x 10	20	1/4 x 27 NPT	9
10 x 24	12	3/8 x 24	10	9/16 x 12	15	7/8 x 14	16	1/4 x 18 NPT	12
12 x 28	10	3/8 x 16	14	3/8 x 18	13	3/8 x 9	22	1/8 x 18 NPT	12
12 x 24	13	7/16 x 20	11	3/8 x 11	17	1" x 20	15	1/2 x 14 NPT	16
1/2 x 28	10	7/16 x 14	15	1 1/16 x 20	13	1" x 14	18	3/4 x 14 NPT	17
1/4 x 20	12	1/2 x 20	12	1 1/8 x 12	18	1 1/8 x 18	15		
5/16 x 24	9	1/2 x 13	16	3/4 x 16	14	1 1/4 x 12	20		

HOW TO CALCULATE THREAD ROLL FEED RATE CONTD.

For special applications not listed in Table G the thread roll advance can be calculated for any thread diameter by using the following formula (relating to Figure 1, below).

$D = \text{Thread Roll Advance} = C \times \sin A$, where

$\cos A = \frac{B}{C}$, and

$B = 1/2 (\text{Roll Dia} + \text{Part Root Dia})$;

$C = 1/2 (\text{Roll Dia} + \text{Blank Dia})$.

Blank Dia. = Major Dia. - 1 Thread Depth.

EXAMPLE: advance required for 5/8 X 18 thread

Roll Dia. = 1.713"

$$B = 1/2 (1.713'' + 0.553'') = 1.133''$$

$$C = 1/2 (1.713'' + 0.589'') = 1.151''$$

$$\cos A = \frac{1.133}{1.151} = 0.9852$$

$$A = 10^{\circ} 10'$$

$$D = 1.151 \times \sin 10^{\circ} 10' = 1.151'' \times 0.1765 = 0.203''$$

THIRD: Divide Roll Advance by Work Revolutions

$$\text{FEED RATE} = \frac{\text{Thread Roll Advance}}{\text{Recommended Work Revolutions}}$$

EXAMPLE: Feed rate required for 9/16 X 12 thread using Model 76200 head to roll screw stock materials:

Recommended Work Rev. = 15 (See table "F")

Thread Roll Adv. = 0.230" (See table "G")

$$\text{Feed Rate} = \frac{0.230}{15} = .015 \text{ in./work rev.}$$

NOTE: Feed rates and work revolutions given in this manual are based on a maximum length of thread of two diameters, rolled close to the collet. (For example, 1/2-20 by 1" long or No.10-32 by 3/8" long.) Threads longer than this ratio or a considerable distance from the collet will require a smaller feed rate and more revolutions.

WATCH OUT!

Remember that thread roll feed rate is expressed in terms of the number of work revolutions, not the speed of work revolutions. In other words, if you change a job on a Multiple Spindle Automatic, to run a harder material, and cut the feed rate of the tool slide in half to run the harder material, you have also cut the cross slide feed rate in half and this will always result in a feed per revolution too slow for thread rolling. A new cam is therefore required.

FIGURE 1

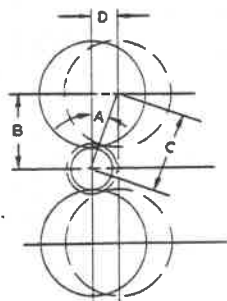


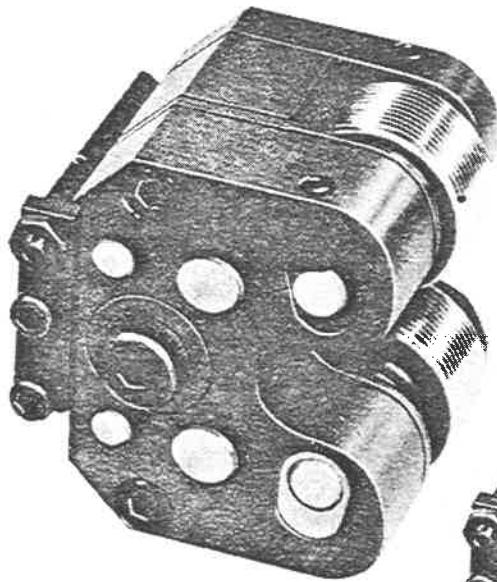
TABLE G
Thread Roll Starts (S) and Advance (A)

THREAD SIZE	HOLDER MODEL									
	76000		76100		76200		76300		76400	
	S	A	S	A	S	A	S	A	S	A
0-80	20	.063								
1-64	17	.072								
1-72	16	.067								
2-56	14	.077	19	.090						
2-64	13	.070	18	.080						
3-48	12	.082	16	.090						
3-56	12	.076	16	.090						
4-40	11	.093	15	.110						
4-48	10	.082	12	.090						
5-40	9	.090	13	.110						
5-44	9	.085	14	.100						
6-32	9	.075	12	.120						
6-40	8	.092	11	.100						
8-32	7	.104	9	.120						
8-36	7	.099	9	.110						
10-24	6	.113	8	.140	12	.160				
10-32	6	.107	8	.120	11	.140				
12-24	5	.120	7	.140	10	.160				
12-28	5	.112	7	.130	10	.160				
12-32			7	.120	9	.140				
1/4-20	4	.128	6	.150	9	.180	11	.198	13	.230
1/4-28	4	.112	6	.130	8	.150	10	.168	12	.190
1/4-32			6	.120	8	.140	10	.156	12	.180
5/16-18	3	.155	5	.170	7	.190	8	.203	10	.220
5/16-24	3	.121	4	.130	6	.160	8	.183	10	.200
5/16-32	3	.107	4	.120	6	.140	7	.151	9	.170
3/8-16			4	.180	5	.190	7	.225	8	.230
3/8-24	2	.162	4	.150	5	.160	6	.178	8	.190
3/8-32	2	.103	3	.120	5	.140	6	.157	8	.170
7/16-14			3	.180	5	.220	6	.244	7	.260
7/16-20			3	.160	4	.190	5	.195	7	.220
7/16-28			3	.140	4	.150	5	.168	6	.180
1/2-13			3	.200	4	.230	5	.253	6	.280
1/2-20			2	.150	4	.190	4	.191	6	.230
1/2-28			2	.130	3	.150	4	.164	5	.180
9/16-12			2	.200	3	.230	4	.255	5	.280
9/16-18			2	.160	3	.190	4	.214	5	.230
9/16-24			2	.140	3	.170	4	.188	5	.200
5/8-11			2	.220	3	.250	4	.281	5	.310
5/8-18			2	.170	3	.200	3	.203	4	.220
5/8-24							3	.178		
11/16-16					2	.160	3	.226	4	.280
11/16-20							3	.204		
3/4-10					2	.250	3	.291	4	.310
3/4-16					2	.200	3	.237	3	.240
3/4-20					2	.180	3	.213	3	.210
13/16-12							2	.214	3	.280
13/16-16									3	.250
13/16-20									3	.220
7/8-9									3	.330
7/8-14							2	.237	3	.270
7/8-18							2	.211		
7/8-20									3	.230
15/16-16							2	.231		
1"-14							2	.254	2	.250
1"-16							2	.239		
1"-20									2	.210
1 1/16-12									2	.280
1 1/16-16									2	.250
1 1/16-18									2	.230
1 1/4-12									2	.290
1 1/4-18									2	.240

Straight and Taper Pipe Threads

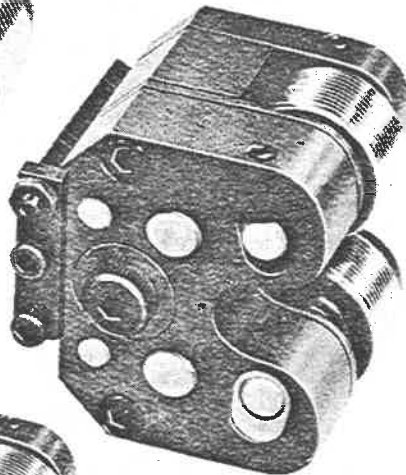
1/4-27		3	.130	5	.162	6	.188	7	.180
1/4-18		2	.160	3	.173	4	.212	5	.230
3/8-18				3	.209	3	.214	4	.240
1/2-14				2	.228	2	.232	3	.270
3/4-14								2	.260

DETROIT TAP & TOOL STRADDLE TYPE HOLDERS, ROLLS AND ADAPTORS



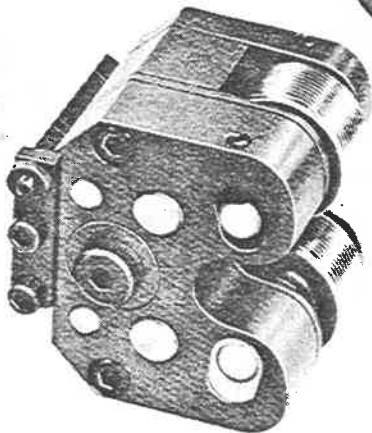
76400

Capacity: 1/4 - 20 UNC
through 1 1/8"-18 UNEF,
1/8", 1/4", 3/8" & 1/2"
Straight & Taper Pipe
Pages: 47-54



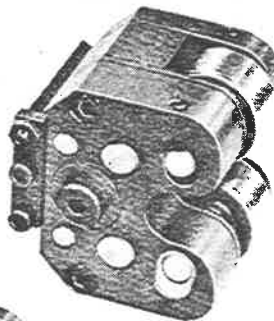
76300

Capacity: 1/4"-20 UNC
through 1"-14 NS, 1/8",
1/4", 3/8" & 1/2" Straight
& Taper Pipe
Pages: 39-46



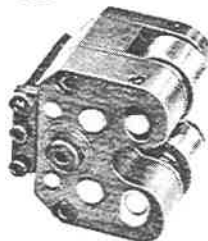
76200

Capacity: 10-24 UNC
through 3/4"-20
UNEF, 1/8", 1/4",
3/8", & 1/2" Straight
and Taper Pipe
Pages 31-38



76100

Capacity: 5-40 NC
through 5/8"-18 NF,
1/8" & 1/4" Straight
& Taper Pipe
Pages: 23-30



76000

Capacity: 0-80 UNF
through 3/8"-32 UNEF
Pages: 17-22

FEATURES

4 Standard Spaces

The unique 3-unit modular construction of the holder permits using a variety of standard or special spacer sizes between the gearbox and the backplate to accommodate wider rolls for longer threads and/or special applications.

Close-to-the-Collet Rolling

Backplate design optimizes maximum rigidity and strength with minimum section thickness to roll threads close to the collet, minimizing machine spindle loads.

Hardened Wear Plate

Protection of the backplate from undue side wear is assured by this simple, hardened-steel wear plate which can be replaced simply and inexpensively.

Shop-Floor Roll Adjustment

Since the head has no floating arms to adjust for parallelism, roll changes and adjustments are simple operations that can be performed by the machine set-up man. For large adjustments, one roll is firmly fixed in interchangeable bushing* providing in, out and center positions. The other roll is made infinitely adjustable by two set screws.

*Except Model 76000 on which large adjustments are not necessary.

Deep Pockets

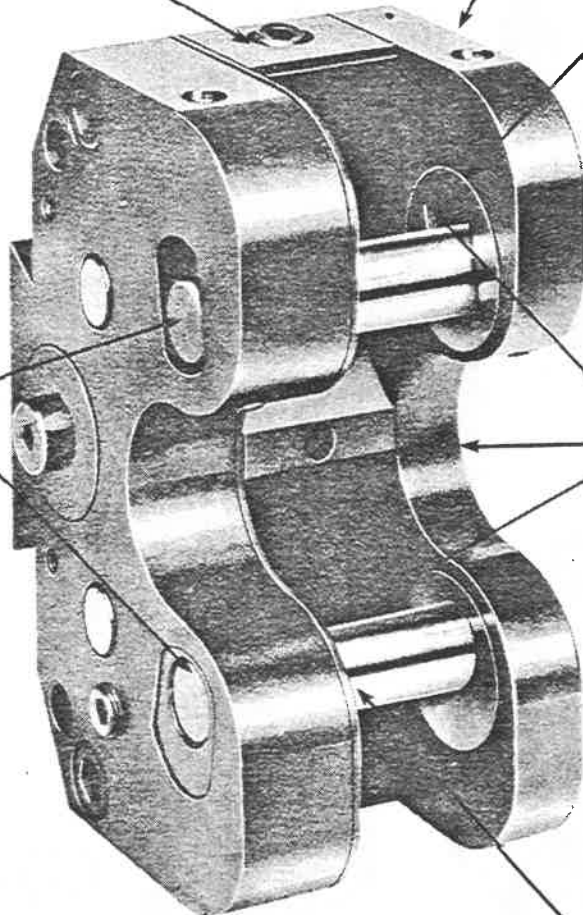
Both the throat and the roll recesses are unusually deep to enable use of larger rolls and greater stock diameters than any other thread roll holders of similar size. Because larger rolls can be used, harder and tougher materials can be rolled since roll stresses are lower.

Wide Range Application

No other thread holders have a broader range or applicability. The five standard models cover thread sizes from 0-80 to 1 1/8 - 12, in lengths up to nearly 2".

Chip Guards

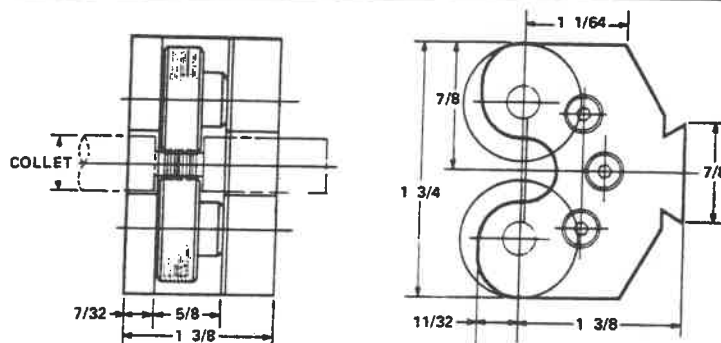
Covers are provided on the gearbox to prevent any foreign particles from contaminating the gears.



DETROIT TAP & TOOL THREAD ROLL HOLDER, MODEL: 76000

MODEL 76000 REPLACES MODEL 0-375

CAPACITY: No. 0 - 80 UNF through 3/8 - 32 UNEF

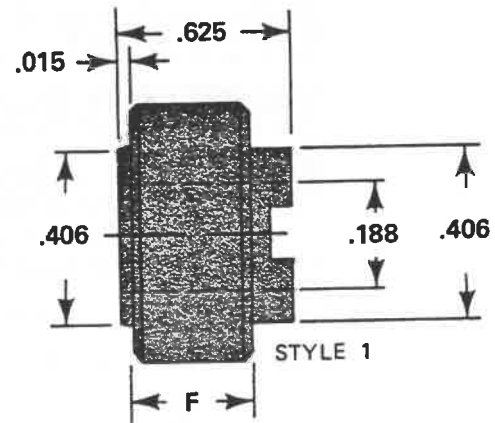
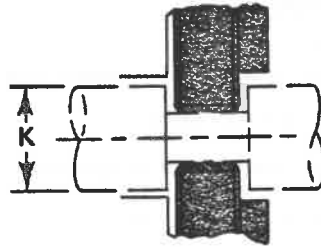


- THREAD ROLL SELECTION GUIDE
SEE PAGE 45
- THREAD ROLL ASSEMBLY INSTALLATION GUIDE
SEE PAGE 118
- THREAD ROLL CAM DESIGN GUIDE
SEE PAGE 13
- BLANK PREPARATION GUIDE
SEE PAGE 8

STANDARD THREAD ROLLS FOR MODEL 76000 THREAD ROLL HOLDER.

NOTE:

- "K" dimension indicates maximum allowable stock diameter to clear thread roll holder throat opening.

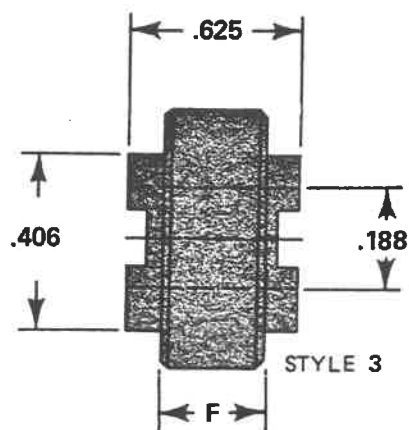
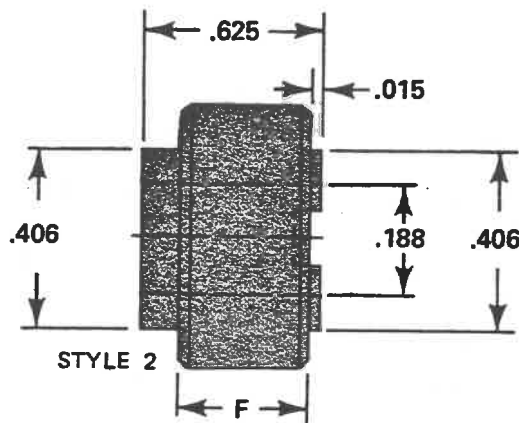


THREAD SIZE		THREAD ROLL		SHOULDER CLEARANCE K
		APPROX. O.D.	NO. STARTS	
0 - 80	UNF	.956	20	.392
1 - 64	UNC	.982	17	.350
1 - 72	UNF	.952	16	.386
2 - 56	UNC	.958	14	.372
2 - 64	UNF	.920	13	.377
3 - 48	UNC	.944	12	.375
3 - 56	UNF	.979	12	.337
4 - 40	UNC	.961	11	.351
4 - 48	UNF	.917	10	.389
5 - 40	UNC	.905	9	.387
5 - 44	UNF	.929	9	.367
6 - 32	UNC	.967	9	.327
6 - 40	UNF	.907	8	.387
8 - 32	UNC	.935	7	.333
8 - 36	UNF	.959	7	.305
10 - 24	UNC	.896	6	.361
10 - 32	UNF	.957	6	.285
12 - 24	UNC	.876	5	.355
12 - 28	UNF	.906	5	.317
12 - 32	UNEF	.928	5	.278
1/4 - 20	UNC	.805	4	.385
1/4 - 28	UNF	.861	4	.303
1/4 - 32	UNEF	.878	4	.310
5/16 - 18	UNC	.775	3	.377
5/16 - 24	UNF	.815	3	.319
5/16 - 32	UNEF	.846	3	.312
3/8 - 24	UNF	.669	2	.379
3/8 - 32	UNEF	.689	2	.375

EDP NUMBER			
WORKING FACE F			
15/32	3/8	5/16	1/4
60001	60002	60003	60004
60021	60022	60023	60024
60041	60042	60043	60044
60061	60062	60063	60064
60081	60082	60083	60084
60101	60102	60103	60104
60121	60122	60123	60124
60141	60142	60143	60144
60161	60162	60163	60164
60181	60182	60183	60184
60201	60202	60203	60204
60221	60222	60223	60224
60241	60242	60243	60244
60261	60262	60263	60264
60281	60282	60283	60284
60301	60302	60303	60304
60321	60322	60323	60324
60341	60342	60343	60344
60361	60362	60363	60364
60381	60382	60383	60384
60401	60402	60403	60404
60421	60422	60423	60424
60441	60442	60443	60444
60461	60462	60463	60464
60481	60482	60483	60484
60501	60502	60503	60504
60521	60522	60523	60524
60541	60542	60543	60544

NOTE:

Special working face widths available on request.
Order by EDP number

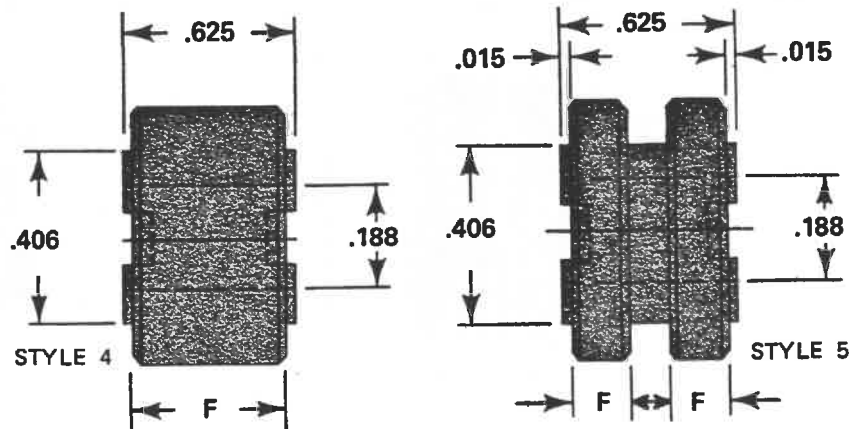


THREAD SIZE	EDP NUMBER			
	WORKING FACE F			
	19/32	3/8	5/16	1/4
0 - 80 UNF	60005	60006	60007	60008
1 - 64 UNC	60025	60026	60027	60028
1 - 72 UNF	60045	60046	60047	60048
2 - 56 UNC	60065	60066	60067	60068
2 - 64 UNF	60085	60086	60087	60088
3 - 48 UNC	60105	60106	60107	60108
3 - 56 UNF	60125	60126	60127	60128
4 - 40 UNC	60145	60146	60147	60148
4 - 48 UNF	60165	60166	60167	60168
5 - 40 UNC	60185	60186	60187	60188
5 - 44 UNF	60205	60206	60207	60208
6 - 32 UNC	60225	60226	60227	60228
6 - 40 UNF	60245	60246	60247	60248
8 - 32 UNC	60265	60266	60267	60268
8 - 36 UNF	60285	60286	60287	60288
10 - 24 UNC	60305	60306	60307	60308
10 - 32 UNF	60325	60326	60327	60328
12 - 24 UNC	60345	60346	60347	60348
12 - 28 UNF	60365	60366	60367	60368
12 - 32 UNEF	60385	60386	60387	60388
1/4 - 20 UNC	60405	60406	60407	60408
1/4 - 28 UNF	60425	60426	60427	60428
1/4 - 32 UNEF	60445	60446	60447	60448
5/16 - 18 UNC	60465	60466	60467	60468
5/16 - 24 UNF	60485	60486	60487	60488
5/16 - 32 UNEF	60505	60506	60507	60508
3/8 - 24 UNF	60525	60526	60527	60528
3/8 - 32 UNEF	60545	60546	60547	60548

EDP NUMBER		
WORKING FACE F		
3/8	11/32	9/32
60009	60010	60011
60029	60030	60031
60049	60050	60051
60069	60070	60071
60089	60090	60091
60109	60110	60111
60129	60130	60131
60149	60150	60151
60169	60170	60171
60189	60190	60191
60209	60210	60211
60229	60230	60231
60249	60250	60251
60269	60270	60271
60289	60290	60291
60309	60310	60311
60329	60330	60331
60349	60350	60351
60369	60370	60371
60389	60390	60391
60409	60410	60411
60429	60430	60431
60449	60450	60451
60469	60470	60471
60489	60490	60491
60509	60510	60511
60529	60530	60531
60549	60550	60551

Thread Rolling Tips

The faster a thread can be formed without overloading the machine tool, the longer the rolls will last. This is due to the fact that shorter time on the part reduces work hardening, and less revolutions reduce error buildup as the rolls get to root size.



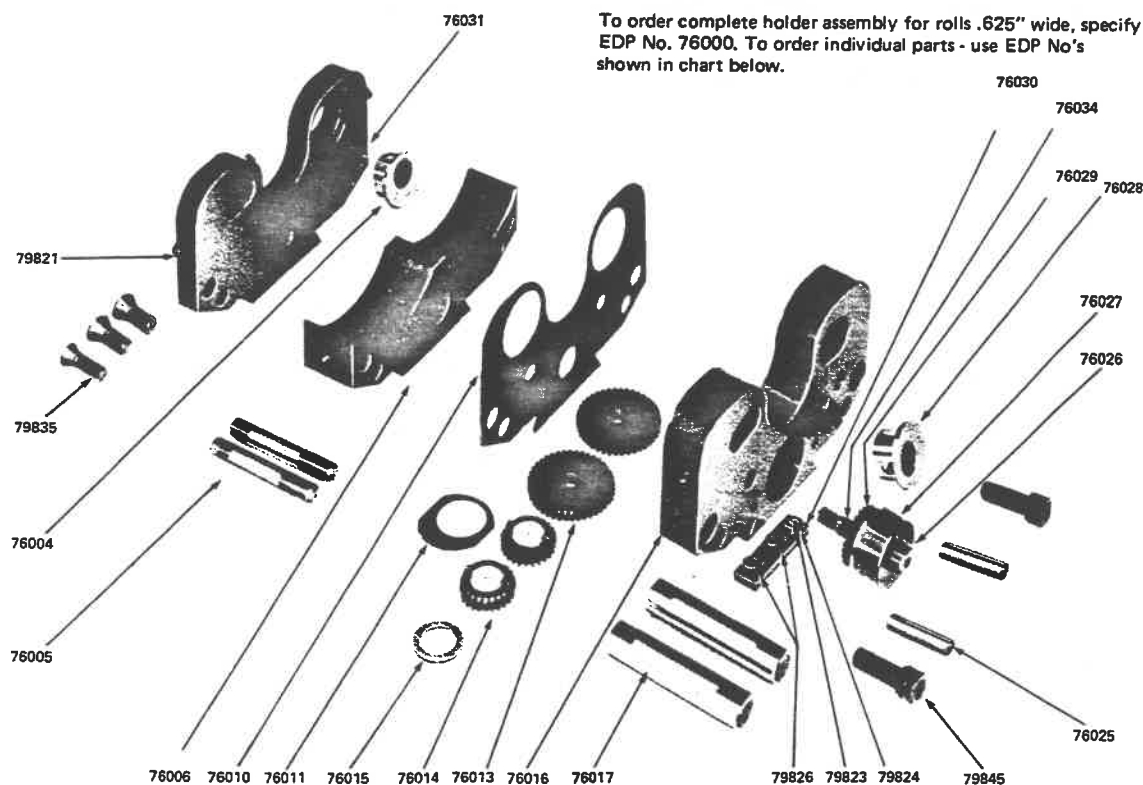
THREAD SIZE	EDP NUMBER		
	WORKING FACE F		
	19/32	17/32	15/32
0 - 80 UNF	60012	60013	60014
1 - 64 UNC	60032	60033	60034
1 - 72 UNF	60052	60053	60054
2 - 56 UNC	60072	60073	60074
2 - 64 UNF	60092	60093	60094
3 - 48 UNC	60112	60113	60114
3 - 56 UNF	60132	60133	60134
4 - 40 UNC	60152	60153	60154
4 - 48 UNF	60172	60173	60174
5 - 40 UNC	60192	60193	60194
5 - 44 UNF	60212	60213	60214
6 - 32 UNC	60232	60233	60234
6 - 40 UNF	60252	60253	60254
8 - 32 UNC	60272	60273	60274
8 - 36 UNF	60292	60293	60294
10 - 24 UNC	60312	60313	60314
10 - 32 UNF	60332	60333	60334
12 - 24 UNC	60352	60353	60354
12 - 28 UNF	60372	60373	60374
12 - 32 UNEF	60392	60393	60394
1/4 - 20 UNC	60412	60413	60414
1/4 - 28 UNF	60432	60433	60434
1/4 - 32 UNEF	60452	60453	60454
5/16 - 18 UNC	60472	60473	60474
5/16 - 24 UNF	60492	60493	60494
5/16 - 32 UNEF	60512	60513	60514
3/8 - 24 UNF	60532	60533	60534
3/8 - 32 UNEF	60552	60553	60554

EDP NUMBER		
WORKING FACE F		
1/4	3/16	1/8
60015	60016	60017
60035	60036	60037
60055	60056	60057
60075	60076	60077
60095	60096	60097
60115	60116	60117
60135	60136	60137
60155	60156	60157
60175	60176	60177
60195	60196	60197
60215	60216	60217
60235	60236	60237
60255	60256	60257
60275	60276	60277
60295	60296	60297
60315	60316	60317
60335	60336	60337
60355	60356	60357
60375	60376	60377
60395	60396	60397
60415	60416	60417
60435	60436	60437
60455	60456	60457
60475	60476	60477
60495	60496	60497
60515	60516	60517
60535	60536	60537
60555	60556	60557

Thread Rolling Tips

When small work blank diameters must be roll threaded, they tend to spring away; long-nose collets which support the work close to the thread rolls may help.

76000 THREAD ROLL HOLDER PARTS LIST.



To order complete holder assembly for rolls .625" wide, specify EDP No. 76000. To order individual parts - use EDP No's shown in chart below.

EDP NO.	QUANTITY REQUIRED	PART NAME
76004	1	Backplate bushing
76005	2	Dowel pin
76006	1	Spacer block .625
76010	1	Gearbox cover
76011	1	Chip guard
76013	2	Idler gear 30 T
76014	2	Drive gear 19 T
76015	1	Thrust washer
76016	1	Gearbox
76017	2	Roll pin
76025	2	Idler gear pin
76026	1	Adjusting gear stud
76027	1	Adjusting gear plug
76028	1	Gearbox bushing
76029	1	Adjusting gear 19 T
76030	1	Stop block
76031	1	Backplate
76034	1	Snap ring
79821	6	Socket set screw
79823	1	Socket set screw
79824	1	Jam nut

EDP NO.	QUANTITY REQUIRED	PART NAME
79826	2	Socket cap screw
79835	3	Flat Head Screws
79845	2	Socket cap screw

EDP No. 76001 Holder Assembly for Rolls 3/4" Wide		
76007	1	Spacer block
76018	2	Roll pin
76040	2	Dowel pin

EDP No. 76002 Holder Assembly for Rolls 7/8" Wide		
76008	1	Spacer block
76019	2	Roll pin
76041	2	Dowel pin

NOTE:

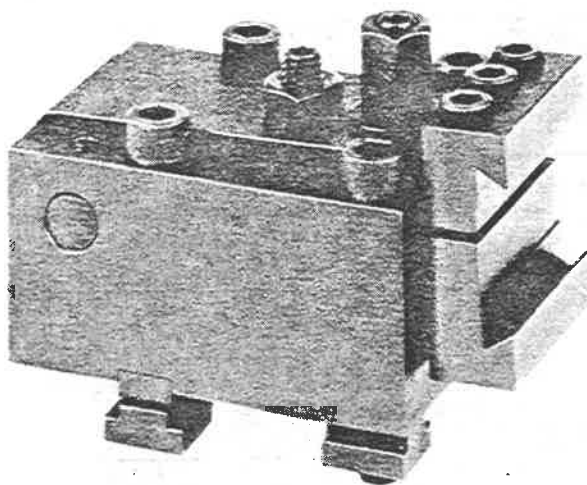
- A standard 76000 holder can be altered to 76001, 76002 or by ordering special space block, dowel & roll pins shown above.
- Rolls for 3/4" and 7/8" wide holders must be special ordered.
- Consult Engineering Department when ordering holders beyond 5/8" wide.

ADAPTORS FOR DETROIT THREAD ROLL HOLDER MODELS 76000, 76001 & 76002

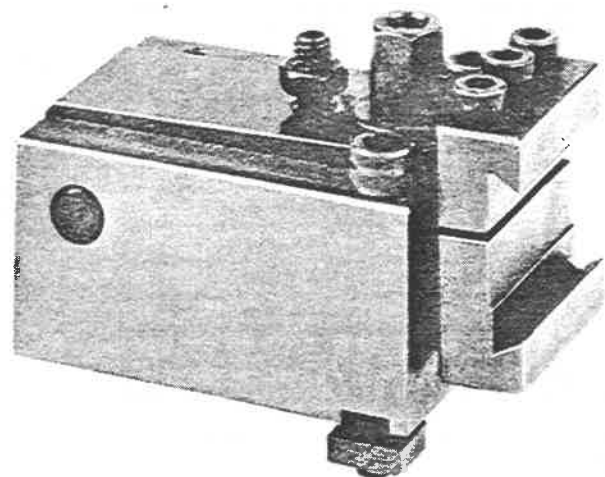
The chart below indicates the adaptors required to attach a Detroit Thread Roll Holder to various machine tools. To order an adaptor for your application, please use the appropriate EDP number.

MACHINE	MODEL NUMBER	ADAPTOR EDP NO.	POSITION
Acme - Gridley	7/16 RA6	78000	3 & 4
Brown & Sharpe	OOG Brown & Sharpe	78250	Cross Slides Front & Rear

For easy identification, the following adaptors are illustrated with their EDP numbers:



ACME - GRIDLEY
78000

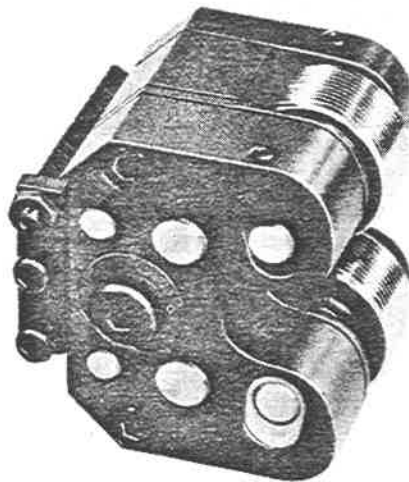
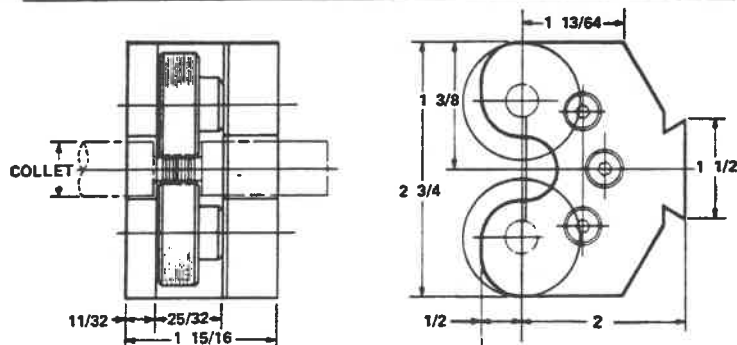


BROWN & SHARPE
78250

DETROIT TAP & TOOL THREAD ROLL HOLDER, MODEL: 76100

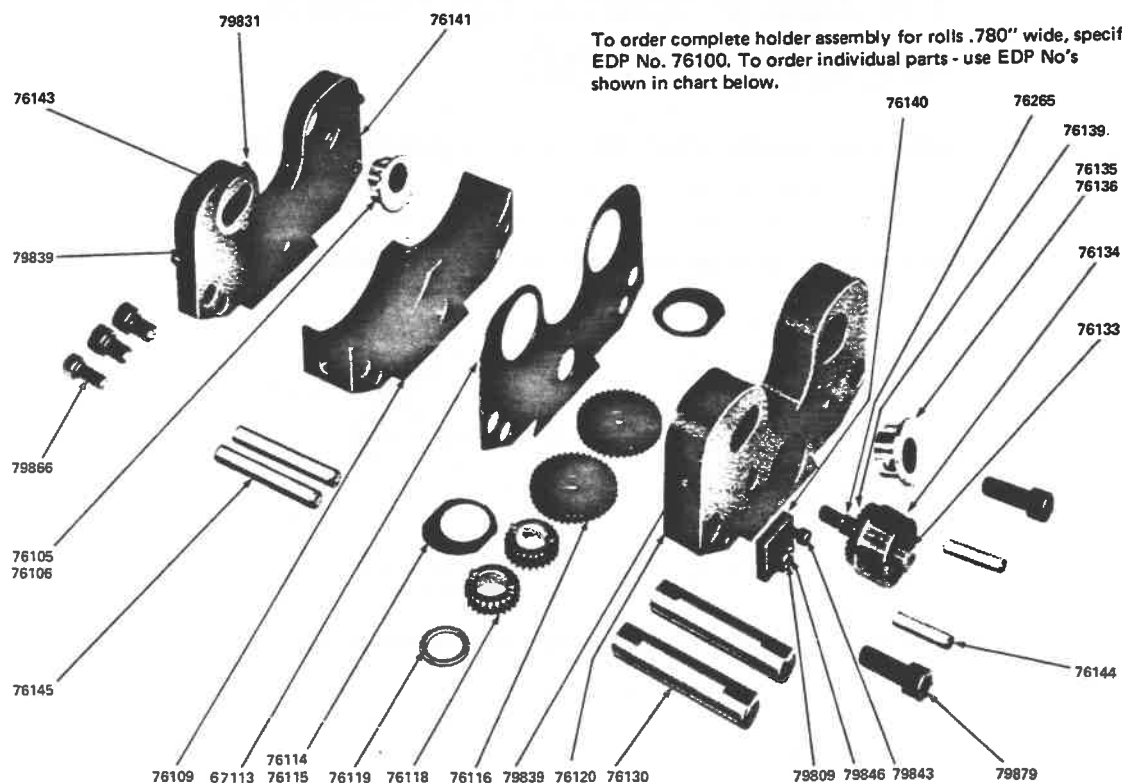
MODEL 76100 REPLACES MODEL 6-625

CAPACITY: No. 5 - 40 NC through 5/8 - 18 NF
1/8" and 1/4" Straight and Taper Pipe



- THREAD ROLL SELECTION GUIDE
SEE PAGE 4,5
- THREAD ROLL ASSEMBLY INSTALLATION GUIDE
SEE PAGE 118
- THREAD ROLL CAM DESIGN GUIDE
SEE PAGE 13
- BLANK PREPARATION GUIDE
SEE PAGE 8

76100 THREAD ROLL HOLDER PARTS LIST.



To order complete holder assembly for rolls .780" wide, specify EDP No. 76100. To order individual parts - use EDP No's shown in chart below.

EDP.NO.	QUANTITY REQUIRED	PART NAME
76105	1	Backplate Bushing (rev.)
76106	1	Backplate Bushing (cent.)
76109	1	Space Block .780 wide
76113	1	Gearbox cover .125
76114	2	Chip guard (offset)
76115	2	Chip guard (cent.)
76116	2	Idler gear 28T
76118	2	Drive gear 18T
76119	1	Thrust washer
76120	1	Gearbox
76130	2	Roll pin
76133	1	Adjusting gear stud
76134	1	Adjusting gear plug
76135	1	Gearbox bushing (rev.)
76136	1	Gearbox bushing (cent.)
76139	1	Adjusting gear 20T
76140	1	Stop block
76141	1	Backplate
76143	1	Wearplate
76144	2	Idler gear pin
76145	2	Dowel pin

EDP NO.	QUANTITY REQUIRED	PART NAME
76265	1	Snap ring
79809	1	Jam nut
79831	2	Socket set screw
79839	4	Socket set screw
79843	2	Socket cap screw
79846	1	Socket set screw
79879	2	Socket cap screw
79866	3	Socket cap screw

EDP NO. 76101 Holder Assembly For Rolls 1" Wide		
76110	1	Spacer Block 1" wide
76131	2	Roll Pin
76146	2	Dowel Pin

EDP NO. 76102 Holder Assembly For Rolls 1 1/4" Wide		
76111	1	Spacer Block 1 1/4" wide
76132	2	Roll Pin
76147	2	Dowel Pin

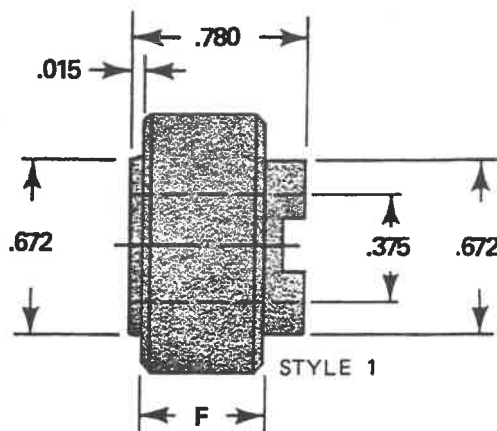
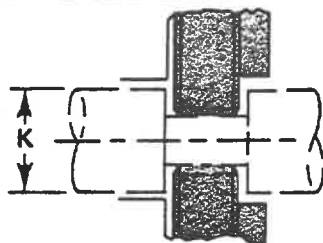
NOTE:

- A standard 76100 holder can be altered to 76101 or 76102 by ordering special space block, dowel & roll pins shown above.
- Rolls for 1" & 1 1/4" wide holders must be special ordered.

STANDARD THREAD ROLLS FOR MODEL 76100 THREAD ROLL HOLDER.

NOTE:

- "K" dimension indicates maximum allowable stock diameter to clear thread roll holder throat opening.
- "In" is where the bushings are positioned such that roll pins are closest to center of attachment.
- "Out" is opposite position.
- "Cent" when using centered bushing.



