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CJ WINTER

Product Catalog

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CJWinter manufactures the premier line of thread rolling attachments, thread rolls and specialty dies and tooling for multi-spindle and CNC machines. Our higher quality threads, ease of attachment adjustments, and lower initial cost have been our competitive edge for over 50 years. Our team of dedicated engineers focuses daily on solving every customer's thread rolling and metal forming challenge resulting in world-renowned customer service.

From CJWinter, you get:

- Half a century of leading-edge service to the machining industry
- Individual attention
- Superior service
- Flexibility ... not just from us, but from our adjustable, on-the-fly attachments
- Meticulous attention to detail
- Repeatable reliability, down to the micron
- Innovation and quality
- Every one of our sales staff is equipped with intensive hands-on training and experience as an operator. They understand what you need, and are able to customize jobs to meet your exact specifications.

We don't have customers.

We have partners.

We know the secret to good business; from your smallest order to your largest project, our success depends on your success. We provide:

- Innovation that makes your life a lot easier
- Tools and attachments that can be up and running in a snap and adjusted on the go
- Instant access to engineers who will work with you on part design and specifications
- Value added to every step of your transaction, from knowledgeable sales staff up front to after-sale support
- Customization of almost every product, down to the smallest thread roll, built specifically for you, to your specifications, to meet your needs
- Factory spare parts available with all of the quality and longevity you would expect from CJWinter

How to Order Thread Rolls

When placing an order or requesting a quote, please have the following information available:

1. Make and model of thread rolling attachment
2. Style of thread roll (i.e. D-1, DR-1, C-1, etc.)
3. Size and pitch of thread to be rolled, including dimensional tolerances if other than standard
4. Length of thread on part
5. Material to be rolled
6. Print of part to be rolled

Note:

1. Special rolls may require a sample part or more detailed specifications
2. Some rolls require a special calculation to figure the work face on the roll. Please refer to page 3 of the catalog or call the factory directly.

Reliable Fast Delivery

Next-Day Delivery! As you know, a damaged thread roll or sudden change in lead time can be detrimental to your production schedule. That's why we process orders for in stock items several times a day and excel at producing special rolls quickly. We can get you back up and running quickly with our superior products and reliable fast delivery. You can count on it.

Real People or the Internet – It's Your Choice

CJWinter maintains a network of highly qualified distributors who are able to work with you to solve problems, answer questions and assist in ordering.

Or, if you prefer, log on to our web site www.cjwinter.com for the latest product and technical information.

NOTE: UNLESS OTHERWISE STATED, MEASUREMENTS ARE IN DECIMAL INCHES.

Decimal Equivalents

3/16 = .187	1/8 = .125	1/4 = .250
5/16 = .312	3/8 = .375	1/2 = .500
7/16 = .437	5/8 = .625	3/4 = .750
	7/8 = .875	

This section includes a complete listing of standard thread rolls for each thread roll holder. Although we have outlined general considerations for determining what style of thread roll to use, part configuration ultimately determines which thread roll style will be appropriate.

Once a particular style has been selected, the next step is to choose the widest roll width that can be accommodated by the geometry of the part. If you are in doubt as to whether a particular thread roll width will produce the thread length required, refer to the **“How To Determine Correct Working Face”** portion of this section (*below*).

Although we try to standardize as many thread roll styles as possible, there will still always be applications when a specially designed thread roll is required. Our sales and engineering staff are trained to assist you in determining the style of thread roll that will best suit your needs. **Please see the “How To Order Thread Rolls” section on the preceding page to determine the information required.**

The Importance of Roll Chamfer

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

The figures shown in the **“How To Determine Correct Working Face”** section (*below*) are based on a nominal 45° chamfer. This chamfer angle can be altered to 30° in order to provide additional support for the threads and reduce premature roll failure. A 30° chamfer, however, will reduce the length of thread produced by the roll.

When threads must be rolled very close to the collet and clearances are otherwise restricted, it may be necessary to order rolls with a 60° chamfer in order to extend the working face as far as possible. The use of a 60° chamfer angle should be avoided whenever possible as it will reduce the ability of the roll to withstand axial forces at the edge of the thread roll. If a specific chamfer angle (30°, 45°, 60° or other) is required for your application, be sure to specify the method of measurement (from the face or axis) to ensure the correct chamfer angle is applied (*see figures below for example*).

How To Determine Correct Working Face

Figures 1 through 4 are intended to help you calculate the working face (F) for various thread rolling applications, determine the angle of chamfer required and position the thread roll properly.

The working face (or F dimension) of the thread roll must always be greater than the length of thread that needs to be generated on the part. The general rule is to allow the thread roll to

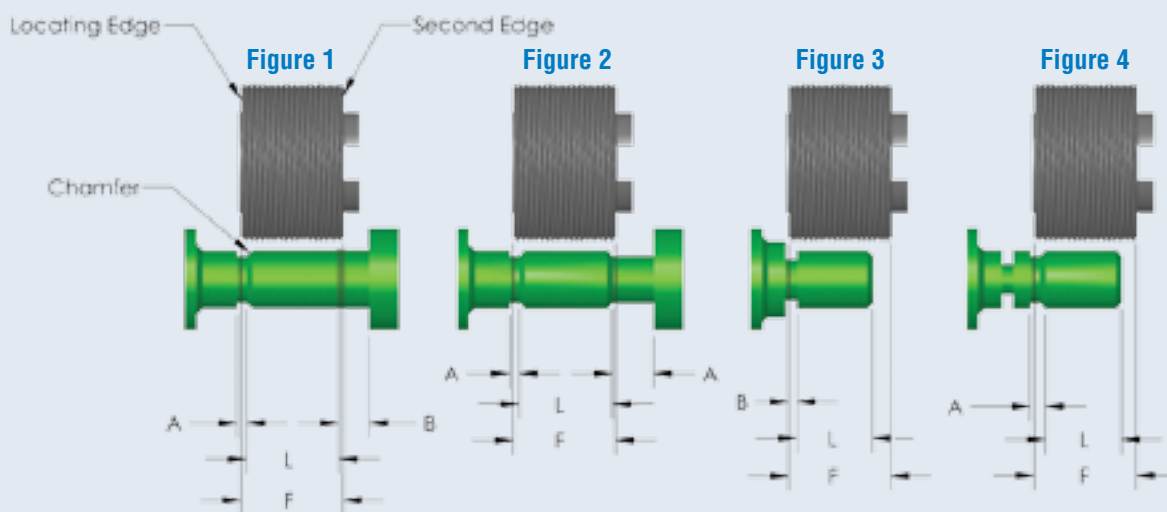
overhang each end of the blank by at least 1 1/4 threads (root to root or crest to crest = 1 thread).

Figure 1 and 3 $F = (2.250 \times P) + L$

Figure 2 and 4 $F = (2.500 \times P) + L$

$A = 1.500 \times P$

$B = 1.250 \times P$



F = Thread Roll Working Face

L = Length of Thread on Part

P = Thread Pitch ($1 \div \text{TPI}$)

A = Undercut Width (Recommended)

B = Distance of Thread Roll to Part Shoulder

UN—American Standard Unified Screw Threads—Classes 1A, 2A, 3A; N—American National Screw Threads—Classes 2 and 3; ISO Metric Screw Threads; NPSM and NPSL American Standard Straight Pipe Threads for Mechanical Joints

Type WC-1 Thread Rolls for Straight Threads



WC-1 Standard Workface					
Winter		Landis		Detroit	
Model	Std. W.F.	Model	Std. W.F.	Model	Std. W.F.
125-SA	0.552	14GA	0.625	76000 (0-375)	0.468
134-SA	0.625	18GA	0.844	76100 (6-625)	0.625
141-SA	0.875	20GA	1.000	76200 (10-750)	0.812
151-SA	0.875	22GA	1.375	76300 (30-1000)	0.812
160-SA	1.530	24GA	1.500	76400 (25-1125)	1.062
162/163-SA	1.265	Reed			
170-SA	1.530	Model	Std. W.F.		
172/173-SA	1.265	B-5	0.500		
Davenport		B-8	0.500	Salvo	
Model	Std. W.F.	B-10 (500-G2A)	0.625	Model	Std. W.F.
1421-SA	0.625	B-13 (750-G2A)	0.875	CBL	0.812
1431-SA	0.625	B-18 (1000-G2A)	1.125	BBL	1.062
1448-SA	0.625	B-36	1.125	DBL	1.312

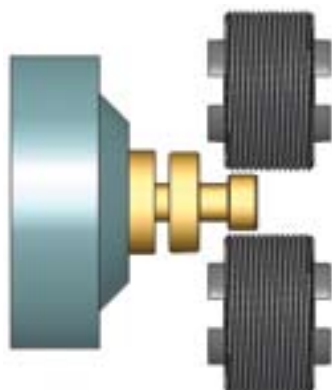
USE WC-1 STYLE WHEN:

- 1) Rolling on outboard end of work.
- 2) Standard working face is satisfactory for length of thread to be rolled.
- 3) Position of attachment in relation to collet is not important.
- 4) Sufficient clearance is available on either side of working face.

STANDARD: Working face as listed above.

OPTIONAL: Special bevels, machined breakouts, bronze bushings, left hand threads, multiple leads.

Type WCR-1 Thread Rolls For Straight Threads



WCR-1 Standard Workface					
Winter		Landis		Detroit	
Model	Std. W.F.	Model	Std. W.F.	Model	Std. W.F.
125-SA	0.480	14GA	0.500	76000 (0-375)	0.344
134-SA	0.500	18GA	0.750	76100 (6-625)	0.500
141-SA	0.750	20GA	0.813	76200 (10-750)	0.688
151-SA	0.750	22GA	1.000	76300 (30-1000)	0.688
160-SA	1.417	24GA	1.250	76400 (25-1125)	0.938
162/163-SA	1.135	Reed			
170-SA	1.417	Model	Std. W.F.		
172/173-SA	1.135	B-5	---		
Davenport		B-8	0.437	Salvo	
Model	Std. W.F.	B-10 (500-G2A)	0.500	Model	Std. W.F.
1421-SA	0.500	B-13 (750-G2A)	0.750	CBL	0.750
1431-SA	0.500	B-18 (1000-G2A)	1.000	BBL	0.937
1448-SA	0.500	B-36	1.000	DBL	1.187

USE WCR-1 STYLE WHEN:

- 1) Length of thread on part permits rolls to be reversed (doubling production from each pair of rolls).

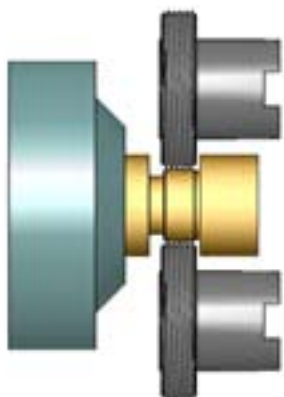
STANDARD: Double drive slots; working face as listed above.

OPTIONAL: Special bevels, machined breakouts, bronze bushings, left hand threads, multiple leads.

See instructions for determining correct working face located on page 3.

UN—American Standard Unified Screw Threads—Classes 1A, 2A, 3A; N—American National Screw Threads—Classes 2 and 3; ISO Metric Screw Threads; NPSM and NPSL American Standard Straight Pipe Threads for Mechanical Joints

Type WC-2 Thread Rolls for Straight Threads



USE WC-2 STYLE WHEN:

- 1) Rolling threads behind a shoulder at cut-off end.
- 2) Narrow width is required due to part configuration.
- 3) Attachment will be positioned as close to collet as possible.

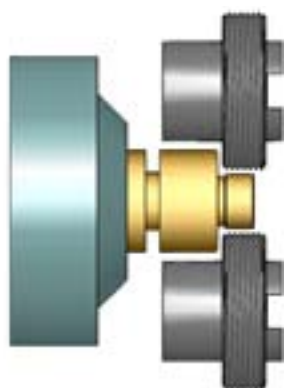
OPTIONAL:

Special bevels, machined breakouts, bronze bushings, double drive slots, left hand threads, multiple leads.

Working face must be specified when ordering WC-2 style.

See instructions for determining correct working face located on page 3.

Type WC-3 Thread Rolls for Straight Threads



USE WC-3 STYLE WHEN:

- 1) Rolling threads away from the cut-off end.
- 2) There is a shoulder between the threaded portion and the collet.
- 3) Attachment will be positioned as close to collet as possible.

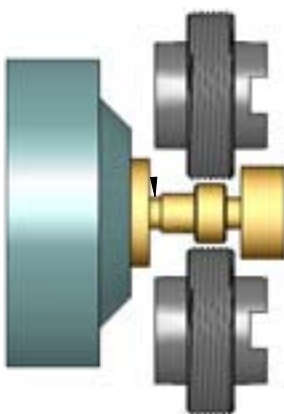
OPTIONAL:

Special bevels, machined breakouts, bronze bushings, double drive slots, left hand threads, multiple leads.

Working face must be specified when ordering WC-3 style.

See instructions for determining correct working face located on page 3.

Type WC-4 Thread Rolls for Straight Threads



USE WC-4 STYLE WHEN:

- 1) It is important to maintain position of attachment on the cross slide.
- 2) It is necessary to maintain the position of the cut-off end of the part relative to the collet.

OPTIONAL:

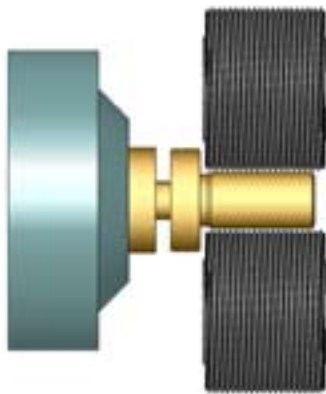
Special bevels, machined breakouts, bronze bushings, double drive slots, left hand threads, multiple leads.

Working face must be specified when ordering WC-4 style as well as length of hub opposite the drive slot.

See instructions for determining correct working face located on page 3.

UN—American Standard Unified Screw Threads—Classes 1A, 2A, 3A; N—American National Screw Threads—Classes 2 and 3; ISO Metric Screw Threads; NPSM and NPSL American Standard Straight Pipe Threads for Mechanical Joints

Type WD-1 Thread Rolls for Straight Threads



WD-1 Standard Workface					
Winter		Landis		Detroit	
Model	Std. W.F.	Model	Std. W.F.	Model	Std. W.F.
125-SA	0.636*	14GA	---	76000 (0-375)	0.593
134-SA	0.750*	18GA	---	76100 (6-625)	0.750
141-SA	1.000*	20GA	---	76200 (10-750)	0.938
151-SA	1.000*	22GA	---	76300 (30-1000)	0.938
160-SA	1.656*	24GA	---	76400 (25-1125)	1.188
162/163-SA	1.395*	Reed			
170-SA	1.656*	Model	Std. W.F.		
172/173-SA	1.395*	B-5	---		
Davenport		B-8	0.560	Salvo	
Model	Std. W.F.	B-10 (500-G2A)	0.750	Model	Std. W.F.
1421-SA	0.750*	B-13 (750-G2A)	1.000	CBL	0.937
1431-SA	0.750*	B-18 (1000-G2A)	1.250	BBL	1.187
1448-SA	0.750*	B-36	1.250	DBL	1.437

* Gear Guard must be removed when installing

USE WD-1 STYLE WHEN:

- 1) Working face or rolls with standard hubs are not sufficient for length of thread required.

STANDARD:

Recessed drive slot, extended standard working face as listed above.

OPTIONAL:

Special bevels, machined breakouts, bronze bushings, left hand threads, multiple leads.

See instructions for determining correct working face located on page 3.

Type WDR-1 Thread Rolls For Straight Threads



WDR-1 Standard Workface					
Winter		Landis		Detroit	
Model	Std. W.F.	Model	Std. W.F.	Model	Std. W.F.
125-SA	0.636*	14GA	---	76000 (0-375)	0.593
134-SA	0.750*	18GA	---	76100 (6-625)	0.750
141-SA	1.000*	20GA	---	76200 (10-750)	0.938
151-SA	1.000*	22GA	---	76300 (30-1000)	0.938
160-SA	1.656*	24GA	---	76400 (25-1125)	1.188
162/163-SA	1.395*	Reed			
170-SA	1.656*	Model	Std. W.F.		
172/173-SA	1.395*	B-5	---		
Davenport		B-8	0.560	Salvo	
Model	Std. W.F.	B-10 (500-G2A)	0.750	Model	Std. W.F.
1421-SA	0.750*	B-13 (750-G2A)	1.000	CBL	0.937
1431-SA	0.750*	B-18 (1000-G2A)	1.250	BBL	1.187
1448-SA	0.750*	B-36	1.250	DBL	1.437

* Gear Guard must be removed when installing

USE WDR-1 STYLE WHEN:

- 1) Length of thread on part permits rolls to be reversed (doubling production on 1 pair of rolls).

STANDARD:

Recessed drive slot, extended standard working face as listed above.

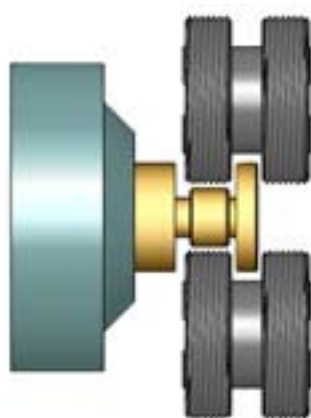
OPTIONAL:

Special bevels, machined breakouts, bronze bushings, left hand threads, multiple leads.

See instructions for determining correct working face located on page 3.

UN—American Standard Unified Screw Threads—Classes 1A, 2A, 3A; N—American National Screw Threads—Classes 2 and 3; ISO Metric Screw Threads; NPSM and NPSL American Standard Straight Pipe Threads for Mechanical Joints

Type WDR-5 Thread Rolls for Straight Threads



USE WDR-5 STYLE WHEN:

- 1) Rolling two threads of the same diameter and pitch which are separated by a shoulder.
- 2) Rolling behind a shoulder where length of thread permits rolls to be reversed (doubling production of 1 pair of rolls).

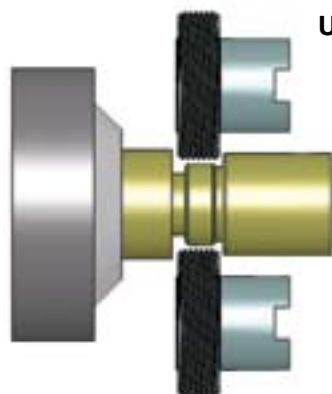
STANDARD: Recessed double drive slots.

OPTIONAL: Special bevels, machined breakouts, bronze bushings, left hand threads, multiple leads.

Working face must be specified when ordering WDR-5 style as well as groove diameter and/or stock size.

See instructions for determining correct working face located on page 3.

Type WH-2 Thread Rolls for Straight Threads



USE WH-2 STYLE WHEN:

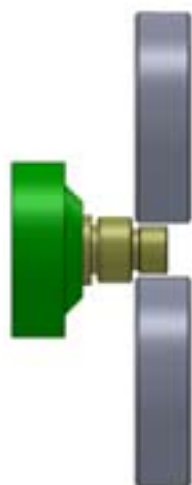
- 1) Using a Reed B-5 Attachment.
- 2) Project requires being within .125" of collet face.

OPTIONAL: Counterbore rather than hub at collet side, bronze bushings.

Working face must be specified when ordering WH-2 style.

See instructions for determining correct working face located on page 3.

Type WOBR-1 Quick Change Thread Rolls for Straight Threads



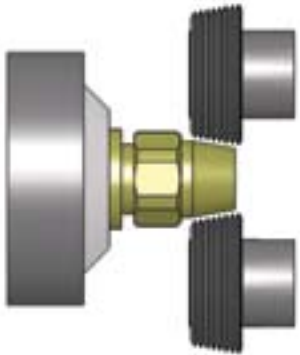
USE WOBR-1 STYLE WHEN:

- 1) Using an outboard style attachment.
- 2) Length of thread on part permits rolls to be reversed (doubling production of 1 pair of rolls).

STANDARD: Working face as listed below.

WOBR-1 Standard Working Face	
145-OB	.625
165-OB	.787

NPT – American Standard also used for: ANPT (MIL-P-7105 Air Force-Navy Aeronautical; NPTR American Standard for Railing Fittings; NPTF – (Dryseal) American Standard for Pressure Tight Joints

Type WOBR-Q-2 Quick Change for Taper Pipe Threads**USE WOBR-Q-2 STYLE WHEN:**

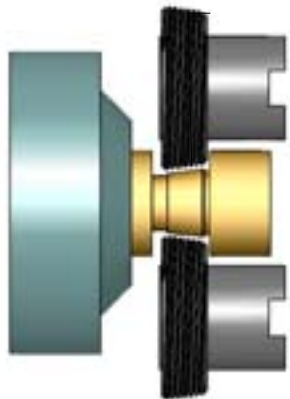
- 1) Using an outboard style attachment.
- 2) Rolling taper pipe threads with small end of work away from collet.

STANDARD: NPT or NPTF as specified, 45° chamfer, working face as listed below.

OPTIONAL: Special working face.

OB Standard Working Face			
1/16-27	.375	3/8-18	.562
1/8-27	.375	1/2-14	.712
1/4-18	.562	3/4-14	.724

Rolls are also available for other manufacturers' outboard style attachments.

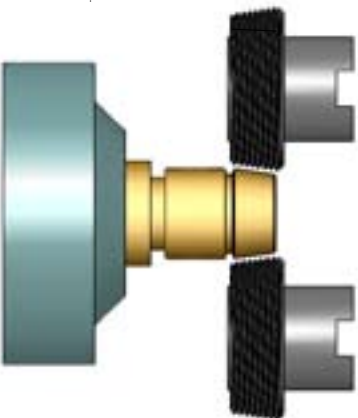
Type WK-2 Thread Rolls for Taper Pipe Threads**USE WK-2 STYLE WHEN:**

- 1) Rolling taper pipe threads with small end of work towards collet.

STANDARD: NPT or NPTF as specified, 45° chamfer, working face as listed below.

OPTIONAL: Special working face, bronze bushings.

WK-2 Standard Working Face			
1/16-27	.375	3/4-14	.724
1/8-27	.375	1-11 1/2	.900
1/4-18	.562	1 1/4-11 1/2	.924
3/8-18	.562	1 1/2-11 1/2	.941
1/2-14	.712		

Type WQ-2 Thread Rolls for Taper Pipe Threads**USE WQ-2 STYLE WHEN:**

- 1) Rolling taper pipe threads with small end of work away from collet.

STANDARD: NPT or NPTF as specified, 45° chamfer, working face as listed below.

OPTIONAL: Special working face, bronze bushings.

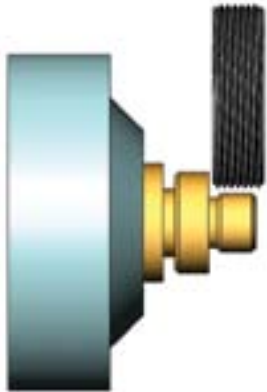
WQ-2 Standard Working Face			
1/16-27	.375	3/4-14	.724
1/8-27	.375	1-11 1/2	.900
1/4-18	.562	1 1/4-11 1/2	.924
3/8-18	.562	1 1/2-11 1/2	.941
1/2-14	.712		

UN—American Standard Unified Screw Threads—Classes 1A, 2A, 3A; N—American National Screw Threads—Classes 2 and 3; ISO Metric Screw Threads; NPSM and NPSL American Standard Straight Pipe Threads for Mechanical Joints

Use WF-1 and WF-2 in these holders:

B&S: 83-200 Detroit: 309-5 Reed: A00-54 Salvo: SA-00	B&S: 83-120/84-100 Detroit: 309-4 Reed: A00-86/A0-86 Salvo: SA-0/SB-00	B&S: 83-122/84-120 Detroit: 309-6 Reed: A0-108/A2-108 Salvo: SA-2/SB-0	B&S: 84-122 Reed: A2-1210 Salvo: SB-2
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Type WF-1 Bump Type



USE WF-1 STYLE WHEN:

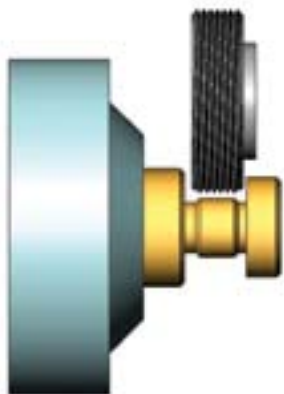
- 1) Standard working face of roll is satisfactory for length of thread to be rolled.

STANDARD: Dimensions as shown.

OPTIONAL: Bronze bushings, left hand threads.

Model	WF-1-44	WF-1-54	WF-1-66	WF-1-86	WF-1-88	WF-1-108	WF-1-1210
O.A.L.	.250	.313	.375	.500	.500	.625	.750
ID	.250	.250	.375	.375	.500	.500	.625

Type WF-2 Style



USE WF-2 STYLE WHEN:

- 1) Narrow width is required due to part configuration.

STANDARD: Dimensions as shown.

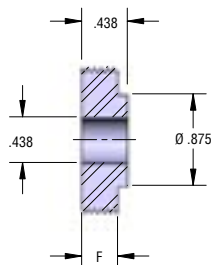
OPTIONAL: Bronze bushings, left hand threads, additional hub.

Working face (F) must be specified when ordering WF-2 style.

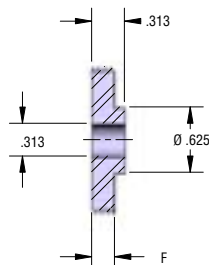
See instructions for determining correct working face located on page 3.

Model	WF-2-44	WF-2-54	WF-2-66	WF-2-86	WF-2-88	WF-2-108	WF-2-1210
O.A.L.	.250	.313	.375	.500	.500	.625	.750
ID	.250	.250	.375	.375	.500	.500	.625

Davenport Single Roll Holders

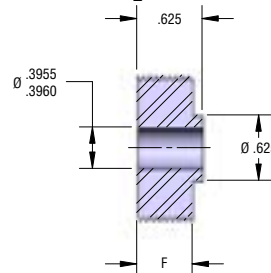


Type E-272



Type E-2910

Davenport Double Roll Holder



Type E-2903

STANDARD: Dimensions as shown.

Working face (F) must be specified when ordering this style.

See instructions for determining correct working face located on page 3.

UN—American Standard Unified Screw Threads—Classes 1A, 2A, 3A; N—American National Screw Threads—Classes 2 and 3; ISO Metric Screw Threads; NPSM and NPSL American Standard Straight Pipe Threads for Mechanical Joints

Overhung Die Holders 3-Die Cylindrical Rolling Machine



Overhung Die Holder for A22 and A23
10C
20C
30C
50C
90C
120C
220C

Rolls are also available for other machine sizes not listed.

STANDARD: 30° chamfer.
OPTIONAL: 45° or 60° chamfer
 machined breakout,
 left hand threads,
 multiple leads.

Width of holder must be specified when ordering.

Double Support Die Holders 3-Die Cylindrical Rolling Machine



Double Support Die Holder for A22 and A23
1B
2B
3B
9B

Rolls are also available for other machine sizes not listed.

STANDARD: 30° chamfer.
OPTIONAL: 45° or 60° chamfer
 machined breakout,
 left hand threads,
 multiple leads.

Width of holder must be specified when ordering.

Machine Dies



QUALITY. DELIVERY. SELECTION.

When your thread rolling applications call for machine dies you can count on CJWinter. In fact, we can meet your exact thread roll specifications faster than our competition.

Due to the special nature of these machine dies, consult factory for price and delivery.

NPT-American Standard also used for: ANPT (MIL-P-7105 Air Force-Navy Aeronautical; NPTR American Standard for Railing Fittings; NPTF-(Dryseal) American Standard for Pressure Tight Joints.

Overhung Die Holders 3-Die Cylindrical Rolling Machine



Overhung Die Holder For A22 and A23	
Die Holder	Thread Size
10C	1/16-27
20C	1/8-27
30C	1/4-18
50C	3/8-18
90C	1/2-14
120C	3/4-14
220C	1-11 1/2
	1 1/4-11 1/2
	1 1/2-11 1/2

STANDARD: 30° chamfer.
OPTIONAL: 45° or 60° chamfer
 machined breakout,
 left hand threads,
 multiple leads.

*Width of holder must be
 specified when ordering.*

*Rolls are also available for other
 machine sizes not listed.*

Double Support Die Holders 3-Die Cylindrical Rolling Machine



Double Support Die Holder For A22 and A23	
Die Holder	Thread Size
1B	1/16-27
2B	1/8-27
3B	1/4-18
9B	3/8-18
	1/2-14
	3/4-14
	1-11 1/2
	1 1/4-11 1/2
	1 1/2-11 1/2

STANDARD: 30° chamfer.
OPTIONAL: 45° or 60° chamfer
 machined breakout,
 left hand threads,
 multiple leads.

*Width of holder must be
 specified when ordering.*

*Rolls are also available for other
 machine sizes not listed.*

Type WY-2 Bump Type

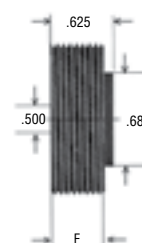
Pipe Size and TPI	F Working Face
1/8-27	.375
1/4-18	.562
3/8-18	.562
1/2-14	.712

STANDARD: Working face as listed.
OPTIONAL: Bronze bushings.

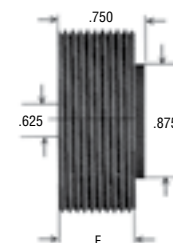
*Working face (F) must be specified when ordering
 WY-2 style. See instructions for determining
 correct working face located on page 3.*



WY-2-86



WY-2-108



WY-2-1210

Use WY-2 in these holders:		
B&S: 84-100/83-120	B&S: 84-120/83-122	B&S: 84-122
Detroit: 309-4	Detroit: 309-6	Reed: A2-1210
Reed: A00-86/A0-86	Reed: A0-108/A2-108	Salvo: SA-4/SB-2
Salvo: SA-0/SB-00	Salvo: SA-2/SB-0	

UN–American Standard Unified Screw Threads–Classes 1A, 2A, 3A; N–American National Screw Threads–Classes 2 and 3; ISO Metric Screw Threads; NPSM and NPSL American Standard Straight Pipe Threads for Mechanical Joints

CJWinter Machine Technologies also manufactures Fette T Series Tangential and Fette E Series Radial thread rolls. These rolls are manufactured out of the highest grade tool steels with coating available to increase die life. Our delivery on these unique thread roll dies is the best in the industry.

“T” Style Rolls



Fette-T Style Rolls:

- T12, T18, T27, T42

Due to the special nature of these thread rolls, consult factory for price and delivery.

“E” Style Rolls



Fette-E Style Rolls:

- E08, E10, E13, E16, E23

Due to the special nature of these thread rolls, consult factory for price and delivery.

ER Series End Rolling Rolls

Anything short of perfection wouldn't be good enough for our ER-SERIES thread rolls. CJWinter's world-renown thread roll manufacturing and design techniques provide longer thread life, higher repeatability and less run out. Standard size thread rolls are available for same day delivery and **are interchangeable for use with competitive end rolling attachments.**

Other features available with the ER-SERIES of end rolling attachments are high-performance coatings to increase product performance and tool life. Application/design review are at no charge when you provide a part print or specific roll geometry. Call us for information. You'll appreciate the attention we provide our customers every day and see the difference in the quality of CJWinter products.



ER Series end rolls are available for the following holders:

- Acme Fette, Fette, Geometric, and Landis

All others – please consult factory for further information.

Standard Knurls



Custom-designed forms are available to meet your finish requirements.

Knurl Styles

- Straight
- Diagonal (30° and 45°)
- Diamond (male and female)
- Square
- Custom

Fits

- Most knurl holders

A large variety of knurl blanks are regularly carried in stock, insuring fast delivery on special knurls made to customer's specifications.

When ordering special knurls, please furnish a blueprint of the knurl desired or provide the specific information outlined below:

- 1) Outside diameter of knurl.
- 2) Overall width of knurl.
- 3) Size of hole in knurl.
- 4) Dimension of any shoulders desired, giving width and diameter of each.
- 5) Blank diameter/finish diameter.
- 6) Knurl pattern: straight, diagonal, male or female diamond (Diagonal or diamond teeth normally cut with 30° helix angle).
- 7) Number of teeth on knurl (an odd number of teeth is usually preferred over an even number).
- 8) Tooth angle 70° or 90° for circular pitch and 80° for diametral pitch (see chart for approximate increase in diameter).

