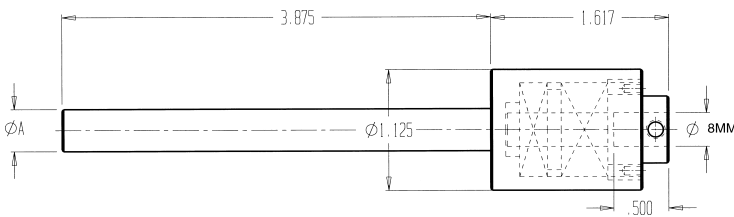


ADJUSTMENT FREE INTERNAL ROTATING BROACH TOOLS FOR SWISS MACHINES



CAT. NO.	A
ORBSWS-10MM	10MM
ORBSWS-12MM	12MM
ORBSWS-14MM	14MM
ORBSWS-16MM	16MM
ORBSWS-20MM	20MM
ORBSWS-22MM	22MM
ORBSWS-25MM	25MM
ORBSWS-625	.625
ORBSWS-750	.750
ORBSWS-1000	1"

Hex, Square and Six Lobed broaches in stock to fit these holders.



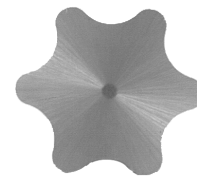
- Adjustment free
- No center indicating required
- Smaller head diameter eliminates interference
- Longer shank can be cut to proper length
- Short head length for limited back work space
- Built in wobble cutting features 1° angle
- Fits most Swiss type & gang machines
- Setup gages available for these holders on page 54.

NOTE: USE ONLY 8MM DIA X 28MM LONG BROACHES (SHOWN ON PAGES 40 & 41)

TOOL HOLDERS
BROACH TOOLS

INTERNAL BROACHES FOR 6 LOBED HEAD SCREWS FOR SWISS HOLDERS

8MM SHANK DIA. FOR ORBSWS		
SHAPE	L	CAT. NO.
T5	28MM	SWTO-T5
T6	28MM	SWTO-T6
T7	28MM	SWTO-T7
T8	28MM	SWTO-T8
T9	28MM	SWTO-T9
T10	28MM	SWTO-T10
T15	28MM	SWTO-T15
T20	28MM	SWTO-T20
T25	28MM	SWTO-T25
T27	28MM	SWTO-T27
T30	28MM	SWTO-T30



THESE ARE EXAMPLES OF SPECIAL SHAPES THAT HAVE BEEN SUCCESSFULLY BROACHED - LET US QUOTE ON YOUR REQUIREMENTS.



DOUBLE HEX



FLAT



DOUBLE D



STRAIGHT SPLINE



MULTI KEYWAY



KNURL



KEYWAY



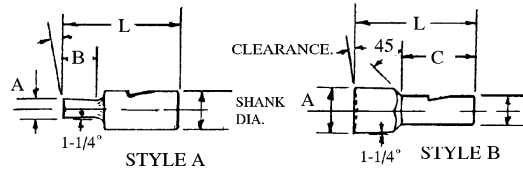
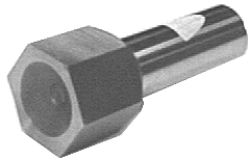
INVOLUTE SPLINE

PLEASE INCLUDE THE FOLLOWING INFORMATION WITH YOUR SPECIAL BROACH INQUIRY:

INTERNAL OR EXTERNAL H/S/S BROACH?
SHAPE OF H/S/S BROACH FORM
CLEARING ID ON INTERNAL?
EXTERNAL CLEARING ON OD?

TOLERANCE IF NOT SHOWN ON PRINT
MATERIAL GRADE OF PART
ARE ANY INTERNAL RADII LESS THAN .0055 ON INT. BROACHES?
ARE ANY EXTERNAL RADII LESS THAN .0055 ON EXT. BROACHES?

IS H/S/S BROACH TO BE USED IN A SOMMA HOLDER?
-IF NOT, WHAT ARE THE BLANK DIM FOR YOUR HLDR & ° OF SPINDLE TILT?
WHAT IS HOLDER SIZE OR SHANK DIA?



- * M2 HSS Hardened
- * Ground all over
- * Angular clamping flat prevents pull out

Available in
T15PM H.S.S.
(Prices on application)

INTERNAL HEX BROACHES FOR SWISS HOLDERS

Inch - 8MM SHANK DIA. FOR ORBSWS

HEX SIZE	A	B	C	L	STYLE	CAT. NO.
.050	.0505	.078	-	28MM	A	SWHX-050
1/16	.0630	.094	-	28MM	A	SWHX-1/16
5/64	.0786	.109	-	28MM	A	SWHX-5/64
3/32	.0947	.141	-	28MM	A	SWHX-3/32
7/64	.1106	.156	-	28MM	A	SWHX-7/64
1/8	.1265	.188	-	28MM	A	SWHX-1/8
9/64	.1421	.219	-	28MM	A	SWHX-9/64
5/32	.1582	.250	-	28MM	A	SWHX-5/32
3/16	.1895	.281	-	28MM	A	SWHX-3/16
7/32	.2212	.344	-	28MM	A	SWHX-7/32
1/4	.2525	.375	-	28MM	A	SWHX-1/4
9/32	.2840	-	.688	28MM	B	SWHX-9/32
5/16	.3155	-	.688	28MM	B	SWHX-5/16
11/32	.3467	-	.625	28MM	B	SWHX-11/32
3/8	.3785	-	.625	28MM	B	SWHX-3/8

Metric - 8MM SHANK DIA. FOR ORBSWS

HEX SIZE	A	B	C	L	STYLE	CAT. NO.
1.5MM	.0605	.094	-	28MM	A	SWHX-1.5
2.0MM	.0805	.109	-	28MM	A	SWHX-2.0
2.5MM	.1005	.156	-	28MM	A	SWHX-2.5
3.0MM	.1205	.188	-	28MM	A	SWHX-3.0
4.0MM	.1605	.250	-	28MM	A	SWHX-4.0
5.0MM	.1995	.313	-	28MM	A	SWHX-5.0
6.0MM	.2395	.375	-	28MM	A	SWHX-6.0
7.0MM	.2785	-	.688	28MM	B	SWHX-7.0
8.0MM	.3185	-	.688	28MM	B	SWHX-8.0
9.0MM	.3575	-	.625	28MM	B	SWHX-9.0
10.0MM	.3985	-	.625	28MM	B	SWHX-10.0

INTERNAL SQUARE BROACHES FOR SWISS HOLDERS

Inch - 8MM SHANK DIA. FOR ORBSWS

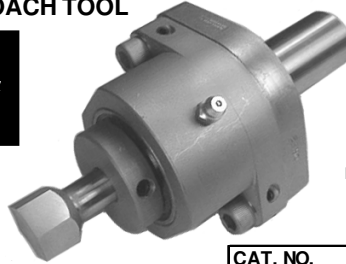
SQUARE SIZE	A	B	C	L	STYLE	CAT. NO.
1/16	.0635	.141	-	28MM	A	SWSQ-1/16
5/64	.0785	.141	-	28MM	A	SWSQ-5/64
3/32	.0947	.141	-	28MM	A	SWSQ-3/32
7/64	.1105	.188	-	28MM	A	SWSQ-7/64
1/8	.1265	.188	-	28MM	A	SWSQ-1/8
9/64	.1421	.281	-	28MM	A	SWSQ-9/64
5/32	.1582	.250	-	28MM	A	SWSQ-5/32
11/64	.1735	.281	-	28MM	A	SWSQ-11/64
3/16	.1895	.281	-	28MM	A	SWSQ-3/16
7/32	.2212	.344	-	28MM	A	SWSQ-7/32
9/32	.2840	-	.625	28MM	B	SWSQ-9/32
5/16	.3155	-	.625	28MM	B	SWSQ-5/16

Metric - 8MM SHANK DIA. FOR ORBSWS

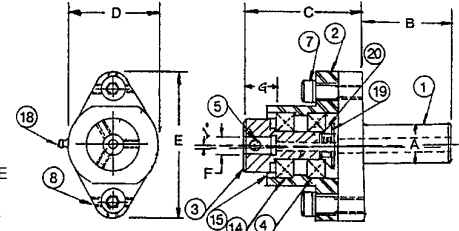
SQUARE SIZE	A	B	C	L	STYLE	CAT. NO.
1.5MM	.0605	.109	-	28MM	A	SWSQ-1.5
2.0MM	.0805	.156	-	28MM	A	SWSQ-2.0
2.5MM	.1005	.188	-	28MM	A	SWSQ-2.5
3.0MM	.1205	.250	-	28MM	A	SWSQ-3.0
4.0MM	.1605	.313	-	28MM	A	SWSQ-4.0
5.0MM	.1995	.375	-	28MM	A	SWSQ-5.0
6.0MM	.2395	-	.688	28MM	B	SWSQ-6.0
7.0MM	.2785	-	.625	28MM	B	SWSQ-7.0

OFFSET INTERNAL ROTATING BROACH TOOL

Also available with
CAT, VDI, CAPTO C6, HSK &
Morse Taper Shanks



HAS KNOCK OUT
HOLE THRU SPINDLE
FOR BROKEN
BROACH REMOVAL



This tool is used to produce hexagon, square and other irregular internal shapes in the workpiece as it is rotating in the spindle of the machine. Minimal turret driving force is required due to the spindle offset which distributes the load of the cut. The tool holder spindle, which is mounted in ball bearings, rotates freely with the workpiece and does not require auxiliary driving attachments. Fine adjusting screws are provided for accurate aligning of the broach with the pre-drilled hole in the workpiece.

Can be used on B&S, Davenport, and multi-spindle screw machines, as well as turret lathes and CNC machines.

Standard from stock H.S.S.

broaches shown on pages 45-49.

Broach gages available - see page 44.

CAT. NO.	A	B	C	D	E	F	G
ORB00	5/8	1-1/2	1-59/64	1-1/2	2-7/16	.315	9/16
ORB00/16MM	16MM	1-1/2	1-59/64	1-1/2	2-7/16	.315	9/16
ORB00/20MM	20MM	1-1/2	1-59/64	1-1/2	2-7/16	.315	9/16
ORB00/22MM	22MM	1-1/2	1-59/64	1-1/2	2-7/16	.315	9/16
ORB0S (Davenport)	3/4	2"	1-59/64	1-1/2	2-7/16	.315	9/16
ORB0	3/4	2"	2-17/32	2-3/8	3-5/16	.500	.742
ORB2	1"	2"	2-17/32	2-3/8	3-5/16	.500	.742
ORB2/20MM	20MM	2"	2-17/32	2-3/8	3-5/16	.500	.742
ORB2/22MM	22MM	2"	2-17/32	2-3/8	3-5/16	.500	.742
ORB2/25MM	25MM	2"	2-17/32	2-3/8	3-5/16	.500	.742
ORB3	1-1/4	3"	2-17/32	2-3/8	3-5/16	.500	.742
ORB3/32MM	32MM	3"	2-17/32	2-3/8	3-5/16	.500	.742
ORB4	1-1/2	3"	2-17/32	2-3/8	3-5/16	.500	.742
ORBHDS	1-1/2	3"	4-9/16	3-1/2	5-1/4	.750	1.250
ORBHDS/32MM	32MM	3"	4-9/16	3-1/2	5-1/4	.750	1.250
ORBHD	1-3/4	3"	4-9/16	3-1/2	5-1/4	.750	1.250

Part No.	ORB00 Cat. No.	ORB0S Cat. No.	ORB0 Cat. No.	ORB2 Cat. No.	ORB3 Cat. No.	ORB4 Cat. No.	ORBHDS-1 Cat. No.	ORBHD Cat. No.
1. Shank	ORB00-1	ORB0S-1	ORB0-1	ORB2-1	ORB3-1	ORB4-1	ORBHDS-1	ORBHD-1
2. Body	ORB00-2N	ORB00-2N	ORB2-2N	ORB2-2N	ORB2-2N	ORB2-2N	ORBHD-2	ORBHD-2
3. Spindle	ORB00-3N	ORB00-3N	ORB2-3N	ORB2-3N	ORB2-3N	ORB2-3N	ORBHD-3	ORBHD-3
4. Radial Bearing	ORB00-4N	ORB00-4N	ORB2-4N	ORB2-4N	ORB2-4N	ORB2-4N	ORBHD-4N	ORBHD-4
5. Set Screw	ATT00-12	ATT00-12	ORB2-5	ORB2-5	ORB2-5	ORB2-5	FARH2-10	FARH2-10
7. Clamp Screw & Washer	ORB00-7	ORB00-7	ORB2-7	ORB2-7	ORB2-7	ORB2-7	ORBHD-7	ORBHD-7
8. Adj. Screw	ATT0-35	ATT0-35	ORB2-8	ORB2-8	ORB2-8	ORB2-8	ORB2-5	ORB2-5
14. Ang. Bearing	ORB00-14N	ORB00-14N	ORB2-14N	ORB2-14N	ORB2-14N	ORB2-14N	ORBHD-14	ORBHD-14
15. Seal	ORB00-15	ORB00-15	--	--	--	--	--	--
18. Grease Fitting	ORB00-18	ORB00-18	ORB00-18	ORB00-18	ORB00-18	ORB00-18	ORB00-18	ORB00-18
19. Spindle Nut	ORB00-19	ORB00-19	ORB2-19	ORB2-19	ORB2-19	ORB2-19	ORBHD-19	ORBHD-19
20. Spindle Washer	ORB00-20	ORB00-20	ORB2-20	ORB2-20	ORB2-20	ORB2-20	ORBHD-20	ORBHD-20

Please lubricate holder before using:
For running at LOW to MODERATE RPM
we recommend ZENIPLEXII-Extreme
Pressure Aluminum Complex Grease.
(Do not overpack with grease).

CAT. NO.	DESCRIPTION
GREASE-ORB	Grease 14 oz. Tube

For running HIGH RPM, use a good
lubricating oil instead of this grease.

COLLET CHUCK STYLE BROACH TOOL HOLDERS (PATENT PENDING)



More versatile, just change the collet to accept any shank diameter broaching tool within the collet range. For example, you may want to purchase three common size collets, 0.315 (8mm), 0.472 (12mm), and 0.500 for the ER20 broach tool holder. This will allow you to use one holder for all shank sizes.

Built in stop screw allows you to adjust for different length broaches or to compensate for lengths on re-sharpened broaches.

Eliminates necessity of centering cutting tool to "spindle" of broaching holder. No screws to knock cutting tool off center.

Use only exact size **High Precision** DIN6499 ER collets.

Standard from stock HSS broaches shown on pages 45 - 49.

Broach gages available - see page 44.



CAT. NO.	SHANK DIA.	SHANK LENGTH	PROJECTION	NUT DIA	COLLET I.D. (std)	COLLET MAX. CAP.
ORB00-ER16M	5/8"	1-1/2"	2-11/16"	22MM	.315	13/32"
ORB0S-ER16M*	5/8"	1-1/2"	2-11/16"	22MM	.315	13/32"
ORB0-ER20H	3/4"	2"	3-5/8"	1.348	.500	13MM
ORB2-ER20H	1"	2"	3-5/8"	1.348	.500	13MM
ORB3-ER20H	1-1/4"	3"	3-5/8"	1.348	.500	13MM
ORB4-ER20H	1-1/2"	3"	3-5/8"	1.348	.500	13MM

NOTE: COLLET NUT, COLLET WRENCH, SPINDLE WRENCH AND STANDARD HIGH PRECISION COLLET INCLUDED WITH EACH CAT. NO.

*Limited applications due to 47/64" longer projection than standard Davenport broach holder ORBOS shown above.

HIGH PRECISION REPLACEMENT COLLETS (Common Broach Shank Sizes)

CAT. NO.	I.D.
ER16-8HP	8mm / .315
ER20-8HP	8mm / .315
ER20-12HP	12mm / .472
ER20-1/2HP	.500

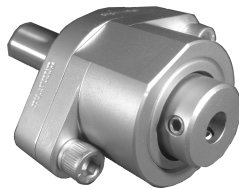
ALSO AVAILABLE WITH METRIC SHANKS

FULL RANGE OF HIGH PRECISION COLLETS AVAILABLE



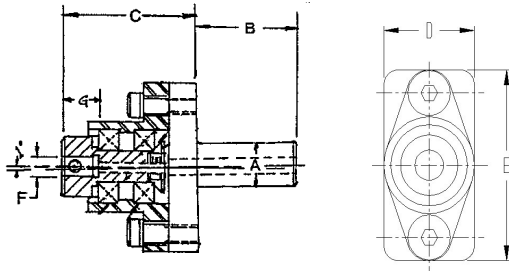
CNC LATHE, ADJUSTMENT FREE, INTERNAL BROACH TOOL HOLDER

Introducing a wobble broach tool that can be quickly setup for use in CNC lathes.
(Not for use on milling machines)



CONVENTIONAL CNC HOLDERS

CAT. NO.	A	B	C	D	E	F	G
ORB00-CNC	5/8	1-1/2	1-59/64	1-1/2	2-7/16	.315	9/16
ORB0-CNC	3/4	2"	2-17/32	2-3/8	3-5/16	.500	.742
ORB2-CNC	1"	2"	2-17/32	2-3/8	3-5/16	.500	.742
ORB3-CNC	1-1/4"	3"	2-17/32	2-3/8	3-5/16	.500	.742
ORB4-CNC	1-1/2"	3"	2-17/32	2-3/8	3-5/16	.500	.742



- Adjustment free holder for CNC lathes (not for use on milling machines)
- Requires X-Axis machine adjustment only
- No center indicating required
- Hex and square broaches in stock for these holders on pages 45-49
- Setup gages available for these holders on page 44.

COLLET CHUCK STYLE CNC HOLDERS

HAVE ALL THE SAME FEATURES AS THE COLLET CHUCK
STYLE HOLDERS LISTED ON PAGE 42



CAT. NO.	A	B	C	NUT DIA.	COLLET I.D. (std)	COLLET MAX. CAP.
ORB00-CNC-ER16M	5/8"	2"	2-11/16"	22MM	.315	13/32"
ORB0-CNC-ER20H	3/4"	2"	3-5/8"	1.348	.500	13MM
ORB2-CNC-ER20H	1"	2"	3-5/8"	1.348	.500	13MM
ORB3-CNC-ER20H	1-1/4"	3"	3-5/8"	1.348	.500	13MM
ORB4-CNC-ER20H	1-1/2"	3"	3-5/8"	1.348	.500	13MM

NOTE: COLLET NUT, COLLET WRENCH, SPINDLE WRENCH AND STANDARD HIGH PRECISION COLLET INCLUDED WITH EACH CAT. NO.

OFFSET EXTERNAL ROTATING BROACH TOOL



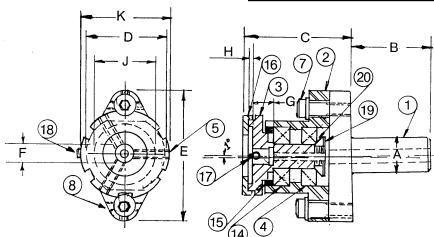
This tool is used to produce hexagons, splines or other irregular shapes on external surfaces of the workpiece as it is rotating in the spindle of the machine.

Standard from stock H.S.S. external broaches shown on pg 50.

ALL EXTERNAL HOLDERS EXCEPT ORBX00 CAN ALSO BE USED FOR INTERNAL BROACHING!

ALL OTHER FEATURES & PARTS ARE THE SAME AS THE INTERNAL ROTATING BROACH TOOLS SHOW ABOVE.

Also available with CAT, VDI, CAPTO C6, HSK & Morse Taper Shanks



CAT. NO.	A	B	C	D	E	F	G	H	J+.001	K
ORBX00	5/8	1-1/2	2-1/16	1-1/2	2-7/16	.375	1/2	3/16	.945	1-5/8
ORBX00/16MM	16MM	1-1/2	2-1/16	1-1/2	2-7/16	.500	1/2	3/16	.945	1-5/8
ORBX00/20MM	20MM	1-1/2	2-1/16	1-1/2	2-7/16	.500	1/2	3/16	.945	1-5/8
ORBX00/22MM	22MM	1-1/2	2-1/16	1-1/2	2-7/16	.500	1/2	3/16	.945	1-5/8
ORBX0S (Davenport)	3/4	2"	2-13/32	1-1/2	2-7/16	.500	11/16	3/16	.945	1-5/8
ORBX0	3/4	2"	2-15/16	2-3/8	3-5/16	.500	.700	3/16	1.575	2-3/8
ORBX2	1"	2"	2-15/16	2-3/8	3-5/16	.500	.700	3/16	1.575	2-3/8
ORBX2/20MM	20MM	2"	2-15/16	2-3/8	3-5/16	.500	.700	3/16	1.575	2-3/8
ORBX2/22MM	22MM	2"	2-15/16	2-3/8	3-5/16	.500	.700	3/16	1.575	2-3/8
ORBX2/25MM	25MM	2"	2-15/16	2-3/8	3-5/16	.500	.700	3/16	1.575	2-3/8
ORBX3	1-1/4	3"	2-15/16	2-3/8	3-5/16	.500	.700	3/16	1.575	2-3/8
ORBX3/32MM	32MM	3"	2-15/16	2-3/8	3-5/16	.500	.700	3/16	1.575	2-3/8
ORBX4	1-1/2	3"	2-15/16	2-3/8	3-5/16	.500	.700	3/16	1.575	2-3/8
ORBXHDS	1-1/2	3"	4-3/4	3-1/2	5-1/4	.750	7/8	3/16	2.500	3-5/8
ORBXHDS/32MM	32MM	3"	4-3/4	3-1/2	5-1/4	.750	7/8	3/16	2.500	3-5/8
ORBXHD	1-3/4	3"	4-3/4	3-1/2	5-1/4	.750	7/8	3/16	2.500	3-5/8

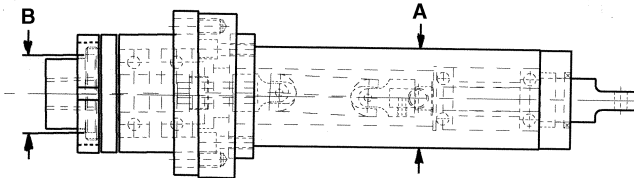
Part No.	ORBX00 Cat No.	ORBX0S Cat No.	ORBX0 Cat No.	ORBX2 Cat No.	ORBX3 Cat No.	ORBX4 Cat No.	ORBXHDS Cat No.	ORBXHD Cat No.
3. Spindle	ORBX00-3N	ORBX0S-3N	ORBX2-3N	ORBX2-3N	ORBX2-3N	ORBX2-3N	ORBXHD-3	ORBXHD-3
5. Set Screw	—	ORB2-5	ORB2-5	ORB2-5	ORB2-5	ORB2-5	--	--
16. Spindle Cap	ORBX00-16	ORBX00-16	ORBX2-16	ORBX2-16	ORBX2-16	ORBX2-16	ORBXHD-16	ORBXHD-16
17. Drive Pin	ORBX00-17	ORBX00-17	ORBX2-17	ORBX2-17	ORBX2-17	ORBX2-17	ORBX2-17	ORBX2-17
Spanner Wrench	ADH00-3	ADH00-3	ADH2-3	ADH2-3	ADH2-3	ADH2-3	ORBXHD-SP	ORBXHD-SP

DRIVEN ROTATING BROACH HOLDERS FOR MULTIPLE SPINDLE AND CNC MACHINES

- Rotated by machine drive shaft
- Mounts in endworking tool holder block
- Rotates broach at same RPM as workpiece
- Eliminates spiralling
- Eliminates skidding action at start of cut
- Produces accurate straight broached forms
- Available for external and internal cutting
- Spline drive shafts available (Price on application)
- Can remove shank to center it off the machine.



Standard from stock HSS broaches shown on pages 45 - 49.
Broach gages available - see below.



CAT. NO.	INTERNAL BROACHING	
	"A"	BROACH SHANK DIA.
DB-1.50-ORB2	1.500	.500
DB-2.00-ORB2	2.000	.500
DB-2.25-ORB2	2.250	.500
DB-50MM-ORB2	50MM	.500

CAT. NO.	EXTERNAL BROACHING	
	"A"	"B"
DB-1.50-ORBX2	1.500	1.575
DB-2.00-ORBX2	2.000	1.575
DB-2.25-ORBX2	2.250	1.575
DB-50MM-ORBX2	50MM	1.575

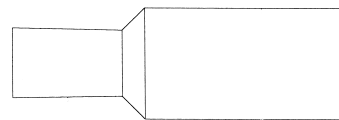
ALL BROACH HEAD DIMENSIONS SAME AS ORB2 AND ORBX2 AS SHOWN ON PAGES 42&43.

INTERNAL ROTARY BROACH SET UP TOOL GAGE

Introducing a low cost proven method for getting your broach tool on center. Using the Somma specially designed gage will get your broach tool on center in minutes.

It's easy. All you need to do to set your broach tool is:

- Install the broach gage in your broach tool spindle
- Leave your centering adjustment screws loose
- Prepare your hole in your piece as you normally would in your machine
- When the broach tool comes up, guide it in by hand
- When it is fully engaged in the part, just tighten the adjustment screws
- Replace the gage with your broach and you are ready to go

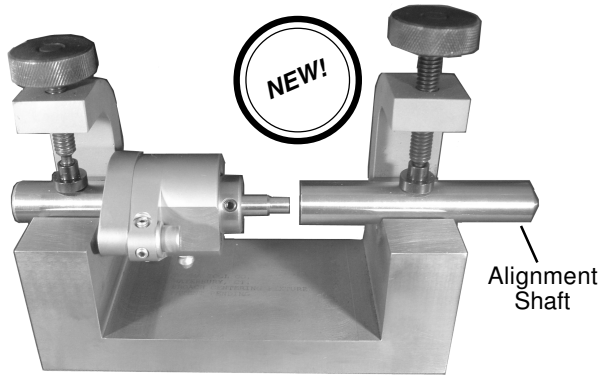


Based on recommended drill size

**Broach gages are available for hex, square and special shapes.
Just add a "-G" after the broach catalog number (Ex. HX00-1/4-G)**

Note: You must state the OAL of the broach that you are using.
(.315 dia: 1-1/4 or 1-1/2 / .500 dia: 1-1/2, 1-3/4 or 2")

BROACH CENTERING FIXTURE



To center internal broaches on both internal and external holders.