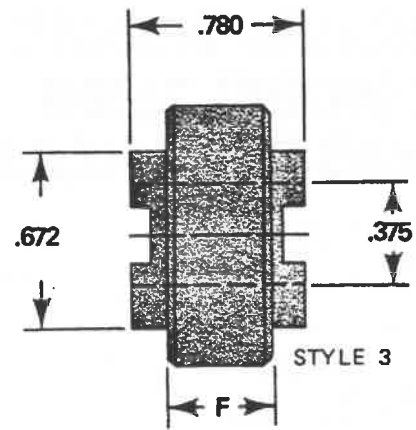
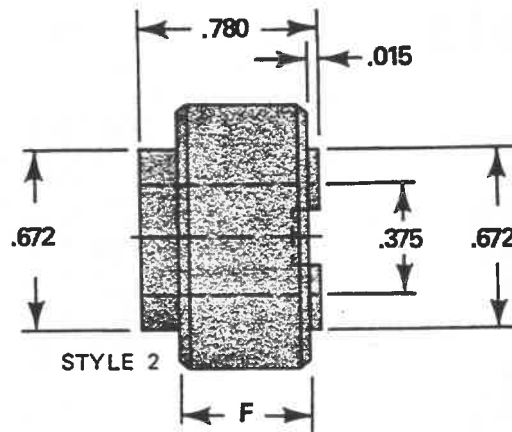
THREAD SIZE		THREAD ROLL		SHOULDER CLEARANCE K	BUSHING POSITION		
		APPROX. O.D.	NO. STARTS		IN	OUT	CENT.
5 - 40	UNC	1.308	13	.552	•		
5 - 44	UNF	1.233	12	.607	•		
6 - 32	UNC	1.291	12	.564	•		
6 - 40	UNF	1.250	11	.598	•		
8 - 32	UNC	1.202	9	.602	•		
8 - 36	UNF	1.233	9	.592	•		
10 - 24	UNC	1.195	8	.608	•		
10 - 32	UNF	1.276	8	.562	•		
12 - 24	UNC	1.228	7	.562	•		
12 - 28	UNF	1.269	7	.528			•
12 - 32	UNEF	1.299	7	.554			•
1/4 - 20	UNC	1.208	6	.551	•		
1/4 - 28	UNF	1.291	6	.584			•
1/4 - 32	UNEF	1.317	6	.614			•
5/16 - 18	UNC	1.292	5	.606			•
5/16 - 24	UNF	1.088	4	.606	•		
5/16 - 32	UNEF	1.128	4	.552	•		
3/8 - 16	UNC	1.256	4	.588			•
3/8 - 24	UNF	1.338	4	.562		•	
3/8 - 32	UNEF	1.034	3	.584	•		
7/16 - 14	UNC	1.104	3	.538			•
7/16 - 20	UNF	1.166	3	.602			•
7/16 - 28	UNEF	1.208	3	.548			•
1/2 - 13	UNC	1.275	3	.578		•	
1/2 - 20	UNF	.903	2	.614	•		
1/2 - 28	UNEF	.930	2	.568	•		
9/16 - 12	UNC	.963	2	.562	•		
9/16 - 18	UNF	1.017	2	.598			•
9/16 - 24	UNEF	1.044	2	.588			•
9/16 - 28	NS	1.055	2	.610			•
5/8 - 11	UNC	1.073	2	.600			•
5/8 - 18	UNF	1.142	2	.612		•	
1/8 - 27	NPS	1.081	3	.625	•		
1/4 - 18	NPS	.945	2	.625	•		

NOTE:

Special working face widths available on request.

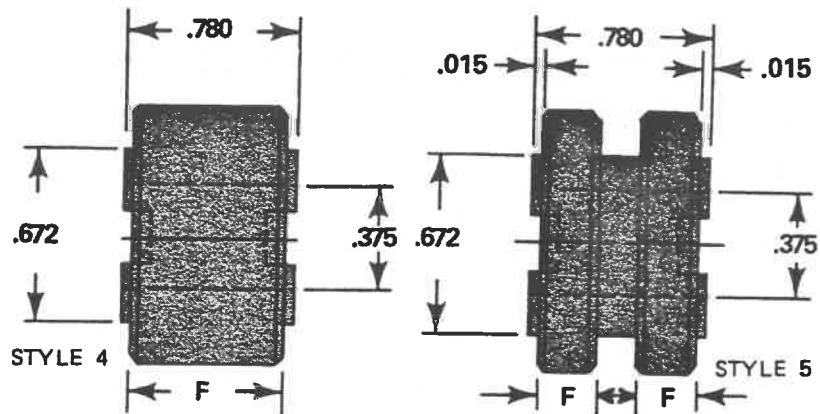
Order by EDP number

EDP NUMBER				
WORKING FACE F				
5/8	1/2	7/16	3/8	5/16
61001	61002	61003	61004	61005
61021	61022	61023	61024	61025
61041	61042	61043	61044	61045
61061	61062	61063	61064	61065
61081	61082	61083	61084	61085
61101	61102	61103	61104	61105
61121	61122	61123	61124	61125
61141	61142	61143	61144	61145
61161	61162	61163	61164	61165
61181	61182	61183	61184	61185
61201	61202	61203	61204	61205
61221	61222	61223	61224	61225
61241	61242	61243	61244	61245
61261	61262	61263	61264	61265
61281	61282	61283	61284	61285
61301	61302	61303	61304	61305
61321	61322	61323	61324	61325
61341	61342	61343	61344	61345
61361	61362	61363	61364	61365
61381	61382	61383	61384	61385
61401	61402	61403	61404	61405
61421	61422	61423	61424	61425
61441	61442	61443	61444	61445
61461	61462	61463	61464	61465
61481	61482	61483	61484	61485
61501	61502	61503	61504	61505
61521	61522	61523	61524	61525
61541	61542	61543	61544	61545
61561	61562	61563	61564	61565
61581	61582	61583	61584	61585
61601	61602	61603	61604	61605
61621	61622	61623	61624	61625
61801	61802	61803	61804	61805
61821	61822	61823	61824	61825



THREAD SIZE		EDP NUMBER				
		WORKING FACE F				
		3/4	1/2	7/16	3/8	5/16
5 - 40	UNC	61006	61007	61008	61009	61010
5 - 44	UNF	61026	61027	61028	61029	61030
6 - 32	UNC	61046	61047	61048	61049	61050
6 - 40	UNF	61066	61067	61068	61069	61070
8 - 32	UNC	61086	61087	61088	61089	61090
8 - 36	UNF	61106	61107	61108	61109	61110
10 - 24	UNC	61126	61127	61128	61129	61130
10 - 32	UNF	61146	61147	61148	61149	61150
12 - 24	UNC	61166	61167	61168	61169	61170
12 - 28	UNF	61186	61187	61188	61189	61190
12 - 32	UNEF	61206	61207	61208	61209	61210
1/4 - 20	UNC	61226	61227	61228	61229	61230
1/4 - 28	UNF	61246	61247	61248	61249	61250
1/4 - 32	UNEF	61266	61267	61268	61269	61270
5/16 - 18	UNC	61286	61287	61288	61289	61290
5/16 - 24	UNF	61306	61307	61308	61309	61310
5/16 - 32	UNEF	61326	62327	61328	61329	61330
3/8 - 16	UNC	61346	61347	61348	61349	61350
3/8 - 24	UNF	61366	61367	61368	61369	61370
3/8 - 32	UNEF	61386	61387	61388	61389	61390
7/16 - 14	UNC	61406	61407	61408	61409	61410
7/16 - 20	UNF	61426	61427	61428	61429	61430
7/16 - 28	UNEF	61446	61447	61448	61449	61450
1/2 - 13	UNC	61466	61467	61468	61469	61470
1/2 - 20	UNF	61486	61487	61488	61489	61490
1/2 - 28	UNEF	61506	61507	61508	61509	61510
9/16 - 12	UNC	61526	61527	61528	61529	61530
9/16 - 18	UNF	61546	61547	61548	61549	61550
9/16 - 24	UNEF	61566	61567	61568	61569	61570
9/16 - 28	NS	61586	61587	61588	61589	61590
5/8 - 11	UNC	61606	61607	61608	61609	61610
5/8 - 18	UNF	61626	61627	61628	61629	61630
1/8 - 27	NPS	61806	61807	61808	61809	61810
1/4 - 18	NPS	61826	61827	61828	61829	61830

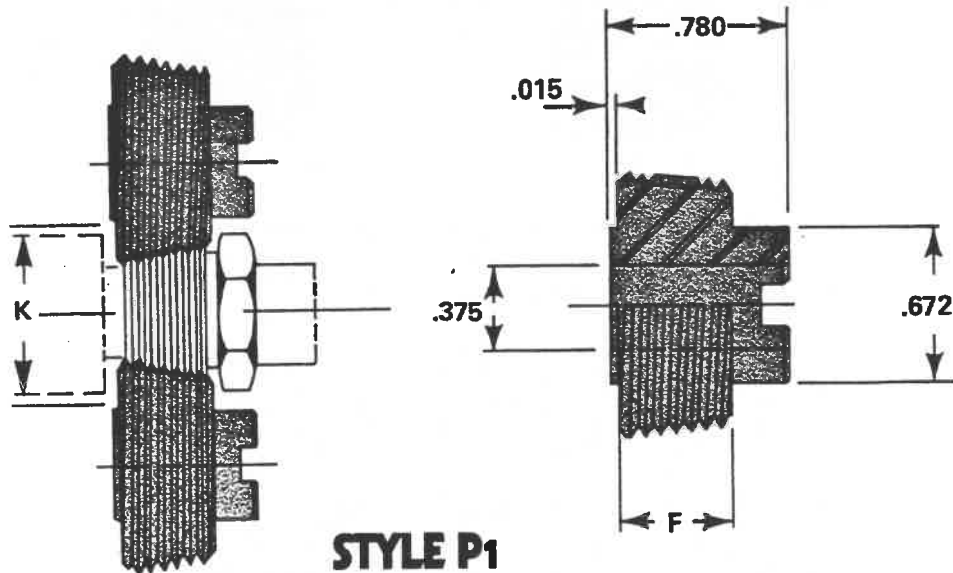
EDP NUMBER			
WORKING FACE F			
1/2	7/16	3/8	5/16
61011	61012	61013	61014
61031	61032	61033	61034
61051	61052	61053	61054
61071	61072	61073	61074
61091	61092	61093	61094
61111	61112	61113	61114
61131	61132	61133	61134
61151	61152	61153	61154
61171	61172	61173	61174
61191	61192	61193	61194
61211	61212	61213	61214
61231	61232	61233	61234
61251	61252	61253	61254
61271	61272	61273	61274
61291	61292	61293	61294
61311	61312	61313	61314
61331	61332	61333	61334
61351	61352	61353	61354
61371	61372	61373	61374
61391	61392	61393	61394
61411	61412	61413	61414
61431	61432	61433	61434
61451	61452	61453	61454
61471	61472	61473	61474
61491	61492	61493	61494
61511	61512	61513	61514
61531	61532	61533	61534
61551	61552	61553	61554
61571	61572	61573	61574
61591	61592	61593	61594
61611	61612	61613	61614
61631	61632	61633	61634
61811	61812	61813	61814
61831	61832	61833	61834



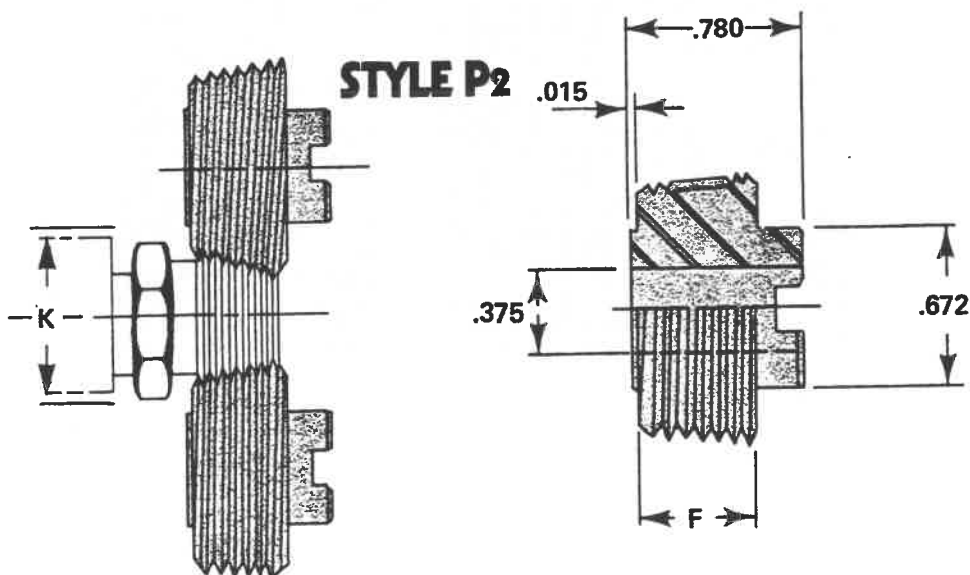
THREAD SIZE	EDP NUMBER	
	WORKING FACE F	
	3/4	5/8
5 - 40 UNC	61015	61016
5 - 44 UNF	61035	61036
6 - 32 UNC	61055	61056
6 - 40 UNF	61075	61076
8 - 32 UNC	61095	61096
8 - 36 UNF	61115	61116
10 - 24 UNC	61135	61136
10 - 32 UNF	61155	61156
12 - 24 UNC	61175	61176
12 - 28 UNF	61195	61196
12 - 32 UNEF	61215	61216
1/4 - 20 UNC	61235	61236
1/4 - 28 UNF	61255	61256
1/4 - 32 UNEF	61275	61276
5/16 - 18 UNC	61295	61296
5/16 - 24 UNF	61315	61316
5/16 - 32 UNEF	61335	61336
3/8 - 16 UNC	61355	61356
3/8 - 24 UNF	61375	61376
3/8 - 32 UNEF	61395	61396
7/16 - 14 UNC	61415	61416
7/16 - 20 UNF	61435	61436
7/16 - 28 UNEF	61455	61456
1/2 - 13 UNC	61475	61476
1/2 - 20 UNF	61495	61496
1/2 - 28 UNEF	61515	61516
9/16 - 12 UNC	61535	61536
9/16 - 18 UNF	61555	61556
9/16 - 24 UNEF	61575	61576
9/16 - 28 NS	61595	61596
5/8 - 11 UNC	61615	61616
5/8 - 18 UNF	61635	61636
1/8 - 27 NPS	61815	61816
1/4 - 18 NPS	61835	61836

EDP NUMBER		
WORKING FACE F		
5/16	1/4	3/16
61017	61018	61019
61037	61038	61039
61057	61058	61059
61077	61078	61079
61097	61098	61099
61117	61118	61119
61137	61138	61139
61157	61158	61159
61177	61178	61179
61197	61198	61199
61217	61218	61219
61237	61238	61239
61257	61258	61259
61277	61278	61279
61297	61298	61299
61317	61318	61319
61337	61338	61339
61357	61358	61359
61377	61378	61379
61397	61398	61399
61417	61418	61419
61437	61438	61439
61457	61458	61459
61477	61478	61479
61497	61498	61499
61517	61518	61519
61537	61538	61539
61557	61558	61559
61577	61578	61579
61597	61598	61599
61617	61618	61619
61637	61638	61639
61817	61818	61819
61837	61838	61839

STANDARD PIPE THREAD ROLLS FOR MODEL 76100 THREAD ROLL HOLDER.



THREAD SIZE	NO. STARTS	APPROX. O.D.	SHOULDER CLEARANCE K	FACE WIDTH F	STYLE P1 EDP NO.	STYLE P2 EDP NO.	BUSHING POSITION
1/8 - 27 NPT	3	1.091	.560	.357	61750	61755	"C"
1/8 - 27 NPTF	3	1.091	.560	.357	61751	61756	"C"
1/8 - 27 PTF	3	1.091	.560	.320	61752	61757	"C"
1/4 - 18 NPT	2	.960	.655	.541	61760	61765	"IN"
1/4 - 18 NPTF	2	.960	.655	.541	61761	61766	"IN"
1/4 - 18 PTF	2	.960	.655	.485	61762	61767	"IN"



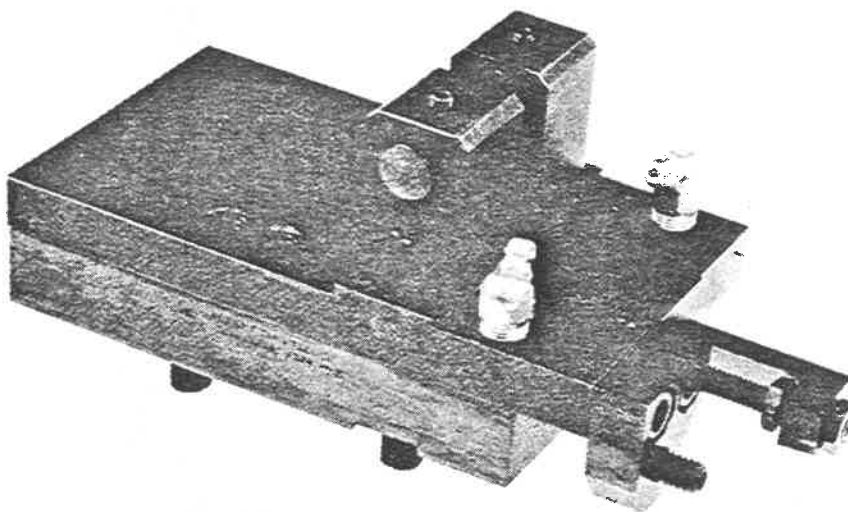
ADAPTORS FOR DETROIT THREAD ROLL HOLDER MODELS 76100, 76101 & 76102

The chart below indicates the adaptors required to attach a Detroit Thread Roll Holder to various machine tools. To order an adaptor for your application, please use the appropriate EDP number.

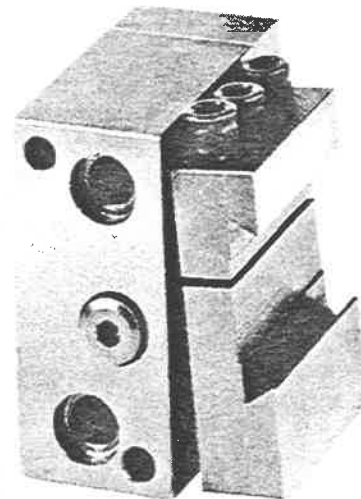
MACHINE	MODEL NUMBER	ADAPTOR EDP NO.	POSITION
Acme - Gridley	7/16 RA6	78050	3 & 4
Brown & Sharpe	O.G. Brown & Sharpe	78300	Cross - Slide Front & Rear
Cono-Matic	1" Model TC, TS & SL	78450	3, 4 & 5*
Davenport	Model B	78650	D
Davenport	Model B with Swing Arm	78700	C
Davenport	Model B	78800	Position Slide
Greenlee	1" Greenlee 6-Spindle	79150	3, 4 & 5
New Britain	1" Model 60	78950	4

For easy identification, the following adaptors are illustrated with their EDP numbers:

*Where slides are independent



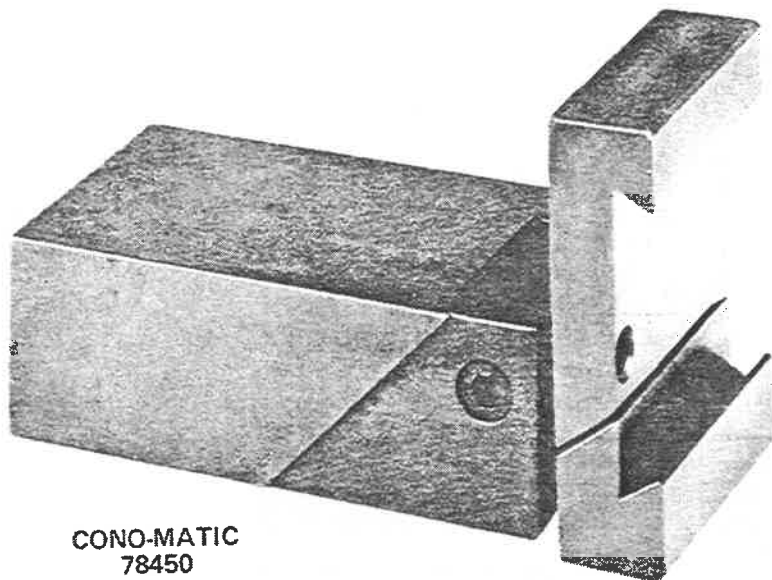
DAVENPORT
78800



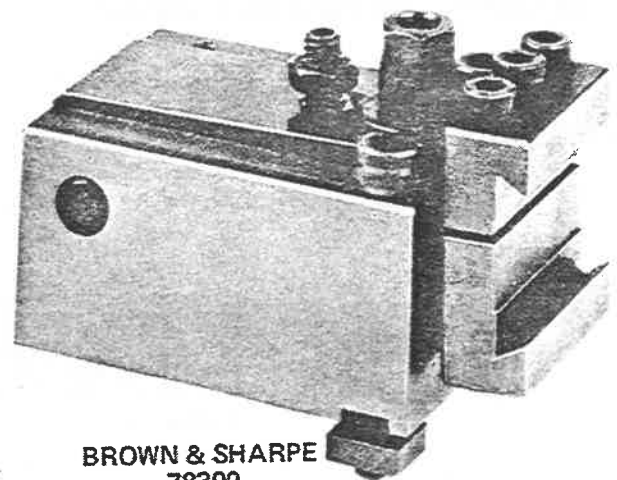
DAVENPORT
78650

NOTE:

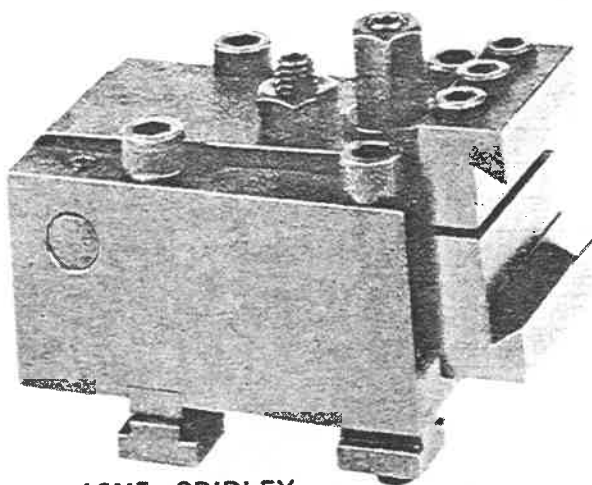
- Adaptor 78750 & Position Slide 78800 are both required for Davenport Model B, Position D - Top Slide operation.



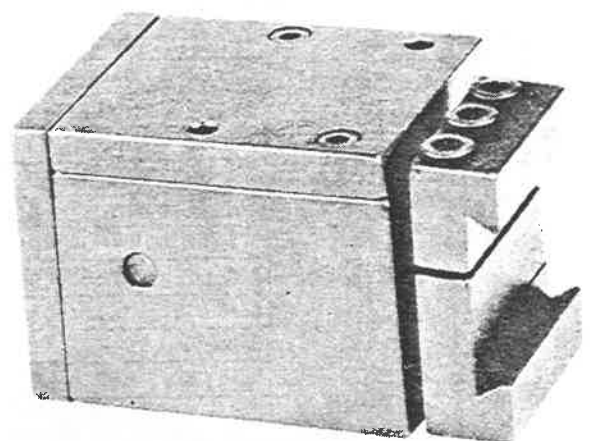
CONO-MATIC
78450



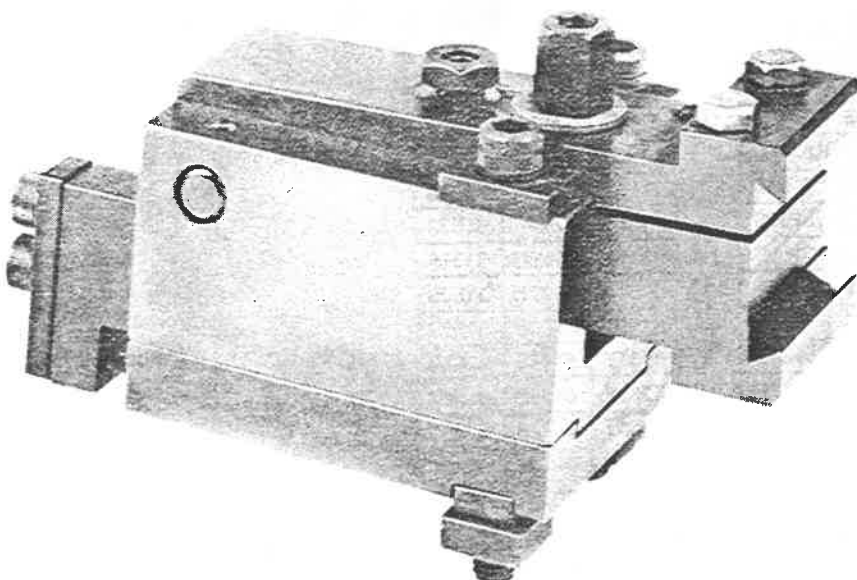
BROWN & SHARPE
78300



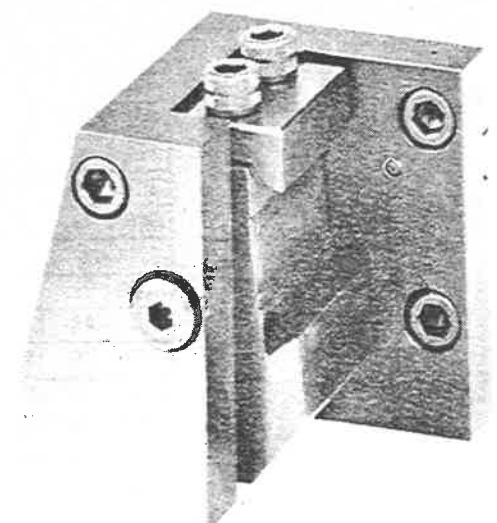
ACME - GRIDLEY
78050



GREENLEE
79150



NEW BRITIAN
78950

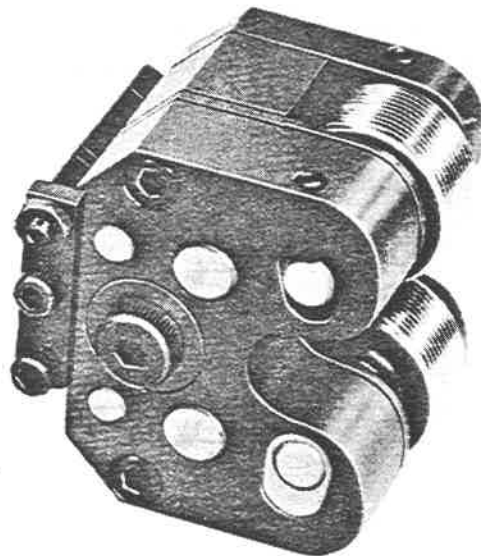
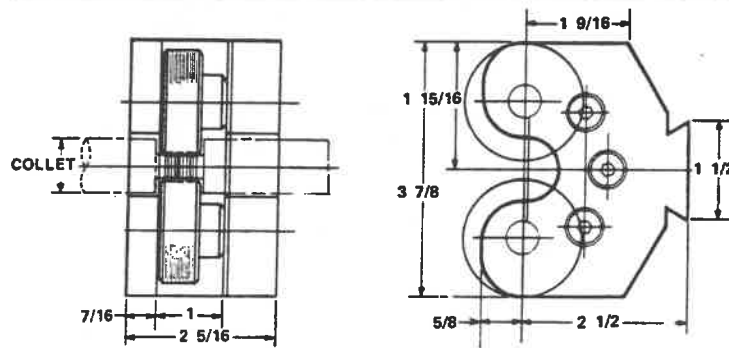


DAVENPORT
78700

DETROIT TAP & TOOL THREAD ROLL HOLDER, MODEL: 76200

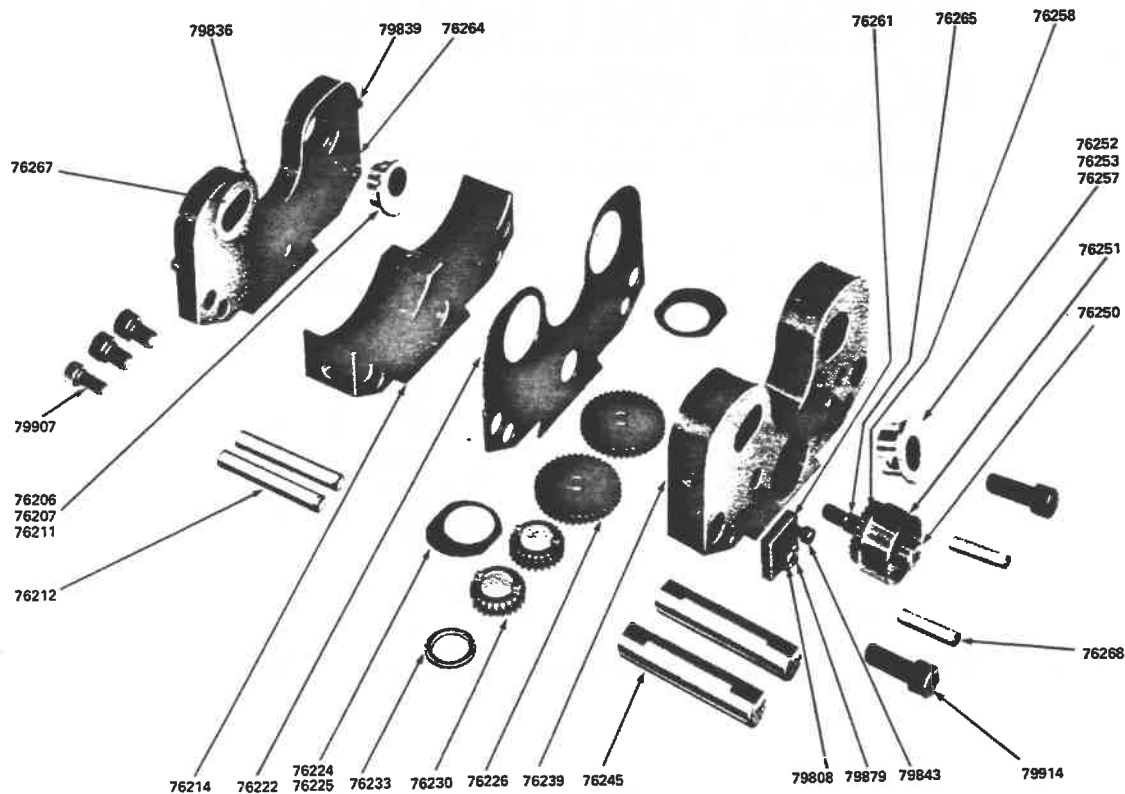
MODEL 76200 REPLACES MODEL 10-750

CAPACITY: No. 10 - 24 UNC through 3/4 - 20 UNEF
1/8", 1/4", 3/8" & 1/2" Straight and Taper Pipe.



● THREAD ROLL SELECTION GUIDE SEE PAGE	4,5
● THREAD ROLL ASSEMBLY INSTALLATION GUIDE SEE PAGE	118
● THREAD ROLL CAM DESIGN GUIDE SEE PAGE	13
● BLANK PREPARATION GUIDE SEE PAGE	8

76200 THREAD ROLL HOLDER PARTS LIST.



EDP NO.	QUANTITY REQUIRED	PART NAME
76206	1	Backplate bushing (rev.)
76207	1	Backplate bushing (cent.)
76211	1	Backplate bushing (spec.)
76212	2	Dowel pin
76214	1	Spacer block
76222	1	Gearbox cover
76224	2	Chip guard (offset)
76225	2	Chip guard (cent.)
76226	2	Idler gear 36T
76230	2	Drive gear 24T
76233	1	Thrust washer .062
76239	1	Gearbox
76245	2	Roll pin
76250	1	Adjusting gear stud
76251	1	Adjusting gear plug
76252	1	Gearbox bushing (rev.)
76253	1	Gearbox bushing (cent.)
76257	1	Gearbox bushing (spec.)
76258	1	Adjusting gear 24T
76261	1	Stop block
76264	1	Backplate
76265	1	Snap ring
76267	1	Wearplate
76268	2	Idler gear pin

EDP NO.	QUANTITY REQUIRED	PART NAME
79808	1	Jam nut
79836	2	Socket set screw
79839	4	Socket set screw
79843	2	Socket cap screw
79879	1	Socket set screw
79907	3	Socket cap screw
79914	2	Socket cap screw

EDP No. 76201 Holder Assembly For Rolls 1 1/4" Wide		
76215	1	Spacer block
76246	2	Roll pin
76280	2	Dowel pin

EDP No. 76202 Holder Assembly For Rolls 1 1/2" Wide		
76216	1	Spacer block
76247	2	Roll pin
76281	2	Dowel pin

EDP No. 76203 Holder Assembly For Rolls 1 3/4" Wide		
76217	1	Spacer block
76248	2	Roll pin
76282	2	Dowel pin

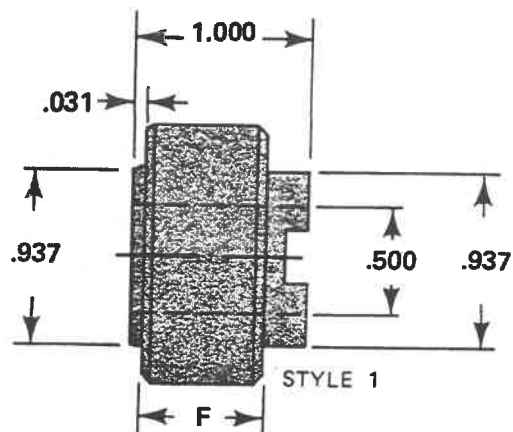
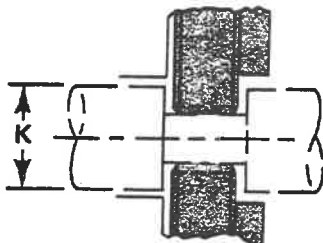
NOTE:

- A standard 76200 holder can be altered to 76201, 76202 or 76203 by ordering special space block, dowel & roll pins shown above.
- Rolls for 1 1/4", 1 1/2" & 1 3/4" wide holders must be special ordered.

STANDARD THREAD ROLLS FOR MODEL 76200 THREAD ROLL HOLDER.

NOTE:

- "K" dimension indicates maximum allowable stock diameter to clear thread roll holder throat opening.
- "In" is where the bushings are positioned such that roll pins are closest to center of attachment.
- "Out" is opposite position.
- "Cent" when using centered bushing.



THREAD SIZE		THREAD ROLL		Shoulder Clearance K *	BUSHING POSITION		
		APPROX. O.D.	NO. STARTS		IN	OUT	CENT.
10-24	UNC	1.793	12	.812	•		
10-32	UNF	1.755	11	.847	•		
12-24	UNC	1.754	10	.835	•		
12-28	UNF	1.812	10	.861	•		
12-32	UNEF	1.855	10	.701			•
1/4 - 20	UNC	1.811	9	.797	•		
1/4 - 28	UNF	1.722	8	.845	•		
1/4 - 32	UNEF	1.757	8	.765	•		
5/16 - 18	UNC	1.809	7	.682			•
5/16 - 24	UNF	1.632	6	.841	•		
5/16 - 32	UNEF	1.692	6	.761	•		
3/8 - 16	UNC	1.571	5	.867	•		
3/8 - 24	UNF	1.672	5	.739	•		
3/8 - 32	UNEF	1.723	5	.675			•
7/16 - 14	UNC	1.840	5	.767		•	
7/16 - 20	UNF	1.555	4	.812	•		
7/16 - 28	UNEF	1.611	4	.727			•
1/2 - 13	UNC	1.700	4	.683			•
1/2 - 20	UNF	1.805	4	.823		•	
1/2 - 28	UNEF	1.406	3	.875	•		
9/16 - 12	UNC	1.444	3	.833	•		
9/16 - 18	UNF	1.525	3	.718			•
9/16 - 24	UNEF	1.566	3	.657			•
5/8 - 11	UNC	1.609	3	.700			•
5/8 - 18	UNF	1.713	3	.847		•	
3/4 - 10	UNC	1.305	2	.803	•		
3/4 - 16	UNF	1.378	2	.801			•
3/4 - 20	UNEF	1.403	2	.847			•
1/8 - 27	NPS	1.803	5	.735		•	
1/4 - 18	NPS	1.417	3	.860	•		
3/8 - 18	NPS	1.823	3	1.000		SPEC.	
1/2 - 14	NPS	1.507	2	.824		•	

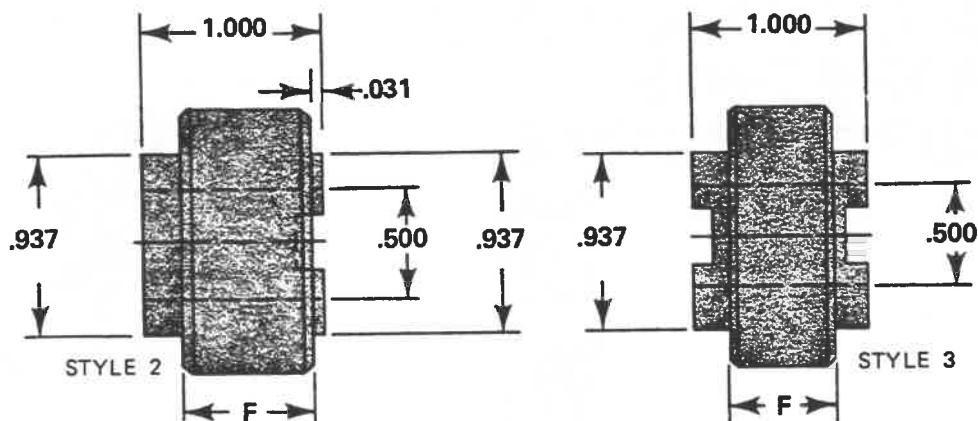
NOTE:

Special working face widths available on request.
Order by EDP number

* MODEL 76200

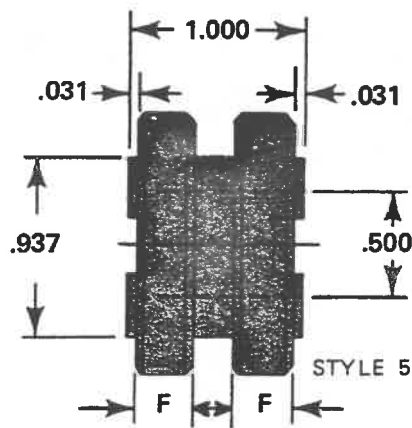
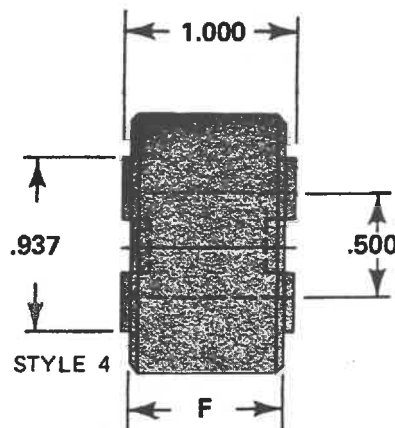
"K" Shoulder Clearance larger
for serial number 612 and above.
Consult home office.