All tolerances, unless otherwise specified, will be the tolerances used on our stock knurls. We will be glad to quote price and delivery on special knurls upon receipt of the necessary information as outlined above.

Diametral Pitch Knurls

Diametral Pitch Knurls are made to American Standards (ASA B5.30 1958). Diametral Pitch Knurls produce the D.P. number of teeth per inch of diameter. Rolled Circular Pitch Knurls produce the T.P.I. number of teeth per inch of circumference measured normally to the teeth.

Approximate Increase in Knurled Diameters					
TPI	Tooth Angle	Straight	Diagonal	Diamond	
				Male	Female
12	90°	.034	.034		
16		.025	.025		
20		.020	.020	.023	.014
25		.016	.016	.018	.011
30		.013	.013	.015	.009
35		.011	.011		
40		.009	.009		
35	70°	.013	.013		
40		.010	.010		
50		.007	.007	.008	.005
60		.006	.006		
70		.005	.005		
80		.004	.004		
Diametral Pitch		Tooth Angle	Straight	Diagonal	
64		80°	.024	.021	
96			.016	.014	
128			.012	.010	
160			.009	.008	
DP		Equivalent Normal Circular TPI			
		Straight Teeth		30° Diagonal	
64		20.7		23.9	
96		30.8		35.6	
128		41.1		47.4	
160		51.2		59.1	

Knurls for Cross Slide Attachments

CJWinter designs straight and diagonal knurls to customer specifications for knurling on CJWinter, Davenport, Reed and other cross slide thread rolling attachments. Knurls can be supplied in various types, in either circular or diametral pitch, to suit individual requirements. The four diametral pitches available are 64, 96, 128 and 160.

Knurl Holders & Burnishing Rolls

Progressive Knurl Holders

The CJWinter Progressive Knurl Holder uses a skiving principle. Because there is less side pressure required, slivering and flaking are minimal. The holder is ideal for producing straight knurls on thin wall tubing, hollow parts, and long sections. A carbide pin is standard and is adjustable for taper. Units are available for most tool holders on screw machines or lathes. Thrust washers are supplied at each end of the knurl for free rolling action.

Knurls for the Progressive Knurl Holders are approximately 1 inch in diameter with a 30° helix angle. In **Figure 1**, the overall length of the knurl is 3/4 inch and is used in the Davenport Tool Holder. The type of holder in **Figure 2** is used in Acmes, Warner Swasey screw machines and other multiple or single spindle lathes with cross slides. The overall length of the knurl is 1 inch. Knurls can be made with any face length, within the overall capacity, and to suit individual requirements for both **Figure 1** and **Figure 2**.



Figure 1



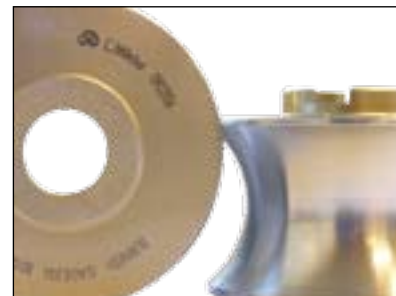
Figure 2

Burnishing Rolls

CJWinter offers a wide variety of burnishing rolls for all types of attachments and applications. These tools are manufactured holding extremely tight tolerances with polished surfaces to produce mirror-like finishes on your part.

When burnishing, the pressure generated by the rolls exceeds the yield point of the part surface at the point of contact, resulting in a slight deformation on the surface of the work piece. Since most machined surfaces consist of a series of peaks and valleys of inconsistent height, the deformation created by roller burnishing displaces the material from the peaks into the valleys creating a mirror like finish with a tough, work-hardened and wear resistant surface.

There are many factors that need to be reviewed prior to quote, including material ductility and tensile strength, surface finish prior to and after burnishing, and the diameter, length and shape of the part. Please contact our technical engineers and sales support to review your application.



Top 10 Reasons To Use CJWinter Attachments



Our Pinch Type Thread Rolling Attachment requires one cubic foot per minute of compressed air at 80 PSI. Threads per inch, length of thread and material to be rolled are factors in determining air pressure required. In most cases, this will not exceed 80 PSI.

Made in the USA

The CJWinter Air Powered Type Thread Rolling Attachments are in a class by themselves! They combine simplicity of design and sturdy construction with high precision, easy set up and economical operation.

- 1. Ease of Installation.** Install the attachment on most machines with five simple operations:
 - Insert rolls in attachment and synchronize timing marks.
 - Install the correct mounting hardware.
 - Set attachment on slide and line up with thread blank.
 - Connect the control valve assembly to the attachment and install the tripping valve and bracket.
 - Dial the correct pitch number.
- 2. Equalized Thread Rolling Pressure.** Our unique pinch type thread rolling principle brings the rolls to the center of the part, and an air cylinder forces the wedge between the roll arms, providing the movement and force to the rolls that form the thread. The wedge then withdraws and the roll arms open, finishing one cycle of thread rolling. The equalized rolling pressure automatically supports the part. The pinch system allows threads to be rolled at a greater distance from the collet, ensuring outstanding thread concentricity. Side pressure on parts and machine spindles is eliminated.
- 3. Perfect Roll Synchronization.** The patented roll compensator ensures perfect thread roll synchronization. Roll windup caused by one roll rotating counter to the other as the rolls penetrate the work is automatically compensated, without placing excessive strain on the rolls or attachments.
- 4. Flaking Eliminated.** Our pinch type attachments virtually eliminate flaking problems caused by part deflection or synchronization commonly encountered when rolling extended, unsupported parts.
- 5. One Cam for Entire Size Range.** Only our no lead dwell cam can handle the complete threading range of the attachment for all materials. This eliminates the need for special cam and installation and maintains cam inventory at an absolute minimum.
- 6. Pitch Diameter Quickly Adjusted.** Pitch diameter is selected by turning an easily accessible adjusting knob. This minimizes machine down time for adjustment.
- 7. Penetration (Roll Feed) Rate Quickly Adjusted.** Penetration rate is easily changed through the flow control valve. This allows rolling of the material to be as fast as it will flow, maximizing roll life.
- 8. Chip Purge Line Arrangement.** Eliminates chip accumulation in roll arm and compensator gears.
- 9. Secondary Threading.** Our pinch type attachments can be readily adapted to secondary thread rolling operations on many types of turning equipment.
- 10. Repeatability.** A positive stop is built into each CJWinter attachment. This feature ensures that the set thread size will be reproduced time after time without variation.

125-SA Series	pg. 16
126-SA Series	pg. 16
134-SA Series	pg. 17
141-SA-152-SA Series.....	pg. 18
160-SA-162-SA Series.....	pg. 19
170-SA-173-SA Series.....	pg. 20
Winter Pipe Thread.....	pg. 21
145-OB Series	pg. 22
165-OB Series	pg. 22
NC41 Series.....	pg. 23
Detroit Style	pg. 24

How to Order Attachments:

When placing an order or requesting a quote, please have the following information.

- 1. Size, make, model, and serial number of your machine**
- 2. Position for threading**
- 3. End working operation, if any**
- 4. Thread size, length, and material to be rolled**
- 5. Cycle time and RPM**
- 6. Distance from collet to first thread**
- 7. Part print and tooling layout**

Consult factory for quotations on special applications.

Consult factory for specific application information



125-SA

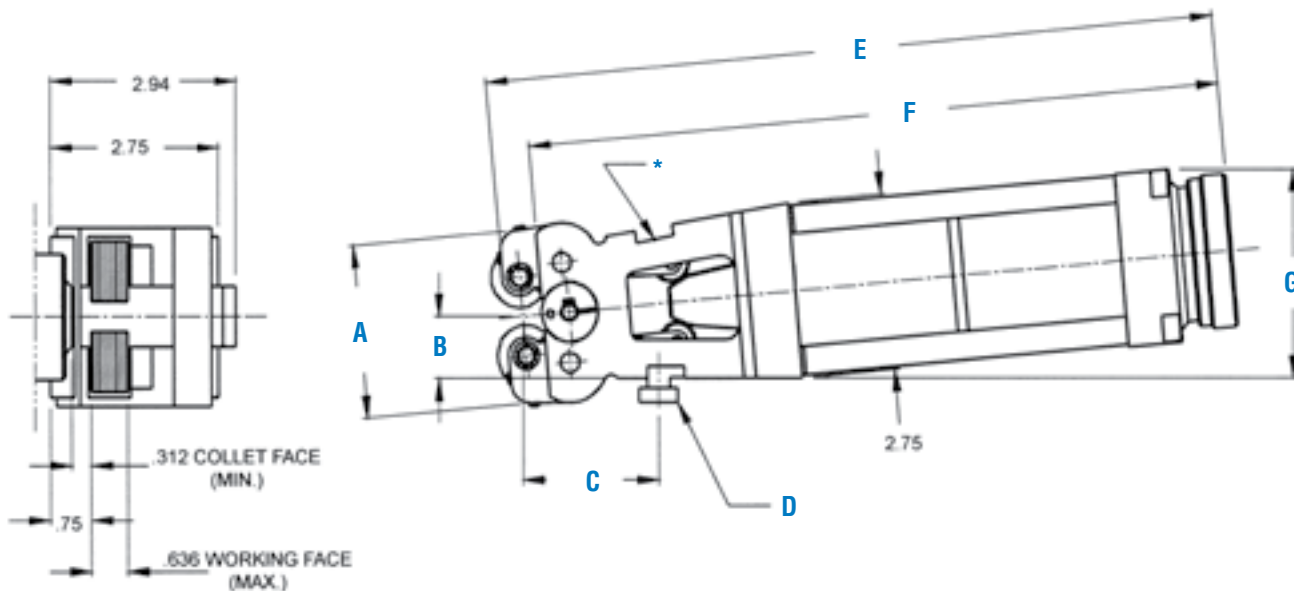
125-SA, 126-SA Series Thread Roll Capacities:

0-80 to 1/2-32	1/16-27 NPT to 1/4-18 NPT	M1.4 x 0.3 to M12 x 1.75
1/16-28 BSPP to 1/4-19 BSPP	1/16-28 BSPT to 1/4-19 BSPT	1/8-27 NPSM to 1/4-18 NPSM

	Brown & Sharpe	Cono-Matic	Euroturn	Davenport	Gildemeister	Green Lee	Hardinge	Hydromat	Index	Mitsubishi	Mori-Say	National Acme	New Britain	Schutte	Traub	Tornos Bechler	Warner Swasey	Wickman	ZPS
125-SA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
125-SA-1																●			
126-SA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
126-SA-1															●				

Dimensions:

	A	B	C	D	E	F	G
125-SA	3.120 (MAX)	1.000	2.250 NOM	1/4-20 T-BOLT	8.875	8.320	3.000
125-SA-1	3.120 (MAX)	1.180	2.750 NOM	M8 x 1.25 T-BOLT	8.875	8.320	3.000
126-SA	3.120 (MAX)	1.000	2.250 NOM	1/4-20 T-BOLT	12.20	11.570	3.300
126-SA-1	2.740 (MAX)	1.180	2.750 NOM	M8 x 1.25 T-BOLT	12.20	11.570	3.300



* Optional Position

Consult factory for specific application information

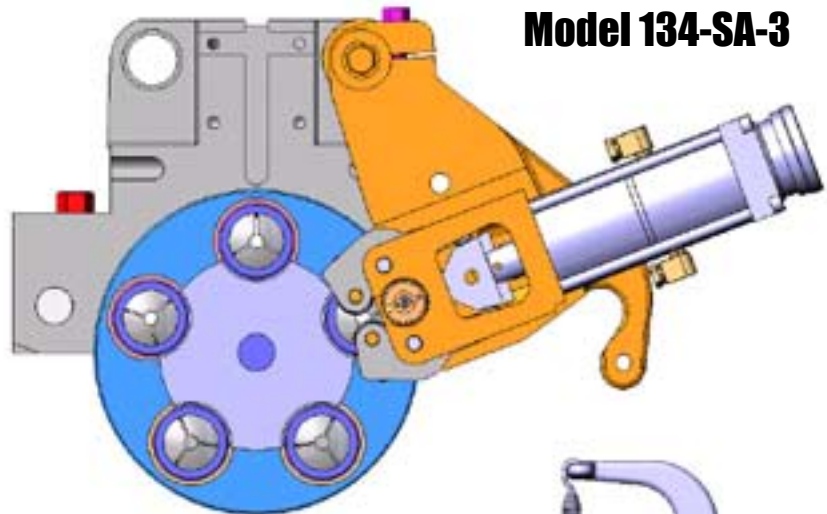


134-SA Series Thread Roll Capacities:

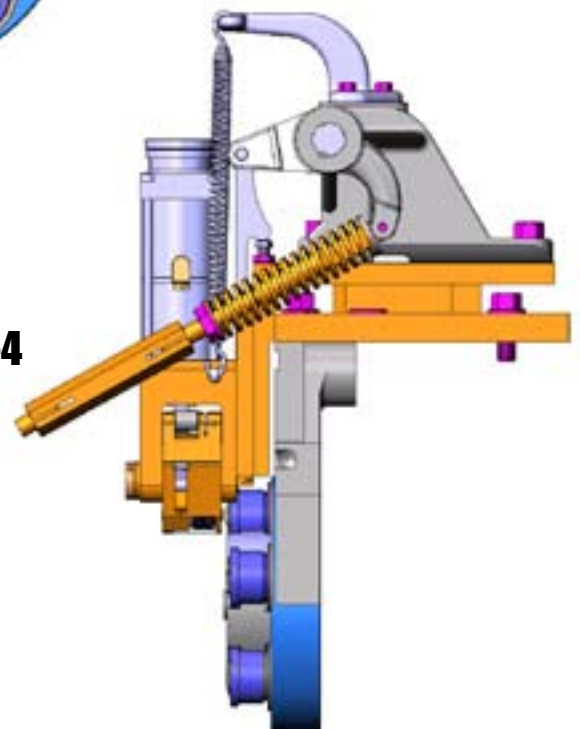
0-80 to 3/4-32	1/16-27 NPT to 3/8-18 NPT	M1.4 x 0.3 to M18 x 2.5
1/16-28 BSPP to 3/8-19 BSPP	1/16-28 BSPT to 3/8-19 BSPT	1/8-27 NPSM to 3/8-18 NPSM

[illegible]

Also available in Tangential style. Fits most machines. Consult factory for specific application information.



Model 134-SA-3



Model 134-SA-4

Consult factory for specific application information



141-SA



151-SA

141-SA, 142-SA Series Thread Roll Capacities:

0-80 to 3/4-27	1/16-27 NPT to 3/8-18 NPT	M1.4 x 0.3 to M18 x 2.5
1/16-28 BSPP to 3/8-19 BSPP	1/16-28 BSPT to 3/8-19 BSPT	1/8-27 NPSM to 3/8-18 NPSM

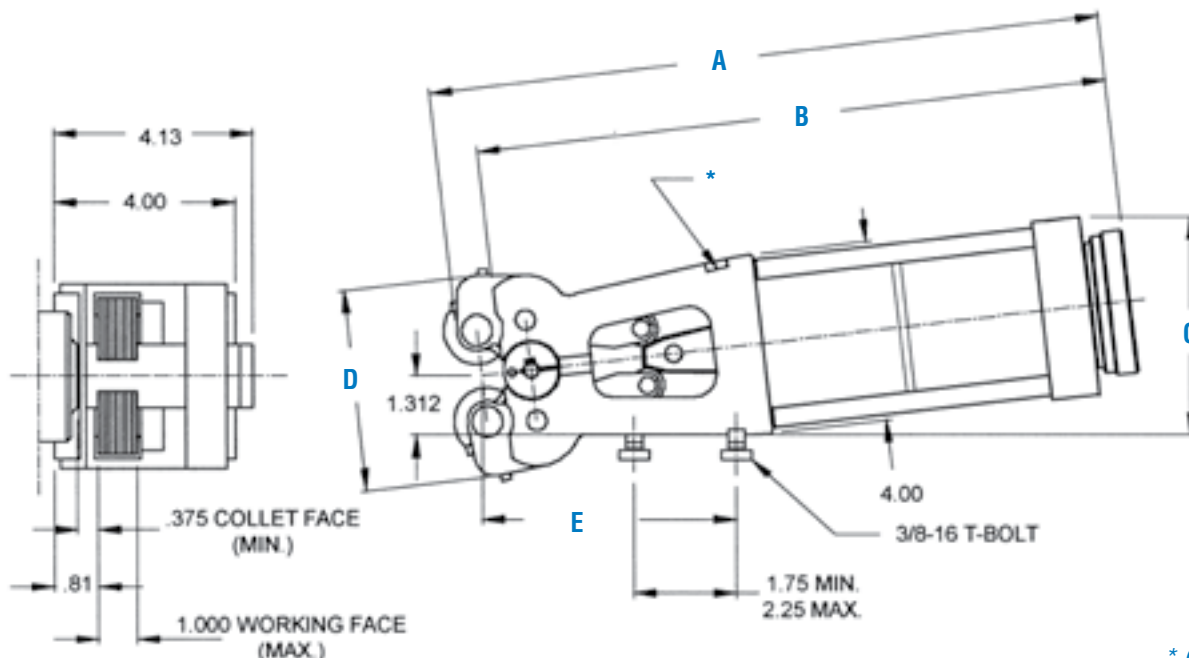
151-SA, 152-SA Series Thread Roll Capacities:

0-80 to 7/8-32	1/16-27 NPT to 1/2-14 NPT	M1.4 x 0.3 to M22 x 2.5
1/16-28 BSPP to 1/2-14 BSPP	1/16-28 BSPT to 1/2-14 BSPT	1/8-27 NPSM to 1/2-14 NPSM

	Brown & Sharpe	Cono-Matic	Euroturn	Davenport	Gildemeister	Green Lee	Hardinge	Hydromat	Index	Mitsubishi	Mori-Say	National Acme	New Britain	Schutte	Traub	Tornos Bechler	Warner Swasey	Wickman	ZPS
141-SA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
142-SA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
151-SA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
152-SA	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Dimensions:

	A	B	C	D	E
141-SA	12.000	11.000	4.460	4.690	5.720
142-SA	15.230	14.310	4.880	4.690	5.720
151-SA	12.130	11.000	4.460	4.750	5.850
152-SA	15.200	14.070	4.460	4.750	5.850



* Optional Position

Consult factory for specific application information



Also available in Tangential style. Fits most machines. Consult factory for specific application information.

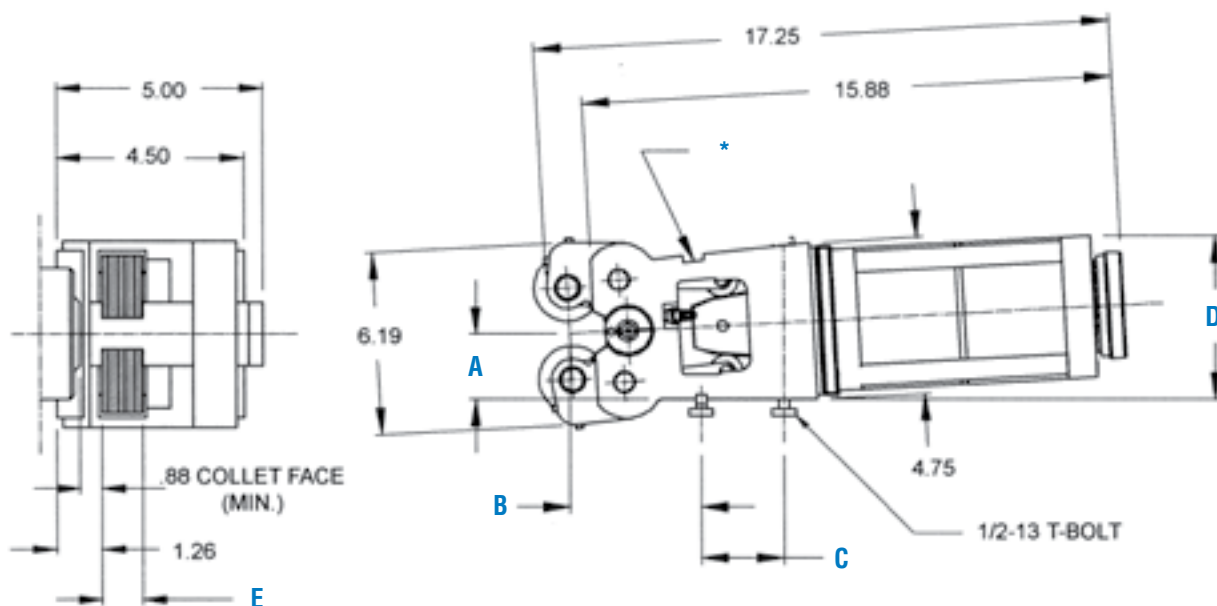
160-SA, 162-SA Series Thread Roll Capacities:

10-32 to 1 7/8-18	1/8-27 NPT to 1 1/2-11 1/2 NPT	M6 x 1.0 to M45 x 3.0
1/16-28 BSPP to 1 1/2-11 BSPP	1/16-28 BSPT to 1 1/2-11 BSPT	1/8-27 NPSM to 1 1/2-11 1/2 NPSM

	Brown & Sharpe	Cono-Matic	Euroturn	Davenport	Gildemeister	Green Lee	Hardinge	Hydromat	Index	Mitsubishi	Mori-Say	National Acme	New Britain	Schutte	Traub	Tornos Bechler	Warner Swasey	Wickman	ZPS
160-SA	●											●							
160-SA-1																●	●		
160-SA-2												●							
160-SA-3		●		●				●		●			●		●				●
162-SA	●										●								
162-SA-1																●	●		
162-SA-2												●							
162-SA-3		●		●				●		●			●		●				●

Dimensions:					
	A	B	C	D	E
160-SA	2.250	3.690 NOM	2.000 MIN 3.000 MAX	4.500	1.656
160-SA-1	2.125	3.690 NOM	2.500	4.940	1.656
160-SA-2	2.000	4.000 NOM	2.060	4.940	1.656
160-SA-3	2.000	4.000 NOM	2.300	4.940	1.656

Dimensions:					
	A	B	C	D	E
162-SA	2.250	3.690 NOM	2.000 MIN 3.000 MAX	4.500	1.395
162-SA-1	2.125	3.690 NOM	2.500	4.940	1.395
162-SA-2	2.000	4.000 NOM	2.060	4.940	1.395
162-SA-3	2.000	4.000 NOM	2.300	4.940	1.395



* Optional Position

Consult factory for specific application information



Also available in Tangential style. Fits most machines. Consult factory for specific application information.

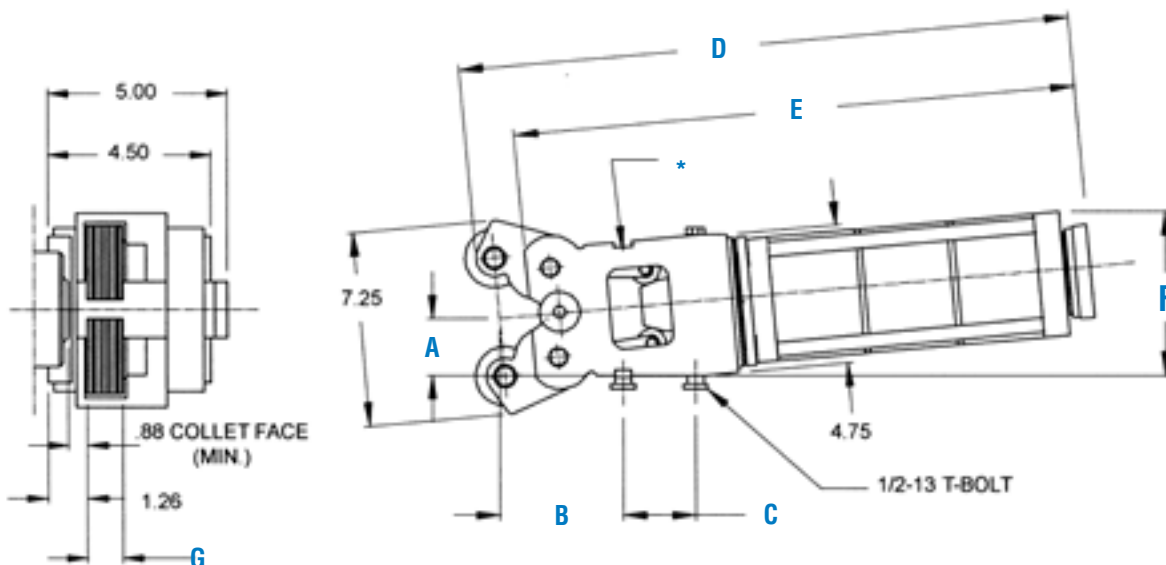
170-SA, 172-SA, 173-SA Series Thread Roll Capacities:

5/16-18 to 2 1/4-20	1/2-14 NPT to 1 1/2-11 1/2 NPT	M10 x 1.5 to M56 x 3.0
1/16-28 BSPP to 1 1/2-11 BSPP	1/16-28 BSPT to 1 1/2-11 BSPT	1/8-27 NPSM to 1 1/2-11 1/2 NPSM

	Brown & Sharpe	Cono-Matic	Euroturn	Davenport	Gildemeister	Green Lee	Hardinge	Hydromat	Index	Mitsubishi	Mori-Say	National Acme	New Britain	Schutte	Traub	Tornos Bechler	Warner Swasey	Wickman	ZPS
170-SA																			
170-SA-1																			
170-SA-2																			
172-SA																			
172-SA-1																			
172-SA-2																			
173-SA																			
173-SA-1																			
173-SA-2																			

Dimensions:							
	A	B	C	D	E	F	G
170-SA	2.250	4.250 NOM	2.000 MIN 3.000 MAX	17.750	15.880	4.500	1.656
170-SA-1	2.125	4.250 NOM	2.500	17.750	15.880	4.940	1.656
170-SA-2	2.000	4.560 NOM	2.060	17.750	15.880	4.940	1.656
172-SA	2.250	4.250 NOM	2.000 MIN 3.000 MAX	17.750	15.880	4.940	1.395

Dimensions:							
	A	B	C	D	E	F	G
172-SA-1	2.125	4.250 NOM	2.500	17.750	15.880	4.940	1.395
172-SA-2	2.000	4.560 NOM	2.060	17.750	15.880	4.940	1.395
173-SA	2.250	4.250 NOM	2.000 MIN 3.000 MAX	20.940	19.070	4.500	1.395
173-SA-1	2.125	4.250 NOM	2.500	20.940	19.070	5.280	1.395
173-SA-2	2.000	4.560 NOM	2.060	20.940	19.070	5.130	1.395



* Optional Position

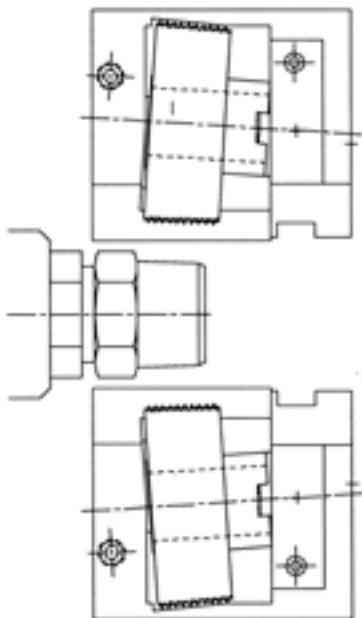
Consult factory for specific application information



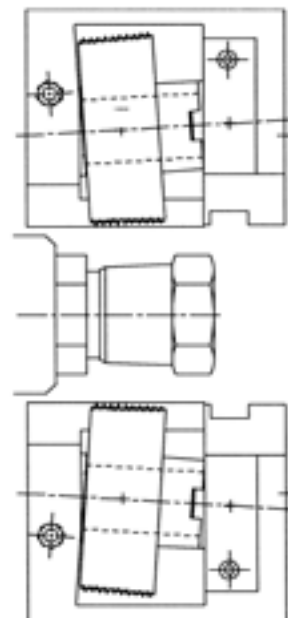
This exclusive CJWinter process matches the large diameter of the thread roll to the large diameter of the blank to eliminate the mismatch of the thread rolls on the work piece, and the attachment "walking" on the part.

The patented "match taper" design helps eliminate flaking and slivering. The radial infeed and equalized thread rolling pressure eliminates part deflection to improve thread concentricity.

This system is available in the 134-SA, 151-SA and 162-SA models. A retrofit kit is also available for the 134-SA, 141-SA, 151-SA and 160-SA or larger attachments.



Match Taper Q2 Style



Match Taper K2 Style

Model 145-OB & 165-OB Outboard Series

Radial Infeed Pinch Type Attachment

Consult factory for specific application information



145-OB



165-OB

The CJWinter Air Powered Outboard Radial Infeed Thread Rolling Attachment incorporates many of the same proven features currently found on the "Standard" and "Heavy Duty" CJWinter Thread Rolling Attachments.

The outboard type attachment is designed to roll threads on parts that are usually held where shoulder or stock clearances are critical.

145-OB Series Thread Roll Capacities:

8-32 to 3/4-27	1/16-27 NPT to 3/8-18 NPT	M5 x 0.5 to M18 x 2.5
1/16-28 BSPP to 3/8-19 BSPP	1/16-28 BSPT to 3/8-19 BSPT	1/8-27 NPSM to 3/8-18 NPSM

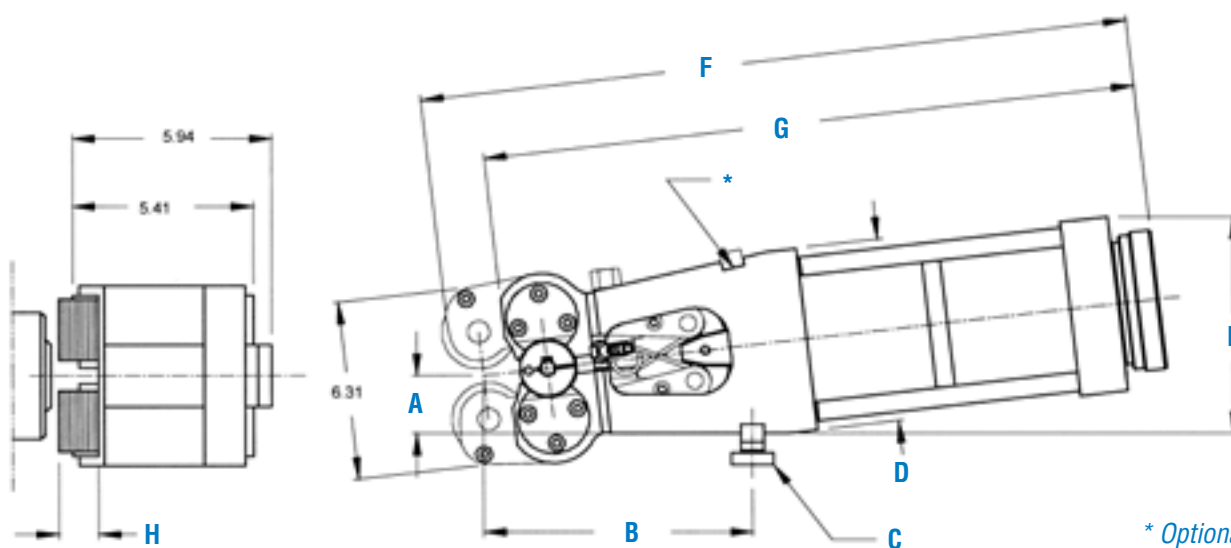
165-OB Series Thread Roll Capacities:

5/16-20 to 1 5/16-32	1/16-27 NPT to 3/4-14 NPT	M6 x 1.0 to M33 x 1.5
1/16-28 BSPP to 3/4-14 BSPP	1/16-28 BSPT to 3/4-14 BSPT	1/8-27 NPSM to 3/4-14 NPSM

	Brown & Sharpe	Cono-Matic	Euroturn	Davenport	Gildemeister	Green Lee	Hardinge	Hydromat	Index	Mitsubishi	Mori-Say	National Acme	New Britain	Schutte	Traub	Tornos Bechler	Warner Swasey	Wickman	ZPS
145-OB				●				●				●	●	●				●	
165-OB												●							
165-OB-1																	●	●	
165-OB-2												●							

Dimensions:

	A	B	C	D	E	F	G	H
145-OB	1.312	6.09 NOM	3/8-16 T-BOLT	4.180	4.620	13.000	11.750	.625
165-OB	2.250	5.812	5/8 T-KEY	4.500	4.399	18.060	16.500	.750
165-OB-1	2.125	7.250	1/2-13 T-BOLT	4.940	5.060	18.060	16.500	.750
165-OB-2	2.000	7.062	1/2-13 T-BOLT	4.940	5.060	18.060	16.500	.750



* Optional Position

Consult factory for specific application information



NC41

Compatible Machine List

Mori-Seiki
 Hardinge
 Gildemeister
 Citizen
 Tornos
 Miayno
 Okuma
 Mazak
 Haas

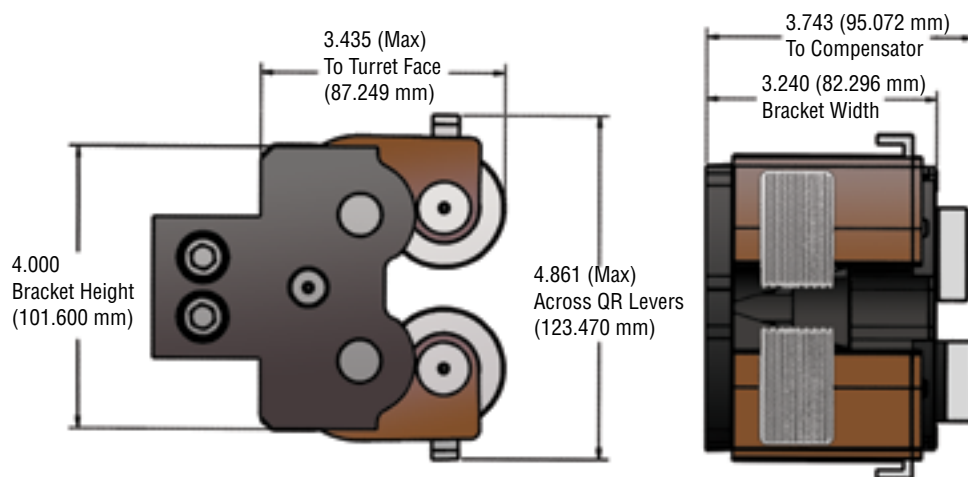
*Call the factory for
 additional machines.*

If you're still cutting screw threads instead of rolling on a CNC machine, you should consider purchasing a CJWinter NC41 Tangential Attachment:

- **Speed:** Forms threads in a fraction of the time, part by part, job by job, adding up to significant time savings.
- **Flexibility:** Tool-free adjustment with our Pitch Diameter Knob, and Quick Release Mechanism for replacing rolls without tools.
- **Reliability:** Workhorse-tough construction and rapid service response that surpass your expectations.
- **Strength:** Roll threads for better quality and greater strength.
- **Cost:** We're less expensive than our competitors. It's as simple as that. Rolling eliminates chatter, and with the NC41, it also eliminates flaking, thanks to our patented Roll Compensator.
- **Delivery:** If you're eager to get rolling, we're the ones to call. You'll find our delivery times impressive, even for customized orders.
- **Options:** Available with either a square or VDI shank configuration to adapt to most lathes.
- **Durability:** No universal mounts; our CNC attachments arrive with customized brackets for mounting on your specific machine.
- **More Markets:** Some customers (like aerospace) insist on rolled threads, because they're stronger. Multiply your products' potential market!