Reduce machine downtime with Somma's patent pending Broach Centering Fixture. This unit allows the operator to preset the broaching tool to center, off the machine, prior to performing the broaching operation. It can be used with internal and external broach tool holders up to a 1" shank diameter where the spindle is lined up with the turret.

Broach Centering Fixtures for broach tool holders with shanks greater than 1" diameter are also available, price on application.

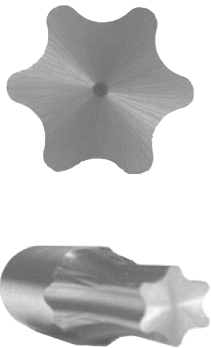
The system includes the Centering Fixture Base and a Centering Kit which includes Centering Pins, a Length Setting Gage, an Alignment Shaft, and hex keys.



FOR INTERNAL BROACH TOOLS

PART NUMBER	FOR HOLDER WITH SHANK DIA	FOR INT BROACH TOOLS WITH SHANK DIA
ORBCT00	5/8"	0.315
ORBCT0	3/4"	0.500
ORBCT2	1"	0.500

INTERNAL BROACHES FOR 6 LOBED HEAD SCREWS

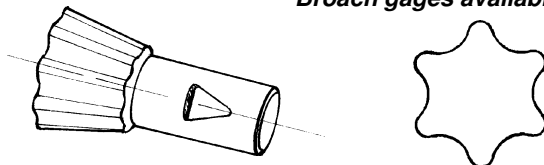


- * M2 HSS Hardened
- * Ground all over
- * Angular clamping flat prevents pull out
- * Fit all Rotating Broach Tools

.315 SHANK DIA. FOR ORB00/ORB0S			
SHAPE	L	STYLE	CAT. NO.
T5	1-1/4	A	TO00-T5
T6	1-1/4	A	TO00-T6
T7	1-1/4	A	TO00-T7
T8	1-1/4	A	TO00-T8
T9	1-1/4	A	TO00-T9
T10	1-1/4	A	TO00-T10
T15	1-1/4	A	TO00-T15
T20	1-1/4	A	TO00-T20
T25	1-1/4	A	TO00-T25
T27	1-1/4	A	TO00-T27
T30	1-1/4	A	TO00-T30
T40	1-1/4	A	TO00-T40
T45	1-1/4	A	TO00-T45
T50	1-1/4	B	TO00-T50
T55	1-1/4	B	TO00-T55

.500 SHANK DIA. FOR ORB0/ORB2/ORB3/ORB4			
SHAPE	L	STYLE	CAT. NO.
T5	1-3/4	A	TO2-T5
T6	1-3/4	A	TO2-T6
T7	1-3/4	A	TO2-T7
T8	1-3/4	A	TO2-T8
T9	1-3/4	A	TO2-T9
T10	1-3/4	A	TO2-T10
T15	1-3/4	A	TO2-T15
T20	1-3/4	A	TO2-T20
T25	1-3/4	A	TO2-T25
T27	1-3/4	A	TO2-T27
T30	1-3/4	A	TO2-T30
T40	1-3/4	A	TO2-T40
T45	1-3/4	A	TO2-T45
T50	1-3/4	A	TO2-T50
T55	1-3/4	A	TO2-T55
T60	1-3/4	B	TO2-T60
T70	1-3/4	B	TO2-T70
T90	1-3/4	B	TO2-T90
T100	1-3/4	B	TO2-T100

Broach gages available - see page 44.

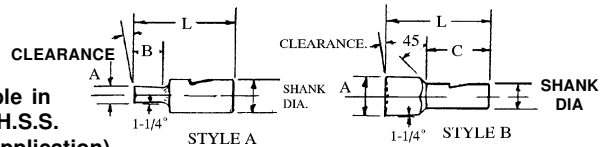


Inch - .315 SHANK DIA. FOR ORB00/ORB0S

HEX SIZE	A	B	C	L	STYLE	CAT. NO.
.050	.0505	5/64	-	1-1/4	A	HX00-050
1/16	.0635	3/32	-	1-1/4	A	HX00-1/16
5/64	.0786	7/64	-	1-1/4	A	HX00-5/64
3/32	.0947	9/64	-	1-1/4	A	HX00-3/32
7/64	.1106	5/32	-	1-1/4	A	HX00-7/64
1/8	.1265	3/16	-	1-1/4	A	HX00-1/8
9/64	.1421	7/32	-	1-1/4	A	HX00-9/64
5/32	.1582	1/4	-	1-1/4	A	HX00-5/32
3/16	.1895	9/32	-	1-1/4	A	HX00-3/16
7/32	.2212	11/32	-	1-1/4	A	HX00-7/32
1/4	.2525	3/8	-	1-1/4	A	HX00-1/4
9/32	.2840	-	0.813	1-1/4	B	HX00-9/32
5/16	.3155	-	0.813	1-1/4	B	HX00-5/16
11/32	.3467	-	0.813	1-1/4	B	HX00-11/32
3/8	.3785	-	0.750	1-1/4	B	HX00-3/8
13/32	.4097	-	0.750	1-1/4	B	HX00-13/32
7/16	.4415	-	0.750	1-1/4	B	HX00-7/16
15/32	.4725	-	0.750	1-1/4	B	HX00-15/32
1/2	.5045	-	0.688	1-1/4	B	HX00-1/2

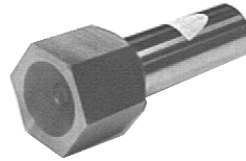
Metric - .315 SHANK DIA. FOR ORB00/ORB0S

HEX SIZE	A	B	C	L	STYLE	CAT. NO.
1.5MM	.0605	3/32	-	1-1/4	A	HX00-1.5
2.0MM	.0805	7/64	-	1-1/4	A	HX00-2.0
2.5MM	.1005	5/32	-	1-1/4	A	HX00-2.5
3.0MM	.1205	3/16	-	1-1/4	A	HX00-3.0
4.0MM	.1605	1/4	-	1-1/4	A	HX00-4.0
5.0MM	.1995	5/16	-	1-1/4	A	HX00-5.0
6.0MM	.2395	3/8	-	1-1/4	A	HX00-6.0
7.0MM	.2785	-	0.813	1-1/4	B	HX00-7.0
8.0MM	.3185	-	0.813	1-1/4	B	HX00-8.0
9.0MM	.3575	-	0.813	1-1/4	B	HX00-9.0
10.0MM	.3985	-	0.750	1-1/4	B	HX00-10.0
11.0MM	.4365	-	0.750	1-1/4	B	HX00-11.0
12.0MM	.4775	-	0.750	1-1/4	B	HX00-12.0



Available in
T15PM H.S.S.
(Prices on application)

- * M2 HSS Hardened
- * Ground all over
- * Angular clamping flat prevents pull out
- * Fit all Rotating Broach Tools



Broach gages available - see page 44.

Inch - .500 SHANK DIA. FOR ORB0/ORB2/ORB3/ORB4

HEX SIZE	A	B	C	L	STYLE	CAT. NO.
3/32	.0947	9/64	-	1-3/4	A	HX2-3/32
7/64	.1106	5/32	-	1-3/4	A	HX2-7/64
1/8	.1265	3/16	-	1-3/4	A	HX2-1/8
9/64	.1421	7/32	-	1-3/4	A	HX2-9/64
5/32	.1582	1/4	-	1-3/4	A	HX2-5/32
3/16	.1895	9/32	-	1-3/4	A	HX2-3/16
7/32	.2212	11/32	-	1-3/4	A	HX2-7/32
1/4	.2525	3/8	-	1-3/4	A	HX2-1/4
9/32	.2840	7/16	-	1-3/4	A	HX2-9/32
5/16	.3155	1/2	-	1-3/4	A	HX2-5/16
11/32	.3467	9/16	-	1-3/4	A	HX2-11/32
3/8	.3785	9/16	-	1-3/4	A	HX2-3/8
13/32	.4097	9/16	-	1-3/4	A	HX2-13/32
7/16	.4415	-	1.313	1-3/4	B	HX2-7/16
15/32	.4725	-	1.313	1-3/4	B	HX2-15/32
1/2	.5045	-	1.313	1-3/4	B	HX2-1/2
17/32	.5357	-	1.250	1-3/4	B	HX2-17/32
9/16	.5675	-	1.250	1-3/4	B	HX2-9/16
19/32	.5987	-	1.250	1-3/4	B	HX2-19/32
5/8	.6305	-	1.250	1-3/4	B	HX2-5/8
21/32	.6617	-	1.188	1-3/4	B	HX2-21/32
11/16	.6935	-	1.188	1-3/4	B	HX2-11/16
23/32	.7242	-	1.188	1-3/4	B	HX2-23/32
3/4	.7565	-	1.125	1-3/4	B	HX2-3/4

Metric - .500 SHANK DIA. FOR ORB0/ORB2/ORB3/ORB4

HEX SIZE	A	B	C	L	STYLE	CAT. NO.
2.0MM	.0805	9/64	-	1-3/4	A	HX2-2.0
2.5MM	.1005	5/32	-	1-3/4	A	HX2-2.5
3.0MM	.1205	3/16	-	1-3/4	A	HX2-3.0
4.0MM	.1605	1/4	-	1-3/4	A	HX2-4.0
5.0MM	.1995	5/16	-	1-3/4	A	HX2-5.0
6.0MM	.2395	3/8	-	1-3/4	A	HX2-6.0
7.0MM	.2785	7/16	-	1-3/4	A	HX2-7.0
8.0MM	.3185	1/2	-	1-3/4	A	HX2-8.0
9.0MM	.3575	9/16	-	1-3/4	A	HX2-9.0
10.0MM	.3985	9/16	-	1-3/4	A	HX2-10.0
11.0MM	.4365	-	1.313	1-3/4	B	HX2-11.0
12.0MM	.4775	-	1.313	1-3/4	B	HX2-12.0
13.0MM	.5165	-	1.313	1-3/4	B	HX2-13.0
14.0MM	.5565	-	1.250	1-3/4	B	HX2-14.0
15.0MM	.5965	-	1.250	1-3/4	B	HX2-15.0
16.0MM	.6355	-	1.250	1-3/4	B	HX2-16.0
17.0MM	.6775	-	1.188	1-3/4	B	HX2-17.0
18.0MM	.7145	-	1.188	1-3/4	B	HX2-18.0
19.0MM	.7575	-	1.125	1-3/4	B	HX2-19.0

Inch - .315 SHANK DIA. FOR ORB00/ORB0S

DBL. HEX SIZE	A	B	C	L	STYLE	CAT. NO.
1/4	.2525	3/8	-	1-1/4	A	DHX00-1/4
9/32	.2840	-	0.813	1-1/4	B	DHX00-9/32
5/16	.3155	-	0.813	1-1/4	B	DHX00-5/16
11/32	.3467	-	0.813	1-1/4	B	DHX00-11/32
3/8	.3785	-	0.750	1-1/4	B	DHX00-3/8
13/32	.4097	-	0.750	1-1/4	B	DHX00-13/32
7/16	.4415	-	0.750	1-1/4	B	DHX00-7/16
15/32	.4725	-	0.750	1-1/4	B	DHX00-15/32
1/2	.5045	-	0.688	1-1/4	B	DHX00-1/2

Metric - .315 SHANK DIA. FOR ORB00/ORB0S

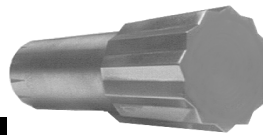
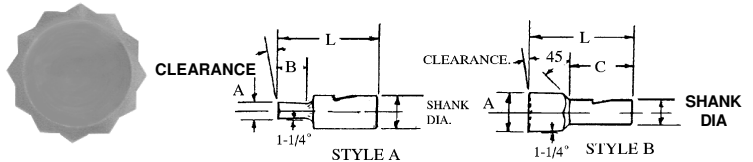
DBL. HEX SIZE	A	B	C	L	STYLE	CAT. NO.
6MM	.2395	3/8	-	1-1/4	A	DHX00-6
7MM	.2785	3/8	0.813	1-1/4	B	DHX00-7
8MM	.3185	3/8	0.813	1-1/4	B	DHX00-8
9MM	.3575	3/8	0.813	1-1/4	B	DHX00-9
10MM	.3985	3/8	0.750	1-1/4	B	DHX00-10
11MM	.4365	3/8	0.750	1-1/4	B	DHX00-11
12MM	.4775	3/8	0.750	1-1/4	B	DHX00-12

Inch - .500 SHANK DIA. FOR ORB0/ORB2/ORB3/ORB4

DBL. HEX SIZE	A	B	C	L	STYLE	CAT. NO.
1/4	.2525	3/8	-	1-3/4	A	DHX2-1/4
9/32	.2840	7/16	-	1-3/4	A	DHX2-9/32
5/16	.3155	1/2	-	1-3/4	A	DHX2-5/16
11/32	.3467	9/16	-	1-3/4	A	DHX2-11/32
3/8	.3785	9/16	-	1-3/4	A	DHX2-3/8
13/32	.4097	9/16	-	1-3/4	A	DHX2-13/32
7/16	.4415	-	1.313	1-3/4	B	DHX2-7/16
15/32	.4725	-	1.313	1-3/4	B	DHX2-15/32
1/2	.5045	-	1.313	1-3/4	B	DHX2-1/2
17/32	.5357	-	1.250	1-3/4	B	DHX2-17/32
9/16	.5675	-	1.250	1-3/4	B	DHX2-9/16
19/32	.5987	-	1.250	1-3/4	B	DHX2-19/32
5/8	.6305	-	1.250	1-3/4	B	DHX2-5/8
21/32	.6617	-	1.188	1-3/4	B	DHX2-21/32
11/16	.6935	-	1.188	1-3/4	B	DHX2-11/16
23/32	.7242	-	1.188	1-3/4	B	DHX2-23/32
3/4	.7565	-	1.125	1-3/4	B	DHX2-3/4

Metric - .500 SHANK DIA. FOR ORB0/ORB2/ORB3/ORB4

DBL. HEX SIZE	A	B	C	L	STYLE	CAT. NO.
6MM	.2395	3/8	-	1-3/4	A	DHX2-6.0
7MM	.2785	7/16	-	1-3/4	A	DHX2-7.0
8MM	.3195	1/2	-	1-3/4	A	DHX2-8.0
9MM	.3575	9/16	-	1-3/4	A	DHX2-9.0
10MM	.3985	9/16	-	1-3/4	A	DHX2-10.0
11MM	.4365	-	1.313	1-3/4	B	DHX2-11.0
12MM	.4775	-	1.313	1-3/4	B	DHX2-12.0



- * M2 HSS Hardened
 - * Ground all over
 - * Angular clamping flat prevents pull out
 - * Fit all Rotating Broach Tools
- Broach gages available - see page 44.**

Available in T15PM H.S.S. (Prices on application)

Inch - .750 SHANK DIA. FOR ORBHDS/ORBHD

DBL. HEX SIZE	A	B	C	L	STYLE	CAT. NO.
13/32	.4097	5/8	-	2-1/2	A	DHX3-13/32
7/16	.4415	25/32	-	2-1/2	A	DHX3-7/16
15/32	.4725	25/32	-	2-1/2	A	DHX3-15/32
1/2	.5045	25/32	-	2-1/2	A	DHX3-1/2
17/32	.5357	29/32	-	2-1/2	A	DHX3-17/32
9/16	.5675	29/32	-	2-1/2	A	DHX3-9/16
19/32	.5987	7/8	-	2-1/2	A	DHX3-19/32
5/8	.6305	7/8	-	2-1/2	A	DHX3-5/8
21/32	.6617	-	1-7/8	2-3/4	B	DHX3-21/32
11/16	.6935	-	1-7/8	2-3/4	B	DHX3-11/16
23/32	.7242	-	1-7/8	2-3/4	B	DHX3-23/32
3/4	.7565	-	1-7/8	2-3/4	B	DHX3-3/4
25/32	.7877	-	1-7/8	2-3/4	B	DHX3-25/32
13/16	.8195	-	1-7/8	2-3/4	B	DHX3-13/16
27/32	.8512	-	1-7/8	2-3/4	B	DHX3-27/32
7/8	.8845	-	1-7/8	2-3/4	B	DHX3-7/8
29/32	.9157	-	1-7/8	2-3/4	B	DHX3-29/32
15/16	.9470	-	1-7/8	2-3/4	B	DHX3-15/16
31/32	.9782	-	1-7/8	2-3/4	B	DHX3-31/32
1"	1.0095	-	1-7/8	2-3/4	B	DHX3-1

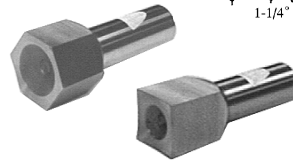
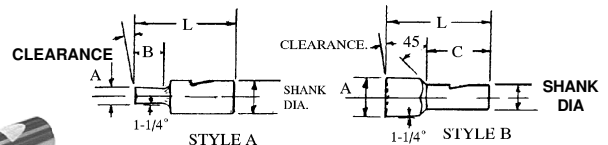
Metric - .750 SHANK DIA. FOR ORBHDS/ORBHD

DBL. HEX SIZE	A	B	C	L	STYLE	CAT. NO.
10.0MM	.3985	5/8	-	2-1/2	A	DHX3-10.0
11.0MM	.4365	25/32	-	2-1/2	A	DHX3-11.0
12.0MM	.4775	25/32	-	2-1/2	A	DHX3-12.0
13.0MM	.5165	25/32	-	2-1/2	A	DHX3-13.0
14.0MM	.5565	29/32	-	2-1/2	A	DHX3-14.0
15.0MM	.5965	7/8	-	2-1/2	A	DHX3-15.0
16.0MM	.6355	7/8	-	2-1/2	A	DHX3-16.0
17.0MM	.6775	-	1-7/8	2-3/4	B	DHX3-17.0
18.0MM	.7145	-	1-7/8	2-3/4	B	DHX3-18.0
19.0MM	.7575	-	1-7/8	2-3/4	B	DHX3-19.0
20.0MM	.7945	-	1-7/8	2-3/4	B	DHX3-20.0
21.0MM	.8355	-	1-7/8	2-3/4	B	DHX3-21.0
22.0MM	.8785	-	1-7/8	2-3/4	B	DHX3-22.0
23.0MM	.9155	-	1-7/8	2-3/4	B	DHX3-23.0
24.0MM	.9565	-	1-7/8	2-3/4	B	DHX3-24.0
25.0MM	.9935	-	1-7/8	2-3/4	B	DHX3-25.0
26.0MM	1.0335	-	1-7/8	2-3/4	B	DHX3-26.0

Inch - .750 SHANK DIA. FOR ORBHDS/ORBHD						
HEX SIZE	A	B	C	L	STYLE	HEX CAT. NO.
1/4	.2525	3/8	-	2-1/2	A	HX3-1/4
9/32	.2840	1/2	-	2-1/2	A	HX3-9/32
5/16	.3155	1/2	-	2-1/2	A	HX3-5/16
11/32	.3467	17/32	-	2-1/2	A	HX3-11/32
3/8	.3785	9/16	-	2-1/2	A	HX3-3/8
13/32	.4097	5/8	-	2-1/2	A	HX3-13/32
7/16	.4415	21/32	-	2-1/2	A	HX3-7/16
15/32	.4725	11/16	-	2-1/2	A	HX3-15/32
1/2	.5045	25/32	-	2-1/2	A	HX3-1/2
17/32	.5357	27/32	-	2-1/2	A	HX3-17/32
9/16	.5675	29/32	-	2-1/2	A	HX3-9/16
19/32	.5987	31/32	-	2-1/2	A	HX3-19/32
5/8	.6305	1"	-	2-1/2	A	HX3-5/8
21/32	.6617	-	1-7/8	2-3/4	B	HX3-21/32
11/16	.6935	-	1-7/8	2-3/4	B	HX3-11/16
23/32	.7242	-	1-7/8	2-3/4	B	HX3-23/32
3/4	.7565	-	1-7/8	2-3/4	B	HX3-3/4
25/32	.7877	-	1-7/8	2-3/4	B	HX3-25/32
13/16	.8195	-	1-7/8	2-3/4	B	HX3-13/16
27/32	.8512	-	1-7/8	2-3/4	B	HX3-27/32
7/8	.8845	-	1-7/8	2-3/4	B	HX3-7/8
29/32	.9157	-	1-7/8	2-3/4	B	HX3-29/32
15/16	.9470	-	1-7/8	2-3/4	B	HX3-15/16
31/32	.9782	-	1-7/8	2-3/4	B	HX3-31/32
1"	1.0095	-	1-7/8	2-3/4	B	HX3-1

Metric - .750 SHANK DIA. FOR ORBHDS/ORBHD						
HEX SIZE	A	B	C	L	STYLE	CAT. NO.
6.0MM	.2395	3/8	-	2-1/2	A	HX3-6.0
7.0MM	.2785	7/16	-	2-1/2	A	HX3-7.0
8.0MM	.3195	1/2	-	2-1/2	A	HX3-8.0
9.0MM	.3575	17/32	-	2-1/2	A	HX3-9.0
10.0MM	.3985	9/16	-	2-1/2	A	HX3-10.0
11.0MM	.4365	5/8	-	2-1/2	A	HX3-11.0
12.0MM	.4775	11/16	-	2-1/2	A	HX3-12.0
13.0MM	.5165	23/32	-	2-1/2	A	HX3-13.0
14.0MM	.5565	25/32	-	2-1/2	A	HX3-14.0
15.0MM	.5965	13/16	-	2-1/2	A	HX3-15.0
16.0MM	.6355	15/16	-	2-1/2	A	HX3-16.0
17.0MM	.6775	-	1-7/8	2-3/4	B	HX3-17.0
18.0MM	.7145	-	1-7/8	2-3/4	B	HX3-18.0
19.0MM	.7575	-	1-7/8	2-3/4	B	HX3-19.0
20.0MM	.7945	-	1-7/8	2-3/4	B	HX3-20.0
21.0MM	.8355	-	1-7/8	2-3/4	B	HX3-21.0
22.0MM	.8785	-	1-7/8	2-3/4	B	HX3-22.0
23.0MM	.9155	-	1-7/8	2-3/4	B	HX3-23.0
24.0MM	.9565	-	1-7/8	2-3/4	B	HX3-24.0
25.0MM	.9935	-	1-7/8	2-3/4	B	HX3-25.0
26.0MM	1.0335	-	1-7/8	2-3/4	B	HX3-26.0

Available in T15PM H.S.S. (Prices on application)



- * M2 HSS Hardened
 - * Ground all over
 - * Angular clamping flat prevents pull out
 - * Fit all Rotating Broach Tools
- Broach gages available - see page 44.