EDP NUMBER						
WORKING FACE F						
13/16	3/4	11/16	5/8	9/16	1/2	7/16
62001	62002	62003	62004	62005	62006	62007
62021	62022	62023	62024	62025	62026	62027
62041	62042	62043	62044	62045	62046	62047
62061	62062	62063	62064	62065	62066	62067
62081	62082	62083	62084	62085	62086	62087
62101	62102	62103	62104	62105	62106	62107
62121	62122	62123	62124	62125	62126	62127
62141	62142	62143	62144	62145	62146	62147
62161	62162	62163	62164	62165	62166	62167
62181	62182	62183	62184	62185	62186	62187
62201	62202	62203	62204	62205	62206	62207
62221	62222	62223	62224	62225	62226	62227
62241	62242	62243	62244	62245	62246	62247
62261	62262	62263	62264	62265	62266	62267
62281	62282	62283	62284	62285	62286	62287
62301	62302	62303	62304	62305	62306	62307
62321	62322	62323	62324	62325	62326	62327
62341	62342	62343	62344	62345	62346	62347
62361	62362	62363	62364	62365	62366	62367
62381	62382	62383	62384	62385	62386	62387
62401	62402	62403	62404	62405	62406	62407
62421	62422	62423	62424	62425	62426	62427
62441	62442	62443	62444	62445	62446	62447
62461	62462	62463	62464	62465	62466	62467
62481	62482	62483	62484	62485	62486	62487
62521	62522	62523	62524	62525	62526	62527
62541	62542	62543	62544	62545	62546	62547
62561	62562	62563	62564	62565	62566	62567
62801	62802	62803	62804	62805	62806	62807
62821	62822	62823	62824	62825	62826	62827
62841	62842	62843	62844	62845	62846	62847
62861	62862	62863	62864	62865	62866	62867



THREAD SIZE		EDP NUMBER			
		WORKING FACE F			
		15/16	13/16	11/16	9/16
10-24	UNC	62008	62009	62010	62011
10-32	UNF	62028	62029	62030	62031
12-24	UNC	62048	62049	62050	62051
12-28	UNF	62068	62069	62070	62071
12-32	UNEF	62088	62089	62090	62091
1/4 - 20	UNC	62108	62109	62110	62111
1/4 - 28	UNF	62128	62129	62130	62131
1/4 - 32	UNEF	62148	62149	62150	62151
5/16 - 18	UNC	62168	62169	62170	62171
5/16 - 24	UNF	62188	62189	62190	62191
5/16 - 32	UNEF	62208	62209	62210	62211
3/8 - 16	UNC	62228	62229	62230	62231
3/8 - 24	UNF	62248	62249	62250	62251
3/8 - 32	UNEF	62268	62269	62270	62271
7/16 - 14	UNC	62288	62289	62290	62291
7/16 - 20	UNF	62308	62309	62310	62311
7/16 - 28	UNEF	62328	62329	62330	62331
1/2 - 13	UNC	62348	62349	62350	62351
1/2 - 20	UNF	62368	62369	62370	62371
1/2 - 28	UNEF	62388	62389	62390	62391
9/16 - 12	UNC	62408	62409	62410	62411
9/16 - 18	UNF	62428	62429	62430	62431
9/16 - 24	UNEF	62448	62449	62450	62451
5/8 - 11	UNC	62468	62469	62470	62471
5/8 - 18	UNF	62488	62489	62490	62491
3/4 - 10	UNC	62528	62529	62530	62531
3/4 - 16	UNF	62548	62549	62550	62551
3/4 - 20	UNEF	62568	62569	62570	62571
1/8 - 27	NPS	62808	62809	62810	62811
1/4 - 18	NPS	62828	62829	62830	62831
3/8 - 18	NPS	62848	62849	62850	62851
1/2 - 14	NPS	62868	62869	62870	62871

EDP NUMBER		
WORKING FACE F		
11/16	9/16	7/16
62012	62013	62014
62032	62033	62034
62052	62053	62054
62072	62073	62074
62092	62093	62094
62112	62113	62114
62132	62133	62134
62152	62153	62154
62172	62173	62174
62192	62193	62194
62212	62213	62214
62232	62233	62234
62252	62253	62254
62272	62273	62274
62292	62293	62294
62312	62313	62314
62332	62333	62334
62352	62353	62354
62372	62373	62374
62392	62393	62394
62412	62413	62414
62432	62433	62434
62452	62453	62454
62472	62473	62474
62492	62493	62494
62532	62533	62534
62552	62553	62554
62572	62573	62574
62812	62813	62814
62832	62833	62834
62852	62853	62854
62872	62873	62874



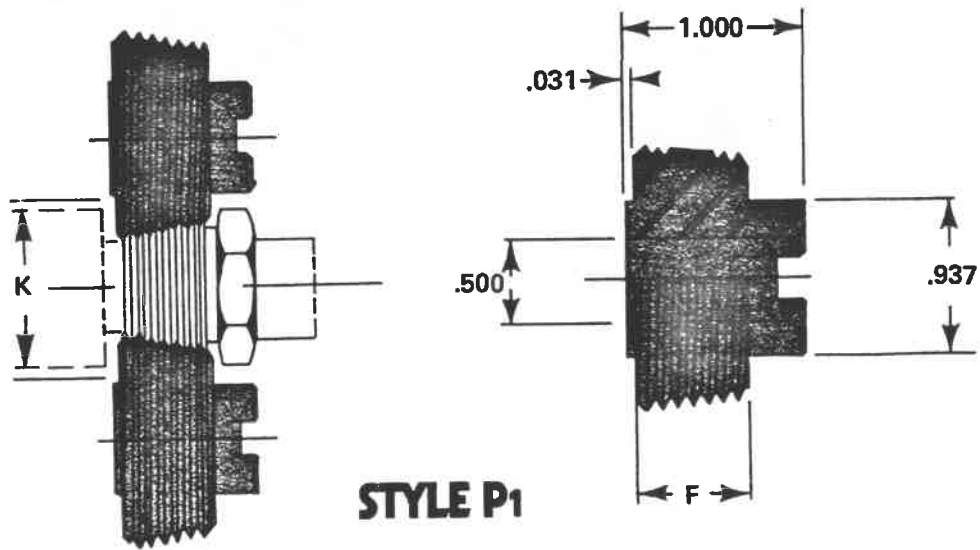
THREAD SIZE	EDP NUMBER	
	WORKING FACE F	
	15/16	13/16
10 - 24 UNC	62015	62016
10 - 32 UNF	62035	62036
12 - 24 UNC	62055	62056
12 - 28 UNF	62075	62076
12 - 32 UNEF	62095	62096
1/4 - 20 UNC	62115	62116
1/4 - 28 UNF	62135	62136
1/4 - 32 UNEF	62155	62156
5/16 - 18 UNC	62175	62176
5/16 - 24 UNF	62195	62196
5/16 - 32 UNEF	62215	62216
3/8 - 16 UNC	62235	62236
3/8 - 24 UNF	62255	62256
3/8 - 32 UNEF	62275	62276
7/16 - 14 UNC	62295	62296
7/16 - 20 UNF	62315	62316
7/16 - 28 UNEF	62335	62336
1/2 - 13 UNC	62355	62356
1/2 - 20 UNF	62375	62376
1/2 - 28 UNEF	62395	62396
9/16 - 12 UNC	62415	62416
9/16 - 18 UNF	62435	62436
9/16 - 24 UNEF	62455	62456
5/8 - 11 UNC	62475	62476
5/8 - 18 UNF	62495	62496
3/4 - 10 UNC	62535	62536
3/4 - 16 UNF	62555	62556
3/4 - 20 UNEF	62575	62576
1/8 - 27 NPS	62815	62816
1/4 - 18 NPS	62835	62836
3/8 - 18 NPS	62855	62856
1/2 - 14 NPS	62875	62876

EDP NUMBER			
WORKING FACE F			
3/8	5/16	1/4	3/16
62017	62018	62019	62020
62037	62038	62039	62040
62057	62058	62059	62060
62077	62078	62079	62080
62097	62098	62099	62100
62117	62118	62119	62120
62137	62138	62139	62140
62157	62158	62159	62160
62177	62178	62179	62180
62197	62198	62199	62200
62217	62218	62219	62220
62237	62238	62239	62240
62257	62258	62259	62260
62277	62278	62279	62280
62297	62298	62299	62300
62317	62318	62319	62320
62337	62338	62339	62340
62357	62358	62359	62360
62377	62378	62379	62380
62397	62398	62399	62400
62417	62418	62419	62420
62437	62438	62439	62440
62457	62458	62459	62460
62477	62478	62479	62480
62497	62498	62499	62500
62537	62538	62539	62540
62557	62558	62559	62560
62577	62578	62579	62580
62817	62818	62819	62820
62837	62838	62839	62840
62857	62858	62859	62860
62877	62878	62879	62880

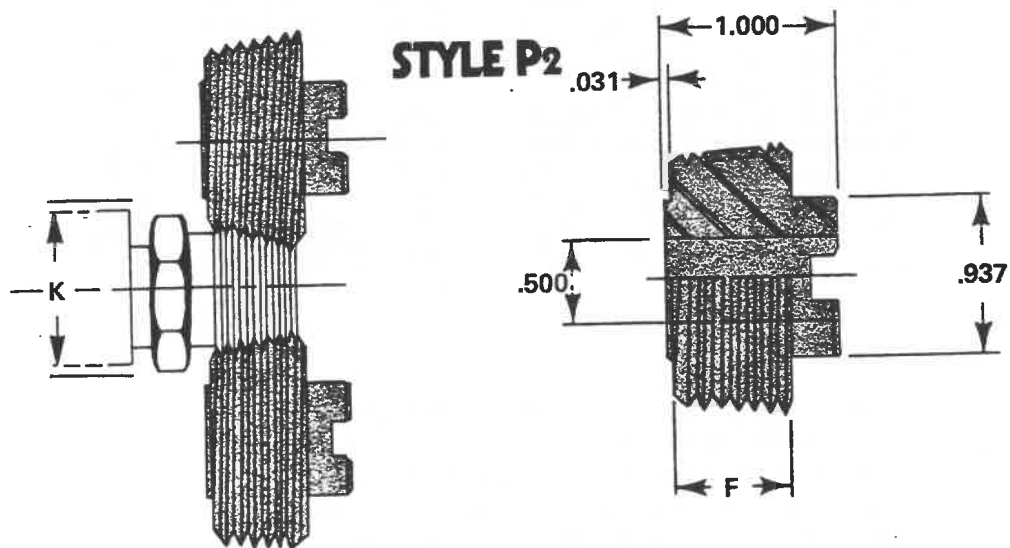
Thread Rolling Tips

With most steels, normal variation from heat-to-heat develops no trouble. But when you switch from say, a mild leaded grade to higher strength alloys, like 6145, you must set the rolls closer together. If you do not, you'll get a certain amount of springback, and an off-size thread.

STANDARD PIPE THREAD ROLLS FOR MODEL 76200 THREAD ROLL HOLDER.



THREAD SIZE	NO. STARTS	APPROX. O.D.	SHOULDER CLEARANCE K	FACE WIDTH F	STYLE P1 EDP NO.	STYLE P2 EDP NO.	BUSHING POSITION
1/8 - 27 NPT	5	1.808	.730	.357	62750	62755	CENT.
1/8 - 27 NPTF	5	1.808	.730	.357	62751	62756	CENT.
1/8 - 27 PTF	5	1.808	.730	.320	62752	62757	CENT.
1/4 - 18 NPT	3	1.431	.860	.541	62760	62765	IN
1/4 - 18 NPTF	3	1.431	.860	.541	62761	62766	IN
1/4 - 18 PTF	3	1.431	.860	.485	62762	62767	IN
3/8 - 18 NPT	3	1.838	.950	.547	62770	62775	SPEC. OUT
3/8 - 18 NPTF	3	1.838	.950	.547	62771	62776	SPEC. OUT
3/8 - 18 PTF	3	1.838	.950	.490	62772	62777	SPEC. OUT
1/2 - 14 NPT	2	1.525	.820	.712	62780	62785	OUT
1/2 - 14 NPTF	2	1.525	.820	.712	62781	62786	OUT
1/2 - 14 PTF	2	1.525	.820	.640	62782	62787	OUT



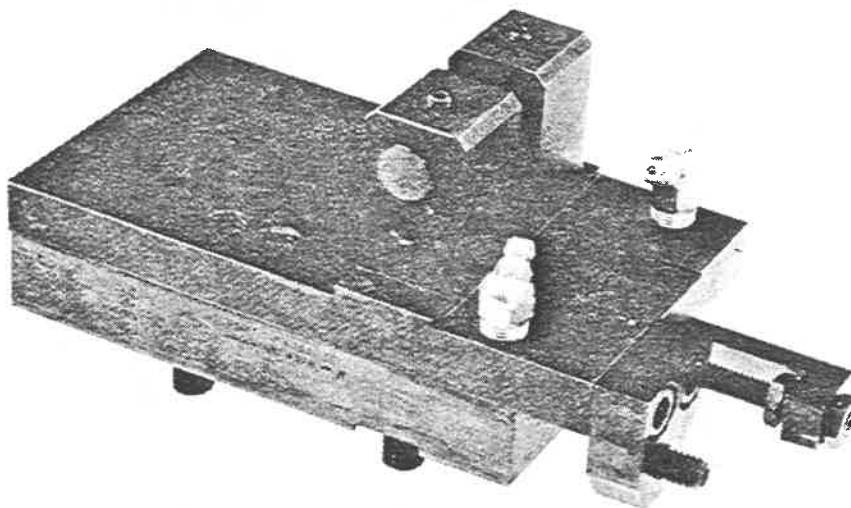
ADAPTORS FOR DETROIT THREAD ROLL HOLDER MODELS 76200, 76201, 76202 & 76203

The chart below indicates the adaptors required to attach a Detroit Thread Roll Holder to various machine tools. To order an adaptor for your application, please use the appropriate EDP number.

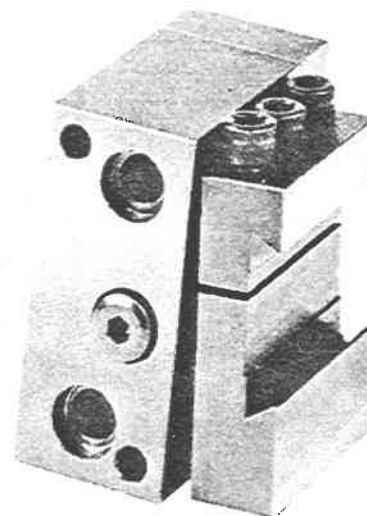
MACHINE	MODEL NUMBER	ADAPTOR EDP NO.	POSITION
Acme - Gridley	9/16" & 1" RA6	78100	3 & 4
Brown & Sharpe	2G Brown & Sharpe	78350	Cross Slides Front & Rear
Cono-Matic	1 1/4" Cono-Matic TVB	78450	3, 4 & 5*
Davenport	Model B	78650	D
Davenport	Model B with Swing Arm	78700	C
Davenport	Position Slide	78800	4th Position D
Greenlee	1" Greenlee 6 Spindle	79150	3, 4 & 5
New Britain	1" Model 60, 51 & 52	78900	4
Warner & Swasey	1 1/4" - 6 Spindle	79300	2, 4 & 5

For easy identification, the following adaptors are illustrated with their EDP numbers:

*Where slides are independent



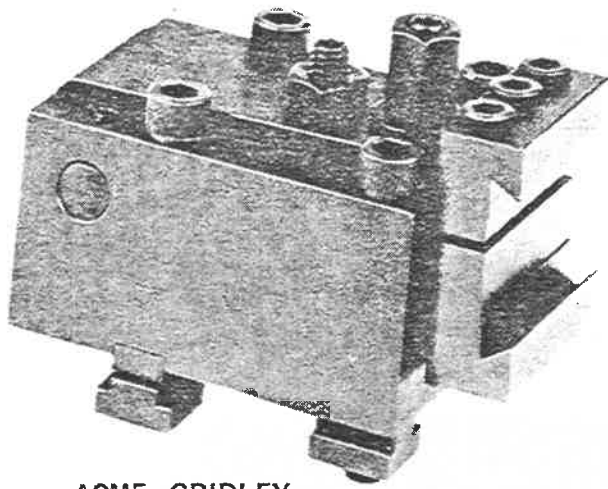
DAVENPORT
78800



DAVENPORT
78650

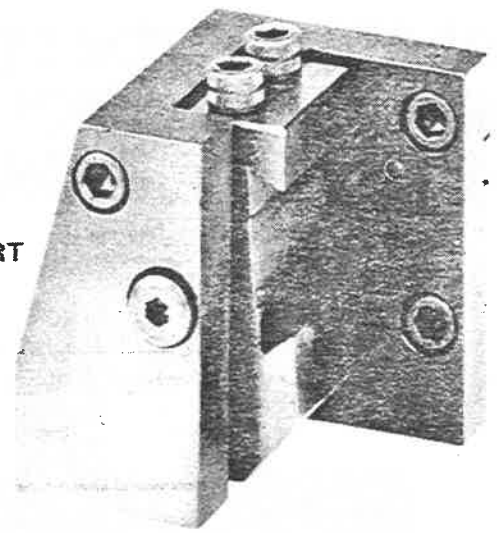
NOTE:

- Adaptor 78750 & Position Slide 78800 are both required for Davenport Model B, Position D - Top Slide operation.

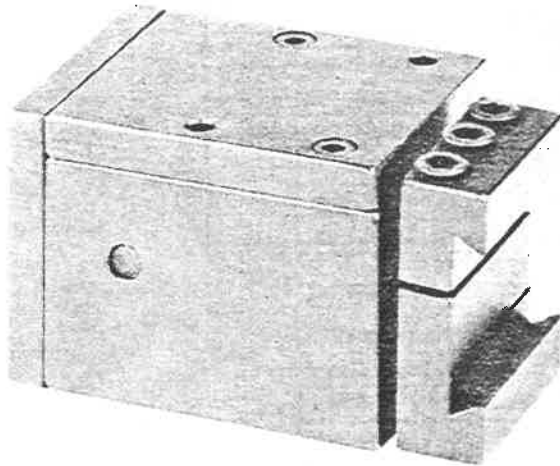
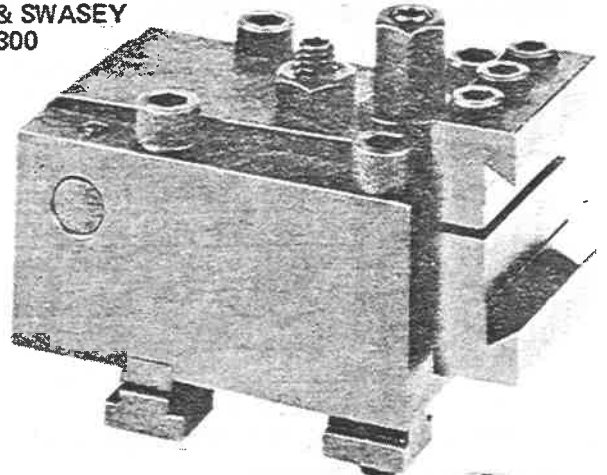


ACME - GRIDLEY
78100

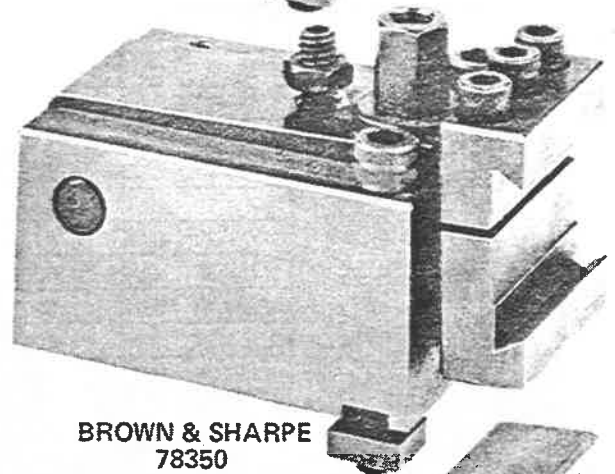
DAVENPORT
78700



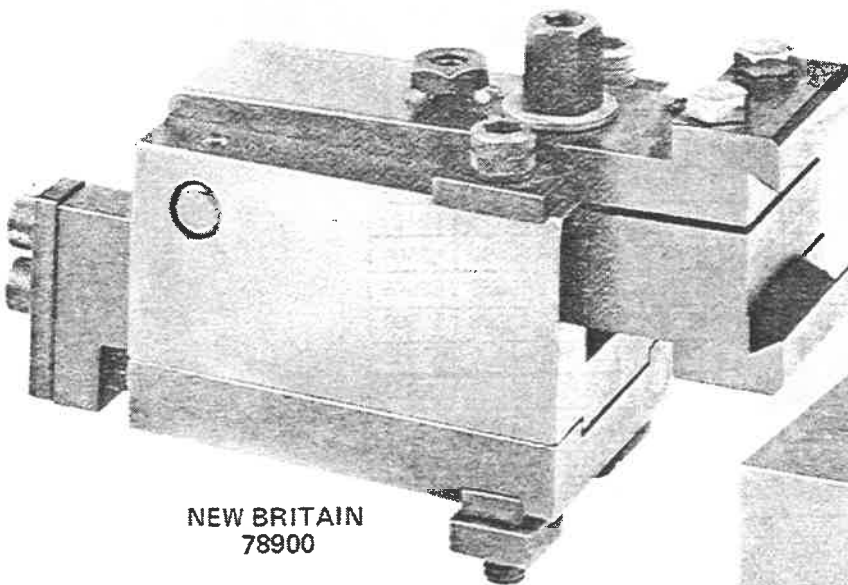
WARNER & SWASEY
79300



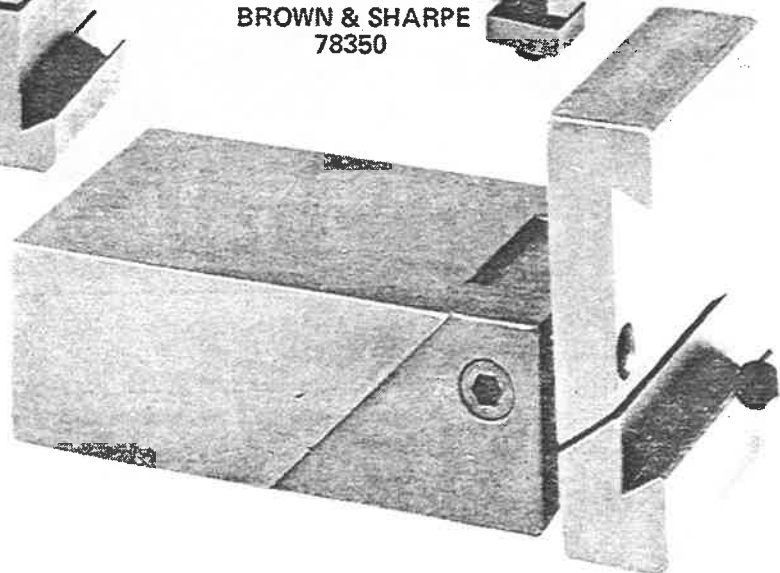
GREENLEE
79150



BROWN & SHARPE
78350



NEW BRITAIN
78900

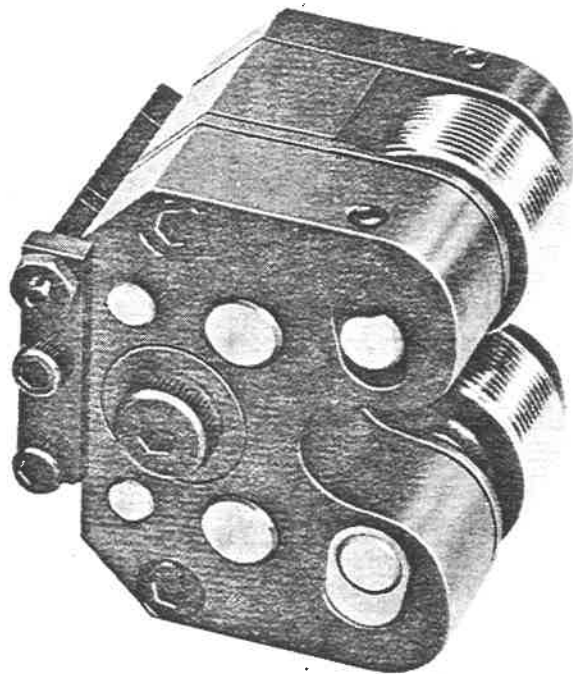
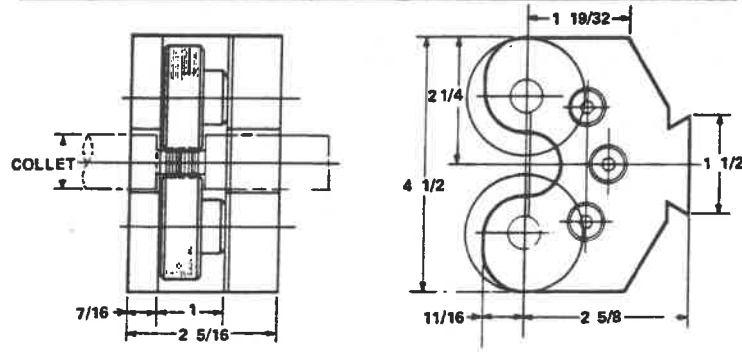


CONO-MATIC
78450

DETROIT TAP & TOOL THREAD ROLL HOLDER, MODEL: 76300

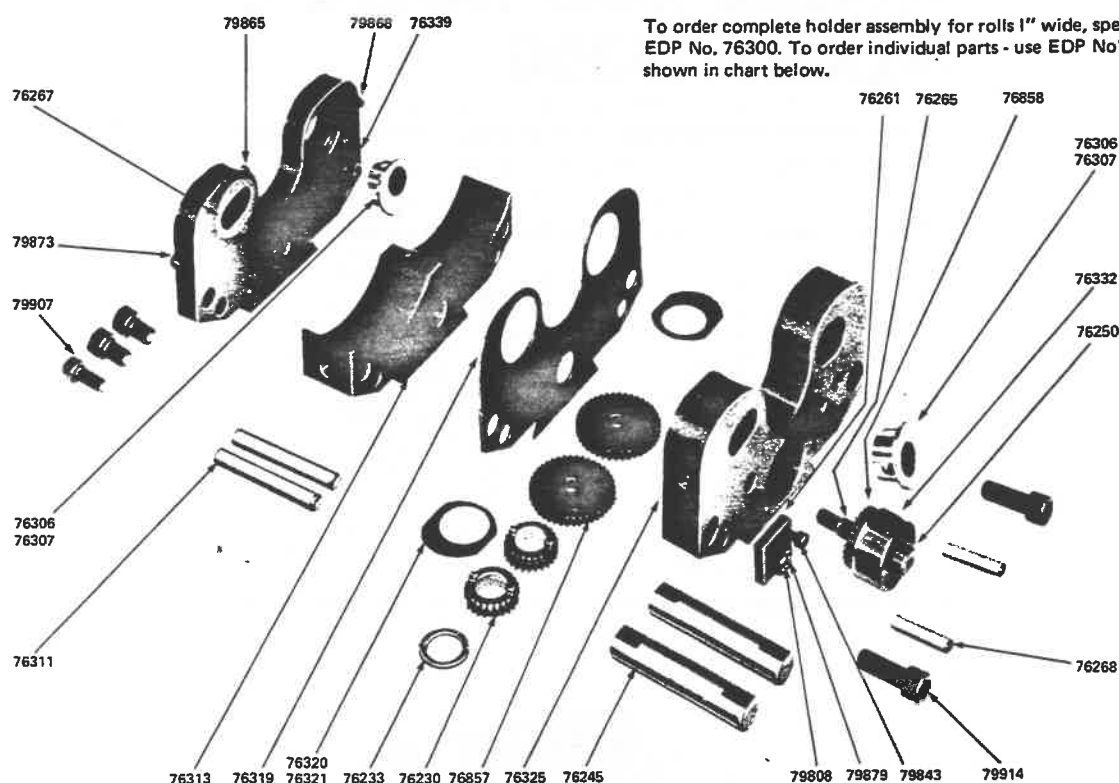
MODEL 76300 REPLACES MODEL 30-1000

CAPACITY: No. 1/4" - 20 UNC through 1" - 14 NS
1/8", 1/4", 3/8", & 1/2" Straight and Taper Pipe.



● THREAD ROLL SELECTION GUIDE SEE PAGE	4,5
● THREAD ROLL ASSEMBLY INSTALLATION GUIDE SEE PAGE	118
● THREAD ROLL CAM DESIGN GUIDE SEE PAGE	13
● BLANK PREPARATION GUIDE SEE PAGE	8

76300 THREAD ROLL HOLDER PARTS LIST.



To order complete holder assembly for rolls 1" wide, specify EDP No. 76300. To order individual parts - use EDP No's shown in chart below.

EDP NO.	QUANTITY REQUIRED	PART NAME
76230	2	Drive Gear 24 T
76233	1	Thrust washer
76245	2	Roll pin
76250	1	Adjusted gear stud
76261	1	Stop block
76265	1	Snap ring
76267	1	Wearplate
76268	2	Idler gear pin
76306	2	Universal bushing (rev.)
76307	2	Universal bushing (cent.)
76311	2	Dowel pin
76313	1	Spacer block 1.000
76319	1	Gearbox cover .125
76320	2	Chip guard (offset)
76321	2	Chip guard (cent.)
76325	1	Gearbox
76332	1	Adjusted gear plug
76339	1	Backplate
76857	2	Idler gear 46 T
76858	1	Adjusting gear 26 T
79808	1	Jam nut
79843	2	Socket cap screw

EDP NO.	QUANTITY REQUIRED	PART NAME
79865	2	Socket set screw
79868	2	Socket set screw
79873	2	Socket set screw
79879	1	Socket set screw
79907	3	Socket cap screw
79914	2	Socket cap screw

EDP No. 76301 Holder Assembly For Rolls 1 1/4" Wide		
76246	2	Roll pin
76314	1	Spacer block
76345	2	Dowel pin

EDP No. 76302 Holder Assembly For Rolls 1 1/2" Wide		
76247	2	Roll pin
76315	1	Spacer block
76346	2	Dowel pin

EDP No. 76303 Holder Assembly For Rolls 1 3/4" Wide		
76248	2	Roll pin
76316	1	Spacer block
76347	2	Dowel pin

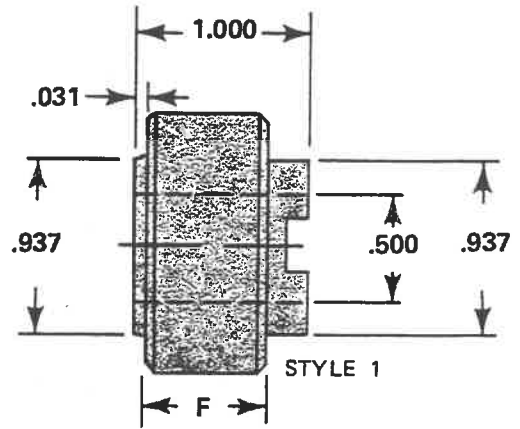
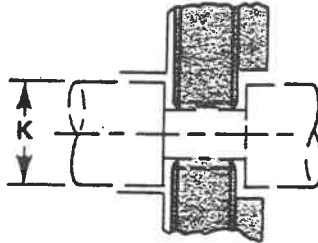
NOTE:

- A standard 76300 holder can be altered to 76301, 76302 or 76303 by ordering special space block, dowel & roll pins shown above.
- Rolls for 1 1/4", 1 1/2" & 1 3/4" wide holders must be special ordered.

STANDARD THREAD ROLLS FOR MODEL 76300 THREAD ROLL HOLDER.

NOTE:

- "K" dimension indicates maximum allowable stock diameter to clear thread roll holder throat opening.
- "In" is where the bushings are positioned such that roll pins are closest to center of attachment.
- "Out" is opposite position.
- "Cent" when using centered bushing.



THREAD SIZE	THREAD ROLL		SHOULDER CLEARANCE K	BUSHING POSITION		
	APPROX. O.D.	NO. STARTS		IN	OUT	CENT
1/4 - 20 UNC	2.214	11	1.100			•
1/4 - 28 UNF	2.152	10	1.060			•
1/4 - 32 UNEF	2.196	10	1.110			•
5/16 - 18 UNC	2.067	8	1.080	•		
5/16 - 24 UNF	2.175	8	1.140			•
5/16 - 32 UNEF	1.975	7	1.145	•		
3/8 - 16 UNC	2.198	7	1.200			•
3/8 - 24 UNF	2.006	6	1.060	•		
3/8 - 32 UNEF	2.067	6	1.000	•		
7/16 - 14 UNC	2.207	6	1.140			•
7/16 - 20 UNF	1.944	5	1.080	•		
7/16 - 28 UNEF	2.014	5	.990	•		
1/2 - 13 UNC	2.125	5	1.180			•
1/2 - 20 UNF	1.805	4	1.156	•		
1/2 - 28 UNEF	1.861	4	1.080	•		
9/16 - 12 UNC	1.925	4	1.015	•		
9/16 - 18 UNF	2.033	4	1.080			•
9/16 - 24 UNEF	2.088	4	1.100			•
5/8 - 11 UNC	2.146	4	1.050		•	
5/8 - 18 UNF	1.713	3	1.125	•		
5/8 - 24 UNEF	1.753	3	1.070	•		
3/4 - 10 UNC	1.958	3	1.125			•
3/4 - 16 UNF	2.067	3	1.132		•	
3/4 - 20 UNEF	2.104	3	1.175		•	
7/8 - 9 UNC	1.533	2	1.160	•		
7/8 - 14 UNF	1.611	2	1.000	•		
7/8 - 20 UNEF	1.652	2	1.170			•
1 - 12 UNF	1.838	2	1.120		•	
1 - 14 NS	1.861	2	1.160		•	
1/8 - 27 NPS	2.163	6	1.195			•
1/4 - 18 NPS	1.889	4	1.050	•		
3/8 - 18 NPS	1.823	3	1.115			•
1/2 - 14 NPS	1.507	2	1.155	•		

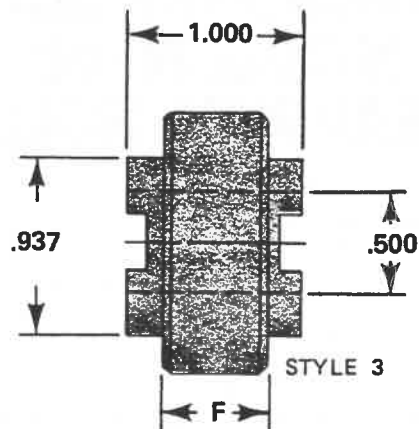
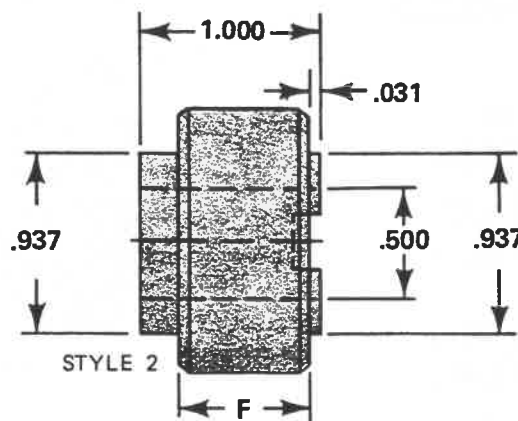
EDP NUMBER						
WORKING FACE F						
13/16	3/4	11/16	5/8	9/16	1/2	7/16
63001	63002	63003	63004	63005	63006	63007
63021	63022	63023	63024	63025	63026	63027
63041	63042	63043	63044	63045	63046	63047
63061	63062	63063	63064	63065	63066	63067
63081	63082	63083	63084	63085	63086	63087
63101	63102	63103	63104	63105	63106	63107
63121	63122	63123	63124	63125	63126	63127
63141	63142	63143	63144	63145	63146	63147
63161	63162	63163	63164	63165	63166	63167
63181	63182	63183	63184	63185	63186	63187
63201	63202	63203	63204	63205	63206	63207
63221	63222	63223	63224	63225	63226	63227
63241	63242	63243	63244	63245	63246	63247
62361	62362	62363	62364	62365	62366	62367
63281	63282	63283	63284	63285	63286	63287
63301	63302	63303	63304	63305	63306	63307
63321	63322	63323	63324	63325	63326	63327
63341	63342	63343	63344	63345	63346	63347
63361	63362	63363	63364	63365	63366	63367
62481	62482	62483	62484	62485	62486	62487
63401	63402	63403	63404	63405	63406	63407
63421	63422	63423	63424	63425	63426	63427
63441	63442	63443	63444	63445	63446	63447
63461	63462	63463	63464	63465	63466	63467
63481	63482	63483	63484	63485	63486	63487
63501	63502	63503	63504	63505	63506	63507
63521	63522	63523	63524	63525	63526	63527
63541	63542	63543	63544	63545	63546	63547
63561	63562	63563	63564	63565	63566	63567
63801	63802	63803	63804	63805	63806	63807
63821	63822	63823	63824	63825	63826	63827
62841	62842	62843	62844	62845	62846	62847
63861	63862	63863	63864	63865	63866	63867

NOTE:

Special working face widths available on request.

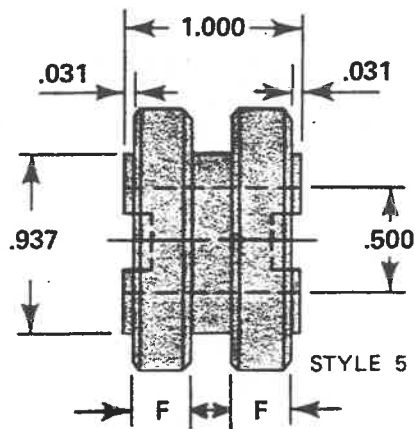
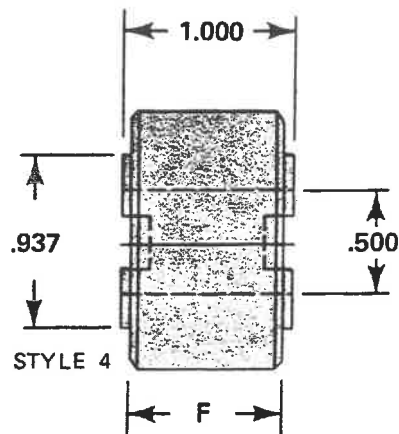
*These sizes identical for 76200 and 76300 series.

Order by EDP number



THREAD SIZE	EDP NUMBER			
	WORKING FACE F			
	15/16	13/16	11/16	9/16
1/4 - 20 UNC	63008	63009	63010	63011
1/4 - 28 UNF	63028	63029	63030	63031
1/4 - 32 UNEF	63048	63049	63050	63051
5/16 - 18 UNC	63068	63069	63070	63071
5/16 - 24 UNF	63088	63089	63090	63091
5/16 - 32 UNEF	63108	63109	63110	63111
3/8 - 16 UNC	63128	63129	63130	63131
3/8 - 24 UNF	63148	63149	63150	63151
3/8 - 32 UNEF	63168	63169	63170	63171
7/16 - 14 UNC	63188	63189	63190	63191
7/16 - 20 UNF	63208	63209	63210	63211
7/16 - 28 UNEF	63228	63229	63230	63231
1/2 - 13 INC	63248	63249	63250	63251
1/2 - 20 UNF	62368	62369	62370	62371
1/2 - 28 UNEF	63288	63289	63290	63291
9/16 - 12 UNC	63308	63309	63310	63311
9/16 - 18 UNF	63328	63329	63330	63331
9/16 - 24 UNEF	63348	63349	63350	63351
5/8 - 11 UNC	63368	63369	63370	63371
5/8 - 18 UNF	62488	62489	62490	62491
5/8 - 24 UNEF	63408	63409	63410	63411
3/4 - 10 UNC	63428	63429	63430	63431
3/4 - 16 UNF	63448	63449	63450	63451
3/4 - 20 UNEF	63468	63469	63470	63471
7/8 - 9 UNC	63488	63489	63490	63491
7/8 - 14 UNF	63508	63509	63510	63511
7/8 - 20 UNEF	63528	63529	63530	63531
1 - 12 UNF	63548	63549	63550	63551
1 - 14 NS	63568	63569	63570	63571
1/8 - 27 NPS	63808	63809	63810	63811
1/4 - 18 NPS	63828	63829	63830	63831
3/8 - 18 NPS	62848	62849	62850	62851
1/2 - 14 NPS	63868	63869	63870	63871

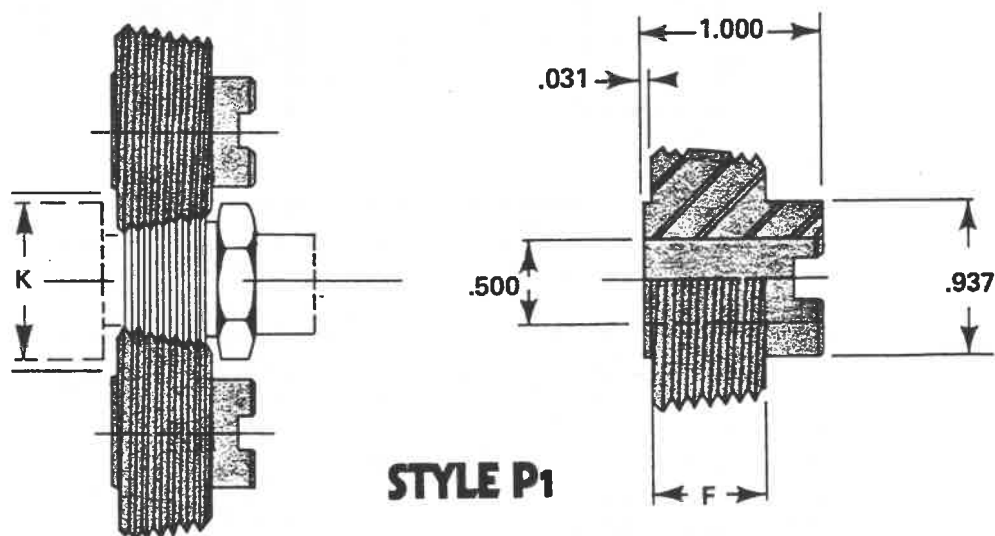
EDP NUMBER		
WORKING FACE F		
11/16	9/16	7/16
63012	63013	63014
63032	63033	63034
63052	63053	63054
63072	63073	63074
63092	63093	63094
63112	63113	63114
63132	63133	63134
63152	63153	63154
63172	63173	63174
63192	63193	63194
63212	63213	63214
63232	63233	63234
63252	63253	63254
62372	62373	62374
63292	63293	63294
63312	63313	63314
63332	63333	63334
63352	63353	63354
63372	63373	63374
62492	62493	62494
63412	63413	63414
63432	63433	63434
63452	63453	63454
63472	63473	63474
63492	63493	63494
63512	63513	63514
63532	63533	63534
63552	63553	63554
63572	63573	63574
63812	63813	63814
63832	63833	63834
62852	62853	62854
63872	63873	63874



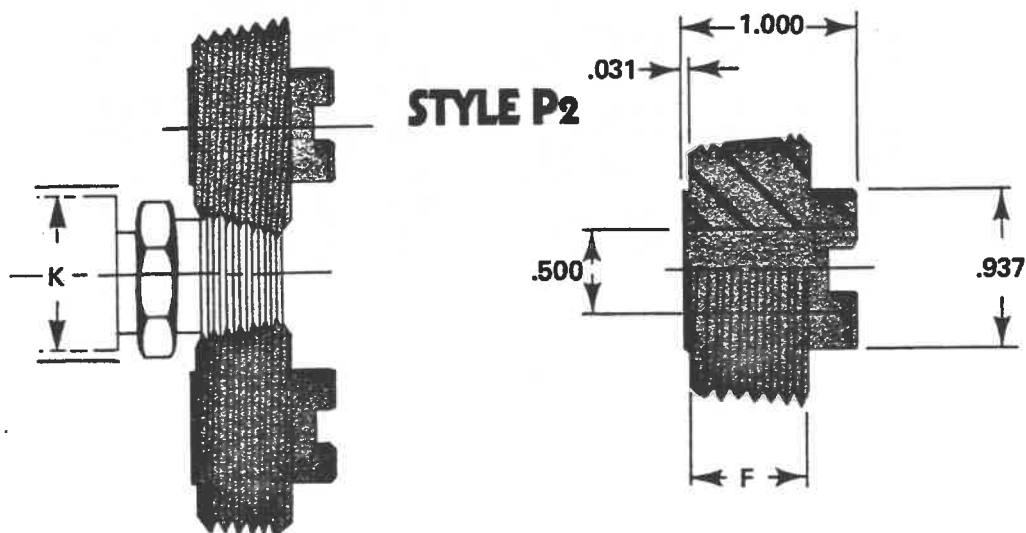
THREAD SIZE	EDP NUMBER	
	WORKING FACE F	
	15/16	13/16
1/4 - 20 UNC	63015	63016
1/4 - 28 UNF	63035	63036
1/4 - 32 UNEF	63055	63056
5/16 - 18 UNC	63075	63076
5/16 - 24 UNF	63095	63096
5/16 - 32 UNEF	63115	63116
3/8 - 16 UNC	63135	63136
3/8 - 24 UNF	63155	63156
3/8 - 32 UNEF	63175	63176
7/16 - 14 UNC	63195	63196
7/16 - 20 UNF	63215	63216
7/16 - 28 UNEF	63235	63236
1/2 - 13 UNC	63255	63256
1/2 - 20 UNF	62375	62376
1/2 - 28 UNEF	63295	63296
9/16 - 12 UNC	63315	63316
9/16 - 18 UNF	63335	63336
9/16 - 24 UNEF	63355	63356
5/8 - 11 UNC	63375	63376
5/8 - 18 UNF	62495	62496
5/8 - 24 UNEF	63415	63416
3/4 - 10 UNC	63435	63436
3/4 - 16 UNF	63455	63456
3/4 - 20 UNEF	63475	63476
7/8 - 9 UNC	63495	63496
7/8 - 14 UNF	63515	63516
7/8 - 20 UNEF	63535	63536
1 - 12 UNF	63555	63556
1 - 14 NS	63575	63576
1/8 - 27 NPS	63815	63816
1/4 - 18 NPS	63835	63836
3/8 - 18 NPS	62855	62856
1/2 - 14 NPS	63875	63876

EDP NUMBER			
WORKING FACE F			
3/8	5/16	1/4	3/16
63017	63018	63019	63020
63037	63038	63039	63040
63057	63058	63059	63060
63077	63078	63079	63080
63097	63098	63099	63100
63117	63118	63119	63120
63137	63138	63139	63140
63157	63158	63159	63160
63177	63178	63179	63180
63197	63198	63199	63200
63217	63218	63219	63220
63237	63238	63239	63240
63257	63258	63259	63260
62377	62378	62379	62380
63297	63298	63299	63300
63317	63318	63319	63320
63337	63338	63339	63340
63357	63358	63359	63360
63377	63378	63379	63380
62497	62498	62499	62500
63417	63418	63419	63420
63437	63438	63439	63440
63457	63458	63459	63460
63477	63478	63479	63480
63497	63498	63499	63500
63517	63518	63519	63520
63537	63538	63539	63540
63557	63558	63559	63560
63577	63578	63579	63580
63817	63818	63819	63820
63837	63838	63839	63840
62857	62858	62859	62860
63877	63878	63879	63880

STANDARD PIPE THREAD ROLLS FOR MODEL 76300 THREAD ROLL HOLDER.