NC41 Series Range:

#0-80 to 3/4-32	1/16-27 NPT to 3/8-18 NPT	M1.4 x 0.3 to M18 x 2.5
--------------------	------------------------------	----------------------------



Consult factory for specific application information.



Detroit (76200, 76300, 76400)



Detroit Outboard (77300)

The Detroit Style Attachment offers an alternative to our customers who prefer the more traditional tangential rolling style. Completely re-engineered to the closest of manufacturing tolerances, our Detroit line is second to none in quality and reliability.

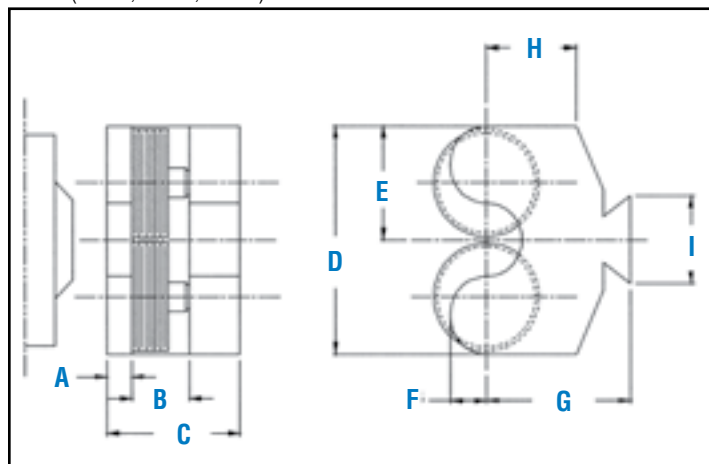
The 77300 Detroit Style Outboard Attachment has been re-engineered to provide the highest quality thread rolling when stock clearance is critical. Designed to roll threads close to the shoulder or parts that are being chucked, the Detroit Style Outboard Attachment is unsurpassed in thread quality and ease of set-up.

Call factory for size capacity.

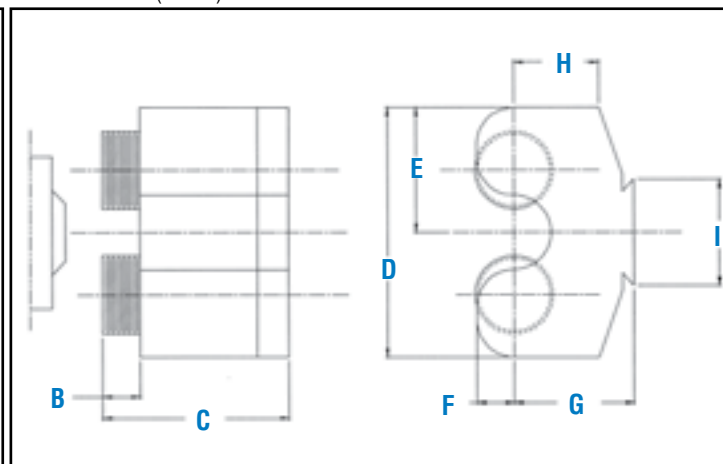
	Brown & Sharpe	Cono-Matic	Euroturn	Davenport	Gildemeister	Green Lee	Hardinge	Hydromat	Index	Mitsubishi	Mori-Say	National Acme	New Britain	Schutte	Traub	Tornos Bechler	Warner Swasey	Wickman	ZPS
76200	●	●		●		●						●	●				●		
76300		●										●	●						
76400		●				●						●	●				●		
77300		●				●						●	●				●		

Dimensions:									
	A	B	C	D	E	F	G	H	I
76200	.438	1.000	2.313	3.875	1.938	.625	2.500	1.563	1.500
76300	.438	1.000	2.313	4.500	2.250	.688	2.635	1.780	1.500
76400	.563	1.250	2.813	5.875	2.938	.875	2.813	2.063	2.500
77300	NA	.875	4.375	5.875	2.938	.875	2.813	2.000	2.500

Detroit (76200, 76300, 76400)



Detroit Outboard (77300)



Quick Change Tooling

Tool Changeover in Minutes

Made in the USA



High Speed Changeover on a Davenport!

- Tool Spindles
- Slides & Adapter Plates
- Form Tools
- Shave Tools
- Pre-Set Fixtures
- Drill & Tap Holders

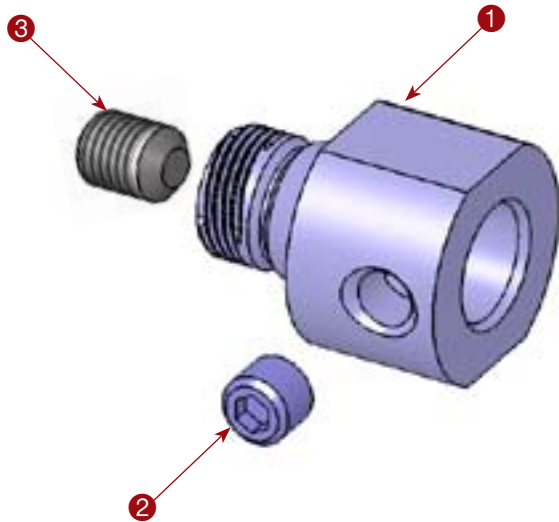
2714-QCT.....	pg. 26
2714-ER-QCT.....	pg. 26
2715-ER-QCT.....	pg. 27
2716-ER-QCT.....	pg. 27
111-14-QCT	pg. 28-29
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3060-5-QCT	pg. 31
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5080-99-2-QCT	pg. 35
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132-B-QCT.....	pg. 36

CJWinter. Your **Formula** for Success.

CJWinter manufactures the premier line of thread rolling attachments, thread rolls and specialty dies and tooling for multi-spindle and CNC machines. Our higher quality rolls, easily adjusted attachments and lower initial cost have been our competitive edge for over 50 years. Our team of highly dedicated engineers focuses on solving every customer's thread rolling and metal forming challenge, resulting in world renowned customer service.

Quick Change Tooling

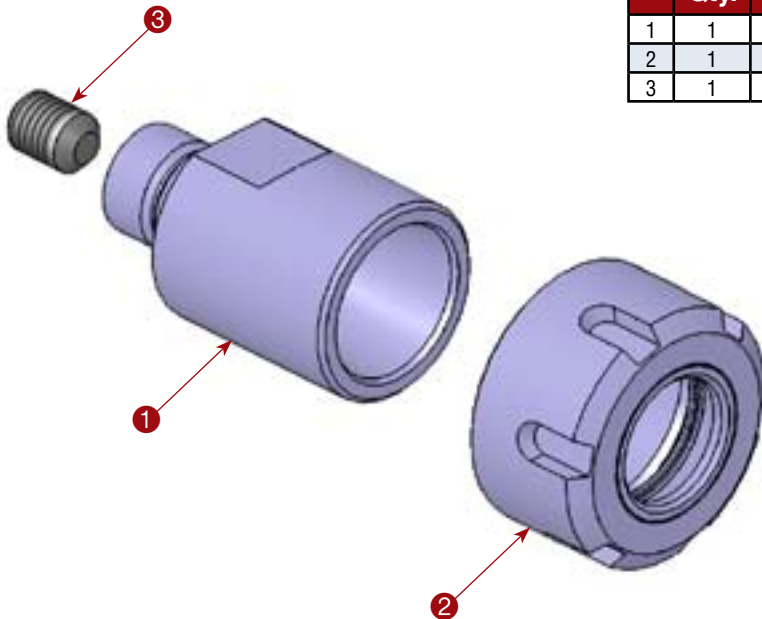
2714-QCT Drill Holder



	Qty.	Part Number	Description
1	1	2714-11	QCT Drill Holder
2	1	2714-9	SSS 3/8-24 x .375 Cup Pt.
3	1	2714-8	SSS 3/8-24 x .500 Flat Pt.



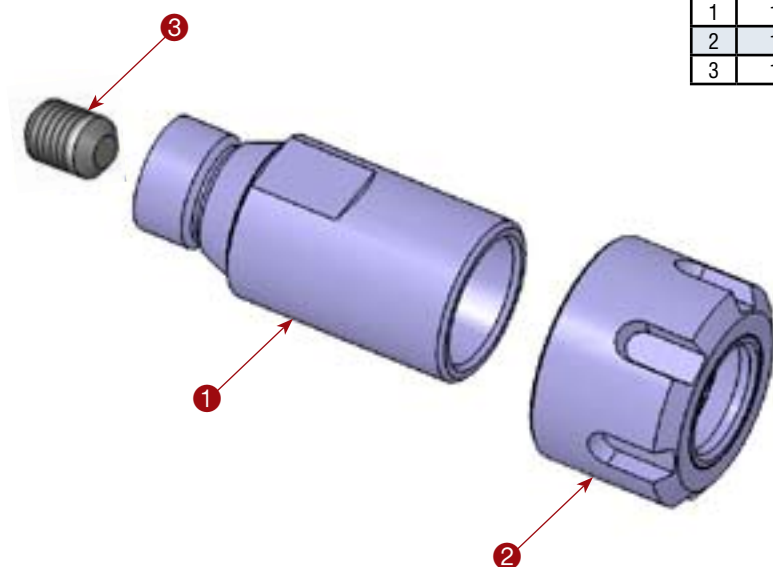
2714-ER-QCT ER 25 Drill Holder



	Qty.	Part Number	Description
1	1	2714-14	ER 25 Series Drill Holder
2	1	2714-15	QCT ER 25 Collet Nut
3	1	2714-8	SSS 3/8-24 x .500 Flat Pt.



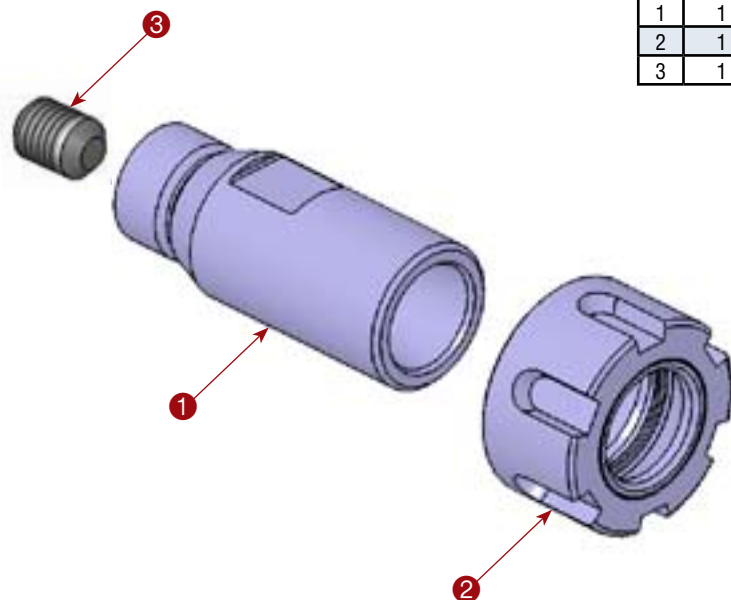
2715-ER-QCT ER 20 Drill Holder



	Qty.	Part Number	Description
1	1	2715-14	QCT ER 20 Drill Holder
2	1	2715-15	QCT ER 20 Collet Nut
3	1	2714-8	SSS 3/8-24 x .500 Flat Pt.



2716-ER-QCT ER 16 Drill Holder

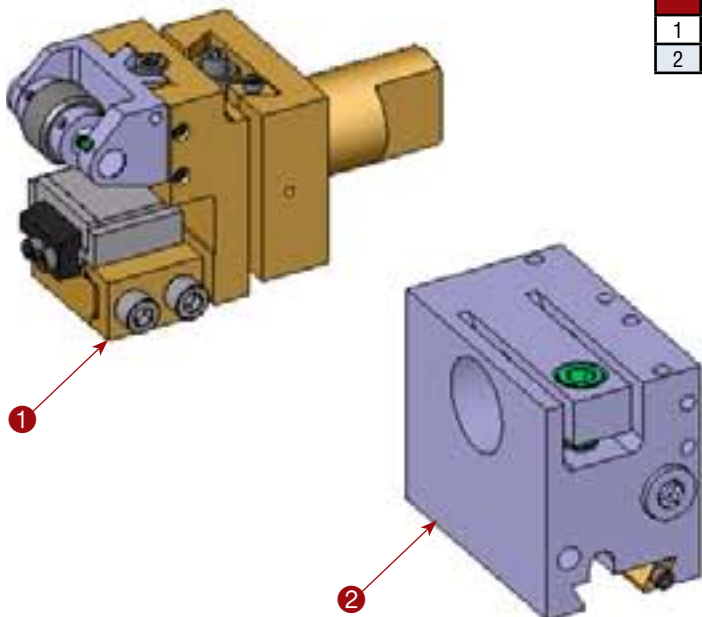


	Qty.	Part Number	Description
1	1	2716-14	QCT ER 16 Drill Holder
2	1	2716-15	QCT ER 16 Collet Nut
3	1	2714-8	SSS 3/8-24 x .500 Flat Pt.

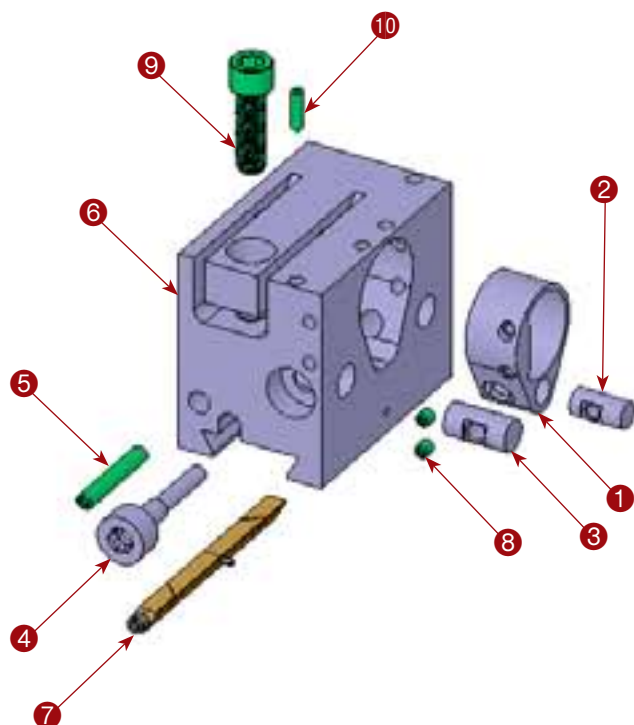


111-14-QCT Shave Tool and 2nd Position Block

	Qty.	Part Number	Description
1	1	111-01	Center Shave Tool Assembly
2	1	111-11-QCT	2 nd Pos. Tool Block Assembly

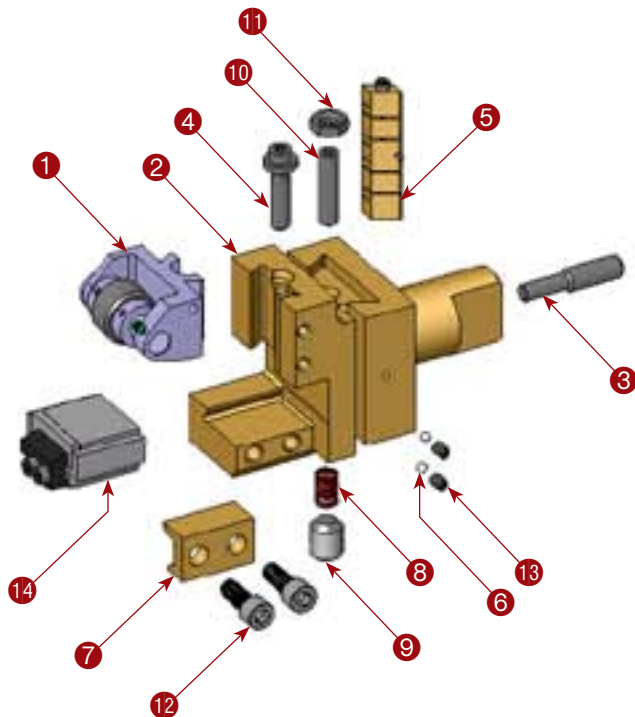


111-11-QCT 2nd Position Tool Block Assembly



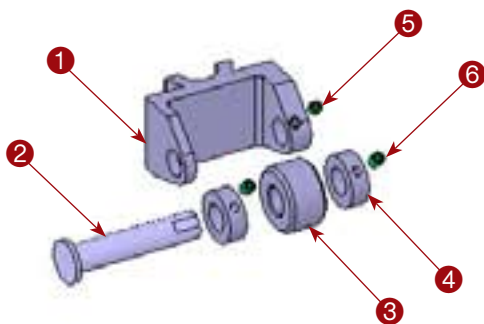
	Qty.	Part Number	Description
1	1	111006	Taper Arm - 2 nd Pos.
2	1	111008	Taper Pin (Arm)
3	1	111009	Threaded Taper Adjust Pin (Block)
4	1	111010	Taper Adjustment Screw
5	1	111029	SSS #10-32 x 1.250 Cup Pt.
6	1	111205	Tool Block
7	1	111207	Expansion Locking Gib-Angled-(1 st 2 nd 3 rd)
8	2	125043	SSS #8-32 x .188 Cup Pt.
9	1	130047	SHCS 5/16-24 x 1.000
10	1	NC41029	Spring Plunger #8-32 Short, Heavy Force

111-01 Shave Tool Assembly



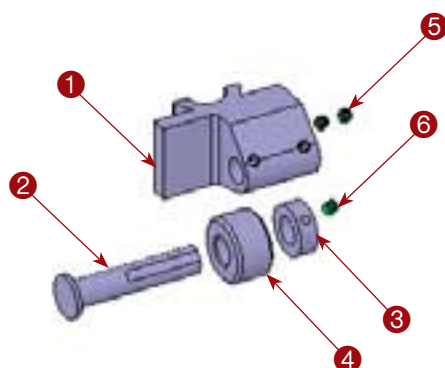
	Qty.	Part Number	Description
1	1	Setup Specific	See *111-20 or *111-21 Below
2	1	111000	Matched Assembly
3	1	111014	Body Pin
4	1	111015	Adjusting Screw
5	1	111058	Running Expansion Gib Assembly
6	2	111062	.125 Stainless Steel Ball
7	1	108046	Dovetail Clamp - 1/2 & 5/8 Reversible
8	1	108011	Spring: Compression, .300 OD x 1.000
9	1	108017	SSS, 7/16-20 x .500
10	1	108018	Stop Adjusting Screw
11	1	108019	Nut: Jam 1/4-20
12	2	108023	SHCS 1/4-28 x .625
13	2	141368	SSS #8-32 x .250 Cup Pt.
14	1	Shave Tool Insert	Setup Specific – Not Included

111-20 Center Roll Holder Assembly



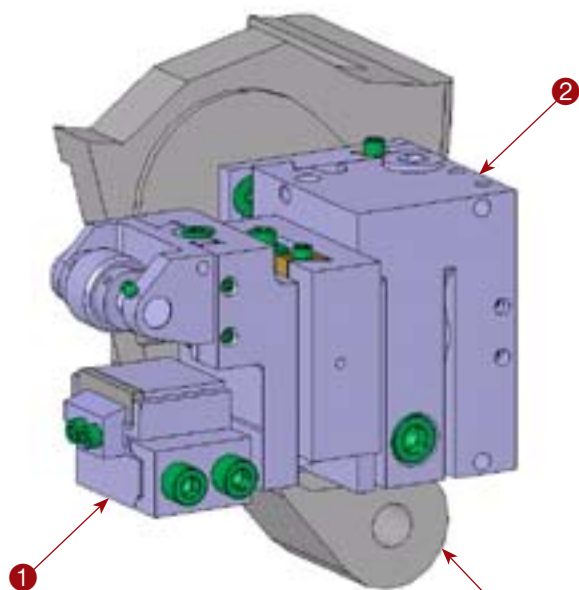
	Qty.	Part Number	Description
1	1	111120	Roll Holder - Center
2	1	108047	Roller Pin, Centered
3	1	108009	Roller - .750 Dia.
4	2	108054	Shaft Collar
5	1	108024	SSS #6-40 x .125 Long
6	2	108055	SSS #6-32 x .188 Long

111-21 Inboard Roll Bracket Assembly



	Qty.	Part Number	Description
1	1	111121	Roller Holder - Inboard
2	1	108015	Roller Pin, Centered
3	1	108054	Shaft Collar
4	1	108009	Roller - .750 Dia.
5	2	108024	SSS #6-40 x .125 Long
6	1	108055	SSS #6-32 x .188 Long

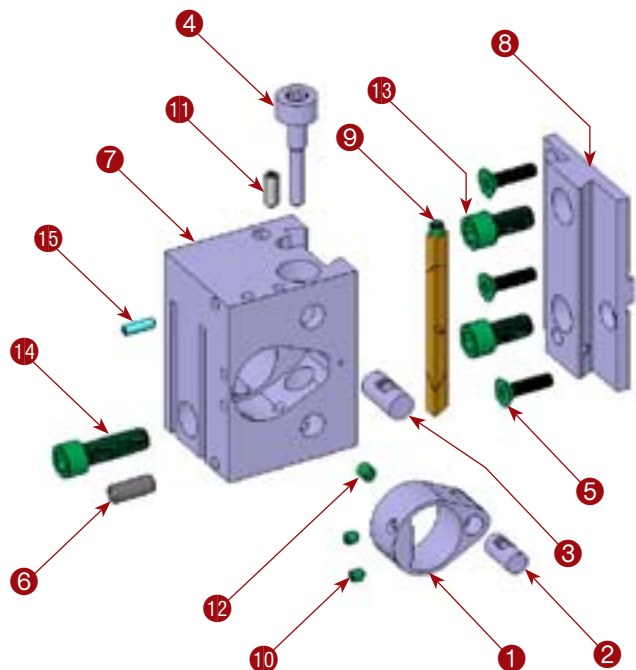
111-15 QCT Shave Tool and 3rd Position Block



5080-1-111 Swing Arm
 (Sold separately)

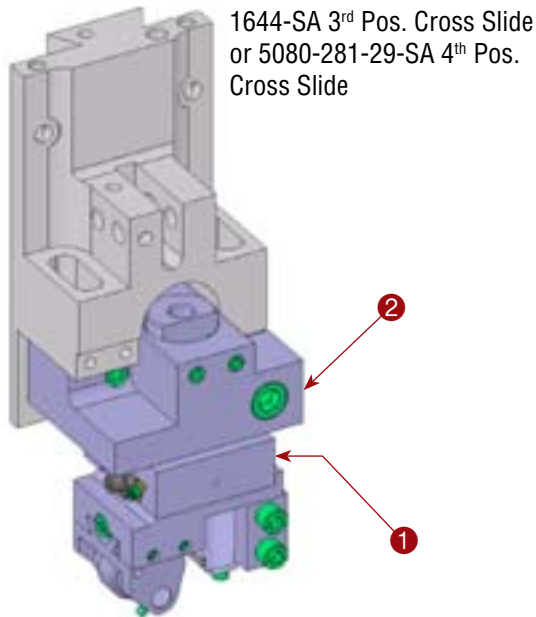
	Qty.	Part Number	Description
1	1	111-01	Center Shave Tool Assembly
2	1	111-12	3 rd Pos. Tool Block Assembly

111-12 3rd Position Tool Block Assembly



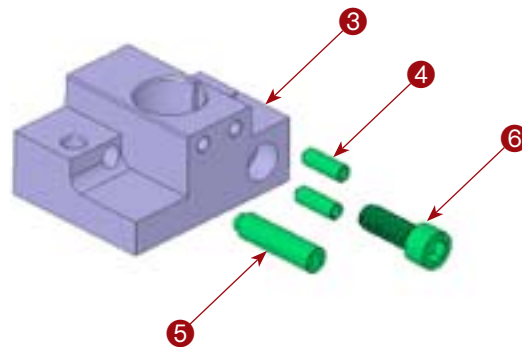
	Qty.	Part Number	Description
1	1	111007	Taper Arm - 3 rd Pos.
2	1	111008	Taper Pin (Arm)
3	1	111009	Threaded Taper Adjust Pin (Block)
4	1	111010	Taper Adjustment Screw
5	3	111026	FHCS #10-32 x .750
6	1	111028	Pin: Dowel .250 x .625
7	1	111201	Tool Block
8	1	111202	Dovetail Adapter Plate (3 rd)
9	1	111207	Expansion Locking Gib-Angled (1 st 2 nd 3 rd)
10	2	125043	SSS #8-32 x .188 Cup Pt.
11	1	111023	SSS #10-32 x .500 Cup Pt.
12	1	111024	SSS #8-32 x .250 Flat Pt.
13	2	130046	SHCS 5/16-24 x .625
14	1	130047	SHCS 5/16-24 x 1.000
15	1	NC41029	Spring Plunger #8-32 Short Heavy Force

111-16-DAV Shave Tool and 3rd/4th Position Block



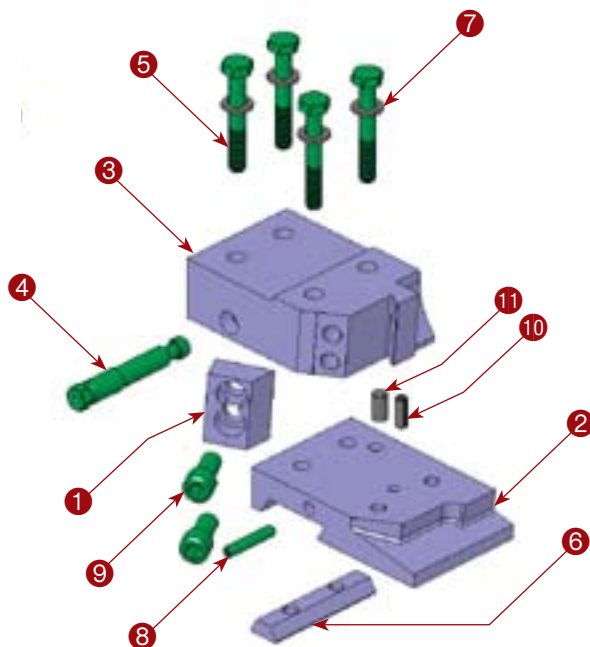
	Qty.	Part Number	Description
1	1	111-01	Center Shave Tool Assembly
2	1	108203A	Adapter Block Assembly

108203A 3rd and 4th Position Tool Block



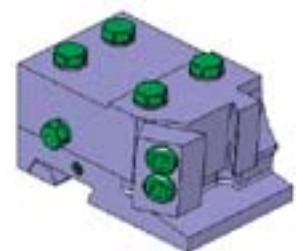
	Qty.	Part Number	Description
3	1	108203	Adapter Block
4	2	140294	SSS 1/4-28 x .750
5	1	7999400	SSS 3/8-24 x 1.500
6	1	140311	SHCS 3/8-16 x 1.000

3060-5-QCT 1st Position Dovetail Tool Holder 5°

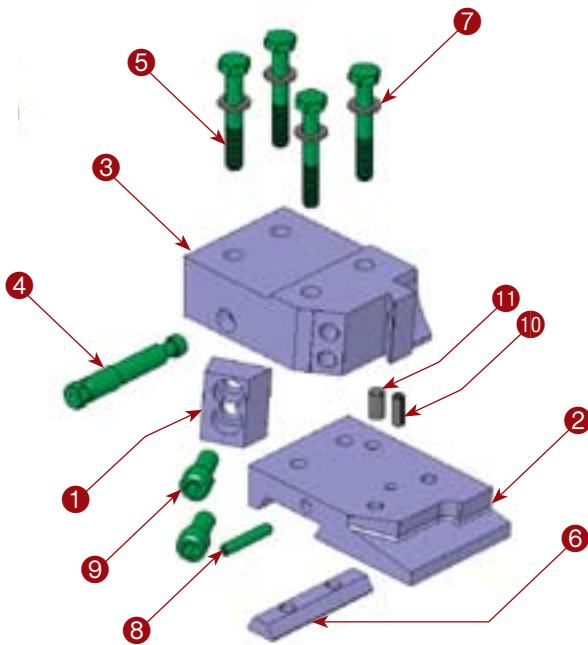


	Qty.	Part Number	Description
1	1	3060-3	Clamp
2	1	3060-32	QCT Form Tool Base Block
3	1	3060-33	QCT Dovetail Tool Block (5°)
4	1	3060-43	Taper Adjustment Screw (Hex)
5	4	3060-44	Bolt: Hex 1/4-28 x 1.750
6	1	3060-46	Locking Gib
7	4	108026	Washer: Flat .250 Dia.
8	1	5080-99-45	SSS #10-32 x 1.000 Flat Pt.
9	2	834-A-4	SHCS 5/16-24 x .625
10	1	838-19	Pin: Spring .188 Dia. x .500
11	1	838-92	Pin: Dowel .250 Dia. x .438

This Dovetail Tool Holder is used with 132-A-QCT 1st Position Cross Slide. It is designed for heavier cuts with a face angle of 5°. This holder uses an American Standard Dovetail Blank Group 2.