Inch - .750 SHANK DIA. FOR ORBHDS/ORBHD						
SQUARE SIZE	A	B	C	L	STYLE	CAT. NO.
9/32	.2840	7/16	-	2-1/2	A	SQ3-9/32
5/16	.3155	1/2	-	2-1/2	A	SQ3-5/16
11/32	.3467	9/16	-	2-1/2	A	SQ3-11/32
3/8	.3785	9/16	-	2-1/2	A	SQ3-3/8
13/32	.4097	5/8	-	2-1/2	A	SQ3-13/32
7/16	.4415	5/8	-	2-1/2	A	SQ3-7/16
15/32	.4725	25/32	-	2-1/2	A	SQ3-15/32
1/2	.5045	25/32	-	2-1/2	A	SQ3-1/2
17/32	.5357	-	1-7/8	2-3/4	B	SQ3-17/32
9/16	.5675	-	1-7/8	2-3/4	B	SQ3-9/16
19/32	.5987	-	1-7/8	2-3/4	B	SQ3-19/32
5/8	.6305	-	1-7/8	2-3/4	B	SQ3-5/8
21/32	.6617	-	1-7/8	2-3/4	B	SQ3-21/32
11/16	.6935	-	1-7/8	2-3/4	B	SQ3-11/16
23/32	.7242	-	1-7/8	2-3/4	B	SQ3-23/32
3/4	.7565	-	1-7/8	2-3/4	B	SQ3-3/4
25/32	.7877	-	1-7/8	2-3/4	B	SQ3-25/32
13/16	.8195	-	1-7/8	2-3/4	B	SQ3-13/16

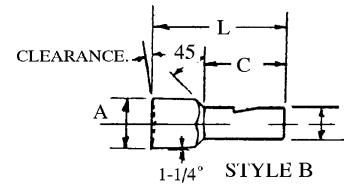
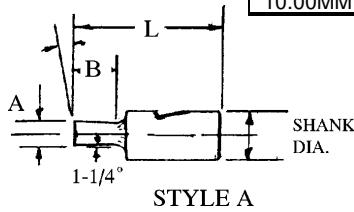
Metric - .750 SHANK DIA. FOR ORBHDS/ORBHD						
SQUARE SIZE	A	B	C	L	STYLE	CAT. NO.
6.00MM	.2395	25/32	-	2-1/2	A	SQ3-6.0
7.00MM	.2785	25/32	-	2-1/2	A	SQ3-7.0
8.00MM	.3195	1/2	-	2-1/2	A	SQ3-8.0
9.00MM	.3575	17/32	-	2-1/2	A	SQ3-9.0
10.00MM	.3985	9/16	-	2-1/2	A	SQ3-10.0
11.00MM	.4365	9/16	-	2-1/2	A	SQ3-11.0
12.00MM	.4775	11/16	-	2-1/2	A	SQ3-12.0
13.00MM	.5165	3/4	-	2-1/2	A	SQ3-13.0
14.00MM	.5565	3/4	1-7/8	2-3/4	B	SQ3-14.0
15.00MM	.5965	3/4	1-7/8	2-3/4	B	SQ3-15.0
16.00MM	.6355	3/4	1-7/8	2-3/4	B	SQ3-16.0
17.00MM	.6775	3/4	1-7/8	2-3/4	B	SQ3-17.0
18.00MM	.7145	3/4	1-7/8	2-3/4	B	SQ3-18.0
19.00MM	.7575	3/4	1-7/8	2-3/4	B	SQ3-19.0
20.00MM	.7945	3/4	1-7/8	2-3/4	B	SQ3-20.0

Inch - .315 SHANK DIA. FOR ORB00/ORB0S

SQUARE	SIZE	A	B	C	L	STYLE	CAT. NO.
	1/16	.0635	9/64	-	1-1/4	A	SQ00-1/16
	5/64	.0785	9/64	-	1-1/4	A	SQ00-5/64
	3/32	.0947	9/64	-	1-1/4	A	SQ00-3/32
	7/64	.1105	3/16	-	1-1/4	A	SQ00-7/64
	1/8	.1265	3/16	-	1-1/4	A	SQ00-1/8
	9/64	.1421	9/32	-	1-1/4	A	SQ00-9/64
	5/32	.1582	1/4	-	1-1/4	A	SQ00-5/32
	11/64	.1735	9/32	-	1-1/4	A	SQ00-11/64
	3/16	.1895	9/32	-	1-1/4	A	SQ00-3/16
	7/32	.2212	11/32	-	1-1/4	B	SQ00-7/32
	1/4	.2525	-	0.813	1-1/4	B	SQ00-1/4
	9/32	.2840	-	0.813	1-1/4	B	SQ00-9/32
	5/16	.3155	-	0.750	1-1/4	B	SQ00-5/16
	11/32	.3470	-	0.750	1-1/4	B	SQ00-11/32
	3/8	.3785	-	0.750	1-1/4	B	SQ00-3/8
	13/32	.4095	-	0.688	1-1/4	B	SQ00-13/32

Metric - .315 SHANK DIA. FOR ORB00/ORB0S

SQUARE	SIZE	A	B	C	L	STYLE	CAT. NO.
	1.50MM	.0605	7/64	-	1-1/4	A	SQ00-1.5
	2.00MM	.0805	5/32	-	1-1/4	A	SQ00-2.0
	2.50MM	.1005	3/16	-	1-1/4	A	SQ00-2.5
	3.00MM	.1205	1/4	-	1-1/4	A	SQ00-3.0
	4.00MM	.1605	5/16	-	1-1/4	A	SQ00-4.0
	5.00MM	.1995	3/8	-	1-1/4	A	SQ00-5.0
	6.00MM	.2395	-	0.813	1-1/4	B	SQ00-6.0
	7.00MM	.2785	-	0.813	1-1/4	B	SQ00-7.0
	8.00MM	.3195	-	0.750	1-1/4	B	SQ00-8.0
	9.00MM	.3575	-	0.750	1-1/4	B	SQ00-9.0
	10.00MM	.3985	-	0.688	1-1/4	B	SQ00-10.0

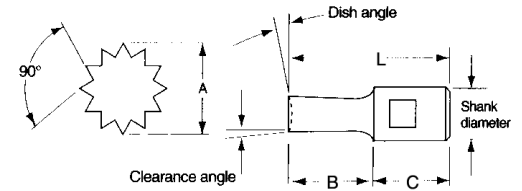


Inch - .500 SHANK DIA. FOR ORB0/ORB2/ORB3/ORB4

SQUARE	SIZE	A	B	C	L	STYLE	CAT. NO.
	3/32	.0947	9/64	-	1-3/4	A	SQ2-3/32
	7/64	.1105	7/32	-	1-3/4	A	SQ2-7/64
	1/8	.1265	3/16	-	1-3/4	A	SQ2-1/8
	9/64	.1421	1/4	-	1-3/4	A	SQ2-9/64
	5/32	.1582	1/4	-	1-3/4	A	SQ2-5/32
	3/16	.1895	9/32	-	1-3/4	A	SQ2-3/16
	7/32	.2212	11/32	-	1-3/4	A	SQ2-7/32
	1/4	.2525	3/8	-	1-3/4	A	SQ2-1/4
	9/32	.2840	7/16	-	1-3/4	A	SQ2-9/32
	5/16	.3155	1/2	-	1-3/4	A	SQ2-5/16
	11/32	.3470	9/16	-	1-3/4	A	SQ2-11/32
	3/8	.3785	-	1.313	1-3/4	B	SQ2-3/8
	13/32	.4097	-	1.313	1-3/4	B	SQ2-13/32
	7/16	.4415	-	1.250	1-3/4	B	SQ2-7/16
	1/2	.5045	-	1.250	1-3/4	B	SQ2-1/2
	17/32	.5357	-	1.188	1-3/4	B	SQ2-17/32
	9/16	.5675	-	1.188	1-3/4	B	SQ2-9/16
	19/32	.5987	-	1.188	1-3/4	B	SQ2-19/32
	5/8	.6305	-	1.125	1-3/4	B	SQ2-5/8

Metric - .500 SHANK DIA. FOR ORB0/ORB2/ORB3/ORB4

SQUARE	SIZE	A	B	C	L	STYLE	CAT. NO.
	2.00MM	.0805	5/32	-	1-3/4	A	SQ2-2.0
	2.50MM	.1005	3/16	-	1-3/4	A	SQ2-2.5
	3.00MM	.1205	1/4	-	1-3/4	A	SQ2-3.0
	4.00MM	.1605	5/16	-	1-3/4	A	SQ2-4.0
	5.00MM	.1995	3/8	-	1-3/4	A	SQ2-5.0
	6.00MM	.2395	1/2	-	1-3/4	A	SQ2-6.0
	7.00MM	.2785	9/16	-	1-3/4	A	SQ2-7.0
	8.00MM	.3195	9/16	-	1-3/4	A	SQ2-8.0
	9.00MM	.3575	-	1.313	1-3/4	B	SQ2-9.0
	10.0MM	.3985	-	1.313	1-3/4	B	SQ2-10.0
	11.0MM	.4365	-	1.250	1-3/4	B	SQ2-11.0
	12.0MM	.4775	-	1.250	1-3/4	B	SQ2-12.0
	13.0MM	.5165	-	1.250	1-3/4	B	SQ2-13.0
	14.0MM	.5565	-	1.188	1-3/4	B	SQ2-14.0
	15.0MM	.5965	-	1.188	1-3/4	B	SQ2-15.0



J500 - .500 SHANK DIA. FOR ORB0/ORB2/ORB3/ORB4

J500 SIZE	Number of Teeth	A	C	L	STYLE	CAT. NO.
1/2	36	.5081	1.313	1-3/4	B	J52-1/2
5/8	36	.6338	1.250	1-3/4	B	J52-5/8
3/4	48	.7586	1.188	1-3/4	B	J52-3/4

J500 - .750 SHANK DIA. FOR ORBHDS/ORBHD

J500 SIZE	Number of Teeth	A	B	C	L	STYLE	CAT. NO.
1/2	36	.5081	25/32	--	2-1/2	A	J53-1/2
5/8	36	.6338	1"	--	2-1/2	A	J53-5/8
3/4	48	.7586	--	1-7/8	2-3/4	B	J53-3/4
7/8	48	.8849	--	1-7/8	2-3/4	B	J53-7/8
1"	48	1.0110	--	1-7/8	2-3/4	B	J53-1

J500

Broach gages available - see page 44.

THESE ARE EXAMPLES OF SPECIAL SHAPES THAT HAVE BEEN SUCCESSFULLY BROACHED - LET US QUOTE ON YOUR REQUIREMENTS.



DOUBLE HEX



FLAT



DOUBLE D



STRAIGHT SPLINE



MULTI KEYWAY



KNURL



KEYWAY



INVOLUTE SPLINE

PLEASE INCLUDE THE FOLLOWING INFORMATION WITH YOUR SPECIAL BROACH INQUIRY:

INTERNAL OR EXTERNAL H/S/S BROACH?
SHAPE OF H/S/S BROACH FORM
CLEARING ID ON INTERNAL?
EXTERNAL CLEARING ON OD?

TOLERANCE IF NOT SHOWN ON PRINT
MATERIAL GRADE OF PART
ARE ANY INTERNAL RADII LESS THAN .0055 ON INT. BROACHES?
ARE ANY EXTERNAL RADII LESS THAN .0055 ON EXT. BROACHES?

IS H/S/S BROACH TO BE USED IN A SOMMA HOLDER?
IF NOT, WHAT ARE THE BLANK DIM FOR YOUR HLD R & ° OF SPINDLE TILT?
WHAT IS HOLDER SIZE OR SHANK DIA?

Inch

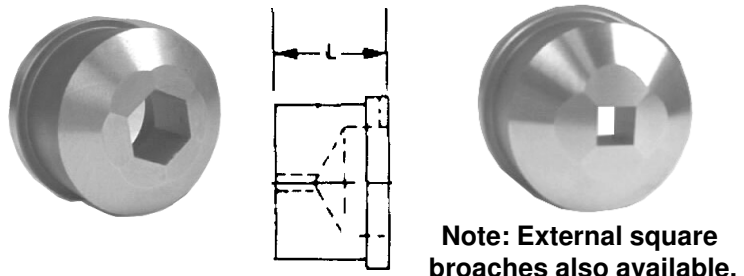
.9445 MOUNTING DIAMETER FOR ORBX00/ORBX0S			
HEX SIZE	A	L = 3/8	L = 1"
		CAT. NO.	CAT. NO.
1/4	.2435	EHX00-1/4	EHX0S-1/4
9/32	.2745	EHX00-9/32	EHX0S-9/32
5/16	.3045	EHX00-5/16	EHX0S-5/16
11/32	.3355	EHX00-11/32	EHX0S-11/32
3/8	.3665	EHX00-3/8	EHX0S-3/8
13/32	.3965	EHX00-13/32	EHX0S-13/32
7/16	.4275	EHX00-7/16	EHX0S-7/16

Inch

1.5745 MOUNTING DIA. FOR ORBX0/ORBX2/ORBX3/ORBX4			
HEX SIZE	A	L = 1"	L = 1-3/4
		CAT. NO.	CAT. NO.
1/4	.2435	EHX2-1/4	EHX2L-1/4
9/32	.2745	EHX2-9/32	EHX2L-9/32
5/16	.3045	EHX2-5/16	EHX2L-5/16
11/32	.3355	EHX2-11/32	EHX2L-11/32
3/8	.3665	EHX2-3/8	EHX2L-3/8
13/32	.3965	EHX2-13/32	EHX2L-13/32
7/16	.4275	EHX2-7/16	EHX2L-7/16
15/32	.4625	EHX2-15/32	EHX2L-15/32
1/2	.4885	EHX2-1/2	EHX2L-1/2
17/32	.5195	EHX2-17/32	EHX2L-17/32
9/16	.5505	EHX2-9/16	EHX2L-9/16
19/32	.5815	EHX2-19/32	EHX2L-19/32
5/8	.6115	EHX2-5/8	EHX2L-5/8
21/32	.6425	EHX2-21/32	EHX2L-21/32
11/16	.6735	EHX2-11/16	EHX2L-11/16
23/32	.7045	EHX2-23/32	EHX2L-23/32
3/4	.7355	EHX2-3/4	EHX2L-3/4
25/32	.7665	EHX2-25/32	EHX2L-25/32
13/16	.7975	EHX2-13/16	EHX2L-13/16
27/32	.8285	EHX2-27/32	EHX2L-27/32
7/8	.8595	EHX2-7/8	EHX2L-7/8
29/32	.8905	EHX2-29/32	EHX2L-29/32
15/16	.9215	EHX2-15/16	EHX2L-15/16
31/32	.9515	EHX2-31/32	EHX2L-31/32
1"	.9815	EHX2-1	EHX2L-1

Metric

.9445 MOUNTING DIAMETER FOR ORBX00/ORBX0S			
HEX SIZE	A	L = 3/8	L = 1"
		CAT. NO.	CAT. NO.
6MM	.2275	EHX00-6.0	EHX0S-6.0
7MM	.2665	EHX00-7.0	EHX0S-7.0
8MM	.3055	EHX00-8.0	EHX0S-8.0
9MM	.3455	EHX00-9.0	EHX0S-9.0
10MM	.3845	EHX00-10.0	EHX0S-10.0

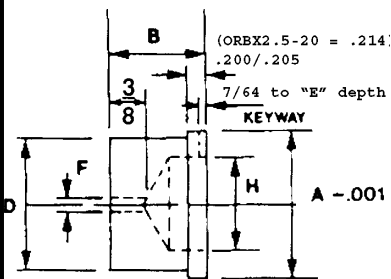


Metric

1.5745 MOUNTING DIA. FOR ORBX0/ORBX2/ORBX3/ORBX4			
HEX SIZE	A	L = 1"	L = 1-3/4
		CAT. NO.	CAT. NO.
6MM	.2275	EHX2-6.0	EHX2L-6.0
7MM	.2665	EHX2-7.0	EHX2L-7.0
8MM	.3055	EHX2-8.0	EHX2L-8.0
9MM	.3455	EHX2-9.0	EHX2L-9.0
10MM	.3845	EHX2-10.0	EHX2L-10.0
11MM	.4235	EHX2-11.0	EHX2L-11.0
12MM	.4615	EHX2-12.0	EHX2L-12.0
13MM	.5005	EHX2-13.0	EHX2L-13.0
14MM	.5395	EHX2-14.0	EHX2L-14.0
15MM	.5795	EHX2-15.0	EHX2L-15.0
16MM	.6185	EHX2-16.0	EHX2L-16.0
17MM	.6585	EHX2-17.0	EHX2L-17.0
18MM	.6975	EHX2-18.0	EHX2L-18.0
19MM	.7365	EHX2-19.0	EHX2L-19.0
20MM	.7745	EHX2-20.0	EHX2L-20.0
21MM	.8135	EHX2-21.0	EHX2L-21.0
22MM	.8525	EHX2-22.0	EHX2L-22.0
23MM	.8925	EHX2-23.0	EHX2L-23.0
24MM	.9315	EHX2-24.0	EHX2L-24.0
25MM	.9695	EHX2-25.0	EHX2L-25.0

TOOL HOLDERS
BROACH TOOLS

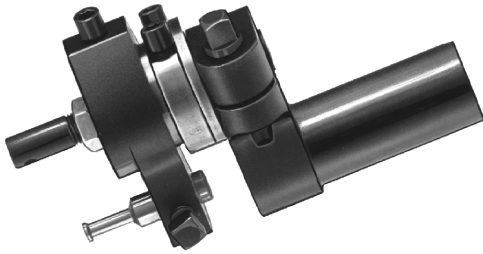
See pages 43 and 44 for holders for these external broaches.



EXTERNAL BROACH BLANKS

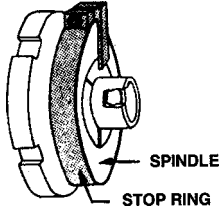
TO FIT	A	B	D	E	F	H	M2 H.S.S.	T15PM H.S.S.
							CAT. NO.	CAT. NO.
ORBX00	0.9448	3/8	.750	.094	3/32	-	ORBX00-20	ORBX00-20-P
ORBX0S	0.9448	1"	.750	.094	3/32	1/2	ORBX0S-20	ORBX0S-20-P
ORBX0	1.5740	1"	1.406	.188	3/32	1"	ORBX2-20	ORBX2-20-P
ORBX2							ORBX2-20L	ORBX2-20L-P
ORBX3							ORBX2-20L	ORBX2-20L-P
ORBX4	2.312	1"	2.060	.086	3/32	1-1/2"	ORBX2.5-20	ORBX2.5-20-P
ORBXHD	2.500	1-1/4	2.313	.188	3/32	1-13/16	ORBXHD-20	ORBXHD-20-P

RECESSING TOOL



The body can be adjusted so that the cutting tool is set close to the I.D. or O.D. to be recessed. When the turret is advanced the body moves sideways to desired depth of recess.

- Actuated by forward motion of turret (requires no cross slide pusher).
- 1 to 1 cam ratio for easy figuring
- Operates right or left hand
- Can cut internal or external grooves up to 1/8" deep within range of machine
- Does not require eccentric ground recess tools
- One size cylindrical ground recess tool does most operations
- Tool cuts radially - produces square sided grooves

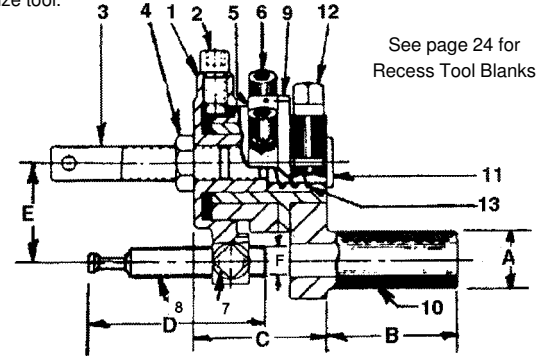
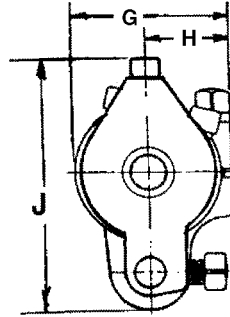


STOP RING
Cat. No. RT2-SR

* Diagram showing Stop Ring which clamps around spindle cap of No. 2 B&S Machine. Must be used in conjunction with No. 2 Recess Tool.

CAT. NO.	A	B	C	D	E	F	G	H	J
RT00	5/8	1-3/8	1-3/8	2"	1-1/16	5/16	1-19/32	27/32	2-23/32
RT1	3/4	1-7/8	1-15/16	2"	1-9/16	3/8	1-11/16	15/16	3-9/32
RT2*	1"	2"	2-1/8	2"	1-15/16*	3/8	1-23/32	31/32	3-5/32

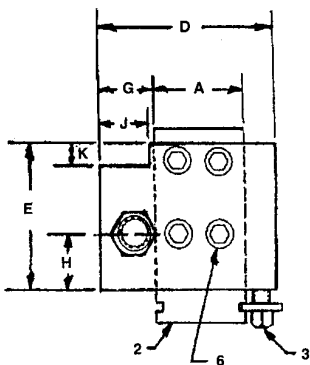
* Note: Stop Ring must be used with No. 2 size tool.



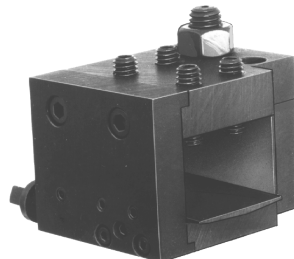
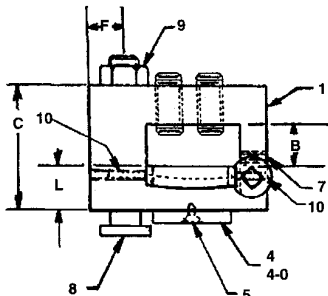
See page 24 for Recess Tool Blanks

Part No.	RT00 Cat. No.	RT1 Cat. No.	RT2 Cat. No.
1. Body	RT00-1	RT1-1	RT2-1
2. Cam Screw	RT00-2	RT00-2	RT00-2
3. Stop Adjusting Screw	RT00-3	RT2-3	RT2-3
4. Lock Nut	RT00-4	RT00-4	RT00-4
5. Fine Adjusting Sleeve	RT00-5	RT1-5	RT2-5
6. Sleeve Adjusting Screw (ea)	RT00-2	RT00-2	RT00-2
7. Set Screw	RT00-7	RT2-7	RT2-7
8. H.S.S. Cutting Tool (See pg. 35)	RT10-81	RT12-121	RT12-122
9. Intermediate Sleeve	RT00-9	RT1-9	RT2-9
10. Shank	RT00-10	RT1-10	RT2-10
11. Assembling Screw	RT00-11	RT1-11	RT2-11
12. Clamp Screw	RT00-12	RT2-12	RT2-12
12. Spring	RT00-13	RT1-13	RT2-13

SKIVE TOOL HOLDER



For standard skive tool blanks to fit these and other holders, see page 23.



SPECIFICATIONS

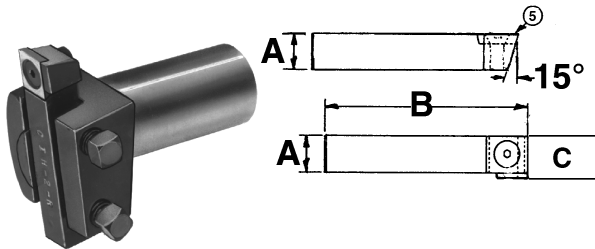
Cat. No.	SKH00-F	SKH00-B*	SKH2-F	SKH2-B*	SKH-DAV
Used On	Front Slide	Back Slide	Front Slide	Back Slide	2nd Pos.
A	1-1/2	1-1/2	2"	2"	1-1/4
B	15/16	15/16	1-1/4	1-1/4	7/8
C	2"	2"	3"	3"	2-3/8
D	2-13/16	2-13/16	3-5/8	3-5/8	3"
E	2-1/4	2-1/4	4-1/2	4-1/2	2-1/4
F	9/16	9/16	5/8	5/8	13/16
G	7/8	7/8	1"	1"	1-1/8
H	27/32	27/32	1-1/2	1-1/2	3/4
J	13/16	13/16	7/8	7/8	1"
K	3/8	3/8	1-1/2	1-1/2	1/4
L Max	15/32	15/32	25/32	25/32	1"
L Min	7/16	7/16	3/4	3/4	61/64

*All dimensions same as front slide tool except reversed to fit back side (diagram not shown)

- Taper wedge can be rocked to correct tapers (and then locked in position)
- #00 size tools can be used on #0 B&S by Interchanging key (PT#4) with #0 Key (PT#4-0) and T Bolt (PT#8).
- Use extra wide tools without grinding "L" or "T" shapes.
- Forms can be ground full length of tool for maximum tool life.
- Available for front or back slide.
- Back taper (1/4° max.) built into tool for free cutting.

CONVERT YOUR PRESENT TURNING TOOLS TO INDEXABLE QUICK CHANGE CARBIDE INSERTS WITH SQUARE SHANK TOOL BIT TYPE INSERT HOLDERS

RECTANGULAR CARBIDE INSERT HOLDERS FOR LEFT HAND TURNING



Right Hand Style Insert Holder Shown

- Quick change-only one easy-to-get-at screw
- Cut tangentially-not radially
- Ideal 10° front clearance angle - instead of 5° of triangular inserts
- Shave turned diameter for better size control and finish
- Produce square sharp corners
- Repeatability within .001"
- 4 usable cutting edges (2 right hand and 2 left hand)

RECTANGULAR QUICK CHANGE CARBIDE INSERTS

* Carbide inserts available from stock in: GRADE C-2 For brass, aluminum, and light cuts on steel. GRADE C-7 For heavy cuts on steel.

COMPLETE RECTANGULAR CARBIDE INSERT HOLDERS

CAT. NO.		A	B
CIH00-L	Left Hand	5/16	1-7/16
CIH1-L	Left Hand	3/8	2-1/8
CIH2-L	Left Hand	7/16	2-7/16
CIH2A-L	Left Hand	1/2	2-7/16
CIH3-L	Left Hand	5/8	3-1/2

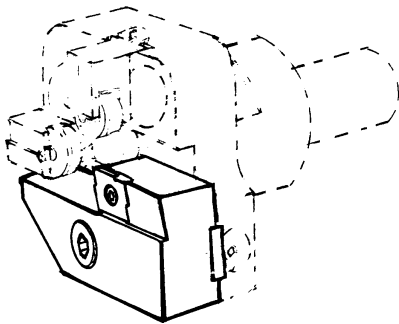
Right Hand holders discontinued.

• Replaced with TSQ style holders - Page 53.

Part No.	TOOL SIZE				
	CIH00 Cat. No.	CIH1 Cat. No.	CIH2 Cat. No.	CIH2A Cat. No.	CIH3 Cat. No.
5. Carbide Insert Grade C-2	CIH00-5-C2	CIH1-5-C2	CIH2-5-C2	CIH2A-5-C2	CIH3-5-C2
5. Carbide Insert Grade C-7	CIH00-5-C7	CIH1-5-C7	CIH2-5-C7	CIH2A-5-C7	CIH3-5-C7
TITANIUM NITRIDE (TIN) COATED INSERTS					
5. Carbide Insert Grade C-2 Titanium Coated	CIH00-5-C2TIN	CIH1-5-C2TIN	CIH2-5-C2TIN	CIH2A-5-C2TIN	CIH3-5-C2TIN
5. Carbide Insert Grade C-7 Titanium Coated	CIH00-5-C7TIN	CIH1-5-C7TIN	CIH2-5-C7TIN	CIH2A-5-C7TIN	CIH3-5-C7TIN

• Inserts available with .015 or .031 corner radius for special applications.

CONVERT YOUR BOYAR-SCHULTZ RT H.S. TOOLBIT STYLE OR RTC TRIANGULAR INSERT TURNING TOOLS TO TANGI-SQUARE INSERTS AND IMPROVE YOUR CUTTING PERFORMANCE BECAUSE:



SOMMA'S TANGI-SQUARE INSERT SLIDE
INTERCHANGEABLE WITH BOYAR-
SCHULTZ
TRIANGULAR INSERT SLIDES AND H.S.S.
TOOLBIT SLIDES

- Quick change-only one easy-to-get-at screw
- Cut tangentially-not radially
- Freer cutting 10° front clearance angle - instead of 5° of triangular inserts
- Shaves turned diameter for better size control and finish
- Built in chip breaker
- Produces square sharp corners
- Repeatability within .001"
- No need for slide retraction because freer cutting action eliminates scroll line on most applications.
- 4 right hand cutting edges
- MICRO-GRAIN carbide for longest life

* TIN coating available as standard

TANGI-SQUARE CARBIDE INSERT CUTTING TOOL SLIDES (INCLUDES INSERT)					
BOYAR-SCHULTZ TOOL SIZE	00RTC	00RT	0RTC	0RT	2RTC/2RT
TANGI-SQUARE COMPLETE CARBIDE INSERT SLIDE	TSQ-51204	TSQ-5002A	TSQ-51304	TSQ-5102A	TSQ-51404
USES INSERT STYLE	TSQ00	TSQ00	TSQ2	TSQ2	TSQ2

TANGI-SQUARE INSERT PERPENDICULAR SHANK TYPE TOOL HOLDERS



- FOR TURNING OPERATIONS ON CNC MACHINES
- USES STANDARD TANGI SQUARE TSQ2 STYLE INSERTS
(SEE PAGE 53).