THREAD SIZE	NO. STARTS	APPROX. O.D.	SHOULDER CLEARANCE K	FACE WIDTH F	STYLE P1 EDP NO.	STYLE P2 EDP NO.	BUSHING POSITION
1/8 - 27 NPT	6	2.169	1.200	.357	63750	63755	CENT.
1/8 - 27 NPTF	6	2.169	1.200	.357	63751	63756	CENT.
1/8 - 27 PTF	6	2.169	1.200	.320	63752	63757	CENT.
1/4 - 18 NPT	4	1.905	1.030	.541	63760	63765	IN
1/4 - 18 NPTF	4	1.905	1.030	.541	63761	63766	IN
1/4 - 18 PTF	4	1.905	1.030	.485	63762	63767	IN
3/8 - 18 NPT	3	1.838	1.120	.547	62770	62775	CENT.
3/8 - 18 NPTF	3	1.838	1.120	.547	62771	62776	CENT.
3/8 - 18 PTF	3	1.838	1.120	.490	62772	62777	CENT.
1/2 - 14 NPT	2	1.525	1.150	.712	62780	62785	IN
1/2 - 14 NPTF	2	1.525	1.150	.712	62781	62786	IN
1/2 - 14 PTF	2	1.525	1.150	.640	62782	62787	IN



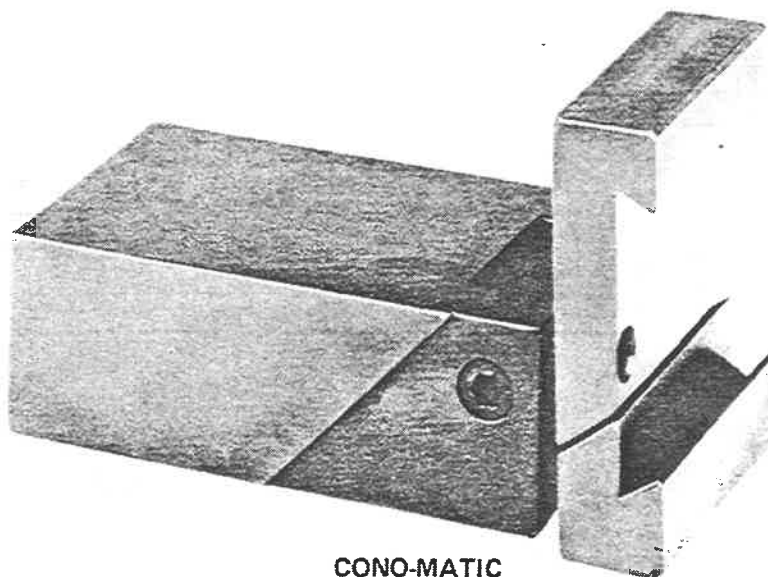
ADAPTORS FOR DETROIT THREAD ROLL HOLDER MODELS 76300, 76301, 76302 & 76303

The chart below indicates the adaptors required to attach a Detroit Thread Roll Holder to various machine tools. To order an adaptor for your application, please use the appropriate EDP number.

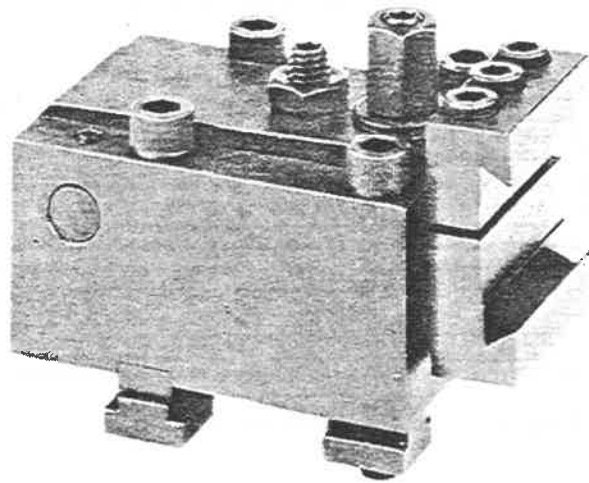
MACHINE	MODEL NUMBER	ADAPTOR EDP NO.	POSITION
Acme-Gridley	9/16" & 1" RA6	78100	3 & 4
Acme - Gridley	1 1/4" & 1 5/8" RA6	78150	3 & 4
Cono-Matic	1 5/8" TA, 1" SW, 1 1/4" SX & 1 1/2" SY Cono-Matic	78500	3, 4 & 5*
New Britain	1" Model 60, 51 & 52	78900	4

For easy identification, the following adaptors are illustrated with their EDP numbers:

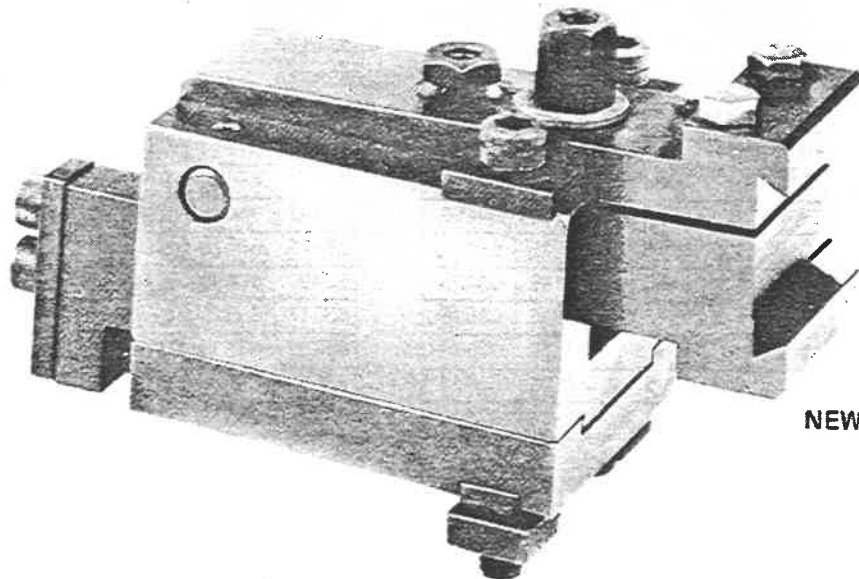
*Where slides are independent



CONO-MATIC
78500



ACME-GRIDLEY
78150

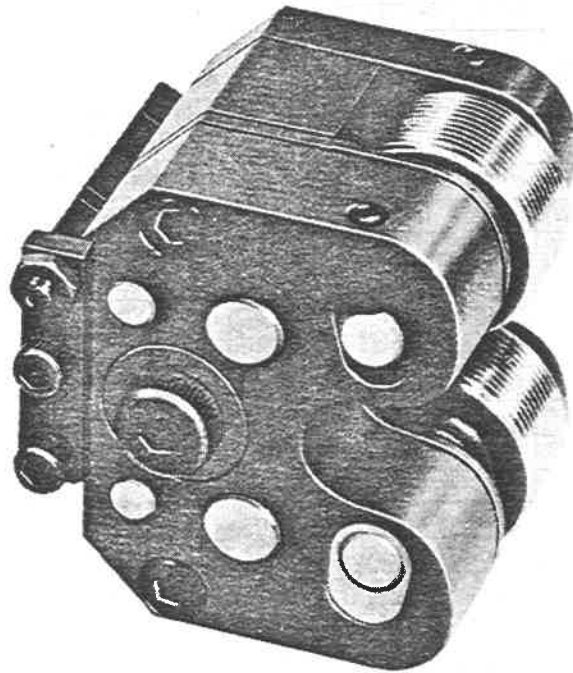
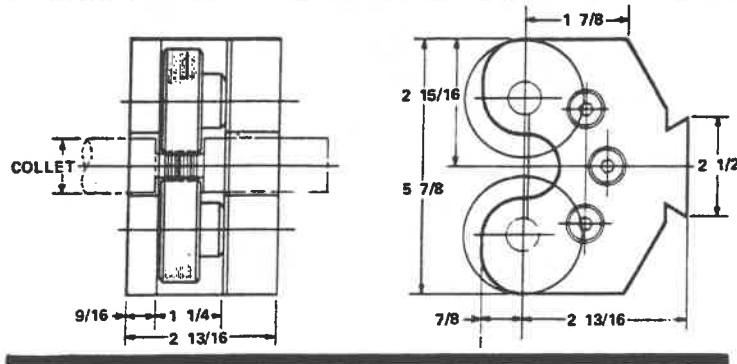


NEW BRITAIN
78900

DETROIT TAP & TOOL THREAD ROLL HOLDER, MODEL: 76400

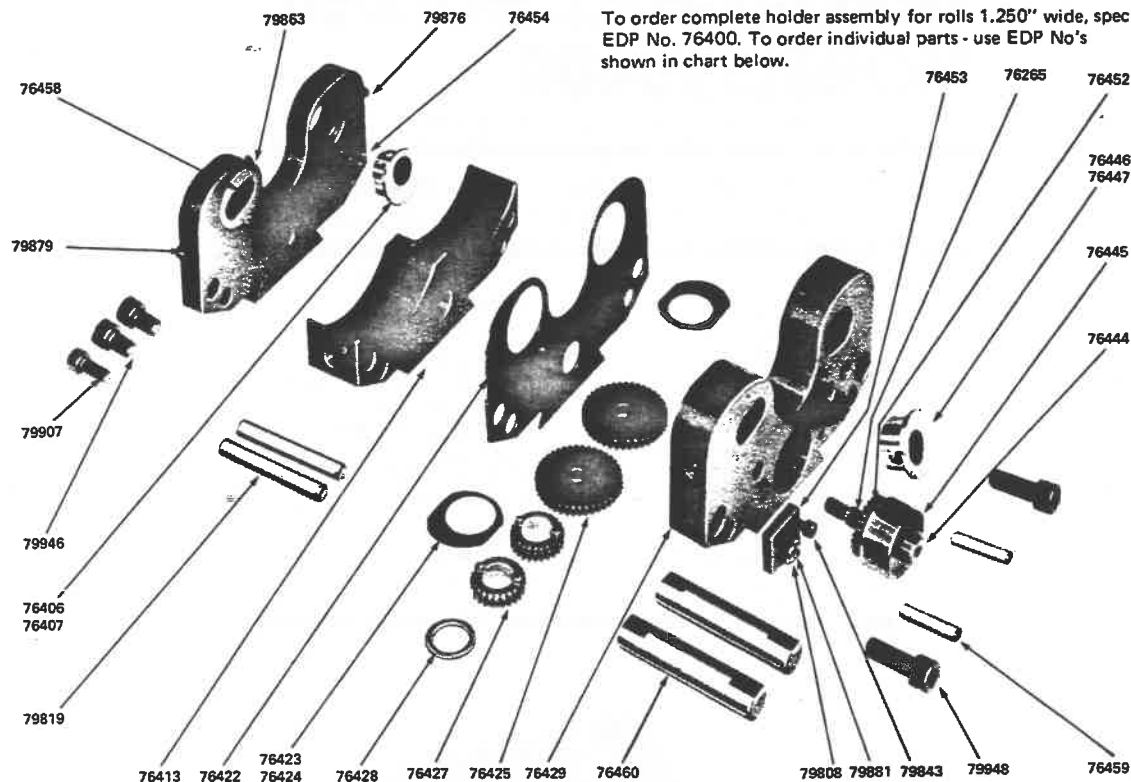
MODEL 76400 REPLACES MODEL 25-1125

CAPACITY: 1/4" - 20 UNC through 1 1/8" - 18 UNEF
1/8", 1/4", 3/8", 1/2" & 3/4" Straight and Taper Pipe.



- THREAD ROLL SELECTION GUIDE
SEE PAGE 4,5
- THREAD ROLL ASSEMBLY INSTALLATION GUIDE
SEE PAGE 118
- THREAD ROLL CAM DESIGN GUIDE
SEE PAGE 13
- BLANK PREPARATION GUIDE
SEE PAGE 8

76400 THREAD ROLL HOLDER PARTS LIST.



To order complete holder assembly for rolls 1.250" wide, specify EDP No. 76400. To order individual parts - use EDP No's shown in chart below.

EDP NO.	QUANTITY REQUIRED	PART NAME
76265	1	Snap ring
76406	1	Backplate bushing (rev.)
76407	1	Backplate bushing (cent.)
76413	1	Spacer block 1 1/4"
76422	1	Gearbox cover .125
76423	2	Chip guard (offset)
76424	2	Chip guard (cent.)
76425	2	Idler gear 40 T
76427	2	Drive gear 24 T
76428	1	Thrust washer
76429	1	Gearbox
76444	1	Adjusting gear stud
76445	1	Adjusting gear plug
76446	1	Gearbox bushing (rev.)
76447	1	Gearbox bushing (cent.)
76452	1	Adjusting gear 26 T
76453	1	Stop block
76454	1	Backplate .562
76458	1	Wearplate
76459	2	Idler gear pin
76460	2	Roll pin
79808	1	Jam nut
79819	2	Dowel pin
79843	2	Socket cap screw

EDP NO.	QUANTITY REQUIRED	PART NAME
79863	2	Socket set screw
79876	2	Socket set screw
79879	2	Socket set screw
79881	1	Socket set screw
79907	1	Socket cap screw
79946	2	Socket cap screw
79948	2	Socket cap screw

EDP No. 76401 Holder Assembly For Rolls 1 1/2" Wide		
76414	1	Spacer block
76461	2	Roll pin
76475	2	Dowel pin

EDP No. 76402 Holder Assembly For Rolls 1 3/4" Wide		
76415	1	Spacer block
76462	2	Roll pin
76476	2	Dowel pin

EDP No. 76403 Holder Assembly for Rolls 2" Wide		
76416	1	Spacer block
76463	2	Roll pin
76477	2	Dowel pin

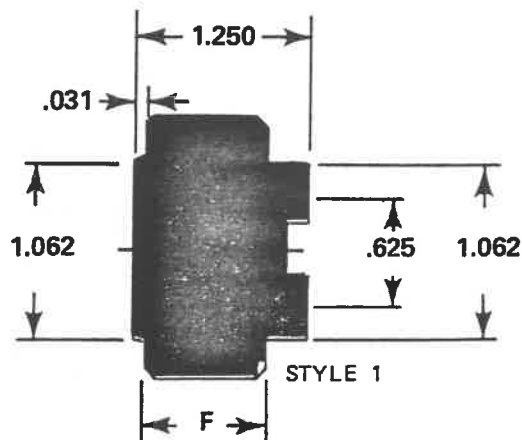
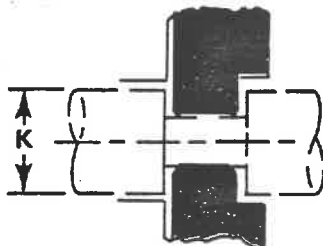
NOTE:

- A standard 76400 holder can be altered to 76401, 76402 or 76403 by ordering special space block, dowel & roll pins shown above.
- Rolls for 1 1/2", 1 3/4" & 2" wide holders must be special ordered.

STANDARD THREAD ROLLS FOR MODEL 76400 THREAD ROLL HOLDER.

NOTE:

- "K" dimension indicates maximum allowable stock diameter to clear thread roll holder throat opening.
- "In" is where the bushings are positioned such that roll pins are closest to center of attachment.
- "Out" is opposite position.
- "Cent" when using centered bushing.



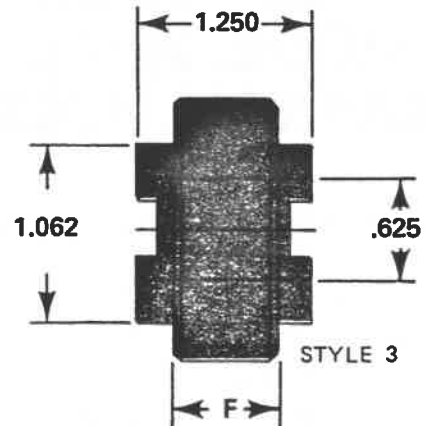
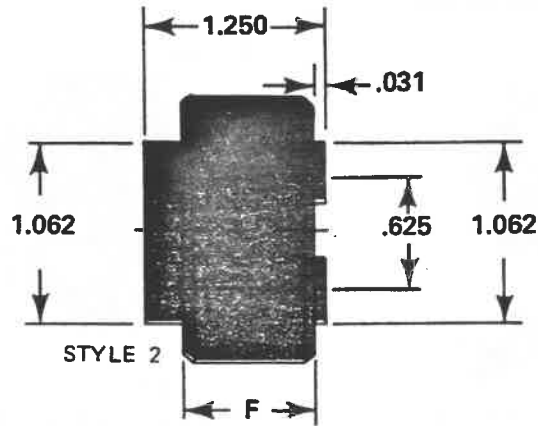
THREAD SIZE	THREAD ROLL		SHOULDER CLEARANCE K	BUSHING POSITION		
	APPROX. O.D.	NO. STARTS		IN	OUT	CENT.
1/4 - 20 UNC	2.617	13	1.441	•		
1/4 - 28 UNF	2.583	12	1.457	•		
1/4 - 32 UNEF	2.635	12	1.400	•		
5/16 - 18 UNC	2.584	10	1.419	•		
5/16 - 24 UNF	2.719	10	1.281	•		
5/16 - 32 UNEF	2.539	9	1.433	•		
3/8 - 16 UNC	2.513	8	1.437	•		
3/8 - 24 UNF	2.675	8	1.263			•
3/8 - 32 UNEF	2.756	8	1.253			•
7/16 - 14 NC	2.575	7	1.325	•		
7/16 - 20 NF	2.721	7	1.250			•
7/16 - 28 UNEF	2.416	6	1.437	•		
1/2 - 13 UNC	2.580	6	1.295	•		
1/2 - 20 UNF	2.708	6	1.234		•	
1/2 - 28 UNEF	2.326	5	1.467	•		
9/16 - 12 UNC	2.406	5	1.393	•		
9/16 - 18 UNF	2.542	5	1.311			•
9/16 - 24 UNEF	2.610	5	1.209			•
5/8 - 11 UNC	2.707	5	1.267		•	
5/8 - 18 UNF	2.284	4	1.407	•		
5/8 - 24 UNEF	2.338	4	1.335	•		
3/4 - 10 UNC	2.610	4	1.321		•	
3/4 - 16 UNF	2.085	3	1.467	•		
3/4 - 20 UNEF	2.104	3	1.435	•		
7/8 - 9 UNC	2.300	3	1.203			•
7/8 - 14 UNF	2.416	3	1.291		•	
7/8 - 20 UNEF	2.479	3	1.389		•	
1 - 14 UNS	1.861	2	1.455	•		
1 - 20 UNEF	1.903	2	1.385	•		
1 1/16-12 UNF	1.963	2	1.319	•		
1 1/16-18 UNEF	2.017	2	1.243			•
1 1/8-12 UNF	2.088	2	1.163			•
1 1/8-18 UNEF	2.142	2	1.287		•	
1/8 - 27 NPS	2.524	7	1.352	•		
1/4 - 18 NPS	2.834	6	1.368		•	
3/8 - 18 NPS	2.430	4	1.400	•		
1/2 - 14 NPS	2.261	3	1.230	•		
3/4 - 14 NPS	1.928	2	1.350	•		

EDP NUMBER					
WORKING FACE F					
1 1/16	7/8	3/4	5/8	1/2	3/8
64001	64002	64003	64004	64005	64006
64021	64022	64023	64024	64025	64026
64041	64042	64043	64044	64045	64046
64061	64062	64063	64064	64065	64066
64081	64082	64083	64084	64085	64086
64101	64102	64103	64104	64105	64106
64121	64122	64123	64124	64125	64126
64141	64142	64143	64144	64145	64146
64161	64162	64163	64164	64165	64166
64181	64182	64183	64184	64185	64186
64201	64202	64203	64204	64205	64206
64221	64222	64223	64224	64225	64226
64241	64242	64243	64244	64245	64246
64261	64262	64263	64264	64265	64266
64281	64282	64283	64284	64285	64286
64301	64302	64303	64304	64305	64306
64321	64322	64323	64324	64325	64326
64341	64342	64343	64344	64345	64346
64361	64362	64363	64364	64365	64366
64381	64382	64383	64384	64385	64386
64401	64402	64403	64404	64405	64406
64421	64422	64423	64424	64425	64426
64441	64442	64443	64444	64445	64446
64461	64462	64463	64464	64465	64466
64481	64482	64483	64484	64485	64486
64501	64502	64503	64504	64505	64506
64521	64522	64523	64524	64525	64526
64541	64542	64543	64544	64545	64546
64561	64562	64563	64564	64565	64566
64581	64582	64583	64584	64585	64586
64601	64602	64603	64604	64605	64606
64621	64622	64623	64624	64625	64626
64641	64642	64643	64644	64645	64646
64801	64802	64803	64804	64805	64806
64821	64822	64823	64824	64825	64826
64841	64842	64843	64844	64845	64846
64861	64862	64863	64864	64865	64866
64881	64882	64883	64884	64885	64886

NOTE:

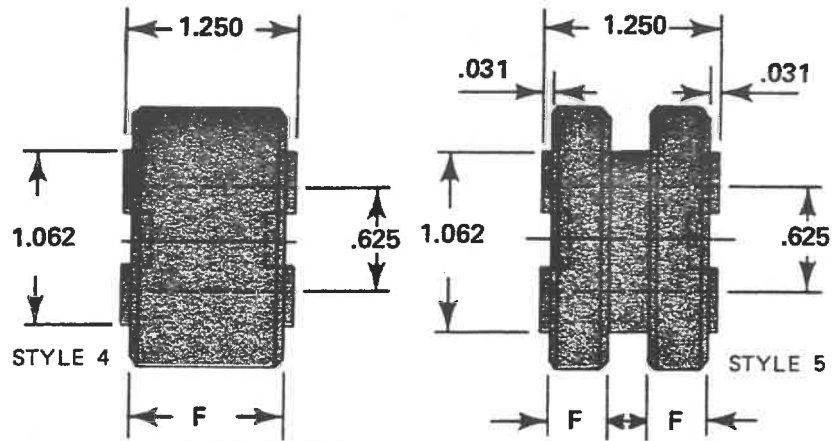
Special working face widths available on request.

Order by EDP number



THREAD SIZE	EDP NUMBER			
	WORKING FACE F			
	1 3/16	3/4	1/2	3/8
1/4 - 20 UNC	64007	64008	64009	64010
1/4 - 28 UNF	64027	64028	64029	64030
1/4 - 32 UNEF	64047	64048	64049	64050
5/16 - 18 UNC	64067	64068	64069	64070
5/16 - 24 UNF	64087	64088	64089	64090
5/16 - 32 UNEF	64107	64108	64109	64110
3/8 - 16 UNC	64127	64128	64129	64130
3/8 - 24 UNF	64147	64148	64149	64150
3/8 - 32 UNEF	64167	64168	64169	64170
7/16 - 14 NC	64187	64188	64189	64190
7/16 - 20 NF	64207	64208	64209	64210
7/16 - 28 UNEF	64227	64228	64229	64230
1/2 - 13 UNC	64247	64248	64249	64250
1/2 - 20 UNF	64267	64268	64269	64270
1/2 - 28 UNEF	64287	64288	64289	64290
9/16 - 12 UNC	64307	64308	64309	64310
9/16 - 18 UNF	64327	64328	64329	64330
9/16 - 24 UNEF	64347	64348	64349	64350
5/8 - 11 UNC	64367	64368	64369	64370
5/8 - 18 UNF	64387	64388	64389	64390
5/8 - 24 UNEF	64407	64408	64409	64410
3/4 - 10 UNC	64427	64428	64429	64430
3/4 - 16 UNF	64447	64448	64449	64450
3/4 - 20 UNEF	64467	64468	64469	64470
7/8 - 9 UNC	64487	64488	64489	64490
7/8 - 14 UNF	64507	64508	64509	64510
7/8 - 20 UNEF	64527	64528	64529	64530
1 - 14 UNS	64547	64548	64549	64550
1 - 20 UNEF	64567	64568	64569	64570
1 1/16-12 UNF	64587	64588	64589	64590
1 1/16-18 UNEF	64607	64608	64609	64610
1 1/8-12 UNF	64627	64628	64629	64630
1 1/8-18 UNEF	64647	64648	64649	64650
1/8 - 27 NPS	64807	64808	64809	64810
1/4 - 18 NPS	64827	64828	64829	64830
3/8 - 18 NPS	64847	64848	64849	64850
1/2 - 14 NPS	64867	64868	64869	64870
3/4 - 14 NPS	64887	64888	64889	64890

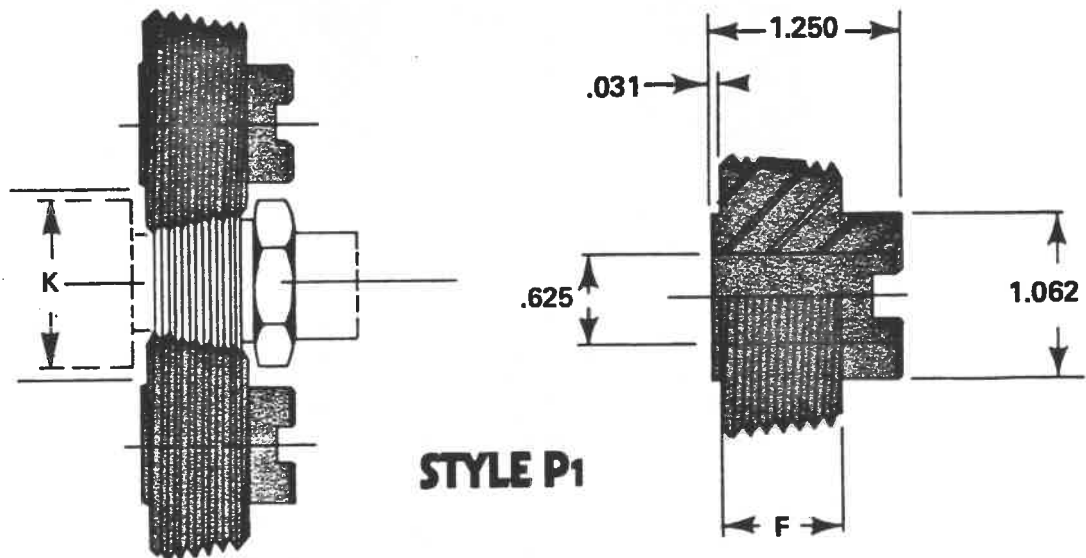
EDP NUMBER			
WORKING FACE F			
15/16	3/4	1/2	3/8
64011	64012	64013	64014
64031	64032	64033	64034
64051	64052	64053	64054
64071	64072	64073	64074
64091	64092	64093	64094
64111	64112	64113	64114
64131	64132	64133	64134
64151	64152	64153	64154
64171	64172	64173	64174
64191	64192	64193	64194
64211	64212	64213	64214
64231	64232	64233	64234
64251	64252	64253	64254
64271	64272	64273	64274
64291	64292	64293	64294
64311	64312	64313	64314
64331	64332	64333	64334
64351	64352	64353	64354
64371	64372	64373	64374
64391	64392	64393	64394
64411	64412	64413	64414
64431	64432	64433	64434
64451	64452	64453	64454
64471	64472	64473	64474
64491	64492	64493	64494
64511	64512	64513	64514
64531	64532	64533	64534
64551	64552	64553	64554
64571	64572	64573	64574
64591	64592	64593	64594
64611	64612	64613	64614
64631	64632	64633	64634
64651	64652	64653	64654
64811	64812	64813	64814
64831	64832	64833	64834
64851	64852	64853	64854
64871	64872	64873	64874
64891	64892	64893	64894



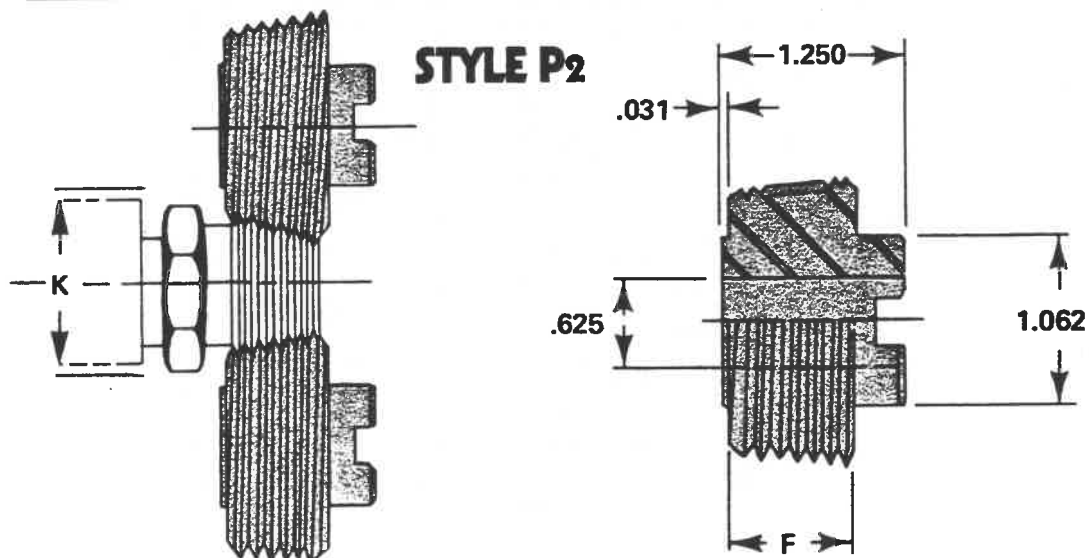
THREAD SIZE	EDP NUMBER	
	WORKING FACE F	
	1 3/16	1 1/16
1/4 - 20 UNC	64015	64016
1/4 - 28 UNF	64035	64036
1/4 - 32 UNEF	64055	64056
5/16 - 18 UNC	64075	64076
5/16 - 24 UNF	64095	64096
5/16 - 32 UNEF	64115	64116
3/8 - 16 UNC	64135	64136
3/8 - 24 UNF	64155	64156
3/8 - 32 UNEF	64175	64176
7/16 - 14 NC	64195	64196
7/16 - 20 NF	64215	64216
7/16 - 28 UNEF	64235	64236
1/2 - 13 UNC	64255	64256
1/2 - 20 UNF	64275	64276
1/2 - 28 UNEF	64295	64296
9/16 - 12 UNC	64315	64316
9/16 - 18 UNF	64335	64336
9/16 - 24 UNEF	64355	64356
5/8 - 11 UNC	64375	64376
5/8 - 18 UNF	64395	64396
5/8 - 24 UNEF	64415	64416
3/4 - 10 UNC	64435	64436
3/4 - 16 UNF	64455	64456
3/4 - 20 UNEF	64475	64476
7/8 - 9 UNC	64495	64496
7/8 - 14 UNF	64515	64516
7/8 - 20 UNEF	64535	64536
1 - 14 UNS	64555	64556
1 - 20 UNEF	64575	64576
1-1/16 - 12 UNF	64595	64596
1-1/16 - 18 UNEF	64615	64616
1-1/8 - 12 UNF	64635	64636
1-1/8 - 18 UNEF	64655	64656
1/8 - 27 NPS	64815	64816
1/4 - 18 NPS	64835	64836
3/8 - 18 NPS	64855	64856
1/2 - 14 NPS	64875	64876
3/4 - 14 NPS	64895	64896

EDP NUMBER		
WORKING FACE F		
1/2	3/8	1/4
64017	64018	64019
64037	64038	64039
64057	64058	64059
64077	64078	64079
64097	64098	64099
64117	64118	64119
64137	64138	64139
64157	64158	64159
64177	64178	64179
64197	64198	64199
64217	64218	64219
64237	64238	64239
64257	64258	64259
64277	64278	64279
64297	64298	64299
64317	64318	64319
64337	64338	64339
64357	64358	64359
64377	64378	64379
64397	64398	64399
64417	64418	64419
64437	64438	64439
64457	64458	64459
64477	64478	64479
64497	64498	64499
64517	64518	64519
64537	64538	64539
64557	64558	64559
64577	64578	64579
64597	64598	64599
64617	64618	64619
64637	64638	64639
64657	64658	64659
64817	64818	64819
64837	64838	64839
64857	64858	64859
64877	64878	64879
64897	64898	64899

STANDARD PIPE THREAD ROLLS FOR MODEL 76400 THREAD ROLL HOLDER.



THREAD SIZE		NO. STARTS	APPROX. O.D.	SHOULDER CLEARANCE K	FACE WIDTH F	STYLE P1 EDP NO.	STYLE P2 EDP NO.	BUSHING POSITION
1/8 - 27	NPT	7	2.527	1.359	.357	64750	64755	IN
1/8 - 27	NPTF	7	2.527	1.359	.357	64751	64756	IN
1/8 - 27	PTF	7	2.527	1.359	.320	64752	64757	IN
1/4 - 18	NPT	5	2.374	1.416	.541	64760	64765	IN
1/4 - 18	NPTF	5	2.374	1.416	.541	64761	64766	IN
1/4 - 18	PTF	5	2.374	1.416	.485	64762	64767	IN
3/8 - 18	NPT	4	2.442	1.425	.547	64770	64775	CENT.
3/8 - 18	NPTF	4	2.442	1.425	.547	64771	64776	CENT.
3/8 - 18	PTF	4	2.442	1.425	.490	64772	64777	CENT.
1/2 - 14	NPT	3	2.276	1.236	.712	64780	64785	CENT.
1/2 - 14	NPTF	3	2.276	1.236	.712	64781	64786	CENT.
1/2 - 14	PTF	3	2.276	1.236	.640	64782	64787	CENT.
3/4 - 14	NPT	2	1.945	1.363	.724	64790	64795	IN
3/4 - 14	NPTF	2	1.945	1.363	.724	64791	64796	IN
3/4 - 14	PTF	2	1.945	1.363	.655	64792	64797	IN



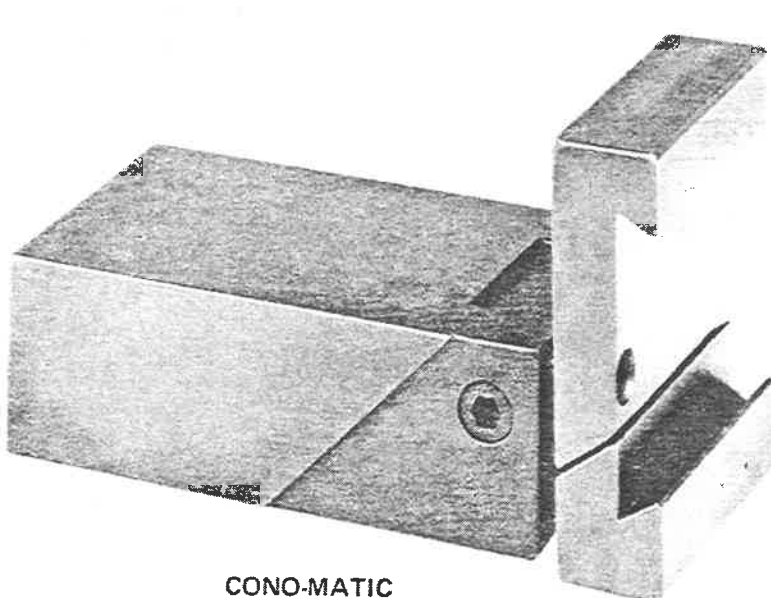
ADAPTORS FOR DETROIT THREAD ROLL HOLDER MODELS 76400, 76401, 76402 & 76403

The chart below indicates the adaptors required to attach a Detroit Thread Roll Holder to various machine tools. To order an adaptor for your application, please use the appropriate EDP number.