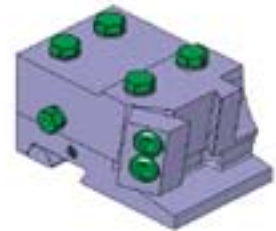


3060-10-QCT 1st Position Dovetail Tool Holder 10°

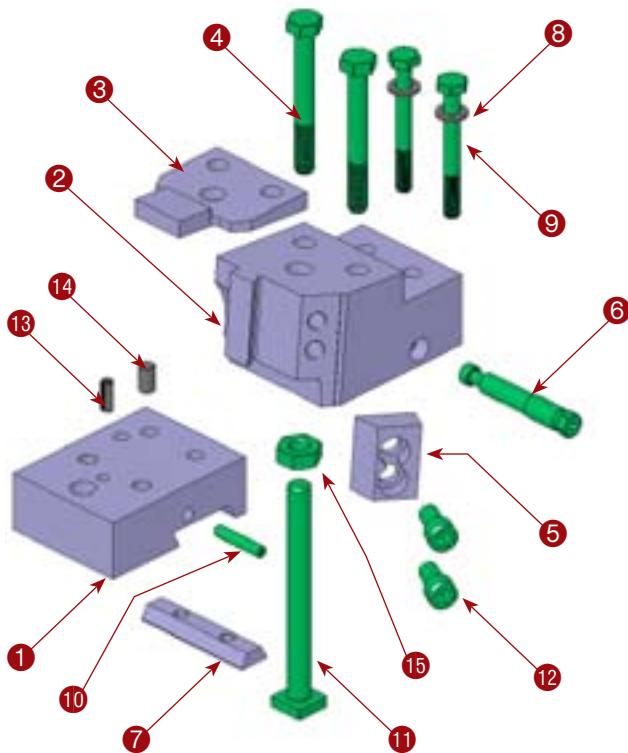


	Qty.	Part Number	Description
1	1	3060-3	Clamp
2	1	3060-32	QCT Form Tool Base Block
3	1	3060-34	QCT Dovetail Tool Block (10°)
4	1	3060-43	Taper Adjustment Screw (Hex)
5	4	3060-44	Bolt: Hex 1/4-28 x 1.750
6	1	3060-46	Locking Gib
7	4	108026	Washer: Flat .250 Dia.
8	1	5080-99-45	SSS #10-32 x 1.000 Flat Pt.
9	2	834-A-4	SHCS 5/16-24 x .625
10	1	838-19	Pin: Spring .188 Dia. x .500
11	1	838-92	Pin: Dowel .250 Dia. x .438

This Dovetail Tool Holder is used with 132-A-QCT 1st Position Cross Slide. It is designed for heavier cuts with a face angle of 10°. This holder uses an American Standard Dovetail Blank Group 2.

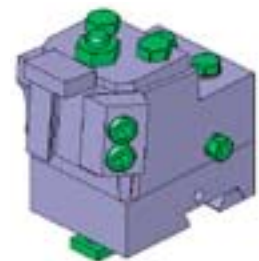


3092-5-QCT 2nd Position Dovetail Tool Holder 5°

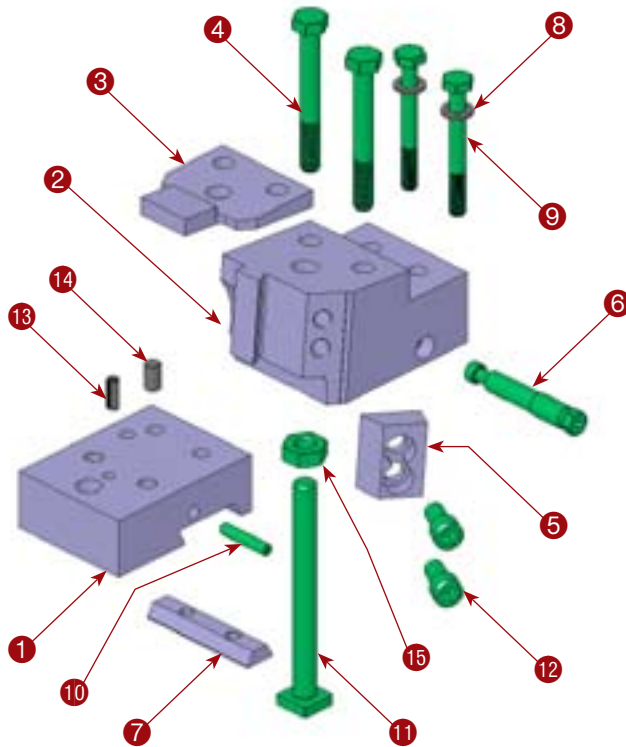


	Qty.	Part Number	Description
1	1	3092-32	QCT Form Tool Base Block - 2 nd Pos.
2	1	3092-33	QCT Dovetail Tool Block - 2 nd Pos.
3	1	3092-35	QCT Tool Stop Plate
4	2	3092-36	Bolt: Hex 5/16-24 x 2.500
5	1	3060-3	Clamp
6	1	3060-43	Taper Adjustment Screw (Hex)
7	1	3060-46	Locking Gib
8	2	108026	Washer: Flat .250 Dia.
9	2	5080-99-38	Bolt: Hex, 1/4-28 x 2.250
10	1	5080-99-45	SSS #10-32 x 1.000 Flat Pt.
11	1	792-3-1	T-Bolt
12	2	834-A-4	SHCS 5/16-24 x .625
13	1	838-19	Pin: Spring .188 Dia. x .500
14	1	838-92	Pin: Dowel .250 Dia. x .438
15	1	840-14	Hex Nut 3/8-16

This Dovetail Tool Holder is used with 132-B-QCT 2nd Position Cross Slide. It is designed for heavier cuts with a face angle of 5°. This holder uses an American Standard Dovetail Blank Group 2.

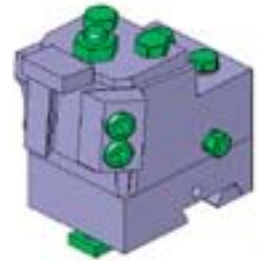


3092-10-QCT 2nd Position Dovetail Tool Holder 10°

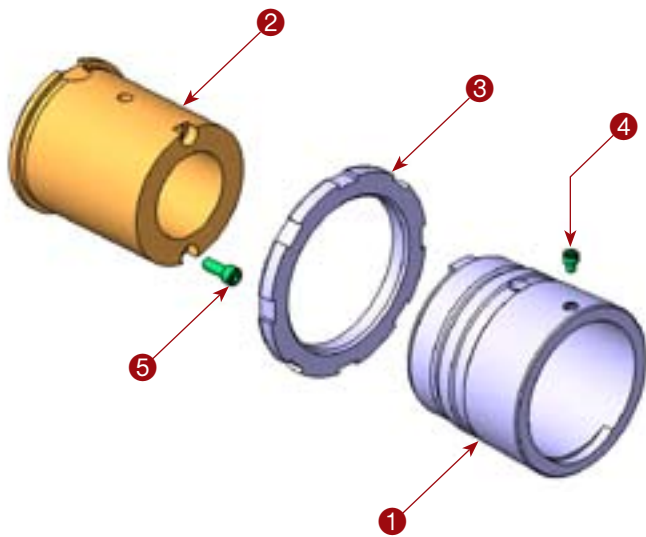


	Qty.	Part Number	Description
1	1	3092-32	QCT Form Tool Base Block - 2 nd Pos.
2	1	3092-34	QCT Dovetail Tool Block - 2 nd Pos.
3	1	3092-37	QCT Tool Stop Plate
4	2	3092-36	Bolt: Hex 5/16-24 x 2.500
5	1	3060-3	Clamp
6	1	3060-43	Taper Adjustment Screw (Hex)
7	1	3060-46	Locking Gib
8	2	108026	Washer: Flat .250 Dia.
9	2	5080-99-38	Bolt: Hex 1/4-28 x 2.250
10	1	5080-99-45	SSS #10-32 x 1.00 Flat Pt.
11	1	792-3-1	T-Bolt
12	2	834-A-4	SHCS 5/16-24 x .625
13	1	838-19	Pin: Spring .188 Dia. x .500
14	1	838-92	Pin: Dowel .250 Dia. x .438
15	1	840-14	Hex Nut 3/8-16

This Dovetail Tool Holder is used with 132-B-QCT 2nd Position Cross Slide. It is designed for heavier cuts with a face angle of 10°. This holder uses an American Standard Dovetail Blank Group 2.



335-U-SA-1125 Universal Tool Spindle Front Box

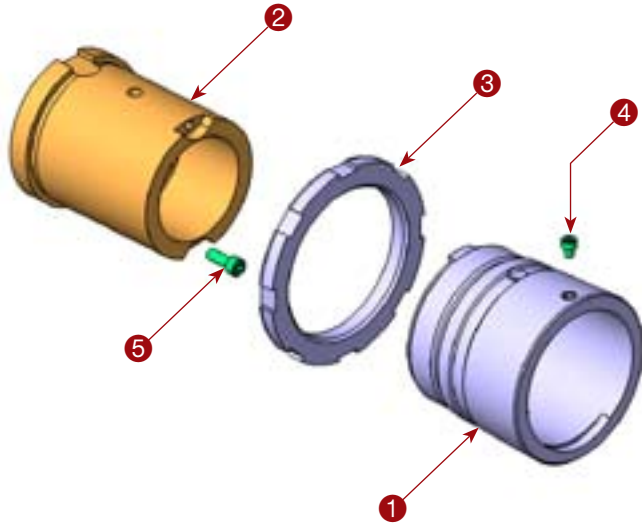


	Qty.	Part Number	Description
1	1	335-U	Front Box Sleeve
2	1	335-UB-1125	Drill/Threading Spin Bearing
3	1	639-1	Spin Thrust Brg. Nut
4	1	834-A-4-2	SHCS #4-40 x .125 Long
5	1	834-A-5.40-6	SHCS #6-40 x .375 Long

The Universal Tool Spindle Front Box for the stationary head is primarily used for drill or threading spindles. Once the outer sleeve is properly fitted in the front bore of the stationary head, the inner bearing can be changed to accommodate other spindle diameters without disturbing spindle alignment. This feature can reduce time when switching from 1.125, 1.375 and 1.656 diameter spindles.



335-U-SA-1375 Universal Tool Spindle Front Box

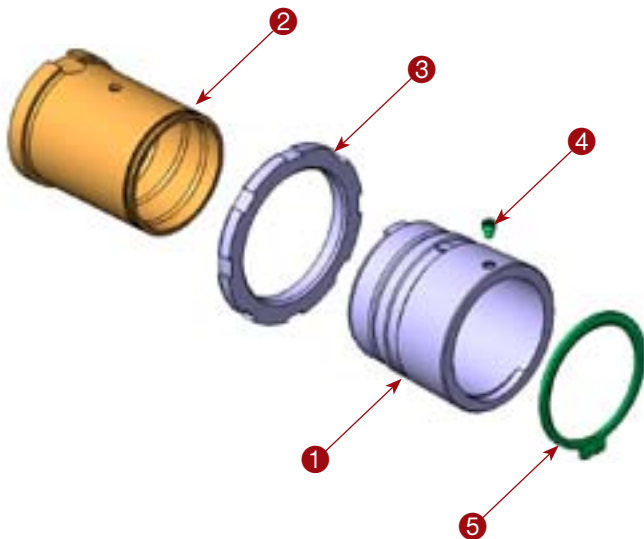


	Qty.	Part Number	Description
1	1	335-U	Front Box Sleeve
2	1	335-UB-1375	Std. Tool Spin Bearing
3	1	639-1	Spin Thrust Bearing Nut
4	1	834-A-4-2	SHCS #4-40 x .125 Long
5	1	834-A-5.40-6	SHCS #6-40 x .375 Long

This Universal Tool Spindle Front Box for the stationary head is primarily used for 1.375 diameter tool spindles or attachment spindles of the same diameter. Once the outer sleeve is properly fitted in the front bore of the stationary head, the inner bearing can be changed to accommodate other spindle diameters without disturbing spindle alignment. This feature can reduce time when switching from 1.125, 1.375 and 1.656 diameter spindles.



335-U-SA-1656 Universal Tool Spindle Front Box

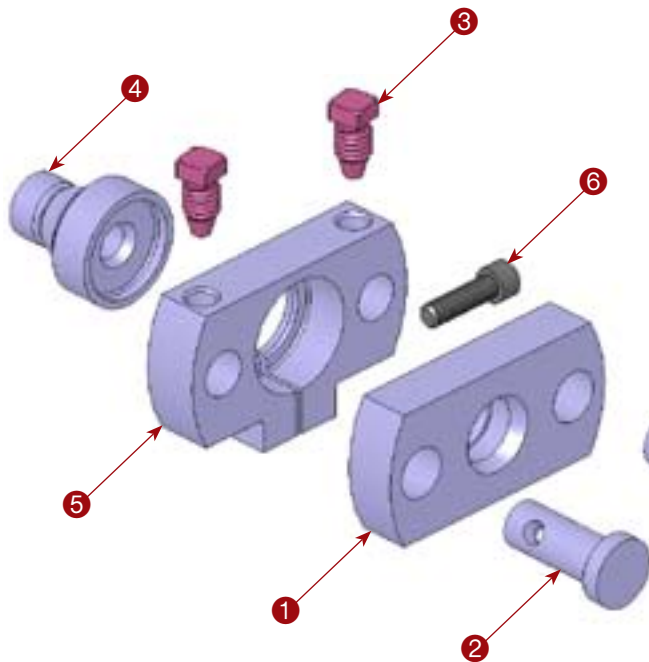


	Qty.	Part Number	Description
1	1	335-U	Front Box Sleeve
2	1	335-UB-1656	O/S Tool Spin Bearing
3	1	639-1	Spin Thrust Bearing Nut
4	1	834-A-4-2	SHCS #4-40 x .250 Long
5	1	840-RE-42	Retaining Ring

This Universal Tool Spindle Front Box for the stationary head is primarily used for 1.656 diameter tool spindles or attachment spindles of the same diameters. Once the outer sleeve is properly fitted in the front bore of the stationary head, the inner bearing can be changed to accommodate other spindle diameters without disturbing spindle alignment. This feature can reduce time when switching from 1.125, 1.375 and 1.656 diameter spindles.



2717-QCT Adjustable Drill Holder



	Qty.	Part Number	Description
1	1	2717-33	Adjustable Drill Holder Front
2	2	2717-17	Clamping Stud
3	2	2486-1	Square Head Cone Point Screw
4	1	2717-31	QCT Shank
5	1	2717-32	QCT Back Plate
6	1	160022	SHCS 1/4-28 x .875

US Patent #7,125,209

This Quick Change Tool Holder is used with Tool Spindle 623-10. It utilizes the 2714-QCT Series Drill Holders.



2714-QCT

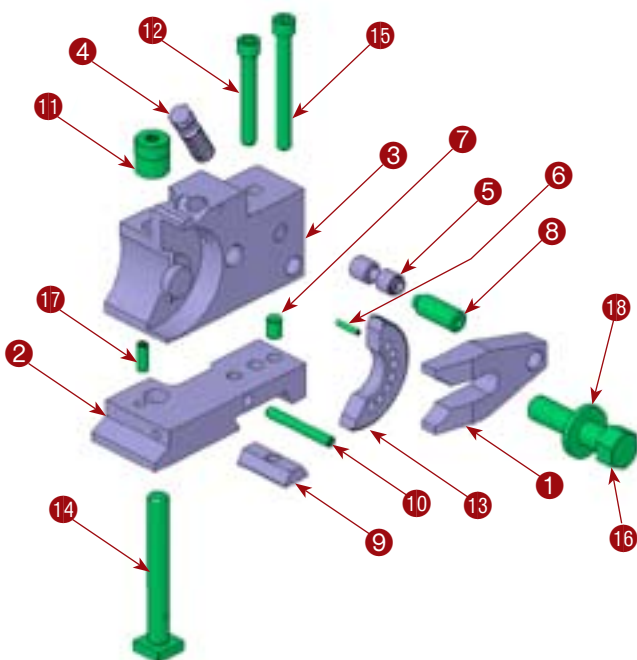
Use a .625 Dia. x .875 Long Straight Drill Bushing



2714-ER-QCT

Uses the ER Series Drill Bushing

5080-99-2-QCT Rear Tool Post Assembly



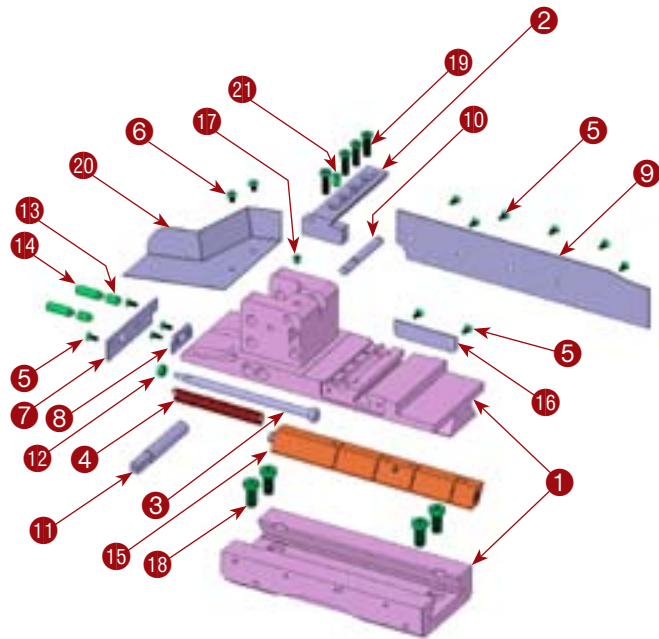
	Qty.	Part Number	Description
1	1	5080-99-30	QCT Circular Tool Clamp
2	1	5080-99-32	QCT Circular Tool Post - Base
3	1	5080-99-33	QCT Rear Tool Post
4	1	5080-99-35	QCT Worm Screw
5	1	5080-99-36	Screw - Taper Adjustment
6	1	5080-99-39	Pin: Spring, .094 x .500
7	1	5080-99-41	Dowel Pin .250 x .750
8	1	5080-99-42	SSS 3/8-24 x 1.500 Half Dog
9	1	5080-99-43	Locking Gib
10	1	5080-99-45	SSS #10-32 x 1.000 Flat Pt.
11	1	5080-99-46	Nut: 3/8-16, with 12 Pt. .188 Allen Socket
12	1	109030	SHCS 1/4-28 x 1.750
13	1	716-2	Circular Tool - Adjusting Plate
14	1	792-12	T-Bolt: 3/8-16 x 3.000 OAL
15	1	834-A-11-36	SHCS 1/4-28 x 2.250 Long
16	1	835-16-28	HHCS 7/16-14 x 1.750 Long
17	1	838-19	Pin: Spring .188 Dia. x .500
18	1	841-7	7/16 Washer

This Quick Change Tool Post is used with the 132-B-QCT 2nd Position Cross Slide.



Quick Change Tooling

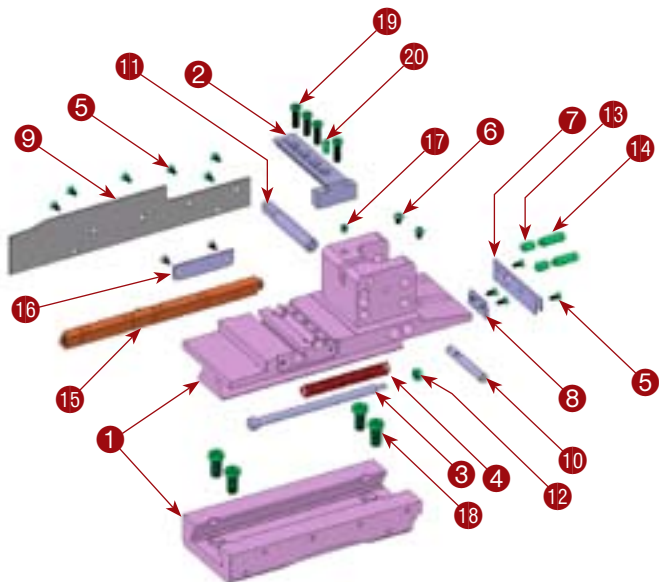
132-A-QCT Slide 1st Position



	Qty.	Part Number	Description
1	1	132-A-QCT	QCT Slide - 1 st Pos. - Modified 132
2	1	111204-A	Quick Change Dovetail Adapter - 1 st Pos.
3	1	132004	Spring Screw for 132EG
4	1	132005	Spring: Compression .588 OD x 1.250
5	12	132006	FHCS, #6-32 x .250
6	2	132007	BHCS #10-32 x .250
7	1	132008	Base Endcap for 132EG
8	1	132009	Spring Retainer for 132EG
9	1	132010	Chip Guard 132 A Pos.
10	1	132012	Drive Pin 132 A Pos.
11	1	132013	Drive Pin 132 B Pos.
12	1	132014	Nut: Hex, #10-32 with Nylon Insert
13	2	132015	SSS 5/16-24 x .500 Cup Pt
14	2	132024	SSS 5/16-24 x 1.000 Full Dog
15	1	132058	Gib - Expansion Style
16	1	132066	T-Slot Cover
17	1	140280	SSS 1/4-28 x .250 Half Dog
18	4	140366	LHCS 3/8-16 x .750
19	4	3060-45	LHCS 1/4-28 x .750
20	1	5080-91-G-1	Front Cross Slide Guard
21	1	5080-99-44	Stop Pin



132-B-QCT Slide 2nd Position



	Qty.	Part Number	Description
1	1	132-B-QCT	QCT Slide - 2 nd Pos. - Modified 132
2	1	111204-B	Quick Change Dovetail Adapter - 2 nd Pos.
3	1	132004	Spring Screw for 132EG
4	1	132005	Spring: Compression .588 OD x 1.250
5	12	132006	FHCS #6-32 x .250
6	2	132007	BHCS #10-32 x .250
7	1	132008	Base Endcap for 132EG
8	1	132009	Spring Retainer for 132EG
9	1	132011	Chip Guard 132 B Pos.
10	1	132012	Drive Pin 132 A Pos.
11	1	132013	Drive Pin 132 B Pos.
12	1	132014	Nut: Hex #10-32 with Nylon Insert
13	2	132015	SSS 5/16-24 x .500 Cup Pt.
14	2	132024	SSS 5/16-24 x 1.000 Full Dog
15	1	132058	Gib - Expansion Style
16	1	132066	T-Slot Cover
17	1	140280	SSS 1/4-28 x .250 Half Dog
18	4	140366	LHCS 3/8-16 x .750
19	4	3060-45	LHCS 1/4-28 x .750
20	1	5080-99-44	Stop Pin





Tool Holders Slides Accessories

Made in the USA

CJWinter Machine Technologies provides a full-line of American-made slides and tool holders for CNC turning centers, Swiss, multi-spindle and many other machines.

Our Slides and Tool Holders Feature Innovative Design That Provides:

Maximum life and reliability

Maximum compatibility with multiple manufacturers

Maximum usability from apprentice to journeyman

Get the high-quality product you expect from CJWinter with performance you can rely on. You just can't find a more versatile line of products that provide quick mounting, easy adjustment, and solid, hardened steel construction. Our tough products make CJWinter an easy choice.

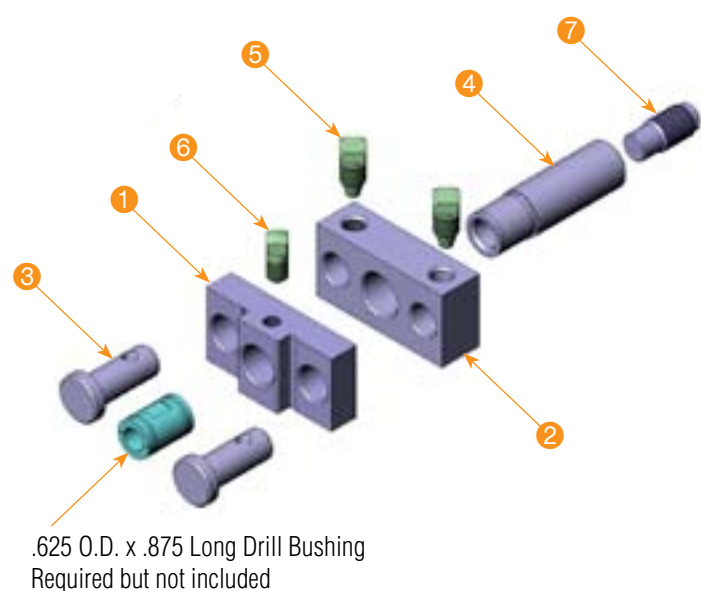


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Model 2717-SA Adjustable Drill Holder

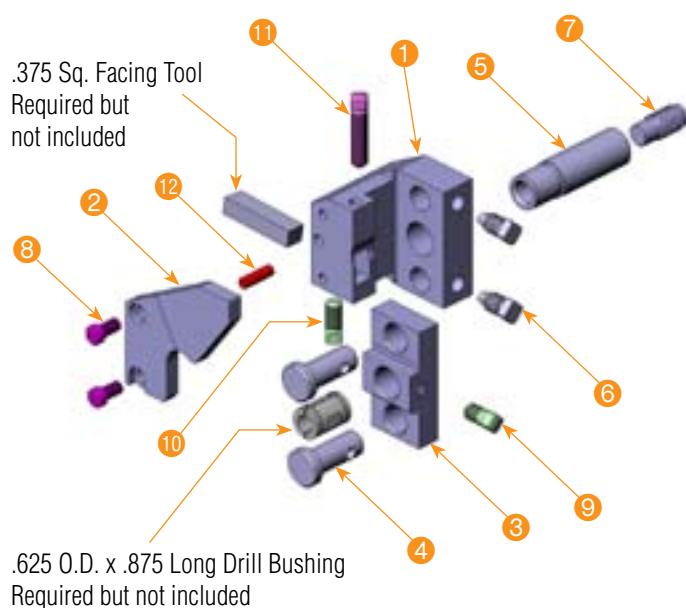


	Qty.	Part #	Description
1	1	2717-15	Adj. Drill Holder Plate
2	1	2717-16	Back Plate
3	2	2717-17	Clamping Stud
4	1	2717-18	Shank
5	2	2486-1	Square Head Cone Point Screw
6	1	837-12-8	SHSS 5/16-18 x .500 Long
7	1	1809	Adjusting Screw

This holder is designed so a drill can be clamped firmly in the holding plate and then the holding plate can be floated to the center of the work piece and clamped into position without applying side pressure. Provision is made for using a .625 diameter drill bushing, and an adjusting screw is provided to back up the drill.



Model 2763-10-SA Adjustable Drill, Facing & Stock Stop Holder

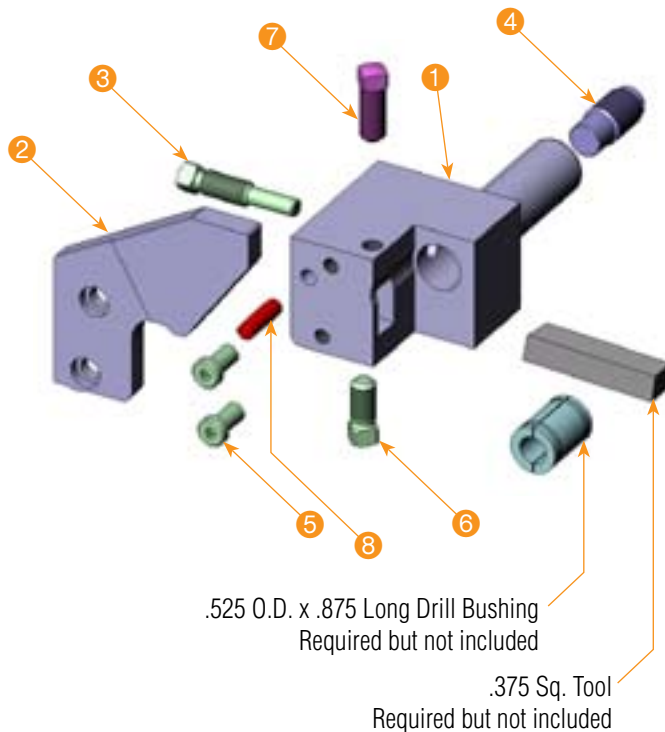


	Qty.	Part #	Description
1	1	2763-10-1	Holder Body
2	1	2763-10-2	Stock Stop Plate
3	1	2717-15	Adj. Drill Holder Plate
4	2	2717-17	Clamping Stud
5	1	2717-18	Shank
6	2	2486-1	Square Head Cone Point Screw
7	1	1809	Adjusting Screw
8	2	834-10-8	Slot Head Screw 1/4-24 x .500
9	1	837-12-8	SHSS 5/16-18 x .500 Long
10	1	837-12-10	SHSS 5/16-18 x .625 Long
11	1	837-12-20	SHSS 5/16-18 x 1.250 Long
12	1	838-89	.219 Dia. x .750 Long Pin

This holder is an adjustable drill holder with provision for a .375 square facing blade. The drill can be centered by floating independently of the facing blade. There is provision for a .625 drill bushing. A stock stop plate is provided for use in the 1st position and will allow the use of a form tool in the front cross slide. The holder may be used in other positions with removal of the stock stop if necessary. There is also an adjusting screw to back up the drill.



Model 2720-SA Centering and Facing Tool Holder

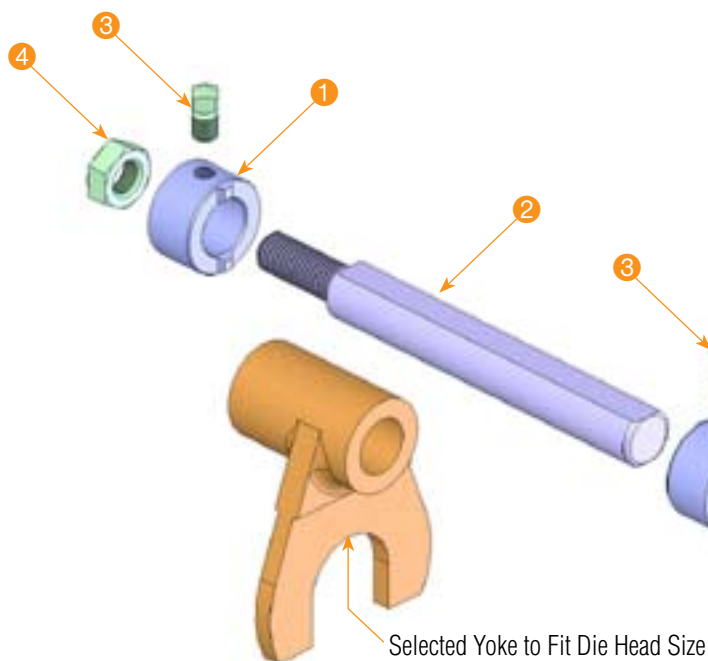


	Qty.	Part #	Description
1	1	2720-1	Holder Body
2	1	2720-4	Stock Stop Plate
3	1	1803	Bushing Screw
4	1	1809	Adjusting Screw
5	2	834-L-9-8	LHCS 1/4-20 x .500 Long
6	1	837-12-10	SHSS 5/16-18 x .625 Long
7	1	837-12-12	SHSS 5/16-18 x .750 Long
8	1	838-89	.219 Dia. x .750 Long Pin

A non-floating drill holder with provision for a .375 square facing blade and a .625 diameter drill bushing. A stock stop plate is provided for use in the 1st position and will allow the use of a form tool in the front cross slide. The holder has an adjusting screw in the shank to back up the drill.



Model 2527-SA Die Opening & Closing Stud Assembly

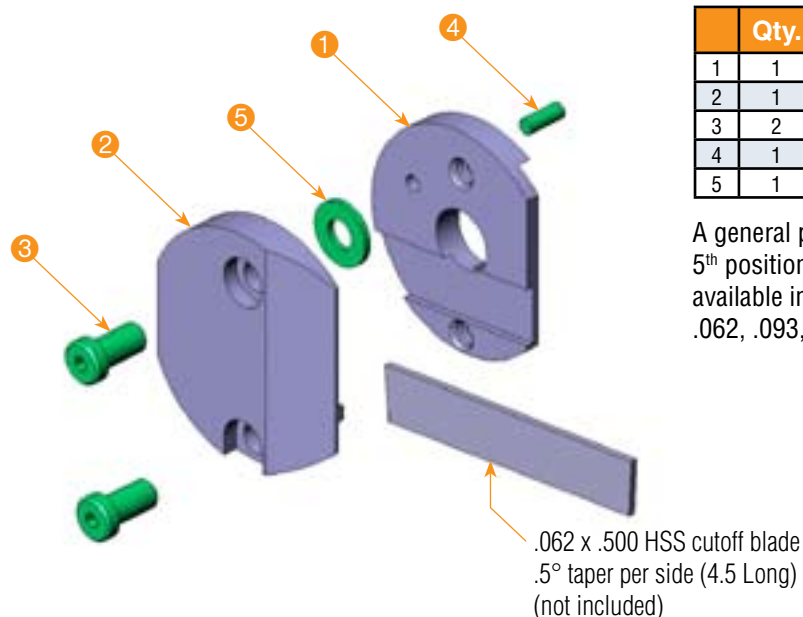


	Qty.	Part #	Description
1	2	2527-4-1	Stop Collar
2	1	2527-16	Yoke Stud
3	2	837-12-7	SHSS 5/16-18 x .437 Long
4	1	840-18-1	Hex Nut 1/2-13 (Thin)

This attachment is used for the opening and closing of rotating die heads. For yoke required, specify make and model of die head to be used.