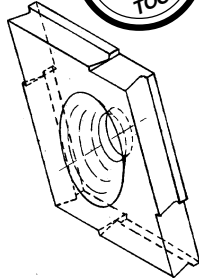
CAT. NO.	SHANK SIZE
TSQ2-16MM	16MM
TSQ2-5/8	5/8"
TSQ2-1/2	1/2"

ACCU-SET Turning Tools with exclusive TANGI-SQUARE QUICK CHANGE

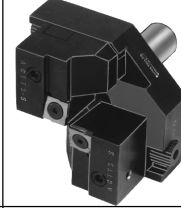
Micro-Grain Carbide Inserts

TANGI-SQUARE CARBIDE INSERTS OUTPERFORM ALL OTHER INSERTS BECAUSE:

- Quick change - only one easy-to-get-at screw
- Cut tangentially not radially
- Ideal 10° front clearance angle - instead of 5° of triangular inserts
- Shave turned diameter for better size control and finish
- Built in chip breaker
- Produce square, sharp corners
- Repeatability within .001"
- No need for slide retraction because freer cutting action eliminates scroll lines on most applications.
- 4 right hand cutting edges
- MICRO-GRAIN carbide for longest tool life
- TIN coating available as standard



ACCU-SET TANGI-SQUARE ROLLER BACKREST TURNING TOOLS



ACCU-SET TANGI-SQUARE BALANCE TURNING TOOLS

Cat. No.	Shank Size	
	Dia.	Length
ASTT00	5/8	1-9/32
ASTT0	3/4	1-1/2
ASTT2	1"	1-15/16

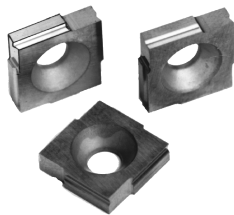
Cat. No.	Shank Size	
	Dia.	Length
BASTT00	5/8	1-3/32
BASTT0	3/4	1-1/2
BASTT2	1"	1-15/16

Tangi-Square slides fit your present Accu-Set tools.
No need to buy complete tool !

Tool Size	ASTT00/BASTT00 Cat. No.	ASTT0/BASTT0 Cat. No.	ASTT2/BASTT2 Cat. No.
TANGI-SQUARE CARBIDE INSERT SLIDE (COMPLETE)	ATT00-SCS	ATT0-SCS	ATT2-SCS

AVAILABLE IN FOUR STYLES:

- 35° HIGH TOP RAKE FOR LONGEST TOOL LIFE ON STAINLESS AND OTHER DIFFICULT-TO-MACHINE MATERIALS.
 - * SQUARE CORNER
 - * .015 OR .031 CORNER RADIUS
- 5° TOP RAKE FOR MILD MATERIALS
 - * SQUARE CORNER
 - * .015 OR .031 CORNER RADIUS



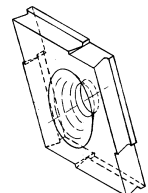
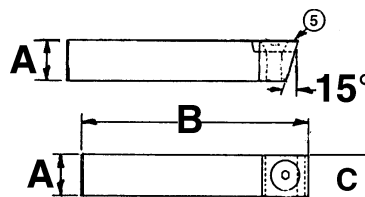
The only insert ever designed specifically for screw machine turning tools!

INSERT STYLE	ASTT00/BASTT00	ASTT2/BASTT2	TSQ000
	Cat. No.	Cat. No.	Cat. No.
35° HIGH TOP RAKE SQUARE CORNER	TSQ00-45-MIC	TSQ2-45-MIC	TSQ000-45-MIC
	TSQ00-45-MICTIN TIN COATED	TSQ2-45-MICTIN TIN COATED	TSQ000-45-MICTIN TIN COATED
35° HIGH TOP RAKE .015 CORNER RADIUS OR .031 CORNER RADIUS	TSQ00-45-015	TSQ2-45-015	TSQ000-45-015
	TSQ00-45-015TIN TIN COATED	TSQ2-45-015TIN TIN COATED	TSQ000-45-015TIN TIN COATED
	TSQ00-45-031	TSQ2-45-031	TSQ000-45-031
5° TOP RAKE SQUARE CORNER	TSQ00-5-MIC	TSQ2-5-MIC	TSQ000-5-MIC
	TSQ00-5-MICTIN TIN COATED	TSQ2-5-MICTIN TIN COATED	TSQ000-5-MICTIN TIN COATED
5° TOP RAKE .015 CORNER RADIUS OR .031 CORNER RADIUS	TSQ00-5-015	TSQ2-5-015	TSQ000-5-015
	TSQ00-5-015-TIN TIN COATED	TSQ2-5-015-TIN TIN COATED	TSQ000-5-015TIN TIN COATED
	TSQ00-5-031	TSQ2-5-031	TSQ000-5-031
	TSQ00-5-031-TIN TIN COATED	TSQ2-5-031-TIN TIN COATED	TSQ000-5-031TIN TIN COATED
INSERT SCREW	ATT00-17	ATT2-17	TSQ000-2
MAX DEPTH OF CUT PER SIDE	3/16"	17/64"	7/64"

CONVERT YOUR PRESENT TURNING TOOLS TO INDEXABLE "THROWAWAY" CARBIDE INSERTS WITH TANGI-SQUARE CARBIDE INSERT TOOL BIT TYPE HOLDERS. THEY WILL REPLACE HIGH SPEED STEEL TOOL BITS IN MOST TURNING TOOLS.

TANGI-SQUARE CARBIDE INSERT HOLDERS FOR RIGHT HAND TURNING

Cat. No.	A	B	C	Insert Style
TSQ000-R	1/4	1-5/16	1/4	TSQ000
TSQ00-R	5/16	1-1/2	3/8	TSQ00
TSQ1-R	3/8	2-1/8	3/8	TSQ00
TSQ2-R	7/16	2-1/2	1/2	TSQ2
TSQ2A-R	1/2	2-1/2	1/2	TSQ2
TSQ3-R	5/8	3-1/2	1/2	TSQ2



The only insert ever designed specifically for screw machine turning tools!

ACCU-SET Roller Turning Tool - Available 3 Ways! Plus TANGI-SQUARE (See page 53)

FEATURES

- All cutting tool slides are interchangeable.
- All cutting tool slides are adjustable to center to compensate for machine misalignment.
- Screw adjustment of roller backrest slides assure easy, positive setting.
- Extended roller blocks available-for supporting on stock O.D. (positioned ahead of the cutting tool)
- Available for left hand operation.
- Micrometer adjustment of cutting tool slide-each graduation = .004" (1MM) on diameter (easily set in between for .001 or less movement.)
- Available for left hand operation.

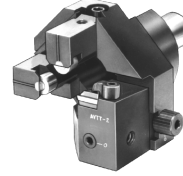


ATT STYLE
With H.S.S.
Cutting Tool Slide



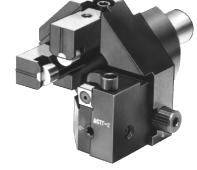
• Cuts tangentially.

AVTT STYLE
With Triangular
Carbide Insert Slide

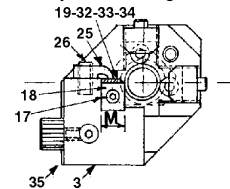
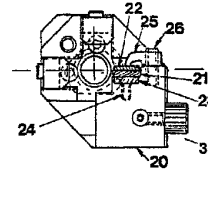
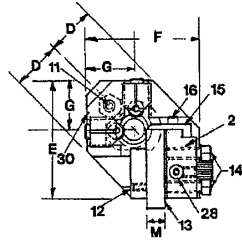
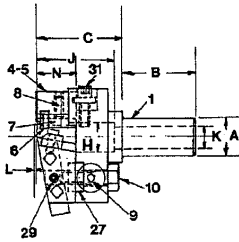


• Triangular carbide insert cut radially.

ACTT STYLE
With Rectangular
Carbide Insert Slide



• Only available left hand, right hand tools discontinued, replaced with TANGI-SQUARE ATTT style holder. Pg. 53



Roller Turning Tool	Cat. No.	Cat. No.	Cat. No.
With H.S.S. Cutting Tool Slide	ATT00	ATT0	ATT2
With H.S.S. Cutting Tool Slide LH	ATT00-L	ATT0-L	ATT2-L
With Rectangular Carbide Insert Tool Slide LH	ACTT00-L	ACTT0-L	ACTT2-L
With Triangular Carbide Insert Tool Slide	AVTT00	AVTT0	AVTT2
With Triangular Carbide Insert Tool Slide LH	AVTT00-L	AVTT0-L	AVTT2-L
A	5/8	3/4	1"
B	1-9/32	1-1/2	1-15/16
C	1-17/32	2-3/16	3"
D	13/16	1-3/16	1-3/8
E	1-15/16	2-3/4	3-7/16
F	1-15/16	2-7/8	3-9/16
G	13/16	1-3/8	1-11/16
H	1/2	7/8	1-1/4
J	1-3/8	1-7/8	2-3/4
K	3/8	1/2	5/8
L	3/64	3/32	3/32
M	5/16	3/8	7/16
N	11/16	1-1/16	1-1/2
Turning Capacity	5/64 to 3/8 Dia. x Mach. Cap.	5/32 to 1/2 Dia. x Mach. Cap.	3/16 to 5/8 Dia. x Mach. Cap.
	25/64 to 1/2 Dia. x 1-3/8 Lg	33/64 to 7/8 Dia. x 1-7/8 Lg	41/64 to 1-1/4 Dia. x 2-3/4 Lg

Tool Size	ATT00 Cat. No.	ATT0 Cat. No.	ATT2 Cat. No.
Complete H.S.S. Cutting Tool Slide	ATT00-CTS	ATT0-CTS	ATT2-CTS
Complete H.S.S. Cutting Tool Slide LH	ATT00-CTS-L	ATT0-CTS-L	ATT2-CTS-L
Complete Rectangular Carbide Insert Slide LH	ATT00-RCS-L	ATT0-RCS-L	ATT2-RCS-L
Complete Triangular Carbide Insert Slide	ATT00-VCS	ATT0-VCS	ATT2-VCS
Complete Triangular Carbide Insert Slide LH	ATT00-VCS-L	ATT0-VCS-L	ATT2-VCS-L
Complete Roller Backrest Slide	ATT00-RBS	ATT0-RBS	ATT2-RBS
Complete Extended Roller Backrest Slide	ATT00-ERB	ATT0-ERB	ATT2-ERB

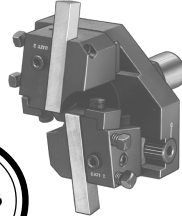
Tool No.	ATT00 AVTT00 ACTT00-L AVTT00-L	ATT0 AVTT0 ACTT0-L AVTT0-L	ATT2 AVTT2 ACTT2-L AVTT2-L
Part No.	Cat. No.	Cat. No.	Cat. No.
1. Body	ATT0-1	ATT0-1	ATT2-1
1. Body LH	ATT0-1L	ATT0-1L	ATT2-1L
2. H.S.S. Tool Slide	ATT0-2	ATT0-2	ATT2-2
2. H.S.S. Tool Slide LH	ATT0-2L	ATT0-2L	ATT2-2L
3. Rectangular Insert Tool Slide LH	ATT0-3L	ATT0-3L	ATT2-3L
4. Roller Block	ATT0-4	ATT0-4	ATT2-4
5. Extended Roller Block	ATT0-5	ATT0-5	ATT2-5
6. Roll	ATT0-6	ATT0-6	ATT2-6
7. Carbide Roll Pin	ATT0-7	ATT0-7	ATT2-7
8. Pin Screw	ATT0-8	ATT2-8	ATT2-8
9. Micrometer Screw	ATT0-9	ATT0-9	ATT2-9
10. H.S.S. Tool Slide Lock Screw	ATT0-10	ATT0-10	ATT2-10
11. Roller Slide Clamp Lock Screw	ATT0-10	ATT0-11	FDH4B-4-1
12. Rocker Screw	ATT0-12	TH000-3	1ANR-6
13. H.S.S. Cutting Tool	TT00-8	TT1-8	TT2-8
14. Tool Lock Screw	ATT0-14	ATT0-14	ATT2-14
15. H.S.S. Chip Breaker	ATT0-15	ATT0-15	ATT2-15
16. Chip Breaker Screw	ATT0-16	ATT0-16	TOOBH00-SCR
17. Rectangular Insert Screw	ATT0-17	ATT0-17	ATT2-17
18. Rectangular Inserts	See Page 52 for Specifications		
Grade C-2 Carbide	CIH00-5-C2	CIH1-5-C2	CIH2-5-C2
Grade C-7 Carbide	CIH00-5-C7	CIH1-5-C7	CIH2-5-C7
19. Rectangular Carbide Chip Breaker	ATT0-19	ATT0-19	ATT2-19
20. Triangular Insert Tool Slide	ATT0-20	ATT0-20	ATT2-20
20. Triangular Insert Tool Slide LH	ATT0-20L	ATT0-20L	ATT2-20L
21. Triangular Inserts	See Page 52 for Specifications		
Grade C-2 Carbide	ATT00-21-C2	ATT00-21-C2	ATT2-21-C2
Grade C-7 Carbide	ATT00-21-C7	ATT00-21-C7	ATT2-21-C7
22. Triangular Carbide Chip Breaker	ATT00-22	ATT00-22	ATT2-22
23. Triangular Anvil	ATT00-23	ATT00-23	ATT2-23
24. Triangular Anvil Screw	ATT00-24	ATT00-24	ATT2-24
25. Carbide Insert Clamp	ATT00-25	ATT00-25	ATT2-25
26. Carbide Insert Clamp Screw	ATT00-26	ATT00-26	ATT2-26
27. Slide Plate	ATT00-27	ATT0-27	ATT2-27
27. Slide Plate LH	ATT00-27L	ATT0-27L	ATT2-27L
28. Adjusting Stud	ATT00-28	ATT0-28	ATT2-28
29. Adj. Stud Lock Screw	ATT00-12	ATT00-12	1ANR-6
30. Roller Block Clamp	ATT00-30	ATT0-30	ATT2-30
31. Roller Block Adj. Screw	ATT00-31	ATT0-31	ATT2-31
32. Backup Plate & Screw	ATT00-32	ATT0-32	ATT2-32
33. Triangular Chip Breaker Adjuster	ATT00-33	ATT00-33	ATT00-33
34. Breaker Adj Screw	ATT00-34	ATT00-34	ATT00-34
35. Slide Clamp Screw	ATT00-35	ATT0-35	ATT00-12

ACCU-SET Balance Turning Tool WITH QUICK CHANGE INSERTS

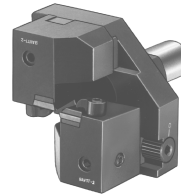
FEATURES

- All cutting tool slides are interchangeable. (see parts list). Converts from H.S.S. to carbide in seconds.
- All cutting tool slides are adjustable to center to compensate for machine misalignment.
- Micrometer adjustment of cutting tool slides each graduation = .004" (1MM) on diameter (easily set in between for .001 or less movement.)
- Fine adjustment of H.S.S. cutting tool provided by rocker screw.
- Available for left hand operation.

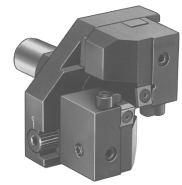
BATT STYLE
With H.S.S. Cutting
Tool Slides



BAVTT STYLE
With Triangular
Carbide Insert Slides

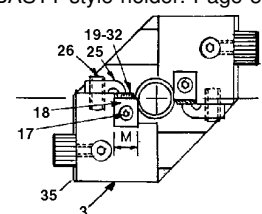
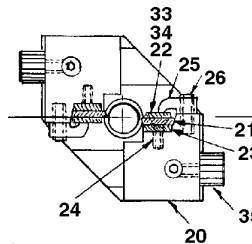
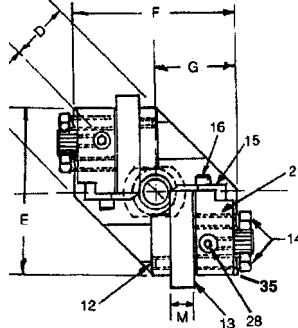
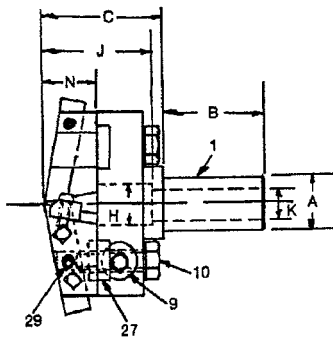


BACTT STYLE
With Rectangular
Carbide Insert Slides



- Triangular carbide Inserts cut radially.

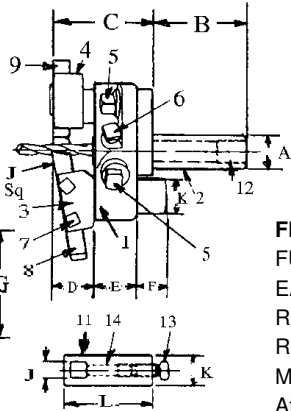
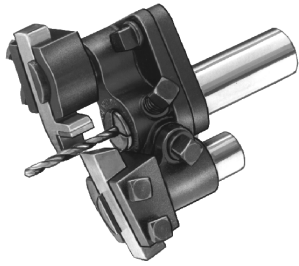
- Only available left hand, right hand tools discontinued, replaced with TANGI-SQUARE BASTT style holder. Page 53.



Balance Turning Tool	Cat. No.	Cat. No.	Cat. No.
With H.S.S. Cutting Tool Slide	BATT00	BATT0	BATT2
With H.S.S. Cutting Tool Slide LH	BATT00-L	BATT0-L	BATT2-L
With Rectangular Carbide Insert Tool Slide LH	BACTT00-L	BACTT0-L	BACTT2-L
With Triangular Carbide Insert Tool Slide	BAVTT00	BAVTT0	BAVTT2
With Triangular Carbide Insert Tool Slide LH	BAVTT00-L	BAVTT0-L	BAVTT2-L
A	5/8	3/4	1"
B	1-9/32	1-1/2	1-15/16
C	1-17/32	2-3/16	3"
D	13/16	1-3/16	1-3/8
E	2-1/4	2-3/4	3-1/2
F	2-3/8	3"	3-3/4
G	1-3/16	1-1/2	1-7/8
H	5/8	7/8	1-1/4
J	1-7/16	1-7/8	2-3/4
K	3/8	1/2	5/8
M	5/16	3/8	7/16
N	11/16	1-1/16	1-1/2
Turning Capacity	Up to 3/8 Dia. x Mach. Cap.	Up to 1/2 Dia. x Mach. Cap.	Up to 5/8 Dia. x Mach. Cap.
	25/64 to 5/8 Dia. x 1-3/8 Lg	33/64 to 7/8 Dia. x 1-7/8 Lg	41/64 to 1-1/4 Dia. x 2-3/4 Lg

Tool Size	BATT00 Cat. No.	BATT0 Cat. No.	BATT2 Cat. No.
Complete H.S.S. Cutting Tool Slide	ATT00-CTS	ATT0-CTS	ATT2-CTS
Complete H.S.S. Cutting Tool Slide LH	ATT00-CTS-L	ATT0-CTS-L	ATT2-CTS-L
Complete Rectangular Carbide Insert Slide LH	ATT00-RCS-L	ATT0-RCS-L	ATT2-RCS-L
Complete Triangular Carbide Insert Slide	ATT00-VCS	ATT0-VCS	ATT2-VCS
Complete Triangular Carbide Insert Slide LH	ATT00-VCS-L	ATT0-VCS-L	ATT2-VCS-L

Tool No.	BATT00 BAVTT00 BACTT00-L BAVTT00-L	BATT0 BAVTT0 BACTT0-L BAVTT0-L	BATT2 BAVTT2 BACTT2-L BAVTT2-L
Part No.	Cat. No.	Cat. No.	Cat. No.
1. Body	BATT00-1	BATT0-1	BATT2-1
1. Body LH	BATT00-1L	BATT0-1L	BATT2-1L
2. HSS Tool Slide	ATT00-2	ATT0-2	ATT2-2
2. HSS Tool Slide LH	ATT00-2L	ATT0-2L	ATT2-2L
3. Rectangular Insert Tool Slide LH	ATT00-3L	ATT0-3L	ATT2-3L
9. Micrometer Screw	ATT00-9	ATT0-9	ATT2-9
10. H.S.S. Tool Slide Lock Screw	ATT00-10	ATT0-10	ATT2-10
12. Rocker Screw	ATT00-12	TH000-3	1ANR-6
13. HSS Cutting Tool	TT00-8	TT1-8	TT2-8
14. Tool Lock Screw	ATT00-14	ATT0-14	ATT2-14
15. HSS Chip Breaker	ATT00-15	ATT0-15	ATT2-15
16. Chip Breaker Screw	ATT00-16	ATT0-16	TCOBH00-SCR
17. Rectangular Insert Screw	ATT00-17	ATT0-17	ATT2-17
18. Rectangular Inserts	See Page 52 for Specifications		
Grade C-2 Carbide	CIH00-5-C2	CIH1-5-C2	CIH2-5-C2
Grade C-7 Carbide	CIH00-5-C7	CIH1-5-C7	CIH2-5-C7
19. Rectangular Carbide Chip Breaker	ATT00-19	ATT0-19	ATT2-19
20. Triangular Insert Tool Slide	ATT00-20	ATT0-20	ATT2-20
20. Triangular Insert Tool Slide LH	ATT00-20L	ATT0-20L	ATT2-20L
21. Triangular Inserts	See Page 52 for Specifications		
Grade C-2 Carbide	ATT00-21-C2	ATT00-21-C2	ATT2-21-C2
Grade C-7 Carbide	ATT00-21-C7	ATT00-21-C7	ATT2-21-C7
22. Triangular Carbide Chip Breaker	ATT00-22	ATT00-22	ATT2-22
23. Triangular Anvil	ATT00-23	ATT00-23	ATT2-23
24. Triangular Anvil Screw	ATT00-24	ATT00-24	ATT2-24
25. Carbide Insert Clamp	ATT00-25	ATT00-25	ATT2-25
26. Carbide Insert Clamp Screw	ATT00-26	ATT00-26	ATT2-26
27. Slide Plate	ATT00-27	ATT0-27	ATT2-27
27. Slide Plate LH	ATT00-27L	ATT0-27L	ATT2-27L
28. Adjusting Stud	ATT00-28	ATT0-28	ATT2-28
29. Adj Stud Lock Screw	ATT00-12	ATT00-12	1ANR-6
32. Backup Plate & Screw	ATT00-32	ATT0-32	ATT2-32
33. Triangular Chip Breaker Adjuster	ATT00-33	ATT00-33	ATT00-33
34. Breaker Adj Screw	ATT00-34	ATT00-34	ATT00-34
35. Slide Clamp Screw	ATT00-35	ATT0-35	ATT00-12



The most **VERSATILE** tool on the market!...
 Saves many times its cost in tool investment...
 Can be used for either **RIGHT** or **LEFT** hand operations as...

- Carbide backrest box tool
- Balance turning tool
- Drilling & Chamfering tool
- Drilling & turning tool
- Roller backrest support for turret
- Pointing tool
- Roller Backrest box tool
- Carbide backrest support for turret
- Centering & facing tool
- Floating drill holder
- Two diameter turning tool
- Carbide Insert Tool
- Knee tool



FEATURES:

- FULLY ADJUSTABLE (FLOATS)
- EASY TO SET
- REQUIRES LESS CROSS SLIDE CLEARANCE
- RUGGED CONSTRUCTION FOR BOTH ROUGHING AND FINISHING CUTS
- MORE VERSATILE
- Attachments can be moved forward or back in holder to work on any area of part.
- NO DRILL PUSHBACK
- Adjustable drill stop screw in shank

TURNING TOOL SPECIFICATIONS

Size	A Shank	B	C	D		E	F		G	H	J Square	K	L	Hole Dia. for Bushing	Hole Dia. In Shank	Turning Capacity	
				Max.	Min.		Max.	Min.								Diameter	Length
No. 00	5/8	1-1/2	1-3/4	1-1/16	5/8	11/16	7/16	0	1-9/16	3"	5/16	1/2	1-17/32	1/2	3/8	Up to 3/8 3/8 to 1/2	Mach. Cap. 1-3/4
No. 1	3/4	2"	2-3/8	1-1/2	7/8	7/8	5/8	0	2-7/16	4-1/4	3/8	3/4	2"	5/8	1/2	Up to 1/2 1/2 to 3/4	Mach. Cap. 2-1/4
No. 2	1"	2"	3-1/16	1-15/16	1-1/16	1-1/8	7/8	0	3"	5-3/8	7/16	1"	3"	1"	11/16	Up to 11/16 11/16 to 1" over 1"	Mach. Cap. 3-1/16 1-15/16

TOOL HOLDERS
BROACH TOOLS

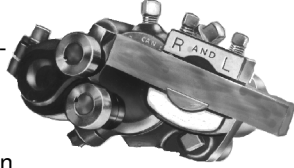
THESE TOOLS ARE AVAILABLE AS UNIVERSAL TURNING TOOLS WITH ALL ACCESSORIES AS SHOWN:			THESE TOOLS ARE ALSO AVAILABLE AS SPECIAL PURPOSE WITH ONLY THE ACCESSORIES AS SHOWN:			
	1-Carbide Backrest 2-Angular Cutter Holders 1-Straight Cutter Holders	1-Roller Backrest 2-Angular Cutter Holders 1-Straight Cutter Holder	1-Carbide Backrest 1-Angular Cutter Holder	1-Roller Backrest 1-Angular Cutter Holder	2-Angular Cutter Holder for Balance Turning	1-Straight Cutter Holder (Knee Tool)
TOOL SIZE	CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.
No. 00	TT00-C	TT00-R	TT00-CA	TT00-RA	TT00-AA	TT00-S
No. 1	TT1-C	TT1-R	TT1-CA	TT1-RA	TT1-AA	TT1-S
No. 2	TT2-C	TT2-R	TT2-CA	TT2-RA	TT2-AA	TT2-S

TURNING TOOL PARTS

Part. No.	Cat. No.	No. 00	Cat. No.	No. 1	Cat. No.	No. 2
1. Body	TT00-1		TT1-1		TT2-1	
2. Shank	TT00-2		TT1-2		TT2-2	
3. Angular cutter holder	TT00-3		TT1-3		TT2-3	
4. Backrest holder	TT00-4		TT1-4		TT2-4	
5. Clamp screw (ea)	TT00-5		TT1-5		TT2-5	
6. Drill holder screws (ea)	TT00-13		TT1-6		TT2-13	
7. Tool adjusting screws (ea)	TT00-7		TT00-13		TT1-6	
8. Cutting tool (ea)	TT00-8		TT1-8		TT2-8	
9. Carbide backrest	TT00-9		TT1-9		TT2-9	
10. Rocker shoes (ea)	TT00-10		TT1-10		TT2-10	
11. Straight cutter holder	TT00-11		TT1-11		TT2-11	
12. Shank screw	TT00-12		TT1-12		TT2-12	
13. Set screw for straight cutter holders	TT00-13		TT1-6		TT2-13	
14. Binder pin for straight cutter holders	TT00-14		TT1-14		TT2-14	
15. Double end wrench	TT00-15		TT00-15		TT2-15	

COMPLETE ROLLER BACKRESTS

Roller backrests can be used advantageously for many support applications where carbide backrests are not satisfactory. Precision rollers and pins rotate freely and give sturdy support on even the heaviest cuts.