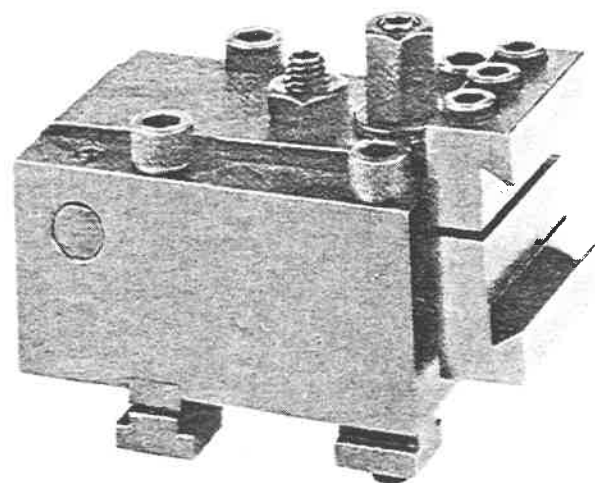
MACHINE	MODEL NUMBER	ADAPTOR EDP NO.	POSITION
Acme - Gridley	1 1/4", 1 5/8", 2", 2 1/4" & 2 5/8" RA6	78200	3 & 4
Acme - Gridley	1 5/8" & 2" RB6	78200	3 & 4
Acme - Gridley	1 1/4" & 2 5/8" RB8	78200	3 & 4
Acme - Gridley	1 5/8" RA8 & 1 5/8" RAN8	78200	3 & 4
Acme - Gridley	2" & 2 5/8" RAS	78200	3 & 4
Acme - Gridley	2 1/4" R6	78200	6
Acme - Gridley	RPA-6 CHUCKER	78200	3 & 4
Cono-Matic	1 1/2" SY Cono-Matic	78550	3, 4 & 5*
Cono-Matic	1 5/8" TA, 1 1/4" SX & 1" SW	78550	3, 4 & 5*
Greenlee	1 5/8" Greelee 6 Spindle	79200	3, 4 & 5
Greenlee	2 1/4" Greenlee 6 Spindle	79200	3, 4 & 5
New Britain	1 5/8" Model 61 & 62	79000	4
Warner & Swasey	1 1/4" 6 Spindle	79350	2, 4 & 5

For easy identification, the following adaptors are illustrated with their EDP numbers:

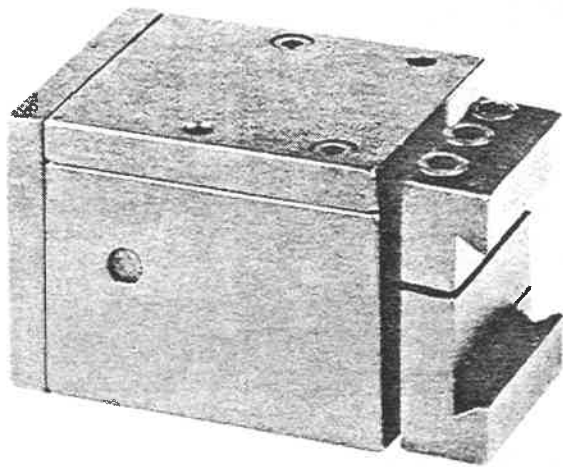
*Where slides are independent



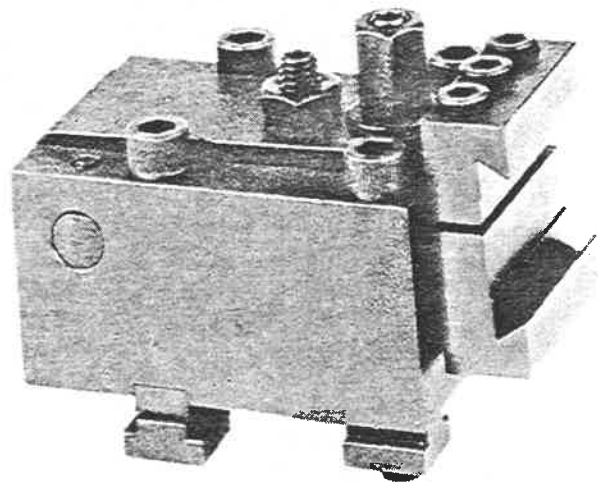
CONO-MATIC
78550



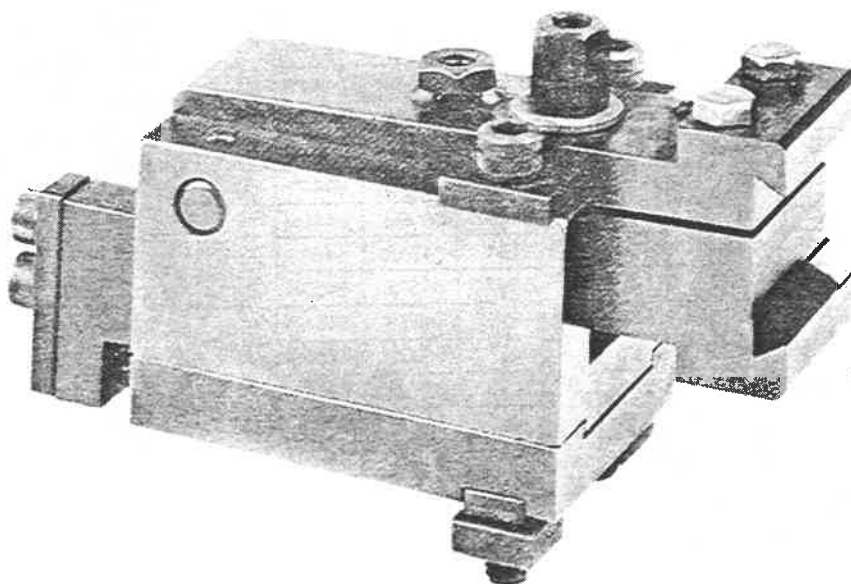
ACME - GRIDLEY
78200



GREENLEE
79200

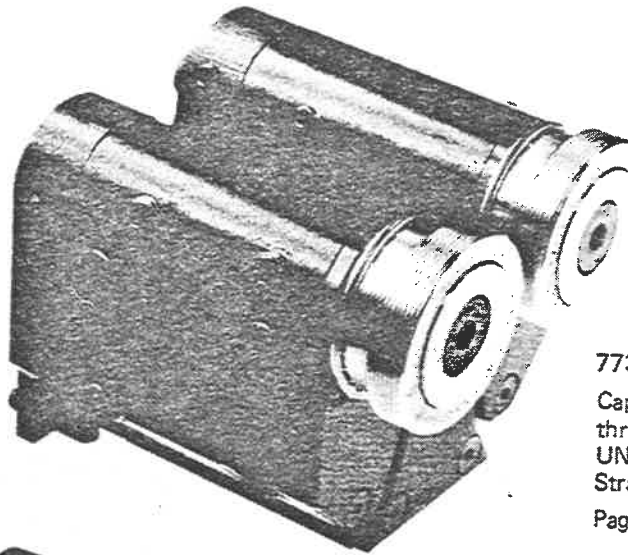


WARNER & SWASEY
79350



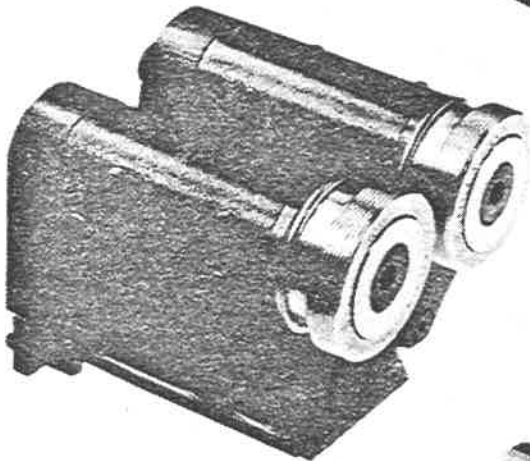
NEW BRITAIN
79000

DETROIT TAP & TOOL OUTBOARD TYPE HOLDERS, ROLLS AND ADAPTORS



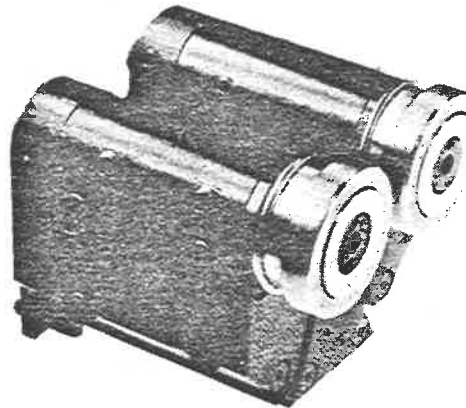
77300

Capacity: 1/4"-20 UNC
through 1 1/8"-18
UNEF, 1/8" & 1/4"
Straight & Taper Pipe
Pages: 75-80



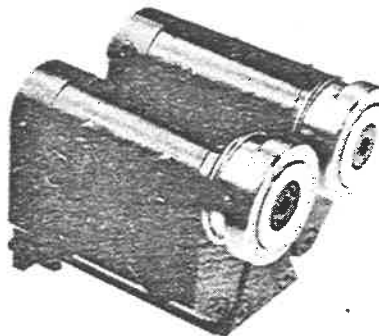
77200

Capacity: 1/4"-20 UNC
through 1"-14 NS, 1/8"
& 1/4" Straight & Taper
Pipe
Pages: 69-74



77150

Capacity: 10-24 UNC
through 3/4"-20 UNEF,
1/8" & 1/4" Straight &
Taper Pipe
Pages: 63-68



77000

Capacity: 5-40 UNC
through 5/8"-18 UNF
1/8" & 1/4" Straight
& Taper Pipe
Pages: 57-62

FEATURES

Rapid Adjustment - Quick Roll Changes

Two socket-head bolts facilitate roll changes and adjustment for thread size. Adjustment for taper is provided on the upper roll pin.

Deep Throat

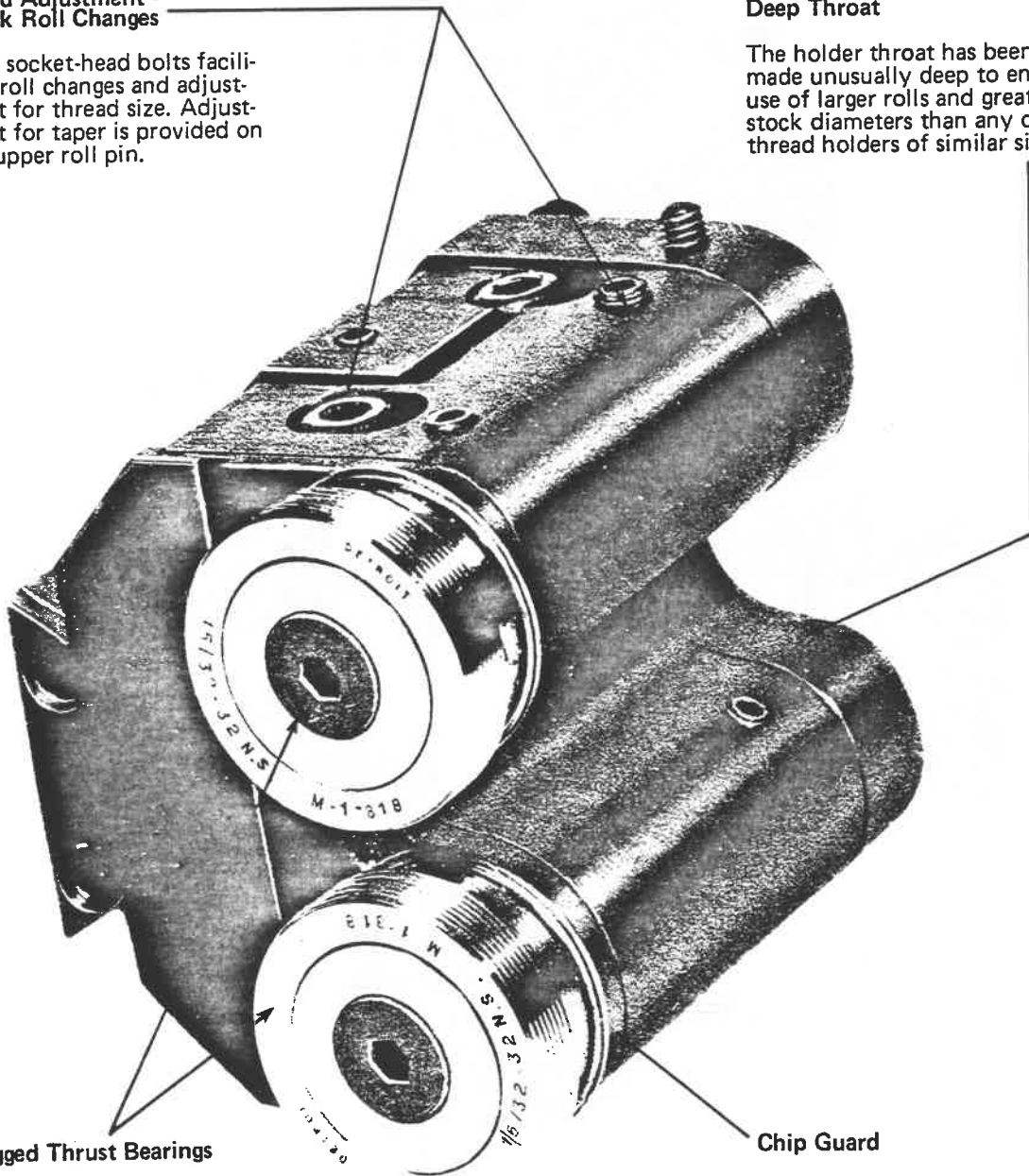
The holder throat has been made unusually deep to enable use of larger rolls and greater stock diameters than any other thread holders of similar size.

Rugged Thrust Bearings

Rolls revolve on stationary, shouldered pins between two heavy-duty thrust bearings providing maximum life and ruggedness.

Chip Guard

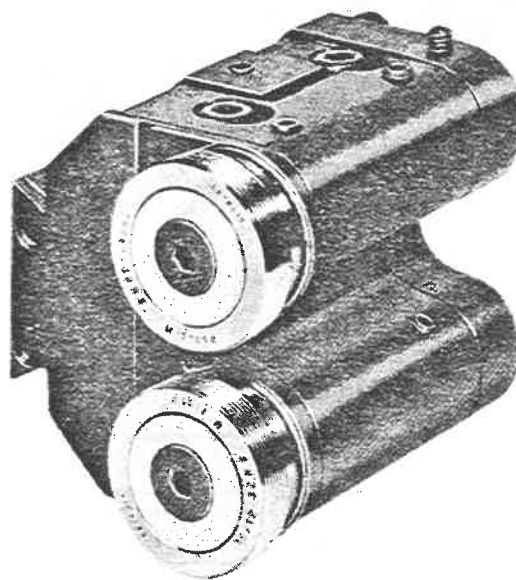
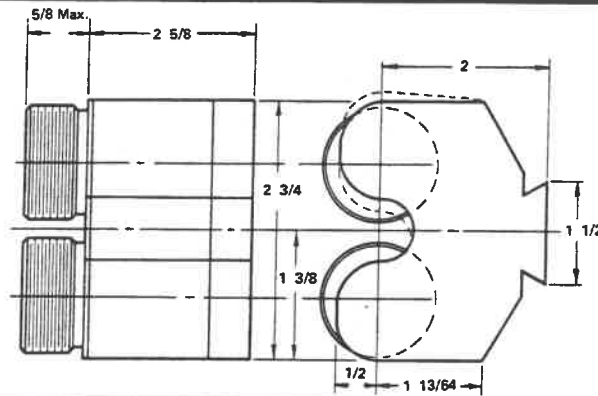
Covers provided on the gearbox prevent any foreign particles from contaminating the gears.



DETROIT TAP & TOOL THREAD ROLL HOLDER, MODEL: 77000

MODEL 77000 REPLACES MODEL OB-625

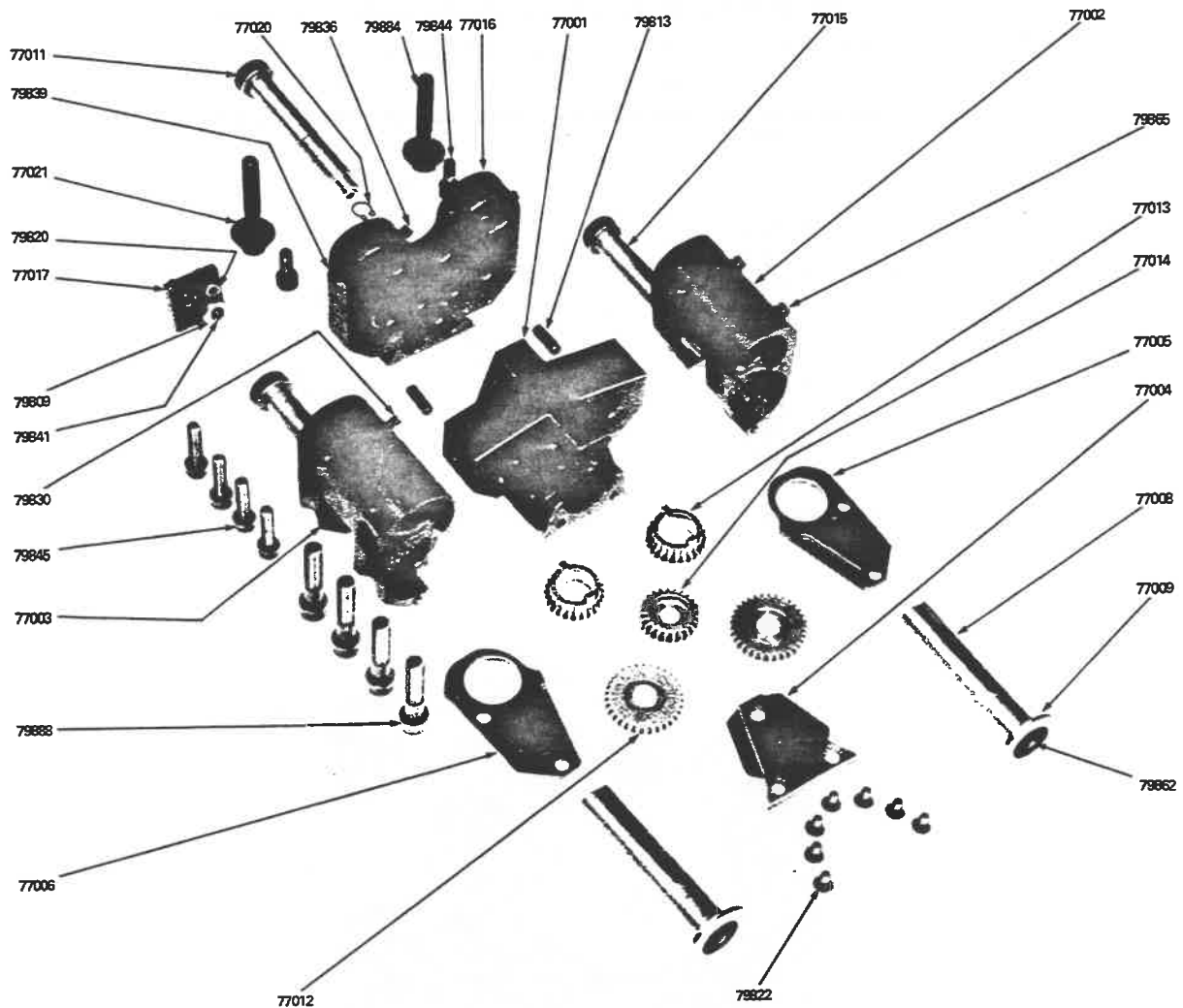
CAPACITY: 5 - 40 UNC through 5/8" - 18 UNF
1/8" & 1/4" Straight and Taper Pipe



● THREAD ROLL ASSEMBLY INSTALLATION GUIDE SEE PAGE	118
● THREAD ROLL CAM DESIGN GUIDE SEE PAGE	13
● BLANK PREPARATION GUIDE SEE PAGE	8

77000 THREAD ROLL HOLDER PARTS LIST.

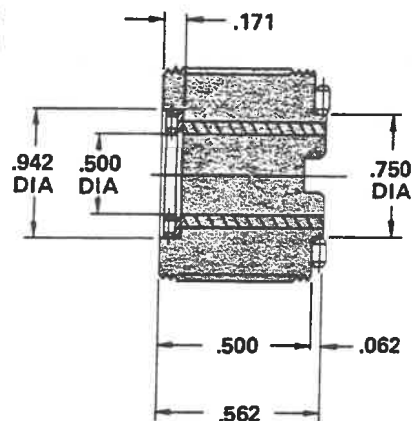
To order complete holder assembly for rolls 5/8" wide, specify EDP No. 77000. To order individual parts - use EDP No.'s shown in chart below.



EDP NO.	QUANTITY REQUIRED	PART NAME
77001	1	Body
77002	1	R.H. Roll Carrier
77003	1	L.H. Roll Carrier
77004	1	Body Cover
77005	1	R.H. Cover
77006	1	L.H. Cover
77008	2	Pin .500 X 2 3/8
77009	2	Flange Washer .078
77011	1	Adjusting Gear Stud
77012	2	Idler Gear
77013	2	Drive Gear
77014	1	Adjusting Gear
77015	2	Idler Gear Stud Hinge Pin
77016	1	Top Plate
77017	1	Stop Block
77020	1	Snap Ring (Tru-Arc 5100-25)

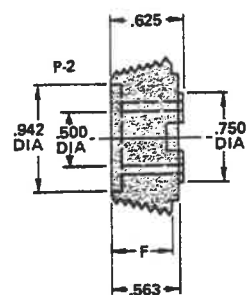
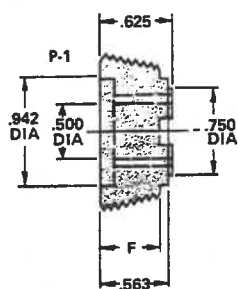
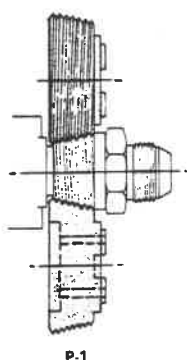
EDP NO.	QUANTITY REQUIRED	PART NAME
77021	2	1/4 I.D. X 11/16 O.D. X 3/32 Washer (TRC 411)
79809	1	No. 10-32 Hex Nut
79813	2	3/16 X 3/4 Dowel
79820	2	No. 6-32 X 1/2 Soc. Cap. Scr.
79822	7	No. 6-32 X 1/4 Soc. Flat. Hd. Scr.
79830	2	No. 10-32 X 3/16 Soc. Set Scr.
79836	2	No. 10-32 X 3/8 Soc. Set Scr.
79839	2	No. 10-32 X 1/2 Soc. Set Scr.
79841	1	No. 10-32 X 1" Soc. Set Scr.
79844	2	No. 10-32 X 5/8 Soc. Cap Scr.
79845	4	No. 10-32 X 3/4 Soc. Cap Scr.
79862	2	1/4-20 X 3/8 Soc. Flat Hd. Scr.
79865	4	1/4 -20 X 3/8 Soc. Set Scr. Half Dog
79884	2	1/4-20 X 1" Soc. Cap Scr.
79888	4	1/4-20 X 1 3/16 Soc. Cap Scr.

STANDARD THREAD ROLLS FOR MODEL 77000 THREAD ROLL HOLDER.

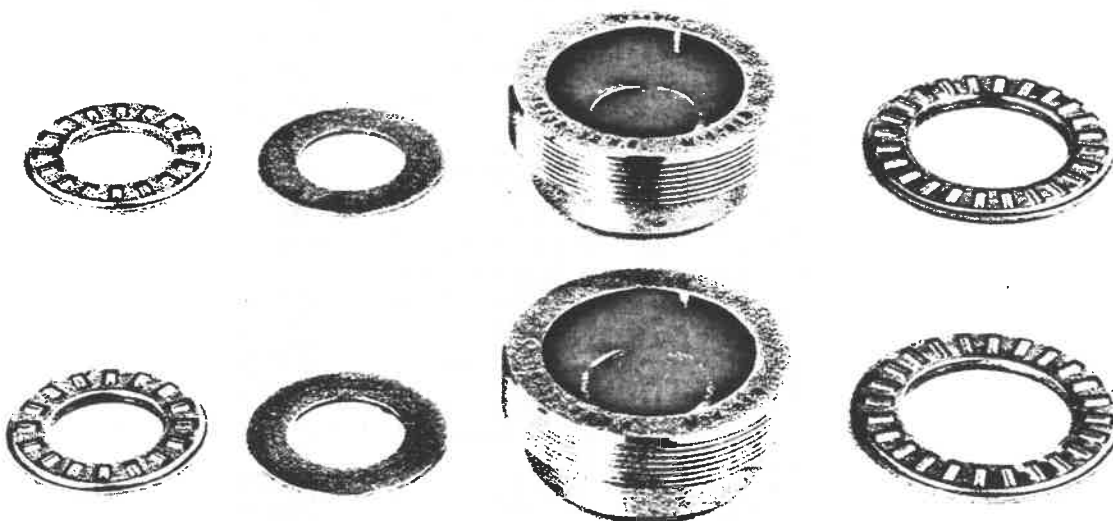


THREAD SIZE		THREAD ROLL		EDP NO.
		APPROX. O.D.	NO. STARTS	
5 - 40	UNC	1.308	13	69001
5 - 44	UNF	1.233	12	69002
6 - 32	UNC	1.291	12	69003
6 - 40	UNF	1.250	11	69004
8 - 32	UNC	1.202	9	69005
8 - 36	UNF	1.233	9	69006
10 - 24	UNC	1.195	8	69007
10 - 32	UNF	1.276	8	69008
12 - 24	UNC	1.228	7	69009
12 - 28	UNF	1.269	7	69010
12 - 32	UNEF	1.299	7	69011
1/4 - 20	UNC	1.208	6	69012
1/4 - 28	UNF	1.291	6	69013
1/4 - 32	UNEF	1.317	6	69014
5/16 - 18	UNC	1.292	5	69015
5/16 - 24	UNF	1.088	4	69016
5/16 - 32	UNEF	1.128	4	69017
3/8 - 16	UNC	1.256	4	69018
3/8 - 24	UNF	1.338	4	69019
3/8 - 32	UNEF	1.034	3	69020
7/16 - 14	UNC	1.104	3	69021
7/16 - 20	UNF	1.166	3	69022
7/16 - 28	UNEF	1.208	3	69023
1/2 - 13	UNC	1.275	3	69024
1/2 - 20	UNF	.903	2	69025
1/2 - 28	UNEF	.930	2	69026
9/16 - 12	UNC	.963	2	69027
9/16 - 18	UNF	1.017	2	69028
9/16 - 24	UNEF	1.044	2	69029
9/16 - 28	NS	1.055	2	69030
5/8 - 11	UNC	1.073	2	69031
5/8 - 18	UNF	1.142	2	69032
1/8 - 27	NPS	1.081	3	69050
1/4 - 18	NPS	.945	2	69055

STANDARD PIPE THREAD ROLLS FOR MODEL 77000 THREAD ROLL HOLDER.



THREAD SIZE	APPROX. O.D.	NO. STARTS	FACE WIDTH F	STYLE P1 EDP NO.	STYLE P2 EDP NO.
1/8 - 27 NPT	1.091	3	.357	69075	69078
1/8 - 27 NPTF	1.091	3	.357	69076	69079
1/8 - 27 PTF	1.091	3	.320	69077	69080
1/4 - 18 NPT	.960	2	.541	69085	69088
1/4 - 18 NPTF	.960	2	.541	69086	69089
1/4 - 18 PTF	.960	2	.485	69087	69090



BEARING	EDP NO.
Outer Brg. NTA 1220	76809
Inner Brg. NTA 815	76812
Inner Brg. Race TRA 815	76820

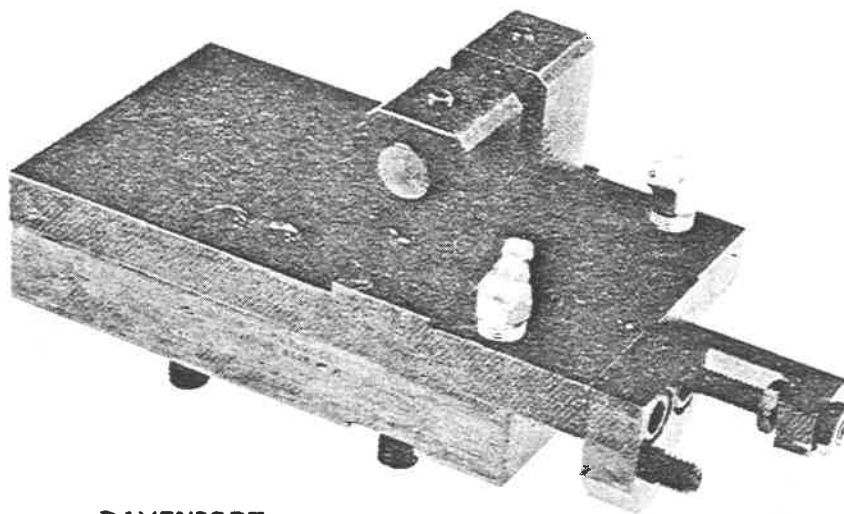
ADAPTOR ASSEMBLIES FOR DETROIT MODEL 77000 THREAD ROLL HOLDER.

The chart below indicates the adaptors required to attach a Detroit Thread Roll Holder to various machine tools. To order an adaptor for your application, please use the appropriate EDP number.

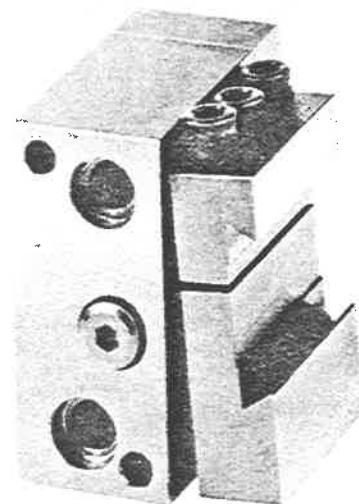
MACHINE	MODEL NUMBER	ADAPTOR EDP NO.	POSITION
Acme - Gridley	7/16 RA6	78050	3 & 4
Brown & Sharpe	O.G. Brown & Sharpe	78300	Cross - Slide Front & Rear
Cono-Matic	1" Model TC, TS & SL	78450	3, 4 & 5*
Davenport	Model B	78650	D
Davenport	Model B with Swing Arm	78700	C
Davenport	Model B	78800	Position Slide
Greenlee	1" Greenlee 6-Spindle	79150	3, 4 & 5
New Britain	1" Model 60	78950	4

For easy identification, the following adaptors are illustrated with their EDP numbers:

*Where slides are independent



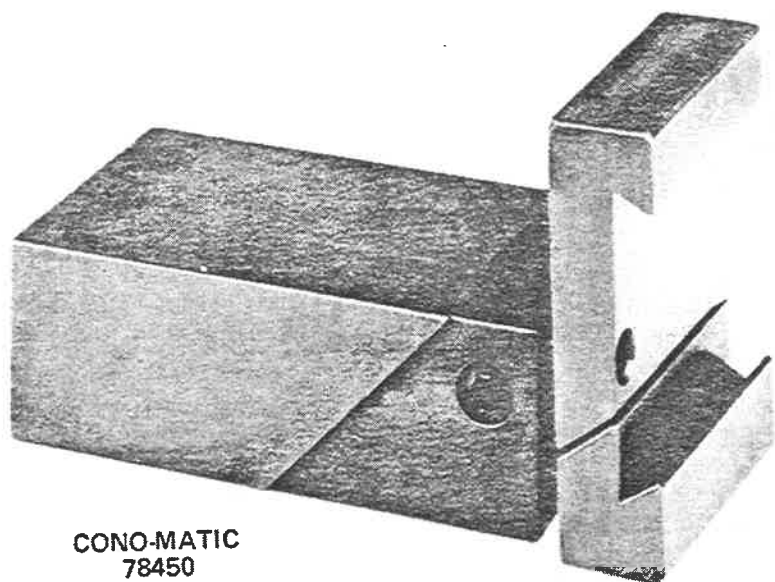
DAVENPORT
78800



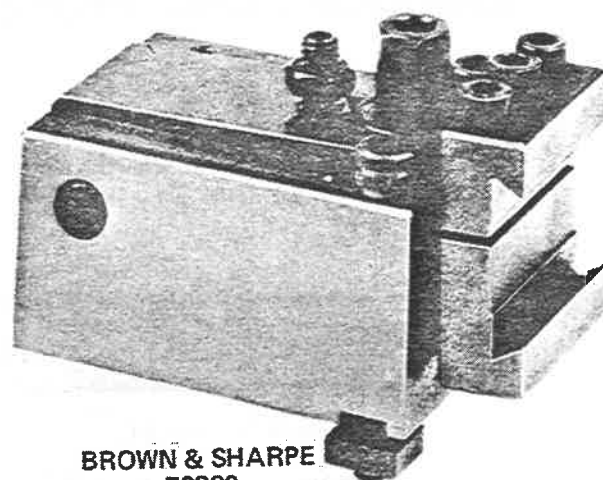
DAVENPORT
78650

NOTE:

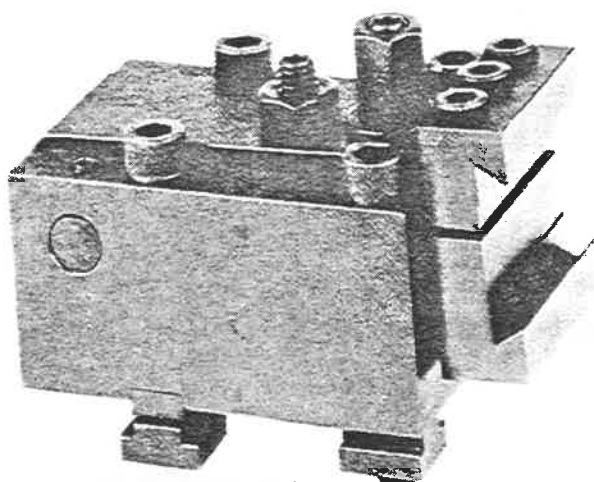
- Adaptor 78750 & Position Slide 78800 are both required for Davenport Model B, Position D - Top Slide operation.



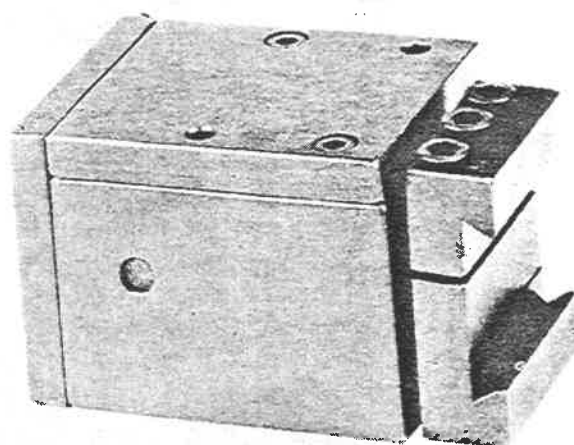
CONO-MATIC
78450



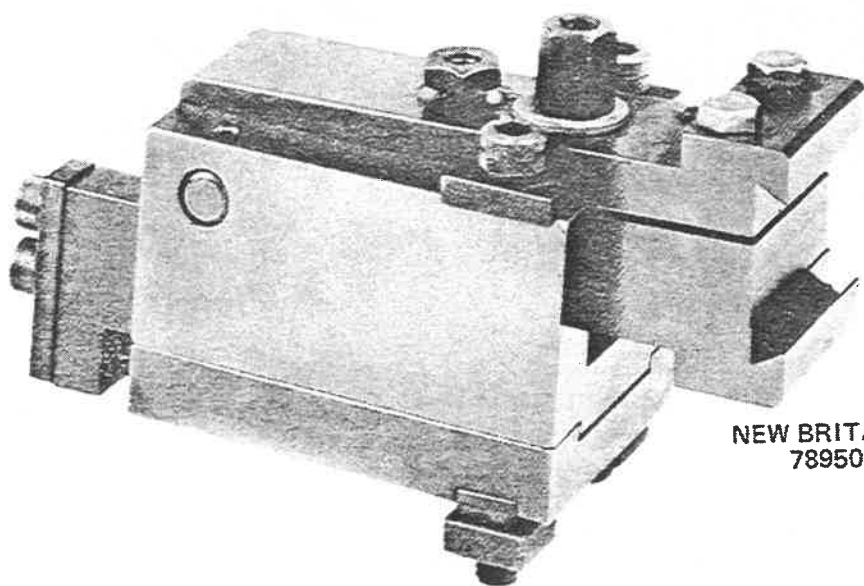
BROWN & SHARPE
78300



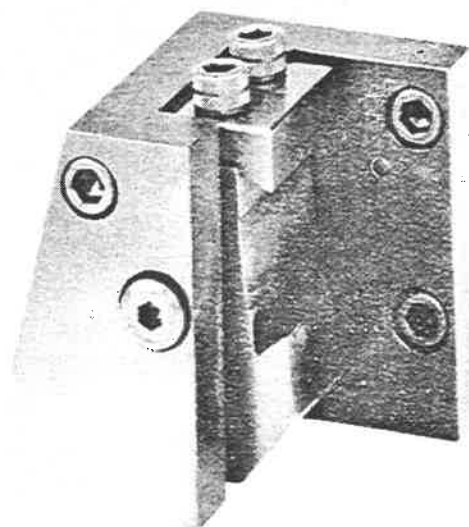
ACME - GRIDLEY
78050



GREENLEE
79150



NEW BRITAIN
78950

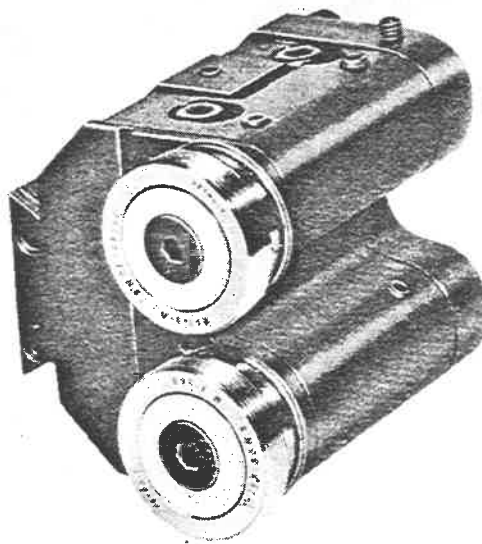
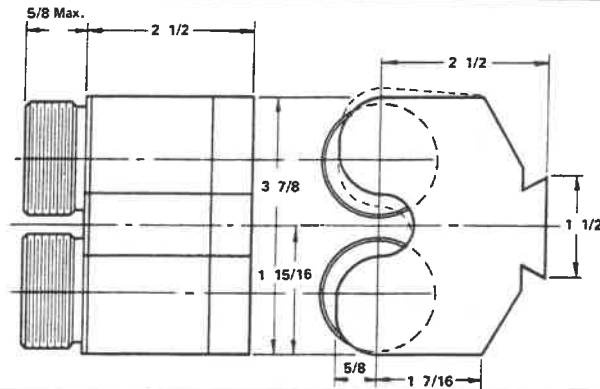


DAVENPORT
78700

DETROIT TAP & TOOL THREAD ROLL HOLDER, MODEL: 77150

MODEL 77150 REPLACES MODEL OB-750

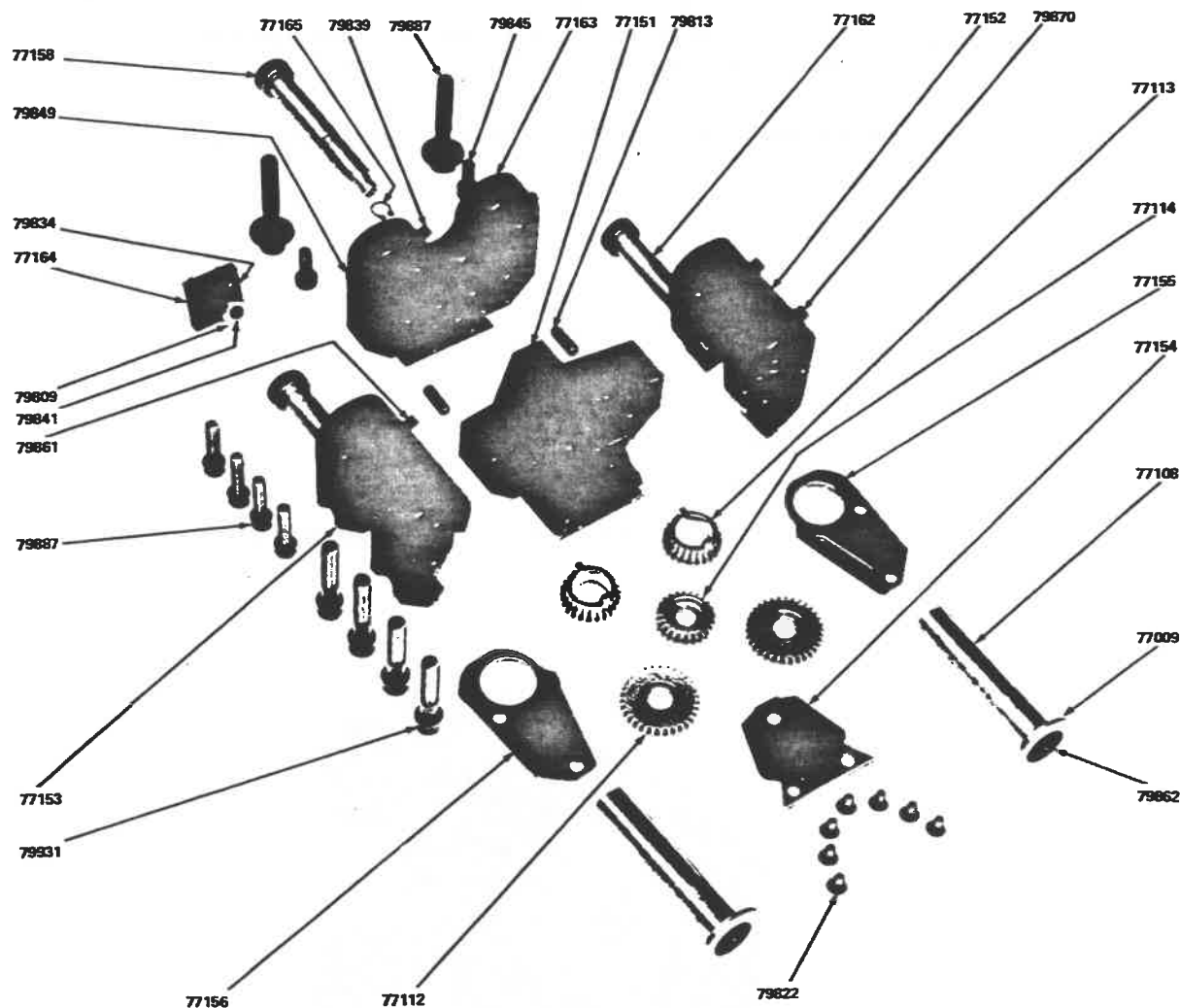
CAPACITY: 10 - 24 UNC through 3/4" - 20 UNEF
1/8" & 1/4" Straight and Taper Pipe



● THREAD ROLL ASSEMBLY INSTALLATION GUIDE SEE PAGE	118
● THREAD ROLL CAM DESIGN GUIDE SEE PAGE	13
● BLANK PREPARATION GUIDE SEE PAGE	8

77150 THREAD ROLL HOLDER PARTS LIST.

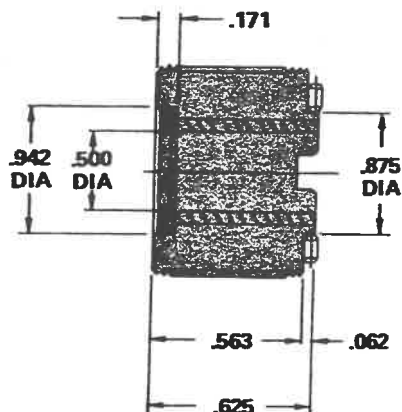
To order complete holder assembly for rolls 5/8" wide, specify EDP No. 77150. To order individual parts - use EDP No.'s shown in chart below.