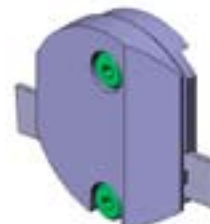


Model 2768-SA Rectangular Cutoff Tool Holder



	Qty.	Part #	Description
1	1	2768-1	Bottom Plate
2	1	2768-2	Top Plate
3	2	834-L-9-10	LHCS 1/4-20 x .625 Long
4	1	838-35	Pin .140 Dia. x .375 Long
5	1	841-S-4	.250 Soft Washer

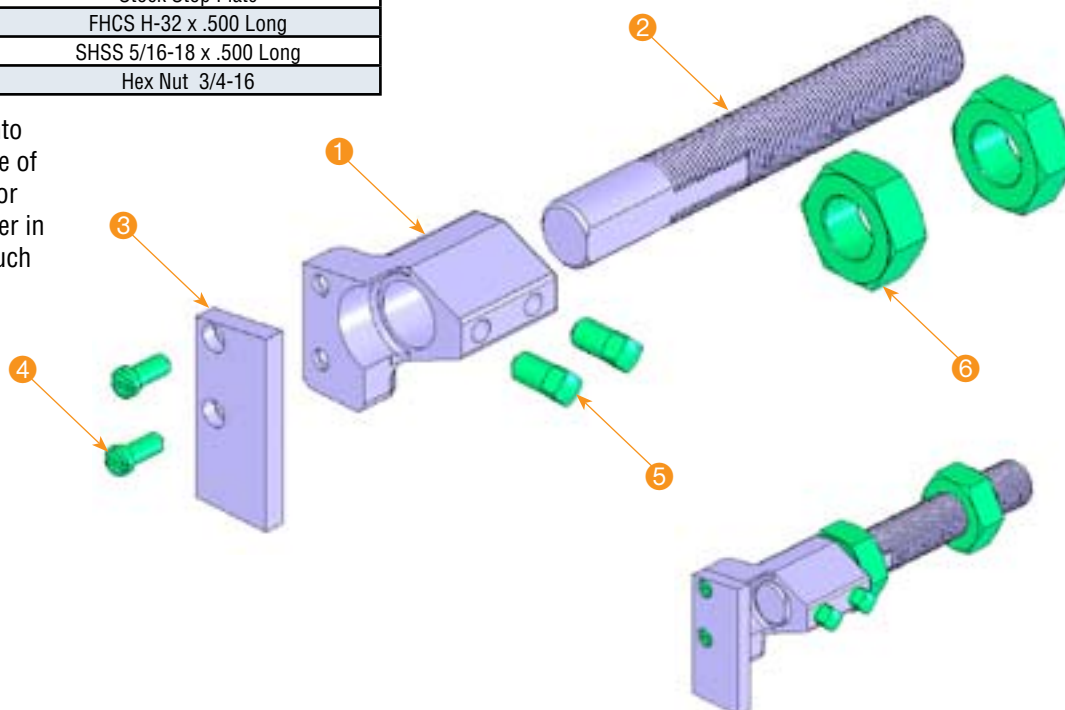
A general purpose cutoff tool holder for the 5th position. Cutoff blades for this holder are available in the following widths: .031, .046, .062, .093, and .125.



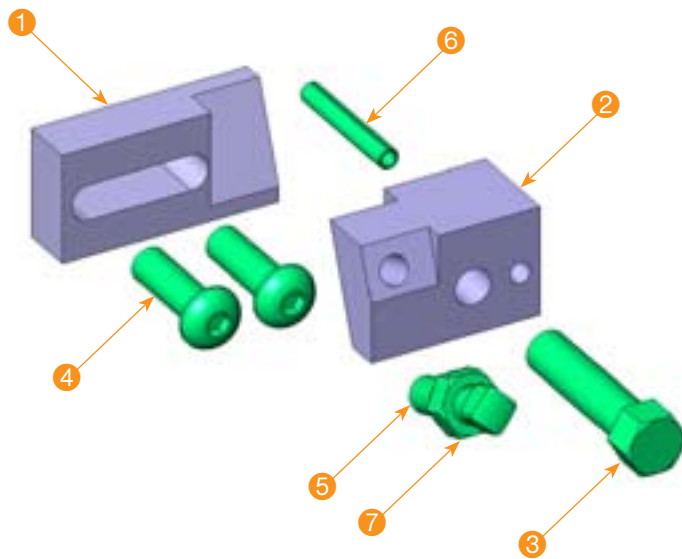
Model 2904-10-SA Stationary Stock Stop Assembly

	Qty.	Part #	Description
1	1	2904-10	Stock Stop Body
2	1	2904-11	Stock Stop Shank
3	1	2904-12	Stock Stop Plate
4	2	834-2-8	FHCS H-32 x .500 Long
5	2	837-12-8	SHSS 5/16-18 x .500 Long
6	2	840-1-24	Hex Nut 3/4-16

This stock stop fastens directly into the 3/4-16 tapped hole on the face of the stationary head. This allows for the use of an adjustable drill holder in the 1st position or other tooling such as a revolving drill.

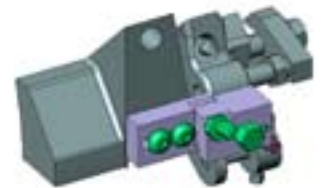


Model 2994-SA Front Tool Arm Stop Assembly

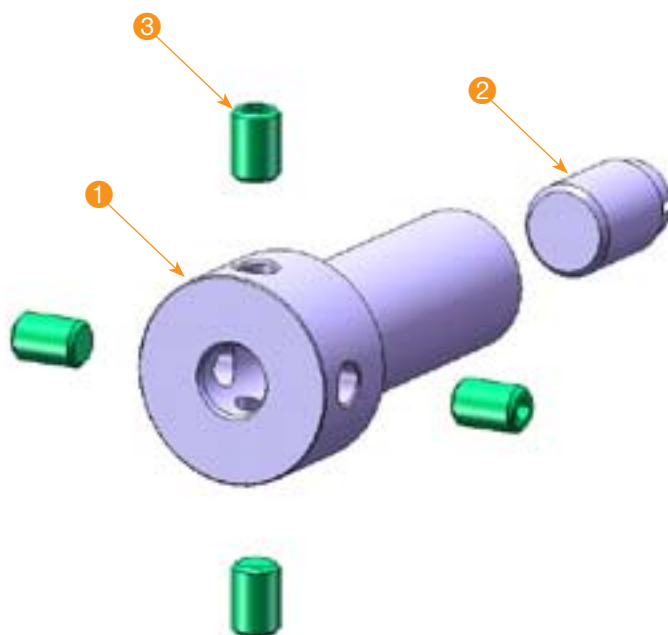


	Qty.	Part #	Description
1	1	2994-1	Stop Plate
2	1	2994-2	Front Tool Arm Plate
3	1	835-14-24	HHCS 3/8-16 x 1.500 Long
4	2	836-B-12-16	BHCS 5/16-18 x 1.000 Long
5	1	837-12-16	SHSS 5/16-18 x .875 Long
6	1	838-SP-6-24	.187 Dia. x 1.500 Long Roll Pin
7	1	840-12	Hex Nut 5/16-18

This is an independent stop for use in conjunction with the burring attachment when forming the left end of the work piece at the cutoff operation. A hardened stop is mounted on the revolving head cap and the other block is mounted onto the cutoff arm 459. Use the adjusting screw located on the swing arm block for setting adequate pressure to eliminate backlash.

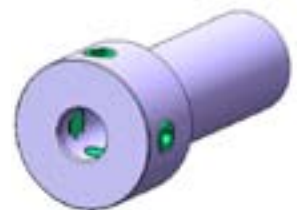


Model 3089-1-SA Broach Tool Holder

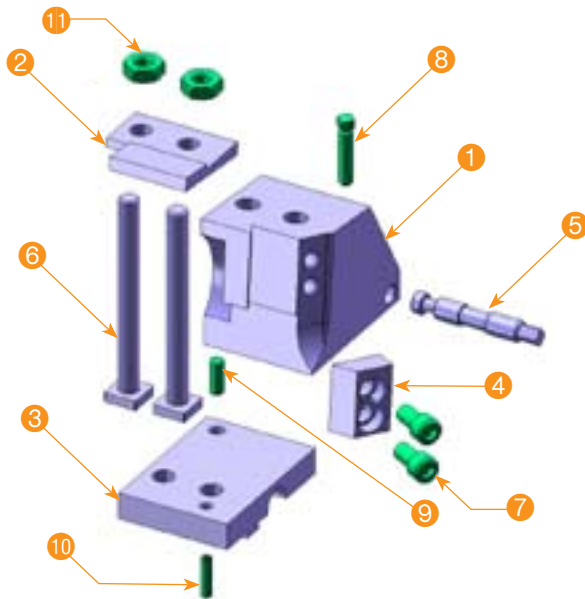


	Qty.	Part #	Description
1	1	3089-1	Broach Holder
2	1	1809	Adjusting Screw
3	4	836-A-11-6	HSSS 1/4-28 x .375 Long

The broach holder is used in conjunction with the 1381-38-SA REV-N-LOC Attachment. There are four adjusting screws to center the broach and a backup screw to take the thrust of the broaching operation. The holder uses a broach with a circular shank .375 diameter. **The 3089-2-SA is the same as this holder except it uses a broach with a .250 diameter shank and (4) 10-32 screws.**



Model 3092-5-SA 2nd Position Dovetail Tool Holder



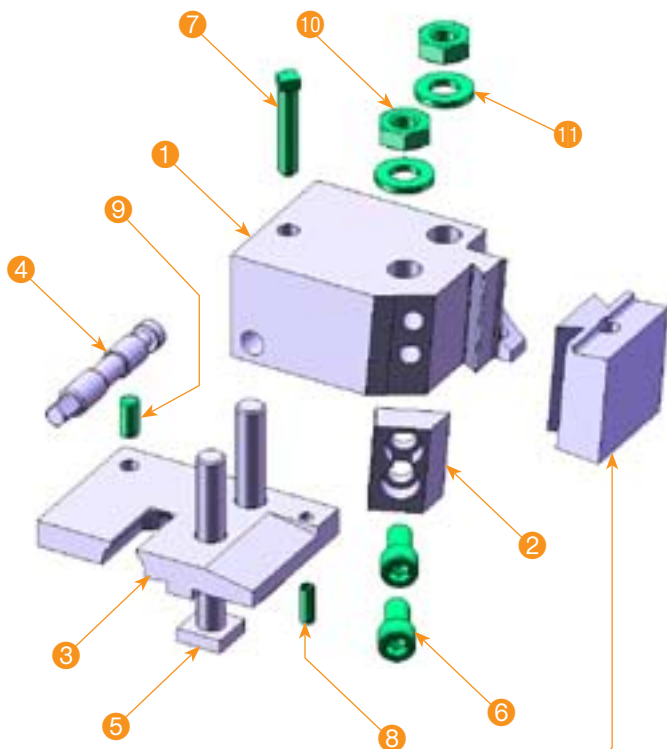
This holder is also available for a 10° face angle form tool 3092-10-SA. Used for steel materials requiring more face clearance.

	Qty.	Part #	Description
1	1	3092-5	5° Dovetail Body
2	1	3092-5-1	Tool Stop Plate
3	1	3092-10-2	Rising Block
4	1	3060-3	Clamp
5	1	3060-7	Taper Adjusting Screw
6	2	792-3-1	Tool Post Bolt
7	2	834-A-12-10	SHCS 5/16-18 x .625 Long
8	1	837-10-18	SHSS 1/4-24 x 1.125 Long
9	1	838-73	Pin .250 Dia. x .625 Long
10	1	838-SP-6-12	Spring Pin .187 Dia. x .750 Long
11	2	840-14	Hex Nut 3/8-16

The 2nd Position Dovetail Tool Holder is designed for heavier forming operations. The dovetail form tool is ground for a 5° face angle and a desired rake angle. The tool is set approximately 10% above center at the cutting edge of the smallest diameter being worked. The holder uses an American Standard Dovetail Blank Group 2. The tool may be fitted with a set screw (1/4-28) for setting adjustment and to take the thrust of the cutting force.



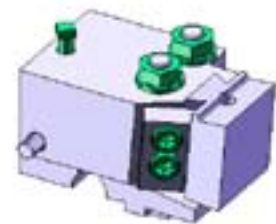
Model 3060-5-SA 1st Position Dovetail Tool Holder



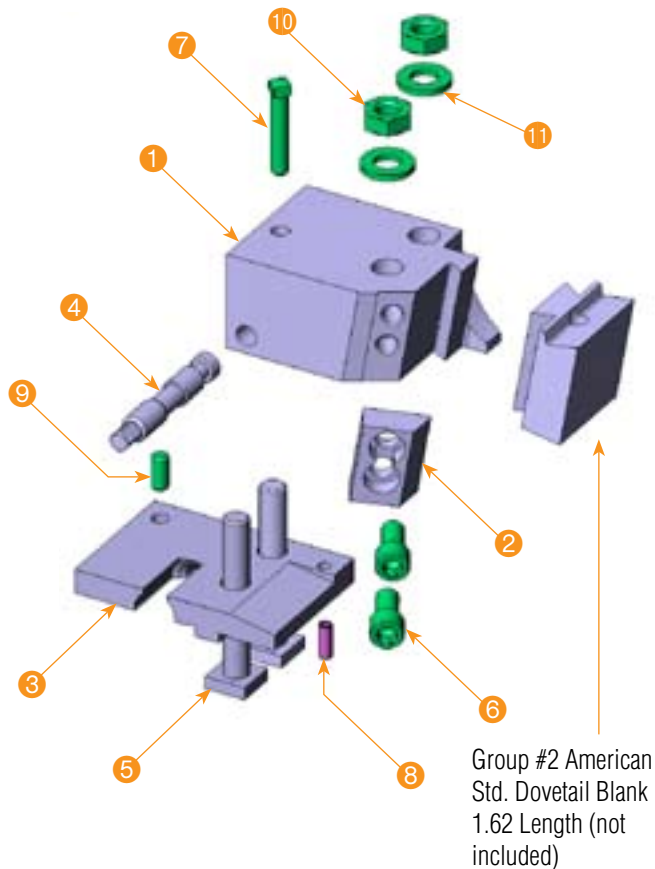
Group #2 American Dovetail Tool Blank 1.56 Length (not included)

	Qty.	Part #	Description
1	1	3060-5	5° Dovetail Body
2	1	3060-3	Tool Clamp
3	1	3060-6	Rising Block
4	1	3060-7	Taper Adjusting Screw
5	2	792-4	Tool Post Bolt
6	2	834-A-13-10	SHCS 5/16-24 x .625 Long
7	1	837-9-20	SHSS 1/4-24 x 1.250 Long
8	1	838-SP-6-8	Spring Pin .187 Dia. x .500 Long
9	1	838-72	Pin .250 Dia. x .500 Long
10	2	840-14	Hex Nut 3/8-16
11	2	841-6	.375 Washer

The 1st Position Dovetail Tool Holder is designed for heavier forming operations. It is used for free cutting grades of aluminum, brass and steel. The dovetail form tool is ground for a 5° face angle and a desired rake angle. The tool is set approximately 10% above center at the cutting edge of the smallest diameter being worked. The holder uses an American Standard Dovetail Blank Group 2. The tool may be fitted with a set screw (1/4-28) for setting adjustment and to take the thrust of the cutting force.



Model 3060-10-SA 1st Position Dovetail Tool Holder

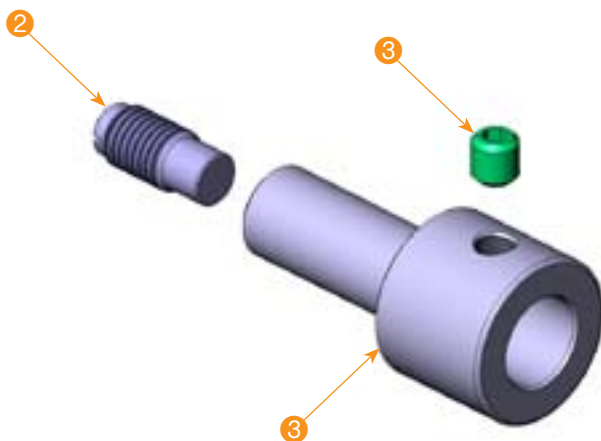


	Qty.	Part #	Description
1	1	3060-10	10° Dovetail Body
2	1	3060-3	Clamp
3	1	3060-6	Rising Block
4	1	3060-7	Taper Adjusting Screw
5	2	792-4	Tool Post Bolt
6	2	834-A-13-10	SHCS 5/16-24 x .625 Long
7	1	837-9-20	SHSS 1/4-24 x 1.250 Long
8	1	838-SP-6-8	Spring Pin .187 Dia. x .375 Long
9	1	838-72	Pin .250 Dia. x .500 Long
10	2	840-14	Hex Nut 3/8-16
11	2	841-6	.375 Washer

The 1st Position Dovetail Tool Holder is designed for heavier forming operations. The dovetail form tool is ground for a 10° face angle and a desired rake angle. The tool is set approximately 10% above center at the cutting edge of the smallest diameter being worked. The holder uses an American Standard Dovetail Blank Group 2. The tool may be fitted with a set screw (1/4-28) for setting adjustment and to take the thrust of the cutting force.



Model 2714-SA Drill Holder

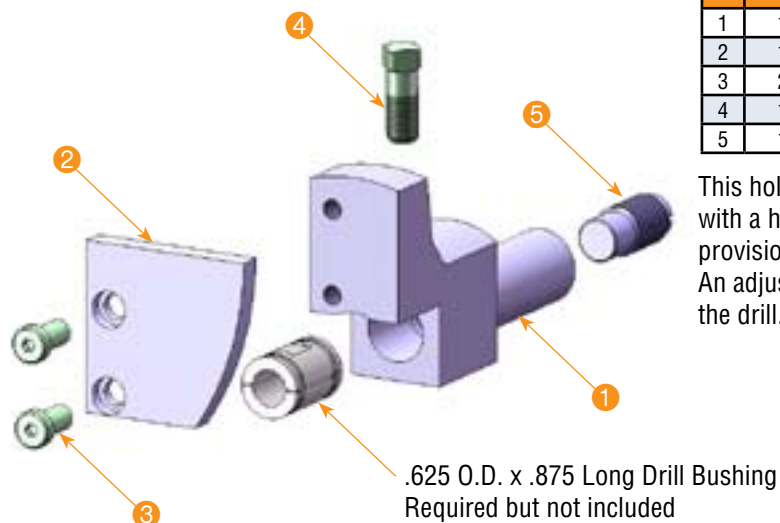


	Qty.	Part #	Description
1	1	2714	Drill Holder
2	1	1809	Adjusting Screw
3	1	836-A-14-6	HSSS 3/8-16 x .375 Long

This drill holder can be used in rotating or non-rotating tool spindles. Provision is made for a .625 diameter drill bushing .875 long. An adjusting screw is provided to back up the drill.

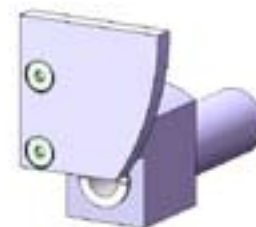


Model 2716-SA Drill Holder with Stock Stop

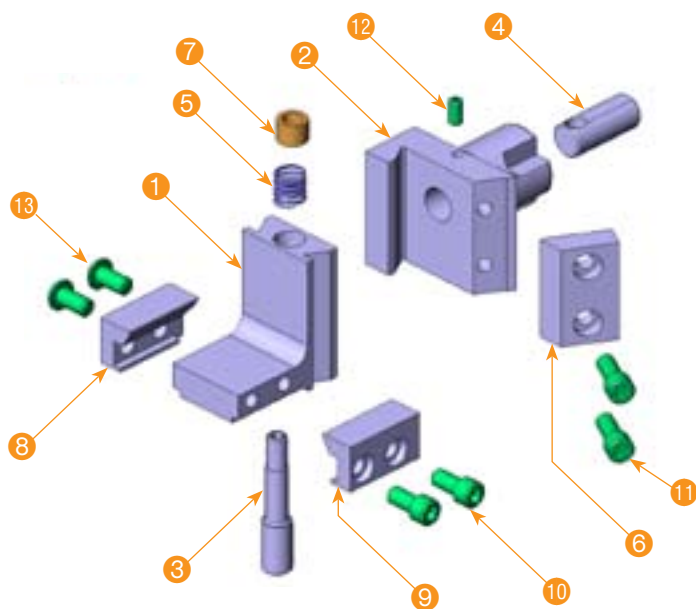


	Qty.	Part #	Description
1	1	2716-1	Drill Holder
2	1	2716-2-10	Stock Stop for Drill Holder
3	2	834-L-9-8	LHCS 1/4-20 x .500 Long
4	1	837-12-12	SHSS 5/16-18 x .750 Long
5	1	1809	Adjusting Screw

This holder is designed for the 1st position with a hardened stock stop plate and has provision for a .625 inch drill bushing. An adjusting screw is provided to back up the drill.



Model 3264-20-SA Dovetail Skive Tool Holder

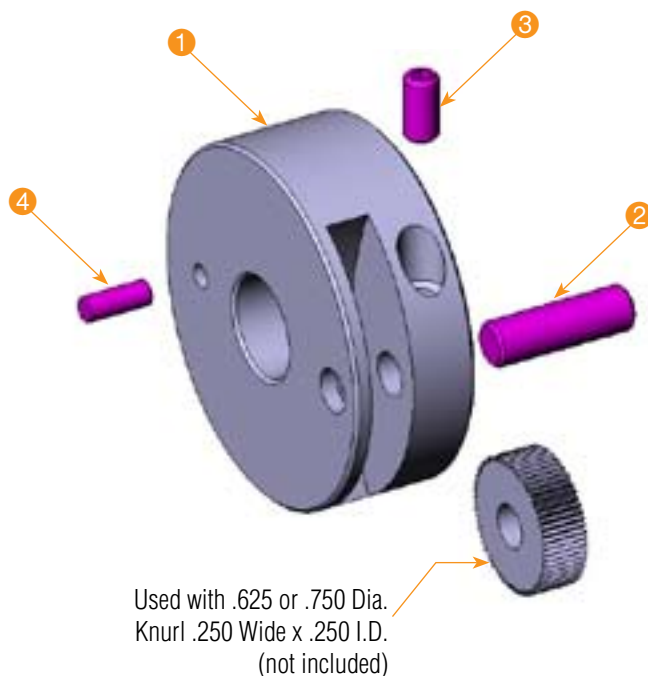


	Qty.	Part #	Description
1	1	3264-20-1	Body
2	1	3264-20-2	Skive Dovetail Mount
3	1	3264-20-3	Adjusting Screw
4	1	3264-20-4	Adjusting Plug
5	1	3264-20-5	Spring
6	1	3264-20-6	Tool Clamp
7	1	3264-20-7	Brass Guide Bushing
8	1	3154-4	Stat. Tool Clamp Segment
9	1	3154-5	Tool Clamp
10	2	834-A-11-8	SHCS 1/4-28 x .500 Long
11	2	834-A-11-10	SHCS 1/4-28 x .625 Long
12	1	836-A-8-6	HSS #10-32 x .375 Long
13	2	836-B-11-8	BHSS 1/4-28 x .500 Long

The Dovetail Skive Tool Holder is used for forming a long part while exerting the least amount of force from a cross slide position. Its purpose is to perform a wide forming operation without bending or breaking off the work piece. This is accomplished by the tool having an angular cutting face thereby gaining the benefit of full stock size at the exact point of the machining operation. The tool feeds across the work piece tangentially to center and doesn't require any corrective tool step calculations.

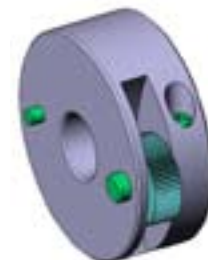


Model 2729-SA Knurl Holder

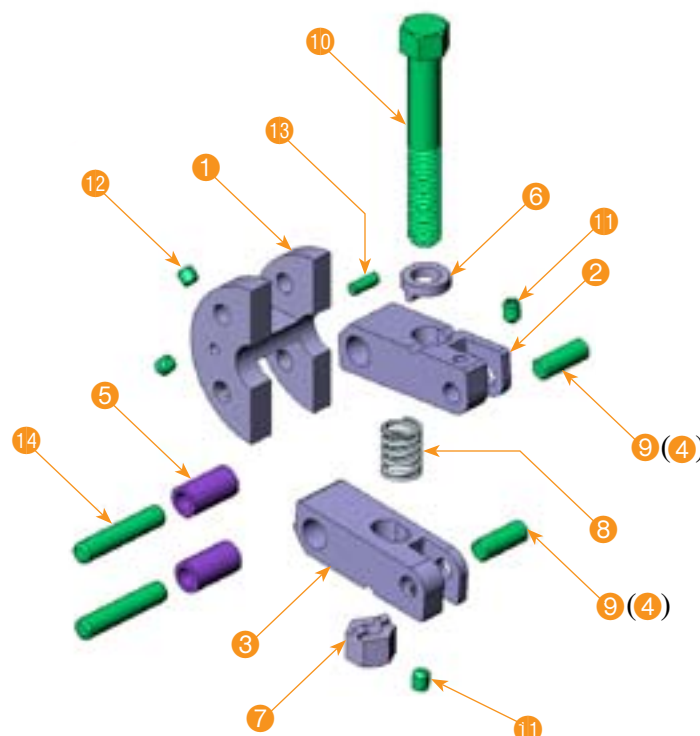


	Qty.	Part #	Description
1	1	2729	Body
2	1	773-4-13	.250 x 1.187 Long Tool Stl. Pin
3	1	836-A-8-6	HSSS #10-32 x .375 Long
4	1	838-35	Pin .140 Dia. x .375 Long

The Single Knurl Roll Holder is used for bump knurling in the 2nd, 3rd, or 4th position.



Model 2730-SA Double Knurl Tool Holder

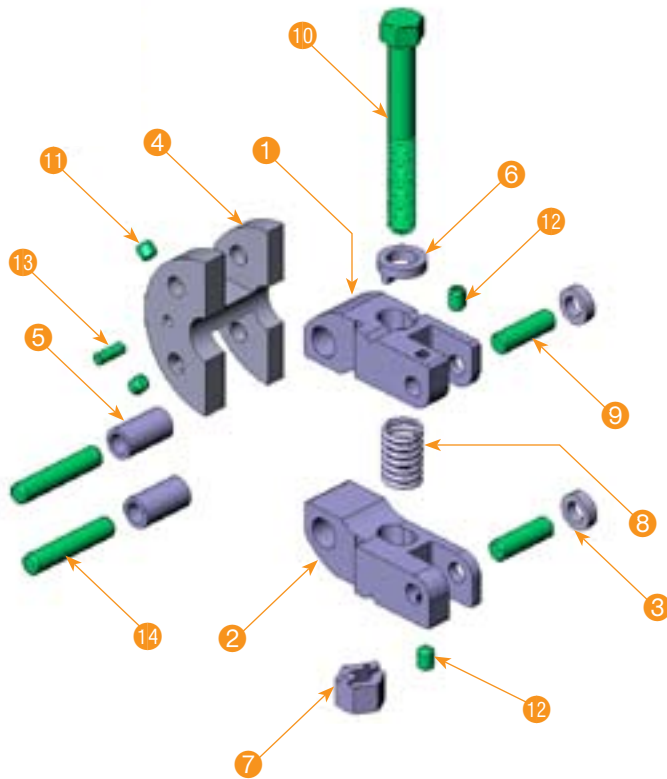


	Qty.	Part #	Description
1	1	2730-1	Clamp Plate
2	1	2730-2	Top Knurl Arm
3	1	2730-3	Bottom Knurl Arm
4	2	2730-5	Carbide Pin .250 Dia. (Optional)
5	2	2730-6	Knurl Arm Bushing
6	1	2730-7	Rocker - Knurl Arm
7	1	2730-8	Nut - Knurl Arm
8	1	2730-9	Spring
9	2	773-4-11	.250 x .687 Long Tool Stl. Pin
10	1	835-14-40	HHCS 3/8-16 x 2.500 Long
11	2	836-A-8-4	HSSS #10-32 x .250 Long
12	2	836-A-8-3	HSSS #10-32 x .187 Long
13	1	838-35	Pin .140 x .375 Long
14	2	838-77	Soft Pin .250 x 1.250 Long

This holder uses two knurls for diamond or straight knurling. The knurl rolls for this holder are .625 O.D. by .250 I.D. by .250 wide. This holder can be used for straightening. Optional carbide roll pins are available.



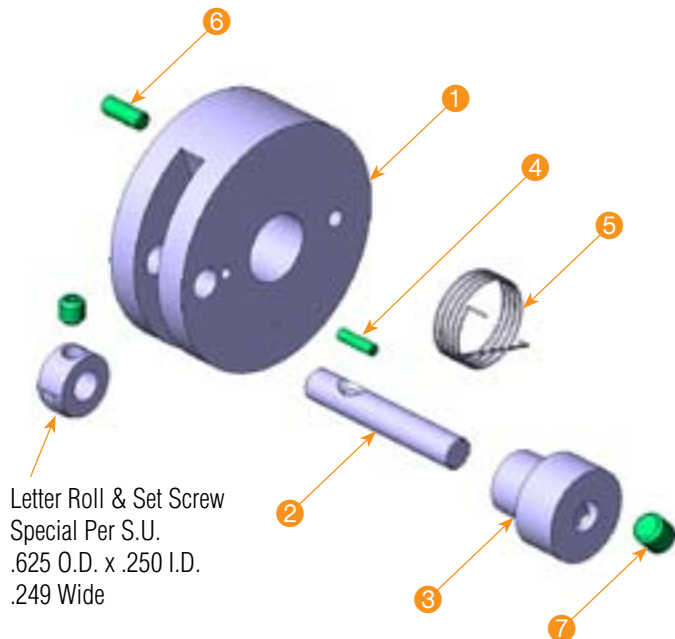
Model 2730-23-SA Knurl Tool Holder Wide, Oversize



	Qty.	Part #	Description
1	1	2730-23-1	Top Knurl Arm
2	1	2730-23-2	Bottom Knurl Arm
3	2	2730-23-3	Spacer .125 Wide
4	1	2730-1	Clamp Plate
5	2	2730-6	Knurl Arm Bushing
6	1	2730-7	Rocker - Knurl Arm
7	1	2730-8	Nut - Knurl Arm
8	1	2730-9-1	Compression Spring
9	2	773-4-13	.250 x 1.187 Long Tool Stl. Pin
10	1	835-12-40	Hex Bolt 5/16-18 x 2.500 Long
11	2	836-A-8-3	HSS #10-32 x .187 Long
12	2	836-A-8-4	HSS #10-32 x .250 Long
13	1	838-35	Pin .140 Dia. x .375 Long
14	2	838-77	.250 x 1.250 Soft Pin

This holder uses two knurls for diamond or straight knurling. The knurl rolls for this holder are .750 O.D. by .250 I.D. The knurl width can be .250 using spacers or .375 without spacers. This holder can also be used for bar straightening.