SIZE	CAT. NO.	MIN. DIA. THAT CAN BE TURNED
TT00	TT00-RBR	1/8"
TT1	TT1-RBR	1/8"
TT2	TT2-RBR	3/16"

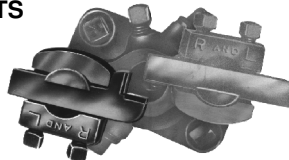
ROLLER BACKREST PARTS

Size	TT00-RBR	TT1-RBR	TT2-RBR
Part No.	Cat. No.	Cat. No.	Cat. No.
1. Roller and Pin Sets*	TT00RBR-1	TT1RBR-1	TT2RBR-1
2. Roller Shank	TT00RBR-2	TT1RBR-2	TT2RBR-2
3. Roller Clamp	TT00RBR-3	TT1RBR-3	TT2RBR-3
4. Clamp Screw	TT00-5	TT1-5	TT2-5

*Roller and pin sets consist of 2 rolls and 2 pins

COMPLETE CARBIDE BACKRESTS

The extremely hard surface of the carbide backrests will not pick up metal or mar the surface of the work with scratches or blisters.

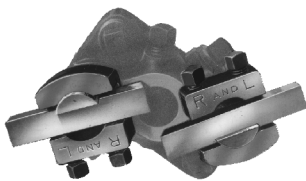


SIZE	CAT. NO.	MIN. DIA. THAT CAN BE TURNED
TT00	TT00-CBR	1/16"
TT1	TT1-CBR	1/16"
TT2	TT2-CBR	1/16"

The completed carbide backrest consists of the following assembly of parts as listed on page 68.

- | | | | |
|---|-----------------------------|---|------------------------|
| 1 | No. 4 Backrest holder | 1 | No. 9 Carbide backrest |
| 2 | No. 7 Tool adjusting screws | 1 | No. 10 Rocker shoe |

COMPLETE ANGULAR CUTTER HOLDERS



SIZE	CAT. NO.
TT00	TT00-ACH
TT1	TT1-ACH
TT2	TT2-ACH

The complete angular cutter holder consists of the following assembly of parts as listed on page 68.

- | | | | |
|---|-----------------------------|---|--------------------|
| 1 | No. 3 Angular cutter holder | 1 | No. 8 Cutting tool |
| 2 | No. 7 Tool adjust screws | 1 | No. 10 Rocker shoe |

OFFSET TOOL HOLDER



May be used for either right or left hand operations as:

- Carbide Backrest for Turret
- Roller Backrest for Turret
- Knee Tool
- Drill and Chamfer Tool
- Drill and Turn Tool
- Center and Face Tool

When used in conjunction with standard Somma R & L turning tool attachments as shown below.



With Roller Backrest*



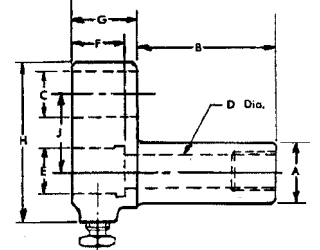
With Carbide Backrest*



With Angular Cutter Holder*

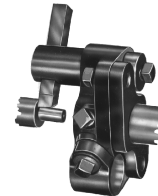


With Straight Cutter Holder*



TOOL NO.	OTH00	OTH1	OTH2
A	5/8	3/4	1"
B	1-1/2	2"	2"
C	1/2	3/4	1"
D	3/8	1/2	11/16
E	1/2	5/8	1"
F	9/16	3/4	7/8
G	11/16	7/8	1-1/8
H	1-11/16	2-3/16	3"
J	13/16	1"	1-5/16

COMPLETE STRAIGHT CUTTER HOLDERS



SIZE	CAT. NO.
TT00	TT00-SCH
TT1	TT1-SCH
TT2	TT2-SCH

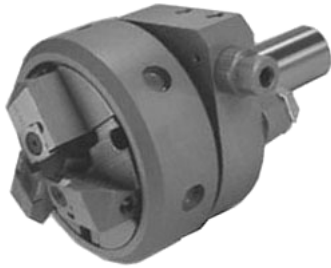
Complete straight cutter holder consists of the following assembly of parts as listed on page 68.

- | | | | |
|---|-------------------------------|---|---------------------------------------|
| 1 | No. 11 Straight cutter holder | 1 | No. 13 Set Screw for straight holder |
| 1 | No. 8 Cutting tool | 1 | No. 14 Binder pin for straight holder |

TANGI-SQUARE HOLLOW MILLS FOR DAVENPORT, CNC AND OTHER SCREW MACHINES with exclusive TANGI-SQUARE, QUICK CHANGE Micro-Grain Carbide Inserts AVAILABLE WITH COOLANT ATTACHMENT FOR LONGER INSERT LIFE/BETTER FINISHES

FEATURES:

- INSERT SLIDES ARE SUPPLIED FOR TURNING DIAMETERS 1/8" TO 3/8" AND FOR 3/8" TO 5/8" USING STANDARD SOMMA TSQ00 STYLE TANGI-SQUARE
- INSERTS
- INSERT SLIDES ARE INTERCHANGEABLE
- MICROMETER DIAL SCREW MAKES ADJUSTMENTS OF ALL THREE INSERT SLIDES SIMULTANEOUSLY
- EACH LINE ON DIAL = .001" (.025MM) ON DIAMETER, .0005" (.0125mm) ON THE SIDE
- AVAILABLE WITH STOCK STOP FOR DAVENPORT MACHINES OR WITHOUT STOP FOR SCREW MACHINES AND CNC MACHINES
- INSERT DEPTH OF CUT IS 3/16" MAXIMUM (3/8" ON DIAMETER)
- SHANK ADJUSTABLE TO CORRECT FOR MISALIGNMENT
- AVAILABLE WITH DRILL BUSHING HOLE IN SHANK FOR TURNING AND DRILLING OPERATIONS



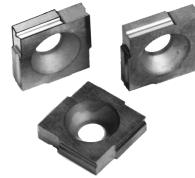
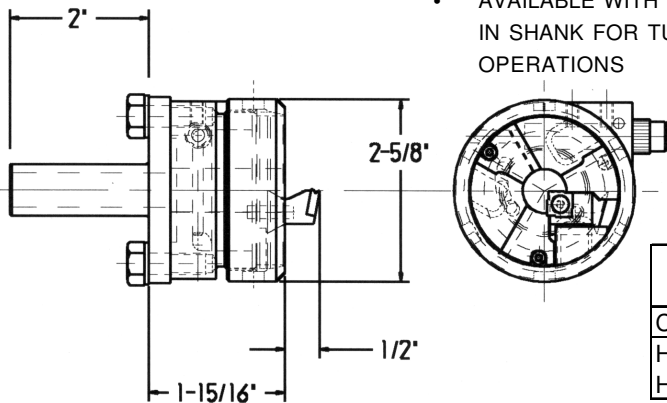
FOR CNC AND OTHER SCREW MACHINES



WITH STOCK STOP FOR DAVENPORT MACHINES



SHOWN WITH COOLANT ATTACHMENT



COMPLETE INSERT SLIDES
LESS INSERT

CAT. NO.	CAPACITY
HM-SL-3/8	1/8 TO 3/8 DIA.
HM-SL-5/8	3/8 TO 5/8 DIA.

TANGI-SQUARE INSERT HOLLOW MILLS

CAT. NO.	WITH STOCK STOP FOR DAVENPORT	CAT. NO.
	SHANK STYLE	
TSQ-HM	3/4" DIA. WITH 1/2" THRU HOLE	TSQ-HM-CS
TSQ-HM-DR	3/4" DIA. WITH 1/2" O.D. BUSHING HOLE AND DRILL STOP SCREW	TSQ-HM-DR-CS
COOLANT ATTACHMENT ONLY		HM-CA

CAT. NO.	FOR CNC AND OTHER MACHINES	CAT. NO.
	SHANK STYLE	
TSQ-HM-A	3/4" DIA. WITH 1/2" THRU HOLE	TSQ-HM-A-CS
TSQ-HM-A-DR	3/4" DIA. WITH 1/2" O.D. BUSHING HOLE AND DRILL STOP SCREW	TSQ-HM-A-DR-CS
TSQ-HM-A-1.0	1" DIA WITH 11/16" THRU HOLE	TSQ-HM-A-1.0-CS
COOLANT ATTACHMENT ONLY		HM-A-CA

PRICES INCLUDE 1/8" TO 3/8" CAPACITY INSERT SLIDES INSTALLED IN HOLLOW MILLS, PLUS THREE INTERCHANGEABLE 3/8" TO 5/8" CAPACITY INSERT SLIDES, COMPLETE WITH INSERTS.

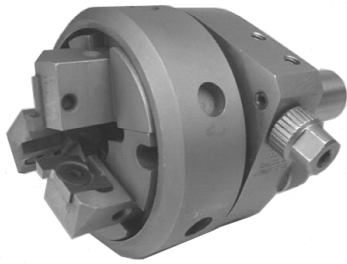
TANGI-SQUARE CARBIDE INSERTS OUTPERFORM ALL OTHER INSERTS BECAUSE:

- Quick change - only one easy-to-get-at screw
- Cut tangentially-not radially
- Ideal 10° front clearance angle - instead of 5° of triangular inserts
- Shaves turned diameter for better size control and finish
- Built in chip breaker
- Produce square, sharp corners
- Repeatability within .001"
- No need to slow slide retraction, freer cutting action eliminates scroll lines on most applications.
- 4 right hand cutting edges
- MICRO-GRAIN carbide for longest tool life

INSERT STYLE	TSQ00 INSERTS Cat. No.
35° HIGH TOP RAKE SQUARE CORNER	TSQ00-45-MIC TSQ00-45-MICTIN TIN COATED
35° HIGH TOP RAKE .015 CORNER RADIUS OR .031 CORNER RADIUS	TSQ00-45-015 TSQ00-45-015TIN TIN COATED TSQ00-45-031 TSQ00-45-031TIN TIN COATED
5° TOP RAKE SQUARE CORNER	TSQ00-5-MIC TSQ00-5-MICTIN TIN COATED
5° TOP RAKE .015 CORNER RADIUS OR .031 CORNER RADIUS	TSQ00-5-015 TSQ00-5-015-TIN TIN COATED TSQ00-5-031 TSQ00-5-031-TIN TIN COATED
INSERT SCREW	ATT00-17

INSERT TREPANNING/FACING-CHAMFERING TOOLS FOR DAVENPORT, CNC AND OTHER SCREW MACHINES

AVAILABLE WITH COOLANT ATTACHMENT FOR LONGER INSERT LIFE/BETTER FINISHES

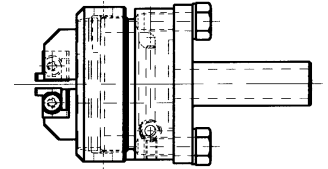


**FOR CNC
AND OTHER
SCREW MACHINES**

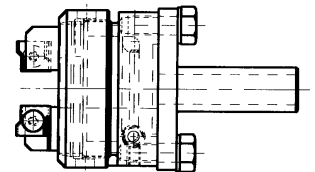
COMPLETE INSERT SLIDES LESS INSERT	
CAT. NO.	CAPACITY
TRPN-SL-3/8	1/8 TO 3/8 DIA.
TRPN-SL-5/8	3/8 TO 5/8 DIA.

FEATURES:

- INSERT SLIDES ARE SUPPLIED FOR DIAMETERS 1/8" TO 3/8" AND FOR 3/8" TO 5/8" USING STANDARD SOMMA CIH2A-5 INSERTS (NOT INCLUDED)
- INSERT SLIDES ARE INTERCHANGEABLE
- MICROMETER DIAL SCREW MAKES ADJUSTMENTS OF ALL THREE INSERT SLIDES SIMULTANEOUSLY
- EACH LINE ON DIAL = .001" (.025MM) ON DIAMETER, .0005" (.0125mm) ON THE SIDE
- AVAILABLE WITH STOCK STOP FOR DAVENPORT MACHINES OR WITHOUT STOP FOR SCREW MACHINES AND CNC MACHINES
- SHANK ADJUSTABLE TO CORRECT FOR MISALIGNMENT
- AVAILABLE WITH DRILL BUSHING HOLE IN SHANK FOR TURNING AND DRILLING OPERATIONS



FOR TREPANNING



FOR FACING/CHAMFERING

CAT. NO.	FOR CNC AND OTHER MACHINES	CAT. NO. W/COOLANT ATT.
	SHANK STYLE	
TRPN-A	3/4" DIA. WITH 1/2" THRU HOLE	TRPN-A-CS
TRPN-A-DR	3/4" DIA. WITH 1/2" O.D. BUSHING HOLE AND DRILL STOP SCREW	TRPN-A-DR-CS
TRPN-A-1.0	1" DIA WITH 11/16" THRU HOLE	TRPN-A-1.0-CS
COOLANT ATTACHMENT ONLY		HM-A-CA

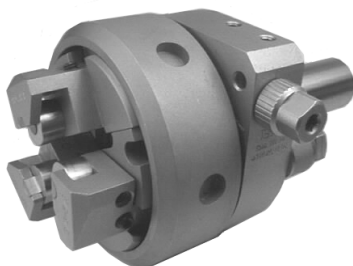
CAT. NO.	WITH STOCK STOP FOR DAVENPORT	CAT. NO. W/COOLANT ATT.
	SHANK STYLE	
TRPN	3/4" DIA. WITH 1/2" THRU HOLE	TRPN-CS
TRPN-DR	3/4" DIA. WITH 1/2" O.D. BUSHING HOLE AND DRILL STOP SCREW	TRPN-DR-CS
COOLANT ATTACHMENT ONLY		HM-CA

PRICES INCLUDE 1/8" TO 3/8" CAPACITY INSERT SLIDES INSTALLED IN HOLDER PLUS THREE INTERCHANGEABLE 3/8" TO 5/8" CAPACITY INSERT SLIDES, INSERTS NOT INCLUDED. PRICES ON APPLICATION.

ROLLER BURNISHING TOOL

FOR DAVENPORT, CNC AND OTHER SCREW MACHINES

AVAILABLE WITH COOLANT ATTACHMENT FOR LONGER ROLL LIFE/BETTER FINISHES

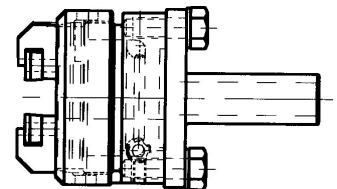


**FOR CNC
AND OTHER
SCREW MACHINES**

COMPLETE INSERT SLIDES LESS INSERT	
CAT. NO.	CAPACITY
RBT-SL-3/8	1/8 TO 3/8 DIA.
RBT-SL-5/8	3/8 TO 5/8 DIA.

FEATURES:

- SLIDES ARE SUPPLIED FOR BURNISHING DIAMETERS 1/8" TO 3/8" AND FOR 3/8" TO 5/8" USING STANDARD SOMMA ATT0-6 ROLLS INCLUDED
- SLIDES ARE INTERCHANGEABLE
- MICROMETER DIAL SCREW MAKES ADJUSTMENTS OF ALL THREE SLIDES SIMULTANEOUSLY
- EACH LINE ON DIAL = .001" (.025MM) ON DIAMETER, .0005" (.0125mm) ON THE SIDE
- AVAILABLE WITH STOCK STOP FOR DAVENPORT MACHINES OR WITHOUT STOP FOR SCREW MACHINES AND CNC MACHINES
- SHANK ADJUSTABLE TO CORRECT FOR MISALIGNMENT
- AVAILABLE WITH DRILL BUSHING HOLE IN SHANK FOR TURNING AND DRILLING OPERATIONS



FOR BURNISHING

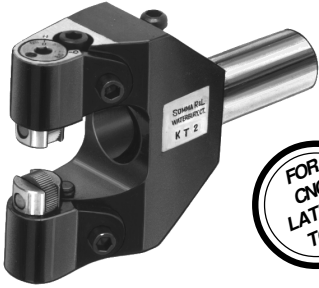
ROLL SLIDE PARTS

CAT. NO.	
ATT0-6	BURNISHING ROLL
HM-19	CARBIDE ROLL PIN
ATT2-8	PIN SCREW

CAT. NO.	FOR CNC AND OTHER MACHINES	CAT. NO. W/COOLANT ATT.
	SHANK STYLE	
RBT-A	3/4" DIA. WITH 1/2" THRU HOLE	RBT-A-CS
RBT-A-DR	3/4" DIA. WITH 1/2" O.D. BUSHING HOLE AND DRILL STOP SCREW	RBT-A-DR-CS
RBT-A-1.0	1" DIA WITH 11/16" THRU HOLE	RBT-A-1.0-CS
COOLANT ATTACHMENT ONLY		HM-A-CA

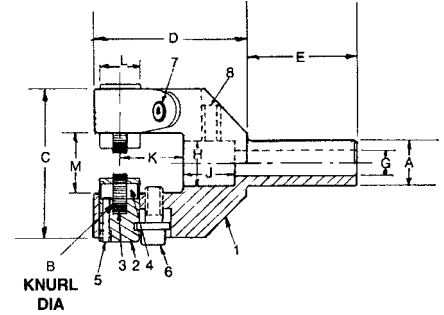
CAT. NO.	WITH STOCK STOP FOR DAVENPORT	CAT. NO. W/COOLANT ATT.
	SHANK STYLE	
RBT	3/4" DIA. WITH 1/2" THRU HOLE	RBT-CS
RBT-DR	3/4" DIA. WITH 1/2" O.D. BUSHING HOLE AND DRILL STOP SCREW	RBT-DR-CS
COOLANT ATTACHMENT ONLY		HM-CA

PRICES INCLUDE 1/8" TO 3/8" CAPACITY SLIDES INSTALLED IN HOLDER PLUS THREE INTERCHANGEABLE 3/8" TO 5/8" CAPACITY SLIDES, COMPLETE WITH ROLLS



KNURLING TOOL

- Knurl can be adjusted to produce straight, diagonal, or diamond knurls by rotating the barrels.
- Holds drills for combined operations
- Standard with carbide knurl pins
- Same tool can be converted to "extra capacity" by changing barrels.



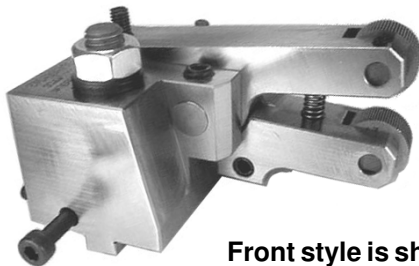
CAT. NO.	B											BARREL LENGTH	CAPACITY DIA.
	A	OD x ID x W	C	D	E	G	H	J	K	L	M		
KT00	5/8	1/2x3/16x3/16	1-15/16	1-7/8	1-1/8	5/16	1/2	9/16	5/8	9/16	5/8	7/8	Up to 1/2"
KT1	3/4	5/8x1/4x1/4	2-15/32	2-9/16	1-7/8	7/16	5/8	7/8	1-1/16	11/16	1"	1-1/16	Up to 3/4"
KT2	1"	5/8x1/4x1/4	3-5/16	3-7/16	2-3/16	5/8	1"	1-1/4	1-1/2	11/16	1-3/8	1-5/16	Up to 7/8"
KT2-EC (EXTRA CAPACITY)	1"	5/8x1/4x1/4	3-5/16	3-7/16	2-3/16	5/8	1"	1-1/4	1-1/2	11/16	1-3/8	1-1/16	7/16 to 1-5/16
KT3	1-1/4	5/8x1/4x1/4	4"	4-1/4	3-1/4	5/8	1-1/4	1-1/4	2"	11/16	2-1/16	1-5/16	1/2 to 1-3/8
KT3-EC (EXTRA CAPACITY)	1-1/4	5/8x1/4x1/4	4"	4-1/4	3-1/4	5/8	1-1/4	1-1/4	2"	11/16	2-1/16	1-1/16	1" to 2"

KNURLING TOOL PARTS

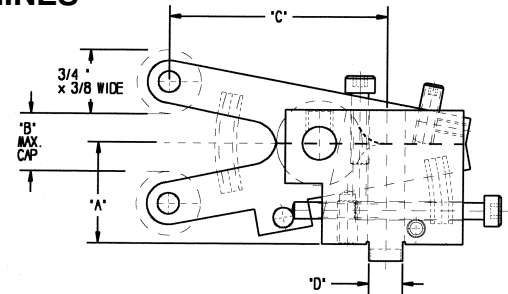
Part No.	KT00 Cat. No.	KT1 Cat. No.	KT2 Cat. No.	KT2 EC Cat. No.	KT3 Cat. No.	KT3 EC Cat. No.
1. Body	KT00-1	KT1-1	KT2-1	KT2-1	KT3-1	KT3-1
2. Barrels	KT00-2	KT1-2	KT2-2	KT1-2	KT2-2	KT1-2
3. Knurls*	KT00-3	KT2-3	KT2-3	KT2-3	KT2-3	KT2-3
4. Knurl Pins, Carbide	KT00-4	KT2-4	KT2-4	KT2-4	KT2-4	KT2-4
5. Barrel Screws	KT00-5	KT1-5	KT2-5	KT1-5	KT2-5	KT1-5
6. Adjusting Screws	KT00-6	KT2-6	KT2-6	KT2-6	KT2-6	KT2-6
7. Clamp Screws	KT00-7	KT2-7	KT2-7	KT2-7	KT3-7	KT3-7
8. Drill Holder Screws	KT00-8	KT1-8	KT2-8	KT2-8	KT2-8	KT2-8

* Specify pitch of knurl required when ordering. Medium knurls supplied unless otherwise specified.

SCISSORS KNURL TOOL HOLDERS FOR TORNOS, EUROTURNS, GILDEMEISTER, TRAUB AND OTHER CNC MACHINES



Front style is shown

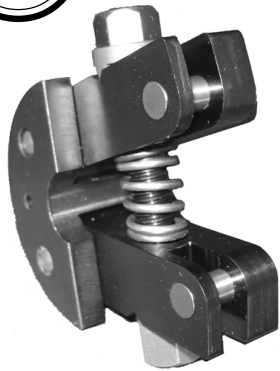


CAT. NO.	FRONT SLIDE STYLE			
	"A"	"B"	"C"	"D"
SKT-30-F	30MM	13/16	2-1/2	10MM
SKT50F-14MM	50MM	1-11/16	3-3/4	14MM
SKT-50-F	50MM	1-11/16	3-3/4	16MM
REAR SLIDE STYLE				
SKT-30-R	30MM	13/16	2-1/2	10MM
SKT-50R-14MM	50MM	1-11/16	3-3/4	14MM
SKT-50-R	50MM	1-11/16	3-3/4	16MM

- Easy to set for diameter and depth of knurl
- Easy to set for float to center of workpiece
- Pressure equal on both knurls for even knurl depth
- Supplied with carbide knurl pins (knurls not included)
- Available front slide style or rear slide style for operation close to spindle
- Also available for Acme and New Britain Machines. P.O.A.



STRADDLE KNURL HOLDER FOR DAVENPORT

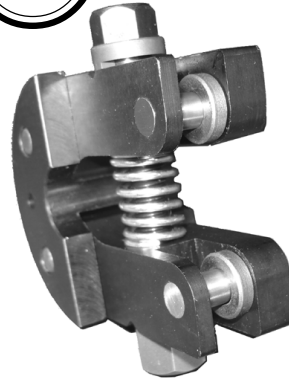


Knurls:
5/8" Diameter
1/4" Wide
1/4" Hole

Cat. No.
2730-SA-SOMMA



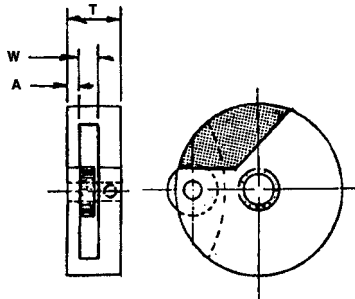
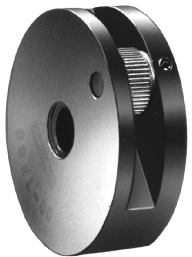
OVERSIZE STRADDLE KNURL HOLDER FOR DAVENPORT



Knurls:
3/4" Diameter
3/8" Wide
1/4" Hole
(Can also use 1/4"
wide knurls)

Cat. No.
2730-23-SA-SOMMA

CIRCULAR KNURL HOLDERS FOR CROSS SLIDES



- FEATURES:**
- MADE OF HEAT-TREATED STEEL
 - CARBIDE KNURL PINS
 - PERMITS KNURLING CLOSE TO SPINDLE

CAT. NO.	FITS	DIA.	CENTER HOLE	KNURL OD x ID x W	W	A	T
CSKT-00	#00 B&S	1-3/4	3/8-16 THD	1/2x3/16x3/16	1/4	1/8	9/16
CSKT-0	#0 B&S	2-1/4	1/2-13 THD	5/8x1/4x1/4	5/16	1/8	21/32
CSKT-2	#2 B&S	3"	5/8-11 THD	5/8x1/4x1/4	3/8	1/8	3/4
CSKT-DAV	DAVENPORT	2"	9/16-REAM	3/4x1/4x1/4	3/8	5/32	3/4

*INCLUDES MEDIUM KNURL

Note: Top of Davenport Tool is milled away for proper clearance (shaded area in diagram) and has two 9/64" pinholes thru.