EDP NO.	QUANTITY REQUIRED	PART NAME
77009	2	Flange Washer
77108	2	Pin .500 X 2 3/8
77112	2	Idler Gears 46T
77113	2	Drive Gears 24T
77114	1	Adjusting Gears 24T
77151	1	Body
77152	1	R.H. Roll Carrier
77153	1	L.H. Roll Carrier
77154	1	Body Cover
77155	1	R.H. Cover
77156	1	L.H. Cover
77158	1	Adjusting Gear Stud
77162	2	Idler Gear Stud
77163	1	Top Plate
77164	1	Stop Block

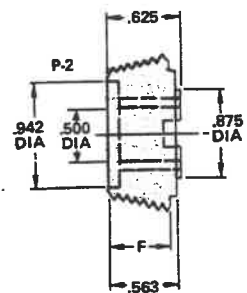
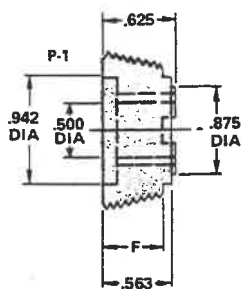
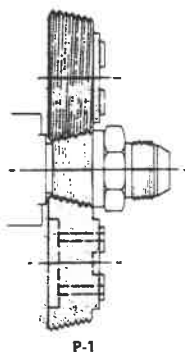
EDP NO.	QUANTITY REQUIRED	PART NAME
77165	1	Snapping Truarc No. 5100-25
79809	1	No. 10-32 Hex Nut
79813	2	3/16 Dia. X 3/4 Dowel
79822	7	No. 6-32 X 1/4 Soc. Flat Hd. Scr.
79931	4	5/16 - 18 X 1 3/4 Soc. Cap Scr.
79834	2	No. 10 - 32 X 3/8 Soc. Cap Scr.
79839	2	No. 10 - 32 X 1/2 Soc. Set Scr.
79841	1	No. 10 - 32 X 1" Soc. Set Scr.
79845	2	No. 10 - 32 X 3/4 Soc. Cap Scr.
79849	2	No. 10 - 32 X 5/8 Soc. Set Scr.
79861	4	1/4 - 20 X 5/16 Soc. Set Scr.
79862	2	1/4 - 20 X 3/8 Soc. Flat Hd. Scr.
79870	4	1/4 - 20 X 9/16 Soc. Set Scr. Half Dog
79887	6	1/4 - 20 X 1 1/4 Soc. Cap Scr.

STANDARD THREAD ROLLS FOR MODEL 77150 THREAD ROLL HOLDER.

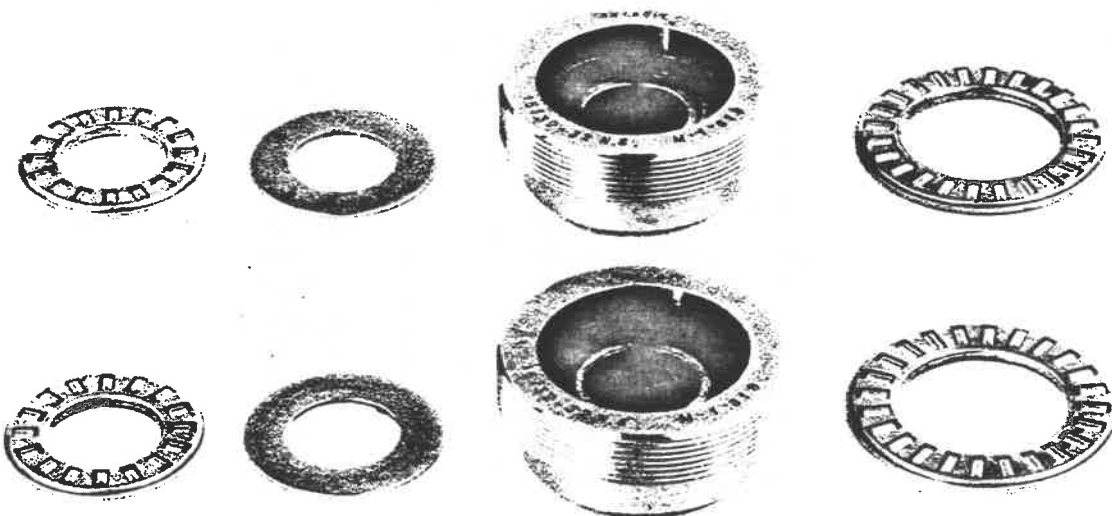


THREAD SIZE	THREAD ROLL		EDP NO.
	APPROX. O.D.	NO. STARTS	
10 - 24 UNC	1.793	12	69201
10 - 32 UNF	1.755	11	69202
12 - 24 UNC	1.754	10	69203
12 - 28 UNF	1.812	10	69204
12 - 32 UNEF	1.855	10	69205
1/4 - 20 UNC	1.811	9	69206
1/4 - 28 UNF	1.722	8	69207
1/4 - 32 UNEF	1.757	8	69208
5/16 - 18 UNC	1.809	7	69209
5/16 - 24 UNF	1.632	6	69210
5/16 - 32 UNEF	1.692	6	69211
3/8 - 16 UNC	1.571	5	69212
3/8 - 24 UNF	1.672	5	69213
3/8 - 32 UNEF	1.723	5	69214
7/16 - 14 UNC	1.840	5	69215
7/16 - 20 UNF	1.555	4	69216
7/16 - 28 UNEF	1.611	4	69217
1/2 - 13 UNC	1.700	4	69218
1/2 - 20 UNF	1.805	4	69219
1/2 - 28 UNEF	1.396	3	69220
9/16 - 12 UNC	1.444	3	69221
9/16 - 18 UNF	1.525	3	69222
9/16 - 24 UNEF	1.566	3	69223
5/8 - 11 UNC	1.609	3	69224
5/8 - 18 UNF	1.713	3	69225
3/4 - 10 UNC	1.305	2	69226
3/4 - 16 UNF	1.378	2	69227
3/4 - 20 UNEF	1.403	2	69228
1/8 - 27 NPS	1.803	5	69250
1/4 - 18 NPS	1.417	3	69255

STANDARD PIPE THREAD ROLLS FOR MODEL 77150 THREAD ROLL HOLDER.



THREAD SIZE	APPROX. O.D.	NO. STARTS	FACE WIDTH F	STYLE P1 EDP NO.	STYLE P2 EDP NO.
1/8 - 27 NPT	1.820	5	.357	69275	69278
1/8 - 27 NPTF	1.820	5	.357	69276	69279
1/8 - 27 PTF	1.820	5	.320	69277	69280
1/4 - 18 NPT	1.431	3	.541	69285	69288
1/4 - 18 NPTF	1.431	3	.541	69286	69289
1/4 - 18 PTF	1.431	3	.485	69287	69290



BEARING	EDP NO.
Outer Brg. NTA 1423	76832
Inner Brg. NTA 815	76812
Inner Brg. Race TRA 815	76809

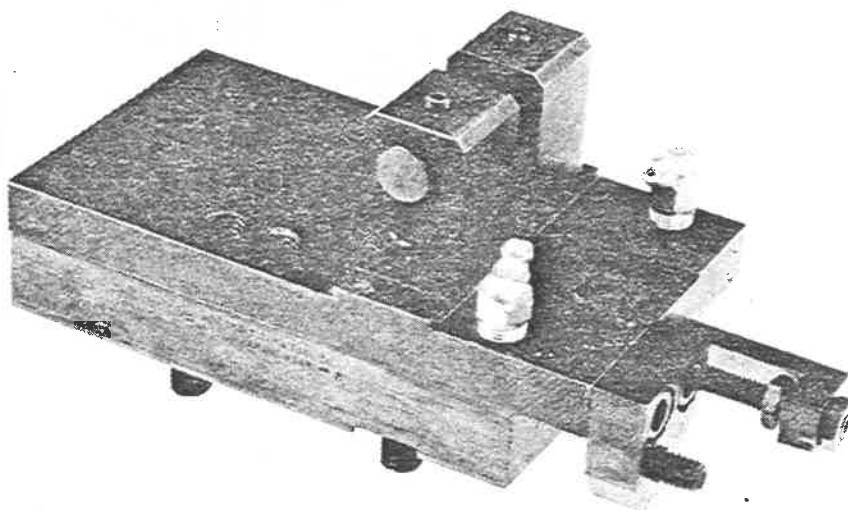
ADAPTOR ASSEMBLIES FOR DETROIT MODEL 77150 THREAD ROLL HOLDER.

The chart below indicates the adaptors required to attach a Detroit Thread Roll Holder to various machine tools. To order an adaptor for your application, please use the appropriate EDP number.

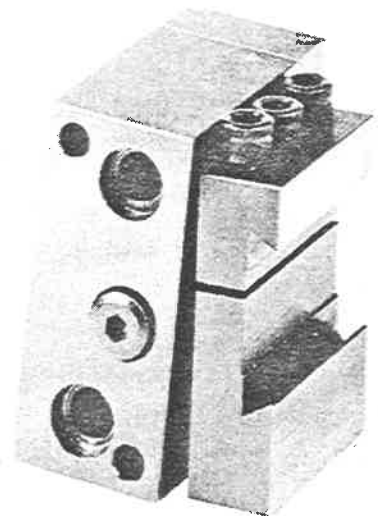
MACHINE	MODEL NUMBER	ADAPTOR EDP NO.	POSITION
Acme - Gridley	9/16" & 1" RA6	78100	3 & 4
Brown & Sharpe	2G Brown & Sharpe	78350	Cross Slides Front & Rear
Cono-Matic	1 1/4" Cono-Matic TVB	78450	3, 4 & 5*
Davenport	Model B	78650	D
Davenport	Model B with Swing Arm	78700	C
Davenport	Position Slide	78800	3rd Position D
Greenlee	1" Greenlee 6 Spindle	79150	3, 4 & 5
New Britain	1" Model 60, 51 & 52	78900	4
Warner & Swasey	1 1/4" - 6 Spindle	79300	2, 4 & 5

For easy identification, the following adaptors are illustrated with their EDP numbers:

*Where slides are independent



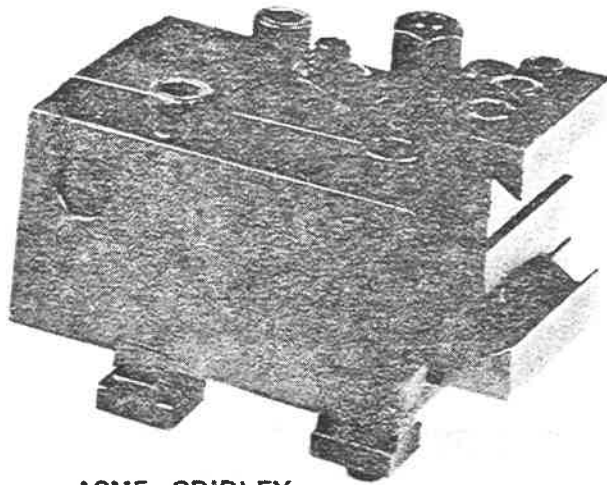
**DAVENPORT
78800**



**DAVENPORT
78650**

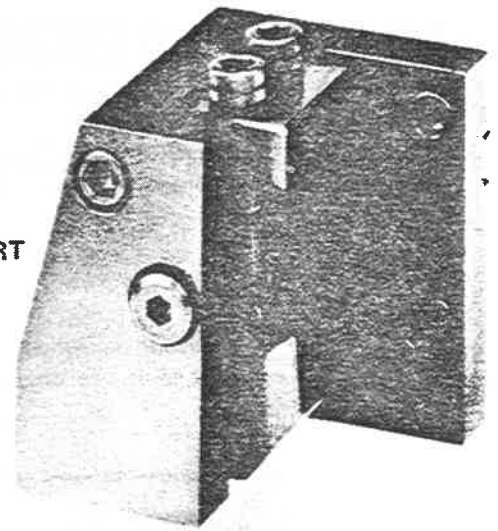
NOTE:

- Adaptor 78750 & Position Slide 78800 are both required for Davenport Model B, Position D - Top Slide operation.

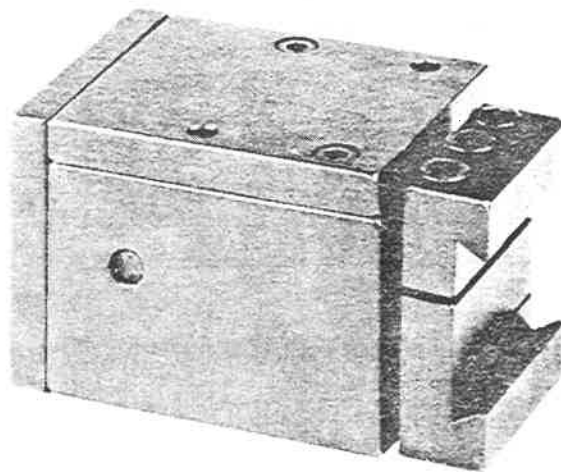
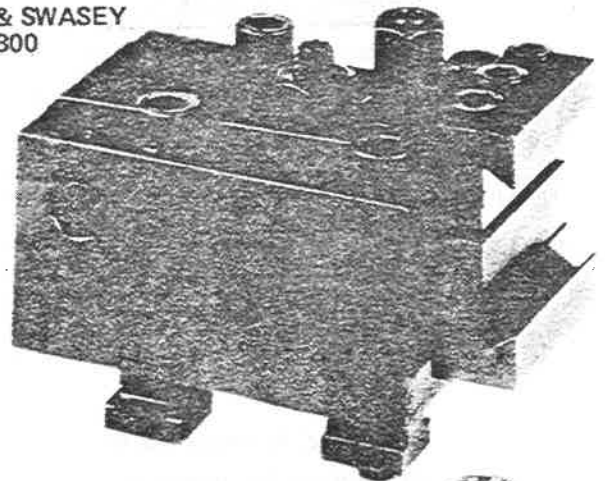


ACME - GRIDLEY
78100

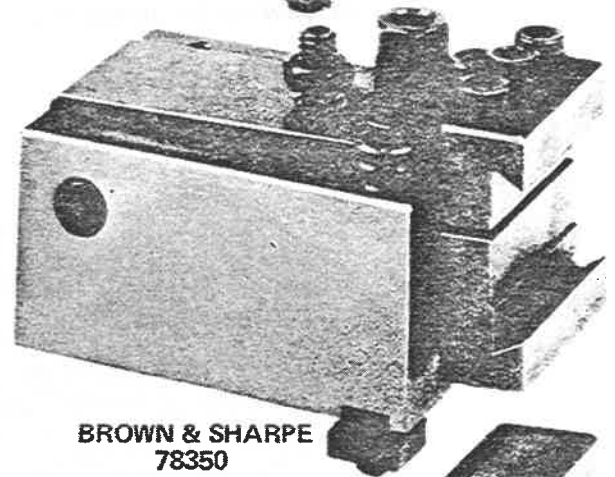
DAVENPORT
78700



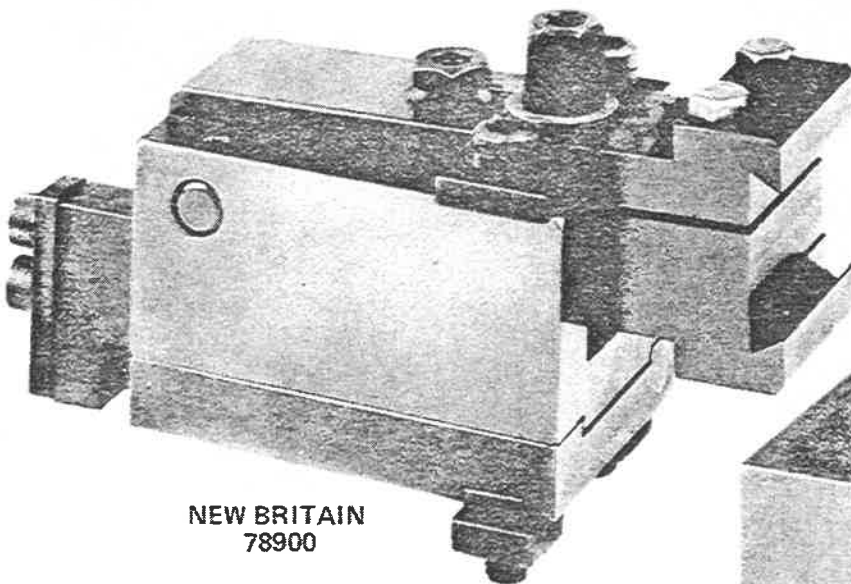
WARNER & SWASEY
79300



GREENLEE
79150

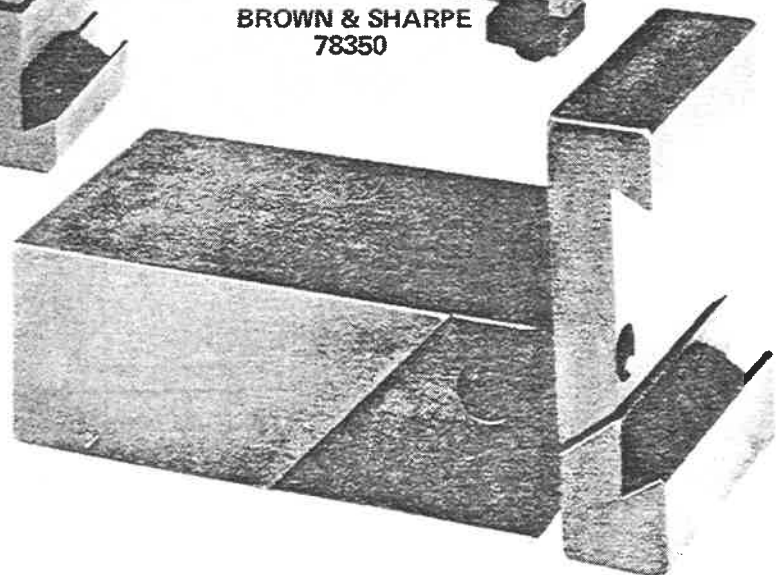


BROWN & SHARPE
78350



NEW BRITAIN
78900

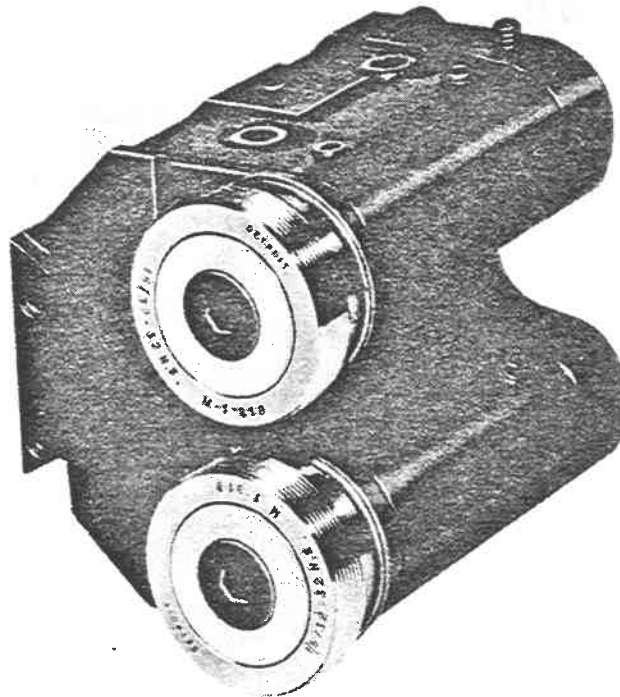
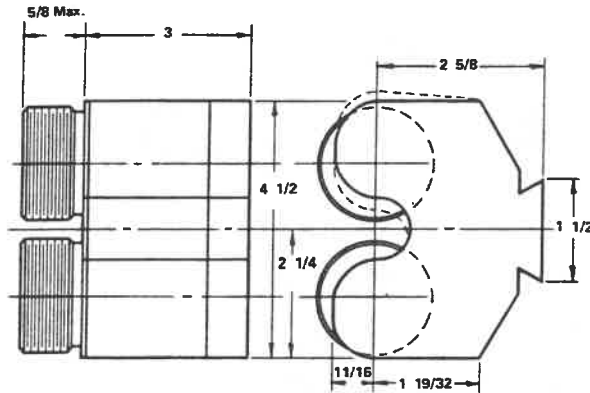
CONO-MATIC
78450



DETROIT TAP & TOOL THREAD ROLL HOLDER, MODEL: 77200

MODEL 77200 REPLACES MODEL OB-1000

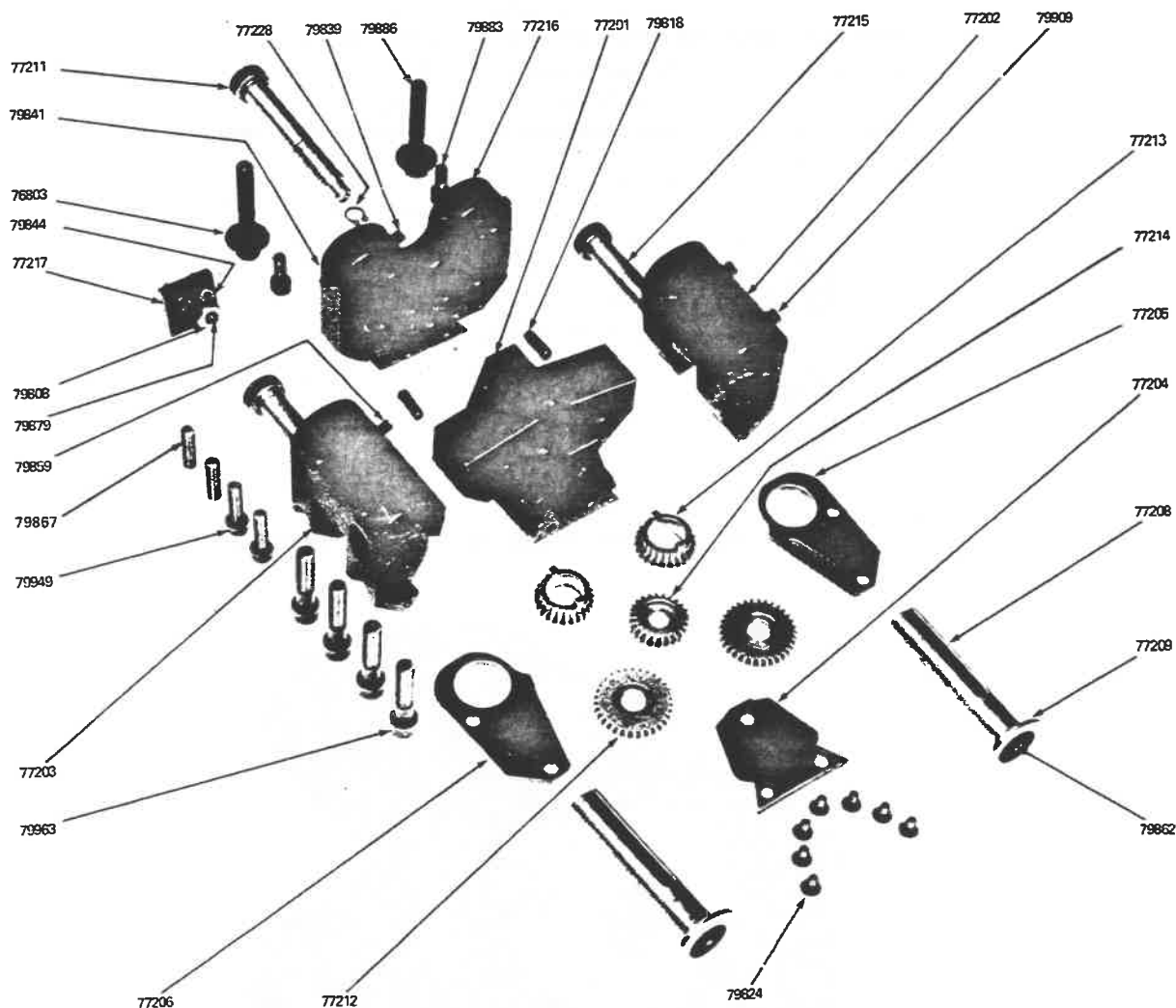
CAPACITY: 1/4" - 20 UNC through 1" - 14 NS
1/8" & 1/4" Straight and Taper Pipe



- THREAD ROLL ASSEMBLY INSTALLATION GUIDE
 SEE PAGE 118
- THREAD ROLL CAM DESIGN GUIDE
 SEE PAGE 13
- BLANK PREPARATION GUIDE
 SEE PAGE 8

77200 THREAD ROLL HOLDER PARTS LIST.

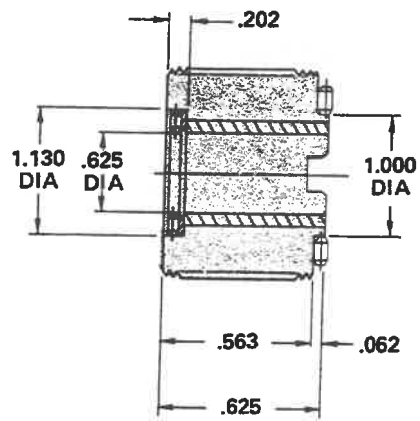
To order complete holder assembly for rolls 5/8" wide, specify EDP No. 77200. To order individual parts - use EDP No.'s shown in chart below.



EDP NO.	QUANTITY REQUIRED	PART NAME
76803	2	1/4 X 11/16 DIA. X .093 Washer (TRC 411)
77201	1	Body
77202	1	R.H. Roll Carrier
77203	1	L.H. Roll Carrier
77204	1	Body Cover
77205	1	R. H. Cover
77206	1	L. H. Cover
77208	2	Pin (.625 X 3)
77209	2	Flange
77211	1	Adjusting Gear Stud
77212	2	Idler Gear
77213	2	Drive Gear
77214	1	Adjusting Gear
77215	2	Swivel Pin
77216	1	Top Plate
77217	1	Stop Block

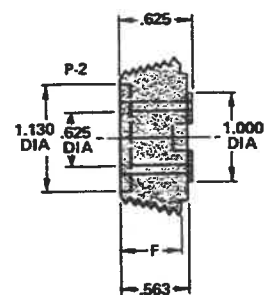
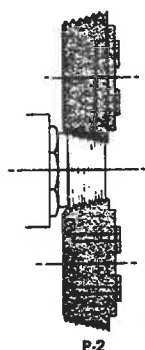
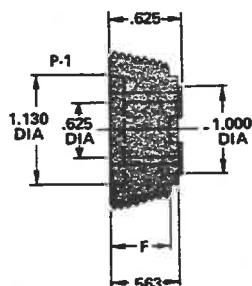
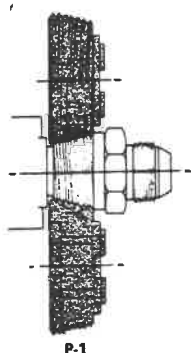
EDP NO.	QUANTITY REQUIRED	PART NAME
77228	1	Snap Ring (Tru-Arc 5100-31)
79808	1	1/4 - 20 Jam Nut
79818	2	1/4 X 1 Dowel
79824	9	No. 6 - 32 X 3/8 Soc. Flat Ho. Scr.
79839	2	No. 10 - 32 X 1/2 Soc. Hd. Set Scr.
79844	2	No. 10 - 32 X 5/8 Soc. Cap Scr.
79859	2	1/4 - 20 X 1/4 Soc. Set Scr.
79862	2	1/4 - 20 X 3/8 Soc. Flat Hd. Scr.
79867	2	1/4 - 20 X 1/2 Soc. Set Scr.
79879	1	1/4 - 20 X 1" Soc. Set Scr.
79883	2	1/4 - 20 X 7/8 Soc. Cap Scr.
79886	2	1/4 - 20 X 1 1/4 Soc. Cap Scr.
79909	4	5/16 - 18 X 3/4 Soc. Set Scr. Half Dog
79949	2	3/8 - 16 X 1 Soc. Cap Scr.
79963	4	3/8 - 16 X 1 3/4 Soc. Cap Scr.
79841	2	No. 10 - 32 X 1 Soc. Hd. Set Scr.

STANDARD THREAD ROLLS FOR MODEL 77200 THREAD ROLL HOLDER.

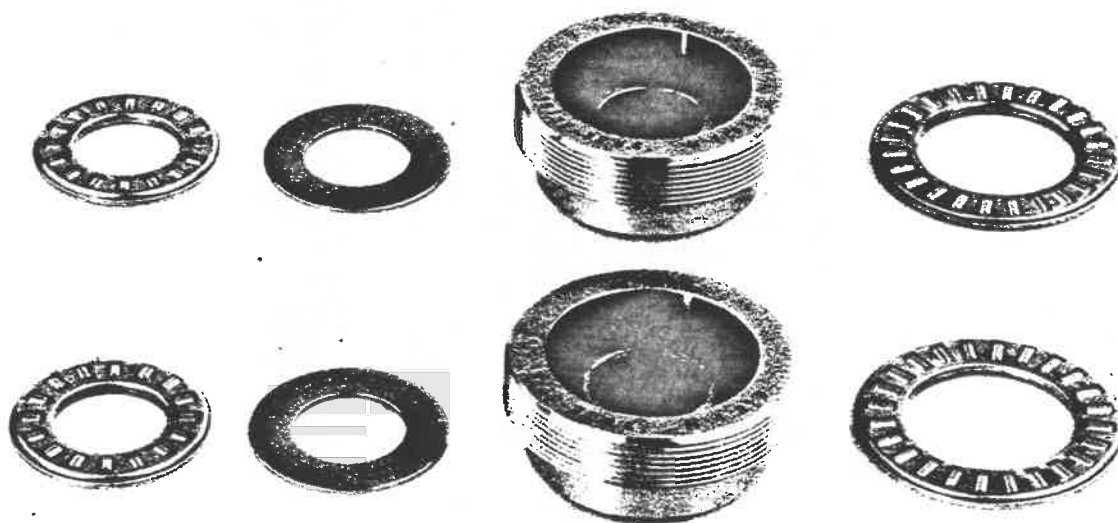


THREAD SIZE	THREAD ROLL		EDP NO.
	APPROX. O.D.	NO. STARTS	
1/4 - 20 UNC	2.214	11	69401
1/4 - 28 UNF	2.152	10	69402
1/4 - 32 UNEF	2.196	10	69403
5/16 - 18 UNC	2.067	8	69404
5/16 - 24 UNF	2.175	8	69405
5/16 - 32 UNEF	1.975	7	69406
3/8 - 16 UNC	2.198	7	69407
3/8 - 24 UNF	2.006	6	69408
3/8 - 32 UNEF	2.067	6	69409
7/16 - 14 UNC	2.207	6	69410
7/16 - 20 UNF	1.944	5	69411
7/16 - 28 UNEF	2.014	5	69412
1/2 - 13 UNC	2.125	5	69413
1/2 - 20 UNF	1.805	4	69414
1/2 - 18 UNEF	1.861	4	69415
9/16 - 12 UNC	1.925	4	69416
9/16 - 18 UNF	2.033	4	69417
9/16 - 24 UNEF	2.088	4	69418
5/8 - 11 UNC	2.146	4	69419
5/8 - 18 UNF	1.713	3	69420
5/8 - 24 UNEF	1.753	3	69421
3/4 - 10 UNC	1.958	3	69422
3/4 - 16 UNF	2.067	3	69423
3/4 - 20 UNEF	2.104	3	69424
7/8 - 9 UNC	1.533	2	69425
7/8 - 14 UNF	1.611	2	69426
7/8 - 20 UNEF	1.652	2	69427
1 - 12 UNF	1.838	2	69428
1 - 14 NS	1.861	2	69429
1/8 - 27 NPS	2.163	6	69450
1/4 - 18 NPS	1.889	4	69455

STANDARD PIPE THREAD ROLLS FOR MODEL 77200 THREAD ROLL HOLDER.



THREAD SIZE	APPROX. O.D.	NO. STARTS	FACE WIDTH F	STYLE P1 EDP NO.	STYLE P2 EDP NO.
1/8 - 27 NPT	2.169	6	.357	69475	69478
1/8 - 27 NPTF	2.169	6	.357	69476	69479
1/8 - 27 PTF	2.169	6	.320	69477	69480
1/4 - 18 NPT	1.905	4	.541	69485	69488
1/4 - 18 NPTF	1.905	4	.541	69486	69489
1/4 - 18 PTF	1.905	4	.485	69487	69490



BEARING	EDP NO.
Outer Brg. NTA - 1625	76824
Inner Brg. NTA - 1018	76816
Inner Brg. Race TRA 1018	76813

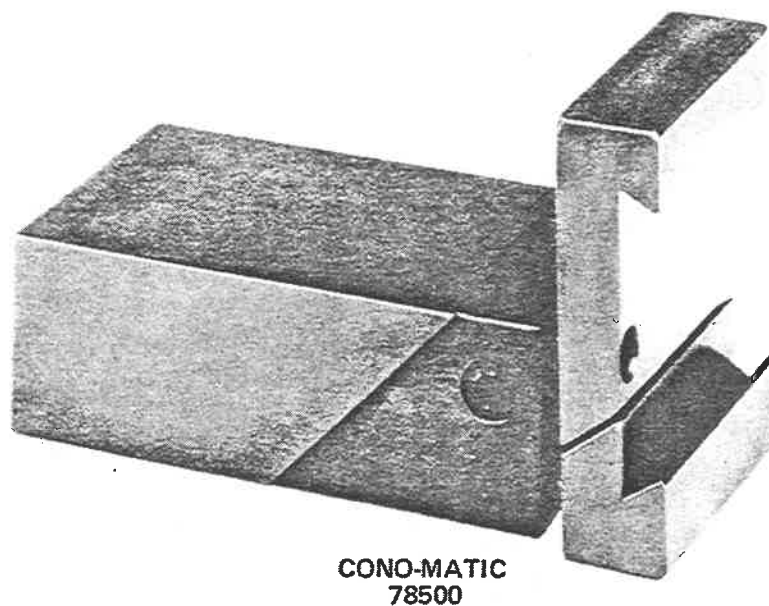
ADAPTOR ASSEMBLIES FOR DETROIT MODEL 77200 THREAD ROLL HOLDER.

The chart below indicates the adaptors required to attach a Detroit Thread Roll Holder to various machine tools. To order an adaptor for your application, please use the appropriate EDP number.

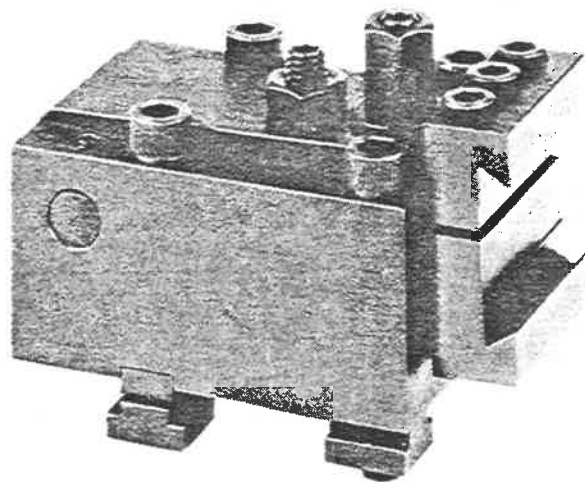
MACHINE	MODEL NUMBER	ADAPTOR EDP NO	POSITION
Acme - Gridley	1 1/4" & 1 5/8" RA6	78150	3 & 4
Cono-Matic	1 5/8" TA, 1" SW, 1 1/4" SX & 1 1/2" SY Cono-Matic	78500	3, 4 & 5*
New Britain	1" Model 60, 51 & 52	78900	4

For easy identification, the following adaptors are illustrated with their EDP numbers:

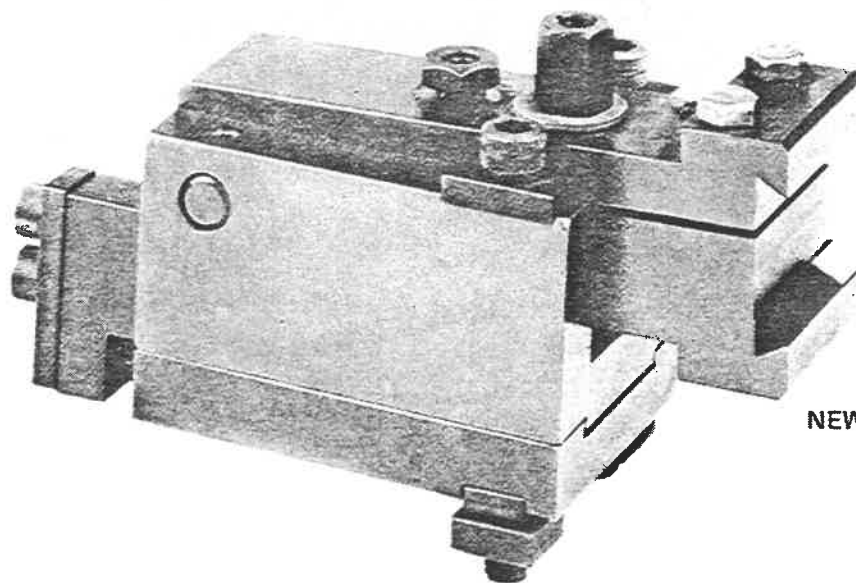
*Where slides are independent



CONO-MATIC
78500



ACME-GRIDLEY
78150

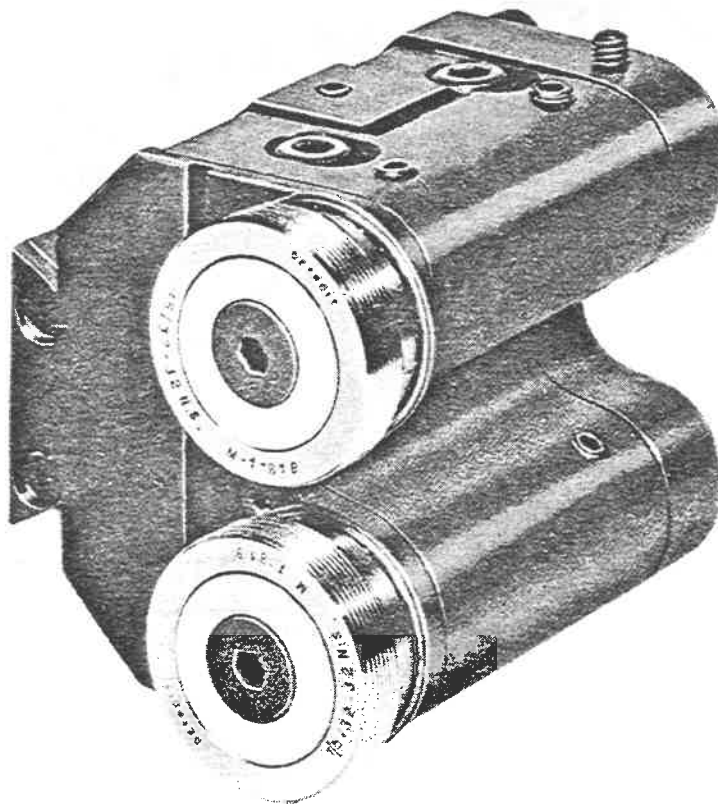
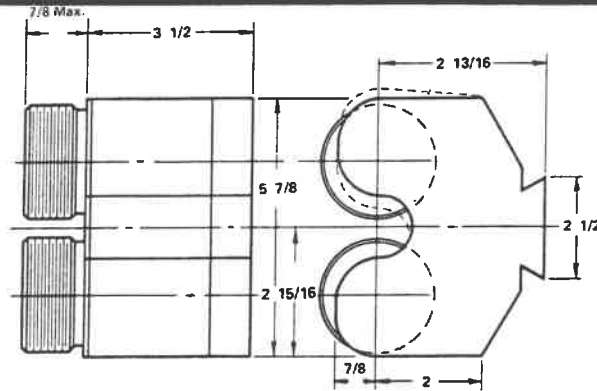


NEW BRITAIN
78900

DETROIT TAP & TOOL THREAD ROLL HOLDER, MODEL: 77300

MODEL 77300 REPLACES MODEL OB-1125

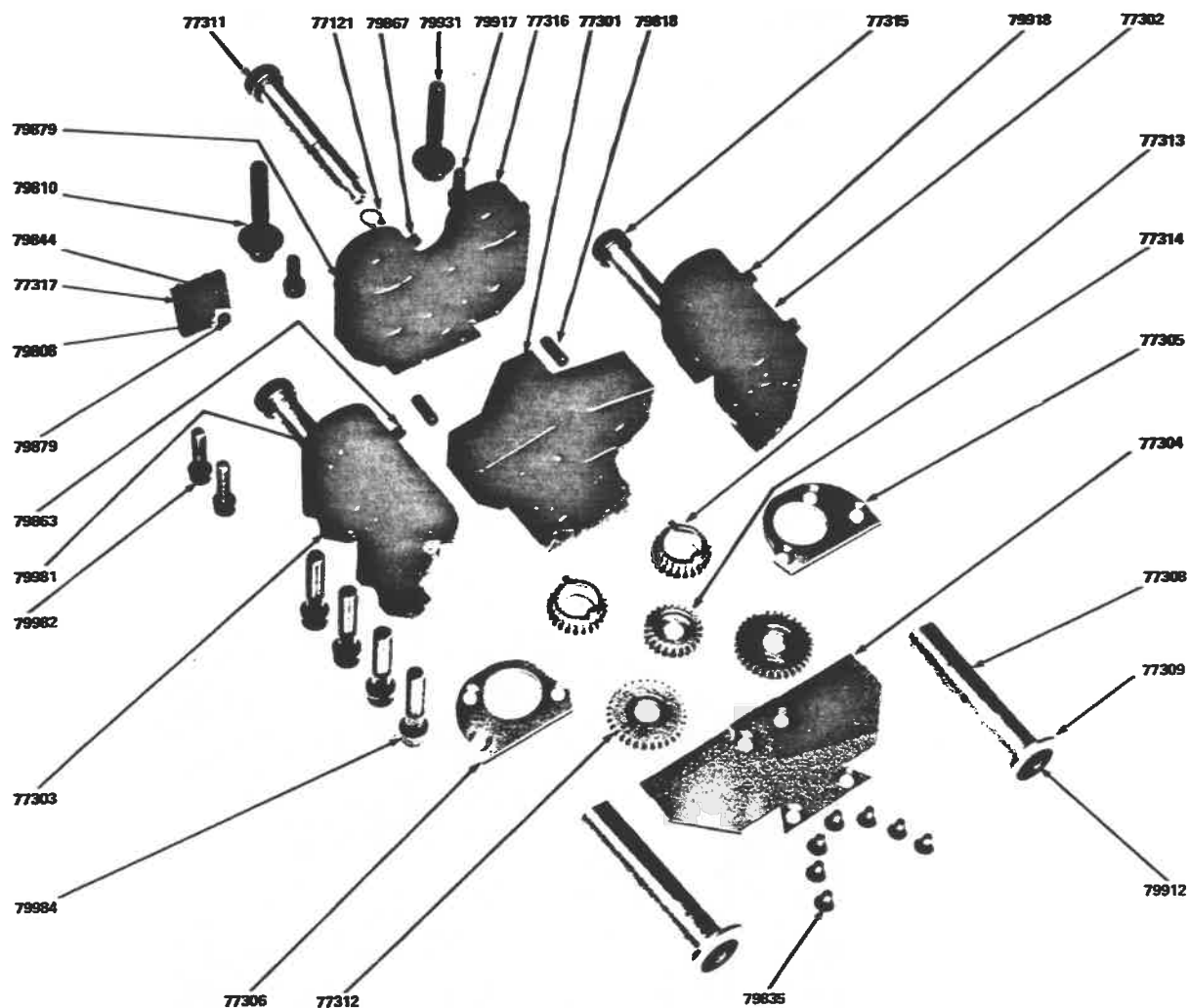
CAPACITY: 1/4" - 20 UNC through 1 1/8" - 18 UNEF
1/8 & 1/4" Straight and Taper Pipe



• THREAD ROLL ASSEMBLY INSTALLATION GUIDE SEE PAGE	118
• THREAD ROLL CAM DESIGN GUIDE SEE PAGE	13
• BLANK PREPARATION GUIDE SEE PAGE	8

77300 THREAD ROLL HOLDER PARTS LIST.

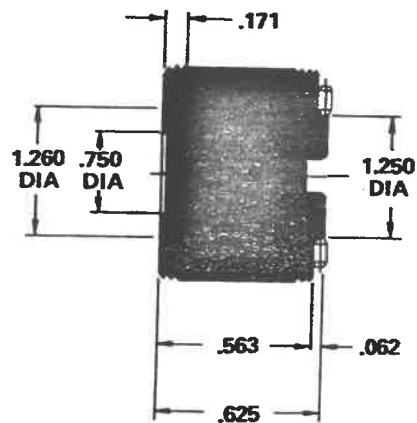
To order complete holder assembly for rolls 7/8" wide, specify EDP No. 77300. To order individual parts - use EDP No.'s shown in chart below.