Model 2791-SA Letter Roll Holder

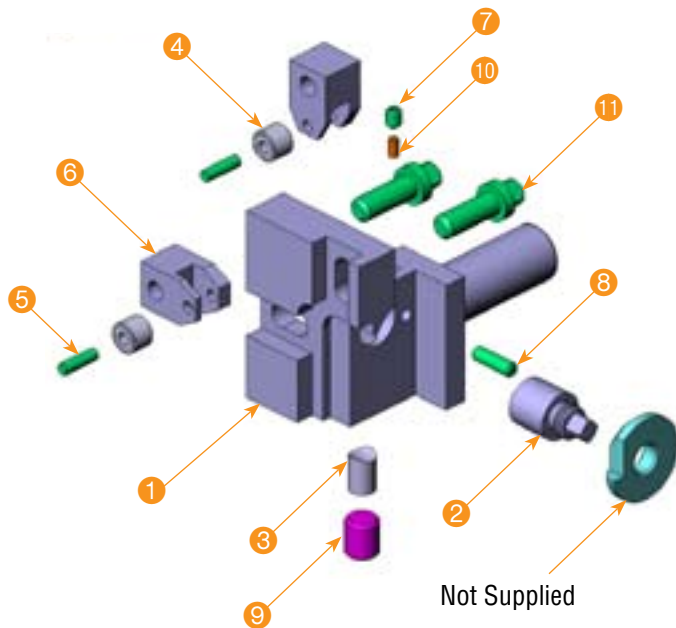


	Qty.	Part #	Description
1	1	2791-1	Letter Roll Holder
2	1	2791-2	Letter Roll Pin
3	1	2791-3	Spring Sleeve
4	1	2791-4	Stop Pin
5	1	2791-7	Latch Spring
6	1	838-35	Pin .140 Dia. x .375 Long
7	1	836-A-10-4	HSS 1/4-24 x .250 Long

Bump style letter roll holder with self returning spring. Driving dots added to the letter roll start its rotation. Once the tool is released the roll returns to start position.

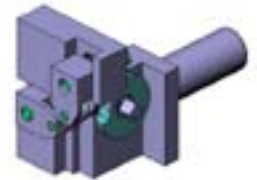


Model 2736-SA Pointing Tool Holder with Support Rolls

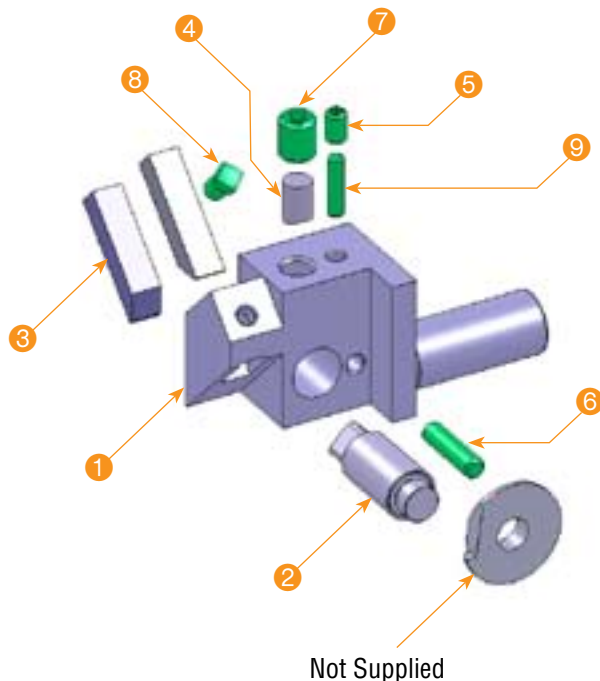


	Qty.	Part #	Description
1	1	2736	Holder Body
2	1	2736-1	Cutter Stud
3	1	2737-4	Clamp Shoe
4	2	2503	Roll .406 Dia.
5	2	2503-2	Roll Pin
6	2	2522	Roll Holder
7	1	836-A-8-4	HSSS #10-32 x .250 Long
8	1	836-A-8-10	HSSS, #10-32 x .625 Cup Pt.
9	1	836-A-16-8	HSSS 7/16-14 x .500 Long
10	1	838-B-4-4	Brass Pin .125 Dia. x .250 Long
11	2	2183-12-14	Sq. Hd. Collar Scr. 5/16-18 x .875 Long

This holder is used to form the end face of a part. Provision is made for a circular form tool up to 1.125 diameter. Roller back rests are provided for a part diameter of .175 to .500.



Model 2737-SA Pointing Tool Holder with V Support

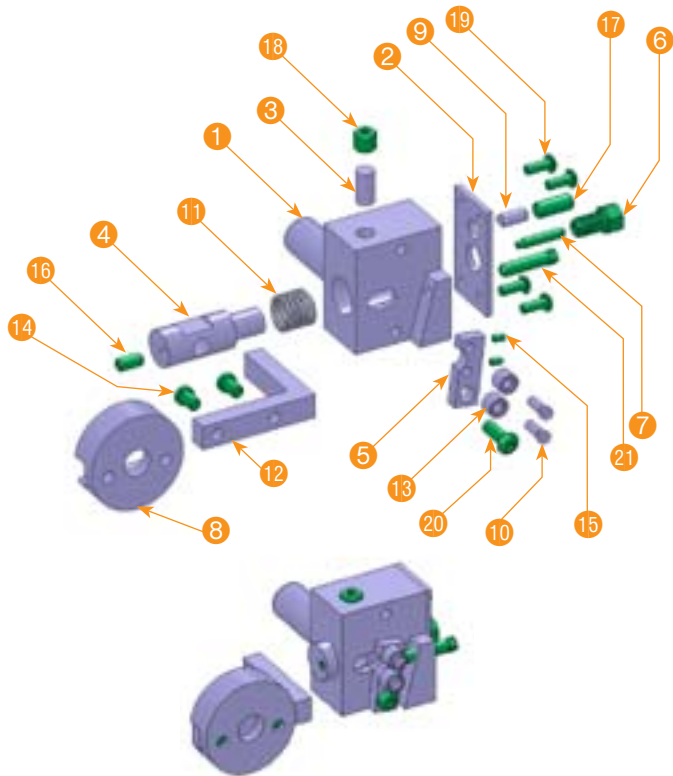


	Qty.	Part #	Description
1	1	2737	Holder Body
2	1	2737-1	Cutter Stud
3	2	2737-2	Back Rest
4	1	2737-4	Clamp Shoe
5	1	836-A-10-6	HSSS 1/4-24 x .312 Long
6	1	836-A-10-16	HSSS 1/4-24 x .312 Long
7	1	836-A-16-8	HSSS 7/16-14 x .500 Long
8	1	837-10-6	SHSS 1/4-24 x .375
9	1	838-B-6-12	Long Brass Pin

This holder is used to form the end face of a part. Provision is made for a form tool up to 1.250 diameter. A "V" back rest is provided for support.



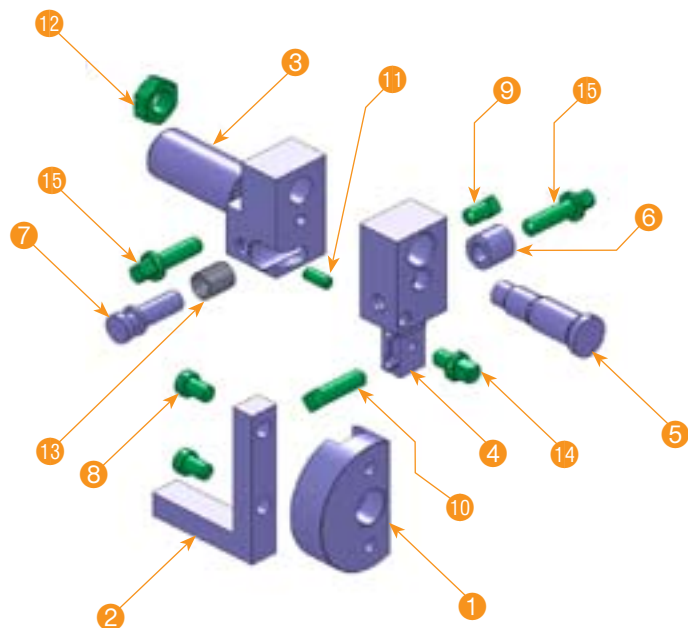
Model 3289-SA Recess Tool Holder with Roller Support



	Qty.	Part #	Description
1	1	3289-1	Holder Body
2	1	3289-2	Side Plate
3	1	3289-3	Guide Pin
4	1	3289-4	Tool Holder Slide
5	1	3289-5	Support Roll Block
6	1	3289-6	Slide Stop
7	1	3289-7	Lock Screw
8	1	3289-8	Pusher Plate
9	1	3289-9	Guide Pin Plug
10	2	3289-11	Roll Pin
11	1	3289-12	Compression Spring
12	1	2801-3	Recess Tool Pusher
13	2	2784-8-1	.406 Support Roll
14	2	834-L-11-6	LHCS 1/4-28 x .375 Long
15	2	836-A-5-4	HSSS #6-32 x .250 Long
16	1	836-A-11-8	HSSS 1/4-28 x .500 Long
17	1	836-A-12-12	HSSS 5/16-18 x .625 Long
18	1	836-A-16-6	HSSS 7/16-14 x .375 Long
19	4	836-B-8-8	BHCS #10-32 x .500 Long
20	1	836-B-11-12	BHCS 1/4-28 x .750 Long
21	1	837-10-16	SHSS 1/4-24 x 1.000 Long

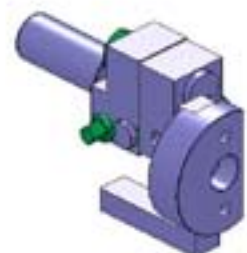
This Recess Tool Holder is mounted in any position with the pusher being mounted in the corresponding side working tool position. The hole for the tool shank is .375 diameter and the tool set .030 above the center of the work piece. Tool movement to cam rise is 1:1 ratio.

Model 2801-SA Recess Tool Holder & Pusher

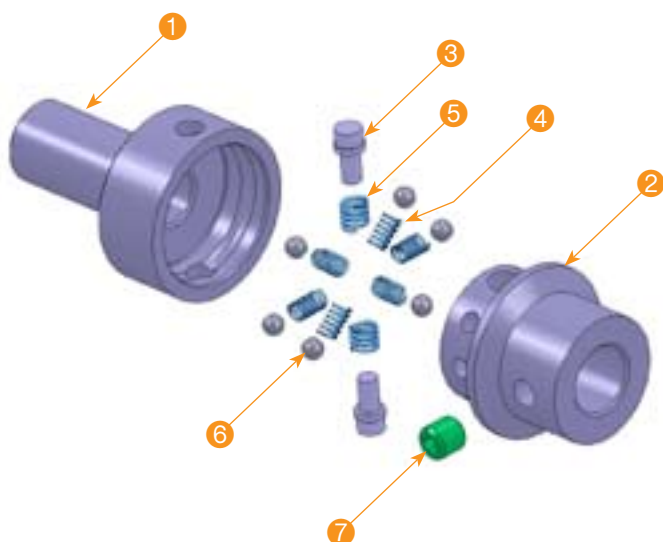


	Qty.	Part #	Description
1	1	2801-2	Recess Tool Pusher Seat
2	1	2801-3	Recess Tool Pusher
3	1	2801-5	Body
4	1	2801-6	Swing Arm
5	1	2801-7	Swing Arm Stud
6	1	2801-9	Tool Clamp Bushing
7	1	2801-11	Spring Plunger
8	2	834-10-6	FHCS 1/4-24 x .375 Long
9	1	837-10-6	SHSS 1/4-24 x .375 Long
10	1	837-10-14	SHSS 1/4-24 x .750 Long
11	1	838-26	Pin .187 Rd x .437 Long
12	1	840-14	Hex Nut 3/8-16
13	1	842-29	Spring
14	1	2183-2-6	Sq. Hd. Collar Scr. 3/8-16 x .375 Long
15	2	2183-10-14	Sq. Hd. Collar Scr. 3/8-16 x .875 Long

This holder is mounted in any position with the pusher being mounted in the corresponding side working tool position. The holder has a .313 hole for mounting a recess tool shank. The recess tool sets .015 above center of the work piece. There is an adjustable stop built in the swing tool body for positioning of recess tool.



Model 3096 Self-Centering Tool Holder – Floating

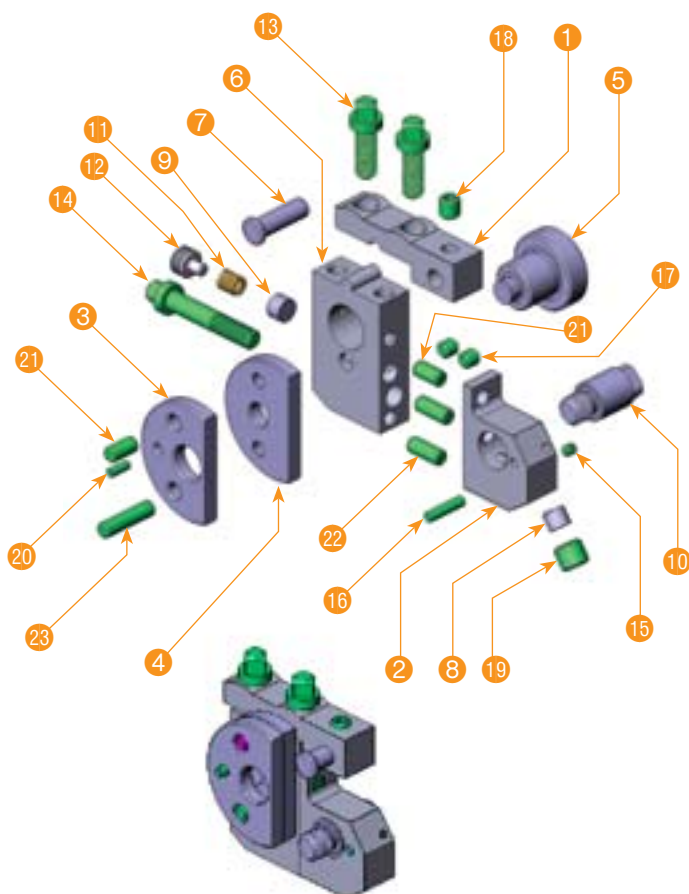


	Qty.	Part #	Description
1	1	3096-1	Housing
2	1	3096-2	Holder Body
3	2	3096-3	Retainer Pin
4	6	3096-4	Ball Spring
5	2	3096-5	Retainer Spring
6	6	14-3	.187 Steel Ball
7	1	836-A-12-5	HSS 5/16-18 x .312 Long

The Self-Centering Tool Holder is used for reaming to correct slight misalignment between spindles. The steel balls float under spring pressure for self centering. The holder uses a standard .625 diameter drill bushing.



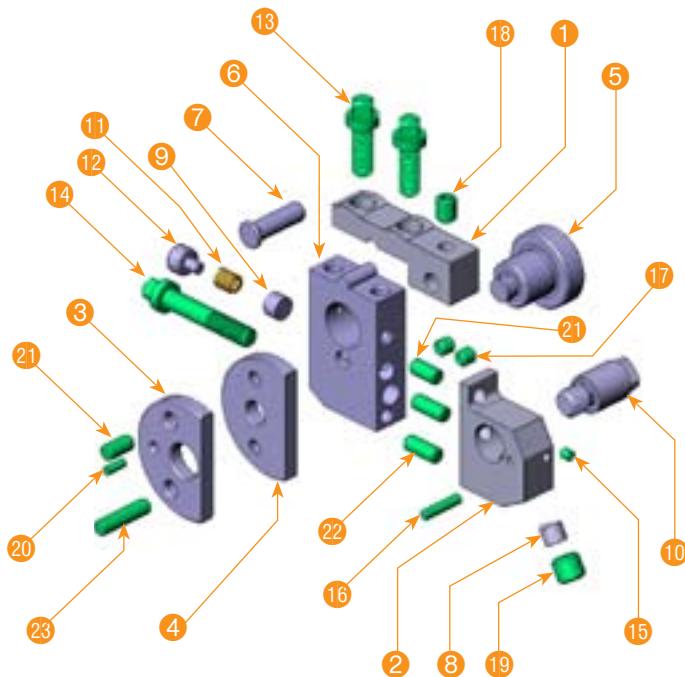
Model 2726-0-SA Oversize Sizing Tool Holder



	Qty.	Part #	Description
1	1	2726-0-1	Roll Holder
2	1	2726-0-2	Cutter Shank Holder
3	1	2726-R-3-4	Spacer Plate
4	1	2726-R-4-4	Fulcrum Plate
5	1	2726-R-5	Fulcrum
6	1	2726-R-6	Tool Holder Body
7	1	2726-5	Roll Pin
8	1	2726-7	Shoe
9	1	2726-9	Spring Plunger
10	1	2726-11	Shank, Tool (L.H.)
11	1	2726-13	Plunger Spring
12	1	2726-14	Fulcrum Screw
13	2	2183-12-14	Sq. Hd. Collar Scr. 5/16-18 x .875 Long
14	1	2183-12-28	Sq. Hd. Collar Scr. 5/16-18 x 1.750 Long
15	1	836-A-6-3	HSS #8-32 x .187 Long
16	1	836-A-6-12	HSS #8-32 x .750 Long
17	2	836-A-11-4	HSS 1/4-28 x .250 Long
18	1	836-A-12-5	HSS 5/16-18 x .312 Long
19	1	836-A-16-6	HSS 7/16-14 x .375 Long
20	1	838-35	Pin .140 Dia. x .375 Long
21	2	838-72	Pin .250 Dia. x .500 Long
22	2	838-73	Pin .250 Dia. x .625 Long
23	1	838-76	Pin .250 Dia. x 1.000 Long

The Oversize Sizing Tool Holder is used to insure same diametrical size parts from all spindles. As the tool swings into the work piece the size roll lifts the tool to meet the part. The capacity of this size tool holder is .262 to .812 diameter by .750 wide.

Model 2726-R-SA Sizing Tool Holder – Regular

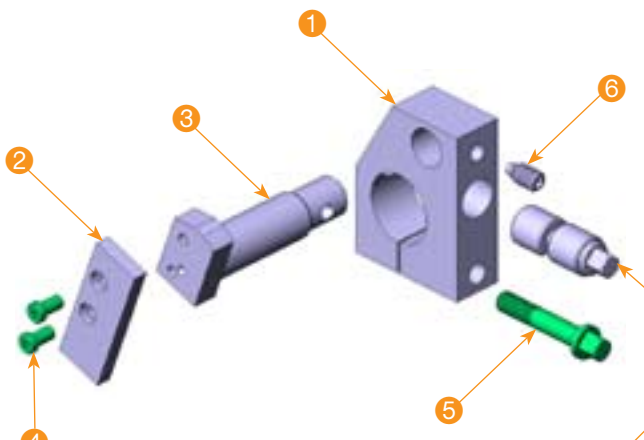


	Qty.	Part #	Description
1	1	2726-R-1	Roll Holder
2	1	2726-R-2	Cutter Shank Holder
3	1	2726-R-3-4	Spacer Plate
4	1	2726-R-4-4	Fulcrum Plate
5	1	2726-R-5	Fulcrum
6	1	2726-R-6	Tool Holder Body
7	1	2726-5	Roll Pin
8	1	2726-7	Shoe
9	1	2726-9	Spring Plunger
10	1	2726-11	Shank, Tool (L.H.)
11	1	2726-13	Plunger Spring
12	1	2726-14	Fulcrum Screw
13	2	2183-12-14	Sq. Hd. Collar Scr. 5/16-18 x .875 Long
14	1	2183-12-28	Sq. Hd. Collar Scr. 5/16-18 x 1.750 Long
15	1	836-A-6-3	HSSS #8-32 x .187 Long
16	1	836-A-6-12	HSSS #8-32 x .750 Long
17	2	836-A-11-4	HSSS 1/4-28 x .250 Long
18	1	836-A-12-6	HSSS 5/16-18 x .375 Long
19	1	836-A-16-6	HSSS 7/16-14 x .375 Long
20	1	838-35	Pin .140 Dia. x .375 Long
21	2	838-72	Pin .250 Dia. x .500 Long
22	2	838-73	Pin .250 Dia. x .625 Long
23	1	838-76	Pin .250 Dia. x 1.000 Long

The Regular Circular Size Tool is used to insure same diametrical size parts from all spindles. As the tool swings into the work piece the size roll lifts the tool to meet the part. The capacity of this size tool holder is .075 to .500 diameter by .750 wide.



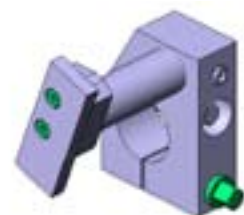
Model 2810-SA Stock Stop



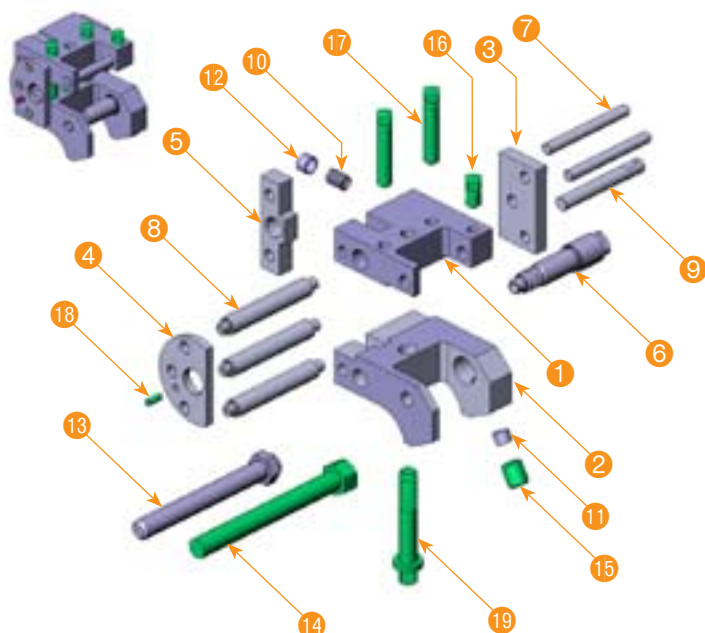
Std. Tool Spin Clamp Items
(Not Included)

	Qty.	Part #	Description
1	1	2810-1	Holder Block
2	1	2810-2	Stock Stop Plate
3	1	2810-3-B	Stop Stud (Blank)
4	2	834-L-9-10	LHCS 1/4-28 x .625 Long
5	1	2183-14-32	Sq. Hd. Collar Scr. 3/8-16 x 2.000 Long
6	1	5080-470	Cone Point Set Screw

This Stock Stop attaches directly onto a standard 1.375 diameter tool spindle. It allows the use of a hollow mill or other tooling in the spindle bore. The shank for the stock stop is 4.562 long and needs to be turned to length per set-up requirements.



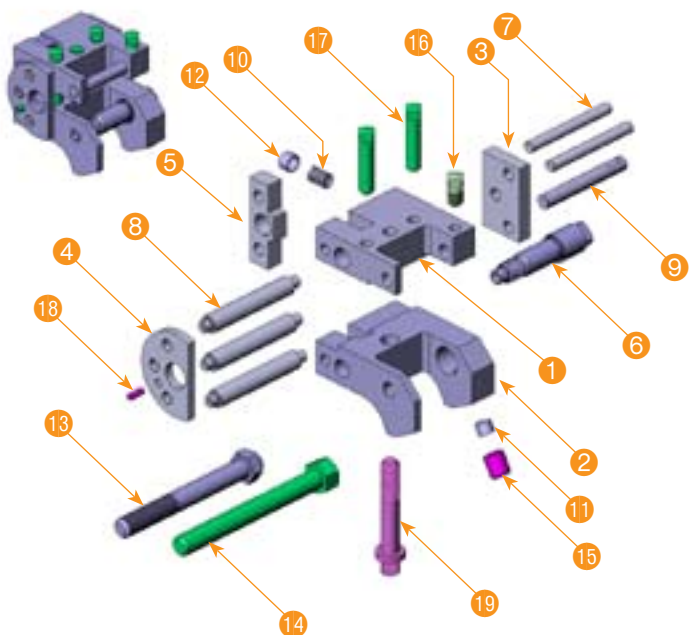
Model 2726-29-1500-0-SA 1.5 Size Tool Holder – Oversize



	Qty.	Part #	Description
1	1	2726-29-1-1500	Body, Top
2	1	2726-29-2-1500	Body, Bottom
3	1	2726-29-4	Clamp Plate
4	1	2726-29-6	Clamp Seat
5	1	2726-29-8	Swivel
6	1	2726-29-9-1500	Tool Shank
7	2	2726-29-10-1500	Swivel Pin
8	3	2726-29-11-1500	Clamp Plate Pin
9	1	2726-29-12-1500	Roll Pin
10	1	2726-R-7	Compression Spring
11	1	2726-7	Shoe
12	1	2726-9	Plunger
13	1	739-6	Cir. Tool Clamp Adj. Screw
14	1	835-16-64	HHCS 7/16-14 x 4.000 Long
15	1	836-A-16-8	HSSS 7/16-14 x .500 Long
16	1	837-12-7	SHSS 5/16-18 x .437 Long
17	2	837-12-24	SHSS 5/16-18 x 1.500 Long
18	1	838-35	Pin .140 Dia. x .375 Long
19	1	2183-14-34	Sq. Hd. Collar Scr. 3/8-16 x 2.125 Long

The Wide Oversize Circular Size Tool Holder is used for size tools of extended length. The most common size is for a 1.5 wide tool. One inch and two inch versions are available. The tool and roll float through the body on the swing stud which is supported on both sides by the housing assembly to give greater stability to the wider tool size. The sizing capacity is .262 through .812 diameter, same as the standard oversize holder. The tool and roll diameter are figured in the same manner.

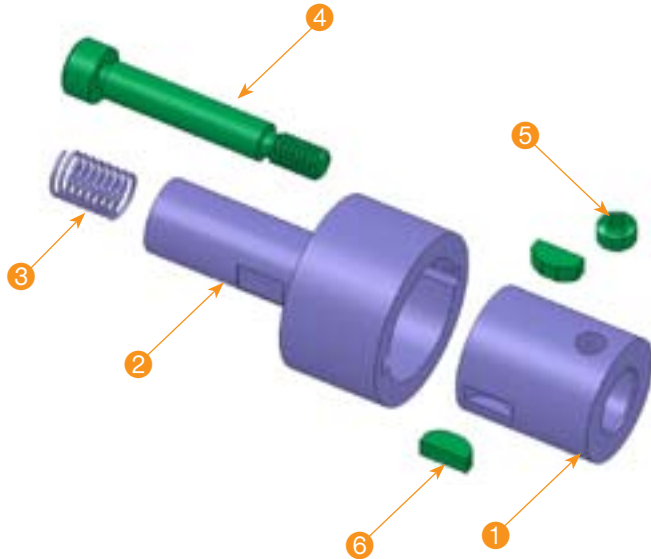
Model 2726-29-1500-R-SA 1.5 Size Tool Holder – Regular



	Qty.	Part #	Description
1	1	2726-29-1-1500	Body, Top
2	1	2726-29-2-1500	Body, Bottom
3	1	2726-29-3	Clamp Plate
4	1	2726-29-5	Clamp Seat
5	1	2726-29-7	Swivel
6	1	2726-29-9-1500	Tool Shank
7	2	2726-29-10-1500	Swivel Pin
8	3	2726-29-11-1500	Clamp Plate Pin
9	1	2726-29-12-1500	Roll Pin
10	1	2726-R-7	Compression Spring
11	1	2726-7	Shoe
12	1	2726-9	Plunger
13	1	739-6	Cir. Tool Clamp Adj. Screw
14	1	835-16-64	HHCS 7/16-14 x 4 Long
15	1	836-A-16-8	HSSS 7/16-14 x .500 Long
16	1	837-12-7	SHSS 5/16-18 x .437 Long
17	2	837-12-20	SHSS 5/16-18 x 1.250 Long
18	1	838-35	Pin .140 Dia. x .375 Long
19	1	2183-14-34	Sq. Hd. Collar Scr. 3/8-16 x 2.125 Long

The Wide Regular Circular Size Tool Holder is used for size tools of extended length. The most common size is for a 1.5 wide tool. One inch and two inch versions are available. The tool and roll float through the body on the swing stud which is supported on both sides by the housing assembly to give greater stability to the wider tool size. The sizing capacity is .075 through .500 diameter, same as the standard regular holder. The tool and roll diameter are figured in the same manner.

Model 2747-116-SA Tap Holder

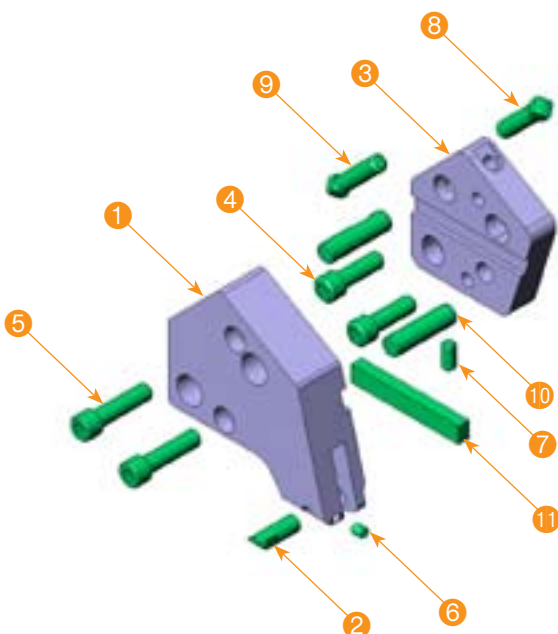


	Qty.	Part #	Description
1	1	2747-116-001	Spindle Head
2	1	2747-116-002	Shank
3	1	2747-116-003	Spring
4	1	2747-116-004	SHSS .375 Dia. x 1.750 Long
5	1	836-A-14-4	HSS 3/8-16 x .250 Long
6	2	843-W-61	Woodruff Key (605)

This is an axial compensation style Tap Holder for use with the Threading Attachment. There is .125 inch of float to compensate for error of feed stroke. The tap is clamped in a .625 diameter bushing.



Model 2910-5-SA 5th Pos. Thread Roll Holder

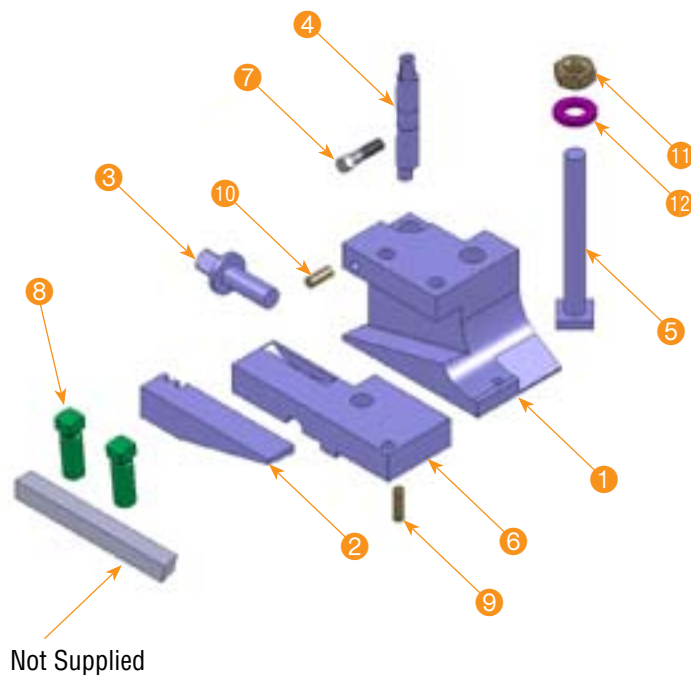


	Qty.	Part #	Description
1	1	2910-5	Thread Roll Holder
2	1	2910-5-P	Roll Pin
3	1	2910-6	Adjusting Plate
4	2	834-A-12-16	SHCS 5/16-18 x 1.000 Long
5	2	834-A-12-20	SHCS 5/16-18 x 1.250 Long
6	1	836-A-8-4	HSS #10-32 x .250 Long
7	1	836-A-10-8	HSS 1/4-24 x .500 Long
8	1	837-12-18	SHSS 5/16-18 x 1.125 Long
9	1	837-12-20	SHSS 5/16-18 x 1.250 Long
10	2	838-5	Pin: .250 Dia. x .750 Long
11	1	843-9-40	Rocker Key

This Thread Roll Holder is mounted on the face of the 5th position cutoff arm. It is used for rolling a short threaded work piece having a medium to fine pitch thread. It also can be used for knurling. The work piece is supported by the burring spindle when the roll or knurl passes over the work piece ahead of the cutoff tool. To install the holder, it should be first clamped onto the arm to locate the approximate position, then drill and tap in place. Once attached, there are adjustments to set final position.