CIRCULAR KNURL HOLDER PARTS

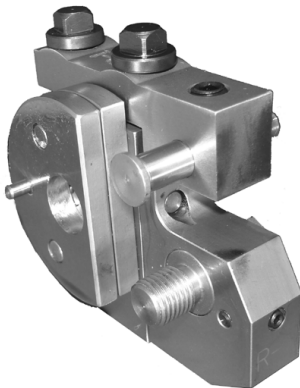
Part No.	CSKT-00 Cat. No.	CSKT-0 Cat. No.	CSKT-2 Cat. No.	CSKT-DAV Cat. No.
2. Knurl	KT00-3	KT2-3	KT2-3	CSKT-DAV-2
3. Carbide Pin	KT00-4	KT2-4	CSKT2-3	CSKT2-3
4. Set Screw	CSKT00-4	CSKT00-4	CSKT00-4	CSKT00-4
5. Washer	CSKT00-5	CSKT0-5	1ANR-8	1ANR-8

TOOL HOLDERS
BROACH TOOLS



SIZING TOOL HOLDER FOR DAVENPORT

.075" to .500" Diameter x 3/4" Wide



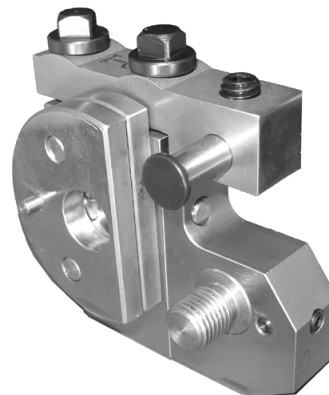
Cat. No.
2726-R-SA-SOMMA

For Rolls see page 21
For Size Tool Blanks see page 21



SIZING TOOL HOLDER (OVERSIZE) FOR DAVENPORT

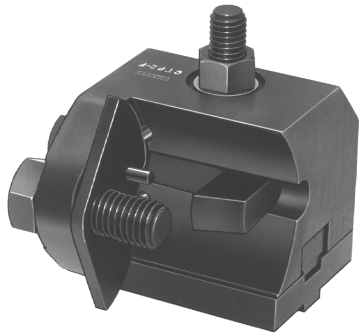
.262" to .812" Diameter x 3/4" Wide



Cat. No.
2726-O-SA-SOMMA

For Rolls see page 21
For Size Tool Blanks see page 21

CIRCULAR FORM TOOL HOLDER FOR B&S MACHINES



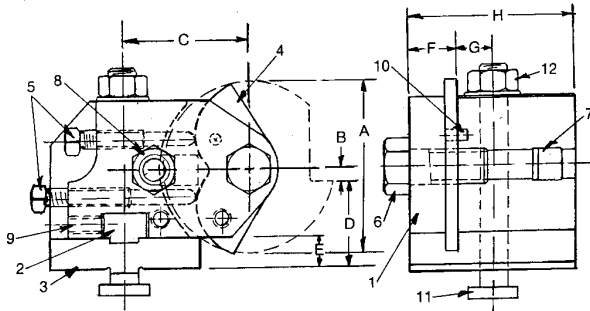
- Supplied with riser block for right or left-hand operation
- Pinhole sector plate prevents tool slippage
- Swivel adjustment to correct part tapers
- Adjusting screws for fine adjustment to center
- 2 tapped holes on side to fit attachments
- Supplied with 3 hook bolts for various tool widths as shown below.

CIRCULAR TOOL POST - SPECIFICATIONS

CAT. NO.	FITS	A	B	C	D	E	F	G	H
CTP00-F	#00 B&S FRONT	1-3/4	1/8	1-5/16	1"	1/4	7/16	3/8	1-11/16
CTP00-B	#00 B&S BACK	1-3/4	1/8	1-5/16	1"	1/4	7/16	3/8	1-11/16
CTP0-F	#0 B&S FRONT	2-1/4	5/32	1-3/4	1-5/16	5/16	19/32	13/32	2"
CTP0-B	#0 B&S BACK	2-1/4	5/32	1-3/4	1-5/16	5/16	19/32	13/32	2"
CTP2-F	#2 B&S FRONT	3"	1/4	2-5/32	1-7/16	1/2	13/16	11/16	2-7/8
CTP2-B	#2 B&S BACK	3"	1/4	2-5/32	1-7/16	1/2	13/16	11/16	2-7/8

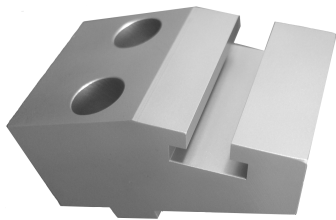
CIRCULAR TOOL POST - PARTS

Part No.	CTP00 Cat. No.	CTP0 Cat. No.	CTP2 Cat. No.
1F. Body-Fr. Slide	CTP00-F-1	CTP0-F-1	CTP2-F-1
1B. Body Bk. Slide	CTP00-B-1	CTP0-B-1	CTP2-B-1
2. Alignment Plate	DTH00-3	DTH0-3	CTP2-2
3. Riser Block	CTP00-3	CTP0-3	CTP2-3
4. Sector Plate	CTP00-4	CTP0-4	CTP2-4
5. Adj. Screws	CTP00-5	CTP0-5	CTP0-5
5. Adj. Screws, long	—	—	CTP2-5
6. Tool Bolt	00TB-1	0TB2-3	2TB2-1
7. Hook Bolts (3)	(See Listing This Page)		
8. Hook Nut & Washer	CTP00-8	CTP0-8	CTP2-8
9. Alignment Screw	0RB2-5	CTP0-9	2ANR-6
10. Sector Pin	CTP00-10	CTP2-10	CTP2-10
11. T Bolt	00TPB-3	0TPB-4	2TPB-4
12. T. Nut & Washer	00TBN	0TBN	2TBN



See page 20 for Standard Circular Form Tools and Blanks to fit these holders.

CIRCULAR TOOL HOLDER ADAPTER BLOCK FOR B&S MACHINES (#2 TO #00)

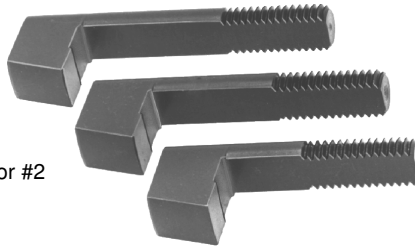


CAT# CTP00/2

Save money by mounting your #00 B&S circular form tool holder on a #2 B&S machine.

HOOK BOLTS FOR B&S MACHINES

- Alloy Steel
- Heat Treated For Longer Life
- Available in 3 Lengths for #00 + #0, 4 lengths for #2 Machine To Accommodate All Tool Widths
- Fit All Standard Circular Tool Posts

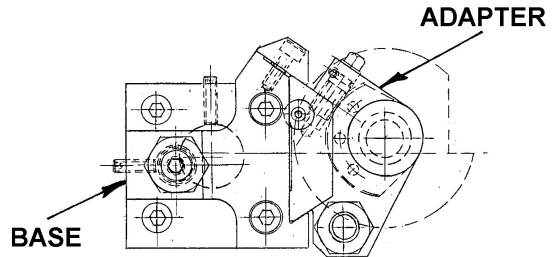
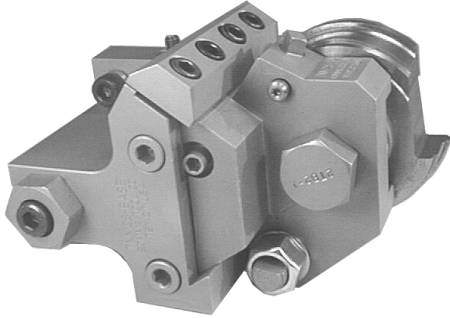


HOOK BOLT SPECIFICATIONS

PART. NO.	FITS	LENGTH UNDER HOOK
CTP00-7S	#00 B&S	1-1/8
CTP00-7M	#00 B&S	1-7/16
CTP00-7L	#00 B&S	1-3/4
CTP0-7S	#0 B&S	1-3/8
CTP0-7M	#0 B&S	1-3/4
CTP0-7L	#0 B&S	2-1/8
CTP2-7S	#2 B&S	1-15/16
CTP2-7M	#2 B&S	2-7/16
CTP2-7L	#2 B&S	2-11/16
CTP2-7XL	#2 B&S	3-7/16

ADAPTERS FOR BROWN & SHARPE CIRCULAR FORM TOOLS FOR TRAUB TNM28 MACHINES

- Allows usage of existing circular form tools on the Traub TNM28 machine.
- Base toolholder replaces horizontal style toolholder and accepts adapters for #00, #0 and #2 B&S Circular Form Tools.
- All adapters maintain prescribed lengthwise distance from toolholder mounting position to centerline of spindle.

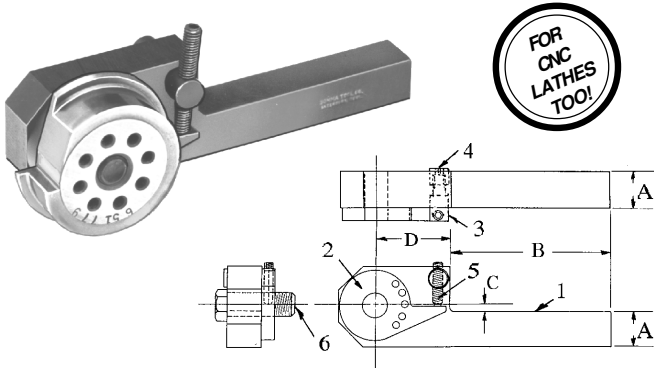


CAT. NO.	DESCRIPTION
TNM28-BASE	BASE HOLDER FOR CIRCULAR ADAPTERS
TNM28-#00	ADAPTER FOR #00 CIRCULAR FORM TOOLS
TNM28-#0	ADAPTER FOR #0 CIRCULAR FORM TOOLS
TNM28-#2	ADAPTER FOR #2 CIRCULAR FORM TOOLS

CIRCULAR FORM TOOL ADAPTER FOR TURRET LATHES AND CNC LATHES

These Holders are designed to hold standard Brown & Sharpe type Circular Form Tools in the flat form tool post or square tool post of all Turret Lathes and CNC Lathes.

The Circular Tool is mounted in the adapter so that the cutting edge of the tool is in line with the top side of the shank. The tool can be rotated to the center of the work by use of an adjustable sector plate with pinholes.



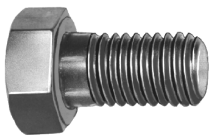
CAT. NO.	A	B	TOOL DIA.	THD. SIZE	C OFFSET	D	PINHOLE
.50TLCF	1/2 SQ.	2-5/8	1-3/4	3/8-16	1/8	1-3/8	1/8 DIA. .787 BC 5/32 DIA. 1-1/16
.75TLCF	3/4 SQ.	3-1/2	2-1/4	1/2-13	5/32	1-9/16	3/16 DIA. 1-3/8 BC
1.0TLCF	1" SQ.	4"	3"	5/8-11	1/4	2"	3/16 DIA. 1-1/2 BC
1.25TLCF	1-1/4 SQ.	4-1/2	3"	5/8-11	1/4	2"	3/16 DIA. 1-1/2 BC

CIRCULAR FORM TOOL ADAPTER PARTS

Part No.	.50TLCF Cat. No.	.75TLCF Cat. No.	1.0TLCF Cat. No.	1.25TLCF Cat. No.
1. Body	.50TLCF-1	.75TLCF-1	1.0TLCF-1	1.25TLCF-1
2. Sector Plate	.50TLCF-2	.75TLCF-2	1.0TLCF-2	1.25TLCF-2
3. Adj. Stud	.50TLCF-3	.50TLCF-3	1.0TLCF-3	1.25TLCF-3
4. Adj. Nut	TH000-14	TH000-14	TH00-14	TH00-14
5. Adj. Screws	OCD2-15	OCD2-15	OCD2-15	OCD2-15
6. Tool Bolt	00TB-1	0TB2-3	2TB2-1	2TB2-1
7. Spacer	.50TLCF-7	—	—	—

See pages 20 & 26 for Standard Circular Form Tools and Blanks to fit these holders.

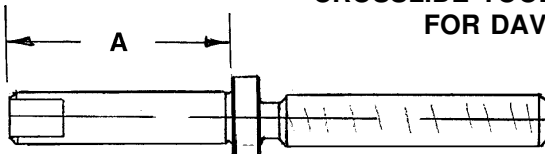
TOOL BOLTS FOR CIRCULAR FORM TOOLS



Made of heat-treated alloy steel, turned from hex bar stock, these tool bolts will hold securely and squarely.

CAT. NO.	THD.	LENGTH	CAT. NO.	THD.	LENGTH
00TB-1	3/8-16	1"	0TB-1	1/2-14	1"
0TB1-3	1/2-13	1"	0TB-2	1/2-14	1-1/2
0TB2-3	1/2-13	1-1/2	2TB-1	5/8-12	1-1/8
2TB1-1	5/8-11	1-1/8	2TB-2	5/8-12	1-5/8
2TB2-1	5/8-11	1-5/8			

CROSSLIDE TOOLPOST ADJUSTING SCREWS FOR DAVENPORT MACHINES



CAT. NO.	"A"
STC-DV-SCR-1.25	1-1/4
STC-DV-SCR-1.62	1-5/8

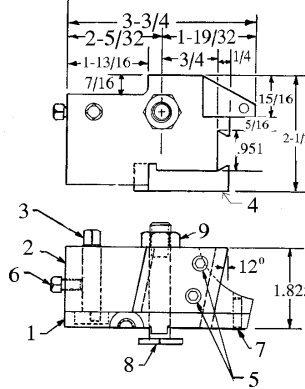
TOOL HOLDERS
BROACH TOOLS

DOVETAIL FORM TOOL HOLDER FOR DAVENPORTS FOR 1st POSITION 12° SLIDE



Cat. No. DTH-DAV

- Extended outboard support eliminates tearing out of "T" slot of slide.
- Permits heavier cuts without chatter.
- Eccentric stud and pin adjustment to correct part taper.
- Support fits freely under oversize spindle.

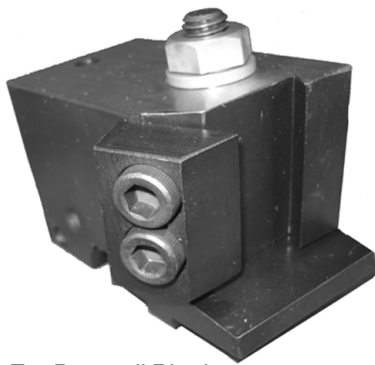


1st POSITION DOVETAIL TOOL HOLDER PARTS

PART. NO.	CAT. NO.
1. PLATE	DTH-DAV-1
2. BODY	DTH-DAV-2
3. STUD	DTH-DAV-3
4. CLAMP	DTH-DAV-4
5. CLAMP SCREW	DTH-DAV-5
6. STUD SCREW	TT00-13
7. PIVOT PIN	CTP2-10
8. BOLT	00TPB-4
9. NUT & WASHER	00TBN

See page 16 for Standard Dovetail Form Blanks to fit these and other holders.

1ST POSITION 10° DOVETAIL TOOL HOLDER FOR DAVENPORT

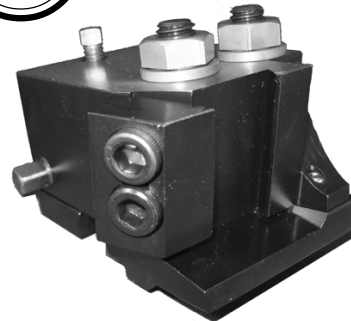


- 1-Bolt
- 10° Face Angle
- First Position

Cat. No.
3060-SA-SOMMA

For Dovetail Blanks see page 16

1ST POSITION 10° DOVETAIL TOOL HOLDER FOR DAVENPORT



- 2-Bolt
- Designed for heavy cuts
- 10° Face Angle
- First Position

Cat. No.
3060-10-SA-SOMMA

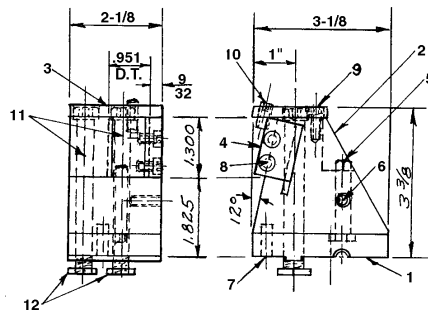
For Dovetail Blanks see page 16

FOR 2nd POSITION 12° DAVENPORT SLIDE



Cat. No. DTH-DVB

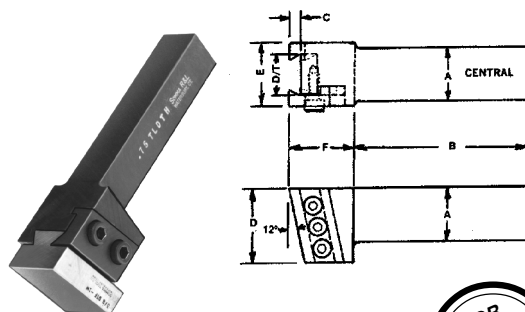
- Permits heavier cuts without chatter.
- Eccentric stud and pin adjustment to correct part taper.



See page 16 for Standard Dovetail Form Blanks to fit these and other holders.

2nd POSITION DOVETAIL TOOL HOLDER PARTS

Part No.	Cat. No.
1. PLATE	DTH-DVB-1
2. BODY	DTH-DVB-2
3. TOP PLATE	DTH-DVB-3
4. CLAMP	DTH-02
5. STUD	DTH-DAV-3
6. STUD SCREW	TH000-3
7. PIVOT PIN	DTH-DVB-7
8. CLAMP SCREW	DTH2-7
9. COVER SCREW	TC0BH00-SCR
10. JACK SCREW	DTH-DVB-10
11. CAP SCREW	DTH-DVB-11
12. SQUARE NUT	DTH-DVB-12



DOVETAIL FORM TOOL ADAPTER FOR TURRET LATHES AND CNC LATHES

These Holders are designed to hold standard Dovetail Blanks in the flat tool post or square tool post of all Turret Lathes and CNC Lathes.

CAT. NO.	A	B	D/T	C	D	E	F
.75TL DTH	3/4 SQ.	3-1/2	.6995	1/4	1-1/4	1-1/4	1-1/4
1.0TL DTH	1" SQ.	4"	.951	1/4	1-3/4	1-1/2	1-1/2
1.25TL DTH	1-1/4 SQ.	4-1/2	.951	1/4	1-3/4	1-1/2	1-1/2
1.882TL DTH	1-1/4 SQ.	4-1/2	1.882	17/32	2"	3"	2"

DOVETAIL FORM TOOL ADAPTER PARTS

Part No.	.75TL DTH Cat. No.	1.0TL DTH Cat. No.	1.25TL DTH Cat. No.	1.882TL DTH Cat. No.
1. Body	.75TL DTH-1	1.0TL DTH-1	1.25TL DTH-1	1.882TL DTH-1
2. Clamp	.75TL DTH-2	1.0TL DTH-2	1.0TL DTH-2	1.882TL DTH-2
3. Clamp Scr.	DTH2-7	DTH2-7	1.25TL DTH-3	1.25TL DTH-3



See page 16 for Standard Dovetail Blanks to fit these holders.

TOOL HOLDERS
BROACH TOOLS

BROWN & SHARPE UNIVERSAL DOVETAIL TOOL HOLDERS

- Designed for use on front or rear slide for either forward or reverse spindle rotation.
- Especially suited for heavy cuts or where design limitations of circular type tools do not permit grinding of side clearances.
- Swivel adjustment provided to correct for tapers.

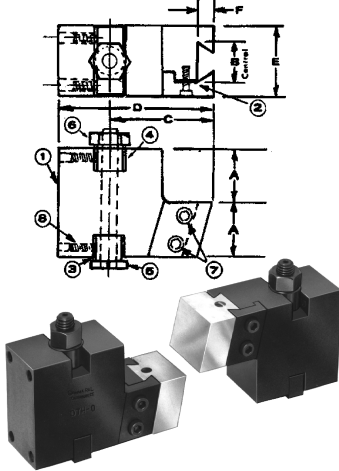
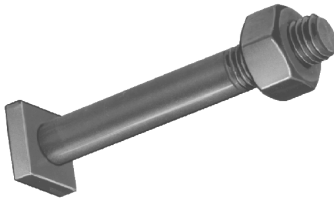


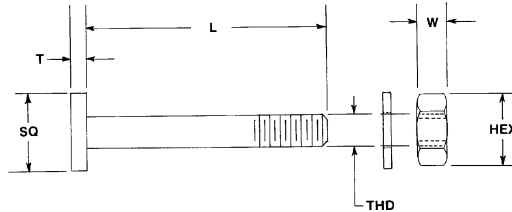
Photo shows tool holder as it is used for forward rotation on front and rear slide.

MACH SIZE	D/T BLANK SEE PG 16	ORDERING#	A	B	C	D	E	F
#00	DTH00-..	DTH00	1"	.714	1-5/8	2-5/8	1-1/4	3/16
#00	5/8DTF-..	DTH00-951	1"	.951	1-11/16	2-11/16	1-1/2	1/4
#0	DTH0-..	DTH0	1-5/16	.951	2-1/8	3-3/8	1-1/2	1/4
#2	DTH2-..	DTH2	1-7/16	1.250	2-17/32	3-15/16	2"	13/32
#2	5/8DTF-..	DTH2-951	1-7/16	.951	2-7/8	4-9/32	1-1/2	1/4
#2	1-1/4DTF-..	DTH2-1.882	1-7/16	1.882	2-17/32	3-15/16	3"	1/2

- Fit B&S, Davenport and other machines
- Heat treated alloy steel for long life



"T" BOLTS FOR CROSS SLIDES



NUT (INCLUDING WASHERS) SPECIFICATIONS

CAT. NO.	HEX	W	THD.
00TBN	11/16	3/8	3/8-16
0TBN	3/4	7/16	7/16-14
2TBN	7/8	1/2	1/2-13

"T" BOLT SPECIFICATIONS

CAT. NO.	L	T	SQ	THD-LENGTH
00TPB-1	1-3/4			
00TPB-2	2-1/8			
00TPB-3	2-1/2	3/16	5/8	3/8-16x1"
00TPB-4	2-3/4			
00TPB-4.5	3-1/8			
00TPB-5	3-1/2			
00TPB-6	4-1/2			
00TPB-7	4"			
0TPB-1	2-1/8			
0TPB-2	2-5/8			
0TPB-3	3-1/8	3/16	3/4	7/16-14x1"
0TPB-4	3-1/2			
0TPB-5	4-3/4			
2TPB-1	2-1/2			
2TPB-2	3"			
2TPB-3	3-1/2	1/4	7/8	1/2-13x1"
2TPB-4	4"			
2TPB-5	5"			
2TPB-6	5-3/4			

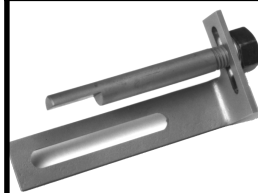
THREAD ROLL HOLDERS FOR B&S SCREW MACHINES

CAT. NO.	MAX. ROLL DIA.	STD. ROLL WIDTHS	A	B	C	D	E	F	G
TRH00	1-3/4	1/4-5/16	1-51/64	31/32	7/32	1/4	5/16	3/16	5/16
TRH00W	1-3/4	3/8-1/2	1-51/64	31/32	9/32	3/8	5/16	3/16	1/2
TRH0	2-1/4	3/8-1/2	2-7/16	1-5/16	9/32	3/8	5/16	3/16	1/2
TRH2	2-1/2	1/2-5/8	3-3/64	1-7/16	11/32	1/2	7/16	3/16	5/8
TRH2W	2-1/2	3/4	3-3/64	1-7/16	7/16	5/8	7/16	3/16	3/4

THREAD ROLL HOLDER PARTS

PART	HOLDER NO. ITEM	TRH00 CAT. NO.	TRH00W CAT. NO.	TRH0 CAT. NO.	TRH2 CAT. NO.	TRH2W-1 CAT. NO.
1	BODY	TRH00-1	TRH00W-1	TRH0-1	TRH2-1	TRH2W-7
2	ALIGNMENT PLATE	DTH00-3	DTH00-3	DTH0-3	DTH2-3	DTH2-3
3	SPACER	DTH00-4	DTH00-4	DTH0-4	TRH2-4	TRH2-4
4	ALIGNMENT SCREW	DTH00-8	DTH00-8	DTH-DVB-10	PSCC-16	PSCC-16
5	"T" BOLT	00TPB-4	00TPB-4	0TPB-4	2TPB-4	2TPB-4
6	"T" BOLT NUT AND WASHER	00TBN	00TBN	0TBN	2TBN	2TBN
7	CARBIDE PIN	TRH00-7	TRH0-7	TRH0-7	TRH2-7	TRH2W-7
8	PIN SCREW	DTH00-8	DTH00-8	TH000-3	TH000-3	TH000-3
9	ROLL SPACER	1ANR-8	TRH0-9	TRH0-9	TRH2-9	-----

- For bump thread rolling
- Reversible for use on front or rear slide
- Rolls thread within 7/32" of spindle
- Swivel adjustment for taper elimination
- Carbide roll pin for longer wear
- Uses standard wide or narrow thread rolls



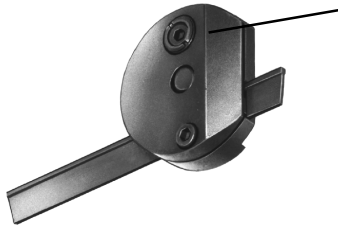
CLOSER FOR SELF-OPENING DIE HOLDERS

- For use on No. 00, No. 0, and No. 2 B&S Screw Machines with all makes of Die Heads.
- Attaches to top front of machine
- Adjustable to contact closer arm of Die Head.