EDP NO.	QUANTITY REQUIRED	PART NAME
77121	1	Snap Ring (Tru-Arc 5100-37)
77301	1	Body
77302	1	R.H. Roll Carrier
77303	1	L.H. Roll Carrier
77304	1	Body Cover
77305	1	R.H. Cover
77306	1	L.H. Cover
77308	2	Pin - 750 X 3 1/4
77309	2	Flange
77311	1	Adjusting Gear Stud
77312	2	Idler Gear
77313	2	Drive Gear
77314	1	Adjusting Gear
77315	2	Swivel Pin
77316	1	Top Plate
77317	1	Stop Block

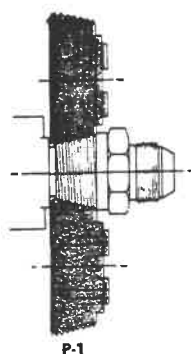
EDP NO.	QUANTITY REQUIRED	PART NAME
79808	1	1/4 - 20 Jam Nut
79810	2	5/16 Heavy Washer
79818	2	1/4 X 1" Dowel
79931	2	5/16 - 18 X 1 3/4 Soc. Cap Scr.
79835	10	No. 10-32 X 3/8 Soc. Flat Hd. Scr.
79844	2	No. 10-32 X 5/8 Soc. Cap Scr.
79863	2	1/4-20 X 3/8 Soc. Set Scr.
79867	2	1/4-20 X 1/2 Soc. Set Scr.
79879	2	1/4-20 X 1" Soc. Set Scr.
79912	2	5/16-18 X 3/4 Soc. Flat Hd. Scr.
79917	2	5/16-18 X 1" Soc. Cap Scr. .
79918	4	5/16-18 X 1" Soc. Set Scr.
79981	2	3/8-24 X 1/2 Soc. Set Scr.
79982	2	1/2-13 X 1 1/2 Soc. Cap Scr.
79984	4	1/2-13 X 2 1/2 Soc. Cap Scr.

STANDARD THREAD ROLLS FOR MODEL 77300 THREAD ROLL HOLDER.

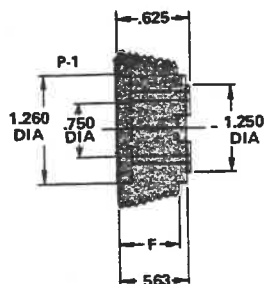


THREAD SIZE		THREAD ROLL		EDP NO.
		APPROX. O.D.	NO. STARTS	
1/4 - 20	UNC	2.617	13	69601
1/4 - 28	UNF	2.583	12	69602
1/4 - 32	UNEF	2.635	12	69603
5/16 - 18	UNC	2.584	10	69604
5/16 - 24	UNF	2.719	10	69605
5/16 - 32	UNEF	2.539	9	69606
3/8 - 16	UNC	2.513	8	69607
3/8 - 24	UNF	2.675	8	69608
3/8 - 32	UNEF	2.756	8	69609
7/16 - 14	UNC	2.575	7	69610
7/16 - 20	UNF	2.721	7	69611
7/16 - 28	UNEF	2.416	6	69612
1/2 - 13	UNC	2.580	6	69613
1/2 - 20	UNF	2.708	6	69614
1/2 - 28	UNEF	2.326	5	69615
9/16 - 12	UNC	2.406	5	69616
9/16 - 18	UNF	2.542	5	69617
9/16 - 24	UNEF	2.610	5	69618
5/8 - 11	UNC	2.707	5	69619
5/8 - 18	UNF	2.284	4	69620
5/8 - 24	UNEF	2.338	4	69621
3/4 - 10	UNC	2.610	4	69622
3/4 - 16	UNF	2.085	3	69623
3/4 - 20	UNEF	2.104	3	69624
7/8 - 9	UNC	2.300	3	69625
7/8 - 14	UNF	2.416	3	69626
7/8 - 20	UNEF	2.479	3	69627
1 - 14	UNS	1.861	2	69628
1 - 20	UNEF	1.903	2	69629
1 1/16 - 12	UN	1.963	2	69630
1 1/16 - 18	UNEF	2.017	2	69631
1 1/8 - 12	UNF	2.088	2	69632
1 1/8 - 18	UNEF	2.142	2	69633
1/8 - 27	NPS	2.524	7	69650
1/4 - 18	NPS	2.834	6	69655

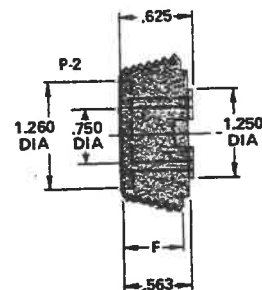
STANDARD PIPE THREAD ROLLS FOR MODEL 77300 THREAD ROLL HOLDER.



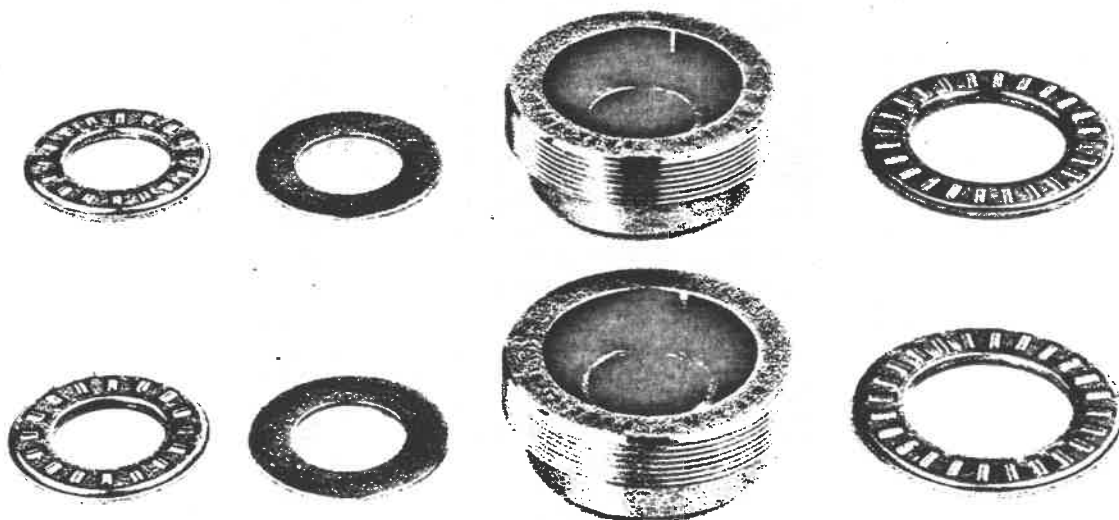
P-1



P-2



THREAD SIZE	APPROX. O.D.	NO. STARTS	FACE WIDTH F	STYLE P1 EDP NO.	STYLE P2 EDP NO.
1/8 - 27 NPT	2.527	7	.357	69675	69678
1/8 - 27 NPTF	2.527	7	.357	69676	69679
1/8 - 27 PTF	2.527	7	.320	69677	69680
1/4 - 18 NPT	2.374	5	.541	69685	69688
1/4 - 18 NPTF	2.374	5	.541	69686	69689
1/4 - 18 PTF	2.374	5	.485	69687	69690



BEARING	EDP NO.
Outer Brg. NTA 2031	76828
Inner Brg. NTA 1220	76820
Inner Brg. Race TRA 1220	76817

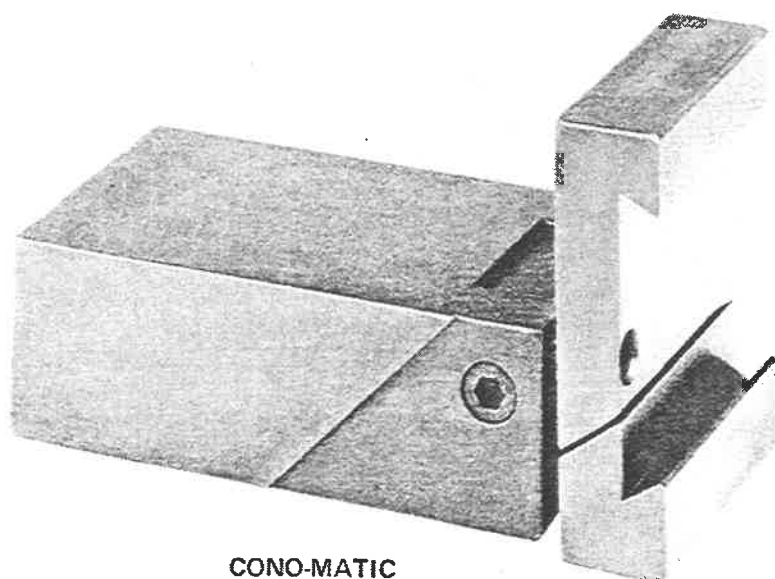
ADAPTOR ASSEMBLIES FOR DETROIT MODEL 77300 THREAD ROLL HOLDER.

The chart below indicates the adaptors required to attach a Detroit Thread Roll Holder to various machine tools. To order an adaptor for your application, please use the appropriate EDP number.

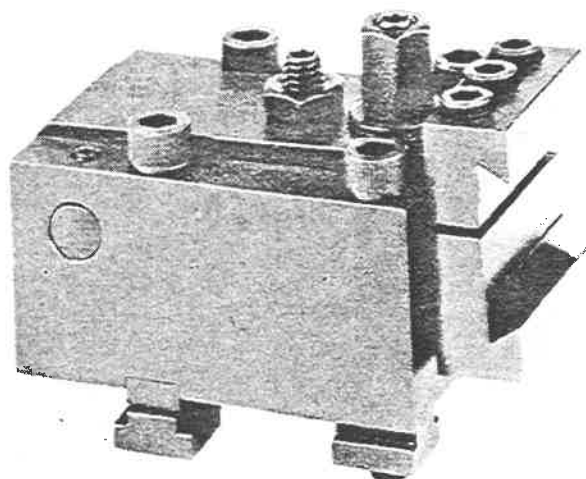
MACHINE	MODEL NUMBER	ADAPTOR EDP NO.	POSITION
Acme - Gridley	1 1/4", 1 5/8", 2", 2 1/4" & 2 5/8" RA6	78200	3 & 4
Acme - Gridley	1 5/8" & 2" RB6	78200	3 & 4
Acme - Gridley	1 1/4" & 2 5/8" RB8	78200	3 & 4
Acme - Gridley	1 5/8" RA8 & 1 5/8" RAN8	78200	3 & 4
Acme - Gridley	2" & 2 5/8" RAS	78200	3 & 4
Acme - Gridley	2 1/4" R6	78200	6
Acme - Gridley	RPA-6 CHUCKER	78200	3 & 4
Cono-Matic	1 1/2" SY Cono-Matic	78550	3, 4 & 5*
Cono-Matic	1 5/8" TA, 1 1/4" SX & 1" SW	78550	3, 4 & 5*
Greenlee	1 5/8" Greelee 6 Spindle	79200	3, 4 & 5
Greenlee	2 1/4" Greenlee 6 Spindle	79200	3, 4 & 5
New Britain	1 5/8" Model 61 & 62	79000	4
Warner & Swasey	1 1/4" 6 Spindle	79350	2, 4 & 5

For easy identification, the following adaptors are illustrated with their EDP numbers:

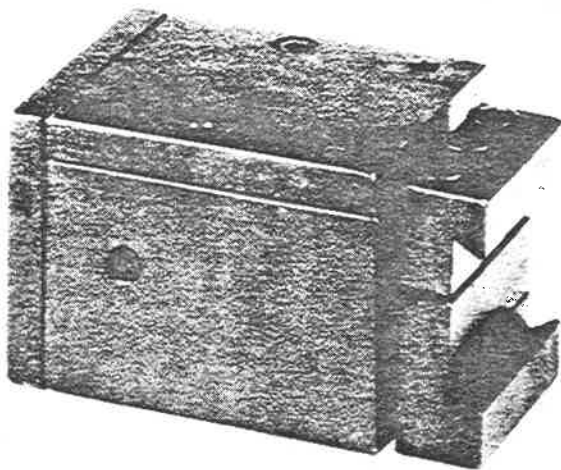
*Where slides are independent



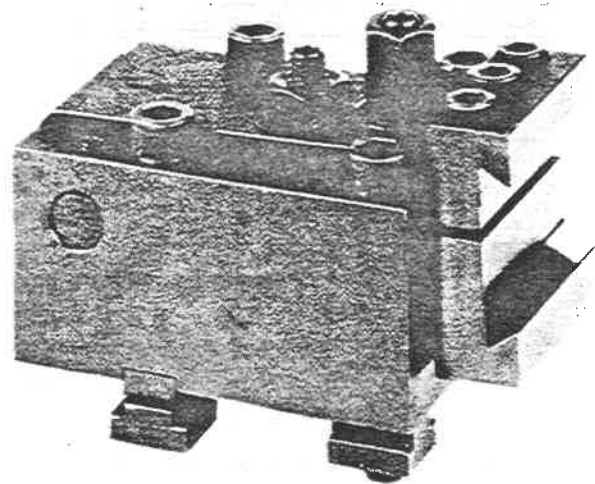
CONO-MATIC
78550



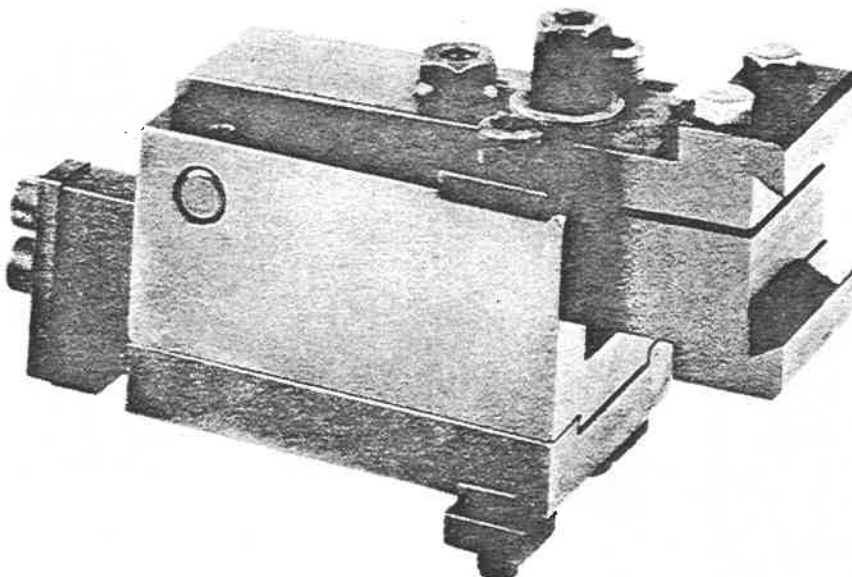
ACME - GRIDLEY
78200



**GREENLEE
79200**



**WARNER & SWASEY
79350**



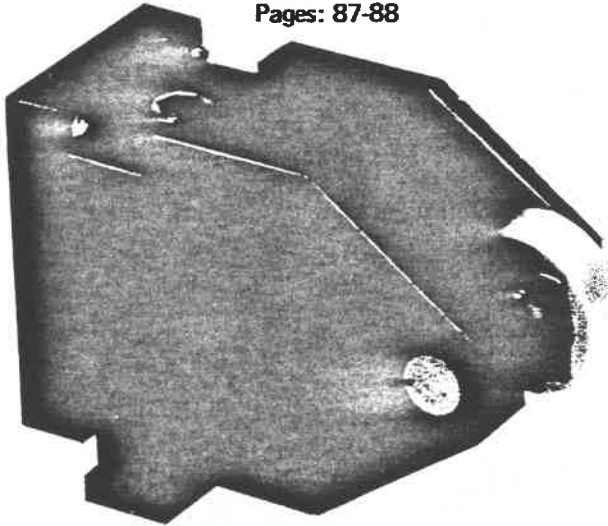
**NEW BRITAIN
79000**

DETROIT TAP & TOOL BUMP TYPE HOLDERS AND ROLLS

77700

Capacity: 3/8"-16 UNC
through 3/4"-20 UNEF,
1/16" & 1/8" Taper Pipe

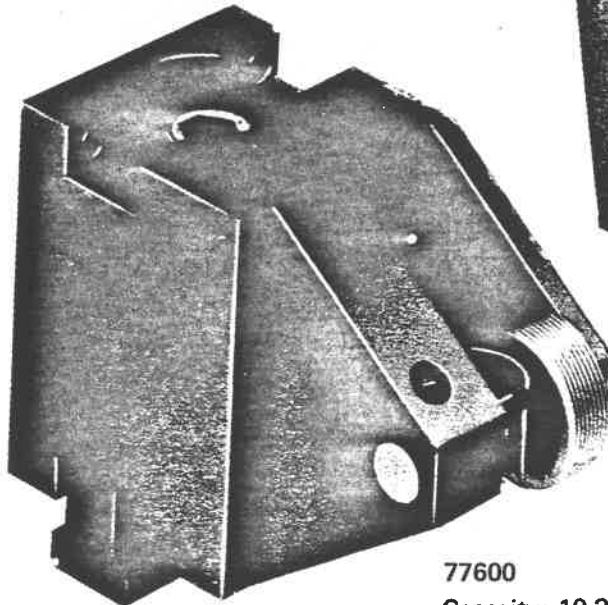
Pages: 87-88



77500

Capacity: 0-80 through
3/8"-32 NEF

Pages: 83-84



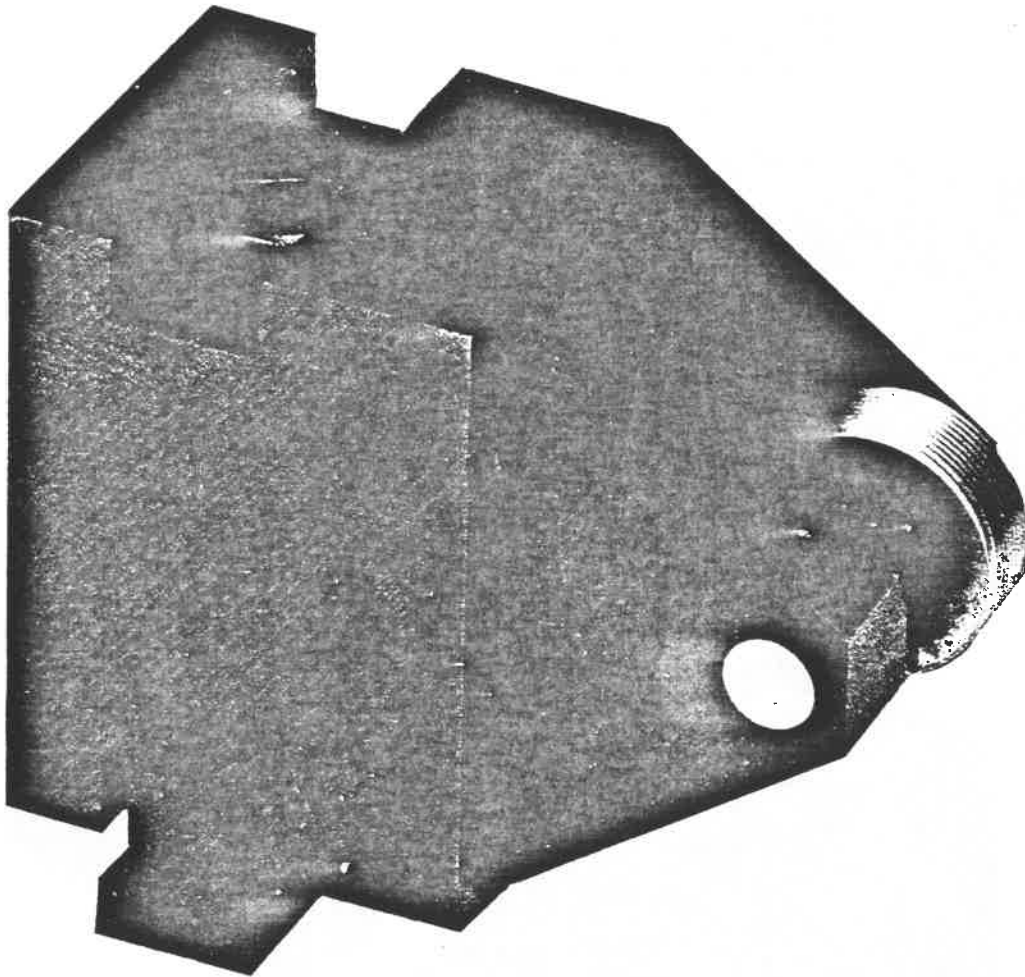
77600

Capacity: 10-24 NC
through 1/2"-20 UNEF,
1/16" & 1/8" Taper Pipe

Pages: 85-86

NOTE: Bump Rolls for Reed,
Salvo and Brown & Sharpe
Holders, Page 89.

FEATURES

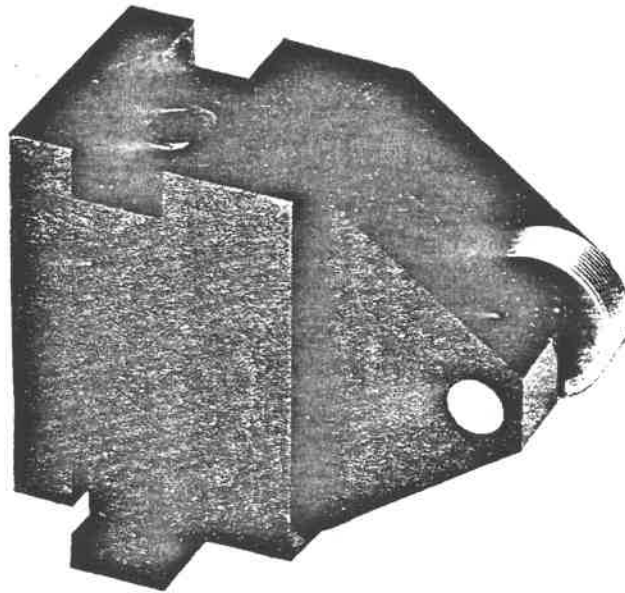
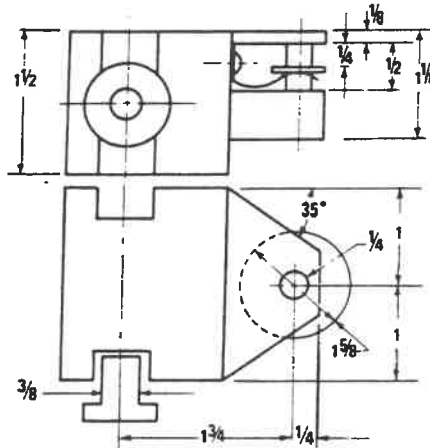


- Positive taper control 5 either side of center.
- Large load bearing surface prevents "pushing back" after bolting to cross slide.
- Identical top and bottom keyways. Simply "flop" to reverse.
- Spring can be bent to give any desired roll side pressure.
- Thin but rigid side plate for close-to-the-collet work.

DETROIT TAP & TOOL THREAD ROLL HOLDER, MODEL: 77500

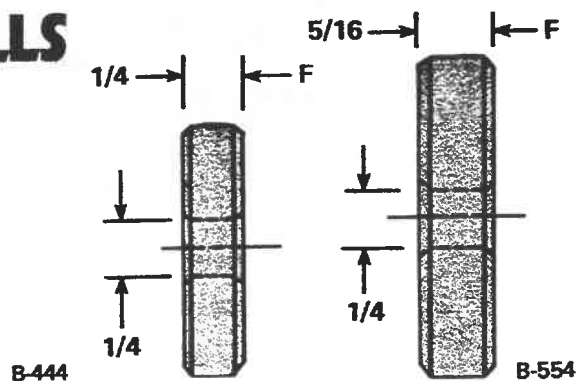
MODEL 77500 REPLACES MODEL 309-5.

CAPACITY: 0 - 80 NF through 3/8" - 32 NEF.



● THREAD ROLL ASSEMBLY INSTALLATION GUIDE	
SEE PAGE	118
● THREAD ROLL CAM DESIGN GUIDE	
SEE PAGE	13
● BLANK PREPARATION GUIDE	
SEE PAGE	8

STANDARD THREAD ROLLS FOR MODEL 77500 THREAD ROLL HOLDER



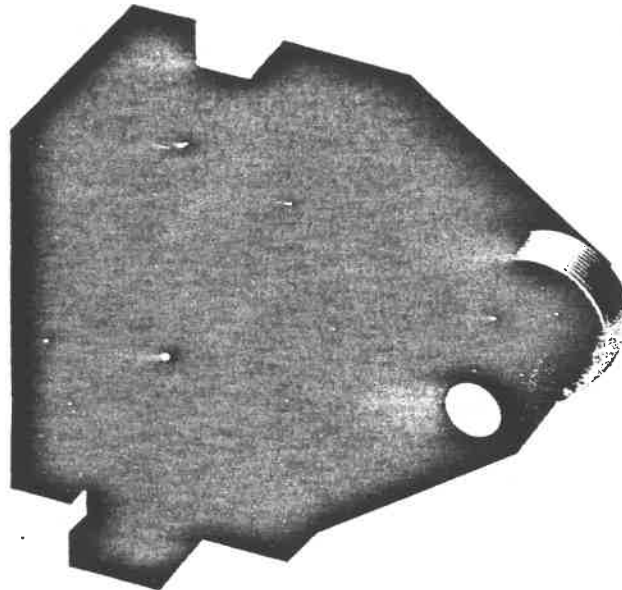
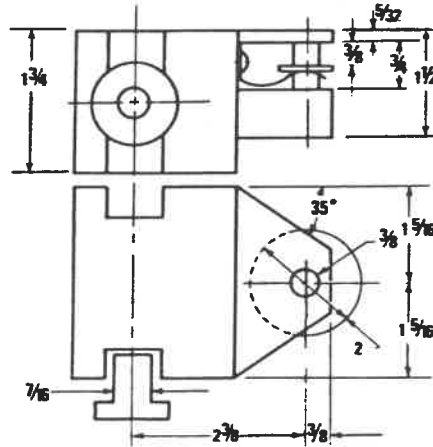
THREAD SIZE		THREAD ROLL		B-444 EDP NO.	B-554 EDP NO.
		APPROX. O.D.	NO. STARTS		
0 - 80	NF	.697	15	74010	
1 - 64	NC	.729	13	74012	
1 - 72	NF	.753	13	74014	
2 - 56	NC	.733	11	74016	
2 - 64	NF	.759	11	74018	
3 - 48	NC	.689	9	74020	
3 - 56	NF	.717	9	74022	
4 - 40	NC	.679	8	74024	
4 - 48	NF	.715	8	74026	
5 - 40	NC	.685	7	74028	74120
5 - 44	NF	.702	7	74030	74122
6 - 32	NC	.729	7	74032	74124
6 - 40	NF	.776	7	74034	74126
8 - 32	NC	.780	6	74036	74128
8 - 36	NF	.803	6	74038	74130
10 - 24	NC	.868	6	74040	74132
10 - 32	NF	.936	6	74042	74134
12 - 24	NC	.854	5	74044	74136
12 - 28	NF	.886	5	74046	74138
12 - 32	NEF	.910	5	74048	74140
1/4 - 20	UNC	.978	5	74054	74146
1/4 - 28	UNF	1.055	5	74056	74148
1/4 - 32	NEF	1.080	5	74058	74150
5/16 - 18	UNC	1.009	4		74156
5/16 - 24	UNF	1.068	4		74158
5/16 - 32	NEF	1.114	4		74160
3/8 - 16	UNC	1.228	4		74166
3/8 - 24	UNF	1.318	4		74168
3/8 - 32	NEF	1.363	4		74170

NOTE: These thread rolls may be used in the following holders:
Brown & Sharpe 83-200, Geometric G1-44 & G1-54, Reed A00-54, and Salvo SA-00.

DETROIT TAP & TOOL THREAD ROLL HOLDER, MODEL: 77600

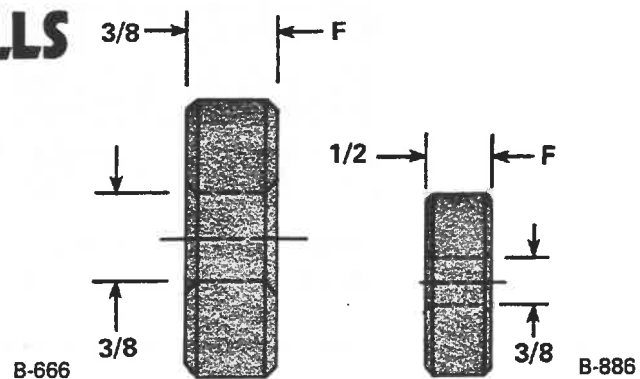
MODEL 77600 REPLACES MODEL 309-4.

**CAPACITY: 10 - 24 NC through 1/2 - 20 UNEF
1/16" & 1/8" Taper Pipe.**



● THREAD ROLL ASSEMBLY INSTALLATION GUIDE	
SEE PAGE	118
● THREAD ROLL CAM DESIGN GUIDE	
SEE PAGE	13
● BLANK PREPARATION GUIDE	
SEE PAGE	8

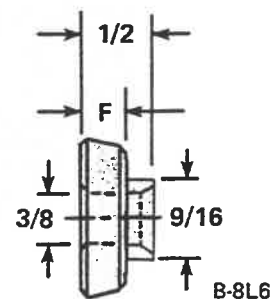
STANDARD THREAD ROLLS FOR MODEL 77600 THREAD ROLL HOLDER



THREAD SIZE		THREAD ROLL		B-666 EDP NO.	B-886 EDP NO.
		APPROX. O.D.	NO. STARTS		
10 - 24	NC	.868	6	74226	
10 - 32	NF	.936	6	74228	
12 - 24	NC	.854	5	74230	
12 - 28	NF	.886	5	74232	
12 - 32	NEF	.910	5	74234	
1/4 - 20	UNC	.978	5	74240	74336
1/4 - 28	UNF	1.055	5	74242	74338
1/4 - 32	NEF	1.080	5	74244	74340
5/16 - 18	UNC	1.009	4	74250	74346
5/16 - 24	UNF	1.068	4	74252	74348
5/16 - 32	NEF	1.114	4	74254	74350
3/8 - 16	UNC	1.228	4	74260	74356
3/8 - 24	UNF	1.318	4	74262	74358
3/8 - 32	NEF	1.363	4	74264	74360
7/16 - 14	UNC	1.080	3	74270	74366
7/16 - 20	UNF	1.149	3	74272	74368
7/16 - 28	UNEF	1.195	3	74274	74370
1/2 - 20	UNF	1.336	3		74378
1/2 - 28	UNEF	1.382	3		74380

STANDARD PIPE THREAD ROLLS FOR MODEL 77600 THREAD ROLL HOLDERS

NOTE: These thread rolls may be used in the following holders:
Brown & Sharpe 83-120 & 84-100, Geometric G1-66 & G1-86,
Reed A00-86 & A0-86 and Salvo SA-0 & SB-00.

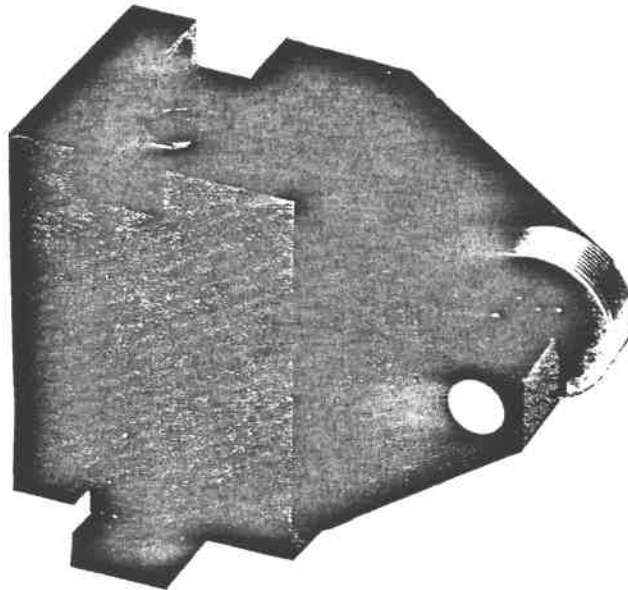
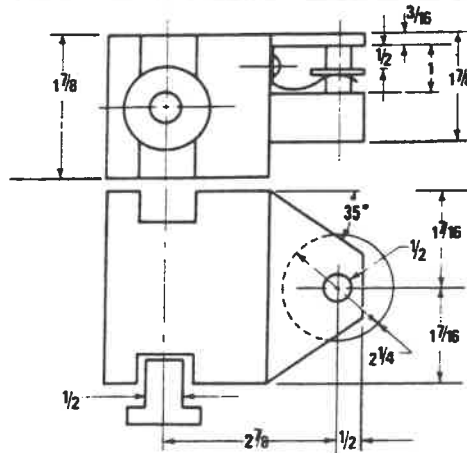


THREAD SIZE		THREAD ROLL			B-8L6 EDP NO.
		APPROX. O.D.	NO. STARTS	FACE WIDTH F	
1/16	NPT	1.065	4	.354	74702
1/16	NPTF	1.065	4	.354	74704
1/8	NPT	1.079	3	.357	74706
1/8	NPTF	1.079	3	.357	74708

DETROIT TAP & TOOL THREAD ROLL HOLDER, MODEL: 77700

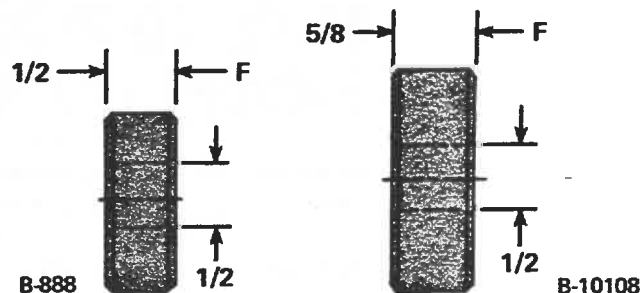
MODEL 77700 REPLACES MODEL 309-6.

CAPACITY: 3/8" - 16 UNC through 3/4" - 20 UNEF
1/16", 1/8", 1/4", & 3/8" Taper Pipe.



• THREAD ROLL ASSEMBLY INSTALLATION GUIDE SEE PAGE	118
• THREAD ROLL CAM DESIGN GUIDE SEE PAGE	13
• BLANK PREPARATION GUIDE SEE PAGE	8

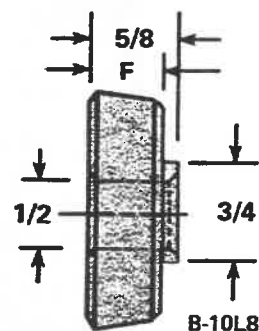
STANDARD THREAD ROLLS FOR MODEL 77700 THREAD ROLL HOLDER



THREAD SIZE	THREAD ROLL		B-888 EDP NO.	B-10108 EDP NO.
	APPROX. O.D.	NO. STARTS		
3/8 - 16 UNC	1.228	4	74430	
3/8 - 24 UNF	1.318	4	74432	
3/8 - 32 UNEF	1.363	4	74434	
7/16 - 14 UNC	1.440	4	74440	
7/16 - 20 UNF	1.532	4	74442	
7/16 - 28 UNEF	1.594	4	74444	
1/2 - 20 UNF	1.336	3	74450	74542
1/2 - 28 UNEF	1.382	3	74452	74544
9/16 - 18 UNF	1.505	3	74458	74550
9/16 - 24 UNEF	1.550	3	74460	74552
5/8 - 18 UNF	1.693	3	74466	74558
5/8 - 24 UNEF	1.738	3	74468	74560
3/4 - 16 UNF	1.363	2		74566
3/4 - 20 UNEF	1.390	2		74568

STANDARD PIPE THREAD ROLLS FOR MODEL 77700 THREAD ROLL HOLDERS

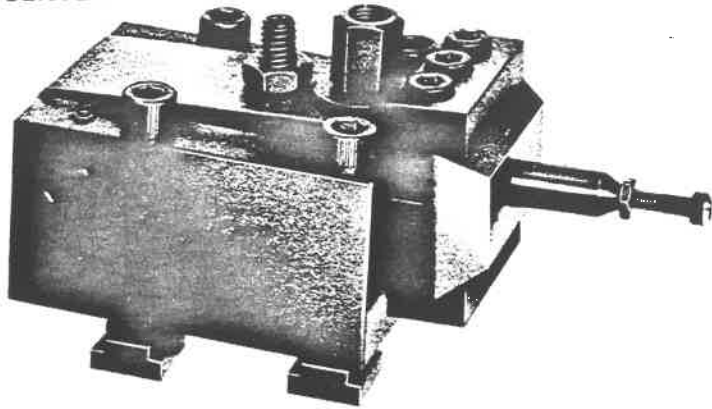
NOTE: These thread rolls may be used in the following holders:
Brown & Sharpe 83-122 & 84-120, Geometric G1-88 & G1-108,
Reed A0-108 & A2-108, and Salvo SA-2 & SB-0.