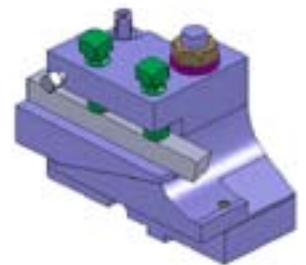


Model 2738-1-SA 1st Pos. Square / Rect. Tool Holder

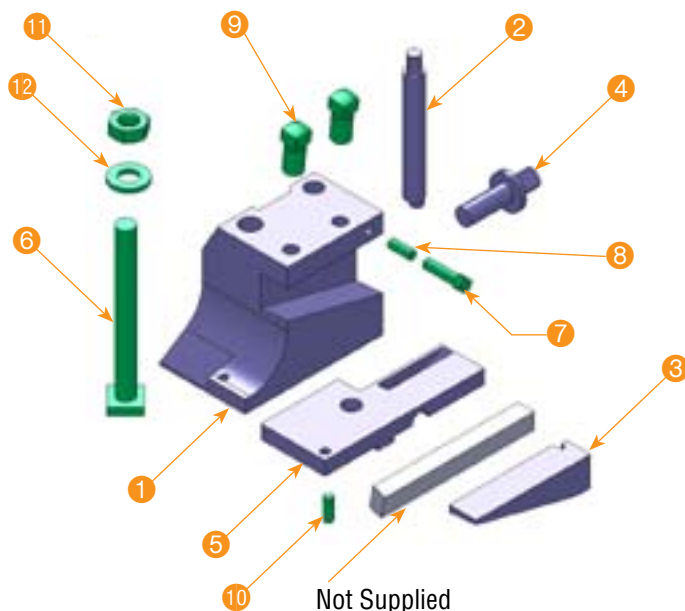


	Qty.	Part #	Description
1	1	2738-1	Tool Post
2	1	2738-2	Adjusting Wedge
3	1	2738-3	Adjusting Screw
4	1	715	Tool Post Eccentric
5	1	792-1	Front Tool Post Bolt
6	1	5080-100	Front Rising Block
7	1	837-2-12	SHSS H-32 x .750 Long
8	2	837-14-14	SHSS 3/8-16 x .875 Long
9	1	838-67	Pin .187 Dia. x .625 Long
10	1	838-B-6-8	Long Brass Pin
11	1	840-14	Hex Nut 3/8-16
12	1	841-6	.375 Washer

This 1st Position Tool Holder is used for a flat form tool, .500 inch square standard tool bit. A collar screw and wedge adjusts the tool to the proper cutting position. Two set screws clamp the tool in place. The holder can be adjusted to remove taper in the same manner as the standard tool post.



Model 2744-1-SA 2nd Pos. Square /Rect. Tool Holder

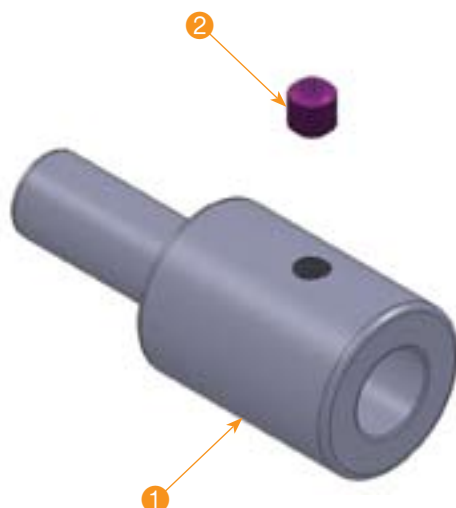


	Qty.	Part #	Description
1	1	2744-1-1	Body
2	1	2744-1-2	Eccentric
3	1	2744-1-3	Wedge
4	1	2738-3	Adjusting Screw
5	1	5080-101	Rear Rising Block
6	1	792-2	Front Tool Post Bolt
7	1	837-2-12	SHSS H-32 x .750 Long
8	1	838-B-6-8	Long Brass Pin
9	2	837-14-10	SHSS 3/8-16 x .625 Long
10	1	838-27	Pin .187 Dia. x .500 Long
11	1	840-14	Hex Nut 3/8-16
12	1	841-6	.375 Washer

This 2nd Position Tool Holder is used for a flat form tool, .500 inch square standard tool bit. A collar screw and wedge adjusts the tool to the proper cutting position. Two set screws clamp the tool in place. The holder can be adjusted to remove taper in the same manner as the standard tool post.



Model 3119-SA Tool Spindle Extension

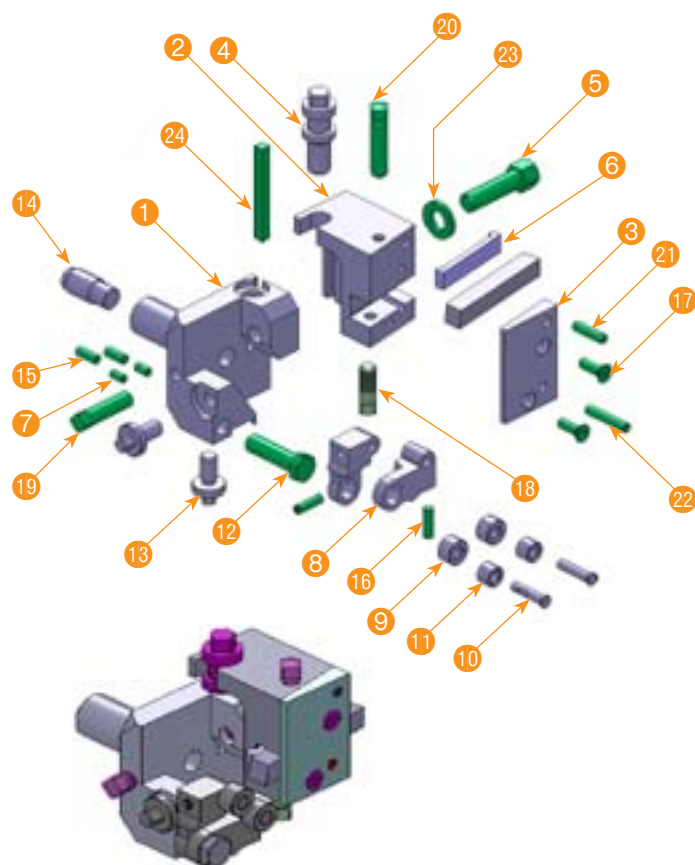


	Qty.	Part #	Description
1	1	3119	Tool Spindle Extension
2	1	836-A-14-6	HSSS 3/4-16 x .375

The Tool Spindle Extension fits into the .750 diameter hole of the standard tool spindle. It extends the spindle 2.063 making it possible for endworking on short parts when using regular length spindles on extended bed machines.



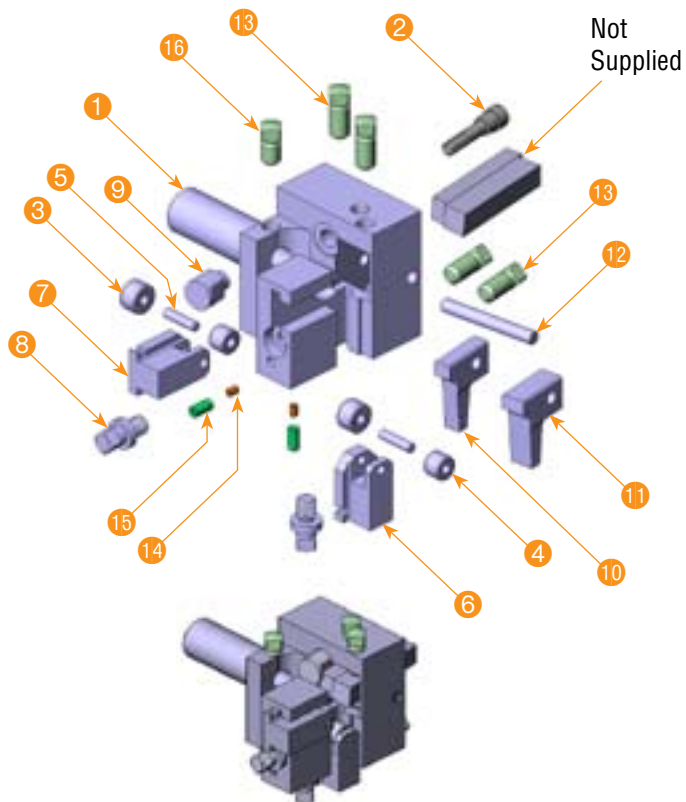
Model 2785-1-SA Box Tool Holder



	Qty.	Part #	Description
1	1	2785-1	Box Tool Body
2	1	2785-2	Slide Block
3	1	2785-2P	Stock Stop Plate
4	1	2785-3	Slide Adj. Screw
5	1	2785-4	Clamping Bolt
6	1	2785-6	Fill Piece
7	2	2785-8	Shoe
8	2	2784-5	Roll Arm
9	2	2784-6-1	Roll (.500)
10	2	2784-7-1	Roll Pin
11	2	2784-8-1	Roll (.406)
12	1	2784-9	Roll Arm Bolt
13	2	2784-10	Roll Arm Adj. Screw
14	1	1809	Adjusting Screw
15	2	836-A-8-8	HSSS #10-32 x .500 Long
16	2	836-H-1-10	Set Screw J-40 x .625 Long
17	2	836-A-8-10	FHCS #10-32 x .625 Long
18	1	837-12-12	SHSS 5/16-18 x .750 Long
19	1	837-12-18	SHSS 5/16-18 x 1.125 Long
20	1	837-12-20	SHSS 5/16-18 x 1.250 Long
21	1	838-69	Pin .187 Dia. x .750 Long
22	1	838-91	Pin .187 Dia. x 1.000 Long
23	1	841-6	.375 Washer
24	1	843-2-32	Key .187 Sq. x 2.000 Long

The turning capacity of this Box Tool Holder is .140 to .344 diameter by 2.500 long or .344 to .500 diameter by 1.500 long. Provision is made for a .375 square turning tool which can be mounted .015 ahead of rolls or .110 behind the rolls. The holder is equipped with a stock stop plate for use in the first position but may be used in any position. Two sets of rolls are furnished for the roller supports. Provision is made for a .375 diameter shank drill or center.

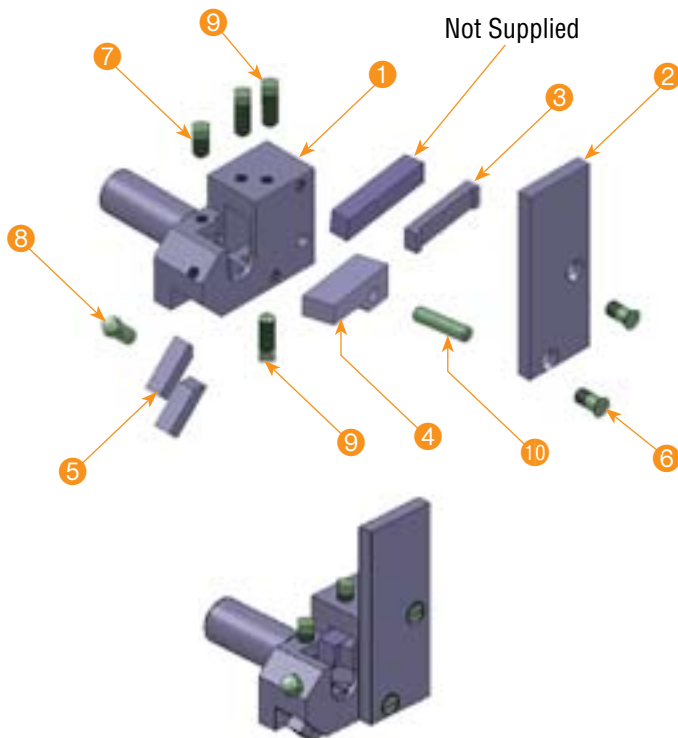
Model 2800-SA Turn Tool Holder with Roller Rest



	Qty.	Part #	Description
1	1	2800-1	Holder Body
2	1	2501	Tool Stop Screw
3	2	2502	Support Roll .488 Dia.
4	2	2503	Support Roll .406 Dia.
5	2	2503-1	Roll Pin
6	1	2504	Roller Back Rest - Right
7	1	2505	Roller Back Rest - Left
8	2	2509	Back Rest Adj. Screw
9	1	2510	Tool Stop
10	1	2511	Rocker Arm for Tool .312 Thick
11	1	2512	Rocker Arm for Tool .437 Thick
12	1	773-24	Hardened Pin
13	4	837-12-10	SHSS 5/16 -18 x .625 Long
14	2	838-B-4-3	.125 Dia. x .250 Long Brass Pin
15	2	836-H-1-6	Set Screw J-40 x .375 Long
16	1	837-12-7	SHSS 5/16-18 x .437 Long

This Box Tool Holder has a turning capacity of .175 to .500 diameter by 1.500 long. Two tangent H.S.S. tools can be used, one .312 by .375 wide and one .437 by .375 wide. Both tools have independent rocker arm type adjustment. A stop for setting the rear tool is provided. Two rollers on adjustable slides are used to support work piece. The face of the holder body can be used as a stock stop in the first position, or the holder can be used in the any position. The body is furnished with a .375 hole for the use of a center drill.

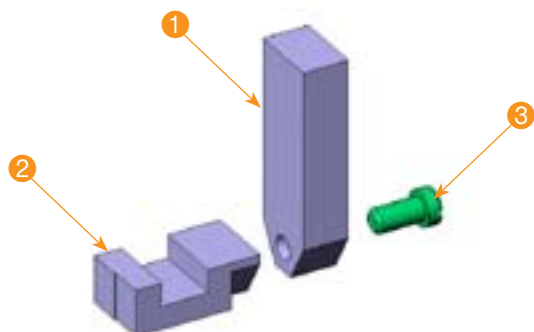
Model 2700-4-SA Turn Tool Holder with "V" Rest



	Qty.	Part #	Description
1	1	2700-4-1	Box Tool Body
2	1	2700-4-2	Stop Plate
3	1	2700-4-3	Fill Piece
4	1	2700-4-4	Rocker
5	2	2700-4-5	Back Rest
6	2	836-10-8	FHSS 1/4-24 x .375 Long
7	1	837-10-6	SHSS 1/4-24 x .375
8	1	837-10-8	SHSS 1/4-24 x .500
9	3	837-10-10	SHSS 1/4-24 x .625
10	1	838-76	Pin .250 x 1.000 Long

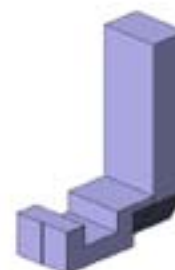
Turning capacity of this Box Tool Holder is .062 to .344 diameter by 2.500 long. This is an extremely short box tool with "V" rests for small diameter work having long turning cuts. Provision is made for a .375 square tool bit which can be mounted .015 head of or .170 behind the "V" rest. This holder is furnished with a stock stop plate for use in the 1st position along with a .375 hole through the shank for a center drill.

Model 2794-2-SA Tool Setting Gage

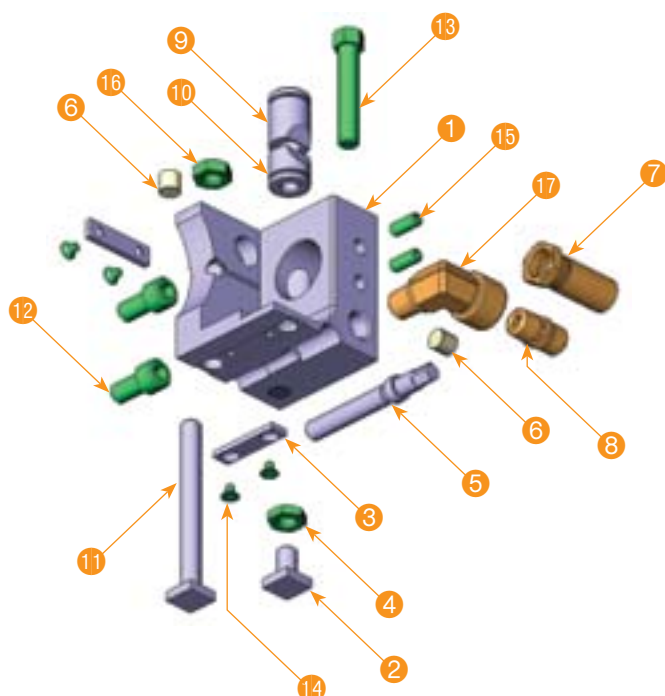


	Qty.	Part #	Description
1	1	2794-2	Gage Body, Long
2	1	2794-2-1	Setting Gage Block
3	1	834-10-8	Slot Head Screw 1/4-24 x .500

Setting Gage is used to get tools in position. Gage dimensions are ground special per machine.



Model 3154-8-SA 2nd & 3rd Pos. Mounting Block Assembly



	Qty.	Part #	Description
1	1	3154-8	2nd & 3rd Pos. Mounting Block
2	1	3154-10	T Bolt, Short
3	2	3154-11	Flat Key
4	1	3154-13	Short Hex Nut 3/8-16
5	1	3154-14	Tool Adj. Screw
6	2	3154-16	Nylon Plug
7	1	P-89	Flex Hose
8	1	P-89-1	Adapter
9	1	682-3-A	Clamp Ring
10	1	682-3-B	Threaded Clamp
11	1	792-2	Front Tool Post Bolt
12	2	834-A-14-12	SHCS 3/8-16 x .750 Long
13	1	835-14-32	HHCS 3/8-16 x 2.000 Long
14	4	836-4-6-4	FHCS #8-32 x .250 Long
15	2	836-A-11-10	HSSS 1/4-28 x .625 Long
16	1	840-14	Hex Nut 3/8-16
17	1	MBLA-196-15-6	.250 Street Elbow

This mounting block is used in the 2nd and 3rd positions for the 3264-20-SA Dovetail Skive Tool Holder and earlier models of the Davenport Dovetail Size Tool Holder. The mounting block is ported to bring coolant directly to the tool's cutting edge.

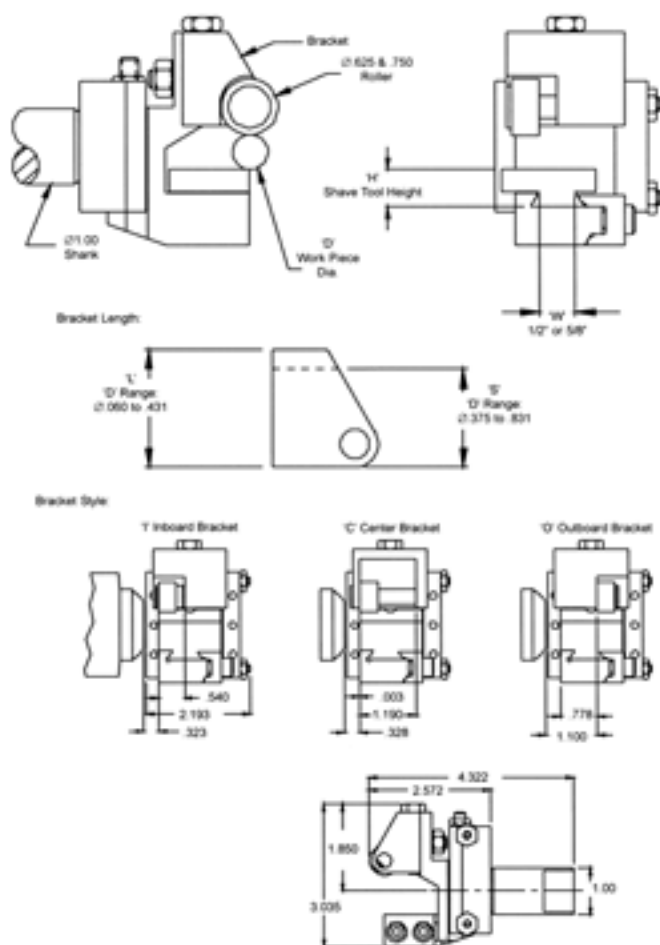


Model 108 Shave Tool Holder



The high quality construction is consistent with the quality of our other Davenport tooling. Close tolerances allow for easy adjustments and reduce chatter on the work piece. The operator friendly design is constructed to be more versatile than other shave tools that are now available.

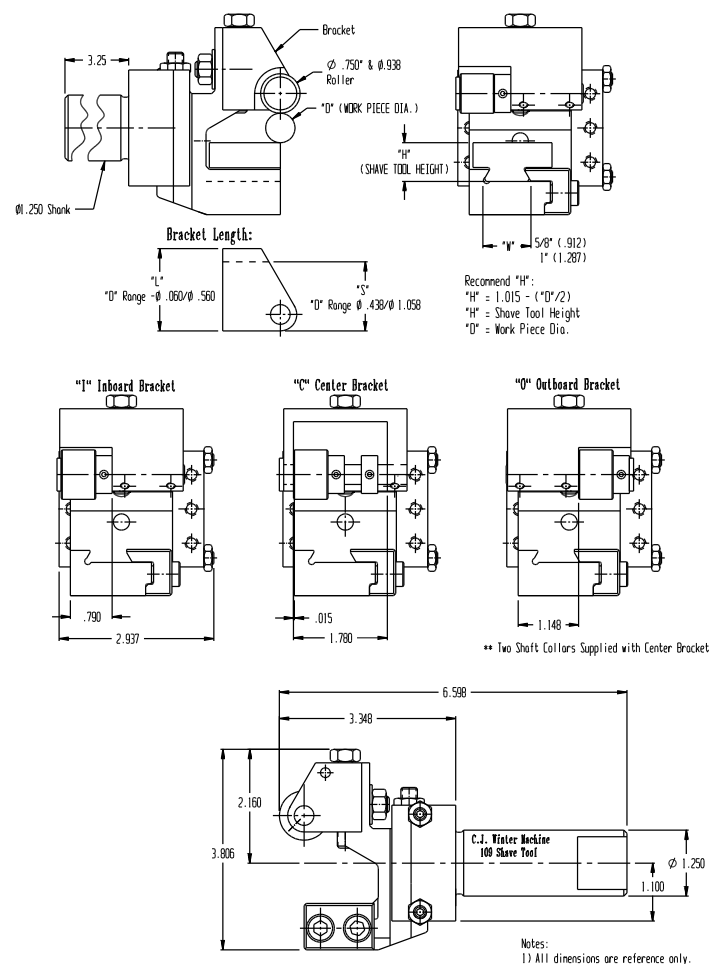
This tool contains solid carbide roll pins and high-speed steel rollers. Special brackets for the rollers are available to allow for positioning directly over the diameter you wish to shave.



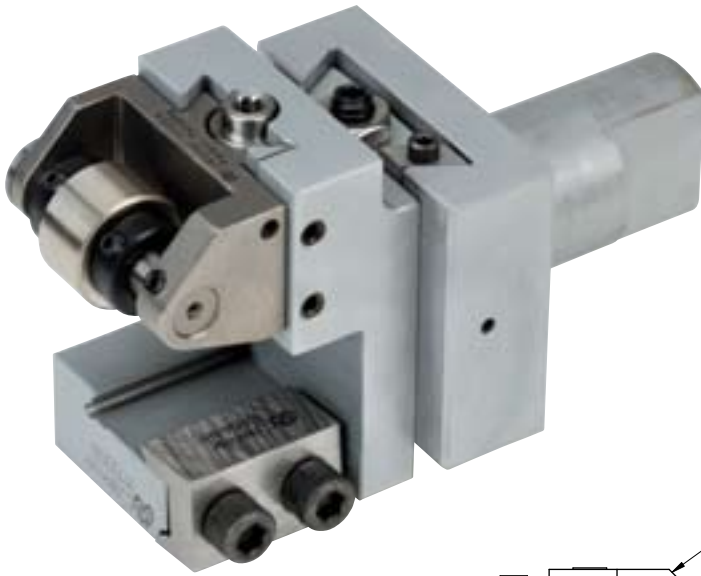
Model 109 Shave Tool Holder



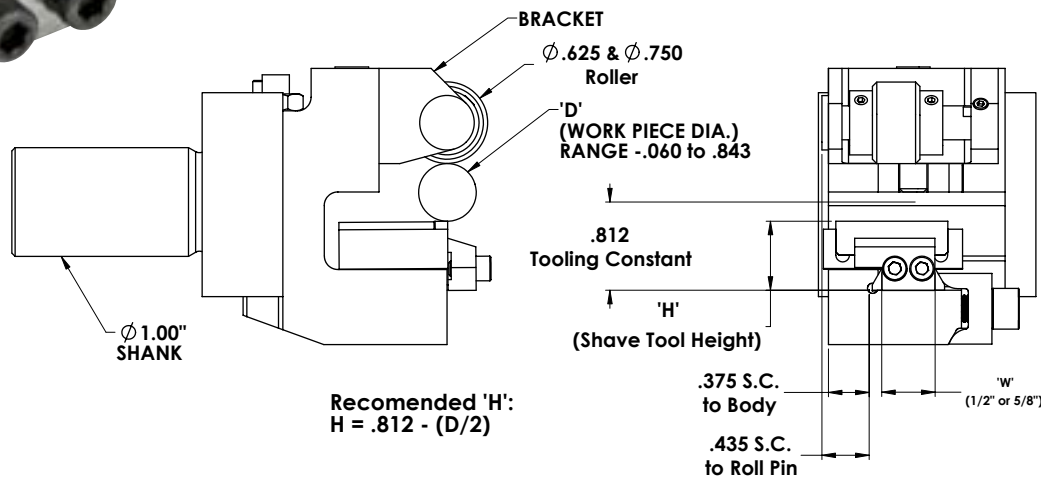
The premium quality hardened match ground 109 Dovetail Shave Tool Holder has superior rigidity and size control up to 1.058 diameter range, substantially reducing chatter in the work piece.



Micro Taper Adjust Mechanism – Patent Pending



The Model 111 Shave Tool has been engineered by CJWinter for a single purpose: to assure outstanding quality in every piece you shave. With a new lower profile than its predecessor, the Model 108 Shave Tool, the Model 111 allows for increased clearance between the 2nd and 3rd positions. It is also far superior to competitive shave tools in rigidity and tool life.



Features

- .500 or .625 dovetail tooling can be accommodated with our reversible clamp mechanism.
- Reduced height by at least .500 over the Model 108 and other shave tools.
 - Increased clearance between 2nd and 3rd positions
- Clamping dovetail on roll holder brackets.
 - Increased rigidity over boxway slide on 108
- Running dovetail with expansion gib.
 - Increased rigidity reduces chatter
- “High-performance coatings” Same as CJWinter 132 Reversible Slide.
 - Increased wear life for running surfaces.
- Micro Taper Adjust Mechanism – Patent Pending .0001-inch change in diameter for every “click” on taper adjust screw.
- Quick-Change Adapter Plate.
 - Full width adapter plate never needs to be removed
 - Locking expansion gib
 - Fine “In/Out” adjustment
 - Repeatability of location

- Modular mounting configurations are designed specifically for a Davenport Machine. Mounts to 1st, 2nd, 3rd, and 4th positions.
- Standard size 1-inch shank fits .75 diameter machines such as lathes, mills, Davenports, and many others.
- Two roll holder brackets accommodate entire range of diameters for shave tool and dovetail locking clamp allows added rigidity over boxway slides.

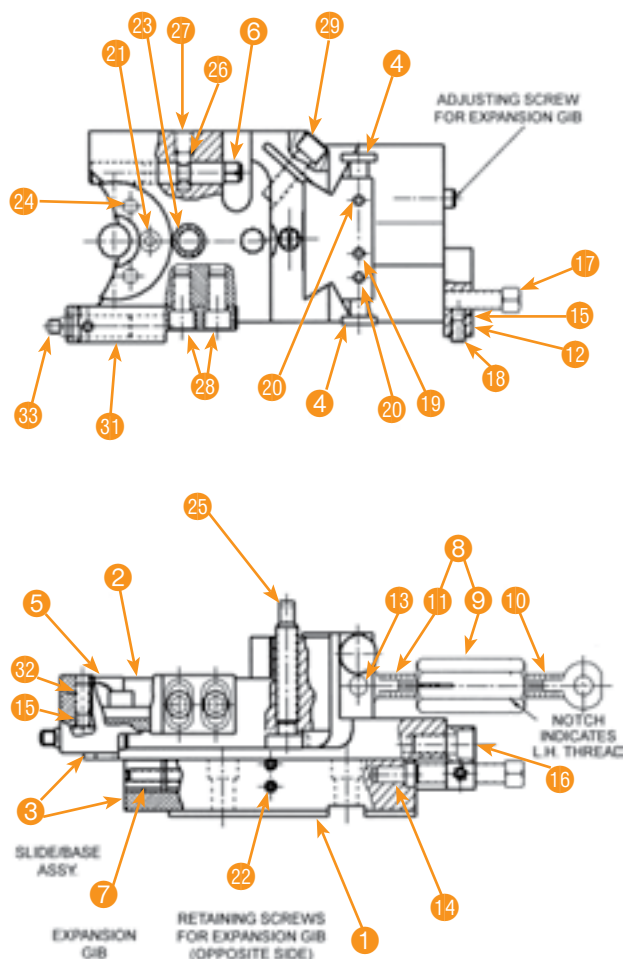
Comparison for Model 108 Users:

- **2 roll brackets versus 6 on 108**
- **Pins and Rollers same as 108**
- **111 Shave Tool will fit any 108 Tool Blocks**
- **Gives benefits of increased rigidity, reduced chatter, and longer wear life**
- **108 Shave Tool will fit any 111 Tool Blocks**
- **Gives benefits of micro taper adjust and quick change**

CALL FOR CURRENT PRICING
131-EG Series 4th Position Adjustable Tool Slide

(800) 562-0900

With independent stop for Davenport Automatics



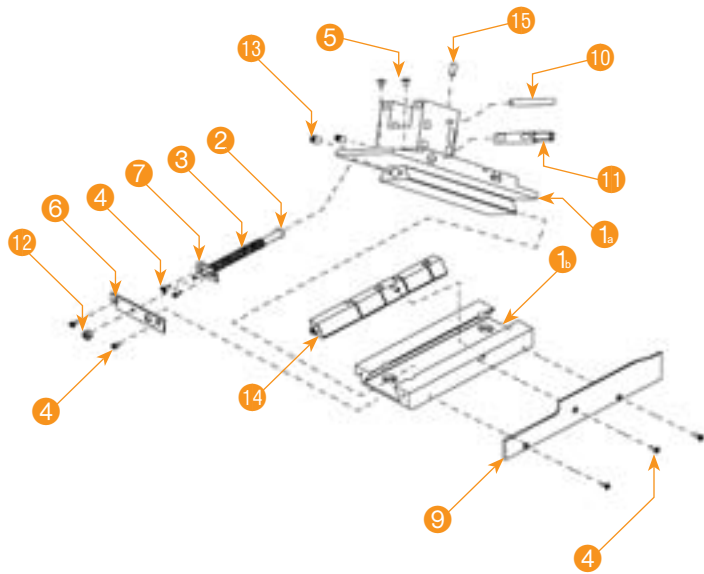
This slide is made of the same quality and has all the features of our 130-EG Series Tool Slide, except the 131-EG comes with an independent stop feature.

Item	Part #	Qty.	Description
1	131EG	1	Adjustable Tool Slide
2	130052	1	Adj. Tool Block for Independent Stop
3	130000EG	1	Slide/Base (Match Assy.)
4	130005	2	Spring Anchor
5	130008	1	Segment Plate
6	130009	1	Segment Worm
7	130058	1	Expansion Gib
8	130904	1	Link Assy. (Components: 130013/014&015)
9	130013	1	Link Nut
10	130014	1	Link L.H.
11	130015	1	Link R.H.
12	130016	1	Stop Block
13	130017	1	Link Pin
14	130018	1	Stop Pin
15	130019	1	Brass Tip
16	130021	2	SHCS 5/16-18 x .750
17	130022	1	SQHSS 5/16-18 x 1.500 Cup Pt.
18	130023	1	SSS 1/4-20 x .375 Cup Pt.
19	130024	1	SSS 1/4-20 x .750 Cup Pt.
20	130025	2	SSS 1/4-20 x .250 Cup Pt.
21	130028	1	FHCS #10-32 x .375
22	130060	2	SHCS #4-40 x 1.000
23	130062	1	Insert: Threaded (thinwall) 9/16-12 x 7/16-14
24	130031	2	Pin, Segment Plate
25	130039	1	Adjustment Screw
26	838-6	1	Pin: Dowel .250 x .625
27	836-A-3	1	SSS 5/16-18 x .625 Cup Pt.
28	130046	2	SHCS 5/16-24 x .625
29	130047	2	SHCS 5/16-24 x 1.000
30	834-14-16	4	FHCS 3/8-16 x 1.000
31	130053	1	Independent Stop
32	130054	1	SSS 1/4-20-x .500
33	740-3	1	Adj. Slide Stop Screw 1 5/8

* Item 30 FHCS 3/8-16 x 1.000 Not Shown.