Cat. No. CDH

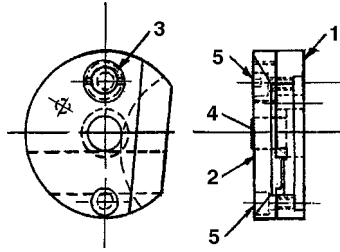
"T" CUT-OFF BLADE HOLDER FOR DAVENPORT

This Cut-Off Blade Holder can be mounted in the circular form tool position on the Davenport Machine and holds standard 1/2" high "T" Type Cut-Off Blades.



- EXCLUSIVE ADJUSTMENT FEATURE MAKES COMPENSATION FOR DIFFERENT BLADE WIDTHS FAST AND EASY
- * ELIMINATES NEED FOR WASHERS OR SPACERS
 - * HOLDS BLADES MORE SECURELY
 - * HOLDER LASTS LONGER

Cat. No. TCOBH-DAV



Part No.	Cat. No.
1. Body	TCOBH-DAV-1
2. Clamp	TCOBH-DAV-2
3. Adjustment Screw	TCOBH-DAV-3
4. Center Stud	TCOBH-DAV-4
5. Clamp Screws	ATT0-16

(FOR STANDARD BLADES TO FIT THIS HOLDER SEE PAGES 28 & 29).

CUT-OFF BLADE HOLDERS

- Fits R & L Universal Tool Post
- Can also be used on turret lathe tool posts
- Forward rotation holder can be used on either front or rear side.
- Reverse rotation holder can be used on either front or rear side
- Entire holder can be removed for tool sharpening without losing setting.
- TCOBH-ACCU is rectangular and does not have projection "C" and "E".



CUT-OFF BLADE HOLDER SPECIFICATIONS

Size	A	B	C	D	E	F
No. 00	2-1/2	1"	3/8	1/4	1/2	5/16
No. 1	2-3/4	1-1/8	1/2	1/4	3/4	9/32
No. 2	3"	1-3/16	5/8	5/16	1"	5/16
ACCU	3-1/2	63/64	0	9/16	0	1/4



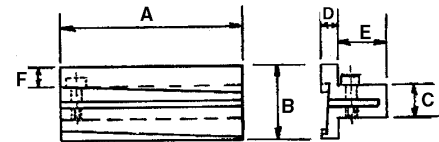
(FOR STANDARD CUT-OFF BLADES TO FIT THESE HOLDERS SEE PAGES 28 & 29.)

HOLDERS FOR T-TYPE BLADES

TOOL NO.	ROTATION	BLADE HEIGHT
TCOBH00-F	FORWARD	1/2
TCOBH00-R	REVERSE	1/2
TCOBH1-F	FORWARD	11/16
TCOBH1-R	REVERSE	11/16
TCOBH2-F	FORWARD	11/16
TCOBH2-R	REVERSE	11/16
TCOBH-ACCU	FORWARD	1/2

HOLDERS FOR TAPER OR HOLLOW GROUND BLADES

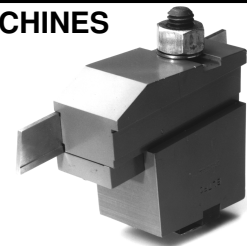
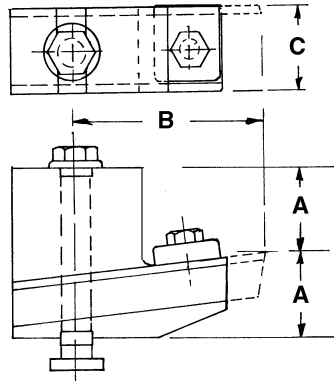
TOOL NO.	ROTATION	BLADE HEIGHT
COBH00-F	FORWARD	1/2
COBH00-R	REVERSE	1/2
COBH1-F	FORWARD	11/16
COBH1-R	REVERSE	11/16
COBH2-F	FORWARD	11/16
COBH2-R	REVERSE	11/16



UNIVERSAL CUTOFF BLADE TOOL POST FOR B&S MACHINES

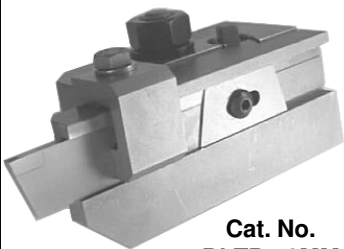
UNIQUE DESIGN:

- ONE TOOL POST TAKES CARE OF ALL POSITIONS BY HOLDING BLADE ON ONE SIDE OR THE OTHER AND BY USING TOOL POST RIGHT SIDE UP OR UPSIDE DOWN
- CAN BE USED ON EITHER FRONT OR REAR SLIDE AND FOR FORWARD OR REVERSE ROTATION
- HOLDS "T" TYPE CUTOFF BLADES (SEE PAGES 28 & 29 FOR BLADES TO FIT THESE HOLDERS)
- REVERSIBLE CLAMP BLOCK HOLDS BLADE SECURELY ON EITHER SIDE
- RUGGED CONSTRUCTION
- FOR No. 00, No. 0 AND No. 2 B&S



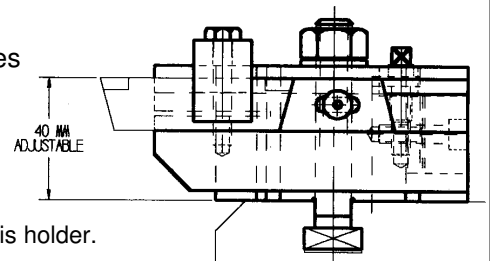
CAT. NO.	A	B	C	BLADE
BLTP-00	1"	2-3/16	1"	1/2
BLTP-0	1-5/16	2-3/4	1-1/4	11/16
BLTP-2	1-7/16	3-5/8	1-3/8	11/16

CUTOFF BLADE HOLDER FOR TORNOS AND OTHER CNC MACHINES



Cat. No. BLTP-40MM

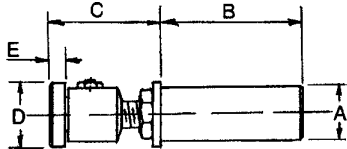
- Holds 11/16" High twin tip and "T" Type Blades
- Adjustable for center
- One clamp will accommodate .062 to .197 width blades



See pages 28 & 29 for Cut-Off Blades to fit this holder.

ADJUSTABLE REVOLVING STOPS WITH INTERCHANGEABLE HEADS

- STOP WASHER - PREVENTS PUSHBACK
- SMALL HOLE IN FACE OF HEAD - ELIMINATES LENGTH VARIATIONS



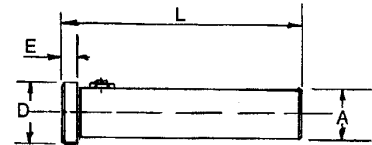
CAT. NO.	A	B	C		D	E
			MIN.	MAX.		
RSA00	5/8	1-11/16	1-3/16	1-7/16	3/4	3/16
RSA0	3/4	2-7/16	1-7/16	1-11/16	1"	3/16
RSA2	1"	3-5/16	1-7/16	1-11/16	1-1/8	3/16

INTERCHANGEABLE HEADS

- FULL SIZE - FOR MOST JOBS
- SMALL - FOR LIGHT WORKPIECES
- OVERSIZE - (FOR RSA2 and RSS2)
- SOFT - 4140 STEEL - FOR MACHINING AS I.D. OR O.D. SUPPORT
- BOTH STYLE STOPS ARE SUPPLIED WITH (STANDARD) HEADS
- ANY OTHER HEAD CAN BE SUBSTITUTED WHEN ORDERING COMPLETE STOPS - MERELY SPECIFY CAT. NO. OF HEAD REQUIRED AND ADD PRICE DIFFERENTIAL (IF ANY) TO PRICE OF STOP

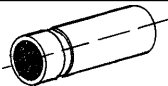
HEAD ONLY			4140 STEEL
CAT. NO.	D	E	
RSA00-4 (Std)	3/4	3/16	HARD
RSA00-4SM	5/16	3/16	HARD
RSA00-4S	3/4	1/2	SOFT
RSA0-4 (Std)	1"	3/16	HARD
RSA0-4SM	3/8	3/16	HARD
RSA0-4S	1"	1/2	SOFT
RSA2-4 (Std)	1-1/8	3/16	HARD
RSA2-4SM	5/8	1/2	HARD
RSA2-40S	1-5/8	1/4	HARD
RSA2-4S	1-1/8	3/4	SOFT
RSA2-40SS	1-5/8	3/4	SOFT

REVOLVING STOPS WITH INTERCHANGEABLE HEADS



CAT. NO.	A	L	D	E
RSS-00	5/8	3"	3/4	3/16
RSS-0	3/4	4"	1"	3/16
RSS-2	1"	5"	1-1/8	3/16

CARBIDE FACED STOCK STOPS



- Carbide face will not score or scuff from contact with workpiece
- Hardened shank for long life
- Does not damage workpiece
- Available in two lengths for all applications

CAT. NO.	DIA.	LENGTH
8194C	5/8	2"
8195C	5/8	2-3/4
8196C	3/4	2-1/4
8197C	3/4	3-5/8
8198C	1"	2-7/8
8199C	1"	4-5/16

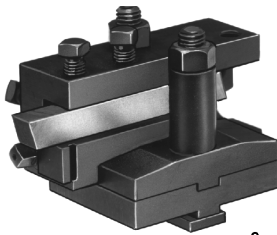
SOLID STEEL STOCK STOPS



- Hardened 4150 steel for long life
- Ground on face and O.D.
- Tapered end
- Available in two lengths for all applications

CAT. NO.	DIA.	LENGTH	NOSE DIA.
SS00-2	5/8	2"	1/4
SS00-4	5/8	2-1/2	1/4
SS0-2	3/4	2-3/4	5/16
SS0-4	3/4	3-1/4	5/16
SS2-2	1"	3-1/4	3/8
SS2-4	1"	4"	3/8

UNIVERSAL TOOL POST

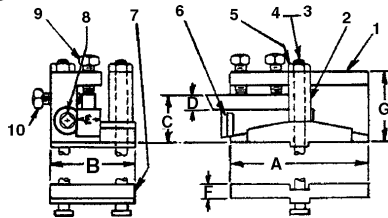


- Can be adapted to turret lathes and hand screw machines
- Can be set up close to chuck
- Can be used with R & L cut-off blade holder

- Holds flat form tools on front or rear slide
- Can be used for skiving tools as well as for flat form tools
- For both right and left hand spindle rotation

UNIVERSAL TOOL POSTS SPECIFICATIONS

CAT. NO.	A	B	C	D	E	F	G	FITS
TP00	3"	1-13/16	1"	3/8	1/2	3/8	1-1/2	No. 00 B&S
TP1	4"	2-13/32	1-5/16	1/2	3/4	1/2	1-27/32	No. 0 B&S
TP2	4-1/2	3"	1-7/16	5/8	1"	5/8	2-3/32	No. 2 B&S



UNIVERSAL TOOL POST PARTS

Part No.	TP00 Cat. No.	TP1 Cat. No.	TP2 Cat. No.
1. Body	TP00-1	TP1-1	TP2-1
2. Bushing	TP00-2	TP1-2	TP2-2
3. Long Bolts (ea)	00TPB-3	0TPB-3	2TPB-3
4. Short Bolts (ea)	00TPB-2	0TPB-2	2TPB-2
5. Nuts (ea)	00TBN	0TBN	2TBN
6. Tape Wedge	TP00-6	TP1-6	TP2-6
7. Raising Block	TP00-7	TP1-7	TP2-7
8. Adjusting Screw	TP00-8	TP1-8	TP2-8
9. Clamp Screws (ea)	TT1-6	TT2-13	TT2-13
10. Alignment Screws (ea)	TP00-10	TP1-10	TP1-10

(FOR STANDARD FORM TOOL BLANKS TO FIT THESE TOOL POSTS SEE PAGE 23.)

KWIK FORM TOOL BIT HOLDER

FOR FAST SET UPS ON SHORT RUNS

No need for special tools -- simply hand surface grind form into standard H.S.S. or Carbide tool bit; or even circular grind, using Kwik-Form as a fixture.

Kwik-Form mounts right onto the tool post like a form tool.

Fits front or rear slides for forward or reverse rotation.

With Somma's new Kwik-Form holder it's no longer necessary to remove the circular form tool post when using tool bits on short runs.

Special length tool bits are available from stock as shown at right.

Note: Workpiece diameter differences will vary as tool is resharpened if form toolbit is not circular ground.



MACHINE SIZE	CENTER HOLE	TOOL BIT SIZE	CATALOG NUMBER
#00 B&S	3/8-16	5/16 SQ.	K00
#0 B&S	1/2-13	3/8 SQ.	K0
#2 B&S	5/8-11	1/2 SQ.	K2
DAVENPORT	9/16 REAM	3/8 SQ.	KDAV

KWIK-FORM TOOL PARTS

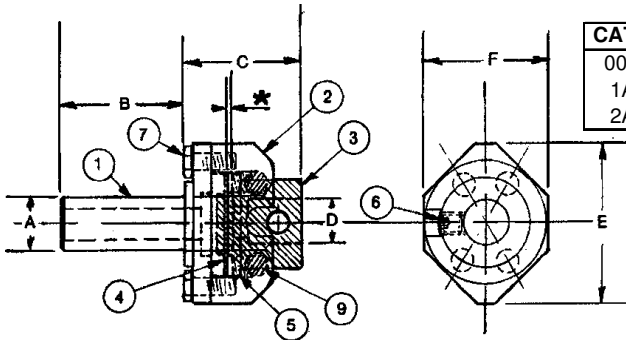
Part No.	ITEM
K00-3	Clamp Screw #00
K0-3	Clamp Screw #0
K2-3	Clamp Screw #2
K00-3	Clamp Screw DAV
TT00-8	H.S. 5/16 Sq. x 1-1/2" Tool Bit for #00
TT1-8	H.S. 3/8 Sq. x 2" Tool Bit for #0 & DAV
TT2A-8	H.S. 1/2 Sq. x 2-3/4" Tool Bit for #2

WIDER BITS MAY BE USED BY ALLOWING OVERHANG.



ADJUSTABLE NON-RELEASING TAP HOLDER

- Fits all standard machines.
- Adjustable (floating). Easy-to-get-at back end adjustment screws to compensate for machine misalignment.
- Has thru-hole, eliminates cutting down tap shanks. Makes it easier to remove taps from holder.
- Bumper action for better threads - but bumper action can be eliminated by use of two, part No. 4 Retaining Washers to fill gap.*
- Easy to service, simple 2 spring balanced pull-out mechanism.
- Rugged enough for heavy taps and yet sensitive enough for small taps.
- Minimum overhang for maximum machine clearance (Eliminates shortening of taps).



SEE PAGE 87 FOR TAP HOLDER BUSHINGS FOR THESE TAP HOLDERS.

CAT. NO.	A	B	C	D	E	F	PULLOUT	TAP CAPACITY	
								HAND	PIPE
00ANR	5/8	1-3/16	31/32	1/2	1-3/4	1-5/16	3/32	7/16	1/8
1ANR	3/4	1-3/4	1-13/32	5/8	2-1/4	1-3/4	1/4	11/16	1/4
2ANR	1"	2-3/8	1-57/64	1"	3-1/8	2-3/8	9/32	1-1/8	3/4

ADJUSTABLE NON-RELEASING TAP HOLDER PARTS

Part No.	00ANR Cat. No.	1ANR Cat. No.	2ANR Cat. No.
1. Shank	00ANR-1	1ANR-1	2ANR-1
2. Body	00ANR-2N	1ANR-2N	2ANR-2N
3. Spindle	00ANR-3N	1ANR-3N	2ANR-3N
4. Retaining Washer	00ANR-4N	1ANR-4N	2ANR-4N
5. Springs (Std)	00ANR-5	1ANR-5	2ANR-5
5. Springs (Light Duty)	00ANR-5LD	1ANR-5LD	2ANR-5LD
6. Set Screw	ORB2-5	1ANR-6	2ANR-6
7. Clamp Screw & Washer	ARTH00-18	ARTH1-18	2ANR-7
9. Ball	RSA00-5	RSA2-5	2ANR-9

TOOL HOLDERS
BROACH TOOLS

NON-RELEASING TAP HOLDER



- * Excellent for operations where release is not required.
- * Smooth, extra long pullout.

CAT. NO.	SHANK DIA.	SHANK LENGTH	TAP CAPACITY		
			HAND	PIPE	PULLOUT
NR000	5/8	1-3/16	1/4	1/16	7/16
NR00	5/8	1-1/4	7/16	1/8	1/2
NR1	3/4	1-3/4	11/16	1/4	17/32
NR2	1"	2"	1-1/8	3/4	5/8
NR2-NBG	1"	2"	1-1/8	3/4	5/8
NR3	1-1/4	2-9/16	1-1/4	1"	7/8
NR3-NBG	1-1/2	1-3/4	1-1/4	1"	7/8
NR4	1-1/2	3-3/16	1-1/2	1"	1"
NR4-NBG	1-1/2	1-11/16	1-1/2	1"	1"

All other dimensions same as releasing tap holders (see pg. 69) Tools with "NBG" Cat. Nos. have special shank dimensions for use on New Britain Gridley Automatics.

NON-RELEASING TAP HOLDERS PARTS

Part No.	NR000 Cat. No.	NR00 Cat. No.	NR1 Cat. No.	NR2 Cat. No.	NR3 Cat. No.	NR4 Cat. No.
1. Body	NR000-1	NR00-1	NR1-1	NR2-1	NR3-1	NR4-1
2. Spindle	NR000-2	NR00-2	NR1-2	NR2-2	NR3-2	NR4-2
3. Set Screw	ATT00-12	TH000-3	FARH2-10	2ANR-6	NR3-3	NR4-3
4. Key (Ea.)	NR00-4	NR00-4	NR1-4	NR2-4	NR3-4	NR4-4
5. Keys Screws (Ea.)	NR000-5	NR000-5	NR000-5	NR2-5	NR2-5	NR2-5
6. Shank Spring	TH000-13	TH00-13	TH1-13	TH2-13	TH3-13	TH4-13
7. Spindle Nut	TH000-14	TH00-14	TH1-14	TH2-14	TH2-14	TH4-14
8. Retainer	----	TH00-13-2	----	----	----	----

All parts for NBG Tap Holders same as standard except as shown below.

Part No.	NR2-NBG Cat. No.	NR3-NBG Cat. No.	NR4-NBG Cat. No.
1. Body	NR2-1NBG	NR3-1NBG	NR4-1NBG
2. Spindle	---	---	NR4-2NBG

SEE PAGE 87 FOR TAP HOLDER BUSHINGS FOR THESE TAP HOLDERS



R&L RELEASING TAP HOLDER

The patented unique releasing mechanism of the Somma R & L Tap Holder is unequalled for dependability and accuracy which resulted in its selection for usage as original equipment by many machine tool manufacturers.

FEATURES

- For right or left hand threading
- Eases tap into work for better matching of threads
- No spring plungers to wear or break
- No. 000 size is extremely sensitive for small taps when used on high speed machines
- Simple operation (see diagrams below)

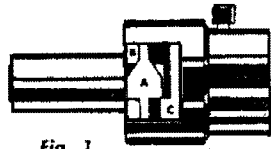


Fig. 1

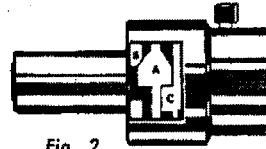


Fig. 2

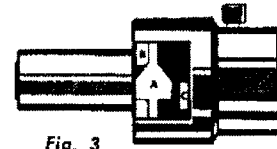


Fig. 3

PATENTED

Ready to start threading operation, clutch slightly engaged (A) and (C).

When tap contacts work, clutch ring (A) slides forward to fully engage spindle (C) for positive driving power.

When end of pullout is reached clutch ring (A) springs back instantly, leaving ample clearance between contact points of clutch ring and spindle, preventing re-engagement or hammering of clutch points in case turret advances slightly after release.

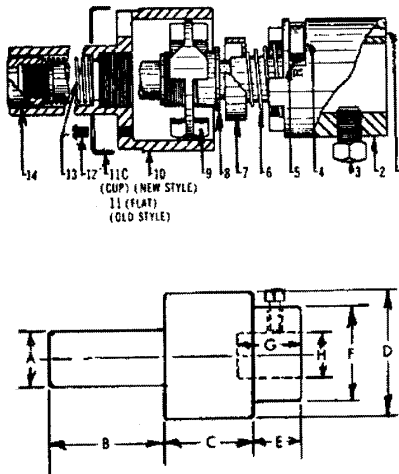
NOTE: TH2-NBG, TH3-NBG AND TH4-NBG have special shank diameter and length for use on New Britain Gridley automatics.

SEE PAGE 87 FOR TAP HOLDER BUSHINGS FOR THESE TAP HOLDERS

SIZE	A	B	C	D	E	F	G	H	TAP CAPACITY		PULLOUT FOR RELEASING			
									HAND TAP	PIPE TAP	CAT. NO.	STD. CLUTCH NUT	CAT. NO.	SHORT CLUTCH NUT
TH000	5/8	1-3/16	7/8	1-1/32	3/8	13/16	1/2	1/2	1/4	1/16	TH000	1/8	TH000-S	.100
TH00	5/8	1-1/4	7/8	1-11/32	13/32	1-1/8	19/32	1/2	7/16	1/8	TH00	1/8	TH00-S	.100
TH1	3/4	1-3/4	1-1/16	1-19/32	1/2	1-5/16	3/4	5/8	11/16	1/4	TH1	5/32	TH1-S	.115
TH2	1"	2"	1-3/8	2-7/32	13/16	1-3/4	1-5/32	1"	1-1/8	3/4	TH2	7/32	TH2-S	.156
TH2-NBG	1"	2"	1-3/8	2-7/32	13/16	1-3/4	1-5/32	1"	1-1/8	3/4			TH2-NBG	.156
TH3	1-1/4	2-9/16*	2"	2-13/16	7/8	2-1/4	1-1/2	1-1/4	1-1/4	1"	TH3	1/4	TH3-S	.167
TH3-NBG	1-1/2	1-11/16	2"	2-13/16	7/8	2-1/4	1-1/2	1-1/4	1-1/4	1"			TH3-NBG	.167
TH4	1-1/2	3-3/16	2-9/16	3-5/8	1-1/8	3"	1-5/8	1-1/2	1-1/2	1"	TH4	5/16	TH4-S	.203
TH4-NBG	1-1/2	1-11/16	2-9/16	3-5/8	1-1/8	3"	1-5/8	1-1/2	1-1/2	1"			TH4-NBG	.203

* PLUS 31/32 DIA. x 15/16 LONG PROJECTION

RELEASING TAP HOLDER PARTS



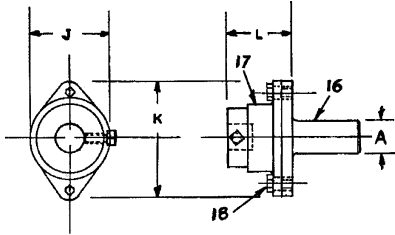
Part No.	TH000 Cat. No.	TH00 Cat. No.	TH1 Cat. No.	TH2 Cat. No.	TH2-NBG Cat. No.	TH3 Cat. No.	TH3-NBG Cat. No.	TH4 Cat. No.	TH4-NBG Cat. No.
1. Pawl Pin	TH000-1	TH00-1	TH1-1	TH2-1	TH2-1	TH3-1	TH3-1	TH4-1	TH4-1
2. Spindle	TH000-2	TH00-2	TH1-2	TH2-2	TH2-2	TH3-2	TH3-2	TH4-2	TH4-2NBG
3. Set Screw	TH000-3	TT00-13	TT1-6	TT2-13	TT2-13	TT2-13	NR3-3	TH4-3	NR4-3
4. Pawl	TH000-4	TH00-4	TH1-4	TH2-4	TH2-4	TH3-4	TH3-4	TH4-4	TH4-4
5. Pawl Spring	TH000-5	TH1-5	TH1-5	TH1-5	TH1-5	TH3-5	TH3-5	TH3-5	TH3-5
6. Clutch Spring	TH000-6	TH00-6	TH1-6	TH2-6	TH2-6	TH3-6	TH3-6	TH4-6	TH4-6
7. Clutch Washer	TH000-7	TH00-7	TH1-7	TH2-7	TH2-7	TH3-7	TH3-7	TH4-7	TH4-7
8. Clutch Nut	TH000-8	TH00-8	TH1-8	TH2-8	--	TH3-8	--	TH4-8	--
8-S Short Clutch Nut	TH000-8S	TH00-8S	TH1-8S	TH2-8S	TH2-8S	TH3-8S	TH3-8S	TH4-8S	TH4-8S
9. Clutch Ring	TH000-9	TH00-9	TH1-9	TH2-9	TH2-9	TH3-9	TH3-9	TH4-9	TH4-9
10. Body	TH000-10	TH00-10	TH1-10	TH2-10	TH2-10NBG	TH3-10	TH3-10NBG	TH4-10	TH4-10NBG
11. Cover Plate (Old Style)	TH000-11	TH00-11	TH1-11	TH2-11	TH2-11	TH3-11	TH3-11NBG	TH4-11	TH4-11
11C. Cup Style	TH000-11C	TH00-11C	TH1-11C	TH2-11C	TH2-11C	TH3-11C	TH3-11NBG	TH4-11C	TH4-11C
12. Cover Plate Screw	TH000-12	TH00-12	TH00-12	TH00-12	TH00-12	TH00-12	TH00-12	TH00-12	TH00-12
13. Shank Spring	TH000-13	TH00-13	TH1-13	TH2-13	TH2-13	TH3-13	TH3-13	TH4-13	TH4-13NBG
13-2 Retainer	--	TH00-13-2	--	--	--	--	--	--	--
14. Spindle Nut	TH000-14	TH00-14	TH1-14	TH2-14	TH2-14	TH2-14	TH2-14	TH4-14	TH4-14NBG

TOOL HOLDERS
BRANCH TOOLS

ADJUSTABLE (FLOATING) RELEASING TAP HOLDERS



Now the exclusive principal of the R & L clutch type releasing Tap Holder is available in the adjustable (floating) type. This new tool gives all the advantages of the R & L Releasing Tap Holder and in addition can also be used on screw machines and turret lathes that are out of alignment.