THREAD SIZE	THREAD ROLL			B-10L8 EDP NO.
	APPROX. O.D.	NO. STARTS	FACE WIDTH F	
1/16 NPT	1.328	5	.354	74710
1/16 NPTF	1.328	5	.354	74712
1/8 NPT	1.434	4	.357	74714
1/8 NPTF	1.434	4	.357	74716
1/4 NPT	1.415	3	.541	74718
1/4 NPTF	1.415	3	.541	74720
3/8 NPT	1.218	2	.547	74722
3/8 NPTF	1.218	2	.547	74724

THREAD ROLLING ACCESSORIES

CENTER FINDER GAGE



A unique, specially designed Center Finder Gage is available. It simplifies the critical slide adjustment for proper depth of feed, simply:

- Set the gage with a micrometer to dimension "A" by subtracting 1/2 of rolled thread blank diameter "B" from holder constant "C".
- Jog machine to high point of cam with attachment removed from adaptor and slide adjusted backward.
- Insert gage in adaptor and adjust slide forward until gage contacts blank. (The adaptor shank "floats" against a spring so that the contact between gage and blank can be felt, or a slip of paper can be used as a feeler to establish contact between the gage and the work.)

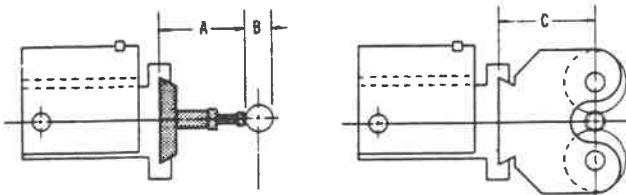


TABLE H
CENTER FINDER CONSTANT "C"

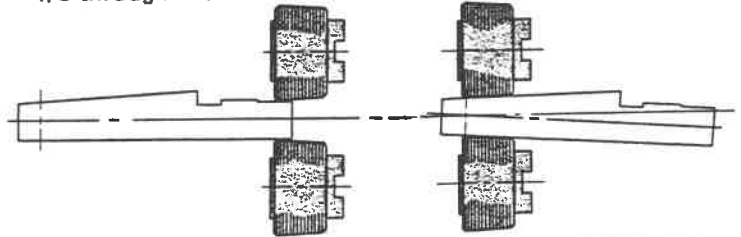
HOLDER MODEL	BOTH PINS CENTER	BOTH PINS IN	BOTH PINS OUT
76000	1.375		
76100	2.000	2.015	1.985
76200	2.500	2.519	2.481
76300	2.625	2.653	2.597
76400	2.812	2.846	2.778

TAPER PIPE THREAD ROLL SETTING GAGES

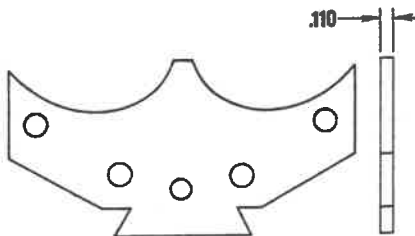


These specialized gages are designed to simplify gap and taper adjustment between tapered rolls for forming NPT and NPTF threads.

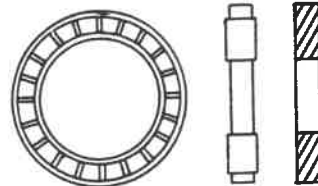
Gages are available for all standard pipe thread sizes from 1/8 through 2".



SPACER BLOCK, THRUST BEARING & RACE FOR SPECIAL APPLICATIONS



The .110 spacer block, thrust bearing and race are used with standard width thread rolls that are operated at high speeds (RPM) or under difficult end thrust situations. The



.110 spacer block provides clearance to place the bearing and race assembly between the roll and the roll-pin bushing. Use of this assembly reduces end-thrust friction.

TABLE I

HOLDER MODEL	SPACER BLOCK EDP NO.	QUANTITY REQUIRED	BEARING EDP NO.	QUANTITY REQUIRED	RACE EDP NO.	QUANTITY REQUIRED
76100	76146	1	76808	2	76805	2
76200	76219	1	76812	2	76809	2
76300	76317	1	76812	2	76809	2
76400	76418	1	76816	2	76813	2

OPERATING INSTRUCTIONS

The Detroit thread roll holders are shown completely disassembled in the sections that define the holder assemblies. Use these illustrations to clarify the following instructions on disassembly and adjustment of the head. In general, instructions are applicable to all standard head sizes. Blank preparation is extremely important to proper thread roll holder operation. Please refer to the section titled "Blank Preparation".

To Dismantle

1. Loosen roll pin screws and remove roll pins.
2. On gear box side, remove cap screws and adjusting plug screw.
3. Tap dowel pins below gear box level to free gearbox.
4. If a different size spacer plate is to be installed, remove dowel pins.

To Change Bushings

1. Remove gearbox cover and chip guards.
2. Reposition bushing in gearbox in accordance with table IV, depending on thread size to be rolled and head size to be used.
3. Reposition backplate bushing similarly (no disassembly required).

To Replace Gears

1. Follow same procedure as above, double-checking to see that bushings are properly positioned in accordance with table IV. Position of idler gear is important. Relieved side must face gearbox.

To Reassemble

Simply reverse above procedure. All screws should be tight after completing reassembly.

To Change Rolls

1. Loosen roll pin set screws and remove roll pins.
2. Place rolls in head with slots in drive hub engaging lugs of drive gear.
3. Reinsert roll pins.

To Adjust Roll Gap

(Refer to the product page listing the particular thread roll you are using)

1. Check bushing position to determine that the bushings are in the proper position for the thread to be rolled.
2. Set the gap between the rolls to the root diameter. The root setting can be determined by looking up the gap dimension (G Dim) in tables J and K page 120.

The spring or stretch in the holder assembly will vary from .002 to .006 depending upon the size and type of material that is used for the threaded part. The Gap is set by adjusting the roll pin set screws. (See parts illustrations in the product sections of this catalog for pin set screw location on the various holders.)

To Synchronize Rolls

To synchronize rolls, back the adjusting screw out of the adjusting gear plug. This pulls the adjusting gears out of mesh with the gear train and allows the rolls to turn independent of each other. Rotate the rolls until the synchronizing arrows (or timing arrows) are pointing directly toward each other. Tight the adjusting screw which moves the adjusting gear plug back into mesh with the gear train locking the thread rolls into the synchronized position.

Note: Where long runs are expected, it is usually convenient to grind a setting gage to size after the necessary gap has been determined precisely (usually 0.002" to 0.012" smaller than the root diameter of thread being rolled). The setting gage will compensate for any variation in roll diameter if rolls must be changed during the run for any reason.

Mounting The Adaptor

It is necessary to check and set the float spring position on the adapter since most Detroit Tap and Tool thread roll adapters are designed to mount on more than one machine, in more than one position. Spring position is determined by the rotation of the work, and consequently the rotation of the thread roll, as defined in the "Thread Roll Considerations" section. Mount the adaptor in a centralized position, relative to the work, and tighten it securely. Final or minor adjustments may be made by moving the holder in the adaptor dovetail.

CENTERING

Method 1

Once the set-up is completed, it is necessary only to move the slide in until the Thread Roll Holder Assembly is "on center" with the blank, when the cam is on the lobe, or high point. Centering can be most easily and quickly accomplished by using one of the unique, specially-designed center finder gages described in the catalog section titled, "Accessories for Detroit Thread Roll Assemblies".

Method 2

Remove one roll from the holder. Install the holder in the adaptor, then back off the slide (or in some cases as on the New Britains, Cones and Greenlees, move the adaptor). Jog the machine to the high point of the thread rolling cam, then advance the holder to the approximate center of the blank. Place a dial indicator on the top or bottom of the holder. Then move holder in and out with the adjusting screws. While moving it in and out, note that the indicator reaches a high point then drops off when it goes over the center line. Determine the high point of the

indicator, and that is the established center line. It is very important not to go beyond center while rolling. This can damage rolls and gears. It is much better to stay .005 back of the center. Replace the roll that was removed and re-synchronize. Return the holder to the adaptor and tighten securely. Run one cycle. The part should now be acceptable from a visual inspection. If it is possible, mic. or gage the part in the machine. If it is not acceptable, but the part looks good, it is safe to continue around and cut-off, for a thorough inspection. If the part has slivers or flakes, check previous steps, especially synchronization.

Method 3

Install a drill chuck in the machine spindle and insert either a twist drill or pin that is the same diameter as the thread roll holder pins. Jog the machine to the highest point of the thread rolling cam. Advance the holder up to the drill or pin until a straight edge just touches both the drill or pin in the chuck, and the two thread roll holder pins. When all three are perfectly aligned, the holder is centered.

INSPECTION OF THE PART

Below are some of the undesirable conditions that become possible when setting up a thread roll holder assembly and the necessary steps to correct them.

Part Will Not Fit Gage

Pitch diameter is too large. If outside diameter of thread is not smooth and full, simply move the rolls closer together by using the roll adjustment pin. If, however, the O.D. of the thread is smooth and full, lower the blank diameter to where the thread is slightly rough and not quite full. If the gage still will not spin on, the distance between the rolls may now be diminished.

"No Go" Gage Goes On

Pitch diameter is undersize. Simply open the distance between the rolls. If this produces an undersize O.D., increase the blank gradually until major is within tolerance. (NOTE: DO NOT TRY TO FILL THE THREAD FULL

AND SMOOTH UNLESS IT'S ABSOLUTELY NECESSARY AS THIS WILL REDUCE ROLL LIFE.)

O.D. of the Thread Too Small

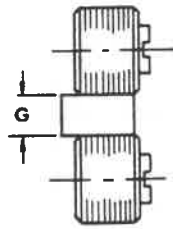
Gradually increase blank diameter until desired result is achieved.

Concentricity

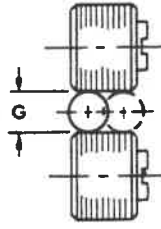
When P.D. and/or O.D. is not concentric with the rest of the part, very often the thread being rolled is very short (six threads or less). Since there are so few threads, any unbalance between "teeth" and "space" results in uneven force, causing dies to penetrate deeper on one side of the part than the other. The condition can be corrected by increasing or decreasing thread length up to one-half of the decimal pitch, which will balance the above condition. It is usually easier to increase the thread length, which may be removed in the cut-off or chamfering position.

THREAD ROLL GAP SETTING

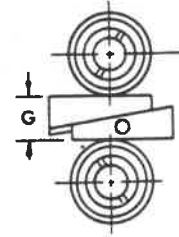
OPTIONAL DESIGN OF ROLL GAP SETTING GAGES for Unified and American External Screw Threads



NO. 1 STRAIGHT BLOCK



NO. 2 ROUND PLUG



NO. 3 PARALLEL GAGE

TABLE J

THREAD ROLL GAP SETTING CHART

THREAD SIZE	"G" DIM.	THREAD SIZE	"G" DIM.	THREAD SIZE	"G" DIM.	THREAD SIZE	"G" DIM.
0-80	.044	3/8-16	.293	3/8-11	.505	3/8-9	.729
1-64	.052	3/8-18	.302	3/8-12	.515	3/8-10	.733
1-72	.055	3/8-20	.309	3/8-14	.531	3/8-12	.765
2-56	.062	3/8-24	.320	3/8-16	.543	3/8-14	.781
2-64	.065	3/8-28	.328	3/8-18	.551	3/8-16	.792
3-48	.071	3/8-32	.333	3/8-20	.559	3/8-18	.801
3-56	.075	7/16-14	.343	3/8-24	.570	3/8-20	.809
4-40	.079	7/16-16	.355	3/8-28	.578	3/8-24	.820
4-48	.084	7/16-18	.364	3/8-32	.583	1"-14	.906
5-40	.092	7/16-20	.371	1 1/16-12	.578	1"-16	.917
5-44	.095	7/16-24	.382	1 1/16-14	.593	1"-18	.926
6-32	.097	7/16-28	.390	1 1/16-16	.606	1"-20	.934
6-40	.105	7/16-32	.396	1 1/16-18	.615	1"-24	.945
8-32	.123	1/2-12	.390	1 1/16-20	.622	1"-28	.952
8-36	.127	1/2-13	.399	1 1/16-24	.632	1"-32	.958
10-24	.135	1/2-16	.417	1 1/16-28	.641	1 1/16-12	.953
10-28	.143	1/2-18	.427	1 1/16-32	.647	1 1/16-14	.969
10-32	.149	1/2-20	.434	3/4-10	.618	1 1/16-16	.980
12-24	.161	1/2-24	.445	3/4-12	.640	1 1/16-18	.989
12-28	.169	1/2-28	.453	3/4-14	.656	1 1/16-20	.997
12-32	.175	1/2-32	.458	3/4-16	.667	1 1/16-24	1.008
1/4-20	.184	9/16-12	.453	3/4-18	.676	1 1/16-28	1.016
1/4-24	.194	9/16-14	.468	3/4-20	.684	1 1/16-32	1.022
1/4-28	.203	9/16-16	.480	3/4-24	.695	1 1/4-12	1.015
1/4-32	.208	9/16-18	.489	3/4-28	.702	1 1/4-14	1.031
1/4-36	.213	9/16-20	.496	3/4-32	.708	1 1/4-16	1.042
5/16-18	.239	9/16-24	.507	1 1/16-12	.703	1 1/4-18	1.051
5/16-20	.246	9/16-28	.515	1 1/16-14	.719	1 1/4-20	1.059
5/16-24	.257	9/16-32	.521	1 1/16-16	.730	1 1/4-24	1.070
5/16-28	.265			1 1/16-18	.740	1 1/4-28	1.077
5/16-32	.271			1 1/16-20	.746	1 1/4-32	1.084
				1 1/16-24	.758		

TABLE K

for Setup Purposes for Approximate
Spacing of Rolls for American Standard
External Straight Pipe Threads

"G" DIMENSIONS			
STRAIGHT PIPE SIZE	"G" DIM	STRAIGHT PIPE SIZE	"G" DIM
1/8-27 NPSL	.358	1/2-14 NPSH	.729
1/8-27 NPSM	.349	1/2-11 1/2 NH	.945
1/4-18 NPSL	.464	3/4-11 1/2 NH	.945
1/4-18 NPSM	.450	3/4-14 NPSL	.956
3/8-18 NPSL	.600	3/4-14 NPSM	.939
3/8-18 NPSM	.587	3/4-14 NPSH	.939
1/2-14 NPSL	.746	3/4-11 1/2 NH	.945
1/2-14 NPSM	.728		

TABLE L

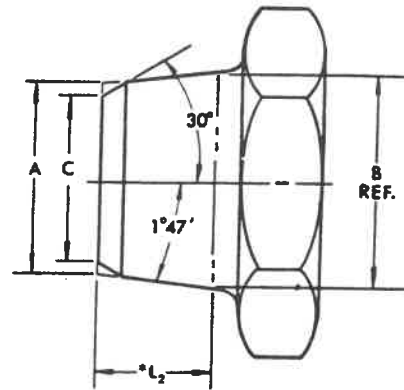
SINGLE DEPTH CHART

THDS. PER INCH	SINGLE DEPTH	THDS. PER INCH	SINGLE DEPTH	THDS. PER INCH	SINGLE DEPTH
4	.1624	14	.0464	36	.0180
4 1/2	.1443	16	.0406	40	.0162
5	.1299	18	.0361	44	.0148
5 1/2	.1181	19	.0342	48	.0135
6	.1083	20	.0325	50	.0130
7	.0928	22	.0295	56	.0116
8	.0812	24	.0271	64	.0101
9	.0722	26	.0250	72	.0090
10	.0650	27	.0241	80	.0081
11	.0590	28	.0232	1.5mm	.0384
11 1/2	.0565	30	.0217	1.25mm	.0320
12	.0541	32	.0203	1.0mm	.0256
13	.0500	34	.0191		

TABLE M

PIPE SIZE	APPROXIMATE DIMENSIONS OF BLANKS			
	A	B (Ref.)	C	L ₂ *
1/16-27	.271	.288	.233	.261
1/8-27	.364	.380	.322	.264
1/4-18	.477	.503	.424	.402
3/8-18	.612	.638	.560	.408
1/2-14	.758	.792	.692	.534
3/4-14	.968	1.002	.902	.546

* Length of perfect thread



THREAD ROLL GAP SETTING CHART

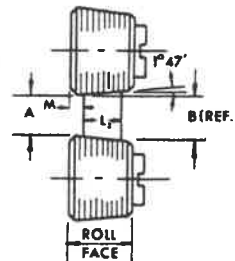
for Setup Purposes for Approximate Spacing of Rolls
for American Standard External Taper Pipe Threads

TABLE N

GAGE AND SETUP DIMENSIONS

PIPE SIZE	GAGE DIMENSIONS			SETUP DIMENSIONS	
	A	L ₂	B (Ref.)	M	ROLL FACE
1/16-27	.242	.261	.258	1/64	.354
1/8-27	.334	.264	.350	1/64	.357
1/4-18	.433	.402	.458	1/64	.541
3/8-18	.568	.408	.593	1/64	.547
1/2-14	.701	.534	.735	3/32	.712
3/4-14	.911	.546	.945	3/32	.724

* Applies to all sizes of heads and is equal to the L₂ thread lengths plus 2 1/2 pitches for rolling threads to the standard L₂ lengths. Unless otherwise specified all rolls for the standard pipe sizes are furnished with the roll face widths shown and include 45° chamfers on both edges.



TAPERED GAGE BLOCK

A = Pitch diameter at E_s of Standard External Pipe Thread (—) less maximum height of thread.

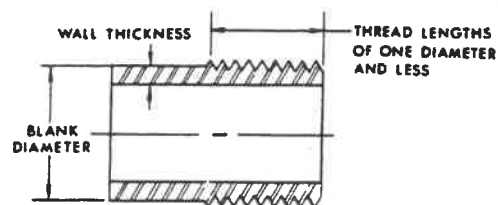
L₂ = Length of Perfect Thread

PREFERRED MINIMUM WALL THICKNESS

for Rolling Threads on Thin Wall Sections
Based on 1010 Soft Steel

TABLE O

THREADS PER INCH	BLANK DIAMETERS - IN INCHES					
	up to 1/2	1/2 to 1	1 to 2	2 to 3	3 to 4	4 to 5
32	.040	.050	.070	.095	.110	.130
24	.055	.070	.095	.120	.150	.175
20	.065	.080	.115	.145	.180	.210
18	.070	.090	.130	.160	.195	.230
16	.080	.100	.140	.180	.220	.265
14	.095	.115	.165	.210	.250	.300
12	.110	.135	.190	.240	.300	.350
10		.160	.230	.290	.360	.420
8			.285	.360	.450	.530



Short Thread Lengths

To compensate for endwise stretching of blanks during rolling, blank diameters for shorter thread lengths should normally be increased by greater percentages than those indicated in Tables XIII and XIV. With shorter thread lengths and coarser pitches, endwise stretching becomes more pronounced and it becomes increasingly important to enlarge the blank diameter.

Blanks with Thin Walls

Thin-walled hollow cylinders should be supported on properly sized arbors during rolling. High die pressures combined with arbors that fit too tightly will tend to stretch the walls, causing both hole and thread diameters to go oversize. Loosely-fitting arbors allow the hole to collapse and the thread to go undersize. When a very thin wall exists between the hole and the root of the thread, endwise stretching can result.

TABLE P

DISTANCE ACROSS CORNERS Square and Hexagonal		
ACROSS FLATS	ACROSS CORNERS	
	HEXAGON	SQUARE
$\frac{1}{4}$	.29	.36
$\frac{3}{16}$	.36	.44
$\frac{1}{2}$	.43	.53
$\frac{5}{16}$	.50	.62
$\frac{3}{4}$	.57	.71
$\frac{7}{16}$	.65	.80
$\frac{1}{2}$	.72	.88
$1\frac{1}{16}$	.79	.97
$\frac{3}{4}$	.86	1.06
$1\frac{1}{8}$	.93	1.15
$\frac{7}{8}$	1.01	1.24
$1\frac{1}{2}$	1.08	1.33
1	1.15	1.41
$1\frac{1}{16}$	1.22	1.50
$1\frac{1}{8}$	1.29	1.59
$1\frac{3}{16}$	1.37	1.68
$1\frac{1}{4}$	1.44	1.77
$1\frac{5}{16}$	1.51	1.86
$1\frac{3}{8}$	1.58	1.94
$1\frac{7}{16}$	1.66	2.03
$1\frac{1}{2}$	1.73	2.12
$1\frac{9}{16}$	1.80	2.21
$1\frac{5}{8}$	1.88	2.30
$1\frac{11}{16}$	1.95	2.39
$1\frac{3}{4}$	2.02	2.47
$1\frac{13}{16}$	2.09	2.56
$1\frac{7}{8}$	2.17	2.65
$1\frac{15}{16}$	2.24	2.74
2	2.31	2.83
$2\frac{1}{32}$	2.34	2.87
$2\frac{1}{16}$	2.38	2.91
$2\frac{3}{32}$	2.42	2.96
$2\frac{1}{8}$	2.45	3.00
$2\frac{5}{32}$	2.49	3.05
$2\frac{3}{16}$	2.52	3.09
$2\frac{1}{4}$	2.60	3.18
$2\frac{5}{16}$	2.67	3.27
$2\frac{3}{8}$	2.74	3.36
$2\frac{7}{16}$	2.81	3.45
$2\frac{1}{2}$	2.88	3.53
$2\frac{9}{16}$	2.96	3.62
$2\frac{5}{8}$	3.03	3.71
$2\frac{11}{16}$	3.10	3.80
$2\frac{3}{4}$	3.17	3.89
$2\frac{13}{16}$	3.25	3.98
$2\frac{7}{8}$	3.32	4.06
$2\frac{15}{16}$	3.39	4.15
3	3.46	4.24
$3\frac{1}{16}$	3.53	4.33
$3\frac{1}{8}$	3.61	4.42
$3\frac{3}{16}$	3.68	4.51
$3\frac{1}{4}$	3.75	4.59
$3\frac{5}{16}$	3.82	4.68
$3\frac{3}{8}$	3.90	4.77
$3\frac{7}{16}$	3.97	4.86
$3\frac{1}{2}$	4.04	4.95
$3\frac{9}{16}$	4.11	5.04
$3\frac{5}{8}$	4.18	5.12
$3\frac{11}{16}$	4.26	5.21
$3\frac{3}{4}$	4.33	5.30
$3\frac{13}{16}$	4.40	5.39
$3\frac{7}{8}$	4.47	5.48
$3\frac{15}{16}$	4.54	5.57
4	4.62	5.65

TABLE Q

MILLIMETER EQUIVALENTS	
MM = INCHES	MM = INCHES
.1 = .00394	48. = 1.88976
.2 = .00787	49. = 1.92913
.3 = .01181	50. = 1.96850
.4 = .01575	50.8 = 2.0 in.
.5 = .01968	51. = 2.00787
.6 = .02362	52. = 2.04724
.7 = .02756	53. = 2.08661
.8 = .03149	54. = 2.12598
.9 = .03543	55. = 2.16535
1. = .03937	56. = 2.20472
2. = .07874	57. = 2.24409
3. = .11811	58. = 2.28346
4. = .15748	59. = 2.32283
5. = .19685	60. = 2.36220
6. = .23622	61. = 2.40157
7. = .27559	62. = 2.44094
8. = .31496	63. = 2.48031
9. = .35433	63.5 = 2.5 in.
10. = .39370	64. = 2.51968
11. = .43307	65. = 2.55905
12. = .47244	66. = 2.59842
12.7 = .5 in.	67. = 2.63779
13. = .51181	68. = 2.67716
14. = .55118	69. = 2.71653
15. = .59055	70. = 2.75590
16. = .62992	71. = 2.79527
17. = .66929	72. = 2.83464
18. = .70866	73. = 2.87401
19. = .74803	74. = 2.91338
20. = .78740	75. = 2.95275
21. = .82677	76. = 2.99212
22. = .86614	76.2 = 3.0 in.
23. = .90551	77. = 3.03149
24. = .94488	78. = 3.07086
25. = .98425	79. = 3.11023
25.4 = 1.0 in.	80. = 3.14960
26. = 1.02362	81. = 3.18897
27. = 1.06299	82. = 3.22834
28. = 1.10236	83. = 3.26771
29. = 1.14173	84. = 3.30708
30. = 1.18110	85. = 3.34645
31. = 1.22047	86. = 3.38582
32. = 1.25984	87. = 3.42519
33. = 1.29921	88. = 3.46456
34. = 1.33858	88.9 = 3.5 in.
35. = 1.37795	89. = 3.50393
36. = 1.41732	90. = 3.54330
37. = 1.45669	91. = 3.58267
38. = 1.49606	92. = 3.62204
38.1 = 1.5 in.	93. = 3.66141
39. = 1.53543	94. = 3.70078
40. = 1.57480	95. = 3.74015
41. = 1.61417	96. = 3.77952
42. = 1.65354	97. = 3.81889
43. = 1.69291	98. = 3.85826
44. = 1.73228	99. = 3.89763
45. = 1.77165	100. = 3.93700
46. = 1.81102	101.6 = 4.0 in.
47. = 1.85039	

TROUBLE SHOOTING TIPS

Slivers Or Flakes On Threads

1. Rolls not in match, or
2. Center line of rolls not parallel with center line of work, or
3. Cross slide or adapter pivot pin worn, or
4. Overfilling rolls, or
5. Material not adaptable to cold-working, or
6. Rough finish on blank, or
7. Seamy stock

Drunken Threads

1. Rolls not in match, or
2. Center line of rolls not parallel with center line of work, or
3. Inaccurate rolls, or
4. Work bending during rolling

Out Of Round Thread

1. Out of round blank, or
2. Center line of rolls not parallel with center line of work, or
3. Feed rate too high, or
4. Insufficient work revolutions, or
5. Material not ductile enough for cold-working, or
6. Not rolling to center line of work

Thread With Contracted Lead

Contracted lead in rolls

Poor Thread Form

1. Poor thread form in rolls, or
2. Work bending during rolling, or
3. Rolls not in match, or
4. Too many work revolutions, or
5. Excessive or restricted end travel of rolls, or
6. Center line of rolls not parallel with center line of work

Thread Filled Out In Center, But Not Towards Ends, Or Vice Versa

1. Roll with varying diameter from end to end, or
2. Blank with varying diameter from end to end

Split Thread - Axially

1. Seamy stock, or
2. Mark from shave tool or hollow mill

Poor Finish On Thread

1. Correspondingly poor finish on rolls, or
2. Rolls that are worn out or broken, or
3. Overfilling rolls, or
4. Rolls not in match, or
5. Material accumulated in threads on roll, or
6. Material not ductile enough for cold-working

Scuffed Crests

1. Attachment not retracting fast enough, or

2. Rolls and gear train binding, or
3. Rolling beyond center line of work, or
4. Material accumulated in threads on rolls

Hollow Work, Hole Closes In

1. Machine hole after rolling, or
2. Needs supporting mandrel, or
3. Feed rate too high, causing too rapid penetration

Hollow Work, Hole Enlarged

1. Machine hole after rolling, or
2. Supporting mandrel too tight, or
3. Blank too large on major diameter, or
4. Feed rate too high causing too rapid penetration

Hollow Work, Out Of Round

1. Machine hole after rolling, or
2. Feed rate too high causing too rapid penetration, or
3. Too few work revolutions

TABLE R

DECIMAL EQUIVALENTS	
$\frac{1}{32}$ — .015625 — $\frac{1}{64}$	$\frac{17}{32}$ — .53125
$\frac{1}{16}$ — .03125	.546875 — $\frac{35}{64}$
.046875 — $\frac{3}{64}$	$\frac{9}{16}$ — .5625
$\frac{1}{8}$ — .0625	.578125 — $\frac{37}{64}$
.078125 — $\frac{5}{64}$	$\frac{19}{32}$ — .59375
$\frac{3}{32}$ — .09375	.609375 — $\frac{39}{64}$
.109375 — $\frac{7}{64}$	$\frac{5}{8}$ — .625
$\frac{1}{4}$ — .125	.640625 — $\frac{41}{64}$
.140625 — $\frac{9}{64}$	$\frac{21}{32}$ — .65625
$\frac{5}{32}$ — .15625	.671875 — $\frac{43}{64}$
.171875 — $\frac{11}{64}$	$\frac{11}{16}$ — .6875
$\frac{3}{16}$ — .1875	.703125 — $\frac{45}{64}$
.203125 — $\frac{13}{64}$	$\frac{23}{32}$ — .71875
$\frac{7}{32}$ — .21875	.734375 — $\frac{47}{64}$
.234375 — $\frac{15}{64}$	$\frac{3}{4}$ — .750
$\frac{1}{4}$ — .250	.765625 — $\frac{49}{64}$
.265625 — $\frac{17}{64}$	$\frac{25}{32}$ — .78125
$\frac{9}{32}$ — .28125	.796875 — $\frac{51}{64}$
.296875 — $\frac{19}{64}$	$\frac{13}{16}$ — .8125
$\frac{5}{16}$ — .3125	.828125 — $\frac{53}{64}$
.328125 — $\frac{21}{64}$	$\frac{27}{32}$ — .84375
$\frac{11}{32}$ — .34375	.859375 — $\frac{55}{64}$
.359375 — $\frac{23}{64}$	$\frac{7}{8}$ — .875
$\frac{3}{8}$ — .375	.890625 — $\frac{57}{64}$
.390625 — $\frac{25}{64}$	$\frac{29}{32}$ — .90625
$\frac{13}{32}$ — .40625	.921875 — $\frac{59}{64}$
.421875 — $\frac{27}{64}$	$\frac{15}{16}$ — .9375
$\frac{7}{16}$ — .4375	.953125 — $\frac{61}{64}$
.453125 — $\frac{29}{64}$	$\frac{31}{32}$ — .96875
$\frac{15}{32}$ — .46875	.984375 — $\frac{63}{64}$
.484375 — $\frac{31}{64}$	1 — 1.000
$\frac{1}{2}$ — .500	
.515625 — $\frac{33}{64}$	

AFTERTHOUGHTS

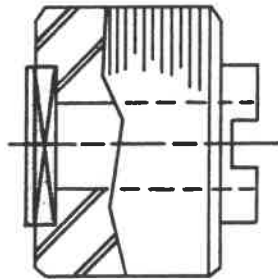


Fig. 1

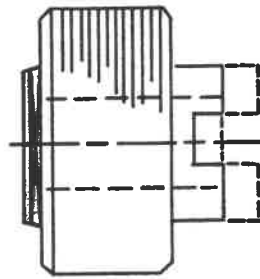


Fig. 2

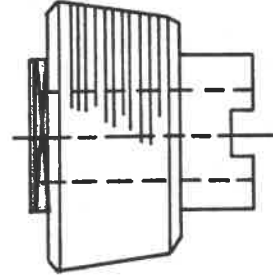


Fig. 3

Needle Thrust Bearings

Incorporating needle thrust bearings on the side of the roll opposite the drive hub has been known to double thread roll life in many applications.

Where roll working face width cannot be compromised, the bearing can be recessed into the roll as shown in Fig. 1. This design also permits the rolls to be positioned very close to the collet.

Figure 2 illustrates a design where some of the roll drive has been sacrificed to accommodate the thrust bearing. Although this is the least expensive means of incorporating the bearing, it causes the rolls to be positioned about 1/8" further away from the collet. It is, however, the most practical design when proximity to the collet and working face width are not critical considerations - as in the case of rolls for taper pipe threads (Fig. 3) which nearly always have less than maximum working faces.

Bronze Bushings

For certain applications, thread rolls must be fitted with bronze bushings. For example, when soluble oil is used as a coolant it is highly advisable to use bushed rolls. Kerosene base coolants, on the other hand, make the use of bronze bushings mandatory.

The bushing material used by Detroit Tap & Tool Company is a high grade aluminum bronze selected on the basis of years of field-proven experience. This material has high wear resistance combined with excellent anti-friction qualities. The bushings are carefully designed with optimum wall thickness to minimize extrusion deformation under the extreme bearing loads encountered in thread rolling. In many cases it is highly desirable for rolls to incorporate bushings and thrust bearings.

THREAD ROLLING TIPS

► The key to success with bump rolling is control of side pressure on the workpiece. Obviously, a roll which moves straight in on work center line is more apt to spring the part than twin rolls which move under and over the piece. The bigger the work blank diameter in relation to thread pitch, the less chance deflection will occur.

► When threads have to be rolled on both ends of the piece, work support is bettered by placing roll threading holders close to the collet. The piece is then cut off between the threads. In effect, you roll the back thread on the piece to be cut off at the same time you roll the front thread on the next piece to be made, and you do both operations back where the collet can give support.

► If wrinkles on the crests of rolled aluminum threads are objectionable, try fitting a small adjustable form tool on the front of the thread holder to touch just as the thread is finished. The rolls will remove any burrs the form tool makes. However, most buyers of aluminum parts have no objection to minor crest wrinkles.

► On very short threads, two to five pitches long, it can happen that the start and finish of the thread lie on the same side of the blank, and you have an unbalanced condition, because there is half a thread more on one side than on the other.

► Though a holder may be designed with plenty of float, chips may be robbing the rolls of it, causing one roll to do most of the work. Check frequently for packed chips, and while at it, check side play in the rolls themselves. Side play should be about .005-inch less than one-half a thread pitch on the floating roll. The roll on the bushed side should have only enough side motion for free running when it is warm, or what generally works out to be about .004 to .005 inches per inch of roll diameter.

► Rolling over a hole so large it causes a flexing or collapsing of the work material, is apt to cause premature breakdown of the rolls. The first indication is that the major diameter will not roll up to size. The solution is to use a smaller drill to start, if possible, or drill after thread rolling. Holes in tubing can be supported with a revolving internal plug. This applies to brass as much as to steel; brass will break a thread roll just as quickly as steel in some cases.

► One advantage of thread rolling is that its holder can float to follow an established contour. After a diameter has been formed, the shave tool floats to follow the same concentric path, and the thread rolls follow the shaved path.

So, regardless of spindle runout, roll threaded diameters usually will be concentric to other dimensions within close limits. But make sure the shaving tool cuts. If it burnishes, because it is dull, not properly set, or because insufficient float in the shave tool is giving too much roll pressure, you'll get thread slivers or roll failure. It is a good idea, too, to set the shaving tool roller as near the collet as possible so parts that feed short will be shaved to proper diameter.

If a screw machine part has thin sections beneath a thread, it is always best to lay out the job to roll the thread before weakening the internal area. If this is done, a secondary operation very often can be avoided.

► Thread rolls do not wear out by abrasion, as cutting tools do. They fatigue and crumble, or spall. The crest of the thread form on the rolls, being thinnest, is usually the first to crumble. Once this happens, if a piece of the hard roll sticks on the thread, every start of every thread will hit it, and you've had it. This is also a probable cause of failure.

► The chamfer angle is important on the blank. The best angle is 30 degrees off the center line; rolling converts this to 45 degrees on the finished part. When the machine is stopped, check the chamfer area carefully. A wrong chamfer angle, caused by a dull or chipped forming or shaving tool, is a probable cause of lead thread breakage.

► Anything which interferes with free roll action will give trouble. When working close to shoulders, check often to make sure the rolls aren't rubbing. On some machines the high point of the thread rolling cam will wear down to a dwell. You can feel this by placing your hand on the adaptor. (Careful, don't get slapped when the slide returns!) The slide should return evenly, without jerking. If it jerks or jumps, this is an indication of slide pressure on the rolls caused by too much cam dwell, or else you are using rolls of wrong diameter.

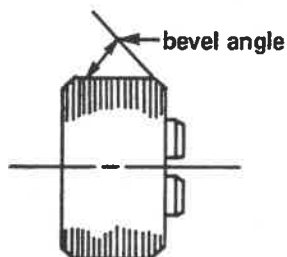
► It is often possible to roll long thread, or thread some distance from the collet, by using a male or female live center to support the work.

HOW TO ORDER DETROIT THREAD ROLLS

Stocked Rolls

Please specify:

1. Roll EDP Number
2. Angle of edge bevel required if other than 45° .
(Standard bevel for all "Detroit" thread rolls is 45°)



Special Rolls

Detroit thread rolls are available on special order in all types used by industry . . . including reversible rolls, extended working face (recessed drive slots), rolls with multiple thread rolling segments, narrow-working face rolls, reverse-taper pipe thread rolls, and combinations of any of these.

Rolls with longer over-all lengths are also available to fit "Detroit" holders which can be adjusted to accept thread rolls twice as wide, size-for-size, as comparable standard attachments. Thread rolls made of special materials can also be supplied.

When inquiring about special rolls, please include complete thread roll holder and workpiece specifications. A drawing of the finished part and a process sheet are often helpful in determining the optimum thread roll design. Detroit Tap & tool representatives are fully qualified to assist in solving your thread rolling problems . . . or feel free to call on a Detroit Tap applications engineer at the home office.

Rolls for Other Attachments

A variety of commonly used rolls to fit other makes of straddle type attachments are carried as stock or semi-finish stock items. Please include all information indicated above when requesting price and delivery. If attachment identification is uncertain, just accompany your inquiry with any thread roll (new or worn) of any size which has been previously used in the attachment.

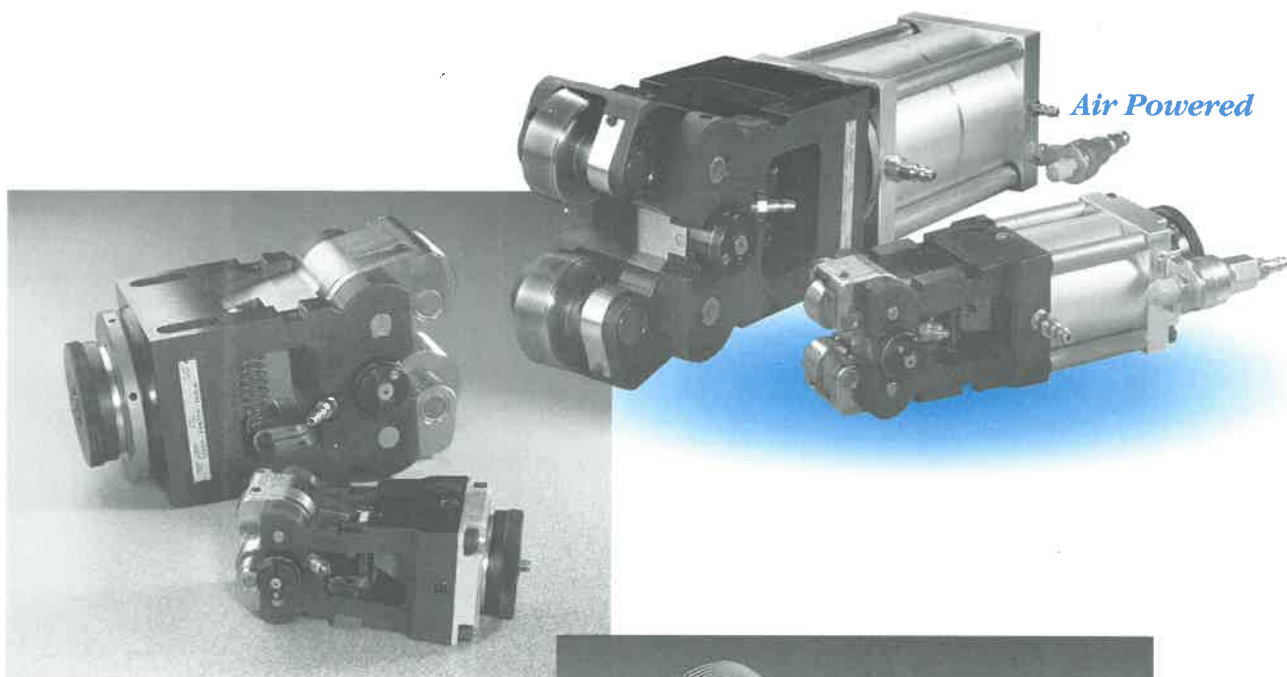
Machine-Type Thread Rolls

Consultation with a Detroit Tap & Tool applications engineer is normally recommended to assure use of the optimum rolls for each specific thread rolling machine job. In any event, complete specifications on the machine and the work should accompany inquiries.

Information Required Includes:

MACHINE
Manufacturer
Model
Size
Serial No.
THREAD
Size
Pitch
Length
ACTION
Plunge
Through-feed

Also available from C. J. Winter



Air Powered

Tangential



Thread Rolls



C. J. WINTER
MACHINE TECHNOLOGIES, INC.

A BRINKMAN INTERNATIONAL GROUP, INC. COMPANY

130 Albert Street ■ Rochester, NY 14606-5594 USA

Phone: (716) 429-5000 x500 ■ Fax: (716) 429-5095 ■ E-mail: sales@cjwinter.com ■ www.cjwinter.com

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