132-EG Series Reversible Tool Slide

Fits both 1st and 2nd positions, for Davenport Automatics

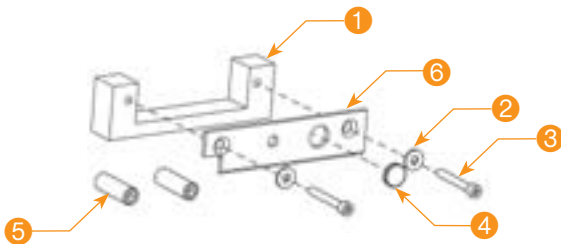


- Reversible – fits both 1st and 2nd position.
- Incorporates new dovetail expansion gib technology.
- Eliminates need to regrind or scrape tapered gib.
- Hardened steel tooling area.
- Precision plated.

Item	Part #	Qty.	Description
1	132000EG	4	Slide (Match Assy)
2	132004	1	Spring Screw
3	132005	1	Spring Compression .466 OD x 3.500
4	132006	10	FHCS, #6-32 x .375
5	132007	2	BHCA #10-32 x .250
6	132008	1	Base Endcap
7	132009	1	Spring Retainer
8	132010	1	Chip Guard 1 st Pos.
9	132011	1	Chip Guard 2 nd Pos.
10	132012	1	Drive Pin 1 st Pos.
11	132013	1	Drive Pin 2 nd Pos.
12	132014	1	Nut: Hex #10-32 with Nylon Insert
13	132015	2	SSS 5/16-24 x .500 Cup Pt.
14	132058	1	Expansion Gib
15	836-A-2	1	SSS 1/4-28 x .625 Cup Pt.
16	140366	4	LHCS 3/8-16 x .750

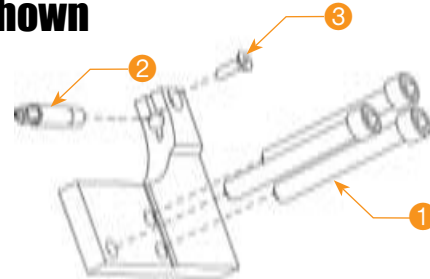
* Item 8 Chip Guard 1st Position and 16 Mounting Screw Not Shown.

Extended Travel Kit 132EGX-Kit



Item	Part #	Qty.	Description
1	132021	1	Spacer for 132-EGX
2	132023	2	Washer Flat: .156 ID
3	132022	2	SHCS #6-32 x 1.000
4	132025	1	Plug Finishing: .390
5	132024	2	SSS 5/16-24 x 1.000 Full Dog

Dead Stop "A" Position 132018 shown



Item	Part #	Qty.	Description
1	132017	3	SHCS 3/8-16 x 3.000
2	132020	1	Dead Stop Screw
3	836-2	1	FHCS #10-32 x .625

End Rolling Attachments

For CNC Threading Applications

Made in the USA

ER SERIES

CJWinter® Machine Technologies introduces a new series of American-made end rolling attachments for thread rolling applications. The CJWinter ER-SERIES end rolling attachments features innovative design that provides high rigidity for longer tool life and better quality threads, as well as superior thread roll protection.

The CJWinter ER-SERIES Features

One piece front plate enclosures:

- Provides superior roll protection from debris
- Have fewer parts and increased rigidity

Carbide bushings are standard equipment on all attachments.

Engraved scale allows thread pitch diameter adjustments on the machine.

High-strength construction for longer tool life.

- Extensive use of tool steel and custom heat treat on wear surfaces
- Special coating on all wear surfaces for smoother operation and extended life
- Cheaper operating costs = More profits for you at no extra charge
- Carbide Bushings replace cumbersome needle bearings

Compact sizes fit virtually any type of machine including CNC turning centers, Swiss, Multi-Spindle and many others.

Shank Sizes (custom shank sizes are also available).

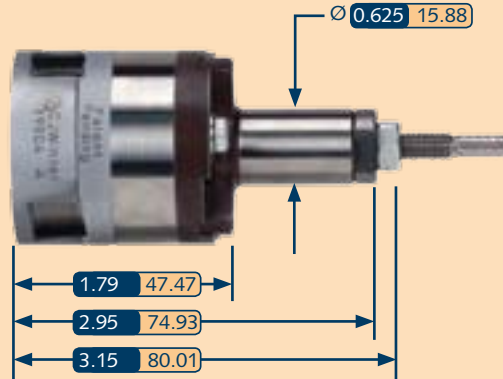
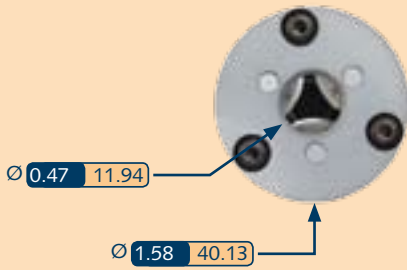
- ER 189: .625" & .750" Standard Shank
- ER 190: .750" Standard Shank
- ER 191: 1" Standard Shank



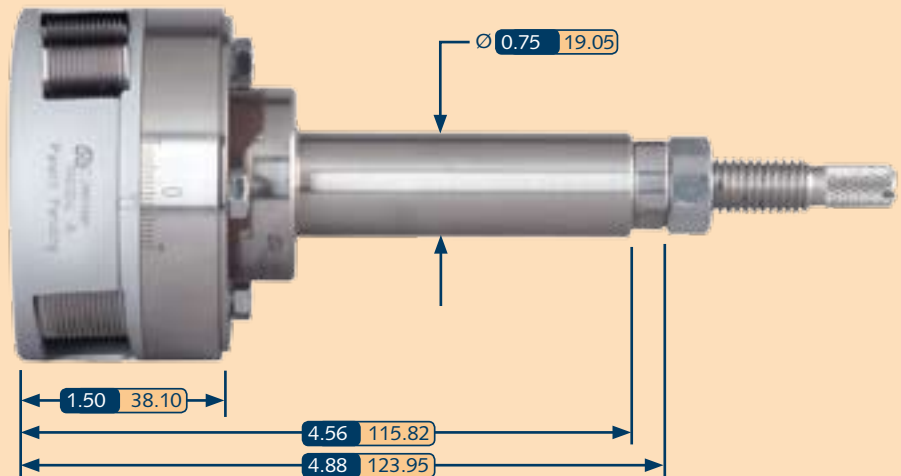
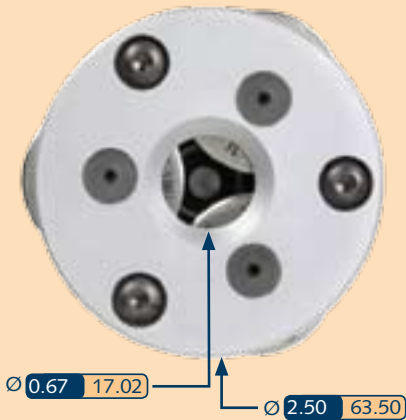


Fits Swiss Style Machines!

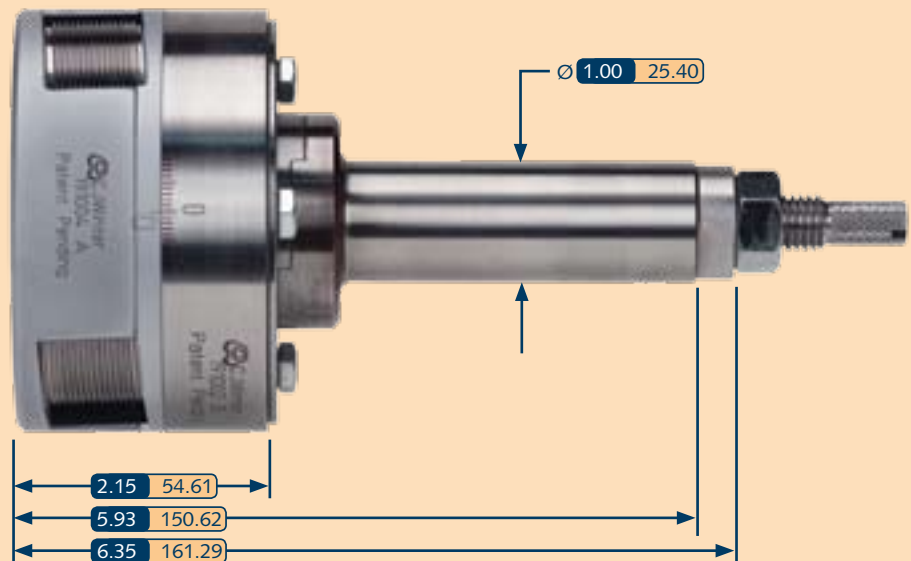
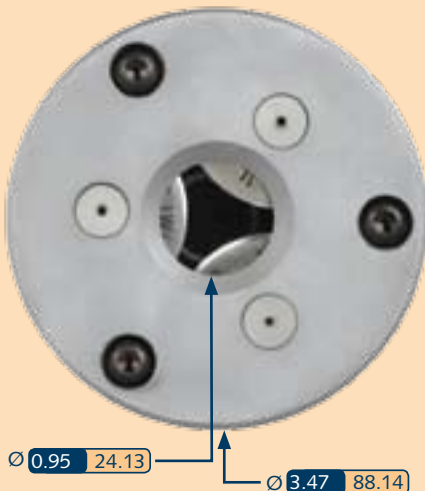
Model 189



Model 190



Model 191



Consult factory for specific application information

189 ER Series Thread Rolls

Metric ISO Threads			
Size	In Stock (Y/N)		
	.6L	1L	2L
M 3.5 x 0.6			
M 4 x 0.75			
M 4 x 0.7			
M 4 x 0.5			
M 4.5 x 0.75			
M 4.5 x 0.5			
M 5 x 0.9			
M 5 x 0.8			
M 5 x 0.75			
M 5.5 x 0.9			
M 5.5 x 0.75			
M 6 x 1			

Unified Threads			
Size	In Stock (Y/N)		
	.6L	1L	2L
#6-40			
#8-32			
#8-36			
#10-24			
#10-32			
#12-24			
#12-28			
#12-32			
1/4-20			
1/4-28			
1/4-32			

190 ER Series Thread Rolls

Metric ISO Threads			
Size	In Stock (Y/N)		
	.6L	1L	2L
M 6 x 1			
M 6 x 0.75			
M 7 x 1			
M 7 x 0.75			
M 8 x 1.25			
M 8 x 1			
M 9 x 1.25			
M 9 x 1			
M 10 x 1.5			
M 10 x 1.25			
M 10 x 1			

Unified Threads			
Size	In Stock (Y/N)		
	.6L	1L	2L
1/4-20			
1/4-24			
1/4-27			
1/4-28			
1/4-32			
5/16-18			
5/16-20			
5/16-24			
5/16-28			
3/8-16			
3/8-18			
3/8-20			
3/8-24			
7/16-14			
7/16-16			
7/16-18			
7/16-20			
7/16-27			

Key:	Roll Type	Delivery
	Stock	Ship same day
	Standard	1-5 days

*Call for special non-standard thread roll delivery times

191 ER Series Thread Rolls

Metric ISO Threads			
Size	In Stock (Y/N)		
	.6L	1L	2L
M 8 x 1.25			
M 8 x 1			
M 8 x 0.75			
M 9 x 1.25			
M 9 x 1			
M 10 x 1.5			
M 10 x 1.25			
M 11 x 1.5			
M 12 x 1.75			
M 12 x 1.5			
M 12 x 1.25			
M 13 x 1.5			
M 14 x 2			
M 14 x 1.5			
M 15 x 1.5			
M 16 x 2			
M 16 x 1.25			

Unified Threads			
Size	In Stock (Y/N)		
	.6L	1L	2L
5/16-18			
5/16-24			
5/16-28			
3/8-16			
3/8-24			
7/16-14			
7/16-16			
7/16-20			
1/2-13			
1/2-16			
1/2-18			
1/2-20			
9/16-12			
9/16-14			
9/16-16			
9/16-18			
5/8-11			
5/8-12			
5/8-16			
5/8-18			

Model 234-SA Series Rotary Radial Attachment

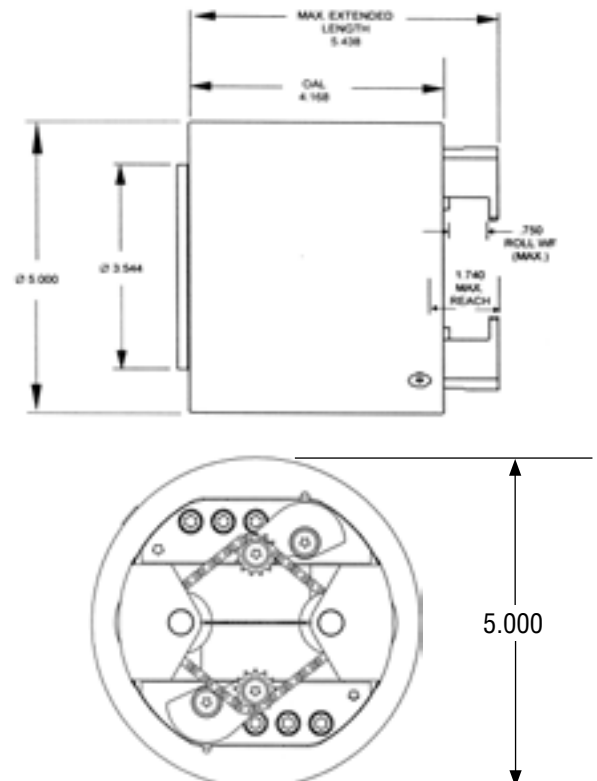


Model 234-SA for Hydromat® Machines

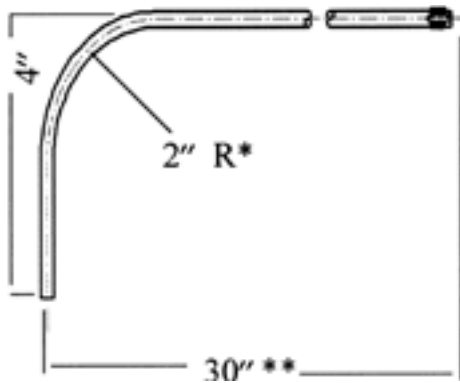
- Fast and easy set up; this compact 4.0 height from spindle to nose attachment has close to shoulder rolling within .125 depending on the application.
- In most cases the Model 234 can roll threads behind a shoulder or on both sides of a shoulder at the same time.
- Complete control over roll infeed and RPM.
- Timing compensator reduces or eliminates most threading problems.

234-SA Series Thread Roll Capacities:

#0-80 to 3/4-32	1/16-27 NPT to 3/8-18 NPT	M1.4 x 0.3 to M18 x 2.5
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Consult factory for specific application information



* 3.5 available for special applications.

** 32 available for extended bed machines.

Tolerance ranges are as follows:

- H1 Basic to Basic plus .0005"
- H2 Basic plus .0005" to Basic plus .001"
- H3 Basic plus .0001" to Basic plus .0015"
- H4 Basic plus .0015" to Basic plus .002"
- H5 Basic plus .002" to Basic plus .0025"
- H6 Basic plus .0025" to Basic plus .003"
- H7 Basic plus .003" to Basic plus .0035"

Please supply print of bent shank tap required.

Ground thread taps above basic pitch diameter tolerance are identified by letter "H".

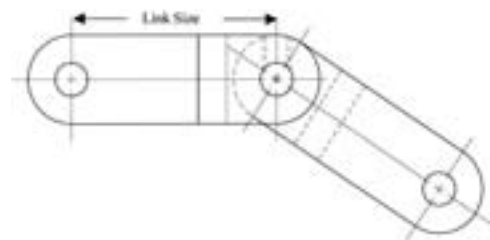
Refer to factory for special thread sizes, pitch diameters not listed and taps or nibs supplied by customer. If shank diameter is different than shown, please specify size required.

ISO Metric Bent Shank Taps – consult factory when ordering.

Nominal Size	Threads Per Inch		Pitch Diameter	No. Flutes	Approx. Shank Diameter	
	NC	NF				
#2	56	----	H2	2	0.058	----
#2	56	----	H1	2	0.058	----
#2	----	64	H2	2	----	0.058
#3	48	----	H2	2	0.066	----
#3	----	56	H2	2	----	0.069
#3	----	56	H1	2	----	0.069
#4	40	----	H2	2	0.078	----
#4	40	----	H1	2	0.078	----
#4	----	48	H2	2	----	0.078
#5	40	----	H2	2	0.089	----
#5	40	----	H1	2	0.089	----
#5	----	44	H2	2	----	0.089
#6	32	----	H2, H3	2	0.093	----
#6	32	----	H1, H7	2	0.093	----
#6	----	40	H2	2	----	0.100
#8	32	----	H2, H3	2	0.120	----
#8	32	----	H1, H7	2	0.120	----
#8	----	36	H2	2	----	0.125
#10	24	----	H3	2	0.135	----
#10	24	----	H2	2	0.135	----
#10	24	----	H1, H7	2	0.135	----
#10	----	32	H2, H3	2	----	0.139
#10	----	32	H7	2	----	0.139
#12	24	28	H3	2	0.166	0.166
1/4	20	----	H1, H2, H5	2	0.184	----
1/4	20	----	H3	2	0.184	----
1/4	----	28	H1, H2, H3, H4	2	----	0.197
1/4	----	28	H2, H4	3	----	0.197
5/16	18	----	H3	2	0.242	----
5/16	18	----	H2, H5	2	0.242	----
5/16	18	----	H1	2	0.242	----
5/16	18	----	H3, H5	3	0.242	----
5/16	----	24	H3	2	----	0.250
5/16	----	24	H1, H2, H4	2	----	0.250
5/16	----	24	H4	3	----	0.250
3/8	16	----	H3	3	0.281	----
3/8	16	----	H2	3	0.281	----
3/8	16	----	H1, H5	3	0.281	----
3/8	----	24	H3	3	----	0.312
3/8	----	24	H1, H2, H4	3	----	0.312

Links & Link Blanks

For Davenport Scissors
Type Attachments



A full range of links, from 31/32 to 1 9/16 are available in 1/64 increments. These will accommodate most thread sizes and number of starts for Davenport attachments.

Custom Link Sizes					
Thread Size	Link Size	Thread Size	Link Size	Thread Size	Link Size
4-40	1 13/32	1/4-28	1 3/8	5/8-18	1 3/16
4-48	1 7/16	1/4-32	1 11/32	5/8-24	1 1/8
5-40	1 3/8	5/16-18	1 23/64	5/8-32	1 3/32
5-44	1 11/32	5/16-24	1 1/4	3/4-20	1 15/32
6-32	1 13/32	5/16-32	1 15/32	M3.5 x 0.6	1 3/8
6-40	1 13/32	3/8-16	1 11/32	M4.0 x 0.7	1 29/64
8-32	1 7/16	3/8-24	1 13/64	M5.0 x 0.8	1 13/32
8-36	1 3/8	3/8-32	1 9/64	M6.0 x 1.0	1 5/16
10-24	1 13/32	7/16-20	1 11/32	M8.0 x 1.25	1 9/32
10-28	1 1/2	1/2-13	1 7/32	M10.0 x 1.5	1 17/64
10-32	1 29/64	1/2-20	1 3/32	M12.0 x 1.75	1 19/64
12-24	1 1/2	1/2-24	1 1/32	1/16-27NPT/NPTF	1 1/4
12-28	1 7/16	1/2-28	1 1/64	1/8-27 NPT/NPTF	1 1/16
12-32	1 13/32	9/16-12	1 15/32	1/4-18 NPT/NPTF	31/32
12-36	1 3/8	9/16-18	1 3/8	3/8-18 NPT/NPTF	1 1/32
1/4-20	1 1/2	9/16-24	1 5/16	1/2-14 NPT/NPTF	1 13/32
1/4-24	1 7/16	5/8-11	1 5/16		

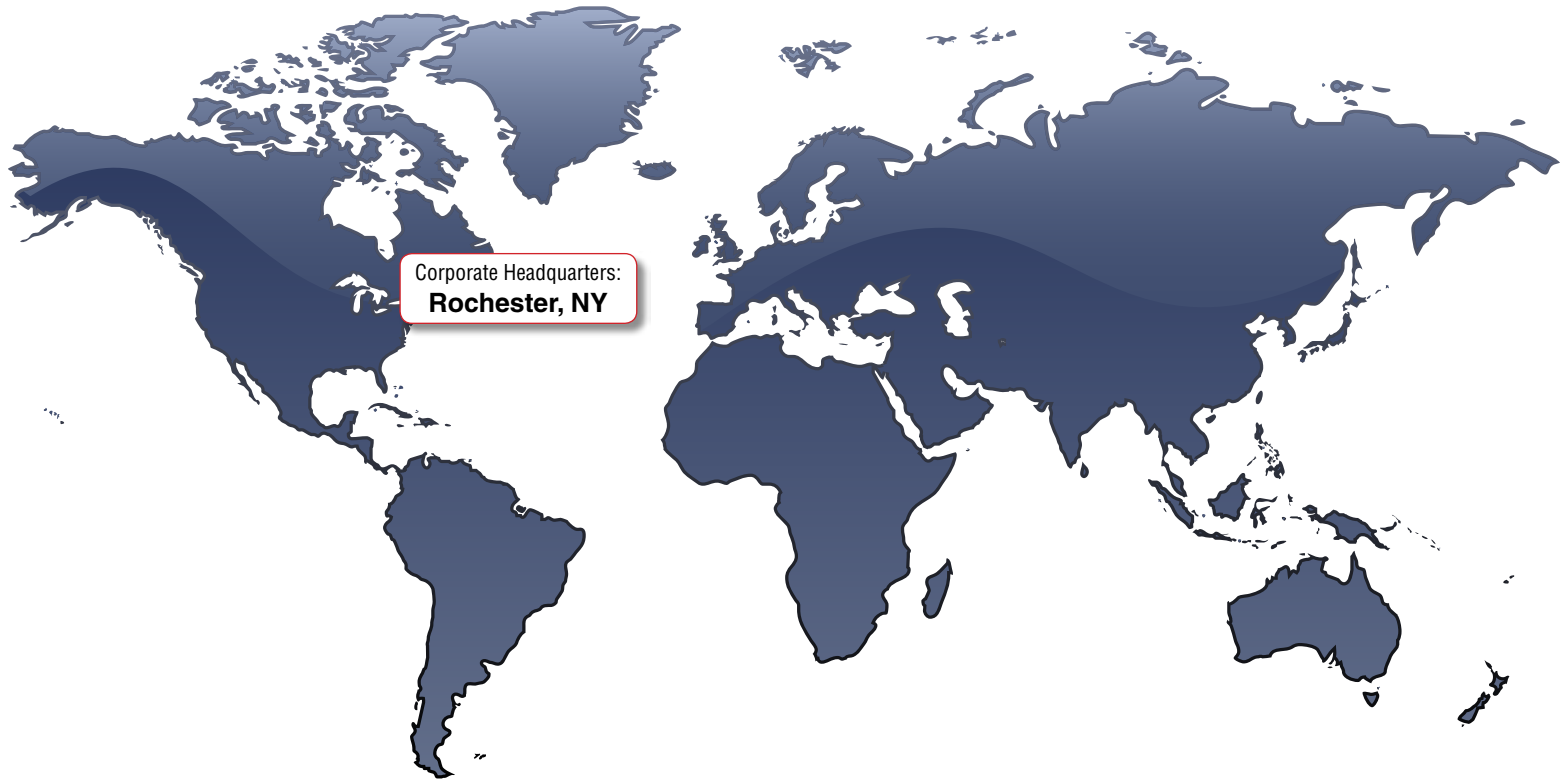
Problem	Cause	Solution
Poor Thread Form	<ol style="list-style-type: none"> 1. Work bending during rolling. 2. Rolls not in match. 3. Too many work revolutions. 4. Centerline of rolls not parallel with center line of work. 	<ol style="list-style-type: none"> 1. Support part during rolling. 2. Re-synchronize rolls. 3. Increase rate of roll penetration. 4. Check slide for alignment.
Thread Filled Out in Center, But Not Towards Ends, or Vice Versa	<ol style="list-style-type: none"> 1. Blank with varying diameter from end to end. 2. Center line of rolls not parallel with center line of work. 	<ol style="list-style-type: none"> 1. Check blank for taper or shave tool not reaching center. 2. Check slide for alignment.
Poor Finish on Threads	<ol style="list-style-type: none"> 1. Overfilling rolls. 2. Rolls not synchronized. 3. Material accumulated in threads on rolls. 4. Material not ductile enough for cold-working. 5. Chips, from other operations, between rolls and work. 6. Correspondingly poor finish on rolls. 7. Rolls that are worn or broken. 	<ol style="list-style-type: none"> 1. Check blank diameter oversize. 2. Re-synchronize thread rolls. 3. Replace rolls if material cannot be removed. 4. Change material. 5. Make sure a good jet of clean oil is reaching rolling position. 6. Replace rolls. 7. Replace rolls.
Split Thread-Axially	<ol style="list-style-type: none"> 1. Seamy stock. 2. Mark from shave tool or hollow mill. 	<ol style="list-style-type: none"> 1. Change Stock. 2. Regrind tooling.
Crests Not Filled Out (Many users do not consider this a serious objection and by allowing their threads to pass with crests not filled out, overloading of rolls is avoided and roll life is prolonged.)	<ol style="list-style-type: none"> 1. Blank too small. 2. Thread on roll too deep. 	<ol style="list-style-type: none"> 1. Increase blank diameter. 2. Replace rolls with rolls of correct depth for job. Note: Special truncated rolls are available from CJWinter.
Scuffed Crests	<ol style="list-style-type: none"> 1. Attachment not retracting fast enough. 2. Rolls and gear train binding. 3. Rolling not on center line of work. 4. Material accumulated in threads on rolls. 	<ol style="list-style-type: none"> 1. Increase speed of roll retraction. 2. Check gear train, remove any foreign matter. 3. Reset slide with gauge. 4. Check oil jet flowing on rolling position.
Hollow Work, Hole Closed In	<ol style="list-style-type: none"> 1. Insufficient wall thickness. 2. Improper supporting mandrel. 3. Feed rate too high, causing too rapid penetration. 	<ol style="list-style-type: none"> 1. Drill later in cycle. 2. Use proper supporting mandrel. 3. Slow down penetration rate.
Hollow Work, Hole Enlarged	<ol style="list-style-type: none"> 1. Material extruding due to insufficient wall thickness. 2. Supporting mandrel too tight. 3. Blank too large on major diameter. 4. Feed rate too high causing too rapid penetration. 	<ol style="list-style-type: none"> 1. Use smaller drill before rolling. 2. Reduce mandrel diameter. 3. Reduce blank diameter. 4. Slow down rate of penetration.
Hollow Work, Out of Round	<ol style="list-style-type: none"> 1. Material deforming due to insufficient wall thickness. 2. Feed rate too high causing too rapid penetration. 3. Too few work revolutions. 	<ol style="list-style-type: none"> 1. Drill later in cycle. 2. Slow down rate of penetration. 3. Slow down rate of penetration.
Hollow Work, Tapered Threads	<ol style="list-style-type: none"> 1. Uneven and insufficient wall thickness. 2. Improper mandrel not giving support where needed. 3. Feed rate too high causing too rapid penetration. 4. Taper of rolls not great enough to compensate for tendency of work to taper. 	<ol style="list-style-type: none"> 1. Drill later in cycle. 2. Check mandrel for size with hole. 3. Slow down rate of penetration. 4. Use correct rolls for job.

Thread Roll Trouble Shooting Guide

Problem	Cause	Solution
Slivers or Flakes on Threads	<ol style="list-style-type: none"> 1. Rolls not in match. 2. Center line of rolls not parallel with center line of work. 3. Loose or worn cross slide or adapter. 4. Overfilling rolls. 5. Material not adaptable to cold-working. 6. Rough finish on blank. 7. Seamy stock. 8. Feed rate too slow, causing rolls to slip on work. 9. Incorrect roll diameter. 	<ol style="list-style-type: none"> 1. Re-synchronize rolls. 2. Check slide for alignment. 3. Check slide gib and spring. Tighten adapter if used. 4. Reduce blank diameter. 5. Change material. Check with material supplier. 6. Regrind tooling. 7. Not suitable for roll threading. 8. Increase rate of penetration. 9. Use correct rolls for job.
Drunken Threads	<ol style="list-style-type: none"> 1. Rolls not in match. 2. Center line of rolls not parallel with center line of work. 3. Inaccurate rolls. 4. Work bending during rolling. 	<ol style="list-style-type: none"> 1. Re-synchronize rolls. 2. Check slide for alignment. 3. Replace rolls. 4. Support part during rolling operation or slow down penetration rate if possible.
Offsize Threads: <ol style="list-style-type: none"> 1. Pitch diameter and major diameter, both oversize. 2. Pitch diameter oversize, major diameter correct size. 3. Pitch diameter oversize, major diameter undersize. 4. Pitch diameter correct size, major diameter oversize. 5. Pitch diameter correct size, major diameter undersize. 6. Pitch diameter undersize, major diameter oversize. 7. Pitch diameter undersize, major diameter correct size. 8. Pitch diameter and major diameter both undersize. 	<ol style="list-style-type: none"> 1. Oversize blanks. 2. Oversize blanks. If finished thread is full, thread on roll is too shallow. 3. Insufficient penetration on rolls. If finished thread is full, thread on rolls is too shallow. 4. Blank too large. Thread on roll deeper than necessary. 5. Blank too small. If finished thread is full, thread on roll is too shallow. 6. Excessive penetration. Thread on roll deeper than necessary. 7. Blank too small. Thread on roll deeper than necessary. 8. Blank too small. 	<ol style="list-style-type: none"> 1. Reduce blank diameter. 2. Use correct rolls for job. 3. Increase roll penetration. 4. Reduce blank diameter. 5. Increase blank diameter. Use correct rolls for job. 6. Reduce roll penetration. Use correct rolls for job. 7. Increase blank diameter. Use correct rolls for job. 8. Increase blank diameter.
Out of Round Threads	<ol style="list-style-type: none"> 1. Out of round blank. 2. Center line of rolls not parallel with center line of work. 3. Feed rate too high. 4. Insufficient work revolutions. 5. Material not ductile enough for cold working. 6. Attachment not on center line of work. 	<ol style="list-style-type: none"> 1. Shave tool not reaching center or not cleaning up rough form diameter. 2. Check slide for alignment 3. Reduce rate of penetration 4. Reduce rate of penetration 5. Change material. Check with supplier. 6. Reset cross slide with gauge.
Tapered Threads: <ol style="list-style-type: none"> 1. Pitch diameter straight. Major diameter tapered and not filled out on small end. 2. Pitch diameter and major diameter both tapered same way. 3. Pitch diameter and major diameter tapered in opposite directions and thread not filled out on end with small major diameter. 	<ol style="list-style-type: none"> 1. Tapered blank. 2. Tapered blank. 3. Rolls not penetrating deep enough on edge with large pitch diameter and small major diameter, or work bending during rolling. 	<ol style="list-style-type: none"> 1. Straighten blank. 2. Straighten blank. 3. Support part during rolling. Part deflecting out of contact with center of rolls.
Thread with Expanded Lead	<ol style="list-style-type: none"> 1. Expanded lead in rolls. 2. Material extruding on short length of blank. 	<ol style="list-style-type: none"> 1. Use correct rolls. 2. Use longer blank and remove excess in another position.
Thread with Contracted Lead	<ol style="list-style-type: none"> 1. Contracted lead in rolls. 	<ol style="list-style-type: none"> 1. Use correct rolls for job.

Notes

Lined area for notes.



Corporate Headquarters:
Rochester, NY

Mission Statement

CJWinter Machine Technologies manufactures the premier line of thread rolling attachments, thread rolls, specialty dies and tooling for Davenport and CNC machines. CJWinter has proven that speedy delivery, flawless quality and competitive prices can all be delivered simultaneously. Our team of dedicated engineers focuses on solving every customer's thread rolling and metal forming challenges. Our specialty is providing superior products in the industries shortest lead time.

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