ADJUSTABLE RELEASING TAP HOLDER

CAT. NO.	A	J	K	L	TAP CAPACITY	
					HAND	PIPE
ARTH00	5/8	1-3/8	2-1/8	1-11/32	7/16	1/8
ARTH1	3/4	1-19/32	2-3/4	1-11/16	11/16	1/4
ARTH2	1"	2-7/32	3-1/2	2-3/8	1-1/8	3/4
ARTH3	1-1/4	2-13/16	4-5/8	3-1/4	1-1/4	1"
ARTH4	1-1/2	3-5/8	5-1/2	4-5/32	1-1/2	1"

All other dimensions and parts are the same as Releasing Tap Holder (Pg. 69).

ADJUSTABLE RELEASING TAP HOLDER PARTS

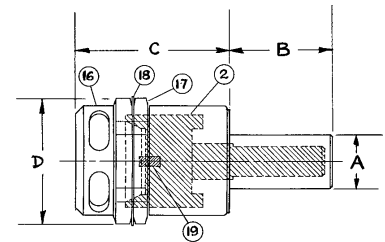
Part No.	ARTH00 Cat. No.	ARTH1 Cat. No.	ARTH2 Cat. No.	ARTH3 Cat. No.	ARTH4 Cat. No.
16. Shank	ARTH00-16	ARTH1-16	ARTH2-16	ARTH3-16	ARTH4-16
17. Head	ARTH00-17	ARTH1-17	ARTH2-17	ARTH3-17	ARTH4-17
18. Clamp Screw & Washer	ARTH00-18	ARTH1-18	FDH1-4	FDH4A-4	FDH4B-4

SEE PG. 87 FOR TAP HOLDER BUSHINGS FOR THESE TAP HOLDERS.

RELEASING DIE HOLDERS FOR ACORN DIES



- * These holders have the same exclusive releasing clutch mechanism as used on our releasing Tap Holder.
- * A keyed washer is used between the adjusting cap and the lock nut. Tightening lock nut will not change the adjustment of die.



All other parts are the same as Releasing Tap Holder (Pg. 69)

RELEASING ACORN DIE HOLDER SPECIFICATIONS

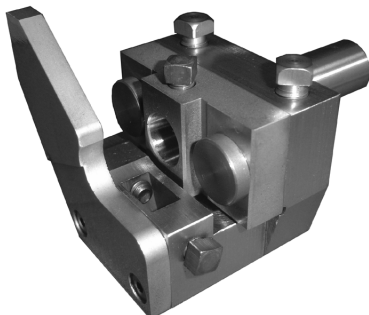
ALL SIZE ACORN DIES AVAILABLE TO FIT THESE HOLDERS -

CAT. NO.	A	B	C	D	ACORN DIE SIZE
ADH000	5/8	1-3/16	1-5/8	1-3/16	1
ADH00	5/8	1-1/4	1-13/16	1-9/16	2
ADH1	3/4	1-3/4	2-5/16	1-3/4	2
ADH2	1"	2"	2-7/8	2-7/16	3
ADH3	1-1/4	2-9/16	4-1/16	2-13/16	4

RELEASING ACORN DIE HOLDER PARTS

Part No.	ADH 000 Cat. No.	ADH 00 Cat. No.	ADH 1 Cat. No.	ADH 2 Cat. No.	ADH 3 Cat. No.
2. Spindle	ADH000-2	ADH00-2	ADH1-2	ADH2-2	ADH3-2
3. Spanner Wrench	ADH000-3	ADH00-3	ADH00-3	ADH2-3	ADH3-3
16. Acorn Adjusting Cap	ADH000-16	ADH00-16	ADH1-16	ADH2-16	ADH3-16
17. Lock Nut	ADH000-17	ADH00-17	ADH1-17	ADH2-17	ADH3-17
18. Lock Nut Washer	ADH000-18	ADH00-18	ADH1-18	ADH2-18	ADH3-18
19. Drive Pins (ea)	ADH000-19	ADH00-19	ADH1-19	ADH2-19	ADH3-19

ADJUSTABLE DRILL & FACING TOOL HOLDER



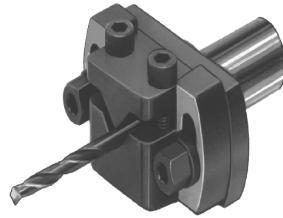
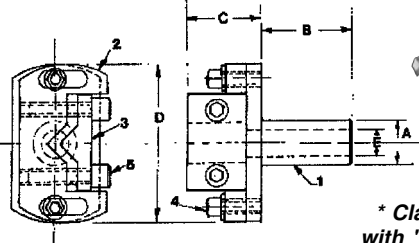
- An adjustable drill holder which can also hold a blade for facing
- Stock stop plate for use in first position - allows the use of a form tool in the front cross slide
- Blade and drill can be set independently of each other
- Adjusting screw prevents drill from slipping back
- Holder can be used in any position
- Holds a 5/8" diameter drill bushing and a 3/8" square tool bit.

SEE PG. 85 FOR DRILL BUSHINGS.

Cat. No.
2763-10-SA-SOMMA

"V" TYPE ADJUSTABLE (FLOATING) DRILL HOLDER

- ELIMINATES BUSHINGS
- HOLDS ANY SIZE DRILL SECURELY
- REVERSIBLE CLAMP
- HARDENED GROUND JAWS ASSURE SQUARENESS



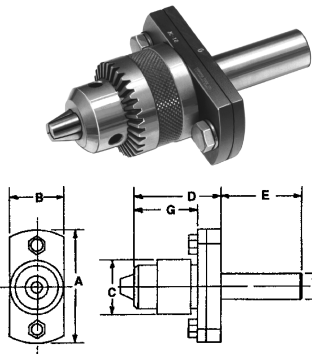
* Clamp can be reversed - use with "V" inside for small drills or reverse for large drills.

CAT. NO.	A	B	C	D	E	CAPACITY	
						MIN.*	MAX.*
VFDH00	5/8	1-1/8	1"	2"	13/32	1/64	1/2
VFDH0	3/4	1-1/2	1-1/4	2-5/8	7/16	1/16	3/4
VFDH2	1"	1-3/4	1-5/8	3-1/2	11/16	1/8	1"

"V" FLOATING DRILL HOLDER PARTS

Part No.	VFDH00 Cat. No.	VFDH0 Cat. No.	VFDH2 Cat. No.
1. Shank	VFDH00-1	VFDH0-1	VFDH2-1
2. Body	VFDH00-2	VFDH0-2	VFDH2-2
3. Clamp	VFDH00-3	VFDH0-3	VFDH2-3
4. Body Screw & Washer	VFDH00-4	VFDH0-4	VFDH2-4
5. Clamp Screw	VFDH00-5	VFDH0-5	VFDH2-5

CHUCK-TYPE ADJUSTABLE (FLOATING) DRILL HOLDERS

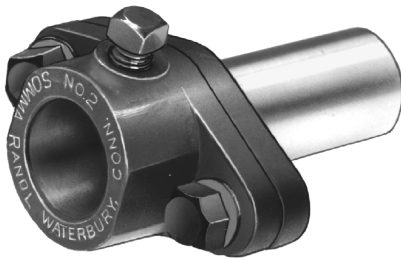


These tools give all the advantages of the adjustable chuck for holding drills and other tools and also make it possible to correct for misalignment between the turret and spindle of the machine.

Eliminates the use of drill bushings.

CAT. NO.	CAP	A	B	C	D	E	F	G
00JC-5	0-5/32	1-7/8	1"	7/8	1-7/16	1-1/4	5/8	1-1/16
00JC-8	0-1/4	2-1/4	1-1/8	1-5/16	1-15/16	1-1/4	5/8	1-1/2
0JC-5	0-5/32	1-7/8	1"	7/8	1-7/16	1-1/2	3/4	1-1/16
0JC-8	0-1/4	2-1/4	1-1/8	1-5/16	1-15/16	1-5/8	3/4	1-1/2
0JC-12	0-3/8	3"	1-1/2	1-11/16	2-9/16	2"	3/4	2-1/16
2JC-8	0-1/4	2-1/4	1-1/8	1-5/16	1-15/16	2"	1"	1-1/2
2JC-12	0-3/8	3"	1-1/2	1-11/16	2-9/16	2"	1"	2-1/16
2JC-16	0-1/2	3-1/4	1-3/4	1-15/16	3-1/4	2"	1"	2-5/8
2JC-24	3/16-3/4	4-3/4	2-1/2	2-9/16	4-3/32	3-1/4	1"	3-7/32

FLOATING DRILL HOLDERS (ADJUSTABLE)



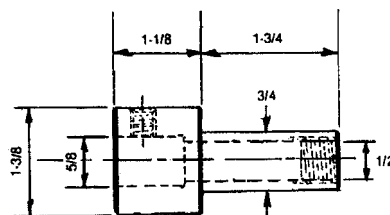
- Fully adjustable to correct for machine misalignment
- Hardened alloy steel
- Precision ground for perfect alignment
- Holds standard drill bushings - see pages 84 - 87.

CAT. NO.	A	B	C	D	E	F	G	H	J	K
FDH00	5/8	1-1/2	2-13/32	3/8	1/2	11/16	15/16	1/2	1-13/16	15/16
FDH1	3/4	2"	3-5/32	1/2	5/8	7/8	1-5/16	11/16	2-7/16	1-5/32
FDH2	1"	2"	3-7/16	11/16	1"	1-1/8	1-5/8	7/8	2-15/16	1-7/16
FDH3	1-1/4	2-3/4	4-1/2	3/4	1-1/4	1-3/8	2-3/8	1-3/16	4"	1-3/4
FDH4A	1-1/2	3-1/4	4-13/16	3/4	1"	1-5/32	1-7/8	15/16	3-3/4	1-9/16
FDH4B	1-1/2	3-1/4	5-7/16	1-1/16	1-1/2	1-19/32	2-5/8	1-5/16	4-3/4	2-5/32

FLOATING DRILL HOLDER PARTS

Part No.	FDH00 Cat. No.	FDH1 Cat. No.	FDH2 Cat. No.	FDH3 Cat. No.	FDH4A Cat. No.	FDH4B Cat. No.
1. Body	FDH00-1	FDH1-1	FDH2-1	FDH3-1	FDH4A-1	FDH4B-1
2. Shank	FDH00-2	FDH1-2	FDH2-2	FDH3-2	FDH4A-2	FDH4B-2
3. Shank Screw	TT00-12	TT1-12	TT2-12	FDH4A-3	FDH4A-3	TT3-12
4. Clamp Screw & Washer	FDH00-4	FDH1-4	FDH2-4	FDH3-4	FDH4A-4	FDH4B-4
5. Drill Holder Screw	TT00-13	TT1-6	TT2-13	TT2-13	TT2-13	TH4-3

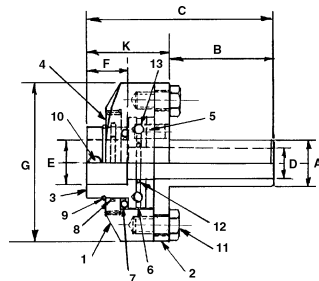
SOLID DRILL HOLDER FOR DAVENPORT MACHINES



Cat. No. SDH-DAV

- SHANK AND DRILL HOLE PRECISION GROUND FOR MAXIMUM CONCENTRICITY
- ALLOY STEEL-HEAT TREATED FOR LONG LIFE
- STOP SCREW IN SHANK PREVENTS DRILL PUSHBACK
- TAKES STANDARD DRILL BUSHINGS SEE PAGE 85.

FLOATING (ADJUSTABLE) REAMER HOLDER



- Manually adjustable for machine misalignment
- Exclusive wave spring construction gives automatic centering - does not depend on "O" rings for float.
- Tangent opposed ball raceways give full lateral float.
- Rides on free rolling balls - no pins to cause jamming

SEE PAGE 87 FOR REAMER BUSHINGS.

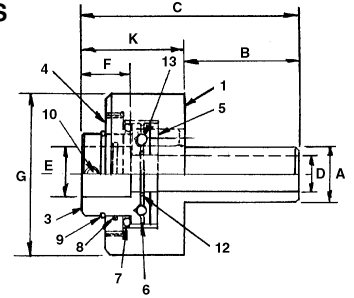
CAT. NO.	A	B	C	D	E	F	G	K
FARH00	5/8	1-1/4	2-11/32	3/8	1/2	9/16	1-5/8x2-1/4	1-1/16
FARH0	3/4	1-5/8	3-1/8	1/2	5/8	3/4	2-1/8x3	1-1/2
FARH2	1"	2-1/8	4"	11/16	1"	7/8	2-1/2x3-3/8	1-7/8

PARTS

Part No.	FARH00 Cat. No.	FARH0 Cat. No.	FARH2 Cat. No.
1. Head	FARH00-1	FARH0-1	FARH2-1
2. Shank	FARH00-2	FARH0-2	FARH2-2
3. Spindle	FARH00-3	FARH0-3	FARH2-3
4. Lock Nut	FARH00-4	FARH0-4	FARH2-4
5. Plate w/Pins	FARH00-5	FARH0-5	FARH2-5
6. Ball Retainer	FARH00-6	FARH0-6	FARH2-6
7. Bearing	FARH00-7	FARH0-7	FARH2-7
8. Wave Spring	FARH00-8	FARH0-8	FARH2-8
9. Seal Ring	FARH00-9	FARH0-9	FARH2-9
10. Set Screw	ATT00-12	ORB2-5	FARH2-10
11. Screw/Washer	FDH00-4	FDH1-4	FARH2-11
12. "O" Ring	FARH00-12	FARH0-12	FARH2-12
13. Balls	FARH00-13	FARH0-13	RSA00-5

FLOATING REAMER HOLDERS

.015 per side / .030 total
#00 - .025 total



- Exclusive wave spring construction gives automatic centering - does not depend on "O" rings for float.
- Tangent opposed ball raceways give full lateral float.
- Rides on free rolling balls - no pins to cause jamming

SEE PAGE 87 FOR REAMER BUSHINGS.

CAT. NO.	A	B	C	D	E	F	G	K
FRH00	5/8	1-1/4	2-3/8	3/8	1/2	9/16	1-3/4	1-1/8
FRH0	3/4	1-5/8	3-3/16	1/2	5/8	3/4	2-1/4	1-9/16
FRH2	1"	2-1/8	4-1/16	11/16	1"	7/8	3"	1-15/16

PARTS

Part No.	FRH00 Cat. No.	FRH0 Cat. No.	FRH2 Cat. No.
1. Body	FRH00-1	FRH0-1	FRH2-1
3. Spindle	FARH00-3	FARH0-3	FARH2-3
4. Lock Nut	FARH00-4	FARH0-4	FARH2-4
5. Plate w/Pins	FARH00-5	FARH0-5	FARH2-5
6. Ball Retainer	FARH00-6	FARH0-6	FARH2-6
7. Bearing	FARH00-7	FARH0-7	FARH2-7
8. Wave Spring	FARH00-8	FARH0-8	FARH2-8
9. Seal Ring	FARH00-9	FARH0-9	FARH2-9
10. Set Screw	ATT00-12	ORB2-5	FARH2-10
12. "O" Ring	FARH00-12	FARH0-12	FARH2-12
13. Ball	FARH00-13	FARH0-13	RSA00-5

TOOL HOLDERS
BROACH TOOLS

SOMMA AIR SPEEDER

PURPOSE:

ELIMINATE NEED FOR SECONDARY OPERATIONS. USE THIS TOOL TO DRILL, MILL, SLOT.

EASILY MOUNTS TO A CROSS SLIDE OR A 2" TOOL HOLDER.

FOR USE ON NEW BRITAINS, ACMES, WICKMANS, HYDROMATS AND OTHER MULTI SPINDLE MACHINES.

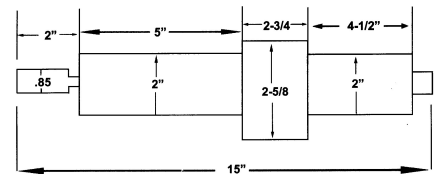
FEATURES:

- 2" DIAMETER QUILL
- 200 DA COLLET 0-3/8" CAPACITY
- 2,000, 3,300, 4,500 6,000 RPM
- 1/3 HP
- 15" OAL

RPM	CAT. NO.
2000	DAPD-2000
3300	DAPD-3300
4500	DAPD-4500
6000	DAPD-6000

SEE PAGE 113 FOR COLLETS

SIMPLE HOOK-UP, SUPPLY AIR AND DRIP LUBE.



SOMMA DRILL SPEEDER

For use on New Britains, Acmes, Wickmans, Hydromats and other Multi Spindle Machines

- 2" Diameter Quill
- 200 Double Angle Collet, 0-3/8" capacity
- 5,000 RPM
- 27 IN-LB of Torque
- Forward and Reverse
- Speed or Torque readout
- All electronics are in one box with a 3 wire hook up
- At speed or current limit output

For drilling small holes as well as cross hole drilling and milling.

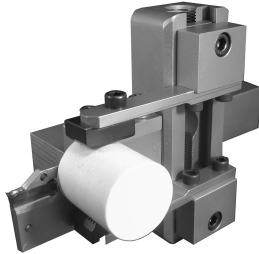
SEE PAGE 113 FOR COLLETS

Cat. No. DSPD

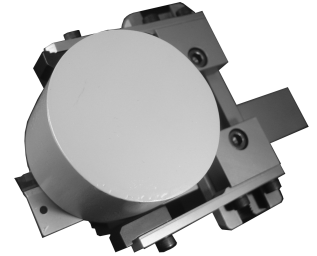




COMBINATION BAR PULLER CUT-OFF TOOL FOR CNC Bar puller and cut off tool in one unit!



- Saves a turret position
- Rugged, compact dovetail slide construction
- Reduces cycle time - no need to index between cut off and pulling operations
- Single screw adjustment allows jaws to be set up and adjusted in minutes for next job
- One turn of screw moves both jaws in or out exactly .100"
- Screw adjustment is infinitely adjustable as opposed to serrated design that had adjustment limitations
- Jaw carriers can also be individually adjusted to simplify centering with cut off blade
- Will accept all popular brands of insert style cut off blades, which are sold separately
- Designed to accept competitors' jaws and jaw fingers
- Also available with 1-1/4" and metric square shanks - price on application



SHANK SIZE	GRIPPING RANGE	A	B	C	D	MAX DEPTH E	CAT. NO. RIGHT HAND
3/4" SQ.	1/8 TO 3-1/4"	4-1/4"	6-5/8"	1-25/64"	1-21/64"	2-5/8"	BPCO-1*
1" SQ.	1/8 TO 3-1/4"	4-1/4"	6-5/8"	1-25/64"	1-21/64"	2-5/8"	BPCO-2*

*NOTE: CUT-OFF HOLDER FOR BAR PULLER MUST BE ORDERED SEPARATELY
BAR PULLER IS DESIGNED FOR RIGHT HAND USE ONLY

CUT-OFF HOLDER FOR BAR PULLER (INCLUDES STANDARD INSERT AND INSERT WRENCH)

CAT. NO.	C/O WIDTH
CO-HLDR-BP	0.118

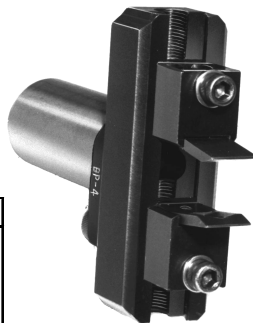
REPLACEMENT PARTS

DESCRIPTION	CAT. NO.
SPRING FINGER	PCO-5
SERRATED JAW	PCO-6
C/O INSERT FOR GENERAL STEEL	WCFR3 AC3000
C/O INSERT FOR HARD STL/ SLOW FEED	WCFR3A AC225
C/O INSERT FOR CAST IRON/ ALUMINUM	WCFR3B G10E

BAR PULLER FOR CNC TAPE LATHES

BAR PULLER SPECIFICATIONS

CAT. NO.	"D"	"L"
BP00	5/8" DIA.	2"
BP1	3/4" DIA.	2"
BP2	1" DIA.	2-5/8"
BP3	1-1/4" DIA.	2-5/8"
BP4	1-1/2" DIA.	2-5/8"
BP5	2" DIA.	3-5/16"



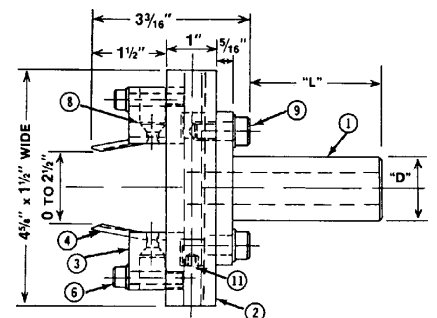
- BP00, BP1, BP2, BP3 AND BP4 ARE ADJUSTABLE TO PULL BARS RANGING FROM 1/16 DIA MIN TO UP TO 2-1/2" DIA MAX.
- BP5 IS ADJUSTABLE TO PULL BARS RANGING FROM 1/16 DIA MIN TO UP TO 3" DIA MAX.
- AVAILABLE IN VARIOUS SHANK SIZES TO FIT ALL MACHINES
- NO-SPRINGS TENSION BUILT INTO JAWS FOR UP TO 250 LBS. PRESSURE
- JAWS ARE EASILY REPLACED

BAR PULLER PARTS

PART NO.	CAT. NO.
1. Shank 3/4" DIA.	BP1-1
1. Shank 1" DIA.	BP2-1
1. Shank 1-1/4" DIA.	BP3-1
1. Shank 1-1/2" DIA.	BP4-1
1. Shank 2" Dia.	BP5-1
2. Body	BP4-2
2. Body (for BP5 only)	BP5-2
3. Slide	BP4-3
4. Jaw	BP4-4
6. Slide Clamp Screw & Washer	VFDH0-5
8. Jaw Screw	BP4-8
9. Clamp Screw & Washer	FDH2-4
11. Adjusting Screw	BP4-11

EASY TO ADJUST:

- SCREW JAWS DOWN TO SLIP FIT ON BAR
- BACK OFF BAR
- ADJUST BOTH JAWS DOWN 1/4 TURN
- LOCK IN PLACE AND PULLER IS READY TO USE
- PRESSURE CAN BE INCREASED OR DECREASED BY ADJUSTING JAWS IN OR OUT

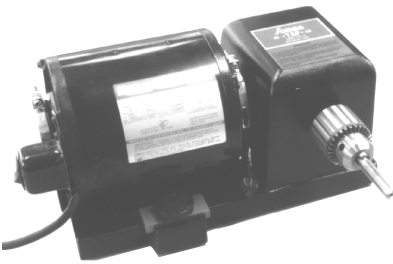


RE-TAP-ER SECOND OPERATION MACHINE

THE FASTEST AND EASIEST WAY TO:

- Retap threaded parts
- Chase threads
- Remove cutoff burrs from threads
- Inspect threads (with thread gage mounted in chuck)
- Countersink holes
- Deburr holes
- Ream holes

Cat. No. BB-SR



1/2" capacity chuck
1/3 H.P., 115V, Single Phase
1725 RPM, A48 Frame Motor*
Shipping weight: 31 lbs

The Re-TAP-er has a double disc friction drive that reverses rotation instantly by the application of forward or backward hand pressure on the part being retapped.

The friction discs are driven by a Rubber Drive Ring mounted on the motor shaft.

The maximum spindle speed is 1,000 RPM**

CAT. NO.	RE-TAP-ER
BB-7	DRIVE RING BLACK NEOPRENE
BB-7HD	HEAVY DUTY DRIVE RING ORANGE URETHANE
BB-21	PKG. OF 6 FINGER PROTECTORS

BB-7 RING INSTALLED BB-7HD RING INCLUDED

NEW IMPROVED DESIGN

- Motor slides back for easy drive ring replacement
- Pilot light switch warns if motor left running
- Solid one piece enclosed housing
- Rugged construction yet light weight and portable (only 27lbs)



FORWARD HAND PRESSURE
ROTATES SPINDLE
COUNTERCLOCKWISE



BACKWARD HAND PRESSURE
ROTATES SPINDLE
CLOCKWISE

STC-TAP-ER TAPPING MACHINE

HEAVY DUTY TAPERED CONE DRIVE
TAPS UP TO 5/16-18 THREAD IN 1/2" STEEL!!



Cat. No. STC-TAP-ER

1/2" capacity chuck
1/3 H.P., 115V, Single Phase
1725 RPM, A48 Frame Motor*
Shipping weight: 46 lbs

The STC-TAP-ER has a double disc friction drive that reverses rotation instantly by the application of forward or backward hand pressure on the part being tapped.

The friction discs are driven by a Heavy Duty Tapered Cone Drive Collar mounted on the motor shaft.

The maximum spindle speed is 300 RPM**

CAT. NO.	STC-TAP-ER PARTS
BB-TAP-4	FRICITION DISC ASSEMBLY
BB-TAP-6	SPINDLE CONE ASSEMBLY

FEATURES:

- Push to tap in
- Pull to tap out
- Sliding face plate
- Work table can be reversed when not needed
- Adjustable "V" plate for small parts (removable)
- Easy to set stop for tap depth control
- Comfortable bench height working area
- Long lasting tapered cone drive
- Pilot light switch warns if motor left running

WARNING!! TO AVOID INJURIES, WORKPIECE SHOULD BE HELD IN AN APPROPRIATE CLAMPING DEVICE WHILE BEING TAPPED AND SHOULD NEVER BE HELD BY HAND WITHOUT ADEQUATE PROTECTION.

*Can be supplied without motor or with special motors for countries where this is not suitable. Prices on application.

**Because the unit is driven merely by friction, it would be impossible to guarantee any particular R.P.M., since the R.P.M. will vary with the pressure exerted and the operation performed.